The fourth spectrum of platinum (Pt IV): determination of the $5d^7$, $5d^66s$ and $5d^66p$ configurations

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Abstract. The spectrum of three times ionized platinum, Pt IV, was investigated in the 530 - 1800 Å wavelength region. The analysis has resulted in the determination of the $5d^7$, $5d^66s$ and $5d^66p$ configurations. Seventeen of 19 theoretically possible $5d^7$ levels, 58 of 63 possible $5d^66s$ levels and 162 of 180 possible $5d^66p$ levels have been established. The levels are based on 1478 classified spectral lines. The level structure and transition probabilities were calculated by means of the orthogonal operators method. The energy parameters have been determined by the least squares fit to the observed levels. Calculated energy values and *LS*-compositions, as well as *gA* values obtained from the fitted parameter values are presented.

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1. Introduction and experiment

A review of platinum spectra data with the ionization stage below nine shows that only neutral platinum and ions having rather simple ground-state configurations $5d$, $5d^2$, $5d^8$ and $5d^9$ have been investigated: Pt I, Pt II, Pt III, Pt VIII and Pt IX [1-6]. In 2015, an analysis of four times ionized platinum, Pt V, having $5d^6$ ground-state configuration has been presented [7]. Other platinum spectra with four to seven electrons in the outer $5d$ -shell, such as Pt IV, Pt VI and Pt VII, have not been published yet. Research on these spectra is of interest to fundamental physics for better understanding of complex atomic spectra and theoretical methods of treatment of multi-electron heavy atoms.

The aim of the present work is to study the spectrum of triply ionized platinum, Pt IV, which has not been investigated before. This ion has the $5d^7$ ground-state configuration and its spectrum is very complex as the lowest three configurations are overlapping in both parities. Theoretical calculations utilizing the orthogonal operators approach [8-11] and the program suite IDEN [12,13] were the key tools that, along with the data available on the neighboring Os V, Os IV, Ir V, Au V, Ir IV, and Pt V spectra [14-18,7], made possible the analysis presented here.

The spectrograms for the current analysis have been photographed in the wavelength region of 300 - 2100 Å at the Institute of Spectroscopy, Troitsk, Russian Federation, and the description of experimental setup can be found in Ref. [18]. The plates were measured on an automatic comparator controlled by the system for automatic processing of photo-spectrograms [19] and initially reduced by using impurity lines of O, C, N, Al and Si [20] present in the spectrograms. The initial uncertainty of wavelength measurements was about 0.005 Å and 0.010 Å for the wavelengths below and higher than about 1000 Å, respectively, although it increased to about 0.015 Å locally for some sub-regions. The lack of standards, imperfection of the spectrograph's plate holder and deformation of photo-emulsion, especially at the ends of the photographic plates, were the factors that affected the wavelength measurements. We have improved the accuracy of the measurements in the course of the analysis. The final list of identified lines includes standard deviations of isolated lines from the calculated positions of 0.003 Å, 0.004 Å and 0.005 Å in the regions of 530 - 1064 Å, 1064 - 1165 Å and 1165 - 1800 Å, respectively. The spectrograms contain Pt lines appeared in the second order, it helped to improve wavelength measurements by using secondary standards derived from these lines. The use of the internally derived Ritz standards also contributed to the improvements. We were able to resolve and measure some identified lines in the second order. Lines belonging to different ionization stages could be discriminated on our plates on tracks exposed with different voltages and currents in the sliding and triggered sparks that were used as light sources.

2. Level optimization

The IDEN computer program [12,13] employs an iterative level optimization procedure (LOP) [18] for optimization of the energy level system. The reliability and accuracy of each established level is verified by the calculation of two types of uncertainties of the level with respect to the levels directly connected to it by the identified transitions. The first type of uncertainty is entirely based on the specified estimated uncertainties of the experimental wavelengths. It is a square root of the weighted mean variance (WMV) of the energy level given by Eq. (7) of Ref. [18]. The second type of uncertainty is calculated by re-estimating uncertainties of the involved experimental wavelengths accounting for the deviations of these wavelengths from the calculated (Ritz) values. It is a square root of the WMV of the energy level given by Eq. (8) of Ref. [18].

We exclude from the optimization all levels determined by a single transition. If a spectral line is considered to be masked, blended or its identification is doubtful, the line is not included in the LOP. If the uncertainties of wavelengths of the spectral lines used in the LOP are estimated correctly and all disturbed lines are removed from the optimization, we expect the level values given by Eq. (8) of Ref. [18] to be close to or smaller than those given by Eq. (7) of Ref. [18]. We verify this relation for each level and use it as a quality check of the LOP results and the entire analysis. All uncertainties given in this paper are at the level of one standard deviation.

3. Analysis

The ground-state configuration of Pt IV is $5d^7$ and the lowest two excited configurations of different parities are $5d^66s$ and $5d^66p$. This ion belongs to the Re I isoelectronic sequence. Only three spectra in the sequence have been investigated previously: Re I, Os II, and Au V [20,21,17]. The data on the Re I and Os II spectra are not very useful for extrapolation of parameters of Pt IV because when the ionization stage lowers, the trends of parameters along the sequence become more irregular [8,22,23]. To obtain initial parameters for the Pt^{3+} ion studied here a general procedure for inter- and extrapolation of energy parameters of ions in a larger than a sequence group of neighboring elements was used [24]. The published data on the neighboring Os V, Os IV, Ir V, Au V, Ir IV, and Pt V spectra [14-18,7], as well as our unpublished data on Os III and Ir III were very helpful in the estimation of Pt IV parameters.

Observed arrays of spectral lines from the different Pt ions are overlapping, and it is difficult to distinguish lines belonging to ions of close ionization stages. Therefore, to avoid line misidentifications in the very dense platinum spectra recorded, we have analyzed Pt VII, Pt VI, Pt V and Pt IV spectra simultaneously by utilizing the same sets of spectrograms.

The process of finding levels, identification of lines and optimization of level energies was carried out by utilizing the program suite IDEN [12,13]. The program LOPT [25] was used for verification of our optimized by IDEN energy values and calculation of level and (Ritz) wavelengths uncertainties. In the wavelength region of 530 - 1800 Å we have identified 1478 spectral lines associated with the $(5d^7 + 5d^66s) - 5d^66p$ transition array of Pt IV. Fifty-one spectral lines are doubly classified, and one line has triple classification. The verification of the number of multiply classified lines was based on the following estimation. The most reach of lines region of 650 - 1350 Å contains about 1000 identified spectral lines. This gives an average distance between two lines of about 700 mÅ. For our typical line widths of 25 - 50 mÅ, one may expect that about 4% - 7% of lines will be overlapped. For 1000 classified lines, it gives 40 - 70 possible blended lines. Thus, the number of multiply identified lines in our analysis is reasonable.

The list of identified lines is presented in Table 1. Transition probabilities (gA) have been calculated using the final fitted parameters of the investigated configurations and intensities of the spectral lines (Int) have been obtained by measuring the plate darkening. The optical density was converted to spectral intensity and the spectral background approximated by a spline curve was subtracted. The agreement between gA and Int for the isolated unperturbed and unsaturated spectral lines is quite good when one compares the lines originating from the same upper level or from close upper levels. Accounting for the Boltzmann factor, agreement between the presented gA and Int is good throughout the entire list. In each case when the intensity of an identified spectral line is notably higher than expected, we also provide the expected value. For each transition, along with the experimental wavelength (λ) and wavenumber (ν), and the calculated (Ritz) wavelength (λ_{calc}), we supply the uncertainty of the calculated wavelength ($Unc \lambda_{calc}$). The program LOPT [25] was used to calculate the wavelength uncertainties. The difference between the experimental and Ritz wavelengths ($\Delta(\lambda)$), together with the numbers (N_{odd}) and (N_{even}) of the observed transitions used to determine respectively the odd and even level involved in the particular transition, are helpful for detecting local systematic deviations (LSD) [18,26] in the linelist. Since levels in both parities are strongly mixed, we omit labels in the LS -coupling scheme from the table describing identified transitions. For each transition, we include a name of the linelist part (pa - pc) used to specify the wavelength uncertainty in Table A, the symbol "*" for transitions that were not used in the LOP, and comments for masked and blended lines, and lines that are also identified as belonging to another ion or impurity. We excluded from LOP runs transitions corresponding to the lines that are masked, much stronger than expected, have suspiciously large deviations, or have small gA values for which chances of wrong identification increase. If a known line of another ion or impurity blends the line, we specify the blending spectrum in parentheses following the "bl" symbol. If the line is also identified with a transition in another ion but does not appear as a blend in the spectrogram, we do not give the "bl" symbol, although blending is possible due to a near coincidence of wavelengths. In addition, if the line is also identified as another Pt ion (e.g., Pt V) and, when using the same linelist, the expected intensity of that identification (e.g., 400) is lower than the observed line intensity, we give "Pt V (400)".

Boltzmann factor, $exp(-E/kT)$, is essential for the correct comparison of the presented gA and Int . These values have been obtained with two sets of plates, which could be under somewhat different experimental conditions and thus different kT values. Parts pa and pb correspond to two plates from the same set (same exposure), and the part pc corresponds to a different set (different exposure).

In Tables 2 and 3 we give experimental and calculated energy values of the even parity levels in the $5d^7$ and $5d^66s$ configurations and the odd parity levels in the $5d^66p$ and $5d^56s6p$ configurations of Pt IV, respectively. The program LOPT [25] was used to calculate the level uncertainties. They are given with respect to the "base" even level at $81200.34 \text{ cm}^{-1} (J = 3.5)$. Using these data one can obtain a reasonable estimate of uncertainty of excitation energy for any level by combining in quadrature the given uncertainty with the uncertainty of the ground level, 0.13 cm^{-1} . Previously we have mentioned that we excluded from the LOP procedure all single transition ($N_{opt} = 1$) levels. For each such level, we set its value equal to the sum (if the level is odd) or to the difference (if the level is even) of the opposite parity level value and the connecting wavenumber. The values of rwmv_2 of such levels are set equal to the calculated by Eq. (7) of Ref. [18] rwmv_1 values, which are, in turn, equal to the estimated uncertainties of the corresponding wavenumbers (see, for instance, the level at $124255.47 \text{ cm}^{-1}, J = 0.5$).

In the present analysis 17 of 19 theoretically possible $5d^7$ levels, 58 of 63 possible $5d^66s$ levels and 162 of 180 possible $5d^66p$ levels have been established. Levels that have not been established either produce too weak transitions to be observed on our plates or are expected to give rise to only one or two relatively weak lines that cannot be unambiguously separated among several possibilities.

For the assignment of initial estimated wavelength uncertainties, which are based on the available standards and their distribution around the wavelength interpolation curve, and also on expected increase of uncertainty near ends of the plates, the linelist was divided into three parts, pa - pc (see Table 1, last column). The root-mean-square (rms) deviation of wavelengths of the undisturbed experimental lines from their calculated (Ritz) positions have been calculated after the LSD corrections of the linelist in course of the analysis and after the final LOP run, for each part. These deviations are presented in Table A below, where for each linelist part the number of lines used in the LOP is also given. The analysis of the Pt V spectrum [7] that we performed simultaneously with the present Pt IV analysis was very helpful in finding LSDs.

Table A

Description of linelist parts.

Linelist part	pa	pb	pc
Final estimated uncertainty, mÅ	3	4	6
Resulting <i>rms</i> , mÅ	3	4	5
Number of lines used in LOP	507	55	597
Wavelength range, Å	530 - 1064	1064 - 1165	1165 - 1800

The *rms* deviations of all undisturbed identified lines from their Ritz positions, including lines not used in the LOP, are 0.003 Å , 0.004 Å and 0.005 Å in the regions of $530 - 1064 \text{ Å}$, $1064 - 1165 \text{ Å}$ and $1165 - 1800 \text{ Å}$, respectively. The final estimated uncertainties of wavelength measurements that were used for the rwmv_1 and rwmv_2 calculations and in the program LOPT [25] are shown in Table A. These are square root values of combinations of squares of the statistical and systematic uncertainties, where the latter were estimated from standard deviations of wavelengths of reference lines from their positions derived from the interpolation curve. We have found that the optimized level values given by the IDEN's LOP and those given by the program LOPT are in very good agreement - they differ by a small fraction of calculated level uncertainties. The differences are close to (and resulted from) the rounding errors of the experimental wavelengths presented in Table 1 and the rounding errors of the level values given by LOPT. The rounding error of the presented wavelengths is $< 0.5 \text{ mÅ}$. It corresponds to the wavenumber errors of $< 0.015 \text{ cm}^{-1}$ and $< 0.14 \text{ cm}^{-1}$ for the last and first lines presented in Table 1, respectively.

Comparison of the rwmv_1 and rwmv_2 values in Tables 2 and 3 shows consistency: $\text{rwmv}_1 \geq \text{rwmv}_2$ for 84% of levels; 11% and 16% of levels have rwmv_2 values larger than rwmv_1 values within 30% and 70%, respectively. We do not have cases when the value of the coefficient A given by Eq. (4) of Ref. [18] is large enough to treat the corresponding level in a special way, as we treated the levels determined by a single transition. The maximum observed coefficient value is 2.6. Finally, the examination of the N , N_{opt} , rwmv_1 , and rwmv_2 values in Tables 2 and 3 indicates the most accurately determined level at $81200.34 \text{ cm}^{-1} (J = 3.5)$. It has the smallest rwmv_1 (0.06 cm^{-1}), $\text{rwmv}_1 > \text{rwmv}_2$ ($0.06 \text{ cm}^{-1} > 0.03 \text{ cm}^{-1}$), and one of the largest $N_{opt} = 22$. This level was chosen as the "base" level in the current presentation of the analysis.

4. Calculations

The orthogonal operators approach has been used for the theoretical description and least squares fitting (LSF) of the configurations in the given investigation. Tables 4 and 5 present the parameters obtained (or kept fixed) in the final LSF calculations for the even and odd systems. The *ab initio* values of the parameters were calculated using the Hartree-Fock method with relativistic correction (HFR) implemented in the code developed by Cowan [27]. The *ab initio* HFR values of the orthogonal electrostatic parameters were calculated as in Ref. [10] from the Slater parameters given by the Cowan code. The obtained or predetermined for fixed parameters scaling factors (LSF/HFR) are given in Tables 4 and 5.

In both the even and odd parity systems, three configurations were included in the calculations: ($5d^7 + 5d^66s + 5d^56s^2$) and ($5d^66p + 5d^56s6p + 5d^46s^26p$). The interaction integrals, parameters of unknown configurations and some parameters of the studied configurations were kept fixed at the predetermined values.

As Tables 4 and 5 indicate, the scaling factors for the strong electrostatic core operators O_2 , O_2' , and spin-orbit interaction parameter ζ_d for the $5d^7$, $5d^66s$ and $5d^66p$ configurations are close to each other. The parameters E_α and E_β are consistent for the three configurations. The parameters of the 2-particle magnetic interaction of the *ds*-type (A_{mso}) in $5d^66s$ and of the *dp*-type (Z_{II}^k) in $5d^66p$ configuration are well defined with a small uncertainty. These values are in agreement with those obtained in Os IV, Os V, Ir IV, Au V, and Pt V spectra [15,14,18,17,7]. The mean deviations of the fit for the even and odd systems in Pt IV are 15 cm^{-1} and 39 cm^{-1} , respectively. The last values are close to those in Au V (13 cm^{-1} and 30 cm^{-1}), Pt V (18 cm^{-1} and 30 cm^{-1}) and Ir IV (20 cm^{-1} and 36 cm^{-1}).

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Explanation of Tables

Table 1. Classified lines in the $(5d^7 + 5d^66s) - 5d^66p$ transition array of Pt IV

gA	Transition probability ($10^7 s^{-1}$)
Int	Intensity of the experimental spectral line (relative)
λ	Wavelength of the experimental spectral line (Å)
ν	Wavenumber of the experimental spectral line (cm^{-1})
λ_{calc}	Calculated (Ritz) wavelength (Å)
Unc λ_{calc}	Uncertainty of the calculated (Ritz) wavelength (Å)
$\Delta(\nu)$	Difference between the experimental and Ritz wavenumbers (cm^{-1})
$\Delta(\lambda)$	Difference between the experimental and Ritz wavelengths (Å)
N_{odd}	Number of observed transitions used to determine the odd level involved in the transition
N_{even}	Number of observed transitions used to determine the even level involved in the transition
Even level	Experimental energy value (cm^{-1}), J -value (in parentheses) and the configuration of the even level involved in the transition
Odd level	Experimental energy value (cm^{-1}) and J -value (in parentheses) of the odd level involved in the transition
Remark	Remarks for the identified transitions:
m	The Pt IV line is masked by some other line
200	Expected intensity value is 200
bl	The line is blended by a close line
*	The transition has been excluded from LOP
pa - pc	Parts of the linelist with assigned wavelength uncertainties (see text, Table A).
Pt V	(without "bl") The line is also identified as Pt V line. The line does not appear as a blend in the spectrogram, but blending is possible due to a near coincidence of wavelengths.

Pt V (400)	The line is also identified as Pt V line with expected intensity 400
2d ord	The line has a contribution from a line seen in the 2d order

Table 2. Experimental and calculated energy levels (cm^{-1}) in the $5d^7$ and $5d^66s$ configurations of Pt IV

E_{obs}	Observed (experimental) energy value (cm^{-1})
E_{calc}	Calculated from the least squares fitting (LSF) energy value (cm^{-1})
Δ	Difference between the observed and calculated energy values, $E_{\text{obs}} - E_{\text{calc}}$ (cm^{-1})
N	Number of transitions used to identify the energy level
N_{opt}	Number of transitions to the level used in the LOP and WMV calculations for the level (see text).
rwmv_1	Square root value of the weighted mean variance given by Eq. (7) of Ref. [18]
rwmv_2	Square root value of the weighted mean variance given by Eq. (8) of Ref. [18], except for the levels determined by a single line (see text).
Unc	Uncertainty of the level with respect to the "base" even level with $J = 3.5$ at 81200.34 cm^{-1} (see text).
Composition	LS-composition of the level. The number preceding the symbol " " and the term name has the following meaning: 1 stands for $5d^7$ and 2 stands for $5d^66s$.

Table 3. Experimental and calculated energy levels (cm^{-1}) in the $5d^66p$ and $5d^56s6p$ configurations of Pt IV

Calculated levels of the $5d^56s6p$ configuration that are inside the energy range of the $5d^66p$ configuration, except for sixteen levels with $J = 1.5$ located between $225078.79 \text{ cm}^{-1}$ and $205641.55 \text{ cm}^{-1}$, are given. All other $5d^56s6p$ levels are omitted.

E_{obs}	Observed (experimental) energy value (cm^{-1})
E_{calc}	Calculated from the least squares fitting (LSF) energy value (cm^{-1})
Δ	Difference between the observed and calculated energy values, $E_{\text{obs}} - E_{\text{calc}}$ (cm^{-1})
N	Number of transitions used to identify the energy level
N_{opt}	Number of transitions from the level used in the LOP and WMV calculations for the level (see text).
rwmv_1	Square root value of the weighted mean variance given by Eq. (7) of Ref. [18]
rwmv_2	Square root value of the weighted mean variance given by Eq. (8) of Ref. [18], except for the levels determined by a single line (see text).
Unc	Uncertainty of the level with respect to the "base" even level with $J = 3.5$ at 81200.34 cm^{-1} (see text).
Composition	LS-composition of the level. The number preceding the symbol " " and the term name has the following meaning: 1 stands for $5d^66p$ and 2 stands for $5d^56s6p$

Table 4. Fitted and calculated parameter values (cm^{-1}) in the $5d^7$, $5d^66s$ and $5d^56s^2$ configurations of Pt IV

Parameter	Parameter name
Fitted value	Parameter value (cm^{-1}) obtained in the final least squares fitting (LSF). Uncertainty of the fitted parameter value is given in parentheses.
HFR	<i>Ab initio</i> value of the parameter. It was calculated using the Hartree-Fock method with relativistic correction (HFR) implemented in the code developed by Cowan [31].
Fitted/HFR	Obtained (or predetermined for fixed parameters) scaling factors

Table 5. Fitted and calculated parameter values (cm^{-1}) in the $5d^66p$, $5d^56s6p$ and $5d^46s^26p$ configurations of Pt IV

Parameter	Parameter name
Fitted value	Parameter value (cm^{-1}) obtained in the final least squares fitting (LSF). Uncertainty of the fitted parameter value is given in parentheses.

HFR	<i>Ab initio</i> value of the parameter. It was calculated using the Hartree-Fock method with relativistic correction (HFR) implemented in the code developed by Cowan [31].
Fitted/HFR	Obtained (or predetermined for fixed parameters) scaling factors

Table 1Classified lines in the $(5d^7 + 5d^66s) - 5d^66p$ transition array of Pt IV.

gA (10 ⁷ s ⁻¹)	Int	λ (Å)	ν (cm ⁻¹)	λcalc (Å)	Unc λcalc (Å)	Δ(ν) (cm ⁻¹)	Δ(λ) (Å)	N _{odd}	N _{even}	Even level	Odd level	Remark	
126	531	537.603	186010.73	537.6043	0.0008	0.30	-0.001	7	42	5d ⁷	0.00(9/2)	186010.43(9/2)	pa 200, Pt V
18	131	577.958	173022.95	577.9615	0.0006	1.05	-0.003	13	42	5d ⁷	0.00(9/2)	173021.91(9/2)	pa * Pt VI
60	60	581.408	171996.23	581.4128	0.0009	1.39	-0.005	10	45	5d ⁷	10452.87(5/2)	182447.71(3/2)	pa *
28	41	584.689	171031.21	584.6940	0.0006	1.58	-0.005	10	42	5d ⁷	0.00(9/2)	171029.63(11/2)	pa *
841	96	586.300	170561.20	586.2972	0.0012	-0.76	0.003	3	32	5d ⁷	24437.46(11/2)	194999.42(9/2)	pa
133	161	588.440	169940.86	588.4388	0.0009	-0.34	0.001	7	53	5d ⁷	9567.18(7/2)	179508.38(5/2)	pa
152	193	593.452	168505.65	593.4529	0.0013	0.28	-0.001	5	35	5d ⁷	15539.29(3/2)	184044.66(1/2)	pa
42	90	596.478	167650.86	596.4843	0.0009	1.86	-0.007	7	47	5d ⁷	18361.43(9/2)	186010.43(9/2)	pa *
32	90	596.851	167546.03	596.8466	0.0007	-1.21	0.004	12	42	5d ⁷	0.00(9/2)	167547.24(9/2)	pa *
412	249	597.369	167400.58	597.3664	0.0011	-0.87	0.003	4	32	5d ⁷	24437.46(11/2)	191838.90(11/2)	pa
46	105	598.091	167198.58	598.0932	0.0006	0.57	-0.002	16	42	5d ⁷	0.00(9/2)	167198.01(7/2)	pa
134	184	599.127	166909.46	599.1309	0.0010	1.04	-0.004	10	35	5d ⁷	15539.29(3/2)	182447.71(3/2)	pa
320	249	601.400	166278.55	601.4012	0.0009	0.19	-0.001	10	49	5d ⁷	16169.35(5/2)	182447.71(3/2)	pa
224	118	606.386	164911.49	606.3865	0.0011	0.16	-0.001	5	39	5d ⁷	28755.29(5/2)	193666.61(7/2)	pa
65	129	607.339	164652.66	607.3411	0.0007	0.55	-0.002	15	42	5d ⁷	0.00(9/2)	164652.12(7/2)	pa
220	142	608.190	164422.38	608.1996	0.0015	2.67	-0.010	5	20	5d ⁷	19624.95(1/2)	184044.66(1/2)	pa *
45	118	608.292	164394.73	608.2890	0.0006	-0.82	0.003	15	42	5d ⁷	0.00(9/2)	164395.55(9/2)	pa *
147	425	610.665	163755.88	610.6589	0.0008	-1.65	0.006	12	53	5d ⁷	9567.18(7/2)	173324.72(7/2)	pa * 200
2149	453	612.600	163238.60	612.6015	0.0013	0.34	-0.001	4	32	5d ⁷	34556.09(9/2)	197794.35(7/2)	pa
116	251	613.977	162872.55	613.9791	0.0006	0.55	-0.002	16	42	5d ⁷	0.00(9/2)	162872.01(7/2)	pa
205	251	613.977	162872.55	613.9797	0.0008	0.70	-0.003	12	45	5d ⁷	10452.87(5/2)	173324.72(7/2)	pa *
89	384	616.805	162125.74	616.8042	0.0009	-0.26	0.001	9	45	5d ⁷	10452.87(5/2)	172578.87(3/2)	pa 200
59	339	618.162	161769.81	618.1624	0.0007	0.04	0.000	12	42	5d ⁷	0.00(9/2)	161769.77(9/2)	pa 200, Pt V
924	471	618.913	161573.52	618.9154	0.0010	0.55	-0.002	7	32	5d ⁷	24437.46(11/2)	186010.43(9/2)	pa
100	131	619.078	161530.46	619.0779	0.0011	-0.09	0.000	5	53	5d ⁷	9567.18(7/2)	171097.73(5/2)	pa
222	433	620.850	161069.61	620.8478	0.0007	-0.48	0.002	11	42	5d ⁷	0.00(9/2)	161070.08(11/2)	pa 300, Pt V (300)
262	327	620.959	161041.20	620.9612	0.0009	0.55	-0.002	9	47	5d ⁷	18361.43(9/2)	179402.08(7/2)	pa
124	302	622.377	160674.19	622.3790	0.0007	0.39	-0.002	14	42	5d ⁷	0.00(9/2)	160673.80(9/2)	pa
31	120	623.956	160267.66	623.9595	0.0006	0.86	-0.003	17	42	5d ⁷	0.00(9/2)	160266.80(7/2)	pa *
291	228	624.896	160026.68	624.8949	0.0011	-0.23	0.001	4	46	5d ⁷	24800.74(7/2)	184827.64(7/2)	pa
62	94	625.536	159862.80	625.5386	0.0007	0.55	-0.002	15	45	5d ⁷	10452.87(5/2)	170315.12(7/2)	pa *
413	323	626.105	159717.52	626.1067	0.0011	0.34	-0.001	4	46	5d ⁷	24800.74(7/2)	184517.91(5/2)	pa
192	304	627.336	159404.21	627.3341	0.0010	-0.48	0.002	12	29	5d ⁷	9214.92(3/2)	168619.62(3/2)	pa
59	112	627.451	159374.92	627.4496	0.0006	-0.43	0.002	15	53	5d ⁷	9567.18(7/2)	168942.54(9/2)	pa
394	337	628.496	159109.88	628.4939	0.0012	-0.65	0.003	5	32	5d ⁷	34556.09(9/2)	193666.61(7/2)	pa
202	327	629.390	158884.10	629.3902	0.0006	0.16	-0.001	12	45	5d ⁷	10452.87(5/2)	169336.81(5/2)	pa
128	350	632.246	158166.31	632.2442	0.0010	-0.44	0.002	12	45	5d ⁷	10452.87(5/2)	168619.62(3/2)	pa 250

