**RELATIVISTIC DISTORTED-WAVE COLLISION STRENGTHS AND
OSCILLATOR STRENGTHS FOR THE 185 $\Delta n = 0$ TRANSITIONS
WITH $n = 2$ IN THE 67 C-LIKE IONS WITH $26 \leq Z \leq 92$**

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Relativistic distorted-wave collision strengths have been calculated for the 185 $\Delta n = 0$ transitions with $n = 2$ in the 67 C-like ions with nuclear charge number Z in the range $26 \leq Z \leq 92$. The calculations were made for the six final, or scattered, electron energies $E' = 0.03, 0.08, 0.20, 0.42, 0.80$, and 1.40 , where E' is in units of Z_{eff}^2 Ry with $Z_{\text{eff}} = Z - 4.17$. In addition, electric dipole oscillator strengths are provided. In the present collision-strength calculations, an improved “top-up” method, which employs relativistic plane waves, was used to obtain the high partial-wave contribution for each transition, in contrast to the partial-relativistic Coulomb-Bethe approximation used in previous work by Zhang and Sampson [H.L. Zhang and D.H. Sampson, *At. Data and Nucl. Data Tables* 63 (1996) 275]. In that earlier work, collision strengths were also provided for the same 185 $\Delta n = 0$ transitions in C-like ions, but for the more limited list of 46 ions with Z in the range $9 \leq Z \leq 54$. The collision strengths covered in the present work, particularly those for optically allowed transitions, should be more accurate than the corresponding data given by Zhang and Sampson [H.L. Zhang and D.H. Sampson, *At. Data and Nucl. Data Tables* 63 (1996) 275] and are presented here to replace those earlier results.

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INTRODUCTION

This paper is the third in a series aimed at providing improved electron-impact excitation collision strengths for an isoelectronic sequence. The present work deals with C-like ions in a manner similar to that described in recently completed works on Be-like [2] and B-like [3] ions. C-like ions are of considerable interest for the study and modeling of high-temperature astrophysical and laboratory plasmas, (see, e.g., [4–7]). For nuclear charge number Z greater than about 25 or 30, relativistic effects on the radial functions become significant for some transitions and a fully relativistic treatment based on the Dirac equation is preferable. Therefore, in Ref. [1], collision strengths were provided for all of the possible 185 transitions among the 20 levels arising from the $1s^22s^22p^2$, $1s^22s2p^3$, and $1s^22p^4$ configurations of all C-like ions with Z in the range

$$9 \leq Z \leq 54. \quad (1)$$

(For completeness, we mention that collision strengths for all possible transitions between the $n = 2$ and $n = 3$ levels were also provided in Ref. [8].) In the interest of brevity, oscillator strengths and collision strengths were only explicitly published in Ref. [1] for certain Z values within the above range. These collision strengths were calculated with an improved version [9] of the rapid relativistic distorted-wave (RDW) code of Ref. [10]. For additional details of our RDW codes, a comprehensive review is available in Ref. [11]. These previous $\Delta n = 0$ calculations were made for the six final, or scattered, electron energies

$$E' = 0.03, 0.08, 0.20, 0.42, 0.80, \text{ and } 1.40, \quad (2)$$

where E' is in units of Z_{eff}^2 Rydbergs with

$$Z_{\text{eff}} = Z - 4.17. \quad (3)$$

The range of energies covered by Eq. (2) is expected to include those of principal interest for determining collision rates for applications to high-temperature plasmas. We note that the precise choice for Z_{eff} is not very crucial. Equation (3) corresponds to the general formula $Z_{\text{eff}} = Z - (5/6)(N - 1)$ used in our previous work on other isoelectronic sequences, applied to the present case with $N = 6$.

For the optically allowed transitions in those earlier calculations, a partial-relativistic Coulomb-Bethe (PRCBe) approximation was used to estimate the high partial-wave contribution (sometimes referred to as the “top-up” in the literature). In this approximation, the non-relativistic Coulomb-Bethe procedure [12], as described by Eqs. (18)–(20)

in Ref. [13], was used with the fully relativistic electric-dipole line strength S calculated with the multi-configuration Dirac-Fock (MCDF) structure code of Grant and coworkers [14,15] (or by our Dirac-Fock-Slater structure code [16] in some cases). We note that the line strength S_{if} for a transition from level i to level f is related to the oscillator strength f_{if} , such as those listed in Table II of Ref. [1] for C-like ions, by

$$f_{if} = \frac{E_{if}}{3g_i} S_{if}, \quad (4)$$

where E_{if} is the transition energy in Rydbergs and $g_i = 2J_i + 1$ is the statistical weight, with J_i being the total angular momentum quantum number of the level i . The PRCBe approximation gives converged results, but omits the relativistic effects associated with the continuum electrons. Therefore, this approach is only accurate for (1) ions with low Z values and (2) low incident-electron energies. Furthermore, numerical studies have shown that this approach is also adequate in determining the top-up contribution for most $\Delta n > 0$ optically allowed transitions from low-lying levels, for which the transition energies are large and the top-up is typically a much smaller percentage of the total collision strength as compared to $\Delta n = 0$ transitions. On the other hand, for $\Delta n = 0$ allowed transitions, such as those considered in Ref. [1], the collision strengths obtained with this procedure may not be very accurate for high- Z ions and for high incident-electron energies.

In a recent publication, we derived an expression for the complete electron-impact excitation collision strength in the relativistic plane-wave Born (RPWB) approximation [17]. (By “complete” we indicate that the calculated value of the collision strength is consistent with a summation over an infinite number of partial waves for the initial and final continuum electrons.) This result can be readily used to obtain the high partial-wave contribution to the RDW collision strengths by assuming that the RDW high partial waves can be adequately approximated by the corresponding RPWB high partial waves. If this approximation is valid, then the complete RDW collision strength can be accurately calculated using the Kummer transformation [18] (see Eq. (4.75) of Ref. [11] and the surrounding discussion for more details). Using this top-up procedure, the complete RDW collision strength can be written in the form

$$\Omega^{\text{RDW}} \approx \sum_{l=0}^{l_0} \Omega_l^{\text{RDW}} + (\Omega^{\text{RPWB}} - \sum_{l=0}^{l_0} \Omega_l^{\text{RPWB}}), \quad (5)$$

where the l index denotes a partial wave of the incident-electron wavefunction. The prescribed value l_0 indicates the maximum partial wave to be explicitly calculated. (The

summation over the j quantum number associated with the incident electron, as well as the summation over the corresponding l' and j' quantum numbers associated with the scattered electron, has already been performed.) The l and j quantum numbers are related to the usual relativistic quantum number κ by

$$\kappa = l, \quad j = l - \frac{1}{2}; \quad \kappa = -(l + 1), \quad j = l + \frac{1}{2}. \quad (6)$$

For additional details concerning this RPWB top-up procedure, the reader is directed to Refs. [2, 11].

In view of this new, more accurate top-up capability, we investigated its effect on our previously published $\Delta n = 0$, C-like ion collision strengths. Significant improvements were found for the optically allowed transitions, while the effect on the other, forbidden $\Delta n = 0$ transitions was negligible. Therefore, we have repeated the calculations of the collision strengths for all 185 $\Delta n = 0$ transitions with $n = 2$, for the six energies listed in Eq. (2), in C-like ions with $26 \leq Z \leq 54$. The decision to include calculations of collision strengths for the forbidden transitions in the present work was based on the fact that data were not explicitly published for all Z values within this range in Ref. [1]. For similar reasons, we also decided to include the corresponding oscillator strengths for the optically allowed transitions in this work. Furthermore, we have extended the upper limit of the range of Z values from 54 to 92 for both oscillator strengths and collision strengths. In summary, a complete set of new calculations has been done for Z in the range

$$26 \leq Z \leq 92 \quad (7)$$

and for the six scattered electron energies listed in Eq. (2).

The procedures used in the present calculations for the RDW part are the same as those used in the previous calculations for C-like ions [1, 8], as well as those used for Be-like [2, 19], B-like [3, 20, 21], N-like [22], and O-like [23] ions. That is, relativistic atomic structure data obtained with the “average level” option of the MCDF code of Grant and coworkers [14, 15] was used and the central potential used in solving the Dirac equation for the free-electron orbitals was the relativistic version of the potential used by Mann in his extensive semi-relativistic calculations [24, 25]. We evaluate this potential using a mean configuration, which in the present calculations was chosen to be the same as that appearing in Eq. (4) of Ref. [1]. That is,

$$1s_{1/2}^2 \ 2s_{1/2}^{1.33} \ 2p_{1/2}^{1.33} \ 2p_{3/2}^{1.34} \quad (8)$$

was used to obtain wavefunctions for both the impacting and scattered electrons.

As in our previous work, the results are given in terms of collision strengths. The relation between the collision strength $\Omega(i-f)$ and the cross section $Q(i-f)$ for a transition $i-f$ is

$$Q(i-f) = \frac{\pi a_0^2}{k_i^2 g_i} \Omega(i-f), \quad (9)$$

where a_0 is the Bohr radius, g_i is the statistical weight of the initial level, and k_i is the relativistic wave number of the impacting electron in atomic units. The relation between k_i and the relativistic kinetic energy $\epsilon_i(\text{Ry})$ of the impact electron is

$$k_i^2 = \epsilon_i(\text{Ry}) \left[1 + \frac{\alpha^2}{4} \epsilon_i(\text{Ry}) \right], \quad (10)$$

where $\alpha = e^2/\hbar c$ is the fine-structure constant and $\epsilon_i(\text{Ry})$ is determined from the equation

$$\epsilon_i(\text{Ry}) = E_{if}(\text{Ry}) + Z_{\text{eff}}^2 E', \quad (11)$$

in which E_{if} is the transition energy, Z_{eff} is given by Eq. (3) and, in the present application, the final electron energy E' takes on the values given by Eq. (2).

As in Refs. [1–3, 8, 19–23], we use the factorization formulation of Bar-Shalom et al. [26] to express the collision strengths in the form

$$\Omega = 8 \sum_{\substack{j_a, j'_a \\ j_{a1}, j'_{a1}}} \sum_{\lambda} B^{\lambda}(j_a j'_a, j_{a1} j'_{a1}) Q^{\lambda}(j_a j'_a, j_{a1} j'_{a1}), \quad (12)$$

where the abbreviations $j_a = n_a l_a j_a$, $j'_a = n'_a l'_a j'_a$, $j_{a1} = n_{a1} l_{a1} j_{a1}$, and $j'_{a1} = n'_{a1} l'_{a1} j'_{a1}$ have been used. Here, j_a and j_{a1} represent orbitals in the initial target-ion wavefunction, while j'_a and j'_{a1} represent orbitals in the final target-ion wavefunction. A convenient feature of Eq. (12) is that the B^{λ} are functions only of the target-ion quantum numbers and mixing coefficients plus λ , while Q^{λ} contains the radial contribution and depends only on λ and the bound and free orbitals, with the summation over the free-electron angular momentum quantum numbers l , j , l' , and j' performed within it. (See, for example, Eqs. (10), (21), and (23) of Ref. [26].) Of course in the present calculations we used the Kummer transformation, Eq. (5), to obtain the contribution for high partial waves denoted by l values greater than some suitably large value l_0 , up to which the RDW portion of the calculation was performed. We note that rather large values of l_0 (34, 36, 51, 58, 61, and 65) were used for the six scattered energies given in Eq. (2) to ensure that the free-electron partial waves with $l > l_0$ can be accurately represented by plane-wave functions in order to obtain collision strengths that are physically accurate. These l_0 values are almost the same as those reported in Ref. [1]. However, it was

recently discovered that the actual l_0 values used for the calculations in Ref. [1] were somewhat lower than the reported values and so those previous results are not quite as accurate as would be expected if these larger values of l_0 had been used.

A list of energy level labels is provided in Table 1. In the present work, mixing was included among all states in a group, where each group consists of all states in a complex (i.e., those states having the same set of n values, parity and J value). We designate each group by a capital letter, as listed in Table 1. A number subscript to the group letter designates a particular energy level in the group. Both the dominant jj -coupled state and the dominant LS -coupled state contributing to each level are indicated in the table, which was partially reproduced from Table I in Ref. [1] and also extended to include Z values up to 92. For the jj -coupled basis states, “ $2p^*$ ” means $2p_{1/2}$ and “ $2p$ ” means $2p_{3/2}$. The oscillator strengths for all possible electric dipole radiative transitions among the $n = 2$ levels in all C-like ions with Z in the range given by Eq. (7) are presented in Table 2. The collision strengths for all 185 transitions among the $n = 2$ levels in C-like ions with Z values in the range specified by Eq. (7) are given in Table 3. The transition energies E_{if} in eV are also included in this table.

For each of the six scattered electron energies given by Eq. (2), detailed calculations of the Q^λ values were made for several transition energies that span the range of physical transition energies. Then these results were used to obtain Q^λ values at the exact energy of each transition via Lagrange interpolation. In most of our earlier work, accurate values (to within about 1%) could be obtained by performing detailed calculations for only three transition energies and using these values in a 3-point interpolation. But in the present case, in order to obtain as accurate results as possible, we performed detailed calculations for ten transition energies that cover the range of all physical transition energies for a given Z value. More specifically, collision strengths for the parity-changing transitions were computed separately from those transitions for which the parity does not change, and ten transition energies were generated for each of these two types of calculations. Then, for each physical transition energy, results were obtained by using Q^λ values at the three energy points nearest to that exact transition energy in a 3-point interpolation.

Before considering the collision strength data in Table 3, we briefly discuss the important practical issue of the relation between the collision strength $\Omega(i - f)$ and the rate coefficient C_{if} when a relativistic Maxwellian electron distribution function is assumed. As follows from the work in Refs. [27] and [28] (see also Section 4.14 of

Ref. [11]), this relation is given by

$$\begin{aligned} C_{if} &= \alpha \pi a_0^2 \sqrt{\frac{2kT}{m}} \sqrt{\frac{I_H}{kT}} \frac{\Upsilon_{if}}{g_i \exp(mc^2/kT) K_2(mc^2/kT)} \exp(-E_{if}/kT) \\ &= 2\pi^{1/2} \alpha c a_0^2 \sqrt{\frac{I_H}{kT}} \frac{\Upsilon_{if}}{g_i G(kT/mc^2)} \exp(-E_{if}/kT), \end{aligned} \quad (13)$$

where I_H is one Rydberg, $K_2(mc^2/kT)$ is the modified Bessel function of order 2 and Υ_{if} is the effective collision strength defined by

$$\Upsilon_{if} \equiv \int_0^\infty \Omega(i-f) \exp(-\epsilon_f/kT) d(\epsilon_f/kT), \quad (14)$$

in which $\epsilon_f = Z_{\text{eff}}^2 E'$ is the final, or scattered, electron energy in Rydbergs. In the second line of Eq. (13), the value of $2\pi^{1/2} \alpha c a_0^2$ can be expressed as $2.1717 \times 10^{-8} \text{cm}^3 \text{s}^{-1}$ in cgs units. Furthermore, that line has the same form as the non-relativistic expression given, for example, by Eq. (3) of Ref. [29], except for the presence of the function $G(kT/mc^2)$, which is defined by

$$G(kT/mc^2) \equiv \sqrt{\frac{2}{\pi} \left(\frac{mc^2}{kT} \right)} \exp(mc^2/kT) K_2(mc^2/kT). \quad (15)$$

For plasmas that satisfy the condition $kT/mc^2 < 1$, which is true for a broad range of cases of interest, one can expand the modified Bessel function using Eq. (9.72) of Ref. [18] to obtain

$$G(kT/mc^2) = 1 + \frac{15}{8} \frac{kT}{mc^2} + \frac{105}{128} \left(\frac{kT}{mc^2} \right)^2 - \frac{315}{1024} \left(\frac{kT}{mc^2} \right)^3 + \frac{10395}{32768} \left(\frac{kT}{mc^2} \right)^4 + \dots \quad (16)$$

Finally, we note that in writing Eq. (13), it was assumed that i is the lower level. If this is not the case, then the exponential factor should be omitted.

Comparing the collision strength data in Table 3 of the present work with that in Table III of Ref. [1], one sees that for lower Z values, the agreement is quite good. Also, for the lowest scattered energies in Table 3, $E' = 0.03, 0.08, 0.2 Z_{\text{eff}}^2 \text{ Ry}$, the agreement is also very good over the entire range of Z values. However, for higher energies, especially for the largest value of $E' = 1.4 Z_{\text{eff}}^2 \text{ Ry}$, the new results become progressively larger with increasing Z value, up to a 15.4% increase for $Z = 54$. In order to provide a more meaningful comparison, new PRCBe top-up calculations were carried out for $Z = 54$ using the same set of l_0 values (see above) as were used for the present RPWB top-up calculations. When comparing these new PRCBe and RPWB top-up collision strengths for $Z = 54$ calculations, a more modest, maximum difference of 8.9% was observed.

Figure 1: A plot of collision strengths for the $A_2 - E_3$ transition in C-like xenon ($Z = 54$) and uranium ($Z = 92$). The solid lines represent collision strengths calculated with the RPWB top-up method presented in Eq. (5), while the dashed lines represent collision strengths calculated with the PRCBe method.

Since there were no $Z = 92$ results presented in Ref. [1], new PRCBe data were also generated for this Z value with the set of l_0 values mentioned above. As expected, since the relativistic effects are greater for heavier ions, larger discrepancies between the two top-up methods were observed for this higher Z value, with a maximum difference of 25.0% at the highest impact energy. As an illustration of this behavior, we present collision strengths for the $A_2 - E_3$ transition in C-like xenon ($Z = 54$) and uranium ($Z = 92$) in Fig. 1. The separation between the RPWB and PRCBe curves clearly increases with increasing impact energy for both xenon and uranium. As expected, the separation is larger (on a percentage basis) for uranium, with a maximum difference of 23.5% observed at the highest impact energy.

While the C-like ions with the highest Z values presently under consideration can require the inclusion of QED effects in order to obtain accurate collision strengths, the work in Ref. [30] indicates that the omission of the generalized Breit interaction in the calculation of the scattering matrix elements, as we have done here, is completely valid for the present application involving $\Delta n = 0$ transitions. Also, due to the relatively large charge of the ions under consideration, the effect of radiation damping will be significant and resonance contributions are expected to become progressively less important as Z

increases through the range of values listed in Eq. (7). The resonance contributions are not expected to be very important for any of the strong optically allowed transitions in this range, and are expected to become progressively less important for the weaker transitions. (See detailed discussion of resonances below.) Thus, we expect that the present results for the 185 $\Delta n = 0$ transitions currently under consideration, particularly the strong dipole allowed transitions, should be quite accurate for the range of ions and energies given in Eqs. (7) and (2). (See uncertainty analysis below.) We note that, as mentioned in other work (see, for example, Ref. [1]), our collision strengths for the low- Z end of the range of ions considered in Eq. (1) of Ref. [1] could be inaccurate by about 20% due to the omission of mixing with $n \geq 3$ configurations. However, this configuration interaction effect should become progressively less important for the present results as the Z value increases through the higher range of $26 \leq Z \leq 92$.

Since the publication of our earlier C-like ion work [1], additional excitation data, obtained with different approaches to the close-coupling R-matrix method, have been published that contain results for C-like iron [31–34]. As expected, a number of these works illustrated that resonances can provide a significant contribution to the collision strengths for forbidden, $\Delta n = 0$ transitions. For highly charged ions, the resonance contribution to these transitions can be obtained via the independent-process, isolated resonance (IPIR) method [11,35–37] mentioned in the discussion below. These forbidden collision strengths, or corresponding rate coefficients, are typically weaker than those associated with dipole allowed transitions. Weak transitions involving high-lying levels often do not contribute significantly to the spectra obtained from collisional-radiative modeling, as pointed out, for example, by Landi and Gu [38] in their quantitative analysis of the importance of $\Delta n = 0$, $n = 3$ transitions to the collisional radiative modeling of C-like iron ions. However, the $\Delta n = 0$, $n = 2$ transitions of present interest involve low-lying levels, for which it is well known that forbidden collision strengths can play an important role in generating their populations. More specifically, the five lowest-lying levels of C-like ions all arise from the $2s^2 2p^2$ configuration and thus the first four excited levels are metastable with respect to the ground level. Collisional excitation from the ground level to these excited levels can be extremely important, particularly for low density plasmas of astrophysical interest in which the dominant populating mechanism of these excited levels is via collisional pumping from the ground level. As an example that illustrates the suitability of RDW data to the modeling of such plasmas, we again refer to the work of Landi and Gu [38], which includes a relatively comprehensive set of RDW data for a variety of highly charged ions of iron, of which the presently considered

$\Delta n = 0$ transitions are a subset. In that work, it was demonstrated that the use of RDW versus R-matrix collisional data did not produce an appreciable difference in the strongest, observable lines in the x-ray spectrum of C-like iron, which is relevant to solar-flare spectroscopy (see Figure 7 of that work). Of course, that collisional-radiative study was by no means an exhaustive one and comparative modeling of additional applications is desirable.

In general, that is, for both allowed and forbidden transitions, one expects that results computed with the R-matrix method should be more accurate for low- Z ions, due to a more complete description of resonances and channel coupling. However, as the ion charge increases, the RDW data should be of similar, or better, accuracy compared to the corresponding R-matrix data. More specifically, the importance of the resonance contribution to excitation cross sections diminishes as the ion charge increases (due to radiation damping [39,40]) and also as the impact energy increases (no resonances can occur if the impact energy is above the relevant ionization threshold).

The effect of decreasing resonance contributions to collision strengths due to radiation damping, as the ion charge increases, has been established from basic theoretical considerations, as shown by Hahn and LaGattuta [41]. The general argument concerns the scaling of the autoionization and radiative rates from the autoionizing levels responsible for the resonances as a function of the ion charge, $Z_c = Z - N$. For a particular iso-electronic sequence, the autoionization rates scale as Z_c^0 (i.e., as a constant) while the radiative decay rates from those levels scale as Z_c^4 . Thus, radiation damping tends to significantly reduce the resonance contribution to impact-excitation rate coefficients of weak transitions as the ion charge increases. This effect has been demonstrated, for example, for collision strengths of transitions between low-lying levels of He-like ions by Zhang and Sampson [39]. In Table 1 of that work, a comparison of the first three rows of data associated with each Z value indicates significant resonance contributions for various weak transitions when $Z = 8$ ($Z_c = 8 - 2 = 6$), while that contribution dramatically decreases as Z increases to a value of 72. At this highest Z value, the resonance contribution is typically an order of magnitude or more smaller than the corresponding background value. This decrease is due to the radiation damping that is included via the branching ratio appearing in Eq. (9) of that work. The same trends are expected to be valid for the C-like ions considered in this work since the same basic physics concepts apply.

It is also informative, from a resonance perspective, to examine these He-like data for the specific value of $Z = 26$, which is the lowest Z value considered in the present work

and probably the one of most practical importance due to its relevance in astrophysical modeling. As expected for this intermediate Z value, the excitation rate coefficients for the forbidden $\Delta n = 0$ transitions display strong resonance contributions, particularly at lower temperatures for which the near-threshold region of the collision strengths, where resonances are typically strongest, are sampled. Thus, for He-like ions, the value of $Z_c = 24$ for iron is not large enough to produce radiation damping significant enough to quench the resonances for these transitions. Similar behavior is observed for forbidden $\Delta n = 0$ transitions of B-like iron ions in Figures 11–13 of Ref. [35]. The resonance contributions are large in those RDW calculations, even when radiation damping is included for this value of $Z_c = 22$. Therefore, the IPIR method should be employed in RDW calculations if it is desirable to take into account the resonance contribution for forbidden $\Delta n = 0$ transitions of these He- and B-like ions with intermediate values around $Z = 26$. By extension, similar statements hold true for the forbidden $\Delta n = 0$ transitions of the presently considered C-like ions.

In an effort to make some general, quantitative statements about RDW versus R-matrix excitation data for low-lying $\Delta n = 0$, $n = 2$ transitions, it is worthwhile to revisit the above-mentioned B-like paper of Gu [35]. In that work, Gu carried out a careful, consistent study of RDW versus R-matrix excitation data for B-like iron ions. For the above-mentioned, forbidden transitions, it was shown that the RDW IPIR rate coefficients (more precisely, the effective collision strengths) agree to within 10–20% of their corresponding R-matrix values. From Figure 14 of that work, much better agreement ($\sim 2\%$) is observed for a dipole allowed transition, which is expected because the resonance contribution is small for such strong transitions and channel coupling is weak for such a highly charged ion. Again, by extension, similar statements are expected to hold for the transitions associated with intermediate Z values of C-like ions considered in this work. We chose not to provide such a detailed comparison of RDW versus R-matrix for C-like ion data in the present work because it would have necessarily involved comparisons between models with inconsistent treatments of the structure and resonance descriptions. As pointed out by Gu [35], such inconsistent comparisons have led to “widespread confusion” concerning the validity of RDW data. A careful, consistent comparison for C-like ions is beyond the scope of the present study, but will be considered for future work.

In summary, if the incident-electron energy is large enough that resonances are not present in the cross section, then the top-up method discussed in this work is expected to produce more accurate results than semi-relativistic top-up methods when a fully

relativistic description of the continuum electrons is warranted. If the energy is low enough to allow resonances, the RDW data should agree well with the background contribution to the corresponding R-matrix data for these highly charged ions, and the effect of resonances will either be negligible due to radiation damping or, for weaker transitions, the effect can be included in a reasonably accurate manner in the RDW calculations via the IPIR method. If the ion charge is sufficiently large, then even the resonance contribution to the weaker transitions is expected to become negligible due to damping.

Some additional discussions in our earlier C-like work [1], as well as comparisons to other works (see the references therein) were provided. These discussions and comparisons are still valid. As far as uncertainty estimates are concerned, a study of the data for the least-charged ion considered in this work, $Z = 26$ (iron), should suffice to provide an upper bound because the principal source of inaccuracy in the present calculations, configuration interaction, becomes progressively less important as the Z value increases, as mentioned above. We consider here the quantities of importance to the collisional-radiative modeling of plasmas (i.e., oscillator strengths and collisional excitation rate coefficients, or, equivalently, effective collision strengths), which are obtained in the usual way (see Eq. (14)), via an integration of the collision strengths convolved with an electron-energy distribution.

Modern uncertainty estimates for the oscillator strengths can be obtained from the recent, detailed analysis provided by Ekman et al. [42]. In that work, the $\Delta n = 0$, $n = 2$ oscillator strengths were generated for iron with the GRASP2K code [43]. The presently used MCDF structure code is a precursor of GRASP2K and produces similar results for the present case, provided the same structure description is used. Ekman et al. compared the GRASP2K oscillator strength to the values available in the NIST Atomic Spectra Database [44], which are recommended from Shirai et al. [45]. Comparisons were also made with results generated by the FAC code, which was used to generate the atomic structure data in the previously discussed studies by Gu [35] and Landi and Gu [38]. Average deviations with the NIST data were reported to be 9.7%, and 4.8% with the FAC data. Further analysis, involving the oscillator strengths calculated in the length and velocity gauges in conjunction with observed level energies, produced an average theoretical uncertainty of 2.4% for the GRASP2K $\Delta n = 0$ oscillator strengths. This analysis should also be valid, to a large extent, for the MCDF values presented in this work. The GRASP2K calculations included more configuration interaction (CI) by considering configurations with single excitations to the $n = 3$ and $n = 4$ shells. When

including a similar amount of CI in our MCDF calculations for iron ions (data not shown), almost all of the 70 possible oscillator strengths changed by only a few percent or less, in accord with our statement that CI becomes progressively less important as the ion charge increases. As expected, a few of the smaller values changed by 10–20%. And two of the smallest values, on the order of 10^{-5} , which can be very sensitive to CI, changed by 33% and 58%.

It is more difficult to estimate the uncertainties of the excitation rate coefficients because we are not aware of any experimental data with which to compare. In the absence of measurements, one possible option is to compare with theory that is considered to be more accurate (e.g., the R-matrix approach) when warranted. However, as explained previously, RDW versus R-matrix comparisons can be problematic, due to inconsistent treatments of structure and resonance descriptions. Therefore, in order to provide some sort of estimate for the present C-like ion data, we again refer to the consistent comparison of RDW versus R-matrix data for the neighboring B-like ion stage provided by Gu [35]. As previously described, the differences between the RDW and R-matrix $\Delta n = 0$ effective collision strengths for B-like iron were 10–20% for forbidden transitions and $\sim 2\%$ for allowed transitions. Similar values are expected to hold for the C-like ions considered in this work for a consistent comparison of data. We note that this analysis concerns collision strengths that do not contain the more accurate RPWB top-up method, which is the primary focus of this work.

As illustrated in Fig. 1, the effect of this method is most prominent in the high-energy region of the collision strengths and for large Z values. As stated previously, the resonance contribution is not significant in this region. RDW and R-matrix calculations of highly charged ions that are carried out in a consistent manner are expected to yield very similar collision strengths and, hence, rate coefficients, when this high-energy region provides the dominant contribution to the rate coefficients. However, we are not aware of any other calculations, R-matrix or otherwise, that employ this more accurate top-up method and so no comparison are possible. We can simply state that, based on standard theoretical considerations, this high-energy region of the collision strengths, and the corresponding rate coefficients, should be well-described by perturbative methods such as the distorted-wave approach. The chosen RPWB top-up method is also expected to capture the appropriate physics in this high-energy region and has been shown to increase certain collision strengths by as much as 25% for $Z = 92$. The corresponding rate coefficients will naturally increase by similar amounts when the RPWB top-up method is employed. The uncertainties of these particular rate coefficients should be no

larger than the values provided in the RDW versus R-matrix discussion above, and are expected to be significantly lower.

We also note that the above analysis of the rate coefficients is valid for low density plasmas. For the collisional-radiative modeling of high density, highly charged plasmas, the inclusion of resonances within the rate coefficients, as generated by the R-matrix and IPIR methods, is not appropriate. Instead, it is necessary to explicitly consider the autoionizing levels in the rate equations, on par with the bound levels. In this way, the autoionizing levels are allowed to accumulate significant amounts of population beyond the low density, coronal assumptions that underpin the alternative approach of explicitly including resonances in the collisional excitation data (see, for example, Ref. [46]). In this case, the direct (or background) collision strengths, and their rate coefficients, such as those presented in this work, are the appropriate excitation data to be used when constructing the rate matrix.

The effects of resonances and radiation damping are taken into account in an implicit manner in this approach by explicitly including electron capture into, and radiative decay out of, the autoionizing levels when constructing the rate matrix. Additional information concerning this approach to the collisional-radiative modeling of high density plasmas can be found in Ref. [37], which also demonstrates that this approach can be used to model low density plasmas of highly charged He-like ions. Thus, the issue of uncertainties in the excitation data for the high density regime is simpler than for the low density case because collision strengths without resonances are the quantity of interest. The most relevant point becomes one of convergence of the RDW calculations, and an explicit consideration of resonances is not required. As in the analysis of oscillator strengths above, the main issue of convergence for the present RDW excitation data concerns CI. A majority of the RDW collision strengths presented here for $Z = 26$, especially the strongest ones, are converged with respect to CI to within a few percent, while the very weakest ones, typically those described by a two-electron jump, can be affected by 50% or more.

In summary, we emphasize that we are providing the background collision strengths for C-like ions in the present work. As indicated in the above discussions, depending on the application, these data may be directly used to obtain the rate coefficients, or effective collision strengths, that are necessary to carry out collisional-radiative modeling. Alternatively, they can be augmented to explicitly include the effect of resonances, via the IPIR method.

We note that the complete set of results (both oscillator strengths and collision

strengths) for all 84 Z values in the range obtained from the union of Eqs. (1) and (7), that is, $9 \leq Z \leq 92$, and all 6 energies specified in Eq. (2), is available electronically by writing to the authors at cjf@lanl.gov. For consistency, the collision data in this complete set for the range $9 \leq Z \leq 25$ have been regenerated with a higher set of l_0 values than were used in Ref. [1] and the data for the range $26 \leq Z \leq 92$ are obtained from the present work.

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EXPLANATION OF TABLES

TABLE 1. Labeling of Energy Levels

This table shows the jj -coupled basis state and the LS -coupled basis state that make the dominant contribution to each energy level for Z in the range $26 \leq Z \leq 92$. For the jj -coupled basis states, “ $2p^*$ ” means $2p_{1/2}$ and “ $2p$ ” means $2p_{3/2}$, so that “ $[(2s2p^*)_1(2p^2)_2]_1$ ” means $[1s^2(2s2p_{1/2})_1(2p_{3/2}^2)_2]_1$ with $1s^2$ omitted. For LS -coupled basis states, “ $2s(2p^3\ ^4S)\ ^3S_1$ ” means $1s^22s(2p^3\ ^4S)\ ^3S_1$. It should be noted that in some cases, specifically for LS -coupling at high Z values, where mixing is very strong, one pure state makes the dominant contribution to two levels, while another makes the dominant contribution to none. In such a case, we have made the optimum choice subject to the condition that each pure state uniquely labels, or is said to make the dominant contribution to, a single level.

TABLE 2. Electric Dipole Oscillator Strengths

This table gives the (dimensionless) electric dipole oscillator strengths for the allowed transitions $i - f$, labeled according to Table 1. All Z values in the range $26 \leq Z \leq 92$ are included. When an entry in the table is negative, the level labeled f is the lower level. The absorption oscillator strength for the transition $f - i$ is then obtained by changing the sign of the corresponding entry for the oscillator strength and multiplying by the ratio of statistical weights g_i/g_f . For example, for the case that $Z = 26$, $i = C_3$, and $f = E_3$, the J value for group C is 2 and for group E is 1. Hence, the absorption oscillator strength for the transition $E_3 - C_3$ is $\frac{5}{3} \times (-0.0334) = -0.0557$.

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

Table 3 gives values for the collision strengths from which one can obtain values for the cross sections using Eqs. (9)–(11) or the rate coefficients using Eqs. (13)–(16). All Z values in the range $26 \leq Z \leq 92$ are included. In the present case the statistical weight $g_i = 2J_i + 1$, where J_i is the value for the total angular momentum quantum number for the initial level. The fine-structure constant α in Eq. (13) has the value $1/137.036$. The Z_{eff} in Eq. (11) is given by Eq. (3) and the transition energy $E_{if}(\text{Ry})$ in

Eq. (11) is obtained from the corresponding entry in eV given in Table 3 by dividing by the conversion factor 13.6057 eV/Ry. When the entry for E_{if} is negative, the level f is the lower level and the cross section for the excitation transition $f - i$ is obtained by using Eqs. (9)–(11) with i and f interchanged.

Z	Nuclear charge number
if	Initial (lower) and final (upper) levels, labeled according to Table 1
E_{if}	Transition energy in eV
E'	Scattered electron energy in units of $Z_{\text{eff}}^2 \text{Ry}$, where the effective nuclear charge Z_{eff} is given by $Z - 4.17$ [Eq. (3)]

TABLE 1: Labeling of Energy Levels

Energy Level	Dominant jj State		
	$26 \leq Z \leq 32$	$33 \leq Z \leq 36$	$37 \leq Z \leq 92$
A_1	$(2s^2 2p^{*2})_0$	$(2s^2 2p^{*2})_0$	$(2s^2 2p^{*2})_0$
A_2	$(2s^2 2p^2)_0$	$(2s^2 2p^2)_0$	$(2s^2 2p^2)_0$
A_3	$(2p^{*2} 2p^2)_0$	$(2p^{*2} 2p^2)_0$	$(2p^{*2} 2p^2)_0$
A_4	$(2p^4)_0$	$(2p^4)_0$	$(2p^4)_0$
B_1	$(2s^2 2p^* 2p)_1$	$(2s^2 2p^* 2p)_1$	$(2s^2 2p^* 2p)_1$
B_2	$(2p^* 2p^3)_1$	$(2p^* 2p^3)_1$	$(2p^* 2p^3)_1$
C_1	$(2s^2 2p^* 2p)_2$	$(2s^2 2p^* 2p)_2$	$(2s^2 2p^* 2p)_2$
C_2	$(2s^2 2p^2)_2$	$(2s^2 2p^2)_2$	$(2s^2 2p^2)_2$
C_3	$(2p^{*2} 2p^2)_2$	$(2p^{*2} 2p^2)_2$	$(2p^{*2} 2p^2)_2$
C_4	$(2p^* 2p^3)_2$	$(2p^* 2p^3)_2$	$(2p^* 2p^3)_2$
D_1	$[(2s 2p^*)_0 (2p^2)_0]_0$	$[(2s 2p^*)_0 (2p^2)_0]_0$	$[(2s 2p^*)_0 (2p^2)_0]_0$
E_1	$(2s 2p^{*2} 2p)_1$	$(2s 2p^{*2} 2p)_1$	$(2s 2p^{*2} 2p)_1$
E_2	$[(2s 2p^*)_1 (2p^2)_0]_1$	$[(2s 2p^*)_1 (2p^2)_0]_1$	$[(2s 2p^*)_1 (2p^2)_2]_1$
E_3	$[(2s 2p^*)_1 (2p^2)_2]_1$	$[(2s 2p^*)_1 (2p^2)_2]_1$	$[(2s 2p^*)_1 (2p^2)_0]_1$
E_4	$(2s 2p^3)_1$	$(2s 2p^3)_1$	$(2s 2p^3)_1$
F_1	$(2s 2p^{*2} 2p)_2$	$(2s 2p^{*2} 2p)_2$	$(2s 2p^{*2} 2p)_2$
F_2	$[(2s 2p^*)_0 (2p^2)_2]_2$	$[(2s 2p^*)_0 (2p^2)_2]_2$	$[(2s 2p^*)_0 (2p^2)_2]_2$
F_3	$(2s 2p^3)_2$	$[(2s 2p^*)_1 (2p^2)_2]_2$	$[(2s 2p^*)_1 (2p^2)_2]_2$
F_4	$[(2s 2p^*)_1 (2p^2)_2]_2$	$(2s 2p^3)_2$	$(2s 2p^3)_2$
G_1	$[(2s 2p^*)_1 (2p^2)_2]_3$	$[(2s 2p^*)_1 (2p^2)_2]_3$	$[(2s 2p^*)_1 (2p^2)_2]_3$

Energy Level	Dominant LS State				
	$26 \leq Z \leq 35$	$36 \leq Z \leq 39$	$40 \leq Z \leq 44$	$45 \leq Z \leq 60$	$61 \leq Z \leq 92$
A_1	$2s^2 2p^2 {}^3P_0$	$2s^2 2p^2 {}^3P_0$	$2s^2 2p^2 {}^3P_0$	$2s^2 2p^2 {}^3P_0$	$2s^2 2p^2 {}^3P_0$
A_2	$2s^2 2p^2 {}^1S_0$	$2s^2 2p^2 {}^1S_0$	$2s^2 2p^2 {}^1S_0$	$2s^2 2p^2 {}^1S_0$	$2s^2 2p^2 {}^1S_0$
A_3	$2p^4 {}^3P_0$	$2p^4 {}^3P_0$	$2p^4 {}^1S_0$	$2p^4 {}^1S_0$	$2p^4 {}^1S_0$
A_4	$2p^4 {}^1S_0$	$2p^4 {}^1S_0$	$2p^4 {}^3P_0$	$2p^4 {}^3P_0$	$2p^4 {}^3P_0$
B_1	$2s^2 2p^2 {}^3P_1$	$2s^2 2p^2 {}^3P_1$	$2s^2 2p^2 {}^3P_1$	$2s^2 2p^2 {}^3P_1$	$2s^2 2p^2 {}^3P_1$
B_2	$2p^4 {}^3P_1$	$2p^4 {}^3P_1$	$2p^4 {}^3P_1$	$2p^4 {}^3P_1$	$2p^4 {}^3P_1$
C_1	$2s^2 2p^2 {}^3P_2$	$2s^2 2p^2 {}^1D_2$	$2s^2 2p^2 {}^1D_2$	$2s^2 2p^2 {}^1D_2$	$2s^2 2p^2 {}^1D_2$
C_2	$2s^2 2p^2 {}^1D_2$	$2s^2 2p^2 {}^3P_2$	$2s^2 2p^2 {}^3P_2$	$2s^2 2p^2 {}^3P_2$	$2s^2 2p^2 {}^3P_2$
C_3	$2p^4 {}^3P_2$	$2p^4 {}^3P_2$	$2p^4 {}^3P_2$	$2p^4 {}^3P_2$	$2p^4 {}^3P_2$
C_4	$2p^4 {}^1D_2$	$2p^4 {}^1D_2$	$2p^4 {}^1D_2$	$2p^4 {}^1D_2$	$2p^4 {}^1D_2$
D_1	$2s(2p^3 {}^2P) {}^3P_0$	$2s(2p^3 {}^2P) {}^3P_0$	$2s(2p^3 {}^2P) {}^3P_0$	$2s(2p^3 {}^2P) {}^3P_0$	$2s(2p^3 {}^2P) {}^3P_0$
E_1	$2s(2p^3 {}^2D) {}^3D_1$	$2s(2p^3 {}^2D) {}^3D_1$	$2s(2p^3 {}^2D) {}^3D_1$	$2s(2p^3 {}^2D) {}^3D_1$	$2s(2p^3 {}^2D) {}^3D_1$
E_2	$2s(2p^3 {}^2P) {}^3P_1$	$2s(2p^3 {}^2P) {}^3P_1$	$2s(2p^3 {}^2P) {}^3P_1$	$2s(2p^3 {}^4S) {}^3S_1$	$2s(2p^3 {}^4S) {}^3S_1$
E_3	$2s(2p^3 {}^4S) {}^3S_1$	$2s(2p^3 {}^4S) {}^3S_1$	$2s(2p^3 {}^4S) {}^3S_1$	$2s(2p^3 {}^2P) {}^3P_1$	$2s(2p^3 {}^2P) {}^3P_1$
E_4	$2s(2p^3 {}^2P) {}^1P_1$	$2s(2p^3 {}^2P) {}^1P_1$	$2s(2p^3 {}^2P) {}^1P_1$	$2s(2p^3 {}^2P) {}^1P_1$	$2s(2p^3 {}^2P) {}^1P_1$
F_1	$2s(2p^3 {}^4S) {}^5S_2$	$2s(2p^3 {}^4S) {}^5S_2$	$2s(2p^3 {}^4S) {}^5S_2$	$2s(2p^3 {}^4S) {}^5S_2$	$2s(2p^3 {}^2D) {}^3D_2$
F_2	$2s(2p^3 {}^2D) {}^3D_2$	$2s(2p^3 {}^2D) {}^3D_2$	$2s(2p^3 {}^2D) {}^3D_2$	$2s(2p^3 {}^2D) {}^3D_2$	$2s(2p^3 {}^4S) {}^5S_2$
F_3	$2s(2p^3 {}^2P) {}^3P_2$	$2s(2p^3 {}^2D) {}^1D_2$	$2s(2p^3 {}^2D) {}^1D_2$	$2s(2p^3 {}^2D) {}^1D_2$	$2s(2p^3 {}^2D) {}^1D_2$
F_4	$2s(2p^3 {}^2D) {}^1D_2$	$2s(2p^3 {}^2P) {}^3P_2$	$2s(2p^3 {}^2P) {}^3P_2$	$2s(2p^3 {}^2P) {}^3P_2$	$2s(2p^3 {}^2P) {}^3P_2$
G_1	$2s(2p^3 {}^2D) {}^3D_3$	$2s(2p^3 {}^2D) {}^3D_3$	$2s(2p^3 {}^2D) {}^3D_3$	$2s(2p^3 {}^2D) {}^3D_3$	$2s(2p^3 {}^2D) {}^3D_3$

TABLE 2. Electric Dipole Oscillator Strengths

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See page 19 for Explanation of Tables

Z	$A_1 - E_1$	$A_1 - E_2$	$A_1 - E_3$	$A_1 - E_4$	$A_2 - E_1$	$A_2 - E_2$	$A_2 - E_3$	$A_2 - E_4$	$A_3 - E_1$	$A_3 - E_2$
26	9.23E-2	2.32E-2	3.81E-2	6.15E-5	1.39E-3	2.37E-3	5.73E-3	1.04E-1	-6.12E-2	-4.66E-2
27	9.47E-2	2.05E-2	3.49E-2	6.35E-5	1.49E-3	2.57E-3	6.53E-3	1.00E-1	-5.83E-2	-4.45E-2
28	9.72E-2	1.81E-2	3.18E-2	6.31E-5	1.55E-3	2.75E-3	7.33E-3	9.67E-2	-5.61E-2	-4.22E-2
29	9.97E-2	1.60E-2	2.88E-2	6.04E-5	1.57E-3	2.92E-3	8.12E-3	9.36E-2	-5.46E-2	-3.98E-2
30	1.02E-1	1.42E-2	2.60E-2	5.61E-5	1.56E-3	3.08E-3	8.89E-3	9.09E-2	-5.38E-2	-3.74E-2
31	1.05E-1	1.26E-2	2.32E-2	5.06E-5	1.52E-3	3.23E-3	9.63E-3	8.84E-2	-5.35E-2	-3.50E-2
32	1.08E-1	1.12E-2	2.06E-2	4.46E-5	1.45E-3	3.37E-3	1.04E-2	8.62E-2	-5.37E-2	-3.26E-2
33	1.10E-1	1.00E-2	1.82E-2	3.84E-5	1.35E-3	3.49E-3	1.10E-2	8.43E-2	-5.43E-2	-3.03E-2
34	1.13E-1	9.00E-3	1.59E-2	3.26E-5	1.23E-3	3.60E-3	1.17E-2	8.27E-2	-5.53E-2	-2.82E-2
35	1.16E-1	8.11E-3	1.39E-2	2.71E-5	1.10E-3	3.68E-3	1.23E-2	8.12E-2	-5.66E-2	-2.62E-2
36	1.18E-1	7.34E-3	1.20E-2	2.23E-5	9.69E-4	3.74E-3	1.29E-2	8.00E-2	-5.80E-2	-2.42E-2
37	1.21E-1	6.67E-3	1.04E-2	1.81E-5	8.33E-4	3.78E-3	1.34E-2	7.91E-2	-5.96E-2	-2.25E-2
38	1.23E-1	6.07E-3	8.88E-3	1.46E-5	7.00E-4	3.79E-3	1.39E-2	7.83E-2	-6.13E-2	-2.08E-2
39	1.26E-1	5.55E-3	7.58E-3	1.16E-5	5.71E-4	3.77E-3	1.44E-2	7.77E-2	-6.31E-2	-1.92E-2
40	1.28E-1	5.09E-3	6.45E-3	9.23E-6	4.50E-4	3.73E-3	1.48E-2	7.73E-2	-6.50E-2	-1.77E-2
41	1.31E-1	4.67E-3	5.47E-3	7.28E-6	3.36E-4	3.67E-3	1.52E-2	7.71E-2	-6.68E-2	-1.63E-2
42	1.34E-1	4.30E-3	4.63E-3	5.71E-6	2.31E-4	3.58E-3	1.56E-2	7.70E-2	-6.87E-2	-1.50E-2
43	1.36E-1	3.97E-3	3.91E-3	4.47E-6	1.35E-4	3.47E-3	1.59E-2	7.71E-2	-7.06E-2	-1.38E-2
44	1.39E-1	3.66E-3	3.29E-3	3.48E-6	4.75E-5	3.35E-3	1.62E-2	7.74E-2	-7.25E-2	-1.27E-2
45	1.42E-1	3.39E-3	2.77E-3	2.71E-6	-3.24E-5	3.22E-3	1.65E-2	7.78E-2	-7.44E-2	-1.16E-2
46	1.44E-1	3.14E-3	2.33E-3	2.11E-6	-1.05E-4	3.07E-3	1.67E-2	7.83E-2	-7.63E-2	-1.06E-2
47	1.47E-1	2.91E-3	1.95E-3	1.63E-6	-1.71E-4	2.92E-3	1.69E-2	7.90E-2	-7.82E-2	-9.71E-3
48	1.50E-1	2.69E-3	1.64E-3	1.27E-6	-2.31E-4	2.76E-3	1.71E-2	7.98E-2	-8.01E-2	-8.86E-3
49	1.53E-1	2.50E-3	1.37E-3	9.81E-7	-2.85E-4	2.60E-3	1.72E-2	8.07E-2	-8.20E-2	-8.08E-3
50	1.57E-1	2.32E-3	1.15E-3	7.60E-7	-3.35E-4	2.44E-3	1.73E-2	8.17E-2	-8.40E-2	-7.35E-3
51	1.60E-1	2.16E-3	9.66E-4	5.89E-7	-3.81E-4	2.29E-3	1.74E-2	8.28E-2	-8.59E-2	-6.69E-3
52	1.63E-1	2.00E-3	8.10E-4	4.56E-7	-4.23E-4	2.13E-3	1.75E-2	8.41E-2	-8.79E-2	-6.08E-3
53	1.67E-1	1.86E-3	6.79E-4	3.53E-7	-4.62E-4	1.99E-3	1.76E-2	8.54E-2	-8.99E-2	-5.53E-3
54	1.71E-1	1.73E-3	5.70E-4	2.73E-7	-4.98E-4	1.85E-3	1.76E-2	8.68E-2	-9.20E-2	-5.02E-3
55	1.74E-1	1.61E-3	4.78E-4	2.12E-7	-5.31E-4	1.71E-3	1.76E-2	8.84E-2	-9.40E-2	-4.56E-3
56	1.78E-1	1.50E-3	4.01E-4	1.64E-7	-5.62E-4	1.59E-3	1.76E-2	9.00E-2	-9.61E-2	-4.14E-3
57	1.82E-1	1.39E-3	3.37E-4	1.27E-7	-5.91E-4	1.47E-3	1.76E-2	9.17E-2	-9.83E-2	-3.77E-3
58	1.86E-1	1.30E-3	2.84E-4	9.85E-8	-6.19E-4	1.36E-3	1.75E-2	9.35E-2	-1.00E-1	-3.42E-3
59	1.91E-1	1.21E-3	2.39E-4	7.63E-8	-6.45E-4	1.26E-3	1.75E-2	9.54E-2	-1.03E-1	-3.11E-3
60	1.95E-1	1.13E-3	2.01E-4	5.91E-8	-6.70E-4	1.16E-3	1.74E-2	9.74E-2	-1.05E-1	-2.83E-3
61	2.00E-1	1.05E-3	1.70E-4	4.57E-8	-6.93E-4	1.08E-3	1.73E-2	9.94E-2	-1.07E-1	-2.58E-3
62	2.04E-1	9.79E-4	1.43E-4	3.54E-8	-7.16E-4	9.94E-4	1.72E-2	1.02E-1	-1.10E-1	-2.35E-3
63	2.09E-1	9.14E-4	1.21E-4	2.73E-8	-7.38E-4	9.19E-4	1.71E-2	1.04E-1	-1.12E-1	-2.15E-3
64	2.14E-1	8.53E-4	1.03E-4	2.11E-8	-7.59E-4	8.51E-4	1.70E-2	1.06E-1	-1.15E-1	-1.97E-3
65	2.19E-1	7.97E-4	8.72E-5	1.63E-8	-7.79E-4	7.88E-4	1.69E-2	1.08E-1	-1.17E-1	-1.80E-3
66	2.24E-1	7.45E-4	7.41E-5	1.25E-8	-7.98E-4	7.30E-4	1.68E-2	1.11E-1	-1.20E-1	-1.65E-3
67	2.29E-1	6.97E-4	6.31E-5	9.65E-9	-8.17E-4	6.78E-4	1.66E-2	1.13E-1	-1.22E-1	-1.51E-3
68	2.35E-1	6.52E-4	5.38E-5	7.41E-9	-8.36E-4	6.29E-4	1.65E-2	1.16E-1	-1.25E-1	-1.39E-3
69	2.40E-1	6.10E-4	4.60E-5	5.67E-9	-8.54E-4	5.85E-4	1.64E-2	1.19E-1	-1.28E-1	-1.28E-3
70	2.46E-1	5.72E-4	3.94E-5	4.33E-9	-8.71E-4	5.45E-4	1.62E-2	1.21E-1	-1.31E-1	-1.18E-3
71	2.52E-1	5.36E-4	3.39E-5	3.30E-9	-8.89E-4	5.08E-4	1.61E-2	1.24E-1	-1.34E-1	-1.09E-3
72	2.58E-1	5.03E-4	2.91E-5	2.50E-9	-9.05E-4	4.75E-4	1.59E-2	1.27E-1	-1.37E-1	-1.01E-3
73	2.64E-1	4.72E-4	2.51E-5	1.89E-9	-9.22E-4	4.44E-4	1.58E-2	1.30E-1	-1.40E-1	-9.40E-4
74	2.70E-1	4.43E-4	2.17E-5	1.42E-9	-9.38E-4	4.16E-4	1.56E-2	1.33E-1	-1.43E-1	-8.74E-4
75	2.77E-1	4.16E-4	1.89E-5	1.06E-9	-9.54E-4	3.91E-4	1.55E-2	1.36E-1	-1.46E-1	-8.14E-4
76	2.83E-1	3.91E-4	1.64E-5	1.00E-9	-9.70E-4	3.67E-4	1.53E-2	1.39E-1	-1.49E-1	-7.60E-4
77	2.90E-1	3.68E-4	1.43E-5	1.00E-9	-9.86E-4	3.46E-4	1.52E-2	1.43E-1	-1.52E-1	-7.11E-4
78	2.96E-1	3.46E-4	1.25E-5	0.00E+0	-1.00E-3	3.27E-4	1.50E-2	1.46E-1	-1.56E-1	-6.67E-4
79	3.03E-1	3.26E-4	1.10E-5	0.00E+0	-1.02E-3	3.09E-4	1.49E-2	1.49E-1	-1.59E-1	-6.27E-4
80	3.10E-1	3.07E-4	9.73E-6	0.00E+0	-1.03E-3	2.93E-4	1.47E-2	1.53E-1	-1.62E-1	-5.90E-4
81	3.17E-1	2.89E-4	8.61E-6	0.00E+0	-1.05E-3	2.78E-4	1.45E-2	1.56E-1	-1.66E-1	-5.57E-4
82	3.25E-1	2.73E-4	7.66E-6	0.00E+0	-1.06E-3	2.65E-4	1.44E-2	1.60E-1	-1.70E-1	-5.28E-4
83	3.32E-1	2.57E-4	6.84E-6	0.00E+0	-1.08E-3	2.53E-4	1.42E-2	1.64E-1	-1.73E-1	-5.01E-4
84	3.40E-1	2.43E-4	6.13E-6	0.00E+0	-1.09E-3	2.42E-4	1.40E-2	1.67E-1	-1.77E-1	-4.77E-4
85	3.47E-1	2.29E-4	5.53E-6	0.00E+0	-1.11E-3	2.32E-4	1.39E-2	1.71E-1	-1.81E-1	-4.55E-4
86	3.55E-1	2.16E-4	5.00E-6	0.00E+0	-1.12E-3	2.23E-4	1.37E-2	1.75E-1	-1.85E-1	-4.35E-4
87	3.63E-1	2.04E-4	4.55E-6	0.00E+0	-1.14E-3	2.15E-4	1.35E-2	1.79E-1	-1.89E-1	-4.17E-4
88	3.71E-1	1.93E-4	4.17E-6	0.00E+0	-1.15E-3	2.08E-4	1.33E-2	1.83E-1	-1.93E-1	-4.02E-4
89	3.80E-1	1.82E-4	3.83E-6	0.00E+0	-1.17E-3	2.02E-4	1.31E-2	1.87E-1	-1.97E-1	-3.88E-4
90	3.88E-1	1.72E-4	3.55E-6	0.00E+0	-1.19E-3	1.96E-4	1.30E-2	1.92E-1	-2.01E-1	-3.76E-4
91	3.97E-1	1.63E-4	3.30E-6	0.00E+0	-1.20E-3	1.91E-4	1.28E-2	1.96E-1	-2.05E-1	-3.66E-4
92	4.05E-1	1.54E-4	3.09E-6	0.00E+0	-1.22E-3	1.87E-4	1.26E-2	2.00E-1	-2.09E-1	-3.57E-4

TABLE 2. Electric Dipole Oscillator Strengths

See page 19 for Explanation of Tables

Z	$A_3 - E_3$	$A_3 - E_4$	$A_4 - E_1$	$A_4 - E_2$	$A_4 - E_3$	$A_4 - E_4$	$B_1 - D_1$	$B_2 - D_1$	$B_1 - E_1$	$B_1 - E_2$
26	-6.86E-2	-2.73E-5	-1.81E-4	-5.03E-3	-1.02E-2	-2.02E-1	1.69E-2	-1.14E-2	2.55E-3	3.48E-2
27	-6.92E-2	-8.23E-5	-1.83E-4	-5.83E-3	-9.75E-3	-1.95E-1	1.65E-2	-1.12E-2	1.85E-3	3.63E-2
28	-6.98E-2	-1.66E-4	-1.79E-4	-6.58E-3	-9.08E-3	-1.88E-1	1.61E-2	-1.10E-2	1.27E-3	3.79E-2
29	-7.02E-2	-2.70E-4	-1.70E-4	-7.22E-3	-8.26E-3	-1.83E-1	1.58E-2	-1.09E-2	8.10E-4	3.95E-2
30	-7.03E-2	-3.81E-4	-1.55E-4	-7.72E-3	-7.38E-3	-1.78E-1	1.55E-2	-1.08E-2	4.65E-4	4.11E-2
31	-7.01E-2	-4.87E-4	-1.38E-4	-8.06E-3	-6.49E-3	-1.74E-1	1.52E-2	-1.07E-2	2.24E-4	4.27E-2
32	-6.96E-2	-5.75E-4	-1.19E-4	-8.23E-3	-5.65E-3	-1.71E-1	1.50E-2	-1.06E-2	7.62E-5	4.44E-2
33	-6.89E-2	-6.39E-4	-9.95E-5	-8.24E-3	-4.87E-3	-1.68E-1	1.49E-2	-1.06E-2	8.36E-6	4.60E-2
34	-6.79E-2	-6.75E-4	-8.16E-5	-8.10E-3	-4.18E-3	-1.66E-1	1.47E-2	-1.06E-2	6.40E-6	4.77E-2
35	-6.68E-2	-6.84E-4	-6.56E-5	-7.86E-3	-3.57E-3	-1.65E-1	1.46E-2	-1.06E-2	5.66E-5	4.93E-2
36	-6.55E-2	-6.69E-4	-5.19E-5	-7.53E-3	-3.04E-3	-1.64E-1	1.45E-2	-1.06E-2	1.46E-4	5.10E-2
37	-6.41E-2	-6.35E-4	-4.05E-5	-7.14E-3	-2.59E-3	-1.64E-1	1.45E-2	-1.07E-2	2.63E-4	5.27E-2
38	-6.26E-2	-5.86E-4	-3.12E-5	-6.71E-3	-2.20E-3	-1.64E-1	1.44E-2	-1.08E-2	3.98E-4	5.44E-2
39	-6.12E-2	-5.27E-4	-2.38E-5	-6.27E-3	-1.87E-3	-1.64E-1	1.44E-2	-1.09E-2	5.42E-4	5.61E-2
40	-5.97E-2	-4.61E-4	-1.81E-5	-5.83E-3	-1.59E-3	-1.64E-1	1.44E-2	-1.10E-2	6.89E-4	5.78E-2
41	-5.83E-2	-3.92E-4	-1.37E-5	-5.39E-3	-1.35E-3	-1.65E-1	1.45E-2	-1.11E-2	8.34E-4	5.95E-2
42	-5.69E-2	-3.22E-4	-1.03E-5	-4.98E-3	-1.15E-3	-1.66E-1	1.45E-2	-1.12E-2	9.74E-4	6.12E-2
43	-5.56E-2	-2.52E-4	-7.72E-6	-4.58E-3	-9.77E-4	-1.67E-1	1.46E-2	-1.14E-2	1.10E-3	6.29E-2
44	-5.43E-2	-1.85E-4	-5.79E-6	-4.21E-3	-8.32E-4	-1.69E-1	1.47E-2	-1.15E-2	1.23E-3	6.46E-2
45	-5.31E-2	-1.20E-4	-4.34E-6	-3.87E-3	-7.10E-4	-1.70E-1	1.48E-2	-1.17E-2	1.34E-3	6.63E-2
46	-5.19E-2	-5.83E-5	-3.25E-6	-3.55E-3	-6.06E-4	-1.72E-1	1.49E-2	-1.19E-2	1.44E-3	6.80E-2
47	-5.08E-2	1.38E-7	-2.44E-6	-3.26E-3	-5.18E-4	-1.74E-1	1.51E-2	-1.21E-2	1.53E-3	6.98E-2
48	-4.98E-2	5.52E-5	-1.83E-6	-2.99E-3	-4.43E-4	-1.76E-1	1.52E-2	-1.24E-2	1.61E-3	7.15E-2
49	-4.87E-2	1.07E-4	-1.38E-6	-2.74E-3	-3.80E-4	-1.79E-1	1.54E-2	-1.26E-2	1.68E-3	7.33E-2
50	-4.77E-2	1.56E-4	-1.04E-6	-2.52E-3	-3.26E-4	-1.81E-1	1.56E-2	-1.28E-2	1.74E-3	7.50E-2
51	-4.68E-2	2.02E-4	-7.81E-7	-2.32E-3	-2.81E-4	-1.84E-1	1.58E-2	-1.31E-2	1.79E-3	7.68E-2
52	-4.59E-2	2.45E-4	-5.90E-7	-2.13E-3	-2.42E-4	-1.87E-1	1.60E-2	-1.34E-2	1.84E-3	7.86E-2
53	-4.50E-2	2.85E-4	-4.46E-7	-1.96E-3	-2.09E-4	-1.89E-1	1.63E-2	-1.36E-2	1.87E-3	8.04E-2
54	-4.41E-2	3.23E-4	-3.38E-7	-1.81E-3	-1.81E-4	-1.93E-1	1.65E-2	-1.39E-2	1.91E-3	8.22E-2
55	-4.33E-2	3.60E-4	-2.56E-7	-1.67E-3	-1.57E-4	-1.96E-1	1.68E-2	-1.43E-2	1.93E-3	8.40E-2
56	-4.25E-2	3.94E-4	-1.95E-7	-1.54E-3	-1.36E-4	-1.99E-1	1.70E-2	-1.46E-2	1.95E-3	8.59E-2
57	-4.17E-2	4.27E-4	-1.48E-7	-1.42E-3	-1.19E-4	-2.03E-1	1.73E-2	-1.49E-2	1.97E-3	8.78E-2
58	-4.09E-2	4.58E-4	-1.13E-7	-1.32E-3	-1.04E-4	-2.07E-1	1.76E-2	-1.52E-2	1.98E-3	8.97E-2
59	-4.02E-2	4.87E-4	-8.61E-8	-1.22E-3	-9.08E-5	-2.10E-1	1.79E-2	-1.56E-2	1.99E-3	9.16E-2
60	-3.95E-2	5.16E-4	-6.57E-8	-1.13E-3	-7.97E-5	-2.14E-1	1.83E-2	-1.60E-2	2.00E-3	9.35E-2
61	-3.88E-2	5.43E-4	-5.02E-8	-1.05E-3	-7.02E-5	-2.19E-1	1.86E-2	-1.63E-2	2.00E-3	9.55E-2
62	-3.81E-2	5.69E-4	-3.83E-8	-9.75E-4	-6.19E-5	-2.23E-1	1.90E-2	-1.67E-2	2.00E-3	9.76E-2
63	-3.74E-2	5.94E-4	-2.93E-8	-9.07E-4	-5.48E-5	-2.27E-1	1.93E-2	-1.71E-2	2.00E-3	9.96E-2
64	-3.67E-2	6.19E-4	-2.24E-8	-8.44E-4	-4.85E-5	-2.32E-1	1.97E-2	-1.75E-2	1.99E-3	1.02E-1
65	-3.61E-2	6.42E-4	-1.71E-8	-7.86E-4	-4.31E-5	-2.37E-1	2.01E-2	-1.79E-2	1.99E-3	1.04E-1
66	-3.55E-2	6.65E-4	-1.30E-8	-7.33E-4	-3.84E-5	-2.42E-1	2.05E-2	-1.84E-2	1.98E-3	1.06E-1
67	-3.49E-2	6.88E-4	-9.94E-9	-6.84E-4	-3.43E-5	-2.47E-1	2.09E-2	-1.88E-2	1.97E-3	1.08E-1
68	-3.43E-2	7.09E-4	-7.56E-9	-6.39E-4	-3.07E-5	-2.52E-1	2.13E-2	-1.93E-2	1.96E-3	1.11E-1
69	-3.37E-2	7.30E-4	-5.75E-9	-5.98E-4	-2.75E-5	-2.57E-1	2.18E-2	-1.97E-2	1.95E-3	1.13E-1
70	-3.31E-2	7.51E-4	-4.36E-9	-5.59E-4	-2.47E-5	-2.62E-1	2.22E-2	-2.02E-2	1.94E-3	1.15E-1
71	-3.25E-2	7.71E-4	-3.30E-9	-5.24E-4	-2.23E-5	-2.68E-1	2.27E-2	-2.07E-2	1.92E-3	1.18E-1
72	-3.20E-2	7.91E-4	-2.49E-9	-4.91E-4	-2.01E-5	-2.74E-1	2.31E-2	-2.12E-2	1.91E-3	1.20E-1
73	-3.15E-2	8.10E-4	-1.87E-9	-4.61E-4	-1.81E-5	-2.80E-1	2.36E-2	-2.17E-2	1.90E-3	1.23E-1
74	-3.09E-2	8.29E-4	-1.40E-9	-4.32E-4	-1.64E-5	-2.86E-1	2.41E-2	-2.22E-2	1.88E-3	1.25E-1
75	-3.04E-2	8.48E-4	-1.05E-9	-4.06E-4	-1.49E-5	-2.92E-1	2.46E-2	-2.28E-2	1.87E-3	1.28E-1
76	-2.99E-2	8.66E-4	1.00E-9	-3.82E-4	-1.35E-5	-2.98E-1	2.51E-2	-2.33E-2	1.85E-3	1.31E-1
77	-2.95E-2	8.84E-4	1.00E-9	-3.59E-4	-1.23E-5	-3.05E-1	2.57E-2	-2.39E-2	1.83E-3	1.34E-1
78	-2.90E-2	9.02E-4	0.00E+0	-3.38E-4	-1.12E-5	-3.11E-1	2.62E-2	-2.44E-2	1.82E-3	1.36E-1
79	-2.85E-2	9.20E-4	0.00E+0	-3.18E-4	-1.02E-5	-3.18E-1	2.68E-2	-2.50E-2	1.80E-3	1.39E-1
80	-2.80E-2	9.38E-4	0.00E+0	-3.00E-4	-9.30E-6	-3.25E-1	2.73E-2	-2.56E-2	1.78E-3	1.42E-1
81	-2.76E-2	9.55E-4	0.00E+0	-2.82E-4	-8.50E-6	-3.32E-1	2.79E-2	-2.62E-2	1.76E-3	1.45E-1
82	-2.72E-2	9.72E-4	0.00E+0	-2.66E-4	-7.78E-6	-3.39E-1	2.85E-2	-2.68E-2	1.75E-3	1.48E-1
83	-2.67E-2	9.89E-4	0.00E+0	-2.51E-4	-7.13E-6	-3.46E-1	2.91E-2	-2.74E-2	1.73E-3	1.51E-1
84	-2.63E-2	1.01E-3	0.00E+0	-2.37E-4	-6.54E-6	-3.54E-1	2.97E-2	-2.81E-2	1.71E-3	1.55E-1
85	-2.59E-2	1.02E-3	0.00E+0	-2.24E-4	-6.00E-6	-3.61E-1	3.04E-2	-2.87E-2	1.69E-3	1.58E-1
86	-2.54E-2	1.04E-3	0.00E+0	-2.12E-4	-5.52E-6	-3.69E-1	3.10E-2	-2.94E-2	1.67E-3	1.61E-1
87	-2.50E-2	1.06E-3	0.00E+0	-2.00E-4	-5.08E-6	-3.77E-1	3.17E-2	-3.00E-2	1.65E-3	1.65E-1
88	-2.46E-2	1.08E-3	0.00E+0	-1.89E-4	-4.68E-6	-3.85E-1	3.23E-2	-3.07E-2	1.63E-3	1.68E-1
89	-2.42E-2	1.09E-3	0.00E+0	-1.79E-4	-4.32E-6	-3.93E-1	3.30E-2	-3.14E-2	1.61E-3	1.72E-1
90	-2.38E-2	1.11E-3	0.00E+0	-1.69E-4	-3.99E-6	-4.01E-1	3.37E-2	-3.21E-2	1.59E-3	1.75E-1
91	-2.34E-2	1.13E-3	0.00E+0	-1.60E-4	-3.69E-6	-4.10E-1	3.44E-2	-3.28E-2	1.57E-3	1.79E-1
92	-2.30E-2	1.15E-3	0.00E+0	-1.52E-4	-3.43E-6	-4.18E-1	3.51E-2	-3.36E-2	1.55E-3	1.83E-1

TABLE 2. Electric Dipole Oscillator Strengths

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See page 19 for Explanation of Tables

Z	$B_1 - E_3$	$B_1 - E_4$	$B_2 - E_1$	$B_2 - E_2$	$B_2 - E_3$	$B_2 - E_4$	$B_1 - F_1$	$B_1 - F_2$	$B_1 - F_3$	$B_1 - F_4$
26	3.87E-2	5.52E-3	-2.53E-2	-2.48E-4	-5.09E-2	-4.65E-3	5.07E-4	5.05E-2	1.45E-3	8.81E-4
27	3.58E-2	5.74E-3	-2.36E-2	-6.70E-4	-5.00E-2	-5.03E-3	6.75E-4	4.93E-2	8.29E-4	9.95E-4
28	3.31E-2	5.86E-3	-2.19E-2	-1.28E-3	-4.93E-2	-5.35E-3	8.90E-4	4.81E-2	3.97E-4	1.10E-3
29	3.05E-2	5.87E-3	-2.01E-2	-2.05E-3	-4.87E-2	-5.60E-3	1.16E-3	4.68E-2	1.32E-4	1.19E-3
30	2.82E-2	5.80E-3	-1.84E-2	-2.98E-3	-4.82E-2	-5.77E-3	1.50E-3	4.54E-2	1.24E-5	1.25E-3
31	2.59E-2	5.64E-3	-1.67E-2	-4.03E-3	-4.78E-2	-5.88E-3	1.90E-3	4.40E-2	1.63E-5	1.28E-3
32	2.39E-2	5.42E-3	-1.50E-2	-5.20E-3	-4.75E-2	-5.93E-3	2.39E-3	4.26E-2	1.25E-4	1.29E-3
33	2.19E-2	5.16E-3	-1.35E-2	-6.47E-3	-4.72E-2	-5.92E-3	2.94E-3	4.11E-2	3.21E-4	1.26E-3
34	2.01E-2	4.86E-3	-1.20E-2	-7.82E-3	-4.69E-2	-5.87E-3	3.56E-3	3.97E-2	5.86E-4	1.21E-3
35	1.84E-2	4.54E-3	-1.07E-2	-9.26E-3	-4.66E-2	-5.77E-3	4.22E-3	3.82E-2	9.03E-4	1.13E-3
36	1.67E-2	4.22E-3	-9.42E-3	-1.08E-2	-4.63E-2	-5.65E-3	4.91E-3	3.68E-2	1.26E-3	1.05E-3
37	1.52E-2	3.89E-3	-8.32E-3	-1.23E-2	-4.59E-2	-5.51E-3	5.61E-3	3.54E-2	1.63E-3	9.55E-4
38	1.37E-2	3.58E-3	-7.32E-3	-1.40E-2	-4.55E-2	-5.35E-3	6.29E-3	3.42E-2	2.02E-3	8.64E-4
39	1.24E-2	3.28E-3	-6.44E-3	-1.57E-2	-4.51E-2	-5.18E-3	6.94E-3	3.30E-2	2.41E-3	7.77E-4
40	1.11E-2	2.99E-3	-5.66E-3	-1.74E-2	-4.46E-2	-5.00E-3	7.53E-3	3.19E-2	2.80E-3	6.97E-4
41	9.92E-3	2.73E-3	-4.98E-3	-1.92E-2	-4.40E-2	-4.83E-3	8.05E-3	3.09E-2	3.19E-3	6.24E-4
42	8.81E-3	2.48E-3	-4.38E-3	-2.11E-2	-4.34E-2	-4.65E-3	8.52E-3	3.01E-2	3.57E-3	5.58E-4
43	7.77E-3	2.25E-3	-3.86E-3	-2.30E-2	-4.28E-2	-4.48E-3	8.91E-3	2.94E-2	3.95E-3	5.00E-4
44	6.81E-3	2.05E-3	-3.40E-3	-2.50E-2	-4.22E-2	-4.31E-3	9.24E-3	2.88E-2	4.33E-3	4.48E-4
45	5.93E-3	1.86E-3	-3.01E-3	-2.70E-2	-4.15E-2	-4.15E-3	9.50E-3	2.83E-2	4.69E-3	4.03E-4
46	5.11E-3	1.69E-3	-2.66E-3	-2.90E-2	-4.08E-2	-3.99E-3	9.71E-3	2.80E-2	5.06E-3	3.63E-4
47	4.37E-3	1.54E-3	-2.36E-3	-3.11E-2	-4.01E-2	-3.85E-3	9.87E-3	2.77E-2	5.41E-3	3.28E-4
48	3.69E-3	1.40E-3	-2.10E-3	-3.33E-2	-3.93E-2	-3.71E-3	9.99E-3	2.75E-2	5.77E-3	2.97E-4
49	3.08E-3	1.27E-3	-1.87E-3	-3.55E-2	-3.86E-2	-3.57E-3	1.01E-2	2.74E-2	6.12E-3	2.70E-4
50	2.54E-3	1.16E-3	-1.67E-3	-3.77E-2	-3.79E-2	-3.45E-3	1.01E-2	2.74E-2	6.47E-3	2.45E-4
51	2.05E-3	1.06E-3	-1.50E-3	-3.99E-2	-3.72E-2	-3.33E-3	1.01E-2	2.74E-2	6.82E-3	2.24E-4
52	1.63E-3	9.65E-4	-1.34E-3	-4.22E-2	-3.65E-2	-3.22E-3	1.01E-2	2.75E-2	7.17E-3	2.05E-4
53	1.26E-3	8.83E-4	-1.21E-3	-4.45E-2	-3.59E-2	-3.11E-3	1.01E-2	2.77E-2	7.52E-3	1.88E-4
54	9.52E-4	8.08E-4	-1.09E-3	-4.68E-2	-3.52E-2	-3.01E-3	1.01E-2	2.79E-2	7.87E-3	1.72E-4
55	6.90E-4	7.41E-4	-9.84E-4	-4.92E-2	-3.46E-2	-2.92E-3	1.00E-2	2.81E-2	8.22E-3	1.59E-4
56	4.75E-4	6.80E-4	-8.91E-4	-5.15E-2	-3.40E-2	-2.83E-3	9.96E-3	2.84E-2	8.58E-3	1.46E-4
57	3.04E-4	6.26E-4	-8.09E-4	-5.39E-2	-3.35E-2	-2.75E-3	9.88E-3	2.88E-2	8.93E-3	1.35E-4
58	1.75E-4	5.76E-4	-7.36E-4	-5.63E-2	-3.30E-2	-2.67E-3	9.80E-3	2.92E-2	9.29E-3	1.25E-4
59	8.31E-5	5.31E-4	-6.71E-4	-5.88E-2	-3.25E-2	-2.59E-3	9.72E-3	2.96E-2	9.65E-3	1.16E-4
60	2.63E-5	4.90E-4	-6.13E-4	-6.12E-2	-3.20E-2	-2.52E-3	9.62E-3	3.00E-2	1.00E-2	1.08E-4
61	1.62E-6	4.53E-4	-5.60E-4	-6.37E-2	-3.16E-2	-2.46E-3	9.53E-3	3.05E-2	1.04E-2	9.99E-5
62	6.11E-6	4.19E-4	-5.14E-4	-6.62E-2	-3.13E-2	-2.39E-3	9.43E-3	3.11E-2	1.08E-2	9.29E-5
63	3.72E-5	3.88E-4	-4.72E-4	-6.87E-2	-3.09E-2	-2.33E-3	9.33E-3	3.16E-2	1.11E-2	8.65E-5
64	9.24E-5	3.60E-4	-4.34E-4	-7.12E-2	-3.06E-2	-2.28E-3	9.23E-3	3.22E-2	1.15E-2	8.06E-5
65	1.70E-4	3.34E-4	-4.00E-4	-7.38E-2	-3.03E-2	-2.22E-3	9.13E-3	3.28E-2	1.19E-2	7.52E-5
66	2.66E-4	3.11E-4	-3.69E-4	-7.64E-2	-3.01E-2	-2.17E-3	9.02E-3	3.35E-2	1.23E-2	7.03E-5
67	3.81E-4	2.89E-4	-3.41E-4	-7.90E-2	-2.99E-2	-2.12E-3	8.92E-3	3.41E-2	1.27E-2	6.57E-5
68	5.11E-4	2.70E-4	-3.16E-4	-8.16E-2	-2.98E-2	-2.07E-3	8.81E-3	3.48E-2	1.31E-2	6.14E-5
69	6.56E-4	2.51E-4	-2.92E-4	-8.43E-2	-2.96E-2	-2.03E-3	8.71E-3	3.55E-2	1.35E-2	5.75E-5
70	8.13E-4	2.35E-4	-2.71E-4	-8.70E-2	-2.95E-2	-1.99E-3	8.60E-3	3.63E-2	1.39E-2	5.39E-5
71	9.82E-4	2.19E-4	-2.52E-4	-8.97E-2	-2.94E-2	-1.94E-3	8.50E-3	3.71E-2	1.44E-2	5.05E-5
72	1.16E-3	2.05E-4	-2.35E-4	-9.24E-2	-2.94E-2	-1.90E-3	8.40E-3	3.78E-2	1.48E-2	4.74E-5
73	1.35E-3	1.92E-4	-2.19E-4	-9.52E-2	-2.94E-2	-1.87E-3	8.30E-3	3.87E-2	1.52E-2	4.44E-5
74	1.54E-3	1.80E-4	-2.04E-4	-9.80E-2	-2.94E-2	-1.83E-3	8.20E-3	3.95E-2	1.57E-2	4.17E-5
75	1.75E-3	1.69E-4	-1.90E-4	-1.01E-1	-2.95E-2	-1.79E-3	8.10E-3	4.04E-2	1.61E-2	3.92E-5
76	1.95E-3	1.58E-4	-1.78E-4	-1.04E-1	-2.95E-2	-1.76E-3	8.00E-3	4.12E-2	1.66E-2	3.68E-5
77	2.16E-3	1.49E-4	-1.66E-4	-1.07E-1	-2.96E-2	-1.73E-3	7.90E-3	4.21E-2	1.71E-2	3.46E-5
78	2.38E-3	1.40E-4	-1.56E-4	-1.10E-1	-2.98E-2	-1.69E-3	7.80E-3	4.31E-2	1.75E-2	3.26E-5
79	2.60E-3	1.32E-4	-1.46E-4	-1.13E-1	-2.99E-2	-1.66E-3	7.70E-3	4.40E-2	1.80E-2	3.06E-5
80	2.82E-3	1.24E-4	-1.37E-4	-1.16E-1	-3.01E-2	-1.63E-3	7.61E-3	4.50E-2	1.85E-2	2.88E-5
81	3.04E-3	1.17E-4	-1.29E-4	-1.19E-1	-3.04E-2	-1.60E-3	7.51E-3	4.60E-2	1.90E-2	2.71E-5
82	3.27E-3	1.10E-4	-1.21E-4	-1.22E-1	-3.06E-2	-1.57E-3	7.42E-3	4.70E-2	1.95E-2	2.56E-5
83	3.49E-3	1.04E-4	-1.14E-4	-1.25E-1	-3.09E-2	-1.54E-3	7.32E-3	4.80E-2	2.01E-2	2.41E-5
84	3.71E-3	9.80E-5	-1.07E-4	-1.28E-1	-3.12E-2	-1.52E-3	7.23E-3	4.91E-2	2.06E-2	2.27E-5
85	3.93E-3	9.25E-5	-1.01E-4	-1.31E-1	-3.15E-2	-1.49E-3	7.14E-3	5.01E-2	2.11E-2	2.14E-5
86	4.14E-3	8.74E-5	-9.49E-5	-1.34E-1	-3.19E-2	-1.46E-3	7.04E-3	5.12E-2	2.17E-2	2.01E-5
87	4.36E-3	8.26E-5	-8.94E-5	-1.38E-1	-3.23E-2	-1.44E-3	6.94E-3	5.23E-2	2.22E-2	1.90E-5
88	4.56E-3	7.81E-5	-8.44E-5	-1.41E-1	-3.27E-2	-1.41E-3	6.85E-3	5.35E-2	2.28E-2	1.79E-5
89	4.76E-3	7.39E-5	-7.96E-5	-1.44E-1	-3.32E-2	-1.38E-3	6.76E-3	5.46E-2	2.34E-2	1.68E-5
90	4.95E-3	6.99E-5	-7.52E-5	-1.48E-1	-3.37E-2	-1.36E-3	6.66E-3	5.58E-2	2.40E-2	1.59E-5
91	5.14E-3	6.62E-5	-7.11E-5	-1.51E-1	-3.43E-2	-1.33E-3	6.57E-3	5.70E-2	2.46E-2	1.50E-5
92	5.31E-3	6.27E-5	-6.72E-5	-1.54E-1	-3.49E-2	-1.31E-3	6.47E-3	5.82E-2	2.52E-2	1.41E-5

TABLE 2. Electric Dipole Oscillator Strengths

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See page 19 for Explanation of Tables

Z	$B_2 - F_1$	$B_2 - F_2$	$B_2 - F_3$	$B_2 - F_4$	$C_1 - E_1$	$C_1 - E_2$	$C_1 - E_3$	$C_1 - E_4$	$C_2 - E_1$	$C_2 - E_2$
26	-2.43E-4	-3.72E-2	-4.11E-2	-1.35E-3	1.36E-4	4.54E-3	6.03E-2	1.79E-4	6.08E-4	6.04E-4
27	-2.55E-4	-3.42E-2	-4.10E-2	-1.82E-3	2.07E-4	3.79E-3	5.87E-2	2.37E-4	6.85E-4	5.21E-4
28	-2.60E-4	-3.16E-2	-4.05E-2	-2.43E-3	3.09E-4	3.15E-3	5.72E-2	2.89E-4	7.47E-4	4.17E-4
29	-2.55E-4	-2.94E-2	-3.97E-2	-3.20E-3	4.49E-4	2.60E-3	5.57E-2	3.33E-4	7.88E-4	3.04E-4
30	-2.41E-4	-2.77E-2	-3.86E-2	-4.12E-3	6.30E-4	2.14E-3	5.43E-2	3.64E-4	8.09E-4	1.97E-4
31	-2.19E-4	-2.62E-2	-3.72E-2	-5.20E-3	8.53E-4	1.76E-3	5.29E-2	3.84E-4	8.08E-4	1.06E-4
32	-1.89E-4	-2.51E-2	-3.56E-2	-6.41E-3	1.12E-3	1.43E-3	5.16E-2	3.92E-4	7.88E-4	4.01E-5
33	-1.54E-4	-2.42E-2	-3.38E-2	-7.70E-3	1.41E-3	1.15E-3	5.04E-2	3.91E-4	7.52E-4	5.06E-6
34	-1.19E-4	-2.35E-2	-3.19E-2	-9.00E-3	1.74E-3	9.15E-4	4.92E-2	3.82E-4	7.04E-4	3.51E-6
35	-8.43E-5	-2.30E-2	-3.00E-2	-1.03E-2	2.09E-3	7.14E-4	4.81E-2	3.69E-4	6.48E-4	3.56E-5
36	-5.45E-5	-2.26E-2	-2.82E-2	-1.14E-2	2.45E-3	5.43E-4	4.71E-2	3.51E-4	5.86E-4	9.97E-5
37	-3.09E-5	-2.23E-2	-2.65E-2	-1.25E-2	2.81E-3	3.98E-4	4.61E-2	3.32E-4	5.22E-4	1.93E-4
38	-1.43E-5	-2.22E-2	-2.50E-2	-1.33E-2	3.17E-3	2.77E-4	4.53E-2	3.12E-4	4.57E-4	3.10E-4
39	-4.37E-6	-2.21E-2	-2.36E-2	-1.41E-2	3.51E-3	1.79E-4	4.44E-2	2.91E-4	3.94E-4	4.48E-4
40	-2.83E-7	-2.21E-2	-2.24E-2	-1.46E-2	3.84E-3	1.03E-4	4.37E-2	2.71E-4	3.34E-4	6.02E-4
41	-7.61E-7	-2.22E-2	-2.13E-2	-1.51E-2	4.15E-3	4.78E-5	4.30E-2	2.51E-4	2.77E-4	7.67E-4
42	-4.47E-6	-2.23E-2	-2.04E-2	-1.54E-2	4.43E-3	1.35E-5	4.25E-2	2.32E-4	2.24E-4	9.39E-4
43	-1.02E-5	-2.25E-2	-1.97E-2	-1.56E-2	4.69E-3	1.87E-7	4.19E-2	2.15E-4	1.75E-4	1.12E-3
44	-1.69E-5	-2.27E-2	-1.90E-2	-1.57E-2	4.93E-3	7.89E-6	4.15E-2	1.99E-4	1.30E-4	1.29E-3
45	-2.39E-5	-2.29E-2	-1.85E-2	-1.57E-2	5.14E-3	3.66E-5	4.11E-2	1.84E-4	8.81E-5	1.47E-3
46	-3.06E-5	-2.32E-2	-1.80E-2	-1.57E-2	5.32E-3	8.63E-5	4.07E-2	1.70E-4	4.99E-5	1.64E-3
47	-3.67E-5	-2.36E-2	-1.76E-2	-1.56E-2	5.48E-3	1.57E-4	4.05E-2	1.57E-4	1.49E-5	1.80E-3
48	-4.21E-5	-2.39E-2	-1.73E-2	-1.55E-2	5.62E-3	2.47E-4	4.02E-2	1.45E-4	-1.72E-5	1.96E-3
49	-4.65E-5	-2.43E-2	-1.71E-2	-1.54E-2	5.74E-3	3.58E-4	4.00E-2	1.35E-4	-4.67E-5	2.11E-3
50	-5.02E-5	-2.47E-2	-1.69E-2	-1.52E-2	5.84E-3	4.87E-4	3.99E-2	1.25E-4	-7.39E-5	2.25E-3
51	-5.29E-5	-2.52E-2	-1.67E-2	-1.51E-2	5.92E-3	6.35E-4	3.98E-2	1.16E-4	-9.90E-5	2.38E-3
52	-5.49E-5	-2.56E-2	-1.66E-2	-1.49E-2	5.99E-3	8.00E-4	3.98E-2	1.07E-4	-1.22E-4	2.50E-3
53	-5.63E-5	-2.61E-2	-1.66E-2	-1.47E-2	6.04E-3	9.82E-4	3.97E-2	9.96E-5	-1.44E-4	2.61E-3
54	-5.70E-5	-2.66E-2	-1.65E-2	-1.45E-2	6.08E-3	1.18E-3	3.98E-2	9.26E-5	-1.64E-4	2.71E-3
55	-5.72E-5	-2.71E-2	-1.65E-2	-1.43E-2	6.11E-3	1.39E-3	3.98E-2	8.61E-5	-1.83E-4	2.80E-3
56	-5.70E-5	-2.77E-2	-1.66E-2	-1.41E-2	6.12E-3	1.61E-3	3.99E-2	8.02E-5	-2.01E-4	2.88E-3
57	-5.64E-5	-2.82E-2	-1.66E-2	-1.38E-2	6.13E-3	1.85E-3	4.00E-2	7.47E-5	-2.18E-4	2.95E-3
58	-5.56E-5	-2.88E-2	-1.67E-2	-1.36E-2	6.13E-3	2.09E-3	4.02E-2	6.97E-5	-2.33E-4	3.02E-3
59	-5.45E-5	-2.94E-2	-1.68E-2	-1.34E-2	6.13E-3	2.35E-3	4.04E-2	6.50E-5	-2.49E-4	3.07E-3
60	-5.32E-5	-3.01E-2	-1.69E-2	-1.32E-2	6.12E-3	2.61E-3	4.06E-2	6.07E-5	-2.63E-4	3.12E-3
61	-5.17E-5	-3.07E-2	-1.71E-2	-1.30E-2	6.10E-3	2.89E-3	4.09E-2	5.67E-5	-2.77E-4	3.16E-3
62	-5.02E-5	-3.14E-2	-1.72E-2	-1.28E-2	6.08E-3	3.17E-3	4.12E-2	5.30E-5	-2.90E-4	3.20E-3
63	-4.86E-5	-3.21E-2	-1.74E-2	-1.26E-2	6.05E-3	3.45E-3	4.15E-2	4.96E-5	-3.03E-4	3.23E-3
64	-4.69E-5	-3.28E-2	-1.76E-2	-1.24E-2	6.02E-3	3.74E-3	4.18E-2	4.64E-5	-3.15E-4	3.25E-3
65	-4.52E-5	-3.35E-2	-1.78E-2	-1.22E-2	5.98E-3	4.04E-3	4.22E-2	4.35E-5	-3.27E-4	3.27E-3
66	-4.35E-5	-3.42E-2	-1.80E-2	-1.20E-2	5.95E-3	4.34E-3	4.26E-2	4.08E-5	-3.38E-4	3.28E-3
67	-4.18E-5	-3.50E-2	-1.83E-2	-1.18E-2	5.91E-3	4.65E-3	4.30E-2	3.82E-5	-3.49E-4	3.29E-3
68	-4.01E-5	-3.57E-2	-1.85E-2	-1.16E-2	5.87E-3	4.96E-3	4.35E-2	3.58E-5	-3.60E-4	3.30E-3
69	-3.84E-5	-3.65E-2	-1.88E-2	-1.14E-2	5.82E-3	5.27E-3	4.40E-2	3.36E-5	-3.70E-4	3.30E-3
70	-3.67E-5	-3.74E-2	-1.91E-2	-1.13E-2	5.78E-3	5.59E-3	4.45E-2	3.16E-5	-3.81E-4	3.30E-3
71	-3.51E-5	-3.82E-2	-1.94E-2	-1.11E-2	5.73E-3	5.91E-3	4.51E-2	2.97E-5	-3.91E-4	3.30E-3
72	-3.36E-5	-3.90E-2	-1.97E-2	-1.09E-2	5.69E-3	6.23E-3	4.56E-2	2.79E-5	-4.01E-4	3.29E-3
73	-3.21E-5	-3.99E-2	-2.00E-2	-1.07E-2	5.64E-3	6.55E-3	4.62E-2	2.62E-5	-4.10E-4	3.28E-3
74	-3.06E-5	-4.08E-2	-2.04E-2	-1.06E-2	5.59E-3	6.88E-3	4.69E-2	2.47E-5	-4.20E-4	3.27E-3
75	-2.92E-5	-4.17E-2	-2.07E-2	-1.04E-2	5.54E-3	7.20E-3	4.75E-2	2.32E-5	-4.29E-4	3.26E-3
76	-2.78E-5	-4.26E-2	-2.11E-2	-1.03E-2	5.49E-3	7.53E-3	4.82E-2	2.18E-5	-4.38E-4	3.24E-3
77	-2.65E-5	-4.36E-2	-2.14E-2	-1.01E-2	5.44E-3	7.87E-3	4.89E-2	2.05E-5	-4.47E-4	3.22E-3
78	-2.52E-5	-4.45E-2	-2.18E-2	-9.95E-3	5.38E-3	8.20E-3	4.96E-2	1.93E-5	-4.56E-4	3.21E-3
79	-2.40E-5	-4.55E-2	-2.22E-2	-9.80E-3	5.33E-3	8.53E-3	5.04E-2	1.82E-5	-4.64E-4	3.19E-3
80	-2.28E-5	-4.65E-2	-2.26E-2	-9.65E-3	5.28E-3	8.86E-3	5.12E-2	1.72E-5	-4.73E-4	3.16E-3
81	-2.17E-5	-4.75E-2	-2.31E-2	-9.50E-3	5.23E-3	9.20E-3	5.20E-2	1.62E-5	-4.82E-4	3.14E-3
82	-2.06E-5	-4.85E-2	-2.35E-2	-9.35E-3	5.17E-3	9.53E-3	5.29E-2	1.52E-5	-4.90E-4	3.12E-3
83	-1.96E-5	-4.96E-2	-2.39E-2	-9.21E-3	5.12E-3	9.86E-3	5.37E-2	1.43E-5	-4.99E-4	3.09E-3
84	-1.86E-5	-5.07E-2	-2.44E-2	-9.07E-3	5.06E-3	1.02E-2	5.46E-2	1.35E-5	-5.07E-4	3.07E-3
85	-1.77E-5	-5.18E-2	-2.49E-2	-8.93E-3	5.01E-3	1.05E-2	5.56E-2	1.27E-5	-5.15E-4	3.04E-3
86	-1.68E-5	-5.29E-2	-2.53E-2	-8.78E-3	4.95E-3	1.09E-2	5.65E-2	1.20E-5	-5.25E-4	3.01E-3
87	-1.59E-5	-5.40E-2	-2.58E-2	-8.64E-3	4.89E-3	1.12E-2	5.75E-2	1.13E-5	-5.33E-4	2.98E-3
88	-1.51E-5	-5.51E-2	-2.63E-2	-8.50E-3	4.84E-3	1.15E-2	5.85E-2	1.07E-5	-5.42E-4	2.95E-3
89	-1.43E-5	-5.63E-2	-2.69E-2	-8.37E-3	4.78E-3	1.18E-2	5.96E-2	1.01E-5	-5.50E-4	2.92E-3
90	-1.36E-5	-5.75E-2	-2.74E-2	-8.23E-3	4.72E-3	1.21E-2	6.07E-2	9.49E-6	-5.60E-4	2.88E-3
91	-1.29E-5	-5.87E-2	-2.79E-2	-8.09E-3	4.66E-3	1.24E-2	6.18E-2	8.94E-6	-5.68E-4	2.85E-3
92	-1.22E-5	-5.99E-2	-2.85E-2	-7.95E-3	4.60E-3	1.27E-2	6.29E-2	8.43E-6	-5.78E-4	2.81E-3

TABLE 2. Electric Dipole Oscillator Strengths

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See page 19 for Explanation of Tables

Z	$C_2 - E_3$	$C_2 - E_4$	$C_3 - E_1$	$C_3 - E_2$	$C_3 - E_3$	$C_3 - E_4$	$C_4 - E_1$	$C_4 - E_2$	$C_4 - E_3$	$C_4 - E_4$
26	3.40E-4	6.16E-2	-7.27E-3	-1.11E-2	-3.34E-2	-1.09E-3	-1.08E-5	-2.31E-3	-3.93E-5	-2.38E-2
27	5.10E-4	5.96E-2	-8.21E-3	-1.09E-2	-3.09E-2	-1.10E-3	-6.20E-6	-2.77E-3	-6.02E-5	-2.32E-2
28	7.00E-4	5.79E-2	-9.23E-3	-1.07E-2	-2.86E-2	-1.08E-3	-2.61E-6	-3.28E-3	-8.78E-5	-2.25E-2
29	8.97E-4	5.64E-2	-1.03E-2	-1.06E-2	-2.64E-2	-1.04E-3	-4.79E-7	-3.83E-3	-1.23E-4	-2.19E-2
30	1.09E-3	5.51E-2	-1.15E-2	-1.04E-2	-2.43E-2	-9.84E-4	-6.00E-8	-4.42E-3	-1.68E-4	-2.12E-2
31	1.27E-3	5.39E-2	-1.27E-2	-1.03E-2	-2.24E-2	-9.11E-4	-1.36E-6	-5.03E-3	-2.24E-4	-2.06E-2
32	1.44E-3	5.29E-2	-1.39E-2	-1.01E-2	-2.05E-2	-8.28E-4	-4.22E-6	-5.67E-3	-2.92E-4	-1.99E-2
33	1.58E-3	5.20E-2	-1.51E-2	-9.99E-3	-1.87E-2	-7.41E-4	-8.31E-6	-6.33E-3	-3.75E-4	-1.92E-2
34	1.69E-3	5.13E-2	-1.64E-2	-9.86E-3	-1.71E-2	-6.51E-4	-1.33E-5	-6.99E-3	-4.73E-4	-1.86E-2
35	1.79E-3	5.06E-2	-1.76E-2	-9.75E-3	-1.55E-2	-5.62E-4	-1.87E-5	-7.66E-3	-5.90E-4	-1.79E-2
36	1.85E-3	5.00E-2	-1.88E-2	-9.64E-3	-1.41E-2	-4.77E-4	-2.43E-5	-8.32E-3	-7.25E-4	-1.72E-2
37	1.90E-3	4.96E-2	-2.01E-2	-9.53E-3	-1.27E-2	-3.95E-4	-2.97E-5	-8.97E-3	-8.83E-4	-1.66E-2
38	1.92E-3	4.92E-2	-2.13E-2	-9.43E-3	-1.15E-2	-3.20E-4	-3.47E-5	-9.60E-3	-1.06E-3	-1.59E-2
39	1.92E-3	4.88E-2	-2.24E-2	-9.33E-3	-1.03E-2	-2.50E-4	-3.92E-5	-1.02E-2	-1.27E-3	-1.53E-2
40	1.90E-3	4.86E-2	-2.36E-2	-9.23E-3	-9.31E-3	-1.85E-4	-4.31E-5	-1.08E-2	-1.50E-3	-1.47E-2
41	1.86E-3	4.84E-2	-2.47E-2	-9.14E-3	-8.37E-3	-1.27E-4	-4.63E-5	-1.14E-2	-1.75E-3	-1.42E-2
42	1.82E-3	4.83E-2	-2.58E-2	-9.04E-3	-7.51E-3	-7.45E-5	-4.88E-5	-1.19E-2	-2.04E-3	-1.36E-2
43	1.76E-3	4.83E-2	-2.68E-2	-8.94E-3	-6.74E-3	-2.69E-5	-5.07E-5	-1.24E-2	-2.35E-3	-1.31E-2
44	1.69E-3	4.83E-2	-2.79E-2	-8.84E-3	-6.04E-3	1.59E-5	-5.20E-5	-1.29E-2	-2.70E-3	-1.26E-2
45	1.62E-3	4.84E-2	-2.89E-2	-8.74E-3	-5.41E-3	5.44E-5	-5.28E-5	-1.33E-2	-3.07E-3	-1.22E-2
46	1.54E-3	4.85E-2	-3.00E-2	-8.64E-3	-4.84E-3	8.91E-5	-5.32E-5	-1.37E-2	-3.47E-3	-1.17E-2
47	1.45E-3	4.88E-2	-3.10E-2	-8.53E-3	-4.33E-3	1.20E-4	-5.31E-5	-1.41E-2	-3.90E-3	-1.13E-2
48	1.37E-3	4.90E-2	-3.20E-2	-8.43E-3	-3.88E-3	1.49E-4	-5.27E-5	-1.45E-2	-4.36E-3	-1.09E-2
49	1.29E-3	4.94E-2	-3.31E-2	-8.32E-3	-3.47E-3	1.74E-4	-5.21E-5	-1.48E-2	-4.84E-3	-1.06E-2
50	1.21E-3	4.98E-2	-3.41E-2	-8.20E-3	-3.10E-3	1.98E-4	-5.11E-5	-1.51E-2	-5.35E-3	-1.02E-2
51	1.12E-3	5.02E-2	-3.52E-2	-8.09E-3	-2.78E-3	2.19E-4	-5.00E-5	-1.54E-2	-5.89E-3	-9.91E-3
52	1.05E-3	5.07E-2	-3.62E-2	-7.97E-3	-2.48E-3	2.39E-4	-4.88E-5	-1.57E-2	-6.45E-3	-9.60E-3
53	9.72E-4	5.12E-2	-3.73E-2	-7.85E-3	-2.22E-3	2.57E-4	-4.74E-5	-1.59E-2	-7.04E-3	-9.31E-3
54	9.01E-4	5.18E-2	-3.84E-2	-7.73E-3	-1.99E-3	2.73E-4	-4.60E-5	-1.62E-2	-7.65E-3	-9.04E-3
55	8.34E-4	5.25E-2	-3.95E-2	-7.61E-3	-1.79E-3	2.89E-4	-4.45E-5	-1.64E-2	-8.27E-3	-8.78E-3
56	7.71E-4	5.32E-2	-4.06E-2	-7.49E-3	-1.60E-3	3.03E-4	-4.29E-5	-1.66E-2	-8.92E-3	-8.53E-3
57	7.12E-4	5.39E-2	-4.18E-2	-7.37E-3	-1.44E-3	3.17E-4	-4.13E-5	-1.69E-2	-9.58E-3	-8.30E-3
58	6.57E-4	5.47E-2	-4.29E-2	-7.25E-3	-1.29E-3	3.30E-4	-3.98E-5	-1.71E-2	-1.03E-2	-8.08E-3
59	6.06E-4	5.56E-2	-4.41E-2	-7.13E-3	-1.16E-3	3.42E-4	-3.82E-5	-1.73E-2	-1.10E-2	-7.87E-3
60	5.58E-4	5.64E-2	-4.53E-2	-7.01E-3	-1.05E-3	3.53E-4	-3.66E-5	-1.75E-2	-1.17E-2	-7.67E-3
61	5.14E-4	5.74E-2	-4.66E-2	-6.89E-3	-9.44E-4	3.64E-4	-3.51E-5	-1.77E-2	-1.24E-2	-7.48E-3
62	4.74E-4	5.83E-2	-4.78E-2	-6.77E-3	-8.53E-4	3.75E-4	-3.36E-5	-1.79E-2	-1.31E-2	-7.30E-3
63	4.37E-4	5.93E-2	-4.91E-2	-6.65E-3	-7.71E-4	3.85E-4	-3.21E-5	-1.81E-2	-1.39E-2	-7.12E-3
64	4.03E-4	6.04E-2	-5.04E-2	-6.53E-3	-6.98E-4	3.94E-4	-3.07E-5	-1.83E-2	-1.46E-2	-6.96E-3
65	3.72E-4	6.15E-2	-5.17E-2	-6.42E-3	-6.33E-4	4.04E-4	-2.93E-5	-1.86E-2	-1.54E-2	-6.80E-3
66	3.43E-4	6.26E-2	-5.31E-2	-6.31E-3	-5.75E-4	4.13E-4	-2.80E-5	-1.88E-2	-1.62E-2	-6.65E-3
67	3.17E-4	6.38E-2	-5.45E-2	-6.20E-3	-5.23E-4	4.22E-4	-2.67E-5	-1.90E-2	-1.70E-2	-6.50E-3
68	2.93E-4	6.50E-2	-5.59E-2	-6.09E-3	-4.77E-4	4.30E-4	-2.54E-5	-1.93E-2	-1.78E-2	-6.36E-3
69	2.71E-4	6.62E-2	-5.74E-2	-5.98E-3	-4.35E-4	4.39E-4	-2.42E-5	-1.95E-2	-1.86E-2	-6.23E-3
70	2.51E-4	6.75E-2	-5.89E-2	-5.88E-3	-3.98E-4	4.47E-4	-2.31E-5	-1.98E-2	-1.94E-2	-6.10E-3
71	2.33E-4	6.88E-2	-6.04E-2	-5.78E-3	-3.65E-4	4.55E-4	-2.20E-5	-2.01E-2	-2.03E-2	-5.98E-3
72	2.16E-4	7.02E-2	-6.19E-2	-5.68E-3	-3.35E-4	4.63E-4	-2.09E-5	-2.04E-2	-2.11E-2	-5.86E-3
73	2.01E-4	7.16E-2	-6.35E-2	-5.58E-3	-3.08E-4	4.71E-4	-1.99E-5	-2.07E-2	-2.20E-2	-5.74E-3
74	1.87E-4	7.30E-2	-6.51E-2	-5.48E-3	-2.84E-4	4.79E-4	-1.89E-5	-2.10E-2	-2.28E-2	-5.63E-3
75	1.75E-4	7.45E-2	-6.67E-2	-5.39E-3	-2.62E-4	4.86E-4	-1.80E-5	-2.13E-2	-2.37E-2	-5.52E-3
76	1.63E-4	7.60E-2	-6.84E-2	-5.30E-3	-2.42E-4	4.94E-4	-1.71E-5	-2.16E-2	-2.46E-2	-5.42E-3
77	1.53E-4	7.76E-2	-7.01E-2	-5.21E-3	-2.25E-4	5.01E-4	-1.62E-5	-2.19E-2	-2.55E-2	-5.31E-3
78	1.43E-4	7.92E-2	-7.18E-2	-5.12E-3	-2.09E-4	5.09E-4	-1.54E-5	-2.23E-2	-2.64E-2	-5.21E-3
79	1.34E-4	8.08E-2	-7.36E-2	-5.03E-3	-1.94E-4	5.16E-4	-1.47E-5	-2.27E-2	-2.73E-2	-5.12E-3
80	1.26E-4	8.25E-2	-7.54E-2	-4.95E-3	-1.81E-4	5.23E-4	-1.39E-5	-2.30E-2	-2.82E-2	-5.02E-3
81	1.19E-4	8.42E-2	-7.72E-2	-4.86E-3	-1.69E-4	5.31E-4	-1.32E-5	-2.34E-2	-2.92E-2	-4.93E-3
82	1.12E-4	8.59E-2	-7.90E-2	-4.78E-3	-1.59E-4	5.38E-4	-1.26E-5	-2.38E-2	-3.01E-2	-4.84E-3
83	1.06E-4	8.77E-2	-8.09E-2	-4.70E-3	-1.49E-4	5.45E-4	-1.19E-5	-2.43E-2	-3.10E-2	-4.75E-3
84	1.00E-4	8.95E-2	-8.29E-2	-4.62E-3	-1.40E-4	5.52E-4	-1.13E-5	-2.47E-2	-3.20E-2	-4.67E-3
85	9.51E-5	9.13E-2	-8.48E-2	-4.54E-3	-1.33E-4	5.59E-4	-1.07E-5	-2.51E-2	-3.29E-2	-4.58E-3
86	9.03E-5	9.32E-2	-8.68E-2	-4.46E-3	-1.25E-4	5.67E-4	-1.02E-5	-2.56E-2	-3.39E-2	-4.49E-3
87	8.62E-5	9.52E-2	-8.88E-2	-4.39E-3	-1.19E-4	5.75E-4	-9.65E-6	-2.61E-2	-3.49E-2	-4.41E-3
88	8.23E-5	9.71E-2	-9.09E-2	-4.31E-3	-1.13E-4	5.83E-4	-9.15E-6	-2.66E-2	-3.58E-2	-4.33E-3
89	7.89E-5	9.91E-2	-9.30E-2	-4.24E-3	-1.08E-4	5.90E-4	-8.67E-6	-2.71E-2	-3.68E-2	-4.25E-3
90	7.58E-5	1.01E-1	-9.51E-2	-4.16E-3	-1.03E-4	5.99E-4	-8.22E-6	-2.77E-2	-3.78E-2	-4.17E-3
91	7.31E-5	1.03E-1	-9.73E-2	-4.09E-3	-9.92E-5	6.06E-4	-7.78E-6	-2.82E-2	-3.88E-2	-4.09E-3
92	7.05E-5	1.05E-1	-9.95E-2	-4.01E-3	-9.55E-5	6.15E-4	-7.37E-6	-2.88E-2	-3.98E-2	-4.01E-3

TABLE 2. Electric Dipole Oscillator Strengths

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See page 19 for Explanation of Tables

Z	$C_1 - F_1$	$C_1 - F_2$	$C_1 - F_3$	$C_1 - F_4$	$C_2 - F_1$	$C_2 - F_2$	$C_2 - F_3$	$C_2 - F_4$	$C_3 - F_1$	$C_3 - F_2$
26	3.54E-4	1.98E-5	4.78E-2	1.28E-2	3.28E-5	1.87E-4	7.41E-4	9.23E-2	-1.59E-3	-2.89E-2
27	4.31E-4	9.94E-5	4.78E-2	1.37E-2	4.45E-5	1.79E-4	6.39E-4	8.74E-2	-2.02E-3	-2.86E-2
28	5.21E-4	2.18E-4	4.83E-2	1.40E-2	5.78E-5	1.73E-4	4.79E-4	8.29E-2	-2.55E-3	-2.83E-2
29	6.25E-4	3.56E-4	4.91E-2	1.39E-2	7.18E-5	1.71E-4	2.92E-4	7.90E-2	-3.19E-3	-2.79E-2
30	7.46E-4	4.96E-4	5.03E-2	1.33E-2	8.55E-5	1.73E-4	1.22E-4	7.55E-2	-3.97E-3	-2.74E-2
31	8.84E-4	6.27E-4	5.18E-2	1.24E-2	9.78E-5	1.81E-4	1.57E-5	7.24E-2	-4.88E-3	-2.67E-2
32	1.04E-3	7.40E-4	5.35E-2	1.12E-2	1.08E-4	1.96E-4	1.45E-5	6.96E-2	-5.95E-3	-2.60E-2
33	1.22E-3	8.30E-4	5.53E-2	9.79E-3	1.14E-4	2.16E-4	1.42E-4	6.70E-2	-7.17E-3	-2.51E-2
34	1.41E-3	8.95E-4	5.71E-2	8.39E-3	1.16E-4	2.42E-4	3.98E-4	6.46E-2	-8.52E-3	-2.41E-2
35	1.61E-3	9.34E-4	5.88E-2	7.05E-3	1.14E-4	2.75E-4	7.63E-4	6.24E-2	-1.00E-2	-2.30E-2
36	1.83E-3	9.50E-4	6.04E-2	5.85E-3	1.07E-4	3.12E-4	1.20E-3	6.04E-2	-1.16E-2	-2.18E-2
37	2.05E-3	9.47E-4	6.19E-2	4.80E-3	9.66E-5	3.54E-4	1.69E-3	5.86E-2	-1.32E-2	-2.06E-2
38	2.27E-3	9.29E-4	6.32E-2	3.91E-3	8.20E-5	4.00E-4	2.17E-3	5.69E-2	-1.49E-2	-1.94E-2
39	2.48E-3	8.99E-4	6.45E-2	3.18E-3	6.47E-5	4.47E-4	2.64E-3	5.55E-2	-1.66E-2	-1.82E-2
40	2.69E-3	8.63E-4	6.56E-2	2.59E-3	4.53E-5	4.96E-4	3.07E-3	5.43E-2	-1.82E-2	-1.71E-2
41	2.89E-3	8.22E-4	6.67E-2	2.11E-3	2.46E-5	5.44E-4	3.46E-3	5.32E-2	-1.98E-2	-1.60E-2
42	3.07E-3	7.80E-4	6.77E-2	1.72E-3	3.17E-6	5.92E-4	3.80E-3	5.23E-2	-2.14E-2	-1.50E-2
43	3.24E-3	7.38E-4	6.87E-2	1.42E-3	-1.85E-5	6.38E-4	4.09E-3	5.16E-2	-2.30E-2	-1.41E-2
44	3.40E-3	6.98E-4	6.98E-2	1.17E-3	-3.99E-5	6.83E-4	4.34E-3	5.11E-2	-2.45E-2	-1.32E-2
45	3.53E-3	6.60E-4	7.08E-2	9.69E-4	-6.09E-5	7.25E-4	4.55E-3	5.07E-2	-2.59E-2	-1.25E-2
46	3.66E-3	6.25E-4	7.19E-2	8.08E-4	-8.13E-5	7.64E-4	4.72E-3	5.04E-2	-2.73E-2	-1.17E-2
47	3.77E-3	5.93E-4	7.31E-2	6.77E-4	-1.01E-4	8.01E-4	4.85E-3	5.02E-2	-2.86E-2	-1.11E-2
48	3.87E-3	5.63E-4	7.42E-2	5.71E-4	-1.20E-4	8.35E-4	4.96E-3	5.02E-2	-3.00E-2	-1.05E-2
49	3.95E-3	5.36E-4	7.55E-2	4.84E-4	-1.38E-4	8.66E-4	5.05E-3	5.02E-2	-3.13E-2	-9.97E-3
50	4.03E-3	5.12E-4	7.67E-2	4.12E-4	-1.56E-4	8.94E-4	5.11E-3	5.04E-2	-3.26E-2	-9.48E-3
51	4.09E-3	4.90E-4	7.81E-2	3.53E-4	-1.72E-4	9.20E-4	5.15E-3	5.06E-2	-3.38E-2	-9.04E-3
52	4.15E-3	4.71E-4	7.95E-2	3.04E-4	-1.88E-4	9.44E-4	5.18E-3	5.09E-2	-3.51E-2	-8.63E-3
53	4.19E-3	4.53E-4	8.09E-2	2.62E-4	-2.03E-4	9.65E-4	5.20E-3	5.13E-2	-3.63E-2	-8.26E-3
54	4.23E-3	4.37E-4	8.25E-2	2.28E-4	-2.18E-4	9.84E-4	5.20E-3	5.18E-2	-3.76E-2	-7.92E-3
55	4.26E-3	4.23E-4	8.40E-2	1.99E-4	-2.32E-4	1.00E-3	5.20E-3	5.23E-2	-3.88E-2	-7.60E-3
56	4.29E-3	4.11E-4	8.57E-2	1.74E-4	-2.46E-4	1.02E-3	5.19E-3	5.29E-2	-4.01E-2	-7.31E-3
57	4.30E-3	4.00E-4	8.74E-2	1.53E-4	-2.59E-4	1.03E-3	5.17E-3	5.36E-2	-4.14E-2	-7.04E-3
58	4.32E-3	3.90E-4	8.92E-2	1.35E-4	-2.71E-4	1.04E-3	5.14E-3	5.43E-2	-4.26E-2	-6.79E-3
59	4.33E-3	3.81E-4	9.10E-2	1.19E-4	-2.84E-4	1.05E-3	5.11E-3	5.50E-2	-4.39E-2	-6.55E-3
60	4.33E-3	3.73E-4	9.29E-2	1.06E-4	-2.96E-4	1.06E-3	5.08E-3	5.59E-2	-4.52E-2	-6.33E-3
61	4.33E-3	3.66E-4	9.49E-2	9.47E-5	-3.07E-4	1.07E-3	5.04E-3	5.67E-2	-4.65E-2	-6.13E-3
62	4.33E-3	3.61E-4	9.69E-2	8.47E-5	-3.18E-4	1.07E-3	5.00E-3	5.76E-2	-4.79E-2	-5.94E-3
63	4.32E-3	3.55E-4	9.90E-2	7.59E-5	-3.29E-4	1.08E-3	4.96E-3	5.86E-2	-4.92E-2	-5.76E-3
64	4.31E-3	3.51E-4	1.01E-1	6.83E-5	-3.40E-4	1.08E-3	4.92E-3	5.96E-2	-5.06E-2	-5.59E-3
65	4.30E-3	3.47E-4	1.03E-1	6.16E-5	-3.50E-4	1.08E-3	4.87E-3	6.07E-2	-5.20E-2	-5.43E-3
66	4.28E-3	3.44E-4	1.06E-1	5.58E-5	-3.60E-4	1.09E-3	4.82E-3	6.18E-2	-5.34E-2	-5.28E-3
67	4.27E-3	3.42E-4	1.08E-1	5.06E-5	-3.70E-4	1.09E-3	4.78E-3	6.29E-2	-5.49E-2	-5.14E-3
68	4.25E-3	3.40E-4	1.10E-1	4.60E-5	-3.80E-4	1.09E-3	4.73E-3	6.41E-2	-5.63E-2	-5.01E-3
69	4.23E-3	3.39E-4	1.13E-1	4.19E-5	-3.90E-4	1.09E-3	4.68E-3	6.53E-2	-5.78E-2	-4.88E-3
70	4.21E-3	3.38E-4	1.15E-1	3.83E-5	-3.99E-4	1.09E-3	4.63E-3	6.66E-2	-5.93E-2	-4.76E-3
71	4.19E-3	3.38E-4	1.18E-1	3.51E-5	-4.08E-4	1.09E-3	4.58E-3	6.79E-2	-6.09E-2	-4.64E-3
72	4.16E-3	3.38E-4	1.21E-1	3.22E-5	-4.17E-4	1.09E-3	4.53E-3	6.92E-2	-6.25E-2	-4.53E-3
73	4.14E-3	3.38E-4	1.23E-1	2.96E-5	-4.26E-4	1.08E-3	4.48E-3	7.06E-2	-6.41E-2	-4.42E-3
74	4.11E-3	3.39E-4	1.26E-1	2.72E-5	-4.35E-4	1.08E-3	4.43E-3	7.21E-2	-6.57E-2	-4.32E-3
75	4.09E-3	3.41E-4	1.29E-1	2.51E-5	-4.44E-4	1.08E-3	4.37E-3	7.35E-2	-6.74E-2	-4.22E-3
76	4.06E-3	3.43E-4	1.32E-1	2.32E-5	-4.52E-4	1.07E-3	4.32E-3	7.50E-2	-6.91E-2	-4.13E-3
77	4.03E-3	3.45E-4	1.35E-1	2.15E-5	-4.61E-4	1.07E-3	4.27E-3	7.66E-2	-7.08E-2	-4.04E-3
78	4.00E-3	3.48E-4	1.38E-1	2.00E-5	-4.69E-4	1.07E-3	4.22E-3	7.82E-2	-7.25E-2	-3.95E-3
79	3.97E-3	3.51E-4	1.41E-1	1.86E-5	-4.77E-4	1.06E-3	4.17E-3	7.98E-2	-7.43E-2	-3.87E-3
80	3.94E-3	3.55E-4	1.44E-1	1.73E-5	-4.86E-4	1.06E-3	4.12E-3	8.14E-2	-7.61E-2	-3.79E-3
81	3.91E-3	3.59E-4	1.48E-1	1.61E-5	-4.94E-4	1.05E-3	4.07E-3	8.31E-2	-7.80E-2	-3.71E-3
82	3.88E-3	3.64E-4	1.51E-1	1.50E-5	-5.02E-4	1.05E-3	4.01E-3	8.49E-2	-7.98E-2	-3.64E-3
83	3.85E-3	3.69E-4	1.54E-1	1.40E-5	-5.10E-4	1.04E-3	3.96E-3	8.67E-2	-8.17E-2	-3.56E-3
84	3.81E-3	3.75E-4	1.58E-1	1.31E-5	-5.18E-4	1.03E-3	3.91E-3	8.85E-2	-8.37E-2	-3.49E-3
85	3.78E-3	3.81E-4	1.61E-1	1.23E-5	-5.26E-4	1.03E-3	3.86E-3	9.03E-2	-8.56E-2	-3.43E-3
86	3.74E-3	3.88E-4	1.65E-1	1.16E-5	-5.35E-4	1.02E-3	3.80E-3	9.22E-2	-8.76E-2	-3.36E-3
87	3.71E-3	3.96E-4	1.68E-1	1.09E-5	-5.43E-4	1.01E-3	3.75E-3	9.41E-2	-8.97E-2	-3.29E-3
88	3.67E-3	4.04E-4	1.72E-1	1.02E-5	-5.52E-4	1.00E-3	3.70E-3	9.61E-2	-9.18E-2	-3.23E-3
89	3.64E-3	4.13E-4	1.76E-1	9.61E-6	-5.60E-4	9.97E-4	3.65E-3	9.81E-2	-9.39E-2	-3.17E-3
90	3.60E-3	4.22E-4	1.80E-1	9.05E-6	-5.69E-4	9.88E-4	3.59E-3	1.00E-1	-9.60E-2	-3.11E-3
91	3.56E-3	4.33E-4	1.83E-1	8.54E-6	-5.78E-4	9.80E-4	3.54E-3	1.02E-1	-9.82E-2	-3.05E-3
92	3.52E-3	4.44E-4	1.87E-1	8.06E-6	-5.88E-4	9.70E-4	3.48E-3	1.04E-1	-1.00E-1	-2.99E-3

TABLE 2. Electric Dipole Oscillator Strengths

See page 19 for Explanation of Tables

Z	$C_3 - F_3$	$C_3 - F_4$	$C_4 - F_1$	$C_4 - F_2$	$C_4 - F_3$	$C_4 - F_4$	$C_1 - G_1$	$C_2 - G_1$	$C_3 - G_1$	$C_4 - G_1$
26	-1.12E-2	-4.39E-3	-3.89E-5	-1.05E-3	-4.75E-3	-1.12E-1	2.96E-2	6.84E-3	-6.54E-2	-8.19E-3
27	-1.07E-2	-4.51E-3	-5.28E-5	-1.06E-3	-6.48E-3	-1.06E-1	2.76E-2	7.69E-3	-6.19E-2	-9.06E-3
28	-1.04E-2	-4.51E-3	-6.95E-5	-1.04E-3	-8.65E-3	-1.00E-1	2.59E-2	8.45E-3	-5.85E-2	-9.90E-3
29	-1.02E-2	-4.39E-3	-8.90E-5	-9.94E-4	-1.13E-2	-9.40E-2	2.44E-2	9.11E-3	-5.55E-2	-1.07E-2
30	-1.02E-2	-4.17E-3	-1.11E-4	-9.31E-4	-1.45E-2	-8.79E-2	2.30E-2	9.65E-3	-5.27E-2	-1.14E-2
31	-1.03E-2	-3.85E-3	-1.34E-4	-8.55E-4	-1.82E-2	-8.16E-2	2.19E-2	1.01E-2	-5.01E-2	-1.22E-2
32	-1.04E-2	-3.47E-3	-1.58E-4	-7.69E-4	-2.22E-2	-7.52E-2	2.09E-2	1.04E-2	-4.77E-2	-1.28E-2
33	-1.06E-2	-3.05E-3	-1.81E-4	-6.77E-4	-2.65E-2	-6.89E-2	2.01E-2	1.07E-2	-4.55E-2	-1.34E-2
34	-1.07E-2	-2.63E-3	-2.03E-4	-5.85E-4	-3.10E-2	-6.28E-2	1.94E-2	1.09E-2	-4.35E-2	-1.40E-2
35	-1.09E-2	-2.23E-3	-2.22E-4	-4.96E-4	-3.54E-2	-5.69E-2	1.88E-2	1.10E-2	-4.16E-2	-1.45E-2
36	-1.10E-2	-1.85E-3	-2.37E-4	-4.12E-4	-3.96E-2	-5.15E-2	1.84E-2	1.10E-2	-3.99E-2	-1.50E-2
37	-1.11E-2	-1.52E-3	-2.47E-4	-3.37E-4	-4.35E-2	-4.66E-2	1.80E-2	1.11E-2	-3.83E-2	-1.55E-2
38	-1.11E-2	-1.24E-3	-2.52E-4	-2.70E-4	-4.71E-2	-4.22E-2	1.78E-2	1.10E-2	-3.69E-2	-1.59E-2
39	-1.10E-2	-9.97E-4	-2.53E-4	-2.12E-4	-5.04E-2	-3.83E-2	1.76E-2	1.10E-2	-3.55E-2	-1.63E-2
40	-1.10E-2	-7.94E-4	-2.50E-4	-1.64E-4	-5.34E-2	-3.49E-2	1.74E-2	1.09E-2	-3.43E-2	-1.67E-2
41	-1.08E-2	-6.24E-4	-2.44E-4	-1.24E-4	-5.61E-2	-3.19E-2	1.74E-2	1.09E-2	-3.31E-2	-1.71E-2
42	-1.07E-2	-4.81E-4	-2.35E-4	-9.12E-5	-5.86E-2	-2.93E-2	1.74E-2	1.08E-2	-3.20E-2	-1.75E-2
43	-1.06E-2	-3.63E-4	-2.24E-4	-6.54E-5	-6.09E-2	-2.70E-2	1.74E-2	1.06E-2	-3.10E-2	-1.79E-2
44	-1.04E-2	-2.63E-4	-2.11E-4	-4.52E-5	-6.31E-2	-2.50E-2	1.74E-2	1.05E-2	-3.00E-2	-1.83E-2
45	-1.02E-2	-1.79E-4	-1.98E-4	-2.99E-5	-6.51E-2	-2.33E-2	1.76E-2	1.04E-2	-2.91E-2	-1.87E-2
46	-1.00E-2	-1.08E-4	-1.85E-4	-1.85E-5	-6.70E-2	-2.17E-2	1.77E-2	1.03E-2	-2.83E-2	-1.90E-2
47	-9.84E-3	-4.76E-5	-1.72E-4	-1.03E-5	-6.89E-2	-2.04E-2	1.79E-2	1.01E-2	-2.75E-2	-1.94E-2
48	-9.65E-3	4.49E-6	-1.59E-4	-4.89E-6	-7.07E-2	-1.92E-2	1.81E-2	9.99E-3	-2.67E-2	-1.98E-2
49	-9.46E-3	4.95E-5	-1.47E-4	-1.65E-6	-7.25E-2	-1.81E-2	1.83E-2	9.86E-3	-2.60E-2	-2.02E-2
50	-9.28E-3	8.88E-5	-1.36E-4	-1.75E-7	-7.43E-2	-1.71E-2	1.86E-2	9.72E-3	-2.53E-2	-2.06E-2
51	-9.10E-3	1.23E-4	-1.25E-4	-1.49E-7	-7.61E-2	-1.63E-2	1.89E-2	9.58E-3	-2.47E-2	-2.10E-2
52	-8.92E-3	1.54E-4	-1.15E-4	-1.29E-6	-7.79E-2	-1.55E-2	1.92E-2	9.45E-3	-2.41E-2	-2.14E-2
53	-8.74E-3	1.81E-4	-1.06E-4	-3.38E-6	-7.97E-2	-1.48E-2	1.95E-2	9.31E-3	-2.35E-2	-2.18E-2
54	-8.57E-3	2.05E-4	-9.71E-5	-6.23E-6	-8.15E-2	-1.41E-2	1.99E-2	9.18E-3	-2.30E-2	-2.23E-2
55	-8.40E-3	2.28E-4	-8.93E-5	-9.71E-6	-8.34E-2	-1.35E-2	2.03E-2	9.05E-3	-2.25E-2	-2.27E-2
56	-8.24E-3	2.48E-4	-8.20E-5	-1.37E-5	-8.53E-2	-1.30E-2	2.07E-2	8.92E-3	-2.20E-2	-2.32E-2
57	-8.08E-3	2.66E-4	-7.54E-5	-1.81E-5	-8.72E-2	-1.25E-2	2.11E-2	8.79E-3	-2.15E-2	-2.36E-2
58	-7.92E-3	2.83E-4	-6.94E-5	-2.28E-5	-8.92E-2	-1.20E-2	2.15E-2	8.67E-3	-2.10E-2	-2.41E-2
59	-7.77E-3	2.99E-4	-6.39E-5	-2.78E-5	-9.12E-2	-1.16E-2	2.20E-2	8.54E-3	-2.06E-2	-2.46E-2
60	-7.63E-3	3.13E-4	-5.89E-5	-3.30E-5	-9.33E-2	-1.12E-2	2.25E-2	8.42E-3	-2.02E-2	-2.51E-2
61	-7.49E-3	3.27E-4	-5.43E-5	-3.84E-5	-9.54E-2	-1.09E-2	2.30E-2	8.31E-3	-1.98E-2	-2.56E-2
62	-7.35E-3	3.40E-4	-5.01E-5	-4.40E-5	-9.75E-2	-1.05E-2	2.35E-2	8.19E-3	-1.94E-2	-2.62E-2
63	-7.22E-3	3.53E-4	-4.63E-5	-4.97E-5	-9.98E-2	-1.02E-2	2.40E-2	8.07E-3	-1.90E-2	-2.67E-2
64	-7.09E-3	3.64E-4	-4.29E-5	-5.56E-5	-1.02E-1	-9.89E-3	2.46E-2	7.96E-3	-1.86E-2	-2.73E-2
65	-6.97E-3	3.76E-4	-3.97E-5	-6.15E-5	-1.04E-1	-9.61E-3	2.52E-2	7.85E-3	-1.83E-2	-2.79E-2
66	-6.85E-3	3.86E-4	-3.68E-5	-6.76E-5	-1.07E-1	-9.34E-3	2.57E-2	7.74E-3	-1.80E-2	-2.85E-2
67	-6.73E-3	3.97E-4	-3.41E-5	-7.37E-5	-1.09E-1	-9.09E-3	2.63E-2	7.64E-3	-1.76E-2	-2.91E-2
68	-6.61E-3	4.07E-4	-3.17E-5	-8.00E-5	-1.12E-1	-8.85E-3	2.70E-2	7.53E-3	-1.73E-2	-2.97E-2
69	-6.50E-3	4.16E-4	-2.95E-5	-8.64E-5	-1.14E-1	-8.63E-3	2.76E-2	7.43E-3	-1.70E-2	-3.03E-2
70	-6.40E-3	4.26E-4	-2.75E-5	-9.28E-5	-1.17E-1	-8.41E-3	2.82E-2	7.33E-3	-1.67E-2	-3.10E-2
71	-6.29E-3	4.35E-4	-2.56E-5	-9.94E-5	-1.19E-1	-8.21E-3	2.89E-2	7.23E-3	-1.64E-2	-3.16E-2
72	-6.19E-3	4.44E-4	-2.39E-5	-1.06E-4	-1.22E-1	-8.01E-3	2.96E-2	7.14E-3	-1.62E-2	-3.23E-2
73	-6.09E-3	4.52E-4	-2.23E-5	-1.13E-4	-1.25E-1	-7.83E-3	3.03E-2	7.04E-3	-1.59E-2	-3.30E-2
74	-5.99E-3	4.61E-4	-2.09E-5	-1.20E-4	-1.28E-1	-7.65E-3	3.10E-2	6.95E-3	-1.56E-2	-3.37E-2
75	-5.90E-3	4.69E-4	-1.96E-5	-1.27E-4	-1.31E-1	-7.48E-3	3.18E-2	6.85E-3	-1.54E-2	-3.45E-2
76	-5.80E-3	4.77E-4	-1.83E-5	-1.34E-4	-1.34E-1	-7.31E-3	3.25E-2	6.76E-3	-1.51E-2	-3.52E-2
77	-5.71E-3	4.85E-4	-1.72E-5	-1.42E-4	-1.37E-1	-7.15E-3	3.33E-2	6.67E-3	-1.49E-2	-3.60E-2
78	-5.62E-3	4.93E-4	-1.62E-5	-1.50E-4	-1.40E-1	-7.00E-3	3.41E-2	6.58E-3	-1.46E-2	-3.67E-2
79	-5.54E-3	5.01E-4	-1.52E-5	-1.57E-4	-1.43E-1	-6.85E-3	3.49E-2	6.49E-3	-1.44E-2	-3.75E-2
80	-5.45E-3	5.09E-4	-1.43E-5	-1.66E-4	-1.46E-1	-6.71E-3	3.57E-2	6.41E-3	-1.42E-2	-3.83E-2
81	-5.36E-3	5.17E-4	-1.35E-5	-1.74E-4	-1.49E-1	-6.57E-3	3.65E-2	6.32E-3	-1.39E-2	-3.92E-2
82	-5.28E-3	5.24E-4	-1.27E-5	-1.83E-4	-1.53E-1	-6.44E-3	3.74E-2	6.23E-3	-1.37E-2	-4.00E-2
83	-5.20E-3	5.32E-4	-1.20E-5	-1.92E-4	-1.56E-1	-6.31E-3	3.82E-2	6.15E-3	-1.35E-2	-4.09E-2
84	-5.12E-3	5.40E-4	-1.13E-5	-2.01E-4	-1.59E-1	-6.18E-3	3.91E-2	6.06E-3	-1.33E-2	-4.17E-2
85	-5.04E-3	5.47E-4	-1.07E-5	-2.11E-4	-1.63E-1	-6.06E-3	4.00E-2	5.98E-3	-1.31E-2	-4.26E-2
86	-4.96E-3	5.56E-4	-1.01E-5	-2.21E-4	-1.67E-1	-5.94E-3	4.09E-2	5.89E-3	-1.29E-2	-4.35E-2
87	-4.88E-3	5.63E-4	-9.59E-6	-2.32E-4	-1.70E-1	-5.82E-3	4.19E-2	5.80E-3	-1.27E-2	-4.45E-2
88	-4.80E-3	5.71E-4	-9.09E-6	-2.43E-4	-1.74E-1	-5.70E-3	4.28E-2	5.72E-3	-1.25E-2	-4.54E-2
89	-4.73E-3	5.79E-4	-8.62E-6	-2.55E-4	-1.78E-1	-5.59E-3	4.38E-2	5.63E-3	-1.23E-2	-4.64E-2
90	-4.65E-3	5.88E-4	-8.18E-6	-2.68E-4	-1.81E-1	-5.47E-3	4.48E-2	5.54E-3	-1.21E-2	-4.73E-2
91	-4.58E-3	5.96E-4	-7.77E-6	-2.81E-4	-1.85E-1	-5.36E-3	4.58E-2	5.46E-3	-1.19E-2	-4.83E-2
92	-4.50E-3	6.05E-4	-7.38E-6	-2.95E-4	-1.89E-1	-5.25E-3	4.68E-2	5.36E-3	-1.17E-2	-4.93E-2

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - A_2$								$A_1 - A_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	45.70	4.65E-4	3.35E-4	1.75E-4	7.40E-5	2.92E-5	1.39E-5	26	216.96	1.06E-4	9.84E-5	8.87E-5	8.21E-5	7.88E-5	7.80E-5
27	51.13	3.72E-4	2.69E-4	1.41E-4	6.03E-5	2.42E-5	1.20E-5	27	231.62	9.37E-5	8.71E-5	8.00E-5	7.50E-5	7.25E-5	7.20E-5
28	57.25	2.97E-4	2.15E-4	1.14E-4	4.89E-5	2.03E-5	1.05E-5	28	247.03	8.48E-5	7.90E-5	7.29E-5	6.85E-5	6.64E-5	6.60E-5
29	64.13	2.37E-4	1.72E-4	9.13E-5	3.99E-5	1.71E-5	9.24E-6	29	263.26	7.66E-5	7.16E-5	6.64E-5	6.26E-5	6.08E-5	6.05E-5
30	71.82	1.90E-4	1.38E-4	7.35E-5	3.26E-5	1.44E-5	8.16E-6	30	280.34	6.91E-5	6.49E-5	6.04E-5	5.72E-5	5.55E-5	5.54E-5
31	80.42	1.52E-4	1.11E-4	5.93E-5	2.68E-5	1.23E-5	7.38E-6	31	298.34	6.44E-5	6.04E-5	5.53E-5	5.18E-5	5.03E-5	5.03E-5
32	89.97	1.23E-4	8.92E-5	4.81E-5	2.21E-5	1.05E-5	6.56E-6	32	317.32	5.81E-5	5.46E-5	5.01E-5	4.71E-5	4.58E-5	4.59E-5
33	100.57	9.90E-5	7.21E-5	3.92E-5	1.83E-5	9.02E-6	5.84E-6	33	337.35	5.23E-5	4.93E-5	4.53E-5	4.27E-5	4.16E-5	4.17E-5
34	112.29	7.98E-5	5.86E-5	3.21E-5	1.52E-5	7.66E-6	5.10E-6	34	358.51	4.54E-5	4.31E-5	4.06E-5	3.88E-5	3.79E-5	3.81E-5
35	125.21	6.48E-5	4.78E-5	2.64E-5	1.27E-5	6.63E-6	4.57E-6	35	380.88	4.08E-5	3.86E-5	3.65E-5	3.49E-5	3.43E-5	3.45E-5
36	139.41	5.31E-5	3.90E-5	2.17E-5	1.08E-5	5.85E-6	4.18E-6	36	404.55	3.79E-5	3.58E-5	3.31E-5	3.13E-5	3.07E-5	3.10E-5
37	154.99	4.33E-5	3.22E-5	1.81E-5	9.06E-6	5.02E-6	3.67E-6	37	429.62	3.28E-5	3.10E-5	2.94E-5	2.82E-5	2.78E-5	2.81E-5
38	172.02	3.55E-5	2.64E-5	1.50E-5	7.69E-6	4.40E-6	3.31E-6	38	456.18	2.91E-5	2.76E-5	2.63E-5	2.53E-5	2.50E-5	2.53E-5
39	190.61	2.95E-5	2.19E-5	1.26E-5	6.61E-6	3.93E-6	3.05E-6	39	484.33	2.69E-5	2.55E-5	2.37E-5	2.26E-5	2.22E-5	2.26E-5
40	210.86	2.44E-5	1.82E-5	1.06E-5	5.67E-6	3.47E-6	2.75E-6	40	514.17	2.40E-5	2.27E-5	2.12E-5	2.02E-5	1.99E-5	2.03E-5
41	232.87	2.02E-5	1.52E-5	8.92E-6	4.85E-6	3.03E-6	2.43E-6	41	545.82	2.04E-5	1.95E-5	1.86E-5	1.81E-5	1.79E-5	1.83E-5
42	256.73	1.70E-5	1.28E-5	7.58E-6	4.24E-6	2.74E-6	2.26E-6	42	579.39	1.89E-5	1.79E-5	1.67E-5	1.60E-5	1.58E-5	1.62E-5
43	282.57	1.43E-5	1.08E-5	6.46E-6	3.68E-6	2.44E-6	2.05E-6	43	615.00	1.67E-5	1.59E-5	1.49E-5	1.42E-5	1.41E-5	1.45E-5
44	310.50	1.20E-5	9.15E-6	5.53E-6	3.19E-6	2.14E-6	1.82E-6	44	652.76	1.43E-5	1.35E-5	1.30E-5	1.26E-5	1.26E-5	1.30E-5
45	340.64	1.02E-5	7.76E-6	4.76E-6	2.83E-6	1.96E-6	1.69E-6	45	692.80	1.31E-5	1.25E-5	1.17E-5	1.12E-5	1.11E-5	1.15E-5
46	373.11	8.64E-6	6.62E-6	4.11E-6	2.48E-6	1.76E-6	1.54E-6	46	735.26	1.16E-5	1.10E-5	1.03E-5	9.91E-6	9.88E-6	1.02E-5
47	408.04	7.35E-6	5.67E-6	3.55E-6	2.17E-6	1.56E-6	1.38E-6	47	780.26	9.71E-6	9.30E-6	8.98E-6	8.78E-6	8.82E-6	9.13E-6
48	445.56	6.31E-6	4.88E-6	3.10E-6	1.95E-6	1.43E-6	1.29E-6	48	827.96	8.99E-6	8.57E-6	8.04E-6	7.74E-6	7.74E-6	8.04E-6
49	485.82	5.42E-6	4.22E-6	2.70E-6	1.71E-6	1.28E-6	1.16E-6	49	878.48	7.53E-6	7.21E-6	6.98E-6	6.84E-6	6.90E-6	7.18E-6
50	528.96	4.68E-6	3.65E-6	2.37E-6	1.53E-6	1.16E-6	1.06E-6	50	931.99	6.65E-6	6.33E-6	6.14E-6	6.02E-6	6.08E-6	6.36E-6
51	575.13	4.04E-6	3.17E-6	2.09E-6	1.38E-6	1.07E-6	9.94E-7	51	988.64	6.12E-6	5.84E-6	5.49E-6	5.31E-6	5.34E-6	5.59E-6
52	624.48	3.51E-6	2.77E-6	1.84E-6	1.23E-6	9.65E-7	9.07E-7	52	1048.59	5.26E-6	5.04E-6	4.80E-6	4.68E-6	4.72E-6	4.96E-6
53	677.19	3.05E-6	2.43E-6	1.63E-6	1.11E-6	8.83E-7	8.35E-7	53	1112.02	4.60E-6	4.43E-6	4.22E-6	4.11E-6	4.16E-6	4.38E-6
54	733.41	2.66E-6	2.12E-6	1.45E-6	1.00E-6	8.13E-7	7.76E-7	54	1179.09	4.14E-6	3.95E-6	3.72E-6	3.60E-6	3.65E-6	3.85E-6
55	793.33	2.34E-6	1.87E-6	1.29E-6	9.03E-7	7.38E-7	7.11E-7	55	1250.00	3.54E-6	3.40E-6	3.24E-6	3.17E-6	3.22E-6	3.41E-6
56	857.13	2.05E-6	1.65E-6	1.15E-6	8.23E-7	6.83E-7	6.62E-7	56	1324.90	3.18E-6	3.03E-6	2.85E-6	2.77E-6	2.81E-6	2.99E-6
57	924.99	1.81E-6	1.47E-6	1.03E-6	7.44E-7	6.22E-7	6.09E-7	57	1404.03	2.71E-6	2.60E-6	2.48E-6	2.43E-6	2.48E-6	2.64E-6
58	997.12	1.60E-6	1.30E-6	9.24E-7	6.76E-7	5.74E-7	5.63E-7	58	1487.58	2.37E-6	2.27E-6	2.17E-6	2.12E-6	2.17E-6	2.32E-6
59	1073.72	1.41E-6	1.16E-6	8.32E-7	6.20E-7	5.32E-7	5.27E-7	59	1575.76	2.12E-6	2.02E-6	1.91E-6	1.86E-6	1.90E-6	2.03E-6
60	1155.00	1.26E-6	1.04E-6	7.51E-7	5.64E-7	4.88E-7	4.86E-7	60	1668.76	1.81E-6	1.73E-6	1.65E-6	1.62E-6	1.66E-6	1.79E-6
61	1241.19	1.12E-6	9.24E-7	6.78E-7	5.18E-7	4.54E-7	4.55E-7	61	1766.85	1.61E-6	1.54E-6	1.45E-6	1.41E-6	1.45E-6	1.56E-6
62	1332.51	9.99E-7	8.33E-7	6.15E-7	4.74E-7	4.17E-7	4.21E-7	62	1870.22	1.38E-6	1.31E-6	1.24E-6	1.23E-6	1.27E-6	1.37E-6
63	1429.21	8.93E-7	7.49E-7	5.59E-7	4.35E-7	3.87E-7	3.93E-7	63	1979.17	1.20E-6	1.14E-6	1.08E-6	1.07E-6	1.11E-6	1.20E-6
64	1531.53	8.02E-7	6.77E-7	5.08E-7	4.01E-7	3.59E-7	3.66E-7	64	2093.89	1.06E-6	1.01E-6	9.53E-7	9.32E-7	9.62E-7	1.04E-6
65	1639.74	7.20E-7	6.11E-7	4.64E-7	3.70E-7	3.34E-7	3.43E-7	65	2214.71	9.14E-7	8.56E-7	8.12E-7	8.08E-7	8.38E-7	9.16E-7
66	1754.10	6.47E-7	5.49E-7	4.24E-7	3.42E-7	3.13E-7	3.22E-7	66	2341.87	8.02E-7	7.63E-7	7.17E-7	7.01E-7	7.26E-7	7.94E-7
67	1874.90	5.85E-7	5.03E-7	3.89E-7	3.16E-7	2.90E-7	3.00E-7	67	2475.67	6.97E-7	6.60E-7	6.21E-7	6.08E-7	6.31E-7	6.92E-7
68	2002.44	5.27E-7	4.52E-7	3.55E-7	2.93E-7	2.72E-7	2.83E-7	68	2616.41	6.02E-7	5.72E-7	5.36E-7	5.25E-7	5.46E-7	6.01E-7
69	2137.01	4.78E-7	4.11E-7	3.26E-7	2.71E-7	2.54E-7	2.66E-7	69	2764.41	5.21E-7	4.94E-7	4.63E-7	4.53E-7	4.72E-7	5.21E-7
70	2278.94	4.34E-7	3.75E-7	3.00E-7	2.52E-7	2.38E-7	2.50E-7	70	2919.93	4.51E-7	4.13E-7	3.92E-7	3.86E-7	4.07E-7	4.52E-7
71	2428.55	3.93E-7	3.42E-7	2.76E-7	2.34E-7	2.22E-7	2.34E-7	71	3083.40	3.89E-7	3.67E-7	3.43E-7	3.35E-7	3.50E-7	3.90E-7
72	2586.21	3.59E-7	3.18E-7	2.58E-7	2.19E-7	2.08E-7	2.20E-7	72	3255.10	3.39E-7	3.07E-7	2.87E-7	2.84E-7	3.01E-7	3.36E-7
73	2752.26	3.27E-7	2.92E-7	2.38E-7	2.04E-7	1.95E-7	2.08E-7	73	3435.44	2.93E-7	2.63E-7	2.46E-7	2.42E-7	2.58E-7	2.89E-7
74	2927.08	2.98E-7	2.67E-7	2.20E-7	1.90E-7	1.83E-7	1.96E-7	74	3624.77	2.54E-7	2.27E-7	2.07E-7	2.07E-7	2.20E-7	2.48E-7
75	3111.08	2.72E-7	2.46E-7	2.05E-7	1.78E-7	1.72E-7	1.85E-7	75	3823.53	2.18E-7	1.94E-7	1.77E-7	1.75E-7	1.87E-7	2.12E-7
76	3304.65	2.52E-7	2.24E-7	1.88E-7	1.66E-7	1.63E-7	1.75E-7	76	4020.05	1.81E-7	1.69E-7	1.55E-7	1.51E-7	1.59E-7	1.80E-7
77	3508.24	2.33E-7	2.08E-7	1.76E-7	1.56E-7	1.53E-7	1.66E-7	77	4232.88	1.54E-7	1.43E-7	1.31E-7	1.27E-7	1.34E-7	1.53E-7
78	3722.29	2.12E-7	1.93E-7	1.64E-7	1.46E-7	1.44E-7	1.57E-7	78	4480.39	1.35E-7	1.21E-7	1.08E-7	1.06E-7	1.13E-7	1.29E-7
79	3947.28	1.95E-7	1.77E-7	1.53E-7	1.37E-7	1.36E-7	1.49E-7	79	4721.11	1.14E-7	1.02E-7	9.11E-8	8.83E-8	9.44E-8	1.08E-7
80	4183.70	1.80E-7	1.65E-7	1.43E-7	1.29E-7	1.29E-7	1.41E-7	80	4973.43	9.50E-8	8.67E-8	7.75E-8	7.43E-8	7.88E-8	9.08E-8
81	4432.05	1.68E-7	1.52E-7	1.33E-7	1.21E-7	1.21E-7	1.34E-7	81	5237.92	7.99E-8	7.26E-8	6.44E-8	6.14E-8	6.51E-8	7.54E-8
82	4692.90	1.54E-7	1.42E-7	1.25E-7	1.14E-7	1.15E-7	1.27E-7	82	5515.18	6.95E-8	6.13E-8	5.23E-8	4.97E-8	5.33E-8	6.22E-8
83	4966.81	1.43E-7	1.32E-7	1.17E-7	1.08E-7	1.09E-7	1.21E-7	83	5805.77	5.83E-8	5.09E-8	4.30E-8	4.03E-8	4.33E-8	5.08E-8
84	5254.37	1.34E-7	1.23E-7	1.09E-7	1.01E-7	1.03E-7	1.15E-7	84	6110.36	4.76E-8	4.22E-8	3.58E-8	3.32E-8	3.51E-8	4.13E-8
85	5556.21	1.25E-7	1.15E-7	1.03E-7	9.61E-8	9.82E-8	1.10E-7	85	6429.41	4.02E-8	3.51E-8	2.92E-8	2.66E-8	2.81E-8	3.32E-8
86	5872.92	1.15E-7	1.07E-7	9.66E-8	9.08E-8	9.31E-8	1.04E-7	86	6762.83	3.42E-8	2.95E-8	2.30E-8	2.05E-8	2.20E-8	2.62E-8
87	6205.31	1.08E-7	1.00E-7	9.04E-8	8.55E-8	8.82E-8	9.94E-8	87	7112.81	2.81E-8	2.39E-8	1.88E-8	1.64E-8	1.72E-8	2.06E-8
88	6554.05	1.00E-7	9.36E-8	8.50E-8	8.09E-8	8.38E-8	9.47E-8	88	7479.16	2.36E-8	1.97E-8	1.50E-8	1.27E-8	1.32E-8	1.59E-8
89	6919.92	9.30E-8	8.74E-8	8.05E-8	7.69E-8	7.98E-8	9.04E-8	89	7862.98	2.00E-8	1.69E-8				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - A_4$								$A_2 - A_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	256.72	5.35E-6	4.58E-6	3.60E-6	2.95E-6	2.64E-6	2.55E-6	26	171.27	4.66E-5	3.92E-5	2.99E-5	2.37E-5	2.09E-5	2.00E-5
27	274.69	4.21E-6	3.49E-6	2.81E-6	2.38E-6	2.18E-6	2.12E-6	27	180.49	4.87E-5	4.19E-5	3.30E-5	2.71E-5	2.45E-5	2.36E-5
28	294.05	3.17E-6	2.65E-6	2.17E-6	1.87E-6	1.73E-6	1.69E-6	28	189.78	5.11E-5	4.46E-5	3.62E-5	3.06E-5	2.81E-5	2.73E-5
29	314.95	2.34E-6	1.97E-6	1.64E-6	1.43E-6	1.34E-6	1.31E-6	29	199.13	5.33E-5	4.72E-5	3.91E-5	3.39E-5	3.14E-5	3.07E-5
30	337.53	1.68E-6	1.43E-6	1.21E-6	1.07E-6	1.00E-6	9.87E-7	30	208.52	5.51E-5	4.93E-5	4.17E-5	3.67E-5	3.42E-5	3.37E-5
31	361.95	1.18E-6	1.05E-6	8.89E-7	7.80E-7	7.31E-7	7.21E-7	31	217.92	5.69E-5	5.11E-5	4.37E-5	3.89E-5	3.67E-5	3.63E-5
32	388.36	8.30E-7	7.42E-7	6.31E-7	5.58E-7	5.26E-7	5.21E-7	32	227.34	5.77E-5	5.22E-5	4.52E-5	4.06E-5	3.85E-5	3.82E-5
33	416.93	5.78E-7	5.19E-7	4.44E-7	3.95E-7	3.73E-7	3.70E-7	33	236.78	5.79E-5	5.27E-5	4.61E-5	4.17E-5	3.98E-5	3.96E-5
34	447.80	4.01E-7	3.45E-7	3.02E-7	2.75E-7	2.63E-7	2.62E-7	34	246.22	5.72E-5	5.27E-5	4.65E-5	4.25E-5	4.06E-5	4.04E-5
35	481.15	2.76E-7	2.37E-7	2.08E-7	1.90E-7	1.83E-7	1.83E-7	35	255.67	5.65E-5	5.22E-5	4.64E-5	4.25E-5	4.10E-5	4.10E-5
36	517.14	1.83E-7	1.66E-7	1.45E-7	1.31E-7	1.26E-7	1.26E-7	36	265.14	5.62E-5	5.17E-5	4.61E-5	4.24E-5	4.09E-5	4.10E-5
37	555.96	1.30E-7	1.11E-7	9.81E-8	9.03E-8	8.72E-8	8.77E-8	37	274.63	5.42E-5	5.04E-5	4.54E-5	4.19E-5	4.05E-5	4.07E-5
38	597.77	8.79E-8	7.55E-8	6.68E-8	6.19E-8	6.00E-8	6.05E-8	38	284.16	5.30E-5	4.94E-5	4.44E-5	4.12E-5	4.00E-5	4.03E-5
39	642.78	5.86E-8	5.34E-8	4.69E-8	4.28E-8	4.11E-8	4.14E-8	39	293.71	5.21E-5	4.83E-5	4.35E-5	4.04E-5	3.93E-5	3.97E-5
40	691.17	3.99E-8	3.64E-8	3.21E-8	2.93E-8	2.83E-8	2.85E-8	40	303.31	5.04E-5	4.68E-5	4.23E-5	3.94E-5	3.84E-5	3.89E-5
41	743.16	2.78E-8	2.38E-8	2.13E-8	1.99E-8	1.95E-8	1.98E-8	41	312.96	4.84E-5	4.54E-5	4.11E-5	3.84E-5	3.75E-5	3.79E-5
42	798.96	1.83E-8	1.68E-8	1.49E-8	1.37E-8	1.33E-8	1.35E-8	42	322.66	4.71E-5	4.39E-5	3.98E-5	3.72E-5	3.64E-5	3.70E-5
43	858.80	1.26E-8	1.16E-8	1.03E-8	9.46E-9	9.20E-9	9.36E-9	43	332.42	4.54E-5	4.23E-5	3.85E-5	3.61E-5	3.53E-5	3.60E-5
44	922.90	9.12E-9	7.80E-9	6.89E-9	6.45E-9	6.36E-9	6.51E-9	44	342.26	4.32E-5	4.06E-5	3.71E-5	3.49E-5	3.42E-5	3.50E-5
45	991.50	5.87E-9	5.41E-9	4.83E-9	4.48E-9	4.38E-9	4.49E-9	45	352.16	4.21E-5	3.93E-5	3.59E-5	3.38E-5	3.32E-5	3.40E-5
46	1064.87	4.09E-9	3.77E-9	3.37E-9	3.11E-9	3.05E-9	3.12E-9	46	362.15	4.05E-5	3.79E-5	3.46E-5	3.26E-5	3.21E-5	3.30E-5
47	1143.26	3.07E-9	2.60E-9	2.30E-9	2.15E-9	2.14E-9	2.20E-9	47	372.23	3.88E-5	3.66E-5	3.34E-5	3.16E-5	3.11E-5	3.20E-5
48	1226.93	1.97E-9	1.81E-9	1.62E-9	1.50E-9	1.47E-9	1.52E-9	48	382.39	3.75E-5	3.51E-5	3.22E-5	3.04E-5	3.00E-5	3.10E-5
49	1316.19	1.47E-9	1.25E-9	1.09E-9	1.03E-9	1.03E-9	1.07E-9	49	392.66	3.59E-5	3.39E-5	3.10E-5	2.94E-5	2.91E-5	3.00E-5
50	1411.32	1.07E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	50	403.03	3.44E-5	3.25E-5	2.98E-5	2.83E-5	2.81E-5	2.91E-5
51	1512.62	1.00E-9	1.00E-9	1.00E-9	1.00E-9	0.00E+0	1.00E-9	51	413.52	3.33E-5	3.13E-5	2.88E-5	2.73E-5	2.72E-5	2.83E-5
52	1620.41	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	52	424.11	3.21E-5	3.01E-5	2.77E-5	2.64E-5	2.63E-5	2.74E-5
53	1735.04	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	53	434.84	3.09E-5	2.91E-5	2.67E-5	2.55E-5	2.54E-5	2.66E-5
54	1856.82	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	54	445.68	2.97E-5	2.79E-5	2.58E-5	2.46E-5	2.46E-5	2.57E-5
55	1986.14	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	55	456.66	2.86E-5	2.69E-5	2.48E-5	2.38E-5	2.37E-5	2.50E-5
56	2123.34	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	56	467.77	2.75E-5	2.59E-5	2.40E-5	2.29E-5	2.30E-5	2.42E-5
57	2268.83	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	57	479.04	2.65E-5	2.50E-5	2.31E-5	2.22E-5	2.22E-5	2.35E-5
58	2423.00	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	58	490.46	2.56E-5	2.41E-5	2.23E-5	2.14E-5	2.15E-5	2.28E-5
59	2586.28	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	59	502.04	2.46E-5	2.32E-5	2.15E-5	2.06E-5	2.08E-5	2.21E-5
60	2759.07	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	60	513.76	2.38E-5	2.24E-5	2.08E-5	2.00E-5	2.02E-5	2.15E-5
61	2941.85	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	61	525.67	2.28E-5	2.16E-5	2.01E-5	1.93E-5	1.95E-5	2.08E-5
62	3135.05	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	62	537.71	2.21E-5	2.08E-5	1.94E-5	1.87E-5	1.89E-5	2.03E-5
63	3339.21	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	63	549.96	2.13E-5	2.01E-5	1.87E-5	1.81E-5	1.83E-5	1.97E-5
64	3554.77	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	64	562.36	2.06E-5	1.93E-5	1.80E-5	1.74E-5	1.77E-5	1.90E-5
65	3782.34	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	65	574.98	1.98E-5	1.87E-5	1.75E-5	1.70E-5	1.73E-5	1.86E-5
66	4022.39	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	66	587.77	1.91E-5	1.82E-5	1.69E-5	1.64E-5	1.68E-5	1.81E-5
67	4275.54	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	67	600.77	1.85E-5	1.74E-5	1.63E-5	1.58E-5	1.62E-5	1.75E-5
68	4542.37	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	68	613.98	1.79E-5	1.70E-5	1.59E-5	1.54E-5	1.58E-5	1.72E-5
69	4823.51	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	69	627.40	1.73E-5	1.64E-5	1.54E-5	1.49E-5	1.53E-5	1.67E-5
70	5119.55	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	70	641.00	1.68E-5	1.61E-5	1.50E-5	1.46E-5	1.50E-5	1.64E-5
71	5431.25	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	71	654.85	1.62E-5	1.54E-5	1.44E-5	1.40E-5	1.45E-5	1.59E-5
72	5759.22	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	72	668.89	1.57E-5	1.49E-5	1.40E-5	1.37E-5	1.41E-5	1.55E-5
73	6104.26	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	73	683.18	1.52E-5	1.44E-5	1.36E-5	1.33E-5	1.37E-5	1.51E-5
74	6467.10	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	74	697.69	1.47E-5	1.40E-5	1.32E-5	1.29E-5	1.34E-5	1.48E-5
75	6848.55	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	75	712.45	1.43E-5	1.36E-5	1.28E-5	1.26E-5	1.30E-5	1.44E-5
76	7249.39	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	76	727.40	1.38E-5	1.32E-5	1.24E-5	1.22E-5	1.27E-5	1.41E-5
77	7670.59	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	77	742.64	1.34E-5	1.28E-5	1.20E-5	1.18E-5	1.24E-5	1.38E-5
78	8112.97	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	78	758.09	1.30E-5	1.24E-5	1.17E-5	1.15E-5	1.20E-5	1.35E-5
79	8577.55	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	79	773.82	1.26E-5	1.20E-5	1.14E-5	1.12E-5	1.17E-5	1.32E-5
80	9065.21	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	80	789.74	1.22E-5	1.16E-5	1.10E-5	1.09E-5	1.14E-5	1.29E-5
81	9577.03	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	81	805.87	1.19E-5	1.14E-5	1.08E-5	1.06E-5	1.12E-5	1.26E-5
82	10114.2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	82	822.28	1.16E-5	1.11E-5	1.05E-5	1.04E-5	1.09E-5	1.24E-5
83	10677.8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	83	838.97	1.13E-5	1.08E-5	1.02E-5	1.01E-5	1.07E-5	1.21E-5
84	11269.1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	84	855.99	1.10E-5	1.05E-5	9.97E-6	9.87E-6	1.04E-5	1.19E-5
85	11889.3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	85	873.20	1.06E-5	1.02E-5	9.72E-6	9.64E-6	1.02E-5	1.17E-5
86	12538.8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	86	889.91	1.04E-5	9.95E-6	9.49E-6	9.44E-6	1.00E-5	1.15E-5
87	13220.6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	87	907.50	1.01E-5	9.72E-6	9.27E-6	9.22E-6	9.82E-6	1.13E-5
88	13935.3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	88	925.12	9.88E-6	9.49E-6	9.06E-6	9.02E-6	9.63E-6	1.11E-5
89	14684.7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	89	943.07	9.64E-6	9.27E-6	8.87E-6	8.84E		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - A_4$								$A_3 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	211.03	2.87E-4	2.81E-4	2.71E-4	2.63E-4	2.58E-4	2.58E-4	26	39.76	1.24E-3	8.86E-4	4.55E-4	1.85E-4	6.44E-5	2.34E-5
27	223.56	2.47E-4	2.42E-4	2.36E-4	2.31E-4	2.28E-4	2.28E-4	27	43.08	1.04E-3	7.50E-4	3.87E-4	1.57E-4	5.48E-5	2.01E-5
28	236.80	2.16E-4	2.12E-4	2.07E-4	2.02E-4	2.00E-4	2.00E-4	28	47.02	8.66E-4	6.22E-4	3.21E-4	1.30E-4	4.60E-5	1.71E-5
29	250.82	1.88E-4	1.85E-4	1.80E-4	1.77E-4	1.75E-4	1.75E-4	29	51.69	7.08E-4	5.08E-4	2.63E-4	1.07E-4	3.81E-5	1.45E-5
30	265.70	1.63E-4	1.60E-4	1.57E-4	1.54E-4	1.52E-4	1.52E-4	30	57.19	5.72E-4	4.11E-4	2.12E-4	8.69E-5	3.13E-5	1.21E-5
31	281.53	1.46E-4	1.42E-4	1.37E-4	1.33E-4	1.31E-4	1.32E-4	31	63.61	4.56E-4	3.27E-4	1.69E-4	6.96E-5	2.54E-5	1.02E-5
32	298.39	1.26E-4	1.23E-4	1.18E-4	1.15E-4	1.14E-4	1.15E-4	32	71.05	3.62E-4	2.60E-4	1.35E-4	5.56E-5	2.05E-5	8.42E-6
33	316.36	1.09E-4	1.06E-4	1.02E-4	9.97E-5	9.86E-5	9.95E-5	33	79.58	2.86E-4	2.05E-4	1.07E-4	4.43E-5	1.65E-5	6.96E-6
34	335.51	9.11E-5	9.00E-5	8.82E-5	8.66E-5	8.58E-5	8.67E-5	34	89.30	2.25E-4	1.63E-4	8.47E-5	3.53E-5	1.33E-5	5.63E-6
35	355.94	7.89E-5	7.76E-5	7.61E-5	7.47E-5	7.43E-5	7.53E-5	35	100.27	1.77E-4	1.28E-4	6.72E-5	2.81E-5	1.06E-5	4.66E-6
36	377.73	7.07E-5	6.88E-5	6.63E-5	6.45E-5	6.41E-5	6.50E-5	36	112.59	1.40E-4	1.00E-4	5.25E-5	2.22E-5	8.63E-6	3.96E-6
37	400.97	5.92E-5	5.80E-5	5.71E-5	5.60E-5	5.57E-5	5.67E-5	37	126.34	1.10E-4	8.01E-5	4.21E-5	1.79E-5	6.98E-6	3.23E-6
38	425.75	5.10E-5	5.01E-5	4.93E-5	4.85E-5	4.84E-5	4.93E-5	38	141.59	8.68E-5	6.32E-5	3.34E-5	1.42E-5	5.66E-6	2.71E-6
39	452.16	4.59E-5	4.46E-5	4.30E-5	4.19E-5	4.18E-5	4.26E-5	39	158.45	6.92E-5	5.00E-5	2.64E-5	1.14E-5	4.68E-6	2.35E-6
40	480.31	3.98E-5	3.87E-5	3.72E-5	3.64E-5	3.63E-5	3.71E-5	40	177.00	5.52E-5	3.99E-5	2.12E-5	9.24E-6	3.86E-6	2.01E-6
41	510.30	3.30E-5	3.26E-5	3.21E-5	3.17E-5	3.17E-5	3.25E-5	41	197.34	4.39E-5	3.21E-5	1.72E-5	7.51E-6	3.17E-6	1.68E-6
42	542.23	2.99E-5	2.91E-5	2.80E-5	2.74E-5	2.74E-5	2.81E-5	42	219.57	3.56E-5	2.58E-5	1.38E-5	6.15E-6	2.68E-6	1.49E-6
43	576.22	2.60E-5	2.52E-5	2.43E-5	2.38E-5	2.38E-5	2.45E-5	43	243.80	2.88E-5	2.09E-5	1.13E-5	5.06E-6	2.26E-6	1.30E-6
44	612.39	2.16E-5	2.12E-5	2.10E-5	2.07E-5	2.08E-5	2.15E-5	44	270.14	2.32E-5	1.71E-5	9.29E-6	4.21E-6	1.90E-6	1.11E-6
45	650.87	1.96E-5	1.90E-5	1.83E-5	1.80E-5	1.80E-5	1.87E-5	45	298.70	1.91E-5	1.40E-5	7.59E-6	3.50E-6	1.65E-6	1.01E-6
46	691.76	1.70E-5	1.65E-5	1.59E-5	1.56E-5	1.57E-5	1.63E-5	46	329.61	1.57E-5	1.15E-5	6.29E-6	2.94E-6	1.42E-6	9.02E-7
47	735.22	1.41E-5	1.39E-5	1.37E-5	1.36E-5	1.38E-5	1.43E-5	47	362.99	1.28E-5	9.49E-6	5.24E-6	2.47E-6	1.21E-6	7.82E-7
48	781.37	1.28E-5	1.25E-5	1.20E-5	1.18E-5	1.19E-5	1.24E-5	48	398.98	1.07E-5	7.89E-6	4.38E-6	2.11E-6	1.08E-6	7.28E-7
49	830.37	1.06E-5	1.04E-5	1.03E-5	1.03E-5	1.05E-5	1.09E-5	49	437.71	8.84E-6	6.58E-6	3.69E-6	1.79E-6	9.31E-7	6.41E-7
50	882.36	9.25E-6	9.04E-6	8.98E-6	8.94E-6	9.10E-6	9.54E-6	50	479.32	7.42E-6	5.54E-6	3.13E-6	1.54E-6	8.23E-7	5.84E-7
51	937.49	8.44E-6	8.21E-6	7.92E-6	7.80E-6	7.91E-6	8.30E-6	51	523.98	6.27E-6	4.66E-6	2.65E-6	1.34E-6	7.47E-7	5.51E-7
52	995.92	7.18E-6	7.04E-6	6.85E-6	6.81E-6	6.92E-6	7.29E-6	52	571.82	5.26E-6	3.95E-6	2.27E-6	1.16E-6	6.62E-7	5.00E-7
53	1057.85	6.22E-6	6.11E-6	5.97E-6	5.91E-6	6.04E-6	6.37E-6	53	623.01	4.46E-6	3.35E-6	1.94E-6	1.02E-6	5.96E-7	4.62E-7
54	1123.41	5.54E-6	5.39E-6	5.21E-6	5.14E-6	5.25E-6	5.55E-6	54	677.73	3.82E-6	2.87E-6	1.68E-6	9.02E-7	5.47E-7	4.36E-7
55	1192.80	4.71E-6	4.61E-6	4.51E-6	4.48E-6	4.59E-6	4.87E-6	55	736.14	3.25E-6	2.46E-6	1.46E-6	7.93E-7	4.91E-7	3.99E-7
56	1266.21	4.18E-6	4.07E-6	3.94E-6	3.90E-6	3.99E-6	4.24E-6	56	798.43	2.80E-6	2.12E-6	1.27E-6	7.09E-7	4.55E-7	3.78E-7
57	1343.84	3.56E-6	3.48E-6	3.40E-6	3.40E-6	3.49E-6	3.72E-6	57	864.79	2.41E-6	1.84E-6	1.11E-6	6.31E-7	4.13E-7	3.50E-7
58	1425.88	3.09E-6	3.03E-6	2.96E-6	2.95E-6	3.05E-6	3.26E-6	58	935.42	2.08E-6	1.60E-6	9.76E-7	5.66E-7	3.81E-7	3.28E-7
59	1512.56	2.75E-6	2.67E-6	2.59E-6	2.57E-6	2.65E-6	2.84E-6	59	1010.52	1.81E-6	1.39E-6	8.62E-7	5.14E-7	3.56E-7	3.13E-7
60	1604.07	2.34E-6	2.28E-6	2.23E-6	2.23E-6	2.31E-6	2.49E-6	60	1090.31	1.58E-6	1.22E-6	7.65E-7	4.63E-7	3.27E-7	2.92E-7
61	1700.67	2.07E-6	2.02E-6	1.95E-6	1.94E-6	2.01E-6	2.17E-6	61	1175.00	1.38E-6	1.07E-6	6.81E-7	4.23E-7	3.08E-7	2.80E-7
62	1802.54	1.77E-6	1.71E-6	1.68E-6	1.69E-6	1.75E-6	1.90E-6	62	1264.83	1.21E-6	9.48E-7	6.09E-7	3.84E-7	2.84E-7	2.62E-7
63	1910.00	1.53E-6	1.49E-6	1.46E-6	1.46E-6	1.53E-6	1.66E-6	63	1360.04	1.07E-6	8.41E-7	5.48E-7	3.53E-7	2.66E-7	2.48E-7
64	2023.25	1.35E-6	1.32E-6	1.28E-6	1.27E-6	1.32E-6	1.44E-6	64	1460.89	9.41E-7	7.46E-7	4.93E-7	3.25E-7	2.50E-7	2.36E-7
65	2142.60	1.16E-6	1.12E-6	1.09E-6	1.10E-6	1.15E-6	1.26E-6	65	1567.62	8.36E-7	6.68E-7	4.47E-7	3.00E-7	2.35E-7	2.25E-7
66	2268.29	1.01E-6	9.87E-7	9.57E-7	9.57E-7	1.00E-6	1.10E-6	66	1680.52	7.41E-7	5.93E-7	4.03E-7	2.77E-7	2.24E-7	2.16E-7
67	2400.64	8.78E-7	8.56E-7	8.29E-7	8.30E-7	8.69E-7	9.55E-7	67	1799.87	6.61E-7	5.35E-7	3.68E-7	2.57E-7	2.09E-7	2.04E-7
68	2539.94	7.61E-7	7.39E-7	7.17E-7	7.19E-7	7.54E-7	8.32E-7	68	1925.96	5.91E-7	4.79E-7	3.35E-7	2.39E-7	2.00E-7	1.97E-7
69	2686.50	6.57E-7	6.38E-7	6.19E-7	6.21E-7	6.54E-7	7.23E-7	69	2059.11	5.31E-7	4.33E-7	3.07E-7	2.23E-7	1.89E-7	1.89E-7
70	2840.62	5.70E-7	5.36E-7	5.26E-7	5.32E-7	5.67E-7	6.30E-7	70	2199.62	4.77E-7	3.93E-7	2.82E-7	2.09E-7	1.79E-7	1.80E-7
71	3002.69	4.89E-7	4.75E-7	4.60E-7	4.63E-7	4.89E-7	5.45E-7	71	2347.84	4.31E-7	3.56E-7	2.60E-7	1.95E-7	1.70E-7	1.73E-7
72	3173.01	4.28E-7	4.01E-7	3.90E-7	3.96E-7	4.23E-7	4.73E-7	72	2504.12	3.90E-7	3.29E-7	2.43E-7	1.84E-7	1.62E-7	1.65E-7
73	3352.00	3.69E-7	3.44E-7	3.35E-7	3.39E-7	3.64E-7	4.09E-7	73	2668.82	3.53E-7	3.00E-7	2.24E-7	1.73E-7	1.54E-7	1.58E-7
74	3540.02	3.20E-7	2.96E-7	2.84E-7	2.92E-7	3.13E-7	3.54E-7	74	2842.32	3.21E-7	2.75E-7	2.08E-7	1.64E-7	1.47E-7	1.52E-7
75	3737.48	2.74E-7	2.54E-7	2.43E-7	2.49E-7	2.68E-7	3.04E-7	75	3025.03	2.92E-7	2.53E-7	1.94E-7	1.54E-7	1.40E-7	1.46E-7
76	3944.74	2.29E-7	2.21E-7	2.13E-7	2.15E-7	2.30E-7	2.61E-7	76	3217.34	2.70E-7	2.30E-7	1.79E-7	1.45E-7	1.34E-7	1.41E-7
77	4162.35	1.96E-7	1.89E-7	1.82E-7	1.84E-7	1.97E-7	2.24E-7	77	3419.71	2.47E-7	2.12E-7	1.67E-7	1.38E-7	1.28E-7	1.36E-7
78	4390.68	1.71E-7	1.60E-7	1.52E-7	1.55E-7	1.67E-7	1.92E-7	78	3632.59	2.26E-7	1.97E-7	1.57E-7	1.31E-7	1.23E-7	1.31E-7
79	4630.27	1.45E-7	1.36E-7	1.29E-7	1.31E-7	1.42E-7	1.63E-7	79	3856.44	2.08E-7	1.83E-7	1.48E-7	1.24E-7	1.18E-7	1.26E-7
80	4881.51	1.20E-7	1.16E-7	1.11E-7	1.11E-7	1.21E-7	1.39E-7	80	4091.78	1.92E-7	1.70E-7	1.38E-7	1.18E-7	1.13E-7	1.21E-7
81	5144.98	1.02E-7	9.72E-8	9.28E-8	9.35E-8	1.01E-7	1.17E-7	81	4339.11	1.78E-7	1.57E-7	1.29E-7	1.11E-7	1.08E-7	1.17E-7
82	5421.28	8.85E-8	8.23E-8	7.65E-8	7.74E-8	8.48E-8	9.89E-8	82	4599.00	1.64E-7	1.47E-7	1.23E-7	1.07E-7	1.04E-7	1.13E-7
83	5710.98	7.45E-8	6.90E-8	6.39E-8	6.42E-8	7.07E-8	8.28E-8	83	4872.02	1.52E-7	1.38E-7	1.16E-7	1.02E-7	1.00E-7	1.09E-7
84	6014.76	6.07E-8	5.72E-8	5.37E-8	5.38E-8	5.88E-8	6.91E-8	84	5158.78	1.43E-7	1.28E-7	1.09E-7	9.67E-8	9.58E-8	1.05E-7
85	6333.09	5.06E-8	4.75E-8	4.42E-8	4.42E-8	4.83E-8	5.71E-8	85	5459.89	1.33E-7	1.20E-7	1.03E-7	9.24E-8	9.21E-8	1.02E-7
86	6665.87	4.33E-8	4.00E-8	3.56E-8	3.54E-8	3.93E-8	4.69E-8	86	5775.96	1.23E-7	1.12E-7	9.77E-8	8.84E-8	8.86E-8	9.81E-8
87	7015.32	3.53E-8	3.25E-8	2.96E-8	2.92E-8	3.21E-8	3.83E-8	87	6107.82	1.16E-7	1.06E-7	9.21E-8	8.42E-8	8.51E-8	9.48E-8
88	7381.25	2.89E-8	2.64E-8	2.37E-8	2.32E-8	2.56E-8	3.09E-8	88	6456.14	1.09E-7	9.96E-8	8.75E-8	8.07E-8	8.19E-8	9.17E-8
89	7764.77	2.43E-8	2.24E-8	1.86E-8	1.80E-8	2.01E-8	2.45E-8	89	6821.71	1.02E-7	9.35E-8	8.			