113	278	632.746	158041.25	632.7468	0.0009	0.15	-0.001	8	47	5d ⁷	18361.43(9/2)	176402.53(7/2)	pa	Pt V
64	116	633.407	157876.42	633.4059	0.0007	-0.23	0.001	13	29	5d ⁷	9214.92(3/2)	167091.57(3/2)	pa	
168	357	634.389	157631.99	634.3937	0.0006	1.16	-0.005	16	53	5d ⁷	9567.18(7/2)	167198.01(7/2)	pa	
328	328	635.720	157301.91	635.7192	0.0006	-0.25	0.001	15	53	5d ⁷	9567.18(7/2)	166869.34(9/2)	pa	
237	349	635.800	157282.26	635.7974	0.0013	-0.55	0.002	4	32	5d ⁷	34556.09(9/2)	191838.90(11/2)	pa	250
175	340	636.785	157039.00	636.7821	0.0010	-0.59	0.002	9	35	5d ⁷	15539.29(3/2)	172578.87(3/2)	pa	
515	633	636.814	157031.77	636.8113	0.0008	-0.61	0.002	10	47	5d ⁷	18361.43(9/2)	175393.81(9/2)	pa	
369	322	640.311	156174.01	640.3096	0.0016	-0.45	0.002	5	35	5d ⁷	27870.20(3/2)	184044.66(1/2)	pa	
1167	234	641.033	155998.11	641.0367	0.0015	0.81	-0.003	3	32	5d ⁷	39002.13(7/2)	194999.42(9/2)	pa	Pt V
521	709	641.071	155988.84	641.0688	0.0007	-0.65	0.003	17	53	5d ⁷	9567.18(7/2)	165556.67(7/2)	pa	
108	242	641.160	155967.33	641.1615	0.0007	0.40	-0.002	12	53	5d ⁷	9567.18(7/2)	165534.12(5/2)	pa	
167	385	642.291	155692.57	642.2859	0.0007	-1.33	0.005	12	42	5d ⁷	0.00(9/2)	155693.90(7/2)	pa	
104	445	644.735	155102.58	644.7295	0.0007	-1.22	0.005	17	45	5d ⁷	10452.87(5/2)	165556.67(7/2)	pa	Pt V
61	226	645.313	154963.56	645.3141	0.0008	0.27	-0.001	12	47	5d ⁷	18361.43(9/2)	173324.72(7/2)	pa	
259	437	645.877	154828.31	645.8765	0.0006	-0.06	0.000	15	53	5d ⁷	9567.18(7/2)	164395.55(9/2)	pa	
799	683	646.531	154671.62	646.5340	0.0021	0.71	-0.003	2	39	5d ⁷	32168.62(5/2)	186839.53(3/2)	pa	
443	473	646.577	154660.57	646.5776	0.0007	0.10	0.000	13	47	5d ⁷	18361.43(9/2)	173021.91(9/2)	pa	Pt V
820	551	646.928	154576.78	646.9246	0.0011	-0.73	0.003	10	35	5d ⁷	27870.20(3/2)	182447.71(3/2)	pa	
343	381	647.062	154544.67	647.0600	0.0006	-0.51	0.002	19	42	5d ⁷	0.00(9/2)	154545.18(9/2)	pa	
91	156	647.356	154474.46	647.3593	0.0011	0.74	-0.003	10	35	5d ⁷	15539.29(3/2)	170013.00(3/2)	pa	
185	406	648.513	154198.82	648.5116	0.0008	-0.43	0.002	15	45	5d ⁷	10452.87(5/2)	164652.12(7/2)	pa	Pt V (200)
273	398	648.744	154144.08	648.7366	0.0007	-1.68	0.007	15	49	5d ⁷	16169.35(5/2)	170315.12(7/2)	pa	
52	354	649.033	154075.47	649.0378	0.0008	1.23	-0.005	12	53	5d ⁷	9567.18(7/2)	163641.42(5/2)	pa	
355	446	649.354	153999.25	649.3499	0.0008	-0.92	0.004	10	32	5d ⁷	24437.46(11/2)	178437.63(9/2)	pa	
89	270	649.533	153956.70	649.5313	0.0010	-0.46	0.002	12	45	5d ⁷	10452.87(5/2)	164410.03(3/2)	pa	* 100
659	828	649.591	153942.92	649.5894	0.0007	-0.47	0.002	12	42	5d ⁷	0.00(9/2)	153943.40(11/2)	pa	
540	613	650.016	153842.46	650.0106	0.0010	-1.19	0.005	10	49	5d ⁷	16169.35(5/2)	170013.00(3/2)	pa	
57	235	650.205	153797.62	650.2055	0.0007	0.10	0.000	12	35	5d ⁷	15539.29(3/2)	169336.81(5/2)	pa	
497	505	650.652	153692.04	650.6502	0.0011	-0.39	0.002	10	39	5d ⁷	28755.29(5/2)	182447.71(3/2)	pa	* 300
139	224	650.884	153637.33	650.8853	0.0008	0.43	-0.002	10	46	5d ⁷	24800.74(7/2)	178437.63(9/2)	pa	
229	798	651.405	153514.37	651.4039	0.0008	-0.22	0.001	13	29	5d ⁷	9214.92(3/2)	162729.52(3/2)	pa	
523	770	651.505	153490.86	651.5013	0.0007	-0.79	0.003	14	42	5d ⁷	0.00(9/2)	153491.65(7/2)	pa	
68	218	652.885	153166.24	652.8802	0.0007	-1.22	0.005	12	49	5d ⁷	16169.35(5/2)	169336.81(5/2)	pa	* 300
129	101	653.329	153062.22	653.3374	0.0009	1.95	-0.008	10	47	5d ⁷	18361.43(9/2)	171421.70(7/2)	pa	
236	513	653.794	152953.28	653.7982	0.0007	0.89	-0.004	12	45	5d ⁷	10452.87(5/2)	163405.27(5/2)	pa	
131	513	653.794	152953.28	653.7916	0.0011	-0.64	0.003	9	20	5d ⁷	19624.95(1/2)	172578.87(3/2)	pa	
1791	898	654.107	152880.26	654.1029	0.0011	-0.89	0.004	5	46	5d ⁷	24800.74(7/2)	177681.88(5/2)	pa	* 300
524	444	655.018	152667.61	655.0153	0.0008	-0.59	0.003	10	47	5d ⁷	18361.43(9/2)	171029.63(11/2)	pa	
137	244	655.305	152600.60	655.3029	0.0007	-0.58	0.003	13	53	5d ⁷	9567.18(7/2)	162168.37(7/2)	pa	
530	645	655.801	152485.21	655.7966	0.0008	-1.09	0.005	9	35	5d ⁷	15539.29(3/2)	168025.59(3/2)	pa	
283	373	655.954	152449.71	655.9516	0.0010	-0.55	0.002	12	49	5d ⁷	16169.35(5/2)	168619.62(3/2)	pa	* 300
516	685	656.090	152418.02	656.0856	0.0007	-1.11	0.005	16	45	5d ⁷	10452.87(5/2)	162872.01(7/2)	pa	
685	372	656.388	152348.82	656.3864	0.0012	-0.47	0.002	4	39	5d ⁷	32168.62(5/2)	184517.91(5/2)	pa	

113	467	656.701	152276.26	656.6995	0.0007	-0.39	0.002	13	45	5d ⁷	10452.87(5/2)	162729.52(3/2)	pa
244	401	657.025	152201.30	657.0190	0.0007	-1.29	0.006	12	53	5d ⁷	9567.18(7/2)	161769.77(9/2)	pa
138	400	657.249	152149.36	657.2464	0.0008	-0.57	0.002	15	42	5d ⁷	0.00(9/2)	152149.93(7/2)	pa
659	737	658.098	151953.01	658.0953	0.0007	-0.68	0.003	15	47	5d ⁷	18361.43(9/2)	170315.12(7/2)	pa
3170	654	658.190	151931.74	658.1903	0.0030	0.00	0.000	1	32	5d ⁷	34556.09(9/2)	186487.83(7/2)	pa
506	329	659.461	151639.04	659.4645	0.0011	0.85	-0.004	7	35	5d ⁷	27870.20(3/2)	179508.38(5/2)	pa
178	277	659.624	151601.40	659.6228	0.0010	-0.39	0.002	8	46	5d ⁷	24800.74(7/2)	176402.53(7/2)	pa
193	335	659.843	151551.18	659.8383	0.0008	-1.11	0.005	13	35	5d ⁷	15539.29(3/2)	167091.57(3/2)	pa
202	364	660.265	151454.27	660.2650	0.0011	-0.07	0.000	7	32	5d ⁷	34556.09(9/2)	186010.43(9/2)	pa
295	529	661.282	151221.48	661.2803	0.0007	-0.33	0.001	13	53	5d ⁷	9567.18(7/2)	160788.99(5/2)	pa
1473	826	661.430	151187.60	661.4282	0.0008	-0.39	0.002	11	46	5d ⁷	24800.74(7/2)	175988.72(5/2)	pa
312	545	661.787	151106.04	661.7844	0.0007	-0.57	0.002	14	53	5d ⁷	9567.18(7/2)	160673.80(9/2)	pa
131	192	661.847	151092.44	661.8493	0.0017	0.64	-0.003	5	13	5d ⁷	32952.87(1/2)	184044.66(1/2)	pa
225	352	661.997	151058.20	661.9909	0.0011	-1.27	0.006	7	35	5d ⁷	27870.20(3/2)	178929.67(1/2)	pa
1451	839	662.122	151029.61	662.1260	0.0006	0.96	-0.004	16	49	5d ⁷	16169.35(5/2)	167198.01(7/2)	pa
1025	562	662.410	150963.81	662.4094	0.0017	-0.22	0.001	3	32	5d ⁷	39002.13(7/2)	189966.16(7/2)	pa
2736	1375	662.444	150956.13	662.4431	0.0009	-0.22	0.001	10	32	5d ⁷	24437.46(11/2)	175393.81(9/2)	pa
210	497	662.596	150921.60	662.5930	0.0007	-0.62	0.003	13	49	5d ⁷	16169.35(5/2)	167091.57(3/2)	pa
858	1016	662.774	150881.08	662.7687	0.0007	-1.11	0.005	9	42	5d ⁷	0.00(9/2)	150882.19(11/2)	pa
649	1021	663.285	150764.78	663.2820	0.0007	-0.66	0.003	19	42	5d ⁷	0.00(9/2)	150765.44(7/2)	pa
484	400	663.341	150751.96	663.3363	0.0011	-1.14	0.005	7	39	5d ⁷	28755.29(5/2)	179508.38(5/2)	pa
90	180	663.573	150699.30	663.5717	0.0006	-0.32	0.001	17	53	5d ⁷	9567.18(7/2)	160266.80(7/2)	pa
97	73	663.801	150647.63	663.8044	0.0010	0.83	-0.004	9	39	5d ⁷	28755.29(5/2)	179402.08(7/2)	pa *
538	714	664.051	150590.80	664.0412	0.0009	-2.28	0.010	10	46	5d ⁷	24800.74(7/2)	175393.81(9/2)	pa * 400, Pt V
118	205	664.097	150580.50	664.0939	0.0007	-0.60	0.003	15	47	5d ⁷	18361.43(9/2)	168942.54(9/2)	pa
155	271	664.947	150387.86	664.9464	0.0012	-0.20	0.001	10	20	5d ⁷	19624.95(1/2)	170013.00(3/2)	pa
353	715	665.036	150367.87	665.0346	0.0009	-0.25	0.001	12	45	5d ⁷	10452.87(5/2)	160820.99(3/2)	pa
522	400	665.429	150278.99	665.4285	0.0012	-0.10	0.000	10	39	5d ⁷	32168.62(5/2)	182447.71(3/2)	pa
314	382	665.461	150271.83	665.4619	0.0012	0.28	-0.001	4	32	5d ⁷	34556.09(9/2)	184827.64(7/2)	pa
147	136	665.524	150257.61	665.5197	0.0014	-0.91	0.004	5	39	5d ⁷	32168.62(5/2)	182427.13(5/2)	pa *
581	665	665.611	150237.83	665.6015	0.0010	-2.21	0.010	10	35	5d ⁷	15539.29(3/2)	165779.33(3/2)	pa * bl
330	629	665.875	150178.40	665.8707	0.0008	-0.91	0.004	12	53	5d ⁷	9567.18(7/2)	159746.50(5/2)	pa
71	100	666.067	150134.96	666.0698	0.0008	0.53	-0.002	8	32	5d ⁷	24437.46(11/2)	174571.88(11/2)	pa
225	366	666.692	149994.26	666.6896	0.0008	-0.58	0.003	12	35	5d ⁷	15539.29(3/2)	165534.12(5/2)	pa
960	883	666.821	149965.24	666.8190	0.0008	-0.48	0.002	14	47	5d ⁷	18361.43(9/2)	168327.15(7/2)	pa
441	626	668.399	149611.19	668.4046	0.0010	1.21	-0.005	10	49	5d ⁷	16169.35(5/2)	165779.33(3/2)	pa
426	848	668.592	149568.00	668.5917	0.0007	-0.11	0.001	14	42	5d ⁷	0.00(9/2)	149568.12(9/2)	pa
657	778	669.398	149387.91	669.4009	0.0008	0.59	-0.003	17	49	5d ⁷	16169.35(5/2)	165556.67(7/2)	pa
448	417	669.505	149364.04	669.5019	0.0007	-0.73	0.003	12	49	5d ⁷	16169.35(5/2)	165534.12(5/2)	pa
98	171	669.819	149294.00	669.8209	0.0008	0.37	-0.002	12	45	5d ⁷	10452.87(5/2)	159746.50(5/2)	pa
149	159	670.304	149186.15	670.3050	0.0008	0.34	-0.002	12	47	5d ⁷	18361.43(9/2)	167547.24(9/2)	pa 2d ord
514	800	671.152	148997.46	671.1555	0.0007	0.69	-0.003	16	53	5d ⁷	9567.18(7/2)	158563.95(7/2)	pa
137	1143	671.178	148991.82	671.1650	0.0012	-2.85	0.013	12	20	5d ⁷	19624.95(1/2)	168619.62(3/2)	pa * 250, m

42	348	671.241	148977.68	671.2465	0.0011	1.12	-0.005	6	20	5d ⁷	19624.95(1/2)	168601.51(1/2)	pa * 100, Pt V
776	747	671.725	148870.36	671.7237	0.0011	-0.39	0.002	12	35	5d ⁷	15539.29(3/2)	164410.03(3/2)	pa
1482	884	671.880	148836.12	671.8778	0.0007	-0.45	0.002	16	47	5d ⁷	18361.43(9/2)	167198.01(7/2)	pa
154	254	672.239	148756.68	672.2394	0.0007	0.15	-0.001	12	49	5d ⁷	16169.35(5/2)	164925.89(5/2)	pa
6387	1286	673.019	148584.17	673.0179	0.0008	-0.28	0.001	13	32	5d ⁷	24437.46(11/2)	173021.91(9/2)	pa
114	676	673.375	148505.64	673.3648	0.0007	-2.27	0.010	15	47	5d ⁷	18361.43(9/2)	166869.34(9/2)	pa * 200, m
374	527	673.491	148480.13	673.4788	0.0008	-2.64	0.012	15	49	5d ⁷	16169.35(5/2)	164652.12(7/2)	pa *
297	712	674.283	148305.73	674.2793	0.0007	-0.77	0.003	8	42	5d ⁷	0.00(9/2)	148306.49(7/2)	pa
235	338	674.670	148220.59	674.6675	0.0008	-0.58	0.003	13	46	5d ⁷	24800.74(7/2)	173021.91(9/2)	pa
1237	1155	675.120	148121.88	675.1128	0.0010	-1.51	0.007	13	53	5d ⁷	9567.18(7/2)	157690.57(5/2)	pa *
169	1155	675.120	148121.88	675.1350	0.0009	3.36	-0.015	11	35	5d ⁷	27870.20(3/2)	175988.72(5/2)	pa * 100, m
80	222	675.175	148109.64	675.1689	0.0008	-1.44	0.007	16	45	5d ⁷	10452.87(5/2)	158563.95(7/2)	pa *
235	318	675.211	148101.74	675.2097	0.0008	-0.40	0.002	12	35	5d ⁷	15539.29(3/2)	163641.42(5/2)	pa
202	166	675.944	147941.16	675.9406	0.0014	-0.84	0.004	4	32	5d ⁷	39002.13(7/2)	186944.13(5/2)	pa Pt V
108	162	676.286	147866.37	676.2881	0.0008	0.39	-0.002	12	35	5d ⁷	15539.29(3/2)	163405.27(5/2)	pa
659	203	676.374	147847.22	676.3710	0.0014	-0.63	0.003	4	17	5d ⁷	39096.28(3/2)	186944.13(5/2)	pa
1054	596	676.853	147742.65	676.8499	0.0023	-0.59	0.003	2	17	5d ⁷	39096.28(3/2)	186839.53(3/2)	pa
63	314	676.968	147717.45	676.9623	0.0007	-1.27	0.006	16	53	5d ⁷	9567.18(7/2)	157285.90(9/2)	pa * 100
490	316	677.294	147646.46	677.2900	0.0011	-0.79	0.004	8	39	5d ⁷	28755.29(5/2)	176402.53(7/2)	pa
184	106	677.551	147590.32	677.5495	0.0016	-0.37	0.002	2	32	5d ⁷	34556.09(9/2)	182146.77(11/2)	pa
65	422	677.942	147505.18	677.9422	0.0007	-0.03	0.000	12	42	5d ⁷	0.00(9/2)	147505.21(11/2)	pa
126	208	678.121	147466.33	678.1195	0.0009	-0.30	0.001	13	20	5d ⁷	19624.95(1/2)	167091.57(3/2)	pa
1632	1103	678.269	147434.13	678.2658	0.0007	-0.69	0.003	13	53	5d ⁷	9567.18(7/2)	157002.00(7/2)	pa
543	635	678.509	147381.96	678.5039	0.0009	-1.14	0.005	10	32	5d ⁷	24437.46(11/2)	171820.55(9/2)	pa
391	368	678.705	147339.48	678.7034	0.0011	-0.28	0.001	7	39	5d ⁷	32168.62(5/2)	179508.38(5/2)	pa
1214	870	679.186	147235.07	679.1936	0.0009	1.64	-0.008	11	39	5d ⁷	28755.29(5/2)	175988.72(5/2)	pa *
175	870	679.186	147235.07	679.1934	0.0011	1.61	-0.007	9	39	5d ⁷	32168.62(5/2)	179402.08(7/2)	pa * 300
189	648	679.371	147194.89	679.3929	0.0008	4.66	-0.022	13	35	5d ⁷	15539.29(3/2)	162729.52(3/2)	pa * 300, m
382	648	679.371	147194.89	679.3698	0.0008	-0.35	0.002	17	47	5d ⁷	18361.43(9/2)	165556.67(7/2)	pa
2976	1411	679.476	147172.32	679.4721	0.0007	-0.76	0.004	12	42	5d ⁷	0.00(9/2)	147173.08(9/2)	pa
35	149	679.634	147137.93	679.6335	0.0009	-0.20	0.001	7	29	5d ⁷	9214.92(3/2)	156353.05(1/2)	pa
122	96	680.173	147021.42	680.1804	0.0008	1.61	-0.007	10	46	5d ⁷	24800.74(7/2)	171820.55(9/2)	pa *
201	319	680.238	147007.35	680.2337	0.0012	-0.95	0.004	7	32	5d ⁷	39002.13(7/2)	186010.43(9/2)	pa
770	1007	680.885	146867.66	680.8845	0.0007	-0.13	0.001	11	42	5d ⁷	0.00(9/2)	146867.79(11/2)	pa
411	289	681.439	146748.26	681.4439	0.0015	1.04	-0.005	4	15	5d ⁶ 6s	45091.69(9/2)	191838.90(11/2)	pa Pt V
229	322	681.649	146703.09	681.6509	0.0007	0.44	-0.002	16	49	5d ⁷	16169.35(5/2)	162872.01(7/2)	pa
109	161	682.034	146620.30	682.0307	0.0010	-0.67	0.003	10	46	5d ⁷	24800.74(7/2)	171421.70(7/2)	pa *
129	223	682.169	146591.28	682.1647	0.0010	-0.89	0.004	10	32	5d ⁷	24437.46(11/2)	171029.63(11/2)	pa
125	385	682.254	146572.87	682.2529	0.0008	-0.35	0.002	17	53	5d ⁷	9567.18(7/2)	156140.40(5/2)	pa
509	661	682.315	146559.77	682.3136	0.0008	-0.40	0.002	13	49	5d ⁷	16169.35(5/2)	162729.52(3/2)	pa
404	539	682.366	146548.96	682.3650	0.0007	-0.17	0.001	13	45	5d ⁷	10452.87(5/2)	157002.00(7/2)	pa
113	208	682.579	146503.27	682.5755	0.0009	-0.67	0.003	7	47	5d ⁷	18361.43(9/2)	164865.38(11/2)	pa
425	629	683.076	146396.55	683.0749	0.0009	-0.27	0.001	10	29	5d ⁷	9214.92(3/2)	155611.74(3/2)	pa