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - B_1$								$A_1 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	9.199	1.61E-2	1.23E-2	7.16E-3	3.50E-3	1.52E-3	6.44E-4	26	217.36	5.16E-6	3.73E-6	1.95E-6	7.94E-7	2.69E-7	8.55E-8
27	11.26	1.46E-2	1.11E-2	6.45E-3	3.15E-3	1.37E-3	5.80E-4	27	232.85	3.99E-6	2.89E-6	1.51E-6	6.15E-7	2.09E-7	6.66E-8
28	13.66	1.32E-2	1.00E-2	5.84E-3	2.85E-3	1.24E-3	5.24E-4	28	249.43	3.09E-6	2.24E-6	1.17E-6	4.77E-7	1.62E-7	5.19E-8
29	16.43	1.20E-2	9.11E-3	5.31E-3	2.59E-3	1.12E-3	4.75E-4	29	267.18	2.40E-6	1.73E-6	9.05E-7	3.70E-7	1.26E-7	4.06E-8
30	19.61	1.10E-2	8.31E-3	4.85E-3	2.36E-3	1.03E-3	4.33E-4	30	286.20	1.86E-6	1.34E-6	7.02E-7	2.88E-7	9.85E-8	3.18E-8
31	23.23	1.00E-2	7.61E-3	4.44E-3	2.16E-3	9.37E-4	3.96E-4	31	306.61	1.44E-6	1.04E-6	5.46E-7	2.24E-7	7.69E-8	2.49E-8
32	27.33	9.23E-3	6.99E-3	4.07E-3	1.99E-3	8.60E-4	3.63E-4	32	328.50	1.12E-6	8.10E-7	4.25E-7	1.75E-7	6.02E-8	1.96E-8
33	31.94	8.51E-3	6.45E-3	3.76E-3	1.83E-3	7.92E-4	3.34E-4	33	352.00	8.72E-7	6.31E-7	3.31E-7	1.37E-7	4.73E-8	1.55E-8
34	37.10	7.86E-3	5.96E-3	3.47E-3	1.69E-3	7.31E-4	3.08E-4	34	377.21	6.80E-7	4.93E-7	2.59E-7	1.07E-7	3.72E-8	1.22E-8
35	42.86	7.29E-3	5.52E-3	3.22E-3	1.57E-3	6.78E-4	2.86E-4	35	404.27	5.31E-7	3.85E-7	2.03E-7	8.41E-8	2.93E-8	9.69E-9
36	49.26	6.78E-3	5.13E-3	2.99E-3	1.46E-3	6.30E-4	2.65E-4	36	433.31	4.16E-7	3.02E-7	1.59E-7	6.62E-8	2.32E-8	7.71E-9
37	56.33	6.31E-3	4.78E-3	2.79E-3	1.36E-3	5.86E-4	2.47E-4	37	464.45	3.26E-7	2.37E-7	1.25E-7	5.23E-8	1.84E-8	6.14E-9
38	64.13	5.90E-3	4.47E-3	2.60E-3	1.27E-3	5.48E-4	2.31E-4	38	497.84	2.57E-7	1.87E-7	9.87E-8	4.13E-8	1.46E-8	4.91E-9
39	72.71	5.52E-3	4.18E-3	2.44E-3	1.19E-3	5.13E-4	2.16E-4	39	533.62	2.02E-7	1.47E-7	7.80E-8	3.28E-8	1.16E-8	3.93E-9
40	82.10	5.18E-3	3.92E-3	2.29E-3	1.11E-3	4.81E-4	2.03E-4	40	571.95	1.59E-7	1.16E-7	6.18E-8	2.60E-8	9.27E-9	3.15E-9
41	92.37	4.87E-3	3.69E-3	2.15E-3	1.05E-3	4.52E-4	1.90E-4	41	612.97	1.26E-7	9.20E-8	4.90E-8	2.07E-8	7.41E-9	2.53E-9
42	103.56	4.58E-3	3.47E-3	2.03E-3	9.87E-4	4.27E-4	1.80E-4	42	656.86	9.99E-8	7.30E-8	3.90E-8	1.65E-8	5.94E-9	2.04E-9
43	115.73	4.32E-3	3.28E-3	1.91E-3	9.32E-4	4.03E-4	1.70E-4	43	703.77	7.93E-8	5.80E-8	3.10E-8	1.32E-8	4.77E-9	1.65E-9
44	128.94	4.09E-3	3.10E-3	1.81E-3	8.81E-4	3.81E-4	1.60E-4	44	753.90	6.31E-8	4.62E-8	2.48E-8	1.06E-8	3.84E-9	1.33E-9
45	143.25	3.87E-3	2.93E-3	1.71E-3	8.35E-4	3.61E-4	1.52E-4	45	807.43	5.03E-8	3.69E-8	1.98E-8	8.49E-9	3.09E-9	1.08E-9
46	158.72	3.66E-3	2.78E-3	1.62E-3	7.92E-4	3.42E-4	1.44E-4	46	864.53	4.01E-8	2.94E-8	1.59E-8	6.82E-9	2.50E-9	1.00E-9
47	175.41	3.48E-3	2.64E-3	1.54E-3	7.53E-4	3.25E-4	1.37E-4	47	925.42	3.21E-8	2.36E-8	1.28E-8	5.50E-9	2.02E-9	1.00E-9
48	193.40	3.31E-3	2.51E-3	1.47E-3	7.17E-4	3.10E-4	1.31E-4	48	990.29	2.57E-8	1.89E-8	1.02E-8	4.43E-9	1.63E-9	1.00E-9
49	212.74	3.14E-3	2.39E-3	1.40E-3	6.83E-4	2.96E-4	1.24E-4	49	1059.37	2.06E-8	1.52E-8	8.24E-9	3.58E-9	1.33E-9	0.00E+0
50	233.52	3.00E-3	2.28E-3	1.33E-3	6.51E-4	2.82E-4	1.19E-4	50	1132.86	1.65E-8	1.22E-8	6.65E-9	2.90E-9	1.08E-9	0.00E+0
51	255.81	2.86E-3	2.17E-3	1.27E-3	6.22E-4	2.70E-4	1.14E-4	51	1211.01	1.33E-8	9.83E-9	5.37E-9	2.35E-9	1.00E-9	0.00E+0
52	279.69	2.73E-3	2.08E-3	1.22E-3	5.95E-4	2.58E-4	1.09E-4	52	1294.05	1.07E-8	7.93E-9	4.34E-9	1.90E-9	1.00E-9	0.00E+0
53	305.23	2.61E-3	1.98E-3	1.16E-3	5.70E-4	2.47E-4	1.04E-4	53	1382.25	8.66E-9	6.41E-9	3.52E-9	1.55E-9	1.00E-9	0.00E+0
54	332.52	2.50E-3	1.90E-3	1.12E-3	5.47E-4	2.37E-4	1.00E-4	54	1475.83	7.00E-9	5.19E-9	2.86E-9	1.26E-9	0.00E+0	0.00E+0
55	361.66	2.39E-3	1.82E-3	1.07E-3	5.24E-4	2.28E-4	9.60E-5	55	1575.10	5.66E-9	4.20E-9	2.32E-9	1.03E-9	0.00E+0	0.00E+0
56	392.72	2.29E-3	1.75E-3	1.03E-3	5.04E-4	2.19E-4	9.23E-5	56	1680.29	4.59E-9	3.41E-9	1.89E-9	8.43E-9	1.00E-9	0.00E+0
57	425.81	2.20E-3	1.68E-3	9.86E-4	4.84E-4	2.10E-4	8.88E-5	57	1791.74	3.72E-9	2.77E-9	1.54E-9	1.00E-9	0.00E+0	0.00E+0
58	461.03	2.11E-3	1.61E-3	9.48E-4	4.66E-4	2.03E-4	8.55E-5	58	1909.73	3.03E-9	2.26E-9	1.25E-9	1.00E-9	0.00E+0	0.00E+0
59	498.47	2.03E-3	1.55E-3	9.13E-4	4.49E-4	1.95E-4	8.25E-5	59	2034.58	2.46E-9	1.84E-9	1.03E-9	0.00E+0	0.00E+0	0.00E+0
60	538.24	1.95E-3	1.49E-3	8.79E-4	4.33E-4	1.88E-4	7.96E-5	60	2166.59	2.01E-9	1.50E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
61	580.46	1.88E-3	1.43E-3	8.47E-4	4.17E-4	1.82E-4	7.69E-5	61	2306.13	1.64E-9	1.23E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
62	625.23	1.81E-3	1.38E-3	8.17E-4	4.03E-4	1.76E-4	7.43E-5	62	2453.50	1.34E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
63	672.68	1.74E-3	1.33E-3	7.88E-4	3.89E-4	1.70E-4	7.18E-5	63	2609.14	1.09E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
64	722.93	1.68E-3	1.29E-3	7.62E-4	3.76E-4	1.64E-4	6.95E-5	64	2773.35	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
65	776.12	1.62E-3	1.24E-3	7.36E-4	3.64E-4	1.59E-4	6.74E-5	65	2946.60	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
66	832.36	1.56E-3	1.20E-3	7.12E-4	3.53E-4	1.54E-4	6.53E-5	66	3129.25	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
67	891.82	1.51E-3	1.16E-3	6.89E-4	3.42E-4	1.49E-4	6.33E-5	67	3321.76	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
68	954.62	1.46E-3	1.12E-3	6.67E-4	3.31E-4	1.45E-4	6.15E-5	68	3524.56	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
69	1020.93	1.41E-3	1.08E-3	6.46E-4	3.21E-4	1.41E-4	5.97E-5	69	3738.12	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
70	1090.90	1.36E-3	1.05E-3	6.26E-4	3.11E-4	1.37E-4	5.80E-5	70	3962.89	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
71	1164.71	1.32E-3	1.02E-3	6.07E-4	3.02E-4	1.33E-4	5.64E-5	71	4199.44	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
72	1242.51	1.28E-3	9.85E-4	5.89E-4	2.94E-4	1.29E-4	5.49E-5	72	4448.22	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
73	1324.49	1.24E-3	9.54E-4	5.71E-4	2.85E-4	1.26E-4	5.34E-5	73	4709.84	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
74	1410.83	1.20E-3	9.25E-4	5.55E-4	2.78E-4	1.22E-4	5.20E-5	74	4984.83	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
75	1501.75	1.16E-3	8.98E-4	5.39E-4	2.70E-4	1.19E-4	5.07E-5	75	5273.82	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
76	1597.43	1.13E-3	8.71E-4	5.24E-4	2.63E-4	1.16E-4	4.94E-5	76	5577.37	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
77	1698.09	1.09E-3	8.46E-4	5.09E-4	2.56E-4	1.13E-4	4.81E-5	77	5896.22	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
78	1803.96	1.06E-3	8.21E-4	4.95E-4	2.49E-4	1.10E-4	4.70E-5	78	6230.98	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
79	1915.28	1.03E-3	7.98E-4	4.82E-4	2.43E-4	1.07E-4	4.59E-5	79	6582.42	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
80	2032.27	9.99E-4	7.76E-4	4.69E-4	2.37E-4	1.05E-4	4.48E-5	80	6951.16	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	2155.21	9.70E-4	7.54E-4	4.57E-4	2.31E-4	1.02E-4	4.37E-5	81	7338.05	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	2284.37	9.42E-4	7.33E-4	4.45E-4	2.25E-4	9.99E-5	4.28E-5	82	7743.94	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	2420.01	9.16E-4	7.13E-4	4.33E-4	2.19E-4	9.76E-5	4.18E-5	83	8169.70	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	2562.45	8.90E-4	6.93E-4	4.22E-4	2.14E-4	9.54E-5	4.09E-5	84	8616.29	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	2711.99	8.65E-4	6.75E-4	4.11E-4	2.09E-4	9.32E-5	4.00E-5	85	9084.47	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	2868.93	8.41E-4	6.57E-4	4.01E-4	2.04E-4	9.12E-5	3.91E-5	86	9574.46	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	3033.67	8.18E-4	6.39E-4	3.91E-4	1.99E-4	8.92E-5	3.83E-5	87	10088.9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	3206.53	7.95E-4	6.23E-4	3.82E-4	1.95E-4	8.73E-5	3.75E-5	88	10627.8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	3387.90	7.74E-4	6.06E-4	3.72E-4	1.90E-4	8.54E-5	3.68E-5	89	11192.8	0.00E+0	0.00E+0	0.00E+0	0.0		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - B_2$								$A_3 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	171.66	4.69E-5	3.38E-5	1.76E-5	7.14E-6	2.42E-6	7.69E-7	26	0.3935	1.41E-2	1.08E-2	6.38E-3	3.17E-3	1.40E-3	6.01E-4
27	181.72	4.26E-5	3.07E-5	1.60E-5	6.49E-6	2.20E-6	7.05E-7	27	1.237	1.24E-2	9.49E-3	5.61E-3	2.79E-3	1.23E-3	5.29E-4
28	192.18	3.88E-5	2.80E-5	1.45E-5	5.93E-6	2.02E-6	6.49E-7	28	2.395	1.09E-2	8.35E-3	4.94E-3	2.46E-3	1.09E-3	4.66E-4
29	203.05	3.54E-5	2.56E-5	1.33E-5	5.43E-6	1.86E-6	6.00E-7	29	3.920	9.65E-3	7.37E-3	4.36E-3	2.17E-3	9.56E-4	4.11E-4
30	214.38	3.24E-5	2.34E-5	1.22E-5	4.99E-6	1.72E-6	5.58E-7	30	5.861	8.53E-3	6.51E-3	3.85E-3	1.91E-3	8.45E-4	3.62E-4
31	226.19	2.98E-5	2.15E-5	1.12E-5	4.61E-6	1.59E-6	5.20E-7	31	8.267	7.57E-3	5.78E-3	3.41E-3	1.69E-3	7.48E-4	3.21E-4
32	238.53	2.74E-5	1.98E-5	1.03E-5	4.26E-6	1.48E-6	4.88E-7	32	11.18	6.74E-3	5.14E-3	3.04E-3	1.51E-3	6.64E-4	2.85E-4
33	251.42	2.53E-5	1.83E-5	9.57E-6	3.96E-6	1.38E-6	4.59E-7	33	14.65	6.02E-3	4.59E-3	2.71E-3	1.34E-3	5.92E-4	2.53E-4
34	264.92	2.34E-5	1.69E-5	8.88E-6	3.69E-6	1.29E-6	4.34E-7	34	18.70	5.41E-3	4.12E-3	2.43E-3	1.20E-3	5.30E-4	2.27E-4
35	279.07	2.17E-5	1.57E-5	8.26E-6	3.45E-6	1.22E-6	4.12E-7	35	23.39	4.87E-3	3.71E-3	2.19E-3	1.08E-3	4.76E-4	2.04E-4
36	293.90	2.01E-5	1.46E-5	7.71E-6	3.23E-6	1.15E-6	3.92E-7	36	28.76	4.42E-3	3.37E-3	1.98E-3	9.81E-4	4.31E-4	1.84E-4
37	309.47	1.88E-5	1.36E-5	7.22E-6	3.04E-6	1.09E-6	3.75E-7	37	34.83	4.02E-3	3.06E-3	1.80E-3	8.91E-4	3.91E-4	1.67E-4
38	325.82	1.75E-5	1.27E-5	6.77E-6	2.87E-6	1.04E-6	3.60E-7	38	41.66	3.67E-3	2.80E-3	1.65E-3	8.13E-4	3.56E-4	1.52E-4
39	343.01	1.64E-5	1.20E-5	6.37E-6	2.71E-6	9.86E-7	3.46E-7	39	49.29	3.37E-3	2.57E-3	1.51E-3	7.45E-4	3.26E-4	1.39E-4
40	361.08	1.54E-5	1.12E-5	6.01E-6	2.57E-6	9.42E-7	3.34E-7	40	57.77	3.11E-3	2.37E-3	1.39E-3	6.86E-4	3.00E-4	1.28E-4
41	380.10	1.45E-5	1.06E-5	5.68E-6	2.44E-6	9.02E-7	3.22E-7	41	67.15	2.88E-3	2.19E-3	1.29E-3	6.34E-4	2.77E-4	1.18E-4
42	400.12	1.37E-5	1.00E-5	5.39E-6	2.33E-6	8.66E-7	3.12E-7	42	77.46	2.67E-3	2.03E-3	1.19E-3	5.88E-4	2.57E-4	1.09E-4
43	421.20	1.29E-5	9.46E-6	5.12E-6	2.22E-6	8.33E-7	3.03E-7	43	88.78	2.49E-3	1.89E-3	1.11E-3	5.47E-4	2.39E-4	1.02E-4
44	443.40	1.22E-5	8.97E-6	4.87E-6	2.13E-6	8.03E-7	2.94E-7	44	101.15	2.32E-3	1.77E-3	1.04E-3	5.10E-4	2.23E-4	9.46E-5
45	466.79	1.16E-5	8.53E-6	4.64E-6	2.04E-6	7.75E-7	2.86E-7	45	114.62	2.17E-3	1.65E-3	9.71E-4	4.78E-4	2.08E-4	8.84E-5
46	491.42	1.10E-5	8.11E-6	4.43E-6	1.96E-6	7.49E-7	2.79E-7	46	129.27	2.04E-3	1.55E-3	9.12E-4	4.49E-4	1.96E-4	8.30E-5
47	517.38	1.05E-5	7.73E-6	4.24E-6	1.88E-6	7.25E-7	2.72E-7	47	145.15	1.92E-3	1.46E-3	8.58E-4	4.22E-4	1.84E-4	7.80E-5
48	544.73	9.99E-6	7.38E-6	4.06E-6	1.81E-6	7.03E-7	2.65E-7	48	162.34	1.81E-3	1.38E-3	8.09E-4	3.98E-4	1.73E-4	7.35E-5
49	573.55	9.53E-6	7.05E-6	3.89E-6	1.75E-6	6.81E-7	2.59E-7	49	180.88	1.71E-3	1.30E-3	7.65E-4	3.76E-4	1.64E-4	6.95E-5
50	603.90	9.10E-6	6.75E-6	3.74E-6	1.68E-6	6.61E-7	2.53E-7	50	200.87	1.62E-3	1.23E-3	7.24E-4	3.56E-4	1.55E-4	6.58E-5
51	635.89	8.70E-6	6.46E-6	3.59E-6	1.63E-6	6.42E-7	2.47E-7	51	222.37	1.53E-3	1.17E-3	6.87E-4	3.38E-4	1.47E-4	6.24E-5
52	669.57	8.33E-6	6.20E-6	3.46E-6	1.57E-6	6.24E-7	2.41E-7	52	245.46	1.46E-3	1.11E-3	6.53E-4	3.21E-4	1.40E-4	5.93E-5
53	705.06	7.98E-6	5.95E-6	3.33E-6	1.52E-6	6.06E-7	2.36E-7	53	270.23	1.38E-3	1.06E-3	6.21E-4	3.06E-4	1.33E-4	5.65E-5
54	742.42	7.65E-6	5.71E-6	3.20E-6	1.47E-6	5.90E-7	2.30E-7	54	296.74	1.32E-3	1.01E-3	5.93E-4	2.92E-4	1.27E-4	5.39E-5
55	781.76	7.34E-6	5.49E-6	3.09E-6	1.42E-6	5.73E-7	2.25E-7	55	325.10	1.26E-3	9.60E-4	5.66E-4	2.79E-4	1.21E-4	5.14E-5
56	823.17	7.05E-6	5.28E-6	2.98E-6	1.38E-6	5.58E-7	2.20E-7	56	355.39	1.20E-3	9.17E-4	5.41E-4	2.69E-4	1.16E-4	4.92E-5
57	866.75	6.78E-6	5.08E-6	2.88E-6	1.34E-6	5.43E-7	2.15E-7	57	387.71	1.15E-3	8.77E-4	5.17E-4	2.55E-4	1.11E-4	4.72E-5
58	912.61	6.51E-6	4.89E-6	2.78E-6	1.29E-6	5.28E-7	2.09E-7	58	422.15	1.10E-3	8.40E-4	4.96E-4	2.45E-4	1.07E-4	4.52E-5
59	960.86	6.26E-6	4.71E-6	2.68E-6	1.25E-6	5.14E-7	2.05E-7	59	458.82	1.05E-3	8.05E-4	4.76E-4	2.35E-4	1.02E-4	4.34E-5
60	1011.59	6.03E-6	4.54E-6	2.59E-6	1.22E-6	5.00E-7	2.00E-7	60	497.83	1.01E-3	7.72E-4	4.57E-4	2.26E-4	9.85E-5	4.17E-5
61	1064.94	5.80E-6	4.37E-6	2.50E-6	1.18E-6	4.86E-7	1.95E-7	61	539.27	9.69E-4	7.42E-4	4.39E-4	2.17E-4	9.48E-5	4.02E-5
62	1120.99	5.58E-6	4.22E-6	2.42E-6	1.14E-6	4.73E-7	1.90E-7	62	583.28	9.31E-4	7.13E-4	4.22E-4	2.09E-4	9.13E-5	3.87E-5
63	1179.93	5.38E-6	4.07E-6	2.34E-6	1.11E-6	4.60E-7	1.86E-7	63	629.97	8.96E-4	6.86E-4	4.07E-4	2.01E-4	8.80E-5	3.73E-5
64	1241.82	5.18E-6	3.92E-6	2.26E-6	1.08E-6	4.48E-7	1.81E-7	64	679.46	8.62E-4	6.60E-4	3.92E-4	1.94E-4	8.50E-5	3.61E-5
65	1306.86	4.99E-6	3.78E-6	2.19E-6	1.04E-6	4.36E-7	1.77E-7	65	731.88	8.30E-4	6.36E-4	3.78E-4	1.87E-4	8.21E-5	3.48E-5
66	1375.15	4.81E-6	3.65E-6	2.12E-6	1.01E-6	4.24E-7	1.73E-7	66	787.38	8.00E-4	6.14E-4	3.65E-4	1.81E-4	7.93E-5	3.37E-5
67	1446.85	4.64E-6	3.52E-6	2.05E-6	9.82E-7	4.13E-7	1.68E-7	67	846.08	7.71E-4	5.92E-4	3.52E-4	1.75E-4	7.68E-5	3.26E-5
68	1522.12	4.47E-6	3.40E-6	1.98E-6	9.53E-7	4.01E-7	1.64E-7	68	908.14	7.44E-4	5.72E-4	3.41E-4	1.69E-4	7.43E-5	3.16E-5
69	1601.11	4.31E-6	3.28E-6	1.92E-6	9.24E-7	3.91E-7	1.60E-7	69	973.72	7.18E-4	5.52E-4	3.29E-4	1.64E-4	7.20E-5	3.06E-5
70	1683.95	4.16E-6	3.17E-6	1.86E-6	8.97E-7	3.80E-7	1.56E-7	70	1042.96	6.94E-4	5.34E-4	3.19E-4	1.59E-4	6.98E-5	2.97E-5
71	1770.88	4.01E-6	3.06E-6	1.79E-6	8.70E-7	3.70E-7	1.52E-7	71	1116.03	6.71E-4	5.17E-4	3.09E-4	1.54E-4	6.77E-5	2.88E-5
72	1862.01	3.87E-6	2.96E-6	1.74E-6	8.45E-7	3.60E-7	1.48E-7	72	1193.12	6.48E-4	5.00E-4	2.99E-4	1.50E-4	6.58E-5	2.80E-5
73	1957.58	3.73E-6	2.86E-6	1.68E-6	8.20E-7	3.50E-7	1.45E-7	73	1274.40	6.27E-4	4.84E-4	2.90E-4	1.45E-4	6.39E-5	2.72E-5
74	2057.75	3.60E-6	2.76E-6	1.63E-6	7.95E-7	3.40E-7	1.41E-7	74	1360.06	6.07E-4	4.69E-4	2.81E-4	1.41E-4	6.21E-5	2.65E-5
75	2162.75	3.47E-6	2.66E-6	1.58E-6	7.72E-7	3.31E-7	1.37E-7	75	1450.30	5.88E-4	4.54E-4	2.73E-4	1.37E-4	6.04E-5	2.58E-5
76	2272.72	3.35E-6	2.57E-6	1.53E-6	7.49E-7	3.22E-7	1.34E-7	76	1545.32	5.70E-4	4.41E-4	2.65E-4	1.33E-4	5.88E-5	2.51E-5
77	2387.98	3.23E-6	2.49E-6	1.48E-6	7.27E-7	3.13E-7	1.30E-7	77	1645.34	5.52E-4	4.27E-4	2.58E-4	1.29E-4	5.73E-5	2.44E-5
78	2508.69	3.12E-6	2.40E-6	1.43E-6	7.06E-7	3.05E-7	1.27E-7	78	1750.59	5.35E-4	4.15E-4	2.50E-4	1.26E-4	5.58E-5	2.38E-5
79	2635.13	3.01E-6	2.32E-6	1.39E-6	6.85E-7	2.96E-7	1.24E-7	79	1861.31	5.19E-4	4.03E-4	2.43E-4	1.23E-4	5.43E-5	2.32E-5
80	2767.47	2.91E-6	2.25E-6	1.34E-6	6.66E-7	2.89E-7	1.21E-7	80	1977.73	5.04E-4	3.91E-4	2.37E-4	1.19E-4	5.30E-5	2.27E-5
81	2905.99	2.81E-6	2.17E-6	1.30E-6	6.46E-7	2.81E-7	1.18E-7	81	2100.12	4.89E-4	3.80E-4	2.30E-4	1.16E-4	5.17E-5	2.21E-5
82	3051.04	2.71E-6	2.10E-6	1.26E-6	6.28E-7	2.73E-7	1.15E-7	82	2228.76	4.74E-4	3.69E-4	2.24E-4	1.13E-4	5.04E-5	2.16E-5
83	3202.89	2.62E-6	2.03E-6	1.22E-6	6.10E-7	2.66E-7	1.12E-7	83	2363.93	4.61E-4	3.59E-4	2.18E-4	1.11E-4	4.92E-5	2.11E-5
84	3361.91	2.53E-6	1.96E-6	1.18E-6	5.92E-7	2.59E-7	1.09E-7	84	2505.93	4.48E-4	3.49E-4	2.12E-4	1.08E-4	4.81E-5	2.06E-5
85	3528.26	2.44E-6	1.90E-6	1.15E-6	5.75E-7	2.52E-7	1.06E-7	85	2655.06	4.35E-4	3.39E-4	2.07E-4	1.05E-4	4.70E-5	2.02E-5
86	3701.54	2.36E-6	1.84E-6	1.11E-6	5.60E-7	2.46E-7	1.04E-7	86	2811.63	4.23E-4	3.30E-4	2.02E-4	1.03E-4	4.59E-5	1.97E-5
87	3883.55	2.28E-6	1.78E-6	1.08E-6	5.44E-7	2.39E-7	1.01E-7	87	2976.06	4.11E-4	3.21E-4	1.97E-4	1.00E-4	4.49E-5	1.93E-5
88	4073.78	2.21E-6	1.72E-6	1.05E-6	5.29E-7	2.33E-7	9.88E-8	88	3148.66	3.99E-4	3.13E-4	1.92E-4	9.80E-5	4.39E-5	1.89E-5
89	4272.90	2.13E-6	1.67E-6	1.02E-6	5.15E-7	2.27E-7	9.64E-8	89	3329.84	3.88E-4	3.04E-4	1.87E-4	9.57E-5	4.29	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - C_1$								$A_1 - C_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	14.67	1.57E-2	1.38E-2	1.18E-2	1.08E-2	1.06E-2	1.08E-2	26	30.59	3.12E-3	2.32E-3	1.30E-3	6.20E-4	2.85E-4	1.55E-4
27	17.28	1.48E-2	1.31E-2	1.12E-2	1.03E-2	1.01E-2	1.03E-2	27	35.20	2.39E-3	1.77E-3	9.92E-4	4.69E-4	2.13E-4	1.15E-4
28	20.23	1.40E-2	1.24E-2	1.06E-2	9.76E-3	9.63E-3	9.85E-3	28	40.50	1.82E-3	1.35E-3	7.52E-4	3.53E-4	1.58E-4	8.34E-5
29	23.52	1.32E-2	1.18E-2	1.01E-2	9.28E-3	9.19E-3	9.41E-3	29	46.56	1.38E-3	1.02E-3	5.69E-4	2.65E-4	1.17E-4	6.02E-5
30	27.21	1.25E-2	1.11E-2	9.58E-3	8.84E-3	8.77E-3	9.00E-3	30	53.44	1.05E-3	7.78E-4	4.31E-4	1.99E-4	8.64E-5	4.33E-5
31	31.32	1.18E-2	1.05E-2	9.09E-3	8.42E-3	8.37E-3	8.61E-3	31	61.22	8.04E-4	5.93E-4	3.27E-4	1.50E-4	6.39E-5	3.11E-5
32	35.90	1.12E-2	9.94E-3	8.63E-3	8.02E-3	8.00E-3	8.25E-3	32	69.96	6.16E-4	4.54E-4	2.49E-4	1.13E-4	4.75E-5	2.24E-5
33	40.96	1.05E-2	9.41E-3	8.19E-3	7.64E-3	7.64E-3	7.90E-3	33	79.73	4.74E-4	3.49E-4	1.91E-4	8.62E-5	3.56E-5	1.62E-5
34	46.57	9.94E-3	8.90E-3	7.78E-3	7.28E-3	7.31E-3	7.57E-3	34	90.63	3.67E-4	2.70E-4	1.47E-4	6.60E-5	2.68E-5	1.19E-5
35	52.76	9.39E-3	8.43E-3	7.39E-3	6.95E-3	6.99E-3	7.26E-3	35	102.71	2.86E-4	2.10E-4	1.14E-4	5.09E-5	2.04E-5	8.76E-6
36	59.56	8.88E-3	7.99E-3	7.03E-3	6.63E-3	6.69E-3	6.97E-3	36	116.08	2.24E-4	1.64E-4	8.92E-5	3.95E-5	1.56E-5	6.53E-6
37	67.04	8.40E-3	7.57E-3	6.69E-3	6.33E-3	6.41E-3	6.69E-3	37	130.80	1.76E-4	1.29E-4	7.00E-5	3.09E-5	1.21E-5	4.92E-6
38	75.22	7.95E-3	7.18E-3	6.37E-3	6.05E-3	6.14E-3	6.42E-3	38	146.98	1.39E-4	1.02E-4	5.53E-5	2.43E-5	9.41E-6	3.74E-6
39	84.17	7.54E-3	6.82E-3	6.07E-3	5.78E-3	5.88E-3	6.17E-3	39	164.71	1.11E-4	8.12E-5	4.39E-5	1.93E-5	7.40E-6	2.88E-6
40	93.92	7.15E-3	6.48E-3	5.78E-3	5.53E-3	5.64E-3	5.93E-3	40	184.08	8.87E-5	6.50E-5	3.51E-5	1.54E-5	5.85E-6	2.24E-6
41	104.54	6.78E-3	6.17E-3	5.52E-3	5.29E-3	5.41E-3	5.71E-3	41	205.20	7.14E-5	5.22E-5	2.82E-5	1.23E-5	4.67E-6	1.76E-6
42	116.08	6.45E-3	5.87E-3	5.27E-3	5.06E-3	5.19E-3	5.49E-3	42	228.17	5.77E-5	4.22E-5	2.28E-5	9.94E-6	3.75E-6	1.39E-6
43	128.58	6.13E-3	5.59E-3	5.03E-3	4.85E-3	4.98E-3	5.29E-3	43	253.10	4.69E-5	3.43E-5	1.86E-5	8.06E-6	3.03E-6	1.12E-6
44	142.11	5.83E-3	5.33E-3	4.81E-3	4.65E-3	4.79E-3	5.09E-3	44	280.11	3.83E-5	2.80E-5	1.51E-5	6.58E-6	2.46E-6	8.99E-7
45	156.73	5.56E-3	5.08E-3	4.60E-3	4.45E-3	4.60E-3	4.91E-3	45	309.32	3.14E-5	2.30E-5	1.24E-5	5.39E-6	2.02E-6	7.31E-7
46	172.50	5.30E-3	4.85E-3	4.40E-3	4.27E-3	4.43E-3	4.73E-3	46	340.85	2.59E-5	1.89E-5	1.02E-5	4.44E-6	1.66E-6	5.99E-7
47	189.48	5.05E-3	4.64E-3	4.21E-3	4.10E-3	4.26E-3	4.57E-3	47	374.83	2.14E-5	1.57E-5	8.47E-6	3.68E-6	1.37E-6	4.94E-7
48	207.75	4.83E-3	4.43E-3	4.04E-3	3.94E-3	4.10E-3	4.41E-3	48	411.39	1.78E-5	1.30E-5	7.04E-6	3.06E-6	1.14E-6	4.10E-7
49	227.37	4.61E-3	4.24E-3	3.87E-3	3.79E-3	3.95E-3	4.26E-3	49	450.68	1.48E-5	1.09E-5	5.87E-6	2.55E-6	9.51E-7	3.43E-7
50	248.42	4.41E-3	4.06E-3	3.72E-3	3.64E-3	3.81E-3	4.12E-3	50	492.84	1.24E-5	9.09E-6	4.92E-6	2.14E-6	7.98E-7	2.88E-7
51	270.96	4.22E-3	3.89E-3	3.57E-3	3.50E-3	3.67E-3	3.98E-3	51	538.02	1.04E-5	7.64E-6	4.14E-6	1.80E-6	6.72E-7	2.43E-7
52	295.08	4.04E-3	3.73E-3	3.43E-3	3.37E-3	3.54E-3	3.85E-3	52	586.38	8.77E-6	6.44E-6	3.49E-6	1.52E-6	5.68E-7	2.07E-7
53	320.86	3.87E-3	3.58E-3	3.29E-3	3.25E-3	3.42E-3	3.73E-3	53	638.07	7.42E-6	5.44E-6	2.95E-6	1.29E-6	4.82E-7	1.76E-7
54	348.39	3.71E-3	3.43E-3	3.16E-3	3.13E-3	3.30E-3	3.62E-3	54	693.27	6.28E-6	4.61E-6	2.51E-6	1.09E-6	4.11E-7	1.51E-7
55	377.74	3.56E-3	3.30E-3	3.04E-3	3.01E-3	3.19E-3	3.50E-3	55	752.16	5.34E-6	3.92E-6	2.13E-6	9.32E-7	3.51E-7	1.30E-7
56	409.02	3.41E-3	3.17E-3	2.93E-3	2.91E-3	3.08E-3	3.40E-3	56	814.92	4.55E-6	3.35E-6	1.82E-6	7.97E-7	3.01E-7	1.12E-7
57	442.31	3.28E-3	3.04E-3	2.82E-3	2.80E-3	2.98E-3	3.30E-3	57	881.73	3.89E-6	2.86E-6	1.56E-6	6.84E-7	2.59E-7	9.75E-8
58	477.72	3.15E-3	2.93E-3	2.72E-3	2.71E-3	2.88E-3	3.20E-3	58	952.80	3.34E-6	2.46E-6	1.34E-6	5.88E-7	2.24E-7	8.49E-8
59	515.35	3.02E-3	2.82E-3	2.62E-3	2.61E-3	2.79E-3	3.11E-3	59	1028.33	2.87E-6	2.11E-6	1.15E-6	5.07E-7	1.94E-7	7.42E-8
60	555.29	2.91E-3	2.71E-3	2.52E-3	2.52E-3	2.70E-3	3.02E-3	60	1108.52	2.47E-6	1.82E-6	9.95E-7	4.39E-7	1.68E-7	6.50E-8
61	597.68	2.80E-3	2.61E-3	2.43E-3	2.44E-3	2.62E-3	2.93E-3	61	1193.62	2.13E-6	1.57E-6	8.61E-7	3.80E-7	1.46E-7	5.72E-8
62	642.61	2.69E-3	2.51E-3	2.35E-3	2.36E-3	2.54E-3	2.85E-3	62	1283.84	1.84E-6	1.36E-6	7.46E-7	3.31E-7	1.28E-7	5.04E-8
63	690.20	2.59E-3	2.42E-3	2.27E-3	2.28E-3	2.46E-3	2.78E-3	63	1379.42	1.60E-6	1.18E-6	6.48E-7	2.88E-7	1.12E-7	4.46E-8
64	740.59	2.50E-3	2.34E-3	2.19E-3	2.21E-3	2.39E-3	2.70E-3	64	1480.62	1.39E-6	1.03E-6	5.64E-7	2.51E-7	9.80E-8	3.95E-8
65	793.90	2.41E-3	2.25E-3	2.11E-3	2.13E-3	2.32E-3	2.63E-3	65	1587.69	1.21E-6	8.94E-7	4.93E-7	2.20E-7	8.61E-8	3.52E-8
66	850.26	2.32E-3	2.17E-3	2.04E-3	2.07E-3	2.25E-3	2.56E-3	66	1700.91	1.05E-6	7.80E-7	4.31E-7	1.93E-7	7.58E-8	3.13E-8
67	909.82	2.24E-3	2.10E-3	1.98E-3	2.00E-3	2.18E-3	2.49E-3	67	1820.56	9.20E-7	6.82E-7	3.77E-7	1.69E-7	6.69E-8	2.80E-8
68	972.72	2.16E-3	2.03E-3	1.91E-3	1.94E-3	2.12E-3	2.43E-3	68	1946.93	8.05E-7	5.97E-7	3.31E-7	1.49E-7	5.92E-8	2.50E-8
69	1039.12	2.08E-3	1.96E-3	1.85E-3	1.88E-3	2.06E-3	2.37E-3	69	2080.32	7.05E-7	5.24E-7	2.91E-7	1.31E-7	5.24E-8	2.25E-8
70	1109.16	2.01E-3	1.89E-3	1.79E-3	1.82E-3	2.00E-3	2.31E-3	70	2221.06	6.19E-7	4.61E-7	2.56E-7	1.16E-7	4.66E-8	2.02E-8
71	1183.03	1.94E-3	1.83E-3	1.73E-3	1.76E-3	1.95E-3	2.26E-3	71	2369.47	5.44E-7	4.05E-7	2.26E-7	1.02E-7	4.14E-8	1.82E-8
72	1260.88	1.87E-3	1.77E-3	1.67E-3	1.71E-3	1.89E-3	2.20E-3	72	2525.91	4.79E-7	3.57E-7	1.99E-7	9.06E-8	3.69E-8	1.64E-8
73	1342.90	1.81E-3	1.71E-3	1.62E-3	1.66E-3	1.84E-3	2.15E-3	73	2690.73	4.22E-7	3.15E-7	1.76E-7	8.04E-8	3.29E-8	1.49E-8
74	1429.27	1.75E-3	1.65E-3	1.57E-3	1.61E-3	1.79E-3	2.10E-3	74	2864.32	3.73E-7	2.79E-7	1.56E-7	7.14E-8	2.94E-8	1.34E-8
75	1520.20	1.69E-3	1.60E-3	1.52E-3	1.56E-3	1.74E-3	2.05E-3	75	3047.06	3.30E-7	2.46E-7	1.39E-7	6.36E-8	2.63E-8	1.22E-8
76	1615.89	1.63E-3	1.54E-3	1.47E-3	1.52E-3	1.70E-3	2.00E-3	76	3239.37	2.92E-7	2.18E-7	1.23E-7	5.66E-8	2.36E-8	1.11E-8
77	1716.54	1.58E-3	1.50E-3	1.43E-3	1.47E-3	1.65E-3	1.96E-3	77	3441.69	2.58E-7	1.94E-7	1.09E-7	5.05E-8	2.12E-8	1.01E-8
78	1822.40	1.53E-3	1.45E-3	1.38E-3	1.43E-3	1.61E-3	1.91E-3	78	3654.45	2.29E-7	1.72E-7	9.73E-8	4.51E-8	1.91E-8	9.20E-9
79	1933.68	1.48E-3	1.40E-3	1.34E-3	1.39E-3	1.57E-3	1.87E-3	79	3878.14	2.04E-7	1.53E-7	8.67E-8	4.03E-8	1.72E-8	8.39E-9
80	2050.63	1.43E-3	1.35E-3	1.30E-3	1.35E-3	1.53E-3	1.83E-3	80	4113.23	1.81E-7	1.36E-7	7.74E-8	3.61E-8	1.55E-8	7.67E-9
81	2173.51	1.38E-3	1.31E-3	1.26E-3	1.31E-3	1.49E-3	1.79E-3	81	4360.26	1.61E-7	1.21E-7	6.91E-8	3.24E-8	1.39E-8	7.01E-9
82	2302.59	1.34E-3	1.27E-3	1.22E-3	1.27E-3	1.45E-3	1.75E-3	82	4619.76	1.43E-7	1.08E-7	6.17E-8	2.90E-8	1.26E-8	6.42E-9
83	2438.15	1.29E-3	1.23E-3	1.18E-3	1.24E-3	1.41E-3	1.71E-3	83	4892.31	1.28E-7	9.65E-8	5.52E-8	2.61E-8	1.14E-8	5.89E-9
84	2580.49	1.25E-3	1.19E-3	1.15E-3	1.20E-3	1.37E-3	1.67E-3	84	5178.50	1.14E-7	8.62E-8	4.95E-8	2.34E-8	1.03E-8	5.40E-9
85	2729.92	1.21E-3	1.15E-3	1.11E-3	1.17E-3	1.34E-3	1.64E-3	85	5478.95	1.02E-7	7.71E-8	4.43E-8	2.11E-8	9.35E-9	4.96E-9
86	2886.73	1.17E-3	1.12E-3	1.08E-3	1.13E-3	1.31E-3	1.60E-3	86	5794.26	9.08E-8	6.89E-8	3.98E-8	1.90E-8	8.48E-9	4.56E-9
87	3051.32	1.14E-3	1.08E-3	1.05E-3	1.10E-3	1.27E-3	1.57E-3	87	6125.23	8.12E-8	6.17E-8	3.57E-8	1.71E-8	7.70E-9	4.19E-9
88	3224.02	1.10E-3	1.05E-3	1.02E-3	1.07E-3	1.24E-3	1.53E-3	88	6472.53	7.26E-8	5.53E-8	3.20E-8	1.54E-8	6.99E-9	3.85E-9
89	3405.23	1.06E-3	1.02E-3	9.85E-4	1.04E-3	1.21E-3	1.50E-3	89	6836.96	6.50E-8	4.95E-8	2.88E-8	1.39E-8	6.35E-9	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - C_3$								$A_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	205.82	2.57E-4	2.56E-4	2.61E-4	2.77E-4	2.96E-4	3.14E-4	26	227.81	2.03E-5	1.47E-5	7.73E-6	3.24E-6	1.23E-6	5.41E-7
27	219.02	2.30E-4	2.28E-4	2.31E-4	2.44E-4	2.62E-4	2.77E-4	27	243.58	1.57E-5	1.13E-5	5.98E-6	2.54E-6	9.96E-7	4.71E-7
28	232.95	2.06E-4	2.03E-4	2.05E-4	2.16E-4	2.31E-4	2.45E-4	28	260.43	1.20E-5	8.73E-6	4.62E-6	1.99E-6	8.11E-7	4.13E-7
29	247.68	1.83E-4	1.80E-4	1.81E-4	1.91E-4	2.05E-4	2.17E-4	29	278.44	9.25E-6	6.71E-6	3.57E-6	1.56E-6	6.63E-7	3.62E-7
30	263.28	1.64E-4	1.61E-4	1.61E-4	1.70E-4	1.81E-4	1.92E-4	30	297.72	7.09E-6	5.15E-6	2.75E-6	1.22E-6	5.45E-7	3.18E-7
31	279.82	1.46E-4	1.43E-4	1.43E-4	1.50E-4	1.61E-4	1.71E-4	31	318.38	5.44E-6	3.96E-6	2.13E-6	9.64E-7	4.49E-7	2.79E-7
32	297.37	1.30E-4	1.27E-4	1.27E-4	1.33E-4	1.43E-4	1.52E-4	32	340.53	4.17E-6	3.04E-6	1.65E-6	7.62E-7	3.71E-7	2.43E-7
33	316.01	1.16E-4	1.13E-4	1.13E-4	1.18E-4	1.27E-4	1.35E-4	33	364.28	3.20E-6	2.34E-6	1.28E-6	6.03E-7	3.07E-7	2.12E-7
34	335.83	1.03E-4	1.01E-4	1.00E-4	1.05E-4	1.13E-4	1.20E-4	34	389.75	2.46E-6	1.80E-6	9.92E-7	4.79E-7	2.55E-7	1.84E-7
35	356.89	9.19E-5	8.95E-5	8.92E-5	9.34E-5	1.00E-4	1.07E-4	35	417.07	1.89E-6	1.39E-6	7.72E-7	3.82E-7	2.12E-7	1.59E-7
36	379.30	8.17E-5	7.96E-5	7.93E-5	8.30E-5	8.91E-5	9.53E-5	36	446.35	1.46E-6	1.08E-6	6.03E-7	3.05E-7	1.76E-7	1.36E-7
37	403.13	7.27E-5	7.07E-5	7.05E-5	7.38E-5	7.92E-5	8.49E-5	37	477.74	1.13E-6	8.33E-7	4.72E-7	2.44E-7	1.46E-7	1.17E-7
38	428.49	6.46E-5	6.29E-5	6.26E-5	6.56E-5	7.05E-5	7.57E-5	38	511.38	8.73E-7	6.47E-7	3.70E-7	1.95E-7	1.21E-7	9.95E-8
39	455.47	5.75E-5	5.59E-5	5.56E-5	5.83E-5	6.28E-5	6.75E-5	39	547.40	6.77E-7	5.04E-7	2.91E-7	1.57E-7	1.00E-7	8.45E-8
40	484.17	5.11E-5	4.97E-5	4.95E-5	5.19E-5	5.59E-5	6.03E-5	40	585.97	5.26E-7	3.93E-7	2.29E-7	1.26E-7	8.32E-8	7.15E-8
41	514.70	4.54E-5	4.41E-5	4.40E-5	4.62E-5	4.98E-5	5.38E-5	41	627.23	4.10E-7	3.07E-7	1.81E-7	1.02E-7	6.89E-8	6.04E-8
42	547.16	4.03E-5	3.92E-5	3.91E-5	4.11E-5	4.44E-5	4.80E-5	42	671.36	3.20E-7	2.41E-7	1.43E-7	8.22E-8	5.70E-8	5.08E-8
43	581.68	3.58E-5	3.49E-5	3.48E-5	3.66E-5	3.95E-5	4.29E-5	43	718.51	2.51E-7	1.89E-7	1.13E-7	6.64E-8	4.71E-8	4.27E-8
44	618.38	3.18E-5	3.10E-5	3.09E-5	3.25E-5	3.53E-5	3.83E-5	44	768.87	1.96E-7	1.49E-7	9.01E-8	5.37E-8	3.89E-8	3.57E-8
45	657.36	2.83E-5	2.75E-5	2.75E-5	2.90E-5	3.14E-5	3.43E-5	45	822.62	1.54E-7	1.17E-7	7.17E-8	4.35E-8	3.21E-8	2.99E-8
46	698.77	2.51E-5	2.45E-5	2.45E-5	2.58E-5	2.81E-5	3.07E-5	46	879.95	1.22E-7	9.26E-8	5.71E-8	3.52E-8	2.65E-8	2.49E-8
47	742.74	2.23E-5	2.18E-5	2.18E-5	2.30E-5	2.50E-5	2.74E-5	47	941.06	9.60E-8	7.34E-8	4.56E-8	2.86E-8	2.19E-8	2.08E-8
48	789.40	1.98E-5	1.93E-5	1.94E-5	2.05E-5	2.24E-5	2.46E-5	48	1006.14	7.59E-8	5.82E-8	3.65E-8	2.32E-8	1.80E-8	1.73E-8
49	838.90	1.76E-5	1.72E-5	1.72E-5	1.83E-5	2.00E-5	2.20E-5	49	1075.43	6.01E-8	4.63E-8	2.92E-8	1.88E-8	1.48E-8	1.44E-8
50	891.39	1.57E-5	1.53E-5	1.54E-5	1.63E-5	1.78E-5	1.97E-5	50	1149.13	4.77E-8	3.68E-8	2.35E-8	1.53E-8	1.22E-8	1.19E-8
51	947.01	1.39E-5	1.36E-5	1.37E-5	1.45E-5	1.60E-5	1.77E-5	51	1227.48	3.80E-8	2.94E-8	1.89E-8	1.24E-8	1.01E-8	9.90E-9
52	1005.94	1.24E-5	1.21E-5	1.22E-5	1.30E-5	1.43E-5	1.58E-5	52	1310.72	3.03E-8	2.35E-8	1.52E-8	1.01E-8	8.27E-9	8.21E-9
53	1068.36	1.10E-5	1.08E-5	1.09E-5	1.16E-5	1.28E-5	1.42E-5	53	1399.10	2.42E-8	1.88E-8	1.22E-8	8.24E-9	6.81E-9	6.80E-9
54	1134.40	9.81E-6	9.62E-6	9.70E-6	1.04E-5	1.14E-5	1.28E-5	54	1492.87	1.93E-8	1.51E-8	9.87E-9	6.72E-9	5.61E-9	5.64E-9
55	1204.28	8.74E-6	8.57E-6	8.66E-6	9.26E-6	1.03E-5	1.15E-5	55	1592.31	1.55E-8	1.21E-8	7.97E-9	5.47E-9	4.61E-9	4.67E-9
56	1278.16	7.78E-6	7.64E-6	7.73E-6	8.28E-6	9.19E-6	1.03E-5	56	1697.67	1.24E-8	9.74E-9	6.45E-9	4.47E-9	3.80E-9	3.87E-9
57	1356.26	6.94E-6	6.82E-6	6.91E-6	7.42E-6	8.25E-6	9.30E-6	57	1809.29	9.97E-9	7.84E-9	5.22E-9	3.64E-9	3.12E-9	3.19E-9
58	1438.77	6.19E-6	6.09E-6	6.18E-6	6.64E-6	7.41E-6	8.38E-6	58	1927.43	8.04E-9	6.33E-9	4.24E-9	2.98E-9	2.57E-9	2.65E-9
59	1525.90	5.52E-6	5.43E-6	5.52E-6	5.95E-6	6.65E-6	7.55E-6	59	2052.43	6.48E-9	5.12E-9	3.44E-9	2.44E-9	2.12E-9	2.20E-9
60	1617.85	4.93E-6	4.86E-6	4.95E-6	5.34E-6	5.98E-6	6.81E-6	60	2184.58	5.23E-9	4.14E-9	2.80E-9	1.99E-9	1.75E-9	1.82E-9
61	1714.89	4.40E-6	4.34E-6	4.43E-6	4.79E-6	5.38E-6	6.15E-6	61	2324.25	4.23E-9	3.35E-9	2.27E-9	1.63E-9	1.44E-9	1.50E-9
62	1817.19	3.93E-6	3.88E-6	3.97E-6	4.30E-6	4.85E-6	5.55E-6	62	2471.75	3.43E-9	2.72E-9	1.85E-9	1.34E-9	1.19E-9	1.25E-9
63	1925.07	3.52E-6	3.48E-6	3.56E-6	3.87E-6	4.37E-6	5.02E-6	63	2627.50	2.78E-9	2.21E-9	1.52E-9	1.10E-9	1.00E-9	1.04E-9
64	2038.71	3.15E-6	3.11E-6	3.19E-6	3.48E-6	3.94E-6	4.54E-6	64	2791.82	2.26E-9	1.80E-9	1.24E-9	1.00E-9	1.00E-9	1.00E-9
65	2158.44	2.82E-6	2.79E-6	2.87E-6	3.13E-6	3.55E-6	4.11E-6	65	2965.17	1.84E-9	1.47E-9	1.01E-9	1.00E-9	1.00E-9	1.00E-9
66	2284.50	2.52E-6	2.50E-6	2.57E-6	2.82E-6	3.21E-6	3.73E-6	66	3147.91	1.50E-9	1.20E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9
67	2417.19	2.26E-6	2.25E-6	2.31E-6	2.54E-6	2.90E-6	3.38E-6	67	3340.50	1.22E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
68	2556.81	2.03E-6	2.02E-6	2.08E-6	2.29E-6	2.62E-6	3.07E-6	68	3543.37	1.00E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
69	2703.68	1.82E-6	1.81E-6	1.87E-6	2.07E-6	2.37E-6	2.79E-6	69	3757.00	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
70	2858.07	1.64E-6	1.63E-6	1.69E-6	1.86E-6	2.15E-6	2.53E-6	70	3981.82	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
71	3020.38	1.47E-6	1.46E-6	1.52E-6	1.68E-6	1.95E-6	2.30E-6	71	4218.41	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
72	3190.91	1.32E-6	1.32E-6	1.37E-6	1.52E-6	1.77E-6	2.10E-6	72	4467.22	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
73	3370.08	1.19E-6	1.19E-6	1.24E-6	1.38E-6	1.60E-6	1.91E-6	73	4728.86	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
74	3558.23	1.07E-6	1.07E-6	1.12E-6	1.25E-6	1.46E-6	1.74E-6	74	5003.87	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
75	3755.78	9.64E-7	9.64E-7	1.01E-6	1.13E-6	1.32E-6	1.59E-6	75	5292.86	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
76	3963.09	8.69E-7	8.70E-7	9.14E-7	1.02E-6	1.20E-6	1.45E-6	76	5596.39	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
77	4180.69	7.84E-7	7.86E-7	8.26E-7	9.30E-7	1.10E-6	1.33E-6	77	5915.22	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
78	4408.96	7.08E-7	7.10E-7	7.48E-7	8.44E-7	9.98E-7	1.21E-6	78	6249.95	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
79	4648.42	6.39E-7	6.41E-7	6.78E-7	7.66E-7	9.10E-7	1.11E-6	79	6601.33	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
80	4899.48	5.77E-7	5.80E-7	6.14E-7	6.97E-7	8.29E-7	1.02E-6	80	6970.02	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	5162.69	5.22E-7	5.25E-7	5.57E-7	6.34E-7	7.57E-7	9.31E-7	81	7356.83	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	5438.65	4.72E-7	4.75E-7	5.06E-7	5.77E-7	6.91E-7	8.53E-7	82	7762.64	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	5727.93	4.27E-7	4.30E-7	4.59E-7	5.25E-7	6.32E-7	7.83E-7	83	8188.30	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	6031.19	3.86E-7	3.90E-7	4.17E-7	4.78E-7	5.77E-7	7.18E-7	84	8634.77	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	6348.90	3.50E-7	3.54E-7	3.79E-7	4.36E-7	5.28E-7	6.60E-7	85	9102.84	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	6680.96	3.17E-7	3.21E-7	3.44E-7	3.98E-7	4.84E-7	6.07E-7	86	9592.69	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	7029.56	2.88E-7	2.92E-7	3.13E-7	3.63E-7	4.43E-7	5.58E-7	87	10106.9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	7394.53	2.61E-7	2.65E-7	2.85E-7	3.32E-7	4.06E-7	5.13E-7	88	10645.7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	7776.94	2.37E-7	2.41E-7	2.60E-7	3.03E-7	3.72E-7	4.73E-7	89	11210.5	0.00E					

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - C_3$								$A_2 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	160.13	1.67E-5	1.22E-5	6.59E-6	3.07E-6	1.54E-6	1.04E-6	26	182.11	1.95E-4	2.10E-4	2.35E-4	2.64E-4	2.89E-4	3.08E-4
27	167.89	1.28E-5	9.37E-6	5.13E-6	2.46E-6	1.30E-6	9.30E-7	27	192.45	1.79E-4	1.91E-4	2.13E-4	2.38E-4	2.61E-4	2.78E-4
28	175.70	9.84E-6	7.21E-6	3.99E-6	1.98E-6	1.11E-6	8.35E-7	28	203.18	1.63E-4	1.74E-4	1.93E-4	2.16E-4	2.36E-4	2.52E-4
29	183.55	7.54E-6	5.55E-6	3.11E-6	1.60E-6	9.48E-7	7.49E-7	29	214.31	1.50E-4	1.59E-4	1.76E-4	1.96E-4	2.15E-4	2.29E-4
30	191.45	5.78E-6	4.27E-6	2.44E-6	1.30E-6	8.15E-7	6.72E-7	30	225.90	1.37E-4	1.46E-4	1.60E-4	1.78E-4	1.95E-4	2.09E-4
31	199.40	4.44E-6	3.30E-6	1.91E-6	1.06E-6	7.04E-7	6.02E-7	31	237.97	1.26E-4	1.33E-4	1.46E-4	1.63E-4	1.78E-4	1.91E-4
32	207.40	3.41E-6	2.55E-6	1.51E-6	8.73E-7	6.10E-7	5.40E-7	32	250.56	1.16E-4	1.22E-4	1.34E-4	1.49E-4	1.63E-4	1.74E-4
33	215.44	2.63E-6	1.98E-6	1.20E-6	7.24E-7	5.32E-7	4.84E-7	33	263.71	1.06E-4	1.12E-4	1.23E-4	1.36E-4	1.49E-4	1.60E-4
34	223.54	2.04E-6	1.55E-6	9.59E-7	6.04E-7	4.65E-7	4.34E-7	34	277.46	9.79E-5	1.03E-4	1.12E-4	1.24E-4	1.37E-4	1.47E-4
35	231.69	1.58E-6	1.21E-6	7.72E-7	5.08E-7	4.07E-7	3.89E-7	35	291.86	9.02E-5	9.45E-5	1.03E-4	1.14E-4	1.25E-4	1.35E-4
36	239.89	1.24E-6	9.58E-7	6.26E-7	4.30E-7	3.58E-7	3.49E-7	36	306.94	8.31E-5	8.70E-5	9.48E-5	1.05E-4	1.15E-4	1.24E-4
37	248.15	9.71E-7	7.61E-7	5.11E-7	3.67E-7	3.16E-7	3.13E-7	37	322.76	7.67E-5	8.01E-5	8.72E-5	9.64E-5	1.06E-4	1.14E-4
38	256.47	7.77E-7	6.08E-7	4.21E-7	3.14E-7	2.79E-7	2.80E-7	38	339.36	7.08E-5	7.39E-5	8.03E-5	8.88E-5	9.75E-5	1.05E-4
39	264.85	6.10E-7	4.90E-7	3.49E-7	2.71E-7	2.48E-7	2.51E-7	39	356.79	6.54E-5	6.82E-5	7.40E-5	8.18E-5	8.99E-5	9.74E-5
40	273.31	4.88E-7	3.97E-7	2.91E-7	2.34E-7	2.20E-7	2.26E-7	40	375.11	6.05E-5	6.30E-5	6.83E-5	7.55E-5	8.30E-5	9.01E-5
41	281.83	3.93E-7	3.24E-7	2.45E-7	2.04E-7	1.95E-7	2.02E-7	41	394.37	5.61E-5	5.83E-5	6.31E-5	6.97E-5	7.67E-5	8.34E-5
42	290.43	3.18E-7	2.66E-7	2.07E-7	1.78E-7	1.73E-7	1.82E-7	42	414.62	5.20E-5	5.40E-5	5.84E-5	6.44E-5	7.10E-5	7.74E-5
43	299.11	2.60E-7	2.20E-7	1.76E-7	1.56E-7	1.54E-7	1.63E-7	43	435.94	4.82E-5	5.00E-5	5.40E-5	5.96E-5	6.58E-5	7.18E-5
44	307.87	2.13E-7	1.83E-7	1.51E-7	1.36E-7	1.38E-7	1.46E-7	44	458.37	4.48E-5	4.64E-5	5.01E-5	5.53E-5	6.10E-5	6.67E-5
45	316.73	1.76E-7	1.54E-7	1.30E-7	1.20E-7	1.23E-7	1.31E-7	45	481.98	4.17E-5	4.31E-5	4.64E-5	5.12E-5	5.66E-5	6.21E-5
46	325.67	1.47E-7	1.30E-7	1.12E-7	1.06E-7	1.09E-7	1.17E-7	46	506.84	3.88E-5	4.01E-5	4.31E-5	4.76E-5	5.26E-5	5.79E-5
47	334.70	1.23E-7	1.10E-7	9.69E-8	9.34E-8	9.76E-8	1.05E-7	47	533.02	3.62E-5	3.73E-5	4.01E-5	4.42E-5	4.90E-5	5.40E-5
48	343.84	1.03E-7	9.36E-8	8.42E-8	8.26E-8	8.71E-8	9.46E-8	48	560.58	3.37E-5	3.48E-5	3.73E-5	4.12E-5	4.56E-5	5.04E-5
49	353.08	8.73E-8	8.01E-8	7.35E-8	7.32E-8	7.78E-8	8.49E-8	49	589.61	3.15E-5	3.25E-5	3.48E-5	3.83E-5	4.26E-5	4.71E-5
50	362.43	7.41E-8	6.88E-8	6.42E-8	6.49E-8	6.95E-8	7.62E-8	50	620.17	2.95E-5	3.03E-5	3.24E-5	3.58E-5	3.97E-5	4.41E-5
51	371.89	6.33E-8	5.93E-8	5.63E-8	5.76E-8	6.21E-8	6.84E-8	51	652.36	2.76E-5	2.83E-5	3.03E-5	3.34E-5	3.71E-5	4.13E-5
52	381.46	5.42E-8	5.13E-8	4.95E-8	5.11E-8	5.55E-8	6.14E-8	52	686.23	2.58E-5	2.65E-5	2.83E-5	3.12E-5	3.47E-5	3.87E-5
53	391.17	4.66E-8	4.46E-8	4.35E-8	4.54E-8	4.96E-8	5.51E-8	53	721.91	2.42E-5	2.48E-5	2.64E-5	2.91E-5	3.25E-5	3.64E-5
54	400.99	4.03E-8	3.88E-8	3.84E-8	4.04E-8	4.44E-8	4.95E-8	54	759.46	2.27E-5	2.33E-5	2.48E-5	2.73E-5	3.05E-5	3.42E-5
55	410.95	3.49E-8	3.39E-8	3.38E-8	3.60E-8	3.97E-8	4.44E-8	55	798.97	2.13E-5	2.18E-5	2.32E-5	2.56E-5	2.86E-5	3.21E-5
56	421.03	3.03E-8	2.96E-8	2.99E-8	3.20E-8	3.55E-8	3.98E-8	56	840.55	2.01E-5	2.05E-5	2.18E-5	2.40E-5	2.69E-5	3.03E-5
57	431.26	2.64E-8	2.60E-8	2.65E-8	2.85E-8	3.18E-8	3.58E-8	57	884.29	1.89E-5	1.93E-5	2.04E-5	2.25E-5	2.53E-5	2.85E-5
58	441.64	2.30E-8	2.28E-8	2.34E-8	2.54E-8	2.84E-8	3.21E-8	58	930.31	1.78E-5	1.81E-5	1.92E-5	2.11E-5	2.38E-5	2.69E-5
59	452.18	2.01E-8	2.01E-8	2.08E-8	2.27E-8	2.54E-8	2.89E-8	59	978.71	1.68E-5	1.70E-5	1.80E-5	1.99E-5	2.24E-5	2.54E-5
60	462.85	1.77E-8	1.77E-8	1.84E-8	2.02E-8	2.28E-8	2.59E-8	60	1029.58	1.58E-5	1.61E-5	1.70E-5	1.87E-5	2.11E-5	2.40E-5
61	473.70	1.55E-8	1.56E-8	1.64E-8	1.80E-8	2.04E-8	2.33E-8	61	1083.06	1.49E-5	1.51E-5	1.60E-5	1.76E-5	1.99E-5	2.27E-5
62	484.68	1.36E-8	1.38E-8	1.45E-8	1.61E-8	1.83E-8	2.10E-8	62	1139.24	1.41E-5	1.43E-5	1.51E-5	1.66E-5	1.88E-5	2.15E-5
63	495.86	1.20E-8	1.22E-8	1.29E-8	1.44E-8	1.64E-8	1.88E-8	63	1198.29	1.33E-5	1.35E-5	1.42E-5	1.57E-5	1.77E-5	2.04E-5
64	507.18	1.06E-8	1.08E-8	1.15E-8	1.28E-8	1.47E-8	1.69E-8	64	1260.29	1.26E-5	1.27E-5	1.34E-5	1.48E-5	1.68E-5	1.93E-5
65	518.71	9.35E-9	9.56E-9	1.02E-8	1.15E-8	1.32E-8	1.52E-8	65	1325.43	1.19E-5	1.20E-5	1.27E-5	1.40E-5	1.59E-5	1.83E-5
66	530.40	8.27E-9	8.48E-9	9.12E-9	1.03E-8	1.18E-8	1.37E-8	66	1393.81	1.13E-5	1.14E-5	1.20E-5	1.32E-5	1.50E-5	1.74E-5
67	542.29	7.32E-9	7.52E-9	8.13E-9	9.17E-9	1.06E-8	1.23E-8	67	1465.60	1.07E-5	1.08E-5	1.13E-5	1.25E-5	1.42E-5	1.66E-5
68	554.38	6.48E-9	6.68E-9	7.25E-9	8.20E-9	9.49E-9	1.11E-8	68	1540.93	1.01E-5	1.02E-5	1.07E-5	1.18E-5	1.35E-5	1.57E-5
69	566.67	5.75E-9	5.94E-9	6.47E-9	7.34E-9	8.52E-9	1.00E-8	69	1619.99	9.61E-6	9.67E-6	1.01E-5	1.12E-5	1.28E-5	1.50E-5
70	579.13	5.10E-9	5.28E-9	5.76E-9	6.56E-9	7.64E-9	9.01E-9	70	1702.88	9.12E-6	9.17E-6	9.59E-6	1.06E-5	1.22E-5	1.43E-5
71	591.83	4.53E-9	4.70E-9	5.15E-9	5.88E-9	6.86E-9	8.12E-9	71	1789.86	8.66E-6	8.70E-6	9.09E-6	1.00E-5	1.15E-5	1.36E-5
72	604.71	4.03E-9	4.19E-9	4.60E-9	5.26E-9	6.16E-9	7.32E-9	72	1881.02	8.22E-6	8.25E-6	8.61E-6	9.52E-6	1.10E-5	1.30E-5
73	617.82	3.58E-9	3.73E-9	4.11E-9	4.71E-9	5.54E-9	6.60E-9	73	1976.61	7.82E-6	7.84E-6	8.17E-6	9.04E-6	1.04E-5	1.24E-5
74	631.14	3.19E-9	3.33E-9	3.67E-9	4.23E-9	4.98E-9	5.96E-9	74	2076.79	7.43E-6	7.44E-6	7.76E-6	8.58E-6	9.93E-6	1.18E-5
75	644.70	2.84E-9	2.97E-9	3.28E-9	3.79E-9	4.47E-9	5.37E-9	75	2181.78	7.07E-6	7.07E-6	7.36E-6	8.15E-6	9.45E-6	1.13E-5
76	658.44	2.53E-9	2.65E-9	2.94E-9	3.40E-9	4.03E-9	4.86E-9	76	2291.74	6.68E-6	6.72E-6	7.00E-6	7.75E-6	9.01E-6	1.08E-5
77	672.45	2.26E-9	2.36E-9	2.63E-9	3.05E-9	3.62E-9	4.38E-9	77	2406.98	6.35E-6	6.39E-6	6.66E-6	7.37E-6	8.59E-6	1.03E-5
78	686.66	2.02E-9	2.11E-9	2.35E-9	2.73E-9	3.26E-9	3.95E-9	78	2527.65	6.04E-6	6.07E-6	6.33E-6	7.02E-6	8.19E-6	9.88E-6
79	701.14	1.80E-9	1.89E-9	2.11E-9	2.45E-9	2.93E-9	3.58E-9	79	2654.05	5.76E-6	5.77E-6	6.02E-6	6.68E-6	7.81E-6	9.46E-6
80	715.78	1.61E-9	1.69E-9	1.89E-9	2.20E-9	2.64E-9	3.23E-9	80	2786.32	5.48E-6	5.49E-6	5.73E-6	6.36E-6	7.46E-6	9.06E-6
81	730.63	1.44E-9	1.51E-9	1.69E-9	1.98E-9	2.38E-9	2.92E-9	81	2924.78	5.23E-6	5.23E-6	5.45E-6	6.06E-6	7.12E-6	8.68E-6
82	745.75	1.29E-9	1.36E-9	1.52E-9	1.78E-9	2.15E-9	2.65E-9	82	3069.73	4.98E-6	4.98E-6	5.19E-6	5.77E-6	6.80E-6	8.32E-6
83	761.12	1.15E-9	1.21E-9	1.36E-9	1.60E-9	1.94E-9	2.40E-9	83	3221.49	4.75E-6	4.75E-6	4.95E-6	5.50E-6	6.50E-6	7.98E-6
84	776.82	1.03E-9	1.09E-9	1.22E-9	1.44E-9	1.75E-9	2.17E-9	84	3380.40	4.53E-6	4.53E-6	4.71E-6	5.25E-6	6.21E-6	7.66E-6
85	792.69	1.00E-9	1.00E-9	1.10E-9	1.29E-9	1.58E-9	1.96E-9	85	3546.63	4.32E-6	4.32E-6	4.49E-6	5.01E-6	5.94E-6	7.35E-6
86	808.04	1.00E-9	1.00E-9	1.00E-9	1.17E-9	1.43E-9	1.79E-9	86	3719.77	4.13E-6	4.13E-6	4.29E-6	4.78E-6	5.69E-6	7.07E-6
87	824.25	1.00E-9	1.00E-9	1.00E-9	1.05E-9	1.29E-9	1.62E-9	87	3901.63	3.94E-6	3.94E-6	4.09E-6	4.57E-6	5.45E-6	6.79E-6
88	840.48	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.16E-9	1.47E-9	88	4091.68	3.77E-6	3.76E-6	3.90E-6	4.37E-6	5.22E-6	6.53E-6
89	857.02	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.05E-9	1.33E-9	89	4290.62	3.60E-6	3.59E-6	3.73E-6	4.17E-6	5.00E-6	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_3 - C_4$								$B_1 - A_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	10.85	1.03E-2	7.99E-3	5.03E-3	2.99E-3	1.98E-3	1.59E-3	26	36.50	4.26E-3	3.12E-3	1.69E-3	7.43E-4	2.85E-4	1.07E-4
27	11.96	9.36E-3	7.34E-3	4.75E-3	3.00E-3	2.13E-3	1.81E-3	27	39.87	3.98E-3	2.92E-3	1.59E-3	7.06E-4	2.74E-4	1.04E-4
28	13.39	8.54E-3	6.77E-3	4.53E-3	3.02E-3	2.30E-3	2.04E-3	28	43.59	3.73E-3	2.75E-3	1.51E-3	6.73E-4	2.64E-4	1.02E-4
29	15.18	7.84E-3	6.29E-3	4.35E-3	3.06E-3	2.45E-3	2.26E-3	29	47.69	3.51E-3	2.59E-3	1.43E-3	6.43E-4	2.55E-4	9.90E-5
30	17.38	7.22E-3	5.87E-3	4.19E-3	3.09E-3	2.59E-3	2.45E-3	30	52.21	3.31E-3	2.45E-3	1.36E-3	6.16E-4	2.46E-4	9.64E-5
31	20.05	6.68E-3	5.50E-3	4.05E-3	3.11E-3	2.71E-3	2.62E-3	31	57.18	3.13E-3	2.32E-3	1.29E-3	5.90E-4	2.37E-4	9.38E-5
32	23.22	6.21E-3	5.17E-3	3.91E-3	3.12E-3	2.80E-3	2.75E-3	32	62.64	2.97E-3	2.20E-3	1.23E-3	5.65E-4	2.29E-4	9.10E-5
33	26.93	5.79E-3	4.88E-3	3.78E-3	3.11E-3	2.86E-3	2.84E-3	33	68.63	2.82E-3	2.09E-3	1.17E-3	5.42E-4	2.21E-4	8.83E-5
34	31.24	5.41E-3	4.60E-3	3.65E-3	3.08E-3	2.88E-3	2.90E-3	34	75.19	2.67E-3	1.99E-3	1.12E-3	5.20E-4	2.13E-4	8.55E-5
35	36.19	5.07E-3	4.36E-3	3.52E-3	3.03E-3	2.89E-3	2.92E-3	35	82.34	2.54E-3	1.90E-3	1.07E-3	4.98E-4	2.05E-4	8.27E-5
36	41.80	4.76E-3	4.12E-3	3.39E-3	2.98E-3	2.87E-3	2.93E-3	36	90.15	2.42E-3	1.81E-3	1.02E-3	4.78E-4	1.98E-4	8.00E-5
37	48.12	4.47E-3	3.91E-3	3.26E-3	2.91E-3	2.83E-3	2.91E-3	37	98.65	2.31E-3	1.72E-3	9.77E-4	4.58E-4	1.90E-4	7.72E-5
38	55.20	4.22E-3	3.71E-3	3.13E-3	2.83E-3	2.78E-3	2.87E-3	38	107.89	2.20E-3	1.64E-3	9.34E-4	4.40E-4	1.83E-4	7.46E-5
39	63.08	3.98E-3	3.52E-3	3.00E-3	2.74E-3	2.72E-3	2.82E-3	39	117.91	2.10E-3	1.57E-3	8.94E-4	4.22E-4	1.76E-4	7.20E-5
40	71.80	3.76E-3	3.34E-3	2.88E-3	2.66E-3	2.65E-3	2.76E-3	40	128.76	2.00E-3	1.50E-3	8.56E-4	4.05E-4	1.70E-4	6.94E-5
41	81.41	3.56E-3	3.18E-3	2.76E-3	2.57E-3	2.58E-3	2.70E-3	41	140.50	1.91E-3	1.43E-3	8.20E-4	3.89E-4	1.63E-4	6.70E-5
42	91.96	3.37E-3	3.02E-3	2.64E-3	2.48E-3	2.50E-3	2.63E-3	42	153.17	1.83E-3	1.37E-3	7.86E-4	3.74E-4	1.57E-4	6.46E-5
43	103.51	3.19E-3	2.88E-3	2.53E-3	2.39E-3	2.42E-3	2.56E-3	43	166.84	1.75E-3	1.31E-3	7.53E-4	3.59E-4	1.51E-4	6.23E-5
44	116.11	3.03E-3	2.74E-3	2.43E-3	2.30E-3	2.35E-3	2.48E-3	44	181.56	1.67E-3	1.26E-3	7.22E-4	3.45E-4	1.46E-4	6.01E-5
45	129.82	2.88E-3	2.61E-3	2.33E-3	2.22E-3	2.27E-3	2.41E-3	45	197.39	1.60E-3	1.20E-3	6.93E-4	3.32E-4	1.40E-4	5.80E-5
46	144.69	2.74E-3	2.49E-3	2.23E-3	2.14E-3	2.19E-3	2.34E-3	46	214.39	1.53E-3	1.15E-3	6.66E-4	3.19E-4	1.35E-4	5.60E-5
47	160.79	2.61E-3	2.38E-3	2.14E-3	2.05E-3	2.12E-3	2.26E-3	47	232.62	1.47E-3	1.11E-3	6.40E-4	3.07E-4	1.30E-4	5.40E-5
48	178.19	2.49E-3	2.27E-3	2.05E-3	1.98E-3	2.04E-3	2.19E-3	48	252.16	1.41E-3	1.06E-3	6.15E-4	2.96E-4	1.26E-4	5.22E-5
49	196.95	2.37E-3	2.17E-3	1.97E-3	1.90E-3	1.98E-3	2.13E-3	49	273.07	1.35E-3	1.02E-3	5.92E-4	2.85E-4	1.21E-4	5.04E-5
50	217.14	2.26E-3	2.08E-3	1.88E-3	1.83E-3	1.91E-3	2.06E-3	50	295.44	1.30E-3	9.82E-4	5.69E-4	2.75E-4	1.17E-4	4.87E-5
51	238.84	2.16E-3	1.99E-3	1.81E-3	1.77E-3	1.84E-3	1.99E-3	51	319.32	1.25E-3	9.45E-4	5.48E-4	2.65E-4	1.13E-4	4.71E-5
52	262.13	2.07E-3	1.91E-3	1.74E-3	1.70E-3	1.78E-3	1.93E-3	52	344.80	1.20E-3	9.09E-4	5.28E-4	2.55E-4	1.09E-4	4.55E-5
53	287.08	1.98E-3	1.83E-3	1.67E-3	1.64E-3	1.72E-3	1.87E-3	53	371.96	1.15E-3	8.75E-4	5.09E-4	2.47E-4	1.06E-4	4.41E-5
54	313.78	1.89E-3	1.75E-3	1.61E-3	1.58E-3	1.66E-3	1.82E-3	54	400.89	1.11E-3	8.43E-4	4.91E-4	2.38E-4	1.02E-4	4.27E-5
55	342.31	1.81E-3	1.68E-3	1.54E-3	1.52E-3	1.61E-3	1.76E-3	55	431.68	1.07E-3	8.13E-4	4.74E-4	2.30E-4	9.89E-5	4.13E-5
56	372.77	1.74E-3	1.61E-3	1.48E-3	1.47E-3	1.55E-3	1.71E-3	56	464.41	1.03E-3	7.84E-4	4.58E-4	2.23E-4	9.57E-5	4.00E-5
57	405.25	1.67E-3	1.55E-3	1.43E-3	1.42E-3	1.50E-3	1.66E-3	57	499.18	9.94E-4	7.56E-4	4.42E-4	2.15E-4	9.27E-5	3.88E-5
58	439.85	1.60E-3	1.49E-3	1.38E-3	1.37E-3	1.45E-3	1.61E-3	58	536.09	9.59E-4	7.30E-4	4.27E-4	2.08E-4	8.98E-5	3.76E-5
59	476.67	1.54E-3	1.43E-3	1.33E-3	1.32E-3	1.41E-3	1.56E-3	59	575.25	9.26E-4	7.05E-4	4.13E-4	2.02E-4	8.71E-5	3.65E-5
60	515.81	1.48E-3	1.37E-3	1.28E-3	1.27E-3	1.36E-3	1.52E-3	60	616.76	8.94E-4	6.81E-4	4.00E-4	1.96E-4	8.45E-5	3.54E-5
61	557.40	1.42E-3	1.32E-3	1.23E-3	1.23E-3	1.32E-3	1.48E-3	61	660.73	8.64E-4	6.59E-4	3.87E-4	1.90E-4	8.20E-5	3.44E-5
62	601.53	1.36E-3	1.27E-3	1.19E-3	1.19E-3	1.28E-3	1.44E-3	62	707.28	8.34E-4	6.37E-4	3.75E-4	1.84E-4	7.96E-5	3.34E-5
63	648.33	1.31E-3	1.23E-3	1.14E-3	1.15E-3	1.24E-3	1.40E-3	63	756.52	8.07E-4	6.16E-4	3.63E-4	1.78E-4	7.73E-5	3.25E-5
64	697.93	1.26E-3	1.18E-3	1.11E-3	1.11E-3	1.20E-3	1.36E-3	64	808.60	7.80E-4	5.97E-4	3.52E-4	1.73E-4	7.51E-5	3.16E-5
65	750.46	1.22E-3	1.14E-3	1.07E-3	1.08E-3	1.17E-3	1.32E-3	65	863.62	7.55E-4	5.78E-4	3.42E-4	1.68E-4	7.30E-5	3.08E-5
66	806.04	1.17E-3	1.10E-3	1.03E-3	1.04E-3	1.13E-3	1.29E-3	66	921.74	7.31E-4	5.60E-4	3.31E-4	1.63E-4	7.10E-5	2.99E-5
67	864.83	1.13E-3	1.06E-3	9.96E-4	1.01E-3	1.10E-3	1.26E-3	67	983.09	7.08E-4	5.43E-4	3.22E-4	1.59E-4	6.91E-5	2.91E-5
68	926.96	1.09E-3	1.02E-3	9.63E-4	9.77E-4	1.07E-3	1.22E-3	68	1047.81	6.86E-4	5.26E-4	3.12E-4	1.54E-4	6.72E-5	2.84E-5
69	992.59	1.05E-3	9.87E-4	9.31E-4	9.46E-4	1.04E-3	1.19E-3	69	1116.08	6.65E-4	5.10E-4	3.03E-4	1.50E-4	6.55E-5	2.77E-5
70	1061.89	1.01E-3	9.53E-4	9.00E-4	9.16E-4	1.01E-3	1.16E-3	70	1188.03	6.44E-4	4.95E-4	2.95E-4	1.46E-4	6.38E-5	2.70E-5
71	1135.01	9.77E-4	9.20E-4	8.70E-4	8.88E-4	9.79E-4	1.13E-3	71	1263.85	6.25E-4	4.81E-4	2.86E-4	1.42E-4	6.22E-5	2.63E-5
72	1212.13	9.42E-4	8.89E-4	8.42E-4	8.61E-4	9.52E-4	1.11E-3	72	1343.70	6.06E-4	4.67E-4	2.78E-4	1.38E-4	6.06E-5	2.57E-5
73	1293.43	9.10E-4	8.59E-4	8.15E-4	8.35E-4	9.25E-4	1.08E-3	73	1427.77	5.88E-4	4.53E-4	2.71E-4	1.35E-4	5.91E-5	2.50E-5
74	1379.10	8.79E-4	8.30E-4	7.89E-4	8.10E-4	9.00E-4	1.05E-3	74	1516.25	5.71E-4	4.40E-4	2.64E-4	1.31E-4	5.77E-5	2.45E-5
75	1469.33	8.49E-4	8.03E-4	7.64E-4	7.85E-4	8.76E-4	1.03E-3	75	1609.33	5.54E-4	4.28E-4	2.57E-4	1.28E-4	5.63E-5	2.39E-5
76	1564.34	8.20E-4	7.76E-4	7.40E-4	7.62E-4	8.52E-4	1.01E-3	76	1707.22	5.39E-4	4.16E-4	2.50E-4	1.25E-4	5.50E-5	2.33E-5
77	1664.34	7.93E-4	7.51E-4	7.17E-4	7.40E-4	8.29E-4	9.82E-4	77	1810.15	5.23E-4	4.05E-4	2.43E-4	1.22E-4	5.37E-5	2.28E-5
78	1769.56	7.66E-4	7.26E-4	6.95E-4	7.19E-4	8.08E-4	9.60E-4	78	1918.33	5.08E-4	3.94E-4	2.37E-4	1.19E-4	5.24E-5	2.23E-5
79	1880.22	7.41E-4	7.02E-4	6.73E-4	6.98E-4	7.86E-4	9.38E-4	79	2032.01	4.94E-4	3.83E-4	2.31E-4	1.16E-4	5.12E-5	2.18E-5
80	1996.59	7.17E-4	6.80E-4	6.52E-4	6.77E-4	7.66E-4	9.17E-4	80	2151.42	4.80E-4	3.73E-4	2.25E-4	1.13E-4	5.01E-5	2.13E-5
81	2118.91	6.93E-4	6.58E-4	6.32E-4	6.58E-4	7.46E-4	8.97E-4	81	2276.84	4.67E-4	3.63E-4	2.19E-4	1.11E-4	4.90E-5	2.09E-5
82	2247.46	6.71E-4	6.37E-4	6.12E-4	6.39E-4	7.27E-4	8.77E-4	82	2408.54	4.54E-4	3.53E-4	2.14E-4	1.08E-4	4.79E-5	2.04E-5
83	2382.53	6.49E-4	6.17E-4	5.94E-4	6.21E-4	7.08E-4	8.57E-4	83	2546.80	4.42E-4	3.44E-4	2.09E-4	1.06E-4	4.69E-5	2.00E-5
84	2524.41	6.28E-4	5.97E-4	5.76E-4	6.03E-4	6.90E-4	8.39E-4	84	2691.92	4.30E-4	3.35E-4	2.04E-4	1.03E-4	4.59E-5	1.96E-5
85	2673.43	6.08E-4	5.79E-4	5.58E-4	5.86E-4	6.72E-4	8.20E-4	85	2844.22	4.18E-4	3.26E-4	1.99E-4	1.01E-4	4.49E-5	1.92E-5
86	2829.86	5.88E-4	5.60E-4	5.41E-4	5.69E-4	6.55E-4	8.03E-4	86	3003.99	4.07E-4	3.18E-4	1.94E-4	9.87E-5	4.40E-5	1.88E-5
87	2994.13	5.69E-4	5.43E-4	5.25E-4	5.53E-4	6.39E-4	7.85E-4	87	3171.65	3.96E-4	3.10E-4	1.89E-4	9.65E-5	4.31E-5	1.85E-5
88	3166.56	5.51E-4	5.26E-4	5.09E-4	5.37E-4	6.23E-4	7.69E-4	88	3347.52	3.86E-4	3.02E-4	1.85E-4	9.44E-5	4.22E-5	1.81E-5
89	3347.56	5.33E-4	5.10E-4	4.94E-4	5.22E-4	6.07E-4	7.52E-4	89	3532.01	3.76E-4	2.94E-4	1.81E-4	9.24E-5	4.13E-5	1.78E-5

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - A_3$								$B_1 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	207.76	3.73E-5	2.70E-5	1.41E-5	5.73E-6	1.94E-6	6.17E-7	26	247.52	1.42E-5	1.03E-5	5.40E-6	2.21E-6	7.49E-7	2.38E-7
27	220.35	3.52E-5	2.54E-5	1.33E-5	5.40E-6	1.83E-6	5.85E-7	27	263.43	1.11E-5	8.03E-6	4.20E-6	1.72E-6	5.84E-7	1.86E-7
28	233.37	3.31E-5	2.39E-5	1.25E-5	5.10E-6	1.73E-6	5.55E-7	28	280.39	8.54E-6	6.18E-6	3.24E-6	1.32E-6	4.51E-7	1.44E-7
29	246.82	3.12E-5	2.25E-5	1.17E-5	4.80E-6	1.64E-6	5.27E-7	29	298.51	6.52E-6	4.72E-6	2.47E-6	1.01E-6	3.45E-7	1.11E-7
30	260.73	2.93E-5	2.12E-5	1.10E-5	4.53E-6	1.55E-6	5.01E-7	30	317.92	4.93E-6	3.57E-6	1.87E-6	7.67E-7	2.62E-7	8.45E-8
31	275.11	2.75E-5	1.99E-5	1.04E-5	4.26E-6	1.46E-6	4.75E-7	31	338.72	3.71E-6	2.69E-6	1.41E-6	5.79E-7	1.99E-7	6.42E-8
32	289.99	2.57E-5	1.86E-5	9.73E-6	4.00E-6	1.38E-6	4.52E-7	32	361.04	2.78E-6	2.02E-6	1.06E-6	4.35E-7	1.50E-7	4.86E-8
33	305.41	2.40E-5	1.74E-5	9.12E-6	3.76E-6	1.30E-6	4.29E-7	33	384.99	2.08E-6	1.51E-6	7.93E-7	3.27E-7	1.13E-7	3.68E-8
34	321.40	2.25E-5	1.63E-5	8.55E-6	3.54E-6	1.23E-6	4.08E-7	34	410.70	1.56E-6	1.13E-6	5.94E-7	2.46E-7	8.50E-8	2.79E-8
35	338.02	2.10E-5	1.52E-5	8.01E-6	3.33E-6	1.17E-6	3.89E-7	35	438.29	1.17E-6	8.45E-7	4.45E-7	1.85E-7	6.42E-8	2.11E-8
36	355.29	1.96E-5	1.43E-5	7.51E-6	3.13E-6	1.10E-6	3.71E-7	36	467.89	8.74E-7	6.34E-7	3.35E-7	1.39E-7	4.86E-8	1.61E-8
37	373.29	1.84E-5	1.33E-5	7.06E-6	2.95E-6	1.05E-6	3.55E-7	37	499.62	6.57E-7	4.77E-7	2.52E-7	1.05E-7	3.69E-8	1.23E-8
38	392.04	1.72E-5	1.25E-5	6.63E-6	2.79E-6	9.95E-7	3.40E-7	38	533.64	4.96E-7	3.60E-7	1.91E-7	7.98E-8	2.81E-8	9.40E-9
39	411.62	1.62E-5	1.17E-5	6.25E-6	2.64E-6	9.47E-7	3.26E-7	39	570.07	3.75E-7	2.73E-7	1.45E-7	6.08E-8	2.15E-8	7.23E-9
40	432.07	1.52E-5	1.11E-5	5.89E-6	2.50E-6	9.04E-7	3.14E-7	40	609.07	2.85E-7	2.08E-7	1.11E-7	4.65E-8	1.65E-8	5.58E-9
41	453.46	1.43E-5	1.04E-5	5.57E-6	2.37E-6	8.64E-7	3.03E-7	41	650.80	2.18E-7	1.59E-7	8.46E-8	3.57E-8	1.27E-8	4.33E-9
42	475.83	1.35E-5	9.83E-6	5.27E-6	2.26E-6	8.27E-7	2.93E-7	42	695.40	1.67E-7	1.22E-7	6.50E-8	2.75E-8	9.86E-9	3.37E-9
43	499.26	1.27E-5	9.29E-6	5.00E-6	2.15E-6	7.94E-7	2.83E-7	43	743.07	1.28E-7	9.37E-8	5.02E-8	2.13E-8	7.66E-9	2.63E-9
44	523.82	1.20E-5	8.80E-6	4.75E-6	2.05E-6	7.63E-7	2.74E-7	44	793.95	9.90E-8	7.24E-8	3.89E-8	1.66E-8	5.98E-9	2.07E-9
45	549.55	1.14E-5	8.34E-6	4.52E-6	1.96E-6	7.35E-7	2.67E-7	45	848.25	7.67E-8	5.62E-8	3.02E-8	1.29E-8	4.69E-9	1.63E-9
46	576.54	1.08E-5	7.92E-6	4.31E-6	1.88E-6	7.10E-7	2.59E-7	46	906.15	5.96E-8	4.37E-8	2.36E-8	1.01E-8	3.68E-9	1.29E-9
47	604.85	1.03E-5	7.54E-6	4.11E-6	1.81E-6	6.85E-7	2.52E-7	47	967.84	4.65E-8	3.41E-8	1.84E-8	7.94E-9	2.91E-9	1.02E-9
48	634.56	9.75E-6	7.18E-6	3.93E-6	1.74E-6	6.63E-7	2.46E-7	48	1033.54	3.64E-8	2.68E-8	1.45E-8	6.26E-9	2.30E-9	1.00E-9
49	665.74	9.28E-6	6.85E-6	3.76E-6	1.67E-6	6.42E-7	2.40E-7	49	1103.45	2.86E-8	2.10E-8	1.14E-8	4.95E-9	1.83E-9	1.00E-9
50	698.47	8.86E-6	6.55E-6	3.61E-6	1.61E-6	6.22E-7	2.34E-7	50	1177.79	2.25E-8	1.66E-8	9.03E-9	3.93E-9	1.46E-9	1.00E-9
51	732.83	8.45E-6	6.26E-6	3.46E-6	1.55E-6	6.04E-7	2.28E-7	51	1256.81	1.78E-8	1.31E-8	7.16E-9	3.12E-9	1.16E-9	0.00E+0
52	768.90	8.08E-6	6.00E-6	3.33E-6	1.50E-6	5.86E-7	2.23E-7	52	1340.72	1.41E-8	1.04E-8	5.69E-9	2.49E-9	1.00E-9	0.00E+0
53	806.80	7.74E-6	5.75E-6	3.20E-6	1.45E-6	5.70E-7	2.18E-7	53	1429.81	1.12E-8	8.28E-9	4.54E-9	1.99E-9	1.00E-9	0.00E+0
54	846.57	7.41E-6	5.52E-6	3.08E-6	1.40E-6	5.54E-7	2.13E-7	54	1524.30	8.89E-9	6.59E-9	3.62E-9	1.60E-9	1.00E-9	0.00E+0
55	888.34	7.10E-6	5.30E-6	2.97E-6	1.35E-6	5.38E-7	2.08E-7	55	1624.48	7.10E-9	5.27E-9	2.91E-9	1.28E-9	0.00E+0	0.00E+0
56	932.18	6.82E-6	5.09E-6	2.86E-6	1.31E-6	5.24E-7	2.04E-7	56	1730.62	5.68E-9	4.22E-9	2.33E-9	1.03E-9	0.00E+0	0.00E+0
57	978.22	6.55E-6	4.89E-6	2.76E-6	1.27E-6	5.10E-7	1.99E-7	57	1843.02	4.55E-9	3.39E-9	1.88E-9	1.00E-9	0.00E+0	0.00E+0
58	1026.55	6.29E-6	4.71E-6	2.66E-6	1.23E-6	4.96E-7	1.95E-7	58	1961.98	3.66E-9	2.73E-9	1.52E-9	1.00E-9	0.00E+0	0.00E+0
59	1077.29	6.04E-6	4.53E-6	2.57E-6	1.19E-6	4.83E-7	1.90E-7	59	2087.81	2.94E-9	2.20E-9	1.22E-9	1.00E-9	0.00E+0	0.00E+0
60	1130.52	5.82E-6	4.37E-6	2.48E-6	1.16E-6	4.71E-7	1.86E-7	60	2220.83	2.38E-9	1.78E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
61	1186.40	5.59E-6	4.21E-6	2.40E-6	1.12E-6	4.58E-7	1.82E-7	61	2361.40	1.92E-9	1.44E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
62	1244.99	5.39E-6	4.06E-6	2.32E-6	1.09E-6	4.46E-7	1.78E-7	62	2509.82	1.55E-9	1.17E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
63	1306.49	5.19E-6	3.91E-6	2.24E-6	1.06E-6	4.35E-7	1.74E-7	63	2666.53	1.26E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
64	1370.96	5.00E-6	3.78E-6	2.17E-6	1.03E-6	4.24E-7	1.70E-7	64	2831.84	1.02E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
65	1438.60	4.82E-6	3.64E-6	2.10E-6	9.96E-7	4.13E-7	1.66E-7	65	3006.22	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
66	1509.51	4.64E-6	3.52E-6	2.03E-6	9.66E-7	4.02E-7	1.62E-7	66	3190.03	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
67	1583.86	4.48E-6	3.40E-6	1.97E-6	9.38E-7	3.92E-7	1.58E-7	67	3383.73	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
68	1661.79	4.32E-6	3.28E-6	1.90E-6	9.11E-7	3.81E-7	1.55E-7	68	3587.75	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
69	1743.47	4.16E-6	3.17E-6	1.84E-6	8.85E-7	3.72E-7	1.51E-7	69	3802.58	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
70	1829.03	4.02E-6	3.06E-6	1.79E-6	8.59E-7	3.62E-7	1.48E-7	70	4028.65	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
71	1918.70	3.88E-6	2.96E-6	1.73E-6	8.35E-7	3.53E-7	1.44E-7	71	4266.54	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
72	2012.59	3.74E-6	2.86E-6	1.68E-6	8.11E-7	3.43E-7	1.41E-7	72	4516.71	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
73	2110.95	3.61E-6	2.76E-6	1.62E-6	7.88E-7	3.34E-7	1.37E-7	73	4779.77	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
74	2213.94	3.49E-6	2.67E-6	1.57E-6	7.65E-7	3.26E-7	1.34E-7	74	5056.26	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
75	2321.78	3.36E-6	2.58E-6	1.52E-6	7.43E-7	3.17E-7	1.31E-7	75	5346.80	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
76	2434.62	3.25E-6	2.49E-6	1.48E-6	7.22E-7	3.09E-7	1.28E-7	76	5651.96	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
77	2552.79	3.14E-6	2.41E-6	1.43E-6	7.02E-7	3.01E-7	1.25E-7	77	5972.50	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
78	2676.43	3.03E-6	2.33E-6	1.39E-6	6.82E-7	2.93E-7	1.22E-7	78	6309.01	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
79	2805.83	2.92E-6	2.26E-6	1.34E-6	6.63E-7	2.86E-7	1.19E-7	79	6662.28	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
80	2941.16	2.83E-6	2.18E-6	1.30E-6	6.44E-7	2.78E-7	1.16E-7	80	7032.93	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	3082.71	2.73E-6	2.11E-6	1.26E-6	6.26E-7	2.71E-7	1.13E-7	81	7421.82	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	3230.81	2.64E-6	2.04E-6	1.22E-6	6.08E-7	2.64E-7	1.10E-7	82	7829.81	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	3385.76	2.55E-6	1.98E-6	1.19E-6	5.91E-7	2.57E-7	1.08E-7	83	8257.78	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	3547.91	2.46E-6	1.91E-6	1.15E-6	5.75E-7	2.51E-7	1.05E-7	84	8706.68	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	3717.42	2.38E-6	1.85E-6	1.12E-6	5.59E-7	2.44E-7	1.03E-7	85	9177.31	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	3893.90	2.30E-6	1.79E-6	1.09E-6	5.45E-7	2.39E-7	1.00E-7	86	9669.86	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	4079.14	2.23E-6	1.74E-6	1.05E-6	5.30E-7	2.32E-7	9.80E-8	87	10187.0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	4272.64	2.16E-6	1.68E-6	1.02E-6	5.16E-7	2.27E-7	9.58E-8	88	10727.8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	4475.08	2.08E-6	1.63E-6	9.94E-7	5.02E-7	2.21E-7	9.36E-8	89	11296.8	0.00E+0					

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_2 - A_4$								$B_1 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	39.37	6.29E-3	4.60E-3	2.47E-3	1.08E-3	4.06E-4	1.50E-4	26	208.16	4.67E-4	4.51E-4	4.34E-4	4.31E-4	4.38E-4	4.49E-4
27	41.84	6.14E-3	4.50E-3	2.44E-3	1.07E-3	4.12E-4	1.55E-4	27	221.59	4.08E-4	3.94E-4	3.82E-4	3.82E-4	3.89E-4	4.00E-4
28	44.62	6.00E-3	4.41E-3	2.41E-3	1.07E-3	4.18E-4	1.60E-4	28	235.77	3.61E-4	3.49E-4	3.39E-4	3.38E-4	3.46E-4	3.55E-4
29	47.77	5.88E-3	4.33E-3	2.38E-3	1.07E-3	4.23E-4	1.64E-4	29	250.74	3.20E-4	3.09E-4	3.00E-4	3.00E-4	3.07E-4	3.16E-4
30	51.33	5.75E-3	4.25E-3	2.35E-3	1.07E-3	4.27E-4	1.67E-4	30	266.59	2.83E-4	2.74E-4	2.67E-4	2.67E-4	2.73E-4	2.81E-4
31	55.34	5.62E-3	4.16E-3	2.32E-3	1.06E-3	4.27E-4	1.69E-4	31	283.37	2.55E-4	2.46E-4	2.37E-4	2.36E-4	2.41E-4	2.49E-4
32	59.86	5.47E-3	4.06E-3	2.27E-3	1.05E-3	4.26E-4	1.70E-4	32	301.17	2.26E-4	2.18E-4	2.10E-4	2.09E-4	2.14E-4	2.22E-4
33	64.93	5.31E-3	3.95E-3	2.22E-3	1.03E-3	4.21E-4	1.69E-4	33	320.06	2.00E-4	1.93E-4	1.86E-4	1.86E-4	1.90E-4	1.97E-4
34	70.59	5.14E-3	3.83E-3	2.16E-3	1.01E-3	4.15E-4	1.67E-4	34	340.11	1.73E-4	1.68E-4	1.64E-4	1.65E-4	1.69E-4	1.76E-4
35	76.88	4.96E-3	3.71E-3	2.10E-3	9.82E-4	4.06E-4	1.65E-4	35	361.41	1.53E-4	1.49E-4	1.46E-4	1.46E-4	1.50E-4	1.56E-4
36	83.84	4.79E-3	3.58E-3	2.03E-3	9.55E-4	3.97E-4	1.61E-4	36	384.05	1.39E-4	1.34E-4	1.29E-4	1.29E-4	1.33E-4	1.39E-4
37	91.51	4.60E-3	3.45E-3	1.96E-3	9.25E-4	3.86E-4	1.58E-4	37	408.12	1.20E-4	1.16E-4	1.14E-4	1.15E-4	1.18E-4	1.23E-4
38	99.93	4.42E-3	3.32E-3	1.89E-3	8.95E-4	3.75E-4	1.53E-4	38	433.71	1.06E-4	1.03E-4	1.01E-4	1.02E-4	1.05E-4	1.10E-4
39	109.16	4.25E-3	3.19E-3	1.82E-3	8.64E-4	3.63E-4	1.49E-4	39	460.92	9.55E-5	9.23E-5	8.95E-5	8.98E-5	9.28E-5	9.72E-5
40	119.23	4.07E-3	3.06E-3	1.75E-3	8.33E-4	3.51E-4	1.44E-4	40	489.85	8.44E-5	8.15E-5	7.91E-5	7.95E-5	8.22E-5	8.64E-5
41	130.19	3.90E-3	2.94E-3	1.68E-3	8.03E-4	3.39E-4	1.40E-4	41	520.60	7.27E-5	7.07E-5	6.96E-5	7.05E-5	7.32E-5	7.70E-5
42	142.11	3.74E-3	2.82E-3	1.62E-3	7.73E-4	3.27E-4	1.35E-4	42	553.30	6.57E-5	6.35E-5	6.18E-5	6.22E-5	6.46E-5	6.82E-5
43	155.02	3.59E-3	2.70E-3	1.55E-3	7.44E-4	3.15E-4	1.30E-4	43	588.04	5.79E-5	5.61E-5	5.45E-5	5.50E-5	5.72E-5	6.05E-5
44	168.99	3.44E-3	2.59E-3	1.49E-3	7.16E-4	3.04E-4	1.26E-4	44	624.96	5.00E-5	4.85E-5	4.80E-5	4.87E-5	5.08E-5	5.39E-5
45	184.08	3.29E-3	2.48E-3	1.43E-3	6.89E-4	2.93E-4	1.21E-4	45	664.17	4.50E-5	4.36E-5	4.25E-5	4.30E-5	4.49E-5	4.78E-5
46	200.34	3.16E-3	2.38E-3	1.38E-3	6.63E-4	2.82E-4	1.17E-4	46	705.81	3.97E-5	3.85E-5	3.75E-5	3.80E-5	3.98E-5	4.24E-5
47	217.84	3.03E-3	2.29E-3	1.32E-3	6.38E-4	2.72E-4	1.13E-4	47	750.00	3.41E-5	3.32E-5	3.29E-5	3.37E-5	3.54E-5	3.78E-5
48	236.64	2.91E-3	2.20E-3	1.27E-3	6.14E-4	2.62E-4	1.09E-4	48	796.89	3.08E-5	2.99E-5	2.92E-5	2.97E-5	3.12E-5	3.35E-5
49	256.82	2.79E-3	2.11E-3	1.22E-3	5.92E-4	2.53E-4	1.05E-4	49	846.62	2.64E-5	2.58E-5	2.56E-5	2.63E-5	2.78E-5	2.98E-5
50	278.45	2.68E-3	2.03E-3	1.18E-3	5.70E-4	2.44E-4	1.02E-4	50	899.34	2.33E-5	2.27E-5	2.26E-5	2.32E-5	2.46E-5	2.65E-5
51	301.60	2.57E-3	1.95E-3	1.13E-3	5.49E-4	2.35E-4	9.83E-5	51	955.20	2.11E-5	2.05E-5	2.01E-5	2.05E-5	2.17E-5	2.35E-5
52	326.35	2.47E-3	1.88E-3	1.09E-3	5.30E-4	2.27E-4	9.49E-5	52	1014.37	1.83E-5	1.79E-5	1.77E-5	1.82E-5	1.93E-5	2.09E-5
53	352.79	2.38E-3	1.80E-3	1.05E-3	5.11E-4	2.19E-4	9.17E-5	53	1077.02	1.61E-5	1.58E-5	1.56E-5	1.61E-5	1.71E-5	1.86E-5
54	380.99	2.29E-3	1.74E-3	1.01E-3	4.93E-4	2.12E-4	8.87E-5	54	1143.31	1.44E-5	1.40E-5	1.38E-5	1.42E-5	1.51E-5	1.65E-5
55	411.04	2.20E-3	1.67E-3	9.78E-4	4.76E-4	2.05E-4	8.58E-5	55	1213.44	1.25E-5	1.23E-5	1.22E-5	1.26E-5	1.34E-5	1.47E-5
56	443.04	2.12E-3	1.61E-3	9.44E-4	4.60E-4	1.98E-4	8.31E-5	56	1287.57	1.12E-5	1.09E-5	1.08E-5	1.11E-5	1.19E-5	1.31E-5
57	477.09	2.04E-3	1.56E-3	9.11E-4	4.45E-4	1.92E-4	8.05E-5	57	1365.93	9.75E-6	9.54E-6	9.49E-6	9.85E-6	1.06E-5	1.17E-5
58	513.27	1.97E-3	1.50E-3	8.80E-4	4.30E-4	1.86E-4	7.79E-5	58	1448.71	8.59E-6	8.41E-6	8.39E-6	8.71E-6	9.40E-6	1.04E-5
59	551.70	1.90E-3	1.45E-3	8.51E-4	4.16E-4	1.80E-4	7.55E-5	59	1536.11	7.66E-6	7.49E-6	7.43E-6	7.71E-6	8.33E-6	9.25E-6
60	592.48	1.83E-3	1.40E-3	8.22E-4	4.03E-4	1.74E-4	7.32E-5	60	1628.35	6.69E-6	6.55E-6	6.54E-6	6.83E-6	7.41E-6	8.26E-6
61	635.73	1.77E-3	1.35E-3	7.95E-4	3.90E-4	1.69E-4	7.11E-5	61	1725.67	5.96E-6	5.83E-6	5.81E-6	6.05E-6	6.58E-6	7.35E-6
62	681.55	1.71E-3	1.31E-3	7.70E-4	3.78E-4	1.64E-4	6.90E-5	62	1828.27	5.22E-6	5.10E-6	5.11E-6	5.37E-6	5.85E-6	6.57E-6
63	730.07	1.65E-3	1.26E-3	7.45E-4	3.66E-4	1.59E-4	6.70E-5	63	1936.46	4.60E-6	4.50E-6	4.52E-6	4.75E-6	5.21E-6	5.86E-6
64	781.43	1.60E-3	1.22E-3	7.22E-4	3.55E-4	1.54E-4	6.51E-5	64	2050.42	4.09E-6	4.01E-6	4.02E-6	4.22E-6	4.63E-6	5.23E-6
65	835.74	1.54E-3	1.18E-3	7.00E-4	3.45E-4	1.50E-4	6.33E-5	65	2170.48	3.60E-6	3.51E-6	3.53E-6	3.74E-6	4.12E-6	4.68E-6
66	893.14	1.50E-3	1.14E-3	6.78E-4	3.35E-4	1.46E-4	6.15E-5	66	2296.89	3.19E-6	3.13E-6	3.15E-6	3.32E-6	3.67E-6	4.18E-6
67	953.79	1.45E-3	1.11E-3	6.58E-4	3.25E-4	1.42E-4	5.98E-5	67	2429.94	2.82E-6	2.77E-6	2.79E-6	2.95E-6	3.27E-6	3.74E-6
68	1017.82	1.40E-3	1.08E-3	6.38E-4	3.16E-4	1.38E-4	5.82E-5	68	2569.93	2.49E-6	2.45E-6	2.47E-6	2.62E-6	2.91E-6	3.34E-6
69	1085.39	1.36E-3	1.04E-3	6.20E-4	3.07E-4	1.34E-4	5.67E-5	69	2717.19	2.20E-6	2.17E-6	2.18E-6	2.33E-6	2.60E-6	2.99E-6
70	1156.66	1.31E-3	1.01E-3	6.02E-4	2.98E-4	1.31E-4	5.52E-5	70	2871.99	1.95E-6	1.90E-6	1.93E-6	2.06E-6	2.32E-6	2.69E-6
71	1231.81	1.28E-3	9.81E-4	5.84E-4	2.90E-4	1.27E-4	5.38E-5	71	3034.73	1.72E-6	1.70E-6	1.72E-6	1.84E-6	2.07E-6	2.40E-6
72	1311.00	1.24E-3	9.52E-4	5.68E-4	2.83E-4	1.24E-4	5.25E-5	72	3205.72	1.53E-6	1.49E-6	1.51E-6	1.63E-6	1.85E-6	2.16E-6
73	1394.42	1.20E-3	9.24E-4	5.52E-4	2.75E-4	1.21E-4	5.12E-5	73	3385.35	1.35E-6	1.32E-6	1.34E-6	1.45E-6	1.65E-6	1.94E-6
74	1482.26	1.16E-3	8.97E-4	5.37E-4	2.68E-4	1.18E-4	5.00E-5	74	3574.00	1.20E-6	1.17E-6	1.19E-6	1.29E-6	1.47E-6	1.74E-6
75	1574.73	1.13E-3	8.71E-4	5.23E-4	2.61E-4	1.15E-4	4.88E-5	75	3772.08	1.06E-6	1.04E-6	1.05E-6	1.15E-6	1.32E-6	1.56E-6
76	1672.02	1.10E-3	8.47E-4	5.09E-4	2.55E-4	1.12E-4	4.76E-5	76	3979.94	9.33E-7	9.23E-7	9.44E-7	1.03E-6	1.18E-6	1.40E-6
77	1774.37	1.06E-3	8.23E-4	4.95E-4	2.48E-4	1.09E-4	4.65E-5	77	4198.13	8.27E-7	8.18E-7	8.39E-7	9.17E-7	1.06E-6	1.26E-6
78	1881.99	1.03E-3	8.00E-4	4.82E-4	2.42E-4	1.07E-4	4.55E-5	78	4427.02	7.38E-7	7.25E-7	7.42E-7	8.16E-7	9.46E-7	1.14E-6
79	1995.14	1.00E-3	7.78E-4	4.70E-4	2.36E-4	1.04E-4	4.44E-5	79	4667.14	6.54E-7	6.43E-7	6.60E-7	7.28E-7	8.48E-7	1.02E-6
80	2114.05	9.76E-4	7.57E-4	4.58E-4	2.30E-4	1.02E-4	4.35E-5	80	4918.89	5.76E-7	5.71E-7	5.90E-7	6.51E-7	7.61E-7	9.22E-7
81	2238.99	9.49E-4	7.37E-4	4.46E-4	2.25E-4	9.96E-5	4.25E-5	81	5182.84	5.11E-7	5.07E-7	5.25E-7	5.82E-7	6.83E-7	8.31E-7
82	2370.24	9.22E-4	7.17E-4	4.35E-4	2.20E-4	9.74E-5	4.16E-5	82	5459.57	4.57E-7	4.51E-7	4.66E-7	5.19E-7	6.13E-7	7.50E-7
83	2508.09	8.97E-4	6.98E-4	4.24E-4	2.15E-4	9.52E-5	4.07E-5	83	5749.69	4.06E-7	4.01E-7	4.15E-7	4.64E-7	5.51E-7	6.78E-7
84	2652.85	8.72E-4	6.80E-4	4.13E-4	2.10E-4	9.32E-5	3.99E-5	84	6053.83	3.59E-7	3.57E-7	3.71E-7	4.17E-7	4.96E-7	6.13E-7
85	2804.83	8.49E-4	6.62E-4	4.03E-4	2.05E-4	9.12E-5	3.91E-5	85	6372.48	3.19E-7	3.18E-7	3.31E-7	3.73E-7	4.46E-7	5.54E-7
86	2964.33	8.25E-4	6.45E-4	3.94E-4	2.00E-4	8.93E-5	3.83E-5	86	6705.53	2.86E-7	2.84E-7	2.95E-7	3.34E-7	4.02E-7	5.02E-7
87	3131.77	8.03E-4	6.28E-4	3.84E-4	1.96E-4	8.74E-5	3.75E-5	87	7055.20	2.54E-7	2.53E-7	2.65E-7	3.01E-7	3.63E-7	4.55E-7
88	3307.48	7.82E-4	6.12E-4	3.75E-4	1.91E-4	8.56E-5	3.67E-5	88	7421.30	2.27E-7	2.26E-7	2.37E-7	2.70E-7	3.28E-7	4.13E-7
89	3491.87	7.61E-4	5.96E-4	3.66E-4	1.87E-4	8.38E-5	3.60E-5	89	7804.92	2.03E-7	2.03E-7	2.12E-7	2.		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - C_1$								$B_1 - C_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	5.468	4.52E-2	3.69E-2	2.65E-2	1.97E-2	1.65E-2	1.55E-2	26	21.39	2.56E-2	1.99E-2	1.28E-2	8.00E-3	5.71E-3	4.88E-3
27	6.021	4.12E-2	3.35E-2	2.39E-2	1.75E-2	1.46E-2	1.37E-2	27	23.94	2.36E-2	1.85E-2	1.21E-2	7.85E-3	5.83E-3	5.13E-3
28	6.563	3.75E-2	3.03E-2	2.15E-2	1.57E-2	1.29E-2	1.21E-2	28	26.84	2.19E-2	1.73E-2	1.15E-2	7.69E-3	5.91E-3	5.31E-3
29	7.090	3.42E-2	2.76E-2	1.94E-2	1.40E-2	1.15E-2	1.07E-2	29	30.13	2.04E-2	1.62E-2	1.10E-2	7.53E-3	5.94E-3	5.42E-3
30	7.600	3.13E-2	2.52E-2	1.76E-2	1.26E-2	1.03E-2	9.53E-3	30	33.83	1.91E-2	1.52E-2	1.05E-2	7.34E-3	5.92E-3	5.48E-3
31	8.092	2.85E-2	2.29E-2	1.60E-2	1.14E-2	9.23E-3	8.52E-3	31	37.99	1.79E-2	1.44E-2	9.99E-3	7.15E-3	5.86E-3	5.48E-3
32	8.567	2.62E-2	2.11E-2	1.46E-2	1.03E-2	8.32E-3	7.67E-3	32	42.63	1.68E-2	1.35E-2	9.53E-3	6.93E-3	5.77E-3	5.44E-3
33	9.025	2.42E-2	1.94E-2	1.34E-2	9.43E-3	7.55E-3	6.94E-3	33	47.80	1.58E-2	1.28E-2	9.10E-3	6.70E-3	5.64E-3	5.36E-3
34	9.467	2.26E-2	1.81E-2	1.24E-2	8.66E-3	6.89E-3	6.32E-3	34	53.52	1.49E-2	1.21E-2	8.68E-3	6.46E-3	5.50E-3	5.26E-3
35	9.893	2.10E-2	1.67E-2	1.15E-2	7.97E-3	6.30E-3	5.77E-3	35	59.85	1.41E-2	1.15E-2	8.28E-3	6.23E-3	5.34E-3	5.14E-3
36	10.30	1.94E-2	1.55E-2	1.06E-2	7.33E-3	5.78E-3	5.29E-3	36	66.82	1.33E-2	1.09E-2	7.90E-3	5.99E-3	5.18E-3	5.00E-3
37	10.70	1.82E-2	1.45E-2	9.95E-3	6.83E-3	5.36E-3	4.89E-3	37	74.47	1.26E-2	1.03E-2	7.54E-3	5.76E-3	5.01E-3	4.86E-3
38	11.09	1.71E-2	1.36E-2	9.25E-3	6.33E-3	4.96E-3	4.53E-3	38	82.85	1.19E-2	9.80E-3	7.19E-3	5.53E-3	4.84E-3	4.72E-3
39	11.46	1.59E-2	1.27E-2	8.60E-3	5.88E-3	4.60E-3	4.20E-3	39	92.00	1.13E-2	9.31E-3	6.86E-3	5.31E-3	4.67E-3	4.57E-3
40	11.82	1.49E-2	1.19E-2	8.07E-3	5.50E-3	4.29E-3	3.92E-3	40	101.98	1.07E-2	8.86E-3	6.55E-3	5.09E-3	4.50E-3	4.42E-3
41	12.17	1.42E-2	1.13E-2	7.62E-3	5.18E-3	4.03E-3	3.68E-3	41	112.83	1.02E-2	8.42E-3	6.26E-3	4.89E-3	4.34E-3	4.28E-3
42	12.51	1.33E-2	1.06E-2	7.14E-3	4.85E-3	3.77E-3	3.45E-3	42	124.61	9.69E-3	8.03E-3	5.98E-3	4.69E-3	4.18E-3	4.13E-3
43	12.85	1.25E-2	9.98E-3	6.74E-3	4.57E-3	3.55E-3	3.25E-3	43	137.37	9.22E-3	7.65E-3	5.72E-3	4.50E-3	4.02E-3	4.00E-3
44	13.17	1.20E-2	9.51E-3	6.44E-3	4.35E-3	3.36E-3	3.07E-3	44	151.17	8.78E-3	7.30E-3	5.47E-3	4.32E-3	3.88E-3	3.86E-3
45	13.48	1.13E-2	8.95E-3	6.04E-3	4.08E-3	3.17E-3	2.90E-3	45	166.07	8.37E-3	6.97E-3	5.24E-3	4.15E-3	3.73E-3	3.73E-3
46	13.78	1.07E-2	8.51E-3	5.73E-3	3.87E-3	3.00E-3	2.75E-3	46	182.13	7.99E-3	6.66E-3	5.02E-3	3.99E-3	3.60E-3	3.61E-3
47	14.07	1.03E-2	8.14E-3	5.48E-3	3.69E-3	2.86E-3	2.63E-3	47	199.42	7.62E-3	6.36E-3	4.81E-3	3.83E-3	3.47E-3	3.49E-3
48	14.35	9.69E-3	7.70E-3	5.19E-3	3.50E-3	2.71E-3	2.49E-3	48	218.00	7.29E-3	6.09E-3	4.61E-3	3.68E-3	3.34E-3	3.37E-3
49	14.63	9.36E-3	7.39E-3	4.98E-3	3.35E-3	2.59E-3	2.38E-3	49	237.94	6.97E-3	5.83E-3	4.42E-3	3.54E-3	3.22E-3	3.26E-3
50	14.89	8.92E-3	7.06E-3	4.77E-3	3.20E-3	2.47E-3	2.28E-3	50	259.32	6.67E-3	5.59E-3	4.24E-3	3.41E-3	3.11E-3	3.16E-3
51	15.15	8.43E-3	6.70E-3	4.51E-3	3.04E-3	2.35E-3	2.18E-3	51	282.21	6.39E-3	5.36E-3	4.08E-3	3.28E-3	3.00E-3	3.05E-3
52	15.40	8.19E-3	6.48E-3	4.35E-3	2.91E-3	2.26E-3	2.09E-3	52	306.69	6.13E-3	5.14E-3	3.92E-3	3.16E-3	2.90E-3	2.96E-3
53	15.64	7.84E-3	6.21E-3	4.17E-3	2.79E-3	2.17E-3	2.01E-3	53	332.84	5.88E-3	4.93E-3	3.77E-3	3.04E-3	2.80E-3	2.87E-3
54	15.87	7.41E-3	5.89E-3	3.97E-3	2.67E-3	2.07E-3	1.93E-3	54	360.75	5.64E-3	4.74E-3	3.62E-3	2.93E-3	2.70E-3	2.78E-3
55	16.09	7.22E-3	5.72E-3	3.84E-3	2.57E-3	2.00E-3	1.86E-3	55	390.51	5.41E-3	4.55E-3	3.49E-3	2.83E-3	2.62E-3	2.69E-3
56	16.30	6.83E-3	5.43E-3	3.66E-3	2.46E-3	1.92E-3	1.79E-3	56	422.20	5.20E-3	4.38E-3	3.36E-3	2.73E-3	2.53E-3	2.62E-3
57	16.50	6.68E-3	5.28E-3	3.54E-3	2.38E-3	1.85E-3	1.73E-3	57	455.92	5.00E-3	4.21E-3	3.24E-3	2.63E-3	2.45E-3	2.54E-3
58	16.69	6.42E-3	5.09E-3	3.41E-3	2.29E-3	1.78E-3	1.68E-3	58	491.77	4.81E-3	4.06E-3	3.12E-3	2.54E-3	2.37E-3	2.46E-3
59	16.88	6.09E-3	4.85E-3	3.26E-3	2.20E-3	1.72E-3	1.62E-3	59	529.86	4.63E-3	3.91E-3	3.01E-3	2.46E-3	2.29E-3	2.39E-3
60	17.05	5.97E-3	4.73E-3	3.17E-3	2.13E-3	1.67E-3	1.57E-3	60	570.28	4.46E-3	3.77E-3	2.90E-3	2.37E-3	2.22E-3	2.33E-3
61	17.22	5.66E-3	4.51E-3	3.04E-3	2.05E-3	1.60E-3	1.52E-3	61	613.16	4.30E-3	3.63E-3	2.80E-3	2.30E-3	2.15E-3	2.26E-3
62	17.38	5.57E-3	4.40E-3	2.96E-3	1.99E-3	1.56E-3	1.48E-3	62	658.61	4.14E-3	3.50E-3	2.71E-3	2.22E-3	2.09E-3	2.20E-3
63	17.52	5.37E-3	4.25E-3	2.86E-3	1.92E-3	1.51E-3	1.43E-3	63	706.74	3.99E-3	3.38E-3	2.62E-3	2.15E-3	2.02E-3	2.14E-3
64	17.66	5.20E-3	4.11E-3	2.76E-3	1.86E-3	1.46E-3	1.39E-3	64	757.69	3.85E-3	3.26E-3	2.53E-3	2.08E-3	1.96E-3	2.08E-3
65	17.78	5.03E-3	3.98E-3	2.67E-3	1.80E-3	1.42E-3	1.36E-3	65	811.58	3.72E-3	3.15E-3	2.44E-3	2.01E-3	1.91E-3	2.03E-3
66	17.90	4.77E-3	3.80E-3	2.57E-3	1.74E-3	1.37E-3	1.32E-3	66	868.55	3.59E-3	3.05E-3	2.36E-3	1.95E-3	1.85E-3	1.98E-3
67	18.00	4.72E-3	3.73E-3	2.50E-3	1.70E-3	1.33E-3	1.29E-3	67	928.74	3.47E-3	2.95E-3	2.29E-3	1.89E-3	1.80E-3	1.93E-3
68	18.10	4.47E-3	3.57E-3	2.42E-3	1.64E-3	1.29E-3	1.25E-3	68	992.30	3.35E-3	2.85E-3	2.21E-3	1.83E-3	1.75E-3	1.88E-3
69	18.18	4.34E-3	3.46E-3	2.34E-3	1.59E-3	1.26E-3	1.22E-3	69	1059.39	3.24E-3	2.76E-3	2.15E-3	1.78E-3	1.70E-3	1.83E-3
70	18.26	4.21E-3	3.36E-3	2.27E-3	1.54E-3	1.22E-3	1.19E-3	70	1130.15	3.13E-3	2.67E-3	2.08E-3	1.72E-3	1.65E-3	1.78E-3
71	18.32	4.08E-3	3.26E-3	2.21E-3	1.50E-3	1.19E-3	1.16E-3	71	1204.77	3.03E-3	2.58E-3	2.01E-3	1.67E-3	1.60E-3	1.74E-3
72	18.37	4.05E-3	3.21E-3	2.17E-3	1.46E-3	1.17E-3	1.14E-3	72	1283.40	2.93E-3	2.50E-3	1.95E-3	1.62E-3	1.56E-3	1.70E-3
73	18.41	3.94E-3	3.12E-3	2.10E-3	1.43E-3	1.14E-3	1.12E-3	73	1366.25	2.84E-3	2.42E-3	1.89E-3	1.58E-3	1.52E-3	1.66E-3
74	18.44	3.83E-3	3.03E-3	2.04E-3	1.39E-3	1.11E-3	1.09E-3	74	1453.48	2.75E-3	2.34E-3	1.84E-3	1.53E-3	1.48E-3	1.62E-3
75	18.46	3.72E-3	2.95E-3	1.99E-3	1.35E-3	1.08E-3	1.07E-3	75	1545.32	2.66E-3	2.27E-3	1.78E-3	1.49E-3	1.44E-3	1.58E-3
76	18.46	3.54E-3	2.83E-3	1.92E-3	1.31E-3	1.05E-3	1.04E-3	76	1641.95	2.58E-3	2.20E-3	1.73E-3	1.44E-3	1.40E-3	1.54E-3
77	18.45	3.44E-3	2.76E-3	1.87E-3	1.28E-3	1.03E-3	1.02E-3	77	1743.60	2.50E-3	2.14E-3	1.68E-3	1.40E-3	1.36E-3	1.51E-3
78	18.43	3.39E-3	2.70E-3	1.83E-3	1.25E-3	1.01E-3	1.00E-3	78	1850.49	2.42E-3	2.07E-3	1.63E-3	1.36E-3	1.33E-3	1.48E-3
79	18.40	3.30E-3	2.63E-3	1.79E-3	1.22E-3	9.85E-4	9.85E-4	79	1962.86	2.35E-3	2.01E-3	1.58E-3	1.33E-3	1.29E-3	1.44E-3
80	18.35	3.21E-3	2.56E-3	1.74E-3	1.20E-3	9.63E-4	9.67E-4	80	2080.96	2.28E-3	1.95E-3	1.53E-3	1.29E-3	1.26E-3	1.41E-3
81	18.30	3.10E-3	2.48E-3	1.70E-3	1.16E-3	9.41E-4	9.48E-4	81	2205.05	2.21E-3	1.89E-3	1.49E-3	1.25E-3	1.23E-3	1.38E-3
82	18.22	3.06E-3	2.44E-3	1.66E-3	1.14E-3	9.24E-4	9.32E-4	82	2335.40	2.14E-3	1.84E-3	1.45E-3	1.22E-3	1.20E-3	1.35E-3
83	18.14	2.98E-3	2.38E-3	1.62E-3	1.12E-3	9.04E-4	9.16E-4	83	2472.30	2.08E-3	1.78E-3	1.41E-3	1.19E-3	1.17E-3	1.32E-3
84	18.04	2.87E-3	2.31E-3	1.58E-3	1.09E-3	8.85E-4	9.00E-4	84	2616.05	2.02E-3	1.73E-3	1.37E-3	1.15E-3	1.14E-3	1.29E-3
85	17.93	2.81E-3	2.26E-3	1.54E-3	1.06E-3	8.67E-4	8.85E-4	85	2766.96	1.96E-3	1.68E-3	1.33E-3	1.12E-3	1.11E-3	1.27E-3
86	17.80	2.78E-3	2.22E-3	1.52E-3	1.04E-3	8.53E-4	8.72E-4	86	2925.32	1.90E-3	1.63E-3	1.29E-3	1.09E-3	1.08E-3	1.24E-3
87	17.65	2.68E-3	2.15E-3	1.48E-3	1.02E-3	8.35E-4	8.57E-4	87	3091.57	1.85E-3	1.59E-3	1.26E-3	1.06E-3	1.06E-3	1.21E-3
88	17.50	2.62E-3	2.11E-3	1.45E-3	9.99E-4	8.19E-4	8.44E-4	88	3266.01	1.79E-3	1.54E-3	1.22E-3	1.03E-3	1.03E-3	1.19E-3
89	17.33	2.59E-3	2.08E-3	1.42E-3	9.82E-4	8.06E-4	8.32E-4	89	3449.05	1.74E-3	1.50E-3	1.19E-3	1.01E-3	1.00E-3	1.16E-3
90	17.14	2.50E-3	2.02E-3	1.39E-3	9.60E-4										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - C_3$								$B_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	196.62	5.52E-4	5.57E-4	5.79E-4	6.20E-4	6.68E-4	7.07E-4	26	218.61	1.57E-4	1.27E-4	9.07E-5	6.99E-5	6.30E-5	6.26E-5
27	207.75	4.95E-4	4.96E-4	5.13E-4	5.49E-4	5.90E-4	6.26E-4	27	232.32	1.40E-4	1.14E-4	8.43E-5	6.76E-5	6.26E-5	6.30E-5
28	219.28	4.44E-4	4.44E-4	4.56E-4	4.87E-4	5.23E-4	5.55E-4	28	246.76	1.24E-4	1.03E-4	7.84E-5	6.51E-5	6.17E-5	6.26E-5
29	231.24	4.00E-4	3.98E-4	4.07E-4	4.33E-4	4.65E-4	4.94E-4	29	262.00	1.11E-4	9.33E-5	7.29E-5	6.23E-5	6.01E-5	6.15E-5
30	243.66	3.61E-4	3.58E-4	3.64E-4	3.86E-4	4.14E-4	4.40E-4	30	278.11	9.92E-5	8.45E-5	6.76E-5	5.93E-5	5.80E-5	5.97E-5
31	256.59	3.26E-4	3.22E-4	3.26E-4	3.45E-4	3.70E-4	3.94E-4	31	295.15	8.88E-5	7.65E-5	6.26E-5	5.61E-5	5.56E-5	5.75E-5
32	270.04	2.95E-4	2.91E-4	2.93E-4	3.09E-4	3.32E-4	3.53E-4	32	313.20	7.96E-5	6.93E-5	5.78E-5	5.27E-5	5.28E-5	5.49E-5
33	284.08	2.68E-4	2.63E-4	2.64E-4	2.78E-4	2.98E-4	3.17E-4	33	332.34	7.13E-5	6.27E-5	5.32E-5	4.93E-5	4.98E-5	5.20E-5
34	298.72	2.44E-4	2.38E-4	2.39E-4	2.50E-4	2.68E-4	2.86E-4	34	352.65	6.40E-5	5.67E-5	4.89E-5	4.59E-5	4.67E-5	4.90E-5
35	314.03	2.22E-4	2.17E-4	2.16E-4	2.26E-4	2.42E-4	2.58E-4	35	374.20	5.73E-5	5.12E-5	4.48E-5	4.25E-5	4.36E-5	4.59E-5
36	330.04	2.03E-4	1.97E-4	1.96E-4	2.05E-4	2.19E-4	2.34E-4	36	397.09	5.14E-5	4.62E-5	4.09E-5	3.93E-5	4.05E-5	4.27E-5
37	346.80	1.86E-4	1.80E-4	1.78E-4	1.86E-4	1.98E-4	2.12E-4	37	421.41	4.60E-5	4.17E-5	3.73E-5	3.61E-5	3.74E-5	3.97E-5
38	364.35	1.70E-4	1.65E-4	1.62E-4	1.69E-4	1.80E-4	1.93E-4	38	447.24	4.12E-5	3.75E-5	3.39E-5	3.31E-5	3.45E-5	3.66E-5
39	382.76	1.57E-4	1.51E-4	1.48E-4	1.54E-4	1.64E-4	1.76E-4	39	474.70	3.68E-5	3.37E-5	3.08E-5	3.03E-5	3.17E-5	3.37E-5
40	402.07	1.44E-4	1.39E-4	1.36E-4	1.40E-4	1.50E-4	1.61E-4	40	503.87	3.29E-5	3.03E-5	2.79E-5	2.76E-5	2.90E-5	3.10E-5
41	422.33	1.33E-4	1.28E-4	1.24E-4	1.28E-4	1.37E-4	1.47E-4	41	534.87	2.94E-5	2.72E-5	2.52E-5	2.51E-5	2.65E-5	2.84E-5
42	443.61	1.23E-4	1.18E-4	1.14E-4	1.17E-4	1.25E-4	1.35E-4	42	567.80	2.63E-5	2.44E-5	2.28E-5	2.28E-5	2.41E-5	2.60E-5
43	465.95	1.14E-4	1.09E-4	1.05E-4	1.08E-4	1.15E-4	1.24E-4	43	602.78	2.35E-5	2.19E-5	2.05E-5	2.07E-5	2.20E-5	2.37E-5
44	489.43	1.06E-4	1.01E-4	9.71E-5	9.93E-5	1.06E-4	1.15E-4	44	639.93	2.10E-5	1.96E-5	1.85E-5	1.87E-5	1.99E-5	2.16E-5
45	514.11	9.85E-5	9.35E-5	8.97E-5	9.15E-5	9.75E-5	1.06E-4	45	679.37	1.87E-5	1.76E-5	1.67E-5	1.69E-5	1.81E-5	1.96E-5
46	540.05	9.18E-5	8.69E-5	8.30E-5	8.45E-5	9.00E-5	9.76E-5	46	721.23	1.67E-5	1.57E-5	1.50E-5	1.53E-5	1.64E-5	1.78E-5
47	567.33	8.56E-5	8.09E-5	7.70E-5	7.81E-5	8.32E-5	9.04E-5	47	765.64	1.49E-5	1.41E-5	1.35E-5	1.38E-5	1.48E-5	1.62E-5
48	596.00	8.00E-5	7.54E-5	7.15E-5	7.23E-5	7.71E-5	8.39E-5	48	812.75	1.33E-5	1.26E-5	1.21E-5	1.25E-5	1.34E-5	1.47E-5
49	626.16	7.49E-5	7.04E-5	6.65E-5	6.71E-5	7.15E-5	7.79E-5	49	862.69	1.18E-5	1.13E-5	1.09E-5	1.12E-5	1.21E-5	1.33E-5
50	657.86	7.03E-5	6.59E-5	6.20E-5	6.24E-5	6.64E-5	7.25E-5	50	915.61	1.06E-5	1.01E-5	9.76E-6	1.01E-5	1.10E-5	1.21E-5
51	691.20	6.59E-5	6.17E-5	5.78E-5	5.80E-5	6.18E-5	6.76E-5	51	971.67	9.41E-6	9.00E-6	8.76E-6	9.11E-6	9.91E-6	1.09E-5
52	726.26	6.20E-5	5.79E-5	5.40E-5	5.41E-5	5.75E-5	6.31E-5	52	1031.03	8.40E-6	8.05E-6	7.86E-6	8.20E-6	8.95E-6	9.91E-6
53	763.13	5.84E-5	5.43E-5	5.05E-5	5.04E-5	5.37E-5	5.89E-5	53	1093.87	7.49E-6	7.20E-6	7.06E-6	7.39E-6	8.08E-6	8.98E-6
54	801.88	5.50E-5	5.11E-5	4.73E-5	4.71E-5	5.01E-5	5.51E-5	54	1160.35	6.68E-6	6.44E-6	6.33E-6	6.65E-6	7.29E-6	8.13E-6
55	842.62	5.19E-5	4.81E-5	4.44E-5	4.41E-5	4.69E-5	5.17E-5	55	1230.65	5.97E-6	5.76E-6	5.68E-6	5.99E-6	6.59E-6	7.36E-6
56	885.44	4.91E-5	4.54E-5	4.17E-5	4.13E-5	4.39E-5	4.85E-5	56	1304.95	5.33E-6	5.15E-6	5.10E-6	5.39E-6	5.95E-6	6.67E-6
57	930.44	4.64E-5	4.28E-5	3.92E-5	3.87E-5	4.12E-5	4.56E-5	57	1383.47	4.76E-6	4.61E-6	4.58E-6	4.86E-6	5.37E-6	6.04E-6
58	977.74	4.39E-5	4.04E-5	3.69E-5	3.64E-5	3.86E-5	4.28E-5	58	1466.40	4.25E-6	4.13E-6	4.12E-6	4.37E-6	4.85E-6	5.48E-6
59	1027.43	4.16E-5	3.82E-5	3.48E-5	3.42E-5	3.63E-5	4.03E-5	59	1553.96	3.80E-6	3.70E-6	3.70E-6	3.94E-6	4.39E-6	4.97E-6
60	1079.61	3.95E-5	3.62E-5	3.28E-5	3.22E-5	3.42E-5	3.80E-5	60	1646.33	3.40E-6	3.31E-6	3.32E-6	3.55E-6	3.97E-6	4.51E-6
61	1134.43	3.75E-5	3.43E-5	3.10E-5	3.03E-5	3.22E-5	3.59E-5	61	1743.79	3.04E-6	2.97E-6	2.99E-6	3.20E-6	3.58E-6	4.09E-6
62	1191.96	3.56E-5	3.25E-5	2.93E-5	2.86E-5	3.03E-5	3.39E-5	62	1846.52	2.72E-6	2.66E-6	2.69E-6	2.89E-6	3.24E-6	3.71E-6
63	1252.39	3.38E-5	3.09E-5	2.77E-5	2.70E-5	2.86E-5	3.21E-5	63	1954.82	2.44E-6	2.39E-6	2.42E-6	2.61E-6	2.94E-6	3.37E-6
64	1315.78	3.22E-5	2.93E-5	2.63E-5	2.55E-5	2.70E-5	3.04E-5	64	2068.89	2.18E-6	2.14E-6	2.18E-6	2.35E-6	2.66E-6	3.06E-6
65	1382.33	3.06E-5	2.79E-5	2.49E-5	2.41E-5	2.56E-5	2.88E-5	65	2189.06	1.96E-6	1.93E-6	1.96E-6	2.13E-6	2.41E-6	2.79E-6
66	1452.14	2.92E-5	2.65E-5	2.36E-5	2.28E-5	2.42E-5	2.73E-5	66	2315.55	1.76E-6	1.73E-6	1.77E-6	1.92E-6	2.18E-6	2.53E-6
67	1525.38	2.78E-5	2.52E-5	2.24E-5	2.16E-5	2.29E-5	2.59E-5	67	2448.68	1.58E-6	1.55E-6	1.59E-6	1.74E-6	1.98E-6	2.31E-6
68	1602.19	2.65E-5	2.40E-5	2.13E-5	2.04E-5	2.17E-5	2.46E-5	68	2588.75	1.42E-6	1.40E-6	1.44E-6	1.57E-6	1.80E-6	2.10E-6
69	1682.75	2.53E-5	2.29E-5	2.02E-5	1.94E-5	2.06E-5	2.34E-5	69	2736.07	1.27E-6	1.26E-6	1.30E-6	1.42E-6	1.63E-6	1.91E-6
70	1767.16	2.42E-5	2.18E-5	1.92E-5	1.84E-5	1.95E-5	2.22E-5	70	2890.92	1.14E-6	1.13E-6	1.17E-6	1.29E-6	1.48E-6	1.75E-6
71	1855.68	2.31E-5	2.08E-5	1.83E-5	1.75E-5	1.86E-5	2.12E-5	71	3053.70	1.03E-6	1.02E-6	1.06E-6	1.17E-6	1.35E-6	1.59E-6
72	1948.41	2.21E-5	1.99E-5	1.74E-5	1.66E-5	1.76E-5	2.02E-5	72	3224.72	9.26E-7	9.21E-7	9.54E-7	1.06E-6	1.22E-6	1.45E-6
73	2045.59	2.11E-5	1.90E-5	1.66E-5	1.58E-5	1.68E-5	1.92E-5	73	3404.38	8.34E-7	8.30E-7	8.63E-7	9.59E-7	1.11E-6	1.33E-6
74	2147.39	2.02E-5	1.81E-5	1.58E-5	1.50E-5	1.60E-5	1.83E-5	74	3593.04	7.51E-7	7.49E-7	7.81E-7	8.70E-7	1.02E-6	1.21E-6
75	2254.03	1.93E-5	1.73E-5	1.51E-5	1.43E-5	1.52E-5	1.75E-5	75	3791.11	6.77E-7	6.76E-7	7.07E-7	7.90E-7	9.25E-7	1.11E-6
76	2365.66	1.85E-5	1.65E-5	1.44E-5	1.36E-5	1.45E-5	1.67E-5	76	3998.97	6.11E-7	6.11E-7	6.40E-7	7.18E-7	8.43E-7	1.02E-6
77	2482.60	1.77E-5	1.58E-5	1.37E-5	1.30E-5	1.38E-5	1.60E-5	77	4217.13	5.52E-7	5.52E-7	5.80E-7	6.53E-7	7.69E-7	9.30E-7
78	2605.00	1.69E-5	1.51E-5	1.31E-5	1.24E-5	1.31E-5	1.53E-5	78	4445.98	4.98E-7	5.00E-7	5.26E-7	5.93E-7	7.02E-7	8.52E-7
79	2733.15	1.62E-5	1.45E-5	1.25E-5	1.18E-5	1.26E-5	1.46E-5	79	4686.06	4.50E-7	4.52E-7	4.77E-7	5.40E-7	6.41E-7	7.81E-7
80	2867.21	1.55E-5	1.39E-5	1.20E-5	1.13E-5	1.20E-5	1.40E-5	80	4937.75	4.07E-7	4.09E-7	4.33E-7	4.91E-7	5.85E-7	7.17E-7
81	3007.48	1.49E-5	1.33E-5	1.14E-5	1.07E-5	1.15E-5	1.34E-5	81	5201.62	3.68E-7	3.70E-7	3.94E-7	4.48E-7	5.35E-7	6.58E-7
82	3154.28	1.43E-5	1.27E-5	1.09E-5	1.03E-5	1.09E-5	1.29E-5	82	5478.27	3.33E-7	3.36E-7	3.58E-7	4.08E-7	4.90E-7	6.04E-7
83	3307.92	1.37E-5	1.22E-5	1.05E-5	9.80E-6	1.05E-5	1.23E-5	83	5768.29	3.02E-7	3.05E-7	3.25E-7	3.72E-7	4.48E-7	5.55E-7
84	3468.74	1.31E-5	1.17E-5	1.00E-5	9.38E-6	1.00E-5	1.18E-5	84	6072.32	2.73E-7	2.76E-7	2.96E-7	3.40E-7	4.10E-7	5.11E-7
85	3636.90	1.26E-5	1.12E-5	9.60E-6	8.97E-6	9.59E-6	1.13E-5	85	6390.84	2.48E-7	2.51E-7	2.69E-7	3.10E-7	3.76E-7	4.70E-7
86	3812.02	1.21E-5	1.08E-5	9.21E-6	8.59E-6	9.19E-6	1.09E-5	86	6723.75	2.25E-7	2.28E-7	2.45E-7	2.83E-7	3.44E-7	4.32E-7
87	3995.89	1.16E-5	1.03E-5	8.83E-6	8.23E-6	8.80E-6	1.05E-5	87	7073.27	2.04E-7	2.07E-7	2.23E-7	2.59E-7	3.16E-7	3.98E-7
88	4188.00	1.11E-5	9.93E-6	8.47E-6	7.88E-6	8.44E-6	1.01E-5	88	7439.20	1.85E-7	1.88E-7	2.03E-7	2.37E-7	2.90E-7	3.67E-7
89	4389.03	1.07E-5	9.54E-6	8.13E-6	7.55E-6	8.09E-6	9.70E-6	89	7822.64	1.68E-7	1.71				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_2 - C_4$								$C_1 - A_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	10.45	3.28E-2	2.49E-2	1.48E-2	7.76E-3	4.21E-3	2.78E-3	26	31.03	7.81E-3	6.36E-3	4.70E-3	3.79E-3	3.52E-3	3.53E-3
27	10.73	3.05E-2	2.32E-2	1.38E-2	7.37E-3	4.11E-3	2.81E-3	27	33.85	7.30E-3	6.07E-3	4.67E-3	3.94E-3	3.75E-3	3.80E-3
28	11.00	2.82E-2	2.15E-2	1.29E-2	6.99E-3	4.00E-3	2.82E-3	28	37.02	6.85E-3	5.80E-3	4.62E-3	4.03E-3	3.92E-3	4.00E-3
29	11.26	2.63E-2	2.00E-2	1.21E-2	6.65E-3	3.91E-3	2.83E-3	29	40.60	6.45E-3	5.55E-3	4.55E-3	4.08E-3	4.02E-3	4.14E-3
30	11.52	2.45E-2	1.87E-2	1.14E-2	6.33E-3	3.81E-3	2.81E-3	30	44.61	6.09E-3	5.30E-3	4.45E-3	4.08E-3	4.07E-3	4.20E-3
31	11.78	2.27E-2	1.74E-2	1.07E-2	6.02E-3	3.69E-3	2.78E-3	31	49.09	5.76E-3	5.07E-3	4.34E-3	4.03E-3	4.06E-3	4.21E-3
32	12.03	2.13E-2	1.63E-2	1.01E-2	5.75E-3	3.59E-3	2.75E-3	32	54.08	5.44E-3	4.84E-3	4.20E-3	3.96E-3	4.01E-3	4.17E-3
33	12.29	1.99E-2	1.54E-2	9.50E-3	5.49E-3	3.48E-3	2.71E-3	33	59.61	5.15E-3	4.61E-3	4.06E-3	3.86E-3	3.93E-3	4.10E-3
34	12.54	1.89E-2	1.45E-2	9.03E-3	5.27E-3	3.40E-3	2.68E-3	34	65.72	4.87E-3	4.39E-3	3.90E-3	3.74E-3	3.83E-3	4.01E-3
35	12.79	1.78E-2	1.37E-2	8.58E-3	5.04E-3	3.28E-3	2.63E-3	35	72.45	4.61E-3	4.18E-3	3.75E-3	3.61E-3	3.71E-3	3.89E-3
36	13.04	1.66E-2	1.29E-2	8.08E-3	4.80E-3	3.17E-3	2.57E-3	36	79.85	4.37E-3	3.98E-3	3.59E-3	3.48E-3	3.58E-3	3.77E-3
37	13.29	1.58E-2	1.23E-2	7.76E-3	4.63E-3	3.09E-3	2.51E-3	37	87.95	4.14E-3	3.78E-3	3.43E-3	3.34E-3	3.45E-3	3.64E-3
38	13.54	1.50E-2	1.16E-2	7.35E-3	4.42E-3	2.98E-3	2.45E-3	38	96.80	3.93E-3	3.60E-3	3.28E-3	3.20E-3	3.32E-3	3.50E-3
39	13.78	1.41E-2	1.09E-2	6.94E-3	4.22E-3	2.87E-3	2.39E-3	39	106.45	3.73E-3	3.42E-3	3.13E-3	3.07E-3	3.18E-3	3.37E-3
40	14.02	1.34E-2	1.04E-2	6.62E-3	4.04E-3	2.78E-3	2.33E-3	40	116.94	3.54E-3	3.26E-3	2.99E-3	2.94E-3	3.05E-3	3.24E-3
41	14.26	1.28E-2	9.93E-3	6.34E-3	3.89E-3	2.69E-3	2.27E-3	41	128.32	3.36E-3	3.10E-3	2.85E-3	2.81E-3	2.93E-3	3.12E-3
42	14.50	1.20E-2	9.40E-3	6.02E-3	3.72E-3	2.60E-3	2.20E-3	42	140.66	3.19E-3	2.95E-3	2.72E-3	2.69E-3	2.81E-3	2.99E-3
43	14.74	1.15E-2	8.95E-3	5.75E-3	3.57E-3	2.51E-3	2.14E-3	43	154.00	3.04E-3	2.81E-3	2.60E-3	2.57E-3	2.69E-3	2.87E-3
44	14.97	1.10E-2	8.60E-3	5.56E-3	3.46E-3	2.44E-3	2.09E-3	44	168.39	2.89E-3	2.68E-3	2.48E-3	2.46E-3	2.58E-3	2.76E-3
45	15.19	1.04E-2	8.15E-3	5.26E-3	3.30E-3	2.34E-3	2.03E-3	45	183.91	2.76E-3	2.56E-3	2.37E-3	2.36E-3	2.47E-3	2.65E-3
46	15.42	9.95E-3	7.79E-3	5.04E-3	3.17E-3	2.27E-3	1.97E-3	46	200.61	2.63E-3	2.44E-3	2.27E-3	2.26E-3	2.37E-3	2.55E-3
47	15.64	9.64E-3	7.50E-3	4.86E-3	3.07E-3	2.20E-3	1.92E-3	47	218.55	2.51E-3	2.33E-3	2.17E-3	2.16E-3	2.27E-3	2.45E-3
48	15.85	9.10E-3	7.14E-3	4.64E-3	2.94E-3	2.12E-3	1.86E-3	48	237.81	2.39E-3	2.23E-3	2.08E-3	2.07E-3	2.18E-3	2.36E-3
49	16.06	8.83E-3	6.88E-3	4.48E-3	2.84E-3	2.06E-3	1.82E-3	49	258.45	2.29E-3	2.13E-3	1.99E-3	1.98E-3	2.10E-3	2.27E-3
50	16.27	8.44E-3	6.60E-3	4.32E-3	2.75E-3	2.00E-3	1.77E-3	50	280.54	2.19E-3	2.04E-3	1.91E-3	1.90E-3	2.01E-3	2.19E-3
51	16.47	8.01E-3	6.29E-3	4.11E-3	2.63E-3	1.93E-3	1.72E-3	51	304.17	2.09E-3	1.95E-3	1.83E-3	1.83E-3	1.94E-3	2.11E-3
52	16.66	7.81E-3	6.11E-3	3.99E-3	2.55E-3	1.87E-3	1.67E-3	52	329.40	2.00E-3	1.87E-3	1.75E-3	1.75E-3	1.86E-3	2.04E-3
53	16.85	7.50E-3	5.87E-3	3.84E-3	2.46E-3	1.82E-3	1.63E-3	53	356.32	1.92E-3	1.79E-3	1.68E-3	1.69E-3	1.79E-3	1.97E-3
54	17.03	7.10E-3	5.59E-3	3.67E-3	2.37E-3	1.76E-3	1.58E-3	54	385.02	1.84E-3	1.72E-3	1.61E-3	1.62E-3	1.73E-3	1.90E-3
55	17.21	6.94E-3	5.44E-3	3.57E-3	2.30E-3	1.71E-3	1.54E-3	55	415.59	1.76E-3	1.65E-3	1.55E-3	1.56E-3	1.67E-3	1.84E-3
56	17.38	6.58E-3	5.19E-3	3.42E-3	2.22E-3	1.65E-3	1.51E-3	56	448.11	1.69E-3	1.58E-3	1.49E-3	1.50E-3	1.61E-3	1.78E-3
57	17.54	6.45E-3	5.06E-3	3.33E-3	2.15E-3	1.61E-3	1.47E-3	57	482.68	1.62E-3	1.52E-3	1.43E-3	1.45E-3	1.55E-3	1.72E-3
58	17.70	6.21E-3	4.88E-3	3.21E-3	2.08E-3	1.56E-3	1.43E-3	58	519.40	1.56E-3	1.46E-3	1.38E-3	1.39E-3	1.50E-3	1.67E-3
59	17.85	5.90E-3	4.66E-3	3.08E-3	2.01E-3	1.52E-3	1.40E-3	59	558.37	1.50E-3	1.41E-3	1.33E-3	1.34E-3	1.45E-3	1.61E-3
60	17.99	5.79E-3	4.56E-3	3.01E-3	1.96E-3	1.48E-3	1.36E-3	60	599.71	1.44E-3	1.35E-3	1.28E-3	1.29E-3	1.40E-3	1.56E-3
61	18.12	5.50E-3	4.35E-3	2.89E-3	1.89E-3	1.44E-3	1.33E-3	61	643.51	1.38E-3	1.30E-3	1.23E-3	1.25E-3	1.35E-3	1.52E-3
62	18.25	5.42E-3	4.26E-3	2.81E-3	1.84E-3	1.40E-3	1.30E-3	62	689.90	1.33E-3	1.25E-3	1.19E-3	1.20E-3	1.31E-3	1.47E-3
63	18.36	5.24E-3	4.12E-3	2.73E-3	1.79E-3	1.37E-3	1.27E-3	63	739.00	1.28E-3	1.21E-3	1.14E-3	1.16E-3	1.27E-3	1.43E-3
64	18.47	5.08E-3	3.99E-3	2.64E-3	1.74E-3	1.33E-3	1.25E-3	64	790.94	1.23E-3	1.16E-3	1.10E-3	1.12E-3	1.22E-3	1.39E-3
65	18.57	4.92E-3	3.87E-3	2.57E-3	1.69E-3	1.30E-3	1.22E-3	65	845.84	1.19E-3	1.12E-3	1.06E-3	1.09E-3	1.19E-3	1.35E-3
66	18.66	4.67E-3	3.70E-3	2.47E-3	1.64E-3	1.26E-3	1.19E-3	66	903.84	1.15E-3	1.08E-3	1.03E-3	1.05E-3	1.15E-3	1.31E-3
67	18.74	4.62E-3	3.63E-3	2.41E-3	1.60E-3	1.23E-3	1.17E-3	67	965.08	1.11E-3	1.04E-3	9.93E-4	1.02E-3	1.12E-3	1.28E-3
68	18.82	4.39E-3	3.48E-3	2.33E-3	1.55E-3	1.20E-3	1.14E-3	68	1029.71	1.07E-3	1.01E-3	9.59E-4	9.83E-4	1.08E-3	1.24E-3
69	18.88	4.26E-3	3.38E-3	2.27E-3	1.51E-3	1.17E-3	1.12E-3	69	1097.89	1.03E-3	9.73E-4	9.27E-4	9.51E-4	1.05E-3	1.21E-3
70	18.93	4.13E-3	3.29E-3	2.20E-3	1.47E-3	1.14E-3	1.10E-3	70	1169.77	9.93E-4	9.40E-4	8.96E-4	9.21E-4	1.02E-3	1.18E-3
71	18.97	4.01E-3	3.19E-3	2.14E-3	1.43E-3	1.12E-3	1.08E-3	71	1245.53	9.59E-4	9.08E-4	8.67E-4	8.92E-4	9.89E-4	1.15E-3
72	19.00	3.98E-3	3.15E-3	2.11E-3	1.40E-3	1.10E-3	1.06E-3	72	1325.33	9.25E-4	8.78E-4	8.39E-4	8.64E-4	9.60E-4	1.12E-3
73	19.03	3.88E-3	3.06E-3	2.04E-3	1.37E-3	1.07E-3	1.04E-3	73	1409.36	8.94E-4	8.48E-4	8.11E-4	8.38E-4	9.33E-4	1.09E-3
74	19.04	3.77E-3	2.98E-3	1.99E-3	1.33E-3	1.05E-3	1.02E-3	74	1497.81	8.64E-4	8.20E-4	7.85E-4	8.12E-4	9.07E-4	1.06E-3
75	19.04	3.67E-3	2.90E-3	1.94E-3	1.30E-3	1.03E-3	1.00E-3	75	1590.87	8.34E-4	7.93E-4	7.60E-4	7.87E-4	8.82E-4	1.04E-3
76	19.02	3.49E-3	2.79E-3	1.88E-3	1.27E-3	1.00E-3	9.81E-4	76	1688.76	8.07E-4	7.67E-4	7.36E-4	7.63E-4	8.57E-4	1.01E-3
77	19.00	3.40E-3	2.71E-3	1.83E-3	1.24E-3	9.79E-4	9.64E-4	77	1791.70	7.80E-4	7.42E-4	7.13E-4	7.41E-4	8.34E-4	9.89E-4
78	18.96	3.35E-3	2.66E-3	1.79E-3	1.21E-3	9.61E-4	9.49E-4	78	1899.90	7.54E-4	7.17E-4	6.91E-4	7.19E-4	8.12E-4	9.66E-4
79	18.92	3.26E-3	2.60E-3	1.75E-3	1.18E-3	9.42E-4	9.33E-4	79	2013.61	7.29E-4	6.94E-4	6.69E-4	6.98E-4	7.90E-4	9.44E-4
80	18.86	3.18E-3	2.53E-3	1.71E-3	1.16E-3	9.22E-4	9.19E-4	80	2133.07	7.05E-4	6.72E-4	6.48E-4	6.77E-4	7.69E-4	9.22E-4
81	18.79	3.06E-3	2.45E-3	1.66E-3	1.13E-3	9.03E-4	9.03E-4	81	2258.55	6.83E-4	6.50E-4	6.28E-4	6.58E-4	7.49E-4	9.01E-4
82	18.70	3.03E-3	2.41E-3	1.63E-3	1.11E-3	8.88E-4	8.90E-4	82	2390.31	6.61E-4	6.30E-4	6.09E-4	6.38E-4	7.29E-4	8.81E-4
83	18.60	2.95E-3	2.35E-3	1.59E-3	1.09E-3	8.71E-4	8.76E-4	83	2528.66	6.39E-4	6.10E-4	5.90E-4	6.20E-4	7.10E-4	8.61E-4
84	18.49	2.85E-3	2.28E-3	1.55E-3	1.06E-3	8.53E-4	8.62E-4	84	2673.88	6.19E-4	5.90E-4	5.72E-4	6.02E-4	6.91E-4	8.42E-4
85	18.36	2.78E-3	2.23E-3	1.52E-3	1.04E-3	8.38E-4	8.50E-4	85	2826.29	5.99E-4	5.72E-4	5.55E-4	5.85E-4	6.73E-4	8.23E-4
86	18.22	2.75E-3	2.20E-3	1.50E-3	1.02E-3	8.25E-4	8.38E-4	86	2986.19	5.80E-4	5.54E-4	5.38E-4	5.68E-4	6.56E-4	8.05E-4
87	18.07	2.66E-3	2.13E-3	1.46E-3	9.97E-4	8.09E-4	8.26E-4	87	3153.99	5.61E-4	5.37E-4	5.21E-4	5.52E-4	6.39E-4	7.87E-4
88	17.90	2.60E-3	2.09E-3	1.43E-3	9.78E-4	7.95E-4	8.15E-4	88	3330.02	5.44E-4	5.20E-4	5.06E-4	5.36E-4	6.23E-4	7.70E-4
89	17.72	2.57E-3	2.06E-3	1.40E-3	9.62E-4	7.84E-4	8.04E-4	89	3514.69	5.26E-4	5.04E-4	4.90E-4	5.21E-4	6.07E-4	7.53E-4
90	17.52	2.48E-3	2.00E-3	1.37E-3	9.42E-4										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - A_3$								$C_1 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	202.30	1.92E-4	2.13E-4	2.46E-4	2.80E-4	3.09E-4	3.30E-4	26	242.06	3.98E-5	3.01E-5	1.82E-5	1.08E-5	7.72E-6	6.87E-6
27	214.33	1.75E-4	1.92E-4	2.21E-4	2.51E-4	2.77E-4	2.96E-4	27	257.41	3.17E-5	2.41E-5	1.49E-5	9.13E-6	6.79E-6	6.18E-6
28	226.81	1.60E-4	1.75E-4	1.99E-4	2.26E-4	2.49E-4	2.67E-4	28	273.83	2.49E-5	1.90E-5	1.19E-5	7.55E-6	5.79E-6	5.37E-6
29	239.73	1.47E-4	1.60E-4	1.81E-4	2.05E-4	2.25E-4	2.41E-4	29	291.42	1.93E-5	1.48E-5	9.40E-6	6.10E-6	4.80E-6	4.51E-6
30	253.13	1.36E-4	1.47E-4	1.65E-4	1.86E-4	2.04E-4	2.19E-4	30	310.31	1.47E-5	1.14E-5	7.32E-6	4.84E-6	3.88E-6	3.68E-6
31	267.01	1.25E-4	1.34E-4	1.50E-4	1.69E-4	1.86E-4	1.99E-4	31	330.62	1.12E-5	8.68E-6	5.62E-6	3.78E-6	3.08E-6	2.94E-6
32	281.42	1.16E-4	1.23E-4	1.38E-4	1.54E-4	1.70E-4	1.82E-4	32	352.47	8.44E-6	6.56E-6	4.28E-6	2.92E-6	2.40E-6	2.31E-6
33	296.38	1.07E-4	1.13E-4	1.26E-4	1.41E-4	1.55E-4	1.66E-4	33	375.96	6.33E-6	4.93E-6	3.24E-6	2.23E-6	1.86E-6	1.80E-6
34	311.94	9.85E-5	1.05E-4	1.16E-4	1.29E-4	1.42E-4	1.52E-4	34	401.23	4.74E-6	3.70E-6	2.45E-6	1.70E-6	1.42E-6	1.38E-6
35	328.12	9.10E-5	9.62E-5	1.06E-4	1.18E-4	1.30E-4	1.40E-4	35	428.40	3.54E-6	2.77E-6	1.84E-6	1.29E-6	1.09E-6	1.06E-6
36	344.99	8.41E-5	8.86E-5	9.75E-5	1.08E-4	1.19E-4	1.29E-4	36	457.58	2.65E-6	2.08E-6	1.39E-6	9.76E-7	8.28E-7	8.11E-7
37	362.58	7.77E-5	8.17E-5	8.96E-5	9.96E-5	1.10E-4	1.18E-4	37	488.92	1.99E-6	1.56E-6	1.04E-6	7.39E-7	6.30E-7	6.20E-7
38	380.96	7.18E-5	7.54E-5	8.25E-5	9.16E-5	1.01E-4	1.09E-4	38	522.55	1.49E-6	1.17E-6	7.88E-7	5.61E-7	4.80E-7	4.75E-7
39	400.16	6.65E-5	6.97E-5	7.61E-5	8.44E-5	9.29E-5	1.01E-4	39	558.61	1.12E-6	8.84E-7	5.96E-7	4.26E-7	3.67E-7	3.64E-7
40	420.25	6.15E-5	6.44E-5	7.02E-5	7.78E-5	8.57E-5	9.31E-5	40	597.25	8.49E-7	6.69E-7	4.53E-7	3.25E-7	2.81E-7	2.80E-7
41	441.28	5.70E-5	5.96E-5	6.48E-5	7.18E-5	7.92E-5	8.62E-5	41	638.62	6.43E-7	5.08E-7	3.45E-7	2.49E-7	2.16E-7	2.15E-7
42	463.32	5.29E-5	5.51E-5	5.99E-5	6.63E-5	7.32E-5	7.99E-5	42	682.89	4.89E-7	3.87E-7	2.63E-7	1.91E-7	1.66E-7	1.67E-7
43	486.42	4.91E-5	5.11E-5	5.54E-5	6.14E-5	6.78E-5	7.41E-5	43	730.22	3.74E-7	2.96E-7	2.02E-7	1.47E-7	1.29E-7	1.29E-7
44	510.65	4.56E-5	4.74E-5	5.13E-5	5.68E-5	6.28E-5	6.88E-5	44	780.79	2.86E-7	2.27E-7	1.55E-7	1.14E-7	9.98E-8	1.01E-7
45	536.07	4.24E-5	4.40E-5	4.76E-5	5.27E-5	5.83E-5	6.40E-5	45	834.77	2.20E-7	1.75E-7	1.20E-7	8.80E-8	7.77E-8	7.87E-8
46	562.76	3.94E-5	4.09E-5	4.42E-5	4.89E-5	5.42E-5	5.96E-5	46	892.37	1.70E-7	1.35E-7	9.28E-8	6.84E-8	6.06E-8	6.16E-8
47	590.78	3.67E-5	3.81E-5	4.11E-5	4.54E-5	5.04E-5	5.55E-5	47	953.77	1.31E-7	1.04E-7	7.21E-8	5.34E-8	4.75E-8	4.84E-8
48	620.20	3.42E-5	3.54E-5	3.82E-5	4.22E-5	4.69E-5	5.18E-5	48	1019.18	1.02E-7	8.11E-8	5.62E-8	4.18E-8	3.73E-8	3.82E-8
49	651.11	3.20E-5	3.30E-5	3.55E-5	3.93E-5	4.37E-5	4.84E-5	49	1088.82	7.92E-8	6.32E-8	4.39E-8	3.28E-8	2.94E-8	3.02E-8
50	683.58	2.99E-5	3.08E-5	3.31E-5	3.66E-5	4.08E-5	4.52E-5	50	1162.90	6.19E-8	4.94E-8	3.45E-8	2.58E-8	2.32E-8	2.39E-8
51	717.68	2.79E-5	2.88E-5	3.09E-5	3.41E-5	3.81E-5	4.24E-5	51	1241.66	4.84E-8	3.88E-8	2.71E-8	2.04E-8	1.84E-8	1.90E-8
52	753.51	2.61E-5	2.69E-5	2.88E-5	3.19E-5	3.56E-5	3.97E-5	52	1325.32	3.80E-8	3.05E-8	2.14E-8	1.61E-8	1.46E-8	1.52E-8
53	791.16	2.45E-5	2.52E-5	2.69E-5	2.98E-5	3.33E-5	3.72E-5	53	1414.17	3.00E-8	2.41E-8	1.69E-8	1.28E-8	1.17E-8	1.21E-8
54	830.70	2.30E-5	2.36E-5	2.52E-5	2.78E-5	3.12E-5	3.50E-5	54	1508.43	2.36E-8	1.90E-8	1.34E-8	1.02E-8	9.29E-9	9.71E-9
55	872.25	2.15E-5	2.21E-5	2.36E-5	2.61E-5	2.92E-5	3.29E-5	55	1608.39	1.87E-8	1.51E-8	1.06E-8	8.11E-9	7.44E-9	7.81E-9
56	915.88	2.02E-5	2.07E-5	2.21E-5	2.44E-5	2.74E-5	3.09E-5	56	1714.32	1.49E-8	1.20E-8	8.47E-9	6.47E-9	5.96E-9	6.28E-9
57	961.72	1.90E-5	1.95E-5	2.07E-5	2.29E-5	2.58E-5	2.91E-5	57	1826.52	1.18E-8	9.52E-9	6.76E-9	5.18E-9	4.78E-9	5.06E-9
58	1009.86	1.79E-5	1.83E-5	1.95E-5	2.15E-5	2.42E-5	2.75E-5	58	1945.28	9.42E-9	7.61E-9	5.41E-9	4.16E-9	3.85E-9	4.09E-9
59	1060.41	1.69E-5	1.72E-5	1.83E-5	2.02E-5	2.28E-5	2.59E-5	59	2070.93	7.53E-9	6.08E-9	4.33E-9	3.34E-9	3.10E-9	3.31E-9
60	1113.47	1.59E-5	1.62E-5	1.72E-5	1.90E-5	2.15E-5	2.45E-5	60	2203.77	6.03E-9	4.87E-9	3.48E-9	2.69E-9	2.51E-9	2.68E-9
61	1169.18	1.50E-5	1.52E-5	1.62E-5	1.79E-5	2.02E-5	2.31E-5	61	2344.18	4.83E-9	3.91E-9	2.80E-9	2.17E-9	2.03E-9	2.18E-9
62	1227.62	1.41E-5	1.44E-5	1.52E-5	1.68E-5	1.91E-5	2.19E-5	62	2492.45	3.89E-9	3.15E-9	2.26E-9	1.75E-9	1.64E-9	1.77E-9
63	1288.97	1.34E-5	1.36E-5	1.43E-5	1.59E-5	1.80E-5	2.07E-5	63	2649.01	3.13E-9	2.54E-9	1.82E-9	1.42E-9	1.33E-9	1.44E-9
64	1353.30	1.26E-5	1.28E-5	1.35E-5	1.50E-5	1.70E-5	1.96E-5	64	2814.19	2.52E-9	2.05E-9	1.47E-9	1.15E-9	1.08E-9	1.17E-9
65	1420.82	1.19E-5	1.21E-5	1.28E-5	1.41E-5	1.61E-5	1.86E-5	65	2988.44	2.04E-9	1.66E-9	1.19E-9	1.00E-9	1.00E-9	1.00E-9
66	1491.61	1.13E-5	1.14E-5	1.21E-5	1.33E-5	1.52E-5	1.77E-5	66	3172.13	1.65E-9	1.35E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9
67	1565.85	1.07E-5	1.08E-5	1.14E-5	1.26E-5	1.44E-5	1.68E-5	67	3365.72	1.34E-9	1.09E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9
68	1643.69	1.01E-5	1.02E-5	1.08E-5	1.19E-5	1.37E-5	1.60E-5	68	3569.65	1.09E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9
69	1725.29	9.61E-6	9.70E-6	1.02E-5	1.13E-5	1.30E-5	1.52E-5	69	3784.40	1.00E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
70	1810.77	9.11E-6	9.19E-6	9.65E-6	1.07E-5	1.23E-5	1.45E-5	70	4010.39	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
71	1900.38	8.65E-6	8.71E-6	9.13E-6	1.01E-5	1.17E-5	1.38E-5	71	4248.22	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
72	1994.22	8.21E-6	8.26E-6	8.66E-6	9.60E-6	1.11E-5	1.31E-5	72	4498.34	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
73	2092.54	7.80E-6	7.84E-6	8.21E-6	9.10E-6	1.05E-5	1.25E-5	73	4761.36	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
74	2195.50	7.41E-6	7.44E-6	7.78E-6	8.64E-6	1.00E-5	1.19E-5	74	5037.82	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
75	2303.32	7.04E-6	7.07E-6	7.39E-6	8.20E-6	9.53E-6	1.14E-5	75	5328.35	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
76	2416.16	6.70E-6	6.72E-6	7.01E-6	7.79E-6	9.08E-6	1.09E-5	76	5633.50	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
77	2534.34	6.37E-6	6.38E-6	6.66E-6	7.41E-6	8.65E-6	1.04E-5	77	5954.05	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
78	2657.99	6.07E-6	6.07E-6	6.33E-6	7.04E-6	8.24E-6	9.96E-6	78	6290.58	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
79	2787.43	5.78E-6	5.77E-6	6.02E-6	6.70E-6	7.86E-6	9.53E-6	79	6643.88	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
80	2922.80	5.51E-6	5.49E-6	5.73E-6	6.38E-6	7.49E-6	9.12E-6	80	7014.58	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	3064.42	5.25E-6	5.23E-6	5.45E-6	6.07E-6	7.15E-6	8.74E-6	81	7403.53	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	3212.59	5.00E-6	4.98E-6	5.19E-6	5.78E-6	6.83E-6	8.37E-6	82	7811.59	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	3367.62	4.77E-6	4.75E-6	4.94E-6	5.51E-6	6.52E-6	8.02E-6	83	8239.64	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	3529.87	4.55E-6	4.53E-6	4.70E-6	5.25E-6	6.23E-6	7.69E-6	84	8688.65	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	3699.49	4.34E-6	4.32E-6	4.48E-6	5.01E-6	5.96E-6	7.38E-6	85	9159.38	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	3876.10	4.15E-6	4.13E-6	4.28E-6	4.79E-6	5.71E-6	7.09E-6	86	9652.06	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	4061.49	3.97E-6	3.94E-6	4.08E-6	4.57E-6	5.46E-6	6.81E-6	87	10169.3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	4255.14	3.79E-6	3.76E-6	3.90E-6	4.36E-6	5.23E-6	6.55E-6	88	10711.3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	4457.75	3.63E-6	3.59E-6	3.72E-6	4.17E-6	5.01E-6	6.30E-6	89	11279.5	0.00E+0					

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - A_2$								$C_2 - A_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	15.10	2.15E-2	2.15E-2	2.25E-2	2.44E-2	2.64E-2	2.79E-2	26	186.37	5.77E-5	4.29E-5	2.47E-5	1.33E-5	8.43E-6	6.94E-6
27	15.93	1.96E-2	1.94E-2	2.02E-2	2.18E-2	2.35E-2	2.49E-2	27	196.41	4.63E-5	3.45E-5	2.00E-5	1.10E-5	7.22E-6	6.09E-6
28	16.75	1.78E-2	1.76E-2	1.82E-2	1.95E-2	2.10E-2	2.23E-2	28	206.53	3.66E-5	2.73E-5	1.60E-5	8.96E-6	6.00E-6	5.14E-6
29	17.56	1.63E-2	1.60E-2	1.64E-2	1.76E-2	1.89E-2	2.00E-2	29	216.70	2.85E-5	2.13E-5	1.25E-5	7.11E-6	4.84E-6	4.19E-6
30	18.38	1.49E-2	1.46E-2	1.49E-2	1.59E-2	1.70E-2	1.81E-2	30	226.90	2.19E-5	1.64E-5	9.69E-6	5.54E-6	3.81E-6	3.32E-6
31	19.20	1.38E-2	1.34E-2	1.35E-2	1.44E-2	1.54E-2	1.64E-2	31	237.12	1.67E-5	1.25E-5	7.41E-6	4.25E-6	2.93E-6	2.56E-6
32	20.02	1.27E-2	1.23E-2	1.24E-2	1.31E-2	1.41E-2	1.49E-2	32	247.36	1.27E-5	9.50E-6	5.61E-6	3.21E-6	2.22E-6	1.94E-6
33	20.84	1.17E-2	1.14E-2	1.14E-2	1.20E-2	1.29E-2	1.37E-2	33	257.61	9.59E-6	7.17E-6	4.22E-6	2.41E-6	1.66E-6	1.45E-6
34	21.66	1.09E-2	1.05E-2	1.05E-2	1.10E-2	1.18E-2	1.26E-2	34	267.88	7.23E-6	5.40E-6	3.17E-6	1.79E-6	1.22E-6	1.07E-6
35	22.49	1.01E-2	9.74E-3	9.68E-3	1.02E-2	1.09E-2	1.16E-2	35	278.17	5.46E-6	4.06E-6	2.37E-6	1.33E-6	8.99E-7	7.78E-7
36	23.33	9.46E-3	9.07E-3	8.98E-3	9.41E-3	1.01E-2	1.08E-2	36	288.48	4.12E-6	3.06E-6	1.78E-6	9.87E-7	6.57E-7	5.64E-7
37	24.18	8.85E-3	8.46E-3	8.36E-3	8.75E-3	9.38E-3	1.00E-2	37	298.82	3.12E-6	2.31E-6	1.33E-6	7.31E-7	4.78E-7	4.07E-7
38	25.04	8.29E-3	7.92E-3	7.80E-3	8.16E-3	8.75E-3	9.38E-3	38	309.19	2.37E-6	1.75E-6	1.00E-6	5.42E-7	3.48E-7	2.92E-7
39	25.90	7.79E-3	7.43E-3	7.30E-3	7.63E-3	8.19E-3	8.79E-3	39	319.62	1.81E-6	1.33E-6	7.59E-7	4.03E-7	2.52E-7	2.09E-7
40	26.78	7.34E-3	6.99E-3	6.86E-3	7.16E-3	7.69E-3	8.27E-3	40	330.09	1.39E-6	1.02E-6	5.76E-7	3.00E-7	1.83E-7	1.49E-7
41	27.67	6.92E-3	6.58E-3	6.45E-3	6.73E-3	7.24E-3	7.80E-3	41	340.62	1.07E-6	7.83E-7	4.38E-7	2.24E-7	1.33E-7	1.06E-7
42	28.56	6.54E-3	6.22E-3	6.08E-3	6.35E-3	6.83E-3	7.37E-3	42	351.22	8.25E-7	6.04E-7	3.35E-7	1.68E-7	9.65E-8	7.50E-8
43	29.47	6.20E-3	5.88E-3	5.75E-3	6.00E-3	6.46E-3	6.99E-3	43	361.89	6.42E-7	4.68E-7	2.58E-7	1.27E-7	7.01E-8	5.29E-8
44	30.39	5.88E-3	5.57E-3	5.44E-3	5.68E-3	6.12E-3	6.64E-3	44	372.64	5.01E-7	3.65E-7	1.99E-7	9.57E-8	5.10E-8	3.71E-8
45	31.32	5.58E-3	5.29E-3	5.16E-3	5.38E-3	5.81E-3	6.32E-3	45	383.48	3.94E-7	2.86E-7	1.55E-7	7.27E-8	3.71E-8	2.59E-8
46	32.26	5.31E-3	5.03E-3	4.90E-3	5.12E-3	5.53E-3	6.02E-3	46	394.41	3.10E-7	2.25E-7	1.21E-7	5.56E-8	2.71E-8	1.80E-8
47	33.21	5.06E-3	4.79E-3	4.67E-3	4.87E-3	5.27E-3	5.75E-3	47	405.44	2.46E-7	1.78E-7	9.48E-8	4.27E-8	1.98E-8	1.24E-8
48	34.16	4.82E-3	4.56E-3	4.45E-3	4.64E-3	5.03E-3	5.50E-3	48	416.56	1.96E-7	1.41E-7	7.49E-8	3.30E-8	1.46E-8	8.54E-9
49	35.14	4.60E-3	4.36E-3	4.24E-3	4.43E-3	4.81E-3	5.27E-3	49	427.80	1.57E-7	1.13E-7	5.94E-8	2.57E-8	1.08E-8	5.83E-9
50	36.12	4.40E-3	4.16E-3	4.06E-3	4.24E-3	4.60E-3	5.06E-3	50	439.15	1.26E-7	9.08E-8	4.75E-8	2.01E-8	8.02E-9	3.97E-9
51	37.11	4.21E-3	3.98E-3	3.88E-3	4.05E-3	4.41E-3	4.87E-3	51	450.62	1.02E-7	7.33E-8	3.81E-8	1.59E-8	6.04E-9	2.71E-9
52	38.11	4.03E-3	3.81E-3	3.71E-3	3.88E-3	4.24E-3	4.68E-3	52	462.21	8.28E-8	5.94E-8	3.08E-8	1.27E-8	4.60E-9	1.85E-9
53	39.12	3.86E-3	3.65E-3	3.56E-3	3.73E-3	4.07E-3	4.51E-3	53	473.95	6.75E-8	4.84E-8	2.50E-8	1.02E-8	3.57E-9	1.30E-9
54	40.14	3.71E-3	3.50E-3	3.42E-3	3.58E-3	3.92E-3	4.35E-3	54	485.82	5.53E-8	3.96E-8	2.04E-8	8.26E-9	2.82E-9	1.00E-9
55	41.17	3.56E-3	3.37E-3	3.28E-3	3.44E-3	3.77E-3	4.20E-3	55	497.83	4.55E-8	3.25E-8	1.68E-8	6.75E-9	2.27E-9	1.00E-9
56	42.21	3.43E-3	3.24E-3	3.16E-3	3.31E-3	3.64E-3	4.07E-3	56	509.99	3.75E-8	2.69E-8	1.38E-8	5.58E-9	1.88E-9	1.00E-9
57	43.26	3.30E-3	3.12E-3	3.04E-3	3.19E-3	3.51E-3	3.94E-3	57	522.30	3.11E-8	2.23E-8	1.15E-8	4.65E-9	1.59E-9	1.00E-9
58	44.32	3.17E-3	3.00E-3	2.93E-3	3.08E-3	3.39E-3	3.81E-3	58	534.78	2.59E-8	1.86E-8	9.60E-9	3.91E-9	1.37E-9	1.00E-9
59	45.39	3.06E-3	2.89E-3	2.82E-3	2.97E-3	3.28E-3	3.70E-3	59	547.43	2.16E-8	1.55E-8	8.06E-9	3.32E-9	1.21E-9	0.00E+0
60	46.48	2.95E-3	2.79E-3	2.72E-3	2.87E-3	3.17E-3	3.59E-3	60	560.24	1.81E-8	1.30E-8	6.80E-9	2.84E-9	1.08E-9	1.00E-9
61	47.57	2.85E-3	2.69E-3	2.63E-3	2.77E-3	3.07E-3	3.48E-3	61	573.24	1.53E-8	1.10E-8	5.76E-9	2.45E-9	1.00E-9	1.00E-9
62	48.67	2.75E-3	2.60E-3	2.54E-3	2.68E-3	2.98E-3	3.39E-3	62	586.38	1.29E-8	9.30E-9	4.91E-9	2.13E-9	1.00E-9	1.00E-9
63	49.78	2.66E-3	2.51E-3	2.45E-3	2.60E-3	2.89E-3	3.30E-3	63	599.75	1.09E-8	7.90E-9	4.20E-9	1.86E-9	1.00E-9	1.00E-9
64	50.91	2.57E-3	2.43E-3	2.37E-3	2.51E-3	2.81E-3	3.21E-3	64	613.27	9.28E-9	6.73E-9	3.61E-9	1.64E-9	1.00E-9	1.00E-9
65	52.04	2.49E-3	2.35E-3	2.30E-3	2.44E-3	2.72E-3	3.13E-3	65	627.02	7.91E-9	5.75E-9	3.11E-9	1.45E-9	1.00E-9	1.00E-9
66	53.19	2.41E-3	2.28E-3	2.23E-3	2.36E-3	2.65E-3	3.05E-3	66	640.96	6.77E-9	4.94E-9	2.69E-9	1.28E-9	1.00E-9	1.00E-9
67	54.34	2.33E-3	2.20E-3	2.16E-3	2.29E-3	2.58E-3	2.98E-3	67	655.11	5.80E-9	4.24E-9	2.34E-9	1.15E-9	1.00E-9	1.00E-9
68	55.51	2.26E-3	2.14E-3	2.09E-3	2.23E-3	2.51E-3	2.91E-3	68	669.49	4.99E-9	3.66E-9	2.04E-9	1.02E-9	1.00E-9	1.00E-9
69	56.69	2.19E-3	2.07E-3	2.03E-3	2.16E-3	2.44E-3	2.84E-3	69	684.09	4.30E-9	3.17E-9	1.78E-9	1.00E-9	1.00E-9	0.00E+0
70	57.88	2.12E-3	2.01E-3	1.97E-3	2.10E-3	2.38E-3	2.77E-3	70	698.88	3.72E-9	2.75E-9	1.56E-9	1.00E-9	1.00E-9	0.00E+0
71	59.08	2.06E-3	1.95E-3	1.91E-3	2.04E-3	2.32E-3	2.71E-3	71	713.93	3.22E-9	2.39E-9	1.37E-9	1.00E-9	0.00E+0	0.00E+0
72	60.30	2.00E-3	1.89E-3	1.86E-3	1.99E-3	2.26E-3	2.66E-3	72	729.19	2.79E-9	2.08E-9	1.21E-9	1.00E-9	0.00E+0	0.00E+0
73	61.52	1.94E-3	1.84E-3	1.81E-3	1.94E-3	2.21E-3	2.60E-3	73	744.71	2.43E-9	1.82E-9	1.07E-9	1.00E-9	0.00E+0	0.00E+0
74	62.76	1.89E-3	1.79E-3	1.76E-3	1.89E-3	2.15E-3	2.55E-3	74	760.46	2.12E-9	1.59E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0
75	64.01	1.84E-3	1.74E-3	1.71E-3	1.84E-3	2.11E-3	2.50E-3	75	776.46	1.85E-9	1.39E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
76	65.28	1.79E-3	1.69E-3	1.67E-3	1.79E-3	2.06E-3	2.45E-3	76	792.68	1.62E-9	1.22E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
77	66.55	1.74E-3	1.65E-3	1.62E-3	1.75E-3	2.01E-3	2.40E-3	77	809.19	1.42E-9	1.08E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
78	67.84	1.69E-3	1.60E-3	1.58E-3	1.70E-3	1.97E-3	2.36E-3	78	825.94	1.25E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
79	69.15	1.64E-3	1.56E-3	1.54E-3	1.66E-3	1.92E-3	2.31E-3	79	842.97	1.10E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
80	70.46	1.60E-3	1.52E-3	1.50E-3	1.62E-3	1.88E-3	2.27E-3	80	860.20	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	71.79	1.56E-3	1.48E-3	1.46E-3	1.59E-3	1.85E-3	2.24E-3	81	877.66	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	73.14	1.52E-3	1.44E-3	1.43E-3	1.55E-3	1.81E-3	2.20E-3	82	895.42	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	74.50	1.48E-3	1.41E-3	1.39E-3	1.52E-3	1.77E-3	2.16E-3	83	913.46	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	75.87	1.45E-3	1.37E-3	1.36E-3	1.48E-3	1.74E-3	2.13E-3	84	931.86	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	77.26	1.41E-3	1.34E-3	1.33E-3	1.45E-3	1.70E-3	2.09E-3	85	950.46	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	78.66	1.38E-3	1.31E-3	1.30E-3	1.42E-3	1.67E-3	2.06E-3	86	968.57	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	80.08	1.35E-3	1.28E-3	1.27E-3	1.39E-3	1.64E-3	2.03E-3	87	987.57	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	81.51	1.31E-3	1.25E-3	1.24E-3	1.36E-3	1.61E-3	2.00E-3	88	1006.63	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	82.96	1.28E-3	1.22E-3	1.21E-3	1.33E-3	1.58E-3	1.97E-3	89	1026.03	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
90	84.42	1.25E-3	1.19E-3	1.19E-3	1.30E-3	1.55E									

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - A_4$								$C_3 - A_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	226.13	1.93E-4	2.01E-4	2.18E-4	2.40E-4	2.62E-4	2.79E-4	26	11.14	1.17E-2	1.06E-2	9.70E-3	9.54E-3	9.88E-3	1.03E-2
27	239.49	1.78E-4	1.83E-4	1.96E-4	2.14E-4	2.33E-4	2.48E-4	27	12.60	1.12E-2	1.01E-2	9.25E-3	9.11E-3	9.44E-3	9.86E-3
28	253.55	1.63E-4	1.67E-4	1.76E-4	1.92E-4	2.08E-4	2.21E-4	28	14.09	1.07E-2	9.71E-3	8.85E-3	8.73E-3	9.05E-3	9.47E-3
29	268.38	1.50E-4	1.52E-4	1.59E-4	1.71E-4	1.85E-4	1.97E-4	29	15.58	1.02E-2	9.30E-3	8.49E-3	8.38E-3	8.70E-3	9.12E-3
30	284.08	1.37E-4	1.38E-4	1.43E-4	1.53E-4	1.66E-4	1.76E-4	30	17.06	9.80E-3	8.91E-3	8.14E-3	8.05E-3	8.37E-3	8.79E-3
31	300.73	1.24E-4	1.24E-4	1.28E-4	1.37E-4	1.48E-4	1.58E-4	31	18.52	9.39E-3	8.54E-3	7.82E-3	7.74E-3	8.06E-3	8.48E-3
32	318.41	1.13E-4	1.12E-4	1.15E-4	1.22E-4	1.32E-4	1.41E-4	32	19.95	8.98E-3	8.18E-3	7.51E-3	7.45E-3	7.77E-3	8.18E-3
33	337.19	1.02E-4	1.01E-4	1.03E-4	1.10E-4	1.18E-4	1.26E-4	33	21.33	8.59E-3	7.84E-3	7.20E-3	7.16E-3	7.48E-3	7.89E-3
34	357.18	9.18E-5	9.07E-5	9.22E-5	9.77E-5	1.05E-4	1.12E-4	34	22.68	8.21E-3	7.50E-3	6.91E-3	6.88E-3	7.20E-3	7.61E-3
35	378.44	8.24E-5	8.13E-5	8.24E-5	8.72E-5	9.40E-5	1.01E-4	35	23.99	7.85E-3	7.17E-3	6.62E-3	6.61E-3	6.93E-3	7.34E-3
36	401.07	7.39E-5	7.27E-5	7.35E-5	7.78E-5	8.38E-5	8.98E-5	36	25.26	7.49E-3	6.86E-3	6.35E-3	6.35E-3	6.67E-3	7.08E-3
37	425.15	6.61E-5	6.50E-5	6.56E-5	6.94E-5	7.48E-5	8.03E-5	37	26.49	7.16E-3	6.56E-3	6.09E-3	6.10E-3	6.42E-3	6.82E-3
38	450.79	5.90E-5	5.79E-5	5.85E-5	6.18E-5	6.67E-5	7.17E-5	38	27.69	6.83E-3	6.28E-3	5.83E-3	5.86E-3	6.18E-3	6.58E-3
39	478.07	5.26E-5	5.16E-5	5.21E-5	5.51E-5	5.95E-5	6.41E-5	39	28.86	6.53E-3	6.00E-3	5.59E-3	5.63E-3	5.94E-3	6.35E-3
40	507.09	4.68E-5	4.60E-5	4.64E-5	4.90E-5	5.30E-5	5.72E-5	40	30.01	6.24E-3	5.74E-3	5.36E-3	5.41E-3	5.72E-3	6.13E-3
41	537.97	4.17E-5	4.09E-5	4.13E-5	4.37E-5	4.73E-5	5.11E-5	41	31.13	5.96E-3	5.50E-3	5.15E-3	5.20E-3	5.51E-3	5.91E-3
42	570.79	3.71E-5	3.64E-5	3.67E-5	3.89E-5	4.22E-5	4.57E-5	42	32.23	5.70E-3	5.26E-3	4.94E-3	5.00E-3	5.31E-3	5.71E-3
43	605.69	3.29E-5	3.24E-5	3.27E-5	3.46E-5	3.76E-5	4.08E-5	43	33.31	5.46E-3	5.04E-3	4.74E-3	4.81E-3	5.11E-3	5.51E-3
44	642.78	2.93E-5	2.88E-5	2.91E-5	3.08E-5	3.35E-5	3.65E-5	44	34.38	5.22E-3	4.83E-3	4.55E-3	4.62E-3	4.93E-3	5.33E-3
45	682.18	2.60E-5	2.56E-5	2.58E-5	2.75E-5	2.99E-5	3.27E-5	45	35.44	5.01E-3	4.64E-3	4.37E-3	4.45E-3	4.75E-3	5.15E-3
46	724.02	2.31E-5	2.27E-5	2.30E-5	2.45E-5	2.67E-5	2.92E-5	46	36.49	4.80E-3	4.45E-3	4.20E-3	4.29E-3	4.59E-3	4.98E-3
47	768.43	2.05E-5	2.02E-5	2.04E-5	2.18E-5	2.38E-5	2.61E-5	47	37.52	4.60E-3	4.27E-3	4.04E-3	4.13E-3	4.43E-3	4.82E-3
48	815.54	1.82E-5	1.79E-5	1.82E-5	1.94E-5	2.13E-5	2.34E-5	48	38.56	4.42E-3	4.10E-3	3.89E-3	3.98E-3	4.28E-3	4.67E-3
49	865.51	1.62E-5	1.60E-5	1.62E-5	1.73E-5	1.90E-5	2.10E-5	49	39.58	4.24E-3	3.94E-3	3.75E-3	3.84E-3	4.13E-3	4.52E-3
50	918.47	1.44E-5	1.42E-5	1.44E-5	1.54E-5	1.70E-5	1.88E-5	50	40.61	4.08E-3	3.79E-3	3.61E-3	3.71E-3	4.00E-3	4.39E-3
51	974.60	1.28E-5	1.26E-5	1.28E-5	1.38E-5	1.52E-5	1.68E-5	51	41.63	3.92E-3	3.65E-3	3.47E-3	3.58E-3	3.87E-3	4.25E-3
52	1034.03	1.13E-5	1.12E-5	1.14E-5	1.23E-5	1.36E-5	1.51E-5	52	42.65	3.77E-3	3.51E-3	3.35E-3	3.45E-3	3.74E-3	4.13E-3
53	1096.97	1.01E-5	9.99E-6	1.02E-5	1.10E-5	1.22E-5	1.36E-5	53	43.67	3.63E-3	3.38E-3	3.23E-3	3.34E-3	3.63E-3	4.01E-3
54	1163.55	8.97E-6	8.89E-6	9.10E-6	9.81E-6	1.09E-5	1.22E-5	54	44.69	3.50E-3	3.26E-3	3.12E-3	3.23E-3	3.51E-3	3.90E-3
55	1233.97	7.98E-6	7.92E-6	8.12E-6	8.77E-6	9.75E-6	1.09E-5	55	45.72	3.37E-3	3.15E-3	3.01E-3	3.12E-3	3.41E-3	3.79E-3
56	1308.42	7.11E-6	7.06E-6	7.25E-6	7.84E-6	8.74E-6	9.84E-6	56	46.75	3.25E-3	3.04E-3	2.91E-3	3.02E-3	3.30E-3	3.69E-3
57	1387.10	6.33E-6	6.29E-6	6.47E-6	7.02E-6	7.84E-6	8.86E-6	57	47.78	3.14E-3	2.94E-3	2.82E-3	2.93E-3	3.21E-3	3.59E-3
58	1470.21	5.64E-6	5.61E-6	5.78E-6	6.28E-6	7.04E-6	7.98E-6	58	48.82	3.03E-3	2.84E-3	2.73E-3	2.84E-3	3.11E-3	3.49E-3
59	1557.95	5.03E-6	5.01E-6	5.17E-6	5.63E-6	6.33E-6	7.19E-6	59	49.86	2.93E-3	2.74E-3	2.64E-3	2.75E-3	3.02E-3	3.41E-3
60	1650.54	4.49E-6	4.47E-6	4.63E-6	5.05E-6	5.69E-6	6.48E-6	60	50.91	2.83E-3	2.65E-3	2.55E-3	2.67E-3	2.94E-3	3.32E-3
61	1748.23	4.00E-6	4.00E-6	4.15E-6	4.53E-6	5.12E-6	5.85E-6	61	51.97	2.74E-3	2.57E-3	2.48E-3	2.59E-3	2.86E-3	3.24E-3
62	1851.21	3.58E-6	3.58E-6	3.71E-6	4.07E-6	4.61E-6	5.29E-6	62	53.03	2.65E-3	2.49E-3	2.40E-3	2.51E-3	2.78E-3	3.16E-3
63	1959.79	3.20E-6	3.20E-6	3.33E-6	3.66E-6	4.15E-6	4.78E-6	63	54.10	2.57E-3	2.41E-3	2.33E-3	2.44E-3	2.71E-3	3.09E-3
64	2074.15	2.86E-6	2.86E-6	2.99E-6	3.29E-6	3.74E-6	4.32E-6	64	55.18	2.49E-3	2.33E-3	2.26E-3	2.37E-3	2.64E-3	3.02E-3
65	2194.64	2.56E-6	2.57E-6	2.68E-6	2.96E-6	3.38E-6	3.91E-6	65	56.27	2.41E-3	2.26E-3	2.19E-3	2.31E-3	2.57E-3	2.95E-3
66	2321.48	2.29E-6	2.30E-6	2.41E-6	2.66E-6	3.05E-6	3.55E-6	66	57.37	2.34E-3	2.19E-3	2.13E-3	2.24E-3	2.51E-3	2.88E-3
67	2454.98	2.05E-6	2.06E-6	2.17E-6	2.40E-6	2.76E-6	3.22E-6	67	58.48	2.27E-3	2.13E-3	2.07E-3	2.18E-3	2.45E-3	2.82E-3
68	2595.45	1.84E-6	1.85E-6	1.95E-6	2.17E-6	2.49E-6	2.92E-6	68	59.60	2.20E-3	2.07E-3	2.01E-3	2.13E-3	2.39E-3	2.76E-3
69	2743.19	1.65E-6	1.66E-6	1.75E-6	1.95E-6	2.26E-6	2.65E-6	69	60.73	2.14E-3	2.01E-3	1.95E-3	2.07E-3	2.33E-3	2.71E-3
70	2898.50	1.48E-6	1.50E-6	1.58E-6	1.76E-6	2.04E-6	2.41E-6	70	61.87	2.08E-3	1.95E-3	1.90E-3	2.02E-3	2.28E-3	2.65E-3
71	3061.77	1.33E-6	1.35E-6	1.42E-6	1.59E-6	1.85E-6	2.19E-6	71	63.02	2.02E-3	1.90E-3	1.85E-3	1.97E-3	2.22E-3	2.60E-3
72	3233.31	1.20E-6	1.21E-6	1.28E-6	1.44E-6	1.68E-6	2.00E-6	72	64.18	1.96E-3	1.85E-3	1.80E-3	1.92E-3	2.17E-3	2.55E-3
73	3413.53	1.08E-6	1.09E-6	1.16E-6	1.30E-6	1.53E-6	1.82E-6	73	65.36	1.91E-3	1.79E-3	1.75E-3	1.87E-3	2.12E-3	2.50E-3
74	3602.78	9.70E-7	9.82E-7	1.04E-6	1.18E-6	1.39E-6	1.66E-6	74	66.55	1.85E-3	1.75E-3	1.71E-3	1.82E-3	2.08E-3	2.45E-3
75	3801.49	8.74E-7	8.86E-7	9.45E-7	1.07E-6	1.26E-6	1.51E-6	75	67.75	1.80E-3	1.70E-3	1.66E-3	1.78E-3	2.03E-3	2.41E-3
76	4010.02	7.87E-7	7.99E-7	8.54E-7	9.70E-7	1.15E-6	1.38E-6	76	68.96	1.76E-3	1.66E-3	1.62E-3	1.74E-3	1.99E-3	2.37E-3
77	4228.90	7.10E-7	7.21E-7	7.73E-7	8.80E-7	1.04E-6	1.26E-6	77	70.19	1.71E-3	1.61E-3	1.58E-3	1.70E-3	1.95E-3	2.33E-3
78	4458.52	6.41E-7	6.52E-7	7.00E-7	7.98E-7	9.50E-7	1.16E-6	78	71.43	1.66E-3	1.57E-3	1.54E-3	1.66E-3	1.91E-3	2.29E-3
79	4699.42	5.79E-7	5.89E-7	6.34E-7	7.25E-7	8.66E-7	1.06E-6	79	72.68	1.62E-3	1.53E-3	1.50E-3	1.62E-3	1.87E-3	2.25E-3
80	4951.97	5.23E-7	5.33E-7	5.75E-7	6.59E-7	7.90E-7	9.68E-7	80	73.95	1.58E-3	1.49E-3	1.47E-3	1.58E-3	1.83E-3	2.21E-3
81	5216.78	4.73E-7	4.82E-7	5.21E-7	6.00E-7	7.21E-7	8.87E-7	81	75.24	1.54E-3	1.45E-3	1.43E-3	1.55E-3	1.80E-3	2.18E-3
82	5494.42	4.27E-7	4.36E-7	4.73E-7	5.46E-7	6.58E-7	8.14E-7	82	76.53	1.50E-3	1.42E-3	1.40E-3	1.51E-3	1.76E-3	2.14E-3
83	5785.48	3.87E-7	3.95E-7	4.29E-7	4.97E-7	6.01E-7	7.46E-7	83	77.84	1.46E-3	1.39E-3	1.37E-3	1.48E-3	1.73E-3	2.11E-3
84	6090.64	3.50E-7	3.58E-7	3.90E-7	4.53E-7	5.50E-7	6.85E-7	84	79.17	1.43E-3	1.35E-3	1.34E-3	1.45E-3	1.70E-3	2.08E-3
85	6410.35	3.17E-7	3.25E-7	3.55E-7	4.13E-7	5.03E-7	6.30E-7	85	80.51	1.40E-3	1.32E-3	1.30E-3	1.42E-3	1.67E-3	2.05E-3
86	6744.53	2.87E-7	2.95E-7	3.22E-7	3.77E-7	4.60E-7	5.79E-7	86	81.87	1.36E-3	1.29E-3	1.28E-3	1.39E-3	1.64E-3	2.02E-3
87	7095.40	2.61E-7	2.68E-7	2.93E-7	3.44E-7	4.22E-7	5.32E-7	87	83.25	1.33E-3	1.26E-3	1.25E-3	1.36E-3	1.61E-3	1.99E-3
88	7462.77	2.37E-7	2.43E-7	2.67E-7	3.14E-7	3.86E-7	4.90E-7	88	84.64	1.30E-3	1.23E-3	1.22E-3	1.34E-3	1.58E-3	1.96E-3
89	7847.73	2.15E-7	2.21E-7	2.43E-7	2.87E-7	3.54E-7	4.51E-7	89	86.04	1.27E-3	1.20E-3	1.19E-3	1.31E-3	1.55E-3	1.94E-3
90	8250.50	1.95E-7	2.0												