973	652	683.227	146364.24	683.2229	0.0009	-0.89	0.004	6	35	5d ⁷	27870.20(3/2)	174235.33(5/2)	pa	
320	502	683.250	146359.42	683.2471	0.0010	-0.52	0.002	9	39	5d ⁷	32168.62(5/2)	178528.56(7/2)	pa	
136	330	683.574	146290.03	683.5705	0.0008	-0.66	0.003	15	47	5d ⁷	18361.43(9/2)	164652.12(7/2)	pa	
2136	1116	684.098	146177.97	684.0950	0.0013	-0.56	0.003	3	32	5d ⁷	24437.46(11/2)	170615.99(13/2)	pa	
119	482	684.207	146154.66	684.2080	0.0012	0.28	-0.001	10	20	5d ⁷	19624.95(1/2)	165779.33(3/2)	pa	* 150, Pt V
838	744	684.772	146034.03	684.7715	0.0007	-0.09	0.000	15	47	5d ⁷	18361.43(9/2)	164395.55(9/2)	pa	
417	890	684.937	145998.89	684.9361	0.0007	-0.13	0.001	13	49	5d ⁷	16169.35(5/2)	162168.37(7/2)	pa	
94	279	684.985	145988.56	684.9887	0.0007	0.74	-0.003	13	42	5d ⁷	0.00(9/2)	145987.82(7/2)	pa	
772	827	685.040	145976.90	685.0404	0.0013	0.10	0.000	7	13	5d ⁷	32952.87(1/2)	178929.67(1/2)	pa	
135	202	685.965	145779.95	685.9644	0.0013	-0.21	0.001	4	39	5d ⁷	28755.29(5/2)	174535.45(5/2)	pa	
144	315	686.398	145688.11	686.4005	0.0008	0.58	-0.003	17	45	5d ⁷	10452.87(5/2)	156140.40(5/2)	pa	
131	506	686.825	145597.54	686.8226	0.0008	-0.47	0.002	13	29	5d ⁷	9214.92(3/2)	154812.93(3/2)	pa	
676	633	687.226	145512.60	687.2226	0.0013	-0.66	0.003	5	39	5d ⁷	32168.62(5/2)	177681.88(5/2)	pa	
520	677	688.319	145281.39	688.3179	0.0010	-0.31	0.001	12	35	5d ⁷	15539.29(3/2)	160820.99(3/2)	pa	
909	853	688.471	145249.38	688.4695	0.0008	-0.33	0.002	13	35	5d ⁷	15539.29(3/2)	160788.99(5/2)	pa	
175	434	688.696	145202.01	688.6941	0.0010	-0.34	0.002	9	29	5d ⁷	9214.92(3/2)	154417.27(5/2)	pa	
322	540	689.760	144978.07	689.7599	0.0007	0.08	0.000	19	53	5d ⁷	9567.18(7/2)	154545.18(9/2)	pa	
386	258	689.903	144948.02	689.9008	0.0019	-0.36	0.002	5	17	5d ⁷	39096.28(3/2)	184044.66(1/2)	pa	
537	46	690.253	144874.46	690.2527	0.0018	-0.02	0.000	3	15	5d ^{6s}	45091.69(9/2)	189966.16(7/2)	pa	
3467	973	690.392	144845.20	690.3884	0.0011	-0.79	0.004	9	32	5d ⁷	34556.09(9/2)	179402.08(7/2)	pa	
1361	1224	690.627	144795.98	690.6234	0.0010	-0.74	0.004	15	29	5d ⁷	9214.92(3/2)	154011.64(5/2)	pa	
588	634	691.320	144650.86	691.3161	0.0010	-0.78	0.004	12	49	5d ⁷	16169.35(5/2)	160820.99(3/2)	pa	
301	379	691.470	144619.39	691.4690	0.0008	-0.25	0.001	13	49	5d ⁷	16169.35(5/2)	160788.99(5/2)	pa	
19	38	691.710	144569.21	691.7092	0.0010	-0.22	0.001	12	39	5d ⁷	28755.29(5/2)	173324.72(7/2)	pa	*
1398	871	691.868	144536.22	691.8688	0.0007	0.15	-0.001	12	46	5d ⁷	24800.74(7/2)	169336.81(5/2)	pa	
710	702	691.991	144510.55	691.9909	0.0008	-0.02	0.000	16	47	5d ⁷	18361.43(9/2)	162872.01(7/2)	pa	
342	547	692.232	144460.30	692.2311	0.0011	-0.12	0.001	5	29	5d ⁷	9214.92(3/2)	153675.34(1/2)	pa	
164	402	692.501	144404.06	692.4997	0.0007	-0.34	0.002	9	42	5d ⁷	0.00(9/2)	144404.40(9/2)	pa	
1028	857	693.975	144097.33	693.9748	0.0007	-0.12	0.001	17	49	5d ⁷	16169.35(5/2)	160266.80(7/2)	pa	
257	475	694.038	144084.31	694.0372	0.0009	-0.18	0.001	17	29	5d ⁷	9214.92(3/2)	153299.41(3/2)	pa	
775	606	694.380	144013.45	694.3785	0.0015	-0.22	0.001	3	35	5d ⁷	27870.20(3/2)	171883.87(1/2)	pa	
558	439	694.579	143972.14	694.5772	0.0010	-0.33	0.002	9	32	5d ⁷	34556.09(9/2)	178528.56(7/2)	pa	
395	698	694.616	143964.43	694.6162	0.0010	0.03	0.000	9	45	5d ⁷	10452.87(5/2)	154417.27(5/2)	pa	
1611	1167	694.809	143924.53	694.8089	0.0008	0.07	0.000	14	53	5d ⁷	9567.18(7/2)	153491.65(7/2)	pa	
506	397	695.018	143881.23	695.0162	0.0009	-0.31	0.002	10	32	5d ⁷	34556.09(9/2)	178437.63(9/2)	pa	
271	497	695.313	143820.16	695.2962	0.0011	-3.42	0.017	9	39	5d ⁷	28755.29(5/2)	172578.87(3/2)	pa	* 400, m
491	497	695.313	143820.16	695.3131	0.0009	0.06	0.000	11	39	5d ⁷	32168.62(5/2)	175988.72(5/2)	pa	
229	467	695.379	143806.43	695.3767	0.0008	-0.51	0.002	13	47	5d ⁷	18361.43(9/2)	162168.37(7/2)	pa	
1327	1134	696.204	143636.06	696.2021	0.0007	-0.39	0.002	16	42	5d ⁷	0.00(9/2)	143636.45(7/2)	pa	
618	626	696.491	143576.91	696.4897	0.0009	-0.23	0.001	12	49	5d ⁷	16169.35(5/2)	159746.50(5/2)	pa	
2386	1009	696.582	143558.10	696.5788	0.0010	-0.67	0.003	15	45	5d ⁷	10452.87(5/2)	154011.64(5/2)	pa	
141	110	696.733	143526.96	696.7358	0.0008	0.54	-0.003	14	46	5d ⁷	24800.74(7/2)	168327.15(7/2)	pa	
3973	1010	697.229	143424.84	697.2285	0.0015	-0.17	0.001	5	32	5d ⁷	39002.13(7/2)	182427.13(5/2)	pa	

1043	812	697.309	143408.40	697.3095	0.0008	0.06	0.000	12	47	5d ⁷	18361.43(9/2)	161769.77(9/2)	pa	
589	1009	697.448	143379.80	697.4468	0.0007	-0.32	0.002	13	42	5d ⁷	0.00(9/2)	143380.12(9/2)	pa	
516	453	698.189	143227.67	698.1898	0.0014	0.14	-0.001	5	35	5d ⁷	27870.20(3/2)	171097.73(5/2)	pa	
92	256	698.763	143110.04	698.7642	0.0009	0.25	-0.001	12	32	5d ⁷	24437.46(11/2)	167547.24(9/2)	pa	
68	317	698.790	143104.51	698.7897	0.0010	-0.06	0.000	13	20	5d ⁷	19624.95(1/2)	162729.52(3/2)	pa	
230	511	699.112	143038.56	699.1111	0.0008	-0.22	0.001	14	45	5d ⁷	10452.87(5/2)	153491.65(7/2)	pa	
121	256	699.176	143025.50	699.1757	0.0009	-0.07	0.000	13	49	5d ⁷	16169.35(5/2)	159194.93(3/2)	pa	
368	521	699.619	142935.00	699.6177	0.0008	-0.19	0.001	14	29	5d ⁷	9214.92(3/2)	152150.12(5/2)	pa	
58	233	699.945	142868.45	699.9470	0.0007	0.49	-0.002	14	53	5d ⁷	9567.18(7/2)	152435.15(9/2)	pa	
34	139	700.050	142846.92	700.0519	0.0009	0.38	-0.002	17	45	5d ⁷	10452.87(5/2)	153299.41(3/2)	pa	*
423	382	700.348	142786.16	700.3513	0.0015	0.68	-0.003	4	13	5d ⁷	32952.87(1/2)	175738.35(1/2)	pa	
638	718	700.550	142744.97	700.5425	0.0008	-1.54	0.008	12	46	5d ⁷	24800.74(7/2)	167547.24(9/2)	pa	
565	643	700.729	142708.54	700.7284	0.0008	-0.11	0.001	11	47	5d ⁷	18361.43(9/2)	161070.08(11/2)	pa	
1177	765	700.935	142666.56	700.9358	0.0010	0.15	-0.001	10	39	5d ⁷	28755.29(5/2)	171421.70(7/2)	pa	
724	1084	701.346	142582.88	701.3471	0.0009	0.13	-0.001	15	53	5d ⁷	9567.18(7/2)	152149.93(7/2)	pa	
446	1084	701.346	142582.88	701.3462	0.0007	-0.06	0.000	14	53	5d ⁷	9567.18(7/2)	152150.12(5/2)	pa	500
2701	1122	702.091	142431.58	702.0900	0.0009	-0.30	0.001	15	32	5d ⁷	24437.46(11/2)	166869.34(9/2)	pa	
1285	1214	702.268	142395.84	702.2739	0.0008	1.25	-0.006	16	49	5d ⁷	16169.35(5/2)	158563.95(7/2)	pa	*
1870	1214	702.268	142395.84	702.2606	0.0007	-1.43	0.007	16	46	5d ⁷	24800.74(7/2)	167198.01(7/2)	pa	* 900
1408	939	702.412	142366.65	702.4108	0.0014	-0.18	0.001	4	39	5d ⁷	32168.62(5/2)	174535.45(5/2)	pa	
991	721	702.532	142342.19	702.5311	0.0014	-0.26	0.001	5	39	5d ⁷	28755.29(5/2)	171097.73(5/2)	pa	
837	843	702.678	142312.78	702.6796	0.0008	0.41	-0.002	14	47	5d ⁷	18361.43(9/2)	160673.80(9/2)	pa	
34	226	703.473	142151.79	703.4759	0.0012	0.50	-0.002	13	35	5d ⁷	15539.29(3/2)	157690.57(5/2)	pa	*
400	454	703.515	142143.46	703.5179	0.0012	0.66	-0.003	10	35	5d ⁷	27870.20(3/2)	170013.00(3/2)	pa	
1900	1086	704.698	141904.76	704.6950	0.0007	-0.61	0.003	17	47	5d ⁷	18361.43(9/2)	160266.80(7/2)	pa	
95	119	704.992	141845.58	704.9877	0.0012	-0.86	0.004	8	32	5d ⁷	34556.09(9/2)	176402.53(7/2)	pa	
852	407	705.039	141836.08	705.0375	0.0016	-0.35	0.002	3	17	5d ⁷	39096.28(3/2)	180932.71(1/2)	pa	
207	581	705.731	141696.97	705.7309	0.0009	-0.09	0.000	15	45	5d ⁷	10452.87(5/2)	152149.93(7/2)	pa	
163	581	705.731	141696.97	705.7300	0.0008	-0.28	0.001	14	45	5d ⁷	10452.87(5/2)	152150.12(5/2)	pa	
595	501	706.413	141560.23	706.4151	0.0009	0.40	-0.002	15	39	5d ⁷	28755.29(5/2)	170315.12(7/2)	pa	
444	636	706.541	141534.50	706.5428	0.0008	0.26	-0.001	17	29	5d ⁷	9214.92(3/2)	150749.16(5/2)	pa	
864	1108	706.607	141521.40	706.6078	0.0011	0.18	-0.001	13	49	5d ⁷	16169.35(5/2)	157690.57(5/2)	pa	
608	669	707.930	141256.94	707.9259	0.0012	-0.77	0.004	10	39	5d ⁷	28755.29(5/2)	170013.00(3/2)	pa	
2714	825	708.191	141204.79	708.1866	0.0018	-0.94	0.005	4	14	5d ⁷	56588.63(5/2)	197794.35(7/2)	pa	
1540	1122	708.227	141197.73	708.2240	0.0008	-0.53	0.003	19	53	5d ⁷	9567.18(7/2)	150765.44(7/2)	pa	
233	1122	708.227	141197.73	708.2352	0.0012	1.68	-0.008	12	20	5d ⁷	19624.95(1/2)	160820.99(3/2)	pa	* 400
183	521	708.305	141182.08	708.3057	0.0008	0.10	-0.001	17	53	5d ⁷	9567.18(7/2)	150749.16(5/2)	pa	
267	317	708.430	141157.25	708.4355	0.0010	1.15	-0.006	12	39	5d ⁷	32168.62(5/2)	173324.72(7/2)	pa	
1934	773	710.038	140837.55	710.0370	0.0011	-0.17	0.001	10	32	5d ⁷	34556.09(9/2)	175393.81(9/2)	pa	
1384	936	710.159	140813.56	710.1578	0.0010	-0.21	0.001	7	35	5d ⁷	15539.29(3/2)	156353.05(1/2)	pa	
1247	854	710.449	140756.04	710.4496	0.0008	0.10	0.000	17	46	5d ⁷	24800.74(7/2)	165556.67(7/2)	pa	
686	668	710.480	140749.84	710.4825	0.0012	0.42	-0.002	12	35	5d ⁷	27870.20(3/2)	168619.62(3/2)	pa	
2035	1033	710.563	140733.45	710.5635	0.0008	0.07	0.000	12	46	5d ⁷	24800.74(7/2)	165534.12(5/2)	pa	

1037	968	710.964	140654.00	710.9646	0.0013	0.02	0.000	7	29	5d ⁷	9214.92(3/2)	149868.90(1/2)	pa
125	248	711.232	140601.08	711.2319	0.0009	-0.04	0.000	17	35	5d ⁷	15539.29(3/2)	156140.40(5/2)	pa
938	690	711.333	140581.10	711.3310	0.0008	-0.43	0.002	12	39	5d ⁷	28755.29(5/2)	169336.81(5/2)	pa
4421	1252	711.531	140541.98	711.5300	0.0009	-0.23	0.001	8	42	5d ⁷	0.00(9/2)	140542.20(7/2)	pa
568	510	712.108	140428.12	712.1091	0.0010	0.20	-0.001	7	32	5d ⁷	24437.46(11/2)	164865.38(11/2)	pa
782	390	712.201	140409.76	712.1987	0.0012	-0.50	0.003	9	39	5d ⁷	32168.62(5/2)	172578.87(3/2)	pa
1402	553	712.254	140399.33	712.2509	0.0011	-0.62	0.003	9	32	5d ⁷	39002.13(7/2)	179402.08(7/2)	pa
1085	962	712.698	140311.90	712.6945	0.0008	-0.66	0.003	19	45	5d ⁷	10452.87(5/2)	150765.44(7/2)	pa
554	663	712.779	140295.98	712.7772	0.0008	-0.31	0.002	17	45	5d ⁷	10452.87(5/2)	150749.16(5/2)	pa
165	476	712.921	140267.90	712.9246	0.0008	0.60	-0.003	10	29	5d ⁷	9214.92(3/2)	149482.21(3/2)	pa
4975	1203	713.250	140203.27	713.2540	0.0009	0.76	-0.004	16	47	5d ⁷	18361.43(9/2)	158563.95(7/2)	pa
2575	1259	713.281	140197.22	713.2795	0.0008	-0.28	0.001	13	47	5d ⁷	18361.43(9/2)	158558.94(9/2)	pa
1147	623	713.648	140125.01	713.6477	0.0008	-0.15	0.001	12	46	5d ⁷	24800.74(7/2)	164925.89(5/2)	pa
532	778	713.915	140072.60	713.9162	0.0010	0.14	-0.001	10	35	5d ⁷	15539.29(3/2)	155611.74(3/2)	pa
27	88	714.206	140015.55	714.2051	0.0010	-0.25	0.001	8	32	5d ⁷	34556.09(9/2)	174571.88(11/2)	pa *
5727	1342	714.280	140001.06	714.2810	0.0007	0.13	-0.001	14	53	5d ⁷	9567.18(7/2)	149568.12(9/2)	pa
22	87	714.428	139972.06	714.4335	0.0008	1.01	-0.005	17	49	5d ⁷	16169.35(5/2)	156140.40(5/2)	pa *
108	119	714.506	139956.84	714.4996	0.0009	-1.26	0.006	15	32	5d ⁷	24437.46(11/2)	164395.55(9/2)	pa *
497	496	714.705	139917.81	714.7071	0.0008	0.35	-0.002	9	47	5d ⁷	18361.43(9/2)	158278.89(11/2)	pa
160	185	714.978	139864.42	714.9786	0.0012	0.10	0.000	12	39	5d ⁷	28755.29(5/2)	168619.62(3/2)	pa
1461	907	715.043	139851.69	715.0448	0.0009	0.31	-0.002	15	46	5d ⁷	24800.74(7/2)	164652.12(7/2)	pa
264	143	715.135	139833.72	715.1368	0.0013	0.33	-0.002	7	17	5d ⁷	39096.28(3/2)	178929.67(1/2)	pa
552	445	715.538	139754.90	715.5371	0.0010	-0.25	0.001	9	35	5d ⁷	27870.20(3/2)	167625.35(5/2)	pa
884	317	715.837	139696.55	715.8373	0.0030	0.00	0.000	1	14	5d ⁷	56588.63(5/2)	196285.17(5/2)	pa
112	353	716.278	139610.64	716.2812	0.0008	0.67	-0.003	15	29	5d ⁷	9214.92(3/2)	148824.89(5/2)	pa
1356	965	716.487	139569.82	716.4864	0.0011	-0.17	0.001	13	20	5d ⁷	19624.95(1/2)	159194.93(3/2)	pa
536	965	716.487	139569.82	716.4768	0.0009	-2.05	0.011	14	39	5d ⁷	28755.29(5/2)	168327.15(7/2)	pa *
4436	1095	716.710	139526.45	716.7101	0.0010	0.01	0.000	9	32	5d ⁷	39002.13(7/2)	178528.56(7/2)	pa
874	601	717.178	139435.48	717.1775	0.0009	-0.03	0.000	10	32	5d ⁷	39002.13(7/2)	178437.63(9/2)	pa
83	200	718.011	139273.55	718.0109	0.0009	-0.09	0.000	13	35	5d ⁷	15539.29(3/2)	154812.93(3/2)	pa
1712	1028	718.028	139270.35	718.0282	0.0010	0.05	0.000	9	39	5d ⁷	28755.29(5/2)	168025.59(3/2)	pa
3950	1302	718.093	139257.83	718.0931	0.0007	0.12	-0.001	15	53	5d ⁷	9567.18(7/2)	148824.89(5/2)	pa
325	248	718.282	139221.12	718.2805	0.0009	-0.25	0.001	13	35	5d ⁷	27870.20(3/2)	167091.57(3/2)	pa
1421	907	719.140	139055.06	719.1374	0.0013	-0.42	0.002	6	20	5d ⁷	19624.95(1/2)	158680.43(1/2)	pa
2546	1193	719.271	139029.60	719.2726	0.0008	0.26	-0.001	10	45	5d ⁷	10452.87(5/2)	149482.21(3/2)	pa
206	194	719.781	138931.05	719.7818	0.0017	0.05	0.000	3	13	5d ⁷	32952.87(1/2)	171883.87(1/2)	pa
235	380	719.813	138925.03	719.8156	0.0007	0.56	-0.003	16	47	5d ⁷	18361.43(9/2)	157285.90(9/2)	pa
1554	867	720.097	138870.08	720.0976	0.0010	0.02	0.000	9	39	5d ⁷	28755.29(5/2)	167625.35(5/2)	pa
358	458	720.251	138840.47	720.2500	0.0009	-0.22	0.001	12	46	5d ⁷	24800.74(7/2)	163641.42(5/2)	pa
1303	599	720.624	138768.66	720.6240	0.0011	0.03	0.000	12	32	5d ⁷	34556.09(9/2)	173324.72(7/2)	pa
754	696	720.691	138755.78	720.6894	0.0010	-0.24	0.001	5	32	5d ⁷	24437.46(11/2)	163193.48(13/2)	pa
99	331	720.775	138739.51	720.7763	0.0008	0.20	-0.001	8	53	5d ⁷	9567.18(7/2)	148306.49(7/2)	pa
1497	650	721.085	138679.91	721.0858	0.0014	0.15	-0.001	5	32	5d ⁷	39002.13(7/2)	177681.88(5/2)	pa

203	380	721.287	138641.01	721.2896	0.0008	0.44	-0.002	13	47	5d ⁷	18361.43(9/2)	157002.00(7/2)	pa	
147	288	721.478	138604.35	721.4771	0.0008	-0.19	0.001	12	46	5d ⁷	24800.74(7/2)	163405.27(5/2)	pa	
1451	650	721.572	138586.37	721.5757	0.0015	0.77	-0.004	5	17	5d ⁷	39096.28(3/2)	177681.88(5/2)	pa	
3689	1423	721.613	138578.45	721.6126	0.0010	-0.05	0.000	7	42	5d ⁷	0.00(9/2)	138578.51(9/2)	pa	
289	1251	722.165	138472.51	722.1658	0.0011	0.15	-0.001	15	35	5d ⁷	15539.29(3/2)	154011.64(5/2)	pa	600
3964	1251	722.165	138472.51	722.1600	0.0012	-0.96	0.005	8	32	5d ⁷	24437.46(11/2)	162910.93(11/2)	pa	*
3292	916	722.202	138465.40	722.1999	0.0010	-0.42	0.002	13	32	5d ⁷	34556.09(9/2)	173021.91(9/2)	pa	
164	336	722.323	138442.32	722.3204	0.0008	-0.41	0.002	16	39	5d ⁷	28755.29(5/2)	167198.01(7/2)	pa	
114	505	722.693	138371.32	722.6895	0.0007	-0.70	0.004	15	45	5d ⁷	10452.87(5/2)	148824.89(5/2)	pa	
589	658	722.877	138336.18	722.8761	0.0009	-0.11	0.001	13	39	5d ⁷	28755.29(5/2)	167091.57(3/2)	pa	
1256	785	723.872	138146.01	723.8692	0.0009	-0.49	0.003	15	39	5d ⁷	32168.62(5/2)	170315.12(7/2)	pa	
752	775	724.268	138070.44	724.2636	0.0008	-0.83	0.004	16	46	5d ⁷	24800.74(7/2)	162872.01(7/2)	pa	
996	729	725.115	137909.23	725.1151	0.0012	0.10	-0.001	10	35	5d ⁷	27870.20(3/2)	165779.33(3/2)	pa	
799	808	725.465	137842.59	725.4668	0.0010	0.30	-0.002	15	49	5d ⁷	16169.35(5/2)	154011.64(5/2)	pa	
130	808	725.465	137842.59	725.4557	0.0013	-1.80	0.009	10	39	5d ⁷	32168.62(5/2)	170013.00(3/2)	pa	* 200
359	614	725.901	137759.89	725.8994	0.0009	-0.24	0.001	17	35	5d ⁷	15539.29(3/2)	153299.41(3/2)	pa	
125	181	726.410	137663.27	726.4067	0.0009	-0.66	0.003	12	35	5d ⁷	27870.20(3/2)	165534.12(5/2)	pa	
30	111	726.717	137605.24	726.7131	0.0008	-0.65	0.003	12	53	5d ⁷	9567.18(7/2)	147173.08(9/2)	pa	
6095	1514	727.418	137472.54	727.4195	0.0008	0.29	-0.002	7	42	5d ⁷	0.00(9/2)	137472.25(11/2)	pa	
46	66	727.799	137400.54	727.7999	0.0012	0.13	-0.001	8	32	5d ⁷	39002.13(7/2)	176402.53(7/2)	pa	*
352	544	727.891	137383.13	727.8892	0.0009	-0.41	0.002	18	53	5d ⁷	9567.18(7/2)	146950.72(7/2)	pa	
64	624	728.161	137332.19	728.1599	0.0009	-0.28	0.001	12	47	5d ⁷	18361.43(9/2)	155693.90(7/2)	pa	250
325	624	728.161	137332.19	728.1607	0.0010	-0.13	0.001	12	32	5d ⁷	24437.46(11/2)	161769.77(9/2)	pa	
37	172	728.215	137322.18	728.2139	0.0009	-0.12	0.001	14	49	5d ⁷	16169.35(5/2)	153491.65(7/2)	pa	
5602	1212	728.519	137264.84	728.5207	0.0009	0.37	-0.002	10	32	5d ⁷	34556.09(9/2)	171820.55(9/2)	pa	
282	708	728.672	137235.88	728.6742	0.0007	0.34	-0.002	13	42	5d ⁷	0.00(9/2)	137235.54(7/2)	pa	
77	175	729.235	137129.97	729.2347	0.0009	-0.09	0.000	17	49	5d ⁷	16169.35(5/2)	153299.41(3/2)	pa	
384	226	729.516	137077.17	729.5117	0.0016	-0.82	0.004	5	14	5d ⁷	56588.63(5/2)	193666.61(7/2)	pa	
870	666	729.628	137056.22	729.6304	0.0009	0.53	-0.003	12	35	5d ⁷	27870.20(3/2)	164925.89(5/2)	pa	
1368	1173	729.781	137027.47	729.7764	0.0009	-0.81	0.004	12	29	5d ⁷	9214.92(3/2)	146243.19(5/2)	pa	
769	1173	729.781	137027.47	729.7989	0.0012	3.42	-0.018	10	39	5d ⁷	28755.29(5/2)	165779.33(3/2)	pa	* 600
147	97	730.000	136986.39	729.9984	0.0010	-0.20	0.001	11	32	5d ⁷	39002.13(7/2)	175988.72(5/2)	pa	
212	268	730.092	136969.10	730.0920	0.0009	0.06	0.000	12	46	5d ⁷	24800.74(7/2)	161769.77(9/2)	pa	
692	473	730.643	136865.69	730.6437	0.0012	0.08	0.000	10	32	5d ⁷	34556.09(9/2)	171421.70(7/2)	pa	
938	625	730.986	136801.53	730.9867	0.0009	0.14	-0.001	17	39	5d ⁷	28755.29(5/2)	165556.67(7/2)	pa	
89	184	731.655	136676.53	731.6573	0.0009	0.52	-0.003	12	53	5d ⁷	9567.18(7/2)	146243.19(5/2)	pa	
413	367	731.843	136641.42	731.8391	0.0015	-0.64	0.003	4	17	5d ⁷	39096.28(3/2)	175738.35(1/2)	pa	
1732	908	731.885	136633.52	731.8896	0.0009	0.90	-0.005	11	32	5d ⁷	24437.46(11/2)	161070.08(11/2)	pa	
2548	953	732.008	136610.49	732.0064	0.0009	-0.34	0.002	14	35	5d ⁷	15539.29(3/2)	152150.12(5/2)	pa	
65	139	732.379	136541.33	732.3870	0.0012	1.50	-0.008	12	35	5d ⁷	27870.20(3/2)	164410.03(3/2)	pa	*
2935	1286	732.613	136497.77	732.6123	0.0009	-0.08	0.000	18	45	5d ⁷	10452.87(5/2)	146950.72(7/2)	pa	
4250	1280	732.741	136473.78	732.7428	0.0010	0.24	-0.001	10	32	5d ⁷	34556.09(9/2)	171029.63(11/2)	pa	
280	365	732.861	136451.47	732.8638	0.0013	0.47	-0.003	12	39	5d ⁷	32168.62(5/2)	168619.62(3/2)	pa	Pt V

1012	1074	733.025	136420.99	733.0270	0.0008	0.36	-0.002	13	53	5d ⁷	9567.18(7/2)	145987.82(7/2)	pa
319	299	733.182	136391.78	733.1825	0.0011	0.10	-0.001	10	32	5d ⁷	39002.13(7/2)	175393.81(9/2)	pa
190	319	734.019	136236.26	734.0185	0.0009	-0.09	0.000	14	32	5d ⁷	24437.46(11/2)	160673.80(9/2)	pa
985	1032	734.303	136183.53	734.3020	0.0008	-0.22	0.001	19	47	5d ⁷	18361.43(9/2)	154545.18(9/2)	pa
159	189	734.441	136157.99	734.4380	0.0010	-0.54	0.003	14	39	5d ⁷	32168.62(5/2)	168327.15(7/2)	pa
2288	1384	734.795	136092.42	734.7966	0.0008	0.33	-0.002	9	42	5d ⁷	0.00(9/2)	136092.09(9/2)	pa
2811	1413	735.101	136035.80	735.1017	0.0008	0.20	-0.001	12	42	5d ⁷	0.00(9/2)	136035.60(7/2)	pa
846	745	735.357	135988.43	735.3576	0.0009	0.17	-0.001	13	46	5d ⁷	24800.74(7/2)	160788.99(5/2)	pa
395	873	735.399	135980.55	735.3991	0.0009	-0.03	0.000	15	49	5d ⁷	16169.35(5/2)	152149.93(7/2)	pa
413	873	735.399	135980.55	735.3981	0.0008	-0.22	0.001	14	49	5d ⁷	16169.35(5/2)	152150.12(5/2)	pa
636	611	735.852	135896.93	735.8523	0.0010	0.10	-0.001	15	39	5d ⁷	28755.29(5/2)	164652.12(7/2)	pa
441	769	735.986	135872.19	735.9811	0.0009	-0.88	0.005	14	46	5d ⁷	24800.74(7/2)	160673.80(9/2)	pa
453	478	736.070	135856.55	736.0682	0.0010	-0.42	0.002	9	39	5d ⁷	32168.62(5/2)	168025.59(3/2)	pa
1229	1164	736.429	135790.36	736.4295	0.0009	0.04	0.000	12	45	5d ⁷	10452.87(5/2)	146243.19(5/2)	pa
688	710	736.536	135770.63	736.5331	0.0010	-0.59	0.003	12	35	5d ⁷	27870.20(3/2)	163641.42(5/2)	pa
1273	1071	736.596	135759.56	736.5992	0.0010	0.53	-0.003	15	32	5d ⁷	34556.09(9/2)	170315.12(7/2)	pa
720	662	737.166	135654.69	737.1655	0.0013	-0.05	0.000	12	39	5d ⁷	28755.29(5/2)	164410.03(3/2)	pa
466	593	737.199	135648.62	737.1987	0.0015	-0.02	0.000	6	13	5d ⁷	32952.87(1/2)	168601.51(1/2)	pa
3670	1318	737.559	135582.30	737.5612	0.0009	0.34	-0.002	12	47	5d ⁷	18361.43(9/2)	153943.40(11/2)	pa
314	479	737.819	135534.61	737.8164	0.0009	-0.45	0.002	12	35	5d ⁷	27870.20(3/2)	163405.27(5/2)	pa
2619	1189	738.190	135466.50	738.1922	0.0008	0.43	-0.002	17	46	5d ⁷	24800.74(7/2)	160266.80(7/2)	pa
301	301	738.243	135456.83	738.2431	0.0010	0.09	-0.001	9	39	5d ⁷	32168.62(5/2)	167625.35(5/2)	pa
683	543	738.338	135439.40	738.3389	0.0016	0.23	-0.001	4	17	5d ⁷	39096.28(3/2)	174535.45(5/2)	pa
1539	1130	739.130	135294.20	739.1306	0.0009	0.11	-0.001	10	29	5d ⁷	9214.92(3/2)	144509.01(3/2)	pa
237	404	739.458	135234.15	739.4634	0.0011	0.95	-0.005	6	32	5d ⁷	39002.13(7/2)	174235.33(5/2)	pa
168	355	739.590	135210.03	739.5909	0.0009	0.15	-0.001	17	35	5d ⁷	15539.29(3/2)	150749.16(5/2)	pa
424	643	739.713	135187.62	739.7107	0.0011	-0.36	0.002	13	20	5d ⁷	19624.95(1/2)	154812.93(3/2)	pa
69	181	740.031	135129.47	740.0269	0.0009	-0.74	0.004	14	47	5d ⁷	18361.43(9/2)	153491.65(7/2)	pa
1063	712	740.819	134985.72	740.8211	0.0016	0.37	-0.002	3	35	5d ⁷	27870.20(3/2)	162855.55(1/2)	pa
94	108	741.034	134946.58	741.0385	0.0010	0.81	-0.004	12	46	5d ⁷	24800.74(7/2)	159746.50(5/2)	pa
855	565	741.164	134922.96	741.1637	0.0009	0.00	0.000	13	39	5d ⁷	32168.62(5/2)	167091.57(3/2)	pa
75	116	741.366	134886.20	741.3660	0.0010	0.06	0.000	12	39	5d ⁷	28755.29(5/2)	163641.42(5/2)	pa
143	136	741.513	134859.48	741.5135	0.0010	0.16	-0.001	13	35	5d ⁷	27870.20(3/2)	162729.52(3/2)	pa
153	431	741.632	134837.71	741.6350	0.0008	0.49	-0.003	9	53	5d ⁷	9567.18(7/2)	144404.40(9/2)	pa
606	822	742.029	134765.66	742.0294	0.0009	0.12	-0.001	14	29	5d ⁷	9214.92(3/2)	143980.46(3/2)	pa
2003	698	742.685	134646.62	742.6849	0.0013	0.02	0.000	5	15	5d ⁶ 6s	54407.02(3/2)	189053.62(5/2)	pa
895	1171	742.875	134612.24	742.8731	0.0010	-0.25	0.001	8	29	5d ⁷	9214.92(3/2)	143827.41(1/2)	pa
185	375	742.963	134596.22	742.9637	0.0009	0.14	-0.001	19	49	5d ⁷	16169.35(5/2)	150765.44(7/2)	pa
174	426	743.055	134579.59	743.0535	0.0008	-0.21	0.001	17	49	5d ⁷	16169.35(5/2)	150749.16(5/2)	pa
640	941	744.016	134405.71	744.0180	0.0009	0.36	-0.002	9	42	5d ⁷	0.00(9/2)	134405.36(7/2)	pa
1129	759	744.120	134386.93	744.1226	0.0009	0.48	-0.003	15	32	5d ⁷	34556.09(9/2)	168942.54(9/2)	pa
66	249	744.431	134330.75	744.4375	0.0014	1.13	-0.006	7	35	5d ⁷	15539.29(3/2)	149868.90(1/2)	pa
1494	733	744.477	134322.39	744.4764	0.0011	-0.20	0.001	12	32	5d ⁷	39002.13(7/2)	173324.72(7/2)	pa

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1100	390	744.921	134242.49	744.9227	0.0013	0.38	-0.002	5	20	5d ⁷	54811.51(3/2)	189053.62(5/2)	pa	
1311	744	745.495	134139.10	745.4970	0.0013	0.39	-0.002	13	13	5d ⁷	32952.87(1/2)	167091.57(3/2)	pa	
1813	1073	745.592	134121.61	745.5927	0.0009	0.13	-0.001	13	32	5d ⁷	24437.46(11/2)	158558.94(9/2)	pa	
195	1353	745.859	134073.62	745.8831	0.0008	4.35	-0.024	16	53	5d ⁷	9567.18(7/2)	143636.45(7/2)	pa	* 500, m
3984	1353	745.859	134073.62	745.8583	0.0008	-0.10	0.001	14	47	5d ⁷	18361.43(9/2)	152435.15(9/2)	pa	
644	686	745.959	134055.68	745.9561	0.0009	-0.46	0.003	10	45	5d ⁷	10452.87(5/2)	144509.01(3/2)	pa	
123	350	745.990	134050.04	745.9881	0.0014	-0.36	0.002	5	20	5d ⁷	19624.95(1/2)	153675.34(1/2)	pa	
574	264	746.159	134019.73	746.1585	0.0010	-0.05	0.000	13	32	5d ⁷	39002.13(7/2)	173021.91(9/2)	pa	
142	225	746.584	133943.38	746.5866	0.0009	0.45	-0.003	10	35	5d ⁷	15539.29(3/2)	149482.21(3/2)	pa	
176	852	747.123	133846.72	747.1242	0.0009	0.16	-0.001	7	42	5d ⁷	0.00(9/2)	133846.55(11/2)	pa	
8061	1421	747.154	133841.27	747.1528	0.0009	-0.17	0.001	9	32	5d ⁷	24437.46(11/2)	158278.89(11/2)	pa	
307	633	747.310	133813.37	747.3119	0.0007	0.43	-0.002	13	53	5d ⁷	9567.18(7/2)	143380.12(9/2)	pa	
460	699	747.446	133788.98	747.4484	0.0010	0.48	-0.003	15	47	5d ⁷	18361.43(9/2)	152149.93(7/2)	pa	
85	87	747.542	133771.68	747.5458	0.0011	0.61	-0.003	14	32	5d ⁷	34556.09(9/2)	168327.15(7/2)	pa	*
147	452	747.588	133763.46	747.5897	0.0009	0.25	-0.001	16	46	5d ⁷	24800.74(7/2)	158563.95(7/2)	pa	
1853	924	747.622	133757.36	747.6177	0.0009	-0.84	0.005	13	46	5d ⁷	24800.74(7/2)	158558.94(9/2)	pa	
130	257	748.085	133674.60	748.0860	0.0011	0.13	-0.001	17	20	5d ⁷	19624.95(1/2)	153299.41(3/2)	pa	
304	560	748.910	133527.32	748.9089	0.0009	-0.27	0.002	14	45	5d ⁷	10452.87(5/2)	143980.46(3/2)	pa	
1219	564	749.161	133482.67	749.1613	0.0014	0.08	0.000	9	17	5d ⁷	39096.28(3/2)	172578.87(3/2)	pa	
23	43	749.294	133458.95	749.2933	0.0009	-0.15	0.001	9	29	5d ⁷	9214.92(3/2)	142674.01(3/2)	pa	
1338	870	749.551	133413.20	749.5517	0.0009	0.12	-0.001	13	39	5d ⁷	28755.29(5/2)	162168.37(7/2)	pa	
38	56	749.691	133388.31	749.6923	0.0010	0.25	-0.001	17	39	5d ⁷	32168.62(5/2)	165556.67(7/2)	pa	*
919	639	749.819	133365.52	749.8191	0.0010	0.01	0.000	12	39	5d ⁷	32168.62(5/2)	165534.12(5/2)	pa	
76	70	752.161	132950.24	752.1580	0.0012	-0.55	0.003	12	35	5d ⁷	27870.20(3/2)	160820.99(3/2)	pa	
84	108	752.341	132918.45	752.3391	0.0010	-0.34	0.002	13	35	5d ⁷	27870.20(3/2)	160788.99(5/2)	pa	
522	739	752.737	132848.60	752.7374	0.0009	0.15	-0.001	16	32	5d ⁷	24437.46(11/2)	157285.90(9/2)	pa	
120	148	752.866	132825.71	752.8620	0.0015	-0.76	0.004	10	13	5d ⁷	32952.87(1/2)	165779.33(3/2)	pa	
1302	880	753.254	132757.31	753.2544	0.0009	0.03	0.000	12	39	5d ⁷	32168.62(5/2)	164925.89(5/2)	pa	
1904	1045	753.830	132655.97	753.8321	0.0008	0.44	-0.002	15	49	5d ⁷	16169.35(5/2)	148824.89(5/2)	pa	
157	368	754.358	132563.04	754.3600	0.0013	0.33	-0.002	9	29	5d ⁷	9214.92(3/2)	141777.63(3/2)	pa	
73	235	754.602	132520.26	754.5988	0.0009	-0.50	0.003	9	47	5d ⁷	18361.43(9/2)	150882.19(11/2)	pa	
708	1024	754.684	132505.88	754.6850	0.0009	0.26	-0.001	10	53	5d ⁷	9567.18(7/2)	142072.80(5/2)	pa	
263	494	754.800	132485.43	754.8015	0.0008	0.26	-0.001	16	46	5d ⁷	24800.74(7/2)	157285.90(9/2)	pa	
1150	494	754.918	132464.79	754.9164	0.0014	-0.21	0.001	5	14	5d ⁷	56588.63(5/2)	189053.62(5/2)	pa	
361	356	755.174	132419.76	755.1754	0.0012	0.19	-0.001	10	32	5d ⁷	39002.13(7/2)	171421.70(7/2)	pa	
284	542	755.260	132404.82	755.2641	0.0010	0.81	-0.005	19	47	5d ⁷	18361.43(9/2)	150765.44(7/2)	pa	*
163	470	755.768	132315.74	755.7822	0.0010	2.49	-0.014	15	32	5d ⁷	34556.09(9/2)	166869.34(9/2)	pa	* 200, m
677	848	756.419	132201.83	756.4224	0.0008	0.56	-0.003	13	46	5d ⁷	24800.74(7/2)	157002.00(7/2)	pa	
91	75	757.202	132065.12	757.1989	0.0012	-0.58	0.003	12	39	5d ⁷	28755.29(5/2)	160820.99(3/2)	pa	*
185	280	757.378	132034.45	757.3823	0.0010	0.74	-0.004	13	39	5d ⁷	28755.29(5/2)	160788.99(5/2)	pa	
1038	997	757.915	131940.99	757.9132	0.0011	-0.24	0.001	7	35	5d ⁷	15539.29(3/2)	147480.52(1/2)	pa	
94	150	758.285	131876.52	758.2864	0.0010	0.22	-0.001	12	35	5d ⁷	27870.20(3/2)	159746.50(5/2)	pa	2d ord
39	194	759.759	131620.70	759.7634	0.0009	0.77	-0.004	10	45	5d ⁷	10452.87(5/2)	142072.80(5/2)	pa	

483	859	759.809	131612.09	759.8114	0.0009	0.49	-0.003	10	53	5d ⁷	9567.18(7/2)	141178.79(5/2)	pa	
101	128	760.703	131457.35	760.7041	0.0016	0.19	-0.001	12	13	5d ⁷	32952.87(1/2)	164410.03(3/2)	pa	
69	114	761.380	131340.39	761.3846	0.0009	0.73	-0.004	17	46	5d ⁷	24800.74(7/2)	156140.40(5/2)	pa	
234	400	761.466	131325.64	761.4710	0.0013	0.88	-0.005	9	45	5d ⁷	10452.87(5/2)	141777.63(3/2)	pa	
33	74	762.149	131207.87	762.1563	0.0009	1.19	-0.007	14	47	5d ⁷	18361.43(9/2)	149568.12(9/2)	pa	*
80	512	762.560	131137.27	762.5637	0.0009	0.68	-0.004	10	29	5d ⁷	9214.92(3/2)	140351.51(3/2)	pa	
215	607	763.502	130975.39	763.5044	0.0010	0.37	-0.002	8	53	5d ⁷	9567.18(7/2)	140542.20(7/2)	pa	
68	287	763.983	130892.93	763.9818	0.0010	-0.24	0.001	12	46	5d ⁷	24800.74(7/2)	155693.90(7/2)	pa	
330	842	764.430	130816.34	764.4322	0.0010	0.29	-0.002	8	42	5d ⁷	0.00(9/2)	130816.05(9/2)	pa	
83	200	764.465	130810.38	764.4662	0.0014	0.16	-0.001	6	35	5d ⁷	27870.20(3/2)	158680.43(1/2)	pa	
62	152	764.635	130781.39	764.6349	0.0010	0.02	0.000	18	49	5d ⁷	16169.35(5/2)	146950.72(7/2)	pa	
251	246	765.926	130561.00	765.9261	0.0010	0.10	-0.001	13	39	5d ⁷	32168.62(5/2)	162729.52(3/2)	pa	
32	98	766.643	130438.74	766.6381	0.0012	-0.90	0.005	13	39	5d ⁷	28755.29(5/2)	159194.93(3/2)	pa	*
1474	311	767.126	130356.65	767.1329	0.0017	1.15	-0.007	4	14	5d ⁷	56588.63(5/2)	186944.13(5/2)	pa	2d ord
969	1095	767.558	130283.30	767.5613	0.0009	0.54	-0.003	14	29	5d ⁷	9214.92(3/2)	139497.68(5/2)	pa	
89	201	768.594	130107.63	768.5939	0.0009	-0.09	0.001	19	32	5d ⁷	24437.46(11/2)	154545.18(9/2)	pa	
28	65	768.665	130095.74	768.6630	0.0012	-0.29	0.002	15	32	5d ⁷	34556.09(9/2)	164652.12(7/2)	pa	*
74	232	768.791	130074.41	768.7941	0.0010	0.57	-0.003	12	49	5d ⁷	16169.35(5/2)	146243.19(5/2)	pa	
66	153	769.233	129999.66	769.2322	0.0010	-0.10	0.001	13	39	5d ⁷	32168.62(5/2)	162168.37(7/2)	pa	
77	91	769.584	129940.35	769.5835	0.0009	-0.07	0.000	15	32	5d ⁷	39002.13(7/2)	168942.54(9/2)	pa	
159	240	769.811	129901.95	769.8071	0.0019	-0.73	0.004	3	13	5d ⁷	32952.87(1/2)	162855.55(1/2)	pa	
59	240	769.825	129899.59	769.8310	0.0009	0.95	-0.006	10	45	5d ⁷	10452.87(5/2)	140351.51(3/2)	pa	
147	336	770.078	129856.99	770.0763	0.0011	-0.28	0.002	10	20	5d ⁷	19624.95(1/2)	149482.21(3/2)	pa	
61	266	770.296	129820.29	770.3065	0.0009	1.83	-0.011	13	49	5d ⁷	16169.35(5/2)	145987.82(7/2)	pa	*
42	266	770.296	129820.29	770.2951	0.0014	-0.08	0.000	13	35	5d ⁷	27870.20(3/2)	157690.57(5/2)	pa	*
889	859	770.745	129744.66	770.7459	0.0008	0.22	-0.001	19	46	5d ⁷	24800.74(7/2)	154545.18(9/2)	pa	
44	63	771.511	129615.76	771.5065	0.0012	-0.77	0.005	9	46	5d ⁷	24800.74(7/2)	154417.27(5/2)	pa	*
53	397	772.167	129505.63	772.1654	0.0011	-0.31	0.002	12	32	5d ⁷	24437.46(11/2)	153943.40(11/2)	pa	200
244	397	772.167	129505.63	772.1696	0.0017	0.40	-0.002	6	17	5d ⁷	39096.28(3/2)	168601.51(1/2)	pa	
325	426	773.250	129324.30	773.2455	0.0010	-0.73	0.004	14	32	5d ⁷	39002.13(7/2)	168327.15(7/2)	pa	
2190	1237	773.828	129227.62	773.8299	0.0011	0.25	-0.001	7	32	5d ⁷	24437.46(11/2)	153664.83(13/2)	pa	
867	1047	774.329	129144.01	774.3308	0.0009	0.23	-0.001	12	47	5d ⁷	18361.43(9/2)	147505.21(11/2)	pa	
169	973	774.922	129045.28	774.9246	0.0008	0.47	-0.003	14	45	5d ⁷	10452.87(5/2)	139497.68(5/2)	pa	
67	228	775.373	128970.12	775.3758	0.0011	0.40	-0.002	10	35	5d ⁷	15539.29(3/2)	144509.01(3/2)	pa	
111	210	775.582	128935.45	775.5829	0.0013	0.16	-0.001	13	39	5d ⁷	28755.29(5/2)	157690.57(5/2)	pa	
361	936	775.789	128901.08	775.7902	0.0013	0.24	-0.001	6	29	5d ⁷	9214.92(3/2)	138115.76(1/2)	pa	
266	547	776.324	128812.15	776.3273	0.0009	0.50	-0.003	12	47	5d ⁷	18361.43(9/2)	147173.08(9/2)	pa	
89	388	777.242	128660.12	777.2405	0.0008	-0.18	0.001	13	53	5d ⁷	9567.18(7/2)	138227.49(5/2)	pa	
167	174	777.463	128623.48	777.4646	0.0011	0.26	-0.002	9	32	5d ⁷	39002.13(7/2)	167625.35(5/2)	pa	
71	232	777.667	128589.66	777.6697	0.0010	0.37	-0.002	18	47	5d ⁷	18361.43(9/2)	146950.72(7/2)	pa	
376	549	777.936	128545.21	777.9370	0.0011	0.10	-0.001	12	32	5d ⁷	39002.13(7/2)	167547.24(9/2)	pa	
272	1073	777.979	128538.19	777.9806	0.0010	0.28	-0.002	7	42	5d ⁷	0.00(9/2)	128537.91(9/2)	pa	
453	450	778.034	128529.07	778.0341	0.0013	0.00	0.000	9	17	5d ⁷	39096.28(3/2)	167625.35(5/2)	pa	

27	95	778.165	128507.38	778.1716	0.0009	1.03	-0.006	11	47	5d ⁷	18361.43(9/2)	146867.79(11/2)	pa *
64	605	778.283	128487.98	778.2832	0.0009	0.04	0.000	12	42	5d ⁷	0.00(9/2)	128487.94(7/2)	pa
41	244	778.311	128483.36	778.3140	0.0012	0.51	-0.003	7	35	5d ⁷	27870.20(3/2)	156353.05(1/2)	pa
128	304	778.564	128441.62	778.5665	0.0010	0.45	-0.003	14	35	5d ⁷	15539.29(3/2)	143980.46(3/2)	pa
158	253	779.088	128355.17	779.0902	0.0013	0.33	-0.002	8	32	5d ⁷	34556.09(9/2)	162910.93(11/2)	pa
109	470	779.182	128339.74	779.1824	0.0010	0.08	0.000	10	49	5d ⁷	16169.35(5/2)	144509.01(3/2)	pa
157	442	779.496	128288.04	779.4954	0.0011	-0.09	0.001	8	35	5d ⁷	15539.29(3/2)	143827.41(1/2)	pa
197	568	779.598	128271.19	779.6043	0.0010	0.99	-0.006	17	35	5d ⁷	27870.20(3/2)	156140.40(5/2)	pa
112	106	780.055	128196.02	780.0562	0.0009	0.14	-0.001	16	32	5d ⁷	39002.13(7/2)	167198.01(7/2)	pa
164	408	780.294	128156.74	780.2960	0.0011	0.25	-0.002	6	32	5d ⁷	24437.46(11/2)	152593.95(13/2)	pa
989	882	780.651	128098.20	780.6512	0.0009	0.01	0.000	17	39	5d ⁷	32168.62(5/2)	160266.80(7/2)	pa
108	124	780.999	128041.20	781.0017	0.0017	0.51	-0.003	10	15	5d ⁶ 6s	54407.02(3/2)	182447.71(3/2)	pa *
159	309	781.264	127997.69	781.2641	0.0010	0.00	0.000	14	32	5d ⁷	24437.46(11/2)	152435.15(9/2)	pa
454	300	781.680	127929.55	781.6818	0.0017	0.27	-0.002	4	14	5d ⁷	56588.63(5/2)	184517.91(5/2)	pa
1716	955	782.060	127867.39	782.0613	0.0009	0.18	-0.001	15	32	5d ⁷	39002.13(7/2)	166869.34(9/2)	pa
48	561	782.129	127856.13	782.1325	0.0012	0.56	-0.003	7	20	5d ⁷	19624.95(1/2)	147480.52(1/2)	pa 2d ord
401	769	782.405	127811.06	782.4046	0.0009	-0.05	0.000	14	49	5d ⁷	16169.35(5/2)	143980.46(3/2)	pa
350	800	782.627	127774.81	782.6281	0.0008	0.19	-0.001	13	45	5d ⁷	10452.87(5/2)	138227.49(5/2)	pa
73	443	783.907	127566.14	783.9102	0.0010	0.51	-0.003	9	29	5d ⁷	9214.92(3/2)	136780.55(5/2)	pa
301	606	784.516	127467.08	784.5162	0.0008	-0.02	0.000	16	49	5d ⁷	16169.35(5/2)	143636.45(7/2)	pa
187	423	785.022	127384.92	785.0211	0.0010	-0.20	0.001	17	39	5d ⁷	28755.29(5/2)	156140.40(5/2)	pa
127	308	785.240	127349.60	785.2425	0.0011	0.40	-0.002	15	46	5d ⁷	24800.74(7/2)	152149.93(7/2)	pa
98	456	785.940	127236.24	785.9406	0.0009	0.16	-0.001	12	29	5d ⁷	9214.92(3/2)	136451.00(5/2)	pa
12	110	786.082	127213.24	786.0809	0.0010	-0.12	0.001	9	53	5d ⁷	9567.18(7/2)	136780.55(5/2)	pa *
281	860	787.111	127046.93	787.1117	0.0009	0.15	-0.001	8	45	5d ⁷	10452.87(5/2)	137499.65(3/2)	pa
173	285	787.240	127026.03	787.2385	0.0012	-0.28	0.002	13	39	5d ⁷	32168.62(5/2)	159194.93(3/2)	pa
89	1057	787.717	126949.21	787.7568	0.0011	6.48	-0.040	13	35	5d ⁷	27870.20(3/2)	154812.93(3/2)	pa * 300, m
170	753	788.126	126883.25	788.1226	0.0009	-0.57	0.004	12	53	5d ⁷	9567.18(7/2)	136451.00(5/2)	pa
59	109	788.290	126856.88	788.2926	0.0012	0.43	-0.003	10	39	5d ⁷	28755.29(5/2)	155611.74(3/2)	pa
68	362	788.754	126782.26	788.7513	0.0008	-0.42	0.003	13	45	5d ⁷	10452.87(5/2)	137235.54(7/2)	pa
96	1469	790.201	126550.16	790.2198	0.0013	3.09	-0.019	9	35	5d ⁷	27870.20(3/2)	154417.27(5/2)	pa * 300, m
17	183	790.354	126525.66	790.3582	0.0009	0.76	-0.005	9	53	5d ⁷	9567.18(7/2)	136092.09(9/2)	pa *
235	183	790.354	126525.66	790.3533	0.0019	-0.03	0.000	3	15	5d ⁶ 6s	54407.02(3/2)	180932.71(1/2)	pa
209	284	790.425	126514.26	790.4264	0.0011	0.27	-0.002	11	32	5d ⁷	34556.09(9/2)	161070.08(11/2)	pa
324	876	790.484	126504.82	790.4847	0.0010	0.16	-0.001	9	49	5d ⁷	16169.35(5/2)	142674.01(3/2)	pa
367	1177	790.704	126469.53	790.7112	0.0009	1.11	-0.007	12	53	5d ⁷	9567.18(7/2)	136035.60(7/2)	pa * 2d ord(400)
436	541	790.899	126438.43	790.9025	0.0013	0.58	-0.004	12	17	5d ⁷	39096.28(3/2)	165534.12(5/2)	pa
136	119	792.887	126121.46	792.8881	0.0019	0.25	-0.002	3	20	5d ⁷	54811.51(3/2)	180932.71(1/2)	pa
50	209	793.287	126057.72	793.2879	0.0011	0.08	0.000	13	39	5d ⁷	28755.29(5/2)	154812.93(3/2)	pa
50	89	793.873	125964.75	793.8732	0.0010	0.04	0.000	19	46	5d ⁷	24800.74(7/2)	150765.44(7/2)	pa *
65	429	793.978	125948.01	793.9758	0.0009	-0.42	0.003	17	46	5d ⁷	24800.74(7/2)	150749.16(5/2)	pa 250, 2d ord
549	161	794.664	125839.36	794.6693	0.0020	0.86	-0.005	5	14	5d ⁷	56588.63(5/2)	182427.13(5/2)	pa
137	300	795.474	125711.20	795.4771	0.0011	0.48	-0.003	17	32	5d ⁷	34556.09(9/2)	160266.80(7/2)	pa