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_3 - A_4$								$C_4 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	50.90	3.75E-3	2.80E-3	1.65E-3	9.54E-4	6.66E-4	5.83E-4	26	28.91	2.22E-2	2.26E-2	2.40E-2	2.61E-2	2.83E-2	3.00E-2
27	55.68	3.05E-3	2.28E-3	1.36E-3	8.05E-4	5.75E-4	5.11E-4	27	31.11	2.04E-2	2.06E-2	2.17E-2	2.36E-2	2.55E-2	2.70E-2
28	61.11	2.46E-3	1.85E-3	1.11E-3	6.68E-4	4.86E-4	4.36E-4	28	33.63	1.87E-2	1.88E-2	1.97E-2	2.13E-2	2.29E-2	2.43E-2
29	67.27	1.96E-3	1.48E-3	8.98E-4	5.46E-4	4.03E-4	3.64E-4	29	36.51	1.73E-2	1.73E-2	1.79E-2	1.92E-2	2.07E-2	2.19E-2
30	74.25	1.56E-3	1.18E-3	7.18E-4	4.41E-4	3.28E-4	2.98E-4	30	39.81	1.60E-2	1.58E-2	1.63E-2	1.74E-2	1.87E-2	1.98E-2
31	82.13	1.23E-3	9.30E-4	5.70E-4	3.52E-4	2.64E-4	2.41E-4	31	43.56	1.48E-2	1.46E-2	1.49E-2	1.58E-2	1.69E-2	1.79E-2
32	90.99	9.68E-4	7.33E-4	4.50E-4	2.79E-4	2.10E-4	1.92E-4	32	47.83	1.37E-2	1.34E-2	1.36E-2	1.43E-2	1.53E-2	1.63E-2
33	100.91	7.61E-4	5.76E-4	3.55E-4	2.21E-4	1.66E-4	1.52E-4	33	52.65	1.27E-2	1.24E-2	1.25E-2	1.31E-2	1.40E-2	1.48E-2
34	111.98	5.98E-4	4.53E-4	2.79E-4	1.74E-4	1.31E-4	1.20E-4	34	58.05	1.18E-2	1.15E-2	1.15E-2	1.20E-2	1.28E-2	1.35E-2
35	124.26	4.70E-4	3.57E-4	2.20E-4	1.37E-4	1.03E-4	9.48E-5	35	64.09	1.10E-2	1.07E-2	1.06E-2	1.10E-2	1.17E-2	1.24E-2
36	137.85	3.71E-4	2.81E-4	1.74E-4	1.08E-4	8.13E-5	7.47E-5	36	70.79	1.03E-2	9.92E-3	9.77E-3	1.01E-2	1.08E-2	1.15E-2
37	152.83	2.93E-4	2.23E-4	1.38E-4	8.54E-5	6.42E-5	5.90E-5	37	78.22	9.62E-3	9.24E-3	9.07E-3	9.36E-3	9.94E-3	1.06E-2
38	169.28	2.33E-4	1.77E-4	1.09E-4	6.78E-5	5.09E-5	4.68E-5	38	86.39	9.01E-3	8.64E-3	8.43E-3	8.68E-3	9.21E-3	9.82E-3
39	187.31	1.86E-4	1.41E-4	8.71E-5	5.40E-5	4.05E-5	3.72E-5	39	95.37	8.46E-3	8.09E-3	7.87E-3	8.07E-3	8.56E-3	9.14E-3
40	207.01	1.49E-4	1.13E-4	6.98E-5	4.32E-5	3.23E-5	2.97E-5	40	105.20	7.95E-3	7.59E-3	7.35E-3	7.53E-3	7.98E-3	8.53E-3
41	228.47	1.20E-4	9.10E-5	5.61E-5	3.47E-5	2.59E-5	2.38E-5	41	115.93	7.49E-3	7.13E-3	6.89E-3	7.04E-3	7.46E-3	7.99E-3
42	251.80	9.68E-5	7.35E-5	4.54E-5	2.80E-5	2.09E-5	1.92E-5	42	127.61	7.07E-3	6.72E-3	6.47E-3	6.60E-3	7.00E-3	7.51E-3
43	277.11	7.86E-5	5.97E-5	3.68E-5	2.27E-5	1.69E-5	1.56E-5	43	140.29	6.67E-3	6.34E-3	6.09E-3	6.21E-3	6.58E-3	7.07E-3
44	304.52	6.40E-5	4.87E-5	3.00E-5	1.85E-5	1.38E-5	1.27E-5	44	154.03	6.31E-3	5.99E-3	5.74E-3	5.85E-3	6.20E-3	6.67E-3
45	334.14	5.24E-5	3.99E-5	2.46E-5	1.52E-5	1.13E-5	1.04E-5	45	168.88	5.98E-3	5.66E-3	5.43E-3	5.52E-3	5.85E-3	6.31E-3
46	366.10	4.31E-5	3.28E-5	2.02E-5	1.24E-5	9.25E-6	8.53E-6	46	184.92	5.67E-3	5.37E-3	5.14E-3	5.22E-3	5.54E-3	5.98E-3
47	400.52	3.56E-5	2.71E-5	1.67E-5	1.03E-5	7.64E-6	7.05E-6	47	202.20	5.39E-3	5.09E-3	4.87E-3	4.94E-3	5.25E-3	5.68E-3
48	437.54	2.95E-5	2.24E-5	1.38E-5	8.53E-6	6.33E-6	5.85E-6	48	220.79	5.12E-3	4.84E-3	4.62E-3	4.69E-3	4.98E-3	5.41E-3
49	477.29	2.45E-5	1.87E-5	1.15E-5	7.10E-6	5.27E-6	4.88E-6	49	240.76	4.87E-3	4.60E-3	4.39E-3	4.45E-3	4.74E-3	5.16E-3
50	519.93	2.04E-5	1.56E-5	9.64E-6	5.93E-6	4.41E-6	4.08E-6	50	262.18	4.64E-3	4.39E-3	4.18E-3	4.24E-3	4.52E-3	4.93E-3
51	565.60	1.71E-5	1.31E-5	8.08E-6	4.97E-6	3.70E-6	3.43E-6	51	285.13	4.43E-3	4.18E-3	3.98E-3	4.04E-3	4.31E-3	4.71E-3
52	614.47	1.44E-5	1.10E-5	6.80E-6	4.19E-6	3.11E-6	2.90E-6	52	309.69	4.22E-3	3.99E-3	3.80E-3	3.85E-3	4.12E-3	4.51E-3
53	666.68	1.21E-5	9.26E-6	5.74E-6	3.54E-6	2.63E-6	2.45E-6	53	335.94	4.03E-3	3.81E-3	3.63E-3	3.68E-3	3.94E-3	4.33E-3
54	722.42	1.03E-5	7.83E-6	4.86E-6	3.00E-6	2.23E-6	2.09E-6	54	363.95	3.86E-3	3.64E-3	3.47E-3	3.52E-3	3.77E-3	4.15E-3
55	781.86	8.70E-6	6.65E-6	4.13E-6	2.55E-6	1.90E-6	1.78E-6	55	393.83	3.69E-3	3.48E-3	3.32E-3	3.37E-3	3.62E-3	4.00E-3
56	845.18	7.40E-6	5.66E-6	3.52E-6	2.17E-6	1.62E-6	1.52E-6	56	425.66	3.53E-3	3.33E-3	3.17E-3	3.23E-3	3.47E-3	3.84E-3
57	912.57	6.31E-6	4.83E-6	3.00E-6	1.86E-6	1.39E-6	1.31E-6	57	459.54	3.38E-3	3.20E-3	3.04E-3	3.10E-3	3.33E-3	3.70E-3
58	984.24	5.40E-6	4.13E-6	2.57E-6	1.59E-6	1.19E-6	1.13E-6	58	495.57	3.24E-3	3.06E-3	2.92E-3	2.97E-3	3.21E-3	3.57E-3
59	1060.38	4.62E-6	3.54E-6	2.21E-6	1.37E-6	1.03E-6	9.74E-7	59	533.85	3.11E-3	2.94E-3	2.80E-3	2.85E-3	3.09E-3	3.45E-3
60	1141.21	3.97E-6	3.05E-6	1.90E-6	1.18E-6	8.89E-7	8.44E-7	60	574.49	2.99E-3	2.82E-3	2.69E-3	2.74E-3	2.97E-3	3.33E-3
61	1226.96	3.42E-6	2.62E-6	1.64E-6	1.02E-6	7.70E-7	7.33E-7	61	617.60	2.87E-3	2.71E-3	2.59E-3	2.64E-3	2.86E-3	3.22E-3
62	1317.86	2.95E-6	2.27E-6	1.42E-6	8.85E-7	6.68E-7	6.38E-7	62	663.30	2.76E-3	2.61E-3	2.49E-3	2.54E-3	2.76E-3	3.12E-3
63	1414.14	2.55E-6	1.96E-6	1.23E-6	7.69E-7	5.82E-7	5.57E-7	63	711.71	2.65E-3	2.51E-3	2.39E-3	2.45E-3	2.67E-3	3.02E-3
64	1516.07	2.21E-6	1.70E-6	1.07E-6	6.69E-7	5.08E-7	4.88E-7	64	762.96	2.55E-3	2.41E-3	2.30E-3	2.36E-3	2.58E-3	2.92E-3
65	1623.89	1.92E-6	1.48E-6	9.31E-7	5.84E-7	4.44E-7	4.28E-7	65	817.17	2.45E-3	2.32E-3	2.22E-3	2.27E-3	2.49E-3	2.83E-3
66	1737.89	1.67E-6	1.29E-6	8.12E-7	5.10E-7	3.89E-7	3.76E-7	66	874.48	2.36E-3	2.24E-3	2.14E-3	2.19E-3	2.41E-3	2.75E-3
67	1858.35	1.46E-6	1.12E-6	7.10E-7	4.47E-7	3.41E-7	3.31E-7	67	935.04	2.27E-3	2.16E-3	2.06E-3	2.12E-3	2.33E-3	2.67E-3
68	1985.56	1.27E-6	9.83E-7	6.22E-7	3.92E-7	3.00E-7	2.92E-7	68	999.00	2.19E-3	2.08E-3	1.99E-3	2.05E-3	2.26E-3	2.59E-3
69	2119.83	1.11E-6	8.60E-7	5.45E-7	3.44E-7	2.65E-7	2.59E-7	69	1066.51	2.11E-3	2.00E-3	1.92E-3	1.98E-3	2.18E-3	2.52E-3
70	2261.49	9.74E-7	7.55E-7	4.79E-7	3.03E-7	2.34E-7	2.29E-7	70	1137.73	2.04E-3	1.93E-3	1.85E-3	1.91E-3	2.12E-3	2.45E-3
71	2410.86	8.55E-7	6.63E-7	4.21E-7	2.67E-7	2.07E-7	2.03E-7	71	1212.84	1.96E-3	1.87E-3	1.79E-3	1.85E-3	2.05E-3	2.38E-3
72	2568.31	7.51E-7	5.83E-7	3.71E-7	2.36E-7	1.83E-7	1.81E-7	72	1292.00	1.89E-3	1.80E-3	1.73E-3	1.79E-3	1.99E-3	2.32E-3
73	2734.18	6.61E-7	5.13E-7	3.28E-7	2.09E-7	1.63E-7	1.61E-7	73	1375.40	1.83E-3	1.74E-3	1.67E-3	1.73E-3	1.93E-3	2.26E-3
74	2908.87	5.82E-7	4.53E-7	2.90E-7	1.85E-7	1.44E-7	1.44E-7	74	1463.23	1.77E-3	1.68E-3	1.62E-3	1.68E-3	1.87E-3	2.20E-3
75	3092.78	5.14E-7	4.00E-7	2.56E-7	1.64E-7	1.28E-7	1.28E-7	75	1555.69	1.70E-3	1.62E-3	1.56E-3	1.62E-3	1.82E-3	2.15E-3
76	3286.30	4.54E-7	3.54E-7	2.27E-7	1.46E-7	1.15E-7	1.15E-7	76	1653.00	1.65E-3	1.57E-3	1.51E-3	1.57E-3	1.77E-3	2.09E-3
77	3489.90	4.01E-7	3.13E-7	2.01E-7	1.30E-7	1.02E-7	1.03E-7	77	1755.37	1.59E-3	1.52E-3	1.46E-3	1.52E-3	1.72E-3	2.04E-3
78	3704.02	3.55E-7	2.77E-7	1.79E-7	1.16E-7	9.14E-8	9.26E-8	78	1863.03	1.54E-3	1.47E-3	1.42E-3	1.48E-3	1.67E-3	1.99E-3
79	3929.13	3.15E-7	2.46E-7	1.59E-7	1.03E-7	8.18E-8	8.32E-8	79	1976.22	1.49E-3	1.42E-3	1.37E-3	1.43E-3	1.62E-3	1.94E-3
80	4165.73	2.79E-7	2.19E-7	1.42E-7	9.21E-8	7.33E-8	7.48E-8	80	2095.19	1.44E-3	1.37E-3	1.33E-3	1.39E-3	1.58E-3	1.89E-3
81	4414.35	2.48E-7	1.95E-7	1.26E-7	8.24E-8	6.58E-8	6.74E-8	81	2220.20	1.39E-3	1.33E-3	1.28E-3	1.35E-3	1.54E-3	1.85E-3
82	4675.53	2.21E-7	1.73E-7	1.13E-7	7.37E-8	5.91E-8	6.08E-8	82	2351.54	1.35E-3	1.28E-3	1.25E-3	1.31E-3	1.50E-3	1.81E-3
83	4949.86	1.96E-7	1.54E-7	1.01E-7	6.60E-8	5.31E-8	5.50E-8	83	2489.49	1.30E-3	1.24E-3	1.21E-3	1.27E-3	1.45E-3	1.77E-3
84	5237.95	1.75E-7	1.38E-7	9.01E-8	5.92E-8	4.78E-8	4.97E-8	84	2634.36	1.26E-3	1.20E-3	1.17E-3	1.23E-3	1.42E-3	1.72E-3
85	5540.40	1.56E-7	1.23E-7	8.06E-8	5.32E-8	4.31E-8	4.50E-8	85	2786.46	1.22E-3	1.17E-3	1.13E-3	1.20E-3	1.38E-3	1.69E-3
86	5857.83	1.39E-7	1.10E-7	7.22E-8	4.78E-8	3.89E-8	4.08E-8	86	2946.10	1.18E-3	1.13E-3	1.10E-3	1.16E-3	1.34E-3	1.65E-3
87	6191.07	1.24E-7	9.81E-8	6.47E-8	4.30E-8	3.51E-8	3.70E-8	87	3113.69	1.14E-3	1.09E-3	1.06E-3	1.13E-3	1.31E-3	1.61E-3
88	6540.77	1.11E-7	8.78E-8	5.80E-8	3.87E-8	3.18E-8	3.36E-8	88	3289.57	1.10E-3	1.06E-3	1.03E-3	1.09E-3	1.27E-3	1.57E-3
89	6907.75	9.91E-8	7.86E-8	5.21E-8	3.48E-8	2.87E-8	3.05E-8	89	3474.15	1.07E-3	1.03E-3	9.99E-4	1.06E-3	1.24E-	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - B_2$								$C_2 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	202.69	3.78E-4	4.01E-4	4.40E-4	4.89E-4	5.34E-4	5.68E-4	26	186.76	3.33E-4	2.85E-4	2.30E-4	2.02E-4	1.98E-4	2.02E-4
27	215.57	3.22E-4	3.39E-4	3.71E-4	4.11E-4	4.49E-4	4.79E-4	27	197.65	3.15E-4	2.73E-4	2.27E-4	2.05E-4	2.04E-4	2.10E-4
28	229.20	2.74E-4	2.87E-4	3.13E-4	3.47E-4	3.79E-4	4.03E-4	28	208.93	2.97E-4	2.61E-4	2.22E-4	2.05E-4	2.07E-4	2.14E-4
29	243.65	2.33E-4	2.44E-4	2.65E-4	2.93E-4	3.19E-4	3.41E-4	29	220.62	2.79E-4	2.49E-4	2.15E-4	2.03E-4	2.06E-4	2.15E-4
30	258.99	1.99E-4	2.08E-4	2.25E-4	2.47E-4	2.70E-4	2.88E-4	30	232.76	2.62E-4	2.36E-4	2.08E-4	1.98E-4	2.03E-4	2.12E-4
31	275.28	1.71E-4	1.77E-4	1.91E-4	2.10E-4	2.29E-4	2.44E-4	31	245.39	2.46E-4	2.22E-4	1.99E-4	1.92E-4	1.97E-4	2.07E-4
32	292.60	1.47E-4	1.51E-4	1.63E-4	1.78E-4	1.95E-4	2.08E-4	32	258.54	2.30E-4	2.09E-4	1.89E-4	1.84E-4	1.90E-4	2.00E-4
33	311.03	1.26E-4	1.30E-4	1.39E-4	1.52E-4	1.66E-4	1.78E-4	33	272.26	2.14E-4	1.97E-4	1.79E-4	1.76E-4	1.82E-4	1.92E-4
34	330.64	1.09E-4	1.12E-4	1.19E-4	1.30E-4	1.42E-4	1.52E-4	34	286.58	2.00E-4	1.84E-4	1.69E-4	1.67E-4	1.73E-4	1.83E-4
35	351.52	9.42E-5	9.64E-5	1.02E-4	1.12E-4	1.22E-4	1.31E-4	35	301.56	1.86E-4	1.72E-4	1.59E-4	1.57E-4	1.64E-4	1.74E-4
36	373.75	8.17E-5	8.34E-5	8.83E-5	9.61E-5	1.05E-4	1.13E-4	36	317.23	1.74E-4	1.61E-4	1.49E-4	1.48E-4	1.55E-4	1.64E-4
37	397.42	7.10E-5	7.23E-5	7.63E-5	8.30E-5	9.05E-5	9.75E-5	37	333.65	1.62E-4	1.50E-4	1.40E-4	1.39E-4	1.46E-4	1.55E-4
38	422.62	6.18E-5	6.28E-5	6.61E-5	7.18E-5	7.83E-5	8.45E-5	38	350.86	1.51E-4	1.40E-4	1.31E-4	1.30E-4	1.37E-4	1.46E-4
39	449.45	5.38E-5	5.46E-5	5.74E-5	6.23E-5	6.79E-5	7.34E-5	39	368.91	1.41E-4	1.31E-4	1.22E-4	1.22E-4	1.28E-4	1.37E-4
40	478.02	4.70E-5	4.76E-5	4.99E-5	5.41E-5	5.91E-5	6.40E-5	40	387.86	1.31E-4	1.22E-4	1.14E-4	1.14E-4	1.20E-4	1.29E-4
41	508.43	4.11E-5	4.16E-5	4.35E-5	4.71E-5	5.15E-5	5.59E-5	41	407.77	1.22E-4	1.14E-4	1.07E-4	1.07E-4	1.12E-4	1.20E-4
42	540.78	3.60E-5	3.63E-5	3.80E-5	4.11E-5	4.50E-5	4.89E-5	42	428.69	1.14E-4	1.07E-4	9.97E-5	9.98E-5	1.05E-4	1.13E-4
43	575.20	3.15E-5	3.18E-5	3.32E-5	3.59E-5	3.93E-5	4.28E-5	43	450.67	1.07E-4	9.97E-5	9.32E-5	9.33E-5	9.83E-5	1.06E-4
44	611.79	2.77E-5	2.79E-5	2.90E-5	3.14E-5	3.45E-5	3.76E-5	44	473.79	1.00E-4	9.33E-5	8.71E-5	8.71E-5	9.19E-5	9.90E-5
45	650.70	2.43E-5	2.44E-5	2.54E-5	2.76E-5	3.02E-5	3.31E-5	45	498.11	9.37E-5	8.73E-5	8.15E-5	8.14E-5	8.60E-5	9.28E-5
46	692.03	2.14E-5	2.15E-5	2.23E-5	2.42E-5	2.66E-5	2.92E-5	46	523.68	8.78E-5	8.18E-5	7.62E-5	7.61E-5	8.04E-5	8.69E-5
47	735.93	1.88E-5	1.89E-5	1.96E-5	2.13E-5	2.34E-5	2.57E-5	47	550.59	8.24E-5	7.67E-5	7.14E-5	7.12E-5	7.52E-5	8.15E-5
48	782.54	1.65E-5	1.66E-5	1.73E-5	1.87E-5	2.06E-5	2.27E-5	48	578.90	7.74E-5	7.20E-5	6.69E-5	6.66E-5	7.04E-5	7.64E-5
49	832.00	1.46E-5	1.46E-5	1.52E-5	1.65E-5	1.82E-5	2.01E-5	49	608.68	7.28E-5	6.76E-5	6.27E-5	6.24E-5	6.60E-5	7.17E-5
50	884.45	1.29E-5	1.29E-5	1.34E-5	1.45E-5	1.61E-5	1.78E-5	50	640.02	6.86E-5	6.36E-5	5.88E-5	5.84E-5	6.18E-5	6.73E-5
51	940.05	1.13E-5	1.14E-5	1.18E-5	1.28E-5	1.42E-5	1.58E-5	51	672.99	6.46E-5	5.98E-5	5.52E-5	5.48E-5	5.80E-5	6.33E-5
52	998.97	1.00E-5	1.01E-5	1.04E-5	1.14E-5	1.26E-5	1.40E-5	52	707.68	6.09E-5	5.64E-5	5.19E-5	5.14E-5	5.44E-5	5.95E-5
53	1061.39	8.86E-6	8.89E-6	9.24E-6	1.01E-5	1.12E-5	1.25E-5	53	744.18	5.76E-5	5.32E-5	4.88E-5	4.83E-5	5.11E-5	5.59E-5
54	1127.45	7.84E-6	7.87E-6	8.18E-6	8.91E-6	9.93E-6	1.11E-5	54	782.56	5.44E-5	5.02E-5	4.60E-5	4.53E-5	4.80E-5	5.27E-5
55	1197.35	6.94E-6	6.97E-6	7.25E-6	7.90E-6	8.82E-6	9.91E-6	55	822.93	5.14E-5	4.74E-5	4.33E-5	4.26E-5	4.51E-5	4.96E-5
56	1271.27	6.15E-6	6.17E-6	6.43E-6	7.02E-6	7.85E-6	8.84E-6	56	865.38	4.87E-5	4.48E-5	4.08E-5	4.01E-5	4.25E-5	4.68E-5
57	1349.43	5.46E-6	5.48E-6	5.71E-6	6.24E-6	6.99E-6	7.90E-6	57	910.01	4.62E-5	4.24E-5	3.85E-5	3.78E-5	4.00E-5	4.42E-5
58	1432.01	4.84E-6	4.86E-6	5.07E-6	5.55E-6	6.24E-6	7.07E-6	58	956.93	4.38E-5	4.01E-5	3.64E-5	3.56E-5	3.77E-5	4.17E-5
59	1519.23	4.30E-6	4.32E-6	4.51E-6	4.94E-6	5.57E-6	6.33E-6	59	1006.25	4.15E-5	3.80E-5	3.44E-5	3.36E-5	3.55E-5	3.94E-5
60	1611.29	3.82E-6	3.84E-6	4.01E-6	4.41E-6	4.98E-6	5.68E-6	60	1058.06	3.94E-5	3.60E-5	3.25E-5	3.17E-5	3.36E-5	3.73E-5
61	1708.45	3.40E-6	3.42E-6	3.58E-6	3.93E-6	4.45E-6	5.09E-6	61	1112.51	3.75E-5	3.42E-5	3.08E-5	2.99E-5	3.17E-5	3.53E-5
62	1810.90	3.03E-6	3.05E-6	3.19E-6	3.51E-6	3.99E-6	4.58E-6	62	1169.67	3.56E-5	3.25E-5	2.91E-5	2.83E-5	2.99E-5	3.34E-5
63	1918.93	2.70E-6	2.71E-6	2.85E-6	3.14E-6	3.57E-6	4.12E-6	63	1229.71	3.39E-5	3.09E-5	2.76E-5	2.67E-5	2.83E-5	3.17E-5
64	2032.76	2.41E-6	2.42E-6	2.54E-6	2.81E-6	3.21E-6	3.71E-6	64	1292.73	3.23E-5	2.93E-5	2.62E-5	2.53E-5	2.68E-5	3.01E-5
65	2152.70	2.15E-6	2.16E-6	2.27E-6	2.52E-6	2.88E-6	3.34E-6	65	1358.90	3.08E-5	2.79E-5	2.49E-5	2.40E-5	2.54E-5	2.86E-5
66	2278.99	1.92E-6	1.93E-6	2.03E-6	2.26E-6	2.59E-6	3.01E-6	66	1428.34	2.93E-5	2.66E-5	2.36E-5	2.27E-5	2.41E-5	2.71E-5
67	2411.93	1.72E-6	1.73E-6	1.82E-6	2.03E-6	2.33E-6	2.72E-6	67	1501.20	2.80E-5	2.53E-5	2.24E-5	2.15E-5	2.28E-5	2.58E-5
68	2551.83	1.53E-6	1.55E-6	1.63E-6	1.82E-6	2.10E-6	2.46E-6	68	1577.63	2.67E-5	2.41E-5	2.13E-5	2.04E-5	2.17E-5	2.45E-5
69	2699.01	1.37E-6	1.39E-6	1.47E-6	1.64E-6	1.89E-6	2.23E-6	69	1657.80	2.55E-5	2.30E-5	2.03E-5	1.94E-5	2.06E-5	2.33E-5
70	2853.73	1.23E-6	1.24E-6	1.32E-6	1.47E-6	1.71E-6	2.02E-6	70	1741.84	2.43E-5	2.19E-5	1.93E-5	1.84E-5	1.96E-5	2.22E-5
71	3016.41	1.10E-6	1.12E-6	1.18E-6	1.33E-6	1.54E-6	1.83E-6	71	1829.97	2.32E-5	2.09E-5	1.84E-5	1.75E-5	1.86E-5	2.12E-5
72	3187.34	9.90E-7	1.00E-6	1.06E-6	1.20E-6	1.40E-6	1.66E-6	72	1922.31	2.22E-5	2.00E-5	1.75E-5	1.67E-5	1.77E-5	2.02E-5
73	3366.94	8.89E-7	9.00E-7	9.57E-7	1.08E-6	1.26E-6	1.51E-6	73	2019.11	2.12E-5	1.91E-5	1.67E-5	1.58E-5	1.68E-5	1.93E-5
74	3555.56	7.99E-7	8.10E-7	8.63E-7	9.75E-7	1.14E-6	1.37E-6	74	2120.52	2.03E-5	1.82E-5	1.59E-5	1.51E-5	1.60E-5	1.84E-5
75	3753.62	7.18E-7	7.29E-7	7.78E-7	8.81E-7	1.04E-6	1.25E-6	75	2226.76	1.94E-5	1.74E-5	1.52E-5	1.44E-5	1.53E-5	1.76E-5
76	3961.48	6.46E-7	6.56E-7	7.01E-7	7.97E-7	9.41E-7	1.13E-6	76	2338.00	1.86E-5	1.67E-5	1.45E-5	1.37E-5	1.45E-5	1.68E-5
77	4179.68	5.82E-7	5.91E-7	6.33E-7	7.21E-7	8.54E-7	1.03E-6	77	2454.54	1.78E-5	1.59E-5	1.38E-5	1.30E-5	1.39E-5	1.61E-5
78	4408.59	5.25E-7	5.33E-7	5.72E-7	6.52E-7	7.76E-7	9.44E-7	78	2576.53	1.70E-5	1.52E-5	1.32E-5	1.24E-5	1.32E-5	1.54E-5
79	4648.74	4.73E-7	4.81E-7	5.17E-7	5.91E-7	7.05E-7	8.62E-7	79	2704.28	1.63E-5	1.46E-5	1.26E-5	1.19E-5	1.26E-5	1.47E-5
80	4900.54	4.27E-7	4.34E-7	4.68E-7	5.36E-7	6.42E-7	7.87E-7	80	2837.93	1.56E-5	1.40E-5	1.20E-5	1.13E-5	1.21E-5	1.41E-5
81	5164.54	3.85E-7	3.92E-7	4.24E-7	4.87E-7	5.85E-7	7.20E-7	81	2977.79	1.49E-5	1.34E-5	1.15E-5	1.08E-5	1.15E-5	1.35E-5
82	5441.35	3.48E-7	3.55E-7	3.84E-7	4.42E-7	5.33E-7	6.59E-7	82	3124.17	1.43E-5	1.28E-5	1.10E-5	1.03E-5	1.10E-5	1.30E-5
83	5731.55	3.14E-7	3.21E-7	3.48E-7	4.02E-7	4.86E-7	6.03E-7	83	3277.39	1.37E-5	1.23E-5	1.06E-5	9.89E-6	1.06E-5	1.24E-5
84	6035.80	2.84E-7	2.91E-7	3.15E-7	3.66E-7	4.44E-7	5.53E-7	84	3437.79	1.32E-5	1.18E-5	1.01E-5	9.46E-6	1.01E-5	1.19E-5
85	6354.55	2.57E-7	2.63E-7	2.86E-7	3.33E-7	4.05E-7	5.07E-7	85	3605.52	1.26E-5	1.13E-5	9.67E-6	9.04E-6	9.66E-6	1.15E-5
86	6687.73	2.33E-7	2.39E-7	2.60E-7	3.03E-7	3.70E-7	4.65E-7	86	3780.21	1.21E-5	1.08E-5	9.28E-6	8.66E-6	9.27E-6	1.10E-5
87	7037.54	2.11E-7	2.16E-7	2.36E-7	2.76E-7	3.39E-7	4.27E-7	87	3963.63	1.17E-5	1.04E-5	8.90E-6	8.29E-6	8.88E-6	1.06E-5
88	7403.80	1.91E-7	1.96E-7	2.15E-7	2.52E-7	3.10E-7	3.92E-7	88	4155.29	1.12E-5	9.99E-6	8.53E-6	7.95E-6	8.51E-6	1.02E-5
89	7787.59	1.74E-7	1.78E-7	1.95E-7	2.30E-7	2.84E-7	3.61E-7	89	4355.86	1.08E-5	9.60E				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_3 - B_2$								$C_1 - C_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	11.53	3.80E-2	3.19E-2	2.45E-2	1.99E-2	1.80E-2	1.76E-2	26	15.92	5.82E-2	4.82E-2	3.60E-2	2.84E-2	2.51E-2	2.44E-2
27	13.84	3.43E-2	2.88E-2	2.22E-2	1.80E-2	1.63E-2	1.60E-2	27	17.92	5.35E-2	4.48E-2	3.43E-2	2.77E-2	2.51E-2	2.46E-2
28	16.48	3.11E-2	2.61E-2	2.01E-2	1.64E-2	1.49E-2	1.46E-2	28	20.28	4.92E-2	4.15E-2	3.24E-2	2.68E-2	2.47E-2	2.44E-2
29	19.50	2.83E-2	2.38E-2	1.83E-2	1.49E-2	1.35E-2	1.33E-2	29	23.04	4.52E-2	3.84E-2	3.05E-2	2.57E-2	2.40E-2	2.39E-2
30	22.92	2.58E-2	2.17E-2	1.67E-2	1.37E-2	1.24E-2	1.22E-2	30	26.23	4.16E-2	3.56E-2	2.85E-2	2.44E-2	2.30E-2	2.31E-2
31	26.79	2.37E-2	1.99E-2	1.53E-2	1.25E-2	1.14E-2	1.12E-2	31	29.89	3.83E-2	3.30E-2	2.67E-2	2.31E-2	2.20E-2	2.21E-2
32	31.13	2.17E-2	1.83E-2	1.41E-2	1.15E-2	1.05E-2	1.03E-2	32	34.06	3.54E-2	3.06E-2	2.49E-2	2.18E-2	2.08E-2	2.10E-2
33	35.98	2.01E-2	1.69E-2	1.30E-2	1.06E-2	9.71E-3	9.58E-3	33	38.77	3.28E-2	2.84E-2	2.33E-2	2.05E-2	1.97E-2	1.99E-2
34	41.38	1.86E-2	1.56E-2	1.21E-2	9.86E-3	9.00E-3	8.90E-3	34	44.06	3.04E-2	2.64E-2	2.18E-2	1.92E-2	1.86E-2	1.89E-2
35	47.38	1.72E-2	1.45E-2	1.12E-2	9.16E-3	8.36E-3	8.28E-3	35	49.96	2.83E-2	2.46E-2	2.04E-2	1.80E-2	1.75E-2	1.78E-2
36	54.01	1.60E-2	1.35E-2	1.04E-2	8.52E-3	7.79E-3	7.73E-3	36	56.51	2.63E-2	2.29E-2	1.91E-2	1.69E-2	1.64E-2	1.68E-2
37	61.32	1.50E-2	1.26E-2	9.73E-3	7.96E-3	7.28E-3	7.24E-3	37	63.77	2.46E-2	2.15E-2	1.79E-2	1.59E-2	1.55E-2	1.59E-2
38	69.35	1.40E-2	1.18E-2	9.10E-3	7.44E-3	6.82E-3	6.79E-3	38	71.76	2.30E-2	2.01E-2	1.68E-2	1.50E-2	1.46E-2	1.50E-2
39	78.16	1.31E-2	1.10E-2	8.52E-3	6.98E-3	6.40E-3	6.38E-3	39	80.54	2.15E-2	1.88E-2	1.58E-2	1.41E-2	1.38E-2	1.42E-2
40	87.78	1.23E-2	1.04E-2	8.01E-3	6.56E-3	6.02E-3	6.02E-3	40	90.16	2.02E-2	1.77E-2	1.48E-2	1.33E-2	1.30E-2	1.34E-2
41	98.27	1.16E-2	9.75E-3	7.54E-3	6.17E-3	5.67E-3	5.68E-3	41	100.66	1.90E-2	1.67E-2	1.40E-2	1.25E-2	1.23E-2	1.27E-2
42	109.69	1.09E-2	9.19E-3	7.11E-3	5.82E-3	5.36E-3	5.38E-3	42	112.10	1.79E-2	1.57E-2	1.32E-2	1.18E-2	1.16E-2	1.21E-2
43	122.09	1.03E-2	8.68E-3	6.71E-3	5.50E-3	5.07E-3	5.10E-3	43	124.53	1.69E-2	1.49E-2	1.25E-2	1.12E-2	1.10E-2	1.15E-2
44	135.53	9.73E-3	8.21E-3	6.35E-3	5.21E-3	4.80E-3	4.84E-3	44	138.00	1.60E-2	1.41E-2	1.18E-2	1.06E-2	1.05E-2	1.09E-2
45	150.06	9.21E-3	7.77E-3	6.02E-3	4.94E-3	4.56E-3	4.61E-3	45	152.59	1.52E-2	1.33E-2	1.12E-2	1.01E-2	9.96E-3	1.04E-2
46	165.76	8.73E-3	7.37E-3	5.71E-3	4.69E-3	4.33E-3	4.39E-3	46	168.35	1.44E-2	1.26E-2	1.06E-2	9.59E-3	9.48E-3	9.93E-3
47	182.68	8.29E-3	7.00E-3	5.42E-3	4.46E-3	4.12E-3	4.19E-3	47	185.35	1.37E-2	1.20E-2	1.01E-2	9.12E-3	9.03E-3	9.48E-3
48	200.89	7.88E-3	6.66E-3	5.16E-3	4.24E-3	3.93E-3	4.00E-3	48	203.64	1.30E-2	1.14E-2	9.62E-3	8.69E-3	8.62E-3	9.07E-3
49	220.47	7.50E-3	6.34E-3	4.92E-3	4.04E-3	3.75E-3	3.83E-3	49	223.31	1.23E-2	1.09E-2	9.16E-3	8.29E-3	8.23E-3	8.69E-3
50	241.48	7.15E-3	6.04E-3	4.69E-3	3.86E-3	3.59E-3	3.67E-3	50	244.43	1.18E-2	1.04E-2	8.74E-3	7.91E-3	7.87E-3	8.33E-3
51	264.00	6.82E-3	5.77E-3	4.47E-3	3.68E-3	3.43E-3	3.52E-3	51	267.06	1.12E-2	9.89E-3	8.34E-3	7.56E-3	7.53E-3	7.99E-3
52	288.11	6.51E-3	5.51E-3	4.28E-3	3.52E-3	3.29E-3	3.38E-3	52	291.29	1.07E-2	9.45E-3	7.97E-3	7.23E-3	7.22E-3	7.68E-3
53	313.89	6.22E-3	5.27E-3	4.09E-3	3.37E-3	3.15E-3	3.25E-3	53	317.21	1.02E-2	9.03E-3	7.63E-3	6.92E-3	6.92E-3	7.39E-3
54	341.43	5.95E-3	5.04E-3	3.92E-3	3.23E-3	3.02E-3	3.13E-3	54	344.89	9.78E-3	8.63E-3	7.30E-3	6.63E-3	6.65E-3	7.11E-3
55	370.82	5.70E-3	4.83E-3	3.75E-3	3.10E-3	2.90E-3	3.01E-3	55	374.42	9.36E-3	8.27E-3	6.99E-3	6.36E-3	6.39E-3	6.85E-3
56	402.14	5.46E-3	4.63E-3	3.60E-3	2.98E-3	2.79E-3	2.90E-3	56	405.90	8.97E-3	7.92E-3	6.71E-3	6.11E-3	6.14E-3	6.61E-3
57	435.49	5.23E-3	4.44E-3	3.46E-3	2.86E-3	2.69E-3	2.80E-3	57	439.42	8.60E-3	7.60E-3	6.44E-3	5.87E-3	5.91E-3	6.38E-3
58	470.97	5.02E-3	4.26E-3	3.32E-3	2.75E-3	2.59E-3	2.71E-3	58	475.08	8.25E-3	7.29E-3	6.18E-3	5.64E-3	5.70E-3	6.16E-3
59	508.68	4.82E-3	4.09E-3	3.19E-3	2.64E-3	2.49E-3	2.62E-3	59	512.98	7.92E-3	7.00E-3	5.94E-3	5.43E-3	5.49E-3	5.96E-3
60	548.74	4.63E-3	3.94E-3	3.07E-3	2.55E-3	2.41E-3	2.53E-3	60	553.23	7.60E-3	6.73E-3	5.71E-3	5.22E-3	5.30E-3	5.76E-3
61	591.24	4.45E-3	3.79E-3	2.95E-3	2.45E-3	2.32E-3	2.45E-3	61	595.94	7.31E-3	6.47E-3	5.50E-3	5.03E-3	5.11E-3	5.58E-3
62	636.31	4.29E-3	3.64E-3	2.84E-3	2.36E-3	2.24E-3	2.37E-3	62	641.23	7.03E-3	6.23E-3	5.29E-3	4.85E-3	4.94E-3	5.41E-3
63	684.07	4.13E-3	3.51E-3	2.74E-3	2.28E-3	2.17E-3	2.30E-3	63	689.22	6.76E-3	5.99E-3	5.10E-3	4.68E-3	4.77E-3	5.24E-3
64	734.64	3.98E-3	3.38E-3	2.64E-3	2.20E-3	2.10E-3	2.23E-3	64	740.03	6.51E-3	5.77E-3	4.92E-3	4.51E-3	4.61E-3	5.09E-3
65	788.15	3.83E-3	3.26E-3	2.55E-3	2.13E-3	2.03E-3	2.16E-3	65	793.80	6.27E-3	5.56E-3	4.74E-3	4.36E-3	4.46E-3	4.94E-3
66	844.75	3.69E-3	3.15E-3	2.46E-3	2.05E-3	1.96E-3	2.10E-3	66	850.65	6.04E-3	5.36E-3	4.57E-3	4.21E-3	4.32E-3	4.79E-3
67	904.56	3.56E-3	3.04E-3	2.38E-3	1.98E-3	1.90E-3	2.04E-3	67	910.74	5.82E-3	5.17E-3	4.41E-3	4.07E-3	4.18E-3	4.66E-3
68	967.74	3.44E-3	2.93E-3	2.30E-3	1.92E-3	1.84E-3	1.98E-3	68	974.20	5.62E-3	4.99E-3	4.26E-3	3.93E-3	4.05E-3	4.53E-3
69	1034.44	3.32E-3	2.83E-3	2.22E-3	1.86E-3	1.78E-3	1.93E-3	69	1041.20	5.42E-3	4.82E-3	4.12E-3	3.80E-3	3.93E-3	4.40E-3
70	1104.82	3.21E-3	2.74E-3	2.15E-3	1.80E-3	1.73E-3	1.88E-3	70	1111.89	5.23E-3	4.66E-3	3.98E-3	3.68E-3	3.81E-3	4.28E-3
71	1179.05	3.10E-3	2.65E-3	2.08E-3	1.74E-3	1.68E-3	1.83E-3	71	1186.45	5.05E-3	4.50E-3	3.85E-3	3.56E-3	3.70E-3	4.17E-3
72	1257.31	2.99E-3	2.56E-3	2.01E-3	1.69E-3	1.63E-3	1.78E-3	72	1265.03	4.88E-3	4.35E-3	3.72E-3	3.45E-3	3.59E-3	4.06E-3
73	1339.76	2.90E-3	2.48E-3	1.95E-3	1.63E-3	1.58E-3	1.73E-3	73	1347.83	4.72E-3	4.21E-3	3.60E-3	3.34E-3	3.49E-3	3.96E-3
74	1426.61	2.80E-3	2.40E-3	1.89E-3	1.59E-3	1.54E-3	1.69E-3	74	1435.04	4.56E-3	4.07E-3	3.49E-3	3.24E-3	3.39E-3	3.86E-3
75	1518.05	2.71E-3	2.32E-3	1.83E-3	1.54E-3	1.49E-3	1.65E-3	75	1526.86	4.41E-3	3.94E-3	3.38E-3	3.14E-3	3.29E-3	3.76E-3
76	1614.28	2.63E-3	2.25E-3	1.77E-3	1.49E-3	1.45E-3	1.61E-3	76	1623.49	4.26E-3	3.81E-3	3.27E-3	3.04E-3	3.20E-3	3.67E-3
77	1715.53	2.54E-3	2.18E-3	1.72E-3	1.45E-3	1.41E-3	1.57E-3	77	1725.14	4.13E-3	3.69E-3	3.17E-3	2.95E-3	3.11E-3	3.58E-3
78	1822.02	2.46E-3	2.11E-3	1.67E-3	1.41E-3	1.37E-3	1.53E-3	78	1832.06	3.99E-3	3.57E-3	3.07E-3	2.87E-3	3.02E-3	3.49E-3
79	1933.99	2.38E-3	2.05E-3	1.62E-3	1.36E-3	1.34E-3	1.50E-3	79	1944.46	3.86E-3	3.45E-3	2.98E-3	2.78E-3	2.94E-3	3.41E-3
80	2051.68	2.31E-3	1.98E-3	1.57E-3	1.33E-3	1.30E-3	1.46E-3	80	2062.61	3.74E-3	3.35E-3	2.88E-3	2.70E-3	2.86E-3	3.33E-3
81	2175.36	2.24E-3	1.92E-3	1.52E-3	1.29E-3	1.27E-3	1.43E-3	81	2186.75	3.62E-3	3.24E-3	2.80E-3	2.62E-3	2.79E-3	3.25E-3
82	2305.29	2.17E-3	1.87E-3	1.48E-3	1.25E-3	1.23E-3	1.39E-3	82	2317.17	3.51E-3	3.14E-3	2.71E-3	2.55E-3	2.71E-3	3.18E-3
83	2441.77	2.11E-3	1.81E-3	1.44E-3	1.22E-3	1.20E-3	1.36E-3	83	2454.16	3.40E-3	3.05E-3	2.63E-3	2.47E-3	2.64E-3	3.11E-3
84	2585.10	2.04E-3	1.76E-3	1.39E-3	1.18E-3	1.17E-3	1.33E-3	84	2598.01	3.30E-3	2.95E-3	2.55E-3	2.40E-3	2.57E-3	3.04E-3
85	2735.58	1.98E-3	1.71E-3	1.35E-3	1.15E-3	1.14E-3	1.30E-3	85	2749.03	3.19E-3	2.86E-3	2.48E-3	2.33E-3	2.50E-3	2.97E-3
86	2893.51	1.92E-3	1.66E-3	1.31E-3	1.12E-3	1.11E-3	1.27E-3	86	2907.53	3.10E-3	2.78E-3	2.40E-3	2.27E-3	2.44E-3	2.90E-3
87	3059.30	1.87E-3	1.61E-3	1.28E-3	1.09E-3	1.08E-3	1.24E-3	87	3073.91	3.00E-3	2.69E-3	2.33E-3	2.20E-3	2.38E-3	2.84E-3
88	3233.30	1.81E-3	1.56E-3	1.24E-3	1.06E-3	1.05E-3	1.22E-3	88	3248.51	2.91E-3	2.61E-3	2.27E-3	2.14E-3	2.31E-3	2.77E-3
89	3415.88	1.76E-3	1.52E-3	1.21E-3	1.03E-3	1.03E-3	1.19E-3	89	3431.73	2.82E-3	2.54E-3	2.20E-3	2.08E-3	2.26E-3	2.71E-3

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - C_3$								$C_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	191.16	1.00E-3	9.68E-4	9.43E-4	9.58E-4	9.97E-4	1.04E-3	26	213.14	5.97E-4	5.30E-4	4.50E-4	4.07E-4	3.96E-4	4.00E-4
27	201.73	8.85E-4	8.57E-4	8.38E-4	8.56E-4	8.95E-4	9.35E-4	27	226.30	5.58E-4	5.03E-4	4.41E-4	4.09E-4	4.04E-4	4.11E-4
28	212.72	7.88E-4	7.65E-4	7.50E-4	7.69E-4	8.07E-4	8.45E-4	28	240.20	5.22E-4	4.77E-4	4.27E-4	4.04E-4	4.02E-4	4.11E-4
29	224.15	7.06E-4	6.86E-4	6.74E-4	6.94E-4	7.30E-4	7.67E-4	29	254.91	4.86E-4	4.48E-4	4.09E-4	3.91E-4	3.93E-4	4.03E-4
30	236.06	6.34E-4	6.17E-4	6.09E-4	6.29E-4	6.63E-4	6.98E-4	30	270.51	4.48E-4	4.18E-4	3.86E-4	3.74E-4	3.77E-4	3.88E-4
31	248.49	5.74E-4	5.58E-4	5.52E-4	5.71E-4	6.04E-4	6.38E-4	31	287.06	4.18E-4	3.91E-4	3.62E-4	3.51E-4	3.56E-4	3.67E-4
32	261.48	5.20E-4	5.06E-4	5.02E-4	5.21E-4	5.53E-4	5.85E-4	32	304.64	3.81E-4	3.58E-4	3.35E-4	3.27E-4	3.33E-4	3.44E-4
33	275.05	4.72E-4	4.61E-4	4.58E-4	4.77E-4	5.07E-4	5.38E-4	33	323.32	3.46E-4	3.27E-4	3.07E-4	3.02E-4	3.09E-4	3.20E-4
34	289.26	4.30E-4	4.20E-4	4.19E-4	4.37E-4	4.66E-4	4.95E-4	34	343.18	3.07E-4	2.93E-4	2.80E-4	2.78E-4	2.84E-4	2.95E-4
35	304.14	3.93E-4	3.85E-4	3.85E-4	4.02E-4	4.29E-4	4.57E-4	35	364.31	2.77E-4	2.64E-4	2.54E-4	2.53E-4	2.60E-4	2.71E-4
36	319.73	3.61E-4	3.53E-4	3.54E-4	3.70E-4	3.96E-4	4.23E-4	36	386.79	2.52E-4	2.41E-4	2.30E-4	2.29E-4	2.35E-4	2.46E-4
37	336.09	3.32E-4	3.25E-4	3.26E-4	3.42E-4	3.66E-4	3.92E-4	37	410.70	2.22E-4	2.13E-4	2.06E-4	2.07E-4	2.13E-4	2.23E-4
38	353.26	3.06E-4	3.00E-4	3.00E-4	3.16E-4	3.39E-4	3.63E-4	38	436.15	1.98E-4	1.90E-4	1.85E-4	1.86E-4	1.92E-4	2.02E-4
39	371.30	2.82E-4	2.77E-4	2.78E-4	2.92E-4	3.14E-4	3.37E-4	39	463.24	1.80E-4	1.72E-4	1.66E-4	1.67E-4	1.73E-4	1.81E-4
40	390.24	2.61E-4	2.56E-4	2.57E-4	2.70E-4	2.91E-4	3.13E-4	40	492.05	1.60E-4	1.54E-4	1.48E-4	1.49E-4	1.55E-4	1.63E-4
41	410.15	2.42E-4	2.37E-4	2.38E-4	2.50E-4	2.70E-4	2.91E-4	41	522.69	1.39E-4	1.35E-4	1.32E-4	1.33E-4	1.39E-4	1.47E-4
42	431.09	2.25E-4	2.20E-4	2.21E-4	2.32E-4	2.51E-4	2.71E-4	42	555.28	1.26E-4	1.21E-4	1.18E-4	1.19E-4	1.24E-4	1.31E-4
43	453.11	2.09E-4	2.04E-4	2.05E-4	2.16E-4	2.33E-4	2.53E-4	43	589.93	1.12E-4	1.08E-4	1.05E-4	1.06E-4	1.11E-4	1.17E-4
44	476.27	1.94E-4	1.90E-4	1.90E-4	2.00E-4	2.17E-4	2.35E-4	44	626.76	9.70E-5	9.39E-5	9.25E-5	9.42E-5	9.88E-5	1.05E-4
45	500.64	1.81E-4	1.77E-4	1.77E-4	1.87E-4	2.02E-4	2.20E-4	45	665.89	8.74E-5	8.45E-5	8.24E-5	8.37E-5	8.78E-5	9.38E-5
46	526.27	1.69E-4	1.65E-4	1.65E-4	1.74E-4	1.88E-4	2.05E-4	46	707.45	7.73E-5	7.48E-5	7.31E-5	7.44E-5	7.82E-5	8.37E-5
47	553.26	1.58E-4	1.54E-4	1.54E-4	1.62E-4	1.76E-4	1.92E-4	47	751.57	6.68E-5	6.51E-5	6.44E-5	6.61E-5	6.98E-5	7.49E-5
48	581.65	1.48E-4	1.44E-4	1.44E-4	1.51E-4	1.64E-4	1.79E-4	48	798.39	6.04E-5	5.86E-5	5.74E-5	5.86E-5	6.19E-5	6.66E-5
49	611.53	1.38E-4	1.35E-4	1.34E-4	1.41E-4	1.53E-4	1.68E-4	49	848.06	5.22E-5	5.08E-5	5.05E-5	5.20E-5	5.52E-5	5.96E-5
50	642.97	1.30E-4	1.26E-4	1.25E-4	1.32E-4	1.43E-4	1.58E-4	50	900.72	4.62E-5	4.49E-5	4.47E-5	4.61E-5	4.91E-5	5.31E-5
51	676.05	1.22E-4	1.18E-4	1.17E-4	1.23E-4	1.34E-4	1.48E-4	51	956.52	4.16E-5	4.05E-5	3.98E-5	4.09E-5	4.36E-5	4.73E-5
52	710.86	1.14E-4	1.11E-4	1.10E-4	1.15E-4	1.26E-4	1.39E-4	52	1015.63	3.64E-5	3.55E-5	3.52E-5	3.63E-5	3.88E-5	4.22E-5
53	747.49	1.07E-4	1.04E-4	1.03E-4	1.08E-4	1.18E-4	1.30E-4	53	1078.24	3.21E-5	3.14E-5	3.11E-5	3.22E-5	3.45E-5	3.77E-5
54	786.01	1.01E-4	9.80E-5	9.68E-5	1.01E-4	1.11E-4	1.23E-4	54	1144.48	2.87E-5	2.80E-5	2.76E-5	2.86E-5	3.06E-5	3.36E-5
55	826.53	9.53E-5	9.22E-5	9.09E-5	9.50E-5	1.04E-4	1.16E-4	55	1214.56	2.50E-5	2.45E-5	2.44E-5	2.53E-5	2.73E-5	3.00E-5
56	869.14	8.99E-5	8.68E-5	8.54E-5	8.92E-5	9.75E-5	1.09E-4	56	1288.65	2.24E-5	2.18E-5	2.17E-5	2.25E-5	2.42E-5	2.67E-5
57	913.94	8.49E-5	8.18E-5	8.04E-5	8.39E-5	9.17E-5	1.03E-4	57	1366.97	1.96E-5	1.92E-5	1.91E-5	2.00E-5	2.16E-5	2.39E-5
58	961.04	8.02E-5	7.72E-5	7.57E-5	7.89E-5	8.64E-5	9.69E-5	58	1449.71	1.73E-5	1.69E-5	1.69E-5	1.77E-5	1.92E-5	2.14E-5
59	1010.55	7.58E-5	7.29E-5	7.13E-5	7.43E-5	8.14E-5	9.15E-5	59	1537.08	1.54E-5	1.51E-5	1.50E-5	1.57E-5	1.71E-5	1.90E-5
60	1062.56	7.18E-5	6.89E-5	6.73E-5	7.00E-5	7.67E-5	8.65E-5	60	1629.28	1.35E-5	1.33E-5	1.33E-5	1.40E-5	1.52E-5	1.71E-5
61	1117.21	6.80E-5	6.51E-5	6.35E-5	6.60E-5	7.24E-5	8.18E-5	61	1726.57	1.20E-5	1.18E-5	1.18E-5	1.24E-5	1.36E-5	1.52E-5
62	1174.59	6.44E-5	6.16E-5	5.99E-5	6.22E-5	6.84E-5	7.75E-5	62	1829.14	1.06E-5	1.04E-5	1.04E-5	1.10E-5	1.21E-5	1.36E-5
63	1234.87	6.11E-5	5.84E-5	5.66E-5	5.88E-5	6.46E-5	7.34E-5	63	1937.30	9.36E-6	9.18E-6	9.25E-6	9.80E-6	1.08E-5	1.22E-5
64	1298.12	5.80E-5	5.53E-5	5.36E-5	5.55E-5	6.11E-5	6.96E-5	64	2051.23	8.34E-6	8.20E-6	8.24E-6	8.73E-6	9.63E-6	1.09E-5
65	1364.55	5.50E-5	5.25E-5	5.07E-5	5.25E-5	5.78E-5	6.61E-5	65	2171.27	7.34E-6	7.19E-6	7.27E-6	7.76E-6	8.60E-6	9.81E-6
66	1434.24	5.23E-5	4.98E-5	4.80E-5	4.97E-5	5.48E-5	6.28E-5	66	2297.65	6.53E-6	6.43E-6	6.49E-6	6.91E-6	7.68E-6	8.78E-6
67	1507.37	4.97E-5	4.73E-5	4.55E-5	4.70E-5	5.19E-5	5.96E-5	67	2430.68	5.79E-6	5.70E-6	5.77E-6	6.16E-6	6.87E-6	7.88E-6
68	1584.09	4.73E-5	4.49E-5	4.31E-5	4.45E-5	4.92E-5	5.67E-5	68	2570.65	5.13E-6	5.06E-6	5.12E-6	5.49E-6	6.14E-6	7.08E-6
69	1664.56	4.50E-5	4.27E-5	4.09E-5	4.22E-5	4.67E-5	5.40E-5	69	2717.88	4.54E-6	4.49E-6	4.55E-6	4.89E-6	5.49E-6	6.36E-6
70	1748.90	4.28E-5	4.06E-5	3.88E-5	4.00E-5	4.44E-5	5.14E-5	70	2872.66	4.03E-6	3.95E-6	4.03E-6	4.35E-6	4.92E-6	5.72E-6
71	1837.36	4.08E-5	3.86E-5	3.69E-5	3.80E-5	4.21E-5	4.90E-5	71	3035.38	3.57E-6	3.53E-6	3.60E-6	3.89E-6	4.40E-6	5.14E-6
72	1930.04	3.89E-5	3.67E-5	3.50E-5	3.61E-5	4.01E-5	4.67E-5	72	3206.35	3.18E-6	3.12E-6	3.19E-6	3.46E-6	3.95E-6	4.63E-6
73	2027.18	3.70E-5	3.50E-5	3.33E-5	3.42E-5	3.81E-5	4.45E-5	73	3385.97	2.83E-6	2.77E-6	2.84E-6	3.09E-6	3.54E-6	4.16E-6
74	2128.95	3.53E-5	3.33E-5	3.16E-5	3.25E-5	3.63E-5	4.25E-5	74	3574.60	2.52E-6	2.46E-6	2.52E-6	2.77E-6	3.17E-6	3.75E-6
75	2235.57	3.37E-5	3.17E-5	3.01E-5	3.09E-5	3.45E-5	4.06E-5	75	3772.66	2.24E-6	2.19E-6	2.25E-6	2.47E-6	2.85E-6	3.38E-6
76	2347.20	3.22E-5	3.03E-5	2.87E-5	2.94E-5	3.29E-5	3.88E-5	76	3980.50	1.97E-6	1.96E-6	2.02E-6	2.22E-6	2.56E-6	3.05E-6
77	2464.15	3.07E-5	2.89E-5	2.73E-5	2.80E-5	3.13E-5	3.71E-5	77	4198.68	1.75E-6	1.74E-6	1.80E-6	1.99E-6	2.30E-6	2.75E-6
78	2586.56	2.93E-5	2.75E-5	2.60E-5	2.67E-5	2.99E-5	3.55E-5	78	4427.55	1.57E-6	1.55E-6	1.60E-6	1.77E-6	2.07E-6	2.49E-6
79	2714.75	2.80E-5	2.63E-5	2.48E-5	2.54E-5	2.85E-5	3.39E-5	79	4667.66	1.40E-6	1.38E-6	1.43E-6	1.59E-6	1.86E-6	2.25E-6
80	2848.85	2.68E-5	2.51E-5	2.36E-5	2.42E-5	2.72E-5	3.25E-5	80	4919.39	1.24E-6	1.23E-6	1.28E-6	1.43E-6	1.68E-6	2.04E-6
81	2989.18	2.56E-5	2.40E-5	2.25E-5	2.31E-5	2.60E-5	3.11E-5	81	5183.33	1.10E-6	1.10E-6	1.15E-6	1.28E-6	1.51E-6	1.84E-6
82	3136.06	2.43E-5	2.29E-5	2.15E-5	2.21E-5	2.49E-5	2.99E-5	82	5460.05	9.89E-7	9.82E-7	1.02E-6	1.15E-6	1.36E-6	1.67E-6
83	3289.78	2.33E-5	2.18E-5	2.06E-5	2.11E-5	2.37E-5	2.86E-5	83	5750.15	8.83E-7	8.77E-7	9.16E-7	1.03E-6	1.23E-6	1.51E-6
84	3450.70	2.23E-5	2.09E-5	1.96E-5	2.01E-5	2.27E-5	2.75E-5	84	6054.28	7.84E-7	7.83E-7	8.22E-7	9.29E-7	1.11E-6	1.37E-6
85	3618.98	2.13E-5	2.00E-5	1.87E-5	1.92E-5	2.17E-5	2.64E-5	85	6372.92	7.00E-7	7.01E-7	7.37E-7	8.36E-7	1.00E-6	1.25E-6
86	3794.23	2.04E-5	1.92E-5	1.79E-5	1.83E-5	2.08E-5	2.53E-5	86	6705.96	6.29E-7	6.29E-7	6.60E-7	7.52E-7	9.08E-7	1.14E-6
87	3978.24	1.96E-5	1.83E-5	1.72E-5	1.75E-5	1.99E-5	2.43E-5	87	7055.62	5.61E-7	5.63E-7	5.94E-7	6.79E-7	8.23E-7	1.03E-6
88	4170.51	1.88E-5	1.76E-5	1.64E-5	1.68E-5	1.91E-5	2.34E-5	88	7421.70	5.03E-7	5.05E-7	5.34E-7	6.13E-7	7.46E-7	9.42E-7
89	4371.71	1.80E-5	1.68E-5	1.57E-5	1.61E-5	1.83E-5	2.25E-5	89	7805.31	4.52E-7	4.55				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - C_3$								$C_2 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	175.23	5.50E-4	4.87E-4	4.06E-4	3.51E-4	3.26E-4	3.19E-4	26	197.22	1.46E-3	1.56E-3	1.72E-3	1.90E-3	2.06E-3	2.18E-3
27	183.81	5.28E-4	4.75E-4	4.04E-4	3.56E-4	3.35E-4	3.28E-4	27	208.38	1.27E-3	1.34E-3	1.48E-3	1.63E-3	1.77E-3	1.88E-3
28	192.44	5.11E-4	4.63E-4	4.00E-4	3.58E-4	3.38E-4	3.33E-4	28	219.92	1.11E-3	1.17E-3	1.27E-3	1.40E-3	1.53E-3	1.62E-3
29	201.12	4.93E-4	4.51E-4	3.94E-4	3.56E-4	3.38E-4	3.33E-4	29	231.88	9.66E-4	1.01E-3	1.10E-3	1.21E-3	1.32E-3	1.40E-3
30	209.84	4.74E-4	4.36E-4	3.85E-4	3.50E-4	3.33E-4	3.30E-4	30	244.28	8.48E-4	8.87E-4	9.60E-4	1.05E-3	1.14E-3	1.22E-3
31	218.60	4.60E-4	4.22E-4	3.73E-4	3.41E-4	3.26E-4	3.24E-4	31	257.17	7.50E-4	7.79E-4	8.40E-4	9.19E-4	9.98E-4	1.06E-3
32	227.41	4.40E-4	4.05E-4	3.60E-4	3.31E-4	3.17E-4	3.16E-4	32	270.57	6.64E-4	6.88E-4	7.38E-4	8.06E-4	8.75E-4	9.34E-4
33	236.28	4.20E-4	3.87E-4	3.47E-4	3.19E-4	3.07E-4	3.07E-4	33	284.55	5.91E-4	6.09E-4	6.51E-4	7.10E-4	7.71E-4	8.24E-4
34	245.20	3.96E-4	3.70E-4	3.33E-4	3.08E-4	2.96E-4	2.96E-4	34	299.12	5.27E-4	5.43E-4	5.78E-4	6.29E-4	6.83E-4	7.31E-4
35	254.18	3.76E-4	3.51E-4	3.17E-4	2.95E-4	2.85E-4	2.86E-4	35	314.35	4.74E-4	4.85E-4	5.15E-4	5.59E-4	6.08E-4	6.51E-4
36	263.22	3.62E-4	3.37E-4	3.04E-4	2.82E-4	2.73E-4	2.75E-4	36	330.27	4.27E-4	4.36E-4	4.61E-4	5.00E-4	5.43E-4	5.83E-4
37	272.33	3.39E-4	3.18E-4	2.89E-4	2.69E-4	2.62E-4	2.64E-4	37	346.94	3.86E-4	3.93E-4	4.14E-4	4.48E-4	4.87E-4	5.23E-4
38	281.50	3.24E-4	3.04E-4	2.76E-4	2.58E-4	2.51E-4	2.53E-4	38	364.39	3.51E-4	3.56E-4	3.73E-4	4.03E-4	4.38E-4	4.72E-4
39	290.76	3.12E-4	2.91E-4	2.64E-4	2.46E-4	2.40E-4	2.43E-4	39	382.69	3.20E-4	3.23E-4	3.38E-4	3.64E-4	3.96E-4	4.27E-4
40	300.09	2.96E-4	2.77E-4	2.52E-4	2.35E-4	2.30E-4	2.33E-4	40	401.89	2.92E-4	2.94E-4	3.07E-4	3.30E-4	3.59E-4	3.88E-4
41	309.50	2.80E-4	2.64E-4	2.40E-4	2.25E-4	2.20E-4	2.23E-4	41	422.03	2.67E-4	2.69E-4	2.79E-4	3.00E-4	3.26E-4	3.53E-4
42	318.99	2.68E-4	2.51E-4	2.29E-4	2.15E-4	2.10E-4	2.14E-4	42	443.19	2.45E-4	2.46E-4	2.55E-4	2.73E-4	2.98E-4	3.23E-4
43	328.58	2.56E-4	2.39E-4	2.18E-4	2.05E-4	2.01E-4	2.06E-4	43	465.41	2.26E-4	2.26E-4	2.33E-4	2.50E-4	2.72E-4	2.96E-4
44	338.26	2.40E-4	2.27E-4	2.08E-4	1.96E-4	1.93E-4	1.97E-4	44	488.76	2.08E-4	2.08E-4	2.14E-4	2.29E-4	2.49E-4	2.71E-4
45	348.04	2.32E-4	2.18E-4	1.99E-4	1.88E-4	1.85E-4	1.89E-4	45	513.30	1.93E-4	1.92E-4	1.97E-4	2.10E-4	2.29E-4	2.49E-4
46	357.92	2.22E-4	2.08E-4	1.90E-4	1.80E-4	1.77E-4	1.82E-4	46	539.10	1.79E-4	1.77E-4	1.81E-4	1.93E-4	2.10E-4	2.30E-4
47	367.91	2.11E-4	1.99E-4	1.82E-4	1.72E-4	1.70E-4	1.75E-4	47	566.23	1.66E-4	1.64E-4	1.67E-4	1.78E-4	1.94E-4	2.13E-4
48	378.00	2.02E-4	1.90E-4	1.74E-4	1.65E-4	1.63E-4	1.68E-4	48	594.75	1.54E-4	1.52E-4	1.55E-4	1.64E-4	1.79E-4	1.97E-4
49	388.22	1.92E-4	1.82E-4	1.67E-4	1.58E-4	1.57E-4	1.62E-4	49	624.75	1.43E-4	1.41E-4	1.43E-4	1.52E-4	1.66E-4	1.82E-4
50	398.54	1.84E-4	1.74E-4	1.60E-4	1.51E-4	1.50E-4	1.56E-4	50	656.29	1.34E-4	1.32E-4	1.33E-4	1.41E-4	1.54E-4	1.70E-4
51	408.99	1.77E-4	1.67E-4	1.53E-4	1.46E-4	1.45E-4	1.51E-4	51	689.46	1.25E-4	1.23E-4	1.24E-4	1.31E-4	1.43E-4	1.58E-4
52	419.56	1.70E-4	1.60E-4	1.47E-4	1.40E-4	1.39E-4	1.45E-4	52	724.34	1.17E-4	1.15E-4	1.15E-4	1.22E-4	1.33E-4	1.47E-4
53	430.28	1.63E-4	1.53E-4	1.41E-4	1.34E-4	1.34E-4	1.40E-4	53	761.03	1.10E-4	1.07E-4	1.07E-4	1.13E-4	1.24E-4	1.37E-4
54	441.12	1.56E-4	1.47E-4	1.36E-4	1.29E-4	1.29E-4	1.35E-4	54	799.59	1.03E-4	1.01E-4	1.00E-4	1.06E-4	1.16E-4	1.28E-4
55	452.12	1.50E-4	1.41E-4	1.30E-4	1.24E-4	1.24E-4	1.31E-4	55	840.14	9.68E-5	9.42E-5	9.37E-5	9.85E-5	1.08E-4	1.20E-4
56	463.24	1.43E-4	1.35E-4	1.25E-4	1.20E-4	1.20E-4	1.26E-4	56	882.76	9.11E-5	8.84E-5	8.77E-5	9.21E-5	1.01E-4	1.13E-4
57	474.52	1.38E-4	1.30E-4	1.20E-4	1.15E-4	1.16E-4	1.22E-4	57	927.55	8.58E-5	8.31E-5	8.22E-5	8.62E-5	9.45E-5	1.06E-4
58	485.97	1.33E-4	1.25E-4	1.16E-4	1.11E-4	1.12E-4	1.18E-4	58	974.63	8.09E-5	7.82E-5	7.72E-5	8.08E-5	8.86E-5	9.95E-5
59	497.57	1.27E-4	1.20E-4	1.12E-4	1.07E-4	1.08E-4	1.15E-4	59	1024.10	7.64E-5	7.37E-5	7.25E-5	7.58E-5	8.32E-5	9.37E-5
60	509.33	1.23E-4	1.16E-4	1.07E-4	1.03E-4	1.04E-4	1.11E-4	60	1076.05	7.22E-5	6.95E-5	6.82E-5	7.12E-5	7.82E-5	8.83E-5
61	521.27	1.18E-4	1.11E-4	1.03E-4	9.95E-5	1.01E-4	1.07E-4	61	1130.63	6.82E-5	6.56E-5	6.42E-5	6.69E-5	7.36E-5	8.32E-5
62	533.36	1.14E-4	1.07E-4	9.98E-5	9.64E-5	9.75E-5	1.04E-4	62	1187.91	6.46E-5	6.20E-5	6.05E-5	6.30E-5	6.93E-5	7.86E-5
63	545.64	1.09E-4	1.03E-4	9.61E-5	9.30E-5	9.43E-5	1.01E-4	63	1248.08	6.12E-5	5.86E-5	5.70E-5	5.93E-5	6.54E-5	7.43E-5
64	558.09	1.06E-4	9.90E-5	9.22E-5	8.91E-5	9.08E-5	9.78E-5	64	1311.20	5.80E-5	5.55E-5	5.39E-5	5.60E-5	6.17E-5	7.03E-5
65	570.75	1.02E-4	9.60E-5	8.97E-5	8.69E-5	8.84E-5	9.55E-5	65	1377.48	5.50E-5	5.25E-5	5.09E-5	5.28E-5	5.83E-5	6.66E-5
66	583.59	9.79E-5	9.28E-5	8.67E-5	8.39E-5	8.58E-5	9.27E-5	66	1447.00	5.22E-5	4.98E-5	4.81E-5	4.99E-5	5.51E-5	6.31E-5
67	596.64	9.42E-5	8.88E-5	8.30E-5	8.05E-5	8.26E-5	8.97E-5	67	1519.94	4.96E-5	4.72E-5	4.55E-5	4.71E-5	5.21E-5	5.99E-5
68	609.89	9.12E-5	8.66E-5	8.10E-5	7.86E-5	8.06E-5	8.77E-5	68	1596.45	4.72E-5	4.48E-5	4.31E-5	4.46E-5	4.93E-5	5.69E-5
69	623.36	8.81E-5	8.37E-5	7.84E-5	7.61E-5	7.83E-5	8.53E-5	69	1676.68	4.48E-5	4.26E-5	4.09E-5	4.22E-5	4.68E-5	5.40E-5
70	637.01	8.56E-5	8.17E-5	7.65E-5	7.43E-5	7.65E-5	8.35E-5	70	1760.77	4.27E-5	4.05E-5	3.87E-5	4.00E-5	4.44E-5	5.14E-5
71	650.91	8.23E-5	7.82E-5	7.34E-5	7.15E-5	7.38E-5	8.09E-5	71	1848.94	4.06E-5	3.85E-5	3.68E-5	3.79E-5	4.21E-5	4.89E-5
72	665.01	7.98E-5	7.57E-5	7.10E-5	6.95E-5	7.17E-5	7.89E-5	72	1941.32	3.87E-5	3.66E-5	3.49E-5	3.60E-5	4.00E-5	4.66E-5
73	679.35	7.72E-5	7.33E-5	6.89E-5	6.73E-5	6.98E-5	7.68E-5	73	2038.13	3.69E-5	3.48E-5	3.32E-5	3.41E-5	3.80E-5	4.44E-5
74	693.91	7.45E-5	7.08E-5	6.68E-5	6.54E-5	6.78E-5	7.50E-5	74	2139.55	3.52E-5	3.32E-5	3.15E-5	3.24E-5	3.61E-5	4.23E-5
75	708.71	7.22E-5	6.87E-5	6.47E-5	6.36E-5	6.59E-5	7.32E-5	75	2245.80	3.36E-5	3.16E-5	3.00E-5	3.08E-5	3.44E-5	4.04E-5
76	723.71	6.99E-5	6.67E-5	6.29E-5	6.16E-5	6.42E-5	7.14E-5	76	2357.02	3.20E-5	3.01E-5	2.85E-5	2.93E-5	3.27E-5	3.86E-5
77	739.00	6.78E-5	6.47E-5	6.10E-5	5.99E-5	6.26E-5	6.97E-5	77	2473.53	3.06E-5	2.87E-5	2.71E-5	2.78E-5	3.12E-5	3.69E-5
78	754.51	6.57E-5	6.27E-5	5.93E-5	5.83E-5	6.09E-5	6.82E-5	78	2595.50	2.92E-5	2.74E-5	2.59E-5	2.65E-5	2.97E-5	3.53E-5
79	770.29	6.38E-5	6.09E-5	5.76E-5	5.68E-5	5.94E-5	6.66E-5	79	2723.20	2.79E-5	2.61E-5	2.46E-5	2.52E-5	2.83E-5	3.37E-5
80	786.25	6.18E-5	5.89E-5	5.58E-5	5.49E-5	5.78E-5	6.50E-5	80	2856.79	2.67E-5	2.50E-5	2.35E-5	2.40E-5	2.70E-5	3.23E-5
81	802.43	6.01E-5	5.75E-5	5.45E-5	5.38E-5	5.66E-5	6.38E-5	81	2996.57	2.55E-5	2.38E-5	2.24E-5	2.29E-5	2.58E-5	3.09E-5
82	818.88	5.84E-5	5.59E-5	5.30E-5	5.25E-5	5.52E-5	6.25E-5	82	3142.87	2.44E-5	2.28E-5	2.14E-5	2.19E-5	2.46E-5	2.96E-5
83	835.62	5.68E-5	5.43E-5	5.16E-5	5.11E-5	5.40E-5	6.12E-5	83	3295.99	2.32E-5	2.17E-5	2.04E-5	2.09E-5	2.36E-5	2.84E-5
84	852.69	5.52E-5	5.29E-5	5.03E-5	4.98E-5	5.28E-5	6.00E-5	84	3456.27	2.22E-5	2.08E-5	1.95E-5	1.99E-5	2.25E-5	2.73E-5
85	869.94	5.37E-5	5.15E-5	4.90E-5	4.86E-5	5.16E-5	5.88E-5	85	3623.88	2.12E-5	1.99E-5	1.86E-5	1.90E-5	2.15E-5	2.61E-5
86	886.70	5.24E-5	5.02E-5	4.79E-5	4.76E-5	5.05E-5	5.78E-5	86	3798.43	2.03E-5	1.90E-5	1.78E-5	1.82E-5	2.06E-5	2.51E-5
87	904.33	5.11E-5	4.90E-5	4.67E-5	4.65E-5	4.95E-5	5.67E-5	87	3981.70	1.95E-5	1.82E-5	1.70E-5	1.74E-5	1.97E-5	2.41E-5
88	921.99	4.98E-5	4.78E-5	4.56E-5	4.54E-5	4.85E-5	5.57E-5	88	4173.19	1.87E-5	1.75E-5	1.63E-5	1.67E-5	1.89E-5	2.32E-5
89	939.98	4.86E-5	4.67E-5	4.46E-5	4.45E-5	4.75E-5	5.48E-5	89	4373.58	1.79E-5	1.68E-5	1.56E-5	1.59E-5	1.81E-	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_3 - C_4$								$D_1 - E_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	21.99	4.41E-2	3.51E-2	2.38E-2	1.64E-2	1.31E-2	1.20E-2	26	1.151	1.27E-2	9.58E-3	5.57E-3	2.72E-3	1.19E-3	5.04E-4
27	24.56	4.05E-2	3.25E-2	2.25E-2	1.60E-2	1.31E-2	1.23E-2	27	1.466	1.15E-2	8.62E-3	4.99E-3	2.44E-3	1.06E-3	4.54E-4
28	27.48	3.74E-2	3.02E-2	2.13E-2	1.57E-2	1.32E-2	1.24E-2	28	1.829	1.02E-2	7.60E-3	4.40E-3	2.15E-3	9.39E-4	4.00E-4
29	30.76	3.47E-2	2.82E-2	2.03E-2	1.52E-2	1.31E-2	1.25E-2	29	2.236	8.98E-3	6.71E-3	3.88E-3	1.90E-3	8.29E-4	3.54E-4
30	34.44	3.23E-2	2.64E-2	1.93E-2	1.48E-2	1.29E-2	1.25E-2	30	2.686	7.95E-3	5.93E-3	3.44E-3	1.68E-3	7.34E-4	3.13E-4
31	38.57	3.01E-2	2.48E-2	1.84E-2	1.44E-2	1.28E-2	1.24E-2	31	3.174	6.78E-3	5.12E-3	2.98E-3	1.46E-3	6.34E-4	2.69E-4
32	43.16	2.82E-2	2.34E-2	1.75E-2	1.39E-2	1.25E-2	1.23E-2	32	3.696	6.00E-3	4.53E-3	2.64E-3	1.29E-3	5.62E-4	2.38E-4
33	48.27	2.64E-2	2.20E-2	1.67E-2	1.35E-2	1.22E-2	1.21E-2	33	4.245	5.32E-3	4.02E-3	2.34E-3	1.14E-3	4.98E-4	2.11E-4
34	53.92	2.48E-2	2.08E-2	1.59E-2	1.30E-2	1.19E-2	1.18E-2	34	4.816	4.92E-3	3.67E-3	2.13E-3	1.04E-3	4.54E-4	1.94E-4
35	60.17	2.34E-2	1.97E-2	1.52E-2	1.25E-2	1.16E-2	1.15E-2	35	5.402	4.38E-3	3.26E-3	1.89E-3	9.24E-4	4.04E-4	1.72E-4
36	67.05	2.21E-2	1.86E-2	1.45E-2	1.21E-2	1.12E-2	1.12E-2	36	6.000	3.73E-3	2.81E-3	1.64E-3	8.02E-4	3.49E-4	1.48E-4
37	74.61	2.09E-2	1.77E-2	1.39E-2	1.16E-2	1.09E-2	1.09E-2	37	6.604	3.46E-3	2.58E-3	1.49E-3	7.32E-4	3.20E-4	1.37E-4
38	82.89	1.97E-2	1.68E-2	1.32E-2	1.12E-2	1.05E-2	1.06E-2	38	7.209	3.09E-3	2.30E-3	1.33E-3	6.52E-4	2.85E-4	1.22E-4
39	91.94	1.87E-2	1.59E-2	1.26E-2	1.07E-2	1.01E-2	1.03E-2	39	7.812	2.62E-3	1.98E-3	1.15E-3	5.65E-4	2.46E-4	1.05E-4
40	101.80	1.77E-2	1.52E-2	1.21E-2	1.03E-2	9.78E-3	9.97E-3	40	8.410	2.33E-3	1.76E-3	1.03E-3	5.03E-4	2.19E-4	9.31E-5
41	112.54	1.68E-2	1.44E-2	1.15E-2	9.90E-3	9.44E-3	9.65E-3	41	9.000	2.18E-3	1.62E-3	9.41E-4	4.61E-4	2.02E-4	8.64E-5
42	124.19	1.60E-2	1.37E-2	1.10E-2	9.51E-3	9.10E-3	9.34E-3	42	9.580	1.84E-3	1.39E-3	8.13E-4	3.99E-4	1.74E-4	7.39E-5
43	136.83	1.52E-2	1.31E-2	1.06E-2	9.14E-3	8.77E-3	9.03E-3	43	10.15	1.64E-3	1.24E-3	7.23E-4	3.55E-4	1.55E-4	6.58E-5
44	150.50	1.45E-2	1.25E-2	1.01E-2	8.78E-3	8.46E-3	8.73E-3	44	10.71	1.54E-3	1.14E-3	6.63E-4	3.26E-4	1.43E-4	6.11E-5
45	165.26	1.38E-2	1.19E-2	9.69E-3	8.44E-3	8.16E-3	8.45E-3	45	11.25	1.29E-3	9.79E-4	5.72E-4	2.81E-4	1.23E-4	5.21E-5
46	181.18	1.32E-2	1.14E-2	9.28E-3	8.11E-3	7.86E-3	8.17E-3	46	11.78	1.15E-3	8.70E-4	5.09E-4	2.50E-4	1.09E-4	4.64E-5
47	198.32	1.26E-2	1.09E-2	8.90E-3	7.80E-3	7.58E-3	7.90E-3	47	12.30	1.08E-3	8.05E-4	4.67E-4	2.30E-4	1.01E-4	4.33E-5
48	216.74	1.20E-2	1.04E-2	8.54E-3	7.51E-3	7.32E-3	7.65E-3	48	12.81	9.05E-4	6.86E-4	4.02E-4	1.98E-4	8.64E-5	3.67E-5
49	236.53	1.15E-2	9.98E-3	8.19E-3	7.22E-3	7.06E-3	7.40E-3	49	13.31	8.54E-4	6.36E-4	3.69E-4	1.82E-4	8.00E-5	3.43E-5
50	257.75	1.10E-2	9.56E-3	7.87E-3	6.95E-3	6.81E-3	7.16E-3	50	13.79	7.58E-4	5.64E-4	3.28E-4	1.62E-4	7.12E-5	3.05E-5
51	280.47	1.05E-2	9.17E-3	7.56E-3	6.70E-3	6.58E-3	6.94E-3	51	14.26	6.33E-4	4.80E-4	2.82E-4	1.39E-4	6.08E-5	2.59E-5
52	304.77	1.01E-2	8.80E-3	7.27E-3	6.45E-3	6.36E-3	6.72E-3	52	14.72	5.79E-4	4.36E-4	2.55E-4	1.26E-4	5.54E-5	2.37E-5
53	330.75	9.67E-3	8.44E-3	6.99E-3	6.22E-3	6.14E-3	6.52E-3	53	15.17	5.14E-4	3.87E-4	2.27E-4	1.12E-4	4.93E-5	2.11E-5
54	358.47	9.28E-3	8.10E-3	6.72E-3	5.99E-3	5.94E-3	6.32E-3	54	15.62	4.43E-4	3.36E-4	1.98E-4	9.78E-5	4.29E-5	1.83E-5
55	388.03	8.91E-3	7.79E-3	6.47E-3	5.78E-3	5.74E-3	6.13E-3	55	16.05	4.06E-4	3.06E-4	1.80E-4	8.89E-5	3.92E-5	1.68E-5
56	419.52	8.56E-3	7.49E-3	6.23E-3	5.58E-3	5.55E-3	5.95E-3	56	16.48	3.49E-4	2.66E-4	1.57E-4	7.76E-5	3.41E-5	1.45E-5
57	453.03	8.22E-3	7.20E-3	6.00E-3	5.39E-3	5.37E-3	5.77E-3	57	16.90	3.22E-4	2.43E-4	1.43E-4	7.07E-5	3.12E-5	1.34E-5
58	488.67	7.91E-3	6.93E-3	5.79E-3	5.20E-3	5.20E-3	5.61E-3	58	17.32	2.87E-4	2.16E-4	1.27E-4	6.31E-5	2.79E-5	1.20E-5
59	526.53	7.61E-3	6.68E-3	5.58E-3	5.03E-3	5.04E-3	5.45E-3	59	17.73	2.47E-4	1.88E-4	1.11E-4	5.52E-5	2.43E-5	1.04E-5
60	566.72	7.32E-3	6.43E-3	5.39E-3	4.86E-3	4.88E-3	5.30E-3	60	18.14	2.28E-4	1.72E-4	1.02E-4	5.05E-5	2.24E-5	9.60E-6
61	609.36	7.05E-3	6.20E-3	5.20E-3	4.70E-3	4.73E-3	5.15E-3	61	18.54	1.97E-4	1.50E-4	8.89E-5	4.42E-5	1.95E-5	8.34E-6
62	654.56	6.79E-3	5.98E-3	5.02E-3	4.54E-3	4.59E-3	5.01E-3	62	18.94	1.83E-4	1.38E-4	8.16E-5	4.06E-5	1.80E-5	7.75E-6
63	702.43	6.55E-3	5.77E-3	4.85E-3	4.39E-3	4.45E-3	4.87E-3	63	19.33	1.64E-4	1.24E-4	7.33E-5	3.65E-5	1.62E-5	6.97E-6
64	753.11	6.31E-3	5.57E-3	4.68E-3	4.25E-3	4.32E-3	4.75E-3	64	19.72	1.45E-4	1.10E-4	6.49E-5	3.24E-5	1.43E-5	6.18E-6
65	806.73	6.09E-3	5.37E-3	4.53E-3	4.12E-3	4.19E-3	4.62E-3	65	20.12	1.32E-4	1.00E-4	5.93E-5	2.96E-5	1.32E-5	5.68E-6
66	863.41	5.88E-3	5.19E-3	4.38E-3	3.99E-3	4.07E-3	4.50E-3	66	20.51	1.14E-4	8.77E-5	5.22E-5	2.61E-5	1.16E-5	4.96E-6
67	923.30	5.68E-3	5.02E-3	4.24E-3	3.86E-3	3.95E-3	4.39E-3	67	20.89	1.06E-4	8.03E-5	4.76E-5	2.39E-5	1.06E-5	4.57E-6
68	986.56	5.48E-3	4.85E-3	4.10E-3	3.75E-3	3.84E-3	4.28E-3	68	21.28	9.32E-5	7.15E-5	4.27E-5	2.14E-5	9.50E-6	4.08E-6
69	1053.32	5.30E-3	4.69E-3	3.97E-3	3.63E-3	3.73E-3	4.17E-3	69	21.67	8.43E-5	6.48E-5	3.87E-5	1.94E-5	8.63E-6	3.71E-6
70	1123.75	5.12E-3	4.53E-3	3.84E-3	3.52E-3	3.63E-3	4.07E-3	70	22.05	7.79E-5	5.96E-5	3.56E-5	1.79E-5	8.03E-6	3.45E-6
71	1198.03	4.95E-3	4.39E-3	3.72E-3	3.42E-3	3.53E-3	3.97E-3	71	22.44	6.94E-5	5.34E-5	3.20E-5	1.61E-5	7.18E-6	3.09E-6
72	1276.31	4.78E-3	4.24E-3	3.60E-3	3.31E-3	3.43E-3	3.87E-3	72	22.83	6.60E-5	5.02E-5	3.00E-5	1.51E-5	6.77E-6	2.94E-6
73	1358.79	4.63E-3	4.11E-3	3.49E-3	3.22E-3	3.34E-3	3.78E-3	73	23.22	6.03E-5	4.58E-5	2.73E-5	1.39E-5	6.19E-6	2.70E-6
74	1445.64	4.48E-3	3.98E-3	3.38E-3	3.12E-3	3.25E-3	3.69E-3	74	23.60	5.51E-5	4.20E-5	2.52E-5	1.27E-5	5.71E-6	2.48E-6
75	1537.08	4.33E-3	3.85E-3	3.28E-3	3.03E-3	3.16E-3	3.61E-3	75	23.99	5.05E-5	3.85E-5	2.31E-5	1.17E-5	5.26E-6	2.29E-6
76	1633.31	4.19E-3	3.73E-3	3.18E-3	2.94E-3	3.08E-3	3.52E-3	76	24.38	4.43E-5	3.43E-5	2.07E-5	1.05E-5	4.70E-6	2.03E-6
77	1734.53	4.06E-3	3.62E-3	3.09E-3	2.86E-3	3.00E-3	3.45E-3	77	24.77	4.08E-5	3.16E-5	1.91E-5	9.69E-6	4.34E-6	1.88E-6
78	1840.99	3.93E-3	3.50E-3	2.99E-3	2.78E-3	2.92E-3	3.37E-3	78	25.17	3.85E-5	2.96E-5	1.79E-5	9.10E-6	4.10E-6	1.78E-6
79	1952.91	3.81E-3	3.39E-3	2.91E-3	2.70E-3	2.84E-3	3.29E-3	79	25.56	3.56E-5	2.74E-5	1.66E-5	8.45E-6	3.81E-6	1.66E-6
80	2070.54	3.69E-3	3.29E-3	2.82E-3	2.63E-3	2.77E-3	3.22E-3	80	25.95	3.27E-5	2.52E-5	1.53E-5	7.82E-6	3.51E-6	1.53E-6
81	2194.15	3.58E-3	3.19E-3	2.74E-3	2.55E-3	2.70E-3	3.15E-3	81	26.35	2.99E-5	2.33E-5	1.42E-5	7.24E-6	3.26E-6	1.42E-6
82	2323.99	3.47E-3	3.09E-3	2.66E-3	2.48E-3	2.63E-3	3.08E-3	82	26.75	2.86E-5	2.21E-5	1.34E-5	6.87E-6	3.11E-6	1.36E-6
83	2460.37	3.36E-3	3.00E-3	2.58E-3	2.41E-3	2.57E-3	3.01E-3	83	27.15	2.67E-5	2.06E-5	1.25E-5	6.48E-6	2.92E-6	1.28E-6
84	2603.59	3.26E-3	2.91E-3	2.50E-3	2.34E-3	2.50E-3	2.95E-3	84	27.55	2.44E-5	1.90E-5	1.17E-5	5.98E-6	2.71E-6	1.18E-6
85	2753.94	3.16E-3	2.82E-3	2.43E-3	2.28E-3	2.44E-3	2.89E-3	85	27.95	2.29E-5	1.79E-5	1.10E-5	5.65E-6	2.56E-6	1.12E-6
86	2911.73	3.06E-3	2.74E-3	2.36E-3	2.22E-3	2.38E-3	2.82E-3	86	28.35	2.21E-5	1.72E-5	1.05E-5	5.43E-6	2.47E-6	1.08E-6
87	3077.38	2.97E-3	2.66E-3	2.29E-3	2.16E-3	2.32E-3	2.76E-3	87	28.75	2.04E-5	1.60E-5	9.83E-6	5.08E-6	2.31E-6	1.01E-6
88	3251.20	2.88E-3	2.58E-3	2.23E-3	2.10E-3	2.26E-3	2.71E-3	88	29.15	1.93E-5	1.52E-5	9.35E-6	4.84E-6	2.21E-6	9.66E-7
89	3433.60	2.80E-3	2.51E-3	2.16E-3	2.04E-3	2.20E-3	2.65E-3	89	29.55	1.89E-5	1.47E-5	9.07E-6	4.71E-6	2.16E-6	9.48E-7
90	3624.96	2.71E-3	2.43E-3	2.10E-3	1.98E-3										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$D_1 - E_3$								$D_1 - E_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	23.87	1.62E-3	1.20E-3	6.68E-4	3.05E-4	1.23E-4	4.80E-5	26	44.39	2.24E-3	1.69E-3	9.74E-4	4.62E-4	1.92E-4	7.71E-5
27	24.30	1.70E-3	1.26E-3	7.00E-4	3.23E-4	1.31E-4	5.23E-5	27	47.43	2.01E-3	1.52E-3	8.76E-4	4.14E-4	1.71E-4	6.92E-5
28	24.65	1.75E-3	1.29E-3	7.21E-4	3.35E-4	1.37E-4	5.54E-5	28	50.76	1.80E-3	1.36E-3	7.87E-4	3.72E-4	1.54E-4	6.24E-5
29	24.94	1.79E-3	1.32E-3	7.44E-4	3.47E-4	1.44E-4	5.84E-5	29	54.42	1.64E-3	1.24E-3	7.12E-4	3.36E-4	1.40E-4	5.67E-5
30	25.16	1.85E-3	1.36E-3	7.67E-4	3.60E-4	1.50E-4	6.11E-5	30	58.45	1.49E-3	1.13E-3	6.49E-4	3.07E-4	1.28E-4	5.16E-5
31	25.34	1.82E-3	1.36E-3	7.70E-4	3.63E-4	1.51E-4	6.14E-5	31	62.89	1.38E-3	1.04E-3	5.99E-4	2.84E-4	1.18E-4	4.78E-5
32	25.47	1.86E-3	1.39E-3	7.92E-4	3.75E-4	1.57E-4	6.39E-5	32	67.78	1.28E-3	9.67E-4	5.56E-4	2.64E-4	1.10E-4	4.45E-5
33	25.57	1.91E-3	1.43E-3	8.13E-4	3.86E-4	1.62E-4	6.64E-5	33	73.16	1.20E-3	9.04E-4	5.20E-4	2.47E-4	1.03E-4	4.18E-5
34	25.64	2.05E-3	1.51E-3	8.59E-4	4.09E-4	1.74E-4	7.20E-5	34	79.09	1.12E-3	8.46E-4	4.87E-4	2.31E-4	9.70E-5	3.93E-5
35	25.70	2.09E-3	1.54E-3	8.79E-4	4.20E-4	1.78E-4	7.41E-5	35	85.59	1.06E-3	8.01E-4	4.62E-4	2.20E-4	9.16E-5	3.72E-5
36	25.75	2.02E-3	1.51E-3	8.68E-4	4.16E-4	1.76E-4	7.28E-5	36	92.73	1.01E-3	7.64E-4	4.40E-4	2.10E-4	8.80E-5	3.59E-5
37	25.81	2.15E-3	1.59E-3	9.13E-4	4.39E-4	1.88E-4	7.83E-5	37	100.55	9.61E-4	7.27E-4	4.20E-4	2.00E-4	8.40E-5	3.42E-5
38	25.87	2.19E-3	1.62E-3	9.25E-4	4.45E-4	1.90E-4	7.97E-5	38	109.09	9.18E-4	6.94E-4	4.01E-4	1.91E-4	8.03E-5	3.28E-5
39	25.94	2.09E-3	1.57E-3	9.03E-4	4.35E-4	1.86E-4	7.72E-5	39	118.41	8.85E-4	6.69E-4	3.86E-4	1.85E-4	7.80E-5	3.20E-5
40	26.02	2.10E-3	1.58E-3	9.10E-4	4.39E-4	1.88E-4	7.82E-5	40	128.56	8.51E-4	6.43E-4	3.72E-4	1.78E-4	7.52E-5	3.09E-5
41	26.13	2.23E-3	1.65E-3	9.47E-4	4.58E-4	1.97E-4	8.34E-5	41	139.60	8.14E-4	6.15E-4	3.56E-4	1.71E-4	7.21E-5	2.97E-5
42	26.26	2.10E-3	1.58E-3	9.15E-4	4.43E-4	1.90E-4	7.94E-5	42	151.57	7.89E-4	5.97E-4	3.45E-4	1.66E-4	7.03E-5	2.90E-5
43	26.40	2.10E-3	1.58E-3	9.14E-4	4.43E-4	1.90E-4	7.97E-5	43	164.54	7.60E-4	5.76E-4	3.33E-4	1.60E-4	6.81E-5	2.81E-5
44	26.57	2.22E-3	1.64E-3	9.47E-4	4.60E-4	1.99E-4	8.40E-5	44	178.56	7.32E-4	5.54E-4	3.21E-4	1.54E-4	6.56E-5	2.71E-5
45	26.76	2.07E-3	1.56E-3	9.06E-4	4.40E-4	1.90E-4	7.95E-5	45	193.69	7.08E-4	5.36E-4	3.11E-4	1.50E-4	6.39E-5	2.65E-5
46	26.96	2.05E-3	1.55E-3	9.00E-4	4.38E-4	1.89E-4	7.92E-5	46	210.01	6.84E-4	5.18E-4	3.01E-4	1.45E-4	6.19E-5	2.57E-5
47	27.19	2.17E-3	1.61E-3	9.27E-4	4.52E-4	1.96E-4	8.34E-5	47	227.56	6.59E-4	4.99E-4	2.90E-4	1.40E-4	5.96E-5	2.47E-5
48	27.44	2.00E-3	1.51E-3	8.81E-4	4.30E-4	1.86E-4	7.80E-5	48	246.42	6.38E-4	4.84E-4	2.82E-4	1.36E-4	5.82E-5	2.42E-5
49	27.70	2.12E-3	1.57E-3	9.06E-4	4.42E-4	1.92E-4	8.18E-5	49	266.66	6.16E-4	4.66E-4	2.72E-4	1.31E-4	5.61E-5	2.33E-5
50	27.99	2.08E-3	1.54E-3	8.94E-4	4.37E-4	1.90E-4	8.09E-5	50	288.35	5.96E-4	4.51E-4	2.63E-4	1.27E-4	5.45E-5	2.26E-5
51	28.28	1.91E-3	1.45E-3	8.44E-4	4.13E-4	1.79E-4	7.54E-5	51	311.57	5.76E-4	4.38E-4	2.55E-4	1.24E-4	5.31E-5	2.22E-5
52	28.59	1.95E-3	1.46E-3	8.50E-4	4.16E-4	1.81E-4	7.69E-5	52	336.39	5.57E-4	4.23E-4	2.47E-4	1.20E-4	5.14E-5	2.14E-5
53	28.92	1.91E-3	1.43E-3	8.35E-4	4.09E-4	1.79E-4	7.56E-5	53	362.90	5.38E-4	4.09E-4	2.39E-4	1.16E-4	4.99E-5	2.08E-5
54	29.25	1.80E-3	1.37E-3	8.00E-4	3.93E-4	1.71E-4	7.21E-5	54	391.18	5.21E-4	3.96E-4	2.32E-4	1.13E-4	4.86E-5	2.03E-5
55	29.60	1.83E-3	1.37E-3	8.04E-4	3.94E-4	1.73E-4	7.33E-5	55	421.31	5.04E-4	3.83E-4	2.24E-4	1.09E-4	4.70E-5	1.97E-5
56	29.95	1.72E-3	1.31E-3	7.68E-4	3.78E-4	1.65E-4	6.96E-5	56	453.40	4.88E-4	3.71E-4	2.18E-4	1.06E-4	4.58E-5	1.92E-5
57	30.32	1.75E-3	1.32E-3	7.71E-4	3.80E-4	1.67E-4	7.08E-5	57	487.53	4.72E-4	3.60E-4	2.11E-4	1.03E-4	4.44E-5	1.86E-5
58	30.69	1.71E-3	1.29E-3	7.55E-4	3.72E-4	1.63E-4	6.95E-5	58	523.81	4.57E-4	3.48E-4	2.04E-4	9.99E-5	4.31E-5	1.81E-5
59	31.06	1.61E-3	1.22E-3	7.20E-4	3.55E-4	1.55E-4	6.58E-5	59	562.33	4.42E-4	3.38E-4	1.99E-4	9.72E-5	4.20E-5	1.76E-5
60	31.44	1.63E-3	1.23E-3	7.22E-4	3.57E-4	1.57E-4	6.69E-5	60	603.21	4.29E-4	3.27E-4	1.92E-4	9.42E-5	4.08E-5	1.71E-5
61	31.83	1.53E-3	1.17E-3	6.88E-4	3.40E-4	1.49E-4	6.33E-5	61	646.55	4.15E-4	3.17E-4	1.87E-4	9.17E-5	3.97E-5	1.67E-5
62	32.22	1.56E-3	1.17E-3	6.91E-4	3.42E-4	1.51E-4	6.44E-5	62	692.47	4.02E-4	3.07E-4	1.81E-4	8.90E-5	3.86E-5	1.62E-5
63	32.61	1.52E-3	1.14E-3	6.75E-4	3.34E-4	1.48E-4	6.31E-5	63	741.10	3.90E-4	2.98E-4	1.76E-4	8.65E-5	3.75E-5	1.58E-5
64	33.00	1.46E-3	1.10E-3	6.49E-4	3.22E-4	1.41E-4	6.08E-5	64	792.55	3.78E-4	2.89E-4	1.71E-4	8.42E-5	3.66E-5	1.54E-5
65	33.40	1.45E-3	1.09E-3	6.44E-4	3.20E-4	1.42E-4	6.08E-5	65	846.96	3.67E-4	2.81E-4	1.66E-4	8.18E-5	3.56E-5	1.50E-5
66	33.79	1.35E-3	1.03E-3	6.12E-4	3.05E-4	1.34E-4	5.72E-5	66	904.47	3.55E-4	2.72E-4	1.61E-4	7.97E-5	3.47E-5	1.46E-5
67	34.19	1.35E-3	1.03E-3	6.04E-4	3.02E-4	1.33E-4	5.72E-5	67	965.21	3.45E-4	2.64E-4	1.57E-4	7.76E-5	3.38E-5	1.43E-5
68	34.58	1.28E-3	9.82E-4	5.85E-4	2.92E-4	1.29E-4	5.50E-5	68	1029.33	3.35E-4	2.57E-4	1.53E-4	7.55E-5	3.30E-5	1.39E-5
69	34.97	1.25E-3	9.58E-4	5.71E-4	2.86E-4	1.26E-4	5.39E-5	69	1096.99	3.25E-4	2.49E-4	1.48E-4	7.36E-5	3.21E-5	1.36E-5
70	35.37	1.24E-3	9.48E-4	5.65E-4	2.84E-4	1.26E-4	5.41E-5	70	1168.35	3.16E-4	2.43E-4	1.44E-4	7.16E-5	3.13E-5	1.32E-5
71	35.75	1.19E-3	9.13E-4	5.46E-4	2.74E-4	1.21E-4	5.19E-5	71	1243.58	3.06E-4	2.36E-4	1.41E-4	6.99E-5	3.06E-5	1.29E-5
72	36.14	1.21E-3	9.22E-4	5.50E-4	2.76E-4	1.23E-4	5.31E-5	72	1322.85	2.98E-4	2.29E-4	1.37E-4	6.81E-5	2.98E-5	1.26E-5
73	36.52	1.19E-3	8.99E-4	5.34E-4	2.71E-4	1.20E-4	5.23E-5	73	1406.34	2.89E-4	2.23E-4	1.33E-4	6.64E-5	2.91E-5	1.23E-5
74	36.90	1.16E-3	8.80E-4	5.26E-4	2.65E-4	1.18E-4	5.13E-5	74	1494.24	2.81E-4	2.17E-4	1.30E-4	6.47E-5	2.84E-5	1.20E-5
75	37.27	1.13E-3	8.60E-4	5.15E-4	2.60E-4	1.16E-4	5.03E-5	75	1586.76	2.73E-4	2.11E-4	1.26E-4	6.31E-5	2.78E-5	1.18E-5
76	37.64	1.05E-3	8.11E-4	4.89E-4	2.47E-4	1.10E-4	4.74E-5	76	1684.10	2.65E-4	2.05E-4	1.23E-4	6.17E-5	2.71E-5	1.15E-5
77	38.00	1.03E-3	7.93E-4	4.78E-4	2.42E-4	1.08E-4	4.66E-5	77	1786.48	2.58E-4	2.00E-4	1.20E-4	6.02E-5	2.65E-5	1.13E-5
78	38.35	1.03E-3	7.89E-4	4.76E-4	2.41E-4	1.08E-4	4.68E-5	78	1894.13	2.51E-4	1.94E-4	1.17E-4	5.88E-5	2.59E-5	1.10E-5
79	38.70	1.00E-3	7.72E-4	4.66E-4	2.37E-4	1.06E-4	4.61E-5	79	2007.28	2.44E-4	1.89E-4	1.14E-4	5.74E-5	2.53E-5	1.08E-5
80	39.04	9.71E-4	7.48E-4	4.52E-4	2.31E-4	1.03E-4	4.48E-5	80	2126.19	2.37E-4	1.84E-4	1.11E-4	5.61E-5	2.48E-5	1.06E-5
81	39.37	9.33E-4	7.25E-4	4.41E-4	2.25E-4	1.01E-4	4.36E-5	81	2251.11	2.31E-4	1.79E-4	1.09E-4	5.48E-5	2.43E-5	1.03E-5
82	39.70	9.37E-4	7.23E-4	4.39E-4	2.24E-4	1.01E-4	4.40E-5	82	2382.32	2.25E-4	1.75E-4	1.06E-4	5.36E-5	2.37E-5	1.01E-5
83	40.01	9.16E-4	7.06E-4	4.29E-4	2.21E-4	9.93E-5	4.32E-5	83	2520.11	2.19E-4	1.70E-4	1.03E-4	5.23E-5	2.32E-5	9.93E-6
84	40.32	8.73E-4	6.80E-4	4.16E-4	2.13E-4	9.62E-5	4.18E-5	84	2664.79	2.13E-4	1.66E-4	1.01E-4	5.12E-5	2.28E-5	9.73E-6
85	40.61	8.53E-4	6.66E-4	4.08E-4	2.10E-4	9.48E-5	4.12E-5	85	2816.66	2.08E-4	1.62E-4	9.86E-5	5.01E-5	2.23E-5	9.54E-6
86	40.89	8.58E-4	6.66E-4	4.08E-4	2.10E-4	9.53E-5	4.16E-5	86	2976.03	2.02E-4	1.58E-4	9.63E-5	4.90E-5	2.18E-5	9.35E-6
87	41.16	8.17E-4	6.40E-4	3.94E-4	2.03E-4	9.21E-5	4.01E-5	87	3143.30	1.97E-4	1.54E-4	9.41E-5	4.79E-5	2.14E-5	9.17E-6
88	41.41	8.00E-4	6.28E-4	3.87E-4	2.00E-4	9.08E-5	3.96E-5	88	3318.82	1.92E-4	1.50E-4	9.19E-5	4.69E-5	2.10E-5	9.00E-6
89	41.66	8.06E-4	6.28E-4	3.87E-4	2.00E-4	9.15E-5	4.01E-5	89	3502.98	1.87E-4	1.46E-4	8.98E-5	4.59E-5	2.05E-5	8.82E-6
90	41.88	7.75E-4	6.08E-4	3.77E-4	1.96E-4</										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$D_1 - F_3$								$D_1 - F_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	3.355	6.35E-3	5.62E-3	4.85E-3	4.50E-3	4.47E-3	4.58E-3	26	27.86	1.72E-3	1.25E-3	6.75E-4	3.11E-4	1.50E-4	9.48E-5
27	4.207	6.05E-3	5.42E-3	4.78E-3	4.52E-3	4.55E-3	4.69E-3	27	29.52	1.61E-3	1.18E-3	6.54E-4	3.22E-4	1.75E-4	1.26E-4
28	5.166	5.76E-3	5.21E-3	4.67E-3	4.49E-3	4.57E-3	4.73E-3	28	31.37	1.53E-3	1.13E-3	6.50E-4	3.47E-4	2.13E-4	1.70E-4
29	6.220	5.46E-3	4.98E-3	4.53E-3	4.41E-3	4.52E-3	4.70E-3	29	33.47	1.47E-3	1.11E-3	6.64E-4	3.86E-4	2.65E-4	2.28E-4
30	7.350	5.15E-3	4.73E-3	4.35E-3	4.28E-3	4.42E-3	4.61E-3	30	35.85	1.44E-3	1.10E-3	6.95E-4	4.40E-4	3.32E-4	3.02E-4
31	8.532	4.84E-3	4.46E-3	4.15E-3	4.12E-3	4.27E-3	4.47E-3	31	38.59	1.43E-3	1.12E-3	7.41E-4	5.09E-4	4.14E-4	3.90E-4
32	9.740	4.52E-3	4.19E-3	3.92E-3	3.92E-3	4.09E-3	4.29E-3	32	41.76	1.44E-3	1.15E-3	7.99E-4	5.89E-4	5.06E-4	4.91E-4
33	10.95	4.20E-3	3.91E-3	3.68E-3	3.70E-3	3.87E-3	4.08E-3	33	45.41	1.45E-3	1.19E-3	8.65E-4	6.75E-4	6.07E-4	6.01E-4
34	12.13	3.90E-3	3.63E-3	3.44E-3	3.47E-3	3.64E-3	3.85E-3	34	49.61	1.48E-3	1.23E-3	9.32E-4	7.63E-4	7.08E-4	7.11E-4
35	13.27	3.60E-3	3.37E-3	3.20E-3	3.24E-3	3.41E-3	3.61E-3	35	54.42	1.50E-3	1.27E-3	9.96E-4	8.46E-4	8.04E-4	8.17E-4
36	14.36	3.33E-3	3.12E-3	2.97E-3	3.01E-3	3.18E-3	3.38E-3	36	59.91	1.52E-3	1.30E-3	1.05E-3	9.20E-4	8.91E-4	9.13E-4
37	15.39	3.08E-3	2.88E-3	2.75E-3	2.80E-3	2.96E-3	3.15E-3	37	66.12	1.52E-3	1.32E-3	1.10E-3	9.81E-4	9.63E-4	9.95E-4
38	16.35	2.85E-3	2.67E-3	2.55E-3	2.61E-3	2.76E-3	2.94E-3	38	73.10	1.52E-3	1.34E-3	1.13E-3	1.03E-3	1.02E-3	1.06E-3
39	17.25	2.65E-3	2.48E-3	2.37E-3	2.42E-3	2.57E-3	2.75E-3	39	80.90	1.51E-3	1.34E-3	1.15E-3	1.06E-3	1.06E-3	1.11E-3
40	18.10	2.46E-3	2.31E-3	2.21E-3	2.26E-3	2.40E-3	2.58E-3	40	89.57	1.49E-3	1.33E-3	1.16E-3	1.08E-3	1.09E-3	1.14E-3
41	18.89	2.30E-3	2.15E-3	2.06E-3	2.11E-3	2.25E-3	2.42E-3	41	99.15	1.46E-3	1.31E-3	1.15E-3	1.09E-3	1.11E-3	1.17E-3
42	19.64	2.15E-3	2.01E-3	1.93E-3	1.98E-3	2.11E-3	2.28E-3	42	109.70	1.43E-3	1.29E-3	1.14E-3	1.09E-3	1.11E-3	1.18E-3
43	20.34	2.01E-3	1.89E-3	1.81E-3	1.86E-3	1.99E-3	2.15E-3	43	121.27	1.39E-3	1.26E-3	1.13E-3	1.08E-3	1.11E-3	1.18E-3
44	21.00	1.89E-3	1.78E-3	1.70E-3	1.76E-3	1.88E-3	2.03E-3	44	133.90	1.35E-3	1.23E-3	1.11E-3	1.07E-3	1.10E-3	1.17E-3
45	21.64	1.79E-3	1.68E-3	1.61E-3	1.66E-3	1.78E-3	1.93E-3	45	147.67	1.31E-3	1.20E-3	1.08E-3	1.05E-3	1.08E-3	1.16E-3
46	22.24	1.69E-3	1.59E-3	1.52E-3	1.57E-3	1.69E-3	1.83E-3	46	162.62	1.27E-3	1.16E-3	1.05E-3	1.03E-3	1.06E-3	1.14E-3
47	22.81	1.60E-3	1.50E-3	1.44E-3	1.49E-3	1.60E-3	1.75E-3	47	178.81	1.22E-3	1.12E-3	1.02E-3	9.99E-4	1.04E-3	1.12E-3
48	23.36	1.52E-3	1.43E-3	1.37E-3	1.42E-3	1.53E-3	1.67E-3	48	196.32	1.18E-3	1.08E-3	9.92E-4	9.72E-4	1.02E-3	1.09E-3
49	23.89	1.45E-3	1.36E-3	1.31E-3	1.35E-3	1.46E-3	1.60E-3	49	215.22	1.13E-3	1.05E-3	9.60E-4	9.44E-4	9.88E-4	1.07E-3
50	24.40	1.38E-3	1.29E-3	1.25E-3	1.29E-3	1.40E-3	1.53E-3	50	235.56	1.09E-3	1.01E-3	9.29E-4	9.16E-4	9.61E-4	1.04E-3
51	24.90	1.31E-3	1.23E-3	1.19E-3	1.23E-3	1.34E-3	1.47E-3	51	257.42	1.05E-3	9.72E-4	8.97E-4	8.87E-4	9.33E-4	1.01E-3
52	25.37	1.26E-3	1.18E-3	1.14E-3	1.18E-3	1.28E-3	1.42E-3	52	280.89	1.01E-3	9.36E-4	8.67E-4	8.58E-4	9.05E-4	9.87E-4
53	25.83	1.20E-3	1.13E-3	1.09E-3	1.13E-3	1.23E-3	1.36E-3	53	306.04	9.69E-4	9.02E-4	8.36E-4	8.30E-4	8.78E-4	9.60E-4
54	26.28	1.15E-3	1.08E-3	1.04E-3	1.09E-3	1.19E-3	1.32E-3	54	332.96	9.32E-4	8.68E-4	8.07E-4	8.03E-4	8.51E-4	9.33E-4
55	26.72	1.11E-3	1.04E-3	1.00E-3	1.04E-3	1.14E-3	1.27E-3	55	361.73	8.96E-4	8.35E-4	7.78E-4	7.76E-4	8.24E-4	9.07E-4
56	27.14	1.06E-3	9.97E-4	9.64E-4	1.01E-3	1.10E-3	1.23E-3	56	392.44	8.61E-4	8.04E-4	7.50E-4	7.50E-4	7.99E-4	8.81E-4
57	27.55	1.02E-3	9.58E-4	9.27E-4	9.69E-4	1.06E-3	1.19E-3	57	425.19	8.28E-4	7.74E-4	7.23E-4	7.24E-4	7.73E-4	8.56E-4
58	27.95	9.81E-4	9.22E-4	8.93E-4	9.34E-4	1.03E-3	1.15E-3	58	460.07	7.97E-4	7.45E-4	6.98E-4	7.00E-4	7.49E-4	8.32E-4
59	28.35	9.45E-4	8.89E-4	8.61E-4	9.02E-4	9.94E-4	1.12E-3	59	497.19	7.66E-4	7.17E-4	6.73E-4	6.76E-4	7.26E-4	8.08E-4
60	28.73	9.11E-4	8.57E-4	8.31E-4	8.71E-4	9.62E-4	1.09E-3	60	536.66	7.37E-4	6.91E-4	6.49E-4	6.54E-4	7.03E-4	7.86E-4
61	29.10	8.79E-4	8.27E-4	8.02E-4	8.42E-4	9.32E-4	1.06E-3	61	578.58	7.10E-4	6.66E-4	6.26E-4	6.32E-4	6.81E-4	7.64E-4
62	29.46	8.49E-4	7.98E-4	7.75E-4	8.15E-4	9.04E-4	1.03E-3	62	623.07	6.83E-4	6.41E-4	6.04E-4	6.11E-4	6.60E-4	7.43E-4
63	29.81	8.20E-4	7.72E-4	7.50E-4	7.89E-4	8.78E-4	1.00E-3	63	670.26	6.58E-4	6.18E-4	5.83E-4	5.90E-4	6.40E-4	7.22E-4
64	30.15	7.93E-4	7.46E-4	7.25E-4	7.65E-4	8.52E-4	9.75E-4	64	720.25	6.34E-4	5.96E-4	5.63E-4	5.71E-4	6.20E-4	7.02E-4
65	30.48	7.67E-4	7.22E-4	7.02E-4	7.42E-4	8.28E-4	9.50E-4	65	773.20	6.11E-4	5.75E-4	5.44E-4	5.52E-4	6.02E-4	6.83E-4
66	30.81	7.42E-4	6.99E-4	6.81E-4	7.20E-4	8.06E-4	9.27E-4	66	829.23	5.89E-4	5.55E-4	5.25E-4	5.35E-4	5.84E-4	6.65E-4
67	31.12	7.19E-4	6.77E-4	6.60E-4	6.99E-4	7.84E-4	9.05E-4	67	888.47	5.68E-4	5.35E-4	5.07E-4	5.17E-4	5.66E-4	6.48E-4
68	31.43	6.97E-4	6.56E-4	6.40E-4	6.79E-4	7.63E-4	8.84E-4	68	951.09	5.47E-4	5.17E-4	4.90E-4	5.01E-4	5.50E-4	6.31E-4
69	31.72	6.75E-4	6.37E-4	6.21E-4	6.60E-4	7.44E-4	8.65E-4	69	1017.23	5.28E-4	4.99E-4	4.74E-4	4.85E-4	5.34E-4	6.15E-4
70	32.01	6.55E-4	6.18E-4	6.03E-4	6.42E-4	7.25E-4	8.46E-4	70	1087.06	5.09E-4	4.82E-4	4.58E-4	4.70E-4	5.18E-4	5.99E-4
71	32.29	6.36E-4	6.00E-4	5.86E-4	6.25E-4	7.07E-4	8.28E-4	71	1160.73	4.92E-4	4.65E-4	4.43E-4	4.55E-4	5.03E-4	5.84E-4
72	32.56	6.18E-4	5.83E-4	5.70E-4	6.08E-4	6.90E-4	8.10E-4	72	1238.44	4.75E-4	4.49E-4	4.29E-4	4.41E-4	4.89E-4	5.69E-4
73	32.82	6.00E-4	5.66E-4	5.54E-4	5.92E-4	6.74E-4	7.94E-4	73	1320.34	4.58E-4	4.34E-4	4.15E-4	4.27E-4	4.75E-4	5.55E-4
74	33.08	5.83E-4	5.51E-4	5.39E-4	5.77E-4	6.59E-4	7.78E-4	74	1406.65	4.43E-4	4.20E-4	4.01E-4	4.14E-4	4.62E-4	5.41E-4
75	33.32	5.67E-4	5.36E-4	5.25E-4	5.63E-4	6.44E-4	7.63E-4	75	1497.55	4.28E-4	4.06E-4	3.89E-4	4.02E-4	4.49E-4	5.28E-4
76	33.55	5.52E-4	5.21E-4	5.11E-4	5.49E-4	6.30E-4	7.49E-4	76	1593.25	4.13E-4	3.92E-4	3.76E-4	3.89E-4	4.37E-4	5.16E-4
77	33.77	5.37E-4	5.07E-4	4.98E-4	5.36E-4	6.16E-4	7.35E-4	77	1693.98	3.99E-4	3.80E-4	3.64E-4	3.78E-4	4.25E-4	5.03E-4
78	33.99	5.21E-4	4.93E-4	4.85E-4	5.23E-4	6.03E-4	7.22E-4	78	1799.95	3.86E-4	3.67E-4	3.53E-4	3.67E-4	4.13E-4	4.92E-4
79	34.19	5.08E-4	4.81E-4	4.73E-4	5.10E-4	5.90E-4	7.10E-4	79	1911.41	3.73E-4	3.55E-4	3.42E-4	3.56E-4	4.02E-4	4.80E-4
80	34.39	4.95E-4	4.68E-4	4.61E-4	4.99E-4	5.78E-4	6.98E-4	80	2028.60	3.61E-4	3.43E-4	3.31E-4	3.45E-4	3.92E-4	4.69E-4
81	34.58	4.83E-4	4.57E-4	4.50E-4	4.88E-4	5.67E-4	6.86E-4	81	2151.78	3.49E-4	3.32E-4	3.21E-4	3.35E-4	3.81E-4	4.58E-4
82	34.75	4.71E-4	4.46E-4	4.40E-4	4.77E-4	5.56E-4	6.75E-4	82	2281.23	3.38E-4	3.22E-4	3.11E-4	3.25E-4	3.71E-4	4.48E-4
83	34.91	4.59E-4	4.35E-4	4.29E-4	4.67E-4	5.45E-4	6.65E-4	83	2417.24	3.27E-4	3.11E-4	3.01E-4	3.16E-4	3.61E-4	4.38E-4
84	35.07	4.48E-4	4.25E-4	4.20E-4	4.57E-4	5.35E-4	6.55E-4	84	2560.11	3.16E-4	3.02E-4	2.92E-4	3.07E-4	3.52E-4	4.28E-4
85	35.21	4.38E-4	4.15E-4	4.10E-4	4.47E-4	5.25E-4	6.45E-4	85	2710.15	3.06E-4	2.92E-4	2.83E-4	2.98E-4	3.43E-4	4.19E-4
86	35.34	4.27E-4	4.05E-4	4.01E-4	4.38E-4	5.16E-4	6.36E-4	86	2867.67	2.96E-4	2.83E-4	2.74E-4	2.89E-4	3.34E-4	4.09E-4
87	35.46	4.18E-4	3.96E-4	3.92E-4	4.29E-4	5.07E-4	6.27E-4	87	3033.07	2.87E-4	2.74E-4	2.66E-4	2.81E-4	3.25E-4	4.00E-4
88	35.57	4.08E-4	3.87E-4	3.84E-4	4.20E-4	4.98E-4	6.18E-4	88	3206.68	2.77E-4	2.65E-4	2.58E-4	2.73E-4	3.17E-4	3.91E-4
89	35.67	3.99E-4	3.79E-4	3.76E-4	4.12E-4	4.89E-4	6.10E-4	89	3388.91	2.68E-4	2.57E-4	2.50E-4	2.65E-4	3.09E-4	3.83E-4
90	35.75	3.91E-4	3.70E-4	3.68E-4	4.04E-4	4.									

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_1 - D_1$								$E_1 - E_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	17.14	2.57E-3	1.92E-3	1.08E-3	5.05E-4	2.10E-4	8.55E-5	26	18.29	2.20E-2	1.99E-2	1.78E-2	1.71E-2	1.73E-2	1.79E-2
27	18.91	2.61E-3	1.94E-3	1.10E-3	5.17E-4	2.17E-4	8.90E-5	27	20.37	1.96E-2	1.74E-2	1.51E-2	1.41E-2	1.40E-2	1.44E-2
28	20.95	2.60E-3	1.93E-3	1.10E-3	5.20E-4	2.19E-4	9.04E-5	28	22.77	1.74E-2	1.52E-2	1.28E-2	1.16E-2	1.13E-2	1.15E-2
29	23.29	2.56E-3	1.91E-3	1.09E-3	5.17E-4	2.19E-4	9.07E-5	29	25.53	1.56E-2	1.34E-2	1.09E-2	9.50E-3	9.08E-3	9.16E-3
30	25.99	2.51E-3	1.87E-3	1.07E-3	5.10E-4	2.17E-4	9.01E-5	30	28.68	1.40E-2	1.18E-2	9.30E-3	7.80E-3	7.26E-3	7.23E-3
31	29.08	2.40E-3	1.80E-3	1.03E-3	4.94E-4	2.10E-4	8.73E-5	31	32.26	1.26E-2	1.05E-2	7.97E-3	6.41E-3	5.79E-3	5.69E-3
32	32.62	2.32E-3	1.74E-3	9.99E-4	4.79E-4	2.04E-4	8.50E-5	32	36.31	1.15E-2	9.40E-3	6.90E-3	5.31E-3	4.62E-3	4.46E-3
33	36.64	2.22E-3	1.67E-3	9.61E-4	4.61E-4	1.97E-4	8.22E-5	33	40.88	1.05E-2	8.47E-3	6.02E-3	4.42E-3	3.70E-3	3.49E-3
34	41.19	2.15E-3	1.61E-3	9.28E-4	4.46E-4	1.91E-4	8.01E-5	34	46.01	9.64E-3	7.71E-3	5.31E-3	3.72E-3	2.97E-3	2.73E-3
35	46.33	2.04E-3	1.53E-3	8.82E-4	4.25E-4	1.82E-4	7.65E-5	35	51.73	8.90E-3	7.04E-3	4.71E-3	3.15E-3	2.39E-3	2.13E-3
36	52.10	1.91E-3	1.44E-3	8.29E-4	4.00E-4	1.71E-4	7.18E-5	36	58.11	8.22E-3	6.45E-3	4.21E-3	2.69E-3	1.94E-3	1.67E-3
37	58.56	1.82E-3	1.37E-3	7.89E-4	3.82E-4	1.64E-4	6.89E-5	37	65.17	7.68E-3	5.98E-3	3.82E-3	2.33E-3	1.59E-3	1.31E-3
38	65.75	1.72E-3	1.29E-3	7.45E-4	3.61E-4	1.55E-4	6.52E-5	38	72.96	7.19E-3	5.56E-3	3.48E-3	2.04E-3	1.31E-3	1.03E-3
39	73.73	1.60E-3	1.20E-3	6.97E-4	3.37E-4	1.45E-4	6.09E-5	39	81.54	6.73E-3	5.18E-3	3.19E-3	1.81E-3	1.10E-3	8.09E-4
40	82.54	1.50E-3	1.13E-3	6.56E-4	3.18E-4	1.37E-4	5.74E-5	40	90.95	6.34E-3	4.86E-3	2.95E-3	1.62E-3	9.25E-4	6.41E-4
41	92.25	1.43E-3	1.08E-3	6.22E-4	3.02E-4	1.30E-4	5.47E-5	41	101.25	6.01E-3	4.59E-3	2.76E-3	1.47E-3	7.93E-4	5.13E-4
42	102.90	1.33E-3	1.00E-3	5.81E-4	2.82E-4	1.21E-4	5.11E-5	42	112.48	5.68E-3	4.33E-3	2.58E-3	1.34E-3	6.87E-4	4.13E-4
43	114.55	1.25E-3	9.44E-4	5.48E-4	2.66E-4	1.15E-4	4.82E-5	43	124.70	5.40E-3	4.11E-3	2.43E-3	1.23E-3	6.06E-4	3.38E-4
44	127.26	1.18E-3	8.94E-4	5.19E-4	2.52E-4	1.09E-4	4.59E-5	44	137.97	5.15E-3	3.91E-3	2.30E-3	1.15E-3	5.43E-4	2.81E-4
45	141.09	1.11E-3	8.38E-4	4.87E-4	2.37E-4	1.02E-4	4.30E-5	45	152.34	4.91E-3	3.72E-3	2.18E-3	1.08E-3	4.91E-4	2.38E-4
46	156.10	1.04E-3	7.91E-4	4.60E-4	2.24E-4	9.66E-5	4.06E-5	46	167.88	4.69E-3	3.55E-3	2.07E-3	1.02E-3	4.53E-4	2.07E-4
47	172.35	9.92E-4	7.51E-4	4.37E-4	2.13E-4	9.21E-5	3.88E-5	47	184.65	4.49E-3	3.40E-3	1.98E-3	9.68E-4	4.23E-4	1.85E-4
48	189.91	9.33E-4	7.07E-4	4.12E-4	2.01E-4	8.67E-5	3.65E-5	48	202.72	4.30E-3	3.26E-3	1.90E-3	9.23E-4	3.99E-4	1.70E-4
49	208.85	8.87E-4	6.73E-4	3.92E-4	1.91E-4	8.28E-5	3.49E-5	49	222.16	4.13E-3	3.13E-3	1.82E-3	8.87E-4	3.82E-4	1.60E-4
50	229.24	8.39E-4	6.37E-4	3.72E-4	1.82E-4	7.86E-5	3.32E-5	50	243.03	3.96E-3	3.01E-3	1.75E-3	8.53E-4	3.68E-4	1.55E-4
51	251.16	7.94E-4	6.03E-4	3.52E-4	1.72E-4	7.44E-5	3.14E-5	51	265.42	3.81E-3	2.89E-3	1.69E-3	8.24E-4	3.57E-4	1.52E-4
52	274.67	7.55E-4	5.74E-4	3.36E-4	1.64E-4	7.11E-5	3.00E-5	52	289.39	3.66E-3	2.78E-3	1.63E-3	7.98E-4	3.49E-4	1.52E-4
53	299.87	7.18E-4	5.46E-4	3.20E-4	1.56E-4	6.78E-5	2.86E-5	53	315.04	3.52E-3	2.68E-3	1.57E-3	7.75E-4	3.43E-4	1.54E-4
54	326.83	6.83E-4	5.20E-4	3.04E-4	1.49E-4	6.46E-5	2.72E-5	54	342.44	3.39E-3	2.59E-3	1.52E-3	7.53E-4	3.39E-4	1.57E-4
55	355.64	6.52E-4	4.96E-4	2.91E-4	1.43E-4	6.19E-5	2.61E-5	55	371.69	3.27E-3	2.49E-3	1.47E-3	7.34E-4	3.35E-4	1.61E-4
56	386.39	6.22E-4	4.74E-4	2.78E-4	1.36E-4	5.91E-5	2.50E-5	56	402.88	3.15E-3	2.41E-3	1.43E-3	7.15E-4	3.32E-4	1.66E-4
57	419.19	5.94E-4	4.53E-4	2.66E-4	1.31E-4	5.68E-5	2.40E-5	57	436.09	3.04E-3	2.32E-3	1.38E-3	6.99E-4	3.30E-4	1.71E-4
58	454.11	5.68E-4	4.34E-4	2.55E-4	1.25E-4	5.45E-5	2.30E-5	58	471.43	2.93E-3	2.25E-3	1.34E-3	6.82E-4	3.28E-4	1.75E-4
59	491.27	5.44E-4	4.15E-4	2.44E-4	1.20E-4	5.22E-5	2.21E-5	59	509.00	2.83E-3	2.17E-3	1.30E-3	6.67E-4	3.26E-4	1.80E-4
60	530.78	5.22E-4	3.98E-4	2.35E-4	1.16E-4	5.03E-5	2.13E-5	60	548.91	2.74E-3	2.10E-3	1.26E-3	6.52E-4	3.24E-4	1.85E-4
61	572.73	5.00E-4	3.82E-4	2.25E-4	1.11E-4	4.84E-5	2.04E-5	61	591.27	2.64E-3	2.03E-3	1.22E-3	6.38E-4	3.22E-4	1.89E-4
62	617.25	4.80E-4	3.67E-4	2.17E-4	1.07E-4	4.67E-5	1.98E-5	62	636.19	2.55E-3	1.97E-3	1.19E-3	6.24E-4	3.20E-4	1.93E-4
63	664.46	4.61E-4	3.53E-4	2.09E-4	1.03E-4	4.50E-5	1.91E-5	63	683.79	2.47E-3	1.90E-3	1.15E-3	6.11E-4	3.18E-4	1.96E-4
64	714.48	4.44E-4	3.40E-4	2.01E-4	9.93E-5	4.34E-5	1.84E-5	64	734.20	2.39E-3	1.84E-3	1.12E-3	5.98E-4	3.16E-4	1.99E-4
65	767.43	4.27E-4	3.27E-4	1.94E-4	9.60E-5	4.19E-5	1.78E-5	65	787.55	2.31E-3	1.79E-3	1.09E-3	5.85E-4	3.13E-4	2.02E-4
66	823.46	4.11E-4	3.15E-4	1.87E-4	9.25E-5	4.05E-5	1.72E-5	66	843.97	2.23E-3	1.73E-3	1.06E-3	5.72E-4	3.11E-4	2.04E-4
67	882.71	3.96E-4	3.04E-4	1.80E-4	8.95E-5	3.92E-5	1.66E-5	67	903.60	2.16E-3	1.68E-3	1.03E-3	5.60E-4	3.08E-4	2.06E-4
68	945.31	3.82E-4	2.93E-4	1.74E-4	8.65E-5	3.79E-5	1.61E-5	68	966.59	2.09E-3	1.63E-3	1.00E-3	5.48E-4	3.05E-4	2.08E-4
69	1011.43	3.69E-4	2.83E-4	1.69E-4	8.38E-5	3.67E-5	1.56E-5	69	1033.10	2.03E-3	1.58E-3	9.76E-4	5.36E-4	3.02E-4	2.09E-4
70	1081.22	3.56E-4	2.74E-4	1.63E-4	8.12E-5	3.56E-5	1.51E-5	70	1103.28	1.97E-3	1.53E-3	9.50E-4	5.25E-4	2.98E-4	2.10E-4
71	1154.85	3.44E-4	2.64E-4	1.58E-4	7.86E-5	3.45E-5	1.47E-5	71	1177.29	1.90E-3	1.48E-3	9.24E-4	5.14E-4	2.95E-4	2.10E-4
72	1232.49	3.32E-4	2.56E-4	1.53E-4	7.63E-5	3.36E-5	1.43E-5	72	1255.32	1.85E-3	1.44E-3	9.00E-4	5.03E-4	2.91E-4	2.10E-4
73	1314.32	3.21E-4	2.47E-4	1.48E-4	7.40E-5	3.26E-5	1.39E-5	73	1337.54	1.79E-3	1.40E-3	8.76E-4	4.92E-4	2.88E-4	2.10E-4
74	1400.53	3.10E-4	2.40E-4	1.44E-4	7.19E-5	3.17E-5	1.35E-5	74	1424.13	1.73E-3	1.36E-3	8.53E-4	4.81E-4	2.84E-4	2.10E-4
75	1491.32	3.00E-4	2.32E-4	1.39E-4	6.98E-5	3.08E-5	1.31E-5	75	1515.31	1.68E-3	1.32E-3	8.31E-4	4.71E-4	2.80E-4	2.09E-4
76	1586.88	2.91E-4	2.25E-4	1.35E-4	6.78E-5	2.99E-5	1.28E-5	76	1611.27	1.63E-3	1.28E-3	8.10E-4	4.61E-4	2.76E-4	2.08E-4
77	1687.45	2.82E-4	2.18E-4	1.31E-4	6.59E-5	2.91E-5	1.24E-5	77	1712.23	1.59E-3	1.25E-3	7.89E-4	4.51E-4	2.72E-4	2.07E-4
78	1793.24	2.73E-4	2.11E-4	1.28E-4	6.42E-5	2.84E-5	1.21E-5	78	1818.41	1.54E-3	1.21E-3	7.69E-4	4.41E-4	2.68E-4	2.06E-4
79	1904.48	2.65E-4	2.05E-4	1.24E-4	6.24E-5	2.77E-5	1.18E-5	79	1930.04	1.50E-3	1.18E-3	7.49E-4	4.32E-4	2.64E-4	2.04E-4
80	2021.43	2.57E-4	1.99E-4	1.21E-4	6.08E-5	2.69E-5	1.15E-5	80	2047.39	1.45E-3	1.15E-3	7.30E-4	4.22E-4	2.59E-4	2.02E-4
81	2144.34	2.49E-4	1.93E-4	1.17E-4	5.92E-5	2.63E-5	1.12E-5	81	2170.69	1.41E-3	1.12E-3	7.12E-4	4.13E-4	2.55E-4	2.00E-4
82	2273.48	2.42E-4	1.88E-4	1.14E-4	5.77E-5	2.56E-5	1.10E-5	82	2300.23	1.37E-3	1.08E-3	6.94E-4	4.04E-4	2.51E-4	1.98E-4
83	2409.14	2.35E-4	1.83E-4	1.11E-4	5.62E-5	2.50E-5	1.07E-5	83	2436.29	1.33E-3	1.05E-3	6.77E-4	3.95E-4	2.46E-4	1.96E-4
84	2551.62	2.28E-4	1.78E-4	1.08E-4	5.48E-5	2.44E-5	1.05E-5	84	2579.17	1.29E-3	1.03E-3	6.60E-4	3.86E-4	2.42E-4	1.94E-4
85	2701.23	2.21E-4	1.73E-4	1.05E-4	5.35E-5	2.39E-5	1.02E-5	85	2729.18	1.26E-3	9.99E-4	6.44E-4	3.78E-4	2.38E-4	1.91E-4
86	2858.26	2.15E-4	1.68E-4	1.02E-4	5.22E-5	2.33E-5	1.00E-5	86	2886.60	1.22E-3	9.72E-4	6.28E-4	3.70E-4	2.33E-4	1.89E-4
87	3023.11	2.09E-4	1.63E-4	9.99E-5	5.10E-5	2.28E-5	9.79E-6	87	3051.87	1.19E-3	9.47E-4	6.12E-4	3.61E-4	2.29E-4	1.86E-4
88	3196.13	2.03E-4	1.59E-4	9.74E-5	4.98E-5	2.23E-5	9.58E-6	88	3225.28	1.16E-3	9.22E-4	5.98E-4	3.53E-4	2.25E-4	1.84E-4
89	3377.70	1.97E-4	1.54E-4	9.49E-5	4.86E-5	2.18E-5	9.38E-6	89	3407.25	1.12E-3	8.98E-4	5.83E-4	3.45E-4	2.20E-4	1.81E-4

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_1 - E_3$								$E_1 - E_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	41.01	5.03E-3	4.02E-3	2.76E-3	1.93E-3	1.55E-3	1.43E-3	26	61.53	1.91E-3	1.39E-3	7.38E-4	3.17E-4	1.22E-4	5.14E-5
27	43.20	4.95E-3	4.00E-3	2.83E-3	2.06E-3	1.73E-3	1.63E-3	27	66.34	1.60E-3	1.17E-3	6.28E-4	2.72E-4	1.07E-4	4.65E-5
28	45.60	4.90E-3	4.01E-3	2.91E-3	2.21E-3	1.91E-3	1.84E-3	28	71.70	1.34E-3	9.80E-4	5.28E-4	2.31E-4	9.30E-5	4.21E-5
29	48.23	4.87E-3	4.03E-3	3.00E-3	2.36E-3	2.10E-3	2.05E-3	29	77.71	1.12E-3	8.18E-4	4.43E-4	1.96E-4	8.06E-5	3.78E-5
30	51.15	4.85E-3	4.06E-3	3.10E-3	2.51E-3	2.29E-3	2.26E-3	30	84.44	9.26E-4	6.80E-4	3.69E-4	1.65E-4	6.95E-5	3.37E-5
31	54.42	4.83E-3	4.09E-3	3.19E-3	2.66E-3	2.47E-3	2.47E-3	31	91.97	7.68E-4	5.63E-4	3.07E-4	1.39E-4	5.96E-5	3.00E-5
32	58.08	4.80E-3	4.10E-3	3.27E-3	2.79E-3	2.64E-3	2.65E-3	32	100.40	6.33E-4	4.65E-4	2.54E-4	1.16E-4	5.07E-5	2.64E-5
33	62.20	4.75E-3	4.11E-3	3.34E-3	2.91E-3	2.78E-3	2.82E-3	33	109.80	5.20E-4	3.82E-4	2.10E-4	9.66E-5	4.30E-5	2.30E-5
34	66.83	4.69E-3	4.09E-3	3.38E-3	3.00E-3	2.91E-3	2.96E-3	34	120.28	4.25E-4	3.14E-4	1.73E-4	8.00E-5	3.62E-5	1.99E-5
35	72.03	4.61E-3	4.05E-3	3.40E-3	3.06E-3	3.00E-3	3.08E-3	35	131.92	3.48E-4	2.57E-4	1.42E-4	6.63E-5	3.04E-5	1.72E-5
36	77.86	4.52E-3	4.00E-3	3.41E-3	3.11E-3	3.07E-3	3.16E-3	36	144.83	2.85E-4	2.10E-4	1.16E-4	5.47E-5	2.56E-5	1.49E-5
37	84.37	4.41E-3	3.92E-3	3.38E-3	3.12E-3	3.11E-3	3.22E-3	37	159.11	2.33E-4	1.72E-4	9.56E-5	4.52E-5	2.14E-5	1.27E-5
38	91.62	4.27E-3	3.83E-3	3.34E-3	3.11E-3	3.12E-3	3.25E-3	38	174.84	1.90E-4	1.40E-4	7.83E-5	3.72E-5	1.79E-5	1.09E-5
39	99.67	4.13E-3	3.72E-3	3.28E-3	3.08E-3	3.11E-3	3.25E-3	39	192.14	1.55E-4	1.15E-4	6.40E-5	3.07E-5	1.51E-5	9.45E-6
40	108.57	3.98E-3	3.60E-3	3.20E-3	3.03E-3	3.08E-3	3.23E-3	40	211.10	1.27E-4	9.40E-5	5.26E-5	2.54E-5	1.27E-5	8.13E-6
41	118.38	3.82E-3	3.47E-3	3.10E-3	2.97E-3	3.03E-3	3.19E-3	41	231.85	1.04E-4	7.72E-5	4.33E-5	2.11E-5	1.07E-5	6.93E-6
42	129.15	3.65E-3	3.34E-3	3.01E-3	2.89E-3	2.97E-3	3.14E-3	42	254.47	8.59E-5	6.36E-5	3.58E-5	1.76E-5	9.08E-6	6.06E-6
43	140.95	3.49E-3	3.20E-3	2.90E-3	2.81E-3	2.89E-3	3.07E-3	43	279.09	7.08E-5	5.25E-5	2.96E-5	1.47E-5	7.71E-6	5.25E-6
44	153.83	3.32E-3	3.05E-3	2.79E-3	2.71E-3	2.81E-3	2.99E-3	44	305.82	5.85E-5	4.36E-5	2.47E-5	1.23E-5	6.52E-6	4.51E-6
45	167.85	3.16E-3	2.92E-3	2.67E-3	2.62E-3	2.72E-3	2.90E-3	45	334.79	4.86E-5	3.61E-5	2.05E-5	1.03E-5	5.62E-6	3.98E-6
46	183.06	3.00E-3	2.78E-3	2.56E-3	2.52E-3	2.63E-3	2.81E-3	46	366.11	4.05E-5	3.01E-5	1.72E-5	8.75E-6	4.84E-6	3.49E-6
47	199.54	2.85E-3	2.65E-3	2.45E-3	2.42E-3	2.53E-3	2.72E-3	47	399.91	3.37E-5	2.52E-5	1.45E-5	7.39E-6	4.14E-6	3.03E-6
48	217.35	2.71E-3	2.52E-3	2.34E-3	2.32E-3	2.43E-3	2.63E-3	48	436.33	2.83E-5	2.12E-5	1.22E-5	6.33E-6	3.62E-6	2.71E-6
49	236.56	2.57E-3	2.39E-3	2.23E-3	2.22E-3	2.34E-3	2.53E-3	49	475.51	2.38E-5	1.78E-5	1.03E-5	5.40E-6	3.13E-6	2.37E-6
50	257.23	2.44E-3	2.28E-3	2.13E-3	2.13E-3	2.25E-3	2.44E-3	50	517.59	2.01E-5	1.51E-5	8.78E-6	4.64E-6	2.73E-6	2.11E-6
51	279.44	2.31E-3	2.17E-3	2.03E-3	2.03E-3	2.15E-3	2.35E-3	51	562.72	1.70E-5	1.28E-5	7.49E-6	4.02E-6	2.43E-6	1.91E-6
52	303.26	2.19E-3	2.06E-3	1.94E-3	1.94E-3	2.06E-3	2.26E-3	52	611.06	1.44E-5	1.09E-5	6.41E-6	3.47E-6	2.12E-6	1.70E-6
53	328.78	2.08E-3	1.96E-3	1.85E-3	1.86E-3	1.98E-3	2.17E-3	53	662.76	1.23E-5	9.31E-6	5.51E-6	3.02E-6	1.88E-6	1.53E-6
54	356.08	1.98E-3	1.86E-3	1.76E-3	1.78E-3	1.89E-3	2.08E-3	54	718.00	1.05E-5	7.98E-6	4.76E-6	2.65E-6	1.69E-6	1.39E-6
55	385.24	1.88E-3	1.77E-3	1.68E-3	1.70E-3	1.82E-3	2.00E-3	55	776.95	9.04E-6	6.87E-6	4.12E-6	2.32E-6	1.50E-6	1.25E-6
56	416.35	1.79E-3	1.69E-3	1.60E-3	1.62E-3	1.74E-3	1.93E-3	56	839.79	7.78E-6	5.92E-6	3.58E-6	2.05E-6	1.35E-6	1.14E-6
57	449.50	1.71E-3	1.61E-3	1.53E-3	1.55E-3	1.67E-3	1.85E-3	57	906.72	6.71E-6	5.13E-6	3.12E-6	1.80E-6	1.20E-6	1.03E-6
58	484.80	1.63E-3	1.54E-3	1.46E-3	1.48E-3	1.60E-3	1.78E-3	58	977.92	5.81E-6	4.45E-6	2.73E-6	1.60E-6	1.09E-6	9.43E-7
59	522.34	1.55E-3	1.47E-3	1.39E-3	1.42E-3	1.53E-3	1.71E-3	59	1053.60	5.04E-6	3.88E-6	2.40E-6	1.43E-6	9.91E-7	8.72E-7
60	562.22	1.48E-3	1.40E-3	1.33E-3	1.36E-3	1.47E-3	1.65E-3	60	1133.98	4.39E-6	3.39E-6	2.11E-6	1.27E-6	8.92E-7	7.95E-7
61	604.56	1.42E-3	1.34E-3	1.28E-3	1.30E-3	1.41E-3	1.59E-3	61	1219.28	3.83E-6	2.96E-6	1.86E-6	1.14E-6	8.18E-7	7.37E-7
62	649.47	1.35E-3	1.28E-3	1.22E-3	1.25E-3	1.36E-3	1.53E-3	62	1309.73	3.35E-6	2.61E-6	1.65E-6	1.02E-6	7.42E-7	6.76E-7
63	697.07	1.30E-3	1.23E-3	1.17E-3	1.20E-3	1.30E-3	1.47E-3	63	1405.56	2.95E-6	2.30E-6	1.47E-6	9.23E-7	6.80E-7	6.26E-7
64	747.48	1.24E-3	1.17E-3	1.12E-3	1.15E-3	1.25E-3	1.42E-3	64	1507.03	2.59E-6	2.03E-6	1.31E-6	8.35E-7	6.24E-7	5.80E-7
65	800.83	1.19E-3	1.13E-3	1.07E-3	1.10E-3	1.20E-3	1.37E-3	65	1614.39	2.28E-6	1.79E-6	1.17E-6	7.56E-7	5.73E-7	5.39E-7
66	857.25	1.14E-3	1.08E-3	1.03E-3	1.06E-3	1.16E-3	1.32E-3	66	1727.93	2.02E-6	1.59E-6	1.05E-6	6.89E-7	5.33E-7	5.06E-7
67	916.89	1.10E-3	1.04E-3	9.90E-4	1.02E-3	1.11E-3	1.28E-3	67	1847.91	1.79E-6	1.42E-6	9.42E-7	6.27E-7	4.90E-7	4.69E-7
68	979.89	1.05E-3	9.96E-4	9.51E-4	9.76E-4	1.07E-3	1.23E-3	68	1974.64	1.58E-6	1.26E-6	8.46E-7	5.72E-7	4.55E-7	4.41E-7
69	1046.41	1.01E-3	9.57E-4	9.14E-4	9.38E-4	1.03E-3	1.19E-3	69	2108.42	1.41E-6	1.13E-6	7.63E-7	5.24E-7	4.22E-7	4.13E-7
70	1116.59	9.72E-4	9.21E-4	8.79E-4	9.03E-4	9.98E-4	1.15E-3	70	2249.57	1.26E-6	1.01E-6	6.90E-7	4.80E-7	3.93E-7	3.87E-7
71	1190.60	9.35E-4	8.86E-4	8.46E-4	8.70E-4	9.63E-4	1.12E-3	71	2398.43	1.12E-6	9.06E-7	6.27E-7	4.43E-7	3.67E-7	3.64E-7
72	1268.63	9.00E-4	8.53E-4	8.14E-4	8.38E-4	9.30E-4	1.08E-3	72	2555.34	1.01E-6	8.22E-7	5.74E-7	4.09E-7	3.42E-7	3.41E-7
73	1350.84	8.67E-4	8.21E-4	7.84E-4	8.08E-4	8.98E-4	1.05E-3	73	2720.66	9.00E-7	7.40E-7	5.22E-7	3.77E-7	3.19E-7	3.21E-7
74	1437.43	8.35E-4	7.92E-4	7.56E-4	7.79E-4	8.68E-4	1.02E-3	74	2894.77	8.11E-7	6.70E-7	4.78E-7	3.50E-7	2.99E-7	3.04E-7
75	1528.59	8.05E-4	7.63E-4	7.29E-4	7.52E-4	8.39E-4	9.87E-4	75	3078.08	7.30E-7	6.07E-7	4.38E-7	3.25E-7	2.81E-7	2.87E-7
76	1624.52	7.77E-4	7.36E-4	7.03E-4	7.26E-4	8.12E-4	9.58E-4	76	3270.99	6.62E-7	5.47E-7	3.98E-7	3.01E-7	2.64E-7	2.72E-7
77	1725.45	7.49E-4	7.10E-4	6.78E-4	7.01E-4	7.86E-4	9.31E-4	77	3473.93	5.99E-7	4.98E-7	3.66E-7	2.80E-7	2.48E-7	2.58E-7
78	1831.59	7.23E-4	6.85E-4	6.55E-4	6.78E-4	7.62E-4	9.05E-4	78	3687.37	5.42E-7	4.56E-7	3.39E-7	2.62E-7	2.34E-7	2.45E-7
79	1943.18	6.98E-4	6.61E-4	6.33E-4	6.55E-4	7.38E-4	8.80E-4	79	3911.77	4.92E-7	4.15E-7	3.13E-7	2.44E-7	2.21E-7	2.32E-7
80	2060.47	6.74E-4	6.39E-4	6.11E-4	6.33E-4	7.15E-4	8.56E-4	80	4147.62	4.48E-7	3.80E-7	2.89E-7	2.29E-7	2.09E-7	2.21E-7
81	2183.71	6.52E-4	6.17E-4	5.90E-4	6.13E-4	6.94E-4	8.33E-4	81	4395.45	4.09E-7	3.47E-7	2.66E-7	2.13E-7	1.97E-7	2.10E-7
82	2313.18	6.30E-4	5.97E-4	5.71E-4	5.93E-4	6.73E-4	8.11E-4	82	4655.81	3.72E-7	3.19E-7	2.48E-7	2.01E-7	1.87E-7	2.00E-7
83	2449.15	6.09E-4	5.77E-4	5.52E-4	5.74E-4	6.53E-4	7.90E-4	83	4929.25	3.40E-7	2.94E-7	2.30E-7	1.89E-7	1.77E-7	1.90E-7
84	2591.94	5.89E-4	5.58E-4	5.34E-4	5.56E-4	6.34E-4	7.69E-4	84	5216.41	3.14E-7	2.70E-7	2.13E-7	1.77E-7	1.68E-7	1.82E-7
85	2741.84	5.69E-4	5.40E-4	5.17E-4	5.38E-4	6.16E-4	7.50E-4	85	5517.89	2.88E-7	2.49E-7	1.99E-7	1.67E-7	1.59E-7	1.73E-7
86	2899.14	5.51E-4	5.22E-4	5.00E-4	5.22E-4	5.98E-4	7.31E-4	86	5834.28	2.64E-7	2.30E-7	1.87E-7	1.58E-7	1.52E-7	1.66E-7
87	3064.27	5.33E-4	5.05E-4	4.84E-4	5.06E-4	5.81E-4	7.13E-4	87	6166.42	2.44E-7	2.13E-7	1.73E-7	1.48E-7	1.44E-7	1.58E-7
88	3237.55	5.16E-4	4.89E-4	4.69E-4	4.90E-4	5.65E-4	6.96E-4	88	6514.95	2.25E-7	1.98E-7	1.62E-7	1.40E-7	1.37E-7	1.51E-7
89	3419.36	4.99E-4	4.74E-4	4.54E-4	4.75E-4	5.49E-4	6.79E-4	89	6880.68	2.07E-7	1.83E-7	1.53E-7	1.33E-7	1.31E	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_2 - E_3$								$E_2 - E_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	22.72	2.96E-3	2.22E-3	1.26E-3	5.91E-4	2.44E-4	9.96E-5	26	43.24	8.11E-3	6.22E-3	3.81E-3	2.17E-3	1.36E-3	1.05E-3
27	22.83	2.88E-3	2.16E-3	1.24E-3	5.87E-4	2.46E-4	1.03E-4	27	45.96	7.55E-3	5.82E-3	3.62E-3	2.15E-3	1.42E-3	1.15E-3
28	22.82	2.79E-3	2.10E-3	1.21E-3	5.80E-4	2.48E-4	1.07E-4	28	48.93	7.07E-3	5.47E-3	3.47E-3	2.13E-3	1.49E-3	1.26E-3
29	22.70	2.71E-3	2.04E-3	1.19E-3	5.75E-4	2.52E-4	1.13E-4	29	52.18	6.66E-3	5.20E-3	3.36E-3	2.15E-3	1.57E-3	1.37E-3
30	22.48	2.64E-3	2.00E-3	1.17E-3	5.73E-4	2.59E-4	1.21E-4	30	55.76	6.33E-3	4.98E-3	3.28E-3	2.17E-3	1.66E-3	1.49E-3
31	22.16	2.54E-3	1.94E-3	1.14E-3	5.71E-4	2.64E-4	1.32E-4	31	59.72	6.03E-3	4.77E-3	3.21E-3	2.20E-3	1.74E-3	1.60E-3
32	21.77	2.48E-3	1.89E-3	1.13E-3	5.73E-4	2.75E-4	1.47E-4	32	64.08	5.80E-3	4.63E-3	3.17E-3	2.24E-3	1.82E-3	1.70E-3
33	21.32	2.42E-3	1.85E-3	1.11E-3	5.78E-4	2.91E-4	1.68E-4	33	68.92	5.61E-3	4.51E-3	3.14E-3	2.27E-3	1.90E-3	1.80E-3
34	20.82	2.40E-3	1.84E-3	1.11E-3	5.91E-4	3.15E-4	1.95E-4	34	74.27	5.48E-3	4.42E-3	3.13E-3	2.31E-3	1.96E-3	1.88E-3
35	20.30	2.34E-3	1.80E-3	1.11E-3	6.06E-4	3.38E-4	2.27E-4	35	80.19	5.33E-3	4.33E-3	3.10E-3	2.33E-3	2.01E-3	1.95E-3
36	19.75	2.25E-3	1.75E-3	1.09E-3	6.17E-4	3.67E-4	2.63E-4	36	86.73	5.17E-3	4.22E-3	3.07E-3	2.34E-3	2.05E-3	2.00E-3
37	19.20	2.24E-3	1.75E-3	1.11E-3	6.48E-4	4.06E-4	3.08E-4	37	93.94	5.06E-3	4.15E-3	3.04E-3	2.35E-3	2.08E-3	2.04E-3
38	18.66	2.19E-3	1.71E-3	1.10E-3	6.69E-4	4.44E-4	3.57E-4	38	101.88	4.94E-3	4.07E-3	3.00E-3	2.34E-3	2.09E-3	2.06E-3
39	18.13	2.11E-3	1.67E-3	1.10E-3	6.93E-4	4.87E-4	4.10E-4	39	110.60	4.81E-3	3.97E-3	2.95E-3	2.32E-3	2.08E-3	2.06E-3
40	17.61	2.07E-3	1.64E-3	1.10E-3	7.25E-4	5.35E-4	4.69E-4	40	120.15	4.70E-3	3.89E-3	2.90E-3	2.30E-3	2.06E-3	2.05E-3
41	17.13	2.07E-3	1.64E-3	1.12E-3	7.63E-4	5.89E-4	5.33E-4	41	130.60	4.59E-3	3.81E-3	2.85E-3	2.26E-3	2.04E-3	2.03E-3
42	16.67	1.99E-3	1.61E-3	1.12E-3	7.96E-4	6.41E-4	5.96E-4	42	141.99	4.47E-3	3.71E-3	2.78E-3	2.21E-3	2.00E-3	2.00E-3
43	16.25	1.95E-3	1.59E-3	1.14E-3	8.34E-4	6.96E-4	6.63E-4	43	154.39	4.35E-3	3.61E-3	2.72E-3	2.16E-3	1.96E-3	1.96E-3
44	15.86	1.95E-3	1.60E-3	1.17E-3	8.80E-4	7.55E-4	7.32E-4	44	167.85	4.24E-3	3.52E-3	2.65E-3	2.11E-3	1.91E-3	1.91E-3
45	15.50	1.89E-3	1.56E-3	1.17E-3	9.11E-4	8.07E-4	7.99E-4	45	182.44	4.12E-3	3.42E-3	2.57E-3	2.05E-3	1.85E-3	1.86E-3
46	15.18	1.86E-3	1.55E-3	1.18E-3	9.48E-4	8.61E-4	8.65E-4	46	198.22	4.00E-3	3.33E-3	2.50E-3	1.98E-3	1.79E-3	1.80E-3
47	14.89	1.86E-3	1.55E-3	1.20E-3	9.87E-4	9.15E-4	9.31E-4	47	215.25	3.89E-3	3.24E-3	2.42E-3	1.92E-3	1.73E-3	1.74E-3
48	14.63	1.80E-3	1.53E-3	1.21E-3	1.02E-3	9.63E-4	9.91E-4	48	233.61	3.78E-3	3.14E-3	2.35E-3	1.85E-3	1.67E-3	1.68E-3
49	14.40	1.80E-3	1.53E-3	1.22E-3	1.05E-3	1.01E-3	1.05E-3	49	253.35	3.66E-3	3.04E-3	2.27E-3	1.79E-3	1.60E-3	1.61E-3
50	14.20	1.77E-3	1.51E-3	1.23E-3	1.08E-3	1.05E-3	1.10E-3	50	274.56	3.55E-3	2.95E-3	2.19E-3	1.72E-3	1.54E-3	1.55E-3
51	14.02	1.71E-3	1.49E-3	1.23E-3	1.10E-3	1.09E-3	1.15E-3	51	297.31	3.45E-3	2.85E-3	2.12E-3	1.65E-3	1.48E-3	1.48E-3
52	13.87	1.71E-3	1.48E-3	1.24E-3	1.12E-3	1.12E-3	1.20E-3	52	321.67	3.34E-3	2.76E-3	2.05E-3	1.59E-3	1.42E-3	1.42E-3
53	13.74	1.68E-3	1.46E-3	1.24E-3	1.14E-3	1.15E-3	1.24E-3	53	347.72	3.24E-3	2.68E-3	1.98E-3	1.53E-3	1.36E-3	1.36E-3
54	13.63	1.63E-3	1.44E-3	1.24E-3	1.15E-3	1.18E-3	1.27E-3	54	375.56	3.14E-3	2.59E-3	1.91E-3	1.47E-3	1.30E-3	1.30E-3
55	13.54	1.62E-3	1.43E-3	1.24E-3	1.17E-3	1.20E-3	1.30E-3	55	405.26	3.04E-3	2.51E-3	1.84E-3	1.41E-3	1.24E-3	1.25E-3
56	13.47	1.57E-3	1.40E-3	1.23E-3	1.17E-3	1.22E-3	1.33E-3	56	436.92	2.94E-3	2.42E-3	1.77E-3	1.35E-3	1.19E-3	1.19E-3
57	13.41	1.55E-3	1.39E-3	1.22E-3	1.18E-3	1.23E-3	1.35E-3	57	470.63	2.85E-3	2.35E-3	1.71E-3	1.30E-3	1.14E-3	1.14E-3
58	13.37	1.52E-3	1.36E-3	1.21E-3	1.18E-3	1.24E-3	1.37E-3	58	506.49	2.76E-3	2.27E-3	1.65E-3	1.25E-3	1.09E-3	1.09E-3
59	13.33	1.48E-3	1.34E-3	1.20E-3	1.18E-3	1.25E-3	1.38E-3	59	544.60	2.67E-3	2.19E-3	1.59E-3	1.20E-3	1.04E-3	1.04E-3
60	13.31	1.46E-3	1.32E-3	1.19E-3	1.17E-3	1.25E-3	1.39E-3	60	585.07	2.59E-3	2.13E-3	1.54E-3	1.15E-3	9.96E-4	1.00E-3
61	13.29	1.42E-3	1.29E-3	1.17E-3	1.16E-3	1.25E-3	1.39E-3	61	628.01	2.50E-3	2.06E-3	1.48E-3	1.11E-3	9.54E-4	9.58E-4
62	13.28	1.40E-3	1.27E-3	1.16E-3	1.16E-3	1.25E-3	1.40E-3	62	673.54	2.43E-3	1.99E-3	1.43E-3	1.06E-3	9.14E-4	9.18E-4
63	13.28	1.37E-3	1.24E-3	1.14E-3	1.15E-3	1.24E-3	1.40E-3	63	721.77	2.35E-3	1.93E-3	1.38E-3	1.02E-3	8.76E-4	8.80E-4
64	13.28	1.34E-3	1.22E-3	1.13E-3	1.14E-3	1.23E-3	1.40E-3	64	772.83	2.28E-3	1.86E-3	1.34E-3	9.83E-4	8.40E-4	8.44E-4
65	13.28	1.30E-3	1.19E-3	1.11E-3	1.12E-3	1.22E-3	1.39E-3	65	826.85	2.21E-3	1.81E-3	1.29E-3	9.47E-4	8.07E-4	8.10E-4
66	13.29	1.27E-3	1.17E-3	1.09E-3	1.11E-3	1.21E-3	1.39E-3	66	883.96	2.14E-3	1.75E-3	1.25E-3	9.12E-4	7.75E-4	7.78E-4
67	13.29	1.25E-3	1.14E-3	1.07E-3	1.09E-3	1.20E-3	1.38E-3	67	944.31	2.07E-3	1.69E-3	1.21E-3	8.79E-4	7.45E-4	7.48E-4
68	13.30	1.21E-3	1.12E-3	1.05E-3	1.08E-3	1.19E-3	1.37E-3	68	1008.05	2.01E-3	1.64E-3	1.17E-3	8.47E-4	7.16E-4	7.19E-4
69	13.31	1.18E-3	1.09E-3	1.03E-3	1.06E-3	1.18E-3	1.36E-3	69	1075.32	1.95E-3	1.59E-3	1.13E-3	8.17E-4	6.89E-4	6.92E-4
70	13.31	1.15E-3	1.07E-3	1.01E-3	1.04E-3	1.16E-3	1.35E-3	70	1146.30	1.89E-3	1.54E-3	1.09E-3	7.89E-4	6.63E-4	6.67E-4
71	13.31	1.13E-3	1.04E-3	9.91E-4	1.03E-3	1.15E-3	1.34E-3	71	1221.14	1.83E-3	1.50E-3	1.06E-3	7.62E-4	6.39E-4	6.43E-4
72	13.31	1.11E-3	1.02E-3	9.73E-4	1.01E-3	1.13E-3	1.32E-3	72	1300.02	1.78E-3	1.45E-3	1.03E-3	7.36E-4	6.16E-4	6.21E-4
73	13.30	1.08E-3	1.00E-3	9.53E-4	9.95E-4	1.12E-3	1.31E-3	73	1383.12	1.72E-3	1.41E-3	9.94E-4	7.12E-4	5.95E-4	5.99E-4
74	13.29	1.05E-3	9.79E-4	9.34E-4	9.78E-4	1.10E-3	1.30E-3	74	1470.64	1.67E-3	1.37E-3	9.64E-4	6.89E-4	5.74E-4	5.79E-4
75	13.28	1.03E-3	9.57E-4	9.15E-4	9.60E-4	1.09E-3	1.28E-3	75	1562.77	1.62E-3	1.33E-3	9.35E-4	6.66E-4	5.55E-4	5.60E-4
76	13.25	1.00E-3	9.33E-4	8.96E-4	9.43E-4	1.07E-3	1.27E-3	76	1659.72	1.58E-3	1.29E-3	9.07E-4	6.45E-4	5.36E-4	5.42E-4
77	13.22	9.78E-4	9.12E-4	8.77E-4	9.26E-4	1.05E-3	1.25E-3	77	1761.71	1.53E-3	1.25E-3	8.80E-4	6.25E-4	5.19E-4	5.24E-4
78	13.19	9.53E-4	8.91E-4	8.58E-4	9.08E-4	1.04E-3	1.24E-3	78	1868.96	1.49E-3	1.21E-3	8.55E-4	6.06E-4	5.02E-4	5.08E-4
79	13.14	9.31E-4	8.71E-4	8.40E-4	8.92E-4	1.02E-3	1.22E-3	79	1981.72	1.45E-3	1.18E-3	8.30E-4	5.88E-4	4.86E-4	4.93E-4
80	13.09	9.10E-4	8.51E-4	8.23E-4	8.75E-4	1.01E-3	1.21E-3	80	2100.23	1.40E-3	1.15E-3	8.07E-4	5.70E-4	4.71E-4	4.78E-4
81	13.02	8.88E-4	8.32E-4	8.06E-4	8.59E-4	9.90E-4	1.20E-3	81	2224.75	1.36E-3	1.12E-3	7.84E-4	5.53E-4	4.57E-4	4.64E-4
82	12.95	8.69E-4	8.14E-4	7.89E-4	8.43E-4	9.75E-4	1.18E-3	82	2355.57	1.33E-3	1.08E-3	7.62E-4	5.37E-4	4.43E-4	4.51E-4
83	12.86	8.49E-4	7.96E-4	7.73E-4	8.28E-4	9.59E-4	1.17E-3	83	2492.96	1.29E-3	1.05E-3	7.41E-4	5.22E-4	4.30E-4	4.38E-4
84	12.77	8.29E-4	7.78E-4	7.57E-4	8.12E-4	9.44E-4	1.15E-3	84	2637.24	1.25E-3	1.03E-3	7.21E-4	5.07E-4	4.18E-4	4.26E-4
85	12.66	8.10E-4	7.61E-4	7.41E-4	7.97E-4	9.29E-4	1.14E-3	85	2788.71	1.22E-3	9.97E-4	7.01E-4	4.93E-4	4.06E-4	4.15E-4
86	12.54	7.93E-4	7.45E-4	7.26E-4	7.82E-4	9.15E-4	1.12E-3	86	2947.68	1.18E-3	9.70E-4	6.82E-4	4.79E-4	3.94E-4	4.04E-4
87	12.41	7.75E-4	7.28E-4	7.11E-4	7.68E-4	9.01E-4	1.11E-3	87	3114.55	1.15E-3	9.44E-4	6.64E-4	4.66E-4	3.83E-4	3.94E-4
88	12.26	7.57E-4	7.13E-4	6.97E-4	7.54E-4	8.86E-4	1.10E-3	88	3289.67	1.12E-3	9.19E-4	6.46E-4	4.54E-4	3.73E-4	3.84E-4
89	12.10	7.42E-4	6.98E-4	6.83E-4	7.40E-4	8.73E-4	1.09E-3	89	3473.43	1.09E-3	8.94E-4	6.29E-4	4.41E-4	3.63E-4	3.74E-4
90	11.93	7.24E-4	6.82E-4	6.69E-4	7.26E-4										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_3 - E_4$								$E_1 - F_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	20.52	1.33E-2	9.85E-3	5.50E-3	2.53E-3	1.04E-3	4.28E-4	26	0.0043	3.26E-2	2.46E-2	1.43E-2	7.09E-3	3.23E-3	1.53E-3
27	23.13	1.21E-2	9.05E-3	5.10E-3	2.37E-3	9.88E-4	4.15E-4	27	0.2226	2.95E-2	2.21E-2	1.28E-2	6.36E-3	2.92E-3	1.40E-3
28	26.11	1.12E-2	8.35E-3	4.73E-3	2.23E-3	9.42E-4	4.04E-4	28	0.5725	2.61E-2	1.96E-2	1.14E-2	5.65E-3	2.60E-3	1.26E-3
29	29.48	1.03E-2	7.71E-3	4.40E-3	2.09E-3	8.98E-4	3.94E-4	29	1.098	2.31E-2	1.73E-2	1.01E-2	5.02E-3	2.32E-3	1.13E-3
30	33.29	9.49E-3	7.14E-3	4.10E-3	1.97E-3	8.57E-4	3.84E-4	30	1.848	2.04E-2	1.53E-2	8.92E-3	4.45E-3	2.06E-3	1.02E-3
31	37.55	8.81E-3	6.64E-3	3.83E-3	1.86E-3	8.20E-4	3.78E-4	31	2.881	1.76E-2	1.33E-2	7.75E-3	3.88E-3	1.81E-3	9.01E-4
32	42.31	8.15E-3	6.16E-3	3.57E-3	1.74E-3	7.84E-4	3.72E-4	32	4.259	1.55E-2	1.17E-2	6.84E-3	3.43E-3	1.60E-3	8.05E-4
33	47.60	7.56E-3	5.72E-3	3.33E-3	1.64E-3	7.50E-4	3.67E-4	33	6.051	1.36E-2	1.03E-2	6.03E-3	3.02E-3	1.42E-3	7.16E-4
34	53.45	6.97E-3	5.29E-3	3.10E-3	1.54E-3	7.18E-4	3.64E-4	34	8.329	1.23E-2	9.25E-3	5.40E-3	2.71E-3	1.27E-3	6.47E-4
35	59.89	6.47E-3	4.92E-3	2.90E-3	1.45E-3	6.92E-4	3.64E-4	35	11.16	1.09E-2	8.12E-3	4.73E-3	2.38E-3	1.12E-3	5.72E-4
36	66.98	6.04E-3	4.60E-3	2.72E-3	1.38E-3	6.73E-4	3.69E-4	36	14.63	9.21E-3	6.96E-3	4.09E-3	2.06E-3	9.71E-4	4.96E-4
37	74.74	5.60E-3	4.27E-3	2.54E-3	1.31E-3	6.52E-4	3.73E-4	37	18.79	8.33E-3	6.22E-3	3.63E-3	1.83E-3	8.66E-4	4.43E-4
38	83.22	5.21E-3	3.98E-3	2.38E-3	1.24E-3	6.37E-4	3.80E-4	38	23.72	7.31E-3	5.48E-3	3.20E-3	1.61E-3	7.65E-4	3.90E-4
39	92.47	4.88E-3	3.73E-3	2.25E-3	1.19E-3	6.28E-4	3.91E-4	39	29.47	6.23E-3	4.72E-3	2.77E-3	1.40E-3	6.61E-4	3.38E-4
40	102.54	4.55E-3	3.49E-3	2.11E-3	1.13E-3	6.19E-4	4.02E-4	40	36.11	5.50E-3	4.16E-3	2.45E-3	1.23E-3	5.83E-4	2.98E-4
41	113.47	4.23E-3	3.26E-3	1.99E-3	1.09E-3	6.11E-4	4.14E-4	41	43.69	5.01E-3	3.77E-3	2.21E-3	1.11E-3	5.25E-4	2.67E-4
42	125.31	3.97E-3	3.06E-3	1.88E-3	1.05E-3	6.09E-4	4.30E-4	42	52.27	4.33E-3	3.28E-3	1.93E-3	9.74E-4	4.59E-4	2.33E-4
43	138.14	3.71E-3	2.87E-3	1.78E-3	1.01E-3	6.08E-4	4.45E-4	43	61.90	3.87E-3	2.94E-3	1.73E-3	8.71E-4	4.10E-4	2.08E-4
44	151.99	3.47E-3	2.70E-3	1.69E-3	9.76E-4	6.07E-4	4.60E-4	44	72.63	3.56E-3	2.68E-3	1.57E-3	7.92E-4	3.73E-4	1.89E-4
45	166.94	3.26E-3	2.54E-3	1.61E-3	9.49E-4	6.09E-4	4.77E-4	45	84.52	3.14E-3	2.38E-3	1.40E-3	7.07E-4	3.32E-4	1.67E-4
46	183.04	3.07E-3	2.40E-3	1.53E-3	9.22E-4	6.11E-4	4.94E-4	46	97.63	2.85E-3	2.16E-3	1.28E-3	6.42E-4	3.00E-4	1.51E-4
47	200.37	2.88E-3	2.26E-3	1.46E-3	8.97E-4	6.13E-4	5.09E-4	47	112.01	2.65E-3	2.00E-3	1.18E-3	5.93E-4	2.78E-4	1.39E-4
48	218.98	2.72E-3	2.14E-3	1.40E-3	8.77E-4	6.17E-4	5.26E-4	48	127.74	2.38E-3	1.81E-3	1.06E-3	5.36E-4	2.50E-4	1.25E-4
49	238.96	2.56E-3	2.02E-3	1.34E-3	8.56E-4	6.19E-4	5.40E-4	49	144.86	2.22E-3	1.69E-3	9.91E-4	4.99E-4	2.33E-4	1.16E-4
50	260.36	2.42E-3	1.92E-3	1.28E-3	8.38E-4	6.22E-4	5.54E-4	50	163.45	2.04E-3	1.55E-3	9.14E-4	4.60E-4	2.15E-4	1.07E-4
51	283.29	2.29E-3	1.83E-3	1.23E-3	8.22E-4	6.25E-4	5.68E-4	51	183.59	1.87E-3	1.42E-3	8.40E-4	4.22E-4	1.97E-4	9.75E-5
52	307.80	2.16E-3	1.73E-3	1.18E-3	8.06E-4	6.27E-4	5.80E-4	52	205.34	1.74E-3	1.33E-3	7.85E-4	3.95E-4	1.84E-4	9.10E-5
53	333.98	2.05E-3	1.65E-3	1.14E-3	7.90E-4	6.29E-4	5.91E-4	53	228.78	1.63E-3	1.24E-3	7.33E-4	3.69E-4	1.71E-4	8.48E-5
54	361.92	1.95E-3	1.58E-3	1.10E-3	7.76E-4	6.30E-4	6.00E-4	54	253.99	1.52E-3	1.15E-3	6.83E-4	3.44E-4	1.60E-4	7.87E-5
55	391.71	1.85E-3	1.50E-3	1.06E-3	7.62E-4	6.30E-4	6.08E-4	55	281.06	1.43E-3	1.09E-3	6.44E-4	3.24E-4	1.50E-4	7.42E-5
56	423.45	1.76E-3	1.44E-3	1.03E-3	7.49E-4	6.29E-4	6.16E-4	56	310.08	1.34E-3	1.02E-3	6.04E-4	3.04E-4	1.41E-4	6.93E-5
57	457.21	1.68E-3	1.38E-3	9.90E-4	7.34E-4	6.28E-4	6.21E-4	57	341.13	1.26E-3	9.64E-4	5.72E-4	2.88E-4	1.33E-4	6.57E-5
58	493.12	1.60E-3	1.32E-3	9.58E-4	7.21E-4	6.25E-4	6.25E-4	58	374.32	1.19E-3	9.11E-4	5.41E-4	2.73E-4	1.26E-4	6.20E-5
59	531.27	1.53E-3	1.26E-3	9.28E-4	7.08E-4	6.23E-4	6.29E-4	59	409.74	1.12E-3	8.61E-4	5.11E-4	2.57E-4	1.19E-4	5.84E-5
60	571.76	1.46E-3	1.21E-3	8.98E-4	6.95E-4	6.19E-4	6.31E-4	60	447.50	1.07E-3	8.18E-4	4.87E-4	2.46E-4	1.14E-4	5.57E-5
61	614.72	1.40E-3	1.17E-3	8.71E-4	6.82E-4	6.14E-4	6.32E-4	61	487.71	1.01E-3	7.76E-4	4.62E-4	2.33E-4	1.08E-4	5.27E-5
62	660.25	1.34E-3	1.12E-3	8.44E-4	6.69E-4	6.09E-4	6.32E-4	62	530.48	9.64E-4	7.40E-4	4.41E-4	2.23E-4	1.03E-4	5.05E-5
63	708.49	1.28E-3	1.08E-3	8.19E-4	6.56E-4	6.04E-4	6.31E-4	63	575.92	9.19E-4	7.05E-4	4.21E-4	2.13E-4	9.84E-5	4.82E-5
64	759.55	1.23E-3	1.04E-3	7.94E-4	6.43E-4	5.98E-4	6.29E-4	64	624.17	8.77E-4	6.73E-4	4.01E-4	2.03E-4	9.38E-5	4.59E-5
65	813.56	1.18E-3	1.00E-3	7.71E-4	6.30E-4	5.91E-4	6.26E-4	65	675.36	8.37E-4	6.43E-4	3.85E-4	1.95E-4	9.01E-5	4.41E-5
66	870.67	1.14E-3	9.64E-4	7.48E-4	6.17E-4	5.84E-4	6.23E-4	66	729.60	8.01E-4	6.16E-4	3.68E-4	1.86E-4	8.62E-5	4.21E-5
67	931.02	1.09E-3	9.30E-4	7.27E-4	6.04E-4	5.77E-4	6.19E-4	67	787.05	7.67E-4	5.90E-4	3.53E-4	1.79E-4	8.28E-5	4.04E-5
68	994.75	1.05E-3	8.98E-4	7.06E-4	5.92E-4	5.69E-4	6.14E-4	68	847.85	7.36E-4	5.66E-4	3.39E-4	1.72E-4	7.96E-5	3.89E-5
69	1062.02	1.01E-3	8.67E-4	6.86E-4	5.79E-4	5.61E-4	6.09E-4	69	912.15	7.06E-4	5.44E-4	3.26E-4	1.65E-4	7.66E-5	3.74E-5
70	1132.99	9.76E-4	8.38E-4	6.66E-4	5.66E-4	5.53E-4	6.04E-4	70	980.12	6.77E-4	5.23E-4	3.14E-4	1.60E-4	7.41E-5	3.62E-5
71	1207.83	9.40E-4	8.09E-4	6.47E-4	5.54E-4	5.44E-4	5.98E-4	71	1051.90	6.52E-4	5.03E-4	3.02E-4	1.54E-4	7.13E-5	3.48E-5
72	1286.71	9.07E-4	7.83E-4	6.29E-4	5.42E-4	5.35E-4	5.91E-4	72	1127.69	6.26E-4	4.84E-4	2.92E-4	1.49E-4	6.90E-5	3.37E-5
73	1369.82	8.75E-4	7.57E-4	6.11E-4	5.30E-4	5.27E-4	5.85E-4	73	1207.65	6.03E-4	4.67E-4	2.82E-4	1.43E-4	6.67E-5	3.26E-5
74	1457.35	8.44E-4	7.33E-4	5.94E-4	5.18E-4	5.18E-4	5.78E-4	74	1291.98	5.81E-4	4.50E-4	2.72E-4	1.39E-4	6.45E-5	3.16E-5
75	1549.49	8.16E-4	7.09E-4	5.78E-4	5.07E-4	5.09E-4	5.71E-4	75	1380.87	5.60E-4	4.34E-4	2.63E-4	1.34E-4	6.25E-5	3.06E-5
76	1646.47	7.87E-4	6.86E-4	5.62E-4	4.95E-4	5.00E-4	5.63E-4	76	1474.52	5.42E-4	4.20E-4	2.54E-4	1.30E-4	6.04E-5	2.96E-5
77	1748.49	7.61E-4	6.65E-4	5.46E-4	4.84E-4	4.91E-4	5.56E-4	77	1573.15	5.23E-4	4.05E-4	2.46E-4	1.26E-4	5.86E-5	2.87E-5
78	1855.78	7.36E-4	6.44E-4	5.31E-4	4.73E-4	4.82E-4	5.48E-4	78	1676.99	5.05E-4	3.92E-4	2.38E-4	1.22E-4	5.69E-5	2.79E-5
79	1968.58	7.12E-4	6.24E-4	5.16E-4	4.62E-4	4.73E-4	5.41E-4	79	1786.27	4.88E-4	3.79E-4	2.31E-4	1.18E-4	5.53E-5	2.71E-5
80	2087.15	6.88E-4	6.04E-4	5.02E-4	4.51E-4	4.64E-4	5.33E-4	80	1901.24	4.72E-4	3.67E-4	2.24E-4	1.15E-4	5.37E-5	2.64E-5
81	2211.73	6.66E-4	5.86E-4	4.88E-4	4.40E-4	4.55E-4	5.25E-4	81	2022.14	4.57E-4	3.56E-4	2.17E-4	1.11E-4	5.22E-5	2.57E-5
82	2342.62	6.45E-4	5.68E-4	4.75E-4	4.29E-4	4.46E-4	5.17E-4	82	2149.27	4.42E-4	3.44E-4	2.10E-4	1.08E-4	5.08E-5	2.50E-5
83	2480.10	6.25E-4	5.51E-4	4.62E-4	4.19E-4	4.37E-4	5.08E-4	83	2282.88	4.28E-4	3.34E-4	2.04E-4	1.06E-4	4.95E-5	2.44E-5
84	2624.47	6.05E-4	5.34E-4	4.49E-4	4.09E-4	4.28E-4	5.00E-4	84	2423.30	4.15E-4	3.24E-4	1.98E-4	1.02E-4	4.81E-5	2.38E-5
85	2776.05	5.86E-4	5.18E-4	4.36E-4	3.99E-4	4.19E-4	4.92E-4	85	2570.82	4.02E-4	3.14E-4	1.93E-4	9.98E-5	4.69E-5	2.32E-5
86	2935.14	5.68E-4	5.03E-4	4.25E-4	3.89E-4	4.10E-4	4.84E-4	86	2725.74	3.89E-4	3.05E-4	1.87E-4	9.72E-5	4.58E-5	2.27E-5
87	3102.14	5.50E-4	4.88E-4	4.13E-4	3.80E-4	4.02E-4	4.76E-4	87	2888.47	3.78E-4	2.96E-4	1.82E-4	9.47E-5	4.46E-5	2.21E-5
88	3277.41	5.33E-4	4.74E-4	4.01E-4	3.70E-4	3.93E-4	4.67E-4	88	3059.33	3.66E-4	2.87E-4	1.77E-4	9.23E-5	4.36E-5	2.17E-5
89	3461.33	5.17E-4	4.60E-4	3.90E-4	3.61E-4	3.84E-4	4.59E-4	89	3238.73	3.55E-4	2.79E-4	1.72E-4	9.00E-5	4.25E-5	2.12E-5

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_1 - F_3$								$E_1 - F_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	20.50	1.38E-2	1.26E-2	1.15E-2	1.12E-2	1.13E-2	1.17E-2	26	45.00	8.23E-3	6.23E-3	3.62E-3	1.79E-3	8.38E-4	4.43E-4
27	23.11	1.34E-2	1.22E-2	1.10E-2	1.05E-2	1.06E-2	1.09E-2	27	48.43	6.98E-3	5.29E-3	3.09E-3	1.54E-3	7.32E-4	4.01E-4
28	26.11	1.31E-2	1.18E-2	1.05E-2	9.95E-3	9.99E-3	1.03E-2	28	52.32	5.85E-3	4.43E-3	2.59E-3	1.30E-3	6.31E-4	3.58E-4
29	29.51	1.28E-2	1.15E-2	1.01E-2	9.49E-3	9.48E-3	9.74E-3	29	56.76	4.85E-3	3.67E-3	2.15E-3	1.08E-3	5.35E-4	3.11E-4
30	33.34	1.26E-2	1.13E-2	9.79E-3	9.10E-3	9.05E-3	9.29E-3	30	61.84	3.95E-3	2.99E-3	1.75E-3	8.86E-4	4.44E-4	2.63E-4
31	37.61	1.24E-2	1.10E-2	9.51E-3	8.77E-3	8.69E-3	8.92E-3	31	67.68	3.16E-3	2.39E-3	1.40E-3	7.10E-4	3.58E-4	2.15E-4
32	42.36	1.21E-2	1.08E-2	9.24E-3	8.49E-3	8.39E-3	8.61E-3	32	74.37	2.50E-3	1.89E-3	1.10E-3	5.58E-4	2.81E-4	1.70E-4
33	47.58	1.19E-2	1.05E-2	9.00E-3	8.23E-3	8.12E-3	8.34E-3	33	82.04	1.94E-3	1.46E-3	8.51E-4	4.29E-4	2.15E-4	1.29E-4
34	53.32	1.16E-2	1.03E-2	8.75E-3	7.99E-3	7.89E-3	8.10E-3	34	90.80	1.48E-3	1.12E-3	6.48E-4	3.24E-4	1.60E-4	9.48E-5
35	59.60	1.13E-2	9.99E-3	8.51E-3	7.77E-3	7.67E-3	7.89E-3	35	100.75	1.12E-3	8.42E-4	4.86E-4	2.40E-4	1.17E-4	6.72E-5
36	66.47	1.10E-2	9.70E-3	8.27E-3	7.55E-3	7.46E-3	7.69E-3	36	112.01	8.36E-4	6.27E-4	3.60E-4	1.76E-4	8.33E-5	4.64E-5
37	73.95	1.06E-2	9.40E-3	8.02E-3	7.34E-3	7.26E-3	7.51E-3	37	124.68	6.23E-4	4.66E-4	2.66E-4	1.28E-4	5.90E-5	3.14E-5
38	82.10	1.02E-2	9.08E-3	7.77E-3	7.12E-3	7.07E-3	7.32E-3	38	138.85	4.63E-4	3.46E-4	1.96E-4	9.30E-5	4.15E-5	2.10E-5
39	90.98	9.88E-3	8.77E-3	7.52E-3	6.91E-3	6.88E-3	7.15E-3	39	154.63	3.44E-4	2.56E-4	1.44E-4	6.76E-5	2.92E-5	1.40E-5
40	100.64	9.51E-3	8.46E-3	7.27E-3	6.71E-3	6.69E-3	6.97E-3	40	172.11	2.57E-4	1.91E-4	1.07E-4	4.95E-5	2.08E-5	9.34E-6
41	111.14	9.13E-3	8.14E-3	7.03E-3	6.50E-3	6.51E-3	6.80E-3	41	191.40	1.93E-4	1.44E-4	7.99E-5	3.66E-5	1.49E-5	6.34E-6
42	122.54	8.78E-3	7.84E-3	6.79E-3	6.30E-3	6.32E-3	6.63E-3	42	212.60	1.46E-4	1.08E-4	6.01E-5	2.72E-5	1.09E-5	4.39E-6
43	134.89	8.43E-3	7.54E-3	6.55E-3	6.10E-3	6.14E-3	6.46E-3	43	235.82	1.11E-4	8.25E-5	4.56E-5	2.05E-5	8.06E-6	3.12E-6
44	148.27	8.09E-3	7.25E-3	6.32E-3	5.91E-3	5.96E-3	6.29E-3	44	261.16	8.57E-5	6.33E-5	3.49E-5	1.56E-5	6.08E-6	2.30E-6
45	162.72	7.77E-3	6.97E-3	6.09E-3	5.72E-3	5.79E-3	6.13E-3	45	288.76	6.64E-5	4.90E-5	2.70E-5	1.20E-5	4.66E-6	1.75E-6
46	178.34	7.45E-3	6.70E-3	5.88E-3	5.53E-3	5.62E-3	5.96E-3	46	318.71	5.18E-5	3.83E-5	2.10E-5	9.38E-6	3.63E-6	1.37E-6
47	195.16	7.15E-3	6.44E-3	5.66E-3	5.35E-3	5.45E-3	5.80E-3	47	351.16	4.08E-5	3.01E-5	1.65E-5	7.38E-6	2.88E-6	1.11E-6
48	213.27	6.87E-3	6.19E-3	5.46E-3	5.17E-3	5.28E-3	5.64E-3	48	386.24	3.24E-5	2.39E-5	1.31E-5	5.86E-6	2.31E-6	9.21E-7
49	232.74	6.59E-3	5.95E-3	5.27E-3	5.00E-3	5.12E-3	5.49E-3	49	424.07	2.58E-5	1.91E-5	1.05E-5	4.71E-6	1.88E-6	7.77E-7
50	253.64	6.33E-3	5.73E-3	5.08E-3	4.83E-3	4.97E-3	5.33E-3	50	464.80	2.08E-5	1.53E-5	8.44E-6	3.80E-6	1.54E-6	6.65E-7
51	276.05	6.08E-3	5.51E-3	4.90E-3	4.67E-3	4.81E-3	5.19E-3	51	508.58	1.68E-5	1.24E-5	6.84E-6	3.10E-6	1.27E-6	5.75E-7
52	300.04	5.84E-3	5.30E-3	4.72E-3	4.52E-3	4.67E-3	5.04E-3	52	555.56	1.37E-5	1.01E-5	5.58E-6	2.54E-6	1.06E-6	5.01E-7
53	325.70	5.61E-3	5.10E-3	4.55E-3	4.37E-3	4.53E-3	4.90E-3	53	605.91	1.12E-5	8.28E-6	4.58E-6	2.10E-6	8.95E-7	4.39E-7
54	353.11	5.39E-3	4.91E-3	4.39E-3	4.22E-3	4.39E-3	4.77E-3	54	659.78	9.23E-6	6.82E-6	3.79E-6	1.75E-6	7.58E-7	3.86E-7
55	382.36	5.18E-3	4.72E-3	4.24E-3	4.08E-3	4.25E-3	4.64E-3	55	717.36	7.64E-6	5.65E-6	3.14E-6	1.46E-6	6.44E-7	3.41E-7
56	413.54	4.98E-3	4.55E-3	4.09E-3	3.95E-3	4.12E-3	4.51E-3	56	778.83	6.35E-6	4.70E-6	2.62E-6	1.22E-6	5.51E-7	3.02E-7
57	446.74	4.80E-3	4.38E-3	3.94E-3	3.82E-3	4.00E-3	4.39E-3	57	844.37	5.30E-6	3.93E-6	2.20E-6	1.03E-6	4.73E-7	2.67E-7
58	482.07	4.62E-3	4.22E-3	3.81E-3	3.69E-3	3.88E-3	4.27E-3	58	914.18	4.45E-6	3.30E-6	1.85E-6	8.75E-7	4.08E-7	2.37E-7
59	519.62	4.44E-3	4.07E-3	3.68E-3	3.58E-3	3.77E-3	4.16E-3	59	988.47	3.74E-6	2.78E-6	1.56E-6	7.45E-7	3.53E-7	2.11E-7
60	559.50	4.28E-3	3.92E-3	3.55E-3	3.46E-3	3.65E-3	4.05E-3	60	1067.44	3.16E-6	2.35E-6	1.33E-6	6.36E-7	3.06E-7	1.88E-7
61	601.83	4.12E-3	3.78E-3	3.43E-3	3.35E-3	3.55E-3	3.94E-3	61	1151.31	2.68E-6	2.00E-6	1.13E-6	5.45E-7	2.66E-7	1.68E-7
62	646.71	3.97E-3	3.65E-3	3.31E-3	3.24E-3	3.44E-3	3.84E-3	62	1240.33	2.28E-6	1.70E-6	9.63E-7	4.69E-7	2.32E-7	1.49E-7
63	694.27	3.83E-3	3.52E-3	3.20E-3	3.14E-3	3.34E-3	3.74E-3	63	1334.72	1.95E-6	1.45E-6	8.26E-7	4.04E-7	2.03E-7	1.33E-7
64	744.63	3.69E-3	3.40E-3	3.10E-3	3.04E-3	3.25E-3	3.65E-3	64	1434.73	1.67E-6	1.25E-6	7.10E-7	3.50E-7	1.78E-7	1.19E-7
65	797.91	3.56E-3	3.28E-3	3.00E-3	2.95E-3	3.15E-3	3.56E-3	65	1540.63	1.43E-6	1.07E-6	6.12E-7	3.03E-7	1.57E-7	1.07E-7
66	854.27	3.44E-3	3.17E-3	2.90E-3	2.86E-3	3.07E-3	3.47E-3	66	1652.69	1.23E-6	9.24E-7	5.29E-7	2.64E-7	1.38E-7	9.58E-8
67	913.83	3.32E-3	3.06E-3	2.80E-3	2.77E-3	2.98E-3	3.38E-3	67	1771.18	1.06E-6	7.98E-7	4.58E-7	2.30E-7	1.22E-7	8.60E-8
68	976.74	3.20E-3	2.96E-3	2.71E-3	2.69E-3	2.90E-3	3.30E-3	68	1896.40	9.21E-7	6.91E-7	3.98E-7	2.01E-7	1.08E-7	7.72E-8
69	1043.16	3.09E-3	2.86E-3	2.63E-3	2.61E-3	2.82E-3	3.22E-3	69	2028.66	7.98E-7	6.00E-7	3.47E-7	1.76E-7	9.56E-8	6.94E-8
70	1113.23	2.99E-3	2.77E-3	2.54E-3	2.53E-3	2.74E-3	3.14E-3	70	2168.28	6.94E-7	5.22E-7	3.03E-7	1.55E-7	8.49E-8	6.25E-8
71	1187.14	2.89E-3	2.68E-3	2.46E-3	2.45E-3	2.66E-3	3.07E-3	71	2315.59	6.04E-7	4.56E-7	2.65E-7	1.36E-7	7.55E-8	5.63E-8
72	1265.05	2.79E-3	2.59E-3	2.38E-3	2.38E-3	2.59E-3	3.00E-3	72	2470.92	5.27E-7	3.98E-7	2.32E-7	1.20E-7	6.73E-8	5.09E-8
73	1347.14	2.70E-3	2.50E-3	2.31E-3	2.31E-3	2.52E-3	2.93E-3	73	2634.66	4.61E-7	3.48E-7	2.04E-7	1.06E-7	6.00E-8	4.59E-8
74	1433.60	2.61E-3	2.42E-3	2.24E-3	2.24E-3	2.46E-3	2.86E-3	74	2807.18	4.03E-7	3.05E-7	1.79E-7	9.37E-8	5.36E-8	4.15E-8
75	1524.63	2.52E-3	2.35E-3	2.17E-3	2.18E-3	2.39E-3	2.79E-3	75	2988.87	3.54E-7	2.68E-7	1.58E-7	8.31E-8	4.80E-8	3.76E-8
76	1620.44	2.44E-3	2.27E-3	2.10E-3	2.11E-3	2.33E-3	2.73E-3	76	3180.14	3.11E-7	2.36E-7	1.39E-7	7.37E-8	4.30E-8	3.40E-8
77	1721.23	2.36E-3	2.20E-3	2.04E-3	2.05E-3	2.27E-3	2.67E-3	77	3381.43	2.74E-7	2.08E-7	1.23E-7	6.55E-8	3.86E-8	3.09E-8
78	1827.23	2.28E-3	2.13E-3	1.98E-3	2.00E-3	2.21E-3	2.61E-3	78	3593.19	2.41E-7	1.84E-7	1.09E-7	5.83E-8	3.46E-8	2.80E-8
79	1938.68	2.21E-3	2.06E-3	1.92E-3	1.94E-3	2.15E-3	2.55E-3	79	3815.89	2.13E-7	1.62E-7	9.67E-8	5.20E-8	3.12E-8	2.55E-8
80	2055.82	2.14E-3	2.00E-3	1.86E-3	1.88E-3	2.10E-3	2.50E-3	80	4050.03	1.88E-7	1.44E-7	8.58E-8	4.64E-8	2.80E-8	2.32E-8
81	2178.92	2.07E-3	1.93E-3	1.80E-3	1.83E-3	2.05E-3	2.44E-3	81	4296.12	1.66E-7	1.27E-7	7.63E-8	4.14E-8	2.53E-8	2.11E-8
82	2308.23	2.01E-3	1.87E-3	1.75E-3	1.78E-3	1.99E-3	2.39E-3	82	4554.72	1.47E-7	1.13E-7	6.79E-8	3.71E-8	2.28E-8	1.92E-8
83	2444.06	1.94E-3	1.82E-3	1.70E-3	1.73E-3	1.94E-3	2.34E-3	83	4826.39	1.31E-7	1.00E-7	6.05E-8	3.32E-8	2.06E-8	1.75E-8
84	2586.69	1.88E-3	1.76E-3	1.65E-3	1.68E-3	1.89E-3	2.29E-3	84	5111.73	1.16E-7	8.91E-8	5.39E-8	2.98E-8	1.86E-8	1.60E-8
85	2736.44	1.82E-3	1.71E-3	1.60E-3	1.63E-3	1.85E-3	2.24E-3	85	5411.38	1.03E-7	7.92E-8	4.81E-8	2.67E-8	1.69E-8	1.46E-8
86	2893.60	1.77E-3	1.65E-3	1.55E-3	1.59E-3	1.80E-3	2.19E-3	86	5725.92	9.16E-8	7.06E-8	4.30E-8	2.40E-8	1.53E-8	1.34E-8
87	3058.58	1.71E-3	1.60E-3	1.51E-3	1.54E-3	1.76E-3	2.15E-3	87	6056.18	8.15E-8	6.29E-8	3.85E-8	2.16E-8	1.39E-8	1.22E-8
88	3231.70	1.66E-3	1.55E-3	1.46E-3	1.50E-3	1.71E-3	2.10E-3	88	6402.81	7.26E-8	5.61E-8	3.45E-8	1.94E-8	1.26E-8	1.12E-8
89	3413.37	1.61E-3	1.51E-3	1.42E-3	1.46E-3	1.67E-3	2.06E-3	89	6766.61	6.47E-8	5.01E-8	3.09E-8	1.75E-8	1.14E-8	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_2 - F_3$								$E_2 - F_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	2.204	2.56E-2	1.93E-2	1.11E-2	5.35E-3	2.30E-3	9.79E-4	26	26.71	7.24E-3	5.30E-3	2.88E-3	1.28E-3	5.11E-4	2.15E-4
27	2.741	2.33E-2	1.75E-2	1.00E-2	4.85E-3	2.10E-3	9.05E-4	27	28.05	7.09E-3	5.20E-3	2.85E-3	1.29E-3	5.26E-4	2.29E-4
28	3.338	2.09E-2	1.57E-2	9.03E-3	4.37E-3	1.91E-3	8.38E-4	28	29.54	6.94E-3	5.10E-3	2.82E-3	1.29E-3	5.38E-4	2.41E-4
29	3.984	1.89E-2	1.42E-2	8.16E-3	3.96E-3	1.74E-3	7.85E-4	29	31.23	6.81E-3	5.02E-3	2.79E-3	1.29E-3	5.49E-4	2.51E-4
30	4.664	1.70E-2	1.28E-2	7.38E-3	3.60E-3	1.60E-3	7.45E-4	30	33.17	6.71E-3	4.96E-3	2.77E-3	1.30E-3	5.58E-4	2.58E-4
31	5.357	1.52E-2	1.15E-2	6.65E-3	3.26E-3	1.48E-3	7.10E-4	31	35.42	6.50E-3	4.83E-3	2.72E-3	1.28E-3	5.55E-4	2.58E-4
32	6.044	1.38E-2	1.04E-2	6.06E-3	2.99E-3	1.38E-3	6.92E-4	32	38.06	6.37E-3	4.74E-3	2.68E-3	1.27E-3	5.53E-4	2.57E-4
33	6.703	1.26E-2	9.51E-3	5.54E-3	2.76E-3	1.30E-3	6.80E-4	33	41.16	6.22E-3	4.64E-3	2.63E-3	1.25E-3	5.45E-4	2.52E-4
34	7.316	1.17E-2	8.78E-3	5.12E-3	2.58E-3	1.24E-3	6.78E-4	34	44.79	6.15E-3	4.58E-3	2.60E-3	1.24E-3	5.40E-4	2.46E-4
35	7.871	1.07E-2	8.07E-3	4.74E-3	2.40E-3	1.19E-3	6.74E-4	35	49.02	5.94E-3	4.43E-3	2.52E-3	1.20E-3	5.22E-4	2.34E-4
36	8.361	9.80E-3	7.43E-3	4.38E-3	2.24E-3	1.13E-3	6.69E-4	36	53.91	5.61E-3	4.19E-3	2.39E-3	1.14E-3	4.92E-4	2.16E-4
37	8.784	9.19E-3	6.96E-3	4.13E-3	2.14E-3	1.10E-3	6.69E-4	37	59.51	5.44E-3	4.05E-3	2.31E-3	1.11E-3	4.74E-4	2.05E-4
38	9.143	8.60E-3	6.52E-3	3.87E-3	2.02E-3	1.06E-3	6.64E-4	38	65.89	5.16E-3	3.85E-3	2.20E-3	1.05E-3	4.49E-4	1.91E-4
39	9.442	8.02E-3	6.11E-3	3.64E-3	1.91E-3	1.02E-3	6.53E-4	39	73.08	4.79E-3	3.59E-3	2.06E-3	9.82E-4	4.17E-4	1.74E-4
40	9.690	7.58E-3	5.78E-3	3.45E-3	1.83E-3	9.85E-4	6.42E-4	40	81.16	4.51E-3	3.38E-3	1.94E-3	9.26E-4	3.92E-4	1.63E-4
41	9.892	7.26E-3	5.51E-3	3.30E-3	1.75E-3	9.56E-4	6.32E-4	41	90.15	4.29E-3	3.21E-3	1.84E-3	8.82E-4	3.74E-4	1.55E-4
42	10.06	6.85E-3	5.23E-3	3.14E-3	1.67E-3	9.17E-4	6.11E-4	42	100.12	3.95E-3	2.97E-3	1.71E-3	8.18E-4	3.48E-4	1.45E-4
43	10.19	6.54E-3	5.00E-3	3.00E-3	1.61E-3	8.83E-4	5.92E-4	43	111.12	3.69E-3	2.78E-3	1.60E-3	7.69E-4	3.29E-4	1.39E-4
44	10.30	6.31E-3	4.82E-3	2.91E-3	1.56E-3	8.55E-4	5.73E-4	44	123.20	3.48E-3	2.62E-3	1.51E-3	7.29E-4	3.16E-4	1.36E-4
45	10.38	6.01E-3	4.60E-3	2.76E-3	1.48E-3	8.14E-4	5.47E-4	45	136.41	3.21E-3	2.42E-3	1.40E-3	6.80E-4	2.97E-4	1.32E-4
46	10.45	5.78E-3	4.42E-3	2.66E-3	1.42E-3	7.80E-4	5.23E-4	46	150.83	2.99E-3	2.26E-3	1.31E-3	6.41E-4	2.85E-4	1.31E-4
47	10.51	5.63E-3	4.28E-3	2.57E-3	1.37E-3	7.50E-4	5.02E-4	47	166.51	2.81E-3	2.13E-3	1.24E-3	6.12E-4	2.78E-4	1.33E-4
48	10.55	5.36E-3	4.10E-3	2.46E-3	1.31E-3	7.13E-4	4.73E-4	48	183.51	2.60E-3	1.97E-3	1.15E-3	5.73E-4	2.66E-4	1.33E-4
49	10.59	5.23E-3	3.97E-3	2.39E-3	1.27E-3	6.84E-4	4.51E-4	49	201.91	2.45E-3	1.86E-3	1.09E-3	5.49E-4	2.61E-4	1.37E-4
50	10.61	5.03E-3	3.83E-3	2.32E-3	1.22E-3	6.55E-4	4.26E-4	50	221.77	2.28E-3	1.74E-3	1.03E-3	5.22E-4	2.55E-4	1.41E-4
51	10.63	4.81E-3	3.68E-3	2.21E-3	1.16E-3	6.20E-4	4.01E-4	51	243.16	2.12E-3	1.62E-3	9.60E-4	4.94E-4	2.47E-4	1.43E-4
52	10.65	4.73E-3	3.60E-3	2.15E-3	1.12E-3	5.95E-4	3.80E-4	52	266.17	1.99E-3	1.52E-3	9.09E-4	4.75E-4	2.44E-4	1.48E-4
53	10.66	4.57E-3	3.48E-3	2.08E-3	1.08E-3	5.67E-4	3.58E-4	53	290.87	1.87E-3	1.43E-3	8.60E-4	4.55E-4	2.41E-4	1.53E-4
54	10.66	4.35E-3	3.32E-3	1.99E-3	1.04E-3	5.38E-4	3.36E-4	54	317.34	1.75E-3	1.34E-3	8.12E-4	4.36E-4	2.38E-4	1.57E-4
55	10.66	4.28E-3	3.26E-3	1.94E-3	1.00E-3	5.18E-4	3.18E-4	55	345.67	1.65E-3	1.27E-3	7.73E-4	4.21E-4	2.36E-4	1.62E-4
56	10.66	4.07E-3	3.11E-3	1.86E-3	9.61E-4	4.91E-4	2.99E-4	56	375.95	1.55E-3	1.20E-3	7.33E-4	4.05E-4	2.34E-4	1.66E-4
57	10.65	4.02E-3	3.06E-3	1.81E-3	9.29E-4	4.74E-4	2.84E-4	57	408.28	1.46E-3	1.13E-3	7.00E-4	3.93E-4	2.33E-4	1.70E-4
58	10.64	3.89E-3	2.96E-3	1.76E-3	8.98E-4	4.52E-4	2.68E-4	58	442.75	1.38E-3	1.07E-3	6.67E-4	3.80E-4	2.31E-4	1.74E-4
59	10.62	3.70E-3	2.83E-3	1.68E-3	8.63E-4	4.30E-4	2.52E-4	59	479.46	1.31E-3	1.02E-3	6.36E-4	3.67E-4	2.29E-4	1.78E-4
60	10.59	3.66E-3	2.78E-3	1.65E-3	8.36E-4	4.16E-4	2.40E-4	60	518.52	1.24E-3	9.66E-4	6.10E-4	3.57E-4	2.28E-4	1.81E-4
61	10.56	3.47E-3	2.65E-3	1.58E-3	8.05E-4	3.95E-4	2.26E-4	61	560.04	1.17E-3	9.17E-4	5.83E-4	3.46E-4	2.26E-4	1.84E-4
62	10.52	3.45E-3	2.62E-3	1.55E-3	7.82E-4	3.83E-4	2.16E-4	62	604.14	1.11E-3	8.75E-4	5.60E-4	3.38E-4	2.25E-4	1.87E-4
63	10.48	3.34E-3	2.54E-3	1.50E-3	7.56E-4	3.69E-4	2.05E-4	63	650.93	1.06E-3	8.34E-4	5.38E-4	3.28E-4	2.23E-4	1.89E-4
64	10.43	3.26E-3	2.46E-3	1.45E-3	7.37E-4	3.54E-4	1.97E-4	64	700.53	1.01E-3	7.96E-4	5.16E-4	3.19E-4	2.21E-4	1.90E-4
65	10.37	3.15E-3	2.39E-3	1.41E-3	7.11E-4	3.42E-4	1.87E-4	65	753.08	9.61E-4	7.61E-4	4.98E-4	3.11E-4	2.19E-4	1.92E-4
66	10.30	2.98E-3	2.28E-3	1.36E-3	6.85E-4	3.26E-4	1.77E-4	66	808.72	9.19E-4	7.28E-4	4.79E-4	3.03E-4	2.17E-4	1.93E-4
67	10.23	2.99E-3	2.26E-3	1.33E-3	6.74E-4	3.17E-4	1.71E-4	67	867.58	8.78E-4	6.98E-4	4.61E-4	2.95E-4	2.15E-4	1.93E-4
68	10.15	2.82E-3	2.16E-3	1.28E-3	6.45E-4	3.04E-4	1.62E-4	68	929.81	8.40E-4	6.70E-4	4.45E-4	2.88E-4	2.12E-4	1.94E-4
69	10.06	2.74E-3	2.10E-3	1.25E-3	6.27E-4	2.95E-4	1.55E-4	69	995.57	8.05E-4	6.43E-4	4.30E-4	2.81E-4	2.10E-4	1.94E-4
70	9.958	2.65E-3	2.03E-3	1.21E-3	6.08E-4	2.85E-4	1.48E-4	70	1065.00	7.70E-4	6.18E-4	4.16E-4	2.74E-4	2.07E-4	1.94E-4
71	9.850	2.59E-3	1.98E-3	1.18E-3	5.93E-4	2.76E-4	1.43E-4	71	1138.29	7.40E-4	5.94E-4	4.02E-4	2.67E-4	2.05E-4	1.93E-4
72	9.733	2.59E-3	1.97E-3	1.17E-3	5.79E-4	2.72E-4	1.39E-4	72	1215.61	7.09E-4	5.72E-4	3.89E-4	2.61E-4	2.02E-4	1.93E-4
73	9.607	2.52E-3	1.91E-3	1.13E-3	5.68E-4	2.62E-4	1.34E-4	73	1297.13	6.81E-4	5.51E-4	3.76E-4	2.55E-4	1.99E-4	1.92E-4
74	9.470	2.46E-3	1.86E-3	1.10E-3	5.52E-4	2.56E-4	1.29E-4	74	1383.04	6.55E-4	5.31E-4	3.65E-4	2.49E-4	1.96E-4	1.91E-4
75	9.324	2.39E-3	1.82E-3	1.08E-3	5.36E-4	2.50E-4	1.24E-4	75	1473.56	6.31E-4	5.12E-4	3.53E-4	2.43E-4	1.93E-4	1.89E-4
76	9.167	2.27E-3	1.74E-3	1.04E-3	5.20E-4	2.39E-4	1.20E-4	76	1568.87	6.09E-4	4.94E-4	3.42E-4	2.37E-4	1.90E-4	1.88E-4
77	9.000	2.21E-3	1.70E-3	1.01E-3	5.07E-4	2.33E-4	1.16E-4	77	1669.20	5.87E-4	4.77E-4	3.32E-4	2.31E-4	1.87E-4	1.86E-4
78	8.823	2.18E-3	1.67E-3	9.93E-4	4.97E-4	2.29E-4	1.13E-4	78	1774.78	5.65E-4	4.61E-4	3.22E-4	2.25E-4	1.84E-4	1.84E-4
79	8.634	2.13E-3	1.63E-3	9.71E-4	4.85E-4	2.23E-4	1.10E-4	79	1885.85	5.45E-4	4.45E-4	3.12E-4	2.20E-4	1.81E-4	1.82E-4
80	8.435	2.08E-3	1.59E-3	9.45E-4	4.77E-4	2.17E-4	1.07E-4	80	2002.64	5.27E-4	4.31E-4	3.03E-4	2.15E-4	1.78E-4	1.80E-4
81	8.223	2.00E-3	1.54E-3	9.20E-4	4.62E-4	2.11E-4	1.04E-4	81	2125.43	5.09E-4	4.17E-4	2.94E-4	2.09E-4	1.74E-4	1.78E-4
82	8.003	1.98E-3	1.52E-3	9.06E-4	4.54E-4	2.08E-4	1.01E-4	82	2254.49	4.92E-4	4.03E-4	2.86E-4	2.04E-4	1.71E-4	1.76E-4
83	7.766	1.94E-3	1.48E-3	8.82E-4	4.47E-4	2.03E-4	9.93E-5	83	2390.10	4.75E-4	3.91E-4	2.78E-4	1.99E-4	1.68E-4	1.74E-4
84	7.521	1.86E-3	1.44E-3	8.61E-4	4.34E-4	1.98E-4	9.62E-5	84	2532.57	4.60E-4	3.79E-4	2.70E-4	1.94E-4	1.65E-4	1.71E-4
85	7.263	1.82E-3	1.40E-3	8.43E-4	4.25E-4	1.94E-4	9.41E-5	85	2682.20	4.46E-4	3.67E-4	2.62E-4	1.90E-4	1.61E-4	1.69E-4
86	6.993	1.81E-3	1.39E-3	8.32E-4	4.18E-4	1.92E-4	9.26E-5	86	2839.32	4.31E-4	3.56E-4	2.55E-4	1.85E-4	1.58E-4	1.66E-4
87	6.713	1.74E-3	1.34E-3	8.09E-4	4.09E-4	1.87E-4	9.03E-5	87	3004.31	4.18E-4	3.45E-4	2.48E-4	1.80E-4	1.55E-4	1.63E-4
88	6.419	1.70E-3	1.32E-3	7.93E-4	4.01E-4	1.83E-4	8.86E-5	88	3177.53	4.05E-4	3.35E-4	2.41E-4	1.76E-4	1.51E-4	1.61E-4
89	6.114	1.69E-3	1.30E-3	7.81E-4	3.96E-4	1.81E-4	8.74E-5	89	3359.36	3.92E-4	3.25E-4	2.34E-4	1.71E-4	1.48E-4	1.58E-4
90	5.796	1.63E-3	1.26E-3	7.62E-4	3.86E-4	1.7									

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_3 - F_4$								$E_1 - G_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	3.986	3.04E-2	2.52E-2	1.90E-2	1.50E-2	1.34E-2	1.30E-2	26	3.275	8.64E-3	7.37E-3	5.88E-3	5.00E-3	4.70E-3	4.69E-3
27	5.223	2.74E-2	2.30E-2	1.78E-2	1.46E-2	1.34E-2	1.32E-2	27	4.371	8.12E-3	7.03E-3	5.78E-3	5.09E-3	4.89E-3	4.94E-3
28	6.723	2.46E-2	2.09E-2	1.67E-2	1.41E-2	1.32E-2	1.32E-2	28	5.729	7.65E-3	6.71E-3	5.67E-3	5.13E-3	5.02E-3	5.11E-3
29	8.529	2.21E-2	1.90E-2	1.55E-2	1.35E-2	1.29E-2	1.30E-2	29	7.387	7.21E-3	6.40E-3	5.53E-3	5.12E-3	5.09E-3	5.21E-3
30	10.69	1.98E-2	1.72E-2	1.43E-2	1.28E-2	1.24E-2	1.26E-2	30	9.387	6.78E-3	6.09E-3	5.37E-3	5.07E-3	5.09E-3	5.25E-3
31	13.26	1.76E-2	1.55E-2	1.32E-2	1.20E-2	1.18E-2	1.21E-2	31	11.77	6.38E-3	5.78E-3	5.19E-3	4.97E-3	5.04E-3	5.22E-3
32	16.29	1.57E-2	1.39E-2	1.21E-2	1.12E-2	1.11E-2	1.14E-2	32	14.59	5.98E-3	5.47E-3	4.98E-3	4.83E-3	4.94E-3	5.14E-3
33	19.84	1.39E-2	1.25E-2	1.10E-2	1.03E-2	1.04E-2	1.07E-2	33	17.88	5.61E-3	5.17E-3	4.76E-3	4.66E-3	4.79E-3	5.01E-3
34	23.97	1.24E-2	1.12E-2	9.97E-3	9.50E-3	9.61E-3	9.98E-3	34	21.70	5.25E-3	4.86E-3	4.52E-3	4.47E-3	4.62E-3	4.84E-3
35	28.72	1.10E-2	1.00E-2	9.04E-3	8.69E-3	8.85E-3	9.23E-3	35	26.09	4.90E-3	4.57E-3	4.28E-3	4.26E-3	4.43E-3	4.65E-3
36	34.16	9.82E-3	9.00E-3	8.19E-3	7.94E-3	8.13E-3	8.51E-3	36	31.10	4.58E-3	4.28E-3	4.04E-3	4.05E-3	4.22E-3	4.45E-3
37	40.31	8.82E-3	8.12E-3	7.44E-3	7.26E-3	7.46E-3	7.83E-3	37	36.79	4.27E-3	4.01E-3	3.81E-3	3.83E-3	4.00E-3	4.23E-3
38	47.23	7.97E-3	7.36E-3	6.77E-3	6.64E-3	6.84E-3	7.20E-3	38	43.19	3.99E-3	3.76E-3	3.58E-3	3.61E-3	3.79E-3	4.01E-3
39	54.96	7.24E-3	6.70E-3	6.19E-3	6.08E-3	6.28E-3	6.63E-3	39	50.37	3.72E-3	3.51E-3	3.36E-3	3.40E-3	3.57E-3	3.80E-3
40	63.54	6.63E-3	6.14E-3	5.68E-3	5.59E-3	5.78E-3	6.12E-3	40	58.37	3.47E-3	3.29E-3	3.15E-3	3.20E-3	3.37E-3	3.59E-3
41	73.02	6.10E-3	5.65E-3	5.23E-3	5.15E-3	5.33E-3	5.65E-3	41	67.25	3.25E-3	3.08E-3	2.96E-3	3.01E-3	3.17E-3	3.39E-3
42	83.44	5.65E-3	5.23E-3	4.84E-3	4.76E-3	4.93E-3	5.24E-3	42	77.07	3.04E-3	2.88E-3	2.78E-3	2.82E-3	2.99E-3	3.20E-3
43	94.87	5.26E-3	4.87E-3	4.49E-3	4.41E-3	4.57E-3	4.87E-3	43	87.86	2.84E-3	2.70E-3	2.61E-3	2.65E-3	2.81E-3	3.02E-3
44	107.33	4.92E-3	4.55E-3	4.19E-3	4.10E-3	4.25E-3	4.53E-3	44	99.71	2.67E-3	2.54E-3	2.45E-3	2.50E-3	2.65E-3	2.85E-3
45	120.91	4.62E-3	4.27E-3	3.91E-3	3.82E-3	3.96E-3	4.23E-3	45	112.65	2.50E-3	2.38E-3	2.30E-3	2.35E-3	2.49E-3	2.69E-3
46	135.65	4.36E-3	4.01E-3	3.67E-3	3.58E-3	3.70E-3	3.96E-3	46	126.76	2.36E-3	2.24E-3	2.17E-3	2.21E-3	2.35E-3	2.54E-3
47	151.62	4.12E-3	3.79E-3	3.45E-3	3.35E-3	3.47E-3	3.71E-3	47	142.10	2.22E-3	2.11E-3	2.04E-3	2.09E-3	2.22E-3	2.41E-3
48	168.88	3.91E-3	3.58E-3	3.25E-3	3.14E-3	3.25E-3	3.48E-3	48	158.72	2.09E-3	1.99E-3	1.93E-3	1.97E-3	2.10E-3	2.28E-3
49	187.51	3.72E-3	3.40E-3	3.07E-3	2.96E-3	3.06E-3	3.28E-3	49	176.71	1.98E-3	1.88E-3	1.82E-3	1.86E-3	1.99E-3	2.16E-3
50	207.57	3.54E-3	3.23E-3	2.90E-3	2.79E-3	2.88E-3	3.09E-3	50	196.14	1.87E-3	1.78E-3	1.72E-3	1.76E-3	1.88E-3	2.05E-3
51	229.14	3.38E-3	3.07E-3	2.75E-3	2.63E-3	2.71E-3	2.92E-3	51	217.06	1.77E-3	1.69E-3	1.63E-3	1.67E-3	1.78E-3	1.95E-3
52	252.30	3.23E-3	2.93E-3	2.61E-3	2.49E-3	2.56E-3	2.76E-3	52	239.57	1.68E-3	1.60E-3	1.54E-3	1.58E-3	1.70E-3	1.86E-3
53	277.12	3.09E-3	2.80E-3	2.48E-3	2.36E-3	2.42E-3	2.62E-3	53	263.74	1.59E-3	1.52E-3	1.46E-3	1.50E-3	1.61E-3	1.77E-3
54	303.70	2.96E-3	2.67E-3	2.36E-3	2.23E-3	2.30E-3	2.48E-3	54	289.66	1.51E-3	1.44E-3	1.39E-3	1.43E-3	1.54E-3	1.69E-3
55	332.13	2.83E-3	2.55E-3	2.25E-3	2.12E-3	2.18E-3	2.36E-3	55	317.41	1.44E-3	1.37E-3	1.33E-3	1.36E-3	1.46E-3	1.62E-3
56	362.48	2.72E-3	2.45E-3	2.14E-3	2.01E-3	2.07E-3	2.24E-3	56	347.07	1.37E-3	1.31E-3	1.26E-3	1.29E-3	1.40E-3	1.55E-3
57	394.87	2.61E-3	2.34E-3	2.04E-3	1.92E-3	1.97E-3	2.14E-3	57	378.76	1.31E-3	1.25E-3	1.20E-3	1.23E-3	1.34E-3	1.48E-3
58	429.38	2.51E-3	2.25E-3	1.95E-3	1.83E-3	1.87E-3	2.04E-3	58	412.55	1.25E-3	1.19E-3	1.15E-3	1.18E-3	1.28E-3	1.42E-3
59	466.13	2.41E-3	2.16E-3	1.87E-3	1.74E-3	1.78E-3	1.94E-3	59	448.56	1.19E-3	1.13E-3	1.10E-3	1.13E-3	1.22E-3	1.37E-3
60	505.22	2.32E-3	2.07E-3	1.79E-3	1.66E-3	1.70E-3	1.86E-3	60	486.89	1.14E-3	1.09E-3	1.05E-3	1.08E-3	1.17E-3	1.31E-3
61	546.75	2.23E-3	1.99E-3	1.71E-3	1.59E-3	1.62E-3	1.78E-3	61	527.64	1.09E-3	1.04E-3	1.00E-3	1.03E-3	1.12E-3	1.27E-3
62	590.86	2.15E-3	1.91E-3	1.64E-3	1.52E-3	1.55E-3	1.70E-3	62	570.94	1.04E-3	9.94E-4	9.60E-4	9.89E-4	1.08E-3	1.22E-3
63	637.65	2.07E-3	1.84E-3	1.58E-3	1.45E-3	1.48E-3	1.63E-3	63	616.89	9.99E-4	9.53E-4	9.20E-4	9.49E-4	1.04E-3	1.18E-3
64	687.25	1.99E-3	1.77E-3	1.51E-3	1.39E-3	1.42E-3	1.57E-3	64	665.63	9.58E-4	9.14E-4	8.82E-4	9.11E-4	9.99E-4	1.13E-3
65	739.80	1.92E-3	1.71E-3	1.45E-3	1.33E-3	1.36E-3	1.51E-3	65	717.28	9.19E-4	8.77E-4	8.47E-4	8.75E-4	9.62E-4	1.10E-3
66	795.43	1.86E-3	1.64E-3	1.40E-3	1.28E-3	1.31E-3	1.45E-3	66	771.98	8.82E-4	8.42E-4	8.13E-4	8.42E-4	9.26E-4	1.06E-3
67	854.28	1.79E-3	1.59E-3	1.34E-3	1.23E-3	1.26E-3	1.39E-3	67	829.87	8.47E-4	8.09E-4	7.82E-4	8.10E-4	8.93E-4	1.03E-3
68	916.51	1.73E-3	1.53E-3	1.29E-3	1.18E-3	1.21E-3	1.34E-3	68	891.09	8.14E-4	7.78E-4	7.52E-4	7.79E-4	8.62E-4	9.92E-4
69	982.26	1.67E-3	1.47E-3	1.25E-3	1.13E-3	1.16E-3	1.29E-3	69	955.79	7.83E-4	7.48E-4	7.23E-4	7.51E-4	8.32E-4	9.61E-4
70	1051.69	1.61E-3	1.42E-3	1.20E-3	1.09E-3	1.12E-3	1.25E-3	70	1024.13	7.53E-4	7.20E-4	6.97E-4	7.24E-4	8.04E-4	9.31E-4
71	1124.98	1.56E-3	1.37E-3	1.16E-3	1.05E-3	1.08E-3	1.21E-3	71	1096.28	7.25E-4	6.93E-4	6.71E-4	6.98E-4	7.77E-4	9.03E-4
72	1202.30	1.51E-3	1.33E-3	1.12E-3	1.01E-3	1.04E-3	1.17E-3	72	1172.40	6.98E-4	6.68E-4	6.47E-4	6.73E-4	7.51E-4	8.77E-4
73	1283.82	1.45E-3	1.28E-3	1.08E-3	9.76E-4	1.00E-3	1.13E-3	73	1252.69	6.72E-4	6.43E-4	6.24E-4	6.50E-4	7.27E-4	8.51E-4
74	1369.75	1.41E-3	1.24E-3	1.04E-3	9.41E-4	9.66E-4	1.09E-3	74	1337.32	6.48E-4	6.20E-4	6.01E-4	6.28E-4	7.04E-4	8.27E-4
75	1460.28	1.36E-3	1.20E-3	1.01E-3	9.09E-4	9.33E-4	1.06E-3	75	1426.49	6.25E-4	5.98E-4	5.80E-4	6.07E-4	6.82E-4	8.04E-4
76	1555.62	1.32E-3	1.16E-3	9.71E-4	8.77E-4	9.01E-4	1.02E-3	76	1520.41	6.02E-4	5.77E-4	5.60E-4	5.86E-4	6.61E-4	7.82E-4
77	1655.98	1.28E-3	1.12E-3	9.39E-4	8.47E-4	8.72E-4	9.92E-4	77	1619.29	5.81E-4	5.57E-4	5.41E-4	5.67E-4	6.41E-4	7.61E-4
78	1761.60	1.23E-3	1.09E-3	9.08E-4	8.20E-4	8.44E-4	9.64E-4	78	1723.35	5.61E-4	5.37E-4	5.23E-4	5.49E-4	6.22E-4	7.41E-4
79	1872.71	1.20E-3	1.05E-3	8.79E-4	7.93E-4	8.17E-4	9.36E-4	79	1832.83	5.41E-4	5.18E-4	5.05E-4	5.31E-4	6.03E-4	7.21E-4
80	1989.56	1.16E-3	1.02E-3	8.50E-4	7.67E-4	7.91E-4	9.09E-4	80	1947.97	5.23E-4	5.01E-4	4.88E-4	5.14E-4	5.85E-4	7.03E-4
81	2112.41	1.12E-3	9.87E-4	8.23E-4	7.42E-4	7.66E-4	8.83E-4	81	2069.04	5.05E-4	4.84E-4	4.72E-4	4.98E-4	5.68E-4	6.85E-4
82	2241.54	1.09E-3	9.57E-4	7.97E-4	7.18E-4	7.43E-4	8.59E-4	82	2196.29	4.88E-4	4.68E-4	4.56E-4	4.82E-4	5.52E-4	6.67E-4
83	2377.23	1.05E-3	9.27E-4	7.72E-4	6.96E-4	7.21E-4	8.36E-4	83	2330.02	4.71E-4	4.52E-4	4.41E-4	4.67E-4	5.36E-4	6.51E-4
84	2519.80	1.02E-3	8.99E-4	7.48E-4	6.74E-4	6.99E-4	8.13E-4	84	2470.52	4.55E-4	4.37E-4	4.27E-4	4.53E-4	5.21E-4	6.35E-4
85	2669.54	9.91E-4	8.72E-4	7.25E-4	6.53E-4	6.79E-4	7.92E-4	85	2618.10	4.40E-4	4.23E-4	4.13E-4	4.39E-4	5.06E-4	6.19E-4
86	2826.78	9.60E-4	8.45E-4	7.03E-4	6.33E-4	6.59E-4	7.72E-4	86	2773.06	4.25E-4	4.09E-4	4.00E-4	4.25E-4	4.92E-4	6.04E-4
87	2991.91	9.31E-4	8.20E-4	6.82E-4	6.14E-4	6.40E-4	7.52E-4	87	2935.80	4.11E-4	3.95E-4	3.87E-4	4.12E-4	4.79E-4	5.90E-4
88	3165.26	9.03E-4	7.95E-4	6.61E-4	5.96E-4	6.22E-4	7.33E-4	88	3106.65	3.98E-4	3.82E-4	3.75E-4	4.00E-4	4.65E-4	5.76E-4
89	3347.25	8.76E-4	7.72E-4	6.42E-4	5.78E-4	6.05E-4	7.15E-4	89	3285.99	3.85E-4	3.70E-4	3.63E-4	3.88E-4	4.53E-4	5.62E-4
90															

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - D_1$								$F_2 - D_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	54.88	3.08E-3	2.21E-3	1.14E-3	4.72E-4	1.77E-4	7.61E-5	26	17.14	1.70E-2	1.68E-2	1.74E-2	1.86E-2	2.00E-2	2.11E-2
27	57.79	2.78E-3	2.00E-3	1.04E-3	4.41E-4	1.76E-4	8.66E-5	27	18.68	1.54E-2	1.52E-2	1.56E-2	1.67E-2	1.79E-2	1.90E-2
28	60.88	2.52E-3	1.82E-3	9.59E-4	4.20E-4	1.83E-4	1.03E-4	28	20.37	1.39E-2	1.37E-2	1.41E-2	1.50E-2	1.62E-2	1.71E-2
29	64.19	2.30E-3	1.67E-3	8.95E-4	4.10E-4	1.98E-4	1.27E-4	29	22.19	1.27E-2	1.25E-2	1.27E-2	1.36E-2	1.46E-2	1.55E-2
30	67.75	2.12E-3	1.54E-3	8.46E-4	4.11E-4	2.21E-4	1.60E-4	30	24.14	1.16E-2	1.14E-2	1.16E-2	1.23E-2	1.32E-2	1.40E-2
31	71.63	1.95E-3	1.44E-3	8.13E-4	4.23E-4	2.55E-4	2.02E-4	31	26.20	1.06E-2	1.04E-2	1.06E-2	1.12E-2	1.20E-2	1.28E-2
32	75.88	1.82E-3	1.36E-3	7.94E-4	4.45E-4	2.97E-4	2.53E-4	32	28.36	9.76E-3	9.54E-3	9.65E-3	1.02E-2	1.10E-2	1.17E-2
33	80.55	1.71E-3	1.29E-3	7.88E-4	4.78E-4	3.49E-4	3.14E-4	33	30.59	9.00E-3	8.77E-3	8.84E-3	9.35E-3	1.00E-2	1.07E-2
34	85.72	1.62E-3	1.24E-3	7.93E-4	5.18E-4	4.08E-4	3.82E-4	34	32.86	8.32E-3	8.08E-3	8.12E-3	8.57E-3	9.20E-3	9.80E-3
35	91.46	1.54E-3	1.21E-3	8.06E-4	5.65E-4	4.72E-4	4.56E-4	35	35.17	7.70E-3	7.46E-3	7.47E-3	7.88E-3	8.45E-3	9.01E-3
36	97.82	1.49E-3	1.19E-3	8.26E-4	6.15E-4	5.39E-4	5.31E-4	36	37.48	7.14E-3	6.90E-3	6.89E-3	7.25E-3	7.78E-3	8.30E-3
37	104.88	1.44E-3	1.17E-3	8.48E-4	6.64E-4	6.04E-4	6.06E-4	37	39.77	6.63E-3	6.39E-3	6.36E-3	6.68E-3	7.17E-3	7.67E-3
38	112.70	1.40E-3	1.16E-3	8.71E-4	7.11E-4	6.65E-4	6.76E-4	38	42.04	6.17E-3	5.94E-3	5.89E-3	6.17E-3	6.63E-3	7.10E-3
39	121.34	1.37E-3	1.15E-3	8.91E-4	7.53E-4	7.19E-4	7.39E-4	39	44.26	5.75E-3	5.52E-3	5.46E-3	5.72E-3	6.14E-3	6.59E-3
40	130.86	1.33E-3	1.13E-3	9.07E-4	7.88E-4	7.66E-4	7.93E-4	40	46.43	5.38E-3	5.15E-3	5.08E-3	5.31E-3	5.70E-3	6.13E-3
41	141.32	1.30E-3	1.12E-3	9.18E-4	8.16E-4	8.04E-4	8.38E-4	41	48.56	5.03E-3	4.81E-3	4.73E-3	4.94E-3	5.31E-3	5.72E-3
42	152.76	1.27E-3	1.11E-3	9.23E-4	8.36E-4	8.33E-4	8.73E-4	42	50.63	4.72E-3	4.50E-3	4.42E-3	4.61E-3	4.96E-3	5.36E-3
43	165.25	1.24E-3	1.09E-3	9.24E-4	8.49E-4	8.53E-4	8.99E-4	43	52.65	4.44E-3	4.23E-3	4.14E-3	4.32E-3	4.65E-3	5.03E-3
44	178.85	1.21E-3	1.07E-3	9.19E-4	8.55E-4	8.66E-4	9.17E-4	44	54.63	4.18E-3	3.98E-3	3.89E-3	4.05E-3	4.37E-3	4.74E-3
45	193.60	1.17E-3	1.05E-3	9.10E-4	8.56E-4	8.72E-4	9.27E-4	45	56.57	3.95E-3	3.75E-3	3.66E-3	3.82E-3	4.12E-3	4.47E-3
46	209.56	1.14E-3	1.02E-3	8.98E-4	8.51E-4	8.72E-4	9.31E-4	46	58.47	3.74E-3	3.55E-3	3.46E-3	3.60E-3	3.89E-3	4.24E-3
47	226.81	1.11E-3	9.97E-4	8.82E-4	8.43E-4	8.68E-4	9.29E-4	47	60.34	3.54E-3	3.36E-3	3.27E-3	3.41E-3	3.68E-3	4.02E-3
48	245.40	1.07E-3	9.70E-4	8.65E-4	8.31E-4	8.59E-4	9.23E-4	48	62.18	3.37E-3	3.19E-3	3.10E-3	3.23E-3	3.50E-3	3.83E-3
49	265.39	1.04E-3	9.42E-4	8.45E-4	8.16E-4	8.48E-4	9.14E-4	49	63.99	3.20E-3	3.03E-3	2.95E-3	3.07E-3	3.33E-3	3.65E-3
50	286.86	1.00E-3	9.14E-4	8.24E-4	8.00E-4	8.34E-4	9.02E-4	50	65.79	3.05E-3	2.89E-3	2.81E-3	2.93E-3	3.18E-3	3.49E-3
51	309.88	9.67E-4	8.86E-4	8.03E-4	7.82E-4	8.18E-4	8.88E-4	51	67.57	2.91E-3	2.75E-3	2.67E-3	2.79E-3	3.03E-3	3.34E-3
52	334.53	9.34E-4	8.57E-4	7.81E-4	7.64E-4	8.02E-4	8.73E-4	52	69.33	2.78E-3	2.63E-3	2.56E-3	2.67E-3	2.91E-3	3.21E-3
53	360.88	9.02E-4	8.30E-4	7.58E-4	7.45E-4	7.84E-4	8.56E-4	53	71.09	2.66E-3	2.52E-3	2.45E-3	2.55E-3	2.79E-3	3.09E-3
54	389.01	8.70E-4	8.02E-4	7.36E-4	7.25E-4	7.65E-4	8.38E-4	54	72.84	2.55E-3	2.41E-3	2.34E-3	2.45E-3	2.68E-3	2.97E-3
55	419.02	8.39E-4	7.76E-4	7.13E-4	7.05E-4	7.46E-4	8.20E-4	55	74.58	2.45E-3	2.31E-3	2.25E-3	2.35E-3	2.57E-3	2.87E-3
56	450.99	8.10E-4	7.49E-4	6.91E-4	6.85E-4	7.27E-4	8.02E-4	56	76.32	2.35E-3	2.22E-3	2.16E-3	2.26E-3	2.48E-3	2.77E-3
57	485.02	7.81E-4	7.24E-4	6.70E-4	6.65E-4	7.08E-4	7.84E-4	57	78.06	2.26E-3	2.14E-3	2.08E-3	2.17E-3	2.39E-3	2.68E-3
58	521.19	7.53E-4	7.00E-4	6.49E-4	6.46E-4	6.90E-4	7.65E-4	58	79.79	2.18E-3	2.05E-3	2.00E-3	2.10E-3	2.31E-3	2.59E-3
59	559.62	7.27E-4	6.76E-4	6.28E-4	6.27E-4	6.71E-4	7.47E-4	59	81.53	2.10E-3	1.98E-3	1.93E-3	2.02E-3	2.23E-3	2.51E-3
60	600.42	7.01E-4	6.53E-4	6.08E-4	6.08E-4	6.53E-4	7.29E-4	60	83.28	2.02E-3	1.91E-3	1.86E-3	1.95E-3	2.16E-3	2.44E-3
61	643.68	6.76E-4	6.31E-4	5.88E-4	5.90E-4	6.35E-4	7.12E-4	61	85.02	1.95E-3	1.84E-3	1.79E-3	1.89E-3	2.09E-3	2.37E-3
62	689.52	6.52E-4	6.09E-4	5.70E-4	5.72E-4	6.18E-4	6.94E-4	62	86.78	1.88E-3	1.78E-3	1.73E-3	1.82E-3	2.02E-3	2.30E-3
63	738.07	6.30E-4	5.89E-4	5.51E-4	5.55E-4	6.01E-4	6.78E-4	63	88.54	1.82E-3	1.72E-3	1.67E-3	1.77E-3	1.96E-3	2.24E-3
64	789.44	6.08E-4	5.69E-4	5.34E-4	5.39E-4	5.84E-4	6.61E-4	64	90.30	1.76E-3	1.66E-3	1.62E-3	1.71E-3	1.91E-3	2.18E-3
65	843.77	5.87E-4	5.50E-4	5.17E-4	5.22E-4	5.68E-4	6.45E-4	65	92.08	1.70E-3	1.61E-3	1.57E-3	1.66E-3	1.85E-3	2.13E-3
66	901.19	5.66E-4	5.31E-4	5.00E-4	5.07E-4	5.53E-4	6.30E-4	66	93.86	1.65E-3	1.55E-3	1.52E-3	1.61E-3	1.80E-3	2.07E-3
67	961.85	5.47E-4	5.14E-4	4.84E-4	4.92E-4	5.37E-4	6.15E-4	67	95.66	1.60E-3	1.51E-3	1.47E-3	1.56E-3	1.75E-3	2.02E-3
68	1025.88	5.28E-4	4.97E-4	4.69E-4	4.77E-4	5.23E-4	6.00E-4	68	97.46	1.55E-3	1.46E-3	1.43E-3	1.52E-3	1.70E-3	1.98E-3
69	1093.45	5.10E-4	4.80E-4	4.54E-4	4.63E-4	5.08E-4	5.86E-4	69	99.28	1.50E-3	1.42E-3	1.38E-3	1.47E-3	1.66E-3	1.93E-3
70	1164.70	4.93E-4	4.65E-4	4.40E-4	4.49E-4	4.95E-4	5.72E-4	70	101.10	1.45E-3	1.37E-3	1.35E-3	1.43E-3	1.62E-3	1.89E-3
71	1239.82	4.76E-4	4.49E-4	4.26E-4	4.36E-4	4.81E-4	5.58E-4	71	102.95	1.41E-3	1.33E-3	1.31E-3	1.39E-3	1.58E-3	1.85E-3
72	1318.96	4.61E-4	4.35E-4	4.13E-4	4.23E-4	4.69E-4	5.45E-4	72	104.80	1.37E-3	1.30E-3	1.27E-3	1.36E-3	1.54E-3	1.81E-3
73	1402.31	4.45E-4	4.21E-4	4.00E-4	4.11E-4	4.56E-4	5.33E-4	73	106.67	1.33E-3	1.26E-3	1.23E-3	1.32E-3	1.50E-3	1.77E-3
74	1490.06	4.30E-4	4.07E-4	3.87E-4	3.99E-4	4.44E-4	5.21E-4	74	108.55	1.29E-3	1.22E-3	1.20E-3	1.29E-3	1.47E-3	1.73E-3
75	1582.41	4.16E-4	3.94E-4	3.76E-4	3.87E-4	4.32E-4	5.09E-4	75	110.45	1.26E-3	1.19E-3	1.17E-3	1.25E-3	1.44E-3	1.70E-3
76	1679.56	4.03E-4	3.82E-4	3.64E-4	3.76E-4	4.21E-4	4.97E-4	76	112.36	1.22E-3	1.16E-3	1.14E-3	1.22E-3	1.40E-3	1.67E-3
77	1781.73	3.89E-4	3.69E-4	3.53E-4	3.65E-4	4.10E-4	4.86E-4	77	114.30	1.19E-3	1.13E-3	1.11E-3	1.19E-3	1.37E-3	1.64E-3
78	1889.14	3.77E-4	3.57E-4	3.42E-4	3.55E-4	4.00E-4	4.76E-4	78	116.24	1.16E-3	1.10E-3	1.08E-3	1.16E-3	1.34E-3	1.61E-3
79	2002.03	3.65E-4	3.46E-4	3.32E-4	3.45E-4	3.89E-4	4.65E-4	79	118.21	1.13E-3	1.07E-3	1.05E-3	1.14E-3	1.31E-3	1.58E-3
80	2120.65	3.53E-4	3.35E-4	3.22E-4	3.35E-4	3.80E-4	4.55E-4	80	120.19	1.10E-3	1.04E-3	1.03E-3	1.11E-3	1.29E-3	1.55E-3
81	2245.25	3.42E-4	3.24E-4	3.12E-4	3.25E-4	3.70E-4	4.45E-4	81	122.19	1.07E-3	1.01E-3	1.00E-3	1.08E-3	1.26E-3	1.53E-3
82	2376.11	3.31E-4	3.14E-4	3.03E-4	3.16E-4	3.60E-4	4.35E-4	82	124.22	1.04E-3	9.88E-4	9.76E-4	1.06E-3	1.23E-3	1.50E-3
83	2513.51	3.20E-4	3.05E-4	2.94E-4	3.07E-4	3.51E-4	4.26E-4	83	126.26	1.02E-3	9.64E-4	9.53E-4	1.03E-3	1.21E-3	1.48E-3
84	2657.76	3.10E-4	2.95E-4	2.85E-4	2.99E-4	3.42E-4	4.17E-4	84	128.32	9.91E-4	9.40E-4	9.30E-4	1.01E-3	1.19E-3	1.45E-3
85	2809.15	3.00E-4	2.86E-4	2.76E-4	2.90E-4	3.34E-4	4.08E-4	85	130.41	9.67E-4	9.18E-4	9.09E-4	9.91E-4	1.16E-3	1.43E-3
86	2967.99	2.91E-4	2.77E-4	2.68E-4	2.82E-4	3.25E-4	3.99E-4	86	132.51	9.44E-4	8.96E-4	8.88E-4	9.69E-4	1.14E-3	1.41E-3
87	3134.69	2.82E-4	2.69E-4	2.60E-4	2.74E-4	3.17E-4	3.91E-4	87	134.64	9.22E-4	8.75E-4	8.67E-4	9.49E-4	1.12E-3	1.39E-3
88	3309.58	2.73E-4	2.60E-4	2.52E-4	2.67E-4	3.09E-4	3.82E-4	88	136.80	9.00E-4	8.54E-4	8.48E-4	9.29E-4	1.10E-3	1.37E-3
89	3493.05	2.64E-4	2.52E-4	2.45E-4	2.59E-4	3.02E-4	3.74E-4	89	138.97	8.79E-4	8.35E-4	8.29E-4	9.10E-4	1.08E-3	1.35E-3
90	3685.48	2.56E-4	2.45E-4												

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - E_1$								$F_1 - E_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	37.74	1.60E-2	1.20E-2	6.92E-3	3.36E-3	1.54E-3	7.94E-4	26	56.03	9.74E-3	7.04E-3	3.72E-3	1.59E-3	6.11E-4	2.62E-4
27	38.88	1.49E-2	1.12E-2	6.44E-3	3.15E-3	1.48E-3	7.95E-4	27	59.26	8.88E-3	6.44E-3	3.43E-3	1.49E-3	6.06E-4	2.86E-4
28	39.94	1.39E-2	1.05E-2	6.04E-3	2.98E-3	1.43E-3	8.05E-4	28	62.71	8.11E-3	5.90E-3	3.18E-3	1.42E-3	6.12E-4	3.20E-4
29	40.90	1.31E-2	9.87E-3	5.71E-3	2.85E-3	1.40E-3	8.22E-4	29	66.42	7.44E-3	5.44E-3	2.96E-3	1.37E-3	6.31E-4	3.65E-4
30	41.76	1.25E-2	9.38E-3	5.45E-3	2.75E-3	1.39E-3	8.46E-4	30	70.44	6.84E-3	5.03E-3	2.78E-3	1.33E-3	6.62E-4	4.22E-4
31	42.55	1.19E-2	8.95E-3	5.22E-3	2.67E-3	1.38E-3	8.74E-4	31	74.81	6.28E-3	4.64E-3	2.62E-3	1.31E-3	7.03E-4	4.88E-4
32	43.26	1.14E-2	8.61E-3	5.04E-3	2.61E-3	1.39E-3	9.07E-4	32	79.57	5.79E-3	4.31E-3	2.48E-3	1.30E-3	7.56E-4	5.66E-4
33	43.92	1.10E-2	8.32E-3	4.90E-3	2.57E-3	1.40E-3	9.43E-4	33	84.80	5.34E-3	4.01E-3	2.36E-3	1.30E-3	8.17E-4	6.52E-4
34	44.53	1.08E-2	8.13E-3	4.80E-3	2.54E-3	1.42E-3	9.83E-4	34	90.54	4.96E-3	3.76E-3	2.27E-3	1.32E-3	8.86E-4	7.44E-4
35	45.13	1.05E-2	7.91E-3	4.69E-3	2.52E-3	1.44E-3	1.02E-3	35	96.86	4.58E-3	3.51E-3	2.18E-3	1.33E-3	9.55E-4	8.37E-4
36	45.72	1.01E-2	7.63E-3	4.56E-3	2.48E-3	1.45E-3	1.05E-3	36	103.82	4.22E-3	3.27E-3	2.09E-3	1.35E-3	1.02E-3	9.26E-4
37	46.32	9.91E-3	7.48E-3	4.48E-3	2.47E-3	1.47E-3	1.09E-3	37	111.49	3.92E-3	3.07E-3	2.02E-3	1.36E-3	1.08E-3	1.01E-3
38	46.95	9.63E-3	7.29E-3	4.39E-3	2.45E-3	1.49E-3	1.12E-3	38	119.91	3.63E-3	2.88E-3	1.95E-3	1.38E-3	1.14E-3	1.09E-3
39	47.61	9.17E-3	6.99E-3	4.25E-3	2.40E-3	1.49E-3	1.14E-3	39	129.16	3.35E-3	2.69E-3	1.88E-3	1.38E-3	1.18E-3	1.15E-3
40	48.32	8.86E-3	6.77E-3	4.13E-3	2.36E-3	1.49E-3	1.17E-3	40	139.27	3.11E-3	2.52E-3	1.81E-3	1.37E-3	1.21E-3	1.20E-3
41	49.07	8.74E-3	6.64E-3	4.06E-3	2.34E-3	1.50E-3	1.19E-3	41	150.32	2.90E-3	2.37E-3	1.74E-3	1.37E-3	1.23E-3	1.23E-3
42	49.86	8.24E-3	6.31E-3	3.90E-3	2.28E-3	1.49E-3	1.20E-3	42	162.34	2.68E-3	2.22E-3	1.67E-3	1.35E-3	1.24E-3	1.26E-3
43	50.70	7.93E-3	6.09E-3	3.78E-3	2.23E-3	1.48E-3	1.21E-3	43	175.40	2.50E-3	2.09E-3	1.61E-3	1.33E-3	1.24E-3	1.27E-3
44	51.59	7.82E-3	5.95E-3	3.69E-3	2.20E-3	1.48E-3	1.22E-3	44	189.55	2.33E-3	1.97E-3	1.54E-3	1.30E-3	1.23E-3	1.27E-3
45	52.51	7.32E-3	5.64E-3	3.54E-3	2.13E-3	1.45E-3	1.22E-3	45	204.85	2.17E-3	1.85E-3	1.47E-3	1.26E-3	1.22E-3	1.26E-3
46	53.47	7.03E-3	5.43E-3	3.42E-3	2.08E-3	1.44E-3	1.22E-3	46	221.35	2.03E-3	1.74E-3	1.41E-3	1.23E-3	1.20E-3	1.25E-3
47	54.46	6.94E-3	5.33E-3	3.35E-3	2.05E-3	1.43E-3	1.22E-3	47	239.11	1.90E-3	1.64E-3	1.34E-3	1.19E-3	1.17E-3	1.23E-3
48	55.48	6.49E-3	5.02E-3	3.19E-3	1.98E-3	1.40E-3	1.22E-3	48	258.21	1.78E-3	1.55E-3	1.28E-3	1.15E-3	1.14E-3	1.20E-3
49	56.54	6.41E-3	4.93E-3	3.13E-3	1.95E-3	1.39E-3	1.22E-3	49	278.69	1.67E-3	1.46E-3	1.22E-3	1.11E-3	1.10E-3	1.17E-3
50	57.62	6.17E-3	4.74E-3	3.01E-3	1.89E-3	1.37E-3	1.21E-3	50	300.65	1.57E-3	1.38E-3	1.17E-3	1.06E-3	1.07E-3	1.14E-3
51	58.73	5.75E-3	4.47E-3	2.88E-3	1.83E-3	1.34E-3	1.19E-3	51	324.14	1.48E-3	1.30E-3	1.11E-3	1.02E-3	1.03E-3	1.10E-3
52	59.86	5.56E-3	4.32E-3	2.80E-3	1.79E-3	1.32E-3	1.19E-3	52	349.25	1.39E-3	1.24E-3	1.06E-3	9.78E-4	9.93E-4	1.07E-3
53	61.01	5.36E-3	4.17E-3	2.70E-3	1.74E-3	1.30E-3	1.18E-3	53	376.05	1.32E-3	1.17E-3	1.01E-3	9.37E-4	9.55E-4	1.03E-3
54	62.19	5.11E-3	3.99E-3	2.60E-3	1.69E-3	1.27E-3	1.16E-3	54	404.63	1.25E-3	1.11E-3	9.62E-4	8.98E-4	9.19E-4	9.94E-4
55	63.38	4.96E-3	3.87E-3	2.53E-3	1.66E-3	1.25E-3	1.15E-3	55	435.07	1.18E-3	1.06E-3	9.17E-4	8.59E-4	8.82E-4	9.58E-4
56	64.60	4.74E-3	3.71E-3	2.44E-3	1.60E-3	1.22E-3	1.13E-3	56	467.47	1.12E-3	1.01E-3	8.75E-4	8.23E-4	8.47E-4	9.22E-4
57	65.83	4.60E-3	3.60E-3	2.37E-3	1.57E-3	1.20E-3	1.12E-3	57	501.92	1.07E-3	9.57E-4	8.35E-4	7.87E-4	8.12E-4	8.88E-4
58	67.08	4.44E-3	3.48E-3	2.30E-3	1.53E-3	1.18E-3	1.11E-3	58	538.51	1.02E-3	9.12E-4	7.98E-4	7.53E-4	7.80E-4	8.54E-4
59	68.35	4.25E-3	3.34E-3	2.21E-3	1.48E-3	1.15E-3	1.09E-3	59	577.36	9.69E-4	8.71E-4	7.63E-4	7.21E-4	7.48E-4	8.22E-4
60	69.64	4.14E-3	3.25E-3	2.16E-3	1.45E-3	1.14E-3	1.08E-3	60	618.55	9.25E-4	8.32E-4	7.29E-4	6.91E-4	7.17E-4	7.90E-4
61	70.94	3.96E-3	3.12E-3	2.08E-3	1.40E-3	1.11E-3	1.06E-3	61	662.21	8.84E-4	7.96E-4	6.98E-4	6.61E-4	6.88E-4	7.61E-4
62	72.27	3.86E-3	3.04E-3	2.03E-3	1.38E-3	1.09E-3	1.05E-3	62	708.46	8.47E-4	7.62E-4	6.68E-4	6.34E-4	6.60E-4	7.32E-4
63	73.61	3.74E-3	2.94E-3	1.97E-3	1.35E-3	1.07E-3	1.04E-3	63	757.40	8.12E-4	7.31E-4	6.41E-4	6.07E-4	6.34E-4	7.05E-4
64	74.96	3.58E-3	2.83E-3	1.90E-3	1.30E-3	1.05E-3	1.02E-3	64	809.16	7.78E-4	7.01E-4	6.15E-4	5.83E-4	6.09E-4	6.79E-4
65	76.34	3.50E-3	2.76E-3	1.86E-3	1.28E-3	1.03E-3	1.01E-3	65	863.89	7.48E-4	6.73E-4	5.90E-4	5.59E-4	5.85E-4	6.54E-4
66	77.73	3.36E-3	2.66E-3	1.80E-3	1.24E-3	1.01E-3	9.91E-4	66	921.70	7.18E-4	6.47E-4	5.66E-4	5.37E-4	5.63E-4	6.31E-4
67	79.14	3.26E-3	2.58E-3	1.75E-3	1.21E-3	9.89E-4	9.77E-4	67	982.74	6.91E-4	6.22E-4	5.44E-4	5.16E-4	5.41E-4	6.08E-4
68	80.57	3.15E-3	2.50E-3	1.70E-3	1.18E-3	9.70E-4	9.63E-4	68	1047.16	6.65E-4	5.99E-4	5.24E-4	4.96E-4	5.21E-4	5.87E-4
69	82.02	3.06E-3	2.43E-3	1.65E-3	1.15E-3	9.51E-4	9.50E-4	69	1115.12	6.41E-4	5.77E-4	5.04E-4	4.77E-4	5.02E-4	5.67E-4
70	83.48	3.00E-3	2.38E-3	1.62E-3	1.13E-3	9.38E-4	9.38E-4	70	1186.76	6.19E-4	5.56E-4	4.85E-4	4.59E-4	4.83E-4	5.48E-4
71	84.96	2.88E-3	2.29E-3	1.56E-3	1.10E-3	9.16E-4	9.23E-4	71	1262.26	5.96E-4	5.36E-4	4.68E-4	4.42E-4	4.66E-4	5.30E-4
72	86.47	2.83E-3	2.24E-3	1.53E-3	1.08E-3	9.02E-4	9.13E-4	72	1341.79	5.76E-4	5.18E-4	4.51E-4	4.26E-4	4.50E-4	5.13E-4
73	87.99	2.75E-3	2.18E-3	1.49E-3	1.06E-3	8.86E-4	9.00E-4	73	1425.53	5.57E-4	5.00E-4	4.35E-4	4.11E-4	4.34E-4	4.96E-4
74	89.53	2.67E-3	2.13E-3	1.46E-3	1.03E-3	8.70E-4	8.88E-4	74	1513.66	5.38E-4	4.83E-4	4.20E-4	3.96E-4	4.19E-4	4.81E-4
75	91.09	2.59E-3	2.07E-3	1.42E-3	1.01E-3	8.54E-4	8.76E-4	75	1606.40	5.20E-4	4.67E-4	4.06E-4	3.83E-4	4.05E-4	4.66E-4
76	92.67	2.50E-3	2.00E-3	1.38E-3	9.82E-4	8.36E-4	8.62E-4	76	1703.94	5.03E-4	4.52E-4	3.92E-4	3.70E-4	3.92E-4	4.52E-4
77	94.28	2.44E-3	1.95E-3	1.34E-3	9.61E-4	8.21E-4	8.51E-4	77	1806.50	4.87E-4	4.37E-4	3.79E-4	3.57E-4	3.79E-4	4.38E-4
78	95.90	2.38E-3	1.90E-3	1.31E-3	9.43E-4	8.07E-4	8.40E-4	78	1914.31	4.71E-4	4.23E-4	3.67E-4	3.46E-4	3.67E-4	4.26E-4
79	97.55	2.32E-3	1.85E-3	1.28E-3	9.24E-4	7.94E-4	8.29E-4	79	2027.59	4.57E-4	4.09E-4	3.55E-4	3.34E-4	3.56E-4	4.14E-4
80	99.22	2.25E-3	1.80E-3	1.25E-3	9.01E-4	7.79E-4	8.18E-4	80	2146.60	4.42E-4	3.96E-4	3.43E-4	3.24E-4	3.45E-4	4.02E-4
81	100.91	2.19E-3	1.76E-3	1.22E-3	8.82E-4	7.65E-4	8.07E-4	81	2271.60	4.29E-4	3.84E-4	3.33E-4	3.13E-4	3.34E-4	3.91E-4
82	102.62	2.15E-3	1.72E-3	1.20E-3	8.68E-4	7.54E-4	7.98E-4	82	2402.86	4.16E-4	3.72E-4	3.22E-4	3.03E-4	3.24E-4	3.81E-4
83	104.37	2.09E-3	1.68E-3	1.17E-3	8.51E-4	7.41E-4	7.88E-4	83	2540.66	4.03E-4	3.61E-4	3.12E-4	2.94E-4	3.15E-4	3.71E-4
84	106.13	2.03E-3	1.63E-3	1.14E-3	8.30E-4	7.28E-4	7.78E-4	84	2685.30	3.91E-4	3.50E-4	3.03E-4	2.85E-4	3.06E-4	3.61E-4
85	107.92	1.99E-3	1.60E-3	1.11E-3	8.14E-4	7.16E-4	7.69E-4	85	2837.10	3.79E-4	3.40E-4	2.94E-4	2.76E-4	2.97E-4	3.52E-4
86	109.74	1.95E-3	1.56E-3	1.10E-3	8.02E-4	7.06E-4	7.60E-4	86	2996.34	3.68E-4	3.30E-4	2.85E-4	2.68E-4	2.89E-4	3.44E-4
87	111.58	1.89E-3	1.52E-3	1.07E-3	7.83E-4	6.94E-4	7.51E-4	87	3163.45	3.57E-4	3.20E-4	2.76E-4	2.60E-4	2.81E-4	3.35E-4
88	113.45	1.85E-3	1.49E-3	1.04E-3	7.68E-4	6.83E-4	7.42E-4	88	3338.73	3.46E-4	3.11E-4	2.68E-4	2.53E-4	2.73E-4	3.27E-4
89	115.35	1.81E-3	1.46E-3	1.03E-3	7.57E-4	6.74E-4	7.35E-4	89	3522.60	3.36E-4	3.02E-4	2.60E-4	2.46E-4	2.66E-4	3.20E-4
90	117.28	1.78E-3	1.43E-3	1.01E-3											

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - E_3$								$F_1 - E_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	78.75	1.32E-3	1.02E-3	6.25E-4	3.32E-4	1.58E-4	7.28E-5	26	99.27	9.84E-5	7.60E-5	4.73E-5	2.57E-5	1.27E-5	6.20E-6
27	82.09	1.34E-3	1.01E-3	6.01E-4	3.20E-4	1.52E-4	6.88E-5	27	105.22	9.90E-5	7.70E-5	4.71E-5	2.59E-5	1.29E-5	6.32E-6
28	85.53	1.33E-3	1.00E-3	5.95E-4	3.13E-4	1.48E-4	6.64E-5	28	111.64	1.01E-4	7.78E-5	4.72E-5	2.58E-5	1.29E-5	6.34E-6
29	89.13	1.34E-3	1.01E-3	6.00E-4	3.13E-4	1.45E-4	6.60E-5	29	118.61	1.01E-4	7.71E-5	4.65E-5	2.53E-5	1.25E-5	6.31E-6
30	92.92	1.38E-3	1.04E-3	6.15E-4	3.15E-4	1.44E-4	6.79E-5	30	126.20	9.81E-5	7.51E-5	4.53E-5	2.43E-5	1.19E-5	6.27E-6
31	96.97	1.37E-3	1.05E-3	6.30E-4	3.23E-4	1.51E-4	7.29E-5	31	134.52	8.98E-5	6.90E-5	4.22E-5	2.25E-5	1.14E-5	6.17E-6
32	101.34	1.44E-3	1.10E-3	6.59E-4	3.37E-4	1.60E-4	7.96E-5	32	143.66	8.40E-5	6.45E-5	3.92E-5	2.09E-5	1.07E-5	5.99E-6
33	106.12	1.52E-3	1.17E-3	6.96E-4	3.56E-4	1.71E-4	8.95E-5	33	153.72	7.74E-5	5.93E-5	3.59E-5	1.92E-5	9.92E-6	5.76E-6
34	111.36	1.65E-3	1.24E-3	7.36E-4	3.78E-4	1.84E-4	1.01E-4	34	164.81	7.24E-5	5.50E-5	3.27E-5	1.75E-5	9.06E-6	5.46E-6
35	117.16	1.74E-3	1.32E-3	7.80E-4	4.05E-4	2.05E-4	1.18E-4	35	177.05	6.36E-5	4.82E-5	2.86E-5	1.54E-5	8.30E-6	5.18E-6
36	123.57	1.83E-3	1.40E-3	8.43E-4	4.43E-4	2.30E-4	1.40E-4	36	190.55	5.57E-5	4.24E-5	2.55E-5	1.37E-5	7.47E-6	4.85E-6
37	130.69	1.95E-3	1.48E-3	8.87E-4	4.72E-4	2.53E-4	1.62E-4	37	205.43	4.86E-5	3.67E-5	2.20E-5	1.19E-5	6.62E-6	4.47E-6
38	138.57	2.05E-3	1.56E-3	9.42E-4	5.09E-4	2.82E-4	1.88E-4	38	221.79	4.28E-5	3.23E-5	1.91E-5	1.04E-5	5.92E-6	4.11E-6
39	147.28	2.14E-3	1.65E-3	1.01E-3	5.51E-4	3.15E-4	2.18E-4	39	239.75	3.67E-5	2.78E-5	1.66E-5	9.00E-6	5.22E-6	3.75E-6
40	156.89	2.22E-3	1.72E-3	1.05E-3	5.87E-4	3.45E-4	2.48E-4	40	259.43	3.16E-5	2.39E-5	1.43E-5	7.76E-6	4.58E-6	3.37E-6
41	167.45	2.30E-3	1.76E-3	1.09E-3	6.16E-4	3.73E-4	2.77E-4	41	280.92	2.74E-5	2.07E-5	1.22E-5	6.68E-6	3.99E-6	3.00E-6
42	179.02	2.35E-3	1.82E-3	1.13E-3	6.53E-4	4.06E-4	3.09E-4	42	304.33	2.33E-5	1.76E-5	1.04E-5	5.72E-6	3.47E-6	2.67E-6
43	191.66	2.40E-3	1.86E-3	1.17E-3	6.82E-4	4.35E-4	3.40E-4	43	329.79	2.00E-5	1.51E-5	8.94E-6	4.91E-6	3.01E-6	2.35E-6
44	205.41	2.43E-3	1.88E-3	1.19E-3	7.03E-4	4.60E-4	3.68E-4	44	357.41	1.71E-5	1.29E-5	7.62E-6	4.19E-6	2.60E-6	2.05E-6
45	220.35	2.44E-3	1.91E-3	1.21E-3	7.31E-4	4.87E-4	3.98E-4	45	387.29	1.47E-5	1.11E-5	6.55E-6	3.60E-6	2.25E-6	1.80E-6
46	236.53	2.45E-3	1.92E-3	1.23E-3	7.50E-4	5.11E-4	4.25E-4	46	419.57	1.26E-5	9.51E-6	5.62E-6	3.09E-6	1.94E-6	1.56E-6
47	254.00	2.45E-3	1.91E-3	1.23E-3	7.63E-4	5.31E-4	4.50E-4	47	454.37	1.09E-5	8.19E-6	4.82E-6	2.66E-6	1.67E-6	1.35E-6
48	272.83	2.43E-3	1.91E-3	1.24E-3	7.81E-4	5.52E-4	4.75E-4	48	491.82	9.37E-6	7.04E-6	4.15E-6	2.28E-6	1.44E-6	1.17E-6
49	293.10	2.42E-3	1.90E-3	1.24E-3	7.89E-4	5.68E-4	4.96E-4	49	532.05	8.07E-6	6.07E-6	3.57E-6	1.96E-6	1.24E-6	1.02E-6
50	314.85	2.39E-3	1.88E-3	1.24E-3	7.97E-4	5.83E-4	5.16E-4	50	575.21	6.96E-6	5.23E-6	3.08E-6	1.69E-6	1.07E-6	8.80E-7
51	338.17	2.35E-3	1.86E-3	1.24E-3	8.06E-4	5.98E-4	5.35E-4	51	621.45	6.03E-6	4.52E-6	2.66E-6	1.46E-6	9.23E-7	7.61E-7
52	363.12	2.31E-3	1.84E-3	1.23E-3	8.08E-4	6.09E-4	5.52E-4	52	670.92	5.23E-6	3.92E-6	2.30E-6	1.26E-6	7.97E-7	6.59E-7
53	389.80	2.27E-3	1.81E-3	1.22E-3	8.10E-4	6.18E-4	5.66E-4	53	723.77	4.53E-6	3.40E-6	1.99E-6	1.09E-6	6.89E-7	5.71E-7
54	418.27	2.23E-3	1.78E-3	1.20E-3	8.11E-4	6.26E-4	5.80E-4	54	780.19	3.92E-6	2.95E-6	1.73E-6	9.46E-7	5.97E-7	4.96E-7
55	448.62	2.18E-3	1.75E-3	1.19E-3	8.08E-4	6.32E-4	5.90E-4	55	840.33	3.41E-6	2.56E-6	1.50E-6	8.22E-7	5.18E-7	4.30E-7
56	480.94	2.14E-3	1.71E-3	1.17E-3	8.06E-4	6.37E-4	6.00E-4	56	904.39	2.97E-6	2.23E-6	1.31E-6	7.15E-7	4.50E-7	3.74E-7
57	515.33	2.09E-3	1.68E-3	1.15E-3	8.00E-4	6.39E-4	6.08E-4	57	972.55	2.59E-6	1.94E-6	1.14E-6	6.23E-7	3.92E-7	3.26E-7
58	551.88	2.04E-3	1.64E-3	1.14E-3	7.94E-4	6.41E-4	6.14E-4	58	1045.00	2.26E-6	1.70E-6	9.96E-7	5.43E-7	3.41E-7	2.84E-7
59	590.69	1.99E-3	1.61E-3	1.12E-3	7.87E-4	6.41E-4	6.19E-4	59	1121.96	1.97E-6	1.48E-6	8.71E-7	4.75E-7	2.98E-7	2.49E-7
60	631.86	1.94E-3	1.57E-3	1.10E-3	7.78E-4	6.40E-4	6.23E-4	60	1203.62	1.73E-6	1.30E-6	7.63E-7	4.15E-7	2.61E-7	2.18E-7
61	675.50	1.89E-3	1.53E-3	1.08E-3	7.70E-4	6.38E-4	6.25E-4	61	1290.23	1.51E-6	1.14E-6	6.69E-7	3.64E-7	2.29E-7	1.91E-7
62	721.74	1.84E-3	1.50E-3	1.05E-3	7.60E-4	6.34E-4	6.26E-4	62	1381.99	1.33E-6	9.99E-7	5.87E-7	3.20E-7	2.01E-7	1.68E-7
63	770.68	1.79E-3	1.46E-3	1.03E-3	7.49E-4	6.30E-4	6.26E-4	63	1479.16	1.17E-6	8.78E-7	5.17E-7	2.81E-7	1.76E-7	1.48E-7
64	822.44	1.74E-3	1.42E-3	1.01E-3	7.39E-4	6.26E-4	6.26E-4	64	1581.99	1.02E-6	7.72E-7	4.55E-7	2.48E-7	1.55E-7	1.30E-7
65	877.17	1.69E-3	1.39E-3	9.90E-4	7.27E-4	6.20E-4	6.24E-4	65	1690.73	9.01E-7	6.80E-7	4.01E-7	2.19E-7	1.37E-7	1.15E-7
66	934.99	1.65E-3	1.35E-3	9.69E-4	7.15E-4	6.14E-4	6.21E-4	66	1805.66	7.94E-7	6.00E-7	3.34E-7	1.93E-7	1.21E-7	1.02E-7
67	996.04	1.60E-3	1.31E-3	9.47E-4	7.03E-4	6.08E-4	6.18E-4	67	1927.05	7.01E-7	5.29E-7	3.13E-7	1.71E-7	1.07E-7	9.03E-8
68	1060.46	1.56E-3	1.28E-3	9.26E-4	6.91E-4	6.01E-4	6.15E-4	68	2055.21	6.19E-7	4.68E-7	2.77E-7	1.51E-7	9.49E-8	8.02E-8
69	1128.42	1.51E-3	1.25E-3	9.05E-4	6.78E-4	5.93E-4	6.10E-4	69	2190.44	5.47E-7	4.14E-7	2.46E-7	1.34E-7	8.43E-8	7.13E-8
70	1200.07	1.47E-3	1.21E-3	8.83E-4	6.66E-4	5.85E-4	6.05E-4	70	2333.06	4.84E-7	3.67E-7	2.18E-7	1.19E-7	7.49E-8	6.35E-8
71	1275.57	1.43E-3	1.18E-3	8.63E-4	6.53E-4	5.77E-4	6.00E-4	71	2483.39	4.29E-7	3.25E-7	1.93E-7	1.06E-7	6.67E-8	5.67E-8
72	1355.09	1.39E-3	1.15E-3	8.42E-4	6.40E-4	5.69E-4	5.94E-4	72	2641.80	3.80E-7	2.89E-7	1.72E-7	9.43E-8	5.95E-8	5.07E-8
73	1438.83	1.35E-3	1.12E-3	8.22E-4	6.28E-4	5.60E-4	5.88E-4	73	2808.65	3.38E-7	2.57E-7	1.53E-7	8.41E-8	5.31E-8	4.54E-8
74	1526.96	1.31E-3	1.09E-3	8.03E-4	6.15E-4	5.51E-4	5.81E-4	74	2984.30	3.00E-7	2.28E-7	1.36E-7	7.50E-8	4.75E-8	4.07E-8
75	1619.68	1.28E-3	1.06E-3	7.83E-4	6.02E-4	5.42E-4	5.75E-4	75	3169.17	2.67E-7	2.03E-7	1.22E-7	6.70E-8	4.25E-8	3.65E-8
76	1717.19	1.24E-3	1.03E-3	7.64E-4	5.90E-4	5.33E-4	5.68E-4	76	3363.66	2.38E-7	1.81E-7	1.08E-7	5.99E-8	3.81E-8	3.28E-8
77	1819.73	1.20E-3	1.01E-3	7.46E-4	5.77E-4	5.24E-4	5.61E-4	77	3568.21	2.12E-7	1.62E-7	9.70E-8	5.37E-8	3.42E-8	2.96E-8
78	1927.49	1.17E-3	9.78E-4	7.28E-4	5.65E-4	5.15E-4	5.53E-4	78	3783.27	1.89E-7	1.44E-7	8.67E-8	4.81E-8	3.07E-8	2.67E-8
79	2040.73	1.14E-3	9.52E-4	7.10E-4	5.53E-4	5.06E-4	5.46E-4	79	4009.32	1.69E-7	1.29E-7	7.76E-8	4.31E-8	2.76E-8	2.41E-8
80	2159.69	1.11E-3	9.26E-4	6.92E-4	5.41E-4	4.97E-4	5.38E-4	80	4246.84	1.50E-7	1.15E-7	6.96E-8	3.87E-8	2.48E-8	2.17E-8
81	2284.62	1.08E-3	9.01E-4	6.75E-4	5.29E-4	4.88E-4	5.31E-4	81	4496.36	1.34E-7	1.03E-7	6.24E-8	3.48E-8	2.24E-8	1.97E-8
82	2415.81	1.04E-3	8.77E-4	6.59E-4	5.17E-4	4.78E-4	5.23E-4	82	4758.43	1.20E-7	9.23E-8	5.60E-8	3.13E-8	2.02E-8	1.78E-8
83	2553.52	1.02E-3	8.54E-4	6.42E-4	5.06E-4	4.69E-4	5.15E-4	83	5033.62	1.08E-7	8.27E-8	5.02E-8	2.82E-8	1.82E-8	1.61E-8
84	2698.07	9.88E-4	8.31E-4	6.26E-4	4.94E-4	4.60E-4	5.07E-4	84	5322.54	9.63E-8	7.41E-8	4.51E-8	2.54E-8	1.65E-8	1.47E-8
85	2849.76	9.61E-4	8.09E-4	6.10E-4	4.83E-4	4.51E-4	4.99E-4	85	5625.81	8.63E-8	6.65E-8	4.06E-8	2.29E-8	1.49E-8	1.33E-8
86	3008.88	9.34E-4	7.88E-4	5.95E-4	4.72E-4	4.42E-4	4.91E-4	86	5944.02	7.74E-8	5.97E-8	3.65E-8	2.07E-8	1.35E-8	1.21E-8
87	3175.85	9.08E-4	7.67E-4	5.80E-4	4.61E-4	4.33E-4	4.83E-4	87	6278.00	6.94E-8	5.36E-8	3.29E-8	1.87E-8	1.22E-8	1.10E-8
88	3350.99	8.83E-4	7.46E-4	5.66E-4	4.50E-4	4.24E-4	4.74E-4	88	6628.40	6.22E-8	4.82E-8	2.96E-8	1.68E-8	1.11E-8	1.00E-8
89	3534.71	8.59E-4	7.26E-4	5.51E-4	4.40E-4	4.15E-4	4.66E-4	89	6996.03	5.59E-8	4.33E-8	2.67E-8	1.		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_2 - E_2$								$F_2 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	18.29	7.66E-3	7.06E-3	6.50E-3	6.40E-3	6.59E-3	6.84E-3	26	41.01	6.48E-3	4.88E-3	2.85E-3	1.46E-3	7.67E-4	4.96E-4
27	20.15	7.11E-3	6.55E-3	6.04E-3	5.94E-3	6.10E-3	6.34E-3	27	42.98	6.10E-3	4.62E-3	2.72E-3	1.43E-3	7.90E-4	5.43E-4
28	22.20	6.60E-3	6.08E-3	5.61E-3	5.51E-3	5.66E-3	5.89E-3	28	45.02	5.77E-3	4.38E-3	2.61E-3	1.41E-3	8.21E-4	5.96E-4
29	24.43	6.15E-3	5.66E-3	5.21E-3	5.11E-3	5.25E-3	5.46E-3	29	47.13	5.47E-3	4.16E-3	2.51E-3	1.40E-3	8.57E-4	6.52E-4
30	26.83	5.73E-3	5.27E-3	4.84E-3	4.73E-3	4.86E-3	5.05E-3	30	49.30	5.20E-3	3.97E-3	2.43E-3	1.40E-3	8.98E-4	7.11E-4
31	29.38	5.33E-3	4.89E-3	4.48E-3	4.37E-3	4.48E-3	4.67E-3	31	51.54	4.92E-3	3.78E-3	2.35E-3	1.39E-3	9.36E-4	7.69E-4
32	32.05	4.99E-3	4.56E-3	4.15E-3	4.04E-3	4.13E-3	4.30E-3	32	53.82	4.67E-3	3.61E-3	2.28E-3	1.40E-3	9.77E-4	8.27E-4
33	34.83	4.68E-3	4.26E-3	3.85E-3	3.71E-3	3.78E-3	3.94E-3	33	56.15	4.44E-3	3.45E-3	2.21E-3	1.40E-3	1.01E-3	8.82E-4
34	37.68	4.45E-3	4.01E-3	3.57E-3	3.41E-3	3.46E-3	3.59E-3	34	58.50	4.25E-3	3.32E-3	2.16E-3	1.40E-3	1.05E-3	9.34E-4
35	40.57	4.21E-3	3.76E-3	3.31E-3	3.12E-3	3.14E-3	3.26E-3	35	60.87	4.03E-3	3.16E-3	2.09E-3	1.40E-3	1.08E-3	9.79E-4
36	43.48	3.93E-3	3.50E-3	3.04E-3	2.84E-3	2.84E-3	2.95E-3	36	63.23	3.76E-3	2.97E-3	2.00E-3	1.38E-3	1.10E-3	1.02E-3
37	46.38	3.80E-3	3.32E-3	2.82E-3	2.59E-3	2.57E-3	2.65E-3	37	65.58	3.59E-3	2.84E-3	1.94E-3	1.37E-3	1.12E-3	1.05E-3
38	49.24	3.63E-3	3.14E-3	2.62E-3	2.35E-3	2.31E-3	2.38E-3	38	67.90	3.38E-3	2.70E-3	1.87E-3	1.35E-3	1.13E-3	1.08E-3
39	52.07	3.39E-3	2.93E-3	2.41E-3	2.13E-3	2.07E-3	2.13E-3	39	70.20	3.12E-3	2.51E-3	1.78E-3	1.32E-3	1.13E-3	1.09E-3
40	54.84	3.23E-3	2.77E-3	2.23E-3	1.93E-3	1.85E-3	1.89E-3	40	72.46	2.92E-3	2.37E-3	1.71E-3	1.30E-3	1.13E-3	1.11E-3
41	57.56	3.19E-3	2.68E-3	2.09E-3	1.77E-3	1.67E-3	1.69E-3	41	74.69	2.80E-3	2.27E-3	1.65E-3	1.28E-3	1.13E-3	1.12E-3
42	60.21	2.96E-3	2.49E-3	1.93E-3	1.60E-3	1.49E-3	1.50E-3	42	76.88	2.56E-3	2.11E-3	1.57E-3	1.25E-3	1.13E-3	1.13E-3
43	62.80	2.84E-3	2.36E-3	1.79E-3	1.45E-3	1.33E-3	1.34E-3	43	79.05	2.40E-3	1.99E-3	1.50E-3	1.22E-3	1.12E-3	1.13E-3
44	65.34	2.85E-3	2.30E-3	1.69E-3	1.34E-3	1.20E-3	1.19E-3	44	81.20	2.31E-3	1.90E-3	1.45E-3	1.19E-3	1.11E-3	1.13E-3
45	67.82	2.62E-3	2.15E-3	1.57E-3	1.21E-3	1.07E-3	1.06E-3	45	83.32	2.11E-3	1.77E-3	1.38E-3	1.16E-3	1.10E-3	1.13E-3
46	70.25	2.52E-3	2.05E-3	1.47E-3	1.11E-3	9.64E-4	9.45E-4	46	85.43	1.99E-3	1.68E-3	1.33E-3	1.13E-3	1.09E-3	1.12E-3
47	72.64	2.55E-3	2.03E-3	1.42E-3	1.04E-3	8.76E-4	8.46E-4	47	87.53	1.92E-3	1.62E-3	1.28E-3	1.11E-3	1.07E-3	1.12E-3
48	74.99	2.34E-3	1.87E-3	1.31E-3	9.43E-4	7.84E-4	7.53E-4	48	89.62	1.76E-3	1.51E-3	1.22E-3	1.08E-3	1.06E-3	1.11E-3
49	77.30	2.38E-3	1.87E-3	1.27E-3	8.87E-4	7.17E-4	6.77E-4	49	91.70	1.70E-3	1.45E-3	1.19E-3	1.05E-3	1.04E-3	1.10E-3
50	79.58	2.31E-3	1.79E-3	1.19E-3	8.19E-4	6.50E-4	6.07E-4	50	93.77	1.61E-3	1.38E-3	1.14E-3	1.03E-3	1.03E-3	1.09E-3
51	81.83	2.10E-3	1.65E-3	1.11E-3	7.49E-4	5.84E-4	5.41E-4	51	95.85	1.49E-3	1.30E-3	1.09E-3	9.97E-4	1.01E-3	1.08E-3
52	84.05	2.05E-3	1.61E-3	1.06E-3	7.07E-4	5.35E-4	4.88E-4	52	97.93	1.42E-3	1.24E-3	1.05E-3	9.74E-4	9.90E-4	1.06E-3
53	86.26	1.99E-3	1.55E-3	1.01E-3	6.60E-4	4.89E-4	4.40E-4	53	100.01	1.35E-3	1.19E-3	1.01E-3	9.49E-4	9.73E-4	1.05E-3
54	88.45	1.89E-3	1.47E-3	9.55E-4	6.10E-4	4.45E-4	3.95E-4	54	102.09	1.28E-3	1.13E-3	9.77E-4	9.23E-4	9.54E-4	1.03E-3
55	90.63	1.86E-3	1.44E-3	9.22E-4	5.81E-4	4.11E-4	3.59E-4	55	104.18	1.22E-3	1.08E-3	9.45E-4	9.01E-4	9.36E-4	1.02E-3
56	92.80	1.76E-3	1.37E-3	8.72E-4	5.38E-4	3.76E-4	3.23E-4	56	106.27	1.16E-3	1.03E-3	9.11E-4	8.77E-4	9.18E-4	1.01E-3
57	94.96	1.74E-3	1.34E-3	8.45E-4	5.16E-4	3.50E-4	2.96E-4	57	108.37	1.11E-3	9.95E-4	8.82E-4	8.55E-4	9.00E-4	9.90E-4
58	97.11	1.68E-3	1.29E-3	8.10E-4	4.87E-4	3.24E-4	2.69E-4	58	110.48	1.07E-3	9.56E-4	8.53E-4	8.33E-4	8.82E-4	9.75E-4
59	99.26	1.60E-3	1.23E-3	7.68E-4	4.54E-4	2.98E-4	2.43E-4	59	112.60	1.02E-3	9.16E-4	8.24E-4	8.11E-4	8.63E-4	9.58E-4
60	101.41	1.58E-3	1.20E-3	7.48E-4	4.39E-4	2.80E-4	2.25E-4	60	114.72	9.78E-4	8.83E-4	7.99E-4	7.91E-4	8.46E-4	9.43E-4
61	103.56	1.50E-3	1.15E-3	7.10E-4	4.09E-4	2.58E-4	2.04E-4	61	116.85	9.35E-4	8.49E-4	7.73E-4	7.70E-4	8.27E-4	9.27E-4
62	105.71	1.48E-3	1.13E-3	6.96E-4	3.98E-4	2.45E-4	1.89E-4	62	119.00	9.02E-4	8.20E-4	7.51E-4	7.51E-4	8.10E-4	9.11E-4
63	107.87	1.43E-3	1.09E-3	6.69E-4	3.81E-4	2.29E-4	1.75E-4	63	121.15	8.67E-4	7.91E-4	7.28E-4	7.32E-4	7.93E-4	8.95E-4
64	110.03	1.36E-3	1.04E-3	6.37E-4	3.56E-4	2.13E-4	1.59E-4	64	123.31	8.33E-4	7.62E-4	7.05E-4	7.13E-4	7.76E-4	8.79E-4
65	112.19	1.35E-3	1.03E-3	6.27E-4	3.49E-4	2.04E-4	1.49E-4	65	125.47	8.05E-4	7.38E-4	6.85E-4	6.95E-4	7.60E-4	8.64E-4
66	114.37	1.28E-3	9.79E-4	5.94E-4	3.27E-4	1.89E-4	1.37E-4	66	127.65	7.74E-4	7.12E-4	6.64E-4	6.78E-4	7.44E-4	8.49E-4
67	116.55	1.25E-3	9.51E-4	5.76E-4	3.14E-4	1.79E-4	1.28E-4	67	129.84	7.48E-4	6.89E-4	6.45E-4	6.61E-4	7.28E-4	8.34E-4
68	118.74	1.21E-3	9.22E-4	5.57E-4	3.02E-4	1.70E-4	1.19E-4	68	132.04	7.23E-4	6.67E-4	6.27E-4	6.44E-4	7.13E-4	8.20E-4
69	120.94	1.17E-3	8.95E-4	5.40E-4	2.91E-4	1.62E-4	1.11E-4	69	134.25	6.99E-4	6.46E-4	6.09E-4	6.29E-4	6.98E-4	8.06E-4
70	123.16	1.17E-3	8.85E-4	5.32E-4	2.86E-4	1.58E-4	1.06E-4	70	136.47	6.78E-4	6.28E-4	5.93E-4	6.14E-4	6.83E-4	7.92E-4
71	125.39	1.11E-3	8.45E-4	5.08E-4	2.71E-4	1.47E-4	9.81E-5	71	138.70	6.55E-4	6.08E-4	5.77E-4	5.99E-4	6.69E-4	7.79E-4
72	127.63	1.10E-3	8.35E-4	5.02E-4	2.70E-4	1.44E-4	9.43E-5	72	140.94	6.36E-4	5.91E-4	5.62E-4	5.85E-4	6.56E-4	7.66E-4
73	129.88	1.08E-3	8.14E-4	4.87E-4	2.61E-4	1.38E-4	8.88E-5	73	143.19	6.17E-4	5.74E-4	5.47E-4	5.71E-4	6.42E-4	7.53E-4
74	132.16	1.04E-3	7.93E-4	4.78E-4	2.53E-4	1.33E-4	8.44E-5	74	145.45	5.99E-4	5.57E-4	5.33E-4	5.58E-4	6.29E-4	7.40E-4
75	134.44	1.02E-3	7.71E-4	4.64E-4	2.46E-4	1.27E-4	8.05E-5	75	147.72	5.81E-4	5.42E-4	5.19E-4	5.45E-4	6.17E-4	7.28E-4
76	136.75	9.67E-4	7.38E-4	4.42E-4	2.31E-4	1.20E-4	7.46E-5	76	150.00	5.64E-4	5.26E-4	5.05E-4	5.33E-4	6.05E-4	7.17E-4
77	139.07	9.42E-4	7.19E-4	4.30E-4	2.25E-4	1.16E-4	7.11E-5	77	152.29	5.48E-4	5.12E-4	4.93E-4	5.21E-4	5.93E-4	7.05E-4
78	141.41	9.28E-4	7.08E-4	4.25E-4	2.22E-4	1.13E-4	6.89E-5	78	154.60	5.32E-4	4.98E-4	4.80E-4	5.09E-4	5.81E-4	6.95E-4
79	143.77	9.06E-4	6.90E-4	4.13E-4	2.17E-4	1.10E-4	6.60E-5	79	156.91	5.18E-4	4.85E-4	4.69E-4	4.98E-4	5.71E-4	6.84E-4
80	146.15	8.74E-4	6.68E-4	3.99E-4	2.08E-4	1.05E-4	6.24E-5	80	159.23	5.04E-4	4.73E-4	4.57E-4	4.87E-4	5.60E-4	6.74E-4
81	148.55	8.52E-4	6.52E-4	3.90E-4	2.02E-4	1.02E-4	6.00E-5	81	161.57	4.91E-4	4.61E-4	4.47E-4	4.77E-4	5.50E-4	6.64E-4
82	150.97	8.41E-4	6.42E-4	3.85E-4	2.01E-4	1.00E-4	5.87E-5	82	163.91	4.79E-4	4.49E-4	4.36E-4	4.67E-4	5.40E-4	6.54E-4
83	153.41	8.22E-4	6.27E-4	3.76E-4	1.96E-4	9.75E-5	5.65E-5	83	166.27	4.67E-4	4.38E-4	4.26E-4	4.57E-4	5.30E-4	6.45E-4
84	155.87	7.93E-4	6.07E-4	3.64E-4	1.88E-4	9.37E-5	5.38E-5	84	168.64	4.55E-4	4.28E-4	4.17E-4	4.48E-4	5.21E-4	6.36E-4
85	158.35	7.75E-4	5.94E-4	3.56E-4	1.84E-4	9.14E-5	5.21E-5	85	171.02	4.44E-4	4.18E-4	4.07E-4	4.39E-4	5.12E-4	6.27E-4
86	160.86	7.66E-4	5.86E-4	3.53E-4	1.84E-4	9.03E-5	5.14E-5	86	173.40	4.34E-4	4.08E-4	3.99E-4	4.30E-4	5.03E-4	6.19E-4
87	163.39	7.41E-4	5.68E-4	3.41E-4	1.76E-4	8.71E-5	4.91E-5	87	175.80	4.23E-4	3.99E-4	3.90E-4	4.22E-4	4.95E-4	6.11E-4
88	165.95	7.24E-4	5.56E-4	3.34E-4	1.73E-4	8.52E-5	4.78E-5	88	178.21	4.14E-4	3.90E-4	3.82E-4	4.14E-4	4.87E-4	6.03E-4
89	168.53	7.16E-4	5.51E-4	3.33E-4	1.72E-4	8.47E-5	4.76E-5	89	180.63	4.05E-4	3.81E-4	3.74E-4	4.06E-4	4.79E-4	5.96E-4
90	171.13	7.01E-4	5.39E-4	3.26E-4	1.70E-4	8.2									

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_2 - E_4$								$F_3 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	61.53	3.69E-3	2.70E-3	1.46E-3	6.45E-4	2.53E-4	1.04E-4	26	20.52	5.67E-3	4.26E-3	2.47E-3	1.26E-3	6.67E-4	4.37E-4
27	66.11	3.24E-3	2.38E-3	1.30E-3	5.80E-4	2.33E-4	9.90E-5	27	20.09	5.73E-3	4.34E-3	2.57E-3	1.37E-3	7.82E-4	5.56E-4
28	71.13	2.87E-3	2.11E-3	1.16E-3	5.26E-4	2.16E-4	9.52E-5	28	19.48	5.85E-3	4.46E-3	2.70E-3	1.51E-3	9.27E-4	7.07E-4
29	76.61	2.56E-3	1.89E-3	1.05E-3	4.80E-4	2.01E-4	9.15E-5	29	18.72	6.02E-3	4.62E-3	2.87E-3	1.68E-3	1.11E-3	8.95E-4
30	82.59	2.30E-3	1.70E-3	9.51E-4	4.41E-4	1.88E-4	8.77E-5	30	17.81	6.21E-3	4.81E-3	3.06E-3	1.88E-3	1.32E-3	1.12E-3
31	89.09	2.09E-3	1.55E-3	8.74E-4	4.10E-4	1.78E-4	8.47E-5	31	16.81	6.39E-3	5.00E-3	3.26E-3	2.11E-3	1.56E-3	1.37E-3
32	96.14	1.91E-3	1.43E-3	8.06E-4	3.82E-4	1.68E-4	8.09E-5	32	15.73	6.56E-3	5.19E-3	3.47E-3	2.34E-3	1.82E-3	1.65E-3
33	103.75	1.76E-3	1.32E-3	7.49E-4	3.57E-4	1.58E-4	7.70E-5	33	14.62	6.70E-3	5.35E-3	3.67E-3	2.58E-3	2.09E-3	1.94E-3
34	111.95	1.64E-3	1.22E-3	6.96E-4	3.33E-4	1.48E-4	7.24E-5	34	13.51	6.82E-3	5.47E-3	3.84E-3	2.80E-3	2.34E-3	2.22E-3
35	120.76	1.53E-3	1.14E-3	6.55E-4	3.15E-4	1.41E-4	6.88E-5	35	12.43	6.82E-3	5.53E-3	3.98E-3	2.98E-3	2.57E-3	2.48E-3
36	130.21	1.44E-3	1.09E-3	6.25E-4	3.02E-4	1.36E-4	6.62E-5	36	11.39	6.73E-3	5.52E-3	4.04E-3	3.12E-3	2.75E-3	2.70E-3
37	140.32	1.37E-3	1.03E-3	5.90E-4	2.86E-4	1.28E-4	6.23E-5	37	10.42	6.63E-3	5.48E-3	4.10E-3	3.24E-3	2.91E-3	2.87E-3
38	151.12	1.31E-3	9.80E-4	5.64E-4	2.74E-4	1.23E-4	5.93E-5	38	9.514	6.46E-3	5.36E-3	4.07E-3	3.29E-3	3.01E-3	3.01E-3
39	162.67	1.25E-3	9.44E-4	5.46E-4	2.66E-4	1.19E-4	5.75E-5	39	8.683	6.22E-3	5.21E-3	4.01E-3	3.31E-3	3.07E-3	3.10E-3
40	175.00	1.20E-3	9.07E-4	5.26E-4	2.56E-4	1.15E-4	5.51E-5	40	7.925	5.97E-3	5.03E-3	3.93E-3	3.30E-3	3.10E-3	3.15E-3
41	188.15	1.16E-3	8.70E-4	5.03E-4	2.45E-4	1.10E-4	5.22E-5	41	7.238	5.74E-3	4.85E-3	3.83E-3	3.26E-3	3.11E-3	3.18E-3
42	202.20	1.12E-3	8.45E-4	4.91E-4	2.40E-4	1.07E-4	5.10E-5	42	6.618	5.44E-3	4.63E-3	3.71E-3	3.21E-3	3.09E-3	3.18E-3
43	217.19	1.08E-3	8.18E-4	4.76E-4	2.32E-4	1.04E-4	4.92E-5	43	6.061	5.17E-3	4.42E-3	3.58E-3	3.14E-3	3.05E-3	3.16E-3
44	233.19	1.05E-3	7.89E-4	4.58E-4	2.24E-4	9.97E-5	4.70E-5	44	5.564	4.92E-3	4.23E-3	3.47E-3	3.07E-3	3.00E-3	3.13E-3
45	250.26	1.01E-3	7.69E-4	4.48E-4	2.19E-4	9.80E-5	4.61E-5	45	5.121	4.64E-3	4.01E-3	3.32E-3	2.98E-3	2.95E-3	3.09E-3
46	268.48	9.85E-4	7.47E-4	4.35E-4	2.13E-4	9.53E-5	4.48E-5	46	4.728	4.39E-3	3.82E-3	3.19E-3	2.89E-3	2.88E-3	3.04E-3
47	287.89	9.60E-4	7.23E-4	4.21E-4	2.06E-4	9.17E-5	4.29E-5	47	4.381	4.18E-3	3.64E-3	3.07E-3	2.81E-3	2.82E-3	2.98E-3
48	308.60	9.29E-4	7.05E-4	4.12E-4	2.02E-4	9.04E-5	4.23E-5	48	4.077	3.94E-3	3.45E-3	2.94E-3	2.72E-3	2.75E-3	2.92E-3
49	330.65	9.08E-4	6.84E-4	3.99E-4	1.95E-4	8.72E-5	4.07E-5	49	3.813	3.75E-3	3.29E-3	2.82E-3	2.63E-3	2.68E-3	2.86E-3
50	354.14	8.83E-4	6.66E-4	3.88E-4	1.90E-4	8.50E-5	3.97E-5	50	3.584	3.55E-3	3.13E-3	2.71E-3	2.55E-3	2.61E-3	2.80E-3
51	379.13	8.54E-4	6.49E-4	3.80E-4	1.87E-4	8.38E-5	3.92E-5	51	3.387	3.35E-3	2.98E-3	2.60E-3	2.46E-3	2.54E-3	2.74E-3
52	405.72	8.31E-4	6.31E-4	3.69E-4	1.82E-4	8.13E-5	3.80E-5	52	3.221	3.20E-3	2.85E-3	2.50E-3	2.38E-3	2.47E-3	2.68E-3
53	433.99	8.09E-4	6.14E-4	3.60E-4	1.77E-4	7.94E-5	3.70E-5	53	3.083	3.04E-3	2.72E-3	2.40E-3	2.31E-3	2.41E-3	2.62E-3
54	464.01	7.86E-4	5.98E-4	3.52E-4	1.74E-4	7.79E-5	3.64E-5	54	2.970	2.88E-3	2.59E-3	2.30E-3	2.23E-3	2.34E-3	2.56E-3
55	495.89	7.66E-4	5.82E-4	3.42E-4	1.69E-4	7.57E-5	3.53E-5	55	2.880	2.76E-3	2.48E-3	2.22E-3	2.16E-3	2.28E-3	2.50E-3
56	529.72	7.44E-4	5.67E-4	3.34E-4	1.65E-4	7.42E-5	3.47E-5	56	2.811	2.62E-3	2.37E-3	2.13E-3	2.10E-3	2.22E-3	2.45E-3
57	565.59	7.25E-4	5.52E-4	3.25E-4	1.61E-4	7.22E-5	3.38E-5	57	2.762	2.52E-3	2.28E-3	2.06E-3	2.03E-3	2.16E-3	2.39E-3
58	603.60	7.05E-4	5.37E-4	3.16E-4	1.57E-4	7.05E-5	3.30E-5	58	2.731	2.41E-3	2.18E-3	1.98E-3	1.97E-3	2.11E-3	2.34E-3
59	643.86	6.85E-4	5.23E-4	3.09E-4	1.53E-4	6.92E-5	3.24E-5	59	2.717	2.30E-3	2.09E-3	1.91E-3	1.91E-3	2.05E-3	2.29E-3
60	686.48	6.68E-4	5.09E-4	3.01E-4	1.49E-4	6.73E-5	3.16E-5	60	2.718	2.21E-3	2.01E-3	1.85E-3	1.85E-3	2.00E-3	2.24E-3
61	731.57	6.49E-4	4.96E-4	2.94E-4	1.46E-4	6.60E-5	3.10E-5	61	2.733	2.11E-3	1.93E-3	1.78E-3	1.80E-3	1.95E-3	2.19E-3
62	779.25	6.33E-4	4.83E-4	2.86E-4	1.42E-4	6.43E-5	3.02E-5	62	2.762	2.04E-3	1.86E-3	1.73E-3	1.75E-3	1.90E-3	2.14E-3
63	829.63	6.16E-4	4.71E-4	2.79E-4	1.39E-4	6.28E-5	2.95E-5	63	2.802	1.96E-3	1.79E-3	1.67E-3	1.70E-3	1.85E-3	2.09E-3
64	882.85	5.98E-4	4.58E-4	2.72E-4	1.36E-4	6.16E-5	2.90E-5	64	2.853	1.88E-3	1.73E-3	1.62E-3	1.65E-3	1.80E-3	2.05E-3
65	939.04	5.84E-4	4.47E-4	2.65E-4	1.32E-4	6.01E-5	2.83E-5	65	2.915	1.82E-3	1.67E-3	1.57E-3	1.60E-3	1.76E-3	2.01E-3
66	998.33	5.67E-4	4.35E-4	2.59E-4	1.30E-4	5.89E-5	2.78E-5	66	2.986	1.75E-3	1.61E-3	1.52E-3	1.56E-3	1.72E-3	1.97E-3
67	1060.86	5.52E-4	4.24E-4	2.53E-4	1.27E-4	5.76E-5	2.72E-5	67	3.066	1.69E-3	1.56E-3	1.47E-3	1.52E-3	1.68E-3	1.93E-3
68	1126.79	5.37E-4	4.13E-4	2.47E-4	1.24E-4	5.63E-5	2.67E-5	68	3.154	1.63E-3	1.51E-3	1.43E-3	1.48E-3	1.64E-3	1.89E-3
69	1196.27	5.23E-4	4.03E-4	2.41E-4	1.21E-4	5.51E-5	2.61E-5	69	3.250	1.57E-3	1.46E-3	1.38E-3	1.44E-3	1.60E-3	1.85E-3
70	1269.46	5.11E-4	3.93E-4	2.35E-4	1.18E-4	5.38E-5	2.55E-5	70	3.352	1.52E-3	1.41E-3	1.35E-3	1.40E-3	1.56E-3	1.81E-3
71	1346.53	4.96E-4	3.82E-4	2.29E-4	1.16E-4	5.28E-5	2.51E-5	71	3.461	1.47E-3	1.37E-3	1.31E-3	1.36E-3	1.53E-3	1.78E-3
72	1427.65	4.85E-4	3.73E-4	2.24E-4	1.13E-4	5.15E-5	2.45E-5	72	3.577	1.43E-3	1.33E-3	1.27E-3	1.33E-3	1.49E-3	1.75E-3
73	1513.01	4.72E-4	3.64E-4	2.18E-4	1.10E-4	5.04E-5	2.40E-5	73	3.697	1.39E-3	1.29E-3	1.24E-3	1.30E-3	1.46E-3	1.71E-3
74	1602.80	4.60E-4	3.55E-4	2.13E-4	1.08E-4	4.94E-5	2.36E-5	74	3.822	1.35E-3	1.25E-3	1.20E-3	1.27E-3	1.43E-3	1.68E-3
75	1697.21	4.48E-4	3.46E-4	2.08E-4	1.06E-4	4.84E-5	2.31E-5	75	3.952	1.31E-3	1.22E-3	1.17E-3	1.23E-3	1.40E-3	1.65E-3
76	1796.47	4.35E-4	3.37E-4	2.04E-4	1.03E-4	4.75E-5	2.27E-5	76	4.085	1.27E-3	1.18E-3	1.14E-3	1.20E-3	1.37E-3	1.62E-3
77	1900.78	4.24E-4	3.29E-4	1.99E-4	1.01E-4	4.65E-5	2.23E-5	77	4.223	1.23E-3	1.15E-3	1.11E-3	1.18E-3	1.34E-3	1.60E-3
78	2010.37	4.14E-4	3.21E-4	1.94E-4	9.89E-5	4.55E-5	2.19E-5	78	4.363	1.19E-3	1.12E-3	1.08E-3	1.15E-3	1.31E-3	1.57E-3
79	2125.49	4.03E-4	3.13E-4	1.90E-4	9.68E-5	4.46E-5	2.15E-5	79	4.506	1.16E-3	1.09E-3	1.05E-3	1.12E-3	1.29E-3	1.54E-3
80	2246.38	3.93E-4	3.05E-4	1.85E-4	9.47E-5	4.38E-5	2.11E-5	80	4.650	1.13E-3	1.06E-3	1.03E-3	1.10E-3	1.26E-3	1.52E-3
81	2373.30	3.83E-4	2.98E-4	1.81E-4	9.27E-5	4.29E-5	2.07E-5	81	4.797	1.10E-3	1.03E-3	1.00E-3	1.07E-3	1.24E-3	1.49E-3
82	2506.54	3.74E-4	2.91E-4	1.77E-4	9.08E-5	4.21E-5	2.03E-5	82	4.947	1.07E-3	1.00E-3	9.77E-4	1.05E-3	1.21E-3	1.47E-3
83	2646.37	3.64E-4	2.84E-4	1.73E-4	8.89E-5	4.13E-5	2.00E-5	83	5.097	1.04E-3	9.79E-4	9.54E-4	1.02E-3	1.19E-3	1.45E-3
84	2793.11	3.55E-4	2.77E-4	1.69E-4	8.71E-5	4.05E-5	1.97E-5	84	5.249	1.02E-3	9.55E-4	9.31E-4	1.00E-3	1.17E-3	1.43E-3
85	2947.07	3.46E-4	2.70E-4	1.66E-4	8.53E-5	3.97E-5	1.93E-5	85	5.399	9.90E-4	9.31E-4	9.09E-4	9.81E-4	1.15E-3	1.40E-3
86	3108.54	3.38E-4	2.64E-4	1.62E-4	8.35E-5	3.90E-5	1.90E-5	86	5.548	9.66E-4	9.09E-4	8.89E-4	9.60E-4	1.12E-3	1.38E-3
87	3277.94	3.29E-4	2.57E-4	1.58E-4	8.19E-5	3.83E-5	1.87E-5	87	5.695	9.42E-4	8.87E-4	8.68E-4	9.40E-4	1.10E-3	1.36E-3
88	3455.62	3.20E-4	2.51E-4	1.55E-4	8.02E-5	3.76E-5	1.84E-5	88	5.845	9.19E-4	8.66E-4	8.49E-4	9.21E-4	1.09E-3	1.34E-3
89	3641.96	3.13E-4	2.46E-4	1.51E-4	7.86E-5	3.69E-5	1.81E-5	89	5.989	8.98E-4	8.46E-4	8.30E-4	9.02E-4	1.07E-3	1.33E-3
90	3837.35	3.05E-4	2.40E-4	1.48E-4	7										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_3 - E_4$								$F_4 - E_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	41.03	1.47E-2	1.15E-2	7.52E-3	4.87E-3	3.60E-3	3.15E-3	26	16.53	4.68E-2	4.68E-2	4.89E-2	5.27E-2	5.66E-2	5.98E-2
27	43.22	1.40E-2	1.11E-2	7.44E-3	5.09E-3	4.01E-3	3.65E-3	27	17.91	4.23E-2	4.20E-2	4.34E-2	4.65E-2	4.98E-2	5.26E-2
28	45.59	1.34E-2	1.07E-2	7.47E-3	5.41E-3	4.50E-3	4.23E-3	28	19.39	3.82E-2	3.77E-2	3.86E-2	4.09E-2	4.37E-2	4.62E-2
29	48.20	1.29E-2	1.05E-2	7.61E-3	5.80E-3	5.05E-3	4.88E-3	29	20.95	3.45E-2	3.38E-2	3.42E-2	3.60E-2	3.83E-2	4.04E-2
30	51.10	1.26E-2	1.04E-2	7.83E-3	6.26E-3	5.66E-3	5.57E-3	30	22.60	3.11E-2	3.02E-2	3.02E-2	3.16E-2	3.35E-2	3.53E-2
31	54.36	1.23E-2	1.04E-2	8.07E-3	6.73E-3	6.28E-3	6.29E-3	31	24.30	2.80E-2	2.70E-2	2.66E-2	2.76E-2	2.91E-2	3.07E-2
32	58.04	1.22E-2	1.04E-2	8.35E-3	7.22E-3	6.90E-3	7.00E-3	32	26.02	2.52E-2	2.41E-2	2.34E-2	2.40E-2	2.53E-2	2.66E-2
33	62.22	1.21E-2	1.04E-2	8.63E-3	7.67E-3	7.47E-3	7.64E-3	33	27.76	2.27E-2	2.15E-2	2.06E-2	2.09E-2	2.19E-2	2.30E-2
34	66.96	1.20E-2	1.05E-2	8.87E-3	8.06E-3	7.96E-3	8.20E-3	34	29.48	2.06E-2	1.92E-2	1.81E-2	1.81E-2	1.88E-2	1.98E-2
35	72.32	1.18E-2	1.05E-2	9.01E-3	8.34E-3	8.33E-3	8.63E-3	35	31.17	1.86E-2	1.72E-2	1.59E-2	1.57E-2	1.63E-2	1.71E-2
36	78.37	1.16E-2	1.04E-2	9.06E-3	8.51E-3	8.58E-3	8.93E-3	36	32.82	1.67E-2	1.53E-2	1.40E-2	1.37E-2	1.40E-2	1.47E-2
37	85.16	1.14E-2	1.03E-2	9.05E-3	8.59E-3	8.71E-3	9.11E-3	37	34.43	1.54E-2	1.39E-2	1.24E-2	1.19E-2	1.21E-2	1.27E-2
38	92.74	1.11E-2	1.00E-2	8.95E-3	8.56E-3	8.73E-3	9.16E-3	38	35.99	1.41E-2	1.26E-2	1.11E-2	1.04E-2	1.06E-2	1.11E-2
39	101.16	1.07E-2	9.78E-3	8.78E-3	8.45E-3	8.66E-3	9.12E-3	39	37.51	1.28E-2	1.14E-2	9.86E-3	9.20E-3	9.24E-3	9.64E-3
40	110.46	1.04E-2	9.48E-3	8.57E-3	8.29E-3	8.52E-3	8.99E-3	40	39.00	1.18E-2	1.04E-2	8.88E-3	8.16E-3	8.14E-3	8.47E-3
41	120.70	1.00E-2	9.19E-3	8.32E-3	8.08E-3	8.33E-3	8.82E-3	41	40.45	1.11E-2	9.64E-3	8.07E-3	7.31E-3	7.22E-3	7.49E-3
42	131.93	9.63E-3	8.83E-3	8.04E-3	7.83E-3	8.09E-3	8.59E-3	42	41.87	1.02E-2	8.83E-3	7.32E-3	6.55E-3	6.43E-3	6.67E-3
43	144.20	9.25E-3	8.50E-3	7.75E-3	7.57E-3	7.84E-3	8.34E-3	43	43.27	9.51E-3	8.20E-3	6.71E-3	5.92E-3	5.77E-3	5.98E-3
44	157.56	8.87E-3	8.16E-3	7.46E-3	7.30E-3	7.57E-3	8.08E-3	44	44.66	9.09E-3	7.72E-3	6.20E-3	5.40E-3	5.22E-3	5.39E-3
45	172.06	8.49E-3	7.82E-3	7.16E-3	7.02E-3	7.30E-3	7.81E-3	45	46.03	8.40E-3	7.15E-3	5.72E-3	4.93E-3	4.73E-3	4.89E-3
46	187.77	8.13E-3	7.49E-3	6.87E-3	6.74E-3	7.02E-3	7.53E-3	46	47.39	7.93E-3	6.72E-3	5.32E-3	4.53E-3	4.32E-3	4.46E-3
47	204.75	7.78E-3	7.18E-3	6.59E-3	6.47E-3	6.75E-3	7.26E-3	47	48.74	7.66E-3	6.41E-3	5.00E-3	4.20E-3	3.98E-3	4.09E-3
48	223.06	7.44E-3	6.87E-3	6.31E-3	6.21E-3	6.49E-3	6.99E-3	48	50.10	7.11E-3	5.97E-3	4.64E-3	3.88E-3	3.66E-3	3.77E-3
49	242.77	7.12E-3	6.58E-3	6.05E-3	5.95E-3	6.23E-3	6.73E-3	49	51.45	6.92E-3	5.75E-3	4.40E-3	3.63E-3	3.40E-3	3.49E-3
50	263.95	6.81E-3	6.30E-3	5.80E-3	5.71E-3	5.99E-3	6.48E-3	50	52.79	6.60E-3	5.45E-3	4.14E-3	3.39E-3	3.16E-3	3.25E-3
51	286.67	6.52E-3	6.03E-3	5.55E-3	5.47E-3	5.75E-3	6.24E-3	51	54.15	6.13E-3	5.10E-3	3.88E-3	3.17E-3	2.94E-3	3.02E-3
52	311.02	6.24E-3	5.77E-3	5.32E-3	5.25E-3	5.53E-3	6.02E-3	52	55.50	5.89E-3	4.87E-3	3.69E-3	2.99E-3	2.76E-3	2.83E-3
53	337.06	5.98E-3	5.53E-3	5.10E-3	5.04E-3	5.31E-3	5.80E-3	53	56.86	5.64E-3	4.65E-3	3.50E-3	2.82E-3	2.60E-3	2.66E-3
54	364.89	5.72E-3	5.30E-3	4.89E-3	4.84E-3	5.11E-3	5.59E-3	54	58.22	5.36E-3	4.43E-3	3.32E-3	2.66E-3	2.44E-3	2.51E-3
55	394.59	5.49E-3	5.09E-3	4.70E-3	4.65E-3	4.92E-3	5.40E-3	55	59.59	5.17E-3	4.25E-3	3.17E-3	2.53E-3	2.31E-3	2.37E-3
56	426.26	5.26E-3	4.88E-3	4.51E-3	4.46E-3	4.73E-3	5.21E-3	56	60.96	4.93E-3	4.06E-3	3.01E-3	2.39E-3	2.19E-3	2.25E-3
57	459.98	5.05E-3	4.68E-3	4.33E-3	4.29E-3	4.56E-3	5.03E-3	57	62.35	4.77E-3	3.91E-3	2.89E-3	2.28E-3	2.08E-3	2.14E-3
58	495.85	4.85E-3	4.50E-3	4.16E-3	4.13E-3	4.39E-3	4.87E-3	58	63.74	4.59E-3	3.75E-3	2.77E-3	2.18E-3	1.98E-3	2.04E-3
59	533.99	4.65E-3	4.32E-3	4.00E-3	3.97E-3	4.24E-3	4.70E-3	59	65.14	4.38E-3	3.59E-3	2.64E-3	2.07E-3	1.88E-3	1.94E-3
60	574.48	4.47E-3	4.15E-3	3.84E-3	3.82E-3	4.09E-3	4.55E-3	60	66.55	4.25E-3	3.47E-3	2.54E-3	1.99E-3	1.80E-3	1.86E-3
61	617.45	4.30E-3	3.99E-3	3.70E-3	3.68E-3	3.94E-3	4.41E-3	61	67.97	4.07E-3	3.33E-3	2.44E-3	1.90E-3	1.72E-3	1.78E-3
62	663.02	4.13E-3	3.84E-3	3.56E-3	3.55E-3	3.81E-3	4.27E-3	62	69.40	3.95E-3	3.22E-3	2.35E-3	1.83E-3	1.65E-3	1.71E-3
63	711.29	3.97E-3	3.70E-3	3.43E-3	3.42E-3	3.68E-3	4.14E-3	63	70.84	3.82E-3	3.11E-3	2.26E-3	1.76E-3	1.58E-3	1.64E-3
64	762.40	3.82E-3	3.56E-3	3.31E-3	3.30E-3	3.56E-3	4.02E-3	64	72.30	3.66E-3	2.99E-3	2.17E-3	1.68E-3	1.52E-3	1.58E-3
65	816.48	3.68E-3	3.43E-3	3.19E-3	3.19E-3	3.44E-3	3.90E-3	65	73.76	3.56E-3	2.90E-3	2.11E-3	1.63E-3	1.46E-3	1.53E-3
66	873.66	3.55E-3	3.31E-3	3.07E-3	3.08E-3	3.33E-3	3.78E-3	66	75.24	3.42E-3	2.79E-3	2.02E-3	1.56E-3	1.41E-3	1.47E-3
67	934.08	3.42E-3	3.19E-3	2.96E-3	2.97E-3	3.22E-3	3.67E-3	67	76.73	3.31E-3	2.70E-3	1.95E-3	1.50E-3	1.36E-3	1.42E-3
68	997.90	3.30E-3	3.07E-3	2.86E-3	2.87E-3	3.12E-3	3.57E-3	68	78.24	3.21E-3	2.61E-3	1.89E-3	1.45E-3	1.31E-3	1.38E-3
69	1065.27	3.18E-3	2.97E-3	2.76E-3	2.78E-3	3.03E-3	3.47E-3	69	79.76	3.11E-3	2.53E-3	1.83E-3	1.40E-3	1.27E-3	1.33E-3
70	1136.34	3.06E-3	2.86E-3	2.67E-3	2.69E-3	2.93E-3	3.38E-3	70	81.29	3.04E-3	2.47E-3	1.78E-3	1.36E-3	1.23E-3	1.29E-3
71	1211.29	2.96E-3	2.76E-3	2.58E-3	2.60E-3	2.84E-3	3.29E-3	71	82.84	2.92E-3	2.38E-3	1.71E-3	1.31E-3	1.19E-3	1.26E-3
72	1290.29	2.85E-3	2.67E-3	2.49E-3	2.51E-3	2.76E-3	3.20E-3	72	84.41	2.86E-3	2.32E-3	1.67E-3	1.28E-3	1.15E-3	1.22E-3
73	1373.52	2.76E-3	2.58E-3	2.41E-3	2.44E-3	2.68E-3	3.12E-3	73	86.00	2.78E-3	2.25E-3	1.62E-3	1.24E-3	1.12E-3	1.19E-3
74	1461.17	2.66E-3	2.49E-3	2.33E-3	2.36E-3	2.60E-3	3.03E-3	74	87.60	2.69E-3	2.19E-3	1.58E-3	1.20E-3	1.09E-3	1.16E-3
75	1553.45	2.57E-3	2.41E-3	2.25E-3	2.28E-3	2.53E-3	2.96E-3	75	89.21	2.62E-3	2.13E-3	1.53E-3	1.17E-3	1.06E-3	1.13E-3
76	1650.55	2.48E-3	2.33E-3	2.18E-3	2.21E-3	2.45E-3	2.88E-3	76	90.85	2.53E-3	2.05E-3	1.48E-3	1.13E-3	1.03E-3	1.10E-3
77	1752.71	2.40E-3	2.25E-3	2.11E-3	2.15E-3	2.38E-3	2.81E-3	77	92.51	2.46E-3	2.00E-3	1.44E-3	1.10E-3	9.98E-4	1.07E-3
78	1860.14	2.32E-3	2.17E-3	2.04E-3	2.08E-3	2.32E-3	2.75E-3	78	94.18	2.40E-3	1.95E-3	1.40E-3	1.07E-3	9.73E-4	1.05E-3
79	1973.09	2.24E-3	2.10E-3	1.98E-3	2.02E-3	2.26E-3	2.68E-3	79	95.88	2.34E-3	1.90E-3	1.36E-3	1.04E-3	9.48E-4	1.02E-3
80	2091.80	2.17E-3	2.04E-3	1.92E-3	1.96E-3	2.19E-3	2.62E-3	80	97.59	2.27E-3	1.84E-3	1.32E-3	1.01E-3	9.23E-4	9.99E-4
81	2216.53	2.10E-3	1.97E-3	1.86E-3	1.90E-3	2.13E-3	2.55E-3	81	99.33	2.21E-3	1.79E-3	1.29E-3	9.85E-4	9.01E-4	9.78E-4
82	2347.57	2.03E-3	1.91E-3	1.80E-3	1.84E-3	2.08E-3	2.49E-3	82	101.09	2.16E-3	1.75E-3	1.26E-3	9.64E-4	8.80E-4	9.59E-4
83	2485.20	1.97E-3	1.85E-3	1.74E-3	1.79E-3	2.02E-3	2.44E-3	83	102.87	2.11E-3	1.71E-3	1.23E-3	9.40E-4	8.60E-4	9.39E-4
84	2629.72	1.90E-3	1.79E-3	1.69E-3	1.74E-3	1.97E-3	2.38E-3	84	104.68	2.05E-3	1.66E-3	1.20E-3	9.14E-4	8.39E-4	9.20E-4
85	2781.45	1.84E-3	1.73E-3	1.64E-3	1.69E-3	1.91E-3	2.32E-3	85	106.50	2.00E-3	1.62E-3	1.17E-3	8.92E-4	8.21E-4	9.02E-4
86	2940.68	1.78E-3	1.68E-3	1.59E-3	1.64E-3	1.86E-3	2.27E-3	86	108.36	1.96E-3	1.59E-3	1.14E-3	8.75E-4	8.04E-4	8.86E-4
87	3107.84	1.73E-3	1.63E-3	1.54E-3	1.59E-3	1.81E-3	2.22E-3	87	110.24	1.90E-3	1.55E-3	1.11E-3	8.51E-4	7.86E-4	8.69E-4
88	3283.25	1.67E-3	1.58E-3	1.49E-3	1.54E-3	1.77E-3	2.17E-3	88	112.14	1.86E-3	1.51E-3	1.09E-3	8.32E-4	7.69E-4	8.54E-4
89	3467.32	1.62E-3	1.53E-3	1.45E-3	1.50E-3	1.72E-3	2.12E-3	89	114.07	1.82E-3	1.48E-3	1.07E-3	8.17E-4	7.55E-4	8.40E-4
90	3660.42	1.57E-3	1.48E-3	1.40E-3	1										

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - F_2$								$F_1 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	37.74	2.61E-2	1.98E-2	1.17E-2	6.14E-3	3.31E-3	2.19E-3	26	58.23	1.54E-2	1.12E-2	5.96E-3	2.57E-3	9.82E-4	4.01E-4
27	39.11	2.43E-2	1.85E-2	1.11E-2	5.95E-3	3.39E-3	2.38E-3	27	62.00	1.37E-2	1.00E-2	5.38E-3	2.34E-3	9.22E-4	3.97E-4
28	40.51	2.27E-2	1.74E-2	1.05E-2	5.85E-3	3.52E-3	2.62E-3	28	66.05	1.22E-2	8.95E-3	4.84E-3	2.14E-3	8.70E-4	3.96E-4
29	41.99	2.15E-2	1.65E-2	1.01E-2	5.83E-3	3.70E-3	2.89E-3	29	70.41	1.09E-2	7.99E-3	4.35E-3	1.96E-3	8.23E-4	3.98E-4
30	43.61	2.04E-2	1.58E-2	9.88E-3	5.89E-3	3.93E-3	3.20E-3	30	75.10	9.68E-3	7.12E-3	3.91E-3	1.79E-3	7.82E-4	4.02E-4
31	45.43	1.96E-2	1.52E-2	9.71E-3	5.99E-3	4.19E-3	3.53E-3	31	80.16	8.59E-3	6.33E-3	3.51E-3	1.64E-3	7.46E-4	4.08E-4
32	47.52	1.89E-2	1.48E-2	9.62E-3	6.14E-3	4.47E-3	3.88E-3	32	85.62	7.60E-3	5.63E-3	3.15E-3	1.51E-3	7.15E-4	4.16E-4
33	49.97	1.83E-2	1.45E-2	9.57E-3	6.30E-3	4.74E-3	4.21E-3	33	91.50	6.73E-3	5.00E-3	2.83E-3	1.38E-3	6.90E-4	4.27E-4
34	52.86	1.79E-2	1.42E-2	9.54E-3	6.46E-3	5.00E-3	4.52E-3	34	97.85	5.96E-3	4.45E-3	2.55E-3	1.28E-3	6.70E-4	4.40E-4
35	56.29	1.74E-2	1.39E-2	9.50E-3	6.58E-3	5.21E-3	4.78E-3	35	104.73	5.30E-3	3.98E-3	2.31E-3	1.20E-3	6.58E-4	4.56E-4
36	60.34	1.69E-2	1.36E-2	9.40E-3	6.64E-3	5.37E-3	4.98E-3	36	112.18	4.76E-3	3.59E-3	2.12E-3	1.13E-3	6.53E-4	4.76E-4
37	65.11	1.64E-2	1.32E-2	9.28E-3	6.66E-3	5.46E-3	5.12E-3	37	120.27	4.29E-3	3.26E-3	1.95E-3	1.07E-3	6.52E-4	4.97E-4
38	70.67	1.59E-2	1.29E-2	9.10E-3	6.62E-3	5.49E-3	5.18E-3	38	129.05	3.90E-3	2.98E-3	1.81E-3	1.03E-3	6.55E-4	5.20E-4
39	77.08	1.53E-2	1.24E-2	8.85E-3	6.51E-3	5.45E-3	5.18E-3	39	138.60	3.59E-3	2.76E-3	1.70E-3	9.99E-4	6.63E-4	5.45E-4
40	84.43	1.47E-2	1.20E-2	8.58E-3	6.35E-3	5.36E-3	5.12E-3	40	148.96	3.32E-3	2.56E-3	1.61E-3	9.74E-4	6.71E-4	5.68E-4
41	92.76	1.41E-2	1.15E-2	8.28E-3	6.17E-3	5.23E-3	5.01E-3	41	160.21	3.09E-3	2.40E-3	1.53E-3	9.53E-4	6.80E-4	5.90E-4
42	102.13	1.34E-2	1.10E-2	7.94E-3	5.94E-3	5.06E-3	4.87E-3	42	172.40	2.90E-3	2.27E-3	1.47E-3	9.39E-4	6.90E-4	6.12E-4
43	112.60	1.28E-2	1.05E-2	7.60E-3	5.71E-3	4.88E-3	4.71E-3	43	185.59	2.73E-3	2.15E-3	1.41E-3	9.25E-4	6.98E-4	6.31E-4
44	124.22	1.22E-2	1.00E-2	7.26E-3	5.47E-3	4.68E-3	4.54E-3	44	199.85	2.59E-3	2.05E-3	1.36E-3	9.11E-4	7.04E-4	6.47E-4
45	137.03	1.16E-2	9.51E-3	6.92E-3	5.22E-3	4.48E-3	4.35E-3	45	215.23	2.46E-3	1.96E-3	1.32E-3	9.00E-4	7.10E-4	6.61E-4
46	151.09	1.10E-2	9.05E-3	6.59E-3	4.98E-3	4.28E-3	4.17E-3	46	231.80	2.34E-3	1.87E-3	1.28E-3	8.88E-4	7.14E-4	6.72E-4
47	166.47	1.05E-2	8.62E-3	6.28E-3	4.75E-3	4.09E-3	3.99E-3	47	249.62	2.24E-3	1.80E-3	1.24E-3	8.75E-4	7.14E-4	6.81E-4
48	183.22	9.96E-3	8.19E-3	5.98E-3	4.52E-3	3.90E-3	3.81E-3	48	268.76	2.15E-3	1.73E-3	1.21E-3	8.64E-4	7.15E-4	6.88E-4
49	201.40	9.48E-3	7.81E-3	5.69E-3	4.31E-3	3.72E-3	3.64E-3	49	289.28	2.06E-3	1.67E-3	1.17E-3	8.49E-4	7.13E-4	6.91E-4
50	221.07	9.02E-3	7.43E-3	5.42E-3	4.10E-3	3.54E-3	3.48E-3	50	311.26	1.98E-3	1.61E-3	1.14E-3	8.36E-4	7.09E-4	6.94E-4
51	242.32	8.59E-3	7.08E-3	5.16E-3	3.91E-3	3.38E-3	3.33E-3	51	334.78	1.90E-3	1.55E-3	1.11E-3	8.23E-4	7.05E-4	6.94E-4
52	265.19	8.19E-3	6.75E-3	4.93E-3	3.73E-3	3.23E-3	3.19E-3	52	359.90	1.83E-3	1.50E-3	1.08E-3	8.07E-4	6.99E-4	6.93E-4
53	289.79	7.82E-3	6.44E-3	4.70E-3	3.56E-3	3.09E-3	3.05E-3	53	386.71	1.76E-3	1.45E-3	1.05E-3	7.93E-4	6.92E-4	6.90E-4
54	316.18	7.46E-3	6.15E-3	4.49E-3	3.40E-3	2.95E-3	2.93E-3	54	415.30	1.70E-3	1.40E-3	1.02E-3	7.78E-4	6.84E-4	6.87E-4
55	344.44	7.13E-3	5.88E-3	4.29E-3	3.25E-3	2.82E-3	2.81E-3	55	445.74	1.64E-3	1.35E-3	9.93E-4	7.62E-4	6.75E-4	6.82E-4
56	374.67	6.81E-3	5.62E-3	4.10E-3	3.11E-3	2.70E-3	2.70E-3	56	478.13	1.58E-3	1.31E-3	9.66E-4	7.47E-4	6.66E-4	6.76E-4
57	406.96	6.52E-3	5.38E-3	3.93E-3	2.98E-3	2.59E-3	2.59E-3	57	512.57	1.53E-3	1.27E-3	9.39E-4	7.31E-4	6.56E-4	6.69E-4
58	441.40	6.25E-3	5.15E-3	3.77E-3	2.85E-3	2.49E-3	2.49E-3	58	549.15	1.48E-3	1.23E-3	9.14E-4	7.15E-4	6.45E-4	6.62E-4
59	478.09	5.99E-3	4.94E-3	3.61E-3	2.74E-3	2.39E-3	2.40E-3	59	587.97	1.43E-3	1.19E-3	8.89E-4	7.00E-4	6.35E-4	6.54E-4
60	517.14	5.74E-3	4.74E-3	3.47E-3	2.63E-3	2.30E-3	2.31E-3	60	629.14	1.38E-3	1.15E-3	8.65E-4	6.84E-4	6.24E-4	6.45E-4
61	558.65	5.51E-3	4.55E-3	3.33E-3	2.52E-3	2.21E-3	2.23E-3	61	672.77	1.34E-3	1.12E-3	8.41E-4	6.69E-4	6.12E-4	6.37E-4
62	602.74	5.30E-3	4.38E-3	3.20E-3	2.43E-3	2.13E-3	2.15E-3	62	718.98	1.29E-3	1.08E-3	8.18E-4	6.53E-4	6.01E-4	6.28E-4
63	649.53	5.09E-3	4.21E-3	3.08E-3	2.34E-3	2.05E-3	2.08E-3	63	767.88	1.25E-3	1.05E-3	7.96E-4	6.38E-4	5.90E-4	6.18E-4
64	699.14	4.90E-3	4.05E-3	2.96E-3	2.25E-3	1.97E-3	2.01E-3	64	819.59	1.21E-3	1.02E-3	7.74E-4	6.23E-4	5.78E-4	6.09E-4
65	751.70	4.71E-3	3.90E-3	2.85E-3	2.17E-3	1.90E-3	1.94E-3	65	874.25	1.18E-3	9.88E-4	7.53E-4	6.08E-4	5.67E-4	5.99E-4
66	807.33	4.54E-3	3.76E-3	2.75E-3	2.09E-3	1.84E-3	1.88E-3	66	932.00	1.14E-3	9.58E-4	7.33E-4	5.94E-4	5.56E-4	5.90E-4
67	866.19	4.37E-3	3.62E-3	2.65E-3	2.01E-3	1.78E-3	1.82E-3	67	992.97	1.10E-3	9.30E-4	7.13E-4	5.80E-4	5.44E-4	5.80E-4
68	928.42	4.22E-3	3.49E-3	2.56E-3	1.94E-3	1.72E-3	1.77E-3	68	1057.31	1.07E-3	9.02E-4	6.93E-4	5.66E-4	5.33E-4	5.71E-4
69	994.17	4.07E-3	3.37E-3	2.47E-3	1.88E-3	1.66E-3	1.72E-3	69	1125.17	1.03E-3	8.76E-4	6.75E-4	5.52E-4	5.22E-4	5.61E-4
70	1063.60	3.92E-3	3.25E-3	2.39E-3	1.82E-3	1.61E-3	1.67E-3	70	1196.72	1.01E-3	8.50E-4	6.56E-4	5.39E-4	5.11E-4	5.52E-4
71	1136.87	3.79E-3	3.14E-3	2.31E-3	1.76E-3	1.56E-3	1.62E-3	71	1272.11	9.73E-4	8.26E-4	6.39E-4	5.26E-4	5.01E-4	5.42E-4
72	1214.16	3.66E-3	3.04E-3	2.23E-3	1.70E-3	1.51E-3	1.57E-3	72	1351.52	9.45E-4	8.02E-4	6.22E-4	5.13E-4	4.90E-4	5.33E-4
73	1295.64	3.54E-3	2.94E-3	2.16E-3	1.64E-3	1.46E-3	1.53E-3	73	1435.13	9.17E-4	7.79E-4	6.05E-4	5.00E-4	4.80E-4	5.24E-4
74	1381.51	3.42E-3	2.84E-3	2.09E-3	1.59E-3	1.42E-3	1.49E-3	74	1523.13	8.89E-4	7.57E-4	5.89E-4	4.88E-4	4.70E-4	5.15E-4
75	1471.96	3.31E-3	2.75E-3	2.02E-3	1.54E-3	1.37E-3	1.45E-3	75	1615.73	8.63E-4	7.35E-4	5.73E-4	4.76E-4	4.60E-4	5.06E-4
76	1567.19	3.20E-3	2.66E-3	1.96E-3	1.49E-3	1.33E-3	1.41E-3	76	1713.11	8.37E-4	7.14E-4	5.58E-4	4.65E-4	4.50E-4	4.97E-4
77	1667.43	3.10E-3	2.58E-3	1.90E-3	1.45E-3	1.29E-3	1.37E-3	77	1815.50	8.13E-4	6.94E-4	5.43E-4	4.54E-4	4.40E-4	4.88E-4
78	1772.90	3.00E-3	2.49E-3	1.84E-3	1.41E-3	1.26E-3	1.34E-3	78	1923.13	7.89E-4	6.74E-4	5.29E-4	4.43E-4	4.31E-4	4.80E-4
79	1883.82	2.90E-3	2.42E-3	1.78E-3	1.36E-3	1.22E-3	1.30E-3	79	2036.23	7.67E-4	6.55E-4	5.15E-4	4.32E-4	4.22E-4	4.71E-4
80	2000.45	2.81E-3	2.34E-3	1.73E-3	1.32E-3	1.19E-3	1.27E-3	80	2155.04	7.44E-4	6.37E-4	5.01E-4	4.21E-4	4.13E-4	4.63E-4
81	2123.06	2.73E-3	2.27E-3	1.68E-3	1.28E-3	1.15E-3	1.24E-3	81	2279.83	7.23E-4	6.19E-4	4.88E-4	4.11E-4	4.04E-4	4.55E-4
82	2251.89	2.64E-3	2.20E-3	1.63E-3	1.25E-3	1.12E-3	1.21E-3	82	2410.86	7.02E-4	6.02E-4	4.75E-4	4.01E-4	3.95E-4	4.47E-4
83	2387.25	2.56E-3	2.14E-3	1.58E-3	1.21E-3	1.09E-3	1.18E-3	83	2548.42	6.82E-4	5.86E-4	4.63E-4	3.91E-4	3.87E-4	4.39E-4
84	2529.43	2.49E-3	2.08E-3	1.54E-3	1.18E-3	1.06E-3	1.15E-3	84	2692.82	6.63E-4	5.70E-4	4.51E-4	3.82E-4	3.78E-4	4.31E-4
85	2678.74	2.41E-3	2.02E-3	1.49E-3	1.14E-3	1.03E-3	1.12E-3	85	2844.36	6.44E-4	5.54E-4	4.39E-4	3.73E-4	3.70E-4	4.23E-4
86	2835.48	2.34E-3	1.96E-3	1.45E-3	1.11E-3	1.01E-3	1.10E-3	86	3003.33	6.26E-4	5.39E-4	4.28E-4	3.64E-4	3.62E-4	4.16E-4
87	3000.05	2.27E-3	1.90E-3	1.41E-3	1.08E-3	9.81E-4	1.07E-3	87	3170.16	6.08E-4	5.24E-4	4.17E-4	3.55E-4	3.54E-4	4.08E-4
88	3172.78	2.20E-3	1.85E-3	1.37E-3	1.05E-3	9.55E-4	1.04E-3	88	3345.15	5.91E-4	5.10E-4	4.06E-4	3.46E-4	3.47E-4	4.01E-4
89	3354.08	2.14E-3	1.79E-3	1.33E-3	1.02E-3	9.30E-4	1.02E-3	89	3528.72	5.74E-4	4.96E-4	3.95E-4	3.38E-4	3.39E-4	3.94E-4</

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - F_4$								$F_2 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	82.74	2.82E-4	2.03E-4	1.06E-4	4.38E-5	1.55E-5	5.39E-6	26	20.49	2.39E-2	2.12E-2	1.82E-2	1.68E-2	1.67E-2	1.70E-2
27	87.31	3.34E-4	2.42E-4	1.27E-4	5.26E-5	1.87E-5	6.62E-6	27	22.89	2.11E-2	1.83E-2	1.51E-2	1.35E-2	1.31E-2	1.33E-2
28	92.26	3.91E-4	2.83E-4	1.49E-4	6.22E-5	2.24E-5	8.04E-6	28	25.54	1.86E-2	1.58E-2	1.26E-2	1.08E-2	1.02E-2	1.03E-2
29	97.65	4.49E-4	3.26E-4	1.72E-4	7.22E-5	2.63E-5	9.59E-6	29	28.41	1.65E-2	1.38E-2	1.06E-2	8.67E-3	7.96E-3	7.88E-3
30	103.61	5.05E-4	3.67E-4	1.94E-4	8.21E-5	3.02E-5	1.12E-5	30	31.49	1.46E-2	1.20E-2	8.90E-3	6.97E-3	6.17E-3	6.01E-3
31	110.23	5.53E-4	4.01E-4	2.13E-4	9.06E-5	3.37E-5	1.27E-5	31	34.73	1.29E-2	1.05E-2	7.50E-3	5.60E-3	4.77E-3	4.55E-3
32	117.63	5.87E-4	4.26E-4	2.27E-4	9.72E-5	3.65E-5	1.40E-5	32	38.10	1.15E-2	9.23E-3	6.38E-3	4.53E-3	3.68E-3	3.43E-3
33	125.96	6.02E-4	4.38E-4	2.34E-4	1.01E-4	3.81E-5	1.50E-5	33	41.53	1.03E-2	8.17E-3	5.47E-3	3.69E-3	2.85E-3	2.57E-3
34	135.33	5.95E-4	4.34E-4	2.33E-4	1.01E-4	3.85E-5	1.54E-5	34	44.99	9.39E-3	7.33E-3	4.76E-3	3.05E-3	2.22E-3	1.93E-3
35	145.88	5.69E-4	4.16E-4	2.23E-4	9.72E-5	3.76E-5	1.53E-5	35	48.44	8.45E-3	6.53E-3	4.14E-3	2.53E-3	1.75E-3	1.45E-3
36	157.73	5.27E-4	3.85E-4	2.07E-4	9.06E-5	3.55E-5	1.49E-5	36	51.84	7.51E-3	5.79E-3	3.61E-3	2.12E-3	1.38E-3	1.10E-3
37	171.00	4.73E-4	3.46E-4	1.87E-4	8.23E-5	3.26E-5	1.40E-5	37	55.16	6.89E-3	5.25E-3	3.21E-3	1.81E-3	1.11E-3	8.42E-4
38	185.80	4.15E-4	3.04E-4	1.65E-4	7.29E-5	2.93E-5	1.30E-5	38	58.39	6.27E-3	4.76E-3	2.86E-3	1.57E-3	9.14E-4	6.54E-4
39	202.24	3.57E-4	2.61E-4	1.42E-4	6.33E-5	2.60E-5	1.20E-5	39	61.51	5.62E-3	4.27E-3	2.55E-3	1.36E-3	7.56E-4	5.13E-4
40	220.43	3.02E-4	2.21E-4	1.21E-4	5.42E-5	2.27E-5	1.09E-5	40	64.53	5.14E-3	3.90E-3	2.31E-3	1.21E-3	6.41E-4	4.12E-4
41	240.47	2.52E-4	1.85E-4	1.01E-4	4.59E-5	1.95E-5	9.72E-6	41	67.45	4.81E-3	3.62E-3	2.12E-3	1.09E-3	5.57E-4	3.40E-4
42	262.46	2.10E-4	1.54E-4	8.44E-5	3.86E-5	1.69E-5	8.82E-6	42	70.27	4.36E-3	3.29E-3	1.93E-3	9.75E-4	4.83E-4	2.81E-4
43	286.52	1.73E-4	1.27E-4	7.01E-5	3.24E-5	1.45E-5	7.91E-6	43	72.99	4.04E-3	3.05E-3	1.78E-3	8.88E-4	4.28E-4	2.39E-4
44	312.75	1.42E-4	1.05E-4	5.81E-5	2.71E-5	1.24E-5	7.01E-6	44	75.64	3.82E-3	2.86E-3	1.66E-3	8.21E-4	3.88E-4	2.08E-4
45	341.26	1.18E-4	8.67E-5	4.81E-5	2.27E-5	1.07E-5	6.35E-6	45	78.20	3.50E-3	2.64E-3	1.53E-3	7.52E-4	3.48E-4	1.80E-4
46	372.18	9.70E-5	7.17E-5	3.99E-5	1.91E-5	9.25E-6	5.69E-6	46	80.71	3.28E-3	2.47E-3	1.43E-3	6.98E-4	3.18E-4	1.60E-4
47	405.62	7.99E-5	5.93E-5	3.32E-5	1.60E-5	7.95E-6	5.04E-6	47	83.15	3.14E-3	2.35E-3	1.35E-3	6.60E-4	2.97E-4	1.45E-4
48	441.72	6.64E-5	4.92E-5	2.77E-5	1.36E-5	6.94E-6	4.58E-6	48	85.54	2.90E-3	2.18E-3	1.26E-3	6.10E-4	2.71E-4	1.30E-4
49	480.61	5.51E-5	4.10E-5	2.32E-5	1.15E-5	6.00E-6	4.07E-6	49	87.88	2.80E-3	2.09E-3	1.20E-3	5.81E-4	2.57E-4	1.20E-4
50	522.42	4.60E-5	3.43E-5	1.95E-5	9.79E-6	5.24E-6	3.66E-6	50	90.19	2.65E-3	1.98E-3	1.13E-3	5.47E-4	2.40E-4	1.11E-4
51	567.30	3.86E-5	2.88E-5	1.65E-5	8.41E-6	4.64E-6	3.34E-6	51	92.46	2.46E-3	1.85E-3	1.06E-3	5.12E-4	2.23E-4	1.01E-4
52	615.42	3.24E-5	2.42E-5	1.40E-5	7.21E-6	4.06E-6	2.99E-6	52	94.70	2.35E-3	1.77E-3	1.02E-3	4.90E-4	2.12E-4	9.48E-5
53	666.92	2.73E-5	2.05E-5	1.19E-5	6.22E-6	3.59E-6	2.71E-6	53	96.92	2.24E-3	1.68E-3	9.68E-4	4.65E-4	2.00E-4	8.89E-5
54	721.97	2.32E-5	1.74E-5	1.02E-5	5.40E-6	3.19E-6	2.47E-6	54	99.12	2.12E-3	1.60E-3	9.18E-4	4.40E-4	1.89E-4	8.27E-5
55	780.75	1.97E-5	1.48E-5	8.72E-6	4.69E-6	2.83E-6	2.23E-6	55	101.30	2.04E-3	1.53E-3	8.82E-4	4.23E-4	1.81E-4	7.79E-5
56	843.43	1.68E-5	1.27E-5	7.52E-6	4.11E-6	2.54E-6	2.04E-6	56	103.46	1.94E-3	1.46E-3	8.39E-4	4.02E-4	1.71E-4	7.39E-5
57	910.20	1.44E-5	1.09E-5	6.50E-6	3.60E-6	2.26E-6	1.85E-6	57	105.61	1.87E-3	1.41E-3	8.09E-4	3.88E-4	1.65E-4	7.09E-5
58	981.26	1.24E-5	9.39E-6	5.65E-6	3.17E-6	2.03E-6	1.69E-6	58	107.75	1.80E-3	1.35E-3	7.76E-4	3.72E-4	1.58E-4	6.75E-5
59	1056.82	1.06E-5	8.11E-6	4.92E-6	2.81E-6	1.84E-6	1.56E-6	59	109.88	1.71E-3	1.29E-3	7.41E-4	3.54E-4	1.50E-4	6.37E-5
60	1137.08	9.21E-6	7.05E-6	4.30E-6	2.49E-6	1.66E-6	1.42E-6	60	112.00	1.66E-3	1.25E-3	7.17E-4	3.44E-4	1.46E-4	6.17E-5
61	1222.26	7.98E-6	6.12E-6	3.77E-6	2.22E-6	1.51E-6	1.32E-6	61	114.12	1.58E-3	1.19E-3	6.86E-4	3.28E-4	1.39E-4	5.84E-5
62	1312.59	6.95E-6	5.36E-6	3.32E-6	1.98E-6	1.37E-6	1.21E-6	62	116.23	1.54E-3	1.16E-3	6.65E-4	3.19E-4	1.35E-4	5.67E-5
63	1408.32	6.07E-6	4.70E-6	2.94E-6	1.77E-6	1.25E-6	1.12E-6	63	118.34	1.48E-3	1.11E-3	6.41E-4	3.07E-4	1.30E-4	5.46E-5
64	1509.70	5.31E-6	4.13E-6	2.60E-6	1.60E-6	1.14E-6	1.04E-6	64	120.45	1.42E-3	1.07E-3	6.16E-4	2.94E-4	1.24E-4	5.19E-5
65	1616.97	4.66E-6	3.64E-6	2.32E-6	1.44E-6	1.05E-6	9.63E-7	65	122.56	1.38E-3	1.04E-3	5.99E-4	2.87E-4	1.21E-4	5.06E-5
66	1730.42	4.09E-6	3.20E-6	2.06E-6	1.30E-6	9.68E-7	8.98E-7	66	124.67	1.32E-3	9.97E-4	5.75E-4	2.75E-4	1.16E-4	4.82E-5
67	1850.32	3.62E-6	2.84E-6	1.84E-6	1.18E-6	8.88E-7	8.32E-7	67	126.78	1.28E-3	9.66E-4	5.57E-4	2.66E-4	1.12E-4	4.66E-5
68	1976.97	3.19E-6	2.52E-6	1.65E-6	1.08E-6	8.24E-7	7.81E-7	68	128.89	1.24E-3	9.33E-4	5.38E-4	2.57E-4	1.09E-4	4.50E-5
69	2110.68	2.83E-6	2.24E-6	1.48E-6	9.80E-7	7.62E-7	7.30E-7	69	131.00	1.20E-3	9.04E-4	5.21E-4	2.49E-4	1.05E-4	4.35E-5
70	2251.76	2.51E-6	2.00E-6	1.33E-6	8.94E-7	7.06E-7	6.83E-7	70	133.12	1.17E-3	8.81E-4	5.08E-4	2.44E-4	1.03E-4	4.26E-5
71	2400.55	2.24E-6	1.79E-6	1.21E-6	8.21E-7	6.57E-7	6.41E-7	71	135.24	1.12E-3	8.49E-4	4.90E-4	2.35E-4	9.90E-5	4.09E-5
72	2557.39	1.99E-6	1.61E-6	1.10E-6	7.53E-7	6.10E-7	5.99E-7	72	137.36	1.10E-3	8.29E-4	4.79E-4	2.30E-4	9.72E-5	4.03E-5
73	2722.65	1.78E-6	1.45E-6	9.94E-7	6.94E-7	5.68E-7	5.64E-7	73	139.49	1.07E-3	8.05E-4	4.65E-4	2.24E-4	9.46E-5	3.91E-5
74	2896.71	1.60E-6	1.30E-6	9.05E-7	6.41E-7	5.31E-7	5.32E-7	74	141.63	1.04E-3	7.82E-4	4.53E-4	2.17E-4	9.19E-5	3.80E-5
75	3079.96	1.43E-6	1.17E-6	8.25E-7	5.91E-7	4.97E-7	5.01E-7	75	143.77	1.01E-3	7.60E-4	4.40E-4	2.12E-4	8.93E-5	3.71E-5
76	3272.81	1.30E-6	1.06E-6	7.50E-7	5.47E-7	4.67E-7	4.75E-7	76	145.92	9.70E-4	7.33E-4	4.24E-4	2.04E-4	8.60E-5	3.54E-5
77	3475.71	1.17E-6	9.55E-7	6.85E-7	5.05E-7	4.37E-7	4.48E-7	77	148.07	9.43E-4	7.13E-4	4.13E-4	1.98E-4	8.38E-5	3.45E-5
78	3689.09	1.05E-6	8.72E-7	6.32E-7	4.72E-7	4.12E-7	4.25E-7	78	150.23	9.21E-4	6.96E-4	4.03E-4	1.94E-4	8.21E-5	3.39E-5
79	3913.44	9.52E-7	7.94E-7	5.81E-7	4.40E-7	3.88E-7	4.03E-7	79	152.40	8.96E-4	6.77E-4	3.93E-4	1.89E-4	8.00E-5	3.30E-5
80	4149.25	8.61E-7	7.22E-7	5.34E-7	4.09E-7	3.65E-7	3.82E-7	80	154.58	8.70E-4	6.58E-4	3.81E-4	1.83E-4	7.76E-5	3.20E-5
81	4397.03	7.88E-7	6.59E-7	4.92E-7	3.82E-7	3.45E-7	3.64E-7	81	156.77	8.46E-4	6.40E-4	3.71E-4	1.79E-4	7.57E-5	3.12E-5
82	4657.34	7.12E-7	6.02E-7	4.56E-7	3.58E-7	3.25E-7	3.45E-7	82	158.97	8.28E-4	6.26E-4	3.64E-4	1.76E-4	7.43E-5	3.07E-5
83	4930.75	6.48E-7	5.52E-7	4.21E-7	3.35E-7	3.08E-7	3.28E-7	83	161.17	8.07E-4	6.10E-4	3.54E-4	1.71E-4	7.26E-5	3.00E-5
84	5217.87	5.94E-7	5.04E-7	3.88E-7	3.13E-7	2.90E-7	3.12E-7	84	163.39	7.82E-4	5.93E-4	3.45E-4	1.66E-4	7.05E-5	2.90E-5
85	5519.30	5.43E-7	4.64E-7	3.60E-7	2.94E-7	2.75E-7	2.97E-7	85	165.62	7.63E-4	5.79E-4	3.36E-4	1.62E-4	6.89E-5	2.84E-5
86	5835.66	4.97E-7	4.28E-7	3.38E-7	2.78E-7	2.62E-7	2.84E-7	86	167.85	7.48E-4	5.67E-4	3.30E-4	1.60E-4	6.77E-5	2.80E-5
87	6167.76	4.59E-7	3.96E-7	3.14E-7	2.61E-7	2.49E-7	2.72E-7	87	170.10	7.27E-4	5.51E-4	3.21E-4	1.55E-4	6.58E-5	2.71E-5
88	6516.26	4.20E-7	3.64E-7	2.91E-7	2.45E-7	2.36E-7	2.59E-7	88	172.37	7.09E-4	5.38E-4	3.14E-4	1.52E-4	6.44E-5	2.66E-5
89	6881.96	3.85E-7	3.36E-7	2.73E-7	2.32E-7	2.25E-7	2.48E-7	89	174.64	6.96E-4	5.28E-4	3.08E-4	1.49E-4	6.35E-5	2.63E-5
90	726														

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_2 - F_4$								$F_3 - F_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	45.00	1.65E-2	1.28E-2	8.02E-3	4.74E-3	3.10E-3	2.46E-3	26	24.50	1.52E-2	1.14E-2	6.62E-3	3.49E-3	2.00E-3	1.45E-3
27	48.21	1.50E-2	1.17E-2	7.50E-3	4.60E-3	3.16E-3	2.62E-3	27	25.31	1.53E-2	1.15E-2	6.86E-3	3.81E-3	2.36E-3	1.82E-3
28	51.75	1.39E-2	1.09E-2	7.09E-3	4.50E-3	3.25E-3	2.79E-3	28	26.21	1.53E-2	1.16E-2	7.08E-3	4.14E-3	2.75E-3	2.25E-3
29	55.66	1.29E-2	1.02E-2	6.78E-3	4.45E-3	3.34E-3	2.95E-3	29	27.25	1.52E-2	1.16E-2	7.31E-3	4.51E-3	3.19E-3	2.72E-3
30	59.99	1.23E-2	9.73E-3	6.55E-3	4.43E-3	3.43E-3	3.10E-3	30	28.50	1.50E-2	1.16E-2	7.51E-3	4.86E-3	3.63E-3	3.21E-3
31	64.80	1.18E-2	9.38E-3	6.40E-3	4.43E-3	3.51E-3	3.22E-3	31	30.06	1.44E-2	1.13E-2	7.57E-3	5.15E-3	4.04E-3	3.68E-3
32	70.11	1.14E-2	9.11E-3	6.28E-3	4.43E-3	3.58E-3	3.32E-3	32	32.02	1.39E-2	1.11E-2	7.62E-3	5.40E-3	4.40E-3	4.11E-3
33	75.99	1.11E-2	8.91E-3	6.19E-3	4.42E-3	3.62E-3	3.38E-3	33	34.46	1.33E-2	1.07E-2	7.54E-3	5.54E-3	4.67E-3	4.44E-3
34	82.47	1.08E-2	8.72E-3	6.10E-3	4.39E-3	3.62E-3	3.41E-3	34	37.48	1.28E-2	1.03E-2	7.42E-3	5.61E-3	4.83E-3	4.65E-3
35	89.59	1.06E-2	8.59E-3	6.02E-3	4.35E-3	3.61E-3	3.41E-3	35	41.15	1.19E-2	9.69E-3	7.11E-3	5.52E-3	4.87E-3	4.74E-3
36	97.38	1.05E-2	8.47E-3	5.94E-3	4.30E-3	3.57E-3	3.38E-3	36	45.55	1.07E-2	8.88E-3	6.67E-3	5.31E-3	4.77E-3	4.71E-3
37	105.89	1.03E-2	8.31E-3	5.84E-3	4.22E-3	3.51E-3	3.33E-3	37	50.73	9.96E-3	8.26E-3	6.28E-3	5.08E-3	4.63E-3	4.59E-3
38	115.13	1.01E-2	8.15E-3	5.72E-3	4.14E-3	3.44E-3	3.27E-3	38	56.74	9.05E-3	7.57E-3	5.82E-3	4.79E-3	4.41E-3	4.41E-3
39	125.16	9.91E-3	8.00E-3	5.61E-3	4.05E-3	3.36E-3	3.19E-3	39	63.64	8.08E-3	6.83E-3	5.34E-3	4.45E-3	4.15E-3	4.18E-3
40	136.00	9.68E-3	7.81E-3	5.47E-3	3.95E-3	3.28E-3	3.12E-3	40	71.47	7.33E-3	6.22E-3	4.91E-3	4.14E-3	3.88E-3	3.93E-3
41	147.71	9.42E-3	7.60E-3	5.32E-3	3.84E-3	3.19E-3	3.03E-3	41	80.26	6.74E-3	5.73E-3	4.54E-3	3.85E-3	3.63E-3	3.68E-3
42	160.33	9.17E-3	7.40E-3	5.19E-3	3.74E-3	3.10E-3	2.95E-3	42	90.06	6.06E-3	5.18E-3	4.15E-3	3.54E-3	3.37E-3	3.43E-3
43	173.92	8.90E-3	7.19E-3	5.04E-3	3.63E-3	3.01E-3	2.87E-3	43	100.93	5.53E-3	4.74E-3	3.81E-3	3.28E-3	3.12E-3	3.20E-3
44	188.53	8.63E-3	6.96E-3	4.88E-3	3.52E-3	2.92E-3	2.79E-3	44	112.90	5.11E-3	4.38E-3	3.53E-3	3.04E-3	2.90E-3	2.98E-3
45	204.24	8.35E-3	6.75E-3	4.74E-3	3.42E-3	2.83E-3	2.71E-3	45	126.03	4.66E-3	4.01E-3	3.24E-3	2.81E-3	2.69E-3	2.78E-3
46	221.09	8.08E-3	6.54E-3	4.59E-3	3.31E-3	2.75E-3	2.64E-3	46	140.38	4.29E-3	3.70E-3	3.00E-3	2.61E-3	2.50E-3	2.59E-3
47	239.15	7.81E-3	6.31E-3	4.44E-3	3.20E-3	2.67E-3	2.56E-3	47	156.00	4.00E-3	3.45E-3	2.80E-3	2.43E-3	2.34E-3	2.42E-3
48	258.50	7.55E-3	6.11E-3	4.30E-3	3.11E-3	2.59E-3	2.49E-3	48	172.96	3.69E-3	3.19E-3	2.59E-3	2.26E-3	2.18E-3	2.26E-3
49	279.21	7.29E-3	5.90E-3	4.16E-3	3.01E-3	2.51E-3	2.43E-3	49	191.32	3.45E-3	2.98E-3	2.42E-3	2.11E-3	2.04E-3	2.12E-3
50	301.34	7.04E-3	5.70E-3	4.02E-3	2.92E-3	2.44E-3	2.36E-3	50	211.15	3.22E-3	2.79E-3	2.27E-3	1.97E-3	1.91E-3	1.99E-3
51	324.99	6.79E-3	5.51E-3	3.89E-3	2.83E-3	2.37E-3	2.30E-3	51	232.53	3.01E-3	2.60E-3	2.12E-3	1.85E-3	1.79E-3	1.87E-3
52	350.22	6.56E-3	5.32E-3	3.76E-3	2.74E-3	2.30E-3	2.24E-3	52	255.52	2.83E-3	2.45E-3	1.99E-3	1.74E-3	1.68E-3	1.77E-3
53	377.13	6.33E-3	5.14E-3	3.64E-3	2.65E-3	2.23E-3	2.18E-3	53	280.21	2.66E-3	2.30E-3	1.87E-3	1.63E-3	1.59E-3	1.67E-3
54	405.79	6.11E-3	4.97E-3	3.52E-3	2.57E-3	2.17E-3	2.12E-3	54	306.67	2.50E-3	2.17E-3	1.77E-3	1.54E-3	1.50E-3	1.58E-3
55	436.30	5.90E-3	4.80E-3	3.41E-3	2.49E-3	2.10E-3	2.06E-3	55	335.01	2.37E-3	2.05E-3	1.67E-3	1.45E-3	1.42E-3	1.50E-3
56	468.75	5.70E-3	4.64E-3	3.30E-3	2.42E-3	2.04E-3	2.01E-3	56	365.29	2.24E-3	1.94E-3	1.58E-3	1.38E-3	1.34E-3	1.42E-3
57	503.24	5.50E-3	4.49E-3	3.19E-3	2.34E-3	1.98E-3	1.96E-3	57	397.63	2.13E-3	1.84E-3	1.50E-3	1.30E-3	1.27E-3	1.35E-3
58	539.86	5.32E-3	4.34E-3	3.09E-3	2.27E-3	1.93E-3	1.91E-3	58	432.12	2.02E-3	1.75E-3	1.42E-3	1.24E-3	1.21E-3	1.29E-3
59	578.73	5.14E-3	4.20E-3	2.99E-3	2.20E-3	1.87E-3	1.86E-3	59	468.85	1.92E-3	1.66E-3	1.35E-3	1.18E-3	1.15E-3	1.23E-3
60	619.94	4.97E-3	4.06E-3	2.90E-3	2.14E-3	1.82E-3	1.81E-3	60	507.93	1.83E-3	1.58E-3	1.29E-3	1.12E-3	1.10E-3	1.18E-3
61	663.61	4.80E-3	3.93E-3	2.81E-3	2.07E-3	1.77E-3	1.77E-3	61	549.49	1.74E-3	1.51E-3	1.23E-3	1.07E-3	1.05E-3	1.12E-3
62	709.85	4.64E-3	3.80E-3	2.72E-3	2.01E-3	1.72E-3	1.73E-3	62	593.62	1.66E-3	1.44E-3	1.17E-3	1.02E-3	1.00E-3	1.08E-3
63	758.79	4.49E-3	3.68E-3	2.64E-3	1.95E-3	1.68E-3	1.69E-3	63	640.45	1.59E-3	1.38E-3	1.12E-3	9.75E-4	9.58E-4	1.03E-3
64	810.56	4.35E-3	3.57E-3	2.56E-3	1.89E-3	1.63E-3	1.64E-3	64	690.11	1.52E-3	1.32E-3	1.07E-3	9.33E-4	9.18E-4	9.93E-4
65	865.28	4.21E-3	3.45E-3	2.48E-3	1.84E-3	1.59E-3	1.61E-3	65	742.72	1.46E-3	1.26E-3	1.03E-3	8.94E-4	8.80E-4	9.55E-4
66	923.09	4.07E-3	3.34E-3	2.41E-3	1.79E-3	1.54E-3	1.57E-3	66	798.42	1.40E-3	1.21E-3	9.83E-4	8.56E-4	8.45E-4	9.19E-4
67	984.13	3.94E-3	3.24E-3	2.34E-3	1.74E-3	1.50E-3	1.53E-3	67	857.35	1.34E-3	1.16E-3	9.44E-4	8.22E-4	8.12E-4	8.86E-4
68	1048.55	3.82E-3	3.14E-3	2.27E-3	1.69E-3	1.46E-3	1.50E-3	68	919.66	1.29E-3	1.12E-3	9.06E-4	7.89E-4	7.81E-4	8.54E-4
69	1116.51	3.70E-3	3.05E-3	2.20E-3	1.64E-3	1.43E-3	1.46E-3	69	985.51	1.24E-3	1.07E-3	8.71E-4	7.59E-4	7.51E-4	8.25E-4
70	1188.16	3.59E-3	2.96E-3	2.14E-3	1.59E-3	1.39E-3	1.43E-3	70	1055.05	1.19E-3	1.03E-3	8.38E-4	7.30E-4	7.24E-4	7.97E-4
71	1263.68	3.48E-3	2.87E-3	2.08E-3	1.55E-3	1.35E-3	1.40E-3	71	1128.44	1.15E-3	9.94E-4	8.06E-4	7.02E-4	6.98E-4	7.71E-4
72	1343.24	3.37E-3	2.78E-3	2.02E-3	1.51E-3	1.32E-3	1.36E-3	72	1205.87	1.10E-3	9.57E-4	7.77E-4	6.77E-4	6.73E-4	7.46E-4
73	1427.01	3.27E-3	2.70E-3	1.96E-3	1.47E-3	1.28E-3	1.33E-3	73	1287.52	1.06E-3	9.22E-4	7.49E-4	6.53E-4	6.50E-4	7.22E-4
74	1515.20	3.17E-3	2.62E-3	1.90E-3	1.43E-3	1.25E-3	1.30E-3	74	1373.57	1.02E-3	8.89E-4	7.22E-4	6.29E-4	6.28E-4	7.00E-4
75	1608.00	3.08E-3	2.55E-3	1.85E-3	1.39E-3	1.22E-3	1.28E-3	75	1464.23	9.87E-4	8.58E-4	6.96E-4	6.08E-4	6.07E-4	6.79E-4
76	1705.62	2.99E-3	2.47E-3	1.80E-3	1.35E-3	1.19E-3	1.25E-3	76	1559.70	9.53E-4	8.28E-4	6.72E-4	5.87E-4	5.87E-4	6.59E-4
77	1808.27	2.90E-3	2.40E-3	1.75E-3	1.31E-3	1.16E-3	1.22E-3	77	1660.20	9.20E-4	8.00E-4	6.49E-4	5.67E-4	5.69E-4	6.40E-4
78	1916.19	2.81E-3	2.33E-3	1.70E-3	1.28E-3	1.13E-3	1.20E-3	78	1765.96	8.88E-4	7.72E-4	6.28E-4	5.49E-4	5.51E-4	6.22E-4
79	2029.62	2.73E-3	2.27E-3	1.66E-3	1.25E-3	1.11E-3	1.17E-3	79	1877.21	8.58E-4	7.46E-4	6.07E-4	5.31E-4	5.34E-4	6.04E-4
80	2148.79	2.65E-3	2.20E-3	1.61E-3	1.21E-3	1.08E-3	1.14E-3	80	1994.21	8.30E-4	7.22E-4	5.87E-4	5.13E-4	5.17E-4	5.88E-4
81	2273.98	2.58E-3	2.14E-3	1.57E-3	1.18E-3	1.05E-3	1.12E-3	81	2117.20	8.03E-4	6.98E-4	5.68E-4	4.97E-4	5.02E-4	5.72E-4
82	2405.45	2.51E-3	2.08E-3	1.52E-3	1.15E-3	1.03E-3	1.10E-3	82	2246.48	7.76E-4	6.75E-4	5.50E-4	4.81E-4	4.87E-4	5.57E-4
83	2543.50	2.44E-3	2.02E-3	1.48E-3	1.12E-3	1.00E-3	1.08E-3	83	2382.33	7.51E-4	6.54E-4	5.32E-4	4.66E-4	4.73E-4	5.42E-4
84	2688.43	2.37E-3	1.97E-3	1.44E-3	1.09E-3	9.78E-4	1.05E-3	84	2525.04	7.27E-4	6.33E-4	5.15E-4	4.52E-4	4.59E-4	5.28E-4
85	2840.56	2.30E-3	1.92E-3	1.41E-3	1.07E-3	9.55E-4	1.03E-3	85	2674.94	7.04E-4	6.13E-4	4.99E-4	4.38E-4	4.46E-4	5.15E-4
86	3000.18	2.24E-3	1.86E-3	1.37E-3	1.04E-3	9.32E-4	1.01E-3	86	2832.33	6.81E-4	5.94E-4	4.84E-4	4.25E-4	4.33E-4	5.02E-4
87	3167.71	2.17E-3	1.81E-3	1.33E-3	1.01E-3	9.10E-4	9.88E-4	87	2997.60	6.60E-4	5.75E-4	4.69E-4	4.12E-4	4.21E-4	4.90E-4
88	3343.47	2.11E-3	1.76E-3	1.30E-3	9.87E-4	8.88E-4	9.68E-4	88	3171.11	6.39E-4	5.58E-4	4.55E-4	4.00E-4	4.09E-4	4.78E-4
89	3527.88	2.05E-3	1.72E-3	1.27E-3	9.62E-4	8.67E-4	9.48E-4	89	3353.24	6.19E-4	5.40E-4	4.41E-4	3.88E-4	3.98E-4	4.66E-4

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - G_1$								$F_2 - G_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	41.01	3.60E-2	2.76E-2	1.67E-2	8.95E-3	5.00E-3	3.39E-3	26	3.270	4.76E-2	3.81E-2	2.63E-2	1.83E-2	1.45E-2	1.31E-2
27	43.25	3.31E-2	2.55E-2	1.56E-2	8.66E-3	5.10E-3	3.69E-3	27	4.149	4.43E-2	3.55E-2	2.47E-2	1.76E-2	1.42E-2	1.31E-2
28	45.67	3.06E-2	2.37E-2	1.47E-2	8.45E-3	5.28E-3	4.04E-3	28	5.156	4.06E-2	3.26E-2	2.30E-2	1.68E-2	1.38E-2	1.28E-2
29	48.28	2.84E-2	2.21E-2	1.40E-2	8.34E-3	5.53E-3	4.45E-3	29	6.289	3.73E-2	3.01E-2	2.14E-2	1.58E-2	1.32E-2	1.24E-2
30	51.15	2.65E-2	2.08E-2	1.34E-2	8.33E-3	5.83E-3	4.89E-3	30	7.539	3.43E-2	2.77E-2	1.99E-2	1.48E-2	1.25E-2	1.18E-2
31	54.32	2.49E-2	1.97E-2	1.29E-2	8.39E-3	6.17E-3	5.38E-3	31	8.892	3.09E-2	2.53E-2	1.83E-2	1.37E-2	1.16E-2	1.10E-2
32	57.85	2.35E-2	1.87E-2	1.26E-2	8.50E-3	6.54E-3	5.89E-3	32	10.33	2.85E-2	2.33E-2	1.68E-2	1.26E-2	1.07E-2	1.02E-2
33	61.80	2.22E-2	1.79E-2	1.23E-2	8.65E-3	6.94E-3	6.41E-3	33	11.83	2.62E-2	2.14E-2	1.55E-2	1.16E-2	9.81E-3	9.31E-3
34	66.23	2.11E-2	1.72E-2	1.21E-2	8.82E-3	7.34E-3	6.92E-3	34	13.37	2.47E-2	2.00E-2	1.43E-2	1.06E-2	8.90E-3	8.41E-3
35	71.22	2.02E-2	1.65E-2	1.20E-2	8.99E-3	7.70E-3	7.40E-3	35	14.93	2.28E-2	1.84E-2	1.31E-2	9.57E-3	7.96E-3	7.50E-3
36	76.82	1.93E-2	1.59E-2	1.18E-2	9.13E-3	8.03E-3	7.84E-3	36	16.47	2.06E-2	1.67E-2	1.18E-2	8.55E-3	7.04E-3	6.60E-3
37	83.11	1.85E-2	1.54E-2	1.16E-2	9.25E-3	8.31E-3	8.22E-3	37	18.00	1.95E-2	1.56E-2	1.09E-2	7.73E-3	6.24E-3	5.78E-3
38	90.14	1.77E-2	1.49E-2	1.14E-2	9.31E-3	8.53E-3	8.52E-3	38	19.48	1.81E-2	1.44E-2	0.992E-2	6.90E-3	5.47E-3	5.02E-3
39	97.98	1.70E-2	1.44E-2	1.12E-2	9.33E-3	8.68E-3	8.75E-3	39	20.90	1.64E-2	1.31E-2	0.894E-2	6.12E-3	4.76E-3	4.32E-3
40	106.69	1.63E-2	1.39E-2	1.10E-2	9.30E-3	8.77E-3	8.91E-3	40	22.26	1.53E-2	1.21E-2	0.818E-2	5.47E-3	4.15E-3	3.71E-3
41	116.32	1.56E-2	1.34E-2	1.08E-2	9.23E-3	8.80E-3	9.01E-3	41	23.56	1.46E-2	1.15E-2	0.759E-2	4.95E-3	3.65E-3	3.20E-3
42	126.93	1.50E-2	1.29E-2	1.05E-2	9.12E-3	8.78E-3	9.04E-3	42	24.80	1.33E-2	1.05E-2	0.690E-2	4.41E-3	3.17E-3	2.74E-3
43	138.57	1.43E-2	1.24E-2	1.02E-2	8.98E-3	8.71E-3	9.02E-3	43	25.97	1.25E-2	0.982E-2	0.637E-2	3.98E-3	2.79E-3	2.35E-3
44	151.29	1.38E-2	1.20E-2	0.992E-2	8.81E-3	8.61E-3	8.95E-3	44	27.08	1.20E-2	0.937E-2	0.603E-2	3.67E-3	2.48E-3	2.04E-3
45	165.16	1.32E-2	1.15E-2	0.962E-2	8.61E-3	8.47E-3	8.85E-3	45	28.13	1.11E-2	0.864E-2	0.549E-2	3.29E-3	2.17E-3	1.75E-3
46	180.23	1.26E-2	1.11E-2	0.932E-2	8.40E-3	8.31E-3	8.72E-3	46	29.13	1.05E-2	0.814E-2	0.513E-2	3.02E-3	1.93E-3	1.52E-3
47	196.56	1.21E-2	1.07E-2	0.902E-2	8.18E-3	8.14E-3	8.57E-3	47	30.08	1.02E-2	0.783E-2	0.488E-2	2.81E-3	1.75E-3	1.33E-3
48	214.21	1.16E-2	1.03E-2	0.872E-2	7.96E-3	7.95E-3	8.41E-3	48	30.99	0.940E-2	0.727E-2	0.451E-2	2.57E-3	1.55E-3	1.16E-3
49	233.25	1.11E-2	0.988E-2	0.843E-2	7.73E-3	7.76E-3	8.23E-3	49	31.85	0.921E-2	0.703E-2	0.433E-2	2.42E-3	1.42E-3	1.03E-3
50	253.76	1.07E-2	0.950E-2	0.814E-2	7.50E-3	7.56E-3	8.05E-3	50	32.68	0.875E-2	0.669E-2	0.412E-2	2.27E-3	1.30E-3	0.98E-3
51	275.79	1.03E-2	0.914E-2	0.786E-2	7.27E-3	7.35E-3	7.86E-3	51	33.47	0.810E-2	0.624E-2	0.381E-2	2.08E-3	1.17E-3	0.98E-3
52	299.43	0.985E-2	0.879E-2	0.759E-2	7.05E-3	7.15E-3	7.67E-3	52	34.23	0.766E-2	0.607E-2	0.367E-2	1.97E-3	1.09E-3	0.97E-3
53	324.75	0.945E-2	0.845E-2	0.732E-2	6.82E-3	6.95E-3	7.48E-3	53	34.97	0.760E-2	0.600E-2	0.350E-2	1.86E-3	1.00E-3	0.94E-3
54	351.85	0.908E-2	0.813E-2	0.706E-2	6.61E-3	6.75E-3	7.29E-3	54	35.67	0.709E-2	0.544E-2	0.329E-2	1.74E-3	0.918E-3	0.87E-3
55	380.79	0.872E-2	0.782E-2	0.682E-2	6.40E-3	6.56E-3	7.10E-3	55	36.35	0.699E-2	0.532E-2	0.319E-2	1.67E-3	0.867E-3	0.82E-3
56	411.67	0.838E-2	0.753E-2	0.658E-2	6.19E-3	6.37E-3	6.92E-3	56	37.00	0.652E-2	0.500E-2	0.300E-2	1.57E-3	0.799E-3	0.78E-3
57	444.59	0.806E-2	0.725E-2	0.635E-2	5.99E-3	6.18E-3	6.74E-3	57	37.63	0.646E-2	0.491E-2	0.293E-2	1.51E-3	0.762E-3	0.74E-3
58	479.63	0.775E-2	0.698E-2	0.613E-2	5.80E-3	6.00E-3	6.57E-3	58	38.24	0.620E-2	0.472E-2	0.281E-2	1.44E-3	0.717E-3	0.69E-3
59	516.91	0.745E-2	0.673E-2	0.592E-2	5.62E-3	5.83E-3	6.40E-3	59	38.82	0.580E-2	0.444E-2	0.266E-2	1.36E-3	0.668E-3	0.65E-3
60	556.53	0.718E-2	0.648E-2	0.572E-2	5.44E-3	5.66E-3	6.23E-3	60	39.39	0.577E-2	0.438E-2	0.261E-2	1.32E-3	0.644E-3	0.62E-3
61	598.59	0.691E-2	0.625E-2	0.552E-2	5.27E-3	5.49E-3	6.07E-3	61	39.93	0.539E-2	0.413E-2	0.247E-2	1.26E-3	0.602E-3	0.58E-3
62	643.20	0.666E-2	0.603E-2	0.534E-2	5.10E-3	5.34E-3	5.92E-3	62	40.46	0.538E-2	0.408E-2	0.242E-2	1.22E-3	0.584E-3	0.56E-3
63	690.50	0.641E-2	0.581E-2	0.516E-2	4.94E-3	5.18E-3	5.77E-3	63	40.97	0.519E-2	0.394E-2	0.234E-2	1.18E-3	0.559E-3	0.54E-3
64	740.60	0.618E-2	0.561E-2	0.498E-2	4.79E-3	5.03E-3	5.62E-3	64	41.46	0.501E-2	0.380E-2	0.225E-2	1.14E-3	0.530E-3	0.51E-3
65	793.62	0.596E-2	0.542E-2	0.482E-2	4.64E-3	4.89E-3	5.48E-3	65	41.93	0.486E-2	0.369E-2	0.219E-2	1.10E-3	0.513E-3	0.49E-3
66	849.72	0.575E-2	0.523E-2	0.466E-2	4.49E-3	4.75E-3	5.35E-3	66	42.38	0.454E-2	0.348E-2	0.208E-2	1.05E-3	0.484E-3	0.46E-3
67	909.01	0.555E-2	0.505E-2	0.451E-2	4.36E-3	4.62E-3	5.21E-3	67	42.82	0.455E-2	0.345E-2	0.204E-2	1.03E-3	0.470E-3	0.45E-3
68	971.66	0.536E-2	0.488E-2	0.436E-2	4.22E-3	4.49E-3	5.09E-3	68	43.23	0.426E-2	0.327E-2	0.195E-2	0.982E-3	0.449E-3	0.43E-3
69	1037.80	0.517E-2	0.472E-2	0.422E-2	4.10E-3	4.37E-3	4.96E-3	69	43.63	0.413E-2	0.318E-2	0.190E-2	0.953E-3	0.434E-3	0.42E-3
70	1107.61	0.499E-2	0.456E-2	0.409E-2	3.97E-3	4.25E-3	4.85E-3	70	44.01	0.403E-2	0.309E-2	0.185E-2	0.928E-3	0.422E-3	0.41E-3
71	1181.24	0.483E-2	0.441E-2	0.396E-2	3.85E-3	4.13E-3	4.73E-3	71	44.37	0.389E-2	0.299E-2	0.179E-2	0.898E-3	0.407E-3	0.39E-3
72	1258.87	0.466E-2	0.426E-2	0.384E-2	3.74E-3	4.02E-3	4.62E-3	72	44.71	0.393E-2	0.299E-2	0.178E-2	0.885E-3	0.403E-3	0.38E-3
73	1340.68	0.451E-2	0.413E-2	0.372E-2	3.63E-3	3.91E-3	4.51E-3	73	45.04	0.383E-2	0.290E-2	0.172E-2	0.868E-3	0.389E-3	0.37E-3
74	1426.85	0.436E-2	0.399E-2	0.360E-2	3.52E-3	3.81E-3	4.41E-3	74	45.34	0.372E-2	0.283E-2	0.168E-2	0.842E-3	0.380E-3	0.36E-3
75	1517.58	0.421E-2	0.386E-2	0.349E-2	3.42E-3	3.71E-3	4.31E-3	75	45.62	0.362E-2	0.276E-2	0.164E-2	0.818E-3	0.371E-3	0.35E-3
76	1613.08	0.407E-2	0.374E-2	0.338E-2	3.32E-3	3.61E-3	4.21E-3	76	45.89	0.358E-2	0.261E-2	0.157E-2	0.787E-3	0.353E-3	0.34E-3
77	1713.56	0.394E-2	0.362E-2	0.328E-2	3.23E-3	3.52E-3	4.11E-3	77	46.13	0.329E-2	0.254E-2	0.153E-2	0.768E-3	0.344E-3	0.33E-3
78	1819.25	0.381E-2	0.350E-2	0.318E-2	3.14E-3	3.43E-3	4.02E-3	78	46.35	0.328E-2	0.251E-2	0.151E-2	0.756E-3	0.340E-3	0.32E-3
79	1930.38	0.369E-2	0.339E-2	0.309E-2	3.05E-3	3.34E-3	3.94E-3	79	46.55	0.319E-2	0.245E-2	0.147E-2	0.738E-3	0.332E-3	0.31E-3
80	2047.19	0.358E-2	0.329E-2	0.299E-2	2.96E-3	3.25E-3	3.85E-3	80	46.73	0.311E-2	0.238E-2	0.143E-2	0.725E-3	0.322E-3	0.30E-3
81	2169.95	0.346E-2	0.319E-2	0.290E-2	2.88E-3	3.17E-3	3.76E-3	81	46.89	0.297E-2	0.230E-2	0.139E-2	0.702E-3	0.313E-3	0.29E-3
82	2298.92	0.335E-2	0.309E-2	0.281E-2	2.80E-3	3.09E-3	3.68E-3	82	47.03	0.297E-2	0.228E-2	0.137E-2	0.692E-3	0.311E-3	0.28E-3
83	2434.39	0.325E-2	0.299E-2	0.273E-2	2.72E-3	3.01E-3	3.60E-3	83	47.14	0.290E-2	0.222E-2	0.134E-2	0.682E-3	0.303E-3	0.27E-3
84	2576.65	0.314E-2	0.290E-2	0.265E-2	2.64E-3	2.94E-3	3.53E-3	84	47.22	0.276E-2	0.215E-2	0.130E-2	0.659E-3	0.294E-3	0.26E-3
85	2726.03	0.305E-2	0.281E-2	0.257E-2	2.57E-3	2.86E-3	3.45E-3	85	47.28	0.270E-2	0.210E-2	0.128E-2	0.647E-3	0.289E-3	0.25E-3
86	2882.80	0.295E-2	0.273E-2	0.250E-2	2.50E-3	2.79E-3	3.38E-3	86	47.32	0.270E-2	0.209E-2	0.127E-2	0.639E-3	0.288E-3	0.24E-3
87	3047.38	0.286E-2	0.264E-2	0.242E-2	2.43E-3	2.72E-3	3.31E-3	87	47.33	0.258E-2	0.201E-2	0.123E-2	0.623E-3	0.278E-3	0.23E-3
88	3220.10	0.277E-2	0.257E-2	0.235E-2	2.36E-3	2.65E-3	3.24E-3	88	47.31	0.252E-2	0.1				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$G_1 - E_2$								$G_1 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	15.02	2.46E-2	2.42E-2	2.48E-2	2.65E-2	2.85E-2	3.01E-2	26	37.74	8.57E-3	6.62E-3	4.17E-3	2.54E-3	1.77E-3	1.49E-3
27	16.00	2.21E-2	2.17E-2	2.22E-2	2.36E-2	2.53E-2	2.68E-2	27	38.83	8.11E-3	6.31E-3	4.06E-3	2.59E-3	1.90E-3	1.67E-3
28	17.05	2.00E-2	1.95E-2	1.98E-2	2.11E-2	2.26E-2	2.38E-2	28	39.87	7.74E-3	6.07E-3	4.00E-3	2.66E-3	2.05E-3	1.86E-3
29	18.14	1.81E-2	1.76E-2	1.78E-2	1.88E-2	2.01E-2	2.12E-2	29	40.84	7.44E-3	5.88E-3	3.97E-3	2.75E-3	2.21E-3	2.06E-3
30	19.29	1.63E-2	1.59E-2	1.59E-2	1.68E-2	1.79E-2	1.89E-2	30	41.77	7.19E-3	5.73E-3	3.96E-3	2.86E-3	2.39E-3	2.28E-3
31	20.48	1.48E-2	1.43E-2	1.43E-2	1.50E-2	1.60E-2	1.69E-2	31	42.65	6.98E-3	5.62E-3	3.98E-3	2.98E-3	2.58E-3	2.50E-3
32	21.72	1.35E-2	1.29E-2	1.28E-2	1.34E-2	1.42E-2	1.51E-2	32	43.50	6.80E-3	5.53E-3	4.01E-3	3.11E-3	2.77E-3	2.72E-3
33	23.00	1.22E-2	1.17E-2	1.15E-2	1.20E-2	1.27E-2	1.35E-2	33	44.32	6.65E-3	5.46E-3	4.06E-3	3.24E-3	2.96E-3	2.95E-3
34	24.31	1.11E-2	1.06E-2	1.04E-2	1.07E-2	1.14E-2	1.20E-2	34	45.13	6.51E-3	5.40E-3	4.11E-3	3.38E-3	3.15E-3	3.17E-3
35	25.64	1.01E-2	9.63E-3	9.34E-3	9.59E-3	1.02E-2	1.08E-2	35	45.94	6.39E-3	5.35E-3	4.16E-3	3.50E-3	3.33E-3	3.38E-3
36	27.00	9.27E-3	8.74E-3	8.42E-3	8.60E-3	9.08E-3	9.64E-3	36	46.75	6.28E-3	5.31E-3	4.21E-3	3.63E-3	3.50E-3	3.58E-3
37	28.38	8.47E-3	7.95E-3	7.59E-3	7.71E-3	8.13E-3	8.63E-3	37	47.58	6.18E-3	5.27E-3	4.25E-3	3.74E-3	3.65E-3	3.77E-3
38	29.77	7.75E-3	7.24E-3	6.85E-3	6.91E-3	7.27E-3	7.72E-3	38	48.43	6.08E-3	5.22E-3	4.29E-3	3.84E-3	3.79E-3	3.94E-3
39	31.17	7.10E-3	6.59E-3	6.19E-3	6.20E-3	6.51E-3	6.92E-3	39	49.30	5.98E-3	5.17E-3	4.31E-3	3.92E-3	3.92E-3	4.09E-3
40	32.58	6.51E-3	6.01E-3	5.59E-3	5.57E-3	5.82E-3	6.19E-3	40	50.19	5.88E-3	5.12E-3	4.33E-3	4.00E-3	4.03E-3	4.23E-3
41	33.99	5.98E-3	5.49E-3	5.06E-3	5.00E-3	5.21E-3	5.54E-3	41	51.12	5.77E-3	5.07E-3	4.34E-3	4.05E-3	4.12E-3	4.34E-3
42	35.41	5.49E-3	5.02E-3	4.58E-3	4.49E-3	4.66E-3	4.96E-3	42	52.09	5.67E-3	5.01E-3	4.34E-3	4.10E-3	4.19E-3	4.44E-3
43	36.84	5.06E-3	4.59E-3	4.14E-3	4.03E-3	4.17E-3	4.44E-3	43	53.09	5.56E-3	4.94E-3	4.33E-3	4.13E-3	4.25E-3	4.52E-3
44	38.26	4.66E-3	4.20E-3	3.76E-3	3.62E-3	3.74E-3	3.98E-3	44	54.12	5.46E-3	4.87E-3	4.30E-3	4.14E-3	4.29E-3	4.58E-3
45	39.69	4.30E-3	3.85E-3	3.41E-3	3.26E-3	3.34E-3	3.56E-3	45	55.19	5.35E-3	4.80E-3	4.28E-3	4.15E-3	4.32E-3	4.63E-3
46	41.12	3.97E-3	3.54E-3	3.09E-3	2.93E-3	2.99E-3	3.18E-3	46	56.30	5.24E-3	4.72E-3	4.24E-3	4.14E-3	4.33E-3	4.67E-3
47	42.56	3.67E-3	3.25E-3	2.81E-3	2.63E-3	2.68E-3	2.85E-3	47	57.45	5.12E-3	4.63E-3	4.19E-3	4.13E-3	4.34E-3	4.68E-3
48	44.00	3.40E-3	2.99E-3	2.56E-3	2.37E-3	2.40E-3	2.55E-3	48	58.63	5.01E-3	4.55E-3	4.14E-3	4.10E-3	4.33E-3	4.69E-3
49	45.44	3.16E-3	2.76E-3	2.33E-3	2.13E-3	2.15E-3	2.28E-3	49	59.84	4.90E-3	4.46E-3	4.09E-3	4.07E-3	4.31E-3	4.69E-3
50	46.89	2.93E-3	2.55E-3	2.13E-3	1.92E-3	1.92E-3	2.04E-3	50	61.09	4.78E-3	4.37E-3	4.02E-3	4.03E-3	4.28E-3	4.67E-3
51	48.35	2.73E-3	2.36E-3	1.94E-3	1.73E-3	1.72E-3	1.83E-3	51	62.38	4.66E-3	4.27E-3	3.96E-3	3.98E-3	4.25E-3	4.65E-3
52	49.82	2.55E-3	2.18E-3	1.78E-3	1.57E-3	1.54E-3	1.63E-3	52	63.69	4.55E-3	4.18E-3	3.89E-3	3.92E-3	4.20E-3	4.62E-3
53	51.30	2.38E-3	2.03E-3	1.63E-3	1.42E-3	1.38E-3	1.46E-3	53	65.04	4.44E-3	4.08E-3	3.81E-3	3.86E-3	4.15E-3	4.58E-3
54	52.79	2.23E-3	1.89E-3	1.50E-3	1.28E-3	1.24E-3	1.31E-3	54	66.42	4.33E-3	3.99E-3	3.74E-3	3.80E-3	4.10E-3	4.53E-3
55	54.29	2.09E-3	1.76E-3	1.38E-3	1.16E-3	1.12E-3	1.18E-3	55	67.83	4.21E-3	3.90E-3	3.66E-3	3.74E-3	4.04E-3	4.49E-3
56	55.80	1.96E-3	1.64E-3	1.27E-3	1.06E-3	1.01E-3	1.06E-3	56	69.27	4.11E-3	3.80E-3	3.59E-3	3.67E-3	3.98E-3	4.43E-3
57	57.33	1.85E-3	1.54E-3	1.18E-3	9.63E-4	9.06E-4	9.50E-4	57	70.74	4.00E-3	3.71E-3	3.51E-3	3.60E-3	3.92E-3	4.38E-3
58	58.88	1.74E-3	1.45E-3	1.09E-3	8.78E-4	8.18E-4	8.54E-4	58	72.24	3.89E-3	3.61E-3	3.43E-3	3.53E-3	3.85E-3	4.32E-3
59	60.44	1.65E-3	1.36E-3	1.01E-3	8.03E-4	7.40E-4	7.70E-4	59	73.77	3.79E-3	3.52E-3	3.35E-3	3.46E-3	3.79E-3	4.26E-3
60	62.02	1.56E-3	1.28E-3	9.41E-4	7.36E-4	6.70E-4	6.94E-4	60	75.33	3.69E-3	3.43E-3	3.27E-3	3.39E-3	3.72E-3	4.19E-3
61	63.63	1.48E-3	1.21E-3	8.78E-4	6.75E-4	6.07E-4	6.27E-4	61	76.92	3.59E-3	3.34E-3	3.20E-3	3.32E-3	3.65E-3	4.13E-3
62	65.25	1.41E-3	1.14E-3	8.21E-4	6.22E-4	5.52E-4	5.67E-4	62	78.53	3.49E-3	3.26E-3	3.12E-3	3.25E-3	3.58E-3	4.06E-3
63	66.90	1.34E-3	1.08E-3	7.69E-4	5.73E-4	5.03E-4	5.14E-4	63	80.18	3.40E-3	3.17E-3	3.04E-3	3.18E-3	3.51E-3	4.00E-3
64	68.57	1.28E-3	1.03E-3	7.22E-4	5.30E-4	4.59E-4	4.67E-4	64	81.85	3.31E-3	3.09E-3	2.97E-3	3.11E-3	3.45E-3	3.93E-3
65	70.26	1.22E-3	9.77E-4	6.80E-4	4.91E-4	4.20E-4	4.25E-4	65	83.55	3.22E-3	3.01E-3	2.90E-3	3.04E-3	3.38E-3	3.87E-3
66	71.98	1.16E-3	9.30E-4	6.41E-4	4.57E-4	3.84E-4	3.87E-4	66	85.27	3.13E-3	2.93E-3	2.83E-3	2.97E-3	3.31E-3	3.80E-3
67	73.73	1.11E-3	8.87E-4	6.06E-4	4.25E-4	3.53E-4	3.53E-4	67	87.03	3.05E-3	2.86E-3	2.76E-3	2.90E-3	3.24E-3	3.74E-3
68	75.51	1.07E-3	8.48E-4	5.74E-4	3.97E-4	3.25E-4	3.23E-4	68	88.81	2.97E-3	2.78E-3	2.69E-3	2.84E-3	3.18E-3	3.68E-3
69	77.31	1.02E-3	8.11E-4	5.45E-4	3.71E-4	3.00E-4	2.96E-4	69	90.62	2.89E-3	2.71E-3	2.63E-3	2.77E-3	3.12E-3	3.62E-3
70	79.15	9.84E-4	7.77E-4	5.18E-4	3.48E-4	2.77E-4	2.72E-4	70	92.46	2.81E-3	2.64E-3	2.56E-3	2.71E-3	3.05E-3	3.56E-3
71	81.02	9.46E-4	7.46E-4	4.93E-4	3.27E-4	2.57E-4	2.51E-4	71	94.33	2.74E-3	2.57E-3	2.50E-3	2.65E-3	2.99E-3	3.50E-3
72	82.92	9.11E-4	7.16E-4	4.71E-4	3.09E-4	2.39E-4	2.31E-4	72	96.23	2.67E-3	2.51E-3	2.44E-3	2.59E-3	2.94E-3	3.44E-3
73	84.85	8.79E-4	6.89E-4	4.50E-4	2.91E-4	2.22E-4	2.14E-4	73	98.15	2.60E-3	2.45E-3	2.38E-3	2.53E-3	2.88E-3	3.38E-3
74	86.82	8.48E-4	6.63E-4	4.31E-4	2.75E-4	2.08E-4	1.98E-4	74	100.11	2.53E-3	2.38E-3	2.32E-3	2.48E-3	2.82E-3	3.33E-3
75	88.82	8.19E-4	6.39E-4	4.13E-4	2.61E-4	1.94E-4	1.84E-4	75	102.10	2.47E-3	2.32E-3	2.27E-3	2.42E-3	2.77E-3	3.28E-3
76	90.86	7.91E-4	6.17E-4	3.96E-4	2.48E-4	1.82E-4	1.71E-4	76	104.11	2.41E-3	2.27E-3	2.21E-3	2.37E-3	2.71E-3	3.23E-3
77	92.94	7.66E-4	5.96E-4	3.81E-4	2.36E-4	1.71E-4	1.60E-4	77	106.16	2.34E-3	2.21E-3	2.16E-3	2.32E-3	2.66E-3	3.17E-3
78	95.06	7.41E-4	5.76E-4	3.66E-4	2.25E-4	1.61E-4	1.49E-4	78	108.24	2.28E-3	2.15E-3	2.11E-3	2.27E-3	2.61E-3	3.13E-3
79	97.22	7.18E-4	5.57E-4	3.53E-4	2.15E-4	1.52E-4	1.40E-4	79	110.36	2.22E-3	2.10E-3	2.06E-3	2.22E-3	2.56E-3	3.08E-3
80	99.41	6.96E-4	5.40E-4	3.40E-4	2.05E-4	1.44E-4	1.31E-4	80	112.50	2.17E-3	2.05E-3	2.01E-3	2.17E-3	2.51E-3	3.03E-3
81	101.66	6.75E-4	5.23E-4	3.29E-4	1.97E-4	1.36E-4	1.24E-4	81	114.68	2.12E-3	2.00E-3	1.97E-3	2.13E-3	2.47E-3	2.99E-3
82	103.94	6.56E-4	5.07E-4	3.18E-4	1.89E-4	1.30E-4	1.17E-4	82	116.89	2.07E-3	1.96E-3	1.92E-3	2.08E-3	2.42E-3	2.94E-3
83	106.27	6.37E-4	4.92E-4	3.07E-4	1.81E-4	1.23E-4	1.11E-4	83	119.13	2.02E-3	1.91E-3	1.88E-3	2.04E-3	2.38E-3	2.90E-3
84	108.65	6.19E-4	4.78E-4	2.98E-4	1.75E-4	1.18E-4	1.05E-4	84	121.42	1.97E-3	1.87E-3	1.84E-3	2.00E-3	2.34E-3	2.86E-3
85	111.07	6.02E-4	4.65E-4	2.89E-4	1.68E-4	1.12E-4	9.96E-5	85	123.73	1.93E-3	1.82E-3	1.80E-3	1.96E-3	2.30E-3	2.82E-3
86	113.54	5.86E-4	4.52E-4	2.80E-4	1.63E-4	1.08E-4	9.49E-5	86	126.08	1.88E-3	1.78E-3	1.76E-3	1.92E-3	2.26E-3	2.78E-3
87	116.06	5.71E-4	4.40E-4	2.72E-4	1.57E-4	1.03E-4	9.07E-5	87	128.47	1.84E-3	1.74E-3	1.72E-3	1.88E-3	2.22E-3	2.74E-3
88	118.63	5.56E-4	4.28E-4	2.64E-4	1.52E-4	9.94E-5	8.69E-5	88	130.90	1.80E-3	1.70E-3	1.69E-3	1.84E-3	2.18E-3	2.70E-3
89	121.26	5.42E-4	4.17E-4	2.57E-4	1.47E-4	9.58E-5	8.36E-5	89	133.36	1.76E-3	1.67E-3	1.65E-3	1.81E-3	2.14E-3	2.67E-3
90	123.93	5.29E-4	4.07E-4	2.50E-4	1.43E-4	9.25E-5	8.05E-5	90	135.86	1.7					