60	125	795.784	125662.26	795.7856	0.0013	0.27	-0.002	9	39	5d ⁷	28755.29(5/2)	154417.27(5/2)	pa	
92	200	795.928	125639.55	795.9280	0.0010	0.05	0.000	10	35	5d ⁷	15539.29(3/2)	141178.79(5/2)	pa	
174	517	795.953	125635.56	795.9542	0.0010	0.19	-0.001	7	32	5d ⁷	24437.46(11/2)	150072.82(13/2)	pa	
28	195	796.128	125607.97	796.1259	0.0014	-0.30	0.002	9	49	5d ⁷	16169.35(5/2)	141777.63(3/2)	pa	2d ord
329	712	796.285	125583.16	796.2878	0.0010	0.43	-0.003	12	45	5d ⁷	10452.87(5/2)	136035.60(7/2)	pa	
224	853	796.666	125523.10	796.6734	0.0015	1.15	-0.007	13	39	5d ⁷	32168.62(5/2)	157690.57(5/2)	pa	* 500
97	172	797.263	125429.06	797.2624	0.0011	-0.15	0.001	17	35	5d ⁷	27870.20(3/2)	153299.41(3/2)	pa	
79	395	797.480	125395.01	797.4900	0.0010	1.58	-0.010	15	32	5d ⁷	39002.13(7/2)	164395.55(9/2)	pa	* 150, Pt VIII
230	708	797.669	125365.27	797.6706	0.0011	0.24	-0.001	10	29	5d ⁷	9214.92(3/2)	134579.95(5/2)	pa	
24	108	798.250	125274.01	798.2437	0.0009	-1.02	0.006	16	47	5d ⁷	18361.43(9/2)	143636.45(7/2)	pa	*
98	275	798.370	125255.22	798.3627	0.0013	-1.13	0.007	15	39	5d ⁷	28755.29(5/2)	154011.64(5/2)	pa	*
110	194	799.159	125131.56	799.1646	0.0010	0.90	-0.006	14	32	5d ⁷	24437.46(11/2)	149568.12(9/2)	pa	*
65	684	799.917	125012.97	799.9183	0.0011	0.20	-0.001	10	53	5d ⁷	9567.18(7/2)	134579.95(5/2)	pa	300, bl
385	1026	799.937	125009.86	799.9396	0.0009	0.43	-0.003	10	49	5d ⁷	16169.35(5/2)	141178.79(5/2)	pa	C II
115	317	800.740	124884.54	800.7427	0.0012	0.48	-0.003	10	20	5d ⁷	19624.95(1/2)	144509.01(3/2)	pa	
964	1030	801.062	124834.24	801.0677	0.0010	0.85	-0.005	13	39	5d ⁷	32168.62(5/2)	157002.00(7/2)	pa	
42	126	801.487	124768.12	801.4915	0.0009	0.74	-0.005	14	46	5d ⁷	24800.74(7/2)	149568.12(9/2)	pa	*
78	194	802.315	124639.31	802.3152	0.0011	0.01	0.000	12	32	5d ⁷	39002.13(7/2)	163641.42(5/2)	pa	
13	81	802.922	124545.05	802.9283	0.0012	0.93	-0.006	17	39	5d ⁷	28755.29(5/2)	153299.41(3/2)	pa	*
94	177	804.027	124373.99	804.0340	0.0011	1.14	-0.007	8	49	5d ⁷	16169.35(5/2)	140542.20(7/2)	pa	*
99	597	804.141	124356.33	804.1461	0.0012	0.82	-0.005	14	20	5d ⁷	19624.95(1/2)	143980.46(3/2)	pa	
96	254	804.635	124279.92	804.6352	0.0010	0.00	0.000	14	35	5d ⁷	27870.20(3/2)	152150.12(5/2)	pa	
136	471	805.138	124202.31	805.1370	0.0013	-0.15	0.001	8	20	5d ⁷	19624.95(1/2)	143827.41(1/2)	pa	
237	857	805.625	124127.18	805.6260	0.0011	0.10	-0.001	10	45	5d ⁷	10452.87(5/2)	134579.95(5/2)	pa	
22	121	806.402	124007.69	806.4005	0.0012	-0.17	0.001	16	32	5d ⁷	34556.09(9/2)	158563.95(7/2)	pa	*
31	127	806.642	123970.78	806.6351	0.0011	-1.01	0.007	17	39	5d ⁷	32168.62(5/2)	156140.40(5/2)	pa	*
119	537	806.719	123958.87	806.7223	0.0010	0.48	-0.003	14	35	5d ⁷	15539.29(3/2)	139497.68(5/2)	pa	
277	840	806.759	123952.71	806.7608	0.0011	0.22	-0.001	9	45	5d ⁷	10452.87(5/2)	134405.36(7/2)	pa	
161	189	807.296	123870.36	807.2988	0.0011	0.48	-0.003	16	32	5d ⁷	39002.13(7/2)	162872.01(7/2)	pa	
116	406	809.677	123506.01	809.6788	0.0010	0.25	-0.002	8	46	5d ⁷	24800.74(7/2)	148306.49(7/2)	pa	C II
77	154	810.404	123395.17	810.4079	0.0012	0.52	-0.003	15	39	5d ⁷	28755.29(5/2)	152149.93(7/2)	pa	
19	184	811.665	123203.61	811.6674	0.0009	0.45	-0.003	9	45	5d ⁷	10452.87(5/2)	133656.04(3/2)	pa	
180	561	812.684	123049.03	812.6839	0.0012	-0.04	0.000	9	20	5d ⁷	19624.95(1/2)	142674.01(3/2)	pa	
137	350	813.543	122919.09	813.5389	0.0016	-0.67	0.004	7	14	5d ⁷	56588.63(5/2)	179508.38(5/2)	pa	
455	217	814.240	122813.84	814.2430	0.0015	0.38	-0.003	9	14	5d ⁷	56588.63(5/2)	179402.08(7/2)	pa	
443	1527	814.317	122802.28	814.3219	0.0010	0.72	-0.005	9	42	5d ⁷	0.00(9/2)	122801.56(7/2)	pa	
77	166	815.365	122644.41	815.3660	0.0012	0.10	-0.001	13	39	5d ⁷	32168.62(5/2)	154812.93(3/2)	pa	
103	509	816.788	122430.74	816.7910	0.0010	0.41	-0.003	11	32	5d ⁷	24437.46(11/2)	146867.79(11/2)	pa	
131	329	817.176	122372.66	817.1781	0.0009	0.32	-0.002	12	46	5d ⁷	24800.74(7/2)	147173.08(9/2)	pa	
76	254	818.665	122150.06	818.6657	0.0011	0.07	0.000	18	46	5d ⁷	24800.74(7/2)	146950.72(7/2)	pa	
106	240	819.679	121999.04	819.6808	0.0017	0.33	-0.002	7	35	5d ⁷	27870.20(3/2)	149868.90(1/2)	pa	
18	166	820.609	121860.76	820.6134	0.0017	0.70	-0.005	13	13	5d ⁷	32952.87(1/2)	154812.93(3/2)	pa	*
38	54	820.729	121842.96	820.7281	0.0014	-0.07	0.000	15	39	5d ⁷	32168.62(5/2)	154011.64(5/2)	pa	*

62	399	824.240	121323.93	824.2458	0.0012	0.90	-0.006	14	39	5d ⁷	32168.62(5/2)	153491.65(7/2)	pa	* 200, bl(2d ord)
51	384	824.650	121263.55	824.6424	0.0010	-1.13	0.008	17	32	5d ⁷	39002.13(7/2)	160266.80(7/2)	pa	* 150, bl
102	135	825.557	121130.34	825.5539	0.0012	-0.46	0.003	17	39	5d ⁷	32168.62(5/2)	153299.41(3/2)	pa	
135	434	827.043	120912.64	827.0497	0.0011	0.92	-0.006	12	35	5d ⁷	15539.29(3/2)	136451.00(5/2)	pa	*
39	71	828.844	120649.92	828.8422	0.0016	-0.30	0.002	12	17	5d ⁷	39096.28(3/2)	159746.50(5/2)	pa	*
80	306	829.109	120611.36	829.1104	0.0010	0.17	-0.001	9	49	5d ⁷	16169.35(5/2)	136780.55(5/2)	pa	
7	28	830.938	120345.94	830.9337	0.0017	-0.61	0.004	17	13	5d ⁷	32952.87(1/2)	153299.41(3/2)	pa	*
96	243	833.459	119981.96	833.4618	0.0011	0.46	-0.003	14	39	5d ⁷	32168.62(5/2)	152150.12(5/2)	pa	
330	280	834.625	119814.29	834.6277	0.0016	0.38	-0.003	8	14	5d ⁷	56588.63(5/2)	176402.53(7/2)	pa	
84	160	836.222	119585.53	836.2312	0.0020	1.38	-0.010	6	17	5d ⁷	39096.28(3/2)	158680.43(1/2)	pa	* bl(2d ord)
226	152	837.520	119400.12	837.5203	0.0014	0.02	0.000	11	14	5d ⁷	56588.63(5/2)	175988.72(5/2)	pa	
79	252	840.051	119040.43	840.0491	0.0013	-0.23	0.002	10	35	5d ⁷	15539.29(3/2)	134579.95(5/2)	pa	
52	338	840.541	118971.05	840.5429	0.0012	0.33	-0.002	7	53	5d ⁷	9567.18(7/2)	128537.91(9/2)	pa	bl(2d ord)
11	113	840.891	118921.42	840.8961	0.0010	0.67	-0.005	12	53	5d ⁷	9567.18(7/2)	128487.94(7/2)	pa	*
336	608	843.191	118597.05	843.1929	0.0012	0.23	-0.002	19	39	5d ⁷	32168.62(5/2)	150765.44(7/2)	pa	
32	115	843.308	118580.62	843.3086	0.0012	0.08	-0.001	17	39	5d ⁷	32168.62(5/2)	150749.16(5/2)	pa	*
230	748	844.517	118410.89	844.5190	0.0012	0.29	-0.002	10	49	5d ⁷	16169.35(5/2)	134579.95(5/2)	pa	
262	700	845.424	118283.82	845.4245	0.0010	0.04	0.000	16	32	5d ⁷	39002.13(7/2)	157285.90(9/2)	pa	
318	942	845.767	118235.87	845.7661	0.0011	-0.13	0.001	9	49	5d ⁷	16169.35(5/2)	134405.36(7/2)	pa	
161	454	846.050	118196.31	846.0563	0.0013	0.87	-0.006	18	39	5d ⁷	28755.29(5/2)	146950.72(7/2)	pa	*
5	36	847.209	118034.59	847.2058	0.0010	-0.48	0.003	12	45	5d ⁷	10452.87(5/2)	128487.94(7/2)	pa	*
113	500	849.391	117731.42	849.3964	0.0011	0.77	-0.006	9	47	5d ⁷	18361.43(9/2)	136092.09(9/2)	pa	
85	384	851.161	117486.54	851.1603	0.0010	-0.14	0.001	9	49	5d ⁷	16169.35(5/2)	133656.04(3/2)	pa	
39	81	854.373	117044.94	854.3787	0.0016	0.82	-0.006	17	17	5d ⁷	39096.28(3/2)	156140.40(5/2)	pa	*
32	106	855.314	116916.20	855.3147	0.0023	0.16	-0.001	7	13	5d ⁷	32952.87(1/2)	149868.90(1/2)	pa	*
47	201	856.964	116691.07	856.9584	0.0013	-0.71	0.005	12	32	5d ⁷	39002.13(7/2)	155693.90(7/2)	pa	*
17	43	858.257	116515.28	858.2552	0.0017	-0.18	0.001	10	17	5d ⁷	39096.28(3/2)	155611.74(3/2)	pa	*
49	150	859.653	116326.03	859.6523	0.0013	-0.07	0.001	9	32	5d ⁷	34556.09(9/2)	150882.19(11/2)	pa	
38	293	864.399	115687.34	864.3953	0.0012	-0.47	0.003	8	29	5d ⁷	9214.92(3/2)	124902.73(3/2)	pa	
146	189	865.479	115543.01	865.4783	0.0011	-0.04	0.000	19	32	5d ⁷	39002.13(7/2)	154545.18(9/2)	pa	
45	72	871.051	114803.81	871.0512	0.0012	0.00	0.000	9	35	5d ⁷	27870.20(3/2)	142674.01(3/2)	pa	
14	48	871.862	114697.01	871.8628	0.0011	0.07	-0.001	14	46	5d ⁷	24800.74(7/2)	139497.68(5/2)	pa	*
105	301	873.745	114449.85	873.7451	0.0011	-0.01	0.000	8	45	5d ⁷	10452.87(5/2)	124902.73(3/2)	pa	
29	42	876.613	114075.41	876.6195	0.0014	0.83	-0.006	12	39	5d ⁷	32168.62(5/2)	146243.19(5/2)	pa	*
18	153	878.588	113818.95	878.5864	0.0012	-0.25	0.002	13	39	5d ⁷	32168.62(5/2)	145987.82(7/2)	pa	*
37	52	879.305	113726.13	879.3026	0.0016	-0.36	0.003	15	14	5d ⁷	56588.63(5/2)	170315.12(7/2)	pa	*
30	480	879.940	113644.10	879.9429	0.0018	0.37	-0.003	2	35	5d ⁷	27870.20(3/2)	141513.93(1/2)	pa	
33	241	880.735	113541.51	880.7385	0.0015	0.42	-0.003	6	42	5d ⁷	0.00(9/2)	113541.08(9/2)	pa	2d ord
34	239	881.577	113433.11	881.5775	0.0012	0.09	-0.001	14	32	5d ⁷	39002.13(7/2)	152435.15(9/2)	pa	2d ord
48	126	885.347	112950.01	885.3544	0.0014	0.89	-0.007	12	32	5d ⁷	34556.09(9/2)	147505.21(11/2)	pa	*
102	838	889.246	112454.81	889.2550	0.0017	1.13	-0.009	5	42	5d ⁷	0.00(9/2)	112453.68(7/2)	pa	* bl(Pt VI)
35	838	889.246	112454.81	889.2476	0.0014	0.19	-0.002	8	47	5d ⁷	18361.43(9/2)	130816.05(9/2)	pa	* 100, bl(Pt VI)
13	222	889.405	112434.74	889.4043	0.0010	-0.06	0.001	13	46	5d ⁷	24800.74(7/2)	137235.54(7/2)	pa	

22	40	889.716	112395.45	889.7222	0.0015	0.82	-0.006	18	32	5d ⁷	34556.09(9/2)	146950.72(7/2)	pa *
61	206	890.158	112339.58	890.1518	0.0014	-0.81	0.006	10	39	5d ⁷	32168.62(5/2)	144509.01(3/2)	pa * Pt VI
14	33	890.325	112318.52	890.3246	0.0011	-0.06	0.000	12	49	5d ⁷	16169.35(5/2)	128487.94(7/2)	pa *
9	32	894.293	111820.18	894.2894	0.0020	-0.45	0.004	3	47	5d ⁷	18361.43(9/2)	130182.06(11/2)	pa *
59	329	895.635	111652.65	895.6329	0.0017	-0.23	0.002	17	17	5d ⁷	39096.28(3/2)	150749.16(5/2)	pa 200
30	26	900.678	111027.47	900.6770	0.0020	-0.12	0.001	14	13	5d ⁷	32952.87(1/2)	143980.46(3/2)	pa *
99	90	900.929	110996.50	900.9298	0.0015	0.06	-0.001	4	32	5d ⁷	24437.46(11/2)	135433.89(13/2)	pa
62	153	901.330	110947.21	901.3284	0.0013	-0.15	0.001	6	29	5d ⁷	9214.92(3/2)	120162.27(5/2)	pa
85	212	904.084	110609.19	904.0824	0.0015	-0.19	0.002	16	14	5d ⁷	56588.63(5/2)	167198.01(7/2)	pa
92	200	904.198	110595.25	904.1993	0.0013	0.16	-0.001	6	53	5d ⁷	9567.18(7/2)	120162.27(5/2)	pa bl(C II)
24	39	904.956	110502.59	904.9532	0.0015	-0.36	0.003	13	14	5d ⁷	56588.63(5/2)	167091.57(3/2)	pa
82	199	910.338	109849.29	910.3462	0.0014	0.97	-0.008	9	32	5d ⁷	34556.09(9/2)	144404.40(9/2)	pa *
10	30	914.385	109363.14	914.3823	0.0014	-0.31	0.003	8	35	5d ⁷	15539.29(3/2)	124902.73(3/2)	pa *
15	34	915.774	109197.21	915.7816	0.0014	0.87	-0.007	6	53	5d ⁷	9567.18(7/2)	118763.53(5/2)	pa *
38	91	921.828	108480.11	921.8267	0.0012	-0.15	0.001	13	39	5d ⁷	28755.29(5/2)	137235.54(7/2)	pa
29	38	937.807	106631.74	937.8030	0.0012	-0.47	0.004	9	49	5d ⁷	16169.35(5/2)	122801.56(7/2)	pa *
6	52	940.032	106379.31	940.0388	0.0017	0.72	-0.006	8	32	5d ⁷	24437.46(11/2)	130816.05(9/2)	pa
33	151	949.233	105348.20	949.2313	0.0016	-0.19	0.002	8	15	5d ^{6s}	69223.49(13/2)	174571.88(11/2)	pa
11	74	957.492	104439.50	957.4864	0.0014	-0.62	0.006	9	47	5d ⁷	18361.43(9/2)	122801.56(7/2)	pa *
61	549	961.603	103993.05	961.6039	0.0014	0.13	-0.001	6	49	5d ⁷	16169.35(5/2)	120162.27(5/2)	pa 150
12	222	961.775	103974.43	961.7798	0.0019	0.54	-0.005	6	53	5d ⁷	9567.18(7/2)	113541.08(9/2)	pa * 150
29	189	963.978	103736.85	963.9746	0.0014	-0.32	0.003	7	46	5d ⁷	24800.74(7/2)	128537.91(9/2)	pa
51	286	964.435	103687.67	964.4392	0.0012	0.47	-0.004	12	46	5d ⁷	24800.74(7/2)	128487.94(7/2)	pa
9	244	971.945	102886.47	971.9449	0.0020	-0.02	0.000	5	53	5d ⁷	9567.18(7/2)	112453.68(7/2)	pa *
17	107	974.719	102593.62	974.7142	0.0016	-0.56	0.005	6	49	5d ⁷	16169.35(5/2)	118763.53(5/2)	pa
24	112	976.431	102413.75	976.4336	0.0016	0.23	-0.002	12	15	5d ^{6s}	45091.69(9/2)	147505.21(11/2)	pa *
9	739	980.390	102000.18	980.3844	0.0021	-0.62	0.006	5	45	5d ⁷	10452.87(5/2)	112453.68(7/2)	pa * 250, bl(2d ord)
22	44	982.258	101806.26	982.2590	0.0018	0.12	-0.001	10	15	5d ^{6s}	69223.49(13/2)	171029.63(11/2)	pa *
18	74	999.990	100001.03	999.9858	0.0018	-0.39	0.004	13	20	5d ⁷	54811.51(3/2)	154812.93(3/2)	pa *
25	33	1007.145	99290.57	1007.1460	0.0019	0.10	-0.001	7	32	5d ⁷	34556.09(9/2)	133846.55(11/2)	pa *
15	163	1030.586	97032.21	1030.5822	0.0017	-0.32	0.003	8	35	5d ⁷	27870.20(3/2)	124902.73(3/2)	pa
80	152	1042.396	95932.83	1042.3953	0.0015	-0.07	0.001	15	18	5d ^{6s}	68462.66(11/2)	164395.55(9/2)	pa
30	127	1047.654	95451.35	1047.6633	0.0021	0.84	-0.009	8	15	5d ^{6s}	45091.69(9/2)	140542.20(7/2)	pa *
92	145	1050.240	95216.30	1050.2479	0.0020	0.69	-0.008	10	22	5d ^{6s}	83222.01(11/2)	178437.63(9/2)	pa *
32	261	1051.588	95094.27	1051.5869	0.0016	-0.11	0.001	17	24	5d ^{6s}	65172.43(9/2)	160266.80(7/2)	pa * 100, bl(O III 2d ord)
39	43	1055.533	94738.86	1055.5372	0.0019	0.37	-0.004	12	23	5d ^{6s}	60955.41(7/2)	155693.90(7/2)	pa *
30	124	1063.674	94013.79	1063.6784	0.0017	0.40	-0.005	15	20	5d ⁷	54811.51(3/2)	148824.89(5/2)	pb * Pt V
94	219	1064.163	93970.57	1064.1695	0.0021	0.57	-0.006	5	15	5d ^{6s}	69223.49(13/2)	163193.48(13/2)	pb
71	76	1068.491	93589.94	1068.4929	0.0016	0.18	-0.002	19	23	5d ^{6s}	60955.41(7/2)	154545.18(9/2)	pb
197	216	1069.116	93535.19	1069.1231	0.0015	0.59	-0.007	15	24	5d ^{6s}	75407.94(11/2)	168942.54(9/2)	pb
162	770	1069.673	93486.51	1069.6695	0.0021	-0.30	0.003	7	15	5d ^{6s}	45091.69(9/2)	138578.51(9/2)	pb 300, Pt V (350)
91	111	1079.449	92639.85	1079.4583	0.0019	0.79	-0.009	12	24	5d ^{6s}	74908.18(7/2)	167547.24(9/2)	pb
44	97	1080.918	92513.94	1080.9188	0.0030	0.05	-0.001	13	18	5d ^{6s}	65176.69(5/2)	157690.57(5/2)	pb *