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$G_1 - E_4$								$G_1 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	58.26	6.02E-3	4.38E-3	2.35E-3	1.05E-3	4.68E-4	2.64E-4	26	17.22	5.16E-2	4.88E-2	4.71E-2	4.81E-2	5.06E-2	5.30E-2
27	61.96	5.40E-3	3.94E-3	2.15E-3	1.00E-3	4.83E-4	3.04E-4	27	18.74	4.64E-2	4.35E-2	4.15E-2	4.20E-2	4.40E-2	4.60E-2
28	65.98	4.86E-3	3.57E-3	1.98E-3	9.65E-4	5.08E-4	3.51E-4	28	20.38	4.16E-2	3.86E-2	3.64E-2	3.66E-2	3.81E-2	3.98E-2
29	70.33	4.40E-3	3.26E-3	1.84E-3	9.46E-4	5.42E-4	4.06E-4	29	22.13	3.71E-2	3.43E-2	3.18E-2	3.16E-2	3.28E-2	3.42E-2
30	75.05	4.01E-3	2.99E-3	1.73E-3	9.38E-4	5.82E-4	4.65E-4	30	23.95	3.31E-2	3.03E-2	2.77E-2	2.72E-2	2.80E-2	2.92E-2
31	80.20	3.67E-3	2.76E-3	1.65E-3	9.40E-4	6.28E-4	5.28E-4	31	25.84	2.92E-2	2.65E-2	2.39E-2	2.32E-2	2.38E-2	2.47E-2
32	85.81	3.38E-3	2.57E-3	1.58E-3	9.49E-4	6.75E-4	5.93E-4	32	27.77	2.59E-2	2.33E-2	2.07E-2	1.97E-2	2.00E-2	2.07E-2
33	91.92	3.13E-3	2.40E-3	1.52E-3	9.62E-4	7.24E-4	6.57E-4	33	29.70	2.30E-2	2.04E-2	1.77E-2	1.66E-2	1.67E-2	1.72E-2
34	98.58	2.91E-3	2.26E-3	1.47E-3	9.79E-4	7.72E-4	7.20E-4	34	31.62	2.07E-2	1.81E-2	1.53E-2	1.40E-2	1.38E-2	1.42E-2
35	105.83	2.72E-3	2.14E-3	1.43E-3	9.96E-4	8.18E-4	7.79E-4	35	33.52	1.85E-2	1.59E-2	1.31E-2	1.17E-2	1.14E-2	1.17E-2
36	113.73	2.56E-3	2.03E-3	1.40E-3	1.01E-3	8.60E-4	8.34E-4	36	35.36	1.62E-2	1.38E-2	1.12E-2	9.74E-3	9.35E-3	9.52E-3
37	122.32	2.41E-3	1.94E-3	1.37E-3	1.03E-3	8.98E-4	8.83E-4	37	37.16	1.49E-2	1.24E-2	9.70E-3	8.18E-3	7.69E-3	7.76E-3
38	131.65	2.28E-3	1.85E-3	1.34E-3	1.04E-3	9.31E-4	9.27E-4	38	38.91	1.35E-2	1.11E-2	8.44E-3	6.89E-3	6.33E-3	6.32E-3
39	141.77	2.16E-3	1.78E-3	1.32E-3	1.05E-3	9.59E-4	9.64E-4	39	40.61	1.19E-2	9.80E-3	7.31E-3	5.79E-3	5.21E-3	5.15E-3
40	152.73	2.06E-3	1.71E-3	1.29E-3	1.05E-3	9.81E-4	9.96E-4	40	42.27	1.09E-2	8.85E-3	6.44E-3	4.93E-3	4.32E-3	4.22E-3
41	164.59	1.96E-3	1.64E-3	1.27E-3	1.06E-3	9.98E-4	1.02E-3	41	43.89	1.03E-2	8.22E-3	5.79E-3	4.27E-3	3.62E-3	3.48E-3
42	177.40	1.88E-3	1.59E-3	1.24E-3	1.06E-3	1.01E-3	1.04E-3	42	45.47	9.19E-3	7.36E-3	5.11E-3	3.66E-3	3.02E-3	2.87E-3
43	191.22	1.79E-3	1.53E-3	1.22E-3	1.05E-3	1.02E-3	1.05E-3	43	47.03	8.52E-3	6.77E-3	4.61E-3	3.20E-3	2.55E-3	2.38E-3
44	206.12	1.72E-3	1.48E-3	1.19E-3	1.04E-3	1.02E-3	1.06E-3	44	48.56	8.24E-3	6.40E-3	4.22E-3	2.83E-3	2.19E-3	2.00E-3
45	222.13	1.65E-3	1.43E-3	1.17E-3	1.03E-3	1.02E-3	1.07E-3	45	50.07	7.42E-3	5.81E-3	3.82E-3	2.49E-3	1.87E-3	1.67E-3
46	239.34	1.58E-3	1.38E-3	1.14E-3	1.02E-3	1.02E-3	1.07E-3	46	51.57	6.96E-3	5.43E-3	3.51E-3	2.23E-3	1.61E-3	1.42E-3
47	257.81	1.52E-3	1.33E-3	1.11E-3	1.01E-3	1.01E-3	1.07E-3	47	53.07	6.82E-3	5.23E-3	3.31E-3	2.04E-3	1.42E-3	1.21E-3
48	277.61	1.46E-3	1.29E-3	1.09E-3	9.94E-4	1.00E-3	1.06E-3	48	54.55	6.19E-3	4.78E-3	3.01E-3	1.82E-3	1.23E-3	1.03E-3
49	298.80	1.41E-3	1.24E-3	1.06E-3	9.77E-4	9.89E-4	1.05E-3	49	56.03	6.11E-3	4.65E-3	2.87E-3	1.69E-3	1.11E-3	8.94E-4
50	321.46	1.35E-3	1.20E-3	1.03E-3	9.59E-4	9.76E-4	1.05E-3	50	57.51	5.81E-3	4.39E-3	2.67E-3	1.54E-3	9.83E-4	7.76E-4
51	345.66	1.30E-3	1.16E-3	1.01E-3	9.40E-4	9.62E-4	1.03E-3	51	58.99	5.28E-3	4.04E-3	2.47E-3	1.40E-3	8.69E-4	6.71E-4
52	371.49	1.25E-3	1.12E-3	9.78E-4	9.21E-4	9.46E-4	1.02E-3	52	60.47	5.07E-3	3.86E-3	2.35E-3	1.32E-3	7.88E-4	5.91E-4
53	399.02	1.21E-3	1.09E-3	9.51E-4	9.01E-4	9.30E-4	1.01E-3	53	61.96	4.85E-3	3.68E-3	2.22E-3	1.23E-3	7.15E-4	5.22E-4
54	428.34	1.16E-3	1.05E-3	9.25E-4	8.81E-4	9.13E-4	9.93E-4	54	63.45	4.58E-3	3.48E-3	2.09E-3	1.13E-3	6.48E-4	4.60E-4
55	459.55	1.12E-3	1.01E-3	8.99E-4	8.60E-4	8.95E-4	9.77E-4	55	64.95	4.43E-3	3.35E-3	2.00E-3	1.08E-3	5.98E-4	4.14E-4
56	492.72	1.08E-3	9.81E-4	8.73E-4	8.40E-4	8.77E-4	9.61E-4	56	66.46	4.19E-3	3.18E-3	1.89E-3	1.00E-3	5.47E-4	3.68E-4
57	527.96	1.04E-3	9.49E-4	8.48E-4	8.19E-4	8.59E-4	9.45E-4	57	67.98	4.07E-3	3.07E-3	1.82E-3	9.62E-4	5.11E-4	3.34E-4
58	565.37	1.01E-3	9.18E-4	8.24E-4	7.99E-4	8.41E-4	9.28E-4	58	69.51	3.91E-3	2.95E-3	1.74E-3	9.11E-4	4.76E-4	3.03E-4
59	605.04	9.72E-4	8.88E-4	8.00E-4	7.79E-4	8.22E-4	9.11E-4	59	71.06	3.71E-3	2.81E-3	1.66E-3	8.54E-4	4.39E-4	2.73E-4
60	647.10	9.38E-4	8.59E-4	7.77E-4	7.59E-4	8.04E-4	8.94E-4	60	72.61	3.61E-3	2.72E-3	1.60E-3	8.26E-4	4.16E-4	2.53E-4
61	691.64	9.06E-4	8.31E-4	7.54E-4	7.40E-4	7.86E-4	8.77E-4	61	74.19	3.44E-3	2.60E-3	1.53E-3	7.76E-4	3.87E-4	2.29E-4
62	738.79	8.75E-4	8.04E-4	7.32E-4	7.20E-4	7.68E-4	8.60E-4	62	75.77	3.35E-3	2.53E-3	1.48E-3	7.54E-4	3.69E-4	2.14E-4
63	788.66	8.45E-4	7.78E-4	7.11E-4	7.02E-4	7.51E-4	8.43E-4	63	77.37	3.24E-3	2.44E-3	1.43E-3	7.23E-4	3.49E-4	1.98E-4
64	841.39	8.16E-4	7.53E-4	6.90E-4	6.83E-4	7.33E-4	8.27E-4	64	78.99	3.09E-3	2.33E-3	1.36E-3	6.82E-4	3.27E-4	1.81E-4
65	897.11	7.89E-4	7.29E-4	6.70E-4	6.65E-4	7.16E-4	8.11E-4	65	80.63	3.01E-3	2.27E-3	1.33E-3	6.67E-4	3.16E-4	1.72E-4
66	955.94	7.63E-4	7.06E-4	6.50E-4	6.48E-4	6.99E-4	7.94E-4	66	82.29	2.88E-3	2.18E-3	1.27E-3	6.31E-4	2.97E-4	1.59E-4
67	1018.04	7.37E-4	6.84E-4	6.31E-4	6.30E-4	6.83E-4	7.79E-4	67	83.96	2.79E-3	2.11E-3	1.22E-3	6.08E-4	2.84E-4	1.49E-4
68	1083.56	7.13E-4	6.62E-4	6.13E-4	6.14E-4	6.67E-4	7.63E-4	68	85.65	2.70E-3	2.04E-3	1.19E-3	5.86E-4	2.72E-4	1.40E-4
69	1152.64	6.89E-4	6.42E-4	5.95E-4	5.97E-4	6.51E-4	7.48E-4	69	87.37	2.62E-3	1.97E-3	1.15E-3	5.67E-4	2.61E-4	1.32E-4
70	1225.45	6.67E-4	6.21E-4	5.78E-4	5.81E-4	6.36E-4	7.33E-4	70	89.11	2.58E-3	1.93E-3	1.12E-3	5.56E-4	2.56E-4	1.27E-4
71	1302.15	6.45E-4	6.02E-4	5.61E-4	5.66E-4	6.21E-4	7.18E-4	71	90.87	2.46E-3	1.86E-3	1.08E-3	5.30E-4	2.41E-4	1.19E-4
72	1382.93	6.24E-4	5.83E-4	5.45E-4	5.51E-4	6.06E-4	7.04E-4	72	92.65	2.42E-3	1.82E-3	1.06E-3	5.25E-4	2.36E-4	1.16E-4
73	1467.97	6.04E-4	5.65E-4	5.29E-4	5.36E-4	5.92E-4	6.90E-4	73	94.46	2.35E-3	1.77E-3	1.03E-3	5.08E-4	2.29E-4	1.10E-4
74	1557.46	5.84E-4	5.48E-4	5.14E-4	5.22E-4	5.78E-4	6.76E-4	74	96.29	2.28E-3	1.72E-3	1.00E-3	4.93E-4	2.21E-4	1.06E-4
75	1651.59	5.66E-4	5.31E-4	4.99E-4	5.08E-4	5.64E-4	6.62E-4	75	98.14	2.21E-3	1.67E-3	9.72E-4	4.80E-4	2.13E-4	1.02E-4
76	1750.58	5.48E-4	5.15E-4	4.84E-4	4.95E-4	5.51E-4	6.49E-4	76	100.03	2.13E-3	1.61E-3	9.33E-4	4.56E-4	2.03E-4	9.52E-5
77	1854.65	5.30E-4	4.99E-4	4.70E-4	4.81E-4	5.38E-4	6.36E-4	77	101.94	2.07E-3	1.56E-3	9.08E-4	4.44E-4	1.97E-4	9.16E-5
78	1964.02	5.13E-4	4.83E-4	4.57E-4	4.69E-4	5.25E-4	6.24E-4	78	103.88	2.02E-3	1.53E-3	8.91E-4	4.37E-4	1.93E-4	8.95E-5
79	2078.94	4.97E-4	4.68E-4	4.44E-4	4.57E-4	5.13E-4	6.11E-4	79	105.85	1.97E-3	1.49E-3	8.67E-4	4.26E-4	1.88E-4	8.63E-5
80	2199.65	4.82E-4	4.54E-4	4.31E-4	4.45E-4	5.01E-4	5.99E-4	80	107.85	1.91E-3	1.44E-3	8.39E-4	4.10E-4	1.81E-4	8.23E-5
81	2326.41	4.67E-4	4.40E-4	4.19E-4	4.33E-4	4.89E-4	5.88E-4	81	109.88	1.86E-3	1.41E-3	8.19E-4	4.00E-4	1.76E-4	7.97E-5
82	2459.51	4.52E-4	4.27E-4	4.07E-4	4.21E-4	4.78E-4	5.76E-4	82	111.94	1.82E-3	1.38E-3	8.05E-4	3.95E-4	1.73E-4	7.84E-5
83	2599.23	4.38E-4	4.14E-4	3.95E-4	4.10E-4	4.67E-4	5.65E-4	83	114.04	1.78E-3	1.35E-3	7.84E-4	3.86E-4	1.69E-4	7.59E-5
84	2745.89	4.25E-4	4.02E-4	3.84E-4	3.99E-4	4.56E-4	5.54E-4	84	116.17	1.72E-3	1.31E-3	7.61E-4	3.72E-4	1.63E-4	7.28E-5
85	2899.78	4.11E-4	3.90E-4	3.73E-4	3.89E-4	4.45E-4	5.43E-4	85	118.33	1.68E-3	1.28E-3	7.44E-4	3.63E-4	1.59E-4	7.08E-5
86	3061.22	3.99E-4	3.78E-4	3.62E-4	3.78E-4	4.34E-4	5.32E-4	86	120.53	1.65E-3	1.25E-3	7.33E-4	3.60E-4	1.57E-4	7.01E-5
87	3230.61	3.86E-4	3.67E-4	3.52E-4	3.68E-4	4.24E-4	5.22E-4	87	122.78	1.60E-3	1.22E-3	7.11E-4	3.48E-4	1.52E-4	6.72E-5
88	3408.30	3.74E-4	3.56E-4	3.42E-4	3.58E-4	4.14E-4	5.11E-4	88	125.05	1.57E-3	1.19E-3	6.95E-4	3.40E-4	1.49E-4	6.55E-5
89	3594.69	3.63E-4	3.45E-4	3.32E-4	3.49E-4	4.05E-4	5.01E-4	89	127.37	1.54E-3	1.17E-3	6.88E-4	3.37E-4	1.47E-4	6.53E-5
90	3790.15	3.51E-4	3.35E-4	3											

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$G_1 - F_4$								$A_1 - D_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	41.72	2.85E-2	2.24E-2	1.46E-2	9.20E-3	6.53E-3	5.51E-3	26	113.78	7.14E-5	5.65E-5	3.43E-5	1.70E-5	7.29E-6	3.02E-6
27	44.06	2.68E-2	2.13E-2	1.42E-2	9.46E-3	7.14E-3	6.30E-3	27	122.63	5.50E-5	4.34E-5	2.64E-5	1.30E-5	5.54E-6	2.28E-6
28	46.59	2.54E-2	2.04E-2	1.41E-2	9.86E-3	7.85E-3	7.18E-3	28	132.19	4.26E-5	3.35E-5	2.03E-5	9.94E-6	4.22E-6	1.73E-6
29	49.37	2.43E-2	1.98E-2	1.41E-2	1.04E-2	8.65E-3	8.14E-3	29	142.52	3.31E-5	2.60E-5	1.56E-5	7.62E-6	3.22E-6	1.31E-6
30	52.46	2.34E-2	1.93E-2	1.42E-2	1.09E-2	9.50E-3	9.15E-3	30	153.69	2.57E-5	2.01E-5	1.21E-5	5.86E-6	2.46E-6	9.93E-7
31	55.90	2.27E-2	1.90E-2	1.44E-2	1.15E-2	1.04E-2	1.02E-2	31	165.78	2.01E-5	1.57E-5	9.37E-6	4.52E-6	1.88E-6	7.56E-7
32	59.78	2.21E-2	1.87E-2	1.46E-2	1.21E-2	1.12E-2	1.11E-2	32	178.85	1.58E-5	1.23E-5	7.31E-6	3.51E-6	1.45E-6	5.78E-7
33	64.16	2.15E-2	1.85E-2	1.48E-2	1.26E-2	1.19E-2	1.20E-2	33	192.98	1.25E-5	9.73E-6	5.75E-6	2.74E-6	1.13E-6	4.44E-7
34	69.10	2.10E-2	1.82E-2	1.49E-2	1.30E-2	1.25E-2	1.27E-2	34	208.25	1.01E-5	7.77E-6	4.56E-6	2.16E-6	8.79E-7	3.45E-7
35	74.66	2.04E-2	1.79E-2	1.49E-2	1.32E-2	1.29E-2	1.32E-2	35	224.75	8.05E-6	6.21E-6	3.63E-6	1.71E-6	6.94E-7	2.69E-7
36	80.91	1.98E-2	1.75E-2	1.48E-2	1.34E-2	1.31E-2	1.35E-2	36	242.54	6.48E-6	4.99E-6	2.91E-6	1.37E-6	5.50E-7	2.12E-7
37	87.89	1.92E-2	1.70E-2	1.46E-2	1.33E-2	1.32E-2	1.37E-2	37	261.74	5.30E-6	4.07E-6	2.36E-6	1.10E-6	4.41E-7	1.69E-7
38	95.66	1.86E-2	1.65E-2	1.43E-2	1.32E-2	1.32E-2	1.37E-2	38	282.42	4.36E-6	3.34E-6	1.93E-6	8.99E-7	3.57E-7	1.35E-7
39	104.25	1.79E-2	1.60E-2	1.39E-2	1.30E-2	1.30E-2	1.36E-2	39	304.69	3.59E-6	2.74E-6	1.59E-6	7.36E-7	2.91E-7	1.10E-7
40	113.73	1.72E-2	1.54E-2	1.35E-2	1.27E-2	1.28E-2	1.34E-2	40	328.64	2.99E-6	2.29E-6	1.32E-6	6.10E-7	2.40E-7	9.00E-8
41	124.14	1.65E-2	1.48E-2	1.31E-2	1.23E-2	1.24E-2	1.31E-2	41	354.38	2.52E-6	1.93E-6	1.11E-6	5.11E-7	2.01E-7	7.48E-8
42	135.53	1.58E-2	1.43E-2	1.26E-2	1.19E-2	1.21E-2	1.27E-2	42	382.01	2.12E-6	1.62E-6	9.31E-7	4.29E-7	1.68E-7	6.26E-8
43	147.95	1.51E-2	1.37E-2	1.21E-2	1.15E-2	1.17E-2	1.24E-2	43	411.66	1.80E-6	1.38E-6	7.91E-7	3.65E-7	1.43E-7	5.30E-8
44	161.46	1.44E-2	1.31E-2	1.16E-2	1.11E-2	1.13E-2	1.20E-2	44	443.43	1.54E-6	1.18E-6	6.79E-7	3.13E-7	1.22E-7	4.55E-8
45	176.10	1.38E-2	1.25E-2	1.12E-2	1.07E-2	1.09E-2	1.16E-2	45	477.45	1.33E-6	1.01E-6	5.82E-7	2.68E-7	1.05E-7	3.91E-8
46	191.96	1.32E-2	1.20E-2	1.07E-2	1.02E-2	1.05E-2	1.12E-2	46	513.84	1.15E-6	8.75E-7	5.03E-7	2.32E-7	9.13E-8	3.39E-8
47	209.07	1.26E-2	1.15E-2	1.03E-2	9.83E-3	1.01E-2	1.08E-2	47	552.74	1.00E-6	7.63E-7	4.39E-7	2.03E-7	8.00E-8	2.98E-8
48	227.51	1.21E-2	1.10E-2	9.84E-3	9.44E-3	9.73E-3	1.04E-2	48	594.27	8.67E-7	6.62E-7	3.82E-7	1.77E-7	6.99E-8	2.61E-8
49	247.35	1.16E-2	1.05E-2	9.44E-3	9.06E-3	9.35E-3	1.00E-2	49	638.60	7.56E-7	5.82E-7	3.37E-7	1.56E-7	6.19E-8	2.32E-8
50	268.66	1.11E-2	1.01E-2	9.05E-3	8.70E-3	9.00E-3	9.68E-3	50	685.85	6.63E-7	5.11E-7	2.96E-7	1.38E-7	5.48E-8	2.06E-8
51	291.51	1.06E-2	9.67E-3	8.68E-3	8.35E-3	8.65E-3	9.34E-3	51	736.18	5.85E-7	4.51E-7	2.62E-7	1.22E-7	4.88E-8	1.84E-8
52	315.99	1.01E-2	9.26E-3	8.32E-3	8.02E-3	8.33E-3	9.02E-3	52	789.76	5.16E-7	3.96E-7	2.31E-7	1.08E-7	4.33E-8	1.64E-8
53	342.16	9.72E-3	8.87E-3	7.98E-3	7.71E-3	8.02E-3	8.70E-3	53	846.75	4.56E-7	3.51E-7	2.05E-7	9.63E-8	3.87E-8	1.48E-8
54	370.12	9.32E-3	8.51E-3	7.66E-3	7.41E-3	7.72E-3	8.40E-3	54	907.31	4.01E-7	3.11E-7	1.83E-7	8.65E-8	3.47E-8	1.34E-8
55	399.96	8.94E-3	8.17E-3	7.36E-3	7.12E-3	7.43E-3	8.12E-3	55	971.64	3.59E-7	2.77E-7	1.62E-7	7.70E-8	3.12E-8	1.20E-8
56	431.76	8.58E-3	7.84E-3	7.07E-3	6.85E-3	7.17E-3	7.84E-3	56	1039.90	3.17E-7	2.46E-7	1.45E-7	6.94E-8	2.81E-8	1.10E-8
57	465.61	8.23E-3	7.53E-3	6.79E-3	6.59E-3	6.91E-3	7.59E-3	57	1112.30	2.84E-7	2.20E-7	1.30E-7	6.21E-8	2.54E-8	9.90E-9
58	501.63	7.91E-3	7.24E-3	6.53E-3	6.35E-3	6.66E-3	7.34E-3	58	1189.03	2.53E-7	1.97E-7	1.17E-7	5.59E-8	2.30E-8	8.98E-9
59	539.90	7.60E-3	6.96E-3	6.29E-3	6.11E-3	6.43E-3	7.11E-3	59	1270.31	2.27E-7	1.76E-7	1.04E-7	5.03E-8	2.08E-8	8.15E-9
60	580.55	7.30E-3	6.69E-3	6.05E-3	5.89E-3	6.21E-3	6.88E-3	60	1356.34	2.02E-7	1.58E-7	9.42E-8	4.55E-8	1.89E-8	7.45E-9
61	623.67	7.02E-3	6.44E-3	5.83E-3	5.68E-3	6.00E-3	6.67E-3	61	1447.36	1.82E-7	1.42E-7	8.45E-8	4.10E-8	1.71E-8	6.78E-9
62	669.39	6.76E-3	6.20E-3	5.61E-3	5.48E-3	5.80E-3	6.47E-3	62	1543.57	1.63E-7	1.27E-7	7.64E-8	3.72E-8	1.56E-8	6.21E-9
63	717.82	6.51E-3	5.97E-3	5.41E-3	5.28E-3	5.61E-3	6.27E-3	63	1645.26	1.46E-7	1.15E-7	6.90E-8	3.37E-8	1.42E-8	5.67E-9
64	769.10	6.26E-3	5.75E-3	5.22E-3	5.10E-3	5.43E-3	6.09E-3	64	1752.64	1.32E-7	1.03E-7	6.21E-8	3.05E-8	1.29E-8	5.18E-9
65	823.35	6.04E-3	5.54E-3	5.03E-3	4.93E-3	5.25E-3	5.91E-3	65	1866.00	1.18E-7	9.31E-8	5.64E-8	2.78E-8	1.18E-8	4.76E-9
66	880.70	5.82E-3	5.35E-3	4.85E-3	4.76E-3	5.08E-3	5.74E-3	66	1985.60	1.07E-7	8.40E-8	5.09E-8	2.52E-8	1.07E-8	4.35E-9
67	941.31	5.61E-3	5.16E-3	4.69E-3	4.60E-3	4.92E-3	5.58E-3	67	2111.74	9.70E-8	7.58E-8	4.61E-8	2.29E-8	9.83E-9	4.00E-9
68	1005.32	5.41E-3	4.98E-3	4.53E-3	4.45E-3	4.77E-3	5.43E-3	68	2244.69	8.75E-8	6.87E-8	4.18E-8	2.09E-8	8.96E-9	3.67E-9
69	1072.88	5.22E-3	4.81E-3	4.37E-3	4.30E-3	4.63E-3	5.28E-3	69	2384.79	7.91E-8	6.22E-8	3.80E-8	1.90E-8	8.21E-9	3.37E-9
70	1144.15	5.04E-3	4.64E-3	4.22E-3	4.16E-3	4.49E-3	5.14E-3	70	2532.32	7.15E-8	5.61E-8	3.46E-8	1.74E-8	7.52E-9	3.12E-9
71	1219.31	4.86E-3	4.48E-3	4.09E-3	4.03E-3	4.36E-3	5.00E-3	71	2687.65	6.49E-8	5.12E-8	3.14E-8	1.59E-8	6.90E-9	2.86E-9
72	1298.52	4.70E-3	4.33E-3	3.95E-3	3.90E-3	4.23E-3	4.87E-3	72	2851.10	5.86E-8	4.63E-8	2.87E-8	1.45E-8	6.37E-9	2.64E-9
73	1381.98	4.54E-3	4.19E-3	3.82E-3	3.78E-3	4.10E-3	4.75E-3	73	3023.07	5.34E-8	4.20E-8	2.61E-8	1.33E-8	5.85E-9	2.44E-9
74	1469.86	4.38E-3	4.05E-3	3.70E-3	3.66E-3	3.99E-3	4.62E-3	74	3203.90	4.83E-8	3.83E-8	2.39E-8	1.22E-8	5.38E-9	2.26E-9
75	1562.38	4.24E-3	3.92E-3	3.58E-3	3.55E-3	3.87E-3	4.51E-3	75	3394.02	4.40E-8	3.49E-8	2.18E-8	1.12E-8	4.96E-9	2.09E-9
76	1659.73	4.10E-3	3.79E-3	3.46E-3	3.44E-3	3.76E-3	4.40E-3	76	3593.80	4.02E-8	3.19E-8	1.99E-8	1.02E-8	4.55E-9	1.92E-9
77	1762.14	3.96E-3	3.66E-3	3.35E-3	3.33E-3	3.66E-3	4.29E-3	77	3803.72	3.66E-8	2.91E-8	1.82E-8	9.40E-9	4.20E-9	1.78E-9
78	1869.84	3.83E-3	3.54E-3	3.25E-3	3.24E-3	3.56E-3	4.19E-3	78	4024.20	3.34E-8	2.66E-8	1.67E-8	8.65E-9	3.88E-9	1.65E-9
79	1983.06	3.71E-3	3.43E-3	3.15E-3	3.14E-3	3.46E-3	4.09E-3	79	4255.75	3.04E-8	2.43E-8	1.53E-8	7.96E-9	3.58E-9	1.53E-9
80	2102.06	3.59E-3	3.32E-3	3.05E-3	3.05E-3	3.37E-3	3.99E-3	80	4498.79	2.80E-8	2.21E-8	1.40E-8	7.35E-9	3.31E-9	1.43E-9
81	2227.08	3.47E-3	3.21E-3	2.96E-3	2.96E-3	3.28E-3	3.90E-3	81	4753.86	2.55E-8	2.02E-8	1.29E-8	6.76E-9	3.08E-9	1.33E-9
82	2358.42	3.36E-3	3.11E-3	2.86E-3	2.87E-3	3.19E-3	3.81E-3	82	5021.55	2.34E-8	1.86E-8	1.19E-8	6.24E-9	2.86E-9	1.24E-9
83	2496.37	3.26E-3	3.01E-3	2.78E-3	2.79E-3	3.10E-3	3.72E-3	83	5302.42	2.15E-8	1.70E-8	1.09E-8	5.76E-9	2.65E-9	1.15E-9
84	2641.21	3.15E-3	2.92E-3	2.69E-3	2.70E-3	3.02E-3	3.64E-3	84	5597.10	1.95E-8	1.57E-8	1.00E-8	5.33E-9	2.45E-9	1.07E-9
85	2793.28	3.05E-3	2.83E-3	2.61E-3	2.63E-3	2.94E-3	3.55E-3	85	5906.13	1.79E-8	1.44E-8	9.25E-9	4.93E-9	2.28E-9	1.00E-9
86	2952.86	2.96E-3	2.74E-3	2.53E-3	2.55E-3	2.86E-3	3.47E-3	86	6229.76	1.65E-8	1.32E-8	8.53E-9	4.56E-9	2.12E-9	1.00E-9
87	3120.38	2.86E-3	2.66E-3	2.46E-3	2.48E-3	2.79E-3	3.40E-3	87	6569.49	1.51E-8	1.22E-8	7.87E-9	4.23E-9	1.97E-9	1.00E-9
88	3296.16	2.77E-3	2.58E-3	2.38E-3	2.41E-3	2.72E-3	3.32E-3	88	6925.56	1.39E-8	1.12E-8	7.28E-9	3.92E-9	1.84E-9	1.00E-9
89	3480.62	2.69E-3	2.50E-3	2.31E-3	2.34E-3	2.65E-3	3.25E-3	89	7298.90	1.28E-8	1.04E-8	6.72E-9	3.64E-		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - D_1$								$A_1 - E_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	68.09	1.32E-3	1.07E-3	6.72E-4	3.47E-4	1.56E-4	6.80E-5	26	96.64	1.91E-1	2.15E-1	2.54E-1	2.98E-1	3.40E-1	3.82E-1
27	71.50	1.21E-3	9.76E-4	6.16E-4	3.18E-4	1.43E-4	6.22E-5	27	103.72	1.83E-1	2.07E-1	2.44E-1	2.86E-1	3.28E-1	3.68E-1
28	74.94	1.11E-3	8.99E-4	5.67E-4	2.92E-4	1.31E-4	5.72E-5	28	111.24	1.76E-1	1.99E-1	2.34E-1	2.75E-1	3.15E-1	3.54E-1
29	78.39	1.03E-3	8.31E-4	5.23E-4	2.70E-4	1.21E-4	5.28E-5	29	119.23	1.69E-1	1.91E-1	2.25E-1	2.65E-1	3.03E-1	3.41E-1
30	81.87	9.54E-4	7.70E-4	4.84E-4	2.49E-4	1.12E-4	4.88E-5	30	127.70	1.63E-1	1.84E-1	2.16E-1	2.55E-1	2.92E-1	3.29E-1
31	85.36	8.87E-4	7.15E-4	4.49E-4	2.31E-4	1.04E-4	4.52E-5	31	136.70	1.51E-1	1.78E-1	2.09E-1	2.43E-1	2.80E-1	3.17E-1
32	88.88	8.26E-4	6.65E-4	4.18E-4	2.15E-4	9.68E-5	4.21E-5	32	146.23	1.45E-1	1.71E-1	2.01E-1	2.34E-1	2.70E-1	3.05E-1
33	92.41	7.71E-4	6.20E-4	3.90E-4	2.01E-4	9.02E-5	3.92E-5	33	156.35	1.39E-1	1.64E-1	1.93E-1	2.25E-1	2.59E-1	2.94E-1
34	95.96	7.23E-4	5.81E-4	3.65E-4	1.87E-4	8.42E-5	3.67E-5	34	167.06	1.33E-1	1.57E-1	1.85E-1	2.16E-1	2.49E-1	2.83E-1
35	99.54	6.78E-4	5.44E-4	3.41E-4	1.76E-4	7.89E-5	3.43E-5	35	178.41	1.28E-1	1.51E-1	1.77E-1	2.07E-1	2.39E-1	2.72E-1
36	103.13	6.34E-4	5.10E-4	3.20E-4	1.65E-4	7.40E-5	3.22E-5	36	190.44	1.24E-1	1.44E-1	1.70E-1	1.98E-1	2.30E-1	2.61E-1
37	106.75	5.99E-4	4.80E-4	3.01E-4	1.55E-4	6.96E-5	3.03E-5	37	203.18	1.22E-1	1.35E-1	1.63E-1	1.90E-1	2.20E-1	2.51E-1
38	110.40	5.63E-4	4.52E-4	2.84E-4	1.46E-4	6.56E-5	2.85E-5	38	216.67	1.17E-1	1.29E-1	1.56E-1	1.82E-1	2.11E-1	2.41E-1
39	114.07	5.30E-4	4.26E-4	2.67E-4	1.38E-4	6.19E-5	2.69E-5	39	230.96	1.07E-1	1.26E-1	1.49E-1	1.74E-1	2.03E-1	2.32E-1
40	117.78	5.00E-4	4.02E-4	2.52E-4	1.30E-4	5.85E-5	2.54E-5	40	246.09	1.05E-1	1.19E-1	1.43E-1	1.67E-1	1.94E-1	2.23E-1
41	121.51	4.75E-4	3.81E-4	2.39E-4	1.23E-4	5.54E-5	2.41E-5	41	262.13	9.84E-2	1.15E-1	1.37E-1	1.60E-1	1.86E-1	2.14E-1
42	125.28	4.49E-4	3.60E-4	2.26E-4	1.17E-4	5.25E-5	2.29E-5	42	279.11	9.80E-2	1.08E-1	1.31E-1	1.53E-1	1.78E-1	2.05E-1
43	129.08	4.26E-4	3.42E-4	2.15E-4	1.11E-4	4.99E-5	2.17E-5	43	297.11	9.08E-2	1.04E-1	1.24E-1	1.47E-1	1.71E-1	1.97E-1
44	132.93	4.06E-4	3.26E-4	2.04E-4	1.05E-4	4.75E-5	2.07E-5	44	316.17	8.70E-2	9.94E-2	1.19E-1	1.40E-1	1.64E-1	1.89E-1
45	136.81	3.85E-4	3.09E-4	1.94E-4	1.00E-4	4.52E-5	1.97E-5	45	336.36	8.28E-2	9.54E-2	1.14E-1	1.34E-1	1.57E-1	1.82E-1
46	140.73	3.66E-4	2.95E-4	1.85E-4	9.57E-5	4.32E-5	1.88E-5	46	357.74	8.18E-2	9.04E-2	1.09E-1	1.29E-1	1.50E-1	1.75E-1
47	144.70	3.50E-4	2.82E-4	1.77E-4	9.14E-5	4.12E-5	1.79E-5	47	380.38	7.75E-2	8.98E-2	1.05E-1	1.23E-1	1.44E-1	1.68E-1
48	148.71	3.34E-4	2.68E-4	1.69E-4	8.73E-5	3.94E-5	1.72E-5	48	404.36	7.31E-2	8.31E-2	9.94E-2	1.18E-1	1.39E-1	1.62E-1
49	152.78	3.20E-4	2.57E-4	1.62E-4	8.37E-5	3.78E-5	1.64E-5	49	429.74	7.19E-2	7.88E-2	9.56E-2	1.13E-1	1.33E-1	1.55E-1
50	156.89	3.06E-4	2.46E-4	1.55E-4	8.02E-5	3.62E-5	1.58E-5	50	456.61	6.91E-2	7.55E-2	9.16E-2	1.08E-1	1.28E-1	1.49E-1
51	161.06	2.92E-4	2.35E-4	1.48E-4	7.69E-5	3.47E-5	1.52E-5	51	485.03	6.52E-2	7.32E-2	8.70E-2	1.04E-1	1.22E-1	1.44E-1
52	165.28	2.80E-4	2.25E-4	1.42E-4	7.37E-5	3.34E-5	1.46E-5	52	515.09	6.14E-2	6.99E-2	8.36E-2	9.97E-2	1.18E-1	1.39E-1
53	169.56	2.68E-4	2.16E-4	1.37E-4	7.09E-5	3.21E-5	1.40E-5	53	546.88	5.96E-2	6.74E-2	7.99E-2	9.56E-2	1.13E-1	1.34E-1
54	173.90	2.58E-4	2.08E-4	1.31E-4	6.82E-5	3.09E-5	1.35E-5	54	580.49	5.71E-2	6.41E-2	7.68E-2	9.18E-2	1.09E-1	1.29E-1
55	178.30	2.48E-4	2.00E-4	1.26E-4	6.56E-5	2.98E-5	1.30E-5	55	616.00	5.40E-2	6.19E-2	7.35E-2	8.81E-2	1.05E-1	1.24E-1
56	182.77	2.38E-4	1.92E-4	1.22E-4	6.33E-5	2.87E-5	1.26E-5	56	653.50	5.25E-2	5.97E-2	7.04E-2	8.46E-2	1.01E-1	1.20E-1
57	187.30	2.29E-4	1.85E-4	1.17E-4	6.11E-5	2.77E-5	1.21E-5	57	693.11	4.88E-2	5.74E-2	6.83E-2	8.08E-2	9.65E-2	1.16E-1
58	191.91	2.21E-4	1.78E-4	1.13E-4	5.90E-5	2.68E-5	1.17E-5	58	734.92	4.71E-2	5.49E-2	6.57E-2	7.77E-2	9.29E-2	1.12E-1
59	196.59	2.13E-4	1.72E-4	1.09E-4	5.69E-5	2.59E-5	1.13E-5	59	779.04	4.54E-2	5.25E-2	6.31E-2	7.47E-2	8.95E-2	1.08E-1
60	201.34	2.05E-4	1.66E-4	1.05E-4	5.51E-5	2.51E-5	1.10E-5	60	825.56	4.39E-2	5.02E-2	6.07E-2	7.20E-2	8.63E-2	1.04E-1
61	206.17	1.98E-4	1.60E-4	1.02E-4	5.33E-5	2.43E-5	1.06E-5	61	874.63	4.25E-2	4.81E-2	5.83E-2	6.93E-2	8.32E-2	1.01E-1
62	211.07	1.91E-4	1.55E-4	9.87E-5	5.16E-5	2.35E-5	1.03E-5	62	926.32	4.11E-2	4.61E-2	5.61E-2	6.67E-2	8.02E-2	9.74E-2
63	216.05	1.85E-4	1.50E-4	9.55E-5	5.00E-5	2.28E-5	1.00E-5	63	980.80	3.99E-2	4.42E-2	5.39E-2	6.43E-2	7.74E-2	9.42E-2
64	221.11	1.79E-4	1.45E-4	9.26E-5	4.85E-5	2.22E-5	9.73E-6	64	1038.16	3.86E-2	4.24E-2	5.19E-2	6.19E-2	7.47E-2	9.12E-2
65	226.27	1.73E-4	1.40E-4	8.97E-5	4.71E-5	2.16E-5	9.45E-6	65	1098.57	3.74E-2	4.07E-2	4.99E-2	5.97E-2	7.22E-2	8.83E-2
66	231.50	1.68E-4	1.36E-4	8.69E-5	4.57E-5	2.09E-5	9.20E-6	66	1162.14	3.61E-2	3.91E-2	4.79E-2	5.76E-2	6.97E-2	8.55E-2
67	236.83	1.62E-4	1.32E-4	8.45E-5	4.44E-5	2.04E-5	8.96E-6	67	1229.03	3.49E-2	3.76E-2	4.61E-2	5.55E-2	6.74E-2	8.29E-2
68	242.26	1.58E-4	1.28E-4	8.19E-5	4.32E-5	1.98E-5	8.72E-6	68	1299.38	3.37E-2	3.62E-2	4.43E-2	5.36E-2	6.51E-2	8.03E-2
69	247.78	1.53E-4	1.24E-4	7.96E-5	4.21E-5	1.93E-5	8.50E-6	69	1373.36	3.24E-2	3.49E-2	4.27E-2	5.17E-2	6.30E-2	7.79E-2
70	253.38	1.48E-4	1.21E-4	7.74E-5	4.10E-5	1.89E-5	8.30E-6	70	1451.10	3.12E-2	3.37E-2	4.10E-2	4.99E-2	6.09E-2	7.56E-2
71	259.10	1.44E-4	1.17E-4	7.53E-5	3.99E-5	1.84E-5	8.10E-6	71	1532.80	2.99E-2	3.25E-2	3.95E-2	4.81E-2	5.89E-2	7.33E-2
72	264.90	1.40E-4	1.14E-4	7.34E-5	3.89E-5	1.79E-5	7.92E-6	72	1618.61	2.87E-2	3.14E-2	3.80E-2	4.65E-2	5.70E-2	7.12E-2
73	270.81	1.36E-4	1.11E-4	7.15E-5	3.79E-5	1.75E-5	7.73E-6	73	1708.75	2.75E-2	3.04E-2	3.66E-2	4.49E-2	5.52E-2	6.91E-2
74	276.82	1.32E-4	1.08E-4	6.97E-5	3.70E-5	1.72E-5	7.56E-6	74	1803.37	2.64E-2	2.94E-2	3.53E-2	4.33E-2	5.34E-2	6.71E-2
75	282.94	1.29E-4	1.05E-4	6.80E-5	3.62E-5	1.68E-5	7.41E-6	75	1902.70	2.53E-2	2.84E-2	3.40E-2	4.18E-2	5.17E-2	6.52E-2
76	289.14	1.25E-4	1.02E-4	6.62E-5	3.54E-5	1.64E-5	7.25E-6	76	2006.91	2.43E-2	2.75E-2	3.27E-2	4.04E-2	5.01E-2	6.33E-2
77	295.48	1.22E-4	9.97E-5	6.47E-5	3.46E-5	1.61E-5	7.11E-6	77	2116.27	2.33E-2	2.66E-2	3.16E-2	3.90E-2	4.85E-2	6.16E-2
78	301.91	1.19E-4	9.73E-5	6.32E-5	3.39E-5	1.57E-5	6.97E-6	78	2230.97	2.25E-2	2.58E-2	3.05E-2	3.77E-2	4.70E-2	5.98E-2
79	308.46	1.16E-4	9.50E-5	6.17E-5	3.31E-5	1.54E-5	6.84E-6	79	2351.26	2.17E-2	2.49E-2	2.94E-2	3.64E-2	4.56E-2	5.82E-2
80	315.09	1.13E-4	9.27E-5	6.04E-5	3.25E-5	1.51E-5	6.72E-6	80	2477.35	2.11E-2	2.41E-2	2.84E-2	3.52E-2	4.42E-2	5.66E-2
81	321.81	1.11E-4	9.07E-5	5.92E-5	3.18E-5	1.49E-5	6.60E-6	81	2609.52	2.04E-2	2.33E-2	2.74E-2	3.40E-2	4.28E-2	5.50E-2
82	328.65	1.08E-4	8.86E-5	5.79E-5	3.12E-5	1.46E-5	6.49E-6	82	2748.07	1.98E-2	2.25E-2	2.65E-2	3.29E-2	4.15E-2	5.35E-2
83	335.62	1.06E-4	8.69E-5	5.67E-5	3.06E-5	1.43E-5	6.39E-6	83	2893.28	1.93E-2	2.17E-2	2.56E-2	3.18E-2	4.03E-2	5.21E-2
84	342.73	1.03E-4	8.48E-5	5.55E-5	3.00E-5	1.41E-5	6.28E-6	84	3045.48	1.80E-2	2.06E-2	2.53E-2	3.09E-2	3.89E-2	5.05E-2
85	349.92	1.01E-4	8.30E-5	5.44E-5	2.95E-5	1.39E-5	6.19E-6	85	3204.90	1.74E-2	1.98E-2	2.44E-2	2.99E-2	3.77E-2	4.92E-2
86	356.84	9.91E-5	8.13E-5	5.34E-5	2.90E-5	1.36E-5	6.10E-6	86	3371.50	1.69E-2	1.91E-2	2.35E-2	2.90E-2	3.66E-2	4.79E-2
87	364.18	9.72E-5	7.97E-5	5.24E-5	2.85E-5	1.34E-5	6.02E-6	87	3546.38	1.64E-2	1.84E-2	2.27E-2	2.81E-2	3.56E-2	4.66E-2
88	371.51	9.52E-5	7.82E-5	5.14E-5	2.81E-5	1.33E-5	5.94E-6	88	3729.43	1.60E-2	1.80E-2	2.17E-2	2.71E-2	3.46E-2	4.54E-2
89	378.99	9.34E-5	7.68E-5	5.06E-5	2.76E-5	1.31E-5	5.86E-6	89	3921.20	1.55E-2	1.75E-2	2.09E-2	2.63E-2	3.36E-2	4.43E-2

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - E_2$								$A_1 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	114.93	3.85E-2	4.33E-2	5.07E-2	5.97E-2	6.85E-2	7.70E-2	26	137.66	5.01E-2	5.59E-2	6.60E-2	7.71E-2	8.89E-2	1.00E-1
27	124.10	3.15E-2	3.55E-2	4.16E-2	4.90E-2	5.63E-2	6.33E-2	27	146.93	4.33E-2	4.83E-2	5.71E-2	6.67E-2	7.69E-2	8.68E-2
28	134.02	2.58E-2	2.91E-2	3.41E-2	4.01E-2	4.61E-2	5.20E-2	28	156.84	3.72E-2	4.15E-2	4.91E-2	5.73E-2	6.62E-2	7.47E-2
29	144.75	2.11E-2	2.38E-2	2.79E-2	3.29E-2	3.79E-2	4.27E-2	29	167.46	3.17E-2	3.54E-2	4.19E-2	4.89E-2	5.65E-2	6.39E-2
30	156.38	1.73E-2	1.95E-2	2.29E-2	2.70E-2	3.11E-2	3.52E-2	30	178.86	2.69E-2	3.00E-2	3.55E-2	4.15E-2	4.79E-2	5.42E-2
31	168.95	1.42E-2	1.58E-2	1.90E-2	2.22E-2	2.55E-2	2.89E-2	31	191.12	2.30E-2	2.49E-2	3.00E-2	3.49E-2	4.01E-2	4.56E-2
32	182.55	1.18E-2	1.30E-2	1.57E-2	1.83E-2	2.11E-2	2.39E-2	32	204.32	1.91E-2	2.07E-2	2.50E-2	2.91E-2	3.35E-2	3.81E-2
33	197.23	9.75E-3	1.07E-2	1.30E-2	1.51E-2	1.75E-2	1.98E-2	33	218.55	1.58E-2	1.71E-2	2.06E-2	2.40E-2	2.77E-2	3.15E-2
34	213.07	8.11E-3	8.89E-3	1.07E-2	1.26E-2	1.45E-2	1.65E-2	34	233.89	1.30E-2	1.40E-2	1.69E-2	1.97E-2	2.27E-2	2.59E-2
35	230.15	6.77E-3	7.39E-3	8.94E-3	1.05E-2	1.21E-2	1.38E-2	35	250.44	1.06E-2	1.14E-2	1.37E-2	1.61E-2	1.85E-2	2.12E-2
36	248.54	5.68E-3	6.16E-3	7.47E-3	8.75E-3	1.01E-2	1.16E-2	36	268.30	8.55E-3	9.20E-3	1.11E-2	1.30E-2	1.50E-2	1.71E-2
37	268.34	4.72E-3	5.19E-3	6.28E-3	7.33E-3	8.50E-3	9.73E-3	37	287.54	6.79E-3	7.43E-3	8.93E-3	1.04E-2	1.21E-2	1.38E-2
38	289.63	4.00E-3	4.35E-3	5.27E-3	6.17E-3	7.16E-3	8.21E-3	38	308.29	5.46E-3	5.90E-3	7.12E-3	8.32E-3	9.64E-3	1.11E-2
39	312.50	3.34E-3	3.67E-3	4.42E-3	5.21E-3	6.05E-3	6.96E-3	39	330.63	4.30E-3	4.69E-3	5.62E-3	6.62E-3	7.67E-3	8.82E-3
40	337.05	2.77E-3	3.13E-3	3.73E-3	4.41E-3	5.13E-3	5.91E-3	40	354.66	3.33E-3	3.74E-3	4.43E-3	5.23E-3	6.08E-3	7.00E-3
41	363.38	2.36E-3	2.64E-3	3.16E-3	3.74E-3	4.36E-3	5.03E-3	41	380.51	2.64E-3	2.93E-3	3.49E-3	4.12E-3	4.80E-3	5.53E-3
42	391.59	2.04E-3	2.23E-3	2.71E-3	3.18E-3	3.71E-3	4.29E-3	42	408.27	2.11E-3	2.29E-3	2.77E-3	3.24E-3	3.77E-3	4.36E-3
43	421.81	1.70E-3	1.91E-3	2.28E-3	2.71E-3	3.16E-3	3.67E-3	43	438.06	1.62E-3	1.81E-3	2.15E-3	2.54E-3	2.96E-3	3.43E-3
44	454.13	1.46E-3	1.63E-3	1.95E-3	2.31E-3	2.70E-3	3.14E-3	44	470.00	1.28E-3	1.41E-3	1.68E-3	1.98E-3	2.32E-3	2.69E-3
45	488.70	1.24E-3	1.40E-3	1.66E-3	1.98E-3	2.32E-3	2.70E-3	45	504.20	9.91E-4	1.11E-3	1.31E-3	1.55E-3	1.81E-3	2.11E-3
46	525.62	1.06E-3	1.21E-3	1.41E-3	1.69E-3	1.99E-3	2.32E-3	46	540.80	7.74E-4	8.73E-4	1.01E-3	1.21E-3	1.42E-3	1.65E-3
47	565.04	9.28E-4	1.07E-3	1.24E-3	1.44E-3	1.70E-3	1.99E-3	47	579.93	6.14E-4	7.05E-4	8.11E-4	9.37E-4	1.10E-3	1.29E-3
48	607.08	7.82E-4	8.75E-4	1.04E-3	1.24E-3	1.46E-3	1.72E-3	48	621.71	4.71E-4	5.22E-4	6.19E-4	7.33E-4	8.61E-4	1.01E-3
49	651.90	6.78E-4	7.54E-4	8.88E-4	1.06E-3	1.26E-3	1.48E-3	49	666.30	3.69E-4	4.08E-4	4.76E-4	5.68E-4	6.71E-4	7.89E-4
50	699.64	5.81E-4	6.48E-4	7.62E-4	9.15E-4	1.09E-3	1.28E-3	50	713.83	2.88E-4	3.18E-4	3.70E-4	4.42E-4	5.23E-4	6.16E-4
51	750.44	5.01E-4	5.59E-4	6.55E-4	7.88E-4	9.35E-4	1.11E-3	51	764.47	2.25E-4	2.48E-4	2.88E-4	3.44E-4	4.08E-4	4.81E-4
52	804.48	4.25E-4	4.73E-4	5.67E-4	6.75E-4	8.06E-4	9.56E-4	52	818.35	1.73E-4	1.90E-4	2.25E-4	2.67E-4	3.18E-4	3.76E-4
53	861.92	3.68E-4	4.10E-4	4.89E-4	5.82E-4	6.96E-4	8.28E-4	53	875.67	1.35E-4	1.49E-4	1.76E-4	2.08E-4	2.47E-4	2.94E-4
54	922.93	3.19E-4	3.55E-4	4.21E-4	5.02E-4	6.01E-4	7.17E-4	54	936.57	1.06E-4	1.17E-4	1.37E-4	1.62E-4	1.93E-4	2.30E-4
55	987.69	2.73E-4	3.05E-4	3.62E-4	4.33E-4	5.19E-4	6.22E-4	55	1001.23	8.24E-5	9.11E-5	1.06E-4	1.26E-4	1.51E-4	1.80E-4
56	1056.38	2.35E-4	2.62E-4	3.12E-4	3.74E-4	4.49E-4	5.40E-4	56	1069.85	6.42E-5	7.08E-5	8.28E-5	9.86E-5	1.18E-4	1.41E-4
57	1129.20	2.02E-4	2.28E-4	2.69E-4	3.26E-4	3.90E-4	4.68E-4	57	1142.61	5.00E-5	5.57E-5	6.46E-5	7.74E-5	9.23E-5	1.11E-4
58	1206.35	1.75E-4	1.98E-4	2.32E-4	2.82E-4	3.38E-4	4.07E-4	58	1219.72	3.93E-5	4.38E-5	5.04E-5	6.06E-5	7.23E-5	8.70E-5
59	1288.04	1.51E-4	1.71E-4	2.00E-4	2.44E-4	2.94E-4	3.55E-4	59	1301.37	3.10E-5	3.44E-5	3.94E-5	4.74E-5	5.68E-5	6.85E-5
60	1374.48	1.32E-4	1.48E-4	1.73E-4	2.11E-4	2.55E-4	3.09E-4	60	1387.78	2.45E-5	2.71E-5	3.09E-5	3.72E-5	4.46E-5	5.40E-5
61	1465.90	1.15E-4	1.28E-4	1.50E-4	1.83E-4	2.22E-4	2.70E-4	61	1479.19	1.94E-5	2.13E-5	2.43E-5	2.92E-5	3.52E-5	4.26E-5
62	1562.51	1.00E-4	1.11E-4	1.31E-4	1.59E-4	1.93E-4	2.36E-4	62	1575.79	1.54E-5	1.67E-5	1.92E-5	2.30E-5	2.77E-5	3.37E-5
63	1664.59	8.72E-5	9.61E-5	1.13E-4	1.38E-4	1.69E-4	2.06E-4	63	1677.87	1.23E-5	1.32E-5	1.51E-5	1.81E-5	2.19E-5	2.67E-5
64	1772.36	7.58E-5	8.32E-5	9.88E-5	1.20E-4	1.47E-4	1.80E-4	64	1785.64	9.76E-6	1.04E-5	1.20E-5	1.43E-5	1.73E-5	2.12E-5
65	1886.12	6.57E-5	7.21E-5	8.62E-5	1.05E-4	1.29E-4	1.58E-4	65	1899.40	7.75E-6	8.26E-6	9.52E-6	1.13E-5	1.38E-5	1.69E-5
66	2006.11	5.70E-5	6.27E-5	7.53E-5	9.12E-5	1.12E-4	1.39E-4	66	2019.40	6.17E-6	6.58E-6	7.59E-6	8.97E-6	1.09E-5	1.35E-5
67	2132.63	4.95E-5	5.47E-5	6.58E-5	7.96E-5	9.83E-5	1.22E-4	67	2145.92	4.93E-6	5.26E-6	6.05E-6	7.13E-6	8.70E-6	1.08E-5
68	2265.98	4.31E-5	4.79E-5	5.76E-5	6.95E-5	8.61E-5	1.07E-4	68	2279.28	3.95E-6	4.23E-6	4.85E-6	5.68E-6	6.94E-6	8.61E-6
69	2406.46	3.77E-5	4.20E-5	5.03E-5	6.09E-5	7.55E-5	9.43E-5	69	2419.76	3.19E-6	3.41E-6	3.88E-6	4.54E-6	5.56E-6	6.91E-6
70	2554.37	3.30E-5	3.69E-5	4.41E-5	5.33E-5	6.63E-5	8.31E-5	70	2567.68	2.59E-6	2.76E-6	3.12E-6	3.64E-6	4.45E-6	5.56E-6
71	2710.09	2.91E-5	3.24E-5	3.85E-5	4.68E-5	5.82E-5	7.33E-5	71	2723.40	2.12E-6	2.25E-6	2.51E-6	2.93E-6	3.58E-6	4.48E-6
72	2873.93	2.56E-5	2.85E-5	3.37E-5	4.11E-5	5.12E-5	6.47E-5	72	2887.24	1.74E-6	1.83E-6	2.03E-6	2.36E-6	2.89E-6	3.63E-6
73	3046.28	2.25E-5	2.50E-5	2.95E-5	3.62E-5	4.51E-5	5.72E-5	73	3059.58	1.43E-6	1.49E-6	1.64E-6	1.91E-6	2.34E-6	2.94E-6
74	3227.51	1.97E-5	2.19E-5	2.59E-5	3.19E-5	3.98E-5	5.06E-5	74	3240.80	1.17E-6	1.22E-6	1.33E-6	1.55E-6	1.90E-6	2.39E-6
75	3418.01	1.73E-5	1.92E-5	2.28E-5	2.81E-5	3.51E-5	4.48E-5	75	3431.29	9.68E-7	9.98E-7	1.09E-6	1.26E-6	1.54E-6	1.95E-6
76	3618.18	1.52E-5	1.68E-5	2.00E-5	2.48E-5	3.10E-5	3.97E-5	76	3631.43	8.01E-7	8.22E-7	8.90E-7	1.04E-6	1.26E-6	1.60E-6
77	3828.50	1.33E-5	1.47E-5	1.76E-5	2.19E-5	2.75E-5	3.53E-5	77	3841.72	6.67E-7	6.80E-7	7.33E-7	8.49E-7	1.03E-6	1.31E-6
78	4049.37	1.18E-5	1.30E-5	1.56E-5	1.93E-5	2.43E-5	3.13E-5	78	4062.56	5.58E-7	5.66E-7	6.06E-7	6.99E-7	8.50E-7	1.08E-6
79	4281.31	1.04E-5	1.15E-5	1.38E-5	1.71E-5	2.16E-5	2.78E-5	79	4294.45	4.71E-7	4.75E-7	5.04E-7	5.77E-7	7.03E-7	8.97E-7
80	4524.74	9.21E-6	1.02E-5	1.22E-5	1.51E-5	1.91E-5	2.48E-5	80	4537.83	4.00E-7	4.00E-7	4.21E-7	4.79E-7	5.83E-7	7.45E-7
81	4780.22	8.15E-6	9.04E-6	1.08E-5	1.34E-5	1.70E-5	2.21E-5	81	4793.24	3.40E-7	3.39E-7	3.54E-7	3.99E-7	4.86E-7	6.22E-7
82	5048.30	7.20E-6	8.01E-6	9.57E-6	1.18E-5	1.51E-5	1.97E-5	82	5061.25	2.90E-7	2.89E-7	2.98E-7	3.33E-7	4.06E-7	5.22E-7
83	5329.57	6.36E-6	7.08E-6	8.47E-6	1.05E-5	1.34E-5	1.76E-5	83	5342.43	2.49E-7	2.46E-7	2.52E-7	2.80E-7	3.42E-7	4.39E-7
84	5624.65	5.67E-6	6.24E-6	7.46E-6	9.28E-6	1.20E-5	1.57E-5	84	5637.42	2.15E-7	2.10E-7	2.13E-7	2.36E-7	2.89E-7	3.73E-7
85	5934.08	5.05E-6	5.49E-6	6.64E-6	8.23E-6	1.07E-5	1.41E-5	85	5946.74	1.87E-7	1.80E-7	1.83E-7	2.00E-7	2.45E-7	3.18E-7
86	6258.11	4.48E-6	4.85E-6	5.92E-6	7.31E-6	9.51E-6	1.26E-5	86	6270.65	1.63E-7	1.55E-7	1.57E-7	1.71E-7	2.09E-7	2.71E-7
87	6598.24	3.97E-6	4.29E-6	5.27E-6	6.50E-6	8.47E-6	1.13E-5	87	6610.65	1.42E-7	1.35E-7	1.36E-7	1.47E-7	1.79E-7	2.33E-7
88	6954.71	3.51E-6	3.80E-6	4.69E-6	5.79E-6	7.55E-6	1.01E-5	88	6966.97	1.24E-7	1.18E-7	1.18E-7	1.27E-7	1.54E-7	2.02E-7
89	7328.45	3.10E-6	3.39E-6	4.18E-6	5.16E-6	6.74E-6	9.03E-6	89	7340.56	1.09E-7	1.03				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - E_4$								$A_2 - E_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	158.17	1.40E-4	1.33E-4	1.24E-4	1.22E-4	1.28E-4	1.39E-4	26	50.95	6.43E-3	7.48E-3	8.81E-3	1.02E-2	1.16E-2	1.29E-2
27	170.06	1.17E-4	1.14E-4	1.11E-4	1.13E-4	1.22E-4	1.34E-4	27	52.59	6.73E-3	7.83E-3	9.24E-3	1.07E-2	1.22E-2	1.35E-2
28	182.95	9.71E-5	9.61E-5	9.73E-5	1.02E-4	1.11E-4	1.24E-4	28	53.99	6.92E-3	8.05E-3	9.51E-3	1.10E-2	1.25E-2	1.39E-2
29	196.94	7.97E-5	8.03E-5	8.34E-5	8.92E-5	9.89E-5	1.10E-4	29	55.10	6.99E-3	8.13E-3	9.62E-3	1.12E-2	1.27E-2	1.41E-2
30	212.14	6.45E-5	6.59E-5	6.99E-5	7.60E-5	8.50E-5	9.52E-5	30	55.88	6.96E-3	8.08E-3	9.58E-3	1.12E-2	1.27E-2	1.41E-2
31	228.67	5.25E-5	5.29E-5	5.75E-5	6.34E-5	7.10E-5	7.98E-5	31	56.28	6.91E-3	7.65E-3	9.34E-3	1.10E-2	1.25E-2	1.39E-2
32	246.63	4.13E-5	4.21E-5	4.62E-5	5.14E-5	5.79E-5	6.53E-5	32	56.26	6.62E-3	7.40E-3	9.07E-3	1.06E-2	1.21E-2	1.35E-2
33	266.15	3.21E-5	3.29E-5	3.64E-5	4.09E-5	4.62E-5	5.23E-5	33	55.77	6.25E-3	7.08E-3	8.71E-3	1.02E-2	1.16E-2	1.29E-2
34	287.34	2.47E-5	2.54E-5	2.82E-5	3.19E-5	3.62E-5	4.10E-5	34	54.77	5.84E-3	6.72E-3	8.30E-3	9.72E-3	1.10E-2	1.23E-2
35	310.34	1.87E-5	1.93E-5	2.16E-5	2.45E-5	2.79E-5	3.17E-5	35	53.21	5.42E-3	6.33E-3	7.85E-3	9.19E-3	1.04E-2	1.16E-2
36	335.27	1.40E-5	1.45E-5	1.63E-5	1.85E-5	2.12E-5	2.41E-5	36	51.03	5.03E-3	5.95E-3	7.39E-3	8.64E-3	9.80E-3	1.09E-2
37	362.28	1.04E-5	1.09E-5	1.22E-5	1.39E-5	1.59E-5	1.81E-5	37	48.19	4.59E-3	5.58E-3	6.94E-3	8.10E-3	9.17E-3	1.02E-2
38	391.51	7.67E-6	7.99E-6	9.01E-6	1.03E-5	1.18E-5	1.35E-5	38	44.65	4.25E-3	5.24E-3	6.51E-3	7.59E-3	8.58E-3	9.56E-3
39	423.10	5.60E-6	5.85E-6	6.59E-6	7.55E-6	8.69E-6	9.96E-6	39	40.34	3.94E-3	4.93E-3	6.12E-3	7.11E-3	8.03E-3	8.94E-3
40	457.20	4.04E-6	4.28E-6	4.80E-6	5.51E-6	6.35E-6	7.30E-6	40	35.23	3.68E-3	4.67E-3	5.78E-3	6.69E-3	7.54E-3	8.39E-3
41	493.98	2.93E-6	3.10E-6	3.49E-6	4.00E-6	4.62E-6	5.32E-6	41	29.26	3.51E-3	4.48E-3	5.50E-3	6.34E-3	7.12E-3	7.92E-3
42	533.58	2.13E-6	2.24E-6	2.54E-6	2.89E-6	3.34E-6	3.86E-6	42	22.38	3.43E-3	4.37E-3	5.32E-3	6.09E-3	6.81E-3	7.57E-3
43	576.20	1.53E-6	1.62E-6	1.82E-6	2.08E-6	2.41E-6	2.79E-6	43	14.53	3.52E-3	4.41E-3	5.28E-3	5.99E-3	6.67E-3	7.40E-3
44	621.99	1.11E-6	1.17E-6	1.31E-6	1.49E-6	1.73E-6	2.01E-6	44	5.664	4.04E-3	4.88E-3	5.68E-3	6.35E-3	7.00E-3	7.71E-3
45	671.14	8.01E-7	8.46E-7	9.39E-7	1.07E-6	1.25E-6	1.45E-6	45	-4.283	3.91E-3	4.67E-3	5.40E-3	6.01E-3	6.62E-3	7.30E-3
46	723.84	5.78E-7	6.12E-7	6.72E-7	7.68E-7	8.94E-7	1.04E-6	46	-15.37	2.64E-3	3.30E-3	3.95E-3	4.49E-3	5.02E-3	5.60E-3
47	780.29	4.18E-7	4.45E-7	4.87E-7	5.50E-7	6.40E-7	7.49E-7	47	-27.65	2.06E-3	2.63E-3	3.21E-3	3.69E-3	4.16E-3	4.68E-3
48	840.69	3.01E-7	3.15E-7	3.46E-7	3.95E-7	4.59E-7	5.38E-7	48	-41.20	1.70E-3	2.18E-3	2.70E-3	3.13E-3	3.56E-3	4.02E-3
49	905.25	2.18E-7	2.27E-7	2.48E-7	2.82E-7	3.29E-7	3.86E-7	49	-56.08	1.46E-3	1.85E-3	2.31E-3	2.70E-3	3.08E-3	3.50E-3
50	974.20	1.58E-7	1.64E-7	1.78E-7	2.03E-7	2.36E-7	2.78E-7	50	-72.35	1.30E-3	1.60E-3	2.00E-3	2.35E-3	2.70E-3	3.09E-3
51	1047.75	1.15E-7	1.19E-7	1.28E-7	1.46E-7	1.69E-7	2.00E-7	51	-90.10	1.17E-3	1.40E-3	1.75E-3	2.07E-3	2.39E-3	2.74E-3
52	1126.15	8.38E-8	8.57E-8	9.25E-8	1.05E-7	1.22E-7	1.44E-7	52	-109.39	1.07E-3	1.24E-3	1.54E-3	1.83E-3	2.12E-3	2.45E-3
53	1209.65	6.13E-8	6.26E-8	6.70E-8	7.52E-8	8.75E-8	1.04E-7	53	-130.31	9.71E-4	1.10E-3	1.37E-3	1.63E-3	1.89E-3	2.19E-3
54	1298.49	4.47E-8	4.57E-8	4.84E-8	5.41E-8	6.29E-8	7.47E-8	54	-152.93	8.80E-4	9.91E-4	1.22E-3	1.45E-3	1.70E-3	1.98E-3
55	1392.95	3.29E-8	3.34E-8	3.51E-8	3.90E-8	4.54E-8	5.39E-8	55	-177.34	7.98E-4	8.94E-4	1.09E-3	1.31E-3	1.53E-3	1.79E-3
56	1493.30	2.42E-8	2.44E-8	2.55E-8	2.82E-8	3.28E-8	3.91E-8	56	-203.63	7.18E-4	8.12E-4	9.86E-4	1.18E-3	1.39E-3	1.63E-3
57	1599.83	1.79E-8	1.79E-8	1.85E-8	2.04E-8	2.38E-8	2.83E-8	57	-231.88	6.25E-4	7.09E-4	8.87E-4	1.07E-3	1.26E-3	1.48E-3
58	1712.84	1.33E-8	1.32E-8	1.35E-8	1.48E-8	1.72E-8	2.05E-8	58	-262.50	5.82E-4	6.47E-4	8.03E-4	9.69E-4	1.15E-3	1.36E-3
59	1832.64	9.88E-9	9.75E-9	9.89E-9	1.07E-8	1.24E-8	1.49E-8	59	-294.68	5.41E-4	5.92E-4	7.30E-4	8.82E-4	1.05E-3	1.24E-3
60	1959.55	7.38E-9	7.25E-9	7.28E-9	7.80E-9	9.03E-9	1.08E-8	60	-329.44	5.01E-4	5.44E-4	6.65E-4	8.05E-4	9.60E-4	1.14E-3
61	2093.91	5.58E-9	5.43E-9	5.37E-9	5.70E-9	6.58E-9	7.88E-9	61	-366.56	4.64E-4	5.01E-4	6.08E-4	7.36E-4	8.81E-4	1.05E-3
62	2236.05	4.21E-9	4.07E-9	3.97E-9	4.17E-9	4.78E-9	5.73E-9	62	-406.19	4.26E-4	4.65E-4	5.58E-4	6.76E-4	8.11E-4	9.73E-4
63	2386.36	3.19E-9	3.04E-9	2.92E-9	3.03E-9	3.45E-9	4.14E-9	63	-448.40	3.92E-4	4.31E-4	5.14E-4	6.21E-4	7.48E-4	9.01E-4
64	2545.19	2.44E-9	2.30E-9	2.18E-9	2.24E-9	2.54E-9	3.05E-9	64	-493.37	3.60E-4	4.00E-4	4.74E-4	5.73E-4	6.91E-4	8.35E-4
65	2712.96	1.86E-9	1.74E-9	1.62E-9	1.65E-9	1.85E-9	2.23E-9	65	-541.16	3.30E-4	3.71E-4	4.38E-4	5.29E-4	6.39E-4	7.76E-4
66	2890.07	1.43E-9	1.32E-9	1.21E-9	1.21E-9	1.35E-9	1.62E-9	66	-591.96	3.03E-4	3.45E-4	4.06E-4	4.90E-4	5.93E-4	7.23E-4
67	3076.94	1.10E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.18E-9	67	-645.87	2.78E-4	3.20E-4	3.77E-4	4.54E-4	5.51E-4	6.74E-4
68	3274.02	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	68	-703.05	2.56E-4	2.97E-4	3.50E-4	4.22E-4	5.13E-4	6.29E-4
69	3481.78	1.00E-9	1.00E-9	1.00E-9	0.00E+0	1.00E-9	1.00E-9	69	-763.65	2.34E-4	2.75E-4	3.27E-4	3.92E-4	4.78E-4	5.89E-4
70	3700.67	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	70	-827.84	2.17E-4	2.55E-4	3.04E-4	3.66E-4	4.47E-4	5.52E-4
71	3931.23	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	71	-895.75	2.03E-4	2.37E-4	2.84E-4	3.41E-4	4.17E-4	5.17E-4
72	4173.95	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	72	-967.59	1.90E-4	2.20E-4	2.66E-4	3.19E-4	3.91E-4	4.86E-4
73	4429.40	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	73	-1043.51	1.78E-4	2.05E-4	2.48E-4	2.99E-4	3.66E-4	4.57E-4
74	4698.15	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	74	-1123.71	1.68E-4	1.90E-4	2.32E-4	2.80E-4	3.44E-4	4.30E-4
75	4980.78	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	75	-1208.38	1.58E-4	1.78E-4	2.17E-4	2.62E-4	3.23E-4	4.06E-4
76	5277.90	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	76	-1297.74	1.49E-4	1.66E-4	2.04E-4	2.46E-4	3.04E-4	3.83E-4
77	5590.21	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	77	-1391.97	1.41E-4	1.56E-4	1.91E-4	2.31E-4	2.86E-4	3.62E-4
78	5918.33	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	78	-1491.33	1.33E-4	1.46E-4	1.79E-4	2.18E-4	2.70E-4	3.42E-4
79	6263.03	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	79	-1596.02	1.25E-4	1.37E-4	1.68E-4	2.05E-4	2.54E-4	3.24E-4
80	6624.97	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	80	-1706.34	1.18E-4	1.29E-4	1.58E-4	1.93E-4	2.40E-4	3.07E-4
81	7004.97	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	81	-1822.53	1.10E-4	1.23E-4	1.47E-4	1.82E-4	2.27E-4	2.91E-4
82	7403.87	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	82	-1944.83	1.03E-4	1.16E-4	1.39E-4	1.71E-4	2.15E-4	2.76E-4
83	7822.53	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	83	-2073.53	9.78E-5	1.09E-4	1.31E-4	1.62E-4	2.03E-4	2.62E-4
84	8261.89	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	84	-2208.89	8.93E-5	1.04E-4	1.25E-4	1.52E-4	1.91E-4	2.48E-4
85	8722.79	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	85	-2351.31	8.43E-5	9.77E-5	1.18E-4	1.44E-4	1.81E-4	2.36E-4
86	9205.79	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	86	-2501.41	7.99E-5	9.19E-5	1.12E-4	1.36E-4	1.72E-4	2.25E-4
87	9712.79	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	87	-2658.94	7.59E-5	8.63E-5	1.06E-4	1.29E-4	1.63E-4	2.14E-4
88	10244.4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	88	-2824.62	7.23E-5	8.12E-5	1.00E-4	1.23E-4	1.56E-4	2.04E-4
89	10801.9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	89	-2998.71	6.90E-5	7.65E-5	9.49E-5	1.16E-4	1.48E-4	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - E_2$								$A_2 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	69.24	1.04E-2	1.08E-2	1.16E-2	1.25E-2	1.38E-2	1.51E-2	26	91.96	1.30E-2	1.44E-2	1.70E-2	1.98E-2	2.26E-2	2.53E-2
27	72.97	1.03E-2	1.09E-2	1.18E-2	1.29E-2	1.42E-2	1.57E-2	27	95.80	1.43E-2	1.60E-2	1.89E-2	2.20E-2	2.51E-2	2.81E-2
28	76.77	1.02E-2	1.09E-2	1.20E-2	1.31E-2	1.46E-2	1.61E-2	28	99.59	1.57E-2	1.75E-2	2.07E-2	2.41E-2	2.74E-2	3.08E-2
29	80.63	1.01E-2	1.08E-2	1.20E-2	1.34E-2	1.49E-2	1.65E-2	29	103.33	1.69E-2	1.88E-2	2.24E-2	2.60E-2	2.97E-2	3.33E-2
30	84.56	1.00E-2	1.07E-2	1.21E-2	1.35E-2	1.51E-2	1.68E-2	30	107.03	1.81E-2	2.02E-2	2.40E-2	2.79E-2	3.18E-2	3.57E-2
31	88.54	1.00E-2	1.08E-2	1.20E-2	1.35E-2	1.52E-2	1.70E-2	31	110.70	1.91E-2	2.19E-2	2.53E-2	2.94E-2	3.38E-2	3.80E-2
32	92.57	9.89E-3	1.07E-2	1.19E-2	1.35E-2	1.53E-2	1.71E-2	32	114.35	2.01E-2	2.30E-2	2.66E-2	3.10E-2	3.56E-2	4.01E-2
33	96.66	9.73E-3	1.05E-2	1.18E-2	1.35E-2	1.53E-2	1.71E-2	33	117.98	2.10E-2	2.40E-2	2.78E-2	3.24E-2	3.72E-2	4.20E-2
34	100.78	9.56E-3	1.03E-2	1.17E-2	1.34E-2	1.52E-2	1.71E-2	34	121.60	2.19E-2	2.48E-2	2.88E-2	3.37E-2	3.88E-2	4.37E-2
35	104.94	9.39E-3	1.01E-2	1.15E-2	1.33E-2	1.51E-2	1.69E-2	35	125.24	2.27E-2	2.56E-2	2.98E-2	3.48E-2	4.01E-2	4.53E-2
36	109.13	9.20E-3	9.85E-3	1.13E-2	1.31E-2	1.49E-2	1.67E-2	36	128.88	2.27E-2	2.62E-2	3.07E-2	3.58E-2	4.13E-2	4.67E-2
37	113.36	8.70E-3	9.60E-3	1.11E-2	1.28E-2	1.46E-2	1.64E-2	37	132.56	2.38E-2	2.68E-2	3.13E-2	3.67E-2	4.23E-2	4.79E-2
38	117.61	8.31E-3	9.28E-3	1.07E-2	1.24E-2	1.42E-2	1.60E-2	38	136.27	2.39E-2	2.73E-2	3.19E-2	3.74E-2	4.32E-2	4.90E-2
39	121.89	8.17E-3	8.90E-3	1.03E-2	1.20E-2	1.38E-2	1.55E-2	39	140.01	2.47E-2	2.76E-2	3.24E-2	3.80E-2	4.39E-2	4.98E-2
40	126.19	7.66E-3	8.53E-3	9.93E-3	1.15E-2	1.32E-2	1.50E-2	40	143.80	2.44E-2	2.79E-2	3.28E-2	3.85E-2	4.45E-2	5.06E-2
41	130.51	7.36E-3	8.11E-3	9.47E-3	1.10E-2	1.27E-2	1.44E-2	41	147.64	2.50E-2	2.81E-2	3.30E-2	3.89E-2	4.49E-2	5.12E-2
42	134.86	6.89E-3	7.68E-3	8.99E-3	1.05E-2	1.21E-2	1.37E-2	42	151.53	2.51E-2	2.82E-2	3.32E-2	3.91E-2	4.53E-2	5.16E-2
43	139.23	6.61E-3	7.22E-3	8.49E-3	9.93E-3	1.14E-2	1.30E-2	43	155.48	2.54E-2	2.81E-2	3.33E-2	3.93E-2	4.55E-2	5.20E-2
44	143.63	6.23E-3	6.75E-3	7.97E-3	9.35E-3	1.08E-2	1.23E-2	44	159.49	2.55E-2	2.80E-2	3.33E-2	3.93E-2	4.56E-2	5.22E-2
45	148.06	5.79E-3	6.31E-3	7.46E-3	8.76E-3	1.01E-2	1.16E-2	45	163.56	2.54E-2	2.80E-2	3.33E-2	3.93E-2	4.56E-2	5.23E-2
46	152.51	5.35E-3	5.87E-3	6.95E-3	8.17E-3	9.45E-3	1.08E-2	46	167.69	2.43E-2	2.79E-2	3.32E-2	3.92E-2	4.55E-2	5.23E-2
47	157.00	4.96E-3	5.31E-3	6.43E-3	7.59E-3	8.79E-3	1.01E-2	47	171.89	2.51E-2	2.70E-2	3.28E-2	3.90E-2	4.54E-2	5.22E-2
48	161.52	4.37E-3	5.02E-3	5.98E-3	7.03E-3	8.15E-3	9.37E-3	48	176.15	2.37E-2	2.74E-2	3.28E-2	3.88E-2	4.51E-2	5.20E-2
49	166.08	4.18E-3	4.61E-3	5.50E-3	6.48E-3	7.52E-3	8.67E-3	49	180.48	2.43E-2	2.71E-2	3.24E-2	3.84E-2	4.48E-2	5.18E-2
50	170.68	3.84E-3	4.22E-3	5.05E-3	5.96E-3	6.93E-3	8.00E-3	50	184.88	2.33E-2	2.69E-2	3.21E-2	3.81E-2	4.44E-2	5.14E-2
51	175.32	3.46E-3	3.88E-3	4.63E-3	5.47E-3	6.36E-3	7.37E-3	51	189.34	2.35E-2	2.65E-2	3.17E-2	3.77E-2	4.40E-2	5.10E-2
52	180.00	3.13E-3	3.54E-3	4.23E-3	5.00E-3	5.83E-3	6.77E-3	52	193.87	2.29E-2	2.61E-2	3.13E-2	3.72E-2	4.35E-2	5.06E-2
53	184.74	2.88E-3	3.22E-3	3.86E-3	4.57E-3	5.33E-3	6.20E-3	53	198.48	2.28E-2	2.57E-2	3.09E-2	3.67E-2	4.30E-2	5.01E-2
54	189.52	2.63E-3	2.93E-3	3.51E-3	4.16E-3	4.87E-3	5.68E-3	54	203.15	2.24E-2	2.53E-2	3.04E-2	3.62E-2	4.24E-2	4.95E-2
55	194.36	2.36E-3	2.66E-3	3.19E-3	3.79E-3	4.44E-3	5.19E-3	55	207.90	2.18E-2	2.49E-2	2.99E-2	3.56E-2	4.18E-2	4.89E-2
56	199.25	2.16E-3	2.41E-3	2.90E-3	3.45E-3	4.04E-3	4.74E-3	56	212.72	2.15E-2	2.44E-2	2.94E-2	3.50E-2	4.12E-2	4.83E-2
57	204.21	1.83E-3	2.11E-3	2.63E-3	3.14E-3	3.69E-3	4.33E-3	57	217.62	2.00E-2	2.30E-2	2.87E-2	3.45E-2	4.06E-2	4.77E-2
58	209.23	1.66E-3	1.92E-3	2.39E-3	2.85E-3	3.36E-3	3.95E-3	58	222.60	1.96E-2	2.25E-2	2.82E-2	3.38E-2	3.99E-2	4.70E-2
59	214.32	1.50E-3	1.74E-3	2.16E-3	2.59E-3	3.05E-3	3.60E-3	59	227.65	1.92E-2	2.21E-2	2.76E-2	3.32E-2	3.92E-2	4.63E-2
60	219.47	1.36E-3	1.58E-3	1.96E-3	2.35E-3	2.78E-3	3.28E-3	60	232.78	1.88E-2	2.16E-2	2.70E-2	3.26E-2	3.85E-2	4.56E-2
61	224.71	1.23E-3	1.43E-3	1.78E-3	2.14E-3	2.52E-3	2.99E-3	61	238.00	1.84E-2	2.11E-2	2.65E-2	3.19E-2	3.78E-2	4.49E-2
62	230.00	1.12E-3	1.29E-3	1.62E-3	1.94E-3	2.30E-3	2.73E-3	62	243.28	1.79E-2	2.07E-2	2.59E-2	3.12E-2	3.71E-2	4.41E-2
63	235.39	1.01E-3	1.18E-3	1.47E-3	1.76E-3	2.09E-3	2.49E-3	63	248.66	1.75E-2	2.02E-2	2.53E-2	3.06E-2	3.64E-2	4.34E-2
64	240.84	9.20E-4	1.07E-3	1.33E-3	1.60E-3	1.91E-3	2.28E-3	64	254.11	1.71E-2	1.97E-2	2.48E-2	2.99E-2	3.56E-2	4.26E-2
65	246.38	8.36E-4	9.70E-4	1.21E-3	1.46E-3	1.74E-3	2.08E-3	65	259.67	1.67E-2	1.93E-2	2.42E-2	2.92E-2	3.49E-2	4.19E-2
66	252.01	7.60E-4	8.82E-4	1.10E-3	1.33E-3	1.59E-3	1.91E-3	66	265.30	1.63E-2	1.88E-2	2.36E-2	2.86E-2	3.42E-2	4.11E-2
67	257.73	6.92E-4	8.03E-4	1.01E-3	1.21E-3	1.45E-3	1.75E-3	67	271.02	1.59E-2	1.84E-2	2.31E-2	2.79E-2	3.35E-2	4.03E-2
68	263.54	6.31E-4	7.33E-4	9.18E-4	1.11E-3	1.33E-3	1.60E-3	68	276.84	1.55E-2	1.79E-2	2.25E-2	2.73E-2	3.27E-2	3.96E-2
69	269.45	5.77E-4	6.69E-4	8.39E-4	1.01E-3	1.22E-3	1.47E-3	69	282.75	1.51E-2	1.75E-2	2.20E-2	2.66E-2	3.20E-2	3.89E-2
70	275.44	5.27E-4	6.12E-4	7.67E-4	9.29E-4	1.12E-3	1.36E-3	70	288.75	1.47E-2	1.70E-2	2.14E-2	2.60E-2	3.13E-2	3.81E-2
71	281.54	4.83E-4	5.60E-4	7.03E-4	8.52E-4	1.03E-3	1.25E-3	71	294.85	1.44E-2	1.66E-2	2.09E-2	2.54E-2	3.07E-2	3.74E-2
72	287.73	4.43E-4	5.14E-4	6.45E-4	7.83E-4	9.45E-4	1.15E-3	72	301.04	1.40E-2	1.62E-2	2.04E-2	2.48E-2	3.00E-2	3.67E-2
73	294.03	4.07E-4	4.72E-4	5.93E-4	7.21E-4	8.72E-4	1.07E-3	73	307.33	1.36E-2	1.58E-2	1.98E-2	2.42E-2	2.93E-2	3.60E-2
74	300.42	3.75E-4	4.35E-4	5.46E-4	6.65E-4	8.05E-4	9.90E-4	74	313.72	1.33E-2	1.53E-2	1.93E-2	2.36E-2	2.87E-2	3.53E-2
75	306.93	3.45E-4	4.01E-4	5.04E-4	6.14E-4	7.45E-4	9.19E-4	75	320.21	1.29E-2	1.49E-2	1.88E-2	2.30E-2	2.80E-2	3.46E-2
76	313.53	3.19E-4	3.70E-4	4.66E-4	5.68E-4	6.91E-4	8.55E-4	76	326.78	1.26E-2	1.46E-2	1.84E-2	2.25E-2	2.74E-2	3.39E-2
77	320.25	2.94E-4	3.43E-4	4.32E-4	5.27E-4	6.43E-4	7.97E-4	77	333.48	1.23E-2	1.42E-2	1.79E-2	2.19E-2	2.68E-2	3.32E-2
78	327.08	2.73E-4	3.18E-4	4.01E-4	4.90E-4	5.98E-4	7.45E-4	78	340.26	1.20E-2	1.38E-2	1.74E-2	2.14E-2	2.62E-2	3.26E-2
79	334.02	2.53E-4	2.95E-4	3.73E-4	4.56E-4	5.58E-4	6.97E-4	79	347.16	1.16E-2	1.34E-2	1.70E-2	2.08E-2	2.56E-2	3.19E-2
80	341.04	2.36E-4	2.75E-4	3.47E-4	4.26E-4	5.22E-4	6.55E-4	80	354.13	1.13E-2	1.31E-2	1.65E-2	2.03E-2	2.50E-2	3.13E-2
81	348.16	2.21E-4	2.57E-4	3.24E-4	3.98E-4	4.90E-4	6.16E-4	81	361.18	1.09E-2	1.27E-2	1.61E-2	1.98E-2	2.44E-2	3.07E-2
82	355.40	2.07E-4	2.41E-4	3.04E-4	3.73E-4	4.60E-4	5.80E-4	82	368.35	1.07E-2	1.24E-2	1.57E-2	1.93E-2	2.38E-2	3.01E-2
83	362.76	1.94E-4	2.26E-4	2.85E-4	3.51E-4	4.34E-4	5.49E-4	83	375.63	1.04E-2	1.20E-2	1.53E-2	1.88E-2	2.33E-2	2.95E-2
84	370.28	1.70E-4	2.15E-4	2.72E-4	3.33E-4	4.12E-4	5.21E-4	84	383.05	9.33E-3	1.18E-2	1.50E-2	1.85E-2	2.28E-2	2.90E-2
85	377.87	1.60E-4	2.03E-4	2.57E-4	3.15E-4	3.90E-4	4.95E-4	85	390.53	9.08E-3	1.15E-2	1.46E-2	1.80E-2	2.23E-2	2.84E-2
86	385.19	1.52E-4	1.92E-4	2.43E-4	2.99E-4	3.70E-4	4.72E-4	86	397.73	8.84E-3	1.12E-2	1.43E-2	1.75E-2	2.18E-2	2.78E-2
87	392.93	1.44E-4	1.82E-4	2.31E-4	2.84E-4	3.53E-4	4.51E-4	87	405.34	8.60E-3	1.09E-2	1.39E-2	1.71E-2	2.13E-2	2.72E-2
88	400.66	1.37E-4	1.73E-4	2.20E-4	2.71E-4	3.37E-4	4.33E-4	88	412.93	8.37E-3	1.06E-2	1.35E-2	1.67E-2	2.08E-2	2.67E-2
89	408.54	1.31E-4	1.65E-4	2.10E-4	2.59E-4	3.23E-4	4.16E-4	89	420.64	8.14E-3	1.03E-2	1.31E-2	1.62E-2	2.03E-2	2.61E-2
90	416.28	1													

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - E_4$								$A_1 - F_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	112.48	1.77E-1	1.99E-1	2.33E-1	2.74E-1	3.15E-1	3.54E-1	26	58.91	2.99E-3	2.40E-3	1.50E-3	7.69E-4	3.43E-4	1.49E-4
27	118.93	1.62E-1	1.83E-1	2.15E-1	2.53E-1	2.90E-1	3.27E-1	27	64.84	2.82E-3	2.27E-3	1.42E-3	7.28E-4	3.25E-4	1.41E-4
28	125.70	1.50E-1	1.69E-1	1.98E-1	2.33E-1	2.68E-1	3.02E-1	28	71.30	2.71E-3	2.18E-3	1.36E-3	6.96E-4	3.11E-4	1.34E-4
29	132.81	1.38E-1	1.56E-1	1.83E-1	2.16E-1	2.48E-1	2.79E-1	29	78.33	2.61E-3	2.10E-3	1.31E-3	6.70E-4	2.99E-4	1.29E-4
30	140.32	1.28E-1	1.44E-1	1.70E-1	2.00E-1	2.30E-1	2.59E-1	30	85.94	2.56E-3	2.05E-3	1.27E-3	6.49E-4	2.90E-4	1.25E-4
31	148.25	1.15E-1	1.34E-1	1.59E-1	1.84E-1	2.12E-1	2.40E-1	31	94.15	2.49E-3	1.99E-3	1.24E-3	6.34E-4	2.83E-4	1.22E-4
32	156.66	1.06E-1	1.24E-1	1.47E-1	1.71E-1	1.98E-1	2.24E-1	32	102.97	2.44E-3	1.95E-3	1.22E-3	6.20E-4	2.77E-4	1.19E-4
33	165.57	9.87E-2	1.16E-1	1.37E-1	1.59E-1	1.84E-1	2.09E-1	33	112.43	2.40E-3	1.92E-3	1.20E-3	6.09E-4	2.72E-4	1.17E-4
34	175.05	9.18E-2	1.08E-1	1.28E-1	1.49E-1	1.72E-1	1.95E-1	34	122.53	2.37E-3	1.89E-3	1.18E-3	5.98E-4	2.67E-4	1.15E-4
35	185.13	8.57E-2	1.01E-1	1.19E-1	1.39E-1	1.60E-1	1.82E-1	35	133.29	2.33E-3	1.86E-3	1.16E-3	5.88E-4	2.62E-4	1.13E-4
36	195.86	8.25E-2	9.24E-2	1.11E-1	1.30E-1	1.50E-1	1.71E-1	36	144.72	2.28E-3	1.82E-3	1.13E-3	5.76E-4	2.57E-4	1.11E-4
37	207.30	7.76E-2	8.62E-2	1.04E-1	1.21E-1	1.41E-1	1.60E-1	37	156.86	2.25E-3	1.79E-3	1.11E-3	5.64E-4	2.51E-4	1.08E-4
38	219.49	7.29E-2	8.06E-2	9.74E-2	1.14E-1	1.32E-1	1.51E-1	38	169.72	2.20E-3	1.75E-3	1.08E-3	5.51E-4	2.45E-4	1.06E-4
39	232.48	6.56E-2	7.70E-2	9.14E-2	1.07E-1	1.24E-1	1.42E-1	39	183.34	2.13E-3	1.70E-3	1.05E-3	5.36E-4	2.39E-4	1.03E-4
40	246.34	6.28E-2	7.16E-2	8.59E-2	1.01E-1	1.17E-1	1.34E-1	40	197.78	2.07E-3	1.65E-3	1.02E-3	5.20E-4	2.31E-4	9.99E-5
41	261.11	5.81E-2	6.78E-2	8.08E-2	9.46E-2	1.10E-1	1.27E-1	41	213.06	2.01E-3	1.60E-3	9.90E-4	5.03E-4	2.24E-4	9.66E-5
42	276.85	5.70E-2	6.28E-2	7.61E-2	8.93E-2	1.04E-1	1.20E-1	42	229.25	1.94E-3	1.54E-3	9.57E-4	4.87E-4	2.17E-4	9.34E-5
43	293.62	5.21E-2	5.99E-2	7.14E-2	8.43E-2	9.82E-2	1.13E-1	43	246.40	1.87E-3	1.49E-3	9.23E-4	4.69E-4	2.09E-4	9.00E-5
44	311.49	4.93E-2	5.64E-2	6.74E-2	7.98E-2	9.30E-2	1.07E-1	44	264.58	1.81E-3	1.44E-3	8.90E-4	4.52E-4	2.01E-4	8.68E-5
45	330.50	4.64E-2	5.35E-2	6.37E-2	7.55E-2	8.82E-2	1.02E-1	45	283.85	1.74E-3	1.38E-3	8.56E-4	4.35E-4	1.93E-4	8.34E-5
46	350.74	4.54E-2	5.02E-2	6.08E-2	7.15E-2	8.37E-2	9.72E-2	46	304.27	1.67E-3	1.33E-3	8.23E-4	4.19E-4	1.86E-4	8.02E-5
47	372.26	4.26E-2	4.94E-2	5.80E-2	6.77E-2	7.94E-2	9.25E-2	47	325.93	1.61E-3	1.28E-3	7.91E-4	4.02E-4	1.79E-4	7.71E-5
48	398.13	3.98E-2	4.54E-2	5.43E-2	6.45E-2	7.57E-2	8.83E-2	48	348.88	1.54E-3	1.23E-3	7.61E-4	3.87E-4	1.72E-4	7.41E-5
49	419.44	3.89E-2	4.27E-2	5.19E-2	6.14E-2	7.20E-2	8.43E-2	49	373.20	1.48E-3	1.18E-3	7.32E-4	3.72E-4	1.66E-4	7.13E-5
50	445.24	3.71E-2	4.06E-2	4.93E-2	5.84E-2	6.87E-2	8.05E-2	50	398.99	1.44E-3	1.14E-3	7.05E-4	3.58E-4	1.59E-4	6.86E-5
51	472.62	3.48E-2	3.91E-2	4.66E-2	5.56E-2	6.56E-2	7.71E-2	51	426.30	1.38E-3	1.09E-3	6.77E-4	3.44E-4	1.53E-4	6.59E-5
52	501.67	3.26E-2	3.72E-2	4.45E-2	5.31E-2	6.26E-2	7.38E-2	52	455.23	1.33E-3	1.05E-3	6.51E-4	3.31E-4	1.48E-4	6.34E-5
53	532.46	3.15E-2	3.57E-2	4.23E-2	5.06E-2	5.99E-2	7.07E-2	53	485.87	1.27E-3	1.01E-3	6.27E-4	3.19E-4	1.42E-4	6.11E-5
54	565.07	3.00E-2	3.38E-2	4.05E-2	4.84E-2	5.73E-2	6.79E-2	54	518.30	1.23E-3	9.76E-4	6.04E-4	3.07E-4	1.37E-4	5.88E-5
55	599.62	2.83E-2	3.25E-2	3.86E-2	4.63E-2	5.49E-2	6.52E-2	55	552.62	1.19E-3	9.42E-4	5.83E-4	2.96E-4	1.32E-4	5.67E-5
56	636.17	2.74E-2	3.12E-2	3.68E-2	4.42E-2	5.26E-2	6.26E-2	56	588.90	1.14E-3	9.07E-4	5.61E-4	2.86E-4	1.27E-4	5.46E-5
57	674.84	2.54E-2	2.99E-2	3.56E-2	4.21E-2	5.03E-2	6.02E-2	57	627.28	1.10E-3	8.73E-4	5.41E-4	2.75E-4	1.23E-4	5.28E-5
58	715.72	2.44E-2	2.85E-2	3.41E-2	4.03E-2	4.82E-2	5.79E-2	58	667.84	1.06E-3	8.43E-4	5.22E-4	2.66E-4	1.18E-4	5.10E-5
59	758.92	2.35E-2	2.72E-2	3.27E-2	3.87E-2	4.63E-2	5.58E-2	59	710.69	1.02E-3	8.14E-4	5.05E-4	2.57E-4	1.14E-4	4.92E-5
60	804.55	2.26E-2	2.60E-2	3.13E-2	3.71E-2	4.45E-2	5.37E-2	60	755.92	9.90E-4	7.88E-4	4.88E-4	2.49E-4	1.11E-4	4.76E-5
61	852.72	2.18E-2	2.48E-2	3.00E-2	3.57E-2	4.28E-2	5.18E-2	61	803.68	9.55E-4	7.61E-4	4.72E-4	2.40E-4	1.07E-4	4.61E-5
62	903.54	2.11E-2	2.37E-2	2.88E-2	3.43E-2	4.12E-2	5.00E-2	62	854.05	9.24E-4	7.36E-4	4.57E-4	2.33E-4	1.04E-4	4.46E-5
63	957.15	2.04E-2	2.26E-2	2.77E-2	3.29E-2	3.97E-2	4.83E-2	63	907.19	8.96E-4	7.14E-4	4.43E-4	2.26E-4	1.00E-4	4.32E-5
64	1013.66	1.97E-2	2.17E-2	2.65E-2	3.17E-2	3.82E-2	4.66E-2	64	963.20	8.66E-4	6.90E-4	4.29E-4	2.19E-4	9.74E-5	4.19E-5
65	1073.23	1.91E-2	2.08E-2	2.55E-2	3.05E-2	3.68E-2	4.51E-2	65	1022.23	8.39E-4	6.69E-4	4.16E-4	2.12E-4	9.45E-5	4.06E-5
66	1135.97	1.84E-2	1.99E-2	2.44E-2	2.94E-2	3.55E-2	4.36E-2	66	1084.41	8.15E-4	6.50E-4	4.04E-4	2.06E-4	9.17E-5	3.95E-5
67	1202.04	1.77E-2	1.91E-2	2.35E-2	2.83E-2	3.43E-2	4.22E-2	67	1149.89	7.89E-4	6.29E-4	3.91E-4	2.00E-4	8.91E-5	3.83E-5
68	1271.59	1.71E-2	1.84E-2	2.26E-2	2.72E-2	3.31E-2	4.08E-2	68	1218.81	7.67E-4	6.12E-4	3.80E-4	1.94E-4	8.67E-5	3.72E-5
69	1344.77	1.64E-2	1.77E-2	2.17E-2	2.62E-2	3.19E-2	3.95E-2	69	1291.34	7.45E-4	5.94E-4	3.70E-4	1.89E-4	8.43E-5	3.62E-5
70	1421.73	1.58E-2	1.71E-2	2.08E-2	2.53E-2	3.09E-2	3.83E-2	70	1367.61	7.24E-4	5.77E-4	3.59E-4	1.84E-4	8.20E-5	3.52E-5
71	1502.68	1.51E-2	1.64E-2	2.00E-2	2.44E-2	2.98E-2	3.71E-2	71	1447.83	7.04E-4	5.62E-4	3.50E-4	1.79E-4	7.99E-5	3.43E-5
72	1587.74	1.45E-2	1.59E-2	1.92E-2	2.35E-2	2.88E-2	3.60E-2	72	1532.15	6.83E-4	5.46E-4	3.40E-4	1.74E-4	7.78E-5	3.34E-5
73	1677.15	1.39E-2	1.53E-2	1.85E-2	2.27E-2	2.79E-2	3.49E-2	73	1620.76	6.65E-4	5.31E-4	3.31E-4	1.70E-4	7.58E-5	3.26E-5
74	1771.06	1.33E-2	1.48E-2	1.78E-2	2.19E-2	2.70E-2	3.39E-2	74	1713.84	6.47E-4	5.17E-4	3.23E-4	1.66E-4	7.40E-5	3.18E-5
75	1869.70	1.27E-2	1.43E-2	1.71E-2	2.11E-2	2.61E-2	3.29E-2	75	1811.61	6.31E-4	5.04E-4	3.15E-4	1.62E-4	7.22E-5	3.10E-5
76	1973.25	1.22E-2	1.39E-2	1.65E-2	2.04E-2	2.52E-2	3.19E-2	76	1914.24	6.15E-4	4.91E-4	3.07E-4	1.58E-4	7.05E-5	3.03E-5
77	2081.96	1.18E-2	1.34E-2	1.59E-2	1.97E-2	2.44E-2	3.10E-2	77	2021.99	5.99E-4	4.79E-4	3.00E-4	1.54E-4	6.89E-5	2.96E-5
78	2196.04	1.13E-2	1.30E-2	1.53E-2	1.90E-2	2.37E-2	3.01E-2	78	2135.06	5.85E-4	4.68E-4	2.93E-4	1.50E-4	6.73E-5	2.89E-5
79	2315.74	1.09E-2	1.25E-2	1.48E-2	1.83E-2	2.29E-2	2.92E-2	79	2253.71	5.70E-4	4.57E-4	2.87E-4	1.47E-4	6.58E-5	2.82E-5
80	2441.28	1.06E-2	1.21E-2	1.43E-2	1.77E-2	2.22E-2	2.84E-2	80	2378.14	5.56E-4	4.47E-4	2.80E-4	1.44E-4	6.44E-5	2.76E-5
81	2572.92	1.03E-2	1.17E-2	1.38E-2	1.71E-2	2.15E-2	2.76E-2	81	2508.61	5.44E-4	4.36E-4	2.73E-4	1.41E-4	6.31E-5	2.71E-5
82	2710.97	9.96E-3	1.13E-2	1.33E-2	1.65E-2	2.08E-2	2.69E-2	82	2645.44	5.31E-4	4.26E-4	2.67E-4	1.38E-4	6.17E-5	2.65E-5
83	2855.73	9.67E-3	1.09E-2	1.28E-2	1.59E-2	2.02E-2	2.61E-2	83	2788.91	5.19E-4	4.16E-4	2.62E-4	1.35E-4	6.05E-5	2.60E-5
84	3007.52	8.99E-3	1.03E-2	1.27E-2	1.55E-2	1.95E-2	2.53E-2	84	2939.35	5.07E-4	4.07E-4	2.57E-4	1.32E-4	5.93E-5	2.54E-5
85	3166.58	8.73E-3	9.94E-3	1.22E-2	1.50E-2	1.89E-2	2.46E-2	85	3096.98	4.96E-4	3.99E-4	2.51E-4	1.30E-4	5.82E-5	2.50E-5
86	3332.87	8.47E-3	9.57E-3	1.18E-2	1.45E-2	1.84E-2	2.40E-2	86	3261.77	4.86E-4	3.90E-4	2.46E-4	1.27E-4	5.70E-5	2.45E-5
87	3507.48	8.23E-3	9.22E-3	1.14E-2	1.40E-2	1.78E-2	2.33E-2	87	3434.80	4.76E-4	3.82E-4	2.41E-4	1.25E-4	5.60E-5	2.40E-5
88	3690.33	8.00E-3	8.89E-3	1.10E-2	1.36E-2	1.73E-2	2.27E-2	88	3615.98	4.65E-4	3.74E-4	2.37E-4	1.23E-4	5.50E-5	2.36E-5
89	3881.97	7.77E-3	8.57E-3	1.06E-2	1.32E-2	1.68E-2	2.21E-2	89	3805.85	4.56E-4	3.67E-4	2.32E-4	1.21		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - F_2$								$A_1 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	96.65	2.49E-3	2.00E-3	1.25E-3	6.42E-4	2.87E-4	1.24E-4	26	117.14	4.55E-4	3.66E-4	2.28E-4	1.17E-4	5.20E-5	2.24E-5
27	103.94	2.25E-3	1.81E-3	1.13E-3	5.81E-4	2.60E-4	1.12E-4	27	126.84	4.06E-4	3.26E-4	2.04E-4	1.04E-4	4.64E-5	2.00E-5
28	111.81	2.03E-3	1.63E-3	1.02E-3	5.23E-4	2.34E-4	1.01E-4	28	137.35	3.65E-4	2.93E-4	1.83E-4	9.34E-5	4.17E-5	1.80E-5
29	120.33	1.82E-3	1.46E-3	9.14E-4	4.67E-4	2.09E-4	9.03E-5	29	148.74	3.29E-4	2.64E-4	1.65E-4	8.41E-5	3.75E-5	1.62E-5
30	129.55	1.62E-3	1.30E-3	8.09E-4	4.14E-4	1.85E-4	7.99E-5	30	161.04	2.97E-4	2.38E-4	1.48E-4	7.56E-5	3.37E-5	1.45E-5
31	139.58	1.42E-3	1.14E-3	7.10E-4	3.63E-4	1.62E-4	7.00E-5	31	174.31	2.67E-4	2.14E-4	1.33E-4	6.81E-5	3.04E-5	1.31E-5
32	150.49	1.23E-3	9.89E-4	6.16E-4	3.15E-4	1.40E-4	6.07E-5	32	188.59	2.40E-4	1.92E-4	1.20E-4	6.11E-5	2.72E-5	1.17E-5
33	162.40	1.06E-3	8.49E-4	5.29E-4	2.70E-4	1.21E-4	5.20E-5	33	203.93	2.14E-4	1.71E-4	1.07E-4	5.45E-5	2.43E-5	1.05E-5
34	175.39	9.04E-4	7.22E-4	4.49E-4	2.29E-4	1.02E-4	4.41E-5	34	220.38	1.90E-4	1.52E-4	9.45E-5	4.82E-5	2.15E-5	9.29E-6
35	189.58	7.60E-4	6.06E-4	3.76E-4	1.92E-4	8.56E-5	3.69E-5	35	238.02	1.68E-4	1.34E-4	8.32E-5	4.24E-5	1.89E-5	8.16E-6
36	205.07	6.28E-4	5.02E-4	3.12E-4	1.59E-4	7.10E-5	3.06E-5	36	256.91	1.46E-4	1.17E-4	7.25E-5	3.70E-5	1.65E-5	7.13E-6
37	221.97	5.19E-4	4.14E-4	2.57E-4	1.31E-4	5.83E-5	2.52E-5	37	277.13	1.27E-4	1.01E-4	6.29E-5	3.21E-5	1.43E-5	6.18E-6
38	240.39	4.24E-4	3.38E-4	2.10E-4	1.07E-4	4.76E-5	2.05E-5	38	298.77	1.10E-4	8.76E-5	5.43E-5	2.77E-5	1.24E-5	5.33E-6
39	260.43	3.43E-4	2.73E-4	1.70E-4	8.65E-5	3.86E-5	1.67E-5	39	321.94	9.40E-5	7.50E-5	4.66E-5	2.38E-5	1.06E-5	4.58E-6
40	282.21	2.77E-4	2.21E-4	1.37E-4	6.99E-5	3.12E-5	1.35E-5	40	346.74	8.05E-5	6.43E-5	3.99E-5	2.03E-5	9.08E-6	3.92E-6
41	305.82	2.24E-4	1.79E-4	1.11E-4	5.63E-5	2.51E-5	1.08E-5	41	373.27	6.88E-5	5.49E-5	3.41E-5	1.74E-5	7.75E-6	3.35E-6
42	331.38	1.80E-4	1.44E-4	8.91E-5	4.54E-5	2.02E-5	8.74E-6	42	401.65	5.87E-5	4.68E-5	2.91E-5	1.48E-5	6.62E-6	2.86E-6
43	359.00	1.45E-4	1.16E-4	7.18E-5	3.66E-5	1.63E-5	7.04E-6	43	432.00	5.01E-5	3.99E-5	2.48E-5	1.26E-5	5.64E-6	2.44E-6
44	388.80	1.18E-4	9.37E-5	5.80E-5	2.95E-5	1.32E-5	5.68E-6	44	464.43	4.27E-5	3.41E-5	2.11E-5	1.08E-5	4.81E-6	2.08E-6
45	420.88	9.50E-5	7.57E-5	4.69E-5	2.39E-5	1.06E-5	4.59E-6	45	499.08	3.64E-5	2.90E-5	1.80E-5	9.18E-6	4.09E-6	1.77E-6
46	455.37	7.70E-5	6.14E-5	3.81E-5	1.94E-5	8.65E-6	3.73E-6	46	536.07	3.11E-5	2.48E-5	1.54E-5	7.84E-6	3.50E-6	1.51E-6
47	492.40	6.30E-5	5.00E-5	3.10E-5	1.58E-5	7.04E-6	3.04E-6	47	575.55	2.66E-5	2.12E-5	1.31E-5	6.69E-6	2.99E-6	1.29E-6
48	532.10	5.13E-5	4.08E-5	2.53E-5	1.29E-5	5.76E-6	2.48E-6	48	617.63	2.27E-5	1.81E-5	1.12E-5	5.73E-6	2.56E-6	1.10E-6
49	574.60	4.21E-5	3.35E-5	2.08E-5	1.06E-5	4.73E-6	2.04E-6	49	662.49	1.94E-5	1.55E-5	9.61E-6	4.90E-6	2.19E-6	9.45E-7
50	620.06	3.47E-5	2.77E-5	1.71E-5	8.74E-6	3.90E-6	1.68E-6	50	710.25	1.66E-5	1.33E-5	8.25E-6	4.21E-6	1.88E-6	8.11E-7
51	668.62	2.87E-5	2.28E-5	1.42E-5	7.22E-6	3.22E-6	1.39E-6	51	761.08	1.43E-5	1.14E-5	7.08E-6	3.62E-6	1.61E-6	6.96E-7
52	720.43	2.38E-5	1.90E-5	1.18E-5	5.99E-6	2.68E-6	1.15E-6	52	815.13	1.23E-5	9.84E-6	6.10E-6	3.11E-6	1.39E-6	5.99E-7
53	775.66	1.98E-5	1.58E-5	9.80E-6	5.00E-6	2.23E-6	9.63E-7	53	872.58	1.06E-5	8.45E-6	5.25E-6	2.68E-6	1.20E-6	5.17E-7
54	834.48	1.66E-5	1.32E-5	8.21E-6	4.18E-6	1.87E-6	8.05E-7	54	933.60	9.17E-6	7.32E-6	4.54E-6	2.31E-6	1.04E-6	4.46E-7
55	897.06	1.40E-5	1.11E-5	6.90E-6	3.51E-6	1.57E-6	6.78E-7	55	998.36	7.92E-6	6.33E-6	3.93E-6	2.00E-6	8.95E-7	3.87E-7
56	963.58	1.17E-5	9.37E-6	5.81E-6	2.96E-6	1.33E-6	5.71E-7	56	1067.04	6.86E-6	5.48E-6	3.40E-6	1.74E-6	7.77E-7	3.35E-7
57	1034.24	9.92E-6	7.90E-6	4.91E-6	2.51E-6	1.12E-6	4.84E-7	57	1139.85	5.95E-6	4.75E-6	2.95E-6	1.51E-6	6.75E-7	2.91E-7
58	1109.24	8.42E-6	6.71E-6	4.17E-6	2.13E-6	9.52E-7	4.11E-7	58	1216.99	5.18E-6	4.13E-6	2.57E-6	1.31E-6	5.87E-7	2.54E-7
59	1188.78	7.17E-6	5.71E-6	3.55E-6	1.82E-6	8.12E-7	3.50E-7	59	1298.66	4.51E-6	3.59E-6	2.24E-6	1.15E-6	5.12E-7	2.21E-7
60	1273.06	6.12E-6	4.88E-6	3.04E-6	1.55E-6	6.94E-7	3.00E-7	60	1385.07	3.93E-6	3.14E-6	1.95E-6	9.99E-7	4.47E-7	1.93E-7
61	1362.33	5.24E-6	4.18E-6	2.60E-6	1.33E-6	5.95E-7	2.57E-7	61	1476.45	3.44E-6	2.74E-6	1.71E-6	8.75E-7	3.91E-7	1.69E-7
62	1456.80	4.50E-6	3.59E-6	2.24E-6	1.15E-6	5.12E-7	2.21E-7	62	1573.03	3.01E-6	2.40E-6	1.50E-6	7.66E-7	3.43E-7	1.48E-7
63	1556.72	3.87E-6	3.10E-6	1.93E-6	9.87E-7	4.41E-7	1.91E-7	63	1675.07	2.63E-6	2.11E-6	1.31E-6	6.73E-7	3.01E-7	1.30E-7
64	1662.34	3.35E-6	2.67E-6	1.66E-6	8.54E-7	3.82E-7	1.65E-7	64	1782.79	2.32E-6	1.85E-6	1.15E-6	5.92E-7	2.65E-7	1.14E-7
65	1773.93	2.90E-6	2.31E-6	1.44E-6	7.41E-7	3.32E-7	1.43E-7	65	1896.49	2.04E-6	1.63E-6	1.02E-6	5.21E-7	2.33E-7	1.01E-7
66	1891.74	2.51E-6	2.01E-6	1.26E-6	6.44E-7	2.88E-7	1.24E-7	66	2016.41	1.79E-6	1.43E-6	8.96E-7	4.60E-7	2.06E-7	8.89E-8
67	2016.08	2.19E-6	1.75E-6	1.09E-6	5.61E-7	2.51E-7	1.08E-7	67	2142.86	1.58E-6	1.26E-6	7.90E-7	4.06E-7	1.82E-7	7.86E-8
68	2147.23	1.91E-6	1.53E-6	9.54E-7	4.90E-7	2.20E-7	9.48E-8	68	2276.12	1.40E-6	1.12E-6	6.99E-7	3.59E-7	1.61E-7	6.96E-8
69	2285.51	1.67E-6	1.33E-6	8.35E-7	4.29E-7	1.92E-7	8.30E-8	69	2416.51	1.24E-6	9.89E-7	6.19E-7	3.18E-7	1.43E-7	6.17E-8
70	2431.21	1.46E-6	1.17E-6	7.31E-7	3.76E-7	1.69E-7	7.28E-8	70	2564.33	1.10E-6	8.77E-7	5.49E-7	2.83E-7	1.27E-7	5.47E-8
71	2584.70	1.28E-6	1.03E-6	6.43E-7	3.31E-7	1.49E-7	6.41E-8	71	2719.94	9.72E-7	7.78E-7	4.88E-7	2.51E-7	1.13E-7	4.87E-8
72	2746.30	1.13E-6	9.03E-7	5.66E-7	2.92E-7	1.31E-7	5.65E-8	72	2883.66	8.65E-7	6.91E-7	4.34E-7	2.24E-7	1.01E-7	4.34E-8
73	2916.40	9.95E-7	7.96E-7	4.99E-7	2.58E-7	1.16E-7	4.99E-8	73	3055.89	7.69E-7	6.15E-7	3.86E-7	1.99E-7	8.96E-8	3.87E-8
74	3095.35	8.78E-7	7.03E-7	4.41E-7	2.28E-7	1.02E-7	4.42E-8	74	3236.98	6.85E-7	5.49E-7	3.44E-7	1.78E-7	8.01E-8	3.46E-8
75	3283.57	7.76E-7	6.21E-7	3.91E-7	2.02E-7	9.08E-8	3.92E-8	75	3427.33	6.11E-7	4.89E-7	3.08E-7	1.59E-7	7.16E-8	3.09E-8
76	3481.43	6.88E-7	5.51E-7	3.46E-7	1.79E-7	8.06E-8	3.48E-8	76	3627.35	5.46E-7	4.37E-7	2.75E-7	1.42E-7	6.41E-8	2.77E-8
77	3689.43	6.10E-7	4.89E-7	3.08E-7	1.59E-7	7.17E-8	3.10E-8	77	3837.50	4.88E-7	3.91E-7	2.46E-7	1.28E-7	5.75E-8	2.48E-8
78	3907.96	5.42E-7	4.34E-7	2.74E-7	1.42E-7	6.39E-8	2.76E-8	78	4058.19	4.37E-7	3.50E-7	2.21E-7	1.14E-7	5.15E-8	2.23E-8
79	4137.54	4.82E-7	3.86E-7	2.44E-7	1.27E-7	5.70E-8	2.46E-8	79	4289.94	3.91E-7	3.13E-7	1.98E-7	1.03E-7	4.63E-8	2.00E-8
80	4378.59	4.30E-7	3.44E-7	2.18E-7	1.13E-7	5.09E-8	2.20E-8	80	4533.17	3.51E-7	2.81E-7	1.78E-7	9.25E-8	4.17E-8	1.80E-8
81	4631.67	3.84E-7	3.08E-7	1.95E-7	1.01E-7	4.56E-8	1.97E-8	81	4788.44	3.15E-7	2.53E-7	1.60E-7	8.32E-8	3.76E-8	1.62E-8
82	4897.34	3.43E-7	2.75E-7	1.74E-7	9.07E-8	4.09E-8	1.77E-8	82	5056.30	2.83E-7	2.28E-7	1.44E-7	7.50E-8	3.39E-8	1.46E-8
83	5176.16	3.07E-7	2.47E-7	1.56E-7	8.14E-8	3.67E-8	1.59E-8	83	5337.34	2.55E-7	2.05E-7	1.30E-7	6.77E-8	3.05E-8	1.32E-8
84	5468.78	2.75E-7	2.21E-7	1.40E-7	7.31E-8	3.30E-8	1.43E-8	84	5632.17	2.30E-7	1.84E-7	1.17E-7	6.11E-8	2.76E-8	1.19E-8
85	5775.72	2.47E-7	1.99E-7	1.26E-7	6.58E-8	2.97E-8	1.28E-8	85	5941.34	2.07E-7	1.66E-7	1.06E-7	5.52E-8	2.49E-8	1.08E-8
86	6097.25	2.22E-7	1.78E-7	1.13E-7	5.92E-8	2.68E-8	1.16E-8	86	6265.10	1.87E-7	1.50E-7	9.55E-8	5.00E-8	2.26E-8	9.77E-9
87	6434.85	1.99E-7	1.60E-7	1.02E-7	5.34E-8	2.42E-8	1.04E-8	87	6604.95	1.68E-7	1.36E-7	8.64E-8	4.52E-8	2.05E-8	8.85E-9
88	6788.76	1.80E-7	1.45E-7	9.20E-8	4.82E-8	2.18E-8	9.44E-9	88	6961.13	1.52E-7	1.23E-7	7.81E-8	4.10E-8	1.86E-8	8.02E-9
89	7159.93	1.62E-7	1.30E-7	8.31E-8	4.36E-8	1.98E-8	8.53E-9	89	7334.57	1.38E-7	1.11E-7				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_1 - F_4$								$A_2 - F_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	141.64	5.59E-4	4.52E-4	2.84E-4	1.47E-4	6.59E-5	2.87E-5	26	13.21	1.95E-5	1.55E-5	9.45E-6	4.69E-6	2.02E-6	8.47E-7
27	152.15	4.47E-4	3.61E-4	2.27E-4	1.17E-4	5.25E-5	2.28E-5	27	13.71	1.67E-5	1.32E-5	8.03E-6	3.96E-6	1.69E-6	7.03E-7
28	163.56	3.53E-4	2.84E-4	1.78E-4	9.18E-5	4.12E-5	1.79E-5	28	14.05	1.39E-5	1.09E-5	6.58E-6	3.21E-6	1.36E-6	5.59E-7
29	175.99	2.74E-4	2.20E-4	1.38E-4	7.10E-5	3.19E-5	1.39E-5	29	14.20	1.11E-5	8.70E-6	5.19E-6	2.50E-6	1.04E-6	4.22E-7
30	189.55	2.08E-4	1.68E-4	1.05E-4	5.40E-5	2.43E-5	1.05E-5	30	14.12	8.71E-6	6.76E-6	3.95E-6	1.87E-6	7.66E-7	3.03E-7
31	204.37	1.57E-4	1.26E-4	7.87E-5	4.04E-5	1.82E-5	7.89E-6	31	13.73	6.63E-6	5.09E-6	2.94E-6	1.37E-6	5.44E-7	2.08E-7
32	220.61	1.15E-4	9.24E-5	5.78E-5	2.97E-5	1.33E-5	5.79E-6	32	13.00	5.10E-6	3.87E-6	2.20E-6	9.96E-7	3.84E-7	1.40E-7
33	238.39	8.32E-5	6.67E-5	4.17E-5	2.14E-5	9.63E-6	4.18E-6	33	11.86	4.11E-6	3.10E-6	1.74E-6	7.71E-7	2.89E-7	1.02E-7
34	257.86	5.92E-5	4.75E-5	2.97E-5	1.52E-5	6.84E-6	2.97E-6	34	10.24	3.66E-6	2.76E-6	1.54E-6	6.82E-7	2.55E-7	8.95E-8
35	279.17	4.16E-5	3.34E-5	2.08E-5	1.07E-5	4.81E-6	2.09E-6	35	8.080	3.64E-6	2.76E-6	1.56E-6	7.06E-7	2.72E-7	9.96E-8
36	302.45	2.89E-5	2.32E-5	1.45E-5	7.43E-6	3.34E-6	1.45E-6	36	5.312	3.96E-6	3.04E-6	1.76E-6	8.18E-7	3.27E-7	1.26E-7
37	327.85	2.00E-5	1.60E-5	1.00E-5	5.13E-6	2.31E-6	1.00E-6	37	1.872	4.52E-6	3.49E-6	2.06E-6	9.84E-7	4.07E-7	1.63E-7
38	355.52	1.38E-5	1.10E-5	6.89E-6	3.54E-6	1.59E-6	6.91E-7	38	-2.302	5.13E-6	4.03E-6	2.41E-6	1.17E-6	4.98E-7	2.04E-7
39	385.58	9.47E-6	7.58E-6	4.74E-6	2.43E-6	1.09E-6	4.76E-7	39	-7.269	5.82E-6	4.58E-6	2.77E-6	1.37E-6	5.88E-7	2.45E-7
40	418.20	6.53E-6	5.22E-6	3.26E-6	1.68E-6	7.54E-7	3.28E-7	40	-13.09	6.43E-6	5.08E-6	3.09E-6	1.54E-6	6.70E-7	2.82E-7
41	453.53	4.50E-6	3.61E-6	2.25E-6	1.16E-6	5.21E-7	2.27E-7	41	-19.81	6.96E-6	5.52E-6	3.37E-6	1.69E-6	7.38E-7	3.13E-7
42	491.71	3.13E-6	2.50E-6	1.57E-6	8.05E-7	3.62E-7	1.58E-7	42	-27.48	7.36E-6	5.84E-6	3.58E-6	1.80E-6	7.93E-7	3.38E-7
43	532.92	2.18E-6	1.75E-6	1.09E-6	5.62E-7	2.53E-7	1.10E-7	43	-36.17	7.64E-6	6.07E-6	3.74E-6	1.88E-6	8.32E-7	3.56E-7
44	577.33	1.53E-6	1.22E-6	7.66E-7	3.94E-7	1.77E-7	7.74E-8	44	-45.92	7.82E-6	6.22E-6	3.83E-6	1.94E-6	8.57E-7	3.68E-7
45	625.11	1.08E-6	8.64E-7	5.40E-7	2.78E-7	1.25E-7	5.46E-8	45	-56.79	7.90E-6	6.28E-6	3.87E-6	1.96E-6	8.68E-7	3.73E-7
46	676.45	7.66E-7	6.13E-7	3.84E-7	1.98E-7	8.92E-8	3.89E-8	46	-68.83	7.86E-6	6.26E-6	3.87E-6	1.96E-6	8.70E-7	3.74E-7
47	731.55	5.47E-7	4.38E-7	2.74E-7	1.41E-7	6.37E-8	2.78E-8	47	-82.11	7.81E-6	6.21E-6	3.83E-6	1.94E-6	8.63E-7	3.72E-7
48	790.60	3.93E-7	3.15E-7	1.97E-7	1.02E-7	4.59E-8	2.00E-8	48	-96.68	7.64E-6	6.09E-6	3.77E-6	1.91E-6	8.50E-7	3.66E-7
49	853.81	2.84E-7	2.27E-7	1.42E-7	7.35E-8	3.32E-8	1.45E-8	49	-112.61	7.46E-6	5.94E-6	3.68E-6	1.87E-6	8.32E-7	3.59E-7
50	921.40	2.06E-7	1.65E-7	1.04E-7	5.35E-8	2.42E-8	1.06E-8	50	-129.97	7.27E-6	5.79E-6	3.58E-6	1.82E-6	8.11E-7	3.49E-7
51	993.61	1.51E-7	1.21E-7	7.58E-8	3.91E-8	1.77E-8	7.72E-9	51	-148.82	7.02E-6	5.59E-6	3.46E-6	1.77E-6	7.85E-7	3.39E-7
52	1070.65	1.11E-7	8.91E-8	5.58E-8	2.88E-8	1.30E-8	5.70E-9	52	-169.25	6.78E-6	5.40E-6	3.35E-6	1.70E-6	7.60E-7	3.27E-7
53	1152.79	8.22E-8	6.58E-8	4.13E-8	2.13E-8	9.67E-9	4.23E-9	53	-191.32	6.53E-6	5.21E-6	3.23E-6	1.64E-6	7.32E-7	3.16E-7
54	1240.27	6.09E-8	4.90E-8	3.07E-8	1.59E-8	7.20E-9	3.15E-9	54	-215.11	6.29E-6	5.01E-6	3.10E-6	1.58E-6	7.05E-7	3.04E-7
55	1333.36	4.55E-8	3.66E-8	2.30E-8	1.19E-8	5.38E-9	2.36E-9	55	-240.72	6.04E-6	4.81E-6	2.98E-6	1.52E-6	6.77E-7	2.93E-7
56	1432.33	3.42E-8	2.75E-8	1.73E-8	8.94E-9	4.05E-9	1.77E-9	56	-268.22	5.79E-6	4.61E-6	2.86E-6	1.46E-6	6.51E-7	2.80E-7
57	1537.48	2.59E-8	2.07E-8	1.30E-8	6.76E-9	3.07E-9	1.34E-9	57	-297.71	5.55E-6	4.42E-6	2.74E-6	1.40E-6	6.24E-7	2.69E-7
58	1649.10	1.96E-8	1.57E-8	9.89E-9	5.13E-9	2.33E-9	1.02E-9	58	-328.58	5.31E-6	4.24E-6	2.63E-6	1.34E-6	5.97E-7	2.58E-7
59	1767.50	1.50E-8	1.20E-8	7.55E-9	3.92E-9	1.78E-9	1.00E-9	59	-363.03	5.09E-6	4.06E-6	2.52E-6	1.28E-6	5.73E-7	2.47E-7
60	1893.00	1.14E-8	9.17E-9	5.78E-9	3.00E-9	1.36E-9	1.00E-9	60	-399.08	4.88E-6	3.89E-6	2.41E-6	1.23E-6	5.49E-7	2.37E-7
61	2025.94	8.79E-9	7.05E-9	4.44E-9	2.31E-9	1.05E-9	0.00E+0	61	-437.50	4.67E-6	3.72E-6	2.31E-6	1.18E-6	5.26E-7	2.27E-7
62	2166.65	6.78E-9	5.44E-9	3.43E-9	1.79E-9	1.00E-9	0.00E+0	62	-478.45	4.47E-6	3.56E-6	2.21E-6	1.13E-6	5.04E-7	2.18E-7
63	2315.52	5.25E-9	4.21E-9	2.66E-9	1.39E-9	1.00E-9	0.00E+0	63	-522.01	4.29E-6	3.41E-6	2.12E-6	1.08E-6	4.83E-7	2.08E-7
64	2472.89	4.08E-9	3.28E-9	2.07E-9	1.08E-9	0.00E+0	0.00E+0	64	-568.33	4.10E-6	3.27E-6	2.03E-6	1.04E-6	4.63E-7	2.00E-7
65	2639.20	3.19E-9	2.56E-9	1.62E-9	1.00E-9	0.00E+0	0.00E+0	65	-617.50	3.92E-6	3.13E-6	1.95E-6	9.95E-7	4.44E-7	1.91E-7
66	2814.83	2.50E-9	2.01E-9	1.27E-9	1.00E-9	0.00E+0	0.00E+0	66	-669.69	3.77E-6	3.00E-6	1.87E-6	9.54E-7	4.26E-7	1.84E-7
67	3000.21	1.97E-9	1.58E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	67	-725.01	3.60E-6	2.88E-6	1.79E-6	9.15E-7	4.09E-7	1.76E-7
68	3195.79	1.55E-9	1.25E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	68	-783.63	3.46E-6	2.76E-6	1.72E-6	8.78E-7	3.92E-7	1.69E-7
69	3402.02	1.23E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	69	-845.67	3.32E-6	2.65E-6	1.65E-6	8.43E-7	3.77E-7	1.62E-7
70	3619.38	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	70	-911.32	3.18E-6	2.54E-6	1.58E-6	8.11E-7	3.62E-7	1.56E-7
71	3848.38	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	71	-980.72	3.06E-6	2.44E-6	1.52E-6	7.79E-7	3.48E-7	1.50E-7
72	4089.54	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	72	-1054.06	2.93E-6	2.34E-6	1.46E-6	7.48E-7	3.34E-7	1.44E-7
73	4343.41	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	73	-1131.50	2.81E-6	2.25E-6	1.40E-6	7.20E-7	3.22E-7	1.38E-7
74	4610.55	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	74	-1213.24	2.70E-6	2.16E-6	1.35E-6	6.93E-7	3.10E-7	1.33E-7
75	4891.57	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	75	-1299.47	2.60E-6	2.08E-6	1.30E-6	6.67E-7	2.98E-7	1.28E-7
76	5187.05	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	76	-1390.41	2.50E-6	2.00E-6	1.25E-6	6.42E-7	2.87E-7	1.23E-7
77	5497.70	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	77	-1486.25	2.40E-6	1.92E-6	1.20E-6	6.19E-7	2.77E-7	1.19E-7
78	5824.15	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	78	-1587.23	2.32E-6	1.85E-6	1.16E-6	5.97E-7	2.67E-7	1.15E-7
79	6167.15	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	79	-1693.57	2.23E-6	1.79E-6	1.12E-6	5.75E-7	2.57E-7	1.11E-7
80	6527.38	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	80	-1805.56	2.15E-6	1.72E-6	1.08E-6	5.56E-7	2.48E-7	1.07E-7
81	6905.64	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	81	-1923.44	2.07E-6	1.66E-6	1.04E-6	5.37E-7	2.40E-7	1.03E-7
82	7302.79	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	82	-2047.46	1.99E-6	1.60E-6	1.00E-6	5.18E-7	2.32E-7	9.97E-8
83	7719.67	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	83	-2177.89	1.92E-6	1.54E-6	9.71E-7	5.01E-7	2.24E-7	9.64E-8
84	8157.22	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	84	-2315.02	1.86E-6	1.49E-6	9.39E-7	4.85E-7	2.17E-7	9.32E-8
85	8616.28	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	85	-2459.23	1.79E-6	1.44E-6	9.07E-7	4.69E-7	2.10E-7	9.02E-8
86	9097.43	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	86	-2611.15	1.73E-6	1.39E-6	8.79E-7	4.55E-7	2.04E-7	8.75E-8
87	9602.56	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	87	-2770.52	1.68E-6	1.35E-6	8.51E-7	4.41E-7	1.97E-7	8.48E-8
88	10132.2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	88	-2938.07	1.62E-6	1.31E-6	8.25E-7	4.27E-7	1.91E-7	8.22E-8
89	10687.8	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	89	-3114.06	1.57E-6	1.26E-6	7.99E-7	4.15E-7	1.86	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - F_2$								$A_2 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	50.95	2.09E-4	1.69E-4	1.07E-4	5.52E-5	2.49E-5	1.09E-5	26	71.44	3.37E-3	2.71E-3	1.71E-3	8.80E-4	3.96E-4	1.72E-4
27	52.82	2.03E-4	1.64E-4	1.04E-4	5.36E-5	2.42E-5	1.06E-5	27	75.71	2.85E-3	2.30E-3	1.45E-3	7.46E-4	3.35E-4	1.46E-4
28	54.56	1.94E-4	1.57E-4	9.91E-5	5.12E-5	2.31E-5	1.01E-5	28	80.10	2.41E-3	1.94E-3	1.22E-3	6.29E-4	2.83E-4	1.23E-4
29	56.20	1.83E-4	1.48E-4	9.34E-5	4.82E-5	2.17E-5	9.50E-6	29	84.61	2.03E-3	1.63E-3	1.03E-3	5.27E-4	2.37E-4	1.03E-4
30	57.73	1.72E-4	1.38E-4	8.67E-5	4.47E-5	2.02E-5	8.81E-6	30	89.22	1.70E-3	1.36E-3	8.51E-4	4.37E-4	1.96E-4	8.54E-5
31	59.16	1.57E-4	1.27E-4	7.97E-5	4.11E-5	1.85E-5	8.08E-6	31	93.90	1.39E-3	1.12E-3	7.00E-4	3.59E-4	1.61E-4	7.01E-5
32	60.52	1.43E-4	1.15E-4	7.25E-5	3.73E-5	1.68E-5	7.34E-6	32	98.62	1.13E-3	9.10E-4	5.69E-4	2.92E-4	1.31E-4	5.70E-5
33	61.83	1.29E-4	1.04E-4	6.53E-5	3.36E-5	1.51E-5	6.60E-6	33	103.36	9.12E-4	7.32E-4	4.58E-4	2.35E-4	1.05E-4	4.57E-5
34	63.10	1.16E-4	9.30E-5	5.82E-5	2.99E-5	1.35E-5	5.88E-6	34	108.09	7.29E-4	5.84E-4	3.64E-4	1.87E-4	8.37E-5	3.63E-5
35	64.37	1.03E-4	8.24E-5	5.16E-5	2.65E-5	1.19E-5	5.20E-6	35	112.81	5.76E-4	4.61E-4	2.87E-4	1.47E-4	6.60E-5	2.86E-5
36	65.66	9.00E-5	7.23E-5	4.53E-5	2.32E-5	1.05E-5	4.56E-6	36	117.50	4.50E-4	3.61E-4	2.25E-4	1.15E-4	5.17E-5	2.24E-5
37	66.98	7.89E-5	6.32E-5	3.95E-5	2.03E-5	9.12E-6	3.97E-6	37	122.14	3.54E-4	2.83E-4	1.76E-4	9.00E-5	4.03E-5	1.75E-5
38	68.36	6.84E-5	5.49E-5	3.43E-5	1.76E-5	7.90E-6	3.44E-6	38	126.75	2.76E-4	2.21E-4	1.37E-4	7.02E-5	3.14E-5	1.36E-5
39	69.82	5.90E-5	4.73E-5	2.95E-5	1.52E-5	6.81E-6	2.96E-6	39	131.33	2.15E-4	1.72E-4	1.07E-4	5.48E-5	2.45E-5	1.06E-5
40	71.34	5.08E-5	4.07E-5	2.54E-5	1.30E-5	5.85E-6	2.55E-6	40	135.88	1.68E-4	1.35E-4	8.38E-5	4.28E-5	1.92E-5	8.32E-6
41	72.95	4.37E-5	3.50E-5	2.18E-5	1.11E-5	5.01E-6	2.18E-6	41	140.40	1.33E-4	1.06E-4	6.58E-5	3.36E-5	1.50E-5	6.52E-6
42	74.65	3.73E-5	2.99E-5	1.86E-5	9.54E-6	4.28E-6	1.86E-6	42	144.92	1.05E-4	8.35E-5	5.19E-5	2.65E-5	1.19E-5	5.15E-6
43	76.43	3.19E-5	2.55E-5	1.59E-5	8.15E-6	3.65E-6	1.59E-6	43	149.42	8.29E-5	6.62E-5	4.12E-5	2.10E-5	9.40E-6	4.08E-6
44	78.29	2.73E-5	2.18E-5	1.36E-5	6.95E-6	3.12E-6	1.35E-6	44	153.93	6.64E-5	5.29E-5	3.28E-5	1.68E-5	7.49E-6	3.25E-6
45	80.24	2.33E-5	1.87E-5	1.16E-5	5.93E-6	2.66E-6	1.15E-6	45	158.44	5.32E-5	4.24E-5	2.63E-5	1.34E-5	6.00E-6	2.60E-6
46	82.26	1.99E-5	1.59E-5	9.90E-6	5.06E-6	2.27E-6	9.84E-7	46	162.97	4.27E-5	3.41E-5	2.12E-5	1.08E-5	4.83E-6	2.09E-6
47	84.36	1.71E-5	1.36E-5	8.45E-6	4.32E-6	1.94E-6	8.40E-7	47	167.51	3.48E-5	2.77E-5	1.72E-5	8.75E-6	3.91E-6	1.69E-6
48	86.54	1.45E-5	1.16E-5	7.23E-6	3.70E-6	1.65E-6	7.18E-7	48	172.07	2.82E-5	2.25E-5	1.40E-5	7.13E-6	3.18E-6	1.38E-6
49	88.78	1.25E-5	9.96E-6	6.19E-6	3.16E-6	1.42E-6	6.14E-7	49	176.67	2.31E-5	1.84E-5	1.14E-5	5.83E-6	2.61E-6	1.13E-6
50	91.10	1.07E-5	8.56E-6	5.32E-6	2.71E-6	1.21E-6	5.26E-7	50	181.29	1.90E-5	1.52E-5	9.41E-6	4.80E-6	2.14E-6	9.27E-7
51	93.49	9.17E-6	7.33E-6	4.56E-6	2.33E-6	1.04E-6	4.51E-7	51	185.95	1.57E-5	1.25E-5	7.76E-6	3.96E-6	1.77E-6	7.65E-7
52	95.94	7.89E-6	6.30E-6	3.92E-6	2.00E-6	8.96E-7	3.88E-7	52	190.65	1.30E-5	1.04E-5	6.44E-6	3.29E-6	1.47E-6	6.34E-7
53	98.47	6.81E-6	5.44E-6	3.38E-6	1.72E-6	7.71E-7	3.34E-7	53	195.40	1.09E-5	8.66E-6	5.38E-6	2.74E-6	1.22E-6	5.29E-7
54	101.06	5.87E-6	4.69E-6	2.92E-6	1.49E-6	6.66E-7	2.88E-7	54	200.18	9.09E-6	7.25E-6	4.50E-6	2.29E-6	1.02E-6	4.42E-7
55	103.72	5.08E-6	4.06E-6	2.52E-6	1.28E-6	5.75E-7	2.49E-7	55	205.02	7.65E-6	6.09E-6	3.78E-6	1.93E-6	8.61E-7	3.72E-7
56	106.45	4.40E-6	3.51E-6	2.18E-6	1.11E-6	4.98E-7	2.15E-7	56	209.91	6.45E-6	5.14E-6	3.19E-6	1.63E-6	7.27E-7	3.14E-7
57	109.25	3.82E-6	3.05E-6	1.90E-6	9.67E-7	4.32E-7	1.87E-7	57	214.86	5.46E-6	4.35E-6	2.70E-6	1.38E-6	6.15E-7	2.65E-7
58	112.12	3.32E-6	2.65E-6	1.65E-6	8.41E-7	3.75E-7	1.62E-7	58	219.87	4.64E-6	3.70E-6	2.30E-6	1.17E-6	5.22E-7	2.26E-7
59	115.06	2.89E-6	2.31E-6	1.44E-6	7.32E-7	3.27E-7	1.41E-7	59	224.94	3.96E-6	3.16E-6	1.96E-6	9.99E-7	4.45E-7	1.92E-7
60	118.06	2.52E-6	2.01E-6	1.25E-6	6.38E-7	2.85E-7	1.23E-7	60	230.06	3.39E-6	2.70E-6	1.68E-6	8.54E-7	3.81E-7	1.65E-7
61	121.15	2.21E-6	1.76E-6	1.09E-6	5.58E-7	2.49E-7	1.08E-7	61	235.27	2.90E-6	2.32E-6	1.44E-6	7.33E-7	3.27E-7	1.41E-7
62	124.29	1.93E-6	1.54E-6	9.58E-7	4.88E-7	2.18E-7	9.41E-8	62	240.52	2.50E-6	1.99E-6	1.24E-6	6.31E-7	2.82E-7	1.21E-7
63	127.52	1.69E-6	1.35E-6	8.40E-7	4.28E-7	1.91E-7	8.25E-8	63	245.86	2.16E-6	1.72E-6	1.07E-6	5.45E-7	2.43E-7	1.05E-7
64	130.81	1.49E-6	1.19E-6	7.38E-7	3.77E-7	1.68E-7	7.25E-8	64	251.26	1.87E-6	1.49E-6	9.25E-7	4.72E-7	2.10E-7	9.07E-8
65	134.19	1.31E-6	1.04E-6	6.49E-7	3.31E-7	1.48E-7	6.37E-8	65	256.75	1.62E-6	1.29E-6	8.03E-7	4.09E-7	1.82E-7	7.87E-8
66	137.64	1.15E-6	9.20E-7	5.72E-7	2.92E-7	1.30E-7	5.62E-8	66	262.31	1.41E-6	1.12E-6	6.98E-7	3.56E-7	1.59E-7	6.85E-8
67	141.18	1.02E-6	8.13E-7	5.05E-7	2.58E-7	1.15E-7	4.96E-8	67	267.95	1.23E-6	9.79E-7	6.09E-7	3.11E-7	1.39E-7	5.97E-8
68	144.80	8.99E-7	7.18E-7	4.47E-7	2.28E-7	1.02E-7	4.38E-8	68	273.69	1.07E-6	8.56E-7	5.32E-7	2.72E-7	1.21E-7	5.22E-8
69	148.50	7.96E-7	6.36E-7	3.96E-7	2.02E-7	9.01E-8	3.88E-8	69	279.50	9.39E-7	7.49E-7	4.66E-7	2.38E-7	1.06E-7	4.57E-8
70	152.28	7.06E-7	5.64E-7	3.51E-7	1.80E-7	7.99E-8	3.44E-8	70	285.39	8.24E-7	6.58E-7	4.09E-7	2.09E-7	9.32E-8	4.01E-8
71	156.15	6.27E-7	5.01E-7	3.12E-7	1.59E-7	7.11E-8	3.06E-8	71	291.39	7.24E-7	5.78E-7	3.60E-7	1.84E-7	8.20E-8	3.53E-8
72	160.10	5.58E-7	4.46E-7	2.78E-7	1.42E-7	6.32E-8	2.72E-8	72	297.46	6.39E-7	5.10E-7	3.18E-7	1.62E-7	7.23E-8	3.11E-8
73	164.14	4.97E-7	3.97E-7	2.47E-7	1.26E-7	5.63E-8	2.42E-8	73	303.63	5.64E-7	4.50E-7	2.81E-7	1.43E-7	6.39E-8	2.75E-8
74	168.27	4.43E-7	3.54E-7	2.21E-7	1.13E-7	5.03E-8	2.16E-8	74	309.89	4.98E-7	3.98E-7	2.48E-7	1.27E-7	5.66E-8	2.43E-8
75	172.49	3.96E-7	3.16E-7	1.97E-7	1.01E-7	4.49E-8	1.93E-8	75	316.26	4.42E-7	3.53E-7	2.20E-7	1.12E-7	5.01E-8	2.15E-8
76	176.78	3.54E-7	2.83E-7	1.76E-7	9.02E-8	4.02E-8	1.73E-8	76	322.70	3.92E-7	3.13E-7	1.95E-7	1.00E-7	4.45E-8	1.91E-8
77	181.18	3.17E-7	2.53E-7	1.58E-7	8.08E-8	3.60E-8	1.55E-8	77	329.25	3.48E-7	2.79E-7	1.74E-7	8.89E-8	3.96E-8	1.70E-8
78	185.66	2.83E-7	2.27E-7	1.42E-7	7.25E-8	3.23E-8	1.39E-8	78	335.90	3.10E-7	2.48E-7	1.55E-7	7.93E-8	3.53E-8	1.52E-8
79	190.25	2.54E-7	2.04E-7	1.27E-7	6.51E-8	2.90E-8	1.25E-8	79	342.65	2.76E-7	2.21E-7	1.38E-7	7.07E-8	3.15E-8	1.35E-8
80	194.89	2.28E-7	1.83E-7	1.14E-7	5.86E-8	2.61E-8	1.12E-8	80	349.48	2.47E-7	1.97E-7	1.23E-7	6.32E-8	2.82E-8	1.21E-8
81	199.62	2.06E-7	1.65E-7	1.03E-7	5.28E-8	2.35E-8	1.01E-8	81	356.39	2.20E-7	1.77E-7	1.11E-7	5.67E-8	2.52E-8	1.08E-8
82	204.43	1.85E-7	1.48E-7	9.28E-8	4.76E-8	2.12E-8	9.08E-9	82	363.40	1.98E-7	1.58E-7	9.90E-8	5.08E-8	2.26E-8	9.70E-9
83	209.36	1.67E-7	1.34E-7	8.38E-8	4.30E-8	1.91E-8	8.20E-9	83	370.53	1.77E-7	1.42E-7	8.89E-8	4.56E-8	2.03E-8	8.70E-9
84	214.41	1.51E-7	1.21E-7	7.57E-8	3.88E-8	1.73E-8	7.40E-9	84	377.80	1.59E-7	1.27E-7	7.99E-8	4.10E-8	1.82E-8	7.82E-9
85	219.51	1.36E-7	1.09E-7	6.84E-8	3.51E-8	1.56E-8	6.69E-9	85	385.13	1.43E-7	1.14E-7	7.18E-8	3.69E-8	1.64E-8	7.03E-9
86	224.33	1.23E-7	9.87E-8	6.19E-8	3.18E-8	1.42E-8	6.06E-9	86	392.18	1.29E-7	1.03E-7	6.47E-8	3.32E-8	1.48E-8	6.34E-9
87	229.54	1.11E-7	8.94E-8	5.61E-8	2.88E-8	1.28E-8	5.49E-9	87	399.64	1.16E-7	9.29E-8	5.83E-8	3.00E-8	1.34E-8	5.71E-9
88	234.71	1.01E-7	8.09E-8	5.09E-8	2.61E-8	1.16E-8	4.98E-9	88	407.08	1.04E-7	8.38E-8	5.27E-8	2.71E-8	1.21E-8	5.16E-9
89	240.01	9.14E-8	7.34E-8	4.62E-8	2.38E-8	1.06E-8	4.52E-9	89	414.65	9.42E-8	7.56E-8	4.76E-8	2.45E-8	1.09E-8	4.66E-9
90	245.15	8.30E-8	6.67E-8	4											

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$A_2 - F_4$								$B_1 - D_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	95.95	7.25E-4	5.85E-4	3.68E-4	1.89E-4	8.51E-5	3.70E-5	26	104.58	9.50E-2	1.07E-1	1.26E-1	1.47E-1	1.69E-1	1.90E-1
27	101.02	8.00E-4	6.45E-4	4.06E-4	2.09E-4	9.38E-5	4.08E-5	27	111.37	8.75E-2	9.85E-2	1.16E-1	1.36E-1	1.56E-1	1.75E-1
28	106.31	8.79E-4	7.08E-4	4.45E-4	2.29E-4	1.03E-4	4.46E-5	28	118.53	8.08E-2	9.11E-2	1.07E-1	1.26E-1	1.44E-1	1.62E-1
29	111.86	9.56E-4	7.70E-4	4.83E-4	2.48E-4	1.11E-4	4.84E-5	29	126.08	7.48E-2	8.44E-2	9.91E-2	1.17E-1	1.34E-1	1.51E-1
30	117.72	1.04E-3	8.31E-4	5.19E-4	2.66E-4	1.20E-4	5.19E-5	30	134.08	6.93E-2	7.83E-2	9.21E-2	1.08E-1	1.24E-1	1.40E-1
31	123.96	1.10E-3	8.83E-4	5.53E-4	2.83E-4	1.27E-4	5.52E-5	31	142.55	6.24E-2	7.31E-2	8.63E-2	1.00E-1	1.16E-1	1.31E-1
32	130.63	1.16E-3	9.29E-4	5.81E-4	2.98E-4	1.33E-4	5.79E-5	32	151.52	5.80E-2	6.81E-2	8.04E-2	9.35E-2	1.08E-1	1.22E-1
33	137.82	1.20E-3	9.64E-4	6.02E-4	3.09E-4	1.38E-4	6.00E-5	33	161.04	5.41E-2	6.35E-2	7.51E-2	8.73E-2	1.01E-1	1.14E-1
34	145.57	1.24E-3	9.90E-4	6.17E-4	3.16E-4	1.41E-4	6.14E-5	34	171.15	5.05E-2	5.94E-2	7.02E-2	8.17E-2	9.43E-2	1.07E-1
35	153.96	1.25E-3	1.00E-3	6.24E-4	3.19E-4	1.43E-4	6.19E-5	35	181.88	4.73E-2	5.56E-2	6.56E-2	7.65E-2	8.84E-2	1.01E-1
36	163.04	1.25E-3	9.99E-4	6.23E-4	3.18E-4	1.43E-4	6.18E-5	36	193.28	4.57E-2	5.13E-2	6.15E-2	7.18E-2	8.30E-2	9.46E-2
37	172.87	1.24E-3	9.90E-4	6.16E-4	3.15E-4	1.41E-4	6.10E-5	37	205.41	4.31E-2	4.79E-2	5.78E-2	6.75E-2	7.81E-2	8.91E-2
38	183.50	1.22E-3	9.72E-4	6.04E-4	3.09E-4	1.38E-4	5.98E-5	38	218.29	4.06E-2	4.50E-2	5.42E-2	6.35E-2	7.35E-2	8.40E-2
39	194.97	1.18E-3	9.45E-4	5.88E-4	3.00E-4	1.34E-4	5.82E-5	39	231.98	3.67E-2	4.30E-2	5.10E-2	5.97E-2	6.92E-2	7.93E-2
40	207.34	1.15E-3	9.15E-4	5.69E-4	2.91E-4	1.30E-4	5.63E-5	40	246.54	3.52E-2	4.01E-2	4.81E-2	5.63E-2	6.53E-2	7.49E-2
41	220.66	1.11E-3	8.86E-4	5.49E-4	2.80E-4	1.25E-4	5.42E-5	41	262.01	3.26E-2	3.81E-2	4.53E-2	5.31E-2	6.17E-2	7.09E-2
42	234.98	1.06E-3	8.51E-4	5.29E-4	2.70E-4	1.21E-4	5.22E-5	42	278.45	3.21E-2	3.53E-2	4.27E-2	5.02E-2	5.83E-2	6.72E-2
43	250.35	1.02E-3	8.17E-4	5.08E-4	2.59E-4	1.16E-4	5.01E-5	43	295.93	2.93E-2	3.37E-2	4.02E-2	4.74E-2	5.52E-2	6.37E-2
44	266.83	9.87E-4	7.86E-4	4.87E-4	2.48E-4	1.11E-4	4.80E-5	44	314.48	2.78E-2	3.18E-2	3.80E-2	4.49E-2	5.23E-2	6.05E-2
45	284.47	9.45E-4	7.52E-4	4.66E-4	2.38E-4	1.06E-4	4.59E-5	45	334.19	2.62E-2	3.01E-2	3.59E-2	4.25E-2	4.96E-2	5.75E-2
46	303.35	9.01E-4	7.19E-4	4.46E-4	2.28E-4	1.02E-4	4.39E-5	46	355.12	2.56E-2	2.83E-2	3.42E-2	4.03E-2	4.71E-2	5.47E-2
47	323.51	8.68E-4	6.90E-4	4.27E-4	2.18E-4	9.72E-5	4.20E-5	47	377.32	2.40E-2	2.78E-2	3.26E-2	3.81E-2	4.47E-2	5.20E-2
48	345.04	8.27E-4	6.59E-4	4.09E-4	2.09E-4	9.31E-5	4.02E-5	48	400.87	2.24E-2	2.55E-2	3.06E-2	3.63E-2	4.25E-2	4.96E-2
49	367.99	7.92E-4	6.32E-4	3.92E-4	2.00E-4	8.92E-5	3.85E-5	49	425.85	2.19E-2	2.40E-2	2.91E-2	3.45E-2	4.05E-2	4.74E-2
50	392.45	7.63E-4	6.07E-4	3.76E-4	1.92E-4	8.55E-5	3.69E-5	50	452.32	2.09E-2	2.28E-2	2.77E-2	3.28E-2	3.86E-2	4.52E-2
51	418.48	7.30E-4	5.80E-4	3.60E-4	1.84E-4	8.19E-5	3.53E-5	51	480.37	1.95E-2	2.20E-2	2.61E-2	3.11E-2	3.68E-2	4.32E-2
52	446.17	7.01E-4	5.57E-4	3.45E-4	1.76E-4	7.86E-5	3.39E-5	52	510.07	1.83E-2	2.08E-2	2.49E-2	2.97E-2	3.51E-2	4.13E-2
53	475.60	6.70E-4	5.34E-4	3.31E-4	1.69E-4	7.54E-5	3.25E-5	53	541.52	1.76E-2	1.99E-2	2.36E-2	2.83E-2	3.35E-2	3.95E-2
54	506.86	6.46E-4	5.14E-4	3.18E-4	1.62E-4	7.25E-5	3.12E-5	54	574.79	1.68E-2	1.88E-2	2.26E-2	2.70E-2	3.20E-2	3.79E-2
55	540.03	6.22E-4	4.94E-4	3.06E-4	1.56E-4	6.96E-5	3.00E-5	55	609.98	1.58E-2	1.81E-2	2.15E-2	2.57E-2	3.06E-2	3.63E-2
56	575.20	5.97E-4	4.75E-4	2.94E-4	1.50E-4	6.70E-5	2.88E-5	56	647.17	1.52E-2	1.73E-2	2.04E-2	2.46E-2	2.92E-2	3.48E-2
57	612.49	5.72E-4	4.56E-4	2.83E-4	1.44E-4	6.44E-5	2.78E-5	57	686.49	1.41E-2	1.66E-2	1.97E-2	2.33E-2	2.79E-2	3.33E-2
58	651.98	5.52E-4	4.39E-4	2.73E-4	1.39E-4	6.20E-5	2.68E-5	58	728.00	1.35E-2	1.58E-2	1.88E-2	2.23E-2	2.67E-2	3.20E-2
59	693.78	5.31E-4	4.23E-4	2.63E-4	1.34E-4	5.98E-5	2.58E-5	59	771.84	1.30E-2	1.50E-2	1.80E-2	2.14E-2	2.56E-2	3.08E-2
60	738.00	5.14E-4	4.09E-4	2.54E-4	1.29E-4	5.77E-5	2.49E-5	60	818.10	1.25E-2	1.43E-2	1.73E-2	2.04E-2	2.45E-2	2.96E-2
61	784.75	4.95E-4	3.94E-4	2.45E-4	1.25E-4	5.58E-5	2.40E-5	61	866.90	1.20E-2	1.36E-2	1.65E-2	1.96E-2	2.35E-2	2.85E-2
62	834.14	4.78E-4	3.81E-4	2.37E-4	1.21E-4	5.39E-5	2.32E-5	62	918.34	1.16E-2	1.30E-2	1.58E-2	1.88E-2	2.26E-2	2.74E-2
63	886.31	4.63E-4	3.69E-4	2.29E-4	1.17E-4	5.21E-5	2.25E-5	63	972.58	1.12E-2	1.24E-2	1.51E-2	1.80E-2	2.17E-2	2.64E-2
64	941.37	4.46E-4	3.56E-4	2.21E-4	1.13E-4	5.04E-5	2.17E-5	64	1029.71	1.08E-2	1.18E-2	1.45E-2	1.73E-2	2.09E-2	2.55E-2
65	999.47	4.32E-4	3.44E-4	2.14E-4	1.10E-4	4.89E-5	2.11E-5	65	1089.89	1.04E-2	1.13E-2	1.39E-2	1.66E-2	2.01E-2	2.45E-2
66	1060.73	4.19E-4	3.34E-4	2.08E-4	1.06E-4	4.73E-5	2.04E-5	66	1153.24	1.00E-2	1.08E-2	1.33E-2	1.59E-2	1.93E-2	2.37E-2
67	1125.31	4.05E-4	3.23E-4	2.01E-4	1.03E-4	4.59E-5	1.98E-5	67	1219.92	9.62E-3	1.04E-2	1.27E-2	1.53E-2	1.86E-2	2.29E-2
68	1193.35	3.93E-4	3.14E-4	1.95E-4	9.99E-5	4.46E-5	1.92E-5	68	1290.07	9.25E-3	9.96E-3	1.22E-2	1.47E-2	1.79E-2	2.21E-2
69	1265.01	3.82E-4	3.04E-4	1.90E-4	9.70E-5	4.33E-5	1.86E-5	69	1363.86	8.88E-3	9.56E-3	1.17E-2	1.42E-2	1.73E-2	2.13E-2
70	1340.44	3.70E-4	2.95E-4	1.84E-4	9.43E-5	4.21E-5	1.81E-5	70	1441.41	8.51E-3	9.19E-3	1.12E-2	1.36E-2	1.66E-2	2.06E-2
71	1419.83	3.60E-4	2.87E-4	1.79E-4	9.17E-5	4.10E-5	1.76E-5	71	1522.94	8.14E-3	8.85E-3	1.07E-2	1.31E-2	1.60E-2	2.00E-2
72	1503.33	3.49E-4	2.79E-4	1.74E-4	8.92E-5	3.98E-5	1.71E-5	72	1608.60	7.79E-3	8.52E-3	1.03E-2	1.26E-2	1.55E-2	1.93E-2
73	1591.15	3.39E-4	2.71E-4	1.69E-4	8.68E-5	3.88E-5	1.67E-5	73	1698.58	7.45E-3	8.22E-3	9.91E-3	1.21E-2	1.49E-2	1.87E-2
74	1683.47	3.30E-4	2.64E-4	1.65E-4	8.46E-5	3.78E-5	1.63E-5	74	1793.07	7.12E-3	7.92E-3	9.51E-3	1.17E-2	1.44E-2	1.81E-2
75	1780.49	3.21E-4	2.57E-4	1.60E-4	8.24E-5	3.69E-5	1.58E-5	75	1892.27	6.81E-3	7.65E-3	9.14E-3	1.13E-2	1.39E-2	1.75E-2
76	1882.40	3.13E-4	2.50E-4	1.57E-4	8.04E-5	3.59E-5	1.55E-5	76	1996.37	6.51E-3	7.38E-3	8.79E-3	1.08E-2	1.35E-2	1.70E-2
77	1989.46	3.04E-4	2.44E-4	1.53E-4	7.85E-5	3.51E-5	1.51E-5	77	2105.63	6.25E-3	7.13E-3	8.45E-3	1.04E-2	1.30E-2	1.65E-2
78	2101.86	2.97E-4	2.38E-4	1.49E-4	7.66E-5	3.43E-5	1.47E-5	78	2220.24	6.01E-3	6.88E-3	8.14E-3	1.01E-2	1.26E-2	1.60E-2
79	2219.87	2.89E-4	2.32E-4	1.46E-4	7.48E-5	3.35E-5	1.44E-5	79	2340.47	5.80E-3	6.64E-3	7.83E-3	9.71E-3	1.21E-2	1.55E-2
80	2343.68	2.82E-4	2.27E-4	1.42E-4	7.32E-5	3.27E-5	1.40E-5	80	2466.51	5.60E-3	6.41E-3	7.54E-3	9.36E-3	1.18E-2	1.50E-2
81	2473.59	2.76E-4	2.21E-4	1.39E-4	7.15E-5	3.20E-5	1.38E-5	81	2598.65	5.42E-3	6.18E-3	7.27E-3	9.03E-3	1.14E-2	1.46E-2
82	2609.88	2.69E-4	2.16E-4	1.36E-4	7.00E-5	3.13E-5	1.35E-5	82	2737.19	5.26E-3	5.96E-3	7.01E-3	8.71E-3	1.10E-2	1.42E-2
83	2752.86	2.63E-4	2.11E-4	1.33E-4	6.85E-5	3.07E-5	1.32E-5	83	2882.41	5.09E-3	5.73E-3	6.76E-3	8.40E-3	1.06E-2	1.38E-2
84	2902.84	2.57E-4	2.06E-4	1.30E-4	6.71E-5	3.00E-5	1.29E-5	84	3034.65	4.74E-3	5.43E-3	6.67E-3	8.15E-3	1.03E-2	1.33E-2
85	3060.07	2.51E-4	2.02E-4	1.27E-4	6.57E-5	2.95E-5	1.26E-5	85	3194.14	4.59E-3	5.22E-3	6.42E-3	7.88E-3	9.93E-3	1.29E-2
86	3224.51	2.46E-4	1.97E-4	1.24E-4	6.44E-5	2.89E-5	1.24E-5	86	3360.83	4.45E-3	5.02E-3	6.19E-3	7.62E-3	9.63E-3	1.26E-2
87	3397.24	2.40E-4	1.93E-4	1.22E-4	6.32E-5	2.83E-5	1.22E-5	87	3535.82	4.32E-3	4.83E-3	5.96E-3	7.37E-3	9.33E-3	1.22E-2
88	3578.19	2.35E-4	1.89E-4	1.20E-4	6.20E-5	2.78E-5	1.19E-5	88	3719.03	4.19E-3	4.65E-3	5.75E-3	7.12E-3	9.05E-3	1.19E-2
89	3767.90	2.30E-4	1.85E-4	1.17E-4	6.09E-5	2.73E-5	1.17E-5	89	3911.00	4.05E-3	4.57E-3	5.47E-3			

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - E_1$								$B_1 - E_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	87.44	2.13E-2	2.28E-2	2.57E-2	2.89E-2	3.24E-2	3.61E-2	26	105.73	1.93E-1	2.17E-1	2.54E-1	2.99E-1	3.42E-1	3.85E-1
27	92.46	1.54E-2	1.64E-2	1.82E-2	2.02E-2	2.26E-2	2.50E-2	27	112.83	1.90E-1	2.14E-1	2.51E-1	2.95E-1	3.38E-1	3.80E-1
28	97.58	1.09E-2	1.14E-2	1.23E-2	1.35E-2	1.49E-2	1.65E-2	28	120.35	1.87E-1	2.10E-1	2.47E-1	2.90E-1	3.33E-1	3.74E-1
29	102.79	7.51E-3	7.62E-3	7.96E-3	8.46E-3	9.21E-3	1.01E-2	29	128.32	1.83E-1	2.07E-1	2.43E-1	2.85E-1	3.28E-1	3.69E-1
30	108.09	5.08E-3	4.94E-3	4.84E-3	4.89E-3	5.18E-3	5.63E-3	30	136.77	1.80E-1	2.03E-1	2.38E-1	2.80E-1	3.22E-1	3.63E-1
31	113.47	3.39E-3	3.17E-3	2.76E-3	2.52E-3	2.51E-3	2.66E-3	31	145.72	1.70E-1	1.99E-1	2.35E-1	2.73E-1	3.15E-1	3.56E-1
32	118.91	2.38E-3	2.05E-3	1.54E-3	1.15E-3	9.67E-4	9.33E-4	32	155.22	1.66E-1	1.95E-1	2.30E-1	2.68E-1	3.08E-1	3.50E-1
33	124.41	1.85E-3	1.50E-3	9.63E-4	5.30E-4	2.84E-4	1.77E-4	33	165.29	1.62E-1	1.90E-1	2.25E-1	2.62E-1	3.02E-1	3.43E-1
34	129.96	1.70E-3	1.37E-3	8.77E-4	4.77E-4	2.50E-4	1.50E-4	34	175.96	1.58E-1	1.85E-1	2.19E-1	2.55E-1	2.95E-1	3.35E-1
35	135.55	1.81E-3	1.55E-3	1.14E-3	8.28E-4	6.78E-4	6.46E-4	35	187.28	1.54E-1	1.81E-1	2.14E-1	2.49E-1	2.88E-1	3.28E-1
36	141.18	2.09E-3	1.92E-3	1.63E-3	1.45E-3	1.42E-3	1.49E-3	36	199.29	1.55E-1	1.73E-1	2.08E-1	2.43E-1	2.81E-1	3.20E-1
37	146.84	2.52E-3	2.43E-3	2.26E-3	2.23E-3	2.34E-3	2.55E-3	37	212.01	1.51E-1	1.68E-1	2.02E-1	2.36E-1	2.73E-1	3.12E-1
38	152.53	2.96E-3	2.99E-3	2.96E-3	3.08E-3	3.35E-3	3.71E-3	38	225.50	1.47E-1	1.62E-1	1.96E-1	2.29E-1	2.66E-1	3.04E-1
39	158.25	3.39E-3	3.54E-3	3.68E-3	3.96E-3	4.38E-3	4.90E-3	39	239.79	1.40E-1	1.58E-1	1.90E-1	2.23E-1	2.58E-1	2.95E-1
40	163.99	3.86E-3	4.11E-3	4.37E-3	4.80E-3	5.38E-3	6.05E-3	40	254.95	1.35E-1	1.54E-1	1.84E-1	2.16E-1	2.50E-1	2.87E-1
41	169.76	4.35E-3	4.62E-3	5.02E-3	5.59E-3	6.31E-3	7.13E-3	41	271.01	1.29E-1	1.50E-1	1.78E-1	2.09E-1	2.43E-1	2.79E-1
42	175.55	4.79E-3	5.10E-3	5.60E-3	6.30E-3	7.16E-3	8.11E-3	42	288.03	1.29E-1	1.42E-1	1.72E-1	2.02E-1	2.35E-1	2.71E-1
43	181.37	4.98E-3	5.46E-3	6.13E-3	6.94E-3	7.91E-3	8.99E-3	43	306.07	1.21E-1	1.39E-1	1.66E-1	1.96E-1	2.28E-1	2.63E-1
44	187.22	5.23E-3	5.83E-3	6.57E-3	7.48E-3	8.56E-3	9.76E-3	44	325.19	1.17E-1	1.34E-1	1.60E-1	1.89E-1	2.20E-1	2.55E-1
45	193.10	5.49E-3	6.09E-3	6.94E-3	7.95E-3	9.11E-3	1.04E-2	45	345.45	1.13E-1	1.29E-1	1.54E-1	1.82E-1	2.13E-1	2.47E-1
46	199.02	5.68E-3	6.37E-3	7.24E-3	8.32E-3	9.57E-3	1.10E-2	46	366.90	1.12E-1	1.24E-1	1.49E-1	1.76E-1	2.06E-1	2.39E-1
47	204.97	5.73E-3	6.43E-3	7.49E-3	8.64E-3	9.95E-3	1.14E-2	47	389.62	1.07E-1	1.24E-1	1.45E-1	1.69E-1	1.98E-1	2.31E-1
48	210.96	5.92E-3	6.69E-3	7.66E-3	8.87E-3	1.03E-2	1.18E-2	48	413.69	1.01E-1	1.15E-1	1.38E-1	1.64E-1	1.92E-1	2.24E-1
49	217.00	5.95E-3	6.77E-3	7.80E-3	9.04E-3	1.05E-2	1.21E-2	49	439.16	1.00E-1	1.10E-1	1.33E-1	1.58E-1	1.85E-1	2.16E-1
50	223.08	6.00E-3	6.84E-3	7.89E-3	9.17E-3	1.06E-2	1.23E-2	50	466.11	9.67E-2	1.06E-1	1.28E-1	1.52E-1	1.78E-1	2.09E-1
51	229.22	6.23E-3	6.85E-3	7.93E-3	9.24E-3	1.07E-2	1.25E-2	51	494.63	9.16E-2	1.03E-1	1.22E-1	1.46E-1	1.72E-1	2.02E-1
52	235.40	6.10E-3	6.86E-3	7.95E-3	9.28E-3	1.08E-2	1.26E-2	52	524.80	8.66E-2	9.85E-2	1.18E-1	1.40E-1	1.66E-1	1.95E-1
53	241.66	5.97E-3	6.82E-3	7.95E-3	9.29E-3	1.08E-2	1.26E-2	53	556.70	8.41E-2	9.53E-2	1.13E-1	1.35E-1	1.60E-1	1.89E-1
54	247.96	5.93E-3	6.79E-3	7.91E-3	9.26E-3	1.08E-2	1.26E-2	54	590.41	8.10E-2	9.09E-2	1.08E-1	1.30E-1	1.54E-1	1.82E-1
55	254.34	5.87E-3	6.71E-3	7.85E-3	9.20E-3	1.08E-2	1.26E-2	55	626.03	7.65E-2	8.77E-2	1.04E-1	1.25E-1	1.48E-1	1.76E-1
56	260.78	5.79E-3	6.64E-3	7.77E-3	9.13E-3	1.07E-2	1.26E-2	56	663.66	7.44E-2	8.45E-2	9.97E-2	1.20E-1	1.43E-1	1.70E-1
57	267.30	5.83E-3	6.30E-3	7.60E-3	9.03E-3	1.06E-2	1.25E-2	57	703.39	6.92E-2	8.13E-2	9.69E-2	1.15E-1	1.37E-1	1.64E-1
58	273.89	5.73E-3	6.20E-3	7.50E-3	8.92E-3	1.05E-2	1.24E-2	58	745.33	6.67E-2	7.77E-2	9.30E-2	1.10E-1	1.32E-1	1.58E-1
59	280.57	5.63E-3	6.11E-3	7.39E-3	8.80E-3	1.04E-2	1.23E-2	59	789.57	6.44E-2	7.43E-2	8.94E-2	1.06E-1	1.27E-1	1.53E-1
60	287.32	5.53E-3	6.00E-3	7.27E-3	8.67E-3	1.03E-2	1.21E-2	60	836.24	6.22E-2	7.10E-2	8.58E-2	1.02E-1	1.22E-1	1.47E-1
61	294.17	5.43E-3	5.89E-3	7.14E-3	8.53E-3	1.01E-2	1.20E-2	61	885.44	6.01E-2	6.79E-2	8.24E-2	9.79E-2	1.17E-1	1.42E-1
62	301.09	5.32E-3	5.78E-3	7.01E-3	8.38E-3	9.95E-3	1.18E-2	62	937.28	5.81E-2	6.50E-2	7.91E-2	9.42E-2	1.13E-1	1.37E-1
63	308.12	5.21E-3	5.66E-3	6.88E-3	8.23E-3	9.78E-3	1.17E-2	63	991.91	5.62E-2	6.22E-2	7.60E-2	9.06E-2	1.09E-1	1.33E-1
64	315.23	5.09E-3	5.54E-3	6.74E-3	8.08E-3	9.62E-3	1.15E-2	64	1049.43	5.44E-2	5.96E-2	7.29E-2	8.72E-2	1.05E-1	1.28E-1
65	322.46	4.98E-3	5.42E-3	6.60E-3	7.92E-3	9.44E-3	1.14E-2	65	1110.00	5.25E-2	5.71E-2	7.00E-2	8.39E-2	1.01E-1	1.24E-1
66	329.78	4.87E-3	5.30E-3	6.46E-3	7.76E-3	9.27E-3	1.12E-2	66	1173.75	5.07E-2	5.48E-2	6.72E-2	8.07E-2	9.77E-2	1.20E-1
67	337.21	4.75E-3	5.19E-3	6.32E-3	7.59E-3	9.09E-3	1.10E-2	67	1240.81	4.88E-2	5.26E-2	6.45E-2	7.77E-2	9.42E-2	1.16E-1
68	344.76	4.62E-3	5.06E-3	6.17E-3	7.43E-3	8.92E-3	1.08E-2	68	1311.35	4.70E-2	5.06E-2	6.19E-2	7.48E-2	9.09E-2	1.12E-1
69	352.43	4.51E-3	4.94E-3	6.03E-3	7.27E-3	8.74E-3	1.06E-2	69	1385.52	4.52E-2	4.87E-2	5.94E-2	7.20E-2	8.77E-2	1.08E-1
70	360.19	4.40E-3	4.82E-3	5.89E-3	7.11E-3	8.56E-3	1.04E-2	70	1463.47	4.34E-2	4.69E-2	5.70E-2	6.93E-2	8.47E-2	1.05E-1
71	368.09	4.29E-3	4.70E-3	5.75E-3	6.95E-3	8.39E-3	1.03E-2	71	1545.39	4.16E-2	4.52E-2	5.48E-2	6.68E-2	8.17E-2	1.02E-1
72	376.11	4.18E-3	4.59E-3	5.62E-3	6.79E-3	8.21E-3	1.01E-2	72	1631.43	3.98E-2	4.35E-2	5.26E-2	6.43E-2	7.89E-2	9.85E-2
73	384.26	4.08E-3	4.47E-3	5.48E-3	6.63E-3	8.04E-3	9.88E-3	73	1721.80	3.81E-2	4.20E-2	5.06E-2	6.20E-2	7.62E-2	9.55E-2
74	392.54	3.98E-3	4.36E-3	5.35E-3	6.48E-3	7.87E-3	9.70E-3	74	1816.67	3.65E-2	4.05E-2	4.86E-2	5.97E-2	7.37E-2	9.25E-2
75	400.95	3.87E-3	4.25E-3	5.22E-3	6.33E-3	7.69E-3	9.51E-3	75	1916.26	3.49E-2	3.91E-2	4.68E-2	5.76E-2	7.12E-2	8.97E-2
76	409.49	3.78E-3	4.15E-3	5.09E-3	6.18E-3	7.53E-3	9.33E-3	76	2020.75	3.34E-2	3.78E-2	4.50E-2	5.55E-2	6.88E-2	8.70E-2
77	418.18	3.68E-3	4.04E-3	4.96E-3	6.03E-3	7.36E-3	9.16E-3	77	2130.40	3.21E-2	3.65E-2	4.33E-2	5.35E-2	6.66E-2	8.44E-2
78	427.00	3.59E-3	3.94E-3	4.83E-3	5.88E-3	7.20E-3	8.98E-3	78	2245.41	3.08E-2	3.53E-2	4.17E-2	5.16E-2	6.44E-2	8.19E-2
79	435.99	3.49E-3	3.83E-3	4.71E-3	5.74E-3	7.04E-3	8.81E-3	79	2366.03	2.98E-2	3.41E-2	4.02E-2	4.98E-2	6.23E-2	7.95E-2
80	445.08	3.40E-3	3.74E-3	4.59E-3	5.60E-3	6.88E-3	8.64E-3	80	2492.46	2.88E-2	3.29E-2	3.87E-2	4.80E-2	6.03E-2	7.72E-2
81	454.31	3.31E-3	3.64E-3	4.47E-3	5.46E-3	6.73E-3	8.47E-3	81	2625.01	2.79E-2	3.18E-2	3.73E-2	4.63E-2	5.83E-2	7.50E-2
82	463.70	3.23E-3	3.54E-3	4.36E-3	5.33E-3	6.57E-3	8.30E-3	82	2763.94	2.70E-2	3.06E-2	3.60E-2	4.47E-2	5.65E-2	7.28E-2
83	473.27	3.14E-3	3.45E-3	4.24E-3	5.19E-3	6.42E-3	8.14E-3	83	2909.56	2.62E-2	2.95E-2	3.48E-2	4.32E-2	5.47E-2	7.07E-2
84	483.03	2.71E-3	3.32E-3	4.17E-3	5.10E-3	6.30E-3	8.00E-3	84	3062.20	2.44E-2	2.79E-2	3.43E-2	4.19E-2	5.27E-2	6.85E-2
85	492.91	2.65E-3	3.23E-3	4.05E-3	4.97E-3	6.16E-3	7.84E-3	85	3222.09	2.37E-2	2.69E-2	3.30E-2	4.05E-2	5.11E-2	6.66E-2
86	502.57	2.58E-3	3.14E-3	3.95E-3	4.84E-3	6.02E-3	7.68E-3	86	3389.17	2.30E-2	2.59E-2	3.19E-2	3.92E-2	4.96E-2	6.48E-2
87	512.71	2.51E-3	3.05E-3	3.84E-3	4.72E-3	5.88E-3	7.53E-3	87	3564.57	2.25E-2	2.52E-2	3.04E-2	3.79E-2	4.81E-2	6.30E-2
88	522.90	2.45E-3	2.97E-3	3.74E-3	4.60E-3	5.74E-3	7.38E-3	88	3748.18	2.17E-2	2.44E-2	2.93E-2	3.67E-2	4.67E-2	6.13E-2
89	533.30	2.38E-3	2.89E-3	3.64E-3	4.48E-3	5.60E-3	7.23E-3	89	3940.55	2.09E-2	2.36E-2	2.82E-2	3.54E-2	4.53E-2	5.

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - E_3$								$B_1 - E_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	128.46	1.68E-1	1.89E-1	2.20E-1	2.58E-1	2.97E-1	3.34E-1	26	148.97	2.00E-2	2.21E-2	2.60E-2	3.02E-2	3.48E-2	3.93E-2
27	135.66	1.49E-1	1.67E-1	1.95E-1	2.29E-1	2.63E-1	2.96E-1	27	158.80	1.96E-2	2.17E-2	2.56E-2	2.97E-2	3.43E-2	3.87E-2
28	143.18	1.32E-1	1.48E-1	1.72E-1	2.02E-1	2.33E-1	2.62E-1	28	169.28	1.88E-2	2.09E-2	2.46E-2	2.87E-2	3.31E-2	3.74E-2
29	151.02	1.16E-1	1.30E-1	1.52E-1	1.79E-1	2.05E-1	2.32E-1	29	180.50	1.77E-2	1.97E-2	2.32E-2	2.71E-2	3.13E-2	3.55E-2
30	159.24	1.03E-1	1.15E-1	1.35E-1	1.58E-1	1.81E-1	2.05E-1	30	192.53	1.65E-2	1.83E-2	2.16E-2	2.52E-2	2.91E-2	3.30E-2
31	167.88	9.04E-2	1.00E-1	1.20E-1	1.39E-1	1.60E-1	1.81E-1	31	205.44	1.54E-2	1.65E-2	1.99E-2	2.32E-2	2.67E-2	3.03E-2
32	176.99	7.95E-2	8.80E-2	1.05E-1	1.22E-1	1.40E-1	1.59E-1	32	219.30	1.38E-2	1.49E-2	1.79E-2	2.09E-2	2.41E-2	2.74E-2
33	186.61	6.97E-2	7.71E-2	9.22E-2	1.07E-1	1.23E-1	1.40E-1	33	234.21	1.23E-2	1.33E-2	1.60E-2	1.87E-2	2.15E-2	2.45E-2
34	196.79	6.11E-2	6.74E-2	8.05E-2	9.36E-2	1.08E-1	1.22E-1	34	250.24	1.09E-2	1.17E-2	1.41E-2	1.65E-2	1.91E-2	2.17E-2
35	207.58	5.34E-2	5.87E-2	7.02E-2	8.15E-2	9.39E-2	1.07E-1	35	267.48	9.54E-3	1.03E-2	1.23E-2	1.44E-2	1.67E-2	1.91E-2
36	219.04	4.66E-2	5.09E-2	6.09E-2	7.08E-2	8.16E-2	9.30E-2	36	286.01	8.27E-3	8.89E-3	1.07E-2	1.26E-2	1.45E-2	1.66E-2
37	231.21	4.02E-2	4.41E-2	5.27E-2	6.11E-2	7.06E-2	8.05E-2	37	305.95	7.05E-3	7.71E-3	9.26E-3	1.08E-2	1.25E-2	1.44E-2
38	244.15	3.48E-2	3.79E-2	4.53E-2	5.26E-2	6.07E-2	6.94E-2	38	327.38	6.08E-3	6.58E-3	7.94E-3	9.29E-3	1.08E-2	1.24E-2
39	257.92	2.94E-2	3.26E-2	3.87E-2	4.51E-2	5.20E-2	5.96E-2	39	350.39	5.15E-3	5.61E-3	6.74E-3	7.94E-3	9.22E-3	1.06E-2
40	272.56	2.49E-2	2.79E-2	3.30E-2	3.83E-2	4.43E-2	5.08E-2	40	375.10	4.29E-3	4.81E-3	5.71E-3	6.76E-3	7.86E-3	9.06E-3
41	288.14	2.11E-2	2.37E-2	2.78E-2	3.25E-2	3.76E-2	4.32E-2	41	401.61	3.66E-3	4.06E-3	4.85E-3	5.74E-3	6.68E-3	7.72E-3
42	304.71	1.83E-2	1.98E-2	2.36E-2	2.73E-2	3.16E-2	3.64E-2	42	430.02	3.14E-3	3.42E-3	4.15E-3	4.85E-3	5.66E-3	6.56E-3
43	322.32	1.50E-2	1.68E-2	1.96E-2	2.29E-2	2.65E-2	3.05E-2	43	460.46	2.61E-3	2.91E-3	3.47E-3	4.11E-3	4.80E-3	5.57E-3
44	341.05	1.26E-2	1.40E-2	1.63E-2	1.90E-2	2.20E-2	2.54E-2	44	493.04	2.22E-3	2.46E-3	2.93E-3	3.47E-3	4.07E-3	4.73E-3
45	360.95	1.04E-2	1.16E-2	1.34E-2	1.56E-2	1.81E-2	2.09E-2	45	527.89	1.86E-3	2.09E-3	2.47E-3	2.94E-3	3.44E-3	4.01E-3
46	382.08	8.79E-3	9.48E-3	1.10E-2	1.27E-2	1.48E-2	1.71E-2	46	565.12	1.57E-3	1.78E-3	2.07E-3	2.48E-3	2.91E-3	3.40E-3
47	404.51	7.18E-3	8.03E-3	9.04E-3	1.03E-2	1.19E-2	1.38E-2	47	604.88	1.35E-3	1.56E-3	1.80E-3	2.09E-3	2.46E-3	2.88E-3
48	428.31	5.76E-3	6.28E-3	7.17E-3	8.26E-3	9.55E-3	1.11E-2	48	647.29	1.13E-3	1.25E-3	1.49E-3	1.77E-3	2.09E-3	2.45E-3
49	453.56	4.77E-3	5.00E-3	5.72E-3	6.54E-3	7.55E-3	8.78E-3	49	692.51	9.59E-4	1.06E-3	1.25E-3	1.50E-3	1.77E-3	2.09E-3
50	480.31	3.84E-3	3.99E-3	4.50E-3	5.11E-3	5.88E-3	6.85E-3	50	740.67	8.12E-4	9.02E-4	1.06E-3	1.27E-3	1.50E-3	1.77E-3
51	508.66	3.03E-3	3.18E-3	3.47E-3	3.93E-3	4.52E-3	5.26E-3	51	791.94	6.90E-4	7.67E-4	8.96E-4	1.08E-3	1.28E-3	1.51E-3
52	538.67	2.38E-3	2.48E-3	2.67E-3	2.98E-3	3.40E-3	3.96E-3	52	846.46	5.78E-4	6.41E-4	7.65E-4	9.11E-4	1.09E-3	1.29E-3
53	570.44	1.89E-3	1.94E-3	2.02E-3	2.21E-3	2.50E-3	2.91E-3	53	904.42	4.94E-4	5.48E-4	6.52E-4	7.75E-4	9.27E-4	1.10E-3
54	604.04	1.50E-3	1.49E-3	1.50E-3	1.60E-3	1.80E-3	2.08E-3	54	965.97	4.22E-4	4.70E-4	5.55E-4	6.60E-4	7.91E-4	9.45E-4
55	639.58	1.17E-3	1.15E-3	1.11E-3	1.14E-3	1.25E-3	1.43E-3	55	1031.29	3.58E-4	3.99E-4	4.72E-4	5.64E-4	6.76E-4	8.10E-4
56	677.13	9.41E-4	8.84E-4	8.02E-4	7.80E-4	8.29E-4	9.42E-4	56	1100.57	3.04E-4	3.39E-4	4.02E-4	4.83E-4	5.79E-4	6.96E-4
57	716.80	7.51E-4	6.85E-4	5.82E-4	5.17E-4	5.21E-4	5.80E-4	57	1174.02	2.58E-4	2.92E-4	3.43E-4	4.15E-4	4.97E-4	5.98E-4
58	758.69	6.24E-4	5.42E-4	4.21E-4	3.34E-4	3.06E-4	3.25E-4	58	1251.81	2.21E-4	2.51E-4	2.93E-4	3.56E-4	4.27E-4	5.15E-4
59	802.91	5.34E-4	4.45E-4	3.14E-4	2.14E-4	1.66E-4	1.59E-4	59	1334.17	1.90E-4	2.16E-4	2.51E-4	3.06E-4	3.68E-4	4.45E-4
60	849.54	4.77E-4	3.85E-4	2.50E-4	1.43E-4	8.48E-5	6.28E-5	60	1421.31	1.65E-4	1.86E-4	2.16E-4	2.63E-4	3.18E-4	3.85E-4
61	898.73	4.42E-4	3.52E-4	2.19E-4	1.12E-4	5.11E-5	2.35E-5	61	1513.45	1.43E-4	1.60E-4	1.86E-4	2.27E-4	2.75E-4	3.34E-4
62	950.56	4.28E-4	3.42E-4	2.14E-4	1.12E-4	5.42E-5	2.86E-5	62	1610.82	1.24E-4	1.37E-4	1.60E-4	1.95E-4	2.38E-4	2.90E-4
63	1005.19	4.31E-4	3.49E-4	2.30E-4	1.36E-4	8.54E-5	6.80E-5	63	1713.68	1.07E-4	1.18E-4	1.39E-4	1.69E-4	2.06E-4	2.52E-4
64	1062.71	4.43E-4	3.67E-4	2.60E-4	1.77E-4	1.38E-4	1.33E-4	64	1822.26	9.27E-5	1.01E-4	1.20E-4	1.46E-4	1.79E-4	2.19E-4
65	1123.29	4.65E-4	3.95E-4	3.00E-4	2.30E-4	2.05E-4	2.17E-4	65	1936.85	8.01E-5	8.75E-5	1.05E-4	1.27E-4	1.56E-4	1.91E-4
66	1187.03	4.93E-4	4.29E-4	3.47E-4	2.92E-4	2.82E-4	3.13E-4	66	2057.71	6.91E-5	7.58E-5	9.09E-5	1.10E-4	1.35E-4	1.67E-4
67	1254.11	5.24E-4	4.65E-4	3.99E-4	3.58E-4	3.66E-4	4.18E-4	67	2185.12	5.98E-5	6.58E-5	7.92E-5	9.56E-5	1.18E-4	1.47E-4
68	1324.65	5.58E-4	5.04E-4	4.52E-4	4.27E-4	4.52E-4	5.27E-4	68	2319.40	5.18E-5	5.74E-5	6.90E-5	8.33E-5	1.03E-4	1.28E-4
69	1398.83	5.91E-4	5.44E-4	5.05E-4	4.96E-4	5.40E-4	6.38E-4	69	2460.85	4.52E-5	5.02E-5	6.02E-5	7.27E-5	9.02E-5	1.13E-4
70	1476.78	6.23E-4	5.82E-4	5.56E-4	5.64E-4	6.25E-4	7.47E-4	70	2609.76	3.95E-5	4.41E-5	5.25E-5	6.35E-5	7.90E-5	9.91E-5
71	1558.70	6.54E-4	6.20E-4	6.05E-4	6.29E-4	7.08E-4	8.53E-4	71	2766.52	3.47E-5	3.86E-5	4.59E-5	5.56E-5	6.93E-5	8.72E-5
72	1644.74	6.81E-4	6.56E-4	6.51E-4	6.90E-4	7.87E-4	9.55E-4	72	2931.45	3.05E-5	3.39E-5	4.01E-5	4.88E-5	6.08E-5	7.69E-5
73	1735.10	7.06E-4	6.89E-4	6.94E-4	7.47E-4	8.61E-4	1.05E-3	73	3104.92	2.68E-5	2.97E-5	3.50E-5	4.29E-5	5.35E-5	6.78E-5
74	1829.96	7.27E-4	7.19E-4	7.33E-4	7.99E-4	9.29E-4	1.14E-3	74	3287.31	2.35E-5	2.60E-5	3.07E-5	3.77E-5	4.71E-5	5.99E-5
75	1929.54	7.46E-4	7.48E-4	7.68E-4	8.47E-4	9.92E-4	1.22E-3	75	3479.03	2.06E-5	2.27E-5	2.69E-5	3.32E-5	4.15E-5	5.30E-5
76	2034.00	7.61E-4	7.72E-4	7.98E-4	8.89E-4	1.05E-3	1.30E-3	76	3680.47	1.80E-5	1.99E-5	2.36E-5	2.93E-5	3.67E-5	4.70E-5
77	2143.63	7.74E-4	7.94E-4	8.25E-4	9.26E-4	1.10E-3	1.37E-3	77	3892.11	1.58E-5	1.74E-5	2.08E-5	2.59E-5	3.24E-5	4.17E-5
78	2258.59	7.86E-4	8.13E-4	8.48E-4	9.58E-4	1.14E-3	1.43E-3	78	4114.37	1.39E-5	1.54E-5	1.84E-5	2.28E-5	2.87E-5	3.70E-5
79	2379.17	7.97E-4	8.28E-4	8.67E-4	9.84E-4	1.18E-3	1.48E-3	79	4347.75	1.23E-5	1.36E-5	1.62E-5	2.02E-5	2.54E-5	3.29E-5
80	2505.55	8.05E-4	8.39E-4	8.82E-4	1.01E-3	1.21E-3	1.53E-3	80	4592.70	1.09E-5	1.20E-5	1.44E-5	1.78E-5	2.26E-5	2.93E-5
81	2638.03	8.13E-4	8.47E-4	8.93E-4	1.02E-3	1.24E-3	1.57E-3	81	4849.76	9.64E-6	1.07E-5	1.27E-5	1.58E-5	2.01E-5	2.61E-5
82	2776.88	8.18E-4	8.51E-4	9.01E-4	1.04E-3	1.26E-3	1.60E-3	82	5119.51	8.52E-6	9.47E-6	1.13E-5	1.40E-5	1.78E-5	2.32E-5
83	2922.42	8.21E-4	8.52E-4	9.06E-4	1.04E-3	1.28E-3	1.63E-3	83	5402.52	7.52E-6	8.36E-6	1.00E-5	1.24E-5	1.59E-5	2.07E-5
84	3074.97	7.98E-4	8.39E-4	9.26E-4	1.05E-3	1.28E-3	1.64E-3	84	5699.44	6.70E-6	7.38E-6	8.81E-6	1.10E-5	1.42E-5	1.86E-5
85	3234.75	7.96E-4	8.33E-4	9.23E-4	1.06E-3	1.29E-3	1.66E-3	85	6010.80	5.98E-6	6.50E-6	7.85E-6	9.72E-6	1.26E-5	1.67E-5
86	3401.72	8.03E-4	8.31E-4	9.09E-4	1.05E-3	1.29E-3	1.67E-3	86	6336.85	5.31E-6	5.73E-6	6.99E-6	8.64E-6	1.12E-5	1.49E-5
87	3576.98	7.93E-4	8.25E-4	9.00E-4	1.05E-3	1.29E-3	1.67E-3	87	6679.12	4.71E-6	5.07E-6	6.23E-6	7.69E-6	1.00E-5	1.33E-5
88	3760.45	7.82E-4	8.17E-4	8.89E-4	1.04E-3	1.28E-3	1.67E-3	88	7037.85	4.16E-6	4.50E-6	5.56E-6	6.85E-6	8.95E-6	1.20E-5
89	3952.65	7.70E-4	8.06E-4	8.76E-4	1.03E-3	1.27E-3	1.66E-3	89	7413.98	3.68E-6	4.02E-6				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - F_1$								$B_1 - F_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	49.71	1.42E-2	1.40E-2	1.34E-2	1.33E-2	1.38E-2	1.48E-2	26	87.45	3.57E-1	4.00E-1	4.77E-1	5.57E-1	6.36E-1	7.12E-1
27	53.58	1.51E-2	1.54E-2	1.54E-2	1.59E-2	1.69E-2	1.83E-2	27	92.68	3.32E-1	3.71E-1	4.44E-1	5.18E-1	5.92E-1	6.63E-1
28	57.64	1.66E-2	1.72E-2	1.79E-2	1.90E-2	2.06E-2	2.25E-2	28	98.15	3.08E-1	3.45E-1	4.12E-1	4.81E-1	5.49E-1	6.16E-1
29	61.90	1.84E-2	1.95E-2	2.09E-2	2.27E-2	2.49E-2	2.74E-2	29	103.89	2.85E-1	3.19E-1	3.81E-1	4.45E-1	5.09E-1	5.72E-1
30	66.33	2.07E-2	2.22E-2	2.45E-2	2.70E-2	2.99E-2	3.30E-2	30	109.94	2.63E-1	2.95E-1	3.52E-1	4.12E-1	4.71E-1	5.29E-1
31	70.92	2.41E-2	2.50E-2	2.81E-2	3.18E-2	3.56E-2	3.95E-2	31	116.34	2.40E-1	2.78E-1	3.23E-1	3.77E-1	4.34E-1	4.89E-1
32	75.65	2.72E-2	2.85E-2	3.25E-2	3.71E-2	4.18E-2	4.65E-2	32	123.17	2.20E-1	2.55E-1	2.97E-1	3.46E-1	3.99E-1	4.50E-1
33	80.49	3.05E-2	3.23E-2	3.73E-2	4.29E-2	4.85E-2	5.41E-2	33	130.46	2.00E-1	2.33E-1	2.72E-1	3.18E-1	3.66E-1	4.13E-1
34	85.43	3.40E-2	3.62E-2	4.22E-2	4.88E-2	5.55E-2	6.20E-2	34	138.28	1.82E-1	2.12E-1	2.49E-1	2.90E-1	3.35E-1	3.79E-1
35	90.42	3.72E-2	4.03E-2	4.71E-2	5.48E-2	6.24E-2	6.99E-2	35	146.71	1.65E-1	1.94E-1	2.27E-1	2.65E-1	3.05E-1	3.46E-1
36	95.46	4.09E-2	4.40E-2	5.19E-2	6.05E-2	6.91E-2	7.76E-2	36	155.81	1.50E-1	1.77E-1	2.06E-1	2.40E-1	2.78E-1	3.15E-1
37	100.52	4.27E-2	4.77E-2	5.63E-2	6.57E-2	7.52E-2	8.47E-2	37	165.63	1.42E-1	1.60E-1	1.86E-1	2.18E-1	2.52E-1	2.87E-1
38	105.58	4.51E-2	5.08E-2	6.01E-2	7.04E-2	8.07E-2	9.10E-2	38	176.25	1.27E-1	1.45E-1	1.69E-1	1.98E-1	2.29E-1	2.61E-1
39	110.64	4.85E-2	5.33E-2	6.33E-2	7.43E-2	8.53E-2	9.64E-2	39	187.72	1.12E-1	1.31E-1	1.54E-1	1.79E-1	2.08E-1	2.37E-1
40	115.67	5.05E-2	5.52E-2	6.58E-2	7.74E-2	8.90E-2	1.01E-1	40	200.10	1.03E-1	1.18E-1	1.40E-1	1.63E-1	1.89E-1	2.16E-1
41	120.69	5.11E-2	5.69E-2	6.77E-2	7.97E-2	9.18E-2	1.04E-1	41	213.45	9.25E-2	1.07E-1	1.27E-1	1.48E-1	1.72E-1	1.97E-1
42	125.69	5.12E-2	5.79E-2	6.90E-2	8.13E-2	9.38E-2	1.07E-1	42	227.82	8.72E-2	9.63E-2	1.15E-1	1.35E-1	1.57E-1	1.80E-1
43	130.67	5.27E-2	5.82E-2	6.97E-2	8.22E-2	9.50E-2	1.08E-1	43	243.27	7.64E-2	8.96E-2	1.05E-1	1.23E-1	1.43E-1	1.65E-1
44	135.64	5.32E-2	5.81E-2	6.98E-2	8.25E-2	9.54E-2	1.09E-1	44	259.85	6.99E-2	8.25E-2	9.65E-2	1.13E-1	1.31E-1	1.51E-1
45	140.60	5.27E-2	5.80E-2	6.96E-2	8.24E-2	9.54E-2	1.09E-1	45	277.62	6.42E-2	7.55E-2	8.87E-2	1.04E-1	1.21E-1	1.39E-1
46	145.55	5.20E-2	5.74E-2	6.90E-2	8.17E-2	9.48E-2	1.09E-1	46	296.65	6.16E-2	6.82E-2	8.17E-2	9.55E-2	1.11E-1	1.29E-1
47	150.51	5.11E-2	5.54E-2	6.79E-2	8.08E-2	9.38E-2	1.08E-1	47	316.99	5.61E-2	6.45E-2	7.56E-2	8.81E-2	1.03E-1	1.19E-1
48	155.48	4.81E-2	5.57E-2	6.73E-2	7.96E-2	9.25E-2	1.06E-1	48	338.70	5.16E-2	5.86E-2	6.93E-2	8.18E-2	9.56E-2	1.11E-1
49	160.46	4.91E-2	5.46E-2	6.59E-2	7.82E-2	9.10E-2	1.05E-1	49	361.86	4.90E-2	5.40E-2	6.48E-2	7.60E-2	8.89E-2	1.04E-1
50	165.46	4.81E-2	5.33E-2	6.44E-2	7.66E-2	8.93E-2	1.03E-1	50	386.54	4.60E-2	5.02E-2	6.04E-2	7.08E-2	8.29E-2	9.69E-2
51	170.49	4.61E-2	5.22E-2	6.30E-2	7.49E-2	8.74E-2	1.01E-1	51	412.81	4.25E-2	4.74E-2	5.64E-2	6.61E-2	7.76E-2	9.09E-2
52	175.54	4.47E-2	5.09E-2	6.15E-2	7.31E-2	8.55E-2	9.92E-2	52	440.74	3.92E-2	4.43E-2	5.24E-2	6.20E-2	7.28E-2	8.55E-2
53	180.65	4.39E-2	4.95E-2	5.99E-2	7.13E-2	8.35E-2	9.71E-2	53	470.43	3.78E-2	4.12E-2	4.93E-2	5.81E-2	6.84E-2	8.05E-2
54	185.78	4.29E-2	4.81E-2	5.83E-2	6.95E-2	8.14E-2	9.50E-2	54	501.95	3.48E-2	3.89E-2	4.62E-2	5.47E-2	6.44E-2	7.61E-2
55	190.96	4.12E-2	4.67E-2	5.67E-2	6.76E-2	7.94E-2	9.28E-2	55	535.40	3.26E-2	3.69E-2	4.34E-2	5.15E-2	6.08E-2	7.20E-2
56	196.18	4.03E-2	4.54E-2	5.51E-2	6.58E-2	7.73E-2	9.06E-2	56	570.86	3.12E-2	3.48E-2	4.09E-2	4.86E-2	5.75E-2	6.82E-2
57	201.47	3.64E-2	4.25E-2	5.34E-2	6.41E-2	7.54E-2	8.85E-2	57	608.43	2.86E-2	3.33E-2	3.88E-2	4.56E-2	5.42E-2	6.47E-2
58	206.81	3.53E-2	4.13E-2	5.18E-2	6.23E-2	7.34E-2	8.64E-2	58	648.21	2.71E-2	3.15E-2	3.67E-2	4.32E-2	5.15E-2	6.16E-2
59	212.22	3.43E-2	4.00E-2	5.03E-2	6.05E-2	7.14E-2	8.43E-2	59	690.31	2.58E-2	2.97E-2	3.49E-2	4.10E-2	4.89E-2	5.87E-2
60	217.68	3.32E-2	3.88E-2	4.88E-2	5.87E-2	6.95E-2	8.22E-2	60	734.82	2.46E-2	2.81E-2	3.31E-2	3.89E-2	4.65E-2	5.60E-2
61	223.22	3.22E-2	3.76E-2	4.73E-2	5.70E-2	6.75E-2	8.01E-2	61	781.88	2.35E-2	2.66E-2	3.15E-2	3.70E-2	4.43E-2	5.34E-2
62	228.82	3.12E-2	3.65E-2	4.59E-2	5.53E-2	6.57E-2	7.81E-2	62	831.57	2.25E-2	2.52E-2	3.00E-2	3.53E-2	4.22E-2	5.11E-2
63	234.51	3.02E-2	3.53E-2	4.45E-2	5.37E-2	6.39E-2	7.61E-2	63	884.04	2.16E-2	2.39E-2	2.85E-2	3.36E-2	4.03E-2	4.90E-2
64	240.27	2.93E-2	3.43E-2	4.32E-2	5.21E-2	6.21E-2	7.42E-2	64	939.40	2.07E-2	2.27E-2	2.72E-2	3.21E-2	3.86E-2	4.69E-2
65	246.12	2.84E-2	3.32E-2	4.18E-2	5.06E-2	6.04E-2	7.24E-2	65	997.81	1.99E-2	2.16E-2	2.59E-2	3.07E-2	3.69E-2	4.50E-2
66	252.05	2.75E-2	3.22E-2	4.06E-2	4.91E-2	5.87E-2	7.06E-2	66	1059.38	1.91E-2	2.05E-2	2.48E-2	2.93E-2	3.53E-2	4.32E-2
67	258.07	2.67E-2	3.12E-2	3.93E-2	4.76E-2	5.71E-2	6.88E-2	67	1124.26	1.83E-2	1.96E-2	2.36E-2	2.81E-2	3.39E-2	4.16E-2
68	264.19	2.59E-2	3.02E-2	3.81E-2	4.62E-2	5.55E-2	6.71E-2	68	1192.61	1.75E-2	1.87E-2	2.26E-2	2.69E-2	3.25E-2	4.00E-2
69	270.41	2.51E-2	2.93E-2	3.70E-2	4.49E-2	5.40E-2	6.54E-2	69	1264.58	1.68E-2	1.79E-2	2.16E-2	2.58E-2	3.12E-2	3.85E-2
70	276.71	2.43E-2	2.84E-2	3.58E-2	4.36E-2	5.25E-2	6.38E-2	70	1340.31	1.61E-2	1.72E-2	2.06E-2	2.47E-2	3.00E-2	3.71E-2
71	283.13	2.36E-2	2.75E-2	3.48E-2	4.23E-2	5.10E-2	6.23E-2	71	1420.00	1.53E-2	1.65E-2	1.97E-2	2.37E-2	2.88E-2	3.58E-2
72	289.64	2.29E-2	2.67E-2	3.37E-2	4.11E-2	4.96E-2	6.07E-2	72	1503.80	1.46E-2	1.58E-2	1.89E-2	2.28E-2	2.77E-2	3.45E-2
73	296.27	2.22E-2	2.59E-2	3.27E-2	3.99E-2	4.83E-2	5.93E-2	73	1591.91	1.40E-2	1.52E-2	1.81E-2	2.19E-2	2.67E-2	3.33E-2
74	303.01	2.15E-2	2.51E-2	3.17E-2	3.87E-2	4.70E-2	5.78E-2	74	1684.51	1.34E-2	1.47E-2	1.73E-2	2.10E-2	2.57E-2	3.22E-2
75	309.86	2.09E-2	2.43E-2	3.07E-2	3.76E-2	4.57E-2	5.64E-2	75	1781.82	1.28E-2	1.41E-2	1.66E-2	2.02E-2	2.48E-2	3.11E-2
76	316.81	2.02E-2	2.36E-2	2.98E-2	3.65E-2	4.45E-2	5.51E-2	76	1884.00	1.22E-2	1.36E-2	1.59E-2	1.94E-2	2.39E-2	3.01E-2
77	323.90	1.96E-2	2.28E-2	2.89E-2	3.54E-2	4.33E-2	5.38E-2	77	1991.33	1.17E-2	1.32E-2	1.53E-2	1.87E-2	2.31E-2	2.91E-2
78	331.10	1.89E-2	2.21E-2	2.80E-2	3.44E-2	4.21E-2	5.25E-2	78	2104.00	1.13E-2	1.27E-2	1.47E-2	1.80E-2	2.22E-2	2.82E-2
79	338.44	1.84E-2	2.15E-2	2.72E-2	3.34E-2	4.10E-2	5.13E-2	79	2222.26	1.09E-2	1.22E-2	1.41E-2	1.73E-2	2.15E-2	2.73E-2
80	345.86	1.78E-2	2.08E-2	2.64E-2	3.25E-2	3.99E-2	5.01E-2	80	2346.32	1.05E-2	1.18E-2	1.36E-2	1.67E-2	2.07E-2	2.65E-2
81	353.40	1.73E-2	2.02E-2	2.56E-2	3.15E-2	3.89E-2	4.89E-2	81	2476.46	1.01E-2	1.14E-2	1.31E-2	1.60E-2	2.00E-2	2.57E-2
82	361.08	1.68E-2	1.96E-2	2.48E-2	3.06E-2	3.78E-2	4.77E-2	82	2612.97	9.82E-3	1.09E-2	1.26E-2	1.55E-2	1.94E-2	2.49E-2
83	368.90	1.63E-2	1.90E-2	2.41E-2	2.98E-2	3.68E-2	4.66E-2	83	2756.15	9.51E-3	1.05E-2	1.21E-2	1.49E-2	1.87E-2	2.41E-2
84	376.89	1.46E-2	1.86E-2	2.37E-2	2.91E-2	3.60E-2	4.57E-2	84	2906.33	8.83E-3	1.00E-2	1.20E-2	1.44E-2	1.80E-2	2.33E-2
85	384.99	1.42E-2	1.80E-2	2.30E-2	2.83E-2	3.51E-2	4.46E-2	85	3063.73	8.55E-3	9.59E-3	1.15E-2	1.39E-2	1.74E-2	2.26E-2
86	392.83	1.38E-2	1.75E-2	2.23E-2	2.75E-2	3.42E-2	4.36E-2	86	3228.31	8.29E-3	9.22E-3	1.11E-2	1.34E-2	1.69E-2	2.20E-2
87	401.13	1.34E-2	1.69E-2	2.16E-2	2.67E-2	3.33E-2	4.26E-2	87	3401.18	8.05E-3	8.86E-3	1.07E-2	1.30E-2	1.63E-2	2.13E-2
88	409.45	1.30E-2	1.64E-2	2.10E-2	2.60E-2	3.24E-2	4.16E-2	88	3582.23	7.81E-3	8.52E-3	1.03E-2	1.25E-2	1.58E-2	2.07E-2
89	417.95	1.26E-2	1.59E-2	2.04E-2	2.52E-2	3.15E-2	4.06E-2	89	3772.02	7.59E-3	8.21E-3	9.92E-3	1.21E-2	1.53E-2	2.01E-2

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - F_3$								$B_1 - F_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	107.94	8.98E-3	9.74E-3	1.09E-2	1.25E-2	1.41E-2	1.58E-2	26	132.44	6.42E-3	6.32E-3	6.22E-3	6.35E-3	6.81E-3	7.44E-3
27	115.58	5.23E-3	5.56E-3	6.07E-3	6.80E-3	7.61E-3	8.48E-3	27	140.89	6.33E-3	6.32E-3	6.38E-3	6.66E-3	7.23E-3	7.96E-3
28	123.69	2.84E-3	2.89E-3	2.98E-3	3.19E-3	3.49E-3	3.85E-3	28	149.90	6.19E-3	6.27E-3	6.46E-3	6.86E-3	7.52E-3	8.32E-3
29	132.31	1.49E-3	1.39E-3	1.23E-3	1.15E-3	1.16E-3	1.24E-3	29	159.55	6.00E-3	6.13E-3	6.43E-3	6.92E-3	7.64E-3	8.49E-3
30	141.43	9.10E-4	7.45E-4	4.96E-4	2.99E-4	1.91E-4	1.49E-4	30	169.93	5.72E-3	5.90E-3	6.27E-3	6.82E-3	7.58E-3	8.45E-3
31	151.08	8.88E-4	7.33E-4	4.96E-4	3.08E-4	2.06E-4	1.68E-4	31	181.14	5.41E-3	5.52E-3	6.02E-3	6.56E-3	7.30E-3	8.18E-3
32	161.26	1.25E-3	1.17E-3	1.02E-3	9.20E-4	9.16E-4	9.74E-4	32	193.28	4.97E-3	5.10E-3	5.61E-3	6.15E-3	6.88E-3	7.72E-3
33	171.99	1.87E-3	1.89E-3	1.88E-3	1.93E-3	2.09E-3	2.30E-3	33	206.45	4.48E-3	4.61E-3	5.10E-3	5.63E-3	6.32E-3	7.11E-3
34	183.28	2.63E-3	2.78E-3	2.94E-3	3.17E-3	3.52E-3	3.94E-3	34	220.76	3.97E-3	4.08E-3	4.54E-3	5.04E-3	5.66E-3	6.38E-3
35	195.16	3.52E-3	3.69E-3	4.08E-3	4.51E-3	5.07E-3	5.71E-3	35	236.31	3.45E-3	3.55E-3	3.97E-3	4.41E-3	4.97E-3	5.62E-3
36	207.65	4.37E-3	4.62E-3	5.21E-3	5.84E-3	6.62E-3	7.49E-3	36	253.19	2.96E-3	3.04E-3	3.41E-3	3.80E-3	4.29E-3	4.86E-3
37	220.79	5.16E-3	5.49E-3	6.29E-3	7.10E-3	8.09E-3	9.18E-3	37	271.52	2.48E-3	2.59E-3	2.90E-3	3.23E-3	3.65E-3	4.14E-3
38	234.64	5.90E-3	6.28E-3	7.25E-3	8.25E-3	9.43E-3	1.07E-2	38	291.38	2.10E-3	2.16E-3	2.43E-3	2.72E-3	3.08E-3	3.50E-3
39	249.24	6.40E-3	7.00E-3	8.08E-3	9.26E-3	1.06E-2	1.21E-2	39	312.88	1.73E-3	1.80E-3	2.02E-3	2.27E-3	2.58E-3	2.93E-3
40	264.64	6.88E-3	7.61E-3	8.83E-3	1.01E-2	1.16E-2	1.33E-2	40	336.10	1.42E-3	1.51E-3	1.67E-3	1.89E-3	2.15E-3	2.45E-3
41	280.90	7.30E-3	8.10E-3	9.39E-3	1.09E-2	1.25E-2	1.43E-2	41	361.16	1.18E-3	1.25E-3	1.39E-3	1.57E-3	1.78E-3	2.04E-3
42	298.09	7.83E-3	8.41E-3	9.92E-3	1.14E-2	1.32E-2	1.52E-2	42	388.15	9.95E-4	1.03E-3	1.16E-3	1.30E-3	1.48E-3	1.70E-3
43	316.26	7.88E-3	8.80E-3	1.02E-2	1.19E-2	1.38E-2	1.59E-2	43	417.19	8.12E-4	8.60E-4	9.55E-4	1.08E-3	1.23E-3	1.42E-3
44	335.49	8.09E-3	9.02E-3	1.05E-2	1.23E-2	1.42E-2	1.64E-2	44	448.39	6.78E-4	7.14E-4	7.94E-4	8.97E-4	1.03E-3	1.18E-3
45	355.83	8.19E-3	9.21E-3	1.07E-2	1.26E-2	1.46E-2	1.68E-2	45	481.86	5.62E-4	5.97E-4	6.59E-4	7.47E-4	8.55E-4	9.86E-4
46	377.35	8.50E-3	9.25E-3	1.09E-2	1.27E-2	1.48E-2	1.71E-2	46	517.73	4.71E-4	5.03E-4	5.47E-4	6.23E-4	7.15E-4	8.26E-4
47	400.13	8.49E-3	9.67E-3	1.11E-2	1.28E-2	1.49E-2	1.74E-2	47	556.13	4.00E-4	4.34E-4	4.70E-4	5.20E-4	5.97E-4	6.93E-4
48	424.24	8.36E-3	9.33E-3	1.10E-2	1.29E-2	1.50E-2	1.75E-2	48	597.20	3.31E-4	3.49E-4	3.87E-4	4.38E-4	5.03E-4	5.84E-4
49	449.74	8.54E-3	9.22E-3	1.10E-2	1.29E-2	1.50E-2	1.75E-2	49	641.07	2.81E-4	2.95E-4	3.22E-4	3.67E-4	4.24E-4	4.94E-4
50	476.73	8.51E-3	9.17E-3	1.09E-2	1.28E-2	1.50E-2	1.75E-2	50	687.88	2.37E-4	2.49E-4	2.72E-4	3.10E-4	3.58E-4	4.18E-4
51	505.27	8.30E-3	9.19E-3	1.07E-2	1.27E-2	1.49E-2	1.75E-2	51	737.79	2.01E-4	2.11E-4	2.30E-4	2.62E-4	3.04E-4	3.55E-4
52	535.45	8.06E-3	9.04E-3	1.06E-2	1.26E-2	1.48E-2	1.74E-2	52	790.96	1.69E-4	1.77E-4	1.96E-4	2.21E-4	2.58E-4	3.02E-4
53	567.36	8.02E-3	8.98E-3	1.04E-2	1.24E-2	1.46E-2	1.72E-2	53	847.56	1.44E-4	1.51E-4	1.67E-4	1.88E-4	2.19E-4	2.58E-4
54	601.07	7.92E-3	8.77E-3	1.03E-2	1.22E-2	1.44E-2	1.71E-2	54	907.75	1.24E-4	1.30E-4	1.42E-4	1.60E-4	1.87E-4	2.21E-4
55	636.70	7.64E-3	8.64E-3	1.01E-2	1.20E-2	1.42E-2	1.69E-2	55	971.70	1.05E-4	1.10E-4	1.21E-4	1.37E-4	1.60E-4	1.90E-4
56	674.32	7.58E-3	8.51E-3	9.89E-3	1.18E-2	1.40E-2	1.66E-2	56	1039.61	8.98E-5	9.42E-5	1.03E-4	1.17E-4	1.37E-4	1.63E-4
57	714.04	7.20E-3	8.33E-3	9.81E-3	1.15E-2	1.37E-2	1.63E-2	57	1111.67	7.70E-5	8.11E-5	8.86E-5	1.01E-4	1.18E-4	1.40E-4
58	755.96	7.07E-3	8.11E-3	9.60E-3	1.13E-2	1.34E-2	1.61E-2	58	1188.07	6.63E-5	7.00E-5	7.60E-5	8.72E-5	1.02E-4	1.21E-4
59	800.19	6.94E-3	7.89E-3	9.39E-3	1.10E-2	1.32E-2	1.58E-2	59	1269.04	5.73E-5	6.04E-5	6.54E-5	7.51E-5	8.80E-5	1.05E-4
60	846.82	6.81E-3	7.68E-3	9.17E-3	1.08E-2	1.29E-2	1.55E-2	60	1354.76	4.96E-5	5.22E-5	5.64E-5	6.48E-5	7.61E-5	9.13E-5
61	896.00	6.68E-3	7.46E-3	8.94E-3	1.05E-2	1.26E-2	1.52E-2	61	1445.48	4.31E-5	4.51E-5	4.87E-5	5.61E-5	6.60E-5	7.94E-5
62	947.80	6.56E-3	7.24E-3	8.71E-3	1.03E-2	1.23E-2	1.49E-2	62	1541.42	3.75E-5	3.90E-5	4.22E-5	4.85E-5	5.73E-5	6.91E-5
63	1002.39	6.43E-3	7.04E-3	8.48E-3	1.00E-2	1.20E-2	1.46E-2	63	1642.84	3.26E-5	3.38E-5	3.67E-5	4.21E-5	4.99E-5	6.03E-5
64	1059.86	6.30E-3	6.83E-3	8.26E-3	9.79E-3	1.18E-2	1.43E-2	64	1749.96	2.84E-5	2.92E-5	3.19E-5	3.66E-5	4.34E-5	5.27E-5
65	1120.37	6.16E-3	6.64E-3	8.02E-3	9.55E-3	1.15E-2	1.40E-2	65	1863.09	2.47E-5	2.54E-5	2.78E-5	3.18E-5	3.79E-5	4.61E-5
66	1184.05	6.01E-3	6.45E-3	7.80E-3	9.30E-3	1.12E-2	1.38E-2	66	1982.47	2.14E-5	2.21E-5	2.43E-5	2.77E-5	3.31E-5	4.05E-5
67	1251.04	5.86E-3	6.26E-3	7.57E-3	9.06E-3	1.09E-2	1.35E-2	67	2108.39	1.87E-5	1.93E-5	2.12E-5	2.42E-5	2.90E-5	3.55E-5
68	1321.50	5.71E-3	6.09E-3	7.35E-3	8.82E-3	1.07E-2	1.32E-2	68	2241.16	1.63E-5	1.69E-5	1.86E-5	2.11E-5	2.54E-5	3.12E-5
69	1395.58	5.54E-3	5.92E-3	7.13E-3	8.58E-3	1.04E-2	1.29E-2	69	2381.09	1.43E-5	1.49E-5	1.63E-5	1.85E-5	2.22E-5	2.75E-5
70	1473.43	5.37E-3	5.75E-3	6.92E-3	8.35E-3	1.02E-2	1.26E-2	70	2528.47	1.26E-5	1.31E-5	1.43E-5	1.62E-5	1.95E-5	2.42E-5
71	1555.24	5.20E-3	5.60E-3	6.71E-3	8.12E-3	9.90E-3	1.23E-2	71	2683.68	1.11E-5	1.15E-5	1.25E-5	1.42E-5	1.72E-5	2.14E-5
72	1641.16	5.02E-3	5.45E-3	6.50E-3	7.89E-3	9.65E-3	1.20E-2	72	2847.03	9.80E-6	1.01E-5	1.10E-5	1.25E-5	1.51E-5	1.89E-5
73	1731.40	4.85E-3	5.30E-3	6.30E-3	7.67E-3	9.40E-3	1.18E-2	73	3018.92	8.64E-6	8.93E-6	9.62E-6	1.10E-5	1.33E-5	1.67E-5
74	1826.14	4.68E-3	5.15E-3	6.11E-3	7.45E-3	9.16E-3	1.15E-2	74	3199.72	7.61E-6	7.85E-6	8.45E-6	9.72E-6	1.17E-5	1.47E-5
75	1925.59	4.52E-3	5.02E-3	5.93E-3	7.24E-3	8.93E-3	1.12E-2	75	3389.82	6.70E-6	6.90E-6	7.44E-6	8.58E-6	1.04E-5	1.31E-5
76	2029.92	4.36E-3	4.88E-3	5.75E-3	7.03E-3	8.70E-3	1.10E-2	76	3589.62	5.91E-6	6.07E-6	6.56E-6	7.57E-6	9.16E-6	1.16E-5
77	2139.40	4.21E-3	4.75E-3	5.57E-3	6.83E-3	8.47E-3	1.07E-2	77	3799.61	5.22E-6	5.35E-6	5.79E-6	6.69E-6	8.11E-6	1.03E-5
78	2254.23	4.09E-3	4.62E-3	5.40E-3	6.63E-3	8.25E-3	1.05E-2	78	4020.19	4.62E-6	4.73E-6	5.12E-6	5.91E-6	7.18E-6	9.12E-6
79	2374.66	3.97E-3	4.50E-3	5.24E-3	6.44E-3	8.04E-3	1.02E-2	79	4251.88	4.10E-6	4.20E-6	4.53E-6	5.23E-6	6.37E-6	8.11E-6
80	2500.90	3.86E-3	4.37E-3	5.09E-3	6.26E-3	7.83E-3	1.00E-2	80	4495.11	3.64E-6	3.73E-6	4.02E-6	4.63E-6	5.65E-6	7.21E-6
81	2633.23	3.76E-3	4.24E-3	4.93E-3	6.07E-3	7.62E-3	9.78E-3	81	4750.43	3.24E-6	3.32E-6	3.57E-6	4.10E-6	5.02E-6	6.42E-6
82	2771.94	3.67E-3	4.11E-3	4.79E-3	5.90E-3	7.42E-3	9.56E-3	82	5018.42	2.87E-6	2.95E-6	3.17E-6	3.63E-6	4.46E-6	5.72E-6
83	2917.33	3.58E-3	3.99E-3	4.64E-3	5.73E-3	7.22E-3	9.34E-3	83	5299.66	2.55E-6	2.62E-6	2.81E-6	3.22E-6	3.97E-6	5.10E-6
84	3069.72	3.36E-3	3.80E-3	4.60E-3	5.59E-3	7.00E-3	9.09E-3	84	5594.76	2.28E-6	2.32E-6	2.48E-6	2.85E-6	3.53E-6	4.57E-6
85	3229.35	3.27E-3	3.67E-3	4.46E-3	5.43E-3	6.83E-3	8.88E-3	85	5904.29	2.03E-6	2.05E-6	2.21E-6	2.53E-6	3.14E-6	4.08E-6
86	3396.17	3.19E-3	3.56E-3	4.32E-3	5.28E-3	6.65E-3	8.68E-3	86	6228.49	1.81E-6	1.82E-6	1.97E-6	2.24E-6	2.80E-6	3.64E-6
87	3571.29	3.14E-3	3.48E-3	4.14E-3	5.13E-3	6.49E-3	8.49E-3	87	6568.89	1.62E-6	1.61E-6	1.76E-6	1.99E-6	2.49E-6	3.25E-6
88	3754.60	3.04E-3	3.38E-3	4.01E-3	4.98E-3	6.32E-3	8.30E-3	88	6925.71	1.44E-6	1.44E-6	1.57E-6	1.77E-6	2.22E-6	2.91E-6
89	3946.66	2.95E-3	3.29E-3	3.88E-3	4.84E-3	6.16E-3	8.11E-3	89	7299.91	1.28E-6	1.28E-6				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$B_1 - G_1$								$C_1 - D_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	90.72	2.44E-3	1.96E-3	1.23E-3	6.31E-4	2.82E-4	1.22E-4	26	99.11	1.09E-3	8.68E-4	5.37E-4	2.72E-4	1.20E-4	5.13E-5
27	96.83	2.21E-3	1.78E-3	1.12E-3	5.72E-4	2.56E-4	1.11E-4	27	105.35	1.03E-3	8.24E-4	5.11E-4	2.59E-4	1.14E-4	4.87E-5
28	103.31	2.02E-3	1.63E-3	1.02E-3	5.22E-4	2.33E-4	1.01E-4	28	111.96	9.80E-4	7.83E-4	4.85E-4	2.45E-4	1.08E-4	4.62E-5
29	110.18	1.86E-3	1.49E-3	9.33E-4	4.77E-4	2.14E-4	9.24E-5	29	118.99	9.30E-4	7.42E-4	4.59E-4	2.32E-4	1.02E-4	4.37E-5
30	117.48	1.72E-3	1.38E-3	8.57E-4	4.38E-4	1.96E-4	8.48E-5	30	126.48	8.87E-4	7.05E-4	4.34E-4	2.19E-4	9.66E-5	4.13E-5
31	125.24	1.58E-3	1.27E-3	7.90E-4	4.04E-4	1.80E-4	7.81E-5	31	134.46	8.33E-4	6.64E-4	4.10E-4	2.07E-4	9.14E-5	3.90E-5
32	133.50	1.46E-3	1.17E-3	7.31E-4	3.73E-4	1.67E-4	7.21E-5	32	142.96	7.88E-4	6.28E-4	3.87E-4	1.96E-4	8.62E-5	3.68E-5
33	142.29	1.36E-3	1.09E-3	6.78E-4	3.46E-4	1.55E-4	6.68E-5	33	152.02	7.45E-4	5.93E-4	3.66E-4	1.85E-4	8.14E-5	3.47E-5
34	151.66	1.27E-3	1.02E-3	6.31E-4	3.22E-4	1.44E-4	6.21E-5	34	161.68	7.08E-4	5.62E-4	3.46E-4	1.74E-4	7.69E-5	3.28E-5
35	161.64	1.19E-3	9.49E-4	5.89E-4	3.00E-4	1.34E-4	5.78E-5	35	171.99	6.70E-4	5.32E-4	3.27E-4	1.65E-4	7.27E-5	3.10E-5
36	172.28	1.11E-3	8.85E-4	5.50E-4	2.80E-4	1.25E-4	5.40E-5	36	182.98	6.31E-4	5.01E-4	3.09E-4	1.56E-4	6.88E-5	2.94E-5
37	183.63	1.04E-3	8.31E-4	5.15E-4	2.62E-4	1.17E-4	5.05E-5	37	194.70	6.01E-4	4.76E-4	2.93E-4	1.48E-4	6.51E-5	2.78E-5
38	195.73	9.79E-4	7.81E-4	4.84E-4	2.46E-4	1.10E-4	4.74E-5	38	207.20	5.70E-4	4.52E-4	2.78E-4	1.40E-4	6.18E-5	2.64E-5
39	208.62	9.18E-4	7.32E-4	4.54E-4	2.31E-4	1.03E-4	4.45E-5	39	220.52	5.39E-4	4.28E-4	2.64E-4	1.33E-4	5.86E-5	2.50E-5
40	222.37	8.65E-4	6.90E-4	4.28E-4	2.18E-4	9.72E-5	4.19E-5	40	234.71	5.12E-4	4.07E-4	2.50E-4	1.26E-4	5.57E-5	2.38E-5
41	237.02	8.21E-4	6.53E-4	4.04E-4	2.06E-4	9.16E-5	3.95E-5	41	249.84	4.90E-4	3.88E-4	2.38E-4	1.20E-4	5.30E-5	2.27E-5
42	252.62	7.73E-4	6.16E-4	3.82E-4	1.95E-4	8.66E-5	3.74E-5	42	265.94	4.65E-4	3.69E-4	2.27E-4	1.15E-4	5.06E-5	2.16E-5
43	269.24	7.32E-4	5.84E-4	3.62E-4	1.84E-4	8.20E-5	3.54E-5	43	283.08	4.43E-4	3.52E-4	2.17E-4	1.09E-4	4.83E-5	2.06E-5
44	286.93	6.99E-4	5.56E-4	3.43E-4	1.75E-4	7.78E-5	3.36E-5	44	301.32	4.25E-4	3.37E-4	2.07E-4	1.05E-4	4.61E-5	1.97E-5
45	305.75	6.63E-4	5.27E-4	3.26E-4	1.66E-4	7.38E-5	3.18E-5	45	320.72	4.06E-4	3.22E-4	1.98E-4	9.98E-5	4.41E-5	1.88E-5
46	325.78	6.28E-4	5.00E-4	3.10E-4	1.58E-4	7.02E-5	3.03E-5	46	341.34	3.87E-4	3.07E-4	1.89E-4	9.56E-5	4.22E-5	1.81E-5
47	347.07	6.02E-4	4.78E-4	2.95E-4	1.50E-4	6.68E-5	2.88E-5	47	363.25	3.73E-4	2.95E-4	1.81E-4	9.16E-5	4.05E-5	1.73E-5
48	369.69	5.71E-4	4.54E-4	2.82E-4	1.43E-4	6.38E-5	2.75E-5	48	386.52	3.56E-4	2.82E-4	1.74E-4	8.79E-5	3.89E-5	1.66E-5
49	393.71	5.45E-4	4.34E-4	2.69E-4	1.37E-4	6.09E-5	2.62E-5	49	411.22	3.42E-4	2.71E-4	1.67E-4	8.44E-5	3.73E-5	1.60E-5
50	419.22	5.24E-4	4.16E-4	2.57E-4	1.31E-4	5.82E-5	2.51E-5	50	437.43	3.30E-4	2.62E-4	1.61E-4	8.13E-5	3.59E-5	1.54E-5
51	446.28	5.00E-4	3.97E-4	2.46E-4	1.25E-4	5.57E-5	2.40E-5	51	465.22	3.17E-4	2.51E-4	1.54E-4	7.82E-5	3.45E-5	1.48E-5
52	474.98	4.80E-4	3.81E-4	2.36E-4	1.20E-4	5.34E-5	2.29E-5	52	494.68	3.05E-4	2.42E-4	1.49E-4	7.52E-5	3.33E-5	1.42E-5
53	505.40	4.58E-4	3.65E-4	2.26E-4	1.15E-4	5.12E-5	2.20E-5	53	525.89	2.93E-4	2.32E-4	1.43E-4	7.25E-5	3.21E-5	1.37E-5
54	537.62	4.42E-4	3.51E-4	2.17E-4	1.10E-4	4.92E-5	2.11E-5	54	558.92	2.83E-4	2.24E-4	1.38E-4	6.99E-5	3.10E-5	1.32E-5
55	571.75	4.25E-4	3.37E-4	2.09E-4	1.06E-4	4.72E-5	2.03E-5	55	593.89	2.73E-4	2.17E-4	1.33E-4	6.74E-5	2.99E-5	1.28E-5
56	607.86	4.08E-4	3.24E-4	2.00E-4	1.02E-4	4.55E-5	1.95E-5	56	630.88	2.64E-4	2.09E-4	1.29E-4	6.52E-5	2.89E-5	1.24E-5
57	646.06	3.91E-4	3.11E-4	1.93E-4	9.82E-5	4.37E-5	1.88E-5	57	669.98	2.54E-4	2.01E-4	1.24E-4	6.31E-5	2.79E-5	1.20E-5
58	686.45	3.77E-4	3.00E-4	1.86E-4	9.47E-5	4.21E-5	1.82E-5	58	711.31	2.46E-4	1.95E-4	1.20E-4	6.11E-5	2.70E-5	1.16E-5
59	729.13	3.63E-4	2.89E-4	1.79E-4	9.13E-5	4.07E-5	1.75E-5	59	754.96	2.37E-4	1.89E-4	1.16E-4	5.91E-5	2.62E-5	1.12E-5
60	774.21	3.51E-4	2.79E-4	1.73E-4	8.81E-5	3.92E-5	1.69E-5	60	801.04	2.30E-4	1.83E-4	1.13E-4	5.73E-5	2.54E-5	1.09E-5
61	821.81	3.38E-4	2.69E-4	1.67E-4	8.52E-5	3.79E-5	1.63E-5	61	849.68	2.22E-4	1.77E-4	1.09E-4	5.56E-5	2.46E-5	1.06E-5
62	872.03	3.27E-4	2.60E-4	1.61E-4	8.24E-5	3.67E-5	1.58E-5	62	900.97	2.16E-4	1.71E-4	1.06E-4	5.39E-5	2.39E-5	1.03E-5
63	925.01	3.17E-4	2.52E-4	1.56E-4	7.97E-5	3.55E-5	1.53E-5	63	955.06	2.09E-4	1.67E-4	1.03E-4	5.23E-5	2.32E-5	9.96E-6
64	980.86	3.06E-4	2.44E-4	1.51E-4	7.72E-5	3.44E-5	1.48E-5	64	1012.05	2.03E-4	1.61E-4	1.00E-4	5.08E-5	2.26E-5	9.67E-6
65	1039.74	2.96E-4	2.36E-4	1.47E-4	7.48E-5	3.33E-5	1.43E-5	65	1072.11	1.97E-4	1.57E-4	9.71E-5	4.94E-5	2.20E-5	9.41E-6
66	1101.76	2.87E-4	2.29E-4	1.42E-4	7.26E-5	3.23E-5	1.39E-5	66	1135.34	1.92E-4	1.52E-4	9.45E-5	4.81E-5	2.14E-5	9.15E-6
67	1167.08	2.78E-4	2.22E-4	1.38E-4	7.04E-5	3.14E-5	1.35E-5	67	1201.91	1.86E-4	1.48E-4	9.18E-5	4.68E-5	2.08E-5	8.91E-6
68	1235.84	2.70E-4	2.15E-4	1.34E-4	6.84E-5	3.05E-5	1.31E-5	68	1271.97	1.81E-4	1.44E-4	8.94E-5	4.56E-5	2.03E-5	8.68E-6
69	1308.21	2.62E-4	2.09E-4	1.30E-4	6.65E-5	2.96E-5	1.27E-5	69	1345.67	1.76E-4	1.40E-4	8.71E-5	4.44E-5	1.97E-5	8.46E-6
70	1384.32	2.55E-4	2.03E-4	1.26E-4	6.47E-5	2.88E-5	1.24E-5	70	1423.15	1.71E-4	1.36E-4	8.48E-5	4.33E-5	1.93E-5	8.24E-6
71	1464.37	2.47E-4	1.97E-4	1.23E-4	6.29E-5	2.81E-5	1.21E-5	71	1504.62	1.67E-4	1.33E-4	8.27E-5	4.22E-5	1.88E-5	8.05E-6
72	1548.51	2.40E-4	1.92E-4	1.20E-4	6.13E-5	2.73E-5	1.17E-5	72	1590.23	1.62E-4	1.29E-4	8.06E-5	4.12E-5	1.83E-5	7.86E-6
73	1636.95	2.34E-4	1.87E-4	1.16E-4	5.97E-5	2.66E-5	1.15E-5	73	1680.17	1.58E-4	1.26E-4	7.86E-5	4.02E-5	1.79E-5	7.68E-6
74	1729.85	2.27E-4	1.82E-4	1.13E-4	5.82E-5	2.60E-5	1.12E-5	74	1774.63	1.54E-4	1.23E-4	7.67E-5	3.93E-5	1.75E-5	7.50E-6
75	1827.44	2.21E-4	1.77E-4	1.11E-4	5.67E-5	2.53E-5	1.09E-5	75	1873.81	1.50E-4	1.20E-4	7.50E-5	3.84E-5	1.71E-5	7.33E-6
76	1929.89	2.16E-4	1.72E-4	1.08E-4	5.54E-5	2.47E-5	1.06E-5	76	1977.91	1.47E-4	1.17E-4	7.32E-5	3.75E-5	1.67E-5	7.17E-6
77	2037.46	2.10E-4	1.68E-4	1.05E-4	5.41E-5	2.42E-5	1.04E-5	77	2087.18	1.43E-4	1.15E-4	7.16E-5	3.67E-5	1.64E-5	7.02E-6
78	2150.35	2.05E-4	1.64E-4	1.03E-4	5.28E-5	2.36E-5	1.01E-5	78	2201.81	1.40E-4	1.12E-4	7.01E-5	3.59E-5	1.60E-5	6.87E-6
79	2268.81	2.00E-4	1.60E-4	1.01E-4	5.16E-5	2.31E-5	9.91E-6	79	2322.07	1.37E-4	1.10E-4	6.86E-5	3.52E-5	1.57E-5	6.72E-6
80	2393.05	1.95E-4	1.57E-4	9.82E-5	5.05E-5	2.26E-5	9.69E-6	80	2448.16	1.34E-4	1.07E-4	6.71E-5	3.45E-5	1.54E-5	6.59E-6
81	2523.35	1.91E-4	1.53E-4	9.59E-5	4.94E-5	2.21E-5	9.49E-6	81	2580.36	1.31E-4	1.05E-4	6.56E-5	3.38E-5	1.51E-5	6.46E-6
82	2660.00	1.86E-4	1.49E-4	9.38E-5	4.84E-5	2.16E-5	9.29E-6	82	2718.96	1.28E-4	1.02E-4	6.43E-5	3.31E-5	1.48E-5	6.34E-6
83	2803.29	1.82E-4	1.46E-4	9.18E-5	4.74E-5	2.12E-5	9.10E-6	83	2864.27	1.25E-4	1.00E-4	6.30E-5	3.25E-5	1.45E-5	6.22E-6
84	2953.55	1.78E-4	1.43E-4	8.99E-5	4.64E-5	2.08E-5	8.92E-6	84	3016.61	1.22E-4	9.83E-5	6.18E-5	3.19E-5	1.42E-5	6.10E-6
85	3111.02	1.74E-4	1.40E-4	8.80E-5	4.55E-5	2.04E-5	8.75E-6	85	3176.21	1.20E-4	9.62E-5	6.06E-5	3.13E-5	1.40E-5	5.99E-6
86	3275.63	1.70E-4	1.37E-4	8.62E-5	4.46E-5	2.00E-5	8.58E-6	86	3343.03	1.17E-4	9.43E-5	5.94E-5	3.07E-5	1.37E-5	5.89E-6
87	3448.51	1.67E-4	1.34E-4	8.45E-5	4.38E-5	1.96E-5	8.42E-6	87	3518.17	1.15E-4	9.24E-5	5.83E-5	3.02E-5	1.35E-5	5.78E-6
88	3629.55	1.63E-4	1.31E-4	8.30E-5	4.30E-5	1.93E-5	8.26E-6	88	3701.53	1.13E-4	9.07E-5	5.73E-5	2.97E-5	1.33E-5	5.69E-6
89	3819.29	1.60E-4	1.29E-4	8.13E-5	4.22E-5	1.89E-5	8.12E-6	89	3893.67	1.11E-4	8.90E-5	5.62E-5	2		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - D_1$								$C_1 - E_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	83.19	2.58E-4	2.06E-4	1.28E-4	6.45E-5	2.85E-5	1.22E-5	26	81.97	2.86E-3	2.85E-3	2.90E-3	3.01E-3	3.24E-3	3.54E-3
27	87.43	1.95E-4	1.56E-4	9.66E-5	4.88E-5	2.15E-5	9.19E-6	27	86.44	3.81E-3	3.87E-3	4.05E-3	4.29E-3	4.67E-3	5.13E-3
28	91.68	1.47E-4	1.18E-4	7.29E-5	3.68E-5	1.62E-5	6.93E-6	28	91.02	5.05E-3	5.21E-3	5.59E-3	6.05E-3	6.66E-3	7.35E-3
29	95.96	1.11E-4	8.89E-5	5.50E-5	2.78E-5	1.22E-5	5.22E-6	29	95.70	6.58E-3	6.89E-3	7.57E-3	8.33E-3	9.25E-3	1.03E-2
30	100.25	8.50E-5	6.74E-5	4.15E-5	2.09E-5	9.22E-6	3.94E-6	30	100.49	8.39E-3	8.90E-3	9.96E-3	1.11E-2	1.24E-2	1.38E-2
31	104.56	6.39E-5	5.09E-5	3.14E-5	1.59E-5	6.99E-6	2.98E-6	31	105.37	1.05E-2	1.15E-2	1.26E-2	1.43E-2	1.61E-2	1.80E-2
32	108.89	4.87E-5	3.88E-5	2.39E-5	1.21E-5	5.32E-6	2.27E-6	32	110.34	1.27E-2	1.41E-2	1.57E-2	1.79E-2	2.03E-2	2.27E-2
33	113.25	3.73E-5	2.97E-5	1.83E-5	9.23E-6	4.07E-6	1.73E-6	33	115.38	1.52E-2	1.68E-2	1.90E-2	2.17E-2	2.47E-2	2.78E-2
34	117.62	2.89E-5	2.29E-5	1.41E-5	7.11E-6	3.13E-6	1.34E-6	34	120.49	1.78E-2	1.97E-2	2.23E-2	2.57E-2	2.94E-2	3.30E-2
35	122.03	2.24E-5	1.78E-5	1.09E-5	5.51E-6	2.43E-6	1.03E-6	35	125.66	2.03E-2	2.25E-2	2.57E-2	2.97E-2	3.40E-2	3.83E-2
36	126.47	1.74E-5	1.38E-5	8.52E-6	4.29E-6	1.89E-6	8.07E-7	36	130.88	2.21E-2	2.53E-2	2.90E-2	3.36E-2	3.86E-2	4.35E-2
37	130.94	1.38E-5	1.09E-5	6.69E-6	3.37E-6	1.49E-6	6.34E-7	37	136.14	2.50E-2	2.79E-2	3.21E-2	3.73E-2	4.29E-2	4.85E-2
38	135.44	1.09E-5	8.62E-6	5.30E-6	2.67E-6	1.17E-6	5.01E-7	38	141.45	2.67E-2	3.03E-2	3.50E-2	4.08E-2	4.69E-2	5.32E-2
39	139.98	8.61E-6	6.84E-6	4.21E-6	2.12E-6	9.34E-7	3.99E-7	39	146.79	2.90E-2	3.23E-2	3.76E-2	4.39E-2	5.05E-2	5.74E-2
40	144.56	6.89E-6	5.47E-6	3.37E-6	1.70E-6	7.48E-7	3.19E-7	40	152.17	3.00E-2	3.43E-2	3.99E-2	4.66E-2	5.37E-2	6.11E-2
41	149.18	5.59E-6	4.42E-6	2.71E-6	1.37E-6	6.02E-7	2.57E-7	41	157.59	3.19E-2	3.58E-2	4.18E-2	4.89E-2	5.65E-2	6.44E-2
42	153.84	4.50E-6	3.57E-6	2.20E-6	1.11E-6	4.88E-7	2.08E-7	42	163.04	3.32E-2	3.71E-2	4.33E-2	5.09E-2	5.88E-2	6.72E-2
43	158.55	3.66E-6	2.91E-6	1.79E-6	9.02E-7	3.98E-7	1.70E-7	43	168.53	3.42E-2	3.80E-2	4.46E-2	5.24E-2	6.07E-2	6.94E-2
44	163.31	3.02E-6	2.39E-6	1.47E-6	7.39E-7	3.26E-7	1.39E-7	44	174.06	3.35E-2	3.86E-2	4.57E-2	5.37E-2	6.22E-2	7.13E-2
45	168.12	2.48E-6	1.96E-6	1.20E-6	6.07E-7	2.68E-7	1.14E-7	45	179.63	3.54E-2	3.92E-2	4.63E-2	5.46E-2	6.33E-2	7.27E-2
46	172.99	2.04E-6	1.62E-6	9.96E-7	5.02E-7	2.22E-7	9.47E-8	46	185.24	3.43E-2	3.97E-2	4.68E-2	5.52E-2	6.41E-2	7.37E-2
47	177.91	1.70E-6	1.35E-6	8.27E-7	4.17E-7	1.84E-7	7.87E-8	47	190.90	3.36E-2	3.90E-2	4.72E-2	5.56E-2	6.46E-2	7.45E-2
48	182.88	1.41E-6	1.12E-6	6.90E-7	3.48E-7	1.54E-7	6.57E-8	48	196.61	3.43E-2	3.98E-2	4.71E-2	5.56E-2	6.48E-2	7.48E-2
49	187.91	1.18E-6	9.40E-7	5.78E-7	2.92E-7	1.29E-7	5.51E-8	49	202.37	3.41E-2	3.95E-2	4.70E-2	5.55E-2	6.48E-2	7.50E-2
50	193.00	1.00E-6	7.93E-7	4.87E-7	2.46E-7	1.08E-7	4.64E-8	50	208.19	3.38E-2	3.93E-2	4.67E-2	5.53E-2	6.46E-2	7.49E-2
51	198.16	8.40E-7	6.66E-7	4.10E-7	2.07E-7	9.15E-8	3.92E-8	51	214.07	3.46E-2	3.89E-2	4.62E-2	5.48E-2	6.42E-2	7.46E-2
52	203.38	7.12E-7	5.64E-7	3.48E-7	1.76E-7	7.77E-8	3.32E-8	52	220.01	3.36E-2	3.85E-2	4.58E-2	5.43E-2	6.36E-2	7.41E-2
53	208.68	6.05E-7	4.80E-7	2.96E-7	1.49E-7	6.60E-8	2.82E-8	53	226.02	3.32E-2	3.79E-2	4.52E-2	5.36E-2	6.30E-2	7.35E-2
54	214.04	5.16E-7	4.09E-7	2.52E-7	1.27E-7	5.64E-8	2.41E-8	54	232.10	3.21E-2	3.73E-2	4.45E-2	5.29E-2	6.22E-2	7.27E-2
55	219.47	4.41E-7	3.50E-7	2.16E-7	1.09E-7	4.82E-8	2.06E-8	55	238.25	3.18E-2	3.66E-2	4.38E-2	5.21E-2	6.13E-2	7.19E-2
56	224.98	3.78E-7	3.00E-7	1.85E-7	9.36E-8	4.14E-8	1.77E-8	56	244.48	3.09E-2	3.60E-2	4.30E-2	5.12E-2	6.04E-2	7.10E-2
57	230.57	3.25E-7	2.58E-7	1.59E-7	8.06E-8	3.56E-8	1.53E-8	57	250.80	3.04E-2	3.38E-2	4.18E-2	5.03E-2	5.95E-2	7.01E-2
58	236.23	2.81E-7	2.23E-7	1.38E-7	6.96E-8	3.08E-8	1.32E-8	58	257.20	2.98E-2	3.31E-2	4.10E-2	4.94E-2	5.85E-2	6.90E-2
59	241.99	2.43E-7	1.93E-7	1.19E-7	6.02E-8	2.66E-8	1.14E-8	59	263.69	2.91E-2	3.24E-2	4.01E-2	4.84E-2	5.74E-2	6.79E-2
60	247.81	2.11E-7	1.67E-7	1.03E-7	5.23E-8	2.31E-8	9.91E-9	60	270.27	2.85E-2	3.17E-2	3.93E-2	4.74E-2	5.63E-2	6.68E-2
61	253.74	1.83E-7	1.45E-7	8.98E-8	4.55E-8	2.01E-8	8.62E-9	61	276.95	2.78E-2	3.09E-2	3.84E-2	4.64E-2	5.52E-2	6.57E-2
62	259.74	1.59E-7	1.27E-7	7.83E-8	3.97E-8	1.76E-8	7.52E-9	62	283.72	2.72E-2	3.02E-2	3.75E-2	4.54E-2	5.41E-2	6.45E-2
63	265.84	1.39E-7	1.11E-7	6.84E-8	3.47E-8	1.53E-8	6.58E-9	63	290.60	2.65E-2	2.95E-2	3.67E-2	4.44E-2	5.29E-2	6.33E-2
64	272.02	1.22E-7	9.70E-8	5.99E-8	3.04E-8	1.34E-8	5.76E-9	64	297.57	2.57E-2	2.88E-2	3.58E-2	4.33E-2	5.18E-2	6.22E-2
65	278.31	1.07E-7	8.50E-8	5.26E-8	2.67E-8	1.18E-8	5.05E-9	65	304.67	2.51E-2	2.80E-2	3.49E-2	4.23E-2	5.07E-2	6.10E-2
66	284.69	9.40E-8	7.47E-8	4.62E-8	2.34E-8	1.04E-8	4.45E-9	66	311.88	2.44E-2	2.73E-2	3.41E-2	4.13E-2	4.96E-2	5.98E-2
67	291.18	8.27E-8	6.58E-8	4.07E-8	2.07E-8	9.16E-9	3.92E-9	67	319.21	2.38E-2	2.66E-2	3.32E-2	4.03E-2	4.85E-2	5.87E-2
68	297.77	7.29E-8	5.81E-8	3.59E-8	1.83E-8	8.09E-9	3.46E-9	68	326.66	2.32E-2	2.60E-2	3.24E-2	3.94E-2	4.74E-2	5.75E-2
69	304.47	6.45E-8	5.13E-8	3.18E-8	1.61E-8	7.16E-9	3.07E-9	69	334.24	2.26E-2	2.53E-2	3.15E-2	3.84E-2	4.63E-2	5.64E-2
70	311.26	5.70E-8	4.54E-8	2.82E-8	1.43E-8	6.34E-9	2.71E-9	70	341.93	2.20E-2	2.46E-2	3.07E-2	3.74E-2	4.53E-2	5.52E-2
71	318.18	5.06E-8	4.03E-8	2.50E-8	1.27E-8	5.64E-9	2.41E-9	71	349.77	2.14E-2	2.40E-2	2.99E-2	3.65E-2	4.42E-2	5.41E-2
72	325.19	4.49E-8	3.58E-8	2.22E-8	1.13E-8	5.01E-9	2.14E-9	72	357.74	2.08E-2	2.33E-2	2.91E-2	3.56E-2	4.32E-2	5.30E-2
73	332.33	4.00E-8	3.19E-8	1.98E-8	1.01E-8	4.46E-9	1.91E-9	73	365.85	2.03E-2	2.27E-2	2.84E-2	3.47E-2	4.22E-2	5.19E-2
74	339.58	3.56E-8	2.84E-8	1.76E-8	8.98E-9	3.98E-9	1.70E-9	74	374.10	1.97E-2	2.21E-2	2.76E-2	3.38E-2	4.12E-2	5.09E-2
75	346.95	3.18E-8	2.53E-8	1.57E-8	8.02E-9	3.56E-9	1.52E-9	75	382.50	1.92E-2	2.15E-2	2.69E-2	3.30E-2	4.02E-2	4.98E-2
76	354.42	2.84E-8	2.26E-8	1.41E-8	7.17E-9	3.18E-9	1.36E-9	76	391.02	1.87E-2	2.09E-2	2.62E-2	3.21E-2	3.93E-2	4.88E-2
77	362.03	2.54E-8	2.03E-8	1.26E-8	6.43E-9	2.85E-9	1.22E-9	77	399.73	1.82E-2	2.04E-2	2.55E-2	3.13E-2	3.84E-2	4.78E-2
78	369.75	2.27E-8	1.81E-8	1.13E-8	5.76E-9	2.56E-9	1.09E-9	78	408.57	1.77E-2	1.98E-2	2.48E-2	3.05E-2	3.74E-2	4.68E-2
79	377.61	2.04E-8	1.63E-8	1.01E-8	5.18E-9	2.30E-9	1.00E-9	79	417.58	1.72E-2	1.92E-2	2.41E-2	2.97E-2	3.66E-2	4.58E-2
80	385.55	1.83E-8	1.46E-8	9.12E-9	4.65E-9	2.06E-9	1.00E-9	80	426.72	1.67E-2	1.87E-2	2.35E-2	2.89E-2	3.57E-2	4.49E-2
81	393.60	1.64E-8	1.32E-8	8.20E-9	4.20E-9	1.86E-9	1.00E-9	81	436.02	1.63E-2	1.82E-2	2.28E-2	2.82E-2	3.48E-2	4.39E-2
82	401.79	1.48E-8	1.19E-8	7.39E-9	3.78E-9	1.68E-9	1.00E-9	82	445.48	1.58E-2	1.77E-2	2.22E-2	2.74E-2	3.40E-2	4.30E-2
83	410.11	1.34E-8	1.07E-8	6.67E-9	3.41E-9	1.51E-9	1.00E-9	83	455.13	1.54E-2	1.72E-2	2.16E-2	2.67E-2	3.32E-2	4.21E-2
84	418.60	1.20E-8	9.63E-9	6.02E-9	3.08E-9	1.37E-9	1.00E-9	84	464.99	1.33E-2	1.66E-2	2.12E-2	2.62E-2	3.25E-2	4.13E-2
85	427.18	1.09E-8	8.70E-9	5.44E-9	2.79E-9	1.24E-9	1.00E-9	85	474.99	1.29E-2	1.61E-2	2.06E-2	2.55E-2	3.17E-2	4.04E-2
86	435.50	9.83E-9	7.87E-9	4.93E-9	2.52E-9	1.12E-9	0.00E+0	86	484.77	1.26E-2	1.56E-2	2.00E-2	2.48E-2	3.09E-2	3.96E-2
87	444.25	8.89E-9	7.12E-9	4.46E-9	2.29E-9	1.02E-9	0.00E+0	87	495.06	1.22E-2	1.52E-2	1.95E-2	2.42E-2	3.02E-2	3.88E-2
88	453.02	8.05E-9	6.45E-9	4.05E-9	2.07E-9	1.00E-9	0.00E+0	88	505.40	1.19E-2	1.48E-2	1.89E-2	2.35E-2	2.95E-2	3.79E-2
89	461.94	7.29E-9	5.85E-9	3.67E-9	1.89E-9	1.00E-9	0.00E+0	89	515.97	1.15E-2	1.43E-2	1.84E-2	2.29E-2	2.87E-2	3.71E-2
90	470.75														

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - E_2$								$C_1 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	100.27	4.70E-2	5.22E-2	6.04E-2	7.02E-2	7.99E-2	8.95E-2	26	122.99	4.57E-1	5.14E-1	6.02E-1	7.09E-1	8.15E-1	9.17E-1
27	106.81	3.74E-2	4.14E-2	4.78E-2	5.55E-2	6.32E-2	7.09E-2	27	129.64	4.26E-1	4.80E-1	5.62E-1	6.62E-1	7.61E-1	8.58E-1
28	113.79	2.96E-2	3.28E-2	3.77E-2	4.37E-2	4.97E-2	5.58E-2	28	136.61	3.98E-1	4.48E-1	5.25E-1	6.19E-1	7.12E-1	8.02E-1
29	121.23	2.34E-2	2.58E-2	2.96E-2	3.42E-2	3.89E-2	4.36E-2	29	143.93	3.71E-1	4.18E-1	4.90E-1	5.78E-1	6.65E-1	7.50E-1
30	129.17	1.85E-2	2.03E-2	2.31E-2	2.67E-2	3.03E-2	3.40E-2	30	151.64	3.45E-1	3.90E-1	4.58E-1	5.39E-1	6.21E-1	7.01E-1
31	137.63	1.41E-2	1.60E-2	1.81E-2	2.05E-2	2.34E-2	2.63E-2	31	159.79	3.13E-1	3.62E-1	4.31E-1	5.01E-1	5.78E-1	6.54E-1
32	146.65	1.11E-2	1.25E-2	1.40E-2	1.58E-2	1.80E-2	2.02E-2	32	168.42	2.91E-1	3.38E-1	4.02E-1	4.67E-1	5.39E-1	6.11E-1
33	156.26	8.68E-3	9.66E-3	1.08E-2	1.21E-2	1.37E-2	1.54E-2	33	177.58	2.71E-1	3.15E-1	3.74E-1	4.35E-1	5.02E-1	5.71E-1
34	166.50	6.77E-3	7.45E-3	8.19E-3	9.10E-3	1.03E-2	1.15E-2	34	187.32	2.52E-1	2.93E-1	3.48E-1	4.06E-1	4.69E-1	5.33E-1
35	177.39	5.25E-3	5.70E-3	6.15E-3	6.75E-3	7.57E-3	8.51E-3	35	197.69	2.40E-1	2.69E-1	3.24E-1	3.78E-1	4.37E-1	4.97E-1
36	188.98	4.07E-3	4.31E-3	4.53E-3	4.89E-3	5.45E-3	6.11E-3	36	208.73	2.25E-1	2.50E-1	3.01E-1	3.52E-1	4.07E-1	4.64E-1
37	201.31	3.17E-3	3.17E-3	3.28E-3	3.45E-3	3.79E-3	4.24E-3	37	220.51	2.09E-1	2.32E-1	2.80E-1	3.27E-1	3.79E-1	4.33E-1
38	214.41	2.41E-3	2.33E-3	2.31E-3	2.34E-3	2.52E-3	2.80E-3	38	233.06	1.95E-1	2.15E-1	2.61E-1	3.05E-1	3.53E-1	4.04E-1
39	228.33	1.79E-3	1.72E-3	1.58E-3	1.51E-3	1.57E-3	1.72E-3	39	246.46	1.78E-1	2.01E-1	2.42E-1	2.84E-1	3.29E-1	3.77E-1
40	243.12	1.39E-3	1.25E-3	1.05E-3	9.18E-4	8.94E-4	9.49E-4	40	260.74	1.65E-1	1.88E-1	2.26E-1	2.64E-1	3.07E-1	3.52E-1
41	258.84	1.09E-3	9.36E-4	6.98E-4	5.21E-4	4.43E-4	4.37E-4	41	275.97	1.53E-1	1.75E-1	2.09E-1	2.46E-1	2.86E-1	3.29E-1
42	275.52	9.06E-4	7.36E-4	4.87E-4	2.91E-4	1.85E-4	1.45E-4	42	292.19	1.47E-1	1.61E-1	1.96E-1	2.30E-1	2.67E-1	3.08E-1
43	293.23	8.07E-4	6.42E-4	3.97E-4	2.02E-4	9.01E-5	3.95E-5	43	309.48	1.33E-1	1.52E-1	1.81E-1	2.14E-1	2.50E-1	2.88E-1
44	312.02	7.88E-4	6.34E-4	4.08E-4	2.30E-4	1.32E-4	9.16E-5	44	327.89	1.24E-1	1.41E-1	1.69E-1	2.00E-1	2.33E-1	2.70E-1
45	331.97	8.25E-4	6.95E-4	5.01E-4	3.56E-4	2.87E-4	2.75E-4	45	347.47	1.15E-1	1.32E-1	1.58E-1	1.87E-1	2.18E-1	2.53E-1
46	353.12	9.20E-4	8.09E-4	6.63E-4	5.60E-4	5.33E-4	5.65E-4	46	368.30	1.11E-1	1.23E-1	1.48E-1	1.75E-1	2.04E-1	2.37E-1
47	375.55	1.05E-3	9.89E-4	8.81E-4	8.23E-4	8.51E-4	9.40E-4	47	390.44	1.03E-1	1.19E-1	1.40E-1	1.63E-1	1.91E-1	2.23E-1
48	399.33	1.20E-3	1.17E-3	1.12E-3	1.14E-3	1.23E-3	1.38E-3	48	413.96	9.48E-2	1.08E-1	1.29E-1	1.53E-1	1.80E-1	2.10E-1
49	424.53	1.41E-3	1.38E-3	1.41E-3	1.48E-3	1.64E-3	1.87E-3	49	438.93	9.13E-2	1.00E-1	1.21E-1	1.44E-1	1.69E-1	1.97E-1
50	451.22	1.62E-3	1.61E-3	1.71E-3	1.85E-3	2.08E-3	2.39E-3	50	465.42	8.59E-2	9.38E-2	1.14E-1	1.35E-1	1.58E-1	1.86E-1
51	479.48	1.81E-3	1.87E-3	2.00E-3	2.22E-3	2.53E-3	2.93E-3	51	493.51	7.93E-2	8.91E-2	1.06E-1	1.26E-1	1.49E-1	1.75E-1
52	509.40	1.99E-3	2.11E-3	2.31E-3	2.60E-3	2.98E-3	3.47E-3	52	523.27	7.33E-2	8.33E-2	9.96E-2	1.19E-1	1.40E-1	1.65E-1
53	541.06	2.22E-3	2.36E-3	2.60E-3	2.96E-3	3.43E-3	4.01E-3	53	554.80	6.97E-2	7.89E-2	9.33E-2	1.12E-1	1.32E-1	1.56E-1
54	574.54	2.41E-3	2.57E-3	2.89E-3	3.32E-3	3.86E-3	4.53E-3	54	588.18	6.57E-2	7.36E-2	8.77E-2	1.05E-1	1.25E-1	1.48E-1
55	609.95	2.57E-3	2.81E-3	3.16E-3	3.66E-3	4.27E-3	5.04E-3	55	623.49	6.08E-2	6.97E-2	8.26E-2	9.90E-2	1.18E-1	1.40E-1
56	647.36	2.77E-3	3.02E-3	3.41E-3	3.97E-3	4.66E-3	5.51E-3	56	660.83	5.80E-2	6.59E-2	7.77E-2	9.34E-2	1.11E-1	1.32E-1
57	686.89	2.85E-3	3.22E-3	3.68E-3	4.23E-3	4.99E-3	5.94E-3	57	700.30	5.30E-2	6.22E-2	7.41E-2	8.76E-2	1.05E-1	1.25E-1
58	728.63	3.00E-3	3.38E-3	3.89E-3	4.50E-3	5.32E-3	6.35E-3	58	742.00	5.03E-2	5.85E-2	7.00E-2	8.28E-2	9.89E-2	1.19E-1
59	772.69	3.14E-3	3.52E-3	4.09E-3	4.73E-3	5.61E-3	6.73E-3	59	786.03	4.77E-2	5.50E-2	6.61E-2	7.83E-2	9.37E-2	1.13E-1
60	819.18	3.26E-3	3.64E-3	4.25E-3	4.94E-3	5.88E-3	7.07E-3	60	832.49	4.54E-2	5.18E-2	6.25E-2	7.41E-2	8.89E-2	1.07E-1
61	868.22	3.38E-3	3.74E-3	4.40E-3	5.13E-3	6.11E-3	7.37E-3	61	881.51	4.32E-2	4.88E-2	5.92E-2	7.02E-2	8.43E-2	1.02E-1
62	919.90	3.48E-3	3.81E-3	4.52E-3	5.29E-3	6.31E-3	7.63E-3	62	933.19	4.12E-2	4.61E-2	5.60E-2	6.66E-2	8.01E-2	9.72E-2
63	974.39	3.57E-3	3.88E-3	4.62E-3	5.42E-3	6.48E-3	7.86E-3	63	987.67	3.94E-2	4.35E-2	5.31E-2	6.32E-2	7.61E-2	9.26E-2
64	1031.77	3.64E-3	3.93E-3	4.69E-3	5.53E-3	6.62E-3	8.06E-3	64	1045.05	3.76E-2	4.12E-2	5.03E-2	6.01E-2	7.24E-2	8.84E-2
65	1092.22	3.70E-3	3.96E-3	4.75E-3	5.61E-3	6.74E-3	8.22E-3	65	1105.50	3.58E-2	3.90E-2	4.77E-2	5.71E-2	6.90E-2	8.44E-2
66	1155.85	3.74E-3	3.99E-3	4.79E-3	5.68E-3	6.83E-3	8.36E-3	66	1169.13	3.42E-2	3.70E-2	4.53E-2	5.43E-2	6.58E-2	8.07E-2
67	1222.81	3.77E-3	4.00E-3	4.81E-3	5.72E-3	6.90E-3	8.47E-3	67	1236.10	3.26E-2	3.51E-2	4.30E-2	5.17E-2	6.27E-2	7.72E-2
68	1293.25	3.77E-3	4.01E-3	4.81E-3	5.74E-3	6.94E-3	8.55E-3	68	1306.55	3.11E-2	3.34E-2	4.08E-2	4.93E-2	5.99E-2	7.39E-2
69	1367.34	3.77E-3	4.00E-3	4.80E-3	5.75E-3	6.97E-3	8.60E-3	69	1380.65	2.96E-2	3.19E-2	3.88E-2	4.70E-2	5.72E-2	7.08E-2
70	1445.21	3.74E-3	3.99E-3	4.78E-3	5.74E-3	6.97E-3	8.64E-3	70	1458.52	2.82E-2	3.04E-2	3.69E-2	4.48E-2	5.47E-2	6.79E-2
71	1527.07	3.70E-3	3.97E-3	4.74E-3	5.72E-3	6.96E-3	8.65E-3	71	1540.38	2.67E-2	2.90E-2	3.52E-2	4.28E-2	5.24E-2	6.51E-2
72	1613.06	3.65E-3	3.94E-3	4.70E-3	5.68E-3	6.94E-3	8.64E-3	72	1626.37	2.54E-2	2.77E-2	3.35E-2	4.09E-2	5.01E-2	6.26E-2
73	1703.38	3.59E-3	3.91E-3	4.64E-3	5.63E-3	6.90E-3	8.62E-3	73	1716.69	2.41E-2	2.66E-2	3.19E-2	3.91E-2	4.80E-2	6.01E-2
74	1798.23	3.53E-3	3.88E-3	4.58E-3	5.58E-3	6.85E-3	8.58E-3	74	1811.52	2.29E-2	2.54E-2	3.05E-2	3.74E-2	4.61E-2	5.78E-2
75	1897.81	3.46E-3	3.84E-3	4.52E-3	5.51E-3	6.78E-3	8.53E-3	75	1911.08	2.18E-2	2.44E-2	2.91E-2	3.58E-2	4.42E-2	5.57E-2
76	2002.29	3.39E-3	3.79E-3	4.45E-3	5.43E-3	6.71E-3	8.47E-3	76	2015.54	2.07E-2	2.34E-2	2.78E-2	3.42E-2	4.24E-2	5.36E-2
77	2111.95	3.32E-3	3.74E-3	4.37E-3	5.35E-3	6.63E-3	8.39E-3	77	2125.17	1.98E-2	2.25E-2	2.66E-2	3.28E-2	4.08E-2	5.17E-2
78	2226.98	3.26E-3	3.68E-3	4.29E-3	5.26E-3	6.54E-3	8.30E-3	78	2240.16	1.89E-2	2.16E-2	2.54E-2	3.14E-2	3.92E-2	4.98E-2
79	2347.63	3.20E-3	3.62E-3	4.21E-3	5.17E-3	6.44E-3	8.21E-3	79	2360.77	1.81E-2	2.07E-2	2.44E-2	3.01E-2	3.77E-2	4.81E-2
80	2474.11	3.14E-3	3.55E-3	4.13E-3	5.07E-3	6.34E-3	8.10E-3	80	2487.20	1.74E-2	1.99E-2	2.34E-2	2.89E-2	3.63E-2	4.64E-2
81	2606.71	3.09E-3	3.48E-3	4.04E-3	4.97E-3	6.23E-3	7.99E-3	81	2619.73	1.68E-2	1.91E-2	2.24E-2	2.78E-2	3.49E-2	4.49E-2
82	2745.71	3.03E-3	3.40E-3	3.95E-3	4.86E-3	6.12E-3	7.88E-3	82	2758.66	1.62E-2	1.83E-2	2.15E-2	2.67E-2	3.36E-2	4.33E-2
83	2891.42	2.98E-3	3.32E-3	3.86E-3	4.76E-3	6.00E-3	7.75E-3	83	2904.29	1.57E-2	1.76E-2	2.07E-2	2.56E-2	3.24E-2	4.19E-2
84	3044.16	2.81E-3	3.18E-3	3.85E-3	4.67E-3	5.85E-3	7.59E-3	84	3056.93	1.45E-2	1.66E-2	2.03E-2	2.48E-2	3.11E-2	4.04E-2
85	3204.16	2.75E-3	3.09E-3	3.75E-3	4.56E-3	5.73E-3	7.46E-3	85	3216.82	1.40E-2	1.59E-2	1.95E-2	2.38E-2	3.00E-2	3.91E-2
86	3371.38	2.69E-3	3.00E-3	3.65E-3	4.46E-3	5.61E-3	7.32E-3	86	3383.92	1.35E-2	1.52E-2	1.87E-2	2.30E-2	2.90E-2	3.79E-2
87	3546.92	2.64E-3	2.92E-3	3.55E-3	4.35E-3	5.49E-3	7.18E-3	87	3559.33	1.32E-2	1.48E-2	1.77E-2	2.21E-2	2.80E-2	3.67E-2
88	3730.68	2.58E-3	2.88E-3	3.41E-3	4.23E-3	5.36E-3	7.04E-3	88	3742.95	1.27E-2	1.43E-2	1.70E-2	2.13E-2	2.71E-2	3.56E-2
89	3923.23	2.51E-3	2.80E-3	3.31E-3	4.11E-3	5.24E-3	6.89E-3	89	3935.33	1.22E-2	1.38E-2	1.64E-2			

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - E_4$								$C_2 - E_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	143.50	3.56E-3	3.21E-3	2.70E-3	2.34E-3	2.26E-3	2.36E-3	26	66.05	1.49E-2	1.53E-2	1.62E-2	1.72E-2	1.88E-2	2.06E-2
27	152.77	3.46E-3	3.21E-3	2.87E-3	2.67E-3	2.71E-3	2.90E-3	27	68.52	1.51E-2	1.58E-2	1.72E-2	1.87E-2	2.06E-2	2.26E-2
28	162.72	3.34E-3	3.18E-3	2.99E-3	2.93E-3	3.07E-3	3.33E-3	28	70.74	1.51E-2	1.62E-2	1.79E-2	1.97E-2	2.19E-2	2.42E-2
29	173.41	3.19E-3	3.11E-3	3.03E-3	3.06E-3	3.28E-3	3.60E-3	29	72.67	1.50E-2	1.63E-2	1.83E-2	2.04E-2	2.28E-2	2.53E-2
30	184.93	3.00E-3	2.97E-3	2.98E-3	3.09E-3	3.36E-3	3.71E-3	30	74.26	1.47E-2	1.61E-2	1.84E-2	2.07E-2	2.32E-2	2.58E-2
31	197.34	2.82E-3	2.76E-3	2.87E-3	3.02E-3	3.30E-3	3.67E-3	31	75.48	1.48E-2	1.56E-2	1.79E-2	2.05E-2	2.32E-2	2.58E-2
32	210.74	2.57E-3	2.54E-3	2.68E-3	2.87E-3	3.15E-3	3.52E-3	32	76.28	1.42E-2	1.50E-2	1.74E-2	2.01E-2	2.27E-2	2.53E-2
33	225.18	2.31E-3	2.31E-3	2.46E-3	2.66E-3	2.95E-3	3.30E-3	33	76.61	1.34E-2	1.43E-2	1.67E-2	1.94E-2	2.20E-2	2.45E-2
34	240.77	2.06E-3	2.06E-3	2.23E-3	2.42E-3	2.69E-3	3.03E-3	34	76.43	1.26E-2	1.35E-2	1.59E-2	1.85E-2	2.10E-2	2.35E-2
35	257.58	1.81E-3	1.83E-3	1.99E-3	2.17E-3	2.43E-3	2.74E-3	35	75.70	1.16E-2	1.26E-2	1.50E-2	1.75E-2	1.99E-2	2.22E-2
36	275.71	1.59E-3	1.60E-3	1.75E-3	1.93E-3	2.16E-3	2.44E-3	36	74.36	1.07E-2	1.18E-2	1.41E-2	1.65E-2	1.87E-2	2.09E-2
37	295.25	1.36E-3	1.40E-3	1.54E-3	1.69E-3	1.91E-3	2.16E-3	37	72.37	9.81E-3	1.09E-2	1.32E-2	1.54E-2	1.75E-2	1.96E-2
38	316.29	1.19E-3	1.21E-3	1.34E-3	1.48E-3	1.67E-3	1.89E-3	38	69.69	8.99E-3	1.01E-2	1.23E-2	1.44E-2	1.63E-2	1.83E-2
39	338.93	1.01E-3	1.04E-3	1.15E-3	1.28E-3	1.45E-3	1.65E-3	39	66.25	8.16E-3	9.35E-3	1.15E-2	1.34E-2	1.52E-2	1.71E-2
40	363.28	8.54E-4	9.00E-4	9.88E-4	1.11E-3	1.26E-3	1.44E-3	40	62.01	7.40E-3	8.68E-3	1.07E-2	1.25E-2	1.42E-2	1.59E-2
41	389.43	7.34E-4	7.69E-4	8.50E-4	9.57E-4	1.09E-3	1.24E-3	41	56.93	6.73E-3	8.10E-3	1.00E-2	1.17E-2	1.33E-2	1.49E-2
42	417.51	6.35E-4	6.55E-4	7.36E-4	8.22E-4	9.37E-4	1.07E-3	42	50.94	6.17E-3	7.62E-3	9.43E-3	1.10E-2	1.24E-2	1.39E-2
43	447.62	5.35E-4	5.64E-4	6.25E-4	7.07E-4	8.07E-4	9.27E-4	43	44.00	5.77E-3	7.24E-3	8.94E-3	1.04E-2	1.17E-2	1.31E-2
44	479.88	4.58E-4	4.82E-4	5.36E-4	6.06E-4	6.94E-4	7.99E-4	44	36.05	5.49E-3	6.98E-3	8.57E-3	9.89E-3	1.12E-2	1.25E-2
45	514.41	3.90E-4	4.14E-4	4.58E-4	5.20E-4	5.97E-4	6.89E-4	45	27.03	5.41E-3	6.88E-3	8.36E-3	9.59E-3	1.08E-2	1.20E-2
46	551.35	3.34E-4	3.58E-4	3.90E-4	4.46E-4	5.13E-4	5.94E-4	46	16.89	5.62E-3	7.05E-3	8.43E-3	9.58E-3	1.07E-2	1.19E-2
47	590.81	2.90E-4	3.16E-4	3.43E-4	3.82E-4	4.40E-4	5.12E-4	47	5.554	6.74E-3	8.09E-3	9.39E-3	1.05E-2	1.16E-2	1.29E-2
48	632.94	2.45E-4	2.59E-4	2.89E-4	3.29E-4	3.80E-4	4.42E-4	48	-7.035	5.88E-3	7.11E-3	8.30E-3	9.30E-3	1.03E-2	1.15E-2
49	677.88	2.11E-4	2.23E-4	2.46E-4	2.82E-4	3.27E-4	3.82E-4	49	-20.94	4.13E-3	5.22E-3	6.28E-3	7.17E-3	8.06E-3	9.06E-3
50	725.78	1.81E-4	1.91E-4	2.11E-4	2.43E-4	2.82E-4	3.30E-4	50	-36.24	3.30E-3	4.23E-3	5.18E-3	5.98E-3	6.79E-3	7.69E-3
51	776.79	1.56E-4	1.65E-4	1.81E-4	2.09E-4	2.43E-4	2.86E-4	51	-52.99	2.79E-3	3.55E-3	4.41E-3	5.13E-3	5.87E-3	6.69E-3
52	831.07	1.32E-4	1.40E-4	1.57E-4	1.79E-4	2.10E-4	2.47E-4	52	-71.29	2.46E-3	3.06E-3	3.81E-3	4.48E-3	5.15E-3	5.90E-3
53	888.78	1.15E-4	1.21E-4	1.36E-4	1.55E-4	1.82E-4	2.15E-4	53	-91.19	2.22E-3	2.68E-3	3.34E-3	3.95E-3	4.56E-3	5.25E-3
54	950.10	9.93E-5	1.05E-4	1.17E-4	1.34E-4	1.57E-4	1.86E-4	54	-112.79	2.04E-3	2.37E-3	2.96E-3	3.50E-3	4.07E-3	4.71E-3
55	1015.21	8.52E-5	9.07E-5	1.01E-4	1.16E-4	1.36E-4	1.62E-4	55	-136.17	1.87E-3	2.13E-3	2.64E-3	3.13E-3	3.66E-3	4.25E-3
56	1084.28	7.35E-5	7.80E-5	8.71E-5	1.00E-4	1.18E-4	1.41E-4	56	-161.42	1.71E-3	1.92E-3	2.36E-3	2.82E-3	3.30E-3	3.86E-3
57	1157.51	6.33E-5	6.80E-5	7.53E-5	8.75E-5	1.03E-4	1.23E-4	57	-188.62	1.44E-3	1.70E-3	2.13E-3	2.55E-3	3.00E-3	3.52E-3
58	1235.12	5.49E-5	5.91E-5	6.51E-5	7.60E-5	8.94E-5	1.07E-4	58	-217.88	1.33E-3	1.54E-3	1.93E-3	2.31E-3	2.73E-3	3.21E-3
59	1317.30	4.77E-5	5.14E-5	5.65E-5	6.60E-5	7.79E-5	9.35E-5	59	-249.29	1.24E-3	1.40E-3	1.75E-3	2.10E-3	2.49E-3	2.95E-3
60	1404.25	4.17E-5	4.47E-5	4.91E-5	5.74E-5	6.80E-5	8.18E-5	60	-282.96	1.17E-3	1.29E-3	1.59E-3	1.92E-3	2.28E-3	2.71E-3
61	1496.23	3.64E-5	3.88E-5	4.27E-5	5.00E-5	5.94E-5	7.16E-5	61	-318.99	1.09E-3	1.19E-3	1.45E-3	1.76E-3	2.10E-3	2.50E-3
62	1593.44	3.19E-5	3.37E-5	3.72E-5	4.35E-5	5.19E-5	6.28E-5	62	-357.51	1.01E-3	1.10E-3	1.33E-3	1.61E-3	1.93E-3	2.31E-3
63	1696.16	2.79E-5	2.93E-5	3.25E-5	3.80E-5	4.54E-5	5.52E-5	63	-398.62	9.41E-4	1.02E-3	1.23E-3	1.48E-3	1.78E-3	2.14E-3
64	1804.60	2.44E-5	2.55E-5	2.85E-5	3.31E-5	3.98E-5	4.85E-5	64	-442.46	8.64E-4	9.48E-4	1.13E-3	1.37E-3	1.65E-3	1.99E-3
65	1919.07	2.13E-5	2.22E-5	2.49E-5	2.90E-5	3.49E-5	4.27E-5	65	-489.12	7.97E-4	8.83E-4	1.05E-3	1.26E-3	1.53E-3	1.85E-3
66	2039.81	1.85E-5	1.94E-5	2.19E-5	2.54E-5	3.06E-5	3.76E-5	66	-538.77	7.34E-4	8.23E-4	9.70E-4	1.17E-3	1.42E-3	1.72E-3
67	2167.12	1.62E-5	1.70E-5	1.92E-5	2.22E-5	2.69E-5	3.31E-5	67	-591.53	6.76E-4	7.67E-4	9.01E-4	1.09E-3	1.32E-3	1.61E-3
68	2301.30	1.42E-5	1.49E-5	1.68E-5	1.95E-5	2.37E-5	2.92E-5	68	-647.54	6.23E-4	7.15E-4	8.39E-4	1.01E-3	1.23E-3	1.50E-3
69	2442.66	1.24E-5	1.32E-5	1.48E-5	1.71E-5	2.08E-5	2.58E-5	69	-706.96	5.75E-4	6.66E-4	7.82E-4	9.41E-4	1.15E-3	1.41E-3
70	2591.51	1.10E-5	1.16E-5	1.30E-5	1.51E-5	1.83E-5	2.28E-5	70	-769.96	5.29E-4	6.16E-4	7.31E-4	8.78E-4	1.07E-3	1.32E-3
71	2748.20	9.69E-6	1.03E-5	1.14E-5	1.33E-5	1.62E-5	2.02E-5	71	-836.67	4.93E-4	5.73E-4	6.84E-4	8.21E-4	1.00E-3	1.24E-3
72	2913.07	8.57E-6	9.06E-6	1.01E-5	1.17E-5	1.43E-5	1.79E-5	72	-907.29	4.62E-4	5.34E-4	6.40E-4	7.68E-4	9.39E-4	1.17E-3
73	3086.51	7.57E-6	7.98E-6	8.83E-6	1.03E-5	1.26E-5	1.59E-5	73	-981.99	4.34E-4	4.97E-4	5.99E-4	7.19E-4	8.82E-4	1.10E-3
74	3268.87	6.67E-6	7.02E-6	7.78E-6	9.13E-6	1.11E-5	1.41E-5	74	-1060.95	4.08E-4	4.64E-4	5.62E-4	6.75E-4	8.28E-4	1.04E-3
75	3460.58	5.88E-6	6.18E-6	6.85E-6	8.08E-6	9.87E-6	1.25E-5	75	-1144.36	3.85E-4	4.33E-4	5.26E-4	6.34E-4	7.79E-4	9.78E-4
76	3662.01	5.19E-6	5.44E-6	6.05E-6	7.14E-6	8.74E-6	1.11E-5	76	-1232.46	3.64E-4	4.05E-4	4.94E-4	5.96E-4	7.34E-4	9.24E-4
77	3873.66	4.58E-6	4.80E-6	5.34E-6	6.32E-6	7.75E-6	9.86E-6	77	-1325.42	3.44E-4	3.79E-4	4.64E-4	5.60E-4	6.92E-4	8.74E-4
78	4095.94	4.06E-6	4.25E-6	4.73E-6	5.60E-6	6.88E-6	8.78E-6	78	-1423.49	3.25E-4	3.56E-4	4.36E-4	5.28E-4	6.53E-4	8.27E-4
79	4329.35	3.61E-6	3.77E-6	4.20E-6	4.96E-6	6.11E-6	7.82E-6	79	-1526.88	3.07E-4	3.34E-4	4.09E-4	4.97E-4	6.16E-4	7.83E-4
80	4574.34	3.20E-6	3.35E-6	3.72E-6	4.39E-6	5.43E-6	6.96E-6	80	-1635.88	2.90E-4	3.15E-4	3.85E-4	4.69E-4	5.83E-4	7.43E-4
81	4831.46	2.84E-6	2.98E-6	3.31E-6	3.89E-6	4.83E-6	6.21E-6	81	-1750.74	2.74E-4	2.97E-4	3.62E-4	4.43E-4	5.51E-4	7.05E-4
82	5101.29	2.52E-6	2.65E-6	2.94E-6	3.45E-6	4.29E-6	5.54E-6	82	-1871.69	2.59E-4	2.80E-4	3.41E-4	4.18E-4	5.22E-4	6.70E-4
83	5384.39	2.24E-6	2.35E-6	2.61E-6	3.06E-6	3.82E-6	4.95E-6	83	-1999.03	2.41E-4	2.67E-4	3.20E-4	3.94E-4	4.95E-4	6.37E-4
84	5681.40	2.00E-6	2.08E-6	2.30E-6	2.71E-6	3.41E-6	4.43E-6	84	-2133.02	2.21E-4	2.56E-4	3.05E-4	3.70E-4	4.66E-4	6.04E-4
85	5992.87	1.79E-6	1.84E-6	2.05E-6	2.41E-6	3.04E-6	3.96E-6	85	-2274.05	2.09E-4	2.41E-4	2.89E-4	3.50E-4	4.42E-4	5.75E-4
86	6319.06	1.59E-6	1.63E-6	1.83E-6	2.14E-6	2.70E-6	3.54E-6	86	-2422.75	1.98E-4	2.27E-4	2.74E-4	3.33E-4	4.20E-4	5.48E-4
87	6661.47	1.42E-6	1.45E-6	1.63E-6	1.90E-6	2.41E-6	3.17E-6	87	-2578.86	1.88E-4	2.13E-4	2.60E-4	3.16E-4	3.99E-4	5.22E-4
88	7020.36	1.26E-6	1.29E-6	1.46E-6	1.69E-6	2.14E-6	2.83E-6	88	-2743.11	1.79E-4	2.01E-4	2.46E-4	3.00E-4	3.80E-4	4.99E-4
89	7396.65	1.12E-6	1.15E-6	1.30E-6	1.51E-6	1.91E-6	2.53E-6	89	-2915.75	1.71E-4	1.89E-4	2.33E-4	2.85E-4	3.62E-4	4.

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - E_2$								$C_2 - E_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	84.34	1.01E-2	1.04E-2	1.13E-2	1.23E-2	1.35E-2	1.50E-2	26	107.06	3.73E-3	3.99E-3	4.40E-3	4.96E-3	5.58E-3	6.21E-3
27	88.89	8.58E-3	8.84E-3	9.46E-3	1.02E-2	1.12E-2	1.24E-2	27	111.72	5.15E-3	5.60E-3	6.28E-3	7.17E-3	8.11E-3	9.06E-3
28	93.51	6.99E-3	7.11E-3	7.47E-3	7.96E-3	8.69E-3	9.56E-3	28	116.33	6.65E-3	7.29E-3	8.29E-3	9.53E-3	1.08E-2	1.21E-2
29	98.19	5.44E-3	5.42E-3	5.51E-3	5.73E-3	6.16E-3	6.75E-3	29	120.89	8.13E-3	8.96E-3	1.03E-2	1.19E-2	1.35E-2	1.51E-2
30	102.94	4.07E-3	3.91E-3	3.76E-3	3.74E-3	3.92E-3	4.24E-3	30	125.41	9.49E-3	1.05E-2	1.21E-2	1.41E-2	1.60E-2	1.80E-2
31	107.74	2.93E-3	2.72E-3	2.35E-3	2.14E-3	2.12E-3	2.24E-3	31	129.90	1.04E-2	1.20E-2	1.38E-2	1.59E-2	1.82E-2	2.05E-2
32	112.59	2.13E-3	1.84E-3	1.38E-3	1.05E-3	8.94E-4	8.70E-4	32	134.36	1.14E-2	1.32E-2	1.52E-2	1.75E-2	2.01E-2	2.27E-2
33	117.49	1.67E-3	1.35E-3	8.70E-4	4.85E-4	2.68E-4	1.74E-4	33	138.81	1.22E-2	1.41E-2	1.63E-2	1.89E-2	2.17E-2	2.45E-2
34	122.44	1.55E-3	1.25E-3	7.96E-4	4.35E-4	2.30E-4	1.41E-4	34	143.26	1.27E-2	1.48E-2	1.71E-2	1.99E-2	2.28E-2	2.58E-2
35	127.43	1.72E-3	1.49E-3	1.12E-3	8.53E-4	7.32E-4	7.16E-4	35	147.73	1.31E-2	1.52E-2	1.77E-2	2.05E-2	2.36E-2	2.67E-2
36	132.47	2.14E-3	2.02E-3	1.79E-3	1.67E-3	1.70E-3	1.82E-3	36	152.22	1.33E-2	1.55E-2	1.80E-2	2.09E-2	2.41E-2	2.73E-2
37	137.54	2.82E-3	2.80E-3	2.74E-3	2.82E-3	3.04E-3	3.35E-3	37	156.74	1.38E-2	1.55E-2	1.80E-2	2.10E-2	2.42E-2	2.74E-2
38	142.65	3.61E-3	3.75E-3	3.90E-3	4.22E-3	4.67E-3	5.21E-3	38	161.30	1.34E-2	1.54E-2	1.78E-2	2.08E-2	2.40E-2	2.73E-2
39	147.79	4.58E-3	4.82E-3	5.21E-3	5.79E-3	6.51E-3	7.31E-3	39	165.91	1.29E-2	1.49E-2	1.75E-2	2.04E-2	2.36E-2	2.68E-2
40	152.97	5.48E-3	5.99E-3	6.62E-3	7.47E-3	8.47E-3	9.57E-3	40	170.58	1.26E-2	1.45E-2	1.70E-2	1.98E-2	2.30E-2	2.62E-2
41	158.18	6.61E-3	7.17E-3	8.05E-3	9.19E-3	1.05E-2	1.19E-2	41	175.31	1.21E-2	1.39E-2	1.64E-2	1.92E-2	2.22E-2	2.53E-2
42	163.42	7.67E-3	8.37E-3	9.49E-3	1.09E-2	1.25E-2	1.42E-2	42	180.10	1.19E-2	1.34E-2	1.56E-2	1.83E-2	2.12E-2	2.43E-2
43	168.70	8.71E-3	9.49E-3	1.09E-2	1.26E-2	1.45E-2	1.65E-2	43	184.95	1.09E-2	1.25E-2	1.49E-2	1.74E-2	2.02E-2	2.31E-2
44	174.02	9.34E-3	1.06E-2	1.23E-2	1.42E-2	1.64E-2	1.87E-2	44	189.88	1.02E-2	1.18E-2	1.40E-2	1.64E-2	1.91E-2	2.19E-2
45	179.38	1.06E-2	1.16E-2	1.35E-2	1.57E-2	1.82E-2	2.08E-2	45	194.88	9.58E-3	1.11E-2	1.31E-2	1.55E-2	1.80E-2	2.07E-2
46	184.77	1.11E-2	1.26E-2	1.47E-2	1.72E-2	1.99E-2	2.28E-2	46	199.95	8.95E-3	1.04E-2	1.23E-2	1.44E-2	1.68E-2	1.93E-2
47	190.21	1.15E-2	1.32E-2	1.58E-2	1.85E-2	2.14E-2	2.46E-2	47	205.10	8.15E-3	9.44E-3	1.14E-2	1.35E-2	1.57E-2	1.81E-2
48	195.69	1.24E-2	1.43E-2	1.67E-2	1.96E-2	2.28E-2	2.63E-2	48	210.32	7.66E-3	8.92E-3	1.05E-2	1.24E-2	1.45E-2	1.68E-2
49	201.22	1.30E-2	1.49E-2	1.76E-2	2.06E-2	2.40E-2	2.78E-2	49	215.62	7.01E-3	8.19E-3	9.72E-3	1.15E-2	1.34E-2	1.55E-2
50	206.79	1.35E-2	1.55E-2	1.83E-2	2.15E-2	2.51E-2	2.91E-2	50	220.99	6.45E-3	7.53E-3	8.93E-3	1.06E-2	1.24E-2	1.43E-2
51	212.42	1.43E-2	1.60E-2	1.89E-2	2.23E-2	2.61E-2	3.03E-2	51	226.45	6.13E-3	6.88E-3	8.17E-3	9.69E-3	1.14E-2	1.32E-2
52	218.10	1.44E-2	1.64E-2	1.94E-2	2.30E-2	2.69E-2	3.13E-2	52	231.98	5.48E-3	6.29E-3	7.48E-3	8.87E-3	1.04E-2	1.21E-2
53	223.85	1.48E-2	1.68E-2	1.99E-2	2.35E-2	2.76E-2	3.21E-2	53	237.60	4.91E-3	5.72E-3	6.83E-3	8.10E-3	9.52E-3	1.11E-2
54	229.66	1.47E-2	1.70E-2	2.02E-2	2.39E-2	2.81E-2	3.28E-2	54	243.29	4.47E-3	5.22E-3	6.22E-3	7.39E-3	8.69E-3	1.02E-2
55	235.53	1.50E-2	1.72E-2	2.05E-2	2.43E-2	2.85E-2	3.34E-2	55	249.07	4.09E-3	4.73E-3	5.65E-3	6.72E-3	7.92E-3	9.29E-3
56	241.46	1.50E-2	1.73E-2	2.07E-2	2.45E-2	2.89E-2	3.39E-2	56	254.93	3.68E-3	4.30E-3	5.13E-3	6.11E-3	7.21E-3	8.48E-3
57	247.47	1.50E-2	1.67E-2	2.06E-2	2.47E-2	2.91E-2	3.43E-2	57	260.88	3.39E-3	3.73E-3	4.61E-3	5.55E-3	6.57E-3	7.74E-3
58	253.55	1.50E-2	1.67E-2	2.06E-2	2.48E-2	2.93E-2	3.46E-2	58	266.92	3.06E-3	3.38E-3	4.18E-3	5.04E-3	5.97E-3	7.05E-3
59	259.72	1.50E-2	1.67E-2	2.06E-2	2.48E-2	2.94E-2	3.47E-2	59	273.05	2.77E-3	3.07E-3	3.79E-3	4.57E-3	5.43E-3	6.43E-3
60	265.95	1.49E-2	1.66E-2	2.05E-2	2.47E-2	2.93E-2	3.48E-2	60	279.26	2.51E-3	2.78E-3	3.44E-3	4.15E-3	4.93E-3	5.85E-3
61	272.28	1.48E-2	1.65E-2	2.04E-2	2.46E-2	2.93E-2	3.48E-2	61	285.57	2.27E-3	2.51E-3	3.11E-3	3.76E-3	4.48E-3	5.33E-3
62	278.67	1.46E-2	1.64E-2	2.03E-2	2.45E-2	2.91E-2	3.47E-2	62	291.95	2.05E-3	2.28E-3	2.82E-3	3.41E-3	4.07E-3	4.86E-3
63	285.17	1.45E-2	1.62E-2	2.01E-2	2.43E-2	2.89E-2	3.46E-2	63	298.45	1.86E-3	2.06E-3	2.56E-3	3.10E-3	3.70E-3	4.43E-3
64	291.74	1.43E-2	1.60E-2	2.00E-2	2.40E-2	2.87E-2	3.44E-2	64	305.02	1.69E-3	1.87E-3	2.32E-3	2.81E-3	3.36E-3	4.04E-3
65	298.43	1.41E-2	1.58E-2	1.97E-2	2.38E-2	2.84E-2	3.42E-2	65	311.71	1.52E-3	1.69E-3	2.11E-3	2.55E-3	3.06E-3	3.68E-3
66	305.20	1.39E-2	1.56E-2	1.94E-2	2.35E-2	2.81E-2	3.39E-2	66	318.48	1.38E-3	1.54E-3	1.91E-3	2.32E-3	2.79E-3	3.36E-3
67	312.07	1.37E-2	1.54E-2	1.91E-2	2.32E-2	2.78E-2	3.36E-2	67	325.37	1.25E-3	1.39E-3	1.74E-3	2.11E-3	2.54E-3	3.07E-3
68	319.05	1.35E-2	1.51E-2	1.88E-2	2.28E-2	2.75E-2	3.33E-2	68	332.35	1.14E-3	1.27E-3	1.58E-3	1.92E-3	2.32E-3	2.81E-3
69	326.14	1.32E-2	1.48E-2	1.85E-2	2.25E-2	2.71E-2	3.29E-2	69	339.44	1.03E-3	1.15E-3	1.44E-3	1.75E-3	2.12E-3	2.57E-3
70	333.32	1.30E-2	1.46E-2	1.82E-2	2.21E-2	2.67E-2	3.25E-2	70	346.63	9.42E-4	1.05E-3	1.31E-3	1.60E-3	1.93E-3	2.36E-3
71	340.62	1.27E-2	1.43E-2	1.79E-2	2.17E-2	2.63E-2	3.21E-2	71	353.93	8.59E-4	9.59E-4	1.20E-3	1.46E-3	1.77E-3	2.17E-3
72	348.02	1.25E-2	1.40E-2	1.75E-2	2.13E-2	2.59E-2	3.17E-2	72	361.33	7.84E-4	8.76E-4	1.09E-3	1.34E-3	1.62E-3	1.99E-3
73	355.55	1.22E-2	1.38E-2	1.72E-2	2.09E-2	2.55E-2	3.13E-2	73	368.85	7.17E-4	8.02E-4	1.00E-3	1.22E-3	1.49E-3	1.83E-3
74	363.19	1.20E-2	1.35E-2	1.68E-2	2.05E-2	2.50E-2	3.09E-2	74	376.48	6.56E-4	7.34E-4	9.18E-4	1.12E-3	1.37E-3	1.69E-3
75	370.95	1.17E-2	1.32E-2	1.65E-2	2.02E-2	2.46E-2	3.04E-2	75	384.22	6.02E-4	6.74E-4	8.43E-4	1.03E-3	1.26E-3	1.56E-3
76	378.81	1.15E-2	1.29E-2	1.61E-2	1.98E-2	2.41E-2	3.00E-2	76	392.06	5.53E-4	6.19E-4	7.75E-4	9.50E-4	1.16E-3	1.44E-3
77	386.81	1.12E-2	1.26E-2	1.58E-2	1.93E-2	2.37E-2	2.95E-2	77	400.03	5.09E-4	5.70E-4	7.13E-4	8.76E-4	1.07E-3	1.34E-3
78	394.92	1.10E-2	1.23E-2	1.54E-2	1.90E-2	2.33E-2	2.90E-2	78	408.11	4.69E-4	5.25E-4	6.58E-4	8.09E-4	9.94E-4	1.24E-3
79	403.17	1.07E-2	1.20E-2	1.51E-2	1.86E-2	2.28E-2	2.86E-2	79	416.31	4.33E-4	4.85E-4	6.08E-4	7.48E-4	9.21E-4	1.15E-3
80	411.50	1.05E-2	1.18E-2	1.48E-2	1.82E-2	2.24E-2	2.81E-2	80	424.59	4.01E-4	4.49E-4	5.63E-4	6.93E-4	8.56E-4	1.08E-3
81	419.96	1.03E-2	1.15E-2	1.44E-2	1.78E-2	2.19E-2	2.77E-2	81	432.98	3.72E-4	4.16E-4	5.22E-4	6.44E-4	7.96E-4	1.00E-3
82	428.54	1.00E-2	1.12E-2	1.41E-2	1.74E-2	2.15E-2	2.72E-2	82	441.49	3.45E-4	3.87E-4	4.85E-4	5.99E-4	7.43E-4	9.39E-4
83	437.26	9.77E-3	1.10E-2	1.38E-2	1.70E-2	2.11E-2	2.67E-2	83	450.12	3.22E-4	3.60E-4	4.52E-4	5.59E-4	6.94E-4	8.81E-4
84	446.15	8.51E-3	1.06E-2	1.36E-2	1.67E-2	2.07E-2	2.63E-2	84	458.92	2.66E-4	3.33E-4	4.26E-4	5.26E-4	6.53E-4	8.30E-4
85	455.13	8.30E-3	1.04E-2	1.32E-2	1.63E-2	2.03E-2	2.59E-2	85	467.79	2.49E-4	3.11E-4	3.98E-4	4.93E-4	6.13E-4	7.81E-4
86	463.85	8.10E-3	1.01E-2	1.29E-2	1.60E-2	1.99E-2	2.54E-2	86	476.39	2.34E-4	2.92E-4	3.73E-4	4.62E-4	5.76E-4	7.37E-4
87	473.01	7.91E-3	9.85E-3	1.26E-2	1.56E-2	1.94E-2	2.49E-2	87	485.41	2.20E-4	2.74E-4	3.51E-4	4.35E-4	5.44E-4	6.98E-4
88	482.17	7.71E-3	9.60E-3	1.23E-2	1.52E-2	1.90E-2	2.45E-2	88	494.44	2.07E-4	2.58E-4	3.31E-4	4.11E-4	5.14E-4	6.62E-4
89	491.50	7.51E-3	9.35E-3	1.20E-2	1.49E-2	1.86E-2	2.40E-2	89	503.60	1.96E-4	2.44E-4	3.13E-4	3.89E-4	4.88E-4	6.30E-4
90	500.7														

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - E_4$								$C_1 - F_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	127.58	4.46E-1	5.00E-1	5.86E-1	6.89E-1	7.92E-1	8.92E-1	26	44.24	1.88E-2	1.86E-2	1.80E-2	1.79E-2	1.87E-2	2.00E-2
27	134.85	4.12E-1	4.63E-1	5.43E-1	6.38E-1	7.34E-1	8.28E-1	27	47.56	1.89E-2	1.92E-2	1.92E-2	1.97E-2	2.09E-2	2.26E-2
28	142.44	3.83E-1	4.30E-1	5.04E-1	5.93E-1	6.82E-1	7.70E-1	28	51.08	1.94E-2	2.01E-2	2.07E-2	2.17E-2	2.34E-2	2.55E-2
29	150.38	3.56E-1	4.01E-1	4.70E-1	5.52E-1	6.36E-1	7.18E-1	29	54.81	2.01E-2	2.12E-2	2.23E-2	2.40E-2	2.61E-2	2.86E-2
30	158.70	3.32E-1	3.74E-1	4.38E-1	5.16E-1	5.94E-1	6.71E-1	30	58.73	2.10E-2	2.25E-2	2.42E-2	2.64E-2	2.90E-2	3.19E-2
31	167.45	3.04E-1	3.48E-1	4.14E-1	4.81E-1	5.54E-1	6.28E-1	31	62.82	2.27E-2	2.34E-2	2.61E-2	2.90E-2	3.22E-2	3.55E-2
32	176.67	2.90E-1	3.23E-1	3.88E-1	4.51E-1	5.19E-1	5.89E-1	32	67.08	2.42E-2	2.51E-2	2.83E-2	3.18E-2	3.55E-2	3.93E-2
33	186.41	2.72E-1	3.02E-1	3.63E-1	4.23E-1	4.88E-1	5.54E-1	33	71.47	2.57E-2	2.69E-2	3.07E-2	3.48E-2	3.90E-2	4.33E-2
34	196.71	2.56E-1	2.84E-1	3.41E-1	3.97E-1	4.58E-1	5.21E-1	34	75.96	2.73E-2	2.88E-2	3.31E-2	3.78E-2	4.26E-2	4.74E-2
35	207.62	2.41E-1	2.66E-1	3.20E-1	3.73E-1	4.31E-1	4.91E-1	35	80.53	2.89E-2	3.07E-2	3.56E-2	4.08E-2	4.61E-2	5.15E-2
36	219.20	2.27E-1	2.50E-1	3.01E-1	3.51E-1	4.06E-1	4.63E-1	36	85.16	3.05E-2	3.26E-2	3.80E-2	4.38E-2	4.96E-2	5.55E-2
37	231.48	2.13E-1	2.35E-1	2.84E-1	3.31E-1	3.82E-1	4.37E-1	37	89.82	3.19E-2	3.42E-2	4.02E-2	4.65E-2	5.29E-2	5.93E-2
38	244.53	2.02E-1	2.21E-1	2.67E-1	3.11E-1	3.61E-1	4.13E-1	38	94.50	3.34E-2	3.58E-2	4.23E-2	4.91E-2	5.59E-2	6.28E-2
39	258.39	1.87E-1	2.09E-1	2.50E-1	2.94E-1	3.40E-1	3.90E-1	39	99.18	3.44E-2	3.75E-2	4.41E-2	5.13E-2	5.85E-2	6.59E-2
40	273.12	1.74E-1	1.98E-1	2.37E-1	2.77E-1	3.21E-1	3.69E-1	40	103.85	3.57E-2	3.86E-2	4.57E-2	5.33E-2	6.09E-2	6.87E-2
41	288.77	1.64E-1	1.86E-1	2.22E-1	2.62E-1	3.04E-1	3.49E-1	41	108.52	3.60E-2	3.97E-2	4.70E-2	5.49E-2	6.28E-2	7.11E-2
42	305.41	1.59E-1	1.74E-1	2.11E-1	2.47E-1	2.87E-1	3.31E-1	42	113.17	3.61E-2	4.05E-2	4.81E-2	5.62E-2	6.44E-2	7.30E-2
43	323.09	1.46E-1	1.66E-1	1.98E-1	2.34E-1	2.72E-1	3.14E-1	43	117.83	3.73E-2	4.10E-2	4.88E-2	5.72E-2	6.57E-2	7.46E-2
44	341.87	1.39E-1	1.57E-1	1.87E-1	2.21E-1	2.58E-1	2.98E-1	44	122.47	3.79E-2	4.13E-2	4.93E-2	5.78E-2	6.66E-2	7.57E-2
45	361.82	1.30E-1	1.49E-1	1.77E-1	2.09E-1	2.44E-1	2.83E-1	45	127.12	3.78E-2	4.15E-2	4.96E-2	5.83E-2	6.72E-2	7.66E-2
46	382.99	1.27E-1	1.40E-1	1.68E-1	1.98E-1	2.32E-1	2.69E-1	46	131.77	3.79E-2	4.14E-2	4.97E-2	5.85E-2	6.75E-2	7.71E-2
47	405.46	1.19E-1	1.38E-1	1.61E-1	1.87E-1	2.20E-1	2.56E-1	47	136.44	3.74E-2	4.06E-2	4.95E-2	5.85E-2	6.76E-2	7.74E-2
48	429.30	1.12E-1	1.26E-1	1.50E-1	1.78E-1	2.09E-1	2.44E-1	48	141.12	3.72E-2	4.09E-2	4.94E-2	5.83E-2	6.75E-2	7.74E-2
49	454.57	1.09E-1	1.19E-1	1.43E-1	1.69E-1	1.99E-1	2.33E-1	49	145.83	3.69E-2	4.08E-2	4.91E-2	5.79E-2	6.72E-2	7.73E-2
50	481.36	1.03E-1	1.13E-1	1.36E-1	1.61E-1	1.89E-1	2.22E-1	50	150.57	3.67E-2	4.03E-2	4.86E-2	5.75E-2	6.67E-2	7.69E-2
51	509.73	9.69E-2	1.08E-1	1.28E-1	1.53E-1	1.80E-1	2.12E-1	51	155.34	3.54E-2	3.99E-2	4.81E-2	5.69E-2	6.61E-2	7.64E-2
52	539.77	9.06E-2	1.03E-1	1.22E-1	1.46E-1	1.72E-1	2.03E-1	52	160.15	3.55E-2	3.92E-2	4.74E-2	5.62E-2	6.54E-2	7.58E-2
53	571.58	8.72E-2	9.85E-2	1.16E-1	1.39E-1	1.64E-1	1.94E-1	53	165.01	3.46E-2	3.87E-2	4.68E-2	5.54E-2	6.46E-2	7.50E-2
54	605.21	8.34E-2	9.31E-2	1.11E-1	1.32E-1	1.57E-1	1.86E-1	54	169.91	3.42E-2	3.80E-2	4.60E-2	5.46E-2	6.38E-2	7.42E-2
55	640.79	7.80E-2	8.91E-2	1.05E-1	1.26E-1	1.50E-1	1.78E-1	55	174.87	3.36E-2	3.73E-2	4.52E-2	5.37E-2	6.28E-2	7.33E-2
56	678.38	7.54E-2	8.53E-2	1.00E-1	1.20E-1	1.43E-1	1.71E-1	56	179.89	3.28E-2	3.66E-2	4.44E-2	5.28E-2	6.18E-2	7.23E-2
57	718.10	6.98E-2	8.14E-2	9.69E-2	1.14E-1	1.36E-1	1.63E-1	57	184.97	2.96E-2	3.49E-2	4.36E-2	5.20E-2	6.09E-2	7.14E-2
58	760.04	6.69E-2	7.75E-2	9.26E-2	1.09E-1	1.31E-1	1.57E-1	58	190.12	2.90E-2	3.41E-2	4.27E-2	5.10E-2	5.99E-2	7.03E-2
59	804.32	6.43E-2	7.37E-2	8.85E-2	1.05E-1	1.25E-1	1.51E-1	59	195.34	2.83E-2	3.34E-2	4.18E-2	5.00E-2	5.88E-2	6.92E-2
60	851.02	6.18E-2	7.02E-2	8.47E-2	1.00E-1	1.20E-1	1.45E-1	60	200.63	2.77E-2	3.27E-2	4.09E-2	4.89E-2	5.77E-2	6.81E-2
61	900.29	5.95E-2	6.69E-2	8.10E-2	9.60E-2	1.15E-1	1.39E-1	61	206.01	2.71E-2	3.19E-2	4.00E-2	4.79E-2	5.65E-2	6.69E-2
62	952.21	5.73E-2	6.38E-2	7.75E-2	9.20E-2	1.11E-1	1.34E-1	62	211.45	2.64E-2	3.12E-2	3.91E-2	4.69E-2	5.54E-2	6.58E-2
63	1006.94	5.53E-2	6.09E-2	7.42E-2	8.83E-2	1.06E-1	1.29E-1	63	216.99	2.58E-2	3.05E-2	3.82E-2	4.58E-2	5.43E-2	6.46E-2
64	1064.57	5.33E-2	5.83E-2	7.10E-2	8.47E-2	1.02E-1	1.25E-1	64	222.61	2.52E-2	2.97E-2	3.73E-2	4.48E-2	5.32E-2	6.34E-2
65	1125.27	5.14E-2	5.58E-2	6.80E-2	8.14E-2	9.82E-2	1.20E-1	65	228.33	2.46E-2	2.90E-2	3.64E-2	4.38E-2	5.20E-2	6.23E-2
66	1189.16	4.95E-2	5.34E-2	6.51E-2	7.81E-2	9.45E-2	1.16E-1	66	234.15	2.40E-2	2.83E-2	3.55E-2	4.27E-2	5.09E-2	6.11E-2
67	1256.38	4.76E-2	5.12E-2	6.24E-2	7.51E-2	9.10E-2	1.12E-1	67	240.07	2.34E-2	2.76E-2	3.46E-2	4.17E-2	4.98E-2	6.00E-2
68	1327.10	4.58E-2	4.92E-2	5.98E-2	7.22E-2	8.77E-2	1.08E-1	68	246.09	2.28E-2	2.69E-2	3.38E-2	4.07E-2	4.87E-2	5.88E-2
69	1401.46	4.40E-2	4.72E-2	5.74E-2	6.94E-2	8.45E-2	1.04E-1	69	252.22	2.22E-2	2.62E-2	3.29E-2	3.98E-2	4.77E-2	5.77E-2
70	1479.61	4.22E-2	4.54E-2	5.50E-2	6.68E-2	8.14E-2	1.01E-1	70	258.45	2.16E-2	2.55E-2	3.21E-2	3.88E-2	4.66E-2	5.66E-2
71	1561.76	4.04E-2	4.37E-2	5.28E-2	6.43E-2	7.86E-2	9.78E-2	71	264.81	2.10E-2	2.48E-2	3.12E-2	3.79E-2	4.55E-2	5.55E-2
72	1648.04	3.86E-2	4.21E-2	5.07E-2	6.19E-2	7.58E-2	9.46E-2	72	271.27	2.05E-2	2.42E-2	3.04E-2	3.69E-2	4.45E-2	5.44E-2
73	1738.67	3.70E-2	4.06E-2	4.87E-2	5.95E-2	7.32E-2	9.16E-2	73	277.86	2.00E-2	2.35E-2	2.96E-2	3.60E-2	4.35E-2	5.33E-2
74	1833.83	3.54E-2	3.92E-2	4.68E-2	5.73E-2	7.07E-2	8.87E-2	74	284.57	1.94E-2	2.29E-2	2.89E-2	3.51E-2	4.25E-2	5.22E-2
75	1933.72	3.38E-2	3.78E-2	4.50E-2	5.52E-2	6.83E-2	8.60E-2	75	291.40	1.89E-2	2.23E-2	2.81E-2	3.42E-2	4.15E-2	5.12E-2
76	2038.53	3.24E-2	3.65E-2	4.33E-2	5.32E-2	6.60E-2	8.33E-2	76	298.35	1.84E-2	2.17E-2	2.74E-2	3.34E-2	4.06E-2	5.02E-2
77	2148.52	3.11E-2	3.52E-2	4.16E-2	5.13E-2	6.38E-2	8.08E-2	77	305.45	1.80E-2	2.11E-2	2.67E-2	3.25E-2	3.96E-2	4.91E-2
78	2263.88	2.99E-2	3.40E-2	4.01E-2	4.95E-2	6.16E-2	7.84E-2	78	312.67	1.75E-2	2.05E-2	2.59E-2	3.17E-2	3.87E-2	4.81E-2
79	2384.89	2.88E-2	3.29E-2	3.86E-2	4.77E-2	5.96E-2	7.61E-2	79	320.04	1.70E-2	2.00E-2	2.53E-2	3.09E-2	3.78E-2	4.72E-2
80	2511.74	2.79E-2	3.18E-2	3.72E-2	4.60E-2	5.77E-2	7.38E-2	80	327.51	1.66E-2	1.94E-2	2.46E-2	3.01E-2	3.69E-2	4.62E-2
81	2644.71	2.70E-2	3.06E-2	3.59E-2	4.44E-2	5.58E-2	7.17E-2	81	335.11	1.61E-2	1.89E-2	2.39E-2	2.93E-2	3.60E-2	4.53E-2
82	2784.11	2.62E-2	2.95E-2	3.46E-2	4.28E-2	5.40E-2	6.96E-2	82	342.86	1.57E-2	1.84E-2	2.33E-2	2.86E-2	3.52E-2	4.43E-2
83	2930.23	2.54E-2	2.84E-2	3.34E-2	4.13E-2	5.23E-2	6.76E-2	83	350.76	1.53E-2	1.79E-2	2.26E-2	2.78E-2	3.43E-2	4.34E-2
84	3083.39	2.37E-2	2.69E-2	3.29E-2	4.01E-2	5.04E-2	6.54E-2	84	358.86	1.39E-2	1.76E-2	2.23E-2	2.73E-2	3.37E-2	4.26E-2
85	3243.84	2.29E-2	2.59E-2	3.17E-2	3.88E-2	4.88E-2	6.36E-2	85	367.06	1.36E-2	1.71E-2	2.17E-2	2.66E-2	3.29E-2	4.18E-2
86	3411.53	2.26E-2	2.51E-2	3.02E-2	3.75E-2	4.74E-2	6.19E-2	86	375.04	1.32E-2	1.67E-2	2.11E-2	2.59E-2	3.21E-2	4.09E-2
87	3587.56	2.18E-2	2.43E-2	2.91E-2	3.62E-2	4.59E-2	6.02E-2	87	383.48	1.28E-2	1.62E-2	2.05E-2	2.52E-2	3.13E-2	4.00E-2
88	3771.84	2.10E-2	2.35E-2	2.80E-2	3.50E-2	4.45E-2	5.85E-2	88	391.95	1.25E-2	1.57E-2	1.99E-2	2.45E-2	3.06E-2	3.92E-2
89	3964.93	2.02E-2	2.27E-2	2.70E-2	3.39E-2	4.32E-2	5.69E-2	89	400.62	1.21E-2	1.53E-2	1.94E-2	2.39E-2	2.98E-2	3.84E-2

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - F_2$								$C_1 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	81.98	4.77E-3	3.91E-3	2.61E-3	1.56E-3	9.74E-4	7.34E-4	26	102.47	4.60E-1	5.17E-1	6.08E-1	7.14E-1	8.17E-1	9.17E-1
27	86.66	5.46E-3	4.78E-3	3.77E-3	3.00E-3	2.66E-3	2.65E-3	27	109.55	4.32E-1	4.87E-1	5.73E-1	6.73E-1	7.71E-1	8.66E-1
28	91.59	6.54E-3	6.06E-3	5.43E-3	5.01E-3	5.01E-3	5.30E-3	28	117.13	4.10E-1	4.62E-1	5.43E-1	6.39E-1	7.33E-1	8.24E-1
29	96.80	7.69E-3	7.43E-3	7.19E-3	7.15E-3	7.51E-3	8.12E-3	29	125.21	3.92E-1	4.42E-1	5.20E-1	6.11E-1	7.01E-1	7.89E-1
30	102.34	8.74E-3	8.67E-3	8.79E-3	9.12E-3	9.81E-3	1.07E-2	30	133.83	3.77E-1	4.25E-1	5.00E-1	5.89E-1	6.76E-1	7.62E-1
31	108.25	9.50E-3	9.82E-3	1.00E-2	1.06E-2	1.17E-2	1.29E-2	31	142.99	3.53E-1	4.13E-1	4.87E-1	5.66E-1	6.52E-1	7.38E-1
32	114.60	1.00E-2	1.05E-2	1.09E-2	1.18E-2	1.30E-2	1.44E-2	32	152.69	3.42E-1	4.00E-1	4.73E-1	5.50E-1	6.34E-1	7.18E-1
33	121.43	1.02E-2	1.08E-2	1.14E-2	1.24E-2	1.38E-2	1.54E-2	33	162.97	3.32E-1	3.89E-1	4.59E-1	5.34E-1	6.16E-1	6.99E-1
34	128.82	1.00E-2	1.07E-2	1.15E-2	1.26E-2	1.41E-2	1.57E-2	34	173.81	3.21E-1	3.77E-1	4.45E-1	5.18E-1	5.98E-1	6.80E-1
35	136.82	9.67E-3	1.04E-2	1.12E-2	1.24E-2	1.39E-2	1.55E-2	35	185.26	3.11E-1	3.65E-1	4.31E-1	5.02E-1	5.80E-1	6.60E-1
36	145.50	9.16E-3	9.96E-3	1.07E-2	1.18E-2	1.33E-2	1.49E-2	36	197.34	3.10E-1	3.46E-1	4.16E-1	4.85E-1	5.61E-1	6.39E-1
37	154.93	8.81E-3	9.32E-3	1.00E-2	1.11E-2	1.25E-2	1.40E-2	37	210.09	3.00E-1	3.33E-1	4.01E-1	4.68E-1	5.41E-1	6.18E-1
38	165.16	8.03E-3	8.58E-3	9.21E-3	1.02E-2	1.15E-2	1.29E-2	38	223.55	2.89E-1	3.19E-1	3.85E-1	4.50E-1	5.21E-1	5.95E-1
39	176.26	7.15E-3	7.76E-3	8.39E-3	9.27E-3	1.04E-2	1.18E-2	39	237.77	2.66E-1	3.11E-1	3.69E-1	4.31E-1	5.00E-1	5.72E-1
40	188.28	6.55E-3	6.97E-3	7.56E-3	8.33E-3	9.38E-3	1.06E-2	40	252.81	2.59E-1	2.94E-1	3.53E-1	4.13E-1	4.79E-1	5.50E-1
41	201.28	5.85E-3	6.27E-3	6.76E-3	7.43E-3	8.36E-3	9.46E-3	41	268.73	2.43E-1	2.83E-1	3.37E-1	3.95E-1	4.59E-1	5.27E-1
42	215.31	5.45E-3	5.64E-3	6.00E-3	6.60E-3	7.42E-3	8.40E-3	42	285.57	2.42E-1	2.66E-1	3.22E-1	3.77E-1	4.39E-1	5.06E-1
43	230.43	4.68E-3	5.02E-3	5.35E-3	5.85E-3	6.56E-3	7.45E-3	43	303.42	2.24E-1	2.56E-1	3.05E-1	3.61E-1	4.20E-1	4.85E-1
44	246.69	4.20E-3	4.50E-3	4.75E-3	5.17E-3	5.80E-3	6.58E-3	44	322.32	2.14E-1	2.44E-1	2.91E-1	3.44E-1	4.02E-1	4.64E-1
45	264.15	3.78E-3	4.01E-3	4.22E-3	4.57E-3	5.12E-3	5.82E-3	45	342.35	2.03E-1	2.33E-1	2.78E-1	3.29E-1	3.84E-1	4.45E-1
46	282.87	3.49E-3	3.54E-3	3.76E-3	4.05E-3	4.53E-3	5.15E-3	46	363.57	2.00E-1	2.21E-1	2.67E-1	3.14E-1	3.67E-1	4.26E-1
47	302.92	3.12E-3	3.23E-3	3.35E-3	3.59E-3	4.00E-3	4.56E-3	47	386.06	1.89E-1	2.19E-1	2.56E-1	2.99E-1	3.50E-1	4.08E-1
48	324.35	2.81E-3	2.87E-3	2.97E-3	3.19E-3	3.56E-3	4.06E-3	48	409.88	1.78E-1	2.02E-1	2.41E-1	2.86E-1	3.36E-1	3.92E-1
49	347.23	2.59E-3	2.58E-3	2.68E-3	2.84E-3	3.16E-3	3.61E-3	49	435.12	1.74E-1	1.91E-1	2.31E-1	2.74E-1	3.22E-1	3.76E-1
50	371.64	2.38E-3	2.34E-3	2.41E-3	2.54E-3	2.82E-3	3.22E-3	50	461.83	1.67E-1	1.82E-1	2.21E-1	2.62E-1	3.08E-1	3.61E-1
51	397.66	2.16E-3	2.14E-3	2.17E-3	2.28E-3	2.52E-3	2.88E-3	51	490.12	1.57E-1	1.76E-1	2.10E-1	2.50E-1	2.95E-1	3.47E-1
52	425.34	1.97E-3	1.96E-3	1.96E-3	2.05E-3	2.26E-3	2.59E-3	52	520.05	1.48E-1	1.68E-1	2.01E-1	2.40E-1	2.83E-1	3.33E-1
53	454.80	1.84E-3	1.78E-3	1.78E-3	1.85E-3	2.04E-3	2.33E-3	53	551.72	1.43E-1	1.62E-1	1.92E-1	2.29E-1	2.71E-1	3.20E-1
54	486.09	1.68E-3	1.64E-3	1.62E-3	1.68E-3	1.84E-3	2.11E-3	54	585.21	1.37E-1	1.54E-1	1.83E-1	2.19E-1	2.60E-1	3.08E-1
55	519.31	1.56E-3	1.52E-3	1.48E-3	1.52E-3	1.67E-3	1.91E-3	55	620.61	1.29E-1	1.48E-1	1.75E-1	2.10E-1	2.50E-1	2.97E-1
56	554.56	1.46E-3	1.41E-3	1.36E-3	1.39E-3	1.52E-3	1.74E-3	56	658.02	1.25E-1	1.42E-1	1.68E-1	2.02E-1	2.40E-1	2.86E-1
57	591.93	1.34E-3	1.32E-3	1.25E-3	1.26E-3	1.37E-3	1.59E-3	57	697.54	1.16E-1	1.37E-1	1.63E-1	1.92E-1	2.29E-1	2.75E-1
58	631.52	1.25E-3	1.23E-3	1.16E-3	1.15E-3	1.26E-3	1.45E-3	58	739.26	1.12E-1	1.30E-1	1.56E-1	1.84E-1	2.21E-1	2.65E-1
59	673.43	1.18E-3	1.14E-3	1.07E-3	1.06E-3	1.15E-3	1.33E-3	59	783.31	1.08E-1	1.24E-1	1.50E-1	1.77E-1	2.12E-1	2.55E-1
60	717.77	1.11E-3	1.07E-3	9.96E-4	9.78E-4	1.06E-3	1.22E-3	60	829.77	1.04E-1	1.19E-1	1.44E-1	1.70E-1	2.04E-1	2.46E-1
61	764.66	1.05E-3	9.98E-4	9.28E-4	9.05E-4	9.76E-4	1.13E-3	61	878.78	1.01E-1	1.14E-1	1.38E-1	1.64E-1	1.97E-1	2.38E-1
62	814.19	9.92E-4	9.36E-4	8.66E-4	8.39E-4	9.02E-4	1.04E-3	62	930.43	9.73E-2	1.09E-1	1.32E-1	1.58E-1	1.89E-1	2.30E-1
63	866.52	9.44E-4	8.81E-4	8.11E-4	7.81E-4	8.36E-4	9.68E-4	63	984.87	9.42E-2	1.04E-1	1.27E-1	1.51E-1	1.82E-1	2.22E-1
64	921.75	8.97E-4	8.30E-4	7.60E-4	7.27E-4	7.76E-4	8.99E-4	64	1042.20	9.11E-2	9.98E-2	1.22E-1	1.46E-1	1.76E-1	2.15E-1
65	980.03	8.54E-4	7.85E-4	7.14E-4	6.80E-4	7.23E-4	8.38E-4	65	1102.59	8.80E-2	9.57E-2	1.17E-1	1.40E-1	1.70E-1	2.07E-1
66	1041.48	8.16E-4	7.44E-4	6.73E-4	6.36E-4	6.74E-4	7.82E-4	66	1166.15	8.50E-2	9.19E-2	1.13E-1	1.35E-1	1.64E-1	2.01E-1
67	1106.26	7.78E-4	7.06E-4	6.34E-4	5.97E-4	6.31E-4	7.32E-4	67	1233.04	8.20E-2	8.83E-2	1.08E-1	1.30E-1	1.58E-1	1.94E-1
68	1174.51	7.44E-4	6.72E-4	6.00E-4	5.62E-4	5.91E-4	6.87E-4	68	1303.40	7.90E-2	8.50E-2	1.04E-1	1.26E-1	1.52E-1	1.88E-1
69	1246.40	7.12E-4	6.41E-4	5.68E-4	5.29E-4	5.55E-4	6.45E-4	69	1377.40	7.60E-2	8.18E-2	9.99E-2	1.21E-1	1.47E-1	1.82E-1
70	1322.05	6.81E-4	6.12E-4	5.38E-4	4.99E-4	5.23E-4	6.08E-4	70	1455.17	7.30E-2	7.89E-2	9.60E-2	1.17E-1	1.42E-1	1.77E-1
71	1401.68	6.52E-4	5.86E-4	5.12E-4	4.72E-4	4.93E-4	5.73E-4	71	1536.92	7.01E-2	7.61E-2	9.23E-2	1.12E-1	1.38E-1	1.71E-1
72	1485.43	6.25E-4	5.62E-4	4.87E-4	4.47E-4	4.65E-4	5.42E-4	72	1622.79	6.72E-2	7.34E-2	8.87E-2	1.08E-1	1.33E-1	1.66E-1
73	1573.50	6.00E-4	5.40E-4	4.64E-4	4.24E-4	4.40E-4	5.13E-4	73	1712.99	6.44E-2	7.09E-2	8.54E-2	1.05E-1	1.29E-1	1.61E-1
74	1666.07	5.76E-4	5.19E-4	4.43E-4	4.03E-4	4.18E-4	4.87E-4	74	1807.70	6.17E-2	6.85E-2	8.22E-2	1.01E-1	1.24E-1	1.56E-1
75	1763.36	5.55E-4	5.00E-4	4.23E-4	3.84E-4	3.97E-4	4.63E-4	75	1907.13	5.91E-2	6.63E-2	7.91E-2	9.74E-2	1.20E-1	1.52E-1
76	1865.54	5.34E-4	4.82E-4	4.05E-4	3.66E-4	3.77E-4	4.41E-4	76	2011.46	5.66E-2	6.41E-2	7.62E-2	9.40E-2	1.17E-1	1.47E-1
77	1972.88	5.16E-4	4.65E-4	3.89E-4	3.49E-4	3.59E-4	4.20E-4	77	2120.95	5.44E-2	6.20E-2	7.35E-2	9.07E-2	1.13E-1	1.43E-1
78	2085.56	4.99E-4	4.49E-4	3.74E-4	3.34E-4	3.43E-4	4.02E-4	78	2235.80	5.24E-2	6.00E-2	7.08E-2	8.76E-2	1.09E-1	1.39E-1
79	2203.86	4.83E-4	4.34E-4	3.59E-4	3.20E-4	3.28E-4	3.84E-4	79	2356.26	5.06E-2	5.80E-2	6.83E-2	8.46E-2	1.06E-1	1.35E-1
80	2327.96	4.68E-4	4.20E-4	3.46E-4	3.06E-4	3.14E-4	3.68E-4	80	2482.55	4.90E-2	5.60E-2	6.59E-2	8.17E-2	1.02E-1	1.31E-1
81	2458.16	4.54E-4	4.07E-4	3.34E-4	2.94E-4	3.01E-4	3.54E-4	81	2614.93	4.75E-2	5.41E-2	6.36E-2	7.89E-2	9.93E-2	1.28E-1
82	2594.75	4.41E-4	3.94E-4	3.22E-4	2.83E-4	2.89E-4	3.40E-4	82	2753.71	4.61E-2	5.22E-2	6.14E-2	7.62E-2	9.62E-2	1.24E-1
83	2738.01	4.29E-4	3.82E-4	3.11E-4	2.72E-4	2.78E-4	3.27E-4	83	2899.19	4.48E-2	5.03E-2	5.93E-2	7.36E-2	9.32E-2	1.21E-1
84	2888.29	4.13E-4	3.69E-4	3.05E-4	2.63E-4	2.66E-4	3.15E-4	84	3051.68	4.17E-2	4.78E-2	5.85E-2	7.15E-2	9.00E-2	1.17E-1
85	3045.81	4.02E-4	3.58E-4	2.96E-4	2.54E-4	2.57E-4	3.04E-4	85	3211.42	4.05E-2	4.59E-2	5.65E-2	6.92E-2	8.73E-2	1.14E-1
86	3210.52	3.92E-4	3.47E-4	2.87E-4	2.46E-4	2.48E-4	2.94E-4	86	3378.37	3.93E-2	4.42E-2	5.45E-2	6.70E-2	8.47E-2	1.11E-1
87	3383.53	3.82E-4	3.38E-4	2.78E-4	2.38E-4	2.40E-4	2.85E-4	87	3553.63	3.81E-2	4.26E-2	5.25E-2	6.49E-2	8.22E-2	1.08E-1
88	3564.74	3.73E-4	3.29E-4	2.70E-4	2.31E-4	2.33E-4	2.77E-4	88	3737.10	3.71E-2	4.18E-2	5.01E-2	6.27E-2	7.99E-2	1.05E-1
89	3754.70	3.65E-4	3.20E-4	2.63E-4	2.25E-4	2.26E-4	2.69E-4	89	3929.34	3.58E-2	4.04E-2	4.83E-2	6.0		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_1 - F_4$								$C_2 - F_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	126.97	9.75E-2	1.08E-1	1.25E-1	1.46E-1	1.67E-1	1.87E-1	26	28.31	3.16E-3	3.06E-3	2.96E-3	2.92E-3	3.01E-3	3.19E-3
27	134.87	9.77E-2	1.09E-1	1.26E-1	1.47E-1	1.69E-1	1.90E-1	27	29.64	3.67E-3	3.63E-3	3.64E-3	3.71E-3	3.90E-3	4.16E-3
28	143.34	9.45E-2	1.05E-1	1.22E-1	1.43E-1	1.64E-1	1.85E-1	28	30.80	4.18E-3	4.22E-3	4.38E-3	4.57E-3	4.87E-3	5.24E-3
29	152.46	8.80E-2	9.80E-2	1.15E-1	1.34E-1	1.54E-1	1.74E-1	29	31.77	4.68E-3	4.81E-3	5.13E-3	5.47E-3	5.89E-3	6.37E-3
30	162.33	7.95E-2	8.86E-2	1.04E-1	1.21E-1	1.40E-1	1.58E-1	30	32.50	5.15E-3	5.38E-3	5.88E-3	6.36E-3	6.91E-3	7.51E-3
31	173.05	6.97E-2	7.66E-2	9.16E-2	1.06E-1	1.22E-1	1.38E-1	31	32.93	5.23E-3	5.85E-3	6.60E-3	7.23E-3	7.90E-3	8.61E-3
32	184.71	5.90E-2	6.47E-2	7.75E-2	8.99E-2	1.03E-1	1.17E-1	32	33.02	5.54E-3	6.31E-3	7.23E-3	8.01E-3	8.79E-3	9.61E-3
33	197.43	4.85E-2	5.31E-2	6.37E-2	7.40E-2	8.52E-2	9.68E-2	33	32.69	5.77E-3	6.70E-3	7.77E-3	8.67E-3	9.56E-3	1.05E-2
34	211.29	3.89E-2	4.25E-2	5.10E-2	5.93E-2	6.84E-2	7.78E-2	34	31.90	5.93E-3	7.00E-3	8.21E-3	9.21E-3	1.02E-2	1.12E-2
35	226.41	3.06E-2	3.33E-2	4.00E-2	4.66E-2	5.37E-2	6.12E-2	35	30.57	6.03E-3	7.23E-3	8.54E-3	9.62E-3	1.07E-2	1.17E-2
36	242.89	2.37E-2	2.57E-2	3.09E-2	3.60E-2	4.15E-2	4.74E-2	36	28.65	6.09E-3	7.39E-3	8.78E-3	9.91E-3	1.10E-2	1.21E-2
37	260.82	1.79E-2	1.97E-2	2.36E-2	2.74E-2	3.17E-2	3.63E-2	37	26.05	6.10E-3	7.50E-3	8.93E-3	1.01E-2	1.12E-2	1.23E-2
38	280.30	1.37E-2	1.48E-2	1.79E-2	2.08E-2	2.40E-2	2.76E-2	38	22.74	6.14E-3	7.59E-3	9.04E-3	1.02E-2	1.13E-2	1.25E-2
39	301.42	1.02E-2	1.12E-2	1.34E-2	1.57E-2	1.82E-2	2.09E-2	39	18.63	6.24E-3	7.72E-3	9.16E-3	1.03E-2	1.14E-2	1.26E-2
40	324.28	7.56E-3	8.48E-3	1.00E-2	1.18E-2	1.37E-2	1.58E-2	40	13.69	6.47E-3	7.95E-3	9.37E-3	1.05E-2	1.16E-2	1.28E-2
41	348.99	5.73E-3	6.38E-3	7.58E-3	8.92E-3	1.04E-2	1.19E-2	41	7.860	7.06E-3	8.52E-3	9.89E-3	1.10E-2	1.21E-2	1.33E-2
42	375.64	4.41E-3	4.79E-3	5.78E-3	6.74E-3	7.84E-3	9.06E-3	42	1.079	9.84E-3	1.13E-2	1.26E-2	1.37E-2	1.49E-2	1.62E-2
43	404.35	3.28E-3	3.66E-3	4.34E-3	5.12E-3	5.96E-3	6.90E-3	43	-6.701	6.53E-3	7.85E-3	9.09E-3	1.01E-2	1.11E-2	1.23E-2
44	435.22	2.51E-3	2.79E-3	3.31E-3	3.91E-3	4.55E-3	5.28E-3	44	-15.53	5.00E-3	6.20E-3	7.36E-3	8.31E-3	9.24E-3	1.03E-2
45	468.38	1.91E-3	2.15E-3	2.53E-3	2.99E-3	3.50E-3	4.07E-3	45	-25.47	4.12E-3	5.20E-3	6.26E-3	7.14E-3	8.00E-3	8.94E-3
46	503.95	1.48E-3	1.67E-3	1.94E-3	2.30E-3	2.70E-3	3.15E-3	46	-36.58	3.53E-3	4.46E-3	5.44E-3	6.26E-3	7.06E-3	7.93E-3
47	542.07	1.17E-3	1.34E-3	1.54E-3	1.78E-3	2.09E-3	2.44E-3	47	-48.90	3.08E-3	3.89E-3	4.78E-3	5.54E-3	6.28E-3	7.09E-3
48	582.85	8.95E-4	9.94E-4	1.18E-3	1.39E-3	1.63E-3	1.91E-3	48	-62.52	2.77E-3	3.43E-3	4.24E-3	4.94E-3	5.63E-3	6.39E-3
49	626.44	7.08E-4	7.82E-4	9.14E-4	1.09E-3	1.28E-3	1.51E-3	49	-77.48	2.55E-3	3.05E-3	3.78E-3	4.43E-3	5.07E-3	5.78E-3
50	672.99	5.58E-4	6.16E-4	7.19E-4	8.57E-4	1.01E-3	1.19E-3	50	-93.86	2.34E-3	2.74E-3	3.39E-3	3.98E-3	4.59E-3	5.25E-3
51	722.64	4.43E-4	4.90E-4	5.68E-4	6.79E-4	8.03E-4	9.48E-4	51	-111.72	2.16E-3	2.47E-3	3.05E-3	3.60E-3	4.16E-3	4.79E-3
52	775.57	3.47E-4	3.84E-4	4.55E-4	5.39E-4	6.40E-4	7.58E-4	52	-131.15	2.01E-3	2.25E-3	2.76E-3	3.27E-3	3.79E-3	4.38E-3
53	831.93	2.79E-4	3.09E-4	3.64E-4	4.31E-4	5.13E-4	6.09E-4	53	-152.20	1.85E-3	2.06E-3	2.50E-3	2.97E-3	3.46E-3	4.01E-3
54	891.88	2.26E-4	2.49E-4	2.92E-4	3.46E-4	4.13E-4	4.92E-4	54	-174.98	1.70E-3	1.89E-3	2.28E-3	2.71E-3	3.17E-3	3.68E-3
55	955.62	1.81E-4	2.01E-4	2.36E-4	2.80E-4	3.34E-4	4.00E-4	55	-199.55	1.54E-3	1.74E-3	2.09E-3	2.48E-3	2.90E-3	3.39E-3
56	1023.31	1.47E-4	1.62E-4	1.91E-4	2.27E-4	2.72E-4	3.26E-4	56	-226.01	1.39E-3	1.60E-3	1.91E-3	2.27E-3	2.67E-3	3.13E-3
57	1095.17	1.19E-4	1.32E-4	1.55E-4	1.86E-4	2.22E-4	2.66E-4	57	-254.45	1.28E-3	1.42E-3	1.74E-3	2.09E-3	2.47E-3	2.90E-3
58	1171.38	9.77E-5	1.09E-4	1.27E-4	1.52E-4	1.82E-4	2.19E-4	58	-284.96	1.20E-3	1.31E-3	1.60E-3	1.92E-3	2.28E-3	2.69E-3
59	1252.16	8.05E-5	8.96E-5	1.04E-4	1.25E-4	1.50E-4	1.81E-4	59	-317.64	1.13E-3	1.21E-3	1.47E-3	1.77E-3	2.10E-3	2.50E-3
60	1337.70	6.66E-5	7.39E-5	8.56E-5	1.03E-4	1.24E-4	1.50E-4	60	-352.60	1.05E-3	1.13E-3	1.36E-3	1.64E-3	1.95E-3	2.32E-3
61	1428.26	5.54E-5	6.11E-5	7.08E-5	8.56E-5	1.03E-4	1.25E-4	61	-389.94	9.77E-4	1.06E-3	1.26E-3	1.51E-3	1.81E-3	2.16E-3
62	1524.04	4.62E-5	5.07E-5	5.88E-5	7.11E-5	8.60E-5	1.05E-4	62	-429.78	9.07E-4	9.87E-4	1.17E-3	1.40E-3	1.68E-3	2.02E-3
63	1625.32	3.87E-5	4.21E-5	4.91E-5	5.93E-5	7.20E-5	8.78E-5	63	-472.23	8.40E-4	9.22E-4	1.09E-3	1.30E-3	1.56E-3	1.88E-3
64	1732.30	3.24E-5	3.51E-5	4.11E-5	4.96E-5	6.04E-5	7.40E-5	64	-517.42	7.76E-4	8.62E-4	1.01E-3	1.21E-3	1.46E-3	1.76E-3
65	1845.31	2.71E-5	2.94E-5	3.46E-5	4.16E-5	5.09E-5	6.25E-5	65	-565.46	7.18E-4	8.07E-4	9.41E-4	1.13E-3	1.36E-3	1.65E-3
66	1964.57	2.27E-5	2.47E-5	2.92E-5	3.51E-5	4.30E-5	5.30E-5	66	-616.50	6.64E-4	7.55E-4	8.79E-4	1.05E-3	1.27E-3	1.55E-3
67	2090.39	1.91E-5	2.09E-5	2.47E-5	2.96E-5	3.64E-5	4.51E-5	67	-670.67	6.15E-4	7.05E-4	8.22E-4	9.84E-4	1.19E-3	1.46E-3
68	2223.06	1.62E-5	1.78E-5	2.10E-5	2.51E-5	3.10E-5	3.84E-5	68	-728.11	5.63E-4	6.56E-4	7.71E-4	9.21E-4	1.12E-3	1.37E-3
69	2362.91	1.38E-5	1.52E-5	1.79E-5	2.14E-5	2.64E-5	3.29E-5	69	-788.98	5.25E-4	6.12E-4	7.23E-4	8.63E-4	1.05E-3	1.29E-3
70	2510.21	1.18E-5	1.30E-5	1.52E-5	1.82E-5	2.25E-5	2.82E-5	70	-853.44	4.92E-4	5.72E-4	6.78E-4	8.09E-4	9.85E-4	1.22E-3
71	2665.36	1.01E-5	1.11E-5	1.30E-5	1.56E-5	1.93E-5	2.43E-5	71	-921.64	4.63E-4	5.34E-4	6.36E-4	7.59E-4	9.26E-4	1.15E-3
72	2828.66	8.71E-6	9.54E-6	1.11E-5	1.34E-5	1.66E-5	2.09E-5	72	-993.76	4.36E-4	4.99E-4	5.98E-4	7.14E-4	8.72E-4	1.08E-3
73	3000.51	7.49E-6	8.19E-6	9.52E-6	1.15E-5	1.43E-5	1.81E-5	73	-1069.98	4.11E-4	4.67E-4	5.62E-4	6.72E-4	8.21E-4	1.02E-3
74	3181.28	6.45E-6	7.03E-6	8.18E-6	9.94E-6	1.24E-5	1.57E-5	74	-1150.48	3.89E-4	4.37E-4	5.28E-4	6.32E-4	7.75E-4	9.69E-4
75	3371.36	5.55E-6	6.04E-6	7.04E-6	8.60E-6	1.07E-5	1.36E-5	75	-1235.45	3.68E-4	4.10E-4	4.96E-4	5.96E-4	7.31E-4	9.17E-4
76	3571.16	4.78E-6	5.20E-6	6.09E-6	7.45E-6	9.28E-6	1.19E-5	76	-1325.14	3.49E-4	3.85E-4	4.67E-4	5.62E-4	6.91E-4	8.70E-4
77	3781.16	4.13E-6	4.50E-6	5.28E-6	6.47E-6	8.07E-6	1.03E-5	77	-1419.69	3.31E-4	3.62E-4	4.40E-4	5.30E-4	6.53E-4	8.25E-4
78	4001.76	3.59E-6	3.90E-6	4.59E-6	5.63E-6	7.04E-6	9.05E-6	78	-1519.39	3.13E-4	3.41E-4	4.14E-4	5.01E-4	6.18E-4	7.83E-4
79	4233.48	3.13E-6	3.40E-6	4.00E-6	4.90E-6	6.15E-6	7.93E-6	79	-1624.43	2.96E-4	3.22E-4	3.90E-4	4.73E-4	5.85E-4	7.44E-4
80	4476.75	2.74E-6	2.98E-6	3.49E-6	4.27E-6	5.39E-6	6.97E-6	80	-1735.10	2.76E-4	3.07E-4	3.65E-4	4.47E-4	5.55E-4	7.07E-4
81	4732.14	2.39E-6	2.61E-6	3.06E-6	3.73E-6	4.72E-6	6.13E-6	81	-1851.65	2.61E-4	2.91E-4	3.44E-4	4.23E-4	5.26E-4	6.73E-4
82	5000.20	2.09E-6	2.29E-6	2.68E-6	3.27E-6	4.15E-6	5.40E-6	82	-1974.32	2.47E-4	2.75E-4	3.25E-4	4.00E-4	4.99E-4	6.41E-4
83	5281.52	1.83E-6	2.00E-6	2.35E-6	2.87E-6	3.66E-6	4.77E-6	83	-2103.40	2.35E-4	2.60E-4	3.07E-4	3.78E-4	4.74E-4	6.10E-4
84	5576.72	1.62E-6	1.75E-6	2.05E-6	2.51E-6	3.23E-6	4.23E-6	84	-2239.15	2.15E-4	2.48E-4	2.95E-4	3.56E-4	4.47E-4	5.80E-4
85	5886.37	1.43E-6	1.53E-6	1.81E-6	2.21E-6	2.85E-6	3.75E-6	85	-2381.97	2.04E-4	2.34E-4	2.80E-4	3.38E-4	4.25E-4	5.53E-4
86	6210.70	1.26E-6	1.34E-6	1.59E-6	1.95E-6	2.52E-6	3.32E-6	86	-2532.49	1.94E-4	2.21E-4	2.66E-4	3.21E-4	4.05E-4	5.28E-4
87	6551.23	1.11E-6	1.17E-6	1.41E-6	1.72E-6	2.22E-6	2.96E-6	87	-2690.44	1.85E-4	2.08E-4	2.52E-4	3.05E-4	3.85E-4	5.04E-4
88	6908.21	9.73E-7	1.04E-6	1.25E-6	1.52E-6	1.97E-6	2.63E-6	88	-2856.56	1.77E-4	1.96E-4	2.39E-4	2.91E-4	3.67E-4	4.82E-4
89	7282.58	8.56E-7	9.18E-7	1.11E-6	1.35E-6	1.75E-6	2.34E-6	89	-3031.10	1.69E-4	1.85E-4	2.27E-4	2.76E-4	3.50E-4	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - F_2$								$C_2 - F_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	66.05	1.05E-2	9.46E-3	7.96E-3	6.83E-3	6.46E-3	6.62E-3	26	86.55	1.73E-2	1.66E-2	1.60E-2	1.59E-2	1.67E-2	1.80E-2
27	68.74	9.22E-3	8.40E-3	7.16E-3	6.24E-3	5.98E-3	6.17E-3	27	91.63	1.51E-2	1.44E-2	1.36E-2	1.33E-2	1.38E-2	1.49E-2
28	71.31	8.25E-3	7.56E-3	6.53E-3	5.78E-3	5.60E-3	5.81E-3	28	96.85	1.25E-2	1.17E-2	1.06E-2	9.96E-3	1.01E-2	1.07E-2
29	73.76	7.50E-3	6.93E-3	6.07E-3	5.47E-3	5.36E-3	5.60E-3	29	102.18	9.82E-3	8.83E-3	7.43E-3	6.45E-3	6.16E-3	6.39E-3
30	76.11	6.96E-3	6.50E-3	5.79E-3	5.32E-3	5.29E-3	5.56E-3	30	107.60	7.49E-3	6.37E-3	4.73E-3	3.47E-3	2.86E-3	2.72E-3
31	78.36	6.74E-3	6.22E-3	5.63E-3	5.32E-3	5.38E-3	5.71E-3	31	113.09	5.85E-3	4.74E-3	3.04E-3	1.68E-3	9.06E-4	5.73E-4
32	80.54	6.57E-3	6.13E-3	5.69E-3	5.50E-3	5.65E-3	6.05E-3	32	118.63	5.31E-3	4.30E-3	2.76E-3	1.52E-3	8.25E-4	5.24E-4
33	82.66	6.55E-3	6.19E-3	5.89E-3	5.84E-3	6.09E-3	6.57E-3	33	124.19	5.91E-3	5.17E-3	3.99E-3	3.14E-3	2.78E-3	2.77E-3
34	84.76	6.67E-3	6.38E-3	6.24E-3	6.32E-3	6.69E-3	7.26E-3	34	129.76	7.53E-3	7.22E-3	6.60E-3	6.34E-3	6.56E-3	7.08E-3
35	86.86	6.86E-3	6.70E-3	6.70E-3	6.94E-3	7.43E-3	8.11E-3	35	135.31	9.88E-3	1.01E-2	1.02E-2	1.07E-2	1.17E-2	1.29E-2
36	88.99	7.18E-3	7.07E-3	7.26E-3	7.65E-3	8.28E-3	9.10E-3	36	140.83	1.27E-2	1.36E-2	1.44E-2	1.58E-2	1.76E-2	1.97E-2
37	91.16	7.53E-3	7.50E-3	7.88E-3	8.44E-3	9.23E-3	1.02E-2	37	146.32	1.61E-2	1.72E-2	1.88E-2	2.10E-2	2.38E-2	2.67E-2
38	93.40	7.94E-3	7.99E-3	8.56E-3	9.29E-3	1.02E-2	1.13E-2	38	151.79	1.88E-2	2.07E-2	2.30E-2	2.61E-2	2.97E-2	3.35E-2
39	95.72	8.31E-3	8.53E-3	9.25E-3	1.01E-2	1.12E-2	1.25E-2	39	157.23	2.11E-2	2.36E-2	2.68E-2	3.07E-2	3.51E-2	3.97E-2
40	98.12	8.78E-3	9.01E-3	9.93E-3	1.10E-2	1.22E-2	1.37E-2	40	162.66	2.35E-2	2.64E-2	3.01E-2	3.46E-2	3.97E-2	4.51E-2
41	100.62	9.14E-3	9.48E-3	1.06E-2	1.18E-2	1.32E-2	1.48E-2	41	168.07	2.58E-2	2.86E-2	3.28E-2	3.79E-2	4.36E-2	4.96E-2
42	103.21	9.41E-3	9.89E-3	1.12E-2	1.26E-2	1.41E-2	1.58E-2	42	173.48	2.76E-2	3.04E-2	3.49E-2	4.06E-2	4.68E-2	5.34E-2
43	105.90	9.77E-3	1.03E-2	1.17E-2	1.33E-2	1.49E-2	1.68E-2	43	178.89	2.78E-2	3.15E-2	3.67E-2	4.27E-2	4.93E-2	5.63E-2
44	108.68	1.01E-2	1.07E-2	1.22E-2	1.39E-2	1.57E-2	1.77E-2	44	184.32	2.84E-2	3.25E-2	3.79E-2	4.42E-2	5.11E-2	5.85E-2
45	111.56	1.03E-2	1.10E-2	1.27E-2	1.44E-2	1.63E-2	1.85E-2	45	189.76	2.90E-2	3.30E-2	3.88E-2	4.53E-2	5.24E-2	6.02E-2
46	114.52	1.05E-2	1.12E-2	1.30E-2	1.49E-2	1.69E-2	1.92E-2	46	195.22	2.93E-2	3.37E-2	3.93E-2	4.59E-2	5.33E-2	6.13E-2
47	117.57	1.05E-2	1.13E-2	1.33E-2	1.53E-2	1.74E-2	1.98E-2	47	200.72	2.88E-2	3.31E-2	3.96E-2	4.64E-2	5.38E-2	6.20E-2
48	120.70	1.07E-2	1.15E-2	1.35E-2	1.56E-2	1.78E-2	2.03E-2	48	206.24	2.92E-2	3.37E-2	3.95E-2	4.64E-2	5.40E-2	6.23E-2
49	123.92	1.08E-2	1.17E-2	1.37E-2	1.58E-2	1.81E-2	2.07E-2	49	211.80	2.89E-2	3.34E-2	3.94E-2	4.62E-2	5.39E-2	6.23E-2
50	127.22	1.09E-2	1.18E-2	1.39E-2	1.60E-2	1.84E-2	2.10E-2	50	217.41	2.86E-2	3.32E-2	3.90E-2	4.59E-2	5.36E-2	6.21E-2
51	130.60	1.08E-2	1.18E-2	1.39E-2	1.61E-2	1.85E-2	2.13E-2	51	223.06	2.93E-2	3.27E-2	3.85E-2	4.54E-2	5.31E-2	6.17E-2
52	134.05	1.08E-2	1.18E-2	1.40E-2	1.62E-2	1.86E-2	2.15E-2	52	228.75	2.83E-2	3.22E-2	3.80E-2	4.49E-2	5.25E-2	6.11E-2
53	137.59	1.07E-2	1.17E-2	1.40E-2	1.62E-2	1.87E-2	2.16E-2	53	234.51	2.73E-2	3.16E-2	3.74E-2	4.42E-2	5.18E-2	6.04E-2
54	141.20	1.07E-2	1.17E-2	1.39E-2	1.62E-2	1.87E-2	2.16E-2	54	240.32	2.68E-2	3.11E-2	3.68E-2	4.35E-2	5.10E-2	5.97E-2
55	144.89	1.06E-2	1.16E-2	1.38E-2	1.62E-2	1.87E-2	2.17E-2	55	246.19	2.65E-2	3.04E-2	3.60E-2	4.27E-2	5.02E-2	5.88E-2
56	148.66	1.04E-2	1.15E-2	1.38E-2	1.61E-2	1.86E-2	2.16E-2	56	252.12	2.56E-2	2.97E-2	3.53E-2	4.18E-2	4.93E-2	5.79E-2
57	152.51	9.47E-3	1.12E-2	1.37E-2	1.60E-2	1.86E-2	2.16E-2	57	258.12	2.54E-2	2.79E-2	3.42E-2	4.10E-2	4.84E-2	5.70E-2
58	156.44	9.35E-3	1.11E-2	1.35E-2	1.59E-2	1.84E-2	2.15E-2	58	264.19	2.48E-2	2.72E-2	3.35E-2	4.01E-2	4.74E-2	5.60E-2
59	160.45	9.21E-3	1.09E-2	1.34E-2	1.57E-2	1.83E-2	2.14E-2	59	270.33	2.41E-2	2.66E-2	3.27E-2	3.93E-2	4.65E-2	5.50E-2
60	164.54	9.06E-3	1.08E-2	1.32E-2	1.55E-2	1.81E-2	2.12E-2	60	276.54	2.35E-2	2.59E-2	3.19E-2	3.84E-2	4.55E-2	5.40E-2
61	168.72	8.91E-3	1.06E-2	1.30E-2	1.53E-2	1.79E-2	2.10E-2	61	282.83	2.29E-2	2.53E-2	3.11E-2	3.75E-2	4.45E-2	5.29E-2
62	172.96	8.75E-3	1.04E-2	1.28E-2	1.51E-2	1.76E-2	2.08E-2	62	289.19	2.23E-2	2.46E-2	3.04E-2	3.66E-2	4.35E-2	5.19E-2
63	177.30	8.59E-3	1.03E-2	1.26E-2	1.49E-2	1.74E-2	2.06E-2	63	295.65	2.17E-2	2.40E-2	2.96E-2	3.57E-2	4.25E-2	5.09E-2
64	181.72	8.43E-3	1.01E-2	1.24E-2	1.46E-2	1.72E-2	2.04E-2	64	302.17	2.12E-2	2.34E-2	2.89E-2	3.48E-2	4.16E-2	4.98E-2
65	186.23	8.27E-3	9.89E-3	1.22E-2	1.44E-2	1.69E-2	2.01E-2	65	308.79	2.05E-2	2.27E-2	2.81E-2	3.40E-2	4.06E-2	4.88E-2
66	190.83	8.10E-3	9.69E-3	1.19E-2	1.41E-2	1.67E-2	1.99E-2	66	315.50	1.99E-2	2.21E-2	2.74E-2	3.31E-2	3.97E-2	4.78E-2
67	195.52	7.94E-3	9.50E-3	1.17E-2	1.39E-2	1.64E-2	1.96E-2	67	322.30	1.94E-2	2.16E-2	2.67E-2	3.23E-2	3.88E-2	4.69E-2
68	200.31	7.77E-3	9.30E-3	1.15E-2	1.36E-2	1.61E-2	1.93E-2	68	329.20	1.89E-2	2.10E-2	2.60E-2	3.15E-2	3.79E-2	4.59E-2
69	205.19	7.61E-3	9.11E-3	1.12E-2	1.34E-2	1.58E-2	1.91E-2	69	336.19	1.84E-2	2.04E-2	2.53E-2	3.07E-2	3.70E-2	4.49E-2
70	210.16	7.45E-3	8.91E-3	1.10E-2	1.31E-2	1.56E-2	1.88E-2	70	343.27	1.79E-2	1.99E-2	2.46E-2	2.99E-2	3.61E-2	4.40E-2
71	215.23	7.28E-3	8.71E-3	1.08E-2	1.28E-2	1.53E-2	1.85E-2	71	350.47	1.74E-2	1.93E-2	2.40E-2	2.92E-2	3.53E-2	4.31E-2
72	220.40	7.12E-3	8.52E-3	1.05E-2	1.26E-2	1.50E-2	1.82E-2	72	357.76	1.69E-2	1.88E-2	2.34E-2	2.84E-2	3.44E-2	4.22E-2
73	225.66	6.96E-3	8.33E-3	1.03E-2	1.23E-2	1.47E-2	1.80E-2	73	365.16	1.64E-2	1.83E-2	2.27E-2	2.77E-2	3.36E-2	4.13E-2
74	231.03	6.80E-3	8.13E-3	1.01E-2	1.20E-2	1.44E-2	1.77E-2	74	372.66	1.60E-2	1.78E-2	2.21E-2	2.70E-2	3.28E-2	4.05E-2
75	236.50	6.64E-3	7.95E-3	9.85E-3	1.18E-2	1.42E-2	1.74E-2	75	380.27	1.55E-2	1.73E-2	2.15E-2	2.63E-2	3.20E-2	3.96E-2
76	242.06	6.49E-3	7.76E-3	9.62E-3	1.15E-2	1.39E-2	1.71E-2	76	387.97	1.51E-2	1.69E-2	2.10E-2	2.56E-2	3.13E-2	3.88E-2
77	247.74	6.34E-3	7.58E-3	9.40E-3	1.13E-2	1.36E-2	1.68E-2	77	395.81	1.47E-2	1.64E-2	2.04E-2	2.49E-2	3.05E-2	3.80E-2
78	253.51	6.19E-3	7.40E-3	9.18E-3	1.10E-2	1.34E-2	1.65E-2	78	403.74	1.43E-2	1.59E-2	1.98E-2	2.43E-2	2.98E-2	3.72E-2
79	259.40	6.04E-3	7.22E-3	8.97E-3	1.08E-2	1.31E-2	1.63E-2	79	411.80	1.39E-2	1.55E-2	1.93E-2	2.37E-2	2.91E-2	3.64E-2
80	265.36	5.90E-3	7.05E-3	8.76E-3	1.06E-2	1.28E-2	1.60E-2	80	419.94	1.35E-2	1.51E-2	1.88E-2	2.31E-2	2.84E-2	3.57E-2
81	271.41	5.76E-3	6.87E-3	8.55E-3	1.03E-2	1.26E-2	1.57E-2	81	428.18	1.31E-2	1.47E-2	1.83E-2	2.25E-2	2.77E-2	3.49E-2
82	277.57	5.62E-3	6.71E-3	8.34E-3	1.01E-2	1.23E-2	1.54E-2	82	436.54	1.28E-2	1.43E-2	1.78E-2	2.19E-2	2.71E-2	3.42E-2
83	283.85	5.49E-3	6.54E-3	8.14E-3	9.85E-3	1.21E-2	1.52E-2	83	445.03	1.24E-2	1.39E-2	1.73E-2	2.13E-2	2.64E-2	3.35E-2
84	290.28	5.26E-3	6.54E-3	8.07E-3	9.71E-3	1.19E-2	1.49E-2	84	453.67	1.08E-2	1.34E-2	1.70E-2	2.09E-2	2.59E-2	3.29E-2
85	296.77	5.13E-3	6.37E-3	7.87E-3	9.48E-3	1.16E-2	1.47E-2	85	462.39	1.05E-2	1.30E-2	1.65E-2	2.04E-2	2.53E-2	3.22E-2
86	302.99	5.00E-3	6.21E-3	7.68E-3	9.26E-3	1.14E-2	1.44E-2	86	470.84	1.02E-2	1.26E-2	1.61E-2	1.98E-2	2.47E-2	3.15E-2
87	309.61	4.88E-3	6.05E-3	7.49E-3	9.05E-3	1.11E-2	1.42E-2	87	479.72	9.92E-3	1.23E-2	1.56E-2	1.93E-2	2.41E-2	3.09E-2
88	316.23	4.76E-3	5.90E-3	7.30E-3	8.84E-3	1.09E-2	1.39E-2	88	488.59	9.65E-3	1.20E-2	1.52E-2	1.88E-2	2.35E-2	3.02E-2
89	322.97	4.64E-3	5.75E-3	7.12E-3	8.63E-3	1.07E-2	1.37E-2	89	497.61	9.38E-3	1.16E-2	1.48E-2	1.83E-2	2.29E-2	2.96E-2
90	329.57	4.52E-3</													