82	75	1081.344	92477.52	1081.3450	0.0018	0.09	-0.001	14	25	5d ⁶ s	68196.37(7/2)	160673.80(9/2)	pb
54	166	1082.470	92381.34	1082.4788	0.0021	0.78	-0.009	7	15	5d ⁶ s	45091.69(9/2)	137472.25(11/2)	pb *
52	50	1084.463	92211.50	1084.4676	0.0018	0.36	-0.004	14	18	5d ⁶ s	68462.66(11/2)	160673.80(9/2)	pb
31	237	1085.613	92113.87	1085.6175	0.0016	0.39	-0.005	16	24	5d ⁶ s	65172.43(9/2)	157285.90(9/2)	pb * 2d ord
62	146	1088.770	91846.80	1088.7720	0.0020	0.20	-0.002	11	15	5d ⁶ s	69223.49(13/2)	161070.08(11/2)	pb
44	146	1088.770	91846.80	1088.7694	0.0022	-0.02	0.000	8	26	5d ⁶ s	82725.07(9/2)	174571.88(11/2)	pb
80	328	1089.832	91757.22	1089.8340	0.0017	0.13	-0.002	14	17	5d ⁶ s	52223.37(5/2)	143980.46(3/2)	pb
23	134	1093.136	91479.92	1093.1383	0.0017	0.18	-0.002	14	23	5d ⁶ s	60955.41(7/2)	152435.15(9/2)	pb *
113	174	1093.346	91462.38	1093.3574	0.0017	0.98	-0.012	15	24	5d ⁶ s	75407.94(11/2)	166869.34(9/2)	pb *
35	91	1093.984	91409.01	1093.9833	0.0030	-0.07	0.001	7	7	5d ⁶ s	56071.44(1/2)	147480.52(1/2)	pb 2d ord
94	111	1097.668	91102.22	1097.6667	0.0022	-0.12	0.001	7	27	5d ⁶ s	73763.04(9/2)	164865.38(11/2)	pb
47	340	1099.580	90943.77	1099.5788	0.0019	-0.14	0.002	12	15	5d ⁶ s	45091.69(9/2)	136035.60(7/2)	pb
208	205	1103.356	90632.56	1103.3568	0.0017	0.05	-0.001	15	27	5d ⁶ s	73763.04(9/2)	164395.55(9/2)	pb
45	87	1104.707	90521.72	1104.7102	0.0021	0.24	-0.003	12	24	5d ⁶ s	65172.43(9/2)	155693.90(7/2)	pb *
54	129	1106.595	90367.33	1106.5916	0.0020	-0.24	0.003	16	25	5d ⁶ s	68196.37(7/2)	158563.95(7/2)	pb *
79	40	1107.145	90322.40	1107.1493	0.0020	0.35	-0.004	15	21	5d ⁶ s	79993.07(9/2)	170315.12(7/2)	pb *
232	458	1108.329	90225.93	1108.3306	0.0018	0.14	-0.002	10	18	5d ⁶ s	50953.00(7/2)	141178.79(5/2)	pb
23	41	1113.454	89810.64	1113.4614	0.0020	0.61	-0.008	19	23	5d ⁶ s	60955.41(7/2)	150765.44(7/2)	pb *
17	20	1113.588	89799.78	1113.5871	0.0020	-0.11	0.001	13	22	5d ⁶ s	83222.01(11/2)	173021.91(9/2)	pb *
64	105	1113.661	89793.96	1113.6632	0.0018	0.21	-0.003	17	23	5d ⁶ s	60955.41(7/2)	150749.16(5/2)	pb
365	639	1116.202	89589.55	1116.2059	0.0020	0.34	-0.004	8	18	5d ⁶ s	50953.00(7/2)	140542.20(7/2)	pb
71	131	1116.399	89573.71	1116.4023	0.0019	0.26	-0.003	14	15	5d ⁶ s	54407.02(3/2)	143980.46(3/2)	pb
25	315	1116.650	89553.59	1116.6415	0.0030	-0.67	0.008	9	17	5d ⁶ s	52223.37(5/2)	141777.63(3/2)	pb * 100, 2d ord
14	190	1116.872	89535.77	1116.8719	0.0020	-0.01	0.000	7	32	5d ⁷	39002.13(7/2)	128537.91(9/2)	pb Pt VI
36	136	1118.310	89420.66	1118.3131	0.0021	0.27	-0.003	8	15	5d ⁶ s	54407.02(3/2)	143827.41(1/2)	pb
16	121	1118.903	89373.24	1118.9093	0.0018	0.50	-0.006	19	24	5d ⁶ s	65172.43(9/2)	154545.18(9/2)	pb *
310	613	1119.647	89313.88	1119.6495	0.0021	0.21	-0.003	9	15	5d ⁶ s	45091.69(9/2)	134405.36(7/2)	pb
88	40	1120.735	89227.14	1120.7431	0.0031	0.63	-0.008	9	27	5d ⁶ s	89302.04(9/2)	178528.56(7/2)	pb *
77	214	1121.466	89168.98	1121.4666	0.0018	0.02	0.000	14	20	5d ⁷	54811.51(3/2)	143980.46(3/2)	pb
86	93	1122.222	89108.90	1122.2215	0.0018	-0.07	0.001	16	27	5d ⁶ s	73763.04(9/2)	162872.01(7/2)	pb
174	194	1122.897	89055.40	1122.8964	0.0020	-0.01	0.000	9	15	5d ⁶ s	69223.49(13/2)	158278.89(11/2)	pb
25	108	1123.391	89016.18	1123.3948	0.0021	0.28	-0.003	8	20	5d ⁷	54811.51(3/2)	143827.41(1/2)	pb
110	233	1124.161	88955.27	1124.1587	0.0018	-0.15	0.002	10	17	5d ⁶ s	52223.37(5/2)	141178.79(5/2)	pb
116	164	1124.232	88949.65	1124.2337	0.0018	0.18	-0.002	15	21	5d ⁶ s	79993.07(9/2)	168942.54(9/2)	pb Pt V
5	60	1126.883	88740.39	1126.8831	0.0030	0.04	-0.001	6	46	5d ⁷	24800.74(7/2)	113541.08(9/2)	pb *
23	19	1128.499	88613.28	1128.5063	0.0018	0.58	-0.007	14	23	5d ⁶ s	60955.41(7/2)	149568.12(9/2)	pb *
43	125	1128.684	88598.73	1128.6868	0.0020	0.19	-0.002	10	22	5d ⁶ s	83222.01(11/2)	171820.55(9/2)	pb * 2d ord
9	27	1129.031	88571.55	1129.0216	0.0030	-0.71	0.009	13	10	5d ⁶ s	70622.67(1/2)	159194.93(3/2)	pb *
43	63	1129.202	88558.08	1129.2096	0.0020	0.56	-0.007	12	23	5d ⁶ s	74847.75(5/2)	163405.27(5/2)	pb *
13	62	1129.383	88543.91	1129.3733	0.0018	-0.78	0.010	14	18	5d ⁶ s	50953.00(7/2)	139497.68(5/2)	pb *
64	65	1129.702	88518.93	1129.6928	0.0032	-0.71	0.009	9	18	5d ⁶ s	90008.92(7/2)	178528.56(7/2)	pb *
139	809	1129.984	88496.84	1129.9807	0.0020	-0.24	0.003	12	24	5d ⁶ s	74908.18(7/2)	163405.27(5/2)	pb 300, bl(2d ord)
71	153	1131.145	88406.03	1131.1534	0.0019	0.69	-0.009	13	27	5d ⁶ s	73763.04(9/2)	162168.37(7/2)	pb *

44	678	1131.532	88375.73	1131.5036	0.0031	-2.25	0.029	10	17	5d ⁶ s	67233.76(3/2)	155611.74(3/2)	pb	* 100, m(2d ord)
271	420	1132.262	88318.80	1132.2613	0.0021	-0.04	0.000	8	17	5d ⁶ s	52223.37(5/2)	140542.20(7/2)	pb	
104	420	1132.262	88318.80	1132.2564	0.0021	-0.42	0.005	14	24	5d ⁶ s	65172.43(9/2)	153491.65(7/2)	pb	* 200
209	269	1132.306	88315.38	1132.3110	0.0020	0.42	-0.005	14	18	5d ⁶ s	65176.69(5/2)	153491.65(7/2)	pb	
74	233	1134.605	88136.42	1134.6041	0.0018	-0.05	0.001	12	31	5d ⁶ s	81200.34(7/2)	169336.81(5/2)	pb	2d ord
26	83	1136.048	88024.46	1136.0505	0.0020	0.20	-0.003	16	23	5d ⁶ s	74847.75(5/2)	162872.01(7/2)	pb	*
125	592	1136.811	87965.38	1136.8310	0.0020	1.55	-0.020	16	24	5d ⁶ s	74908.18(7/2)	162872.01(7/2)	pb	* 200, m(Pt V)
25	60	1137.890	87881.99	1137.8924	0.0022	0.22	-0.003	13	23	5d ⁶ s	74847.75(5/2)	162729.52(3/2)	pb	*
59	235	1138.143	87862.38	1138.1419	0.0020	-0.12	0.002	9	20	5d ⁷	54811.51(3/2)	142674.01(3/2)	pb	
66	37	1138.849	87807.93	1138.8534	0.0021	0.31	-0.004	10	22	5d ⁶ s	83222.01(11/2)	171029.63(11/2)	pb	
471	345	1139.140	87785.49	1139.1397	0.0023	-0.05	0.001	5	24	5d ⁶ s	75407.94(11/2)	163193.48(13/2)	pb	
179	397	1139.348	87769.46	1139.3525	0.0022	0.31	-0.004	10	20	5d ⁶ s	90668.48(11/2)	178437.63(9/2)	pb	2d ord
75	141	1139.705	87741.97	1139.7025	0.0017	-0.22	0.003	15	31	5d ⁶ s	81200.34(7/2)	168942.54(9/2)	pb	
86	244	1140.699	87665.52	1140.6959	0.0020	-0.26	0.003	10	15	5d ⁶ s	54407.02(3/2)	142072.80(5/2)	pb	
723	917	1141.211	87626.24	1141.2202	0.0024	0.73	-0.010	7	18	5d ⁶ s	50953.00(7/2)	138578.51(9/2)	pb	* Pt V
98	94	1141.684	87589.92	1141.6822	0.0020	-0.13	0.002	15	26	5d ⁶ s	82725.07(9/2)	170315.12(7/2)	pb	
172	180	1142.137	87555.14	1142.1499	0.0022	0.96	-0.013	12	21	5d ⁶ s	79993.07(9/2)	167547.24(9/2)	pb	*
227	797	1143.450	87454.67	1143.4554	0.0030	0.45	-0.006	3	11	5d ⁶ s	101563.88(9/2)	189018.11(9/2)	pb	
75	64	1145.194	87321.42	1145.2048	0.0021	0.79	-0.010	13	23	5d ⁶ s	74847.75(5/2)	162168.37(7/2)	pb	*
366	258	1145.380	87307.28	1145.3829	0.0019	0.23	-0.003	11	27	5d ⁶ s	73763.04(9/2)	161070.08(11/2)	pb	
33	22	1145.563	87293.32	1145.5721	0.0030	0.69	-0.009	12	19	5d ⁶ s	81326.99(5/2)	168619.62(3/2)	pb	*
78	215	1145.813	87274.31	1145.8102	0.0017	-0.18	0.002	13	18	5d ⁶ s	50953.00(7/2)	138227.49(5/2)	pb	
203	431	1145.986	87261.11	1145.9835	0.0019	-0.18	0.002	10	20	5d ⁷	54811.51(3/2)	142072.80(5/2)	pb	
165	314	1146.427	87227.51	1146.4280	0.0019	0.06	-0.001	12	26	5d ⁶ s	82109.36(7/2)	169336.81(5/2)	pb	2d ord
64	239	1147.761	87126.12	1147.7523	0.0022	-0.69	0.009	14	31	5d ⁶ s	81200.34(7/2)	168327.15(7/2)	pb	* 100, bl(Pt V)
170	143	1148.158	87096.02	1148.1659	0.0020	0.59	-0.008	12	17	5d ⁶ s	76309.84(3/2)	163405.27(5/2)	pb	
70	92	1149.730	86976.95	1149.7226	0.0023	-0.56	0.007	15	24	5d ⁶ s	65172.43(9/2)	152149.93(7/2)	pb	* Pt V
181	714	1153.424	86698.36	1153.3789	0.0021	-3.41	0.045	12	25	5d ⁶ s	78224.11(5/2)	164925.89(5/2)	pb	* 450, m(2d ord)
273	186	1156.020	86503.71	1156.0190	0.0017	-0.06	0.001	17	27	5d ⁶ s	73763.04(9/2)	160266.80(7/2)	pb	
24	32	1156.855	86441.27	1156.8507	0.0030	-0.30	0.004	5	17	5d ⁶ s	67233.76(3/2)	153675.34(1/2)	pb	*
28	107	1157.028	86428.36	1157.0324	0.0024	0.36	-0.005	15	25	5d ⁶ s	78224.11(5/2)	164652.12(7/2)	pb	* Pt V
31	187	1157.847	86367.23	1157.8459	0.0019	-0.05	0.001	10	20	5d ⁷	54811.51(3/2)	141178.79(5/2)	pb	2d ord
43	33	1158.097	86348.57	1158.0936	0.0020	-0.24	0.003	19	25	5d ⁶ s	68196.37(7/2)	154545.18(9/2)	pb	*
56	171	1158.233	86338.45	1158.2330	0.0023	0.04	0.000	8	13	5d ⁶ s	88233.47(13/2)	174571.88(11/2)	pb	2d ord
99	368	1158.954	86284.68	1158.9520	0.0020	-0.17	0.002	16	22	5d ⁶ s	72279.10(5/2)	158563.95(7/2)	pb	2d ord
53	298	1158.983	86282.54	1158.9830	0.0017	-0.01	0.000	13	18	5d ⁶ s	50953.00(7/2)	137235.54(7/2)	pb	
134	463	1159.851	86217.93	1159.8551	0.0018	0.27	-0.004	12	23	5d ⁶ s	60955.41(7/2)	147173.08(9/2)	pb	
388	463	1159.851	86217.93	1159.8533	0.0022	0.14	-0.002	14	26	5d ⁶ s	82109.36(7/2)	168327.15(7/2)	pb	
155	463	1159.851	86217.93	1159.8578	0.0019	0.47	-0.006	15	26	5d ⁶ s	82725.07(9/2)	168942.54(9/2)	pb	
58	35	1161.550	86091.84	1161.5512	0.0030	0.07	-0.001	10	27	5d ⁶ s	89302.04(9/2)	175393.81(9/2)	pb	*
35	67	1161.894	86066.36	1161.9037	0.0021	0.71	-0.010	17	17	5d ⁶ s	67233.76(3/2)	153299.41(3/2)	pb	*
83	24	1162.422	86027.26	1162.4257	0.0021	0.25	-0.003	9	10	5d ⁶ s	81998.59(1/2)	168025.59(3/2)	pb	
212	373	1162.732	86004.32	1162.7350	0.0017	0.20	-0.003	13	17	5d ⁶ s	52223.37(5/2)	138227.49(5/2)	pb	

145	102	1162.822	85997.66	1162.8222	0.0018	-0.01	0.000	16	31	5d ⁶ s	81200.34(7/2)	167198.01(7/2)	pb	
45	75	1162.852	85995.47	1162.8541	0.0022	0.16	-0.002	18	23	5d ⁶ s	60955.41(7/2)	146950.72(7/2)	pb	*
79	93	1164.543	85870.57	1164.5372	0.0023	-0.46	0.006	16	19	5d ⁶ s	81326.99(5/2)	167198.01(7/2)	pb	*
35	65	1165.099	85829.62	1165.1048	0.0030	0.43	-0.006	12	20	5d ⁶ s	74991.80(3/2)	160820.99(3/2)	pb	*
36	339	1165.287	85815.75	1165.2938	0.0030	0.48	-0.007	15	25	5d ⁶ s	68196.37(7/2)	154011.64(5/2)	pc	*
143	390	1165.544	85796.86	1165.5393	0.0023	-0.33	0.004	13	20	5d ⁶ s	74991.80(3/2)	160788.99(5/2)	pc	Pt V (200)
30	180	1166.445	85730.60	1166.4475	0.0030	0.22	-0.003	7	10	5d ⁶ s	70622.67(1/2)	156353.05(1/2)	pc	Pt V
77	793	1166.533	85724.08	1166.5296	0.0023	-0.28	0.004	8	15	5d ⁶ s	45091.69(9/2)	130816.05(9/2)	pc	
332	1263	1166.734	85709.32	1166.7282	0.0021	-0.44	0.006	9	24	5d ⁶ s	65172.43(9/2)	150882.19(11/2)	pc	
370	2204	1166.784	85705.70	1166.7769	0.0030	-0.49	0.007	9	7	5d ⁶ s	56071.44(1/2)	141777.63(3/2)	pc	
92	144	1167.281	85669.15	1167.2834	0.0019	0.15	-0.002	15	31	5d ⁶ s	81200.34(7/2)	166869.34(9/2)	pc	
106	224	1167.386	85661.47	1167.3768	0.0021	-0.68	0.009	11	24	5d ⁶ s	75407.94(11/2)	161070.08(11/2)	pc	
72	120	1168.204	85601.45	1168.1959	0.0022	-0.63	0.009	14	26	5d ⁶ s	82725.07(9/2)	168327.15(7/2)	pc	
20	173	1168.314	85593.44	1168.3197	0.0022	0.43	-0.006	19	24	5d ⁶ s	65172.43(9/2)	150765.44(7/2)	pc	*
103	277	1168.377	85588.78	1168.3778	0.0021	0.03	0.000	19	18	5d ⁶ s	65176.69(5/2)	150765.44(7/2)	pc	
250	626	1168.725	85563.36	1168.7211	0.0022	-0.25	0.003	17	21	5d ⁶ s	79993.07(9/2)	165556.67(7/2)	pc	
20	124	1169.053	85539.32	1169.0437	0.0021	-0.68	0.009	10	20	5d ⁷	54811.51(3/2)	140351.51(3/2)	pc	*
90	310	1169.126	85533.96	1169.1202	0.0030	-0.44	0.006	6	17	5d ⁶ s	83067.10(3/2)	168601.51(1/2)	pc	2d ord
148	131	1169.268	85523.56	1169.2792	0.0051	0.78	-0.011	5	11	5d ⁶ s	96904.36(5/2)	182427.13(5/2)	pc	*
22	192	1169.621	85497.81	1169.6179	0.0019	-0.20	0.003	12	18	5d ⁶ s	50953.00(7/2)	136451.00(5/2)	pc	
172	140	1169.701	85491.95	1169.6978	0.0040	-0.22	0.003	10	11	5d ⁶ s	96955.55(3/2)	182447.71(3/2)	pc	
171	708	1169.859	85480.42	1169.8542	0.0022	-0.32	0.004	12	18	5d ⁶ s	68462.66(11/2)	153943.40(11/2)	pc	
179	82	1170.211	85454.68	1170.2021	0.0051	-0.64	0.009	4	8	5d ⁶ s	112339.02(9/2)	197794.35(7/2)	pc	*
32	84	1170.729	85416.85	1170.7229	0.0024	-0.46	0.006	12	25	5d ⁶ s	78224.11(5/2)	163641.42(5/2)	pc	*
32	174	1170.808	85411.11	1170.8029	0.0030	-0.37	0.005	13	22	5d ⁶ s	72279.10(5/2)	157690.57(5/2)	pc	*
73	93	1171.169	85384.78	1171.1674	0.0031	-0.11	0.002	10	18	5d ⁶ s	90008.92(7/2)	175393.81(9/2)	pc	*
181	833	1172.404	85294.80	1172.3979	0.0023	-0.47	0.006	14	25	5d ⁶ s	68196.37(7/2)	153491.65(7/2)	pc	
69	1731	1172.495	85288.24	1172.5009	0.0022	0.46	-0.006	12	23	5d ⁶ s	60955.41(7/2)	146243.19(5/2)	pc	700, Pt V
19	129	1172.665	85275.85	1172.6591	0.0020	-0.43	0.006	8	17	5d ⁶ s	52223.37(5/2)	137499.65(3/2)	pc	
82	158	1172.748	85269.78	1172.7476	0.0024	-0.06	0.001	8	27	5d ⁶ s	89302.04(9/2)	174571.88(11/2)	pc	
50	117	1172.806	85265.57	1172.8023	0.0021	-0.29	0.004	14	24	5d ⁶ s	75407.94(11/2)	160673.80(9/2)	pc	
206	909	1173.682	85201.95	1173.6790	0.0021	-0.22	0.003	7	18	5d ⁶ s	68462.66(11/2)	153664.83(13/2)	pc	
627	3007	1174.549	85139.05	1174.5486	0.0020	-0.05	0.001	9	18	5d ⁶ s	50953.00(7/2)	136092.09(9/2)	pc	
2709	5309	1175.223	85090.23	1175.2211	0.0030	-0.14	0.002	3	15	5d ⁶ s	45091.69(9/2)	130182.06(11/2)	pc	
29	783	1175.333	85082.30	1175.3284	0.0020	-0.31	0.004	12	18	5d ⁶ s	50953.00(7/2)	136035.60(7/2)	pc	
75	243	1176.529	84995.80	1176.5259	0.0030	-0.20	0.003	12	8	5d ⁶ s	79414.02(1/2)	164410.03(3/2)	pc	
16	168	1177.055	84957.78	1177.0455	0.0030	-0.70	0.010	9	17	5d ⁶ s	83067.10(3/2)	168025.59(3/2)	pc	*
61	557	1179.295	84796.45	1179.3023	0.0020	0.56	-0.008	13	27	5d ⁶ s	73763.04(9/2)	158558.94(9/2)	pc	* 300, 2d ord
386	982	1179.806	84759.68	1179.8020	0.0020	-0.30	0.004	15	26	5d ⁶ s	82109.36(7/2)	166869.34(9/2)	pc	
65	270	1180.318	84722.92	1180.3184	0.0020	0.01	0.000	13	22	5d ⁶ s	72279.10(5/2)	157002.00(7/2)	pc	
197	917	1180.361	84719.87	1180.3601	0.0023	-0.04	0.001	12	15	5d ⁶ s	69223.49(13/2)	153943.40(11/2)	pc	
9	53	1180.841	84685.44	1180.8303	0.0020	-0.73	0.010	14	20	5d ⁷	54811.51(3/2)	139497.68(5/2)	pc	*
78	288	1181.370	84647.49	1181.3643	0.0021	-0.40	0.006	16	25	5d ⁶ s	78224.11(5/2)	162872.01(7/2)	pc	

23	495	1182.625	84557.64	1182.6317	0.0021	0.46	-0.006	9	17	5d ⁶ s	52223.37(5/2)	136780.55(5/2)	pc
93	495	1182.625	84557.64	1182.6167	0.0031	-0.61	0.009	9	17	5d ⁶ s	83067.10(3/2)	167625.35(5/2)	pc *
25	149	1183.277	84511.08	1183.2758	0.0030	-0.07	0.001	12	17	5d ⁶ s	76309.84(3/2)	160820.99(3/2)	pc *
434	1403	1184.183	84446.44	1184.1811	0.0031	-0.11	0.002	7	11	5d ⁶ s	101563.88(9/2)	186010.43(9/2)	pc
741	3348	1184.257	84441.14	1184.2541	0.0022	-0.20	0.003	7	15	5d ⁶ s	69223.49(13/2)	153664.83(13/2)	pc
70	332	1185.444	84356.55	1185.4474	0.0022	0.22	-0.003	17	31	5d ⁶ s	81200.34(7/2)	165556.67(7/2)	pc 2d ord
16	124	1185.569	84347.68	1185.5761	0.0030	0.50	-0.007	13	23	5d ⁶ s	74847.75(5/2)	159194.93(3/2)	pc * 2d ord
23	78	1185.888	84324.97	1185.8847	0.0024	-0.26	0.004	12	22	5d ⁶ s	83222.01(11/2)	167547.24(9/2)	pc *
135	1596	1186.523	84279.86	1186.5201	0.0030	-0.21	0.003	10	7	5d ⁶ s	56071.44(1/2)	140351.51(3/2)	pc
93	455	1187.106	84238.50	1187.1018	0.0020	-0.28	0.004	14	25	5d ⁶ s	68196.37(7/2)	152435.15(9/2)	pc
53	618	1187.226	84229.95	1187.2299	0.0030	0.26	-0.004	17	19	5d ⁶ s	81326.99(5/2)	165556.67(7/2)	pc * 300, bl(2d ord)
89	1198	1187.258	84227.70	1187.2588	0.0019	0.07	-0.001	12	17	5d ⁶ s	52223.37(5/2)	136451.00(5/2)	pc
130	425	1187.548	84207.10	1187.5479	0.0030	-0.03	0.000	12	19	5d ⁶ s	81326.99(5/2)	165534.12(5/2)	pc
147	531	1187.603	84203.24	1187.6044	0.0030	0.11	-0.002	13	20	5d ⁶ s	74991.80(3/2)	159194.93(3/2)	pc
54	166	1187.802	84189.12	1187.7943	0.0019	-0.55	0.008	15	24	5d ⁶ s	84752.88(7/2)	168942.54(9/2)	pc
305	108	1187.998	84175.20	1187.9971	0.0050	-0.09	0.001	5	2	5d ⁶ s	109491.32(5/2)	193666.61(7/2)	pc
87	141	1188.116	84166.85	1188.1146	0.0030	-0.11	0.002	11	15	5d ⁶ s	91821.76(5/2)	175988.72(5/2)	pc
77	282	1188.431	84144.56	1188.4351	0.0020	0.30	-0.004	15	26	5d ⁶ s	82725.07(9/2)	166869.34(9/2)	pc
1610	4161	1188.621	84131.12	1188.6184	0.0024	-0.17	0.002	6	18	5d ⁶ s	68462.66(11/2)	152593.95(13/2)	pc
83	150	1190.029	84031.56	1190.0187	0.0050	-0.74	0.010	10	6	5d ⁶ s	98415.42(3/2)	182447.71(3/2)	pc *
106	142	1190.146	84023.30	1190.1549	0.0030	0.62	-0.009	12	27	5d ⁶ s	89302.04(9/2)	173324.72(7/2)	pc *
188	376	1190.319	84011.11	1190.3102	0.0041	-0.60	0.009	5	6	5d ⁶ s	98415.42(3/2)	182427.13(5/2)	pc
308	2246	1190.871	83972.13	1190.8662	0.0020	-0.36	0.005	14	18	5d ⁶ s	68462.66(11/2)	152435.15(9/2)	pc
450	2241	1191.136	83953.48	1191.1321	0.0021	-0.27	0.004	14	25	5d ⁶ s	68196.37(7/2)	152150.12(5/2)	pc
63	192	1191.856	83902.78	1191.8468	0.0024	-0.62	0.009	8	20	5d ⁶ s	90668.48(11/2)	174571.88(11/2)	pc
5	33	1192.445	83861.32	1192.4451	0.0023	0.01	0.000	17	22	5d ⁶ s	72279.10(5/2)	156140.40(5/2)	pc *
31	239	1193.027	83820.40	1193.0260	0.0020	-0.07	0.001	13	15	5d ⁶ s	54407.02(3/2)	138227.49(5/2)	pc
471	3408	1193.143	83812.22	1193.1433	0.0021	-0.01	0.000	12	17	5d ⁶ s	52223.37(5/2)	136035.60(7/2)	pc
180	925	1194.383	83725.22	1194.3785	0.0021	-0.33	0.005	12	31	5d ⁶ s	81200.34(7/2)	164925.89(5/2)	pc
143	925	1194.383	83725.22	1194.3882	0.0031	0.35	-0.005	9	15	5d ⁶ s	94803.68(9/2)	178528.56(7/2)	pc 300
48	336	1194.461	83719.76	1194.4597	0.0023	-0.11	0.002	13	27	5d ⁶ s	89302.04(9/2)	173021.91(9/2)	pc
13	86	1194.612	83709.20	1194.6184	0.0031	0.46	-0.007	6	15	5d ⁶ s	54407.02(3/2)	138115.76(1/2)	pc *
203	802	1194.906	83688.60	1194.9055	0.0030	-0.03	0.000	6	20	5d ⁶ s	74991.80(3/2)	158680.43(1/2)	pc
266	1335	1195.364	83656.53	1195.3749	0.0022	0.76	-0.011	16	24	5d ⁶ s	74908.18(7/2)	158563.95(7/2)	pc
488	2164	1195.445	83650.88	1195.4465	0.0022	0.12	-0.002	13	24	5d ⁶ s	74908.18(7/2)	158558.94(9/2)	pc
58	1121	1195.689	83633.80	1195.6868	0.0030	-0.14	0.002	10	15	5d ⁶ s	94803.68(9/2)	178437.63(9/2)	pc * 200, m(Pt V)
30	382	1195.787	83626.91	1195.7867	0.0024	-0.05	0.001	10	18	5d ⁶ s	50953.00(7/2)	134579.95(5/2)	pc
279	561	1197.230	83526.11	1197.2380	0.0030	0.53	-0.008	5	9	5d ⁶ s	105528.04(7/2)	189053.62(5/2)	pc Pt V
320	1545	1197.276	83522.90	1197.2769	0.0018	0.03	0.000	16	27	5d ⁶ s	73763.04(9/2)	157285.90(9/2)	pc
41	394	1197.390	83515.01	1197.3840	0.0022	-0.39	0.006	17	17	5d ⁶ s	67233.76(3/2)	150749.16(5/2)	pc
256	3189	1198.292	83452.13	1198.2885	0.0023	-0.23	0.003	9	18	5d ⁶ s	50953.00(7/2)	134405.36(7/2)	pc
147	3189	1198.292	83452.13	1198.2968	0.0024	0.35	-0.005	15	31	5d ⁶ s	81200.34(7/2)	164652.12(7/2)	pc * 800
490	4520	1198.375	83446.33	1198.3766	0.0020	0.11	-0.002	7	15	5d ⁶ s	45091.69(9/2)	128537.91(9/2)	pc