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - F_4$								$C_1 - G_1$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	111.05	8.00E-1	9.01E-1	1.05E+0	1.24E+0	1.42E+0	1.60E+0	26	85.25	3.69E-1	4.10E-1	4.86E-1	5.63E-1	6.41E-1	7.17E-1
27	116.95	7.27E-1	8.19E-1	9.59E-1	1.13E+0	1.29E+0	1.46E+0	27	90.81	3.26E-1	3.63E-1	4.30E-1	4.98E-1	5.68E-1	6.35E-1
28	123.06	6.62E-1	7.46E-1	8.75E-1	1.03E+0	1.18E+0	1.33E+0	28	96.74	2.89E-1	3.22E-1	3.81E-1	4.42E-1	5.03E-1	5.64E-1
29	129.42	6.05E-1	6.82E-1	8.01E-1	9.42E-1	1.08E+0	1.22E+0	29	103.09	2.58E-1	2.86E-1	3.38E-1	3.92E-1	4.47E-1	5.01E-1
30	136.10	5.55E-1	6.26E-1	7.35E-1	8.65E-1	9.93E-1	1.12E+0	30	109.88	2.30E-1	2.55E-1	3.01E-1	3.50E-1	3.99E-1	4.48E-1
31	143.16	4.93E-1	5.78E-1	6.81E-1	7.91E-1	9.11E-1	1.03E+0	31	117.14	2.03E-1	2.34E-1	2.69E-1	3.11E-1	3.57E-1	4.02E-1
32	150.65	4.53E-1	5.31E-1	6.26E-1	7.28E-1	8.39E-1	9.50E-1	32	124.93	1.81E-1	2.09E-1	2.42E-1	2.80E-1	3.21E-1	3.62E-1
33	158.65	4.17E-1	4.89E-1	5.77E-1	6.70E-1	7.73E-1	8.76E-1	33	133.26	1.64E-1	1.89E-1	2.19E-1	2.53E-1	2.90E-1	3.28E-1
34	167.23	3.83E-1	4.50E-1	5.30E-1	6.17E-1	7.12E-1	8.08E-1	34	142.19	1.48E-1	1.72E-1	1.99E-1	2.30E-1	2.64E-1	2.98E-1
35	176.45	3.52E-1	4.15E-1	4.88E-1	5.68E-1	6.56E-1	7.45E-1	35	151.75	1.35E-1	1.57E-1	1.81E-1	2.09E-1	2.41E-1	2.72E-1
36	186.37	3.27E-1	3.82E-1	4.48E-1	5.22E-1	6.04E-1	6.87E-1	36	161.98	1.24E-1	1.44E-1	1.66E-1	1.92E-1	2.21E-1	2.50E-1
37	197.05	3.10E-1	3.44E-1	4.12E-1	4.81E-1	5.56E-1	6.34E-1	37	172.93	1.18E-1	1.32E-1	1.52E-1	1.76E-1	2.03E-1	2.31E-1
38	208.53	2.85E-1	3.16E-1	3.80E-1	4.43E-1	5.13E-1	5.86E-1	38	184.64	1.08E-1	1.22E-1	1.40E-1	1.63E-1	1.87E-1	2.13E-1
39	220.87	2.53E-1	2.97E-1	3.50E-1	4.08E-1	4.73E-1	5.41E-1	39	197.16	9.66E-2	1.12E-1	1.30E-1	1.51E-1	1.74E-1	1.98E-1
40	234.12	2.38E-1	2.71E-1	3.24E-1	3.77E-1	4.38E-1	5.01E-1	40	210.54	9.15E-2	1.03E-1	1.21E-1	1.40E-1	1.62E-1	1.85E-1
41	248.33	2.16E-1	2.52E-1	2.99E-1	3.49E-1	4.05E-1	4.65E-1	41	224.84	8.40E-2	9.66E-2	1.13E-1	1.30E-1	1.51E-1	1.72E-1
42	263.54	2.09E-1	2.30E-1	2.77E-1	3.24E-1	3.76E-1	4.33E-1	42	240.10	8.13E-2	8.87E-2	1.05E-1	1.22E-1	1.41E-1	1.62E-1
43	279.82	1.85E-1	2.18E-1	2.57E-1	3.01E-1	3.50E-1	4.03E-1	43	256.39	7.30E-2	8.47E-2	9.85E-2	1.14E-1	1.32E-1	1.52E-1
44	297.22	1.75E-1	2.00E-1	2.38E-1	2.80E-1	3.26E-1	3.77E-1	44	273.76	6.84E-2	7.98E-2	9.23E-2	1.07E-1	1.24E-1	1.43E-1
45	315.79	1.61E-1	1.89E-1	2.23E-1	2.61E-1	3.05E-1	3.53E-1	45	292.28	6.43E-2	7.47E-2	8.68E-2	1.01E-1	1.17E-1	1.35E-1
46	335.60	1.57E-1	1.73E-1	2.08E-1	2.44E-1	2.85E-1	3.31E-1	46	312.00	6.31E-2	6.90E-2	8.18E-2	9.49E-2	1.10E-1	1.28E-1
47	356.72	1.45E-1	1.67E-1	1.96E-1	2.28E-1	2.67E-1	3.11E-1	47	333.00	5.88E-2	6.68E-2	7.74E-2	8.94E-2	1.04E-1	1.21E-1
48	379.20	1.34E-1	1.52E-1	1.81E-1	2.15E-1	2.51E-1	2.93E-1	48	355.33	5.50E-2	6.17E-2	7.23E-2	8.47E-2	9.87E-2	1.15E-1
49	403.13	1.29E-1	1.42E-1	1.71E-1	2.02E-1	2.36E-1	2.76E-1	49	379.09	5.32E-2	5.79E-2	6.88E-2	8.02E-2	9.35E-2	1.09E-1
50	428.56	1.22E-1	1.33E-1	1.61E-1	1.90E-1	2.23E-1	2.61E-1	50	404.32	5.08E-2	5.48E-2	6.52E-2	7.60E-2	8.88E-2	1.04E-1
51	455.58	1.14E-1	1.27E-1	1.52E-1	1.79E-1	2.10E-1	2.47E-1	51	431.13	4.76E-2	5.25E-2	6.19E-2	7.21E-2	8.44E-2	9.88E-2
52	484.27	1.05E-1	1.20E-1	1.42E-1	1.69E-1	1.99E-1	2.34E-1	52	459.58	4.45E-2	4.98E-2	5.84E-2	6.86E-2	8.04E-2	9.43E-2
53	514.72	1.01E-1	1.13E-1	1.34E-1	1.60E-1	1.88E-1	2.22E-1	53	489.76	4.35E-2	4.71E-2	5.56E-2	6.52E-2	7.66E-2	9.01E-2
54	546.99	9.52E-2	1.06E-1	1.27E-1	1.51E-1	1.78E-1	2.11E-1	54	521.76	4.06E-2	4.49E-2	5.28E-2	6.21E-2	7.31E-2	8.62E-2
55	581.20	8.91E-2	1.02E-1	1.20E-1	1.43E-1	1.70E-1	2.01E-1	55	555.66	3.84E-2	4.31E-2	5.02E-2	5.92E-2	6.98E-2	8.25E-2
56	617.41	8.56E-2	9.66E-2	1.14E-1	1.36E-1	1.61E-1	1.91E-1	56	591.56	3.71E-2	4.12E-2	4.78E-2	5.65E-2	6.67E-2	7.91E-2
57	655.75	7.87E-2	9.23E-2	1.09E-1	1.28E-1	1.52E-1	1.82E-1	57	629.55	3.43E-2	3.97E-2	4.58E-2	5.35E-2	6.35E-2	7.58E-2
58	696.30	7.50E-2	8.73E-2	1.03E-1	1.22E-1	1.45E-1	1.74E-1	58	669.75	3.28E-2	3.78E-2	4.38E-2	5.12E-2	6.08E-2	7.27E-2
59	739.18	7.16E-2	8.27E-2	9.83E-2	1.16E-1	1.39E-1	1.67E-1	59	712.25	3.15E-2	3.59E-2	4.19E-2	4.90E-2	5.83E-2	6.99E-2
60	784.48	6.85E-2	7.84E-2	9.36E-2	1.10E-1	1.32E-1	1.59E-1	60	757.16	3.03E-2	3.42E-2	4.01E-2	4.69E-2	5.58E-2	6.72E-2
61	832.32	6.57E-2	7.43E-2	8.92E-2	1.05E-1	1.26E-1	1.53E-1	61	804.59	2.91E-2	3.26E-2	3.84E-2	4.49E-2	5.36E-2	6.46E-2
62	882.81	6.31E-2	7.06E-2	8.50E-2	1.01E-1	1.21E-1	1.46E-1	62	854.65	2.81E-2	3.11E-2	3.68E-2	4.31E-2	5.15E-2	6.22E-2
63	936.10	6.07E-2	6.71E-2	8.11E-2	9.61E-2	1.16E-1	1.40E-1	63	907.49	2.71E-2	2.97E-2	3.53E-2	4.13E-2	4.94E-2	6.00E-2
64	992.27	5.83E-2	6.38E-2	7.74E-2	9.19E-2	1.11E-1	1.35E-1	64	963.21	2.62E-2	2.84E-2	3.38E-2	3.97E-2	4.75E-2	5.78E-2
65	1051.51	5.60E-2	6.08E-2	7.39E-2	8.79E-2	1.06E-1	1.30E-1	65	1021.96	2.53E-2	2.71E-2	3.24E-2	3.81E-2	4.57E-2	5.58E-2
66	1113.92	5.38E-2	5.80E-2	7.06E-2	8.42E-2	1.02E-1	1.25E-1	66	1083.86	2.44E-2	2.60E-2	3.11E-2	3.66E-2	4.40E-2	5.38E-2
67	1179.65	5.17E-2	5.54E-2	6.74E-2	8.07E-2	9.76E-2	1.20E-1	67	1149.08	2.35E-2	2.49E-2	2.98E-2	3.52E-2	4.24E-2	5.20E-2
68	1248.86	4.96E-2	5.30E-2	6.44E-2	7.73E-2	9.37E-2	1.16E-1	68	1217.74	2.26E-2	2.39E-2	2.86E-2	3.39E-2	4.08E-2	5.02E-2
69	1321.70	4.75E-2	5.08E-2	6.16E-2	7.42E-2	9.01E-2	1.11E-1	69	1290.03	2.17E-2	2.30E-2	2.74E-2	3.26E-2	3.94E-2	4.86E-2
70	1398.32	4.54E-2	4.88E-2	5.90E-2	7.12E-2	8.66E-2	1.07E-1	70	1366.06	2.08E-2	2.21E-2	2.63E-2	3.14E-2	3.80E-2	4.70E-2
71	1478.91	4.34E-2	4.68E-2	5.65E-2	6.83E-2	8.33E-2	1.04E-1	71	1446.05	2.00E-2	2.13E-2	2.53E-2	3.02E-2	3.67E-2	4.55E-2
72	1563.63	4.14E-2	4.50E-2	5.41E-2	6.56E-2	8.02E-2	1.00E-1	72	1530.14	1.91E-2	2.06E-2	2.43E-2	2.91E-2	3.54E-2	4.40E-2
73	1652.68	3.95E-2	4.33E-2	5.18E-2	6.30E-2	7.73E-2	9.66E-2	73	1618.54	1.83E-2	1.98E-2	2.33E-2	2.80E-2	3.42E-2	4.26E-2
74	1746.23	3.78E-2	4.17E-2	4.96E-2	6.06E-2	7.45E-2	9.34E-2	74	1711.41	1.76E-2	1.92E-2	2.24E-2	2.70E-2	3.30E-2	4.13E-2
75	1844.50	3.61E-2	4.02E-2	4.76E-2	5.83E-2	7.18E-2	9.03E-2	75	1808.99	1.68E-2	1.85E-2	2.15E-2	2.60E-2	3.19E-2	4.01E-2
76	1947.68	3.45E-2	3.88E-2	4.57E-2	5.60E-2	6.92E-2	8.74E-2	76	1911.43	1.62E-2	1.79E-2	2.07E-2	2.51E-2	3.08E-2	3.88E-2
77	2056.01	3.31E-2	3.74E-2	4.39E-2	5.39E-2	6.68E-2	8.46E-2	77	2019.01	1.55E-2	1.73E-2	2.00E-2	2.42E-2	2.98E-2	3.77E-2
78	2169.70	3.18E-2	3.61E-2	4.22E-2	5.19E-2	6.45E-2	8.19E-2	78	2131.92	1.50E-2	1.67E-2	1.92E-2	2.33E-2	2.89E-2	3.66E-2
79	2289.01	3.06E-2	3.48E-2	4.06E-2	4.99E-2	6.22E-2	7.93E-2	79	2250.41	1.44E-2	1.62E-2	1.85E-2	2.25E-2	2.79E-2	3.55E-2
80	2414.15	2.95E-2	3.35E-2	3.90E-2	4.81E-2	6.01E-2	7.69E-2	80	2374.70	1.40E-2	1.56E-2	1.79E-2	2.17E-2	2.70E-2	3.45E-2
81	2545.38	2.86E-2	3.23E-2	3.76E-2	4.63E-2	5.81E-2	7.45E-2	81	2505.05	1.35E-2	1.51E-2	1.72E-2	2.10E-2	2.61E-2	3.35E-2
82	2683.02	2.77E-2	3.11E-2	3.62E-2	4.46E-2	5.61E-2	7.23E-2	82	2641.77	1.32E-2	1.45E-2	1.66E-2	2.03E-2	2.53E-2	3.25E-2
83	2827.36	2.68E-2	2.99E-2	3.48E-2	4.30E-2	5.43E-2	7.01E-2	83	2785.15	1.28E-2	1.40E-2	1.60E-2	1.96E-2	2.45E-2	3.16E-2
84	2978.71	2.49E-2	2.84E-2	3.44E-2	4.16E-2	5.22E-2	6.78E-2	84	2935.51	1.19E-2	1.33E-2	1.58E-2	1.90E-2	2.36E-2	3.06E-2
85	3137.33	2.41E-2	2.72E-2	3.31E-2	4.02E-2	5.05E-2	6.58E-2	85	3093.09	1.15E-2	1.28E-2	1.53E-2	1.83E-2	2.29E-2	2.97E-2
86	3303.17	2.34E-2	2.61E-2	3.19E-2	3.89E-2	4.89E-2	6.39E-2	86	3257.84	1.12E-2	1.23E-2	1.47E-2	1.77E-2	2.22E-2	2.89E-2
87	3477.32	2.27E-2	2.51E-2	3.07E-2	3.76E-2	4.74E-2	6.20E-2	87	3430.86	1.09E-2	1.19E-2	1.42E-2	1.72E-2	2.15E-2	2.81E-2
88	3659.70	2.20E-2	2.42E-2	2.95E-2	3.63E-2	4.59E-2	6.03E-2	88	3612.05	1.06E-2	1.15E-2	1.37E-2	1.66E-2	2.09E-2	2.74E-2
89	3850.86	2.14E-2	2.33E-2	2.84E-2	3.51E-2	4.45E-2	5.86E-2	89	3801.97	1.03E-2	1.11E-2	1.32E-2	1.		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$C_2 - G_1$								$D_1 - A_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	69.33	1.17E-1	1.29E-1	1.51E-1	1.72E-1	1.94E-1	2.16E-1	26	103.18	8.01E-4	6.44E-4	4.03E-4	2.06E-4	9.22E-5	3.98E-5
27	72.89	1.24E-1	1.38E-1	1.62E-1	1.85E-1	2.10E-1	2.34E-1	27	108.99	7.59E-4	6.10E-4	3.82E-4	1.96E-4	8.73E-5	3.76E-5
28	76.47	1.30E-1	1.45E-1	1.70E-1	1.96E-1	2.22E-1	2.47E-1	28	114.85	7.23E-4	5.81E-4	3.63E-4	1.86E-4	8.27E-5	3.56E-5
29	80.05	1.33E-1	1.49E-1	1.76E-1	2.03E-1	2.31E-1	2.58E-1	29	120.74	6.88E-4	5.52E-4	3.45E-4	1.76E-4	7.84E-5	3.37E-5
30	83.65	1.35E-1	1.52E-1	1.80E-1	2.08E-1	2.36E-1	2.64E-1	30	126.65	6.54E-4	5.24E-4	3.27E-4	1.67E-4	7.42E-5	3.19E-5
31	87.25	1.39E-1	1.54E-1	1.79E-1	2.09E-1	2.39E-1	2.68E-1	31	132.56	6.20E-4	4.97E-4	3.10E-4	1.58E-4	7.02E-5	3.02E-5
32	90.87	1.39E-1	1.54E-1	1.79E-1	2.10E-1	2.40E-1	2.69E-1	32	138.47	5.88E-4	4.70E-4	2.93E-4	1.49E-4	6.63E-5	2.85E-5
33	94.49	1.37E-1	1.52E-1	1.78E-1	2.09E-1	2.39E-1	2.68E-1	33	144.37	5.57E-4	4.45E-4	2.77E-4	1.41E-4	6.27E-5	2.69E-5
34	98.13	1.35E-1	1.50E-1	1.76E-1	2.06E-1	2.36E-1	2.66E-1	34	150.25	5.29E-4	4.22E-4	2.62E-4	1.33E-4	5.91E-5	2.54E-5
35	101.79	1.33E-1	1.47E-1	1.73E-1	2.03E-1	2.32E-1	2.62E-1	35	156.13	5.01E-4	3.99E-4	2.48E-4	1.26E-4	5.59E-5	2.40E-5
36	105.46	1.31E-1	1.43E-1	1.69E-1	1.98E-1	2.28E-1	2.57E-1	36	162.01	4.71E-4	3.76E-4	2.34E-4	1.19E-4	5.28E-5	2.27E-5
37	109.16	1.24E-1	1.40E-1	1.65E-1	1.94E-1	2.23E-1	2.51E-1	37	167.88	4.49E-4	3.57E-4	2.21E-4	1.12E-4	5.00E-5	2.14E-5
38	112.88	1.19E-1	1.35E-1	1.61E-1	1.89E-1	2.17E-1	2.45E-1	38	173.76	4.25E-4	3.38E-4	2.10E-4	1.07E-4	4.73E-5	2.03E-5
39	116.62	1.19E-1	1.31E-1	1.56E-1	1.83E-1	2.11E-1	2.39E-1	39	179.64	4.00E-4	3.20E-4	1.98E-4	1.01E-4	4.48E-5	1.92E-5
40	120.39	1.15E-1	1.27E-1	1.51E-1	1.78E-1	2.05E-1	2.32E-1	40	185.53	3.80E-4	3.03E-4	1.88E-4	9.58E-5	4.25E-5	1.82E-5
41	124.18	1.10E-1	1.23E-1	1.46E-1	1.72E-1	1.99E-1	2.26E-1	41	191.45	3.63E-4	2.89E-4	1.79E-4	9.11E-5	4.04E-5	1.73E-5
42	128.01	1.05E-1	1.19E-1	1.42E-1	1.67E-1	1.93E-1	2.19E-1	42	197.38	3.43E-4	2.73E-4	1.70E-4	8.65E-5	3.84E-5	1.65E-5
43	131.87	1.03E-1	1.14E-1	1.37E-1	1.62E-1	1.87E-1	2.13E-1	43	203.34	3.26E-4	2.60E-4	1.62E-4	8.23E-5	3.66E-5	1.57E-5
44	135.76	1.01E-1	1.10E-1	1.32E-1	1.57E-1	1.81E-1	2.07E-1	44	209.33	3.13E-4	2.49E-4	1.54E-4	7.85E-5	3.49E-5	1.50E-5
45	139.69	9.67E-2	1.06E-1	1.28E-1	1.51E-1	1.75E-1	2.00E-1	45	215.36	2.96E-4	2.36E-4	1.47E-4	7.49E-5	3.33E-5	1.43E-5
46	143.65	9.31E-2	1.03E-1	1.24E-1	1.46E-1	1.70E-1	1.94E-1	46	221.42	2.83E-4	2.26E-4	1.40E-4	7.16E-5	3.19E-5	1.37E-5
47	147.65	8.94E-2	9.70E-2	1.19E-1	1.41E-1	1.64E-1	1.89E-1	47	227.53	2.72E-4	2.16E-4	1.34E-4	6.86E-5	3.05E-5	1.31E-5
48	151.69	8.28E-2	9.58E-2	1.16E-1	1.37E-1	1.59E-1	1.83E-1	48	233.68	2.58E-4	2.06E-4	1.29E-4	6.56E-5	2.92E-5	1.26E-5
49	155.77	8.32E-2	9.24E-2	1.12E-1	1.32E-1	1.54E-1	1.77E-1	49	239.89	2.49E-4	1.98E-4	1.23E-4	6.30E-5	2.81E-5	1.20E-5
50	159.90	8.05E-2	8.90E-2	1.08E-1	1.28E-1	1.49E-1	1.72E-1	50	246.14	2.39E-4	1.90E-4	1.18E-4	6.05E-5	2.70E-5	1.16E-5
51	164.07	7.61E-2	8.63E-2	1.04E-1	1.24E-1	1.44E-1	1.67E-1	51	252.46	2.28E-4	1.82E-4	1.13E-4	5.81E-5	2.59E-5	1.12E-5
52	168.28	7.34E-2	8.33E-2	1.01E-1	1.20E-1	1.40E-1	1.62E-1	52	258.83	2.18E-4	1.75E-4	1.09E-4	5.59E-5	2.50E-5	1.08E-5
53	172.56	7.15E-2	8.04E-2	9.75E-2	1.16E-1	1.36E-1	1.58E-1	53	265.27	2.10E-4	1.68E-4	1.05E-4	5.38E-5	2.41E-5	1.04E-5
54	176.87	6.94E-2	7.76E-2	9.43E-2	1.12E-1	1.32E-1	1.53E-1	54	271.78	2.02E-4	1.62E-4	1.01E-4	5.19E-5	2.32E-5	1.00E-5
55	181.24	6.70E-2	7.49E-2	9.12E-2	1.09E-1	1.28E-1	1.49E-1	55	278.36	1.94E-4	1.56E-4	9.74E-5	5.00E-5	2.24E-5	9.67E-6
56	185.66	6.45E-2	7.25E-2	8.82E-2	1.05E-1	1.24E-1	1.45E-1	56	285.01	1.87E-4	1.50E-4	9.39E-5	4.83E-5	2.17E-5	9.35E-6
57	190.14	5.76E-2	6.80E-2	8.53E-2	1.02E-1	1.20E-1	1.41E-1	57	291.74	1.80E-4	1.45E-4	9.08E-5	4.67E-5	2.10E-5	9.05E-6
58	194.68	5.57E-2	6.58E-2	8.26E-2	9.90E-2	1.17E-1	1.37E-1	58	298.55	1.74E-4	1.40E-4	8.77E-5	4.53E-5	2.03E-5	8.78E-6
59	199.27	5.39E-2	6.36E-2	8.00E-2	9.60E-2	1.13E-1	1.33E-1	59	305.45	1.68E-4	1.35E-4	8.48E-5	4.38E-5	1.97E-5	8.51E-6
60	203.93	5.21E-2	6.16E-2	7.75E-2	9.30E-2	1.10E-1	1.30E-1	60	312.42	1.62E-4	1.31E-4	8.21E-5	4.25E-5	1.91E-5	8.26E-6
61	208.65	5.04E-2	5.96E-2	7.50E-2	9.02E-2	1.07E-1	1.26E-1	61	319.50	1.57E-4	1.26E-4	7.95E-5	4.11E-5	1.85E-5	8.02E-6
62	213.42	4.88E-2	5.77E-2	7.27E-2	8.74E-2	1.04E-1	1.23E-1	62	326.65	1.52E-4	1.22E-4	7.72E-5	3.99E-5	1.80E-5	7.80E-6
63	218.27	4.72E-2	5.59E-2	7.04E-2	8.48E-2	1.01E-1	1.20E-1	63	333.91	1.47E-4	1.18E-4	7.48E-5	3.88E-5	1.75E-5	7.60E-6
64	223.18	4.57E-2	5.42E-2	6.82E-2	8.23E-2	9.78E-2	1.17E-1	64	341.25	1.43E-4	1.15E-4	7.27E-5	3.77E-5	1.71E-5	7.40E-6
65	228.16	4.43E-2	5.25E-2	6.62E-2	7.98E-2	9.50E-2	1.14E-1	65	348.71	1.38E-4	1.12E-4	7.06E-5	3.67E-5	1.66E-5	7.20E-6
66	233.21	4.29E-2	5.08E-2	6.41E-2	7.75E-2	9.24E-2	1.11E-1	66	356.27	1.34E-4	1.08E-4	6.85E-5	3.57E-5	1.62E-5	7.03E-6
67	238.34	4.16E-2	4.93E-2	6.22E-2	7.52E-2	8.98E-2	1.08E-1	67	363.94	1.31E-4	1.05E-4	6.68E-5	3.47E-5	1.58E-5	6.87E-6
68	243.54	4.02E-2	4.78E-2	6.03E-2	7.30E-2	8.74E-2	1.05E-1	68	371.72	1.27E-4	1.02E-4	6.49E-5	3.39E-5	1.54E-5	6.71E-6
69	248.82	3.89E-2	4.63E-2	5.85E-2	7.09E-2	8.50E-2	1.03E-1	69	379.62	1.23E-4	9.94E-5	6.32E-5	3.31E-5	1.50E-5	6.55E-6
70	254.17	3.78E-2	4.49E-2	5.68E-2	6.88E-2	8.27E-2	1.01E-1	70	387.62	1.20E-4	9.68E-5	6.16E-5	3.23E-5	1.47E-5	6.41E-6
71	259.60	3.66E-2	4.35E-2	5.51E-2	6.69E-2	8.05E-2	9.80E-2	71	395.75	1.17E-4	9.42E-5	6.01E-5	3.15E-5	1.44E-5	6.28E-6
72	265.11	3.55E-2	4.22E-2	5.34E-2	6.49E-2	7.84E-2	9.57E-2	72	404.00	1.13E-4	9.18E-5	5.86E-5	3.08E-5	1.41E-5	6.16E-6
73	270.70	3.44E-2	4.10E-2	5.19E-2	6.31E-2	7.63E-2	9.35E-2	73	412.37	1.11E-4	8.97E-5	5.73E-5	3.01E-5	1.38E-5	6.03E-6
74	276.37	3.34E-2	3.98E-2	5.03E-2	6.13E-2	7.43E-2	9.13E-2	74	420.87	1.08E-4	8.74E-5	5.60E-5	2.95E-5	1.35E-5	5.91E-6
75	282.13	3.24E-2	3.86E-2	4.89E-2	5.96E-2	7.24E-2	8.92E-2	75	429.51	1.05E-4	8.53E-5	5.47E-5	2.89E-5	1.33E-5	5.81E-6
76	287.94	3.15E-2	3.74E-2	4.75E-2	5.79E-2	7.05E-2	8.71E-2	76	438.25	1.03E-4	8.32E-5	5.34E-5	2.83E-5	1.30E-5	5.70E-6
77	293.87	3.05E-2	3.63E-2	4.61E-2	5.63E-2	6.87E-2	8.52E-2	77	447.16	1.00E-4	8.13E-5	5.23E-5	2.77E-5	1.28E-5	5.60E-6
78	299.86	2.96E-2	3.53E-2	4.48E-2	5.48E-2	6.69E-2	8.32E-2	78	456.19	9.80E-5	7.95E-5	5.12E-5	2.72E-5	1.25E-5	5.51E-6
79	305.95	2.88E-2	3.42E-2	4.35E-2	5.32E-2	6.52E-2	8.14E-2	79	465.36	9.58E-5	7.78E-5	5.01E-5	2.67E-5	1.23E-5	5.43E-6
80	312.09	2.79E-2	3.32E-2	4.22E-2	5.18E-2	6.35E-2	7.95E-2	80	474.65	9.37E-5	7.61E-5	4.91E-5	2.62E-5	1.21E-5	5.34E-6
81	318.30	2.71E-2	3.23E-2	4.10E-2	5.04E-2	6.19E-2	7.78E-2	81	484.06	9.16E-5	7.46E-5	4.83E-5	2.57E-5	1.19E-5	5.26E-6
82	324.60	2.63E-2	3.13E-2	3.98E-2	4.90E-2	6.04E-2	7.61E-2	82	493.63	8.96E-5	7.31E-5	4.73E-5	2.53E-5	1.17E-5	5.20E-6
83	330.99	2.56E-2	3.04E-2	3.87E-2	4.76E-2	5.88E-2	7.44E-2	83	503.35	8.80E-5	7.18E-5	4.65E-5	2.49E-5	1.16E-5	5.13E-6
84	337.50	2.36E-2	3.01E-2	3.82E-2	4.67E-2	5.76E-2	7.29E-2	84	513.26	8.62E-5	7.02E-5	4.56E-5	2.45E-5	1.14E-5	5.06E-6
85	344.06	2.29E-2	2.92E-2	3.71E-2	4.54E-2	5.62E-2	7.13E-2	85	523.28	8.46E-5	6.89E-5	4.48E-5	2.41E-5	1.13E-5	5.00E-6
86	350.31	2.23E-2	2.83E-2	3.60E-2	4.42E-2	5.48E-2	6.98E-2	86	533.07	8.29E-5	6.77E-5	4.41E-5	2.38E-5	1.11E-5	4.95E-6
87	356.94	2.16E-2	2.75E-2	3.50E-2	4.30E-2	5.34E-2	6.83E-2	87	543.32	8.15E-5	6.65E-5	4.33E-5	2.34E-5	1.10E-5	4.89E-6
88	363.54	2.10E-2	2.67E-2	3.40E-2	4.18E-2	5.21E-2	6.68E-2	88	553.61	8.00E-5	6.53E-5	4.26E-5	2.31E-5	1.08E-5	4.84E-6
89	370.24	2.04E-2	2.59E-2	3.30E-2	4.07E-2	5.08E-2	6.53E-2	89	564.08	7.86E-5	6.43E-5	4.20E-5	2.28E-5	1.07E-5	4.79E-6
90	376.77														

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$D_1 - A_4$								$D_1 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	142.94	2.45E-4	1.95E-4	1.19E-4	5.92E-5	2.55E-5	1.06E-5	26	103.58	6.48E-2	7.29E-2	8.56E-2	1.01E-1	1.15E-1	1.29E-1
27	152.06	1.93E-4	1.53E-4	9.33E-5	4.63E-5	1.99E-5	8.26E-6	27	110.22	6.02E-2	6.78E-2	7.96E-2	9.35E-2	1.07E-1	1.20E-1
28	161.86	1.51E-4	1.19E-4	7.24E-5	3.58E-5	1.53E-5	6.34E-6	28	117.24	5.61E-2	6.32E-2	7.42E-2	8.73E-2	1.00E-1	1.13E-1
29	172.43	1.16E-4	9.17E-5	5.56E-5	2.74E-5	1.17E-5	4.82E-6	29	124.66	5.24E-2	5.90E-2	6.94E-2	8.16E-2	9.36E-2	1.05E-1
30	183.83	8.91E-5	7.01E-5	4.24E-5	2.08E-5	8.85E-6	3.63E-6	30	132.51	4.90E-2	5.53E-2	6.50E-2	7.65E-2	8.78E-2	9.89E-2
31	196.17	6.80E-5	5.33E-5	3.21E-5	1.57E-5	6.65E-6	2.72E-6	31	140.83	4.45E-2	5.22E-2	6.15E-2	7.14E-2	8.23E-2	9.30E-2
32	209.51	5.17E-5	4.05E-5	2.43E-5	1.18E-5	4.99E-6	2.03E-6	32	149.65	4.18E-2	4.90E-2	5.78E-2	6.72E-2	7.75E-2	8.77E-2
33	223.95	3.93E-5	3.07E-5	1.84E-5	8.91E-6	3.73E-6	1.51E-6	33	159.01	3.93E-2	4.61E-2	5.44E-2	6.33E-2	7.31E-2	8.28E-2
34	239.55	3.01E-5	2.35E-5	1.40E-5	6.73E-6	2.80E-6	1.13E-6	34	168.96	3.70E-2	4.35E-2	5.14E-2	5.98E-2	6.90E-2	7.84E-2
35	256.41	2.30E-5	1.79E-5	1.06E-5	5.10E-6	2.11E-6	8.40E-7	35	179.53	3.50E-2	4.11E-2	4.85E-2	5.65E-2	6.53E-2	7.43E-2
36	274.60	1.76E-5	1.37E-5	8.08E-6	3.87E-6	1.59E-6	6.31E-7	36	190.76	3.33E-2	3.89E-2	4.59E-2	5.35E-2	6.19E-2	7.05E-2
37	294.22	1.37E-5	1.06E-5	6.22E-6	2.96E-6	1.21E-6	4.77E-7	37	202.71	3.25E-2	3.61E-2	4.35E-2	5.08E-2	5.87E-2	6.70E-2
38	315.35	1.07E-5	8.25E-6	4.83E-6	2.29E-6	9.33E-7	3.63E-7	38	215.42	3.09E-2	3.42E-2	4.12E-2	4.82E-2	5.58E-2	6.37E-2
39	338.09	8.35E-6	6.44E-6	3.77E-6	1.78E-6	7.20E-7	2.79E-7	39	228.93	2.81E-2	3.30E-2	3.91E-2	4.57E-2	5.30E-2	6.07E-2
40	362.53	6.62E-6	5.09E-6	2.97E-6	1.40E-6	5.63E-7	2.17E-7	40	243.31	2.72E-2	3.10E-2	3.72E-2	4.35E-2	5.05E-2	5.79E-2
41	388.79	5.30E-6	4.08E-6	2.37E-6	1.11E-6	4.45E-7	1.70E-7	41	258.59	2.54E-2	2.97E-2	3.53E-2	4.14E-2	4.81E-2	5.53E-2
42	416.95	4.26E-6	3.27E-6	1.90E-6	8.87E-7	3.54E-7	1.35E-7	42	274.84	2.52E-2	2.78E-2	3.36E-2	3.94E-2	4.59E-2	5.28E-2
43	447.14	3.46E-6	2.65E-6	1.54E-6	7.17E-7	2.85E-7	1.08E-7	43	292.12	2.29E-2	2.70E-2	3.20E-2	3.76E-2	4.37E-2	5.05E-2
44	479.47	2.84E-6	2.18E-6	1.26E-6	5.86E-7	2.33E-7	8.79E-8	44	310.48	2.22E-2	2.54E-2	3.03E-2	3.59E-2	4.18E-2	4.83E-2
45	514.06	2.34E-6	1.79E-6	1.04E-6	4.81E-7	1.91E-7	7.18E-8	45	329.98	2.11E-2	2.43E-2	2.89E-2	3.42E-2	4.00E-2	4.63E-2
46	551.03	1.95E-6	1.49E-6	8.60E-7	4.00E-7	1.58E-7	5.94E-8	46	350.69	2.08E-2	2.30E-2	2.78E-2	3.27E-2	3.82E-2	4.44E-2
47	590.52	1.64E-6	1.25E-6	7.24E-7	3.36E-7	1.33E-7	4.98E-8	47	372.68	1.96E-2	2.27E-2	2.67E-2	3.12E-2	3.65E-2	4.26E-2
48	632.66	1.37E-6	1.05E-6	6.07E-7	2.82E-7	1.12E-7	4.20E-8	48	396.02	1.85E-2	2.10E-2	2.52E-2	2.99E-2	3.50E-2	4.09E-2
49	677.60	1.16E-6	8.94E-7	5.18E-7	2.41E-7	9.56E-8	3.59E-8	49	420.77	1.82E-2	1.99E-2	2.42E-2	2.86E-2	3.36E-2	3.93E-2
50	725.47	9.89E-7	7.62E-7	4.42E-7	2.06E-7	8.19E-8	3.08E-8	50	447.02	1.75E-2	1.91E-2	2.32E-2	2.74E-2	3.22E-2	3.77E-2
51	776.43	8.50E-7	6.55E-7	3.80E-7	1.77E-7	7.07E-8	2.67E-8	51	474.83	1.64E-2	1.85E-2	2.20E-2	2.62E-2	3.09E-2	3.63E-2
52	830.65	7.32E-7	5.61E-7	3.26E-7	1.53E-7	6.10E-8	2.31E-8	52	504.29	1.55E-2	1.76E-2	2.11E-2	2.51E-2	2.97E-2	3.50E-2
53	888.29	6.33E-7	4.86E-7	2.83E-7	1.33E-7	5.32E-8	2.02E-8	53	535.50	1.50E-2	1.70E-2	2.01E-2	2.41E-2	2.85E-2	3.37E-2
54	949.51	5.45E-7	4.22E-7	2.47E-7	1.17E-7	4.66E-8	1.79E-8	54	568.52	1.44E-2	1.61E-2	1.93E-2	2.31E-2	2.74E-2	3.24E-2
55	1014.50	4.78E-7	3.68E-7	2.15E-7	1.02E-7	4.11E-8	1.57E-8	55	603.46	1.36E-2	1.56E-2	1.85E-2	2.22E-2	2.63E-2	3.13E-2
56	1083.44	4.14E-7	3.22E-7	1.89E-7	9.01E-8	3.63E-8	1.41E-8	56	640.40	1.32E-2	1.50E-2	1.77E-2	2.13E-2	2.53E-2	3.02E-2
57	1156.53	3.65E-7	2.83E-7	1.67E-7	7.93E-8	3.23E-8	1.25E-8	57	679.45	1.23E-2	1.45E-2	1.72E-2	2.03E-2	2.43E-2	2.91E-2
58	1233.97	3.21E-7	2.49E-7	1.47E-7	7.03E-8	2.87E-8	1.12E-8	58	720.70	1.18E-2	1.38E-2	1.65E-2	1.95E-2	2.34E-2	2.80E-2
59	1315.97	2.84E-7	2.20E-7	1.30E-7	6.23E-8	2.56E-8	9.98E-9	59	764.27	1.14E-2	1.32E-2	1.59E-2	1.88E-2	2.25E-2	2.71E-2
60	1402.73	2.50E-7	1.95E-7	1.16E-7	5.56E-8	2.30E-8	9.00E-9	60	810.25	1.10E-2	1.26E-2	1.53E-2	1.81E-2	2.17E-2	2.62E-2
61	1494.49	2.22E-7	1.72E-7	1.02E-7	4.95E-8	2.05E-8	8.09E-9	61	858.77	1.07E-2	1.21E-2	1.47E-2	1.74E-2	2.09E-2	2.53E-2
62	1591.48	1.96E-7	1.53E-7	9.17E-8	4.45E-8	1.85E-8	7.34E-9	62	909.93	1.03E-2	1.16E-2	1.41E-2	1.68E-2	2.02E-2	2.45E-2
63	1693.95	1.75E-7	1.37E-7	8.19E-8	3.99E-8	1.67E-8	6.64E-9	63	963.88	1.00E-2	1.11E-2	1.36E-2	1.62E-2	1.94E-2	2.37E-2
64	1802.14	1.57E-7	1.22E-7	7.31E-8	3.58E-8	1.51E-8	6.01E-9	64	1020.71	9.70E-3	1.06E-2	1.30E-2	1.56E-2	1.88E-2	2.29E-2
65	1916.33	1.39E-7	1.09E-7	6.57E-8	3.23E-8	1.36E-8	5.48E-9	65	1080.59	9.38E-3	1.02E-2	1.25E-2	1.50E-2	1.81E-2	2.22E-2
66	2036.79	1.25E-7	9.75E-8	5.89E-8	2.90E-8	1.23E-8	4.97E-9	66	1143.64	9.07E-3	9.82E-3	1.20E-2	1.45E-2	1.75E-2	2.15E-2
67	2163.81	1.12E-7	8.73E-8	5.30E-8	2.62E-8	1.12E-8	4.53E-9	67	1210.02	8.76E-3	9.45E-3	1.16E-2	1.40E-2	1.69E-2	2.08E-2
68	2297.68	1.00E-7	7.85E-8	4.77E-8	2.37E-8	1.01E-8	4.13E-9	68	1279.86	8.45E-3	9.10E-3	1.11E-2	1.35E-2	1.63E-2	2.02E-2
69	2438.72	9.00E-8	7.06E-8	4.30E-8	2.15E-8	9.23E-9	3.78E-9	69	1353.33	8.14E-3	8.77E-3	1.07E-2	1.30E-2	1.58E-2	1.96E-2
70	2587.24	8.08E-8	6.33E-8	3.89E-8	1.95E-8	8.41E-9	3.47E-9	70	1430.57	7.82E-3	8.45E-3	1.03E-2	1.25E-2	1.53E-2	1.90E-2
71	2743.60	7.29E-8	5.74E-8	3.52E-8	1.77E-8	7.68E-9	3.17E-9	71	1511.79	7.51E-3	8.16E-3	9.92E-3	1.21E-2	1.48E-2	1.84E-2
72	2908.12	6.55E-8	5.16E-8	3.19E-8	1.61E-8	7.04E-9	2.92E-9	72	1597.12	7.20E-3	7.88E-3	9.55E-3	1.17E-2	1.43E-2	1.79E-2
73	3081.19	5.93E-8	4.66E-8	2.89E-8	1.47E-8	6.44E-9	2.68E-9	73	1686.77	6.91E-3	7.62E-3	9.19E-3	1.13E-2	1.38E-2	1.73E-2
74	3263.20	5.34E-8	4.23E-8	2.63E-8	1.34E-8	5.90E-9	2.47E-9	74	1780.93	6.62E-3	7.37E-3	8.85E-3	1.09E-2	1.34E-2	1.68E-2
75	3454.53	4.84E-8	3.83E-8	2.39E-8	1.22E-8	5.41E-9	2.27E-9	75	1879.81	6.35E-3	7.13E-3	8.53E-3	1.05E-2	1.30E-2	1.63E-2
76	3655.60	4.40E-8	3.49E-8	2.17E-8	1.12E-8	4.95E-9	2.09E-9	76	1983.57	6.09E-3	6.90E-3	8.22E-3	1.01E-2	1.26E-2	1.59E-2
77	3866.87	3.99E-8	3.17E-8	1.98E-8	1.02E-8	4.55E-9	1.93E-9	77	2092.50	5.86E-3	6.68E-3	7.92E-3	9.79E-3	1.22E-2	1.54E-2
78	4088.77	3.62E-8	2.88E-8	1.81E-8	9.35E-9	4.18E-9	1.78E-9	78	2206.78	5.65E-3	6.47E-3	7.64E-3	9.46E-3	1.18E-2	1.50E-2
79	4321.81	3.29E-8	2.63E-8	1.65E-8	8.57E-9	3.85E-9	1.65E-9	79	2326.67	5.46E-3	6.26E-3	7.37E-3	9.14E-3	1.14E-2	1.46E-2
80	4566.42	3.02E-8	2.38E-8	1.51E-8	7.89E-9	3.55E-9	1.53E-9	80	2452.38	5.28E-3	6.05E-3	7.12E-3	8.83E-3	1.11E-2	1.42E-2
81	4823.17	2.74E-8	2.17E-8	1.38E-8	7.24E-9	3.29E-9	1.42E-9	81	2584.18	5.13E-3	5.85E-3	6.87E-3	8.53E-3	1.07E-2	1.38E-2
82	5092.63	2.50E-8	1.98E-8	1.27E-8	6.66E-9	3.04E-9	1.31E-9	82	2722.38	4.98E-3	5.64E-3	6.64E-3	8.25E-3	1.04E-2	1.34E-2
83	5375.37	2.29E-8	1.81E-8	1.16E-8	6.13E-9	2.82E-9	1.22E-9	83	2867.28	4.83E-3	5.44E-3	6.41E-3	7.97E-3	1.01E-2	1.31E-2
84	5672.03	2.08E-8	1.67E-8	1.07E-8	5.65E-9	2.60E-9	1.13E-9	84	3019.18	4.50E-3	5.17E-3	6.34E-3	7.75E-3	9.75E-3	1.27E-2
85	5983.17	1.90E-8	1.53E-8	9.79E-9	5.21E-9	2.41E-9	1.05E-9	85	3178.34	4.37E-3	4.97E-3	6.12E-3	7.50E-3	9.46E-3	1.23E-2
86	6309.03	1.75E-8	1.40E-8	9.01E-9	4.81E-9	2.24E-9	1.00E-9	86	3344.70	4.24E-3	4.79E-3	5.90E-3	7.26E-3	9.18E-3	1.20E-2
87	6651.14	1.59E-8	1.29E-8	8.30E-9	4.45E-9	2.07E-9	1.00E-9	87	3519.37	4.12E-3	4.62E-3	5.70E-3	7.04E-3	8.91E-3	1.17E-2
88	7009.74	1.46E-8	1.18E-8	7.65E-9	4.12E-9	1.93E-9	1.00E-9	88	3702.27	4.01E-3	4.45E-3	5.50E-3	6.81E-3	8.66E-3	1.14E-2
89	7385.79	1.35E-8	1.09E-8	7.05E-9	3.81E-9	1.80E-9	1.00E-9	89	3893.92	3.88E-3	4.38E-3				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$D_1 - C_3$								$D_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	92.04	1.55E-4	1.24E-4	7.79E-5	4.00E-5	1.79E-5	7.76E-6	26	114.03	1.57E-3	1.27E-3	7.95E-4	4.09E-4	1.83E-4	7.95E-5
27	96.39	1.21E-4	9.73E-5	6.10E-5	3.13E-5	1.40E-5	6.06E-6	27	120.95	1.45E-3	1.17E-3	7.33E-4	3.76E-4	1.69E-4	7.31E-5
28	100.76	9.49E-5	7.63E-5	4.78E-5	2.45E-5	1.10E-5	4.74E-6	28	128.24	1.34E-3	1.08E-3	6.76E-4	3.47E-4	1.55E-4	6.73E-5
29	105.16	7.46E-5	5.99E-5	3.75E-5	1.92E-5	8.57E-6	3.71E-6	29	135.92	1.24E-3	1.00E-3	6.26E-4	3.21E-4	1.44E-4	6.22E-5
30	109.58	5.91E-5	4.73E-5	2.94E-5	1.50E-5	6.71E-6	2.91E-6	30	144.03	1.16E-3	9.31E-4	5.80E-4	2.97E-4	1.33E-4	5.75E-5
31	114.04	4.63E-5	3.71E-5	2.31E-5	1.18E-5	5.28E-6	2.28E-6	31	152.60	1.08E-3	8.64E-4	5.39E-4	2.76E-4	1.23E-4	5.34E-5
32	118.52	3.66E-5	2.93E-5	1.82E-5	9.31E-6	4.16E-6	1.80E-6	32	161.68	1.00E-3	8.05E-4	5.02E-4	2.57E-4	1.15E-4	4.96E-5
33	123.03	2.90E-5	2.32E-5	1.44E-5	7.36E-6	3.28E-6	1.42E-6	33	171.30	9.38E-4	7.51E-4	4.68E-4	2.39E-4	1.07E-4	4.62E-5
34	127.57	2.31E-5	1.85E-5	1.15E-5	5.84E-6	2.60E-6	1.12E-6	34	181.50	8.81E-4	7.04E-4	4.38E-4	2.23E-4	9.98E-5	4.32E-5
35	132.15	1.84E-5	1.47E-5	9.13E-6	4.65E-6	2.07E-6	8.93E-7	35	192.32	8.26E-4	6.60E-4	4.10E-4	2.09E-4	9.34E-5	4.03E-5
36	136.75	1.47E-5	1.17E-5	7.28E-6	3.71E-6	1.65E-6	7.13E-7	36	203.81	7.73E-4	6.18E-4	3.84E-4	1.96E-4	8.75E-5	3.78E-5
37	141.39	1.19E-5	9.44E-6	5.84E-6	2.97E-6	1.32E-6	5.71E-7	37	216.00	7.29E-4	5.82E-4	3.61E-4	1.84E-4	8.21E-5	3.55E-5
38	146.07	9.55E-6	7.61E-6	4.71E-6	2.39E-6	1.06E-6	4.59E-7	38	228.96	6.87E-4	5.48E-4	3.40E-4	1.73E-4	7.72E-5	3.33E-5
39	150.78	7.69E-6	6.14E-6	3.80E-6	1.93E-6	8.60E-7	3.71E-7	39	242.72	6.45E-4	5.15E-4	3.20E-4	1.63E-4	7.27E-5	3.14E-5
40	155.53	6.25E-6	4.98E-6	3.09E-6	1.57E-6	6.97E-7	3.01E-7	40	257.33	6.10E-4	4.86E-4	3.02E-4	1.54E-4	6.86E-5	2.96E-5
41	160.32	5.12E-6	4.07E-6	2.51E-6	1.28E-6	5.67E-7	2.44E-7	41	272.86	5.79E-4	4.61E-4	2.85E-4	1.45E-4	6.48E-5	2.80E-5
42	165.15	4.17E-6	3.32E-6	2.06E-6	1.04E-6	4.64E-7	2.00E-7	42	289.34	5.46E-4	4.36E-4	2.70E-4	1.38E-4	6.13E-5	2.65E-5
43	170.03	3.43E-6	2.73E-6	1.69E-6	8.57E-7	3.80E-7	1.64E-7	43	306.85	5.18E-4	4.13E-4	2.56E-4	1.30E-4	5.81E-5	2.51E-5
44	174.95	2.84E-6	2.26E-6	1.39E-6	7.06E-7	3.13E-7	1.35E-7	44	325.44	4.94E-4	3.93E-4	2.43E-4	1.24E-4	5.51E-5	2.38E-5
45	179.92	2.35E-6	1.87E-6	1.15E-6	5.83E-7	2.59E-7	1.11E-7	45	345.18	4.69E-4	3.74E-4	2.31E-4	1.18E-4	5.24E-5	2.26E-5
46	184.94	1.94E-6	1.55E-6	9.55E-7	4.84E-7	2.15E-7	9.24E-8	46	366.11	4.45E-4	3.55E-4	2.20E-4	1.12E-4	4.99E-5	2.15E-5
47	190.01	1.63E-6	1.29E-6	7.95E-7	4.03E-7	1.79E-7	7.69E-8	47	388.32	4.27E-4	3.39E-4	2.09E-4	1.07E-4	4.75E-5	2.05E-5
48	195.13	1.35E-6	1.08E-6	6.65E-7	3.37E-7	1.50E-7	6.42E-8	48	411.87	4.05E-4	3.23E-4	2.00E-4	1.02E-4	4.53E-5	1.95E-5
49	200.31	1.14E-6	9.03E-7	5.58E-7	2.83E-7	1.25E-7	5.38E-8	49	436.83	3.87E-4	3.08E-4	1.91E-4	9.72E-5	4.33E-5	1.87E-5
50	205.54	9.61E-7	7.63E-7	4.70E-7	2.38E-7	1.05E-7	4.53E-8	50	463.29	3.72E-4	2.96E-4	1.83E-4	9.30E-5	4.14E-5	1.79E-5
51	210.83	8.07E-7	6.41E-7	3.96E-7	2.01E-7	8.89E-8	3.82E-8	51	491.30	3.55E-4	2.82E-4	1.75E-4	8.90E-5	3.96E-5	1.71E-5
52	216.18	6.84E-7	5.43E-7	3.35E-7	1.70E-7	7.53E-8	3.23E-8	52	520.96	3.41E-4	2.71E-4	1.68E-4	8.52E-5	3.80E-5	1.64E-5
53	221.61	5.81E-7	4.62E-7	2.85E-7	1.44E-7	6.39E-8	2.74E-8	53	552.35	3.26E-4	2.59E-4	1.61E-4	8.18E-5	3.64E-5	1.57E-5
54	227.09	4.95E-7	3.93E-7	2.42E-7	1.23E-7	5.45E-8	2.33E-8	54	585.56	3.14E-4	2.49E-4	1.54E-4	7.85E-5	3.50E-5	1.51E-5
55	232.64	4.23E-7	3.36E-7	2.07E-7	1.05E-7	4.65E-8	1.99E-8	55	620.67	3.02E-4	2.40E-4	1.49E-4	7.55E-5	3.36E-5	1.45E-5
56	238.26	3.62E-7	2.87E-7	1.77E-7	8.99E-8	3.98E-8	1.70E-8	56	657.78	2.90E-4	2.30E-4	1.43E-4	7.27E-5	3.24E-5	1.39E-5
57	243.96	3.11E-7	2.47E-7	1.52E-7	7.71E-8	3.41E-8	1.46E-8	57	696.99	2.78E-4	2.21E-4	1.37E-4	7.00E-5	3.12E-5	1.34E-5
58	249.73	2.67E-7	2.13E-7	1.31E-7	6.65E-8	2.94E-8	1.26E-8	58	738.40	2.68E-4	2.13E-4	1.32E-4	6.75E-5	3.00E-5	1.29E-5
59	255.59	2.31E-7	1.83E-7	1.13E-7	5.73E-8	2.53E-8	1.09E-8	59	782.12	2.58E-4	2.06E-4	1.28E-4	6.51E-5	2.90E-5	1.25E-5
60	261.51	2.00E-7	1.59E-7	9.80E-8	4.96E-8	2.19E-8	9.40E-9	60	828.24	2.50E-4	1.99E-4	1.23E-4	6.28E-5	2.80E-5	1.20E-5
61	267.53	1.73E-7	1.38E-7	8.50E-8	4.30E-8	1.90E-8	8.14E-9	61	876.89	2.41E-4	1.92E-4	1.19E-4	6.07E-5	2.71E-5	1.17E-5
62	273.62	1.51E-7	1.20E-7	7.39E-8	3.74E-8	1.65E-8	7.07E-9	62	928.17	2.33E-4	1.85E-4	1.15E-4	5.87E-5	2.62E-5	1.13E-5
63	279.81	1.31E-7	1.04E-7	6.44E-8	3.26E-8	1.44E-8	6.16E-9	63	982.24	2.26E-4	1.80E-4	1.11E-4	5.68E-5	2.53E-5	1.09E-5
64	286.07	1.14E-7	9.10E-8	5.62E-8	2.84E-8	1.26E-8	5.38E-9	64	1039.18	2.18E-4	1.73E-4	1.08E-4	5.51E-5	2.45E-5	1.06E-5
65	292.44	1.00E-7	7.96E-8	4.92E-8	2.49E-8	1.10E-8	4.70E-9	65	1099.17	2.11E-4	1.68E-4	1.05E-4	5.34E-5	2.38E-5	1.02E-5
66	298.90	8.78E-8	6.97E-8	4.31E-8	2.18E-8	9.65E-9	4.12E-9	66	1162.31	2.05E-4	1.63E-4	1.01E-4	5.17E-5	2.31E-5	9.93E-6
67	305.46	7.71E-8	6.13E-8	3.79E-8	1.92E-8	8.47E-9	3.62E-9	67	1228.76	1.98E-4	1.58E-4	9.83E-5	5.02E-5	2.24E-5	9.64E-6
68	312.12	6.78E-8	5.39E-8	3.33E-8	1.69E-8	7.46E-9	3.18E-9	68	1298.68	1.92E-4	1.53E-4	9.55E-5	4.88E-5	2.18E-5	9.36E-6
69	318.89	5.98E-8	4.75E-8	2.94E-8	1.49E-8	6.58E-9	2.81E-9	69	1372.21	1.87E-4	1.49E-4	9.28E-5	4.74E-5	2.11E-5	9.10E-6
70	325.75	5.27E-8	4.19E-8	2.59E-8	1.32E-8	5.81E-9	2.48E-9	70	1449.50	1.81E-4	1.45E-4	9.01E-5	4.61E-5	2.06E-5	8.84E-6
71	332.73	4.66E-8	3.71E-8	2.30E-8	1.16E-8	5.15E-9	2.19E-9	71	1530.76	1.76E-4	1.41E-4	8.76E-5	4.49E-5	2.00E-5	8.61E-6
72	339.81	4.13E-8	3.29E-8	2.04E-8	1.03E-8	4.56E-9	1.94E-9	72	1616.12	1.71E-4	1.37E-4	8.53E-5	4.37E-5	1.95E-5	8.39E-6
73	347.01	3.67E-8	2.92E-8	1.81E-8	9.16E-9	4.05E-9	1.73E-9	73	1705.80	1.67E-4	1.33E-4	8.30E-5	4.26E-5	1.90E-5	8.17E-6
74	354.32	3.26E-8	2.59E-8	1.61E-8	8.15E-9	3.60E-9	1.53E-9	74	1799.97	1.62E-4	1.30E-4	8.09E-5	4.15E-5	1.85E-5	7.97E-6
75	361.76	2.90E-8	2.31E-8	1.43E-8	7.26E-9	3.21E-9	1.37E-9	75	1898.84	1.58E-4	1.26E-4	7.89E-5	4.05E-5	1.81E-5	7.77E-6
76	369.29	2.58E-8	2.06E-8	1.28E-8	6.48E-9	2.86E-9	1.22E-9	76	2002.60	1.54E-4	1.23E-4	7.69E-5	3.95E-5	1.77E-5	7.59E-6
77	376.97	2.31E-8	1.84E-8	1.14E-8	5.79E-9	2.56E-9	1.09E-9	77	2111.50	1.50E-4	1.20E-4	7.50E-5	3.86E-5	1.72E-5	7.41E-6
78	384.75	2.06E-8	1.64E-8	1.02E-8	5.18E-9	2.29E-9	1.00E-9	78	2225.74	1.46E-4	1.17E-4	7.33E-5	3.77E-5	1.68E-5	7.24E-6
79	392.68	1.84E-8	1.47E-8	9.13E-9	4.64E-9	2.05E-9	1.00E-9	79	2345.59	1.42E-4	1.14E-4	7.17E-5	3.68E-5	1.65E-5	7.07E-6
80	400.69	1.65E-8	1.32E-8	8.19E-9	4.16E-9	1.84E-9	1.00E-9	80	2471.23	1.39E-4	1.12E-4	7.00E-5	3.60E-5	1.61E-5	6.92E-6
81	408.82	1.48E-8	1.18E-8	7.35E-9	3.75E-9	1.65E-9	1.00E-9	81	2602.97	1.36E-4	1.09E-4	6.84E-5	3.53E-5	1.58E-5	6.77E-6
82	417.09	1.33E-8	1.06E-8	6.61E-9	3.37E-9	1.49E-9	1.00E-9	82	2741.08	1.33E-4	1.06E-4	6.69E-5	3.45E-5	1.54E-5	6.63E-6
83	425.50	1.20E-8	9.56E-9	5.95E-9	3.03E-9	1.34E-9	1.00E-9	83	2885.88	1.30E-4	1.04E-4	6.55E-5	3.38E-5	1.51E-5	6.50E-6
84	434.08	1.08E-8	8.61E-9	5.37E-9	2.73E-9	1.21E-9	1.00E-9	84	3037.67	1.27E-4	1.02E-4	6.42E-5	3.31E-5	1.48E-5	6.37E-6
85	442.76	9.72E-9	7.76E-9	4.84E-9	2.47E-9	1.09E-9	0.00E+0	85	3196.70	1.24E-4	9.96E-5	6.28E-5	3.25E-5	1.45E-5	6.25E-6
86	451.20	8.77E-9	7.01E-9	4.37E-9	2.23E-9	1.00E-9	0.00E+0	86	3362.93	1.21E-4	9.75E-5	6.15E-5	3.19E-5	1.43E-5	6.12E-6
87	460.07	7.92E-9	6.33E-9	3.95E-9	2.02E-9	1.00E-9	0.00E+0	87	3537.45	1.19E-4	9.55E-5	6.03E-5	3.13E-5	1.40E-5	6.01E-6
88	468.97	7.16E-9	5.72E-9	3.58E-9	1.83E-9	1.00E-9	0.00E+0	88	3720.17	1.16E-4	9.36E-5	5.92E-5	3.07E-5	1.38E-5	5.90E-6
89	478.04	6.48E-9	5.18E-9	3.24E-9	1.65E-9	1.00E-9	0.00E+0	89	3911.64	1.14E-4	9.17E-5	5.80E-5	3.01E-5	1.35E-5	5

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_1 - A_3$								$E_1 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	120.32	9.61E-2	1.08E-1	1.26E-1	1.48E-1	1.70E-1	1.91E-1	26	160.08	2.29E-4	2.44E-4	2.73E-4	3.08E-4	3.50E-4	3.94E-4
27	127.89	8.67E-2	9.75E-2	1.14E-1	1.34E-1	1.54E-1	1.73E-1	27	170.97	2.16E-4	2.31E-4	2.60E-4	2.94E-4	3.35E-4	3.77E-4
28	135.79	7.92E-2	8.91E-2	1.04E-1	1.22E-1	1.41E-1	1.59E-1	28	182.81	1.97E-4	2.11E-4	2.38E-4	2.70E-4	3.08E-4	3.47E-4
29	144.03	7.32E-2	8.23E-2	9.63E-2	1.13E-1	1.30E-1	1.47E-1	29	195.72	1.73E-4	1.86E-4	2.10E-4	2.39E-4	2.74E-4	3.09E-4
30	152.64	6.84E-2	7.70E-2	9.01E-2	1.06E-1	1.22E-1	1.38E-1	30	209.82	1.47E-4	1.58E-4	1.80E-4	2.05E-4	2.35E-4	2.65E-4
31	161.64	6.30E-2	7.25E-2	8.61E-2	9.99E-2	1.15E-1	1.30E-1	31	225.25	1.23E-4	1.29E-4	1.49E-4	1.70E-4	1.94E-4	2.20E-4
32	171.08	6.00E-2	6.92E-2	8.21E-2	9.53E-2	1.10E-1	1.25E-1	32	242.13	9.82E-5	1.03E-4	1.19E-4	1.37E-4	1.56E-4	1.77E-4
33	181.00	5.76E-2	6.64E-2	7.89E-2	9.16E-2	1.06E-1	1.20E-1	33	260.58	7.62E-5	8.02E-5	9.26E-5	1.07E-4	1.22E-4	1.38E-4
34	191.45	5.69E-2	6.35E-2	7.61E-2	8.87E-2	1.02E-1	1.16E-1	34	280.74	5.79E-5	6.09E-5	7.03E-5	8.10E-5	9.28E-5	1.06E-4
35	202.47	5.54E-2	6.15E-2	7.39E-2	8.62E-2	9.94E-2	1.13E-1	35	302.74	4.31E-5	4.53E-5	5.22E-5	6.03E-5	6.92E-5	7.88E-5
36	214.11	5.41E-2	5.97E-2	7.19E-2	8.39E-2	9.69E-2	1.11E-1	36	326.71	3.14E-5	3.31E-5	3.82E-5	4.40E-5	5.06E-5	5.78E-5
37	226.44	5.26E-2	5.82E-2	7.01E-2	8.18E-2	9.46E-2	1.08E-1	37	352.78	2.25E-5	2.39E-5	2.75E-5	3.17E-5	3.65E-5	4.18E-5
38	239.51	5.15E-2	5.65E-2	6.83E-2	7.98E-2	9.24E-2	1.06E-1	38	381.10	1.61E-5	1.70E-5	1.96E-5	2.25E-5	2.60E-5	2.98E-5
39	253.37	4.92E-2	5.53E-2	6.63E-2	7.78E-2	9.02E-2	1.03E-1	39	411.82	1.13E-5	1.19E-5	1.37E-5	1.59E-5	1.83E-5	2.11E-5
40	268.08	4.76E-2	5.40E-2	6.48E-2	7.58E-2	8.80E-2	1.01E-1	40	445.08	7.81E-6	8.41E-6	9.58E-6	1.11E-5	1.29E-5	1.48E-5
41	283.69	4.62E-2	5.25E-2	6.27E-2	7.38E-2	8.58E-2	9.86E-2	41	481.04	5.47E-6	5.84E-6	6.68E-6	7.72E-6	8.95E-6	1.03E-5
42	300.28	4.61E-2	5.05E-2	6.12E-2	7.18E-2	8.35E-2	9.62E-2	42	519.85	3.82E-6	4.05E-6	4.66E-6	5.35E-6	6.20E-6	7.18E-6
43	317.89	4.34E-2	4.95E-2	5.90E-2	6.97E-2	8.12E-2	9.38E-2	43	561.69	2.64E-6	2.82E-6	3.21E-6	3.70E-6	4.30E-6	4.98E-6
44	336.59	4.21E-2	4.79E-2	5.72E-2	6.76E-2	7.89E-2	9.12E-2	44	606.73	1.85E-6	1.96E-6	2.22E-6	2.56E-6	2.97E-6	3.45E-6
45	356.45	4.06E-2	4.65E-2	5.53E-2	6.55E-2	7.65E-2	8.87E-2	45	655.15	1.28E-6	1.37E-6	1.53E-6	1.76E-6	2.05E-6	2.39E-6
46	377.52	4.04E-2	4.46E-2	5.38E-2	6.34E-2	7.41E-2	8.62E-2	46	707.13	8.97E-7	9.59E-7	1.06E-6	1.22E-6	1.42E-6	1.66E-6
47	399.88	3.87E-2	4.49E-2	5.24E-2	6.11E-2	7.16E-2	8.36E-2	47	762.87	6.30E-7	6.76E-7	7.44E-7	8.44E-7	9.82E-7	1.15E-6
48	423.59	3.68E-2	4.17E-2	4.99E-2	5.92E-2	6.95E-2	8.11E-2	48	822.57	4.39E-7	4.63E-7	5.12E-7	5.86E-7	6.82E-7	8.00E-7
49	448.74	3.64E-2	3.98E-2	4.83E-2	5.72E-2	6.71E-2	7.86E-2	49	886.45	3.09E-7	3.24E-7	3.55E-7	4.07E-7	4.74E-7	5.57E-7
50	475.38	3.52E-2	3.84E-2	4.66E-2	5.51E-2	6.49E-2	7.61E-2	50	954.71	2.18E-7	2.27E-7	2.48E-7	2.84E-7	3.30E-7	3.89E-7
51	503.61	3.34E-2	3.75E-2	4.45E-2	5.31E-2	6.27E-2	7.37E-2	51	1027.59	1.55E-7	1.60E-7	1.74E-7	1.98E-7	2.31E-7	2.72E-7
52	533.50	3.16E-2	3.60E-2	4.29E-2	5.12E-2	6.05E-2	7.13E-2	52	1105.32	1.10E-7	1.13E-7	1.22E-7	1.38E-7	1.61E-7	1.91E-7
53	565.14	3.08E-2	3.49E-2	4.12E-2	4.93E-2	5.84E-2	6.90E-2	53	1188.15	7.89E-8	8.06E-8	8.66E-8	9.73E-8	1.13E-7	1.34E-7
54	598.61	2.97E-2	3.33E-2	3.96E-2	4.75E-2	5.63E-2	6.67E-2	54	1276.34	5.65E-8	5.77E-8	6.13E-8	6.85E-8	7.97E-8	9.46E-8
55	634.00	2.81E-2	3.22E-2	3.81E-2	4.57E-2	5.43E-2	6.45E-2	55	1370.14	4.07E-8	4.14E-8	4.35E-8	4.84E-8	5.62E-8	6.68E-8
56	671.40	2.73E-2	3.11E-2	3.66E-2	4.40E-2	5.24E-2	6.24E-2	56	1469.84	2.95E-8	2.97E-8	3.10E-8	3.43E-8	3.98E-8	4.74E-8
57	710.92	2.55E-2	2.99E-2	3.57E-2	4.21E-2	5.03E-2	6.02E-2	57	1575.72	2.16E-8	2.16E-8	2.21E-8	2.45E-8	2.84E-8	3.38E-8
58	752.66	2.46E-2	2.86E-2	3.43E-2	4.06E-2	4.85E-2	5.83E-2	58	1688.08	1.57E-8	1.56E-8	1.59E-8	1.74E-8	2.02E-8	2.40E-8
59	796.72	2.38E-2	2.74E-2	3.30E-2	3.91E-2	4.68E-2	5.63E-2	59	1807.24	1.15E-8	1.14E-8	1.14E-8	1.24E-8	1.43E-8	1.71E-8
60	843.20	2.30E-2	2.63E-2	3.18E-2	3.77E-2	4.51E-2	5.45E-2	60	1933.50	8.55E-9	8.38E-9	8.34E-9	8.91E-9	1.03E-8	1.23E-8
61	892.23	2.23E-2	2.51E-2	3.05E-2	3.63E-2	4.35E-2	5.27E-2	61	2067.23	6.38E-9	6.19E-9	6.07E-9	6.41E-9	7.36E-9	8.81E-9
62	943.90	2.16E-2	2.41E-2	2.94E-2	3.50E-2	4.20E-2	5.10E-2	62	2208.73	4.77E-9	4.58E-9	4.43E-9	4.62E-9	5.27E-9	6.31E-9
63	998.37	2.09E-2	2.31E-2	2.82E-2	3.37E-2	4.06E-2	4.93E-2	63	2358.41	3.60E-9	3.42E-9	3.25E-9	3.35E-9	3.80E-9	4.56E-9
64	1055.73	2.02E-2	2.22E-2	2.72E-2	3.24E-2	3.91E-2	4.78E-2	64	2516.61	2.72E-9	2.55E-9	2.38E-9	2.43E-9	2.73E-9	3.27E-9
65	1116.14	1.96E-2	2.13E-2	2.61E-2	3.13E-2	3.78E-2	4.62E-2	65	2683.76	2.08E-9	1.92E-9	1.78E-9	1.78E-9	1.99E-9	2.39E-9
66	1179.73	1.89E-2	2.05E-2	2.51E-2	3.01E-2	3.65E-2	4.48E-2	66	2860.25	1.59E-9	1.45E-9	1.32E-9	1.31E-9	1.45E-9	1.73E-9
67	1246.64	1.83E-2	1.97E-2	2.41E-2	2.91E-2	3.52E-2	4.34E-2	67	3046.51	1.22E-9	1.11E-9	1.00E-9	1.00E-9	1.06E-9	1.27E-9
68	1317.03	1.76E-2	1.90E-2	2.32E-2	2.80E-2	3.40E-2	4.20E-2	68	3242.99	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9
69	1391.05	1.69E-2	1.83E-2	2.23E-2	2.70E-2	3.29E-2	4.07E-2	69	3450.16	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9	1.00E-9
70	1468.84	1.63E-2	1.76E-2	2.14E-2	2.61E-2	3.18E-2	3.95E-2	70	3668.46	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
71	1550.60	1.56E-2	1.70E-2	2.06E-2	2.51E-2	3.07E-2	3.83E-2	71	3898.45	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
72	1636.48	1.50E-2	1.64E-2	1.98E-2	2.42E-2	2.97E-2	3.71E-2	72	4140.61	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
73	1726.69	1.44E-2	1.58E-2	1.91E-2	2.34E-2	2.88E-2	3.60E-2	73	4395.51	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
74	1821.40	1.38E-2	1.53E-2	1.84E-2	2.26E-2	2.78E-2	3.49E-2	74	4663.73	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
75	1920.83	1.32E-2	1.48E-2	1.77E-2	2.18E-2	2.69E-2	3.39E-2	75	4945.85	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
76	2025.14	1.26E-2	1.43E-2	1.70E-2	2.10E-2	2.61E-2	3.29E-2	76	5242.48	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
77	2134.61	1.21E-2	1.38E-2	1.64E-2	2.03E-2	2.52E-2	3.20E-2	77	5554.32	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
78	2249.42	1.17E-2	1.34E-2	1.58E-2	1.96E-2	2.44E-2	3.11E-2	78	5882.01	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
79	2369.85	1.13E-2	1.29E-2	1.52E-2	1.89E-2	2.36E-2	3.02E-2	79	6226.29	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
80	2496.08	1.09E-2	1.25E-2	1.47E-2	1.82E-2	2.29E-2	2.93E-2	80	6587.86	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	2628.40	1.06E-2	1.21E-2	1.42E-2	1.76E-2	2.22E-2	2.85E-2	81	6967.51	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	2767.11	1.03E-2	1.16E-2	1.37E-2	1.70E-2	2.15E-2	2.77E-2	82	7366.11	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	2912.49	9.96E-3	1.12E-2	1.32E-2	1.64E-2	2.08E-2	2.69E-2	83	7784.51	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	3064.88	9.29E-3	1.06E-2	1.30E-2	1.59E-2	2.01E-2	2.61E-2	84	8223.66	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	3224.51	9.00E-3	1.02E-2	1.26E-2	1.54E-2	1.95E-2	2.54E-2	85	8684.40	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	3391.33	8.73E-3	9.84E-3	1.21E-2	1.49E-2	1.89E-2	2.47E-2	86	9167.28	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	3566.43	8.55E-3	9.59E-3	1.16E-2	1.44E-2	1.83E-2	2.40E-2	87	9674.26	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	3749.74	8.25E-3	9.29E-3	1.12E-2	1.40E-2	1.78E-2	2.34E-2	88	10205.9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	3941.78	7.96E-3	8.99E-3	1.07E-2	1.35E-2	1.73E-2	2.28E-2	89	10763.5	0.00E+0	0.00E+0				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_2 - A_3$								$E_2 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	102.03	9.05E-2	1.02E-1	1.19E-1	1.40E-1	1.60E-1	1.80E-1	26	141.79	7.25E-3	7.79E-3	8.80E-3	9.97E-3	1.14E-2	1.27E-2
27	107.52	8.28E-2	9.32E-2	1.09E-1	1.28E-1	1.47E-1	1.65E-1	27	150.60	7.71E-3	8.37E-3	9.56E-3	1.09E-2	1.25E-2	1.40E-2
28	113.02	7.55E-2	8.50E-2	9.99E-2	1.17E-1	1.34E-1	1.51E-1	28	160.03	8.05E-3	8.79E-3	1.01E-2	1.17E-2	1.34E-2	1.50E-2
29	118.50	6.86E-2	7.73E-2	9.09E-2	1.07E-1	1.22E-1	1.38E-1	29	170.19	8.21E-3	9.02E-3	1.05E-2	1.21E-2	1.39E-2	1.57E-2
30	123.96	6.21E-2	7.00E-2	8.25E-2	9.68E-2	1.11E-1	1.25E-1	30	181.15	8.20E-3	9.03E-3	1.05E-2	1.22E-2	1.40E-2	1.59E-2
31	129.38	5.46E-2	6.40E-2	7.49E-2	8.71E-2	1.00E-1	1.13E-1	31	192.99	8.12E-3	8.71E-3	1.04E-2	1.20E-2	1.38E-2	1.56E-2
32	134.77	4.93E-2	5.78E-2	6.78E-2	7.88E-2	9.08E-2	1.03E-1	32	205.82	7.74E-3	8.32E-3	9.94E-3	1.15E-2	1.32E-2	1.50E-2
33	140.12	4.46E-2	5.22E-2	6.12E-2	7.13E-2	8.22E-2	9.29E-2	33	219.70	7.24E-3	7.79E-3	9.32E-3	1.08E-2	1.25E-2	1.42E-2
34	145.44	4.02E-2	4.72E-2	5.53E-2	6.45E-2	7.43E-2	8.42E-2	34	234.73	6.65E-3	7.16E-3	8.58E-3	1.00E-2	1.15E-2	1.31E-2
35	150.73	3.62E-2	4.27E-2	5.00E-2	5.83E-2	6.73E-2	7.63E-2	35	251.00	6.03E-3	6.47E-3	7.78E-3	9.07E-3	1.05E-2	1.19E-2
36	156.01	3.28E-2	3.87E-2	4.51E-2	5.27E-2	6.09E-2	6.91E-2	36	268.60	5.38E-3	5.78E-3	6.96E-3	8.12E-3	9.37E-3	1.07E-2
37	161.28	3.09E-2	3.49E-2	4.07E-2	4.77E-2	5.51E-2	6.27E-2	37	287.61	4.70E-3	5.14E-3	6.16E-3	7.18E-3	8.30E-3	9.51E-3
38	166.55	2.75E-2	3.16E-2	3.68E-2	4.31E-2	4.99E-2	5.68E-2	38	308.14	4.14E-3	4.47E-3	5.39E-3	6.29E-3	7.29E-3	8.36E-3
39	171.83	2.42E-2	2.83E-2	3.33E-2	3.90E-2	4.52E-2	5.15E-2	39	330.28	3.56E-3	3.88E-3	4.66E-3	5.48E-3	6.35E-3	7.30E-3
40	177.12	2.21E-2	2.56E-2	3.01E-2	3.52E-2	4.08E-2	4.66E-2	40	354.12	3.01E-3	3.38E-3	4.01E-3	4.74E-3	5.50E-3	6.33E-3
41	182.45	1.98E-2	2.29E-2	2.72E-2	3.18E-2	3.69E-2	4.22E-2	41	379.79	2.61E-3	2.89E-3	3.45E-3	4.07E-3	4.74E-3	5.47E-3
42	187.80	1.86E-2	2.08E-2	2.44E-2	2.87E-2	3.33E-2	3.81E-2	42	407.37	2.27E-3	2.47E-3	2.98E-3	3.49E-3	4.07E-3	4.70E-3
43	193.19	1.60E-2	1.86E-2	2.20E-2	2.59E-2	3.01E-2	3.45E-2	43	436.99	1.90E-3	2.12E-3	2.52E-3	2.98E-3	3.48E-3	4.04E-3
44	198.62	1.43E-2	1.67E-2	1.98E-2	2.33E-2	2.71E-2	3.11E-2	44	468.76	1.62E-3	1.80E-3	2.15E-3	2.55E-3	2.98E-3	3.46E-3
45	204.10	1.29E-2	1.49E-2	1.78E-2	2.09E-2	2.44E-2	2.80E-2	45	502.81	1.38E-3	1.54E-3	1.83E-3	2.17E-3	2.54E-3	2.96E-3
46	209.64	1.16E-2	1.35E-2	1.59E-2	1.88E-2	2.19E-2	2.53E-2	46	539.25	1.17E-3	1.33E-3	1.54E-3	1.85E-3	2.17E-3	2.53E-3
47	215.23	1.02E-2	1.18E-2	1.43E-2	1.69E-2	1.97E-2	2.27E-2	47	578.22	1.02E-3	1.17E-3	1.35E-3	1.57E-3	1.84E-3	2.16E-3
48	220.87	9.28E-3	1.08E-2	1.28E-2	1.51E-2	1.76E-2	2.04E-2	48	619.85	8.49E-4	9.47E-4	1.13E-3	1.34E-3	1.58E-3	1.85E-3
49	226.58	8.21E-3	9.64E-3	1.15E-2	1.35E-2	1.58E-2	1.83E-2	49	664.29	7.29E-4	8.09E-4	9.50E-4	1.14E-3	1.35E-3	1.58E-3
50	232.36	7.36E-3	8.62E-3	1.02E-2	1.21E-2	1.42E-2	1.65E-2	50	711.68	6.20E-4	6.89E-4	8.09E-4	9.69E-4	1.15E-3	1.36E-3
51	238.20	6.83E-3	7.68E-3	9.12E-3	1.08E-2	1.27E-2	1.48E-2	51	762.17	5.30E-4	5.90E-4	6.89E-4	8.28E-4	9.82E-4	1.16E-3
52	244.11	5.96E-3	6.85E-3	8.15E-3	9.66E-3	1.14E-2	1.32E-2	52	815.93	4.45E-4	4.95E-4	5.91E-4	7.04E-4	8.40E-4	9.96E-4
53	250.10	5.21E-3	6.10E-3	7.28E-3	8.64E-3	1.01E-2	1.19E-2	53	873.11	3.83E-4	4.25E-4	5.06E-4	6.01E-4	7.19E-4	8.56E-4
54	256.16	4.66E-3	5.45E-3	6.49E-3	7.71E-3	9.08E-3	1.06E-2	54	933.89	3.29E-4	3.66E-4	4.32E-4	5.15E-4	6.16E-4	7.36E-4
55	262.31	4.14E-3	4.85E-3	5.80E-3	6.89E-3	8.12E-3	9.54E-3	55	998.45	2.80E-4	3.12E-4	3.69E-4	4.42E-4	5.29E-4	6.34E-4
56	268.52	3.69E-3	4.33E-3	5.17E-3	6.15E-3	7.27E-3	8.56E-3	56	1066.96	2.39E-4	2.66E-4	3.16E-4	3.79E-4	4.55E-4	5.47E-4
57	274.83	3.39E-3	3.71E-3	4.56E-3	5.50E-3	6.51E-3	7.69E-3	57	1139.63	2.04E-4	2.30E-4	2.71E-4	3.28E-4	3.92E-4	4.71E-4
58	281.23	3.02E-3	3.31E-3	4.08E-3	4.92E-3	5.83E-3	6.90E-3	58	1216.65	1.75E-4	1.98E-4	2.32E-4	2.82E-4	3.38E-4	4.08E-4
59	287.72	2.70E-3	2.96E-3	3.65E-3	4.40E-3	5.23E-3	6.20E-3	59	1298.24	1.51E-4	1.71E-4	2.00E-4	2.43E-4	2.92E-4	3.53E-4
60	294.29	2.41E-3	2.65E-3	3.26E-3	3.94E-3	4.69E-3	5.58E-3	60	1384.59	1.31E-4	1.48E-4	1.72E-4	2.10E-4	2.53E-4	3.07E-4
61	300.96	2.16E-3	2.37E-3	2.93E-3	3.54E-3	4.21E-3	5.02E-3	61	1475.96	1.14E-4	1.27E-4	1.49E-4	1.81E-4	2.19E-4	2.67E-4
62	307.71	1.93E-3	2.12E-3	2.62E-3	3.17E-3	3.79E-3	4.53E-3	62	1572.54	9.89E-5	1.10E-4	1.29E-4	1.57E-4	1.90E-4	2.32E-4
63	314.58	1.73E-3	1.91E-3	2.35E-3	2.85E-3	3.41E-3	4.09E-3	63	1674.62	8.58E-5	9.44E-5	1.11E-4	1.36E-4	1.65E-4	2.02E-4
64	321.53	1.56E-3	1.71E-3	2.12E-3	2.57E-3	3.08E-3	3.69E-3	64	1782.41	7.44E-5	8.15E-5	9.68E-5	1.18E-4	1.44E-4	1.77E-4
65	328.60	1.40E-3	1.54E-3	1.91E-3	2.31E-3	2.78E-3	3.34E-3	65	1896.22	6.44E-5	7.05E-5	8.42E-5	1.02E-4	1.25E-4	1.54E-4
66	335.76	1.26E-3	1.39E-3	1.72E-3	2.09E-3	2.51E-3	3.03E-3	66	2016.28	5.57E-5	6.12E-5	7.34E-5	8.89E-5	1.09E-4	1.35E-4
67	343.04	1.14E-3	1.25E-3	1.55E-3	1.89E-3	2.27E-3	2.75E-3	67	2142.91	4.83E-5	5.33E-5	6.41E-5	7.74E-5	9.56E-5	1.19E-4
68	350.44	1.03E-3	1.13E-3	1.40E-3	1.71E-3	2.06E-3	2.50E-3	68	2276.40	4.19E-5	4.65E-5	5.59E-5	6.76E-5	8.36E-5	1.04E-4
69	357.95	9.27E-4	1.03E-3	1.27E-3	1.55E-3	1.87E-3	2.28E-3	69	2417.06	3.66E-5	4.08E-5	4.89E-5	5.90E-5	7.33E-5	9.16E-5
70	365.56	8.41E-4	9.31E-4	1.16E-3	1.41E-3	1.71E-3	2.08E-3	70	2565.18	3.21E-5	3.58E-5	4.27E-5	5.17E-5	6.43E-5	8.06E-5
71	373.31	7.64E-4	8.46E-4	1.05E-3	1.28E-3	1.56E-3	1.91E-3	71	2721.15	2.82E-5	3.14E-5	3.73E-5	4.53E-5	5.64E-5	7.10E-5
72	381.17	6.95E-4	7.71E-4	9.59E-4	1.17E-3	1.42E-3	1.75E-3	72	2885.29	2.48E-5	2.76E-5	3.27E-5	3.98E-5	4.96E-5	6.27E-5
73	389.16	6.34E-4	7.04E-4	8.75E-4	1.07E-3	1.30E-3	1.61E-3	73	3057.98	2.18E-5	2.42E-5	2.86E-5	3.50E-5	4.37E-5	5.54E-5
74	397.27	5.80E-4	6.43E-4	8.01E-4	9.81E-4	1.20E-3	1.48E-3	74	3239.59	1.91E-5	2.12E-5	2.51E-5	3.08E-5	3.85E-5	4.90E-5
75	405.51	5.31E-4	5.90E-4	7.35E-4	9.01E-4	1.10E-3	1.36E-3	75	3430.54	1.68E-5	1.85E-5	2.20E-5	2.72E-5	3.40E-5	4.34E-5
76	413.87	4.88E-4	5.42E-4	6.75E-4	8.29E-4	1.02E-3	1.26E-3	76	3631.21	1.47E-5	1.62E-5	1.93E-5	2.40E-5	3.00E-5	3.84E-5
77	422.38	4.49E-4	4.99E-4	6.22E-4	7.64E-4	9.38E-4	1.17E-3	77	3842.10	1.29E-5	1.43E-5	1.70E-5	2.12E-5	2.66E-5	3.41E-5
78	431.02	4.14E-4	4.60E-4	5.74E-4	7.06E-4	8.69E-4	1.09E-3	78	4063.60	1.14E-5	1.26E-5	1.50E-5	1.87E-5	2.35E-5	3.03E-5
79	439.80	3.83E-4	4.26E-4	5.31E-4	6.54E-4	8.07E-4	1.01E-3	79	4296.25	1.01E-5	1.11E-5	1.33E-5	1.65E-5	2.09E-5	2.70E-5
80	448.69	3.55E-4	3.95E-4	4.93E-4	6.08E-4	7.51E-4	9.44E-4	80	4540.47	8.91E-6	9.86E-6	1.18E-5	1.46E-5	1.85E-5	2.40E-5
81	457.71	3.30E-4	3.67E-4	4.58E-4	5.66E-4	7.00E-4	8.84E-4	81	4796.82	7.88E-6	8.75E-6	1.04E-5	1.29E-5	1.65E-5	2.14E-5
82	466.88	3.08E-4	3.42E-4	4.27E-4	5.28E-4	6.55E-4	8.29E-4	82	5065.88	6.97E-6	7.75E-6	9.26E-6	1.15E-5	1.46E-5	1.91E-5
83	476.20	2.87E-4	3.19E-4	3.99E-4	4.94E-4	6.15E-4	7.80E-4	83	5348.22	6.15E-6	6.85E-6	8.20E-6	1.01E-5	1.30E-5	1.70E-5
84	485.71	2.37E-4	2.95E-4	3.78E-4	4.67E-4	5.80E-4	7.38E-4	84	5644.49	5.48E-6	6.04E-6	7.22E-6	8.98E-6	1.16E-5	1.53E-5
85	495.33	2.23E-4	2.77E-4	3.55E-4	4.40E-4	5.47E-4	6.99E-4	85	5955.22	4.88E-6	5.32E-6	6.43E-6	7.97E-6	1.03E-5	1.36E-5
86	504.72	2.10E-4	2.61E-4	3.34E-4	4.15E-4	5.18E-4	6.63E-4	86	6280.68	4.34E-6	4.69E-6	5.73E-6	7.08E-6	9.22E-6	1.22E-5
87	514.57	1.99E-4	2.47E-4	3.16E-4	3.93E-4	4.91E-4	6.31E-4	87	6622.39	3.85E-6	4.15E-6	5.11E-6	6.30E-6	8.22E-6	1.09E-5
88	524.46	1.89E-4	2.34E-4	3.00E-4	3.73E-4	4.68E-4	6.03E-4	88	6980.59	3.40E-6	3.68E-6	4.55E-6	5.61E-6	7.33E-6	9.79E-6
89	534.53	1.80E-4	2.22E-4	2.85E-4	3.56E-4	4.47E-4	5.78E-4	89	7356.23	3.00E-6	3.28E-6	4.05E-6	5.00E-6	6.	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_3 - A_3$								$E_3 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	79.31	1.81E-1	2.04E-1	2.45E-1	2.85E-1	3.26E-1	3.64E-1	26	119.07	1.62E-2	1.82E-2	2.13E-2	2.50E-2	2.88E-2	3.23E-2
27	84.69	1.72E-1	1.94E-1	2.33E-1	2.72E-1	3.10E-1	3.47E-1	27	127.77	1.45E-2	1.63E-2	1.91E-2	2.24E-2	2.58E-2	2.90E-2
28	90.20	1.64E-1	1.84E-1	2.22E-1	2.59E-1	2.96E-1	3.32E-1	28	137.21	1.26E-2	1.42E-2	1.66E-2	1.96E-2	2.25E-2	2.53E-2
29	95.80	1.56E-1	1.76E-1	2.11E-1	2.47E-1	2.82E-1	3.17E-1	29	147.49	1.07E-2	1.21E-2	1.41E-2	1.66E-2	1.91E-2	2.16E-2
30	101.48	1.49E-1	1.67E-1	2.01E-1	2.35E-1	2.69E-1	3.02E-1	30	158.67	8.91E-3	1.00E-2	1.18E-2	1.38E-2	1.59E-2	1.80E-2
31	107.22	1.41E-1	1.63E-1	1.89E-1	2.22E-1	2.55E-1	2.87E-1	31	170.83	7.31E-3	8.09E-3	9.72E-3	1.13E-2	1.30E-2	1.47E-2
32	113.00	1.34E-1	1.54E-1	1.80E-1	2.10E-1	2.42E-1	2.73E-1	32	184.04	5.92E-3	6.53E-3	7.85E-3	9.14E-3	1.05E-2	1.20E-2
33	118.80	1.27E-1	1.46E-1	1.70E-1	2.00E-1	2.30E-1	2.60E-1	33	198.38	4.75E-3	5.21E-3	6.28E-3	7.32E-3	8.44E-3	9.59E-3
34	124.61	1.20E-1	1.38E-1	1.61E-1	1.89E-1	2.18E-1	2.46E-1	34	213.91	3.79E-3	4.14E-3	4.99E-3	5.82E-3	6.71E-3	7.64E-3
35	130.44	1.11E-1	1.30E-1	1.52E-1	1.79E-1	2.06E-1	2.33E-1	35	230.71	3.00E-3	3.27E-3	3.94E-3	4.60E-3	5.32E-3	6.06E-3
36	136.26	1.04E-1	1.22E-1	1.44E-1	1.69E-1	1.95E-1	2.21E-1	36	248.85	2.38E-3	2.57E-3	3.11E-3	3.63E-3	4.19E-3	4.79E-3
37	142.08	1.02E-1	1.16E-1	1.36E-1	1.60E-1	1.84E-1	2.09E-1	37	268.41	1.85E-3	2.03E-3	2.45E-3	2.85E-3	3.30E-3	3.78E-3
38	147.89	9.49E-2	1.09E-1	1.28E-1	1.51E-1	1.75E-1	1.99E-1	38	289.49	1.47E-3	1.59E-3	1.92E-3	2.24E-3	2.60E-3	2.98E-3
39	153.70	8.84E-2	1.03E-1	1.22E-1	1.43E-1	1.66E-1	1.88E-1	39	312.15	1.14E-3	1.25E-3	1.50E-3	1.76E-3	2.04E-3	2.35E-3
40	159.51	8.41E-2	9.77E-2	1.15E-1	1.35E-1	1.57E-1	1.79E-1	40	336.51	8.82E-4	9.90E-4	1.17E-3	1.38E-3	1.61E-3	1.85E-3
41	165.32	8.12E-2	9.23E-2	1.09E-1	1.28E-1	1.49E-1	1.70E-1	41	362.66	6.97E-4	7.75E-4	9.23E-4	1.09E-3	1.27E-3	1.46E-3
42	171.12	7.78E-2	8.77E-2	1.03E-1	1.22E-1	1.42E-1	1.62E-1	42	390.70	5.59E-4	6.06E-4	7.32E-4	8.55E-4	9.95E-4	1.15E-3
43	176.94	7.14E-2	8.26E-2	9.85E-2	1.16E-1	1.35E-1	1.55E-1	43	420.74	4.32E-4	4.81E-4	5.70E-4	6.74E-4	7.85E-4	9.09E-4
44	182.76	6.74E-2	7.87E-2	9.38E-2	1.11E-1	1.29E-1	1.48E-1	44	452.90	3.42E-4	3.79E-4	4.50E-4	5.31E-4	6.19E-4	7.19E-4
45	188.60	6.46E-2	7.47E-2	8.94E-2	1.06E-1	1.23E-1	1.41E-1	45	487.30	2.69E-4	3.01E-4	3.54E-4	4.19E-4	4.89E-4	5.69E-4
46	194.46	6.16E-2	7.19E-2	8.52E-2	1.01E-1	1.17E-1	1.35E-1	46	524.07	2.14E-4	2.40E-4	2.78E-4	3.30E-4	3.87E-4	4.52E-4
47	200.34	5.76E-2	6.71E-2	8.16E-2	9.66E-2	1.13E-1	1.30E-1	47	563.33	1.72E-4	1.97E-4	2.26E-4	2.61E-4	3.06E-4	3.58E-4
48	206.24	5.61E-2	6.56E-2	7.79E-2	9.23E-2	1.08E-1	1.25E-1	48	605.22	1.35E-4	1.49E-4	1.76E-4	2.08E-4	2.44E-4	2.85E-4
49	212.18	5.34E-2	6.25E-2	7.47E-2	8.85E-2	1.03E-1	1.20E-1	49	649.89	1.08E-4	1.19E-4	1.38E-4	1.64E-4	1.94E-4	2.28E-4
50	218.16	5.12E-2	6.00E-2	7.16E-2	8.49E-2	9.94E-2	1.15E-1	50	697.48	8.65E-5	9.50E-5	1.10E-4	1.31E-4	1.55E-4	1.82E-4
51	224.18	5.10E-2	5.75E-2	6.85E-2	8.15E-2	9.56E-2	1.11E-1	51	748.15	6.94E-5	7.62E-5	8.78E-5	1.05E-4	1.23E-4	1.46E-4
52	230.24	4.79E-2	5.52E-2	6.59E-2	7.83E-2	9.20E-2	1.07E-1	52	802.05	5.49E-5	6.02E-5	7.07E-5	8.33E-5	9.89E-5	1.17E-4
53	236.36	4.52E-2	5.29E-2	6.34E-2	7.53E-2	8.86E-2	1.03E-1	53	859.37	4.45E-5	4.87E-5	5.68E-5	6.67E-5	7.94E-5	9.42E-5
54	242.53	4.35E-2	5.09E-2	6.09E-2	7.25E-2	8.54E-2	1.00E-1	54	920.26	3.61E-5	3.94E-5	4.57E-5	5.37E-5	6.39E-5	7.61E-5
55	248.76	4.21E-2	4.89E-2	5.85E-2	6.98E-2	8.23E-2	9.66E-2	55	984.90	2.91E-5	3.18E-5	3.67E-5	4.33E-5	5.16E-5	6.16E-5
56	255.05	4.01E-2	4.70E-2	5.64E-2	6.72E-2	7.94E-2	9.34E-2	56	1053.49	2.36E-5	2.57E-5	2.97E-5	3.50E-5	4.17E-5	5.00E-5
57	261.42	3.92E-2	4.33E-2	5.37E-2	6.48E-2	7.67E-2	9.05E-2	57	1126.22	1.92E-5	2.10E-5	2.41E-5	2.86E-5	3.39E-5	4.06E-5
58	267.86	3.77E-2	4.17E-2	5.17E-2	6.25E-2	7.41E-2	8.76E-2	58	1203.28	1.57E-5	1.72E-5	1.96E-5	2.33E-5	2.77E-5	3.32E-5
59	274.38	3.63E-2	4.02E-2	4.98E-2	6.02E-2	7.16E-2	8.48E-2	59	1284.90	1.29E-5	1.41E-5	1.60E-5	1.90E-5	2.26E-5	2.72E-5
60	280.98	3.49E-2	3.87E-2	4.81E-2	5.81E-2	6.91E-2	8.21E-2	60	1371.28	1.07E-5	1.16E-5	1.31E-5	1.55E-5	1.86E-5	2.24E-5
61	287.67	3.37E-2	3.73E-2	4.63E-2	5.61E-2	6.68E-2	7.96E-2	61	1462.67	8.89E-6	9.58E-6	1.08E-5	1.28E-5	1.53E-5	1.85E-5
62	294.43	3.24E-2	3.60E-2	4.47E-2	5.41E-2	6.46E-2	7.72E-2	62	1559.26	7.41E-6	7.91E-6	8.88E-6	1.05E-5	1.26E-5	1.53E-5
63	301.30	3.13E-2	3.47E-2	4.31E-2	5.23E-2	6.25E-2	7.48E-2	63	1661.34	6.19E-6	6.55E-6	7.36E-6	8.68E-6	1.04E-5	1.27E-5
64	308.25	3.02E-2	3.35E-2	4.16E-2	5.05E-2	6.05E-2	7.26E-2	64	1769.13	5.17E-6	5.44E-6	6.12E-6	7.20E-6	8.67E-6	1.06E-5
65	315.31	2.91E-2	3.23E-2	4.02E-2	4.88E-2	5.85E-2	7.05E-2	65	1882.93	4.33E-6	4.54E-6	5.12E-6	5.98E-6	7.23E-6	8.84E-6
66	322.47	2.79E-2	3.11E-2	3.88E-2	4.72E-2	5.67E-2	6.84E-2	66	2003.00	3.63E-6	3.80E-6	4.28E-6	4.99E-6	6.03E-6	7.41E-6
67	329.75	2.69E-2	3.00E-2	3.75E-2	4.56E-2	5.49E-2	6.64E-2	67	2129.62	3.05E-6	3.20E-6	3.60E-6	4.17E-6	5.06E-6	6.22E-6
68	337.14	2.60E-2	2.90E-2	3.62E-2	4.41E-2	5.32E-2	6.45E-2	68	2263.10	2.58E-6	2.71E-6	3.03E-6	3.50E-6	4.25E-6	5.24E-6
69	344.64	2.51E-2	2.80E-2	3.50E-2	4.26E-2	5.15E-2	6.27E-2	69	2403.75	2.19E-6	2.30E-6	2.56E-6	2.95E-6	3.58E-6	4.43E-6
70	352.25	2.43E-2	2.71E-2	3.38E-2	4.13E-2	4.99E-2	6.09E-2	70	2551.87	1.87E-6	1.96E-6	2.17E-6	2.49E-6	3.02E-6	3.76E-6
71	360.00	2.34E-2	2.61E-2	3.27E-2	3.99E-2	4.84E-2	5.93E-2	71	2707.84	1.61E-6	1.68E-6	1.84E-6	2.11E-6	2.56E-6	3.19E-6
72	367.86	2.26E-2	2.53E-2	3.16E-2	3.86E-2	4.69E-2	5.76E-2	72	2871.98	1.38E-6	1.44E-6	1.56E-6	1.79E-6	2.17E-6	2.72E-6
73	375.85	2.19E-2	2.44E-2	3.05E-2	3.74E-2	4.55E-2	5.61E-2	73	3044.67	1.19E-6	1.23E-6	1.33E-6	1.53E-6	1.85E-6	2.32E-6
74	383.98	2.11E-2	2.36E-2	2.95E-2	3.62E-2	4.42E-2	5.45E-2	74	3226.30	1.02E-6	1.05E-6	1.13E-6	1.31E-6	1.58E-6	1.99E-6
75	392.24	2.04E-2	2.28E-2	2.86E-2	3.50E-2	4.28E-2	5.31E-2	75	3417.27	8.83E-7	9.04E-7	9.71E-7	1.12E-6	1.35E-6	1.70E-6
76	400.62	1.98E-2	2.21E-2	2.76E-2	3.39E-2	4.16E-2	5.17E-2	76	3617.96	7.63E-7	7.78E-7	8.33E-7	9.59E-7	1.16E-6	1.46E-6
77	409.16	1.91E-2	2.13E-2	2.67E-2	3.29E-2	4.04E-2	5.03E-2	77	3828.87	6.62E-7	6.71E-7	7.17E-7	8.24E-7	9.96E-7	1.26E-6
78	417.83	1.85E-2	2.06E-2	2.59E-2	3.19E-2	3.92E-2	4.90E-2	78	4050.42	5.76E-7	5.83E-7	6.20E-7	7.09E-7	8.58E-7	1.09E-6
79	426.66	1.79E-2	2.00E-2	2.50E-2	3.09E-2	3.80E-2	4.77E-2	79	4283.11	5.03E-7	5.07E-7	5.37E-7	6.12E-7	7.40E-7	9.41E-7
80	435.61	1.73E-2	1.93E-2	2.42E-2	2.99E-2	3.69E-2	4.65E-2	80	4527.38	4.41E-7	4.43E-7	4.67E-7	5.29E-7	6.41E-7	8.15E-7
81	444.69	1.67E-2	1.87E-2	2.34E-2	2.90E-2	3.59E-2	4.53E-2	81	4783.80	3.86E-7	3.88E-7	4.06E-7	4.58E-7	5.56E-7	7.08E-7
82	453.93	1.62E-2	1.81E-2	2.27E-2	2.81E-2	3.48E-2	4.41E-2	82	5052.93	3.39E-7	3.39E-7	3.54E-7	3.97E-7	4.82E-7	6.16E-7
83	463.34	1.57E-2	1.75E-2	2.20E-2	2.72E-2	3.39E-2	4.30E-2	83	5335.36	2.98E-7	2.97E-7	3.09E-7	3.45E-7	4.20E-7	5.37E-7
84	472.94	1.34E-2	1.68E-2	2.15E-2	2.66E-2	3.30E-2	4.20E-2	84	5631.72	2.63E-7	2.61E-7	2.69E-7	3.00E-7	3.67E-7	4.70E-7
85	482.67	1.30E-2	1.62E-2	2.08E-2	2.58E-2	3.21E-2	4.10E-2	85	5942.56	2.33E-7	2.29E-7	2.36E-7	2.62E-7	3.20E-7	4.11E-7
86	492.18	1.26E-2	1.57E-2	2.01E-2	2.50E-2	3.12E-2	3.99E-2	86	6268.14	2.06E-7	2.01E-7	2.08E-7	2.29E-7	2.79E-7	3.61E-7
87	502.16	1.22E-2	1.52E-2	1.95E-2	2.42E-2	3.03E-2	3.89E-2	87	6609.98	1.83E-7	1.77E-7	1.83E-7	2.00E-7	2.45E-7	3.17E-7
88	512.19	1.18E-2	1.47E-2	1.89E-2	2.35E-2	2.95E-2	3.80E-2	88	6968.33	1.62E-7	1.57E-7	1.62E-7	1.76E-7	2.15E-7	2.79E-7
89	522.42	1.14E-2	1.42E-2	1.83E-2	2.28E-2	2.86E-2	3.70E-2	89	7344.13	1.44E-7	1.39E-7	1.43E-7	1.55E-7	1.89E-	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_4 - A_3$								$E_4 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	58.79	1.00E-3	8.41E-4	5.95E-4	3.98E-4	2.94E-4	2.58E-4	26	98.55	4.08E-1	4.59E-1	5.41E-1	6.36E-1	7.28E-1	8.16E-1
27	61.56	1.08E-3	9.73E-4	8.09E-4	6.87E-4	6.45E-4	6.58E-4	27	104.64	3.72E-1	4.20E-1	4.95E-1	5.81E-1	6.66E-1	7.48E-1
28	64.09	1.26E-3	1.22E-3	1.15E-3	1.13E-3	1.16E-3	1.25E-3	28	111.11	3.41E-1	3.85E-1	4.54E-1	5.33E-1	6.11E-1	6.87E-1
29	66.32	1.51E-3	1.54E-3	1.59E-3	1.66E-3	1.80E-3	1.96E-3	29	118.01	3.13E-1	3.54E-1	4.17E-1	4.91E-1	5.63E-1	6.33E-1
30	68.20	1.79E-3	1.90E-3	2.05E-3	2.24E-3	2.47E-3	2.72E-3	30	125.38	2.89E-1	3.26E-1	3.85E-1	4.53E-1	5.19E-1	5.85E-1
31	69.67	2.13E-3	2.21E-3	2.47E-3	2.78E-3	3.11E-3	3.44E-3	31	133.28	2.59E-1	3.04E-1	3.58E-1	4.16E-1	4.79E-1	5.42E-1
32	70.69	2.37E-3	2.49E-3	2.85E-3	3.26E-3	3.66E-3	4.07E-3	32	141.73	2.39E-1	2.81E-1	3.32E-1	3.86E-1	4.45E-1	5.04E-1
33	71.20	2.54E-3	2.70E-3	3.15E-3	3.63E-3	4.10E-3	4.56E-3	33	150.78	2.22E-1	2.62E-1	3.08E-1	3.59E-1	4.14E-1	4.69E-1
34	71.17	2.64E-3	2.84E-3	3.36E-3	3.89E-3	4.41E-3	4.91E-3	34	160.46	2.06E-1	2.44E-1	2.87E-1	3.35E-1	3.86E-1	4.39E-1
35	70.54	2.67E-3	2.91E-3	3.48E-3	4.05E-3	4.59E-3	5.13E-3	35	170.81	1.92E-1	2.28E-1	2.68E-1	3.13E-1	3.61E-1	4.11E-1
36	69.28	2.63E-3	2.92E-3	3.53E-3	4.11E-3	4.67E-3	5.22E-3	36	181.87	1.81E-1	2.13E-1	2.51E-1	2.92E-1	3.38E-1	3.85E-1
37	67.34	2.58E-3	2.89E-3	3.52E-3	4.10E-3	4.66E-3	5.21E-3	37	193.67	1.75E-1	1.95E-1	2.35E-1	2.75E-1	3.18E-1	3.62E-1
38	64.67	2.48E-3	2.83E-3	3.46E-3	4.04E-3	4.59E-3	5.14E-3	38	206.26	1.65E-1	1.83E-1	2.20E-1	2.58E-1	2.99E-1	3.41E-1
39	61.23	2.36E-3	2.74E-3	3.38E-3	3.94E-3	4.48E-3	5.02E-3	39	219.68	1.48E-1	1.75E-1	2.07E-1	2.42E-1	2.81E-1	3.22E-1
40	56.97	2.22E-3	2.65E-3	3.28E-3	3.83E-3	4.34E-3	4.86E-3	40	233.97	1.42E-1	1.63E-1	1.95E-1	2.28E-1	2.65E-1	3.04E-1
41	51.85	2.10E-3	2.57E-3	3.18E-3	3.70E-3	4.20E-3	4.70E-3	41	249.19	1.32E-1	1.54E-1	1.84E-1	2.15E-1	2.50E-1	2.87E-1
42	45.81	1.99E-3	2.49E-3	3.08E-3	3.58E-3	4.05E-3	4.54E-3	42	265.38	1.30E-1	1.43E-1	1.73E-1	2.03E-1	2.36E-1	2.72E-1
43	38.80	1.93E-3	2.44E-3	3.01E-3	3.48E-3	3.93E-3	4.40E-3	43	282.60	1.17E-1	1.38E-1	1.64E-1	1.92E-1	2.24E-1	2.58E-1
44	30.77	1.90E-3	2.42E-3	2.96E-3	3.41E-3	3.84E-3	4.29E-3	44	300.91	1.12E-1	1.29E-1	1.54E-1	1.82E-1	2.12E-1	2.45E-1
45	21.66	1.94E-3	2.46E-3	2.97E-3	3.40E-3	3.81E-3	4.25E-3	45	320.36	1.06E-1	1.22E-1	1.45E-1	1.72E-1	2.01E-1	2.33E-1
46	11.41	2.14E-3	2.64E-3	3.13E-3	3.53E-3	3.93E-3	4.37E-3	46	341.02	1.03E-1	1.15E-1	1.39E-1	1.63E-1	1.91E-1	2.21E-1
47	-0.0291	5.05E-3	5.54E-3	6.03E-3	6.47E-3	6.97E-3	7.57E-3	47	362.96	9.69E-2	1.12E-1	1.32E-1	1.54E-1	1.81E-1	2.10E-1
48	-12.74	1.80E-3	2.23E-3	2.65E-3	3.00E-3	3.35E-3	3.75E-3	48	386.24	9.06E-2	1.03E-1	1.24E-1	1.47E-1	1.72E-1	2.01E-1
49	-26.77	1.38E-3	1.76E-3	2.14E-3	2.46E-3	2.77E-3	3.13E-3	49	410.94	8.83E-2	9.71E-2	1.18E-1	1.39E-1	1.64E-1	1.91E-1
50	-42.21	1.14E-3	1.47E-3	1.81E-3	2.10E-3	2.39E-3	2.71E-3	50	437.12	8.43E-2	9.22E-2	1.12E-1	1.33E-1	1.56E-1	1.83E-1
51	-59.11	9.91E-4	1.26E-3	1.56E-3	1.83E-3	2.10E-3	2.39E-3	51	464.87	7.89E-2	8.87E-2	1.06E-1	1.26E-1	1.48E-1	1.74E-1
52	-77.56	8.90E-4	1.10E-3	1.37E-3	1.61E-3	1.86E-3	2.14E-3	52	494.26	7.38E-2	8.42E-2	1.01E-1	1.20E-1	1.42E-1	1.67E-1
53	-97.62	8.12E-4	9.70E-4	1.21E-3	1.44E-3	1.66E-3	1.92E-3	53	525.39	7.12E-2	8.04E-2	9.55E-2	1.14E-1	1.35E-1	1.60E-1
54	-119.39	7.51E-4	8.68E-4	1.08E-3	1.29E-3	1.50E-3	1.73E-3	54	558.33	6.76E-2	7.60E-2	9.12E-2	1.09E-1	1.29E-1	1.53E-1
55	-142.95	6.93E-4	7.84E-4	9.72E-4	1.16E-3	1.35E-3	1.58E-3	55	593.19	6.36E-2	7.30E-2	8.67E-2	1.04E-1	1.23E-1	1.46E-1
56	-168.39	6.33E-4	7.14E-4	8.77E-4	1.05E-3	1.23E-3	1.44E-3	56	630.04	6.15E-2	6.98E-2	8.25E-2	9.92E-2	1.18E-1	1.40E-1
57	-195.79	5.37E-4	6.31E-4	7.95E-4	9.54E-4	1.12E-3	1.32E-3	57	669.00	5.68E-2	6.70E-2	7.95E-2	9.41E-2	1.12E-1	1.35E-1
58	-225.26	5.00E-4	5.75E-4	7.21E-4	8.69E-4	1.03E-3	1.21E-3	58	710.16	5.44E-2	6.37E-2	7.60E-2	9.00E-2	1.08E-1	1.29E-1
59	-256.88	4.71E-4	5.27E-4	6.57E-4	7.93E-4	9.41E-4	1.11E-3	59	753.64	5.22E-2	6.06E-2	7.27E-2	8.61E-2	1.03E-1	1.24E-1
60	-290.79	4.41E-4	4.85E-4	6.01E-4	7.26E-4	8.65E-4	1.03E-3	60	799.52	5.02E-2	5.77E-2	6.95E-2	8.24E-2	9.88E-2	1.19E-1
61	-327.05	4.12E-4	4.49E-4	5.51E-4	6.67E-4	7.97E-4	9.51E-4	61	847.95	4.83E-2	5.49E-2	6.65E-2	7.89E-2	9.48E-2	1.15E-1
62	-365.83	3.85E-4	4.16E-4	5.07E-4	6.14E-4	7.36E-4	8.81E-4	62	899.00	4.66E-2	5.23E-2	6.36E-2	7.57E-2	9.10E-2	1.10E-1
63	-407.19	3.55E-4	3.88E-4	4.67E-4	5.66E-4	6.81E-4	8.19E-4	63	952.85	4.49E-2	4.99E-2	6.09E-2	7.26E-2	8.74E-2	1.06E-1
64	-451.30	3.28E-4	3.62E-4	4.32E-4	5.24E-4	6.31E-4	7.62E-4	64	1009.59	4.33E-2	4.77E-2	5.83E-2	6.96E-2	8.40E-2	1.02E-1
65	-498.25	3.03E-4	3.38E-4	4.01E-4	4.85E-4	5.86E-4	7.10E-4	65	1069.37	4.18E-2	4.56E-2	5.58E-2	6.68E-2	8.08E-2	9.88E-2
66	-548.20	2.80E-4	3.15E-4	3.72E-4	4.50E-4	5.45E-4	6.64E-4	66	1132.32	4.02E-2	4.36E-2	5.35E-2	6.42E-2	7.77E-2	9.53E-2
67	-601.27	2.58E-4	2.94E-4	3.47E-4	4.19E-4	5.08E-4	6.21E-4	67	1198.60	3.87E-2	4.18E-2	5.12E-2	6.17E-2	7.48E-2	9.20E-2
68	-657.61	2.38E-4	2.75E-4	3.23E-4	3.90E-4	4.74E-4	5.81E-4	68	1268.35	3.72E-2	4.01E-2	4.91E-2	5.93E-2	7.20E-2	8.88E-2
69	-717.37	2.20E-4	2.56E-4	3.02E-4	3.64E-4	4.43E-4	5.45E-4	69	1341.73	3.57E-2	3.85E-2	4.71E-2	5.70E-2	6.94E-2	8.58E-2
70	-780.74	2.03E-4	2.37E-4	2.82E-4	3.40E-4	4.15E-4	5.12E-4	70	1418.88	3.42E-2	3.70E-2	4.51E-2	5.48E-2	6.69E-2	8.30E-2
71	-847.83	1.89E-4	2.21E-4	2.64E-4	3.18E-4	3.89E-4	4.82E-4	71	1500.02	3.27E-2	3.56E-2	4.33E-2	5.27E-2	6.45E-2	8.02E-2
72	-918.85	1.77E-4	2.06E-4	2.48E-4	2.98E-4	3.65E-4	4.54E-4	72	1585.27	3.13E-2	3.43E-2	4.15E-2	5.07E-2	6.22E-2	7.76E-2
73	-993.97	1.67E-4	1.92E-4	2.32E-4	2.79E-4	3.43E-4	4.28E-4	73	1674.86	2.99E-2	3.30E-2	3.98E-2	4.88E-2	6.00E-2	7.51E-2
74	-1073.37	1.57E-4	1.79E-4	2.18E-4	2.62E-4	3.22E-4	4.04E-4	74	1768.95	2.86E-2	3.18E-2	3.82E-2	4.70E-2	5.79E-2	7.27E-2
75	-1157.26	1.49E-4	1.67E-4	2.05E-4	2.47E-4	3.04E-4	3.81E-4	75	1867.77	2.73E-2	3.07E-2	3.67E-2	4.52E-2	5.59E-2	7.05E-2
76	-1245.85	1.40E-4	1.57E-4	1.92E-4	2.32E-4	2.86E-4	3.60E-4	76	1971.49	2.62E-2	2.97E-2	3.53E-2	4.36E-2	5.40E-2	6.83E-2
77	-1339.33	1.33E-4	1.47E-4	1.80E-4	2.18E-4	2.70E-4	3.41E-4	77	2080.39	2.51E-2	2.86E-2	3.40E-2	4.20E-2	5.22E-2	6.62E-2
78	-1437.95	1.26E-4	1.38E-4	1.70E-4	2.06E-4	2.55E-4	3.23E-4	78	2194.64	2.41E-2	2.77E-2	3.27E-2	4.04E-2	5.05E-2	6.42E-2
79	-1541.92	1.19E-4	1.30E-4	1.59E-4	1.94E-4	2.41E-4	3.07E-4	79	2314.52	2.33E-2	2.67E-2	3.15E-2	3.90E-2	4.88E-2	6.22E-2
80	-1651.54	1.12E-4	1.22E-4	1.50E-4	1.83E-4	2.28E-4	2.91E-4	80	2440.24	2.25E-2	2.57E-2	3.03E-2	3.76E-2	4.72E-2	6.04E-2
81	-1767.05	1.06E-4	1.15E-4	1.41E-4	1.73E-4	2.16E-4	2.76E-4	81	2572.06	2.18E-2	2.48E-2	2.92E-2	3.62E-2	4.56E-2	5.86E-2
82	-1888.69	1.00E-4	1.09E-4	1.33E-4	1.64E-4	2.05E-4	2.63E-4	82	2710.31	2.11E-2	2.39E-2	2.81E-2	3.50E-2	4.41E-2	5.69E-2
83	-2016.76	9.32E-5	1.04E-4	1.25E-4	1.54E-4	1.94E-4	2.50E-4	83	2855.26	2.04E-2	2.30E-2	2.71E-2	3.37E-2	4.27E-2	5.53E-2
84	-2151.53	8.55E-5	9.95E-5	1.19E-4	1.45E-4	1.83E-4	2.37E-4	84	3007.24	1.90E-2	2.18E-2	2.68E-2	3.27E-2	4.11E-2	5.34E-2
85	-2293.38	8.08E-5	9.36E-5	1.13E-4	1.37E-4	1.73E-4	2.26E-4	85	3166.51	1.84E-2	2.10E-2	2.58E-2	3.16E-2	3.98E-2	5.19E-2
86	-2442.95	7.66E-5	8.81E-5	1.07E-4	1.30E-4	1.65E-4	2.15E-4	86	3333.00	1.78E-2	2.02E-2	2.49E-2	3.06E-2	3.86E-2	5.05E-2
87	-2599.98	7.28E-5	8.29E-5	1.02E-4	1.24E-4	1.57E-4	2.05E-4	87	3507.84	1.73E-2	1.94E-2	2.39E-2	2.95E-2	3.74E-2	4.91E-2
88	-2765.21	6.94E-5	7.81E-5	9.62E-5	1.18E-4	1.49E-4	1.96E-4	88	3690.92	1.68E-2	1.87E-2	2.31E-2	2.86E-2	3.63E-2	4.77E-2
89	-2938.90	6.62E-5	7.37E-5	9.12E-5	1.12E-4	1.42E-4	1.87E-4	89	3882.80	1.63E-2	1.80E-2	2.22E-2	2.76E-2	3.52E-2	4.64E-2

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_1 - B_2$								$E_2 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	120.72	1.19E-1	1.33E-1	1.56E-1	1.83E-1	2.10E-1	2.36E-1	26	102.42	4.55E-3	4.12E-3	3.46E-3	3.03E-3	2.90E-3	3.01E-3
27	129.13	1.04E-1	1.17E-1	1.37E-1	1.61E-1	1.85E-1	2.08E-1	27	108.76	6.56E-3	6.46E-3	6.31E-3	6.45E-3	6.86E-3	7.48E-3
28	138.19	9.05E-2	1.02E-1	1.19E-1	1.40E-1	1.61E-1	1.81E-1	28	115.41	9.34E-3	9.65E-3	1.01E-2	1.10E-2	1.22E-2	1.35E-2
29	147.95	7.79E-2	8.77E-2	1.03E-1	1.21E-1	1.39E-1	1.57E-1	29	122.42	1.26E-2	1.34E-2	1.47E-2	1.64E-2	1.84E-2	2.05E-2
30	158.50	6.66E-2	7.49E-2	8.78E-2	1.03E-1	1.19E-1	1.34E-1	30	129.82	1.63E-2	1.76E-2	1.97E-2	2.23E-2	2.52E-2	2.82E-2
31	169.91	5.65E-2	6.26E-2	7.52E-2	8.75E-2	1.01E-1	1.14E-1	31	137.65	1.95E-2	2.20E-2	2.50E-2	2.83E-2	3.22E-2	3.62E-2
32	182.26	4.76E-2	5.26E-2	6.33E-2	7.37E-2	8.49E-2	9.63E-2	32	145.95	2.31E-2	2.64E-2	3.02E-2	3.45E-2	3.94E-2	4.44E-2
33	195.65	3.98E-2	4.39E-2	5.28E-2	6.16E-2	7.10E-2	8.07E-2	33	154.77	2.67E-2	3.07E-2	3.53E-2	4.05E-2	4.64E-2	5.24E-2
34	210.15	3.31E-2	3.63E-2	4.38E-2	5.12E-2	5.90E-2	6.72E-2	34	164.14	3.01E-2	3.48E-2	4.02E-2	4.63E-2	5.31E-2	6.01E-2
35	225.86	2.74E-2	2.99E-2	3.62E-2	4.23E-2	4.88E-2	5.56E-2	35	174.13	3.33E-2	3.87E-2	4.48E-2	5.17E-2	5.95E-2	6.74E-2
36	242.87	2.26E-2	2.45E-2	2.97E-2	3.47E-2	4.01E-2	4.59E-2	36	184.76	3.65E-2	4.23E-2	4.90E-2	5.67E-2	6.54E-2	7.43E-2
37	261.27	1.83E-2	2.02E-2	2.44E-2	2.84E-2	3.29E-2	3.77E-2	37	196.11	4.04E-2	4.46E-2	5.30E-2	6.14E-2	7.08E-2	8.06E-2
38	281.17	1.51E-2	1.64E-2	1.98E-2	2.32E-2	2.69E-2	3.08E-2	38	208.21	4.30E-2	4.74E-2	5.64E-2	6.56E-2	7.57E-2	8.64E-2
39	302.66	1.21E-2	1.34E-2	1.61E-2	1.89E-2	2.19E-2	2.52E-2	39	221.12	4.35E-2	5.08E-2	5.96E-2	6.92E-2	8.01E-2	9.16E-2
40	325.85	9.69E-3	1.09E-2	1.30E-2	1.54E-2	1.79E-2	2.06E-2	40	234.90	4.63E-2	5.25E-2	6.24E-2	7.25E-2	8.40E-2	9.62E-2
41	350.84	7.92E-3	8.86E-3	1.06E-2	1.25E-2	1.46E-2	1.68E-2	41	249.59	4.71E-2	5.47E-2	6.46E-2	7.53E-2	8.73E-2	1.00E-1
42	377.74	6.57E-3	7.16E-3	8.69E-3	1.02E-2	1.18E-2	1.37E-2	42	265.26	5.05E-2	5.53E-2	6.65E-2	7.78E-2	9.02E-2	1.04E-1
43	406.67	5.23E-3	5.87E-3	7.00E-3	8.29E-3	9.67E-3	1.12E-2	43	281.97	4.93E-2	5.78E-2	6.82E-2	7.96E-2	9.26E-2	1.07E-1
44	437.74	4.28E-3	4.77E-3	5.70E-3	6.76E-3	7.90E-3	9.17E-3	44	299.77	5.10E-2	5.82E-2	6.91E-2	8.13E-2	9.46E-2	1.09E-1
45	471.07	3.47E-3	3.91E-3	4.64E-3	5.52E-3	6.46E-3	7.51E-3	45	318.73	5.14E-2	5.91E-2	6.99E-2	8.25E-2	9.62E-2	1.11E-1
46	506.79	2.85E-3	3.23E-3	3.77E-3	4.51E-3	5.29E-3	6.17E-3	46	338.91	5.35E-2	5.90E-2	7.11E-2	8.33E-2	9.73E-2	1.13E-1
47	545.03	2.38E-3	2.75E-3	3.18E-3	3.69E-3	4.33E-3	5.08E-3	47	360.38	5.32E-2	6.14E-2	7.18E-2	8.37E-2	9.79E-2	1.14E-1
48	585.93	1.92E-3	2.15E-3	2.56E-3	3.04E-3	3.58E-3	4.19E-3	48	383.21	5.25E-2	5.96E-2	7.11E-2	8.42E-2	9.85E-2	1.15E-1
49	629.62	1.60E-3	1.77E-3	2.09E-3	2.50E-3	2.96E-3	3.47E-3	49	407.47	5.38E-2	5.90E-2	7.13E-2	8.41E-2	9.86E-2	1.15E-1
50	676.26	1.32E-3	1.46E-3	1.72E-3	2.06E-3	2.45E-3	2.88E-3	50	433.23	5.38E-2	5.87E-2	7.10E-2	8.38E-2	9.84E-2	1.15E-1
51	725.99	1.09E-3	1.22E-3	1.43E-3	1.71E-3	2.03E-3	2.40E-3	51	460.57	5.26E-2	5.89E-2	7.06E-2	8.32E-2	9.80E-2	1.15E-1
52	778.96	8.93E-4	9.96E-4	1.19E-3	1.42E-3	1.69E-3	2.00E-3	52	489.57	5.12E-2	5.82E-2	6.94E-2	8.26E-2	9.74E-2	1.15E-1
53	835.37	7.48E-4	8.34E-4	9.92E-4	1.18E-3	1.41E-3	1.68E-3	53	520.33	5.13E-2	5.77E-2	6.84E-2	8.16E-2	9.65E-2	1.14E-1
54	895.35	6.28E-4	6.99E-4	8.27E-4	9.85E-4	1.18E-3	1.41E-3	54	552.90	5.03E-2	5.65E-2	6.76E-2	8.06E-2	9.54E-2	1.13E-1
55	959.10	5.22E-4	5.83E-4	6.91E-4	8.26E-4	9.89E-4	1.18E-3	55	587.40	4.89E-2	5.60E-2	6.63E-2	7.94E-2	9.41E-2	1.12E-1
56	1026.79	4.36E-4	4.87E-4	5.79E-4	6.94E-4	8.32E-4	9.99E-4	56	623.92	4.87E-2	5.52E-2	6.50E-2	7.80E-2	9.27E-2	1.10E-1
57	1098.63	3.67E-4	4.11E-4	4.87E-4	5.88E-4	7.02E-4	8.44E-4	57	662.54	4.62E-2	5.44E-2	6.44E-2	7.60E-2	9.08E-2	1.09E-1
58	1174.81	3.09E-4	3.48E-4	4.09E-4	4.96E-4	5.94E-4	7.16E-4	58	703.38	4.54E-2	5.31E-2	6.31E-2	7.46E-2	8.92E-2	1.07E-1
59	1255.54	2.62E-4	2.95E-4	3.46E-4	4.20E-4	5.04E-4	6.09E-4	59	746.54	4.46E-2	5.17E-2	6.18E-2	7.31E-2	8.75E-2	1.05E-1
60	1341.02	2.23E-4	2.50E-4	2.93E-4	3.56E-4	4.29E-4	5.20E-4	60	792.11	4.38E-2	5.03E-2	6.04E-2	7.15E-2	8.57E-2	1.03E-1
61	1431.50	1.90E-4	2.12E-4	2.49E-4	3.03E-4	3.66E-4	4.45E-4	61	840.23	4.30E-2	4.88E-2	5.90E-2	6.99E-2	8.39E-2	1.02E-1
62	1527.18	1.63E-4	1.80E-4	2.12E-4	2.58E-4	3.13E-4	3.81E-4	62	890.99	4.22E-2	4.74E-2	5.75E-2	6.83E-2	8.20E-2	9.95E-2
63	1628.33	1.39E-4	1.53E-4	1.81E-4	2.20E-4	2.68E-4	3.28E-4	63	944.54	4.14E-2	4.60E-2	5.60E-2	6.66E-2	8.02E-2	9.75E-2
64	1735.19	1.19E-4	1.31E-4	1.55E-4	1.88E-4	2.30E-4	2.82E-4	64	1000.99	4.06E-2	4.46E-2	5.45E-2	6.49E-2	7.83E-2	9.55E-2
65	1848.03	1.02E-4	1.12E-4	1.33E-4	1.61E-4	1.98E-4	2.44E-4	65	1060.48	3.97E-2	4.33E-2	5.29E-2	6.33E-2	7.64E-2	9.34E-2
66	1967.11	8.70E-5	9.58E-5	1.15E-4	1.39E-4	1.71E-4	2.11E-4	66	1123.14	3.88E-2	4.20E-2	5.14E-2	6.16E-2	7.45E-2	9.14E-2
67	2092.73	7.46E-5	8.25E-5	9.90E-5	1.20E-4	1.48E-4	1.83E-4	67	1189.13	3.78E-2	4.07E-2	4.99E-2	5.99E-2	7.26E-2	8.93E-2
68	2225.17	6.42E-5	7.13E-5	8.55E-5	1.03E-4	1.28E-4	1.59E-4	68	1258.58	3.67E-2	3.95E-2	4.83E-2	5.83E-2	7.08E-2	8.73E-2
69	2364.76	5.54E-5	6.18E-5	7.40E-5	8.94E-5	1.11E-4	1.38E-4	69	1331.67	3.57E-2	3.84E-2	4.69E-2	5.66E-2	6.89E-2	8.53E-2
70	2511.80	4.82E-5	5.37E-5	6.40E-5	7.75E-5	9.62E-5	1.21E-4	70	1408.52	3.45E-2	3.72E-2	4.54E-2	5.50E-2	6.71E-2	8.33E-2
71	2666.64	4.20E-5	4.68E-5	5.55E-5	6.74E-5	8.38E-5	1.05E-4	71	1489.35	3.33E-2	3.62E-2	4.39E-2	5.34E-2	6.53E-2	8.13E-2
72	2829.61	3.67E-5	4.07E-5	4.81E-5	5.87E-5	7.30E-5	9.22E-5	72	1574.29	3.21E-2	3.52E-2	4.25E-2	5.19E-2	6.36E-2	7.93E-2
73	3001.09	3.19E-5	3.54E-5	4.18E-5	5.12E-5	6.38E-5	8.08E-5	73	1663.56	3.10E-2	3.42E-2	4.11E-2	5.03E-2	6.18E-2	7.74E-2
74	3181.46	2.78E-5	3.08E-5	3.64E-5	4.47E-5	5.58E-5	7.10E-5	74	1757.33	2.99E-2	3.32E-2	3.98E-2	4.88E-2	6.02E-2	7.55E-2
75	3371.12	2.42E-5	2.67E-5	3.17E-5	3.91E-5	4.89E-5	6.24E-5	75	1855.81	2.87E-2	3.23E-2	3.85E-2	4.74E-2	5.85E-2	7.37E-2
76	3570.46	2.11E-5	2.33E-5	2.77E-5	3.43E-5	4.29E-5	5.50E-5	76	1959.19	2.77E-2	3.14E-2	3.73E-2	4.59E-2	5.69E-2	7.19E-2
77	3779.95	1.84E-5	2.03E-5	2.43E-5	3.01E-5	3.78E-5	4.85E-5	77	2067.73	2.67E-2	3.05E-2	3.60E-2	4.45E-2	5.53E-2	7.01E-2
78	4000.02	1.61E-5	1.78E-5	2.13E-5	2.64E-5	3.33E-5	4.28E-5	78	2181.61	2.59E-2	2.96E-2	3.49E-2	4.31E-2	5.37E-2	6.83E-2
79	4231.16	1.42E-5	1.57E-5	1.87E-5	2.32E-5	2.93E-5	3.79E-5	79	2301.11	2.50E-2	2.87E-2	3.38E-2	4.18E-2	5.22E-2	6.66E-2
80	4473.81	1.25E-5	1.38E-5	1.65E-5	2.04E-5	2.59E-5	3.35E-5	80	2426.42	2.43E-2	2.78E-2	3.27E-2	4.05E-2	5.08E-2	6.50E-2
81	4728.52	1.10E-5	1.22E-5	1.46E-5	1.80E-5	2.29E-5	2.97E-5	81	2557.83	2.37E-2	2.69E-2	3.16E-2	3.92E-2	4.93E-2	6.33E-2
82	4995.87	9.69E-6	1.08E-5	1.29E-5	1.59E-5	2.03E-5	2.64E-5	82	2695.64	2.30E-2	2.61E-2	3.06E-2	3.80E-2	4.79E-2	6.17E-2
83	5276.42	8.52E-6	9.47E-6	1.13E-5	1.40E-5	1.80E-5	2.35E-5	83	2840.13	2.24E-2	2.52E-2	2.96E-2	3.68E-2	4.65E-2	6.02E-2
84	5570.81	7.57E-6	8.32E-6	9.94E-6	1.24E-5	1.60E-5	2.10E-5	84	2991.64	2.09E-2	2.39E-2	2.93E-2	3.58E-2	4.50E-2	5.84E-2
85	5879.57	6.72E-6	7.30E-6	8.82E-6	1.09E-5	1.42E-5	1.87E-5	85	3150.39	2.03E-2	2.31E-2	2.84E-2	3.47E-2	4.37E-2	5.70E-2
86	6202.96	5.95E-6	6.43E-6	7.83E-6	9.68E-6	1.26E-5	1.67E-5	86	3316.36	1.97E-2	2.22E-2	2.74E-2	3.36E-2	4.25E-2	5.55E-2
87	6542.49	5.25E-6	5.67E-6	6.96E-6	8.58E-6	1.12E-5	1.49E-5	87	3490.62	1.92E-2	2.15E-2	2.65E-2	3.26E-2	4.13E-2	5.41E-2
88	6898.40	4.63E-6	5.02E-6	6.18E-6	7.62E-6	9.95E-6	1.33E-5	88	3673.12	1.87E-2	2.07E-2	2.56E-2	3.16E-2	4.01E-2	5.27E-2
89	7271.62	4.08E-6	4.46E-6	5.49E-6	6.78E-6	8.86E-6	1.19E-5	89	3864.37	1.82E-2	2.00E-2				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_3 - B_2$								$E_4 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	79.70	4.02E-1	4.52E-1	5.42E-1	6.32E-1	7.21E-1	8.06E-1	26	59.18	5.56E-2	6.26E-2	7.38E-2	8.49E-2	9.63E-2	1.07E-1
27	85.93	3.67E-1	4.13E-1	4.96E-1	5.78E-1	6.60E-1	7.39E-1	27	62.80	5.67E-2	6.41E-2	7.57E-2	8.73E-2	9.91E-2	1.10E-1
28	92.59	3.37E-1	3.79E-1	4.54E-1	5.30E-1	6.06E-1	6.79E-1	28	66.48	5.70E-2	6.46E-2	7.64E-2	8.83E-2	1.00E-1	1.12E-1
29	99.72	3.10E-1	3.48E-1	4.18E-1	4.88E-1	5.58E-1	6.26E-1	29	70.24	5.65E-2	6.42E-2	7.61E-2	8.81E-2	1.00E-1	1.12E-1
30	107.35	2.86E-1	3.21E-1	3.85E-1	4.50E-1	5.15E-1	5.79E-1	30	74.06	5.53E-2	6.31E-2	7.49E-2	8.68E-2	9.87E-2	1.10E-1
31	115.49	2.61E-1	3.03E-1	3.53E-1	4.12E-1	4.75E-1	5.36E-1	31	77.94	5.63E-2	6.09E-2	7.20E-2	8.43E-2	9.64E-2	1.08E-1
32	124.18	2.38E-1	2.79E-1	3.27E-1	3.82E-1	4.40E-1	4.96E-1	32	81.87	5.42E-2	5.87E-2	6.95E-2	8.15E-2	9.32E-2	1.04E-1
33	133.45	2.20E-1	2.58E-1	3.02E-1	3.53E-1	4.07E-1	4.61E-1	33	85.85	5.18E-2	5.62E-2	6.66E-2	7.82E-2	8.95E-2	1.00E-1
34	143.32	2.02E-1	2.38E-1	2.80E-1	3.27E-1	3.78E-1	4.27E-1	34	89.87	4.86E-2	5.36E-2	6.35E-2	7.46E-2	8.54E-2	9.58E-2
35	153.83	1.86E-1	2.21E-1	2.59E-1	3.03E-1	3.50E-1	3.97E-1	35	93.94	4.62E-2	5.07E-2	6.02E-2	7.07E-2	8.10E-2	9.11E-2
36	165.01	1.73E-1	2.05E-1	2.40E-1	2.80E-1	3.24E-1	3.68E-1	36	98.04	4.39E-2	4.77E-2	5.68E-2	6.68E-2	7.66E-2	8.62E-2
37	176.91	1.65E-1	1.85E-1	2.22E-1	2.60E-1	3.00E-1	3.42E-1	37	102.17	4.00E-2	4.50E-2	5.35E-2	6.29E-2	7.22E-2	8.14E-2
38	189.55	1.53E-1	1.71E-1	2.05E-1	2.40E-1	2.78E-1	3.17E-1	38	106.33	3.73E-2	4.22E-2	5.03E-2	5.91E-2	6.78E-2	7.66E-2
39	203.00	1.35E-1	1.60E-1	1.89E-1	2.21E-1	2.57E-1	2.93E-1	39	110.52	3.57E-2	3.95E-2	4.71E-2	5.54E-2	6.37E-2	7.20E-2
40	217.28	1.28E-1	1.46E-1	1.75E-1	2.04E-1	2.37E-1	2.72E-1	40	114.75	3.36E-2	3.68E-2	4.40E-2	5.19E-2	5.97E-2	6.76E-2
41	232.46	1.16E-1	1.35E-1	1.61E-1	1.88E-1	2.19E-1	2.51E-1	41	119.00	3.10E-2	3.45E-2	4.12E-2	4.86E-2	5.59E-2	6.35E-2
42	248.59	1.11E-1	1.22E-1	1.48E-1	1.74E-1	2.02E-1	2.32E-1	42	123.27	2.85E-2	3.23E-2	3.86E-2	4.55E-2	5.24E-2	5.96E-2
43	265.72	9.72E-2	1.15E-1	1.36E-1	1.60E-1	1.86E-1	2.14E-1	43	127.58	2.73E-2	3.01E-2	3.61E-2	4.26E-2	4.91E-2	5.60E-2
44	283.91	8.93E-2	1.06E-1	1.25E-1	1.47E-1	1.71E-1	1.98E-1	44	131.92	2.57E-2	2.81E-2	3.38E-2	3.99E-2	4.61E-2	5.26E-2
45	303.23	8.19E-2	9.70E-2	1.15E-1	1.35E-1	1.57E-1	1.82E-1	45	136.29	2.40E-2	2.64E-2	3.17E-2	3.74E-2	4.33E-2	4.94E-2
46	323.73	7.86E-2	8.71E-2	1.05E-1	1.24E-1	1.45E-1	1.68E-1	46	140.69	2.25E-2	2.47E-2	2.97E-2	3.51E-2	4.06E-2	4.65E-2
47	345.49	7.12E-2	8.25E-2	9.71E-2	1.14E-1	1.33E-1	1.55E-1	47	145.12	2.09E-2	2.27E-2	2.78E-2	3.30E-2	3.82E-2	4.39E-2
48	368.58	6.45E-2	7.36E-2	8.80E-2	1.04E-1	1.22E-1	1.43E-1	48	149.60	1.96E-2	2.16E-2	2.62E-2	3.10E-2	3.60E-2	4.14E-2
49	393.07	6.07E-2	6.69E-2	8.12E-2	9.59E-2	1.13E-1	1.31E-1	49	154.11	1.85E-2	2.05E-2	2.47E-2	2.92E-2	3.40E-2	3.91E-2
50	419.03	5.60E-2	6.14E-2	7.45E-2	8.80E-2	1.03E-1	1.21E-1	50	158.66	1.75E-2	1.93E-2	2.33E-2	2.76E-2	3.21E-2	3.70E-2
51	446.55	5.07E-2	5.69E-2	6.84E-2	8.07E-2	9.50E-2	1.12E-1	51	163.26	1.62E-2	1.82E-2	2.20E-2	2.60E-2	3.03E-2	3.51E-2
52	475.70	4.57E-2	5.21E-2	6.23E-2	7.42E-2	8.75E-2	1.03E-1	52	167.91	1.52E-2	1.72E-2	2.08E-2	2.46E-2	2.87E-2	3.33E-2
53	506.58	4.26E-2	4.80E-2	5.71E-2	6.81E-2	8.05E-2	9.50E-2	53	172.60	1.45E-2	1.63E-2	1.96E-2	2.33E-2	2.72E-2	3.16E-2
54	539.27	3.90E-2	4.38E-2	5.25E-2	6.26E-2	7.41E-2	8.77E-2	54	177.35	1.38E-2	1.54E-2	1.86E-2	2.21E-2	2.58E-2	3.01E-2
55	573.86	3.54E-2	4.06E-2	4.81E-2	5.76E-2	6.83E-2	8.10E-2	55	182.15	1.31E-2	1.46E-2	1.76E-2	2.09E-2	2.45E-2	2.86E-2
56	610.44	3.31E-2	3.74E-2	4.42E-2	5.30E-2	6.30E-2	7.49E-2	56	187.00	1.24E-2	1.38E-2	1.67E-2	1.99E-2	2.33E-2	2.73E-2
57	649.13	2.95E-2	3.47E-2	4.10E-2	4.85E-2	5.79E-2	6.93E-2	57	191.91	1.09E-2	1.27E-2	1.59E-2	1.90E-2	2.23E-2	2.61E-2
58	690.01	2.72E-2	3.19E-2	3.79E-2	4.48E-2	5.35E-2	6.42E-2	58	196.89	1.03E-2	1.21E-2	1.51E-2	1.81E-2	2.13E-2	2.50E-2
59	733.21	2.53E-2	2.93E-2	3.50E-2	4.14E-2	4.95E-2	5.95E-2	59	201.94	9.86E-3	1.15E-2	1.44E-2	1.72E-2	2.03E-2	2.39E-2
60	778.80	2.35E-2	2.70E-2	3.23E-2	3.83E-2	4.59E-2	5.53E-2	60	207.04	9.39E-3	1.10E-2	1.38E-2	1.64E-2	1.94E-2	2.29E-2
61	826.94	2.18E-2	2.48E-2	2.99E-2	3.55E-2	4.25E-2	5.15E-2	61	212.22	8.96E-3	1.05E-2	1.31E-2	1.57E-2	1.86E-2	2.20E-2
62	877.71	2.04E-2	2.29E-2	2.77E-2	3.29E-2	3.95E-2	4.79E-2	62	217.46	8.56E-3	1.00E-2	1.25E-2	1.50E-2	1.78E-2	2.11E-2
63	931.27	1.91E-2	2.12E-2	2.57E-2	3.06E-2	3.68E-2	4.47E-2	63	222.78	8.19E-3	9.59E-3	1.20E-2	1.44E-2	1.70E-2	2.03E-2
64	987.71	1.78E-2	1.96E-2	2.39E-2	2.84E-2	3.43E-2	4.18E-2	64	228.16	7.84E-3	9.18E-3	1.15E-2	1.38E-2	1.63E-2	1.95E-2
65	1047.20	1.67E-2	1.82E-2	2.22E-2	2.65E-2	3.19E-2	3.91E-2	65	233.63	7.50E-3	8.78E-3	1.10E-2	1.32E-2	1.57E-2	1.88E-2
66	1109.85	1.56E-2	1.69E-2	2.07E-2	2.47E-2	2.99E-2	3.66E-2	66	239.18	7.19E-3	8.42E-3	1.05E-2	1.27E-2	1.51E-2	1.81E-2
67	1175.83	1.46E-2	1.58E-2	1.92E-2	2.31E-2	2.79E-2	3.43E-2	67	244.81	6.90E-3	8.07E-3	1.01E-2	1.21E-2	1.45E-2	1.75E-2
68	1245.28	1.37E-2	1.47E-2	1.79E-2	2.16E-2	2.62E-2	3.23E-2	68	250.53	6.62E-3	7.74E-3	9.69E-3	1.17E-2	1.40E-2	1.68E-2
69	1318.36	1.28E-2	1.38E-2	1.68E-2	2.02E-2	2.46E-2	3.04E-2	69	256.34	6.36E-3	7.43E-3	9.31E-3	1.12E-2	1.34E-2	1.63E-2
70	1395.21	1.20E-2	1.29E-2	1.57E-2	1.90E-2	2.31E-2	2.86E-2	70	262.22	6.12E-3	7.14E-3	8.94E-3	1.08E-2	1.29E-2	1.57E-2
71	1476.03	1.12E-2	1.21E-2	1.47E-2	1.78E-2	2.17E-2	2.70E-2	71	268.21	5.86E-3	6.86E-3	8.60E-3	1.04E-2	1.25E-2	1.52E-2
72	1560.98	1.05E-2	1.14E-2	1.38E-2	1.67E-2	2.05E-2	2.55E-2	72	274.27	5.63E-3	6.60E-3	8.27E-3	1.00E-2	1.20E-2	1.47E-2
73	1650.25	9.80E-3	1.08E-2	1.29E-2	1.58E-2	1.93E-2	2.42E-2	73	280.44	5.42E-3	6.35E-3	7.96E-3	9.64E-3	1.16E-2	1.43E-2
74	1744.04	9.18E-3	1.02E-2	1.21E-2	1.48E-2	1.82E-2	2.29E-2	74	286.69	5.22E-3	6.11E-3	7.67E-3	9.29E-3	1.12E-2	1.38E-2
75	1842.54	8.61E-3	9.62E-3	1.14E-2	1.40E-2	1.73E-2	2.17E-2	75	293.04	5.03E-3	5.89E-3	7.39E-3	8.96E-3	1.09E-2	1.34E-2
76	1945.94	8.09E-3	9.11E-3	1.08E-2	1.32E-2	1.64E-2	2.07E-2	76	299.47	4.85E-3	5.67E-3	7.12E-3	8.65E-3	1.05E-2	1.30E-2
77	2054.50	7.62E-3	8.64E-3	1.02E-2	1.25E-2	1.55E-2	1.97E-2	77	306.02	4.67E-3	5.47E-3	6.86E-3	8.35E-3	1.02E-2	1.26E-2
78	2168.43	7.21E-3	8.21E-3	9.62E-3	1.18E-2	1.47E-2	1.87E-2	78	312.65	4.51E-3	5.27E-3	6.62E-3	8.06E-3	9.83E-3	1.22E-2
79	2287.97	6.85E-3	7.80E-3	9.11E-3	1.12E-2	1.40E-2	1.79E-2	79	319.39	4.35E-3	5.09E-3	6.39E-3	7.79E-3	9.51E-3	1.19E-2
80	2413.34	6.52E-3	7.41E-3	8.64E-3	1.07E-2	1.34E-2	1.71E-2	80	326.19	4.20E-3	4.91E-3	6.17E-3	7.53E-3	9.21E-3	1.15E-2
81	2544.81	6.22E-3	7.04E-3	8.21E-3	1.01E-2	1.27E-2	1.63E-2	81	333.07	4.05E-3	4.74E-3	5.96E-3	7.28E-3	8.93E-3	1.12E-2
82	2682.69	5.95E-3	6.70E-3	7.81E-3	9.65E-3	1.21E-2	1.56E-2	82	340.06	3.92E-3	4.58E-3	5.75E-3	7.03E-3	8.65E-3	1.09E-2
83	2827.27	5.70E-3	6.37E-3	7.43E-3	9.19E-3	1.16E-2	1.50E-2	83	347.17	3.79E-3	4.42E-3	5.56E-3	6.81E-3	8.39E-3	1.06E-2
84	2978.87	5.24E-3	5.97E-3	7.25E-3	8.80E-3	1.10E-2	1.43E-2	84	354.39	3.45E-3	4.34E-3	5.45E-3	6.64E-3	8.17E-3	1.03E-2
85	3137.73	5.02E-3	5.68E-3	6.92E-3	8.42E-3	1.06E-2	1.38E-2	85	361.68	3.33E-3	4.19E-3	5.26E-3	6.42E-3	7.92E-3	1.00E-2
86	3303.81	4.82E-3	5.41E-3	6.60E-3	8.06E-3	1.01E-2	1.32E-2	86	368.68	3.23E-3	4.05E-3	5.09E-3	6.22E-3	7.68E-3	9.78E-3
87	3478.22	4.64E-3	5.16E-3	6.30E-3	7.72E-3	9.75E-3	1.28E-2	87	376.07	3.12E-3	3.91E-3	4.92E-3	6.02E-3	7.46E-3	9.52E-3
88	3660.85	4.47E-3	4.93E-3	6.02E-3	7.41E-3	9.38E-3	1.23E-2	88	383.44	3.02E-3	3.78E-3	4.76E-3	5.83E-3	7.24E-3	9.27E-3
89	3852.26	4.32E-3	4.72E-3	5.76E-3	7.11E-3	9.03E-3	1.19E-2	89	390.94	2.92E-3	3.65E-3	4.60E-3	5.64E-3	7.03E-3	9.03E-3

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_1 - C_3$								$E_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	109.18	6.79E-2	7.53E-2	8.67E-2	1.01E-1	1.15E-1	1.29E-1	26	131.17	2.64E-3	2.14E-3	1.38E-3	7.63E-4	4.19E-4	2.71E-4
27	115.30	7.29E-2	8.10E-2	9.35E-2	1.09E-1	1.24E-1	1.40E-1	27	139.86	2.19E-3	1.77E-3	1.12E-3	6.05E-4	3.11E-4	1.83E-4
28	121.70	7.80E-2	8.68E-2	1.00E-1	1.17E-1	1.34E-1	1.50E-1	28	149.18	1.82E-3	1.46E-3	9.17E-4	4.79E-4	2.29E-4	1.18E-4
29	128.45	8.28E-2	9.24E-2	1.07E-1	1.25E-1	1.43E-1	1.61E-1	29	159.21	1.52E-3	1.21E-3	7.53E-4	3.84E-4	1.73E-4	7.72E-5
30	135.57	8.75E-2	9.78E-2	1.14E-1	1.33E-1	1.52E-1	1.71E-1	30	170.02	1.27E-3	1.01E-3	6.26E-4	3.18E-4	1.41E-4	6.09E-5
31	143.12	8.89E-2	1.03E-1	1.20E-1	1.39E-1	1.59E-1	1.80E-1	31	181.69	1.06E-3	8.52E-4	5.32E-4	2.76E-4	1.30E-4	6.52E-5
32	151.14	9.24E-2	1.07E-1	1.26E-1	1.45E-1	1.67E-1	1.89E-1	32	194.30	9.03E-4	7.27E-4	4.63E-4	2.53E-4	1.35E-4	8.45E-5
33	159.67	9.55E-2	1.11E-1	1.30E-1	1.50E-1	1.73E-1	1.96E-1	33	207.94	7.73E-4	6.28E-4	4.13E-4	2.43E-4	1.50E-4	1.13E-4
34	168.77	9.79E-2	1.14E-1	1.34E-1	1.55E-1	1.78E-1	2.02E-1	34	222.69	6.70E-4	5.50E-4	3.77E-4	2.41E-4	1.70E-4	1.46E-4
35	178.48	9.97E-2	1.17E-1	1.36E-1	1.58E-1	1.82E-1	2.07E-1	35	238.65	5.85E-4	4.87E-4	3.49E-4	2.43E-4	1.91E-4	1.78E-4
36	188.86	1.02E-1	1.18E-1	1.38E-1	1.61E-1	1.85E-1	2.11E-1	36	255.91	5.13E-4	4.34E-4	3.27E-4	2.46E-4	2.09E-4	2.06E-4
37	199.95	1.05E-1	1.17E-1	1.39E-1	1.62E-1	1.87E-1	2.13E-1	37	274.56	4.53E-4	3.91E-4	3.08E-4	2.47E-4	2.24E-4	2.29E-4
38	211.82	1.06E-1	1.17E-1	1.39E-1	1.62E-1	1.88E-1	2.14E-1	38	294.71	4.03E-4	3.53E-4	2.91E-4	2.46E-4	2.34E-4	2.45E-4
39	224.51	1.01E-1	1.18E-1	1.39E-1	1.62E-1	1.87E-1	2.14E-1	39	316.44	3.57E-4	3.19E-4	2.72E-4	2.42E-4	2.38E-4	2.55E-4
40	238.07	1.02E-1	1.16E-1	1.38E-1	1.61E-1	1.86E-1	2.13E-1	40	339.88	3.16E-4	2.90E-4	2.55E-4	2.35E-4	2.38E-4	2.58E-4
41	252.57	9.88E-2	1.15E-1	1.36E-1	1.59E-1	1.84E-1	2.11E-1	41	365.11	2.82E-4	2.62E-4	2.37E-4	2.26E-4	2.34E-4	2.57E-4
42	268.05	1.01E-1	1.11E-1	1.33E-1	1.56E-1	1.81E-1	2.08E-1	42	392.24	2.54E-4	2.36E-4	2.22E-4	2.15E-4	2.26E-4	2.51E-4
43	284.58	9.46E-2	1.11E-1	1.31E-1	1.53E-1	1.78E-1	2.05E-1	43	421.40	2.24E-4	2.14E-4	2.03E-4	2.03E-4	2.16E-4	2.42E-4
44	302.21	9.39E-2	1.07E-1	1.27E-1	1.50E-1	1.74E-1	2.01E-1	44	452.70	2.00E-4	1.92E-4	1.87E-4	1.90E-4	2.05E-4	2.30E-4
45	321.01	9.11E-2	1.05E-1	1.24E-1	1.46E-1	1.70E-1	1.97E-1	45	486.27	1.77E-4	1.74E-4	1.70E-4	1.76E-4	1.92E-4	2.17E-4
46	341.04	9.14E-2	1.01E-1	1.21E-1	1.42E-1	1.66E-1	1.93E-1	46	522.21	1.58E-4	1.57E-4	1.54E-4	1.62E-4	1.78E-4	2.02E-4
47	362.36	8.78E-2	1.01E-1	1.18E-1	1.38E-1	1.61E-1	1.88E-1	47	560.67	1.42E-4	1.44E-4	1.43E-4	1.48E-4	1.64E-4	1.88E-4
48	385.04	8.39E-2	9.52E-2	1.13E-1	1.34E-1	1.57E-1	1.83E-1	48	601.78	1.25E-4	1.24E-4	1.27E-4	1.36E-4	1.51E-4	1.73E-4
49	409.16	8.34E-2	9.14E-2	1.10E-1	1.30E-1	1.53E-1	1.78E-1	49	645.69	1.12E-4	1.12E-4	1.14E-4	1.23E-4	1.38E-4	1.59E-4
50	434.78	8.11E-2	8.84E-2	1.07E-1	1.26E-1	1.48E-1	1.73E-1	50	692.53	9.90E-5	9.95E-5	1.02E-4	1.11E-4	1.26E-4	1.45E-4
51	461.99	7.73E-2	8.64E-2	1.03E-1	1.22E-1	1.43E-1	1.68E-1	51	742.46	8.80E-5	8.89E-5	9.16E-5	1.01E-4	1.14E-4	1.32E-4
52	490.85	7.34E-2	8.33E-2	9.92E-2	1.18E-1	1.39E-1	1.64E-1	52	795.63	7.71E-5	7.82E-5	8.25E-5	9.01E-5	1.03E-4	1.20E-4
53	521.47	7.18E-2	8.07E-2	9.55E-2	1.14E-1	1.35E-1	1.59E-1	53	852.22	6.86E-5	6.99E-5	7.38E-5	8.09E-5	9.29E-5	1.09E-4
54	553.91	6.90E-2	7.73E-2	9.24E-2	1.10E-1	1.30E-1	1.54E-1	54	912.38	6.10E-5	6.23E-5	6.59E-5	7.26E-5	8.36E-5	9.83E-5
55	588.28	6.58E-2	7.51E-2	8.88E-2	1.06E-1	1.26E-1	1.49E-1	55	976.31	5.37E-5	5.52E-5	5.86E-5	6.50E-5	7.51E-5	8.86E-5
56	624.66	6.43E-2	7.27E-2	8.55E-2	1.02E-1	1.22E-1	1.45E-1	56	1044.17	4.75E-5	4.88E-5	5.22E-5	5.82E-5	6.74E-5	7.98E-5
57	663.15	6.00E-2	7.05E-2	8.32E-2	9.81E-2	1.17E-1	1.40E-1	57	1116.18	4.19E-5	4.35E-5	4.64E-5	5.23E-5	6.04E-5	7.16E-5
58	703.85	5.80E-2	6.77E-2	8.03E-2	9.48E-2	1.13E-1	1.36E-1	58	1192.51	3.71E-5	3.87E-5	4.12E-5	4.66E-5	5.41E-5	6.44E-5
59	746.86	5.61E-2	6.49E-2	7.75E-2	9.15E-2	1.09E-1	1.32E-1	59	1273.39	3.29E-5	3.44E-5	3.66E-5	4.16E-5	4.84E-5	5.78E-5
60	792.29	5.44E-2	6.23E-2	7.47E-2	8.83E-2	1.06E-1	1.28E-1	60	1359.01	2.92E-5	3.05E-5	3.25E-5	3.70E-5	4.33E-5	5.18E-5
61	840.26	5.27E-2	5.98E-2	7.20E-2	8.52E-2	1.02E-1	1.24E-1	61	1449.62	2.60E-5	2.70E-5	2.89E-5	3.30E-5	3.87E-5	4.65E-5
62	890.87	5.12E-2	5.74E-2	6.94E-2	8.23E-2	9.88E-2	1.20E-1	62	1545.43	2.31E-5	2.39E-5	2.57E-5	2.93E-5	3.46E-5	4.17E-5
63	944.26	4.98E-2	5.51E-2	6.69E-2	7.95E-2	9.56E-2	1.16E-1	63	1646.70	2.05E-5	2.11E-5	2.28E-5	2.61E-5	3.09E-5	3.73E-5
64	1000.55	4.83E-2	5.29E-2	6.45E-2	7.67E-2	9.24E-2	1.13E-1	64	1753.66	1.82E-5	1.87E-5	2.03E-5	2.32E-5	2.76E-5	3.35E-5
65	1059.87	4.68E-2	5.09E-2	6.21E-2	7.41E-2	8.94E-2	1.09E-1	65	1866.60	1.61E-5	1.65E-5	1.81E-5	2.07E-5	2.46E-5	3.00E-5
66	1122.36	4.53E-2	4.90E-2	5.98E-2	7.15E-2	8.65E-2	1.06E-1	66	1985.77	1.42E-5	1.47E-5	1.61E-5	1.84E-5	2.20E-5	2.68E-5
67	1188.17	4.39E-2	4.72E-2	5.76E-2	6.91E-2	8.37E-2	1.03E-1	67	2111.47	1.26E-5	1.30E-5	1.43E-5	1.64E-5	1.96E-5	2.40E-5
68	1257.43	4.24E-2	4.55E-2	5.55E-2	6.67E-2	8.10E-2	9.98E-2	68	2243.99	1.11E-5	1.16E-5	1.28E-5	1.45E-5	1.75E-5	2.15E-5
69	1330.32	4.08E-2	4.39E-2	5.34E-2	6.44E-2	7.84E-2	9.69E-2	69	2383.64	9.89E-6	1.03E-5	1.14E-5	1.30E-5	1.56E-5	1.93E-5
70	1406.97	3.93E-2	4.23E-2	5.14E-2	6.23E-2	7.59E-2	9.41E-2	70	2530.73	8.82E-6	9.21E-6	1.01E-5	1.15E-5	1.39E-5	1.73E-5
71	1487.58	3.78E-2	4.09E-2	4.95E-2	6.01E-2	7.35E-2	9.14E-2	71	2685.61	7.87E-6	8.22E-6	8.98E-6	1.03E-5	1.24E-5	1.55E-5
72	1572.30	3.63E-2	3.96E-2	4.77E-2	5.81E-2	7.11E-2	8.87E-2	72	2848.61	7.02E-6	7.32E-6	7.98E-6	9.18E-6	1.11E-5	1.39E-5
73	1661.33	3.48E-2	3.83E-2	4.60E-2	5.61E-2	6.89E-2	8.62E-2	73	3020.12	6.26E-6	6.51E-6	7.09E-6	8.19E-6	9.93E-6	1.24E-5
74	1754.85	3.34E-2	3.70E-2	4.43E-2	5.42E-2	6.67E-2	8.38E-2	74	3200.50	5.57E-6	5.79E-6	6.30E-6	7.31E-6	8.87E-6	1.12E-5
75	1853.08	3.21E-2	3.59E-2	4.27E-2	5.24E-2	6.47E-2	8.14E-2	75	3390.16	4.95E-6	5.13E-6	5.61E-6	6.53E-6	7.93E-6	1.00E-5
76	1956.18	3.08E-2	3.48E-2	4.12E-2	5.06E-2	6.27E-2	7.91E-2	76	3589.48	4.40E-6	4.56E-6	4.99E-6	5.83E-6	7.09E-6	8.97E-6
77	2064.42	2.96E-2	3.36E-2	3.97E-2	4.89E-2	6.07E-2	7.69E-2	77	3798.95	3.91E-6	4.05E-6	4.45E-6	5.20E-6	6.34E-6	8.05E-6
78	2177.99	2.86E-2	3.26E-2	3.83E-2	4.73E-2	5.89E-2	7.48E-2	78	4018.98	3.49E-6	3.61E-6	3.97E-6	4.64E-6	5.67E-6	7.22E-6
79	2297.16	2.76E-2	3.16E-2	3.70E-2	4.57E-2	5.71E-2	7.28E-2	79	4250.07	3.12E-6	3.23E-6	3.55E-6	4.14E-6	5.08E-6	6.48E-6
80	2422.13	2.68E-2	3.05E-2	3.57E-2	4.42E-2	5.53E-2	7.08E-2	80	4492.67	2.79E-6	2.89E-6	3.17E-6	3.70E-6	4.55E-6	5.82E-6
81	2553.16	2.60E-2	2.95E-2	3.45E-2	4.27E-2	5.36E-2	6.89E-2	81	4747.31	2.49E-6	2.59E-6	2.84E-6	3.30E-6	4.07E-6	5.23E-6
82	2690.58	2.52E-2	2.85E-2	3.33E-2	4.13E-2	5.20E-2	6.70E-2	82	5014.57	2.23E-6	2.32E-6	2.53E-6	2.95E-6	3.65E-6	4.70E-6
83	2834.65	2.45E-2	2.75E-2	3.22E-2	3.99E-2	5.04E-2	6.52E-2	83	5295.02	1.99E-6	2.07E-6	2.26E-6	2.63E-6	3.27E-6	4.22E-6
84	2985.71	2.28E-2	2.61E-2	3.19E-2	3.88E-2	4.87E-2	6.32E-2	84	5589.29	1.78E-6	1.84E-6	2.01E-6	2.34E-6	2.94E-6	3.81E-6
85	3143.99	2.22E-2	2.51E-2	3.08E-2	3.76E-2	4.73E-2	6.16E-2	85	5897.93	1.60E-6	1.64E-6	1.80E-6	2.09E-6	2.63E-6	3.42E-6
86	3309.45	2.15E-2	2.42E-2	2.97E-2	3.64E-2	4.59E-2	6.00E-2	86	6221.18	1.44E-6	1.46E-6	1.62E-6	1.87E-6	2.35E-6	3.08E-6
87	3483.18	2.09E-2	2.33E-2	2.87E-2	3.52E-2	4.46E-2	5.84E-2	87	6560.56	1.28E-6	1.30E-6	1.45E-6	1.67E-6	2.11E-6	2.77E-6
88	3665.10	2.04E-2	2.25E-2	2.77E-2	3.41E-2	4.33E-2	5.69E-2	88	6916.30	1.15E-6	1.16E-6	1.30E-6	1.50E-6	1.89E-6	2.49E-6
89	3855.74	1.98E-2	2.17E-2	2.67E-2	3.31E-2	4.20E-2	5.54E-2	89	7289.34	1.02E-6	1.04E-6				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_2 - C_3$								$E_2 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	90.89	1.24E-1	1.39E-1	1.66E-1	1.94E-1	2.21E-1	2.48E-1	26	112.88	2.35E-2	2.52E-2	2.78E-2	3.14E-2	3.53E-2	3.94E-2
27	94.92	1.18E-1	1.32E-1	1.58E-1	1.85E-1	2.11E-1	2.37E-1	27	119.48	2.59E-2	2.80E-2	3.13E-2	3.57E-2	4.03E-2	4.51E-2
28	98.93	1.13E-1	1.26E-1	1.51E-1	1.77E-1	2.02E-1	2.27E-1	28	126.41	2.84E-2	3.10E-2	3.50E-2	4.01E-2	4.55E-2	5.09E-2
29	102.92	1.08E-1	1.21E-1	1.45E-1	1.70E-1	1.94E-1	2.18E-1	29	133.68	3.09E-2	3.39E-2	3.86E-2	4.45E-2	5.06E-2	5.68E-2
30	106.90	1.03E-1	1.16E-1	1.39E-1	1.63E-1	1.86E-1	2.09E-1	30	141.34	3.33E-2	3.68E-2	4.21E-2	4.87E-2	5.55E-2	6.24E-2
31	110.86	9.85E-2	1.14E-1	1.33E-1	1.55E-1	1.79E-1	2.02E-1	31	149.43	3.45E-2	3.96E-2	4.58E-2	5.25E-2	6.01E-2	6.78E-2
32	114.83	9.50E-2	1.10E-1	1.28E-1	1.50E-1	1.73E-1	1.95E-1	32	157.99	3.66E-2	4.20E-2	4.89E-2	5.62E-2	6.44E-2	7.29E-2
33	118.79	9.19E-2	1.06E-1	1.23E-1	1.45E-1	1.67E-1	1.88E-1	33	167.06	3.84E-2	4.43E-2	5.17E-2	5.95E-2	6.84E-2	7.75E-2
34	122.76	8.91E-2	1.02E-1	1.19E-1	1.40E-1	1.61E-1	1.82E-1	34	176.68	4.00E-2	4.63E-2	5.41E-2	6.24E-2	7.18E-2	8.15E-2
35	126.75	8.44E-2	9.79E-2	1.15E-1	1.35E-1	1.56E-1	1.76E-1	35	186.92	4.13E-2	4.79E-2	5.60E-2	6.49E-2	7.47E-2	8.49E-2
36	130.75	8.13E-2	9.48E-2	1.12E-1	1.31E-1	1.51E-1	1.71E-1	36	197.81	4.36E-2	4.84E-2	5.75E-2	6.68E-2	7.70E-2	8.77E-2
37	134.79	8.09E-2	9.18E-2	1.08E-1	1.27E-1	1.47E-1	1.66E-1	37	209.40	4.45E-2	4.91E-2	5.87E-2	6.82E-2	7.88E-2	8.98E-2
38	138.86	7.72E-2	8.89E-2	1.05E-1	1.23E-1	1.42E-1	1.62E-1	38	221.75	4.51E-2	4.95E-2	5.94E-2	6.92E-2	7.99E-2	9.13E-2
39	142.97	7.63E-2	8.58E-2	1.01E-1	1.19E-1	1.38E-1	1.57E-1	39	234.90	4.34E-2	5.06E-2	5.97E-2	6.95E-2	8.05E-2	9.21E-2
40	147.12	7.22E-2	8.33E-2	9.84E-2	1.16E-1	1.34E-1	1.53E-1	40	248.92	4.40E-2	4.99E-2	5.96E-2	6.94E-2	8.05E-2	9.23E-2
41	151.32	7.13E-2	8.06E-2	9.54E-2	1.13E-1	1.31E-1	1.49E-1	41	263.86	4.29E-2	4.98E-2	5.91E-2	6.90E-2	8.00E-2	9.20E-2
42	155.57	6.91E-2	7.81E-2	9.25E-2	1.09E-1	1.27E-1	1.45E-1	42	279.76	4.40E-2	4.83E-2	5.82E-2	6.82E-2	7.92E-2	9.12E-2
43	159.88	6.76E-2	7.54E-2	8.97E-2	1.06E-1	1.23E-1	1.41E-1	43	296.70	4.18E-2	4.79E-2	5.69E-2	6.70E-2	7.79E-2	8.99E-2
44	164.24	6.31E-2	7.29E-2	8.73E-2	1.03E-1	1.20E-1	1.37E-1	44	314.74	4.09E-2	4.66E-2	5.55E-2	6.55E-2	7.64E-2	8.82E-2
45	168.67	6.37E-2	7.07E-2	8.44E-2	1.00E-1	1.16E-1	1.34E-1	45	333.92	3.96E-2	4.55E-2	5.40E-2	6.38E-2	7.45E-2	8.63E-2
46	173.15	5.93E-2	6.87E-2	8.20E-2	9.71E-2	1.13E-1	1.30E-1	46	354.33	3.96E-2	4.37E-2	5.27E-2	6.19E-2	7.24E-2	8.40E-2
47	177.70	5.57E-2	6.51E-2	7.97E-2	9.44E-2	1.10E-1	1.27E-1	47	376.02	3.79E-2	4.38E-2	5.13E-2	5.97E-2	7.00E-2	8.15E-2
48	182.32	5.51E-2	6.43E-2	7.70E-2	9.14E-2	1.07E-1	1.23E-1	48	399.06	3.59E-2	4.08E-2	4.88E-2	5.78E-2	6.78E-2	7.90E-2
49	187.00	5.53E-2	6.21E-2	7.45E-2	8.85E-2	1.03E-1	1.20E-1	49	423.53	3.55E-2	3.89E-2	4.71E-2	5.56E-2	6.53E-2	7.63E-2
50	191.75	5.18E-2	6.02E-2	7.22E-2	8.58E-2	1.00E-1	1.16E-1	50	449.50	3.41E-2	3.73E-2	4.52E-2	5.34E-2	6.27E-2	7.35E-2
51	196.57	5.14E-2	5.82E-2	6.98E-2	8.31E-2	9.73E-2	1.13E-1	51	477.04	3.22E-2	3.61E-2	4.29E-2	5.11E-2	6.02E-2	7.08E-2
52	201.46	4.91E-2	5.63E-2	6.76E-2	8.05E-2	9.44E-2	1.10E-1	52	506.24	3.02E-2	3.44E-2	4.11E-2	4.89E-2	5.77E-2	6.80E-2
53	206.43	4.78E-2	5.43E-2	6.54E-2	7.79E-2	9.15E-2	1.07E-1	53	537.18	2.92E-2	3.30E-2	3.91E-2	4.67E-2	5.52E-2	6.52E-2
54	211.47	4.54E-2	5.25E-2	6.32E-2	7.54E-2	8.87E-2	1.04E-1	54	569.94	2.78E-2	3.12E-2	3.73E-2	4.46E-2	5.28E-2	6.25E-2
55	216.59	4.42E-2	5.07E-2	6.11E-2	7.30E-2	8.59E-2	1.01E-1	55	604.62	2.61E-2	2.99E-2	3.55E-2	4.25E-2	5.04E-2	5.98E-2
56	221.78	4.29E-2	4.89E-2	5.91E-2	7.06E-2	8.32E-2	9.77E-2	56	641.30	2.52E-2	2.86E-2	3.37E-2	4.05E-2	4.81E-2	5.73E-2
57	227.06	3.97E-2	4.53E-2	5.68E-2	6.84E-2	8.08E-2	9.50E-2	57	680.09	2.32E-2	2.73E-2	3.24E-2	3.83E-2	4.57E-2	5.47E-2
58	232.41	3.83E-2	4.38E-2	5.49E-2	6.61E-2	7.82E-2	9.22E-2	58	721.08	2.21E-2	2.58E-2	3.08E-2	3.64E-2	4.36E-2	5.23E-2
59	237.86	3.69E-2	4.23E-2	5.30E-2	6.40E-2	7.57E-2	8.96E-2	59	764.38	2.11E-2	2.45E-2	2.93E-2	3.47E-2	4.15E-2	5.00E-2
60	243.38	3.56E-2	4.08E-2	5.12E-2	6.18E-2	7.33E-2	8.69E-2	60	810.10	2.02E-2	2.32E-2	2.79E-2	3.30E-2	3.96E-2	4.78E-2
61	248.99	3.44E-2	3.94E-2	4.94E-2	5.98E-2	7.10E-2	8.44E-2	61	858.35	1.93E-2	2.19E-2	2.65E-2	3.15E-2	3.78E-2	4.57E-2
62	254.68	3.32E-2	3.80E-2	4.78E-2	5.78E-2	6.88E-2	8.19E-2	62	909.24	1.85E-2	2.08E-2	2.52E-2	3.00E-2	3.60E-2	4.37E-2
63	260.48	3.20E-2	3.67E-2	4.61E-2	5.58E-2	6.66E-2	7.95E-2	63	962.91	1.77E-2	1.97E-2	2.40E-2	2.85E-2	3.44E-2	4.18E-2
64	266.35	3.09E-2	3.54E-2	4.45E-2	5.40E-2	6.45E-2	7.72E-2	64	1019.46	1.70E-2	1.86E-2	2.28E-2	2.72E-2	3.28E-2	4.00E-2
65	272.32	2.98E-2	3.42E-2	4.30E-2	5.22E-2	6.24E-2	7.50E-2	65	1079.05	1.63E-2	1.77E-2	2.17E-2	2.59E-2	3.13E-2	3.83E-2
66	278.39	2.88E-2	3.30E-2	4.16E-2	5.05E-2	6.05E-2	7.28E-2	66	1141.80	1.55E-2	1.68E-2	2.06E-2	2.47E-2	2.99E-2	3.67E-2
67	284.56	2.78E-2	3.19E-2	4.01E-2	4.88E-2	5.86E-2	7.07E-2	67	1207.87	1.49E-2	1.60E-2	1.96E-2	2.36E-2	2.86E-2	3.52E-2
68	290.84	2.68E-2	3.08E-2	3.88E-2	4.72E-2	5.67E-2	6.87E-2	68	1277.40	1.42E-2	1.52E-2	1.86E-2	2.25E-2	2.73E-2	3.37E-2
69	297.22	2.59E-2	2.97E-2	3.75E-2	4.56E-2	5.50E-2	6.68E-2	69	1350.54	1.35E-2	1.45E-2	1.78E-2	2.15E-2	2.61E-2	3.23E-2
70	303.69	2.50E-2	2.87E-2	3.62E-2	4.41E-2	5.33E-2	6.49E-2	70	1427.45	1.29E-2	1.39E-2	1.69E-2	2.05E-2	2.50E-2	3.11E-2
71	310.29	2.42E-2	2.77E-2	3.50E-2	4.27E-2	5.16E-2	6.30E-2	71	1508.32	1.22E-2	1.33E-2	1.61E-2	1.96E-2	2.40E-2	2.98E-2
72	316.98	2.33E-2	2.68E-2	3.38E-2	4.13E-2	5.00E-2	6.13E-2	72	1593.29	1.16E-2	1.27E-2	1.54E-2	1.87E-2	2.30E-2	2.87E-2
73	323.80	2.26E-2	2.59E-2	3.27E-2	3.99E-2	4.85E-2	5.96E-2	73	1682.58	1.10E-2	1.22E-2	1.46E-2	1.79E-2	2.20E-2	2.76E-2
74	330.72	2.18E-2	2.50E-2	3.16E-2	3.86E-2	4.70E-2	5.80E-2	74	1776.36	1.05E-2	1.17E-2	1.40E-2	1.71E-2	2.11E-2	2.65E-2
75	337.77	2.11E-2	2.42E-2	3.05E-2	3.74E-2	4.56E-2	5.64E-2	75	1874.85	9.97E-3	1.12E-2	1.34E-2	1.64E-2	2.03E-2	2.55E-2
76	344.91	2.04E-2	2.33E-2	2.95E-2	3.62E-2	4.42E-2	5.49E-2	76	1978.21	9.49E-3	1.07E-2	1.28E-2	1.57E-2	1.95E-2	2.46E-2
77	352.19	1.97E-2	2.26E-2	2.85E-2	3.50E-2	4.29E-2	5.34E-2	77	2086.73	9.05E-3	1.03E-2	1.22E-2	1.51E-2	1.87E-2	2.37E-2
78	359.59	1.90E-2	2.18E-2	2.76E-2	3.39E-2	4.16E-2	5.19E-2	78	2200.58	8.67E-3	9.91E-3	1.17E-2	1.44E-2	1.80E-2	2.29E-2
79	367.12	1.84E-2	2.11E-2	2.67E-2	3.28E-2	4.04E-2	5.05E-2	79	2320.03	8.32E-3	9.52E-3	1.12E-2	1.39E-2	1.73E-2	2.21E-2
80	374.74	1.78E-2	2.04E-2	2.58E-2	3.18E-2	3.92E-2	4.92E-2	80	2445.28	8.00E-3	9.15E-3	1.07E-2	1.33E-2	1.67E-2	2.14E-2
81	382.47	1.72E-2	1.97E-2	2.50E-2	3.08E-2	3.81E-2	4.79E-2	81	2576.62	7.71E-3	8.78E-3	1.03E-2	1.28E-2	1.61E-2	2.07E-2
82	390.35	1.67E-2	1.91E-2	2.42E-2	2.99E-2	3.69E-2	4.67E-2	82	2714.34	7.45E-3	8.43E-3	9.89E-3	1.23E-2	1.55E-2	2.00E-2
83	398.36	1.61E-2	1.84E-2	2.34E-2	2.89E-2	3.59E-2	4.54E-2	83	2858.73	7.20E-3	8.09E-3	9.51E-3	1.18E-2	1.49E-2	1.93E-2
84	406.54	1.41E-2	1.79E-2	2.29E-2	2.82E-2	3.50E-2	4.44E-2	84	3010.12	6.67E-3	7.64E-3	9.35E-3	1.14E-2	1.43E-2	1.86E-2
85	414.82	1.37E-2	1.73E-2	2.21E-2	2.73E-2	3.40E-2	4.32E-2	85	3168.76	6.44E-3	7.32E-3	8.99E-3	1.10E-2	1.39E-2	1.81E-2
86	422.85	1.32E-2	1.67E-2	2.14E-2	2.65E-2	3.30E-2	4.21E-2	86	3334.58	6.23E-3	7.02E-3	8.64E-3	1.06E-2	1.34E-2	1.75E-2
87	431.32	1.28E-2	1.62E-2	2.07E-2	2.57E-2	3.20E-2	4.11E-2	87	3508.70	6.03E-3	6.74E-3	8.31E-3	1.02E-2	1.30E-2	1.70E-2
88	439.82	1.24E-2	1.56E-2	2.01E-2	2.49E-2	3.11E-2	4.00E-2	88	3691.02	5.85E-3	6.48E-3	7.99E-3	9.88E-3	1.25E-2	1.65E-2
89	448.48	1.20E-2	1.51E-2	1.94E-2	2.41E-2	3.02E-2	3.90E-2	89	3882.09	5.67E-3	6.24E-3	7.69E-3	9.54E-3	1.21E-2	1

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_3 - C_3$								$E_3 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	68.17	5.36E-1	6.06E-1	7.26E-1	8.43E-1	9.61E-1	1.07E+0	26	90.16	1.24E-3	1.13E-3	9.90E-4	8.95E-4	8.82E-4	9.26E-4
27	72.09	4.73E-1	5.36E-1	6.42E-1	7.46E-1	8.51E-1	9.50E-1	27	96.65	1.50E-3	1.40E-3	1.28E-3	1.21E-3	1.24E-3	1.32E-3
28	76.11	4.17E-1	4.73E-1	5.67E-1	6.59E-1	7.52E-1	8.41E-1	28	103.59	1.79E-3	1.72E-3	1.63E-3	1.60E-3	1.66E-3	1.80E-3
29	80.22	3.67E-1	4.17E-1	5.01E-1	5.83E-1	6.65E-1	7.44E-1	29	110.98	2.13E-3	2.08E-3	2.02E-3	2.04E-3	2.17E-3	2.36E-3
30	84.42	3.23E-1	3.67E-1	4.41E-1	5.14E-1	5.88E-1	6.58E-1	30	118.87	2.50E-3	2.48E-3	2.47E-3	2.56E-3	2.75E-3	3.01E-3
31	88.70	2.90E-1	3.26E-1	3.84E-1	4.51E-1	5.18E-1	5.81E-1	31	127.27	2.84E-3	2.93E-3	2.97E-3	3.12E-3	3.40E-3	3.75E-3
32	93.05	2.55E-1	2.87E-1	3.38E-1	3.97E-1	4.56E-1	5.12E-1	32	136.21	3.26E-3	3.41E-3	3.53E-3	3.75E-3	4.13E-3	4.59E-3
33	97.47	2.24E-1	2.52E-1	2.97E-1	3.49E-1	4.01E-1	4.51E-1	33	145.73	3.70E-3	3.94E-3	4.14E-3	4.46E-3	4.94E-3	5.51E-3
34	101.93	1.97E-1	2.20E-1	2.60E-1	3.06E-1	3.52E-1	3.97E-1	34	155.86	4.18E-3	4.50E-3	4.79E-3	5.22E-3	5.83E-3	6.52E-3
35	106.45	1.73E-1	1.93E-1	2.28E-1	2.69E-1	3.09E-1	3.49E-1	35	166.62	4.68E-3	5.11E-3	5.50E-3	6.05E-3	6.78E-3	7.62E-3
36	111.00	1.52E-1	1.68E-1	2.00E-1	2.35E-1	2.71E-1	3.06E-1	36	178.05	5.24E-3	5.75E-3	6.24E-3	6.92E-3	7.81E-3	8.79E-3
37	115.59	1.30E-1	1.47E-1	1.75E-1	2.06E-1	2.37E-1	2.69E-1	37	190.20	5.96E-3	6.28E-3	7.03E-3	7.85E-3	8.89E-3	1.00E-2
38	120.81	1.12E-1	1.29E-1	1.53E-1	1.80E-1	2.08E-1	2.35E-1	38	203.09	6.56E-3	6.95E-3	7.84E-3	8.82E-3	1.00E-2	1.13E-2
39	124.84	1.01E-1	1.12E-1	1.33E-1	1.57E-1	1.82E-1	2.06E-1	39	216.78	6.92E-3	7.75E-3	8.69E-3	9.80E-3	1.12E-2	1.27E-2
40	129.50	8.58E-2	9.78E-2	1.16E-1	1.38E-1	1.59E-1	1.80E-1	40	231.31	7.65E-3	8.38E-3	9.55E-3	1.08E-2	1.24E-2	1.41E-2
41	134.19	7.58E-2	8.52E-2	1.02E-1	1.20E-1	1.39E-1	1.58E-1	41	246.73	8.14E-3	9.14E-3	1.04E-2	1.18E-2	1.36E-2	1.55E-2
42	138.90	6.55E-2	7.43E-2	8.87E-2	1.05E-1	1.21E-1	1.38E-1	42	263.09	9.06E-3	9.69E-3	1.12E-2	1.29E-2	1.48E-2	1.69E-2
43	143.63	5.82E-2	6.46E-2	7.73E-2	9.16E-2	1.06E-1	1.21E-1	43	280.45	9.28E-3	1.06E-2	1.21E-2	1.39E-2	1.60E-2	1.84E-2
44	148.38	5.10E-2	5.61E-2	6.74E-2	8.00E-2	9.28E-2	1.06E-1	44	298.88	1.00E-2	1.11E-2	1.29E-2	1.49E-2	1.72E-2	1.98E-2
45	153.16	4.44E-2	4.90E-2	5.89E-2	6.99E-2	8.12E-2	9.30E-2	45	318.42	1.04E-2	1.19E-2	1.37E-2	1.58E-2	1.83E-2	2.11E-2
46	157.97	3.73E-2	4.29E-2	5.15E-2	6.11E-2	7.10E-2	8.15E-2	46	339.15	1.14E-2	1.23E-2	1.45E-2	1.68E-2	1.94E-2	2.25E-2
47	162.81	3.37E-2	3.64E-2	4.47E-2	5.33E-2	6.21E-2	7.15E-2	47	361.13	1.18E-2	1.33E-2	1.53E-2	1.76E-2	2.05E-2	2.38E-2
48	167.69	2.80E-2	3.26E-2	3.93E-2	4.67E-2	5.44E-2	6.27E-2	48	384.43	1.21E-2	1.35E-2	1.58E-2	1.85E-2	2.15E-2	2.50E-2
49	172.60	2.55E-2	2.85E-2	3.43E-2	4.08E-2	4.76E-2	5.50E-2	49	409.13	1.28E-2	1.39E-2	1.65E-2	1.92E-2	2.24E-2	2.61E-2
50	177.55	2.22E-2	2.48E-2	3.00E-2	3.57E-2	4.18E-2	4.83E-2	50	435.30	1.33E-2	1.43E-2	1.70E-2	1.99E-2	2.32E-2	2.72E-2
51	182.55	1.92E-2	2.18E-2	2.63E-2	3.13E-2	3.66E-2	4.25E-2	51	463.02	1.35E-2	1.49E-2	1.75E-2	2.05E-2	2.40E-2	2.82E-2
52	187.59	1.67E-2	1.91E-2	2.30E-2	2.74E-2	3.21E-2	3.73E-2	52	492.36	1.35E-2	1.52E-2	1.79E-2	2.11E-2	2.47E-2	2.90E-2
53	192.69	1.47E-2	1.67E-2	2.02E-2	2.40E-2	2.82E-2	3.29E-2	53	523.43	1.40E-2	1.55E-2	1.82E-2	2.15E-2	2.53E-2	2.98E-2
54	197.84	1.29E-2	1.46E-2	1.77E-2	2.11E-2	2.48E-2	2.90E-2	54	556.30	1.41E-2	1.57E-2	1.85E-2	2.19E-2	2.58E-2	3.05E-2
55	203.04	1.12E-2	1.28E-2	1.55E-2	1.86E-2	2.18E-2	2.55E-2	55	591.07	1.41E-2	1.60E-2	1.87E-2	2.22E-2	2.62E-2	3.11E-2
56	208.31	9.91E-3	1.12E-2	1.36E-2	1.63E-2	1.92E-2	2.26E-2	56	627.83	1.44E-2	1.62E-2	1.88E-2	2.25E-2	2.66E-2	3.16E-2
57	213.64	8.23E-3	9.51E-3	1.20E-2	1.44E-2	1.70E-2	2.00E-2	57	666.67	1.40E-2	1.64E-2	1.92E-2	2.25E-2	2.67E-2	3.19E-2
58	219.05	7.24E-3	8.38E-3	1.05E-2	1.27E-2	1.50E-2	1.77E-2	58	707.71	1.41E-2	1.63E-2	1.92E-2	2.26E-2	2.69E-2	3.23E-2
59	224.52	6.38E-3	7.39E-3	9.29E-3	1.12E-2	1.33E-2	1.57E-2	59	751.05	1.42E-2	1.63E-2	1.93E-2	2.26E-2	2.70E-2	3.25E-2
60	230.07	5.63E-3	6.52E-3	8.21E-3	9.91E-3	1.18E-2	1.39E-2	60	796.79	1.42E-2	1.62E-2	1.92E-2	2.26E-2	2.71E-2	3.26E-2
61	235.70	4.97E-3	5.77E-3	7.26E-3	8.77E-3	1.04E-2	1.24E-2	61	845.06	1.42E-2	1.60E-2	1.92E-2	2.26E-2	2.71E-2	3.27E-2
62	241.40	4.40E-3	5.11E-3	6.43E-3	7.78E-3	9.25E-3	1.10E-2	62	895.96	1.42E-2	1.59E-2	1.91E-2	2.25E-2	2.70E-2	3.27E-2
63	247.20	3.91E-3	4.53E-3	5.71E-3	6.91E-3	8.23E-3	9.82E-3	63	949.63	1.42E-2	1.57E-2	1.89E-2	2.24E-2	2.69E-2	3.26E-2
64	253.07	3.47E-3	4.02E-3	5.07E-3	6.15E-3	7.33E-3	8.77E-3	64	1006.18	1.42E-2	1.55E-2	1.87E-2	2.22E-2	2.67E-2	3.25E-2
65	259.04	3.09E-3	3.58E-3	4.51E-3	5.47E-3	6.54E-3	7.85E-3	65	1065.77	1.41E-2	1.52E-2	1.85E-2	2.20E-2	2.65E-2	3.23E-2
66	265.10	2.75E-3	3.19E-3	4.03E-3	4.89E-3	5.85E-3	7.04E-3	66	1128.51	1.40E-2	1.50E-2	1.82E-2	2.17E-2	2.62E-2	3.21E-2
67	271.27	2.46E-3	2.85E-3	3.60E-3	4.37E-3	5.24E-3	6.32E-3	67	1194.57	1.38E-2	1.48E-2	1.79E-2	2.15E-2	2.59E-2	3.19E-2
68	277.54	2.20E-3	2.55E-3	3.22E-3	3.91E-3	4.70E-3	5.69E-3	68	1264.09	1.36E-2	1.45E-2	1.76E-2	2.11E-2	2.56E-2	3.16E-2
69	283.92	1.97E-3	2.28E-3	2.88E-3	3.51E-3	4.23E-3	5.13E-3	69	1337.24	1.34E-2	1.43E-2	1.73E-2	2.08E-2	2.53E-2	3.12E-2
70	290.38	1.77E-3	2.05E-3	2.59E-3	3.16E-3	3.81E-3	4.64E-3	70	1414.14	1.31E-2	1.40E-2	1.70E-2	2.05E-2	2.49E-2	3.09E-2
71	296.98	1.59E-3	1.84E-3	2.33E-3	2.84E-3	3.44E-3	4.20E-3	71	1495.01	1.28E-2	1.38E-2	1.66E-2	2.01E-2	2.45E-2	3.05E-2
72	303.67	1.44E-3	1.66E-3	2.10E-3	2.57E-3	3.11E-3	3.81E-3	72	1579.98	1.24E-2	1.35E-2	1.63E-2	1.97E-2	2.41E-2	3.01E-2
73	310.49	1.30E-3	1.50E-3	1.90E-3	2.32E-3	2.82E-3	3.46E-3	73	1669.28	1.21E-2	1.33E-2	1.59E-2	1.93E-2	2.37E-2	2.97E-2
74	317.43	1.17E-3	1.36E-3	1.72E-3	2.10E-3	2.56E-3	3.15E-3	74	1763.07	1.18E-2	1.30E-2	1.55E-2	1.90E-2	2.33E-2	2.92E-2
75	324.49	1.06E-3	1.23E-3	1.56E-3	1.91E-3	2.33E-3	2.87E-3	75	1861.57	1.15E-2	1.28E-2	1.52E-2	1.86E-2	2.29E-2	2.88E-2
76	331.65	9.67E-4	1.12E-3	1.42E-3	1.74E-3	2.12E-3	2.63E-3	76	1964.96	1.11E-2	1.25E-2	1.48E-2	1.81E-2	2.24E-2	2.83E-2
77	338.97	8.81E-4	1.02E-3	1.29E-3	1.58E-3	1.94E-3	2.41E-3	77	2073.50	1.08E-2	1.23E-2	1.44E-2	1.77E-2	2.20E-2	2.78E-2
78	346.40	8.04E-4	9.29E-4	1.18E-3	1.45E-3	1.78E-3	2.21E-3	78	2187.39	1.06E-2	1.20E-2	1.41E-2	1.73E-2	2.15E-2	2.74E-2
79	353.98	7.35E-4	8.49E-4	1.08E-3	1.33E-3	1.63E-3	2.04E-3	79	2306.89	1.03E-2	1.17E-2	1.37E-2	1.69E-2	2.11E-2	2.69E-2
80	361.65	6.74E-4	7.78E-4	9.88E-4	1.22E-3	1.50E-3	1.88E-3	80	2432.20	1.01E-2	1.15E-2	1.34E-2	1.65E-2	2.06E-2	2.64E-2
81	369.45	6.19E-4	7.15E-4	9.07E-4	1.12E-3	1.38E-3	1.74E-3	81	2563.60	9.85E-3	1.12E-2	1.30E-2	1.61E-2	2.02E-2	2.59E-2
82	377.40	5.71E-4	6.58E-4	8.36E-4	1.03E-3	1.28E-3	1.61E-3	82	2701.39	9.65E-3	1.09E-2	1.27E-2	1.57E-2	1.97E-2	2.54E-2
83	385.49	5.23E-4	6.07E-4	7.71E-4	9.54E-4	1.18E-3	1.50E-3	83	2845.87	9.44E-3	1.06E-2	1.23E-2	1.52E-2	1.92E-2	2.49E-2
84	393.77	4.44E-4	5.66E-4	7.23E-4	8.91E-4	1.10E-3	1.40E-3	84	2997.35	8.85E-3	1.01E-2	1.23E-2	1.49E-2	1.87E-2	2.43E-2
85	402.15	4.12E-4	5.24E-4	6.71E-4	8.28E-4	1.03E-3	1.31E-3	85	3156.10	8.64E-3	9.78E-3	1.19E-2	1.45E-2	1.83E-2	2.38E-2
86	410.31	3.84E-4	4.87E-4	6.24E-4	7.72E-4	9.60E-4	1.23E-3	86	3322.04	8.44E-3	9.47E-3	1.16E-2	1.42E-2	1.79E-2	2.33E-2
87	418.91	3.58E-4	4.54E-4	5.82E-4	7.21E-4	8.99E-4	1.15E-3	87	3496.29	8.25E-3	9.18E-3	1.12E-2	1.38E-2	1.74E-2	2.28E-2
88	427.56	3.35E-4	4.25E-4	5.45E-4	6.75E-4	8.44E-4	1.09E-3	88	3678.76	8.06E-3	8.90E-3	1.09E-2	1.34E-2	1.70E-2	2.23E-2
89	436.38	3.14E-4	3.98E-4	5.11E-4	6.35E-4	7.95E-4	1.03E-3	89	3869.98	7.87E-3	8.62E-3	1.06E-2	1.31E-2	1.66E-2	2.18E-2</

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$E_4 - C_3$								$E_4 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	47.65	2.85E-2	3.28E-2	3.81E-2	4.39E-2	4.95E-2	5.49E-2	26	69.64	3.71E-1	4.19E-1	5.03E-1	5.85E-1	6.67E-1	7.45E-1
27	48.96	2.81E-2	3.24E-2	3.78E-2	4.37E-2	4.94E-2	5.47E-2	27	73.52	3.45E-1	3.90E-1	4.68E-1	5.44E-1	6.21E-1	6.94E-1
28	50.00	2.72E-2	3.15E-2	3.70E-2	4.27E-2	4.84E-2	5.36E-2	28	77.48	3.20E-1	3.62E-1	4.36E-1	5.08E-1	5.79E-1	6.48E-1
29	50.74	2.61E-2	3.02E-2	3.56E-2	4.12E-2	4.67E-2	5.18E-2	29	81.50	2.98E-1	3.37E-1	4.06E-1	4.73E-1	5.40E-1	6.05E-1
30	51.13	2.48E-2	2.86E-2	3.39E-2	3.93E-2	4.45E-2	4.94E-2	30	85.58	2.77E-1	3.14E-1	3.78E-1	4.41E-1	5.04E-1	5.65E-1
31	51.15	2.32E-2	2.60E-2	3.17E-2	3.71E-2	4.21E-2	4.67E-2	31	89.71	2.63E-1	2.96E-1	3.48E-1	4.09E-1	4.70E-1	5.27E-1
32	50.74	2.13E-2	2.42E-2	2.97E-2	3.48E-2	3.94E-2	4.37E-2	32	93.90	2.45E-1	2.76E-1	3.24E-1	3.82E-1	4.38E-1	4.93E-1
33	49.87	1.94E-2	2.24E-2	2.77E-2	3.23E-2	3.66E-2	4.07E-2	33	98.14	2.28E-1	2.56E-1	3.02E-1	3.56E-1	4.09E-1	4.60E-1
34	48.49	1.77E-2	2.07E-2	2.56E-2	2.99E-2	3.39E-2	3.77E-2	34	102.41	2.13E-1	2.38E-1	2.81E-1	3.32E-1	3.81E-1	4.29E-1
35	46.55	1.60E-2	1.91E-2	2.37E-2	2.77E-2	3.13E-2	3.48E-2	35	106.73	1.99E-1	2.22E-1	2.62E-1	3.09E-1	3.56E-1	4.01E-1
36	44.02	1.45E-2	1.77E-2	2.19E-2	2.55E-2	2.88E-2	3.20E-2	36	111.08	1.87E-1	2.06E-1	2.44E-1	2.88E-1	3.32E-1	3.75E-1
37	40.85	1.32E-2	1.63E-2	2.03E-2	2.36E-2	2.66E-2	2.95E-2	37	115.46	1.70E-1	1.92E-1	2.28E-1	2.69E-1	3.10E-1	3.50E-1
38	36.98	1.21E-2	1.52E-2	1.88E-2	2.18E-2	2.46E-2	2.73E-2	38	119.87	1.57E-1	1.79E-1	2.13E-1	2.51E-1	2.90E-1	3.28E-1
39	32.37	1.12E-2	1.43E-2	1.76E-2	2.03E-2	2.28E-2	2.54E-2	39	124.31	1.50E-1	1.67E-1	1.99E-1	2.35E-1	2.71E-1	3.07E-1
40	26.97	1.06E-2	1.35E-2	1.66E-2	1.91E-2	2.14E-2	2.37E-2	40	128.77	1.37E-1	1.56E-1	1.86E-1	2.19E-1	2.53E-1	2.88E-1
41	20.72	1.03E-2	1.31E-2	1.59E-2	1.81E-2	2.03E-2	2.24E-2	41	133.26	1.30E-1	1.46E-1	1.74E-1	2.05E-1	2.37E-1	2.70E-1
42	13.58	1.05E-2	1.31E-2	1.56E-2	1.77E-2	1.97E-2	2.17E-2	42	137.77	1.20E-1	1.36E-1	1.63E-1	1.93E-1	2.23E-1	2.54E-1
43	5.489	1.18E-2	1.43E-2	1.66E-2	1.85E-2	2.04E-2	2.24E-2	43	142.31	1.15E-1	1.27E-1	1.52E-1	1.81E-1	2.09E-1	2.39E-1
44	-3.611	1.17E-2	1.39E-2	1.60E-2	1.78E-2	1.95E-2	2.15E-2	44	146.88	1.08E-1	1.19E-1	1.43E-1	1.70E-1	1.97E-1	2.25E-1
45	-13.78	7.78E-3	9.70E-3	1.16E-2	1.31E-2	1.46E-2	1.62E-2	45	151.48	1.02E-1	1.12E-1	1.35E-1	1.60E-1	1.85E-1	2.12E-1
46	-25.07	6.03E-3	7.68E-3	9.34E-3	1.07E-2	1.20E-2	1.35E-2	46	156.11	9.21E-2	1.06E-1	1.27E-1	1.50E-1	1.75E-1	2.01E-1
47	-37.55	4.94E-3	6.34E-3	7.81E-3	9.04E-3	1.02E-2	1.15E-2	47	160.76	8.96E-2	9.69E-2	1.19E-1	1.42E-1	1.65E-1	1.90E-1
48	-51.29	4.21E-3	5.35E-3	6.65E-3	7.75E-3	8.83E-3	1.00E-2	48	165.45	8.05E-2	9.37E-2	1.13E-1	1.34E-1	1.56E-1	1.80E-1
49	-66.36	3.70E-3	4.59E-3	5.73E-3	6.73E-3	7.70E-3	8.77E-3	49	170.18	7.93E-2	8.85E-2	1.07E-1	1.27E-1	1.48E-1	1.71E-1
50	-82.81	3.31E-3	3.99E-3	4.99E-3	5.88E-3	6.77E-3	7.75E-3	50	174.93	7.50E-2	8.35E-2	1.01E-1	1.20E-1	1.40E-1	1.62E-1
51	-100.74	3.00E-3	3.51E-3	4.38E-3	5.19E-3	6.00E-3	6.89E-3	51	179.73	7.00E-2	7.94E-2	9.57E-2	1.14E-1	1.33E-1	1.54E-1
52	-120.21	2.74E-3	3.12E-3	3.87E-3	4.60E-3	5.34E-3	6.16E-3	52	184.57	6.59E-2	7.53E-2	9.09E-2	1.08E-1	1.27E-1	1.47E-1
53	-141.29	2.48E-3	2.79E-3	3.44E-3	4.09E-3	4.77E-3	5.53E-3	53	189.46	6.31E-2	7.14E-2	8.63E-2	1.03E-1	1.21E-1	1.41E-1
54	-164.09	2.24E-3	2.51E-3	3.07E-3	3.66E-3	4.29E-3	4.99E-3	54	194.38	6.02E-2	6.78E-2	8.21E-2	9.80E-2	1.15E-1	1.34E-1
55	-188.67	2.01E-3	2.27E-3	2.76E-3	3.29E-3	3.86E-3	4.52E-3	55	199.36	5.67E-2	6.46E-2	7.82E-2	9.34E-2	1.10E-1	1.28E-1
56	-215.14	1.82E-3	2.06E-3	2.49E-3	2.97E-3	3.50E-3	4.10E-3	56	204.38	5.43E-2	6.14E-2	7.45E-2	8.91E-2	1.05E-1	1.23E-1
57	-243.57	1.61E-3	1.80E-3	2.24E-3	2.69E-3	3.18E-3	3.74E-3	57	209.46	4.87E-2	5.65E-2	7.09E-2	8.53E-2	1.01E-1	1.18E-1
58	-274.07	1.49E-3	1.64E-3	2.02E-3	2.44E-3	2.90E-3	3.42E-3	58	214.59	4.64E-2	5.39E-2	6.77E-2	8.15E-2	9.62E-2	1.13E-1
59	-306.74	1.38E-3	1.50E-3	1.84E-3	2.22E-3	2.64E-3	3.14E-3	59	219.78	4.43E-2	5.15E-2	6.48E-2	7.80E-2	9.22E-2	1.09E-1
60	-341.69	1.28E-3	1.38E-3	1.68E-3	2.03E-3	2.42E-3	2.88E-3	60	225.03	4.24E-2	4.93E-2	6.20E-2	7.47E-2	8.85E-2	1.05E-1
61	-379.02	1.18E-3	1.28E-3	1.54E-3	1.86E-3	2.22E-3	2.65E-3	61	230.34	4.05E-2	4.72E-2	5.93E-2	7.16E-2	8.49E-2	1.01E-1
62	-418.86	1.08E-3	1.18E-3	1.41E-3	1.70E-3	2.04E-3	2.45E-3	62	235.70	3.88E-2	4.52E-2	5.69E-2	6.87E-2	8.16E-2	9.71E-2
63	-461.29	9.92E-4	1.09E-3	1.30E-3	1.56E-3	1.88E-3	2.27E-3	63	241.14	3.72E-2	4.33E-2	5.46E-2	6.59E-2	7.85E-2	9.36E-2
64	-506.48	9.10E-4	1.01E-3	1.20E-3	1.44E-3	1.74E-3	2.10E-3	64	246.63	3.57E-2	4.16E-2	5.24E-2	6.33E-2	7.55E-2	9.03E-2
65	-554.52	8.34E-4	9.40E-4	1.11E-3	1.33E-3	1.61E-3	1.95E-3	65	252.21	3.43E-2	3.99E-2	5.03E-2	6.09E-2	7.27E-2	8.72E-2
66	-605.57	7.66E-4	8.72E-4	1.02E-3	1.23E-3	1.49E-3	1.82E-3	66	257.84	3.29E-2	3.83E-2	4.83E-2	5.86E-2	7.01E-2	8.43E-2
67	-659.75	7.03E-4	8.10E-4	9.50E-4	1.14E-3	1.38E-3	1.69E-3	67	263.56	3.16E-2	3.68E-2	4.65E-2	5.64E-2	6.76E-2	8.15E-2
68	-717.21	6.39E-4	7.48E-4	8.84E-4	1.06E-3	1.29E-3	1.58E-3	68	269.35	3.04E-2	3.54E-2	4.47E-2	5.43E-2	6.52E-2	7.89E-2
69	-778.10	5.91E-4	6.93E-4	8.23E-4	9.86E-4	1.20E-3	1.48E-3	69	275.22	2.93E-2	3.41E-2	4.30E-2	5.23E-2	6.29E-2	7.63E-2
70	-842.60	5.50E-4	6.43E-4	7.67E-4	9.19E-4	1.12E-3	1.38E-3	70	281.15	2.82E-2	3.28E-2	4.15E-2	5.04E-2	6.08E-2	7.40E-2
71	-910.85	5.14E-4	5.97E-4	7.15E-4	8.57E-4	1.05E-3	1.30E-3	71	287.18	2.72E-2	3.16E-2	3.99E-2	4.86E-2	5.87E-2	7.17E-2
72	-983.04	4.81E-4	5.55E-4	6.68E-4	8.01E-4	9.80E-4	1.22E-3	72	293.27	2.62E-2	3.05E-2	3.85E-2	4.69E-2	5.68E-2	6.95E-2
73	-1059.33	4.52E-4	5.16E-4	6.24E-4	7.50E-4	9.19E-4	1.15E-3	73	299.46	2.52E-2	2.94E-2	3.71E-2	4.53E-2	5.49E-2	6.74E-2
74	-1139.92	4.25E-4	4.81E-4	5.84E-4	7.02E-4	8.62E-4	1.08E-3	74	305.72	2.43E-2	2.83E-2	3.58E-2	4.38E-2	5.32E-2	6.55E-2
75	-1225.00	4.00E-4	4.48E-4	5.47E-4	6.58E-4	8.09E-4	1.02E-3	75	312.08	2.35E-2	2.73E-2	3.46E-2	4.23E-2	5.15E-2	6.36E-2
76	-1314.81	3.78E-4	4.19E-4	5.12E-4	6.18E-4	7.61E-4	9.59E-4	76	318.49	2.27E-2	2.64E-2	3.34E-2	4.09E-2	4.99E-2	6.18E-2
77	-1409.52	3.56E-4	3.92E-4	4.79E-4	5.80E-4	7.17E-4	9.05E-4	77	325.02	2.19E-2	2.55E-2	3.23E-2	3.95E-2	4.83E-2	6.00E-2
78	-1509.38	3.36E-4	3.68E-4	4.49E-4	5.46E-4	6.75E-4	8.56E-4	78	331.61	2.10E-2	2.45E-2	3.12E-2	3.82E-2	4.68E-2	5.84E-2
79	-1614.60	3.17E-4	3.45E-4	4.22E-4	5.14E-4	6.37E-4	8.10E-4	79	338.31	2.03E-2	2.37E-2	3.01E-2	3.70E-2	4.54E-2	5.68E-2
80	-1725.49	2.98E-4	3.25E-4	3.96E-4	4.84E-4	6.01E-4	7.67E-4	80	345.05	1.96E-2	2.29E-2	2.91E-2	3.58E-2	4.40E-2	5.52E-2
81	-1842.28	2.77E-4	3.10E-4	3.70E-4	4.55E-4	5.68E-4	7.27E-4	81	351.86	1.89E-2	2.21E-2	2.81E-2	3.47E-2	4.27E-2	5.37E-2
82	-1965.23	2.62E-4	2.92E-4	3.48E-4	4.29E-4	5.38E-4	6.90E-4	82	358.76	1.83E-2	2.14E-2	2.72E-2	3.36E-2	4.15E-2	5.23E-2
83	-2094.61	2.47E-4	2.75E-4	3.28E-4	4.05E-4	5.09E-4	6.55E-4	83	365.77	1.77E-2	2.07E-2	2.63E-2	3.25E-2	4.03E-2	5.09E-2
84	-2230.70	2.26E-4	2.62E-4	3.13E-4	3.80E-4	4.78E-4	6.20E-4	84	372.88	1.59E-2	2.03E-2	2.58E-2	3.17E-2	3.93E-2	4.97E-2
85	-2373.89	2.13E-4	2.46E-4	2.96E-4	3.59E-4	4.53E-4	5.90E-4	85	380.05	1.54E-2	1.96E-2	2.50E-2	3.07E-2	3.81E-2	4.85E-2
86	-2524.83	2.02E-4	2.31E-4	2.81E-4	3.41E-4	4.30E-4	5.62E-4	86	386.90	1.49E-2	1.89E-2	2.42E-2	2.98E-2	3.70E-2	4.72E-2
87	-2683.23	1.92E-4	2.17E-4	2.66E-4	3.23E-4	4.09E-4	5.35E-4	87	394.15	1.44E-2	1.83E-2	2.34E-2	2.89E-2	3.60E-2	4.60E-2
88	-2849.85	1.83E-4	2.05E-4	2.51E-4	3.07E-4	3.88E-4	5.10E-4	88	401.35	1.40E-2	1.77E-2	2.27E-2	2.80E-2	3.50E-2	4.49E-2
89	-3024.95	1.75E-4	1.93E-4	2.38E-4	2.91E-4	3.69E-4	4.86E-4	89	408.66	1.35E-2	1.71E-2	2.19E-2	2.72E-2	3.40E-2	4.38E-2
90	-3209.18	1.67													

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - A_3$								$F_1 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	158.06	1.58E-3	1.27E-3	7.90E-4	4.00E-4	1.77E-4	7.56E-5	26	197.82	2.03E-5	1.64E-5	1.03E-5	5.30E-6	2.38E-6	1.03E-6
27	166.78	1.46E-3	1.17E-3	7.24E-4	3.67E-4	1.62E-4	6.90E-5	27	209.85	2.21E-5	1.78E-5	1.11E-5	5.72E-6	2.56E-6	1.11E-6
28	175.73	1.35E-3	1.08E-3	6.68E-4	3.38E-4	1.49E-4	6.36E-5	28	222.75	2.31E-5	1.86E-5	1.16E-5	5.96E-6	2.67E-6	1.15E-6
29	184.93	1.26E-3	1.01E-3	6.22E-4	3.15E-4	1.39E-4	5.91E-5	29	236.62	2.32E-5	1.86E-5	1.17E-5	5.98E-6	2.67E-6	1.16E-6
30	194.40	1.18E-3	9.47E-4	5.84E-4	2.95E-4	1.30E-4	5.53E-5	30	251.59	2.24E-5	1.80E-5	1.13E-5	5.76E-6	2.58E-6	1.11E-6
31	204.19	1.13E-3	8.97E-4	5.54E-4	2.79E-4	1.23E-4	5.24E-5	31	267.80	2.10E-5	1.68E-5	1.05E-5	5.37E-6	2.40E-6	1.04E-6
32	214.34	1.08E-3	8.56E-4	5.28E-4	2.66E-4	1.17E-4	4.99E-5	32	285.39	1.89E-5	1.51E-5	9.42E-6	4.82E-6	2.16E-6	9.31E-7
33	224.92	1.03E-3	8.22E-4	5.07E-4	2.55E-4	1.12E-4	4.78E-5	33	304.50	1.64E-5	1.31E-5	8.18E-6	4.18E-6	1.87E-6	8.08E-7
34	235.98	1.00E-3	7.95E-4	4.89E-4	2.46E-4	1.08E-4	4.61E-5	34	325.27	1.38E-5	1.10E-5	6.87E-6	3.52E-6	1.57E-6	6.80E-7
35	247.59	9.71E-4	7.71E-4	4.73E-4	2.38E-4	1.05E-4	4.45E-5	35	347.86	1.13E-5	9.03E-6	5.62E-6	2.88E-6	1.29E-6	5.56E-7
36	259.83	9.39E-4	7.45E-4	4.58E-4	2.31E-4	1.02E-4	4.32E-5	36	372.42	9.00E-6	7.19E-6	4.48E-6	2.29E-6	1.03E-6	4.44E-7
37	272.76	9.14E-4	7.25E-4	4.45E-4	2.24E-4	9.84E-5	4.19E-5	37	399.10	7.00E-6	5.61E-6	3.49E-6	1.79E-6	8.00E-7	3.46E-7
38	286.46	8.89E-4	7.05E-4	4.32E-4	2.18E-4	9.56E-5	4.06E-5	38	428.05	5.37E-6	4.30E-6	2.68E-6	1.37E-6	6.14E-7	2.65E-7
39	300.98	8.59E-4	6.82E-4	4.19E-4	2.11E-4	9.26E-5	3.94E-5	39	459.43	4.06E-6	3.24E-6	2.02E-6	1.04E-6	4.63E-7	2.01E-7
40	316.40	8.33E-4	6.61E-4	4.06E-4	2.04E-4	8.98E-5	3.82E-5	40	493.40	3.03E-6	2.42E-6	1.51E-6	7.73E-7	3.46E-7	1.50E-7
41	332.76	8.08E-4	6.41E-4	3.93E-4	1.98E-4	8.69E-5	3.70E-5	41	530.11	2.23E-6	1.79E-6	1.12E-6	5.72E-7	2.57E-7	1.11E-7
42	350.14	7.81E-4	6.19E-4	3.80E-4	1.91E-4	8.42E-5	3.59E-5	42	569.72	1.65E-6	1.32E-6	8.22E-7	4.22E-7	1.89E-7	8.22E-8
43	368.60	7.56E-4	5.99E-4	3.68E-4	1.85E-4	8.15E-5	3.47E-5	43	612.39	1.21E-6	9.67E-7	6.03E-7	3.10E-7	1.39E-7	6.04E-8
44	388.18	7.33E-4	5.80E-4	3.56E-4	1.79E-4	7.88E-5	3.36E-5	44	658.32	8.84E-7	7.08E-7	4.42E-7	2.27E-7	1.02E-7	4.43E-8
45	408.95	7.07E-4	5.60E-4	3.44E-4	1.73E-4	7.61E-5	3.24E-5	45	707.65	6.48E-7	5.19E-7	3.24E-7	1.67E-7	7.49E-8	3.25E-8
46	430.99	6.82E-4	5.40E-4	3.32E-4	1.67E-4	7.37E-5	3.14E-5	46	760.60	4.77E-7	3.81E-7	2.38E-7	1.22E-7	5.51E-8	2.40E-8
47	454.34	6.62E-4	5.23E-4	3.21E-4	1.62E-4	7.12E-5	3.03E-5	47	817.33	3.49E-7	2.80E-7	1.75E-7	9.01E-8	4.06E-8	1.76E-8
48	479.08	6.36E-4	5.04E-4	3.10E-4	1.56E-4	6.89E-5	2.93E-5	48	878.06	2.58E-7	2.07E-7	1.29E-7	6.65E-8	3.00E-8	1.30E-8
49	505.28	6.15E-4	4.87E-4	3.00E-4	1.51E-4	6.66E-5	2.84E-5	49	942.99	1.91E-7	1.53E-7	9.56E-8	4.92E-8	2.22E-8	9.68E-9
50	533.00	5.96E-4	4.73E-4	2.90E-4	1.46E-4	6.45E-5	2.75E-5	50	1012.33	1.41E-7	1.13E-7	7.09E-8	3.66E-8	1.65E-8	7.20E-9
51	562.34	5.76E-4	4.56E-4	2.80E-4	1.41E-4	6.24E-5	2.66E-5	51	1086.32	1.05E-7	8.46E-8	5.30E-8	2.73E-8	1.23E-8	5.37E-9
52	593.36	5.58E-4	4.41E-4	2.71E-4	1.37E-4	6.05E-5	2.57E-5	52	1165.18	7.89E-8	6.33E-8	3.97E-8	2.04E-8	9.25E-9	4.03E-9
53	626.15	5.37E-4	4.26E-4	2.62E-4	1.32E-4	5.85E-5	2.50E-5	53	1249.17	5.94E-8	4.75E-8	2.98E-8	1.54E-8	6.97E-9	3.04E-9
54	660.79	5.22E-4	4.13E-4	2.54E-4	1.28E-4	5.68E-5	2.42E-5	54	1338.52	4.47E-8	3.59E-8	2.25E-8	1.16E-8	5.26E-9	2.30E-9
55	697.38	5.06E-4	4.01E-4	2.47E-4	1.24E-4	5.50E-5	2.35E-5	55	1433.52	3.38E-8	2.72E-8	1.71E-8	8.82E-9	3.99E-9	1.75E-9
56	736.00	4.90E-4	3.88E-4	2.39E-4	1.21E-4	5.34E-5	2.28E-5	56	1534.43	2.57E-8	2.07E-8	1.30E-8	6.72E-9	3.05E-9	1.33E-9
57	776.75	4.72E-4	3.75E-4	2.31E-4	1.17E-4	5.17E-5	2.21E-5	57	1641.55	1.97E-8	1.58E-8	9.91E-9	5.14E-9	2.33E-9	1.02E-9
58	819.74	4.59E-4	3.64E-4	2.24E-4	1.14E-4	5.02E-5	2.15E-5	58	1755.16	1.51E-8	1.21E-8	7.61E-9	3.95E-9	1.79E-9	1.00E-9
59	865.07	4.44E-4	3.53E-4	2.18E-4	1.10E-4	4.88E-5	2.09E-5	59	1875.59	1.16E-8	9.32E-9	5.86E-9	3.05E-9	1.38E-9	1.00E-9
60	912.84	4.32E-4	3.43E-4	2.12E-4	1.07E-4	4.75E-5	2.03E-5	60	2003.14	8.98E-9	7.20E-9	4.54E-9	2.36E-9	1.07E-9	0.00E+0
61	963.17	4.19E-4	3.33E-4	2.06E-4	1.04E-4	4.62E-5	1.97E-5	61	2138.17	6.97E-9	5.59E-9	3.52E-9	1.83E-9	1.00E-9	0.00E+0
62	1016.17	4.07E-4	3.23E-4	2.00E-4	1.01E-4	4.49E-5	1.92E-5	62	2281.00	5.43E-9	4.35E-9	2.75E-9	1.43E-9	1.00E-9	0.00E+0
63	1071.97	3.96E-4	3.15E-4	1.95E-4	9.87E-5	4.37E-5	1.87E-5	63	2432.02	4.24E-9	3.40E-9	2.15E-9	1.12E-9	1.00E-9	0.00E+0
64	1130.69	3.84E-4	3.05E-4	1.89E-4	9.61E-5	4.26E-5	1.82E-5	64	2591.58	3.33E-9	2.67E-9	1.69E-9	1.00E-9	0.00E+0	0.00E+0
65	1192.48	3.74E-4	2.97E-4	1.84E-4	9.36E-5	4.15E-5	1.78E-5	65	2760.10	2.62E-9	2.10E-9	1.33E-9	1.00E-9	0.00E+0	0.00E+0
66	1257.46	3.64E-4	2.90E-4	1.79E-4	9.12E-5	4.05E-5	1.73E-5	66	2937.98	2.07E-9	1.66E-9	1.05E-9	1.00E-9	0.00E+0	0.00E+0
67	1325.79	3.54E-4	2.82E-4	1.75E-4	8.89E-5	3.95E-5	1.69E-5	67	3125.66	1.64E-9	1.31E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
68	1397.60	3.45E-4	2.75E-4	1.70E-4	8.67E-5	3.86E-5	1.65E-5	68	3323.56	1.30E-9	1.05E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
69	1473.07	3.36E-4	2.68E-4	1.66E-4	8.46E-5	3.76E-5	1.61E-5	69	3532.17	1.04E-9	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0
70	1552.32	3.28E-4	2.61E-4	1.62E-4	8.27E-5	3.68E-5	1.57E-5	70	3751.94	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
71	1635.57	3.20E-4	2.55E-4	1.58E-4	8.08E-5	3.59E-5	1.54E-5	71	3983.41	1.00E-9	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0
72	1722.95	3.11E-4	2.48E-4	1.54E-4	7.89E-5	3.51E-5	1.50E-5	72	4227.07	1.00E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
73	1814.68	3.04E-4	2.42E-4	1.51E-4	7.72E-5	3.43E-5	1.47E-5	73	4483.50	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
74	1910.93	2.97E-4	2.37E-4	1.48E-4	7.55E-5	3.36E-5	1.44E-5	74	4753.26	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
75	2011.92	2.90E-4	2.31E-4	1.44E-4	7.39E-5	3.29E-5	1.41E-5	75	5036.94	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
76	2117.81	2.83E-4	2.26E-4	1.41E-4	7.23E-5	3.22E-5	1.38E-5	76	5335.15	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
77	2228.89	2.77E-4	2.21E-4	1.38E-4	7.08E-5	3.16E-5	1.35E-5	77	5648.60	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
78	2345.33	2.70E-4	2.17E-4	1.35E-4	6.94E-5	3.09E-5	1.33E-5	78	5977.91	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
79	2467.40	2.64E-4	2.12E-4	1.33E-4	6.80E-5	3.03E-5	1.30E-5	79	6323.84	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
80	2595.30	2.58E-4	2.07E-4	1.30E-4	6.67E-5	2.97E-5	1.27E-5	80	6687.07	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
81	2729.31	2.53E-4	2.03E-4	1.27E-4	6.54E-5	2.92E-5	1.25E-5	81	7068.42	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
82	2869.74	2.48E-4	1.99E-4	1.25E-4	6.42E-5	2.87E-5	1.23E-5	82	7468.74	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
83	3016.86	2.43E-4	1.95E-4	1.22E-4	6.30E-5	2.81E-5	1.21E-5	83	7888.88	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
84	3171.01	2.38E-4	1.91E-4	1.20E-4	6.19E-5	2.76E-5	1.18E-5	84	8329.79	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
85	3332.43	2.33E-4	1.87E-4	1.18E-4	6.08E-5	2.72E-5	1.16E-5	85	8792.32	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
86	3501.06	2.29E-4	1.83E-4	1.16E-4	5.98E-5	2.67E-5	1.14E-5	86	9277.02	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
87	3678.01	2.24E-4	1.80E-4	1.13E-4	5.87E-5	2.63E-5	1.13E-5	87	9785.84	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
88	3863.19	2.20E-4	1.77E-4	1.12E-4	5.78E-5	2.59E-5	1.11E-5	88	10319.3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
89	4057.13	2.16E-4	1.73E-4	1.10E-4	5.68E-5	2.54E-5	1.09E-5	89	10878.8	0.00E+0	0.00				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_2 - A_3$								$F_2 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	120.32	7.49E-4	5.98E-4	3.68E-4	1.85E-4	8.10E-5	3.43E-5	26	160.08	1.81E-4	1.45E-4	8.96E-5	4.50E-5	1.97E-5	8.34E-6
27	127.67	6.63E-4	5.28E-4	3.26E-4	1.64E-4	7.15E-5	3.03E-5	27	170.75	1.77E-4	1.41E-4	8.69E-5	4.37E-5	1.91E-5	8.09E-6
28	135.22	5.91E-4	4.70E-4	2.89E-4	1.45E-4	6.34E-5	2.68E-5	28	182.24	1.69E-4	1.34E-4	8.28E-5	4.16E-5	1.82E-5	7.72E-6
29	142.93	5.27E-4	4.19E-4	2.57E-4	1.29E-4	5.63E-5	2.38E-5	29	194.62	1.59E-4	1.26E-4	7.78E-5	3.91E-5	1.71E-5	7.26E-6
30	150.79	4.70E-4	3.73E-4	2.28E-4	1.14E-4	4.97E-5	2.10E-5	30	207.98	1.47E-4	1.17E-4	7.22E-5	3.63E-5	1.59E-5	6.75E-6
31	158.76	4.13E-4	3.28E-4	2.01E-4	1.01E-4	4.38E-5	1.85E-5	31	222.37	1.36E-4	1.08E-4	6.65E-5	3.35E-5	1.47E-5	6.23E-6
32	166.82	3.62E-4	2.87E-4	1.76E-4	8.78E-5	3.83E-5	1.61E-5	32	237.87	1.24E-4	9.88E-5	6.08E-5	3.06E-5	1.34E-5	5.71E-6
33	174.95	3.13E-4	2.48E-4	1.52E-4	7.59E-5	3.31E-5	1.40E-5	33	254.53	1.13E-4	8.98E-5	5.53E-5	2.79E-5	1.22E-5	5.21E-6
34	183.12	2.70E-4	2.13E-4	1.30E-4	6.50E-5	2.83E-5	1.20E-5	34	272.41	1.02E-4	8.14E-5	5.01E-5	2.52E-5	1.11E-5	4.73E-6
35	191.30	2.29E-4	1.81E-4	1.10E-4	5.51E-5	2.40E-5	1.01E-5	35	291.57	9.23E-5	7.34E-5	4.52E-5	2.28E-5	1.00E-5	4.26E-6
36	199.49	1.91E-4	1.51E-4	9.24E-5	4.61E-5	2.01E-5	8.48E-6	36	312.08	8.28E-5	6.57E-5	4.05E-5	2.04E-5	9.00E-6	3.84E-6
37	207.65	1.60E-4	1.26E-4	7.68E-5	3.83E-5	1.67E-5	7.05E-6	37	333.99	7.39E-5	5.88E-5	3.61E-5	1.82E-5	8.04E-6	3.43E-6
38	215.79	1.32E-4	1.04E-4	6.35E-5	3.17E-5	1.38E-5	5.80E-6	38	357.39	6.58E-5	5.23E-5	3.22E-5	1.63E-5	7.17E-6	3.06E-6
39	223.90	1.08E-4	8.51E-5	5.19E-5	2.59E-5	1.13E-5	4.76E-6	39	382.35	5.82E-5	4.62E-5	2.85E-5	1.44E-5	6.35E-6	2.71E-6
40	231.97	8.80E-5	6.95E-5	4.24E-5	2.12E-5	9.22E-6	3.89E-6	40	408.97	5.14E-5	4.08E-5	2.51E-5	1.27E-5	5.61E-6	2.40E-6
41	240.00	7.22E-5	5.68E-5	3.46E-5	1.72E-5	7.51E-6	3.17E-6	41	437.34	4.51E-5	3.59E-5	2.21E-5	1.12E-5	4.94E-6	2.11E-6
42	248.01	5.85E-5	4.62E-5	2.82E-5	1.40E-5	6.12E-6	2.58E-6	42	467.58	3.96E-5	3.15E-5	1.94E-5	9.82E-6	4.34E-6	1.86E-6
43	255.99	4.76E-5	3.76E-5	2.29E-5	1.15E-5	4.99E-6	2.11E-6	43	499.79	3.47E-5	2.75E-5	1.70E-5	8.60E-6	3.80E-6	1.63E-6
44	263.96	3.92E-5	3.08E-5	1.87E-5	9.35E-6	4.07E-6	1.72E-6	44	534.10	3.03E-5	2.41E-5	1.48E-5	7.52E-6	3.32E-6	1.42E-6
45	271.93	3.20E-5	2.52E-5	1.53E-5	7.64E-6	3.33E-6	1.40E-6	45	570.63	2.64E-5	2.10E-5	1.29E-5	6.56E-6	2.90E-6	1.24E-6
46	279.89	2.61E-5	2.06E-5	1.26E-5	6.27E-6	2.73E-6	1.15E-6	46	609.50	2.31E-5	1.83E-5	1.13E-5	5.72E-6	2.53E-6	1.09E-6
47	287.87	2.16E-5	1.70E-5	1.03E-5	5.16E-6	2.25E-6	9.50E-7	47	650.86	2.01E-5	1.59E-5	9.84E-6	4.99E-6	2.21E-6	9.47E-7
48	295.86	1.77E-5	1.40E-5	8.55E-6	4.27E-6	1.86E-6	7.85E-7	48	694.84	1.75E-5	1.39E-5	8.58E-6	4.35E-6	1.93E-6	8.27E-7
49	303.88	1.47E-5	1.16E-5	7.09E-6	3.54E-6	1.54E-6	6.52E-7	49	741.59	1.52E-5	1.21E-5	7.47E-6	3.79E-6	1.68E-6	7.21E-7
50	311.93	1.23E-5	9.71E-6	5.91E-6	2.95E-6	1.29E-6	5.43E-7	50	791.26	1.32E-5	1.06E-5	6.52E-6	3.31E-6	1.47E-6	6.30E-7
51	320.02	1.03E-5	8.07E-6	4.93E-6	2.47E-6	1.08E-6	4.54E-7	51	844.00	1.16E-5	9.21E-6	5.68E-6	2.88E-6	1.28E-6	5.49E-7
52	328.16	8.61E-6	6.78E-6	4.13E-6	2.07E-6	9.04E-7	3.80E-7	52	899.98	1.01E-5	8.04E-6	4.97E-6	2.52E-6	1.12E-6	4.79E-7
53	336.36	7.22E-6	5.70E-6	3.48E-6	1.74E-6	7.60E-7	3.21E-7	53	959.38	8.80E-6	7.00E-6	4.33E-6	2.20E-6	9.78E-7	4.20E-7
54	344.62	6.12E-6	4.82E-6	2.94E-6	1.47E-6	6.44E-7	2.71E-7	54	1022.34	7.69E-6	6.13E-6	3.79E-6	1.92E-6	8.56E-7	3.67E-7
55	352.94	5.19E-6	4.09E-6	2.50E-6	1.25E-6	5.46E-7	2.31E-7	55	1089.08	6.71E-6	5.36E-6	3.32E-6	1.68E-6	7.49E-7	3.22E-7
56	361.32	4.41E-6	3.47E-6	2.12E-6	1.06E-6	4.65E-7	1.96E-7	56	1159.76	5.88E-6	4.69E-6	2.90E-6	1.48E-6	6.58E-7	2.82E-7
57	369.79	3.75E-6	2.96E-6	1.81E-6	9.07E-7	3.96E-7	1.68E-7	57	1234.59	5.16E-6	4.10E-6	2.54E-6	1.30E-6	5.77E-7	2.48E-7
58	378.34	3.21E-6	2.54E-6	1.55E-6	7.79E-7	3.39E-7	1.44E-7	58	1313.76	4.52E-6	3.60E-6	2.23E-6	1.14E-6	5.06E-7	2.18E-7
59	386.98	2.76E-6	2.18E-6	1.33E-6	6.68E-7	2.92E-7	1.23E-7	59	1397.50	3.97E-6	3.16E-6	1.96E-6	1.00E-6	4.46E-7	1.92E-7
60	395.70	2.38E-6	1.88E-6	1.15E-6	5.76E-7	2.52E-7	1.07E-7	60	1486.00	3.49E-6	2.78E-6	1.73E-6	8.81E-7	3.93E-7	1.69E-7
61	404.52	2.05E-6	1.62E-6	9.93E-7	4.98E-7	2.18E-7	9.21E-8	61	1579.52	3.08E-6	2.45E-6	1.52E-6	7.77E-7	3.46E-7	1.49E-7
62	413.42	1.78E-6	1.41E-6	8.61E-7	4.32E-7	1.89E-7	7.99E-8	62	1678.25	2.71E-6	2.16E-6	1.34E-6	6.86E-7	3.06E-7	1.32E-7
63	422.44	1.55E-6	1.22E-6	7.48E-7	3.75E-7	1.64E-7	6.95E-8	63	1782.49	2.39E-6	1.91E-6	1.19E-6	6.07E-7	2.70E-7	1.16E-7
64	431.55	1.34E-6	1.06E-6	6.51E-7	3.27E-7	1.43E-7	6.06E-8	64	1892.44	2.12E-6	1.68E-6	1.05E-6	5.37E-7	2.40E-7	1.03E-7
65	440.79	1.17E-6	9.27E-7	5.69E-7	2.86E-7	1.25E-7	5.29E-8	65	2008.41	1.87E-6	1.49E-6	9.29E-7	4.76E-7	2.13E-7	9.15E-8
66	450.13	1.03E-6	8.11E-7	4.98E-7	2.50E-7	1.10E-7	4.64E-8	66	2130.65	1.65E-6	1.32E-6	8.25E-7	4.22E-7	1.89E-7	8.12E-8
67	459.59	8.98E-7	7.11E-7	4.37E-7	2.20E-7	9.62E-8	4.07E-8	67	2259.46	1.47E-6	1.17E-6	7.31E-7	3.75E-7	1.68E-7	7.22E-8
68	469.18	7.90E-7	6.25E-7	3.84E-7	1.93E-7	8.47E-8	3.58E-8	68	2395.14	1.30E-6	1.04E-6	6.50E-7	3.34E-7	1.49E-7	6.42E-8
69	478.89	6.95E-7	5.50E-7	3.38E-7	1.70E-7	7.46E-8	3.16E-8	69	2538.00	1.16E-6	9.26E-7	5.79E-7	2.97E-7	1.33E-7	5.73E-8
70	488.72	6.12E-7	4.85E-7	2.98E-7	1.51E-7	6.59E-8	2.79E-8	70	2688.34	1.03E-6	8.25E-7	5.16E-7	2.65E-7	1.19E-7	5.10E-8
71	498.70	5.41E-7	4.29E-7	2.64E-7	1.33E-7	5.84E-8	2.47E-8	71	2846.54	9.19E-7	7.35E-7	4.60E-7	2.37E-7	1.06E-7	4.57E-8
72	508.80	4.79E-7	3.80E-7	2.34E-7	1.18E-7	5.17E-8	2.19E-8	72	3012.92	8.21E-7	6.56E-7	4.11E-7	2.12E-7	9.49E-8	4.09E-8
73	519.04	4.25E-7	3.37E-7	2.08E-7	1.05E-7	4.60E-8	1.94E-8	73	3187.86	7.33E-7	5.86E-7	3.67E-7	1.89E-7	8.49E-8	3.66E-8
74	529.43	3.77E-7	3.00E-7	1.85E-7	9.32E-8	4.09E-8	1.73E-8	74	3371.75	6.56E-7	5.24E-7	3.29E-7	1.70E-7	7.62E-8	3.28E-8
75	539.96	3.36E-7	2.67E-7	1.64E-7	8.31E-8	3.65E-8	1.54E-8	75	3564.99	5.87E-7	4.70E-7	2.95E-7	1.52E-7	6.84E-8	2.95E-8
76	550.62	2.99E-7	2.38E-7	1.47E-7	7.41E-8	3.26E-8	1.38E-8	76	3767.96	5.26E-7	4.21E-7	2.65E-7	1.37E-7	6.14E-8	2.65E-8
77	561.46	2.67E-7	2.12E-7	1.31E-7	6.63E-8	2.91E-8	1.23E-8	77	3981.17	4.72E-7	3.78E-7	2.38E-7	1.23E-7	5.53E-8	2.38E-8
78	572.43	2.39E-7	1.90E-7	1.17E-7	5.93E-8	2.61E-8	1.10E-8	78	4205.01	4.23E-7	3.39E-7	2.14E-7	1.11E-7	4.97E-8	2.14E-8
79	583.57	2.14E-7	1.70E-7	1.05E-7	5.32E-8	2.34E-8	9.89E-9	79	4440.02	3.81E-7	3.05E-7	1.92E-7	9.97E-8	4.48E-8	1.93E-8
80	594.84	1.92E-7	1.53E-7	9.44E-8	4.78E-8	2.10E-8	8.88E-9	80	4686.62	3.43E-7	2.74E-7	1.73E-7	9.00E-8	4.05E-8	1.74E-8
81	606.26	1.72E-7	1.37E-7	8.48E-8	4.30E-8	1.89E-8	7.99E-9	81	4945.37	3.08E-7	2.47E-7	1.56E-7	8.11E-8	3.66E-8	1.58E-8
82	617.84	1.55E-7	1.23E-7	7.64E-8	3.87E-8	1.70E-8	7.20E-9	82	5216.84	2.78E-7	2.23E-7	1.41E-7	7.34E-8	3.31E-8	1.43E-8
83	629.61	1.39E-7	1.11E-7	6.88E-8	3.49E-8	1.53E-8	6.49E-9	83	5501.63	2.51E-7	2.01E-7	1.27E-7	6.64E-8	2.99E-8	1.29E-8
84	641.58	1.26E-7	1.00E-7	6.21E-8	3.15E-8	1.39E-8	5.86E-9	84	5800.36	2.27E-7	1.82E-7	1.15E-7	6.01E-8	2.71E-8	1.17E-8
85	653.68	1.13E-7	9.03E-8	5.61E-8	2.85E-8	1.25E-8	5.30E-9	85	6113.57	2.05E-7	1.64E-7	1.04E-7	5.44E-8	2.46E-8	1.06E-8
86	665.59	1.02E-7	8.16E-8	5.07E-8	2.58E-8	1.13E-8	4.79E-9	86	6441.54	1.85E-7	1.49E-7	9.45E-8	4.94E-8	2.23E-8	9.64E-9
87	677.96	9.25E-8	7.38E-8	4.59E-8	2.34E-8	1.03E-8	4.34E-9	87	6785.78	1.67E-7	1.35E-7	8.57E-8	4.49E-8	2.03E-8	8.76E-9
88	690.40	8.38E-8	6.68E-8	4.16E-8	2.12E-8	9.32E-9	3.94E-9	88	7146.54	1.52E-7	1.22E-7	7.77E-8	4.08E-8	1.84E-8	7.96E-9
89	703.05	7.58E-8	6.05E-8	3.77E-8	1.92E-8	8.47E-9	3.57E-9	89	7524.76	1.38E-7	1.11E-7	7.06E-8	3.70E-8		

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_3 - A_3$								$F_3 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	99.83	2.60E-4	2.10E-4	1.33E-4	6.90E-5	3.12E-5	1.37E-5	26	139.59	3.15E-3	2.53E-3	1.56E-3	7.88E-4	3.46E-4	1.47E-4
27	104.78	1.79E-4	1.45E-4	9.21E-5	4.78E-5	2.17E-5	9.50E-6	27	147.86	2.81E-3	2.25E-3	1.39E-3	7.01E-4	3.08E-4	1.31E-4
28	109.68	1.17E-4	9.52E-5	6.03E-5	3.13E-5	1.42E-5	6.25E-6	28	156.70	2.49E-3	1.98E-3	1.23E-3	6.19E-4	2.72E-4	1.16E-4
29	114.52	7.22E-5	5.84E-5	3.70E-5	1.92E-5	8.74E-6	3.84E-6	29	166.21	2.18E-3	1.73E-3	1.07E-3	5.40E-4	2.38E-4	1.01E-4
30	119.30	4.13E-5	3.34E-5	2.11E-5	1.09E-5	4.97E-6	2.18E-6	30	176.48	1.88E-3	1.50E-3	9.22E-4	4.65E-4	2.04E-4	8.70E-5
31	124.03	2.20E-5	1.77E-5	1.11E-5	5.73E-6	2.58E-6	1.13E-6	31	187.64	1.60E-3	1.27E-3	7.84E-4	3.95E-4	1.74E-4	7.40E-5
32	128.73	1.16E-5	9.20E-6	5.65E-6	2.83E-6	1.24E-6	5.26E-7	32	199.77	1.34E-3	1.06E-3	6.55E-4	3.30E-4	1.46E-4	6.20E-5
33	133.42	7.13E-6	5.51E-6	3.23E-6	1.53E-6	6.23E-7	2.44E-7	33	213.00	1.10E-3	8.75E-4	5.39E-4	2.72E-4	1.20E-4	5.11E-5
34	138.12	6.30E-6	4.75E-6	2.67E-6	1.20E-6	4.53E-7	1.61E-7	34	227.42	8.95E-4	7.12E-4	4.38E-4	2.21E-4	9.74E-5	4.15E-5
35	142.86	7.23E-6	5.45E-6	3.06E-6	1.37E-6	5.17E-7	1.83E-7	35	243.13	7.21E-4	5.73E-4	3.52E-4	1.78E-4	7.83E-5	3.33E-5
36	147.65	8.69E-6	6.62E-6	3.79E-6	1.73E-6	6.73E-7	2.49E-7	36	260.24	5.72E-4	4.55E-4	2.80E-4	1.41E-4	6.23E-5	2.66E-5
37	152.49	1.02E-5	7.80E-6	4.50E-6	2.10E-6	8.38E-7	3.22E-7	37	278.83	4.54E-4	3.61E-4	2.22E-4	1.12E-4	4.94E-5	2.11E-5
38	157.41	1.12E-5	8.62E-6	5.04E-6	2.38E-6	9.68E-7	3.79E-7	38	299.00	3.59E-4	2.85E-4	1.76E-4	8.86E-5	3.91E-5	1.67E-5
39	162.38	1.16E-5	9.00E-6	5.31E-6	2.53E-6	1.05E-6	4.17E-7	39	320.83	3.82E-4	2.25E-4	1.38E-4	6.99E-5	3.08E-5	1.32E-5
40	167.44	1.17E-5	9.07E-6	5.38E-6	2.59E-6	1.08E-6	4.34E-7	40	344.44	2.24E-4	1.78E-4	1.09E-4	5.53E-5	2.44E-5	1.04E-5
41	172.55	1.15E-5	8.89E-6	5.27E-6	2.55E-6	1.07E-6	4.34E-7	41	369.89	1.77E-4	1.41E-4	8.67E-5	4.38E-5	1.93E-5	8.27E-6
42	177.74	1.08E-5	8.43E-6	5.04E-6	2.45E-6	1.03E-6	4.22E-7	42	397.31	1.41E-4	1.12E-4	6.90E-5	3.49E-5	1.54E-5	6.59E-6
43	183.00	1.01E-5	7.88E-6	4.72E-6	2.30E-6	9.76E-7	4.00E-7	43	426.80	1.13E-4	8.95E-5	5.52E-5	2.79E-5	1.23E-5	5.28E-6
44	188.33	9.36E-6	7.30E-6	4.37E-6	2.13E-6	9.08E-7	3.74E-7	44	458.46	9.06E-5	7.20E-5	4.43E-5	2.24E-5	9.91E-6	4.24E-6
45	193.72	8.53E-6	6.65E-6	3.98E-6	1.95E-6	8.32E-7	3.43E-7	45	492.42	7.30E-5	5.81E-5	3.58E-5	1.81E-5	8.00E-6	3.42E-6
46	199.19	7.64E-6	5.99E-6	3.61E-6	1.77E-6	7.58E-7	3.14E-7	46	528.79	5.93E-5	4.71E-5	2.90E-5	1.47E-5	6.51E-6	2.79E-6
47	204.72	6.91E-6	5.40E-6	3.24E-6	1.59E-6	6.84E-7	2.84E-7	47	567.71	4.85E-5	3.84E-5	2.37E-5	1.20E-5	5.31E-6	2.27E-6
48	210.32	6.13E-6	4.81E-6	2.90E-6	1.43E-6	6.15E-7	2.55E-7	48	609.30	3.96E-5	3.14E-5	1.94E-5	9.84E-6	4.36E-6	1.87E-6
49	216.00	5.46E-6	4.28E-6	2.59E-6	1.28E-6	5.50E-7	2.29E-7	49	653.70	3.26E-5	2.59E-5	1.60E-5	8.11E-6	3.59E-6	1.54E-6
50	221.74	4.88E-6	3.82E-6	2.31E-6	1.14E-6	4.91E-7	2.05E-7	50	701.07	2.70E-5	2.15E-5	1.32E-5	6.72E-6	2.98E-6	1.28E-6
51	227.56	4.30E-6	3.37E-6	2.04E-6	1.01E-6	4.36E-7	1.82E-7	51	751.54	2.25E-5	1.78E-5	1.10E-5	5.58E-6	2.48E-6	1.06E-6
52	233.46	3.80E-6	2.99E-6	1.81E-6	8.96E-7	3.88E-7	1.62E-7	52	805.28	1.87E-5	1.49E-5	9.20E-6	4.66E-6	2.07E-6	8.86E-7
53	239.44	3.36E-6	2.64E-6	1.60E-6	7.95E-7	3.44E-7	1.44E-7	53	862.45	1.57E-5	1.24E-5	7.70E-6	3.91E-6	1.74E-6	7.45E-7
54	245.50	2.97E-6	2.34E-6	1.42E-6	7.04E-7	3.05E-7	1.27E-7	54	923.23	1.32E-5	1.05E-5	6.49E-6	3.29E-6	1.46E-6	6.27E-7
55	251.64	2.63E-6	2.07E-6	1.26E-6	6.23E-7	2.70E-7	1.13E-7	55	987.78	1.11E-5	8.88E-6	5.49E-6	2.78E-6	1.24E-6	5.31E-7
56	257.87	2.32E-6	1.83E-6	1.11E-6	5.53E-7	2.40E-7	1.00E-7	56	1056.30	9.44E-6	7.52E-6	4.65E-6	2.36E-6	1.05E-6	4.50E-7
57	264.18	2.05E-6	1.62E-6	9.83E-7	4.89E-7	2.12E-7	8.91E-8	57	1128.98	8.02E-6	6.38E-6	3.95E-6	2.01E-6	8.94E-7	3.84E-7
58	270.59	1.81E-6	1.43E-6	8.71E-7	4.34E-7	1.88E-7	7.91E-8	58	1206.02	6.85E-6	5.45E-6	3.37E-6	1.72E-6	7.64E-7	3.29E-7
59	277.10	1.61E-6	1.27E-6	7.72E-7	3.84E-7	1.67E-7	7.02E-8	59	1287.62	5.86E-6	4.66E-6	2.89E-6	1.47E-6	6.55E-7	2.82E-7
60	283.70	1.42E-6	1.12E-6	6.84E-7	3.41E-7	1.48E-7	6.24E-8	60	1374.00	5.02E-6	4.01E-6	2.49E-6	1.27E-6	5.63E-7	2.42E-7
61	290.40	1.26E-6	9.95E-7	6.07E-7	3.03E-7	1.32E-7	5.55E-8	61	1465.40	4.33E-6	3.45E-6	2.14E-6	1.09E-6	4.86E-7	2.09E-7
62	297.19	1.12E-6	8.83E-7	5.39E-7	2.69E-7	1.17E-7	4.94E-8	62	1562.02	3.74E-6	2.97E-6	1.85E-6	9.44E-7	4.21E-7	1.81E-7
63	304.10	9.95E-7	7.85E-7	4.79E-7	2.39E-7	1.04E-7	4.40E-8	63	1664.14	3.23E-6	2.58E-6	1.60E-6	8.18E-7	3.65E-7	1.57E-7
64	311.10	8.84E-7	6.98E-7	4.27E-7	2.13E-7	9.30E-8	3.92E-8	64	1771.99	2.81E-6	2.24E-6	1.39E-6	7.11E-7	3.17E-7	1.36E-7
65	318.23	7.86E-7	6.21E-7	3.80E-7	1.90E-7	8.29E-8	3.49E-8	65	1885.85	2.44E-6	1.94E-6	1.21E-6	6.19E-7	2.77E-7	1.19E-7
66	325.46	7.01E-7	5.53E-7	3.39E-7	1.70E-7	7.40E-8	3.12E-8	66	2005.98	2.12E-6	1.70E-6	1.06E-6	5.41E-7	2.41E-7	1.04E-7
67	332.81	6.25E-7	4.94E-7	3.02E-7	1.52E-7	6.61E-8	2.79E-8	67	2132.69	1.86E-6	1.48E-6	9.24E-7	4.73E-7	2.12E-7	9.10E-8
68	340.29	5.57E-7	4.41E-7	2.70E-7	1.35E-7	5.92E-8	2.49E-8	68	2266.25	1.62E-6	1.30E-6	8.10E-7	4.15E-7	1.86E-7	7.99E-8
69	347.89	4.98E-7	3.94E-7	2.42E-7	1.21E-7	5.30E-8	2.24E-8	69	2407.00	1.42E-6	1.14E-6	7.12E-7	3.65E-7	1.63E-7	7.03E-8
70	355.60	4.45E-7	3.53E-7	2.16E-7	1.09E-7	4.75E-8	2.00E-8	70	2555.22	1.25E-6	1.00E-6	6.26E-7	3.22E-7	1.44E-7	6.19E-8
71	363.46	3.99E-7	3.16E-7	1.94E-7	9.75E-8	4.27E-8	1.80E-8	71	2711.30	1.10E-6	8.83E-7	5.52E-7	2.84E-7	1.27E-7	5.47E-8
72	371.43	3.58E-7	2.83E-7	1.74E-7	8.75E-8	3.83E-8	1.61E-8	72	2875.55	9.75E-7	7.79E-7	4.87E-7	2.51E-7	1.12E-7	4.84E-8
73	379.55	3.21E-7	2.54E-7	1.56E-7	7.87E-8	3.44E-8	1.45E-8	73	3048.37	8.62E-7	6.89E-7	4.31E-7	2.22E-7	9.96E-8	4.29E-8
74	387.80	2.88E-7	2.28E-7	1.41E-7	7.08E-8	3.10E-8	1.31E-8	74	3230.12	7.63E-7	6.10E-7	3.82E-7	1.97E-7	8.84E-8	3.81E-8
75	396.19	2.59E-7	2.06E-7	1.27E-7	6.37E-8	2.79E-8	1.18E-8	75	3421.22	6.77E-7	5.41E-7	3.39E-7	1.75E-7	7.87E-8	3.39E-8
76	404.70	2.33E-7	1.85E-7	1.14E-7	5.75E-8	2.52E-8	1.06E-8	76	3622.05	6.01E-7	4.81E-7	3.02E-7	1.56E-7	7.00E-8	3.02E-8
77	413.38	2.10E-7	1.67E-7	1.03E-7	5.19E-8	2.27E-8	9.59E-9	77	3833.10	5.34E-7	4.28E-7	2.69E-7	1.39E-7	6.25E-8	2.69E-8
78	422.20	1.89E-7	1.50E-7	9.27E-8	4.68E-8	2.06E-8	8.67E-9	78	4054.78	4.76E-7	3.81E-7	2.40E-7	1.24E-7	5.58E-8	2.41E-8
79	431.17	1.71E-7	1.36E-7	8.38E-8	4.23E-8	1.86E-8	7.84E-9	79	4287.61	4.25E-7	3.40E-7	2.14E-7	1.11E-7	4.99E-8	2.15E-8
80	440.26	1.54E-7	1.23E-7	7.58E-8	3.83E-8	1.68E-8	7.09E-9	80	4532.03	3.79E-7	3.03E-7	1.92E-7	9.95E-8	4.47E-8	1.93E-8
81	449.49	1.39E-7	1.11E-7	6.86E-8	3.48E-8	1.53E-8	6.43E-9	81	4788.60	3.39E-7	2.72E-7	1.72E-7	8.91E-8	4.01E-8	1.73E-8
82	458.88	1.26E-7	1.01E-7	6.22E-8	3.15E-8	1.38E-8	5.83E-9	82	5057.88	3.03E-7	2.44E-7	1.54E-7	8.00E-8	3.61E-8	1.56E-8
83	468.44	1.14E-7	9.10E-8	5.64E-8	2.86E-8	1.25E-8	5.29E-9	83	5340.45	2.72E-7	2.19E-7	1.38E-7	7.20E-8	3.24E-8	1.40E-8
84	478.19	1.04E-7	8.25E-8	5.12E-8	2.59E-8	1.14E-8	4.81E-9	84	5636.97	2.44E-7	1.96E-7	1.24E-7	6.48E-8	2.92E-8	1.26E-8
85	488.07	9.40E-8	7.49E-8	4.65E-8	2.36E-8	1.04E-8	4.37E-9	85	5947.96	2.19E-7	1.76E-7	1.12E-7	5.83E-8	2.63E-8	1.14E-8
86	497.73	8.54E-8	6.80E-8	4.23E-8	2.15E-8	9.42E-9	3.98E-9	86	6273.69	1.97E-7	1.59E-7	1.01E-7	5.26E-8	2.38E-8	1.03E-8
87	507.86	7.76E-8	6.18E-8	3.84E-8	1.95E-8	8.58E-9	3.62E-9	87	6615.68	1.77E-7	1.43E-7	9.08E-8	4.75E-8	2.15E-8	9.26E-9
88	518.04	7.05E-8	5.62E-8	3.50E-8	1.78E-8	7.81E-9	3.30E-9	88	6974.17	1.60E-7	1.29E-7	8.19E-8	4.29E-8	1.94E-8	8.38E-9
89	528.41	6.41E-8	5.12E-8	3.19E-8	1.62E-8	7.13E-9	3.01E-9	89	7350.12	1.44E-7	1.16E-7	7.41E-8	3.88E-8	1.7	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_4 - A_3$								$F_4 - A_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	75.32	9.66E-4	7.72E-4	4.80E-4	2.44E-4	1.08E-4	4.64E-5	26	115.08	7.08E-4	5.66E-4	3.49E-4	1.76E-4	7.76E-5	3.30E-5
27	79.47	8.42E-4	6.75E-4	4.21E-4	2.14E-4	9.49E-5	4.08E-5	27	122.54	8.32E-4	6.64E-4	4.11E-4	2.08E-4	9.12E-5	3.88E-5
28	83.47	7.33E-4	5.88E-4	3.66E-4	1.86E-4	8.26E-5	3.55E-5	28	130.49	9.67E-4	7.71E-4	4.77E-4	2.41E-4	1.06E-4	4.50E-5
29	87.27	6.32E-4	5.07E-4	3.16E-4	1.60E-4	7.13E-5	3.07E-5	29	138.96	1.11E-3	8.82E-4	5.45E-4	2.75E-4	1.21E-4	5.15E-5
30	90.80	5.44E-4	4.34E-4	2.69E-4	1.37E-4	6.09E-5	2.62E-5	30	147.98	1.25E-3	9.94E-4	6.11E-4	3.08E-4	1.36E-4	5.78E-5
31	93.96	4.56E-4	3.65E-4	2.27E-4	1.16E-4	5.16E-5	2.22E-5	31	157.57	1.38E-3	1.10E-3	6.76E-4	3.41E-4	1.50E-4	6.39E-5
32	96.71	3.81E-4	3.05E-4	1.90E-4	9.70E-5	4.32E-5	1.87E-5	32	167.75	1.49E-3	1.19E-3	7.33E-4	3.70E-4	1.63E-4	6.93E-5
33	98.96	3.16E-4	2.53E-4	1.58E-4	8.05E-5	3.60E-5	1.55E-5	33	178.54	1.60E-3	1.27E-3	7.82E-4	3.94E-4	1.74E-4	7.40E-5
34	100.65	2.62E-4	2.09E-4	1.30E-4	6.65E-5	2.97E-5	1.29E-5	34	189.94	1.68E-3	1.34E-3	8.21E-4	4.14E-4	1.82E-4	7.77E-5
35	101.71	2.15E-4	1.72E-4	1.07E-4	5.47E-5	2.45E-5	1.06E-5	35	201.98	1.74E-3	1.38E-3	8.48E-4	4.28E-4	1.88E-4	8.02E-5
36	102.10	1.75E-4	1.40E-4	8.75E-5	4.48E-5	2.01E-5	8.73E-6	36	214.69	1.76E-3	1.40E-3	8.63E-4	4.35E-4	1.92E-4	8.18E-5
37	101.77	1.44E-4	1.15E-4	7.18E-5	3.68E-5	1.65E-5	7.18E-6	37	228.10	1.78E-3	1.41E-3	8.68E-4	4.38E-4	1.93E-4	8.23E-5
38	100.66	1.18E-4	9.46E-5	5.90E-5	3.03E-5	1.36E-5	5.92E-6	38	242.25	1.78E-3	1.41E-3	8.66E-4	4.37E-4	1.92E-4	8.20E-5
39	98.74	9.71E-5	7.79E-5	4.87E-5	2.50E-5	1.13E-5	4.90E-6	39	257.19	1.75E-3	1.39E-3	8.55E-4	4.31E-4	1.90E-4	8.12E-5
40	95.97	8.06E-5	6.46E-5	4.04E-5	2.08E-5	9.35E-6	4.08E-6	40	272.97	1.72E-3	1.36E-3	8.40E-4	4.24E-4	1.87E-4	7.98E-5
41	92.30	6.75E-5	5.41E-5	3.38E-5	1.74E-5	7.83E-6	3.42E-6	41	289.64	1.68E-3	1.34E-3	8.21E-4	4.14E-4	1.83E-4	7.80E-5
42	87.68	5.66E-5	4.55E-5	2.85E-5	1.46E-5	6.60E-6	2.88E-6	42	307.25	1.64E-3	1.30E-3	8.00E-4	4.04E-4	1.78E-4	7.61E-5
43	82.07	4.80E-5	3.86E-5	2.41E-5	1.24E-5	5.60E-6	2.45E-6	43	325.87	1.59E-3	1.26E-3	7.77E-4	3.92E-4	1.73E-4	7.40E-5
44	75.43	4.11E-5	3.30E-5	2.06E-5	1.06E-5	4.79E-6	2.09E-6	44	345.57	1.55E-3	1.23E-3	7.54E-4	3.80E-4	1.68E-4	7.18E-5
45	67.69	3.54E-5	2.84E-5	1.78E-5	9.14E-6	4.13E-6	1.80E-6	45	366.39	1.50E-3	1.19E-3	7.29E-4	3.68E-4	1.62E-4	6.95E-5
46	58.80	3.07E-5	2.46E-5	1.54E-5	7.93E-6	3.58E-6	1.57E-6	46	388.42	1.44E-3	1.14E-3	7.05E-4	3.56E-4	1.57E-4	6.73E-5
47	48.72	2.69E-5	2.15E-5	1.35E-5	6.93E-6	3.13E-6	1.37E-6	47	411.71	1.40E-3	1.11E-3	6.82E-4	3.44E-4	1.52E-4	6.51E-5
48	37.36	2.36E-5	1.89E-5	1.19E-5	6.10E-6	2.75E-6	1.20E-6	48	436.34	1.35E-3	1.07E-3	6.59E-4	3.33E-4	1.47E-4	6.30E-5
49	24.67	2.09E-5	1.68E-5	1.05E-5	5.40E-6	2.43E-6	1.06E-6	49	462.38	1.30E-3	1.03E-3	6.37E-4	3.22E-4	1.42E-4	6.09E-5
50	10.59	1.86E-5	1.49E-5	9.35E-6	4.81E-6	2.17E-6	9.47E-7	50	489.91	1.26E-3	1.00E-3	6.16E-4	3.12E-4	1.38E-4	5.89E-5
51	-4.963	1.67E-5	1.34E-5	8.37E-6	4.30E-6	1.94E-6	8.47E-7	51	519.01	1.22E-3	9.65E-4	5.94E-4	3.01E-4	1.33E-4	5.70E-5
52	-22.06	1.50E-5	1.20E-5	7.52E-6	3.87E-6	1.74E-6	7.61E-7	52	549.76	1.18E-3	9.34E-4	5.75E-4	2.91E-4	1.29E-4	5.51E-5
53	-40.77	1.36E-5	1.09E-5	6.80E-6	3.49E-6	1.57E-6	6.88E-7	53	582.25	1.13E-3	9.01E-4	5.56E-4	2.82E-4	1.25E-4	5.34E-5
54	-61.18	1.23E-5	9.87E-6	6.17E-6	3.17E-6	1.43E-6	6.24E-7	54	616.55	1.10E-3	8.73E-4	5.38E-4	2.72E-4	1.21E-4	5.16E-5
55	-83.37	1.12E-5	8.99E-6	5.62E-6	2.89E-6	1.30E-6	5.69E-7	55	652.78	1.07E-3	8.46E-4	5.21E-4	2.63E-4	1.17E-4	5.01E-5
56	-107.43	1.03E-5	8.23E-6	5.15E-6	2.65E-6	1.19E-6	5.20E-7	56	691.00	1.03E-3	8.17E-4	5.04E-4	2.55E-4	1.13E-4	4.84E-5
57	-133.45	9.45E-6	7.57E-6	4.73E-6	2.43E-6	1.09E-6	4.77E-7	57	731.35	9.94E-4	7.90E-4	4.88E-4	2.47E-4	1.10E-4	4.70E-5
58	-161.52	8.71E-6	6.97E-6	4.36E-6	2.24E-6	1.01E-6	4.40E-7	58	773.90	9.64E-4	7.65E-4	4.73E-4	2.40E-4	1.06E-4	4.56E-5
59	-191.75	8.05E-6	6.45E-6	4.03E-6	2.07E-6	9.32E-7	4.06E-7	59	818.77	9.33E-4	7.41E-4	4.58E-4	2.33E-4	1.03E-4	4.42E-5
60	-224.24	7.47E-6	5.98E-6	3.74E-6	1.92E-6	8.64E-7	3.77E-7	60	866.07	9.06E-4	7.20E-4	4.45E-4	2.26E-4	1.00E-4	4.29E-5
61	-259.09	6.94E-6	5.56E-6	3.48E-6	1.79E-6	8.04E-7	3.50E-7	61	915.91	8.77E-4	6.97E-4	4.32E-4	2.19E-4	9.73E-5	4.17E-5
62	-296.43	6.48E-6	5.19E-6	3.24E-6	1.67E-6	7.49E-7	3.26E-7	62	968.40	8.51E-4	6.77E-4	4.19E-4	2.13E-4	9.45E-5	4.05E-5
63	-336.35	6.06E-6	4.85E-6	3.03E-6	1.56E-6	7.00E-7	3.05E-7	63	1023.69	8.28E-4	6.58E-4	4.07E-4	2.07E-4	9.19E-5	3.94E-5
64	-379.00	5.67E-6	4.54E-6	2.84E-6	1.46E-6	6.56E-7	2.85E-7	64	1081.88	8.02E-4	6.38E-4	3.96E-4	2.01E-4	8.94E-5	3.83E-5
65	-424.49	5.32E-6	4.26E-6	2.66E-6	1.37E-6	6.15E-7	2.67E-7	65	1143.13	7.79E-4	6.20E-4	3.85E-4	1.96E-4	8.70E-5	3.73E-5
66	-472.96	5.01E-6	4.01E-6	2.51E-6	1.29E-6	5.79E-7	2.51E-7	66	1207.56	7.59E-4	6.04E-4	3.75E-4	1.91E-4	8.47E-5	3.63E-5
67	-524.54	4.71E-6	3.78E-6	2.36E-6	1.21E-6	5.46E-7	2.37E-7	67	1275.33	7.37E-4	5.87E-4	3.64E-4	1.86E-4	8.25E-5	3.54E-5
68	-579.37	4.45E-6	3.56E-6	2.23E-6	1.15E-6	5.15E-7	2.23E-7	68	1346.59	7.18E-4	5.72E-4	3.55E-4	1.81E-4	8.05E-5	3.45E-5
69	-637.62	4.21E-6	3.37E-6	2.11E-6	1.08E-6	4.87E-7	2.11E-7	69	1421.49	6.99E-4	5.57E-4	3.46E-4	1.76E-4	7.84E-5	3.36E-5
70	-699.44	3.98E-6	3.19E-6	2.00E-6	1.03E-6	4.61E-7	2.00E-7	70	1500.18	6.80E-4	5.42E-4	3.37E-4	1.72E-4	7.66E-5	3.28E-5
71	-764.98	3.78E-6	3.02E-6	1.89E-6	9.74E-7	4.37E-7	1.89E-7	71	1582.86	6.63E-4	5.28E-4	3.29E-4	1.68E-4	7.48E-5	3.20E-5
72	-834.44	3.58E-6	2.87E-6	1.80E-6	9.25E-7	4.15E-7	1.80E-7	72	1669.68	6.45E-4	5.14E-4	3.20E-4	1.64E-4	7.30E-5	3.13E-5
73	-907.97	3.40E-6	2.73E-6	1.71E-6	8.80E-7	3.95E-7	1.71E-7	73	1760.85	6.29E-4	5.02E-4	3.13E-4	1.60E-4	7.13E-5	3.06E-5
74	-985.78	3.24E-6	2.59E-6	1.63E-6	8.38E-7	3.76E-7	1.63E-7	74	1856.55	6.14E-4	4.90E-4	3.05E-4	1.56E-4	6.97E-5	2.99E-5
75	-1068.04	3.08E-6	2.47E-6	1.55E-6	7.98E-7	3.58E-7	1.55E-7	75	1956.98	5.99E-4	4.78E-4	2.98E-4	1.53E-4	6.82E-5	2.92E-5
76	-1155.00	2.94E-6	2.36E-6	1.48E-6	7.62E-7	3.42E-7	1.48E-7	76	2062.34	5.84E-4	4.67E-4	2.92E-4	1.50E-4	6.67E-5	2.86E-5
77	-1246.82	2.80E-6	2.25E-6	1.41E-6	7.28E-7	3.27E-7	1.41E-7	77	2172.89	5.71E-4	4.56E-4	2.85E-4	1.46E-4	6.53E-5	2.80E-5
78	-1343.76	2.69E-6	2.15E-6	1.35E-6	6.96E-7	3.13E-7	1.35E-7	78	2288.82	5.58E-4	4.46E-4	2.79E-4	1.43E-4	6.39E-5	2.74E-5
79	-1446.04	2.57E-6	2.06E-6	1.29E-6	6.67E-7	2.99E-7	1.29E-7	79	2410.40	5.44E-4	4.36E-4	2.73E-4	1.40E-4	6.26E-5	2.68E-5
80	-1553.95	2.46E-6	1.97E-6	1.24E-6	6.39E-7	2.87E-7	1.24E-7	80	2537.83	5.32E-4	4.27E-4	2.68E-4	1.38E-4	6.13E-5	2.63E-5
81	-1667.72	2.35E-6	1.89E-6	1.19E-6	6.13E-7	2.75E-7	1.19E-7	81	2671.39	5.21E-4	4.17E-4	2.62E-4	1.35E-4	6.02E-5	2.58E-5
82	-1787.61	2.25E-6	1.81E-6	1.14E-6	5.89E-7	2.64E-7	1.14E-7	82	2811.39	5.10E-4	4.08E-4	2.56E-4	1.32E-4	5.90E-5	2.53E-5
83	-1913.89	2.16E-6	1.73E-6	1.09E-6	5.66E-7	2.54E-7	1.09E-7	83	2958.12	4.99E-4	4.00E-4	2.51E-4	1.30E-4	5.79E-5	2.48E-5
84	-2046.85	2.08E-6	1.67E-6	1.05E-6	5.44E-7	2.44E-7	1.05E-7	84	3111.92	4.88E-4	3.92E-4	2.46E-4	1.27E-4	5.68E-5	2.44E-5
85	-2186.87	1.99E-6	1.60E-6	1.01E-6	5.24E-7	2.35E-7	1.01E-7	85	3273.01	4.78E-4	3.84E-4	2.42E-4	1.25E-4	5.58E-5	2.39E-5
86	-2334.60	1.92E-6	1.54E-6	9.75E-7	5.05E-7	2.27E-7	9.78E-8	86	3441.36	4.69E-4	3.76E-4	2.37E-4	1.23E-4	5.48E-5	2.35E-5
87	-2489.75	1.85E-6	1.49E-6	9.40E-7	4.87E-7	2.19E-7	9.43E-8	87	3618.08	4.59E-4	3.69E-4	2.33E-4	1.20E-4	5.39E-5	2.31E-5
88	-2653.07	1.78E-6	1.43E-6	9.08E-7	4.71E-7	2.12E-7	9.10E-8	88	3803.07	4.50E-4	3.62E-4	2.29E-4	1.18E-4	5.30E-5	2.27E-5
89	-2824.83	1.72E-6	1.38E-6	8.76E-7	4.55E-7	2.04E-7	8.80E-8	89	3996.88	4.41E-4	3.55E-4	2.24E-4	1.16E-4	5.21E-5	2.23E-5

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - B_2$								$F_2 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	158.45	5.15E-3	4.39E-3	3.22E-3	2.32E-3	1.89E-3	1.80E-3	26	120.71	1.75E-1	1.97E-1	2.29E-1	2.69E-1	3.09E-1	3.48E-1
27	168.01	4.66E-3	3.98E-3	2.97E-3	2.19E-3	1.84E-3	1.78E-3	27	128.91	1.52E-1	1.71E-1	1.99E-1	2.33E-1	2.68E-1	3.02E-1
28	178.12	4.18E-3	3.58E-3	2.70E-3	2.04E-3	1.74E-3	1.71E-3	28	137.62	1.33E-1	1.49E-1	1.73E-1	2.03E-1	2.34E-1	2.63E-1
29	188.85	3.72E-3	3.19E-3	2.43E-3	1.86E-3	1.61E-3	1.59E-3	29	146.85	1.17E-1	1.31E-1	1.52E-1	1.79E-1	2.05E-1	2.32E-1
30	200.26	3.26E-3	2.81E-3	2.14E-3	1.65E-3	1.44E-3	1.43E-3	30	156.65	1.03E-1	1.16E-1	1.35E-1	1.58E-1	1.82E-1	2.06E-1
31	212.46	2.84E-3	2.42E-3	1.86E-3	1.42E-3	1.23E-3	1.22E-3	31	167.03	9.05E-2	1.03E-1	1.22E-1	1.41E-1	1.62E-1	1.84E-1
32	225.53	2.43E-3	2.06E-3	1.56E-3	1.19E-3	1.02E-3	1.01E-3	32	178.01	8.34E-2	9.21E-2	1.10E-1	1.27E-1	1.46E-1	1.66E-1
33	239.56	2.04E-3	1.72E-3	1.29E-3	9.58E-4	8.07E-4	7.88E-4	33	189.60	7.60E-2	8.37E-2	9.98E-2	1.16E-1	1.33E-1	1.51E-1
34	254.68	1.68E-3	1.41E-3	1.03E-3	7.45E-4	6.07E-4	5.81E-4	34	201.82	6.98E-2	7.66E-2	9.14E-2	1.06E-1	1.22E-1	1.39E-1
35	270.99	1.37E-3	1.14E-3	8.11E-4	5.59E-4	4.34E-4	4.01E-4	35	214.70	6.47E-2	7.06E-2	8.42E-2	9.77E-2	1.13E-1	1.28E-1
36	288.59	1.10E-3	9.06E-4	6.25E-4	4.06E-4	2.93E-4	2.57E-4	36	228.24	6.03E-2	6.54E-2	7.81E-2	9.06E-2	1.04E-1	1.19E-1
37	307.60	8.82E-4	7.17E-4	4.77E-4	2.89E-4	1.88E-4	1.50E-4	37	242.49	5.61E-2	6.12E-2	7.30E-2	8.45E-2	9.75E-2	1.11E-1
38	328.12	7.06E-4	5.67E-4	3.65E-4	2.05E-4	1.16E-4	8.00E-5	38	257.45	5.29E-2	5.72E-2	6.84E-2	7.92E-2	9.14E-2	1.05E-1
39	350.28	5.64E-4	4.50E-4	2.82E-4	1.48E-4	7.28E-5	3.97E-5	39	273.19	4.91E-2	5.40E-2	6.40E-2	7.46E-2	8.62E-2	9.87E-2
40	374.17	4.56E-4	3.62E-4	2.23E-4	1.13E-4	5.04E-5	2.20E-5	40	289.74	4.58E-2	5.13E-2	6.04E-2	7.05E-2	8.14E-2	9.35E-2
41	399.91	3.72E-4	2.96E-4	1.83E-4	9.36E-5	4.26E-5	1.97E-5	41	307.15	4.35E-2	4.85E-2	5.71E-2	6.68E-2	7.72E-2	8.88E-2
42	427.61	3.09E-4	2.47E-4	1.56E-4	8.41E-5	4.38E-5	2.65E-5	42	325.47	4.23E-2	4.57E-2	5.46E-2	6.34E-2	7.34E-2	8.46E-2
43	457.37	2.60E-4	2.10E-4	1.37E-4	8.04E-5	4.95E-5	3.76E-5	43	344.77	3.92E-2	4.39E-2	5.15E-2	6.04E-2	7.00E-2	8.08E-2
44	489.32	2.21E-4	1.82E-4	1.24E-4	7.95E-5	5.67E-5	4.97E-5	44	365.11	3.75E-2	4.18E-2	4.91E-2	5.76E-2	6.68E-2	7.73E-2
45	523.58	1.90E-4	1.59E-4	1.14E-4	7.97E-5	6.35E-5	6.07E-5	45	386.55	3.56E-2	4.00E-2	4.68E-2	5.50E-2	6.39E-2	7.41E-2
46	560.26	1.66E-4	1.41E-4	1.05E-4	7.98E-5	6.91E-5	6.96E-5	46	409.16	3.45E-2	3.84E-2	4.47E-2	5.25E-2	6.12E-2	7.11E-2
47	599.49	1.46E-4	1.27E-4	9.91E-5	7.90E-5	7.26E-5	7.60E-5	47	433.02	3.33E-2	3.80E-2	4.36E-2	5.02E-2	5.86E-2	6.83E-2
48	641.41	1.28E-4	1.12E-4	9.15E-5	7.78E-5	7.46E-5	8.00E-5	48	458.19	3.14E-2	3.49E-2	4.11E-2	4.83E-2	5.64E-2	6.58E-2
49	686.16	1.13E-4	1.01E-4	8.46E-5	7.52E-5	7.49E-5	8.18E-5	49	484.76	3.09E-2	3.33E-2	3.95E-2	4.63E-2	5.42E-2	6.33E-2
50	733.88	1.00E-4	9.11E-5	7.84E-5	7.22E-5	7.38E-5	8.17E-5	50	512.80	2.94E-2	3.21E-2	3.77E-2	4.44E-2	5.21E-2	6.11E-2
51	784.71	8.94E-5	8.21E-5	7.23E-5	6.86E-5	7.15E-5	8.00E-5	51	542.40	2.81E-2	3.10E-2	3.61E-2	4.27E-2	5.02E-2	5.89E-2
52	838.82	7.89E-5	7.33E-5	6.67E-5	6.43E-5	6.83E-5	7.73E-5	52	573.63	2.66E-2	2.96E-2	3.48E-2	4.11E-2	4.83E-2	5.68E-2
53	896.38	7.03E-5	6.60E-5	6.12E-5	6.00E-5	6.46E-5	7.38E-5	53	606.59	2.57E-2	2.88E-2	3.33E-2	3.95E-2	4.65E-2	5.49E-2
54	957.53	6.27E-5	5.95E-5	5.58E-5	5.56E-5	6.06E-5	6.97E-5	54	641.36	2.49E-2	2.75E-2	3.20E-2	3.79E-2	4.49E-2	5.31E-2
55	1022.48	5.56E-5	5.33E-5	5.07E-5	5.13E-5	5.64E-5	6.53E-5	55	678.04	2.37E-2	2.63E-2	3.08E-2	3.65E-2	4.32E-2	5.13E-2
56	1091.39	4.93E-5	4.76E-5	4.59E-5	4.72E-5	5.22E-5	6.07E-5	56	716.72	2.29E-2	2.55E-2	2.96E-2	3.52E-2	4.17E-2	4.96E-2
57	1164.46	4.37E-5	4.27E-5	4.14E-5	4.33E-5	4.81E-5	5.61E-5	57	757.50	2.15E-2	2.45E-2	2.89E-2	3.38E-2	4.01E-2	4.79E-2
58	1241.89	3.89E-5	3.83E-5	3.73E-5	3.94E-5	4.41E-5	5.17E-5	58	800.49	2.08E-2	2.35E-2	2.78E-2	3.25E-2	3.87E-2	4.64E-2
59	1323.89	3.46E-5	3.43E-5	3.36E-5	3.58E-5	4.03E-5	4.74E-5	59	845.80	2.01E-2	2.26E-2	2.68E-2	3.14E-2	3.74E-2	4.49E-2
60	1410.66	3.09E-5	3.06E-5	3.02E-5	3.24E-5	3.67E-5	4.33E-5	60	893.52	1.95E-2	2.17E-2	2.58E-2	3.03E-2	3.61E-2	4.35E-2
61	1502.45	2.75E-5	2.73E-5	2.71E-5	2.92E-5	3.33E-5	3.95E-5	61	943.79	1.89E-2	2.08E-2	2.48E-2	2.92E-2	3.49E-2	4.21E-2
62	1599.45	2.46E-5	2.43E-5	2.43E-5	2.63E-5	3.02E-5	3.60E-5	62	996.71	1.83E-2	2.00E-2	2.39E-2	2.82E-2	3.37E-2	4.08E-2
63	1701.94	2.19E-5	2.16E-5	2.18E-5	2.37E-5	2.73E-5	3.27E-5	63	1052.41	1.77E-2	1.92E-2	2.30E-2	2.72E-2	3.26E-2	3.96E-2
64	1810.15	1.95E-5	1.92E-5	1.96E-5	2.13E-5	2.46E-5	2.96E-5	64	1111.01	1.72E-2	1.85E-2	2.22E-2	2.63E-2	3.15E-2	3.84E-2
65	1924.37	1.73E-5	1.71E-5	1.75E-5	1.91E-5	2.22E-5	2.68E-5	65	1172.67	1.66E-2	1.78E-2	2.14E-2	2.54E-2	3.05E-2	3.72E-2
66	2044.84	1.53E-5	1.52E-5	1.57E-5	1.71E-5	2.00E-5	2.42E-5	66	1237.51	1.61E-2	1.72E-2	2.06E-2	2.45E-2	2.95E-2	3.61E-2
67	2171.87	1.36E-5	1.35E-5	1.41E-5	1.53E-5	1.80E-5	2.19E-5	67	1305.67	1.56E-2	1.66E-2	1.98E-2	2.37E-2	2.85E-2	3.51E-2
68	2305.74	1.21E-5	1.21E-5	1.26E-5	1.37E-5	1.62E-5	1.97E-5	68	1377.32	1.50E-2	1.60E-2	1.91E-2	2.28E-2	2.76E-2	3.40E-2
69	2446.78	1.08E-5	1.08E-5	1.13E-5	1.23E-5	1.45E-5	1.78E-5	69	1452.61	1.45E-2	1.55E-2	1.84E-2	2.21E-2	2.67E-2	3.30E-2
70	2595.28	9.60E-6	9.67E-6	1.01E-5	1.10E-5	1.30E-5	1.61E-5	70	1531.68	1.40E-2	1.49E-2	1.77E-2	2.13E-2	2.59E-2	3.21E-2
71	2751.60	8.58E-6	8.65E-6	8.97E-6	9.88E-6	1.17E-5	1.45E-5	71	1614.73	1.35E-2	1.44E-2	1.71E-2	2.06E-2	2.51E-2	3.12E-2
72	2916.07	7.67E-6	7.72E-6	8.00E-6	8.85E-6	1.05E-5	1.30E-5	72	1701.92	1.29E-2	1.40E-2	1.65E-2	1.99E-2	2.43E-2	3.03E-2
73	3089.08	6.85E-6	6.89E-6	7.14E-6	7.93E-6	9.42E-6	1.17E-5	73	1793.44	1.24E-2	1.35E-2	1.59E-2	1.92E-2	2.36E-2	2.94E-2
74	3270.99	6.10E-6	6.14E-6	6.36E-6	7.10E-6	8.45E-6	1.06E-5	74	1889.49	1.20E-2	1.31E-2	1.53E-2	1.86E-2	2.28E-2	2.86E-2
75	3462.22	5.43E-6	5.46E-6	5.68E-6	6.36E-6	7.58E-6	9.50E-6	75	1990.26	1.15E-2	1.26E-2	1.48E-2	1.80E-2	2.21E-2	2.78E-2
76	3663.13	4.84E-6	4.86E-6	5.07E-6	5.70E-6	6.80E-6	8.55E-6	76	2095.94	1.10E-2	1.22E-2	1.43E-2	1.74E-2	2.14E-2	2.70E-2
77	3874.23	4.32E-6	4.33E-6	4.53E-6	5.10E-6	6.10E-6	7.69E-6	77	2206.80	1.06E-2	1.19E-2	1.38E-2	1.68E-2	2.08E-2	2.63E-2
78	4095.92	3.86E-6	3.87E-6	4.05E-6	4.57E-6	5.47E-6	6.92E-6	78	2323.02	1.03E-2	1.15E-2	1.33E-2	1.62E-2	2.02E-2	2.56E-2
79	4328.70	3.45E-6	3.46E-6	3.63E-6	4.09E-6	4.91E-6	6.23E-6	79	2444.88	9.92E-3	1.11E-2	1.29E-2	1.57E-2	1.95E-2	2.49E-2
80	4573.03	3.09E-6	3.11E-6	3.25E-6	3.66E-6	4.41E-6	5.60E-6	80	2572.57	9.61E-3	1.08E-2	1.24E-2	1.52E-2	1.89E-2	2.42E-2
81	4829.43	2.77E-6	2.79E-6	2.91E-6	3.27E-6	3.96E-6	5.04E-6	81	2706.38	9.36E-3	1.03E-2	1.21E-2	1.46E-2	1.84E-2	2.36E-2
82	5098.49	2.48E-6	2.49E-6	2.61E-6	2.92E-6	3.55E-6	4.54E-6	82	2846.60	9.10E-3	1.00E-2	1.17E-2	1.42E-2	1.78E-2	2.29E-2
83	5380.79	2.21E-6	2.23E-6	2.33E-6	2.62E-6	3.19E-6	4.09E-6	83	2993.54	8.83E-3	9.68E-3	1.13E-2	1.37E-2	1.73E-2	2.23E-2
84	5676.94	1.99E-6	1.99E-6	2.08E-6	2.34E-6	2.87E-6	3.70E-6	84	3147.51	8.51E-3	9.21E-3	1.10E-2	1.34E-2	1.67E-2	2.17E-2
85	5987.49	1.79E-6	1.77E-6	1.86E-6	2.09E-6	2.57E-6	3.33E-6	85	3308.75	8.21E-3	8.93E-3	1.06E-2	1.29E-2	1.62E-2	2.11E-2
86	6312.70	1.60E-6	1.58E-6	1.68E-6	1.87E-6	2.31E-6	3.00E-6	86	3477.22	7.92E-3	8.66E-3	1.02E-2	1.25E-2	1.58E-2	2.05E-2
87	6654.07	1.44E-6	1.42E-6	1.50E-6	1.68E-6	2.07E-6	2.70E-6	87	3654.02	7.64E-3	8.40E-3	9.86E-3	1.21E-2	1.53E-2	2.00E-2
88	7011.85	1.28E-6	1.27E-6	1.35E-6	1.50E-6	1.86E-6	2.43E-6	88	3839.06	7.37E-3	8.14E-3	9.52E-3	1.18E-2	1.49E-2	1.95E-2
89	7386.97	1.15E-6	1.14E-6	1.21E-6	1.35E-6	1.66E-6	2.19E-6	89	4032.89	7.13E-3	7.89E-3				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_3 - B_2$								$F_4 - B_2$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	100.22	2.44E-1	2.75E-1	3.23E-1	3.79E-1	4.34E-1	4.87E-1	26	75.72	1.46E-2	1.53E-2	1.69E-2	1.87E-2	2.07E-2	2.29E-2
27	106.02	2.32E-1	2.61E-1	3.08E-1	3.61E-1	4.14E-1	4.65E-1	27	80.70	1.75E-2	1.87E-2	2.11E-2	2.36E-2	2.64E-2	2.93E-2
28	112.08	2.19E-1	2.46E-1	2.90E-1	3.41E-1	3.91E-1	4.39E-1	28	85.87	2.11E-2	2.28E-2	2.61E-2	2.96E-2	3.33E-2	3.71E-2
29	118.44	2.04E-1	2.30E-1	2.72E-1	3.19E-1	3.66E-1	4.11E-1	29	91.19	2.54E-2	2.77E-2	3.21E-2	3.66E-2	4.14E-2	4.62E-2
30	125.16	1.89E-1	2.13E-1	2.52E-1	2.96E-1	3.39E-1	3.82E-1	30	96.66	3.03E-2	3.33E-2	3.89E-2	4.47E-2	5.07E-2	5.66E-2
31	132.29	1.68E-1	1.97E-1	2.32E-1	2.70E-1	3.11E-1	3.51E-1	31	102.23	3.58E-2	4.02E-2	4.59E-2	5.31E-2	6.07E-2	6.81E-2
32	139.91	1.52E-1	1.79E-1	2.11E-1	2.45E-1	2.83E-1	3.20E-1	32	107.89	4.15E-2	4.68E-2	5.37E-2	6.23E-2	7.13E-2	8.02E-2
33	148.07	1.37E-1	1.61E-1	1.90E-1	2.21E-1	2.55E-1	2.89E-1	33	113.61	4.71E-2	5.32E-2	6.13E-2	7.14E-2	8.19E-2	9.22E-2
34	156.83	1.22E-1	1.44E-1	1.70E-1	1.98E-1	2.29E-1	2.59E-1	34	119.35	5.26E-2	5.92E-2	6.85E-2	7.99E-2	9.18E-2	1.03E-1
35	166.25	1.09E-1	1.29E-1	1.51E-1	1.76E-1	2.04E-1	2.32E-1	35	125.11	5.74E-2	6.44E-2	7.48E-2	8.74E-2	1.01E-1	1.14E-1
36	176.40	9.71E-2	1.14E-1	1.34E-1	1.57E-1	1.81E-1	2.06E-1	36	130.86	5.93E-2	6.87E-2	8.01E-2	9.36E-2	1.08E-1	1.22E-1
37	187.32	8.89E-2	9.92E-2	1.19E-1	1.39E-1	1.61E-1	1.83E-1	37	136.60	6.39E-2	7.21E-2	8.39E-2	9.84E-2	1.13E-1	1.29E-1
38	199.07	7.89E-2	8.79E-2	1.06E-1	1.24E-1	1.43E-1	1.63E-1	38	142.32	6.49E-2	7.43E-2	8.67E-2	1.02E-1	1.17E-1	1.33E-1
39	211.68	6.74E-2	7.95E-2	9.40E-2	1.10E-1	1.27E-1	1.46E-1	39	148.04	6.70E-2	7.54E-2	8.83E-2	1.04E-1	1.20E-1	1.36E-1
40	225.21	6.14E-2	7.02E-2	8.39E-2	9.81E-2	1.14E-1	1.30E-1	40	153.74	6.59E-2	7.60E-2	8.91E-2	1.05E-1	1.21E-1	1.38E-1
41	239.70	5.40E-2	6.32E-2	7.51E-2	8.78E-2	1.02E-1	1.17E-1	41	159.44	6.70E-2	7.56E-2	8.88E-2	1.04E-1	1.21E-1	1.38E-1
42	255.21	5.05E-2	5.58E-2	6.73E-2	7.91E-2	9.19E-2	1.06E-1	42	165.14	6.66E-2	7.49E-2	8.80E-2	1.04E-1	1.20E-1	1.37E-1
43	271.78	4.36E-2	5.14E-2	6.09E-2	7.13E-2	8.30E-2	9.57E-2	43	170.85	6.56E-2	7.34E-2	8.67E-2	1.02E-1	1.19E-1	1.36E-1
44	289.47	3.95E-2	4.68E-2	5.51E-2	6.46E-2	7.54E-2	8.71E-2	44	176.57	6.18E-2	7.17E-2	8.52E-2	1.00E-1	1.17E-1	1.34E-1
45	308.35	3.59E-2	4.24E-2	5.01E-2	5.88E-2	6.87E-2	7.95E-2	45	182.31	6.07E-2	6.97E-2	8.32E-2	9.81E-2	1.14E-1	1.31E-1
46	328.46	3.43E-2	3.79E-2	4.58E-2	5.38E-2	6.29E-2	7.29E-2	46	188.08	5.88E-2	6.84E-2	8.09E-2	9.56E-2	1.11E-1	1.28E-1
47	349.87	3.11E-2	3.59E-2	4.22E-2	4.92E-2	5.76E-2	6.71E-2	47	193.87	5.58E-2	6.49E-2	7.88E-2	9.31E-2	1.08E-1	1.25E-1
48	372.66	2.82E-2	3.21E-2	3.83E-2	4.54E-2	5.32E-2	6.20E-2	48	199.69	5.51E-2	6.42E-2	7.63E-2	9.02E-2	1.05E-1	1.22E-1
49	396.88	2.67E-2	2.94E-2	3.55E-2	4.19E-2	4.92E-2	5.74E-2	49	205.56	5.32E-2	6.20E-2	7.39E-2	8.75E-2	1.02E-1	1.18E-1
50	422.61	2.48E-2	2.71E-2	3.29E-2	3.88E-2	4.56E-2	5.34E-2	50	211.46	5.14E-2	6.00E-2	7.15E-2	8.47E-2	9.91E-2	1.15E-1
51	449.94	2.27E-2	2.55E-2	3.05E-2	3.60E-2	4.23E-2	4.97E-2	51	217.41	5.15E-2	5.79E-2	6.90E-2	8.20E-2	9.60E-2	1.12E-1
52	478.92	2.08E-2	2.36E-2	2.82E-2	3.35E-2	3.95E-2	4.65E-2	52	223.40	4.88E-2	5.60E-2	6.67E-2	7.93E-2	9.30E-2	1.08E-1
53	509.67	1.97E-2	2.21E-2	2.62E-2	3.12E-2	3.69E-2	4.35E-2	53	229.46	4.71E-2	5.40E-2	6.45E-2	7.66E-2	9.01E-2	1.05E-1
54	542.24	1.83E-2	2.05E-2	2.45E-2	2.92E-2	3.46E-2	4.09E-2	54	235.56	4.47E-2	5.21E-2	6.23E-2	7.41E-2	8.72E-2	1.02E-1
55	576.74	1.69E-2	1.93E-2	2.29E-2	2.74E-2	3.24E-2	3.85E-2	55	241.74	4.35E-2	5.02E-2	6.01E-2	7.16E-2	8.44E-2	9.90E-2
56	613.26	1.61E-2	1.82E-2	2.14E-2	2.57E-2	3.05E-2	3.62E-2	56	247.96	4.15E-2	4.85E-2	5.81E-2	6.92E-2	8.16E-2	9.60E-2
57	651.89	1.46E-2	1.72E-2	2.03E-2	2.40E-2	2.86E-2	3.42E-2	57	254.26	4.04E-2	4.48E-2	5.55E-2	6.69E-2	7.91E-2	9.32E-2
58	692.75	1.38E-2	1.61E-2	1.91E-2	2.26E-2	2.70E-2	3.23E-2	58	260.63	3.89E-2	4.32E-2	5.36E-2	6.46E-2	7.66E-2	9.05E-2
59	735.92	1.31E-2	1.52E-2	1.81E-2	2.13E-2	2.55E-2	3.07E-2	59	267.07	3.76E-2	4.17E-2	5.18E-2	6.25E-2	7.41E-2	8.78E-2
60	781.52	1.24E-2	1.42E-2	1.70E-2	2.01E-2	2.41E-2	2.91E-2	60	273.59	3.62E-2	4.03E-2	5.00E-2	6.04E-2	7.18E-2	8.52E-2
61	829.67	1.18E-2	1.34E-2	1.61E-2	1.91E-2	2.29E-2	2.77E-2	61	280.19	3.50E-2	3.89E-2	4.83E-2	5.84E-2	6.95E-2	8.27E-2
62	880.47	1.13E-2	1.26E-2	1.53E-2	1.81E-2	2.17E-2	2.63E-2	62	286.86	3.38E-2	3.76E-2	4.67E-2	5.65E-2	6.73E-2	8.03E-2
63	934.07	1.08E-2	1.19E-2	1.44E-2	1.71E-2	2.06E-2	2.51E-2	63	293.62	3.26E-2	3.63E-2	4.51E-2	5.46E-2	6.52E-2	7.80E-2
64	990.56	1.03E-2	1.13E-2	1.37E-2	1.63E-2	1.96E-2	2.39E-2	64	300.45	3.13E-2	3.50E-2	4.36E-2	5.28E-2	6.32E-2	7.58E-2
65	1050.11	9.82E-3	1.07E-2	1.30E-2	1.55E-2	1.87E-2	2.29E-2	65	307.39	3.02E-2	3.38E-2	4.21E-2	5.11E-2	6.13E-2	7.37E-2
66	1112.84	9.38E-3	1.01E-2	1.23E-2	1.48E-2	1.78E-2	2.19E-2	66	314.42	2.92E-2	3.27E-2	4.07E-2	4.95E-2	5.94E-2	7.17E-2
67	1178.90	8.96E-3	9.63E-3	1.17E-2	1.41E-2	1.70E-2	2.09E-2	67	321.55	2.82E-2	3.16E-2	3.94E-2	4.79E-2	5.76E-2	6.97E-2
68	1248.43	8.55E-3	9.17E-3	1.12E-2	1.34E-2	1.63E-2	2.00E-2	68	328.77	2.73E-2	3.05E-2	3.81E-2	4.64E-2	5.59E-2	6.78E-2
69	1321.61	8.15E-3	8.74E-3	1.06E-2	1.28E-2	1.56E-2	1.92E-2	69	336.10	2.64E-2	2.95E-2	3.69E-2	4.49E-2	5.42E-2	6.59E-2
70	1398.56	7.76E-3	8.35E-3	1.01E-2	1.22E-2	1.49E-2	1.85E-2	70	343.51	2.55E-2	2.86E-2	3.57E-2	4.35E-2	5.26E-2	6.42E-2
71	1479.49	7.38E-3	7.99E-3	9.65E-3	1.17E-2	1.43E-2	1.77E-2	71	351.05	2.47E-2	2.76E-2	3.45E-2	4.21E-2	5.11E-2	6.25E-2
72	1564.56	7.02E-3	7.65E-3	9.20E-3	1.12E-2	1.37E-2	1.71E-2	72	358.68	2.39E-2	2.67E-2	3.34E-2	4.08E-2	4.96E-2	6.08E-2
73	1653.95	6.68E-3	7.33E-3	8.78E-3	1.07E-2	1.31E-2	1.64E-2	73	366.43	2.31E-2	2.59E-2	3.24E-2	3.96E-2	4.81E-2	5.93E-2
74	1747.86	6.36E-3	7.03E-3	8.39E-3	1.03E-2	1.26E-2	1.58E-2	74	374.29	2.23E-2	2.50E-2	3.13E-2	3.84E-2	4.68E-2	5.77E-2
75	1846.49	6.05E-3	6.76E-3	8.02E-3	9.82E-3	1.21E-2	1.52E-2	75	382.26	2.16E-2	2.42E-2	3.03E-2	3.72E-2	4.54E-2	5.63E-2
76	1950.02	5.77E-3	6.49E-3	7.67E-3	9.42E-3	1.16E-2	1.47E-2	76	390.32	2.10E-2	2.35E-2	2.94E-2	3.61E-2	4.42E-2	5.48E-2
77	2058.73	5.51E-3	6.24E-3	7.35E-3	9.03E-3	1.12E-2	1.42E-2	77	398.52	2.03E-2	2.27E-2	2.85E-2	3.50E-2	4.29E-2	5.35E-2
78	2172.79	5.28E-3	6.01E-3	7.04E-3	8.67E-3	1.08E-2	1.37E-2	78	406.83	1.97E-2	2.20E-2	2.76E-2	3.39E-2	4.17E-2	5.21E-2
79	2292.48	5.07E-3	5.78E-3	6.75E-3	8.32E-3	1.04E-2	1.32E-2	79	415.26	1.90E-2	2.13E-2	2.67E-2	3.29E-2	4.06E-2	5.08E-2
80	2417.99	4.89E-3	5.55E-3	6.48E-3	8.00E-3	1.00E-2	1.28E-2	80	423.78	1.85E-2	2.07E-2	2.59E-2	3.20E-2	3.94E-2	4.96E-2
81	2549.61	4.71E-3	5.34E-3	6.22E-3	7.68E-3	9.64E-3	1.24E-2	81	432.40	1.79E-2	2.00E-2	2.51E-2	3.10E-2	3.84E-2	4.84E-2
82	2687.63	4.56E-3	5.13E-3	5.98E-3	7.39E-3	9.30E-3	1.20E-2	82	441.15	1.73E-2	1.94E-2	2.44E-2	3.01E-2	3.73E-2	4.72E-2
83	2832.36	4.41E-3	4.92E-3	5.75E-3	7.11E-3	8.97E-3	1.16E-2	83	450.03	1.68E-2	1.88E-2	2.36E-2	2.92E-2	3.63E-2	4.61E-2
84	2984.12	4.08E-3	4.66E-3	5.66E-3	6.87E-3	8.62E-3	1.12E-2	84	459.07	1.44E-2	1.81E-2	2.31E-2	2.86E-2	3.55E-2	4.51E-2
85	3143.13	3.95E-3	4.46E-3	5.44E-3	6.62E-3	8.33E-3	1.08E-2	85	468.19	1.40E-2	1.75E-2	2.24E-2	2.77E-2	3.45E-2	4.40E-2
86	3309.36	3.82E-3	4.28E-3	5.23E-3	6.39E-3	8.05E-3	1.05E-2	86	477.04	1.36E-2	1.70E-2	2.17E-2	2.69E-2	3.36E-2	4.30E-2
87	3483.91	3.70E-3	4.11E-3	5.03E-3	6.16E-3	7.79E-3	1.02E-2	87	486.31	1.32E-2	1.64E-2	2.11E-2	2.61E-2	3.27E-2	4.20E-2
88	3666.70	3.59E-3	3.95E-3	4.84E-3	5.95E-3	7.53E-3	9.89E-3	88	495.59	1.28E-2	1.59E-2	2.04E-2	2.54E-2	3.18E-2	4.10E-2
89	3858.25	3.48E-3	3.80E-3	4.65E-3	5.74E-3	7.29E-3	9.60E-3	89	505.01	1.24E-2	1.55E-2	1.98E-2	2.47E-2	3.10E-2	4.00

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_1 - C_3$								$F_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	146.92	1.87E-2	1.80E-2	1.72E-2	1.70E-2	1.80E-2	1.96E-2	26	168.91	4.94E-4	4.56E-4	4.04E-4	3.73E-4	3.77E-4	4.04E-4
27	154.18	2.02E-2	1.98E-2	1.97E-2	2.02E-2	2.18E-2	2.39E-2	27	178.74	5.47E-4	5.15E-4	4.76E-4	4.60E-4	4.79E-4	5.20E-4
28	161.64	2.22E-2	2.22E-2	2.28E-2	2.40E-2	2.63E-2	2.91E-2	28	189.12	6.00E-4	5.77E-4	5.55E-4	5.56E-4	5.93E-4	6.51E-4
29	169.35	2.46E-2	2.52E-2	2.65E-2	2.85E-2	3.16E-2	3.52E-2	29	200.11	6.53E-4	6.41E-4	6.38E-4	6.59E-4	7.16E-4	7.92E-4
30	177.34	2.76E-2	2.86E-2	3.08E-2	3.37E-2	3.77E-2	4.22E-2	30	211.78	7.03E-4	7.03E-4	7.22E-4	7.64E-4	8.41E-4	9.37E-4
31	185.67	3.14E-2	3.23E-2	3.59E-2	3.97E-2	4.45E-2	5.00E-2	31	224.24	7.58E-4	7.54E-4	8.02E-4	8.68E-4	9.61E-4	1.08E-3
32	194.40	3.53E-2	3.67E-2	4.14E-2	4.63E-2	5.22E-2	5.88E-2	32	237.56	7.96E-4	8.02E-4	8.72E-4	9.59E-4	1.07E-3	1.20E-3
33	203.59	3.96E-2	4.15E-2	4.74E-2	5.34E-2	6.04E-2	6.83E-2	33	251.85	8.23E-4	8.38E-4	9.27E-4	1.03E-3	1.16E-3	1.31E-3
34	213.30	4.41E-2	4.66E-2	5.36E-2	6.07E-2	6.91E-2	7.82E-2	34	267.22	8.37E-4	8.60E-4	9.65E-4	1.09E-3	1.23E-3	1.39E-3
35	223.60	4.87E-2	5.17E-2	5.99E-2	6.82E-2	7.79E-2	8.83E-2	35	283.78	8.36E-4	8.64E-4	9.81E-4	1.11E-3	1.27E-3	1.44E-3
36	234.57	5.32E-2	5.66E-2	6.61E-2	7.55E-2	8.64E-2	9.83E-2	36	301.63	8.18E-4	8.51E-4	9.77E-4	1.12E-3	1.27E-3	1.45E-3
37	246.27	5.71E-2	6.15E-2	7.20E-2	8.24E-2	9.45E-2	1.08E-1	37	320.88	7.78E-4	8.26E-4	9.54E-4	1.09E-3	1.25E-3	1.43E-3
38	258.77	6.12E-2	6.55E-2	7.71E-2	8.86E-2	1.02E-1	1.16E-1	38	341.66	7.39E-4	7.80E-4	9.09E-4	1.04E-3	1.20E-3	1.38E-3
39	272.12	6.35E-2	6.93E-2	8.13E-2	9.41E-2	1.08E-1	1.24E-1	39	364.06	6.83E-4	7.26E-4	8.47E-4	9.83E-4	1.13E-3	1.30E-3
40	286.39	6.53E-2	7.27E-2	8.49E-2	9.86E-2	1.14E-1	1.30E-1	40	388.19	6.13E-4	6.72E-4	7.78E-4	9.08E-4	1.05E-3	1.21E-3
41	301.64	6.74E-2	7.50E-2	8.78E-2	1.02E-1	1.18E-1	1.36E-1	41	414.17	5.57E-4	6.06E-4	7.08E-4	8.27E-4	9.58E-4	1.10E-3
42	317.92	7.05E-2	7.60E-2	9.05E-2	1.05E-1	1.21E-1	1.40E-1	42	442.11	5.04E-4	5.40E-4	6.41E-4	7.42E-4	8.62E-4	9.97E-4
43	335.28	6.95E-2	7.78E-2	9.12E-2	1.07E-1	1.24E-1	1.43E-1	43	472.11	4.39E-4	4.82E-4	5.63E-4	6.61E-4	7.69E-4	8.91E-4
44	353.80	7.01E-2	7.82E-2	9.20E-2	1.08E-1	1.25E-1	1.44E-1	44	504.29	3.87E-4	4.23E-4	4.97E-4	5.83E-4	6.79E-4	7.88E-4
45	373.52	6.97E-2	7.86E-2	9.20E-2	1.08E-1	1.26E-1	1.45E-1	45	538.77	3.36E-4	3.72E-4	4.33E-4	5.10E-4	5.95E-4	6.93E-4
46	394.50	7.04E-2	7.83E-2	9.16E-2	1.08E-1	1.26E-1	1.46E-1	46	575.68	2.92E-4	3.26E-4	3.74E-4	4.43E-4	5.19E-4	6.05E-4
47	416.82	7.03E-2	8.04E-2	9.25E-2	1.07E-1	1.25E-1	1.45E-1	47	615.13	2.56E-4	2.91E-4	3.32E-4	3.83E-4	4.49E-4	5.26E-4
48	440.52	6.82E-2	7.63E-2	9.00E-2	1.06E-1	1.24E-1	1.44E-1	48	657.27	2.18E-4	2.40E-4	2.81E-4	3.31E-4	3.89E-4	4.56E-4
49	465.69	6.89E-2	7.45E-2	8.89E-2	1.04E-1	1.22E-1	1.43E-1	49	702.23	1.88E-4	2.07E-4	2.39E-4	2.84E-4	3.35E-4	3.94E-4
50	492.40	6.78E-2	7.32E-2	8.74E-2	1.03E-1	1.20E-1	1.41E-1	50	750.15	1.61E-4	1.77E-4	2.05E-4	2.44E-4	2.88E-4	3.40E-4
51	520.71	6.54E-2	7.26E-2	8.49E-2	1.01E-1	1.18E-1	1.39E-1	51	801.18	1.39E-4	1.52E-4	1.76E-4	2.09E-4	2.48E-4	2.93E-4
52	550.71	6.29E-2	7.07E-2	8.33E-2	9.86E-2	1.16E-1	1.37E-1	52	855.49	1.17E-4	1.28E-4	1.51E-4	1.79E-4	2.12E-4	2.52E-4
53	582.48	6.20E-2	6.95E-2	8.10E-2	9.63E-2	1.14E-1	1.34E-1	53	913.23	1.01E-4	1.10E-4	1.30E-4	1.53E-4	1.82E-4	2.17E-4
54	616.10	6.07E-2	6.73E-2	7.90E-2	9.39E-2	1.11E-1	1.32E-1	54	974.57	8.64E-5	9.50E-5	1.11E-4	1.31E-4	1.56E-4	1.86E-4
55	651.66	5.81E-2	6.57E-2	7.69E-2	9.16E-2	1.08E-1	1.29E-1	55	1039.69	7.35E-5	8.11E-5	9.45E-5	1.12E-4	1.34E-4	1.60E-4
56	689.25	5.71E-2	6.41E-2	7.47E-2	8.91E-2	1.06E-1	1.26E-1	56	1108.77	6.27E-5	6.90E-5	8.06E-5	9.60E-5	1.15E-4	1.38E-4
57	728.98	5.39E-2	6.22E-2	7.36E-2	8.63E-2	1.03E-1	1.23E-1	57	1182.01	5.32E-5	5.95E-5	6.88E-5	8.27E-5	9.87E-5	1.18E-4
58	770.93	5.26E-2	6.02E-2	7.15E-2	8.39E-2	1.00E-1	1.20E-1	58	1259.59	4.56E-5	5.12E-5	5.89E-5	7.09E-5	8.48E-5	1.02E-4
59	815.21	5.12E-2	5.82E-2	6.94E-2	8.16E-2	9.73E-2	1.17E-1	59	1341.74	3.93E-5	4.40E-5	5.04E-5	6.09E-5	7.30E-5	8.81E-5
60	861.93	5.00E-2	5.62E-2	6.73E-2	7.93E-2	9.47E-2	1.14E-1	60	1428.65	3.39E-5	3.78E-5	4.33E-5	5.23E-5	6.29E-5	7.62E-5
61	911.21	4.87E-2	5.43E-2	6.52E-2	7.70E-2	9.21E-2	1.11E-1	61	1520.57	2.93E-5	3.24E-5	3.72E-5	4.49E-5	5.43E-5	6.59E-5
62	963.14	4.75E-2	5.24E-2	6.32E-2	7.47E-2	8.95E-2	1.08E-1	62	1617.69	2.54E-5	2.78E-5	3.20E-5	3.87E-5	4.69E-5	5.71E-5
63	1017.87	4.63E-2	5.07E-2	6.12E-2	7.25E-2	8.70E-2	1.06E-1	63	1720.31	2.20E-5	2.39E-5	2.77E-5	3.33E-5	4.05E-5	4.95E-5
64	1075.51	4.51E-2	4.90E-2	5.92E-2	7.03E-2	8.45E-2	1.03E-1	64	1828.62	1.90E-5	2.05E-5	2.39E-5	2.88E-5	3.51E-5	4.30E-5
65	1136.21	4.39E-2	4.73E-2	5.73E-2	6.82E-2	8.21E-2	1.00E-1	65	1942.94	1.64E-5	1.76E-5	2.07E-5	2.49E-5	3.04E-5	3.75E-5
66	1200.09	4.27E-2	4.58E-2	5.54E-2	6.61E-2	7.98E-2	9.78E-2	66	2063.50	1.41E-5	1.52E-5	1.80E-5	2.15E-5	2.64E-5	3.26E-5
67	1267.31	4.14E-2	4.43E-2	5.35E-2	6.41E-2	7.75E-2	9.53E-2	67	2190.61	1.22E-5	1.32E-5	1.56E-5	1.87E-5	2.30E-5	2.85E-5
68	1338.00	4.02E-2	4.29E-2	5.17E-2	6.21E-2	7.53E-2	9.28E-2	68	2324.56	1.05E-5	1.15E-5	1.36E-5	1.62E-5	2.00E-5	2.49E-5
69	1412.34	3.89E-2	4.15E-2	5.00E-2	6.02E-2	7.31E-2	9.04E-2	69	2465.66	9.16E-6	1.00E-5	1.18E-5	1.41E-5	1.75E-5	2.18E-5
70	1490.45	3.75E-2	4.02E-2	4.83E-2	5.83E-2	7.10E-2	8.80E-2	70	2614.21	8.00E-6	8.79E-6	1.03E-5	1.23E-5	1.52E-5	1.91E-5
71	1572.55	3.62E-2	3.90E-2	4.67E-2	5.65E-2	6.90E-2	8.57E-2	71	2770.57	7.02E-6	7.70E-6	8.98E-6	1.08E-5	1.33E-5	1.68E-5
72	1658.77	3.49E-2	3.78E-2	4.51E-2	5.48E-2	6.70E-2	8.35E-2	72	2935.08	6.16E-6	6.74E-6	7.83E-6	9.42E-6	1.17E-5	1.47E-5
73	1749.32	3.36E-2	3.66E-2	4.36E-2	5.30E-2	6.50E-2	8.14E-2	73	3108.11	5.40E-6	5.89E-6	6.83E-6	8.26E-6	1.03E-5	1.30E-5
74	1844.39	3.23E-2	3.55E-2	4.21E-2	5.14E-2	6.32E-2	7.93E-2	74	3290.03	4.72E-6	5.15E-6	5.97E-6	7.25E-6	9.01E-6	1.15E-5
75	1944.17	3.11E-2	3.45E-2	4.07E-2	4.98E-2	6.13E-2	7.72E-2	75	3481.25	4.13E-6	4.49E-6	5.23E-6	6.38E-6	7.93E-6	1.01E-5
76	2048.85	2.99E-2	3.35E-2	3.94E-2	4.82E-2	5.96E-2	7.52E-2	76	3682.15	3.62E-6	3.93E-6	4.59E-6	5.61E-6	6.99E-6	8.94E-6
77	2158.70	2.88E-2	3.25E-2	3.81E-2	4.66E-2	5.79E-2	7.33E-2	77	3893.23	3.17E-6	3.45E-6	4.03E-6	4.95E-6	6.17E-6	7.92E-6
78	2273.89	2.78E-2	3.15E-2	3.68E-2	4.52E-2	5.62E-2	7.14E-2	78	4114.88	2.80E-6	3.03E-6	3.56E-6	4.36E-6	5.46E-6	7.02E-6
79	2394.71	2.70E-2	3.06E-2	3.56E-2	4.37E-2	5.46E-2	6.96E-2	79	4347.62	2.47E-6	2.68E-6	3.14E-6	3.85E-6	4.84E-6	6.24E-6
80	2521.34	2.62E-2	2.96E-2	3.45E-2	4.24E-2	5.30E-2	6.78E-2	80	4591.88	2.19E-6	2.38E-6	2.78E-6	3.41E-6	4.29E-6	5.55E-6
81	2654.07	2.55E-2	2.87E-2	3.33E-2	4.10E-2	5.15E-2	6.61E-2	81	4848.22	1.94E-6	2.11E-6	2.47E-6	3.01E-6	3.81E-6	4.94E-6
82	2793.20	2.48E-2	2.78E-2	3.23E-2	3.98E-2	5.00E-2	6.44E-2	82	5117.19	1.71E-6	1.87E-6	2.18E-6	2.66E-6	3.39E-6	4.41E-6
83	2939.01	2.41E-2	2.68E-2	3.12E-2	3.85E-2	4.86E-2	6.28E-2	83	5399.39	1.51E-6	1.65E-6	1.94E-6	2.36E-6	3.01E-6	3.93E-6
84	3091.84	2.26E-2	2.55E-2	3.09E-2	3.75E-2	4.70E-2	6.10E-2	84	5695.43	1.35E-6	1.46E-6	1.70E-6	2.09E-6	2.69E-6	3.53E-6
85	3251.92	2.25E-2	2.47E-2	2.96E-2	3.64E-2	4.57E-2	5.95E-2	85	6005.86	1.20E-6	1.29E-6	1.52E-6	1.86E-6	2.40E-6	3.16E-6
86	3419.19	2.17E-2	2.39E-2	2.86E-2	3.53E-2	4.45E-2	5.80E-2	86	6330.92	1.07E-6	1.14E-6	1.36E-6	1.65E-6	2.14E-6	2.83E-6
87	3594.76	2.09E-2	2.32E-2	2.76E-2	3.42E-2	4.32E-2	5.66E-2	87	6672.14	9.52E-7	1.01E-6	1.21E-6	1.47E-6	1.91E-6	2.54E-6
88	3778.55	2.02E-2	2.25E-2	2.67E-2	3.31E-2	4.20E-2	5.52E-2	88	7029.75	8.44E-7	8.97E-7	1.08E-6	1.31E-6	1.71E-6	2.28E-6
89	3971.09	1.96E-2	2.19E-2	2.58E-2	3.21E-2	4.09E-2	5.38E-2	89	7404.69	7.48E-7	8.01E-7				

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_2 - C_3$								$F_2 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	109.18	2.60E-1	2.91E-1	3.39E-1	3.98E-1	4.55E-1	5.11E-1	26	131.16	1.25E-2	1.23E-2	1.22E-2	1.26E-2	1.36E-2	1.49E-2
27	115.07	2.47E-1	2.77E-1	3.23E-1	3.79E-1	4.34E-1	4.87E-1	27	139.64	1.14E-2	1.14E-2	1.14E-2	1.19E-2	1.29E-2	1.42E-2
28	121.13	2.34E-1	2.63E-1	3.07E-1	3.60E-1	4.12E-1	4.63E-1	28	148.61	1.04E-2	1.04E-2	1.05E-2	1.10E-2	1.20E-2	1.32E-2
29	127.35	2.22E-1	2.49E-1	2.91E-1	3.41E-1	3.90E-1	4.39E-1	29	158.11	9.29E-3	9.31E-3	9.46E-3	9.95E-3	1.09E-2	1.20E-2
30	133.73	2.09E-1	2.34E-1	2.74E-1	3.22E-1	3.69E-1	4.15E-1	30	168.17	8.25E-3	8.26E-3	8.39E-3	8.82E-3	9.65E-3	1.07E-2
31	140.24	1.89E-1	2.21E-1	2.59E-1	3.00E-1	3.45E-1	3.90E-1	31	178.81	7.28E-3	7.17E-3	7.36E-3	7.68E-3	8.36E-3	9.27E-3
32	146.88	1.77E-1	2.07E-1	2.42E-1	2.81E-1	3.23E-1	3.66E-1	32	190.04	6.33E-3	6.20E-3	6.32E-3	6.57E-3	7.13E-3	7.91E-3
33	153.62	1.64E-1	1.92E-1	2.26E-1	2.62E-1	3.01E-1	3.41E-1	33	201.88	5.46E-3	5.31E-3	5.36E-3	5.52E-3	5.96E-3	6.61E-3
34	160.44	1.52E-1	1.78E-1	2.09E-1	2.43E-1	2.80E-1	3.17E-1	34	214.36	4.69E-3	4.52E-3	4.48E-3	4.56E-3	4.90E-3	5.42E-3
35	167.32	1.40E-1	1.65E-1	1.93E-1	2.24E-1	2.58E-1	2.93E-1	35	227.49	4.01E-3	3.81E-3	3.71E-3	3.72E-3	3.96E-3	4.37E-3
36	174.23	1.29E-1	1.51E-1	1.77E-1	2.06E-1	2.38E-1	2.70E-1	36	241.28	3.42E-3	3.20E-3	3.05E-3	2.99E-3	3.14E-3	3.46E-3
37	181.16	1.22E-1	1.36E-1	1.62E-1	1.89E-1	2.18E-1	2.48E-1	37	255.77	2.91E-3	2.70E-3	2.49E-3	2.38E-3	2.46E-3	2.69E-3
38	188.10	1.11E-1	1.27E-1	1.48E-1	1.72E-1	2.00E-1	2.27E-1	38	270.99	2.50E-3	2.28E-3	2.03E-3	1.87E-3	1.90E-3	2.06E-3
39	195.04	9.77E-2	1.15E-1	1.35E-1	1.58E-1	1.82E-1	2.08E-1	39	286.97	2.15E-3	1.93E-3	1.65E-3	1.47E-3	1.45E-3	1.55E-3
40	201.96	9.08E-2	1.04E-1	1.23E-1	1.44E-1	1.67E-1	1.91E-1	40	303.76	1.86E-3	1.65E-3	1.35E-3	1.15E-3	1.09E-3	1.15E-3
41	208.88	8.17E-2	9.51E-2	1.12E-1	1.31E-1	1.52E-1	1.74E-1	41	321.41	1.64E-3	1.42E-3	1.12E-3	8.96E-4	8.15E-4	8.38E-4
42	215.78	7.72E-2	8.56E-2	1.02E-1	1.20E-1	1.40E-1	1.60E-1	42	339.97	1.46E-3	1.24E-3	9.35E-4	7.03E-4	6.04E-4	6.02E-4
43	222.68	6.80E-2	7.97E-2	9.41E-2	1.10E-1	1.28E-1	1.47E-1	43	359.51	1.31E-3	1.10E-3	7.90E-4	5.57E-4	4.46E-4	4.25E-4
44	229.58	6.22E-2	7.34E-2	8.62E-2	1.01E-1	1.18E-1	1.35E-1	44	380.08	1.20E-3	9.87E-4	6.81E-4	4.48E-4	3.29E-4	2.95E-4
45	236.49	5.74E-2	6.72E-2	7.94E-2	9.31E-2	1.08E-1	1.25E-1	45	401.75	1.10E-3	8.95E-4	5.97E-4	3.67E-4	2.44E-4	2.01E-4
46	243.41	5.37E-2	6.21E-2	7.32E-2	8.59E-2	1.00E-1	1.16E-1	46	424.58	1.02E-3	8.22E-4	5.33E-4	3.08E-4	1.84E-4	1.36E-4
47	250.34	4.92E-2	5.68E-2	6.78E-2	7.96E-2	9.29E-2	1.07E-1	47	448.66	9.58E-4	7.66E-4	4.86E-4	2.65E-4	1.43E-4	9.15E-5
48	257.30	4.61E-2	5.37E-2	6.27E-2	7.38E-2	8.63E-2	1.00E-1	48	474.05	8.98E-4	7.17E-4	4.48E-4	2.36E-4	1.16E-4	6.33E-5
49	264.30	4.21E-2	4.95E-2	5.84E-2	6.87E-2	8.04E-2	9.34E-2	49	500.83	8.53E-4	6.78E-4	4.20E-4	2.16E-4	9.92E-5	4.69E-5
50	271.33	3.96E-2	4.62E-2	5.45E-2	6.41E-2	7.51E-2	8.75E-2	50	529.07	8.16E-4	6.48E-4	4.00E-4	2.03E-4	9.01E-5	3.90E-5
51	278.40	3.77E-2	4.25E-2	5.10E-2	6.01E-2	7.04E-2	8.21E-2	51	558.87	7.83E-4	6.20E-4	3.82E-4	1.94E-4	8.62E-5	3.72E-5
52	285.51	3.49E-2	4.00E-2	4.78E-2	5.63E-2	6.61E-2	7.73E-2	52	590.29	7.54E-4	5.98E-4	3.70E-4	1.89E-4	8.63E-5	3.98E-5
53	292.69	3.23E-2	3.78E-2	4.49E-2	5.29E-2	6.22E-2	7.29E-2	53	623.44	7.24E-4	5.77E-4	3.60E-4	1.87E-4	8.88E-5	4.53E-5
54	299.92	3.08E-2	3.53E-2	4.23E-2	4.99E-2	5.87E-2	6.89E-2	54	658.39	7.04E-4	5.61E-4	3.51E-4	1.86E-4	9.31E-5	5.25E-5
55	307.22	2.86E-2	3.35E-2	3.98E-2	4.71E-2	5.55E-2	6.53E-2	55	695.25	6.82E-4	5.46E-4	3.45E-4	1.86E-4	9.82E-5	6.09E-5
56	314.58	2.73E-2	3.15E-2	3.76E-2	4.45E-2	5.26E-2	6.20E-2	56	734.10	6.62E-4	5.31E-4	3.38E-4	1.88E-4	1.04E-4	6.98E-5
57	322.01	2.71E-2	2.91E-2	3.50E-2	4.21E-2	4.99E-2	5.90E-2	57	775.04	6.40E-4	5.16E-4	3.33E-4	1.89E-4	1.10E-4	7.87E-5
58	329.53	2.56E-2	2.76E-2	3.32E-2	3.99E-2	4.74E-2	5.62E-2	58	818.19	6.24E-4	5.04E-4	3.29E-4	1.90E-4	1.15E-4	8.75E-5
59	337.12	2.43E-2	2.61E-2	3.15E-2	3.79E-2	4.51E-2	5.36E-2	59	863.65	6.07E-4	4.92E-4	3.24E-4	1.92E-4	1.21E-4	9.59E-5
60	344.79	2.31E-2	2.48E-2	3.00E-2	3.61E-2	4.30E-2	5.12E-2	60	911.51	5.93E-4	4.82E-4	3.20E-4	1.93E-4	1.26E-4	1.04E-4
61	352.56	2.20E-2	2.36E-2	2.85E-2	3.44E-2	4.10E-2	4.90E-2	61	961.92	5.77E-4	4.70E-4	3.16E-4	1.94E-4	1.31E-4	1.11E-4
62	360.39	2.09E-2	2.25E-2	2.72E-2	3.28E-2	3.92E-2	4.69E-2	62	1014.95	5.63E-4	4.60E-4	3.11E-4	1.95E-4	1.35E-4	1.18E-4
63	368.34	2.00E-2	2.15E-2	2.60E-2	3.13E-2	3.75E-2	4.50E-2	63	1070.77	5.50E-4	4.51E-4	3.07E-4	1.95E-4	1.38E-4	1.24E-4
64	376.37	1.90E-2	2.05E-2	2.48E-2	3.00E-2	3.59E-2	4.32E-2	64	1129.48	5.36E-4	4.40E-4	3.03E-4	1.95E-4	1.42E-4	1.29E-4
65	384.52	1.82E-2	1.96E-2	2.37E-2	2.87E-2	3.45E-2	4.15E-2	65	1191.24	5.24E-4	4.31E-4	2.98E-4	1.95E-4	1.44E-4	1.34E-4
66	392.76	1.74E-2	1.88E-2	2.27E-2	2.75E-2	3.31E-2	4.00E-2	66	1256.17	5.13E-4	4.23E-4	2.94E-4	1.95E-4	1.47E-4	1.39E-4
67	401.11	1.66E-2	1.80E-2	2.18E-2	2.64E-2	3.18E-2	3.85E-2	67	1324.42	5.00E-4	4.13E-4	2.89E-4	1.94E-4	1.48E-4	1.42E-4
68	409.58	1.59E-2	1.72E-2	2.09E-2	2.53E-2	3.05E-2	3.71E-2	68	1396.14	4.90E-4	4.05E-4	2.85E-4	1.93E-4	1.50E-4	1.45E-4
69	418.17	1.53E-2	1.65E-2	2.00E-2	2.43E-2	2.94E-2	3.58E-2	69	1471.49	4.79E-4	3.97E-4	2.80E-4	1.92E-4	1.51E-4	1.48E-4
70	426.85	1.46E-2	1.59E-2	1.92E-2	2.34E-2	2.83E-2	3.46E-2	70	1550.61	4.68E-4	3.88E-4	2.76E-4	1.91E-4	1.52E-4	1.50E-4
71	435.68	1.41E-2	1.52E-2	1.85E-2	2.25E-2	2.73E-2	3.34E-2	71	1633.70	4.57E-4	3.80E-4	2.71E-4	1.89E-4	1.52E-4	1.52E-4
72	444.61	1.35E-2	1.46E-2	1.78E-2	2.16E-2	2.63E-2	3.23E-2	72	1720.92	4.47E-4	3.72E-4	2.67E-4	1.88E-4	1.52E-4	1.54E-4
73	453.68	1.30E-2	1.41E-2	1.71E-2	2.08E-2	2.54E-2	3.13E-2	73	1812.47	4.37E-4	3.65E-4	2.62E-4	1.86E-4	1.52E-4	1.55E-4
74	462.88	1.24E-2	1.35E-2	1.65E-2	2.01E-2	2.45E-2	3.03E-2	74	1908.52	4.27E-4	3.58E-4	2.58E-4	1.84E-4	1.52E-4	1.56E-4
75	472.21	1.20E-2	1.31E-2	1.59E-2	1.93E-2	2.37E-2	2.93E-2	75	2009.29	4.17E-4	3.51E-4	2.53E-4	1.82E-4	1.52E-4	1.57E-4
76	481.66	1.15E-2	1.26E-2	1.53E-2	1.87E-2	2.29E-2	2.84E-2	76	2114.96	4.08E-4	3.44E-4	2.49E-4	1.80E-4	1.51E-4	1.57E-4
77	491.26	1.11E-2	1.21E-2	1.47E-2	1.80E-2	2.21E-2	2.76E-2	77	2225.80	3.99E-4	3.37E-4	2.45E-4	1.78E-4	1.50E-4	1.58E-4
78	501.00	1.07E-2	1.17E-2	1.42E-2	1.74E-2	2.14E-2	2.68E-2	78	2341.99	3.91E-4	3.31E-4	2.41E-4	1.76E-4	1.50E-4	1.58E-4
79	510.89	1.03E-2	1.13E-2	1.37E-2	1.68E-2	2.07E-2	2.60E-2	79	2463.80	3.83E-4	3.24E-4	2.37E-4	1.73E-4	1.49E-4	1.58E-4
80	520.89	9.94E-3	1.08E-2	1.32E-2	1.62E-2	2.00E-2	2.52E-2	80	2591.43	3.75E-4	3.18E-4	2.34E-4	1.71E-4	1.48E-4	1.58E-4
81	531.02	9.59E-3	1.05E-2	1.28E-2	1.57E-2	1.94E-2	2.45E-2	81	2725.17	3.68E-4	3.12E-4	2.30E-4	1.69E-4	1.47E-4	1.58E-4
82	541.31	9.26E-3	1.01E-2	1.23E-2	1.52E-2	1.88E-2	2.38E-2	82	2865.30	3.61E-4	3.06E-4	2.26E-4	1.67E-4	1.46E-4	1.58E-4
83	551.76	8.94E-3	9.76E-3	1.19E-2	1.47E-2	1.82E-2	2.32E-2	83	3012.14	3.54E-4	3.01E-4	2.22E-4	1.65E-4	1.45E-4	1.57E-4
84	562.41	7.61E-3	9.16E-3	1.16E-2	1.43E-2	1.77E-2	2.26E-2	84	3165.99	3.47E-4	2.94E-4	2.19E-4	1.64E-4	1.44E-4	1.57E-4
85	573.17	7.37E-3	8.85E-3	1.12E-2	1.38E-2	1.72E-2	2.20E-2	85	3327.11	3.40E-4	2.89E-4	2.15E-4	1.62E-4	1.43E-4	1.56E-4
86	583.71	7.13E-3	8.55E-3	1.08E-2	1.34E-2	1.67E-2	2.14E-2	86	3495.44	3.34E-4	2.84E-4	2.12E-4	1.60E-4	1.42E-4	1.56E-4
87	594.71	6.90E-3	8.27E-3	1.05E-2	1.30E-2	1.62E-2	2.08E-2	87	3672.09	3.28E-4	2.79E-4	2.09E-4	1.58E-4	1.41E-4	1.56E-4
88	605.77	6.68E-3	8.00E-3	1.01E-2	1.26E-2	1.57E-2	2.03E-2	88	3856.97	3.21E-4	2.75E-4	2.06E-4	1.56E-4	1.40E-4	1.56E-4
89	617.01	6.47E-3	7.74E-3	9.81E-3	1.22E-2	1.53E-2	1.98E-2	89	4050.61	3.16E-4	2.70E-4	2.02E-4	1.54E-4	1.39E-4</	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_3 - C_3$								$F_3 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	88.69	1.33E-1	1.48E-1	1.75E-1	2.03E-1	2.32E-1	2.60E-1	26	110.67	4.76E-2	5.16E-2	5.76E-2	6.57E-2	7.42E-2	8.28E-2
27	92.18	1.23E-1	1.37E-1	1.63E-1	1.89E-1	2.16E-1	2.42E-1	27	116.75	5.97E-2	6.54E-2	7.41E-2	8.52E-2	9.67E-2	1.08E-1
28	95.59	1.17E-1	1.30E-1	1.54E-1	1.79E-1	2.05E-1	2.29E-1	28	123.07	7.42E-2	8.20E-2	9.38E-2	1.09E-1	1.24E-1	1.39E-1
29	98.94	1.12E-1	1.25E-1	1.49E-1	1.73E-1	1.98E-1	2.21E-1	29	129.70	9.11E-2	1.01E-1	1.17E-1	1.36E-1	1.55E-1	1.74E-1
30	102.23	1.09E-1	1.22E-1	1.46E-1	1.69E-1	1.93E-1	2.17E-1	30	136.68	1.10E-1	1.23E-1	1.42E-1	1.66E-1	1.90E-1	2.14E-1
31	105.51	1.08E-1	1.23E-1	1.42E-1	1.66E-1	1.91E-1	2.15E-1	31	144.07	1.26E-1	1.46E-1	1.71E-1	1.97E-1	2.27E-1	2.56E-1
32	108.78	1.07E-1	1.22E-1	1.42E-1	1.66E-1	1.90E-1	2.14E-1	32	151.94	1.46E-1	1.70E-1	1.99E-1	2.30E-1	2.65E-1	3.00E-1
33	112.08	1.07E-1	1.22E-1	1.41E-1	1.66E-1	1.90E-1	2.14E-1	33	160.35	1.65E-1	1.93E-1	2.26E-1	2.62E-1	3.02E-1	3.42E-1
34	115.44	1.07E-1	1.21E-1	1.41E-1	1.65E-1	1.90E-1	2.14E-1	34	169.37	1.82E-1	2.13E-1	2.51E-1	2.91E-1	3.36E-1	3.81E-1
35	118.87	1.07E-1	1.20E-1	1.40E-1	1.65E-1	1.90E-1	2.14E-1	35	179.05	1.97E-1	2.31E-1	2.72E-1	3.16E-1	3.64E-1	4.14E-1
36	122.39	1.03E-1	1.18E-1	1.39E-1	1.63E-1	1.88E-1	2.12E-1	36	189.44	2.10E-1	2.45E-1	2.87E-1	3.35E-1	3.87E-1	4.41E-1
37	126.00	1.03E-1	1.17E-1	1.37E-1	1.61E-1	1.86E-1	2.10E-1	37	200.61	2.25E-1	2.49E-1	2.99E-1	3.49E-1	4.04E-1	4.60E-1
38	129.72	9.99E-2	1.14E-1	1.34E-1	1.58E-1	1.82E-1	2.07E-1	38	212.60	2.30E-1	2.55E-1	3.06E-1	3.58E-1	4.14E-1	4.72E-1
39	133.52	9.97E-2	1.11E-1	1.31E-1	1.54E-1	1.78E-1	2.02E-1	39	225.46	2.23E-1	2.62E-1	3.09E-1	3.61E-1	4.18E-1	4.79E-1
40	137.43	9.46E-2	1.08E-1	1.28E-1	1.50E-1	1.74E-1	1.98E-1	40	239.23	2.27E-1	2.58E-1	3.09E-1	3.61E-1	4.19E-1	4.80E-1
41	141.43	9.32E-2	1.04E-1	1.24E-1	1.46E-1	1.69E-1	1.92E-1	41	253.96	2.20E-1	2.57E-1	3.06E-1	3.57E-1	4.15E-1	4.77E-1
42	145.51	8.95E-2	1.01E-1	1.20E-1	1.41E-1	1.64E-1	1.86E-1	42	269.71	2.25E-1	2.48E-1	3.00E-1	3.52E-1	4.09E-1	4.71E-1
43	149.69	8.76E-2	9.71E-2	1.16E-1	1.37E-1	1.58E-1	1.81E-1	43	286.51	2.10E-1	2.47E-1	2.93E-1	3.44E-1	4.00E-1	4.62E-1
44	153.94	8.47E-2	9.32E-2	1.11E-1	1.32E-1	1.53E-1	1.75E-1	44	304.44	2.08E-1	2.38E-1	2.84E-1	3.35E-1	3.90E-1	4.51E-1
45	158.28	8.13E-2	8.97E-2	1.07E-1	1.27E-1	1.47E-1	1.69E-1	45	323.54	2.00E-1	2.31E-1	2.75E-1	3.25E-1	3.79E-1	4.39E-1
46	162.70	7.52E-2	8.65E-2	1.03E-1	1.22E-1	1.42E-1	1.63E-1	46	343.88	2.00E-1	2.21E-1	2.67E-1	3.14E-1	3.67E-1	4.26E-1
47	167.19	7.50E-2	8.07E-2	9.87E-2	1.17E-1	1.37E-1	1.57E-1	47	365.51	1.91E-1	2.21E-1	2.59E-1	3.02E-1	3.54E-1	4.13E-1
48	171.76	6.84E-2	7.95E-2	9.54E-2	1.13E-1	1.32E-1	1.52E-1	48	388.51	1.81E-1	2.06E-1	2.46E-1	2.92E-1	3.43E-1	4.00E-1
49	176.41	6.83E-2	7.62E-2	9.15E-2	1.09E-1	1.27E-1	1.46E-1	49	412.94	1.79E-1	1.96E-1	2.38E-1	2.82E-1	3.31E-1	3.86E-1
50	181.14	6.35E-2	7.32E-2	8.80E-2	1.04E-1	1.22E-1	1.41E-1	50	438.88	1.73E-1	1.89E-1	2.29E-1	2.71E-1	3.18E-1	3.73E-1
51	185.94	6.22E-2	7.03E-2	8.44E-2	1.00E-1	1.17E-1	1.36E-1	51	466.40	1.63E-1	1.83E-1	2.20E-1	2.60E-1	3.06E-1	3.60E-1
52	190.81	5.91E-2	6.75E-2	8.11E-2	9.65E-2	1.13E-1	1.31E-1	52	495.58	1.54E-1	1.75E-1	2.10E-1	2.50E-1	2.95E-1	3.47E-1
53	195.77	5.73E-2	6.47E-2	7.80E-2	9.28E-2	1.09E-1	1.27E-1	53	526.52	1.50E-1	1.69E-1	2.01E-1	2.40E-1	2.84E-1	3.35E-1
54	200.80	5.51E-2	6.21E-2	7.49E-2	8.93E-2	1.05E-1	1.22E-1	54	559.27	1.43E-1	1.61E-1	1.93E-1	2.30E-1	2.73E-1	3.23E-1
55	205.92	5.24E-2	5.97E-2	7.20E-2	8.59E-2	1.01E-1	1.18E-1	55	593.95	1.36E-1	1.55E-1	1.84E-1	2.21E-1	2.62E-1	3.11E-1
56	211.12	5.06E-2	5.73E-2	6.93E-2	8.27E-2	9.73E-2	1.14E-1	56	630.64	1.32E-1	1.50E-1	1.77E-1	2.12E-1	2.52E-1	3.00E-1
57	216.41	4.61E-2	5.30E-2	6.64E-2	7.98E-2	9.40E-2	1.11E-1	57	669.43	1.22E-1	1.44E-1	1.71E-1	2.02E-1	2.41E-1	2.89E-1
58	221.78	4.43E-2	5.10E-2	6.39E-2	7.68E-2	9.07E-2	1.07E-1	58	710.44	1.18E-1	1.38E-1	1.64E-1	1.94E-1	2.32E-1	2.79E-1
59	227.24	4.26E-2	4.90E-2	6.15E-2	7.40E-2	8.75E-2	1.03E-1	59	753.77	1.13E-1	1.32E-1	1.58E-1	1.87E-1	2.23E-1	2.69E-1
60	232.79	4.09E-2	4.72E-2	5.92E-2	7.13E-2	8.45E-2	1.00E-1	60	799.51	1.09E-1	1.26E-1	1.51E-1	1.79E-1	2.15E-1	2.59E-1
61	238.44	3.94E-2	4.54E-2	5.70E-2	6.87E-2	8.15E-2	9.68E-2	61	847.80	1.06E-1	1.20E-1	1.45E-1	1.72E-1	2.07E-1	2.50E-1
62	244.16	3.79E-2	4.37E-2	5.49E-2	6.63E-2	7.88E-2	9.38E-2	62	898.72	1.02E-1	1.15E-1	1.39E-1	1.66E-1	1.99E-1	2.42E-1
63	250.00	3.65E-2	4.21E-2	5.29E-2	6.39E-2	7.61E-2	9.08E-2	63	952.43	9.89E-2	1.10E-1	1.34E-1	1.59E-1	1.92E-1	2.33E-1
64	255.92	3.52E-2	4.06E-2	5.10E-2	6.17E-2	7.36E-2	8.80E-2	64	1009.03	9.56E-2	1.05E-1	1.29E-1	1.53E-1	1.85E-1	2.26E-1
65	261.96	3.39E-2	3.91E-2	4.92E-2	5.95E-2	7.11E-2	8.53E-2	65	1068.68	9.24E-2	1.01E-1	1.23E-1	1.47E-1	1.78E-1	2.18E-1
66	268.09	3.27E-2	3.77E-2	4.75E-2	5.75E-2	6.88E-2	8.28E-2	66	1131.50	8.92E-2	9.66E-2	1.18E-1	1.42E-1	1.72E-1	2.11E-1
67	274.34	3.16E-2	3.64E-2	4.58E-2	5.55E-2	6.66E-2	8.03E-2	67	1197.64	8.59E-2	9.27E-2	1.14E-1	1.37E-1	1.66E-1	2.04E-1
68	280.69	3.05E-2	3.51E-2	4.42E-2	5.36E-2	6.44E-2	7.80E-2	68	1267.25	8.28E-2	8.91E-2	1.09E-1	1.32E-1	1.60E-1	1.97E-1
69	287.17	2.94E-2	3.39E-2	4.27E-2	5.18E-2	6.24E-2	7.57E-2	69	1340.49	7.96E-2	8.57E-2	1.05E-1	1.27E-1	1.54E-1	1.91E-1
70	293.74	2.84E-2	3.27E-2	4.12E-2	5.01E-2	6.04E-2	7.35E-2	70	1417.49	7.64E-2	8.25E-2	1.01E-1	1.22E-1	1.49E-1	1.85E-1
71	300.44	2.74E-2	3.16E-2	3.98E-2	4.84E-2	5.85E-2	7.14E-2	71	1498.47	7.32E-2	7.95E-2	9.66E-2	1.18E-1	1.44E-1	1.79E-1
72	307.25	2.65E-2	3.05E-2	3.84E-2	4.69E-2	5.67E-2	6.94E-2	72	1583.56	7.01E-2	7.67E-2	9.28E-2	1.13E-1	1.39E-1	1.73E-1
73	314.19	2.56E-2	2.95E-2	3.71E-2	4.53E-2	5.50E-2	6.75E-2	73	1672.98	6.71E-2	7.40E-2	8.92E-2	1.09E-1	1.34E-1	1.68E-1
74	321.25	2.47E-2	2.85E-2	3.59E-2	4.38E-2	5.33E-2	6.56E-2	74	1766.89	6.42E-2	7.14E-2	8.57E-2	1.05E-1	1.30E-1	1.63E-1
75	328.44	2.39E-2	2.75E-2	3.47E-2	4.24E-2	5.17E-2	6.38E-2	75	1865.52	6.15E-2	6.90E-2	8.25E-2	1.02E-1	1.25E-1	1.58E-1
76	335.74	2.31E-2	2.66E-2	3.35E-2	4.11E-2	5.01E-2	6.21E-2	76	1969.05	5.89E-2	6.67E-2	7.93E-2	9.78E-2	1.21E-1	1.53E-1
77	343.19	2.24E-2	2.57E-2	3.24E-2	3.98E-2	4.86E-2	6.04E-2	77	2077.73	5.65E-2	6.45E-2	7.64E-2	9.43E-2	1.17E-1	1.49E-1
78	350.76	2.16E-2	2.48E-2	3.14E-2	3.85E-2	4.72E-2	5.88E-2	78	2191.75	5.44E-2	6.23E-2	7.36E-2	9.10E-2	1.13E-1	1.44E-1
79	358.48	2.09E-2	2.40E-2	3.03E-2	3.73E-2	4.58E-2	5.73E-2	79	2311.39	5.25E-2	6.02E-2	7.09E-2	8.78E-2	1.10E-1	1.40E-1
80	366.31	2.02E-2	2.32E-2	2.94E-2	3.61E-2	4.44E-2	5.57E-2	80	2436.85	5.08E-2	5.81E-2	6.83E-2	8.47E-2	1.06E-1	1.36E-1
81	374.25	1.96E-2	2.25E-2	2.84E-2	3.50E-2	4.31E-2	5.43E-2	81	2568.39	4.92E-2	5.61E-2	6.59E-2	8.17E-2	1.03E-1	1.32E-1
82	382.34	1.89E-2	2.17E-2	2.75E-2	3.39E-2	4.19E-2	5.29E-2	82	2706.33	4.77E-2	5.41E-2	6.35E-2	7.89E-2	9.95E-2	1.28E-1
83	390.59	1.83E-2	2.10E-2	2.66E-2	3.28E-2	4.07E-2	5.15E-2	83	2850.96	4.63E-2	5.21E-2	6.13E-2	7.62E-2	9.64E-2	1.25E-1
84	399.02	1.62E-2	2.04E-2	2.61E-2	3.21E-2	3.97E-2	5.03E-2	84	3002.60	4.30E-2	4.94E-2	6.05E-2	7.39E-2	9.29E-2	1.21E-1
85	407.55	1.56E-2	1.98E-2	2.52E-2	3.11E-2	3.85E-2	4.90E-2	85	3161.49	4.17E-2	4.75E-2	5.83E-2	7.15E-2	9.01E-2	1.17E-1
86	415.86	1.51E-2	1.91E-2	2.44E-2	3.01E-2	3.74E-2	4.78E-2	86	3327.59	4.05E-2	4.57E-2	5.63E-2	6.91E-2	8.73E-2	1.14E-1
87	424.61	1.46E-2	1.85E-2	2.36E-2	2.92E-2	3.64E-2	4.66E-2	87	3501.98	3.93E-2	4.40E-2	5.42E-2	6.69E-2	8.47E-2	1.11E-1
88	433.40	1.42E-2	1.79E-2	2.29E-2	2.83E-2	3.53E-2	4.54E-2	88	3684.60	3.81E-2	4.23E-2	5.23E-2	6.47E-2	8.22E-2	1.08E-1
89	442.37	1.37E-2	1.73E-2	2.21E-2	2.74E-2	3.43E-2	4.43E-2	89	3875.97	3.70E-2	4.08E-2	5.04E-2	6.26E-2	7.97E-2	1.

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$F_4 - C_3$								$F_4 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	64.18	7.85E-2	8.82E-2	1.04E-1	1.20E-1	1.37E-1	1.52E-1	26	86.17	1.33E+0	1.50E+0	1.79E+0	2.10E+0	2.39E+0	2.68E+0
27	66.87	7.78E-2	8.77E-2	1.04E-1	1.20E-1	1.37E-1	1.52E-1	27	91.43	1.20E+0	1.35E+0	1.61E+0	1.89E+0	2.15E+0	2.42E+0
28	69.39	7.54E-2	8.54E-2	1.01E-1	1.17E-1	1.33E-1	1.49E-1	28	96.86	1.08E+0	1.21E+0	1.45E+0	1.69E+0	1.94E+0	2.17E+0
29	71.69	7.15E-2	8.14E-2	9.68E-2	1.12E-1	1.28E-1	1.42E-1	29	102.45	9.64E-1	1.08E+0	1.30E+0	1.52E+0	1.74E+0	1.95E+0
30	73.73	6.64E-2	7.59E-2	9.04E-2	1.05E-1	1.19E-1	1.33E-1	30	108.18	8.60E-1	9.64E-1	1.16E+0	1.35E+0	1.55E+0	1.74E+0
31	75.44	6.34E-2	6.87E-2	8.16E-2	9.59E-2	1.10E-1	1.22E-1	31	114.01	7.55E-1	8.76E-1	1.02E+0	1.19E+0	1.37E+0	1.55E+0
32	76.76	5.67E-2	6.14E-2	7.33E-2	8.62E-2	9.86E-2	1.10E-1	32	119.92	6.66E-1	7.73E-1	9.00E-1	1.05E+0	1.21E+0	1.37E+0
33	77.63	4.98E-2	5.40E-2	6.49E-2	7.63E-2	8.73E-2	9.77E-2	33	125.89	5.86E-1	6.78E-1	7.91E-1	9.26E-1	1.07E+0	1.21E+0
34	77.97	4.31E-2	4.69E-2	5.66E-2	6.67E-2	7.62E-2	8.54E-2	34	131.89	5.05E-1	5.90E-1	6.94E-1	8.12E-1	9.36E-1	1.06E+0
35	77.72	3.68E-2	4.03E-2	4.89E-2	5.76E-2	6.59E-2	7.39E-2	35	137.90	4.40E-1	5.16E-1	6.06E-1	7.10E-1	8.19E-1	9.28E-1
36	76.85	3.12E-2	3.46E-2	4.21E-2	4.96E-2	5.67E-2	6.35E-2	36	143.90	3.83E-1	4.51E-1	5.29E-1	6.20E-1	7.16E-1	8.12E-1
37	75.28	2.64E-2	2.94E-2	3.61E-2	4.25E-2	4.86E-2	5.46E-2	37	149.89	3.48E-1	3.95E-1	4.62E-1	5.42E-1	6.27E-1	7.12E-1
38	72.97	2.24E-2	2.52E-2	3.11E-2	3.66E-2	4.18E-2	4.69E-2	38	155.86	3.00E-1	3.46E-1	4.05E-1	4.76E-1	5.51E-1	6.26E-1
39	69.88	1.89E-2	2.17E-2	2.68E-2	3.16E-2	3.60E-2	4.04E-2	39	161.82	2.59E-1	3.02E-1	3.57E-1	4.19E-1	4.85E-1	5.53E-1
40	65.96	1.60E-2	1.88E-2	2.33E-2	2.74E-2	3.12E-2	3.51E-2	40	167.77	2.31E-1	2.69E-1	3.16E-1	3.71E-1	4.30E-1	4.90E-1
41	61.17	1.37E-2	1.64E-2	2.04E-2	2.40E-2	2.73E-2	3.06E-2	41	173.71	2.05E-1	2.36E-1	2.81E-1	3.30E-1	3.83E-1	4.38E-1
42	55.45	1.20E-2	1.45E-2	1.81E-2	2.12E-2	2.41E-2	2.70E-2	42	179.65	1.90E-1	2.13E-1	2.50E-1	2.95E-1	3.43E-1	3.92E-1
43	48.76	1.04E-2	1.30E-2	1.62E-2	1.89E-2	2.15E-2	2.41E-2	43	185.59	1.64E-1	1.90E-1	2.26E-1	2.66E-1	3.09E-1	3.54E-1
44	41.05	9.37E-3	1.19E-2	1.48E-2	1.71E-2	1.94E-2	2.17E-2	44	191.54	1.47E-1	1.72E-1	2.04E-1	2.40E-1	2.79E-1	3.21E-1
45	32.25	8.70E-3	1.12E-2	1.37E-2	1.58E-2	1.78E-2	1.99E-2	45	197.51	1.34E-1	1.55E-1	1.85E-1	2.18E-1	2.54E-1	2.92E-1
46	22.32	8.48E-3	1.08E-2	1.31E-2	1.49E-2	1.68E-2	1.87E-2	46	203.50	1.22E-1	1.43E-1	1.69E-1	1.99E-1	2.32E-1	2.68E-1
47	11.19	9.02E-3	1.11E-2	1.32E-2	1.49E-2	1.66E-2	1.85E-2	47	209.51	1.10E-1	1.28E-1	1.55E-1	1.83E-1	2.13E-1	2.46E-1
48	-1.197	1.26E-2	1.45E-2	1.64E-2	1.80E-2	1.97E-2	2.17E-2	48	215.55	1.03E-1	1.20E-1	1.42E-1	1.68E-1	1.97E-1	2.27E-1
49	-14.91	6.70E-3	8.36E-3	9.96E-3	1.13E-2	1.27E-2	1.42E-2	49	221.62	9.43E-2	1.11E-1	1.32E-1	1.55E-1	1.82E-1	2.11E-1
50	-30.02	5.01E-3	6.40E-3	7.81E-3	8.99E-3	1.02E-2	1.15E-2	50	227.73	8.76E-2	1.03E-1	1.22E-1	1.44E-1	1.69E-1	1.96E-1
51	-46.59	4.05E-3	5.19E-3	6.41E-3	7.46E-3	8.51E-3	9.68E-3	51	233.88	8.47E-2	9.53E-2	1.13E-1	1.34E-1	1.58E-1	1.83E-1
52	-64.71	3.44E-3	4.33E-3	5.40E-3	6.33E-3	7.27E-3	8.32E-3	52	240.07	7.73E-2	8.89E-2	1.06E-1	1.25E-1	1.47E-1	1.72E-1
53	-84.43	3.03E-3	3.70E-3	4.62E-3	5.45E-3	6.29E-3	7.24E-3	53	246.31	7.09E-2	8.29E-2	9.90E-2	1.17E-1	1.38E-1	1.61E-1
54	-105.87	2.72E-3	3.21E-3	4.00E-3	4.74E-3	5.50E-3	6.36E-3	54	252.60	6.66E-2	7.79E-2	9.28E-2	1.10E-1	1.30E-1	1.52E-1
55	-129.08	2.46E-3	2.81E-3	3.50E-3	4.16E-3	4.85E-3	5.64E-3	55	258.94	6.25E-2	7.31E-2	8.73E-2	1.04E-1	1.22E-1	1.44E-1
56	-154.17	2.22E-3	2.50E-3	3.09E-3	3.68E-3	4.30E-3	5.03E-3	56	265.34	5.88E-2	6.89E-2	8.23E-2	9.79E-2	1.16E-1	1.36E-1
57	-181.23	1.83E-3	2.18E-3	2.74E-3	3.28E-3	3.85E-3	4.51E-3	57	271.80	5.70E-2	6.24E-2	7.68E-2	9.25E-2	1.10E-1	1.29E-1
58	-210.34	1.68E-3	1.95E-3	2.44E-3	2.93E-3	3.46E-3	4.07E-3	58	278.33	5.38E-2	5.90E-2	7.27E-2	8.76E-2	1.04E-1	1.23E-1
59	-241.61	1.54E-3	1.75E-3	2.19E-3	2.63E-3	3.11E-3	3.68E-3	59	284.92	5.09E-2	5.59E-2	6.89E-2	8.31E-2	9.87E-2	1.17E-1
60	-275.15	1.43E-3	1.59E-3	1.97E-3	2.37E-3	2.82E-3	3.34E-3	60	291.58	4.83E-2	5.30E-2	6.54E-2	7.89E-2	9.39E-2	1.12E-1
61	-311.05	1.33E-3	1.45E-3	1.78E-3	2.15E-3	2.56E-3	3.05E-3	61	298.31	4.59E-2	5.04E-2	6.22E-2	7.51E-2	8.95E-2	1.07E-1
62	-349.46	1.22E-3	1.33E-3	1.61E-3	1.95E-3	2.33E-3	2.79E-3	62	305.10	4.37E-2	4.80E-2	5.92E-2	7.16E-2	8.54E-2	1.02E-1
63	-390.45	1.13E-3	1.22E-3	1.47E-3	1.78E-3	2.13E-3	2.56E-3	63	311.98	4.16E-2	4.57E-2	5.65E-2	6.83E-2	8.16E-2	9.77E-2
64	-434.19	1.03E-3	1.12E-3	1.34E-3	1.62E-3	1.95E-3	2.35E-3	64	318.93	3.97E-2	4.36E-2	5.39E-2	6.53E-2	7.81E-2	9.38E-2
65	-480.76	9.41E-4	1.04E-3	1.23E-3	1.49E-3	1.79E-3	2.17E-3	65	325.97	3.78E-2	4.17E-2	5.15E-2	6.24E-2	7.48E-2	9.01E-2
66	-530.33	8.61E-4	9.62E-4	1.13E-3	1.37E-3	1.65E-3	2.01E-3	66	333.08	3.62E-2	3.98E-2	4.93E-2	5.97E-2	7.17E-2	8.66E-2
67	-583.01	7.88E-4	8.90E-4	1.04E-3	1.26E-3	1.53E-3	1.86E-3	67	340.29	3.46E-2	3.81E-2	4.72E-2	5.73E-2	6.89E-2	8.34E-2
68	-638.97	7.22E-4	8.25E-4	9.66E-4	1.16E-3	1.41E-3	1.73E-3	68	347.58	3.30E-2	3.65E-2	4.52E-2	5.49E-2	6.62E-2	8.03E-2
69	-698.34	6.62E-4	7.64E-4	8.95E-4	1.08E-3	1.31E-3	1.61E-3	69	354.98	3.16E-2	3.50E-2	4.33E-2	5.27E-2	6.37E-2	7.75E-2
70	-761.31	6.09E-4	7.08E-4	8.30E-4	9.97E-4	1.21E-3	1.50E-3	70	362.44	3.03E-2	3.35E-2	4.16E-2	5.07E-2	6.13E-2	7.48E-2
71	-828.00	5.61E-4	6.50E-4	7.73E-4	9.26E-4	1.13E-3	1.40E-3	71	370.02	2.91E-2	3.22E-2	4.00E-2	4.87E-2	5.90E-2	7.23E-2
72	-898.62	5.22E-4	6.02E-4	7.19E-4	8.62E-4	1.05E-3	1.31E-3	72	377.69	2.79E-2	3.09E-2	3.84E-2	4.69E-2	5.69E-2	6.99E-2
73	-973.33	4.88E-4	5.58E-4	6.70E-4	8.03E-4	9.84E-4	1.23E-3	73	385.46	2.68E-2	2.97E-2	3.69E-2	4.51E-2	5.49E-2	6.76E-2
74	-1052.32	4.57E-4	5.18E-4	6.25E-4	7.50E-4	9.20E-4	1.15E-3	74	393.32	2.58E-2	2.86E-2	3.56E-2	4.35E-2	5.30E-2	6.54E-2
75	-1135.79	4.30E-4	4.82E-4	5.84E-4	7.01E-4	8.61E-4	1.08E-3	75	401.29	2.48E-2	2.75E-2	3.43E-2	4.19E-2	5.12E-2	6.34E-2
76	-1223.96	4.04E-4	4.49E-4	5.45E-4	6.56E-4	8.07E-4	1.02E-3	76	409.34	2.39E-2	2.65E-2	3.30E-2	4.04E-2	4.95E-2	6.14E-2
77	-1317.01	3.81E-4	4.18E-4	5.10E-4	6.15E-4	7.58E-4	9.56E-4	77	417.52	2.30E-2	2.56E-2	3.18E-2	3.90E-2	4.78E-2	5.96E-2
78	-1415.20	3.58E-4	3.91E-4	4.77E-4	5.77E-4	7.12E-4	9.02E-4	78	425.79	2.22E-2	2.46E-2	3.07E-2	3.77E-2	4.63E-2	5.78E-2
79	-1518.73	3.38E-4	3.66E-4	4.47E-4	5.41E-4	6.70E-4	8.51E-4	79	434.18	2.14E-2	2.38E-2	2.96E-2	3.64E-2	4.48E-2	5.61E-2
80	-1627.90	3.18E-4	3.44E-4	4.18E-4	5.09E-4	6.31E-4	8.04E-4	80	442.64	2.07E-2	2.29E-2	2.86E-2	3.51E-2	4.34E-2	5.45E-2
81	-1742.96	2.99E-4	3.23E-4	3.92E-4	4.78E-4	5.95E-4	7.61E-4	81	451.19	1.99E-2	2.21E-2	2.76E-2	3.40E-2	4.20E-2	5.30E-2
82	-1864.14	2.82E-4	3.04E-4	3.68E-4	4.50E-4	5.62E-4	7.20E-4	82	459.85	1.92E-2	2.14E-2	2.66E-2	3.28E-2	4.07E-2	5.15E-2
83	-1991.74	2.62E-4	2.89E-4	3.44E-4	4.23E-4	5.31E-4	6.83E-4	83	468.63	1.86E-2	2.06E-2	2.57E-2	3.18E-2	3.94E-2	5.01E-2
84	-2126.03	2.40E-4	2.77E-4	3.27E-4	3.96E-4	4.98E-4	6.46E-4	84	477.56	1.59E-2	1.97E-2	2.51E-2	3.09E-2	3.84E-2	4.88E-2
85	-2267.39	2.26E-4	2.59E-4	3.09E-4	3.74E-4	4.71E-4	6.13E-4	85	486.55	1.54E-2	1.90E-2	2.42E-2	3.00E-2	3.72E-2	4.75E-2
86	-2416.47	2.14E-4	2.44E-4	2.93E-4	3.54E-4	4.47E-4	5.83E-4	86	495.26	1.49E-2	1.84E-2	2.34E-2	2.90E-2	3.61E-2	4.62E-2
87	-2572.99	2.03E-4	2.29E-4	2.77E-4	3.35E-4	4.23E-4	5.54E-4	87	504.38	1.44E-2	1.78E-2	2.27E-2	2.81E-2	3.51E-2	4.50E-2
88	-2737.71	1.93E-4	2.15E-4	2.62E-4	3.18E-4	4.02E-4	5.27E-4	88	513.49	1.39E-2	1.72E-2	2.19E-2	2.72E-2	3.40E-2	4.38E-2
89	-2910.87	1.83E-4	2.02E-4	2.47E-4	3.01E-4	3.82E-4	5.02E-4	89	522.73	1.35E-2	1.66E-2	2.12E-2	2.63E-2	3.31E-2	4.27E-2
90	-3093.14	1.7													

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$G_1 - B_2$								$G_1 - C_3$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$	Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	117.44	1.87E-3	1.50E-3	9.27E-4	4.70E-4	2.07E-4	8.87E-5	26	105.91	6.06E-1	6.81E-1	7.98E-1	9.37E-1	1.07E+0	1.21E+0
27	124.76	1.70E-3	1.36E-3	8.47E-4	4.29E-4	1.89E-4	8.10E-5	27	110.92	5.53E-1	6.23E-1	7.30E-1	8.57E-1	9.82E-1	1.10E+0
28	132.46	1.57E-3	1.26E-3	7.78E-4	3.94E-4	1.74E-4	7.43E-5	28	115.98	5.06E-1	5.70E-1	6.69E-1	7.86E-1	9.01E-1	1.01E+0
29	140.56	1.45E-3	1.16E-3	7.17E-4	3.63E-4	1.60E-4	6.84E-5	29	121.06	4.64E-1	5.23E-1	6.15E-1	7.23E-1	8.28E-1	9.32E-1
30	149.11	1.35E-3	1.08E-3	6.63E-4	3.35E-4	1.48E-4	6.32E-5	30	126.19	4.27E-1	4.82E-1	5.67E-1	6.66E-1	7.64E-1	8.60E-1
31	158.14	1.25E-3	9.96E-4	6.16E-4	3.11E-4	1.37E-4	5.87E-5	31	131.35	3.83E-1	4.48E-1	5.26E-1	6.12E-1	7.04E-1	7.95E-1
32	167.68	1.17E-3	9.29E-4	5.74E-4	2.90E-4	1.28E-4	5.46E-5	32	136.55	3.54E-1	4.15E-1	4.87E-1	5.67E-1	6.53E-1	7.38E-1
33	177.77	1.09E-3	8.68E-4	5.36E-4	2.71E-4	1.19E-4	5.10E-5	33	141.79	3.28E-1	3.85E-1	4.52E-1	5.26E-1	6.07E-1	6.87E-1
34	188.45	1.03E-3	8.15E-4	5.02E-4	2.53E-4	1.12E-4	4.78E-5	34	147.07	3.04E-1	3.58E-1	4.20E-1	4.90E-1	5.65E-1	6.40E-1
35	199.77	9.64E-4	7.66E-4	4.72E-4	2.38E-4	1.05E-4	4.48E-5	35	152.39	2.83E-1	3.34E-1	3.92E-1	4.57E-1	5.28E-1	5.99E-1
36	211.77	9.04E-4	7.19E-4	4.43E-4	2.24E-4	9.88E-5	4.22E-5	36	157.75	2.65E-1	3.13E-1	3.66E-1	4.28E-1	4.94E-1	5.61E-1
37	224.49	8.56E-4	6.79E-4	4.18E-4	2.11E-4	9.31E-5	3.98E-5	37	163.17	2.59E-1	2.93E-1	3.42E-1	4.01E-1	4.64E-1	5.27E-1
38	237.98	8.10E-4	6.43E-4	3.95E-4	2.00E-4	8.80E-5	3.76E-5	38	168.63	2.39E-1	2.75E-1	3.21E-1	3.76E-1	4.36E-1	4.96E-1
39	252.29	7.63E-4	6.06E-4	3.74E-4	1.89E-4	8.33E-5	3.56E-5	39	174.14	2.18E-1	2.56E-1	3.03E-1	3.54E-1	4.10E-1	4.68E-1
40	267.48	7.24E-4	5.75E-4	3.54E-4	1.79E-4	7.90E-5	3.38E-5	40	179.70	2.08E-1	2.42E-1	2.85E-1	3.34E-1	3.87E-1	4.42E-1
41	283.59	6.90E-4	5.47E-4	3.36E-4	1.70E-4	7.50E-5	3.20E-5	41	185.31	1.95E-1	2.27E-1	2.69E-1	3.16E-1	3.66E-1	4.19E-1
42	300.68	6.54E-4	5.20E-4	3.20E-4	1.62E-4	7.14E-5	3.05E-5	42	190.99	1.93E-1	2.16E-1	2.53E-1	2.98E-1	3.47E-1	3.97E-1
43	318.80	6.24E-4	4.95E-4	3.05E-4	1.54E-4	6.80E-5	2.91E-5	43	196.71	1.74E-1	2.03E-1	2.41E-1	2.83E-1	3.29E-1	3.78E-1
44	338.03	5.97E-4	4.74E-4	2.91E-4	1.47E-4	6.49E-5	2.78E-5	44	202.50	1.64E-1	1.93E-1	2.28E-1	2.69E-1	3.12E-1	3.59E-1
45	358.42	5.70E-4	4.52E-4	2.78E-4	1.40E-4	6.20E-5	2.65E-5	45	208.36	1.56E-1	1.82E-1	2.17E-1	2.55E-1	2.97E-1	3.42E-1
46	380.03	5.43E-4	4.31E-4	2.66E-4	1.34E-4	5.94E-5	2.54E-5	46	214.27	1.49E-1	1.74E-1	2.06E-1	2.43E-1	2.83E-1	3.27E-1
47	402.94	5.23E-4	4.14E-4	2.54E-4	1.29E-4	5.68E-5	2.43E-5	47	220.26	1.40E-1	1.62E-1	1.96E-1	2.32E-1	2.70E-1	3.12E-1
48	427.21	4.99E-4	3.96E-4	2.44E-4	1.23E-4	5.45E-5	2.33E-5	48	226.31	1.35E-1	1.58E-1	1.86E-1	2.21E-1	2.58E-1	2.99E-1
49	452.91	4.78E-4	3.80E-4	2.34E-4	1.18E-4	5.24E-5	2.24E-5	49	232.44	1.27E-1	1.50E-1	1.78E-1	2.11E-1	2.46E-1	2.86E-1
50	480.12	4.62E-4	3.66E-4	2.25E-4	1.14E-4	5.04E-5	2.16E-5	50	238.64	1.22E-1	1.43E-1	1.70E-1	2.01E-1	2.36E-1	2.74E-1
51	508.92	4.43E-4	3.51E-4	2.16E-4	1.10E-4	4.84E-5	2.07E-5	51	244.92	1.21E-1	1.36E-1	1.62E-1	1.93E-1	2.26E-1	2.63E-1
52	539.39	4.27E-4	3.38E-4	2.08E-4	1.05E-4	4.67E-5	1.99E-5	52	251.28	1.13E-1	1.30E-1	1.55E-1	1.84E-1	2.17E-1	2.53E-1
53	571.62	4.09E-4	3.25E-4	2.00E-4	1.02E-4	4.50E-5	1.93E-5	53	257.73	1.06E-1	1.25E-1	1.49E-1	1.77E-1	2.08E-1	2.43E-1
54	605.69	3.96E-4	3.14E-4	1.93E-4	9.79E-5	4.34E-5	1.86E-5	54	264.25	1.02E-1	1.19E-1	1.43E-1	1.69E-1	2.00E-1	2.34E-1
55	641.69	3.82E-4	3.03E-4	1.87E-4	9.45E-5	4.19E-5	1.79E-5	55	270.88	9.72E-2	1.14E-1	1.37E-1	1.63E-1	1.92E-1	2.26E-1
56	679.72	3.69E-4	2.92E-4	1.80E-4	9.13E-5	4.05E-5	1.73E-5	56	277.58	9.33E-2	1.10E-1	1.31E-1	1.56E-1	1.85E-1	2.17E-1
57	719.87	3.55E-4	2.82E-4	1.74E-4	8.83E-5	3.91E-5	1.68E-5	57	284.39	9.27E-2	1.01E-1	1.24E-1	1.50E-1	1.78E-1	2.10E-1
58	762.26	3.43E-4	2.72E-4	1.68E-4	8.55E-5	3.78E-5	1.62E-5	58	291.29	8.90E-2	9.71E-2	1.19E-1	1.44E-1	1.71E-1	2.03E-1
59	806.98	3.32E-4	2.64E-4	1.63E-4	8.27E-5	3.67E-5	1.57E-5	59	298.30	8.54E-2	9.33E-2	1.15E-1	1.39E-1	1.65E-1	1.96E-1
60	854.14	3.22E-4	2.56E-4	1.58E-4	8.01E-5	3.55E-5	1.52E-5	60	305.40	8.20E-2	8.97E-2	1.11E-1	1.34E-1	1.59E-1	1.89E-1
61	903.86	3.11E-4	2.47E-4	1.53E-4	7.77E-5	3.45E-5	1.48E-5	61	312.62	7.89E-2	8.63E-2	1.06E-1	1.29E-1	1.54E-1	1.83E-1
62	956.24	3.01E-4	2.40E-4	1.48E-4	7.54E-5	3.35E-5	1.43E-5	62	319.93	7.59E-2	8.31E-2	1.02E-1	1.24E-1	1.48E-1	1.77E-1
63	1011.44	2.93E-4	2.33E-4	1.44E-4	7.32E-5	3.25E-5	1.39E-5	63	327.37	7.31E-2	8.00E-2	9.87E-2	1.20E-1	1.43E-1	1.72E-1
64	1069.55	2.83E-4	2.26E-4	1.40E-4	7.11E-5	3.16E-5	1.35E-5	64	334.91	7.04E-2	7.71E-2	9.51E-2	1.16E-1	1.39E-1	1.66E-1
65	1130.74	2.75E-4	2.19E-4	1.36E-4	6.91E-5	3.07E-5	1.32E-5	65	342.59	6.77E-2	7.43E-2	9.17E-2	1.11E-1	1.34E-1	1.61E-1
66	1195.12	2.68E-4	2.13E-4	1.32E-4	6.72E-5	2.99E-5	1.28E-5	66	350.38	6.53E-2	7.16E-2	8.85E-2	1.08E-1	1.30E-1	1.57E-1
67	1262.86	2.60E-4	2.07E-4	1.28E-4	6.55E-5	2.91E-5	1.25E-5	67	358.30	6.29E-2	6.91E-2	8.54E-2	1.04E-1	1.25E-1	1.52E-1
68	1334.09	2.53E-4	2.01E-4	1.25E-4	6.37E-5	2.84E-5	1.22E-5	68	366.35	6.07E-2	6.66E-2	8.24E-2	1.00E-1	1.21E-1	1.47E-1
69	1408.98	2.46E-4	1.96E-4	1.22E-4	6.21E-5	2.76E-5	1.19E-5	69	374.54	5.85E-2	6.43E-2	7.96E-2	9.71E-2	1.17E-1	1.43E-1
70	1487.67	2.39E-4	1.91E-4	1.18E-4	6.06E-5	2.69E-5	1.15E-5	70	382.84	5.65E-2	6.21E-2	7.69E-2	9.39E-2	1.14E-1	1.39E-1
71	1570.36	2.33E-4	1.86E-4	1.16E-4	5.90E-5	2.63E-5	1.13E-5	71	391.31	5.44E-2	6.00E-2	7.43E-2	9.08E-2	1.10E-1	1.35E-1
72	1657.20	2.27E-4	1.81E-4	1.13E-4	5.76E-5	2.57E-5	1.10E-5	72	399.90	5.24E-2	5.78E-2	7.18E-2	8.78E-2	1.07E-1	1.31E-1
73	1748.41	2.21E-4	1.76E-4	1.10E-4	5.62E-5	2.51E-5	1.07E-5	73	408.65	5.06E-2	5.59E-2	6.94E-2	8.50E-2	1.04E-1	1.28E-1
74	1844.15	2.16E-4	1.72E-4	1.07E-4	5.50E-5	2.45E-5	1.05E-5	74	417.54	4.89E-2	5.40E-2	6.71E-2	8.23E-2	1.01E-1	1.24E-1
75	1944.63	2.10E-4	1.68E-4	1.05E-4	5.37E-5	2.39E-5	1.03E-5	75	426.59	4.73E-2	5.22E-2	6.49E-2	7.96E-2	9.75E-2	1.21E-1
76	2050.05	2.05E-4	1.64E-4	1.02E-4	5.25E-5	2.34E-5	1.00E-5	76	435.77	4.57E-2	5.05E-2	6.28E-2	7.71E-2	9.46E-2	1.18E-1
77	2160.67	2.00E-4	1.60E-4	1.00E-4	5.14E-5	2.29E-5	9.82E-6	77	445.13	4.42E-2	4.88E-2	6.07E-2	7.47E-2	9.18E-2	1.15E-1
78	2276.67	1.96E-4	1.57E-4	9.80E-5	5.03E-5	2.24E-5	9.62E-6	78	454.64	4.27E-2	4.72E-2	5.87E-2	7.24E-2	8.91E-2	1.12E-1
79	2398.33	1.91E-4	1.53E-4	9.59E-5	4.92E-5	2.20E-5	9.41E-6	79	464.33	4.13E-2	4.57E-2	5.69E-2	7.01E-2	8.66E-2	1.09E-1
80	2525.84	1.87E-4	1.50E-4	9.39E-5	4.82E-5	2.15E-5	9.22E-6	80	474.15	4.00E-2	4.42E-2	5.50E-2	6.79E-2	8.40E-2	1.06E-1
81	2659.49	1.83E-4	1.46E-4	9.18E-5	4.73E-5	2.11E-5	9.04E-6	81	484.13	3.87E-2	4.28E-2	5.33E-2	6.59E-2	8.17E-2	1.03E-1
82	2799.58	1.79E-4	1.43E-4	8.99E-5	4.63E-5	2.07E-5	8.87E-6	82	494.29	3.74E-2	4.14E-2	5.16E-2	6.39E-2	7.93E-2	1.01E-1
83	2946.40	1.75E-4	1.40E-4	8.81E-5	4.54E-5	2.03E-5	8.71E-6	83	504.63	3.62E-2	4.01E-2	5.00E-2	6.19E-2	7.71E-2	9.80E-2
84	3100.28	1.71E-4	1.37E-4	8.64E-5	4.46E-5	1.99E-5	8.54E-6	84	515.19	3.08E-2	3.80E-2	4.87E-2	6.04E-2	7.52E-2	9.58E-2
85	3261.46	1.68E-4	1.34E-4	8.47E-5	4.37E-5	1.96E-5	8.39E-6	85	525.89	2.98E-2	3.68E-2	4.72E-2	5.86E-2	7.31E-2	9.34E-2
86	3429.90	1.64E-4	1.32E-4	8.31E-5	4.30E-5	1.92E-5	8.24E-6	86	536.39	2.89E-2	3.56E-2	4.57E-2	5.68E-2	7.11E-2	9.11E-2
87	3606.69	1.61E-4	1.29E-4	8.15E-5	4.22E-5	1.89E-5	8.10E-6	87	547.38	2.80E-2	3.45E-2	4.42E-2	5.51E-2	6.91E-2	8.88E-2
88	3791.75	1.58E-4	1.27E-4	8.01E-5	4.15E-5	1.86E-5	7.96E-6	88	558.45	2.72E-2	3.34E-2	4.29E-2	5.34E-2	6.72E-2	8.66E-2
89	3985.62	1.55E-4	1.24E-4	7.86E-5	4.08E-5	1.83E-5	7.83E-6	89	569.74	2.63E-2	3.23E-2	4.15E-2	5.19E-2	6.53E-2	

TABLE 3. Collision Strengths as a Function of Scattered Electron Energy E'

See page 19 for Explanation of Tables

$G_1 - C_4$							
Z	E_{if}	$E'=0.03$	$E'=0.08$	$E'=0.20$	$E'=0.42$	$E'=0.80$	$E'=1.40$
26	127.89	7.09E-2	7.58E-2	8.35E-2	9.42E-2	1.06E-1	1.19E-1
27	135.49	7.31E-2	7.86E-2	8.73E-2	9.90E-2	1.12E-1	1.25E-1
28	143.46	7.47E-2	8.08E-2	9.03E-2	1.03E-1	1.17E-1	1.31E-1
29	151.82	7.58E-2	8.22E-2	9.24E-2	1.06E-1	1.20E-1	1.35E-1
30	160.63	7.61E-2	8.27E-2	9.40E-2	1.07E-1	1.22E-1	1.38E-1
31	169.91	7.64E-2	8.23E-2	9.53E-2	1.08E-1	1.23E-1	1.39E-1
32	179.71	7.60E-2	8.19E-2	9.51E-2	1.08E-1	1.24E-1	1.40E-1
33	190.06	7.51E-2	8.11E-2	9.45E-2	1.08E-1	1.23E-1	1.40E-1
34	200.99	7.41E-2	7.99E-2	9.33E-2	1.07E-1	1.22E-1	1.39E-1
35	212.56	7.28E-2	7.84E-2	9.17E-2	1.05E-1	1.20E-1	1.37E-1
36	224.81	7.13E-2	7.66E-2	8.99E-2	1.03E-1	1.18E-1	1.35E-1
37	237.78	6.93E-2	7.48E-2	8.79E-2	1.01E-1	1.16E-1	1.32E-1
38	251.52	6.77E-2	7.26E-2	8.55E-2	9.83E-2	1.13E-1	1.29E-1
39	266.07	6.46E-2	7.07E-2	8.27E-2	9.56E-2	1.10E-1	1.26E-1
40	281.50	6.19E-2	6.87E-2	8.01E-2	9.28E-2	1.07E-1	1.22E-1
41	297.85	5.99E-2	6.64E-2	7.74E-2	8.99E-2	1.04E-1	1.19E-1
42	315.18	5.92E-2	6.36E-2	7.52E-2	8.69E-2	1.00E-1	1.16E-1
43	333.54	5.55E-2	6.19E-2	7.21E-2	8.40E-2	9.72E-2	1.12E-1
44	353.00	5.36E-2	5.95E-2	6.95E-2	8.10E-2	9.39E-2	1.08E-1
45	373.61	5.13E-2	5.75E-2	6.68E-2	7.81E-2	9.07E-2	1.05E-1
46	395.45	5.01E-2	5.54E-2	6.43E-2	7.52E-2	8.75E-2	1.02E-1
47	418.58	4.86E-2	5.51E-2	6.29E-2	7.22E-2	8.41E-2	9.80E-2
48	443.06	4.59E-2	5.10E-2	5.96E-2	6.98E-2	8.13E-2	9.47E-2
49	468.97	4.53E-2	4.86E-2	5.74E-2	6.71E-2	7.84E-2	9.15E-2
50	496.39	4.32E-2	4.70E-2	5.49E-2	6.45E-2	7.55E-2	8.84E-2
51	525.39	4.13E-2	4.55E-2	5.27E-2	6.20E-2	7.28E-2	8.54E-2
52	556.05	3.91E-2	4.35E-2	5.08E-2	5.97E-2	7.01E-2	8.24E-2
53	588.48	3.79E-2	4.21E-2	4.86E-2	5.74E-2	6.75E-2	7.96E-2
54	622.72	3.66E-2	4.02E-2	4.67E-2	5.52E-2	6.51E-2	7.69E-2
55	658.90	3.46E-2	3.87E-2	4.49E-2	5.31E-2	6.27E-2	7.43E-2
56	697.10	3.36E-2	3.74E-2	4.31E-2	5.10E-2	6.04E-2	7.18E-2
57	737.42	3.15E-2	3.59E-2	4.20E-2	4.89E-2	5.79E-2	6.92E-2
58	779.96	3.04E-2	3.43E-2	4.03E-2	4.70E-2	5.58E-2	6.69E-2
59	824.83	2.93E-2	3.29E-2	3.88E-2	4.53E-2	5.38E-2	6.47E-2
60	872.12	2.84E-2	3.15E-2	3.73E-2	4.36E-2	5.19E-2	6.25E-2
61	921.98	2.74E-2	3.02E-2	3.59E-2	4.20E-2	5.01E-2	6.05E-2
62	974.49	2.66E-2	2.90E-2	3.45E-2	4.05E-2	4.83E-2	5.85E-2
63	1029.80	2.57E-2	2.78E-2	3.32E-2	3.90E-2	4.66E-2	5.66E-2
64	1088.02	2.49E-2	2.67E-2	3.19E-2	3.76E-2	4.50E-2	5.48E-2
65	1149.31	2.41E-2	2.57E-2	3.07E-2	3.62E-2	4.35E-2	5.31E-2
66	1213.79	2.33E-2	2.47E-2	2.95E-2	3.49E-2	4.20E-2	5.14E-2
67	1281.60	2.25E-2	2.38E-2	2.84E-2	3.37E-2	4.06E-2	4.98E-2
68	1352.90	2.17E-2	2.30E-2	2.73E-2	3.25E-2	3.92E-2	4.83E-2
69	1427.86	2.09E-2	2.21E-2	2.62E-2	3.13E-2	3.79E-2	4.68E-2
70	1506.60	2.01E-2	2.13E-2	2.52E-2	3.02E-2	3.66E-2	4.54E-2
71	1589.33	1.93E-2	2.06E-2	2.43E-2	2.92E-2	3.54E-2	4.40E-2
72	1676.21	1.86E-2	1.99E-2	2.34E-2	2.81E-2	3.43E-2	4.27E-2
73	1767.43	1.78E-2	1.92E-2	2.25E-2	2.72E-2	3.32E-2	4.14E-2
74	1863.18	1.71E-2	1.86E-2	2.17E-2	2.62E-2	3.21E-2	4.02E-2
75	1963.67	1.64E-2	1.80E-2	2.09E-2	2.53E-2	3.11E-2	3.90E-2
76	2069.07	1.58E-2	1.74E-2	2.02E-2	2.44E-2	3.01E-2	3.79E-2
77	2179.67	1.52E-2	1.68E-2	1.94E-2	2.36E-2	2.91E-2	3.68E-2
78	2295.63	1.46E-2	1.63E-2	1.88E-2	2.28E-2	2.82E-2	3.58E-2
79	2417.24	1.41E-2	1.58E-2	1.81E-2	2.20E-2	2.73E-2	3.48E-2
80	2544.70	1.37E-2	1.53E-2	1.75E-2	2.13E-2	2.65E-2	3.38E-2
81	2678.27	1.33E-2	1.47E-2	1.69E-2	2.05E-2	2.56E-2	3.28E-2
82	2818.27	1.29E-2	1.43E-2	1.63E-2	1.98E-2	2.48E-2	3.19E-2
83	2965.00	1.25E-2	1.37E-2	1.58E-2	1.92E-2	2.40E-2	3.11E-2
84	3118.77	1.21E-2	1.30E-2	1.54E-2	1.86E-2	2.33E-2	3.01E-2
85	3279.83	1.17E-2	1.26E-2	1.48E-2	1.81E-2	2.26E-2	2.93E-2
86	3448.12	1.12E-2	1.22E-2	1.43E-2	1.75E-2	2.19E-2	2.85E-2
87	3624.76	1.08E-2	1.18E-2	1.38E-2	1.69E-2	2.13E-2	2.78E-2
88	3809.65	1.05E-2	1.15E-2	1.33E-2	1.64E-2	2.06E-2	2.70E-2
89	4003.34	1.01E-2	1.11E-2	1.29E-2	1.58E-2	2.00E-2	2.63E-2
90	4205.94	9.78E-3	1.08E-2	1.24E-2	1.53E-2	1.94E-2	2.56E-2
91	4418.38	9.47E-3	1.04E-2	1.20E-2	1.48E-2	1.89E-2	2.50E-2
92	4640.29	9.18E-3	1.01E-2	1.16E-2	1.43E-2	1.83E-2	2.43E-2