50	300	1198.440	83441.81	1198.4441	0.0040	0.28	-0.004	3	8	5d ⁶ s	79414.02(1/2)	162855.55(1/2)	pc
33	128	1198.514	83436.68	1198.5139	0.0020	0.02	0.000	12	17	5d ⁶ s	76309.84(3/2)	159746.50(5/2)	pc
182	564	1198.683	83424.91	1198.6848	0.0023	0.15	-0.002	12	26	5d ⁶ s	82109.36(7/2)	165534.12(5/2)	pc
52	797	1198.817	83415.57	1198.8111	0.0019	-0.41	0.006	13	20	5d ⁷	54811.51(3/2)	138227.49(5/2)	pc
46	797	1198.817	83415.57	1198.8280	0.0024	0.76	-0.011	12	22	5d ⁶ s	72279.10(5/2)	155693.90(7/2)	pc * 200
118	2213	1199.095	83396.22	1199.0947	0.0022	-0.03	0.000	12	15	5d ⁶ s	45091.69(9/2)	128487.94(7/2)	pc
471	3017	1199.467	83370.39	1199.4656	0.0030	-0.07	0.001	6	15	5d ⁶ s	69223.49(13/2)	152593.95(13/2)	pc
777	2753	1200.118	83325.11	1200.1181	0.0030	-0.02	0.000	15	19	5d ⁶ s	81326.99(5/2)	164652.12(7/2)	pc
100	1166	1200.255	83315.62	1200.2569	0.0030	0.12	-0.002	13	8	5d ⁶ s	79414.02(1/2)	162729.52(3/2)	pc 500
438	1166	1200.255	83315.62	1200.2526	0.0031	-0.18	0.003	12	18	5d ⁶ s	90008.92(7/2)	173324.72(7/2)	pc
6	122	1200.426	83303.75	1200.4189	0.0030	-0.50	0.007	6	20	5d ⁷	54811.51(3/2)	138115.76(1/2)	pc *
66	234	1201.360	83239.00	1201.3604	0.0020	0.04	-0.001	13	27	5d ⁶ s	73763.04(9/2)	157002.00(7/2)	pc
262	1116	1201.993	83195.19	1201.9922	0.0020	-0.02	0.000	15	31	5d ⁶ s	81200.34(7/2)	164395.55(9/2)	pc
28	192	1202.148	83184.44	1202.1506	0.0040	0.19	-0.003	7	5	5d ⁶ s	95745.42(1/2)	178929.67(1/2)	pc 2d ord
166	2535	1202.630	83151.13	1202.6314	0.0021	0.13	-0.002	13	24	5d ⁶ s	75407.94(11/2)	158558.94(9/2)	pc 1100, Pt V
111	1772	1202.893	83132.94	1202.9072	0.0040	1.01	-0.015	5	18	5d ⁶ s	87965.80(5/2)	171097.73(5/2)	pc * 500, Pt VI
899	979	1203.376	83099.57	1203.3808	0.0051	0.36	-0.005	4	3	5d ⁶ s	114695.13(7/2)	197794.35(7/2)	pc
75	848	1203.476	83092.67	1203.4761	0.0022	0.04	-0.001	8	15	5d ⁶ s	54407.02(3/2)	137499.65(3/2)	pc
235	353	1204.635	83012.70	1204.6308	0.0020	-0.28	0.004	13	18	5d ⁶ s	90008.92(7/2)	173021.91(9/2)	pc
945	3518	1206.012	82917.90	1206.0127	0.0030	0.04	-0.001	8	21	5d ⁶ s	79993.07(9/2)	162910.93(11/2)	pc
272	1595	1206.670	82872.71	1206.6733	0.0030	0.23	-0.003	9	24	5d ⁶ s	84752.88(7/2)	167625.35(5/2)	pc
801	3753	1206.697	82870.86	1206.6954	0.0021	-0.10	0.001	9	24	5d ⁶ s	75407.94(11/2)	158278.89(11/2)	pc
267	1921	1207.096	82843.43	1207.1051	0.0030	0.61	-0.009	13	23	5d ⁶ s	74847.75(5/2)	157690.57(5/2)	pc
27	99	1207.274	82831.26	1207.2687	0.0024	-0.34	0.005	17	26	5d ⁶ s	82725.07(9/2)	165556.67(7/2)	pc *
252	863	1207.787	82796.04	1207.7855	0.0030	-0.12	0.002	10	13	5d ⁶ s	88233.47(13/2)	171029.63(11/2)	pc
48	221	1207.993	82781.95	1207.9864	0.0030	-0.44	0.006	13	24	5d ⁶ s	74908.18(7/2)	157690.57(5/2)	pc
105	217	1208.262	82763.52	1208.2643	0.0023	0.17	-0.002	12	15	5d ⁶ s	86573.46(3/2)	169336.81(5/2)	pc
133	1193	1208.989	82713.73	1209.0110	0.0041	1.50	-0.022	10	17	5d ⁶ s	83067.10(3/2)	165779.33(3/2)	pc * 400, m
293	1193	1208.989	82713.73	1208.9897	0.0041	0.04	-0.001	4	15	5d ⁶ s	91821.76(5/2)	174535.45(5/2)	pc
33	341	1209.208	82698.74	1209.2078	0.0030	-0.03	0.000	13	20	5d ⁶ s	74991.80(3/2)	157690.57(5/2)	pc *
66	992	1209.363	82688.17	1209.3633	0.0021	0.02	0.000	8	20	5d ⁷	54811.51(3/2)	137499.65(3/2)	pc
105	938	1209.465	82681.16	1209.4671	0.0019	0.12	-0.002	16	23	5d ⁶ s	60955.41(7/2)	143636.45(7/2)	pc
949	202	1209.770	82660.31	1209.7691	0.0050	-0.09	0.001	3	8	5d ⁶ s	112339.02(9/2)	194999.42(9/2)	pc
189	1384	1211.102	82569.45	1211.1073	0.0023	0.38	-0.006	19	25	5d ⁶ s	68196.37(7/2)	150765.44(7/2)	pc
109	1100	1211.164	82565.18	1211.1687	0.0024	0.30	-0.004	13	25	5d ⁶ s	78224.11(5/2)	160788.99(5/2)	pc
254	2289	1211.344	82552.95	1211.3461	0.0022	0.16	-0.002	17	25	5d ⁶ s	68196.37(7/2)	150749.16(5/2)	pc
287	2289	1211.344	82552.95	1211.3454	0.0040	0.11	-0.002	7	11	5d ⁶ s	96955.55(3/2)	179508.38(5/2)	pc 900
135	343	1211.463	82544.85	1211.4700	0.0041	0.50	-0.007	10	6	5d ⁶ s	87468.65(1/2)	170013.00(3/2)	pc
76	515	1211.621	82534.03	1211.6244	0.0024	0.20	-0.003	13	22	5d ⁶ s	72279.10(5/2)	154812.93(3/2)	pc
71	112	1212.149	82498.09	1212.1547	0.0040	0.37	-0.005	9	11	5d ⁶ s	96904.36(5/2)	179402.08(7/2)	pc *
127	357	1212.807	82453.36	1212.8121	0.0030	0.36	-0.005	11	10	5d ⁶ s	93535.72(3/2)	175988.72(5/2)	pc
53	173	1212.985	82441.28	1212.9874	0.0024	0.19	-0.003	12	31	5d ⁶ s	81200.34(7/2)	163641.42(5/2)	pc
30	393	1213.224	82425.01	1213.2285	0.0018	0.30	-0.004	13	23	5d ⁶ s	60955.41(7/2)	143380.12(9/2)	pc

992	4526	1213.303	82419.66	1213.3046	0.0022	0.12	-0.002	9	18	5d ⁶ s	68462.66(11/2)	150882.19(11/2)	pc
105	444	1213.390	82413.76	1213.3925	0.0030	0.19	-0.003	6	15	5d ⁶ s	91821.76(5/2)	174235.33(5/2)	pc
1861	4313	1213.849	82382.60	1213.8497	0.0040	0.08	-0.001	3	13	5d ⁶ s	88233.47(13/2)	170615.99(13/2)	pc
162	2421	1213.981	82373.64	1213.9822	0.0023	0.11	-0.002	9	15	5d ⁶ s	54407.02(3/2)	136780.55(5/2)	pc
12	77	1214.024	82370.70	1214.0256	0.0040	0.11	-0.002	6	17	5d ⁶ s	76309.84(3/2)	158680.43(1/2)	pc *
145	2451	1214.231	82356.62	1214.2320	0.0030	0.04	-0.001	10	17	5d ⁶ s	52223.37(5/2)	134579.95(5/2)	pc
491	1490	1214.276	82353.61	1214.2786	0.0024	0.19	-0.003	13	20	5d ⁶ s	90668.48(11/2)	173021.91(9/2)	pc
44	173	1214.336	82349.52	1214.3391	0.0030	0.21	-0.003	15	18	5d ⁶ s	87965.80(5/2)	170315.12(7/2)	pc *
698	3862	1214.578	82333.13	1214.5830	0.0021	0.35	-0.005	12	24	5d ⁶ s	65172.43(9/2)	147505.21(11/2)	pc Pt III
190	1191	1215.270	82286.23	1215.2706	0.0021	0.03	0.000	15	26	5d ⁶ s	82109.36(7/2)	164395.55(9/2)	pc
647	4420	1216.812	82181.94	1216.8117	0.0024	-0.05	0.001	9	17	5d ⁶ s	52223.37(5/2)	134405.36(7/2)	pc
70	1000	1217.429	82140.31	1217.4291	0.0030	0.01	0.000	7	26	5d ⁶ s	82725.07(9/2)	164865.38(11/2)	pc 500, bl
446	2846	1217.457	82138.39	1217.4607	0.0030	0.22	-0.003	9	22	5d ⁶ s	72279.10(5/2)	154417.27(5/2)	pc
112	360	1217.780	82116.62	1217.7826	0.0021	0.16	-0.002	15	24	5d ⁶ s	84752.88(7/2)	166869.34(9/2)	pc
208	1774	1218.121	82093.64	1218.1184	0.0022	-0.18	0.003	13	24	5d ⁶ s	74908.18(7/2)	157002.00(7/2)	pc
43	128	1218.349	82078.30	1218.3491	0.0030	0.02	0.000	12	19	5d ⁶ s	81326.99(5/2)	163405.27(5/2)	pc
115	313	1218.810	82047.23	1218.8106	0.0040	0.03	0.000	10	18	5d ⁶ s	87965.80(5/2)	170013.00(3/2)	pc
68	1707	1218.864	82043.62	1218.8534	0.0040	-0.70	0.010	6	7	5d ⁶ s	56071.44(1/2)	138115.76(1/2)	pc *
204	1707	1218.864	82043.62	1218.8777	0.0021	0.93	-0.014	17	25	5d ⁶ s	78224.11(5/2)	160266.80(7/2)	pc * 500
79	682	1219.090	82028.40	1219.0952	0.0031	0.35	-0.005	6	15	5d ⁶ s	86573.46(3/2)	168601.51(1/2)	pc Pt V
698	3952	1219.501	82000.77	1219.5025	0.0021	0.12	-0.002	12	24	5d ⁶ s	65172.43(9/2)	147173.08(9/2)	pc
60	124	1219.893	81974.42	1219.8972	0.0040	0.30	-0.004	7	11	5d ⁶ s	96955.55(3/2)	178929.67(1/2)	pc
279	4145	1219.972	81969.09	1219.9728	0.0022	0.05	-0.001	9	20	5d ⁷	54811.51(3/2)	136780.55(5/2)	pc
385	843	1220.237	81951.29	1220.2346	0.0043	-0.16	0.002	4	5	5d ⁶ s	104992.68(5/2)	186944.13(5/2)	pc
294	708	1220.350	81943.72	1220.3523	0.0031	0.17	-0.002	9	15	5d ⁶ s	96585.01(7/2)	178528.56(7/2)	pc
145	1100	1220.538	81931.09	1220.5412	0.0023	0.22	-0.003	12	27	5d ⁶ s	73763.04(9/2)	155693.90(7/2)	pc
214	1771	1221.328	81878.11	1221.3298	0.0019	0.14	-0.002	16	24	5d ⁶ s	75407.94(11/2)	157285.90(9/2)	pc
270	796	1222.314	81812.07	1222.3201	0.0020	0.43	-0.006	10	18	5d ⁶ s	90008.92(7/2)	171820.55(9/2)	pc
129	3048	1222.833	81777.34	1222.8183	0.0030	-0.95	0.014	18	24	5d ⁶ s	65172.43(9/2)	146950.72(7/2)	pc * 500, m
615	3048	1222.833	81777.34	1222.8421	0.0024	0.63	-0.009	12	21	5d ⁶ s	79993.07(9/2)	161769.77(9/2)	pc
147	396	1223.485	81733.71	1223.4838	0.0031	-0.10	0.002	12	16	5d ⁶ s	91590.90(7/2)	173324.72(7/2)	pc
45	241	1223.577	81727.59	1223.5771	0.0030	0.00	0.000	10	27	5d ⁶ s	89302.04(9/2)	171029.63(11/2)	pc
1078	4354	1224.054	81695.77	1224.0597	0.0021	0.41	-0.006	11	24	5d ⁶ s	65172.43(9/2)	146867.79(11/2)	pc
329	1897	1224.411	81671.95	1224.4149	0.0022	0.28	-0.004	16	31	5d ⁶ s	81200.34(7/2)	162872.01(7/2)	pc
71	1897	1224.411	81671.95	1224.4326	0.0022	1.47	-0.022	15	26	5d ⁶ s	82725.07(9/2)	164395.55(9/2)	pc * 400, m
1244	3176	1224.834	81643.69	1224.8393	0.0030	0.33	-0.005	7	22	5d ⁶ s	83222.01(11/2)	164865.38(11/2)	pc
857	3147	1225.333	81610.46	1225.3376	0.0021	0.30	-0.004	7	18	5d ⁶ s	68462.66(11/2)	150072.82(13/2)	pc
3394	5124	1225.453	81602.45	1225.4570	0.0030	0.24	-0.004	2	15	5d ⁶ s	69223.49(13/2)	150825.70(15/2)	pc
90	705	1225.623	81591.18	1225.6235	0.0022	0.06	-0.001	15	17	5d ⁶ s	67233.76(3/2)	148824.89(5/2)	pc
570	2827	1226.341	81543.36	1226.3510	0.0040	0.64	-0.010	5	4	5d ⁶ s	112123.89(7/2)	193666.61(7/2)	pc
307	802	1226.951	81502.82	1226.9493	0.0030	-0.14	0.002	12	15	5d ⁶ s	91821.76(5/2)	173324.72(7/2)	pc
28	1903	1228.029	81431.33	1228.0084	0.0021	-1.34	0.020	9	17	5d ⁶ s	52223.37(5/2)	133656.04(3/2)	pc * 500, m
735	1903	1228.029	81431.33	1228.0335	0.0030	0.33	-0.005	13	16	5d ⁶ s	91590.90(7/2)	173021.91(9/2)	pc

243	955	1228.305	81413.02	1228.3084	0.0030	0.24	-0.004	10	18	5d ⁶ s	90008.92(7/2)	171421.70(7/2)	pc	
172	827	1228.390	81407.35	1228.3961	0.0030	0.39	-0.006	12	8	5d ⁶ s	79414.02(1/2)	160820.99(3/2)	pc	
311	2118	1228.797	81380.40	1228.7921	0.0030	-0.33	0.005	13	17	5d ⁶ s	76309.84(3/2)	157690.57(5/2)	pc	
181	1042	1228.937	81371.15	1228.9389	0.0024	0.14	-0.002	12	18	5d ⁶ s	87965.80(5/2)	169336.81(5/2)	pc	Pt III
89	408	1229.086	81361.27	1229.0863	0.0030	0.02	0.000	7	20	5d ⁶ s	74991.80(3/2)	156353.05(1/2)	pc	
95	692	1230.073	81295.98	1230.0741	0.0023	0.07	-0.001	12	26	5d ⁶ s	82109.36(7/2)	163405.27(5/2)	pc	
9	74	1231.033	81232.62	1231.0386	0.0021	0.40	-0.006	17	24	5d ⁶ s	74908.18(7/2)	156140.40(5/2)	pc	*
699	4051	1231.332	81212.90	1231.3368	0.0024	0.35	-0.005	14	22	5d ⁶ s	72279.10(5/2)	153491.65(7/2)	pc	
398	2535	1232.255	81152.05	1232.2544	0.0024	-0.02	0.000	10	20	5d ⁶ s	90668.48(11/2)	171820.55(9/2)	pc	
240	2482	1232.272	81150.91	1232.2713	0.0050	-0.05	0.001	12	6	5d ⁶ s	87468.65(1/2)	168619.62(3/2)	pc	* 1000, Pt V (1000)
145	1347	1232.308	81148.54	1232.3072	0.0024	-0.06	0.001	17	20	5d ⁶ s	74991.80(3/2)	156140.40(5/2)	pc	
86	1097	1232.969	81105.02	1232.9626	0.0021	-0.44	0.007	14	18	5d ⁶ s	68462.66(11/2)	149568.12(9/2)	pc	
612	1633	1233.092	81096.98	1233.0932	0.0040	0.10	-0.002	5	15	5d ⁶ s	96585.01(7/2)	177681.88(5/2)	pc	
283	891	1233.142	81093.65	1233.1526	0.0040	0.68	-0.010	7	6	5d ⁶ s	98415.42(3/2)	179508.38(5/2)	pc	
504	1999	1233.392	81077.22	1233.3951	0.0024	0.20	-0.003	11	21	5d ⁶ s	79993.07(9/2)	161070.08(11/2)	pc	
11	122	1235.021	80970.30	1235.0129	0.0030	-0.51	0.008	13	25	5d ⁶ s	78224.11(5/2)	159194.93(3/2)	pc	*
366	3222	1236.869	80849.28	1236.8686	0.0023	-0.05	0.001	7	15	5d ⁶ s	69223.49(13/2)	150072.82(13/2)	pc	
353	2618	1236.906	80846.87	1236.9172	0.0020	0.71	-0.011	12	23	5d ⁶ s	74847.75(5/2)	155693.90(7/2)	pc	
105	554	1236.984	80841.78	1236.9902	0.0030	0.40	-0.006	13	19	5d ⁶ s	81326.99(5/2)	162168.37(7/2)	pc	
36	451	1237.445	80811.68	1237.4533	0.0022	0.56	-0.008	13	18	5d ⁶ s	65176.69(5/2)	145987.82(7/2)	pc	
78	1000	1237.836	80786.14	1237.8425	0.0021	0.42	-0.006	12	24	5d ⁶ s	74908.18(7/2)	155693.90(7/2)	pc	
94	606	1237.898	80782.07	1237.8974	0.0020	-0.07	0.001	19	27	5d ⁶ s	73763.04(9/2)	154545.18(9/2)	pc	
122	620	1238.189	80763.08	1238.1961	0.0023	0.43	-0.007	16	26	5d ⁶ s	82109.36(7/2)	162872.01(7/2)	pc	
373	1114	1238.276	80757.41	1238.2810	0.0030	0.29	-0.004	9	15	5d ⁶ s	91821.76(5/2)	172578.87(3/2)	pc	
127	551	1238.683	80730.90	1238.6826	0.0031	-0.03	0.001	13	10	5d ⁶ s	81998.59(1/2)	162729.52(3/2)	pc	
134	691	1239.167	80699.38	1239.1634	0.0031	-0.23	0.003	6	10	5d ⁶ s	93535.72(3/2)	174235.33(5/2)	pc	
192	1335	1239.451	80680.90	1239.4533	0.0024	0.17	-0.003	14	21	5d ⁶ s	79993.07(9/2)	160673.80(9/2)	pc	
42	123	1239.867	80653.78	1239.8669	0.0041	-0.04	0.001	12	18	5d ⁶ s	87965.80(5/2)	168619.62(3/2)	pc	
20	96	1240.248	80629.03	1240.2560	0.0023	0.51	-0.008	15	25	5d ⁶ s	68196.37(7/2)	148824.89(5/2)	pc	*
211	1452	1240.383	80620.25	1240.3879	0.0030	0.31	-0.005	10	20	5d ⁶ s	74991.80(3/2)	155611.74(3/2)	pc	
837	2420	1240.840	80590.55	1240.8468	0.0030	0.43	-0.007	10	15	5d ⁶ s	94803.68(9/2)	175393.81(9/2)	pc	
2119	3240	1240.956	80583.02	1240.9582	0.0050	0.13	-0.002	2	11	5d ⁶ s	101563.88(9/2)	182146.77(11/2)	pc	
51	384	1241.352	80557.32	1241.3581	0.0040	0.39	-0.006	9	6	5d ⁶ s	87468.65(1/2)	168025.59(3/2)	pc	
87	398	1241.948	80518.64	1241.9566	0.0030	0.52	-0.008	13	15	5d ⁶ s	86573.46(3/2)	167091.57(3/2)	pc	Pt V
92	215	1242.011	80514.61	1242.0161	0.0050	0.36	-0.006	7	6	5d ⁶ s	98415.42(3/2)	178929.67(1/2)	pc	*
432	1542	1242.504	80482.66	1242.5079	0.0040	0.28	-0.004	7	9	5d ⁶ s	105528.04(7/2)	186010.43(9/2)	pc	
624	1096	1242.623	80474.92	1242.6244	0.0052	0.08	-0.001	3	2	5d ⁶ s	109491.32(5/2)	189966.16(7/2)	pc	
1533	3397	1244.377	80361.52	1244.3824	0.0030	0.37	-0.006	10	20	5d ⁶ s	90668.48(11/2)	171029.63(11/2)	pc	
126	1817	1244.721	80339.26	1244.7126	0.0031	-0.57	0.009	16	25	5d ⁶ s	78224.11(5/2)	158563.95(7/2)	pc	* 700
239	1817	1244.721	80339.26	1244.7384	0.0030	1.09	-0.017	12	17	5d ⁶ s	83067.10(3/2)	163405.27(5/2)	pc	*
787	3232	1247.103	80185.83	1247.1027	0.0030	-0.03	0.000	8	26	5d ⁶ s	82725.07(9/2)	162910.93(11/2)	pc	
117	796	1247.182	80180.73	1247.1882	0.0024	0.37	-0.006	12	27	5d ⁶ s	73763.04(9/2)	153943.40(11/2)	pc	
103	762	1247.301	80173.11	1247.3025	0.0023	0.10	-0.001	12	24	5d ⁶ s	84752.88(7/2)	164925.89(5/2)	pc	

128	722	1249.072	80059.44	1249.0785	0.0023	0.42	-0.007	13	26	5d ⁶ s	82109.36(7/2)	162168.37(7/2)	pc
81	226	1250.138	79991.19	1250.1391	0.0030	0.09	-0.001	15	17	5d ⁶ s	90324.02(5/2)	170315.12(7/2)	pc
2101	3845	1250.444	79971.57	1250.4460	0.0030	0.10	-0.002	5	22	5d ⁶ s	83222.01(11/2)	163193.48(13/2)	pc
18	184	1250.550	79964.80	1250.5443	0.0030	-0.38	0.006	13	23	5d ⁶ s	74847.75(5/2)	154812.93(3/2)	pc *
656	2336	1250.819	79947.64	1250.8207	0.0040	0.13	-0.002	3	20	5d ⁶ s	90668.48(11/2)	170615.99(13/2)	pc
117	423	1251.574	79899.40	1251.5763	0.0030	0.16	-0.003	15	24	5d ⁶ s	84752.88(7/2)	164652.12(7/2)	pc
19	159	1252.025	79870.58	1252.0186	0.0023	-0.43	0.007	14	22	5d ⁶ s	72279.10(5/2)	152150.12(5/2)	pc
145	2664	1252.140	79863.27	1252.1435	0.0024	0.22	-0.003	8	18	5d ⁶ s	50953.00(7/2)	130816.05(9/2)	pc
296	1126	1252.582	79835.07	1252.5840	0.0041	0.11	-0.002	4	5	5d ⁶ s	104992.68(5/2)	184827.64(7/2)	pc
25	195	1252.798	79821.35	1252.8011	0.0030	0.22	-0.003	13	20	5d ⁶ s	74991.80(3/2)	154812.93(3/2)	pc
1888	4320	1253.625	79768.68	1253.6324	0.0031	0.48	-0.008	8	15	5d ⁶ s	94803.68(9/2)	174571.88(11/2)	pc
179	949	1254.876	79689.13	1254.8796	0.0031	0.21	-0.003	8	22	5d ⁶ s	83222.01(11/2)	162910.93(11/2)	pc
63	353	1255.294	79662.61	1255.2971	0.0030	0.19	-0.003	13	17	5d ⁶ s	83067.10(3/2)	162729.52(3/2)	pc
432	2654	1255.332	79660.22	1255.3286	0.0030	-0.20	0.003	12	26	5d ⁶ s	82109.36(7/2)	161769.77(9/2)	pc
710	2723	1255.602	79643.07	1255.6082	0.0022	0.39	-0.006	15	24	5d ⁶ s	84752.88(7/2)	164395.55(9/2)	pc
464	2898	1255.638	79640.79	1255.6426	0.0021	0.29	-0.005	15	27	5d ⁶ s	89302.04(9/2)	168942.54(9/2)	pc
762	3972	1255.697	79637.07	1255.6978	0.0022	0.08	-0.001	19	24	5d ⁶ s	74908.18(7/2)	154545.18(9/2)	pc
73	203	1256.273	79600.53	1256.2823	0.0030	0.59	-0.009	10	15	5d ⁶ s	91821.76(5/2)	171421.70(7/2)	pc *
156	1019	1256.457	79588.89	1256.4605	0.0024	0.23	-0.004	13	31	5d ⁶ s	81200.34(7/2)	160788.99(5/2)	pc
892	3758	1257.864	79499.84	1257.8906	0.0050	1.67	-0.026	8	11	5d ⁶ s	96904.36(5/2)	176402.53(7/2)	pc * m
1902	3758	1257.864	79499.84	1257.8635	0.0050	-0.04	0.001	4	8	5d ⁶ s	112339.02(9/2)	191838.90(11/2)	pc
266	738	1258.020	79489.99	1258.0241	0.0041	0.26	-0.004	10	4	5d ⁶ s	102957.98(1/2)	182447.71(3/2)	pc
639	3294	1258.281	79473.50	1258.2817	0.0024	0.05	-0.001	14	31	5d ⁶ s	81200.34(7/2)	160673.80(9/2)	pc
3059	4223	1260.461	79336.03	1260.4613	0.0060	0.00	0.000	1	13	5d ⁶ s	88233.47(13/2)	167569.50(15/2)	pc
444	1336	1261.043	79299.47	1261.0404	0.0040	-0.14	0.002	4	9	5d ⁶ s	105528.04(7/2)	184827.64(7/2)	pc
166	913	1262.109	79232.43	1262.1130	0.0024	0.22	-0.004	16	18	5d ⁶ s	87965.80(5/2)	167198.01(7/2)	pc
147	1186	1263.197	79164.20	1263.2021	0.0030	0.31	-0.005	15	23	5d ⁶ s	74847.75(5/2)	154011.64(5/2)	pc
10	87	1263.626	79137.35	1263.6276	0.0022	0.11	-0.002	19	24	5d ⁶ s	75407.94(11/2)	154545.18(9/2)	pc *
128	2003	1263.810	79125.80	1263.8107	0.0030	0.03	0.000	13	18	5d ⁶ s	87965.80(5/2)	167091.57(3/2)	pc 700
161	1093	1264.471	79084.47	1264.4725	0.0040	0.11	-0.002	11	11	5d ⁶ s	96904.36(5/2)	175988.72(5/2)	pc 400
46	375	1265.104	79044.90	1265.1069	0.0030	0.20	-0.003	12	26	5d ⁶ s	82725.07(9/2)	161769.77(9/2)	pc
38	307	1265.148	79042.10	1265.1413	0.0023	-0.45	0.007	12	18	5d ⁶ s	68462.66(11/2)	147505.21(11/2)	pc *
140	328	1265.286	79033.48	1265.2914	0.0031	0.31	-0.005	11	11	5d ⁶ s	96955.55(3/2)	175988.72(5/2)	pc
99	659	1265.414	79025.50	1265.4205	0.0030	0.39	-0.006	14	27	5d ⁶ s	89302.04(9/2)	168327.15(7/2)	pc
12	113	1265.500	79020.14	1265.5050	0.0030	0.30	-0.005	15	20	5d ⁶ s	74991.80(3/2)	154011.64(5/2)	pc *
103	513	1265.618	79012.77	1265.6179	0.0030	-0.02	0.000	12	17	5d ⁶ s	90324.02(5/2)	169336.81(5/2)	pc
106	662	1265.987	78989.77	1265.9851	0.0040	-0.10	0.002	4	9	5d ⁶ s	105528.04(7/2)	184517.91(5/2)	pc
185	2024	1266.197	78976.68	1266.1962	0.0023	-0.02	0.000	12	25	5d ⁶ s	68196.37(7/2)	147173.08(9/2)	pc
74	359	1266.791	78939.60	1266.7879	0.0030	-0.21	0.003	17	19	5d ⁶ s	81326.99(5/2)	160266.80(7/2)	pc
99	541	1267.610	78888.60	1267.6111	0.0030	0.05	-0.001	12	24	5d ⁶ s	84752.88(7/2)	163641.42(5/2)	pc
104	902	1268.076	78859.61	1268.0773	0.0030	0.07	-0.001	10	10	5d ⁶ s	70622.67(1/2)	149482.21(3/2)	pc
15	426	1268.323	78844.30	1268.3188	0.0023	-0.23	0.004	9	20	5d ⁷	54811.51(3/2)	133656.04(3/2)	pc
41	330	1268.679	78822.16	1268.6748	0.0030	-0.24	0.004	12	10	5d ⁶ s	81998.59(1/2)	160820.99(3/2)	pc

453	1773	1268.890	78809.04	1268.8937	0.0030	0.23	-0.004	10	15	5d ⁶ s	96585.01(7/2)	175393.81(9/2)	pc	
97	1168	1268.977	78803.65	1268.9747	0.0023	-0.12	0.002	14	18	5d ⁶ s	65176.69(5/2)	143980.46(3/2)	pc	
83	321	1269.311	78782.88	1269.3126	0.0040	0.08	-0.001	4	11	5d ⁶ s	96955.55(3/2)	175738.35(1/2)	pc	
415	2723	1269.390	78777.99	1269.3917	0.0023	0.10	-0.002	13	25	5d ⁶ s	78224.11(5/2)	157002.00(7/2)	pc	
196	2331	1269.770	78754.40	1269.7711	0.0030	0.05	-0.001	18	25	5d ⁶ s	68196.37(7/2)	146950.72(7/2)	pc	
409	1712	1270.255	78724.33	1270.2572	0.0030	0.11	-0.002	15	16	5d ⁶ s	91590.90(7/2)	170315.12(9/2)	pc	
111	1282	1270.481	78710.35	1270.4798	0.0022	-0.08	0.001	12	18	5d ⁶ s	68462.66(11/2)	147173.08(7/2)	pc	
53	279	1270.978	78679.59	1270.9769	0.0030	-0.05	0.001	13	26	5d ⁶ s	82109.36(7/2)	160788.99(5/2)	pc	
373	2989	1271.099	78672.10	1271.0985	0.0022	-0.01	0.000	14	27	5d ⁶ s	73763.04(9/2)	152435.15(9/2)	pc	
173	1508	1271.552	78644.06	1271.5545	0.0030	0.16	-0.003	14	23	5d ⁶ s	74847.75(5/2)	153491.65(7/2)	pc	
18	125	1272.522	78584.09	1272.5323	0.0031	0.63	-0.010	14	24	5d ⁶ s	74908.18(7/2)	153491.65(7/2)	pc	*
125	692	1272.739	78570.72	1272.7361	0.0030	-0.16	0.003	16	21	5d ⁶ s	79993.07(9/2)	158563.95(7/2)	pc	
25	231	1272.827	78565.27	1272.8405	0.0030	0.83	-0.013	14	26	5d ⁶ s	82109.36(7/2)	160673.80(9/2)	pc	*
163	1499	1273.112	78547.69	1273.1107	0.0030	-0.07	0.001	12	22	5d ⁶ s	83222.01(11/2)	161769.77(9/2)	pc	
15	536	1273.202	78542.16	1273.1998	0.0021	-0.10	0.002	14	23	5d ⁶ s	60955.41(7/2)	139497.68(5/2)	pc	Pt III
581	4195	1273.309	78535.56	1273.3102	0.0020	0.10	-0.002	12	24	5d ⁶ s	75407.94(11/2)	153943.40(11/2)	pc	
164	1712	1273.836	78503.03	1273.8352	0.0030	-0.06	0.001	13	17	5d ⁶ s	76309.84(3/2)	154812.93(3/2)	pc	
123	2032	1274.469	78464.05	1274.4694	0.0021	0.03	0.000	16	24	5d ⁶ s	65172.43(9/2)	143636.45(7/2)	pc	
35	412	1274.535	78459.97	1274.5386	0.0021	0.20	-0.003	16	18	5d ⁶ s	65176.69(5/2)	143636.45(7/2)	pc	
21	429	1274.663	78452.08	1274.6702	0.0030	0.42	-0.007	17	23	5d ⁶ s	74847.75(5/2)	153299.41(3/2)	pc	* 200
212	1631	1275.190	78419.67	1275.1928	0.0030	0.16	-0.003	12	19	5d ⁶ s	81326.99(5/2)	159746.50(5/2)	pc	
12	94	1275.424	78405.30	1275.4267	0.0024	0.16	-0.003	11	18	5d ⁶ s	68462.66(11/2)	146867.79(11/2)	pc	*
167	2422	1275.722	78386.98	1275.7234	0.0030	0.09	-0.001	15	27	5d ⁶ s	73763.04(9/2)	152149.93(7/2)	pc	
45	185	1276.285	78352.38	1276.2846	0.0031	-0.06	0.001	12	15	5d ⁶ s	86573.46(3/2)	164925.89(5/2)	pc	
841	4182	1276.407	78344.93	1276.4054	0.0021	-0.08	0.001	11	26	5d ⁶ s	82725.07(9/2)	161070.08(11/2)	pc	
428	2814	1277.370	78285.83	1277.3704	0.0024	0.00	0.000	9	21	5d ⁶ s	79993.07(9/2)	158278.89(11/2)	pc	
7	100	1277.429	78282.23	1277.4374	0.0030	0.51	-0.008	12	15	5d ⁶ s	69223.49(13/2)	147505.21(11/2)	pc	*
146	987	1277.563	78274.03	1277.5625	0.0023	-0.03	0.000	15	20	5d ⁶ s	90668.48(11/2)	168942.54(9/2)	pc	
292	2816	1277.841	78257.01	1277.8428	0.0024	0.12	-0.002	7	24	5d ⁶ s	75407.94(11/2)	153664.83(13/2)	pc	
98	805	1278.037	78245.00	1278.0337	0.0031	-0.20	0.003	12	27	5d ⁶ s	89302.04(9/2)	167547.24(9/2)	pc	
98	230	1278.476	78218.13	1278.4745	0.0030	-0.09	0.001	13	15	5d ⁶ s	94803.68(9/2)	173021.91(9/2)	pc	
223	3576	1278.648	78207.59	1278.6466	0.0020	-0.10	0.002	13	24	5d ⁶ s	65172.43(9/2)	143380.12(9/2)	pc	
35	218	1279.464	78157.72	1279.4686	0.0022	0.27	-0.005	17	26	5d ⁶ s	82109.36(7/2)	160266.80(7/2)	pc	
128	724	1280.094	78119.24	1280.0962	0.0024	0.12	-0.002	16	24	5d ⁶ s	84752.88(7/2)	162872.01(7/2)	pc	
62	408	1280.289	78107.34	1280.2879	0.0030	-0.09	0.002	9	17	5d ⁶ s	76309.84(3/2)	154417.27(5/2)	pc	
209	1355	1281.996	78003.38	1281.9998	0.0030	0.24	-0.004	14	17	5d ⁶ s	90324.02(5/2)	168327.15(7/2)	pc	
483	2997	1282.897	77948.60	1282.8946	0.0030	-0.12	0.002	14	26	5d ⁶ s	82725.07(9/2)	160673.80(9/2)	pc	
95	779	1283.428	77916.31	1283.4287	0.0031	0.02	0.000	17	25	5d ⁶ s	78224.11(5/2)	156140.40(5/2)	pc	
31	147	1283.761	77896.12	1283.7635	0.0024	0.16	-0.003	16	27	5d ⁶ s	89302.04(9/2)	167198.01(7/2)	pc	*
152	894	1284.225	77868.01	1284.2256	0.0030	0.06	-0.001	13	19	5d ⁶ s	81326.99(5/2)	159194.93(3/2)	pc	
71	205	1285.116	77813.97	1285.1235	0.0040	0.44	-0.007	10	18	5d ⁶ s	87965.80(5/2)	165779.33(3/2)	pc	
49	655	1285.488	77791.48	1285.4884	0.0023	0.04	-0.001	13	25	5d ⁶ s	68196.37(7/2)	145987.82(7/2)	pc	
79	319	1286.099	77754.49	1286.1093	0.0030	0.60	-0.010	12	17	5d ⁶ s	83067.10(3/2)	160820.99(3/2)	pc	

7	281	1286.839	77709.80	1286.8378	0.0030	-0.07	0.001	9	15	5d ⁶ s	45091.69(9/2)	122801.56(7/2)	pc
157	1191	1286.975	77701.56	1286.9753	0.0030	-0.01	0.000	9	17	5d ⁶ s	90324.02(5/2)	168025.59(3/2)	pc
7	242	1287.924	77644.35	1287.9245	0.0030	0.05	-0.001	11	15	5d ⁶ s	69223.49(13/2)	146867.79(11/2)	pc *
46	241	1288.042	77637.19	1288.0433	0.0030	0.05	-0.001	12	26	5d ⁶ s	82109.36(7/2)	159746.50(5/2)	pc
548	4174	1288.277	77623.06	1288.2764	0.0030	-0.04	0.001	7	23	5d ⁶ s	60955.41(7/2)	138578.51(9/2)	pc
93	441	1288.809	77591.02	1288.8113	0.0030	0.15	-0.002	17	18	5d ⁶ s	87965.80(5/2)	165556.67(7/2)	pc
487	4520	1288.911	77584.88	1288.9105	0.0030	-0.03	0.001	7	18	5d ⁶ s	50953.00(7/2)	128537.91(9/2)	pc
26	4520	1288.911	77584.88	1288.9156	0.0040	0.28	-0.005	9	7	5d ⁶ s	56071.44(1/2)	133656.04(3/2)	pc * 500
85	285	1289.111	77572.87	1289.1033	0.0041	-0.44	0.007	11	6	5d ⁶ s	98415.42(3/2)	175988.72(5/2)	pc
153	2656	1289.200	77567.47	1289.1861	0.0030	-0.85	0.014	12	18	5d ⁶ s	87965.80(5/2)	165534.12(5/2)	pc * 500
519	2656	1289.200	77567.47	1289.2031	0.0023	0.18	-0.003	15	27	5d ⁶ s	89302.04(9/2)	166869.34(9/2)	pc 2000
322	1412	1289.290	77562.07	1289.2909	0.0041	0.06	-0.001	5	10	5d ⁶ s	93535.72(3/2)	171097.73(5/2)	pc
36	401	1289.623	77542.02	1289.6281	0.0022	0.28	-0.005	17	26	5d ⁶ s	82725.07(9/2)	160266.80(7/2)	pc
833	3801	1289.685	77538.30	1289.6848	0.0030	-0.02	0.000	12	18	5d ⁶ s	90008.92(7/2)	167547.24(9/2)	pc
76	2463	1289.740	77535.02	1289.7411	0.0022	0.08	-0.001	12	18	5d ⁶ s	50953.00(7/2)	128487.94(7/2)	pc
186	1751	1289.874	77526.96	1289.8737	0.0024	-0.01	0.000	14	24	5d ⁶ s	74908.18(7/2)	152435.15(9/2)	pc
127	471	1290.076	77514.83	1290.0720	0.0030	-0.22	0.004	12	15	5d ⁶ s	91821.76(5/2)	169336.81(5/2)	pc
19	480	1290.366	77497.39	1290.3671	0.0030	0.06	-0.001	9	18	5d ⁶ s	65176.69(5/2)	142674.01(3/2)	pc
230	2054	1291.728	77415.66	1291.7311	0.0024	0.16	-0.003	13	24	5d ⁶ s	84752.88(7/2)	162168.37(7/2)	pc
41	252	1292.196	77387.66	1292.1962	0.0030	0.04	-0.001	10	25	5d ⁶ s	78224.11(5/2)	155611.74(3/2)	pc
102	1036	1292.566	77365.49	1292.5658	0.0040	-0.01	0.000	5	17	5d ⁶ s	76309.84(3/2)	153675.34(1/2)	pc
68	420	1292.601	77363.38	1292.5974	0.0020	-0.23	0.004	16	31	5d ⁶ s	81200.34(7/2)	158563.95(7/2)	pc
26	74	1292.683	77358.46	1292.6812	0.0024	-0.13	0.002	13	31	5d ⁶ s	81200.34(7/2)	158558.94(9/2)	pc *
190	1101	1292.802	77351.34	1292.7975	0.0030	-0.29	0.005	15	16	5d ⁶ s	91590.90(7/2)	168942.54(9/2)	pc
260	1492	1293.638	77301.36	1293.6388	0.0030	0.03	0.000	9	17	5d ⁶ s	90324.02(5/2)	167625.35(5/2)	pc
20	117	1293.779	77292.97	1293.7809	0.0022	0.13	-0.002	16	21	5d ⁶ s	79993.07(9/2)	157285.90(9/2)	pc *
80	427	1294.003	77279.54	1293.9996	0.0040	-0.24	0.004	6	11	5d ⁶ s	96955.55(3/2)	174235.33(5/2)	pc
98	1031	1294.077	77275.17	1294.0755	0.0030	-0.08	0.001	10	17	5d ⁶ s	67233.76(3/2)	144509.01(3/2)	pc
37	1463	1294.124	77272.33	1294.1286	0.0021	0.25	-0.004	13	23	5d ⁶ s	60955.41(7/2)	138227.49(5/2)	pc
79	435	1294.720	77236.78	1294.7169	0.0030	-0.18	0.003	16	19	5d ⁶ s	81326.99(5/2)	158563.95(7/2)	pc
79	477	1295.401	77196.20	1295.3982	0.0030	-0.15	0.002	13	10	5d ⁶ s	81998.59(1/2)	159194.93(3/2)	pc
72	378	1295.516	77189.35	1295.5199	0.0030	0.26	-0.004	16	18	5d ⁶ s	90008.92(7/2)	167198.01(7/2)	pc
7	87	1295.576	77185.75	1295.5716	0.0030	-0.26	0.004	6	24	5d ⁶ s	75407.94(11/2)	152593.95(13/2)	pc *
335	3989	1296.693	77119.24	1296.6947	0.0024	0.08	-0.001	9	27	5d ⁶ s	73763.04(9/2)	150882.19(11/2)	pc
219	1563	1297.558	77067.86	1297.5560	0.0030	-0.11	0.002	12	15	5d ⁶ s	86573.46(3/2)	163641.42(5/2)	pc
39	985	1298.244	77027.14	1298.2425	0.0024	-0.07	0.001	14	24	5d ⁶ s	75407.94(11/2)	152435.15(9/2)	pc * 300, Pt V, Pt VI
110	814	1298.553	77008.81	1298.5505	0.0024	-0.13	0.002	13	21	5d ⁶ s	79993.07(9/2)	157002.00(7/2)	pc
43	278	1299.377	76959.98	1299.3747	0.0031	-0.12	0.002	12	18	5d ⁶ s	87965.80(5/2)	164925.89(5/2)	pc
47	617	1299.681	76941.98	1299.6908	0.0050	0.60	-0.010	12	6	5d ⁶ s	87468.65(1/2)	164410.03(3/2)	pc * 200
237	429	1299.895	76929.27	1299.8876	0.0040	-0.46	0.008	5	4	5d ⁶ s	112123.89(7/2)	189053.62(5/2)	pc
89	279	1300.830	76874.01	1300.8301	0.0030	0.02	0.000	16	17	5d ⁶ s	90324.02(5/2)	167198.01(7/2)	pc
29	172	1301.064	76860.16	1301.0598	0.0030	-0.25	0.004	15	18	5d ⁶ s	90008.92(7/2)	166869.34(9/2)	pc
52	723	1301.106	76857.71	1301.1033	0.0031	-0.14	0.002	7	10	5d ⁶ s	70622.67(1/2)	147480.52(1/2)	pc

129	375	1301.512	76833.71	1301.5164	0.0040	0.26	-0.004	9	5	5d ⁶ s	95745.42(1/2)	172578.87(3/2)	pc
28	126	1301.543	76831.86	1301.5443	0.0030	0.05	-0.001	12	15	5d ⁶ s	86573.46(3/2)	163405.27(5/2)	pc
114	505	1302.630	76767.79	1302.6336	0.0030	0.24	-0.004	13	17	5d ⁶ s	90324.02(5/2)	167091.57(3/2)	pc
212	784	1303.108	76739.63	1303.1063	0.0030	-0.08	0.001	12	15	5d ⁶ s	96585.01(7/2)	173324.72(7/2)	pc
30	82	1304.014	76686.28	1304.0136	0.0030	-0.04	0.001	15	18	5d ⁶ s	87965.80(5/2)	164652.12(7/2)	pc *
47	337	1304.140	76678.85	1304.1312	0.0030	-0.54	0.009	12	17	5d ⁶ s	83067.10(3/2)	159746.50(5/2)	pc *
122	337	1304.140	76678.85	1304.1366	0.0040	-0.23	0.004	3	8	5d ⁶ s	112339.02(9/2)	189018.11(9/2)	pc
27	156	1304.933	76632.26	1304.9395	0.0030	0.35	-0.006	7	13	5d ⁶ s	88233.47(13/2)	164865.38(11/2)	pc *
160	582	1305.176	76618.00	1305.1760	0.0030	-0.02	0.000	10	15	5d ⁶ s	94803.68(9/2)	171421.70(7/2)	pc
33	549	1305.468	76600.87	1305.4669	0.0040	-0.07	0.001	9	18	5d ⁶ s	65176.69(5/2)	141777.63(3/2)	pc
60	722	1305.594	76593.47	1305.5913	0.0030	-0.18	0.003	8	17	5d ⁶ s	67233.76(3/2)	143827.41(1/2)	pc
69	648	1306.408	76545.79	1306.4076	0.0022	0.00	0.000	15	22	5d ⁶ s	72279.10(5/2)	148824.89(5/2)	pc
36	100	1307.104	76505.01	1307.0973	0.0031	-0.39	0.007	14	15	5d ⁶ s	91821.76(5/2)	168327.15(7/2)	pc *
21	165	1307.970	76454.33	1307.9659	0.0030	-0.26	0.004	16	26	5d ⁶ s	82109.36(7/2)	158563.95(7/2)	pc *
106	597	1308.051	76449.64	1308.0517	0.0020	0.06	-0.001	13	26	5d ⁶ s	82109.36(7/2)	158558.94(9/2)	pc
16	78	1308.139	76444.49	1308.1432	0.0040	0.27	-0.005	12	18	5d ⁶ s	87965.80(5/2)	164410.03(3/2)	pc *
32	135	1308.262	76437.26	1308.2687	0.0030	0.37	-0.006	13	15	5d ⁶ s	96585.01(7/2)	173021.91(9/2)	pc
148	3288	1310.958	76280.11	1310.9574	0.0021	-0.02	0.000	13	23	5d ⁶ s	60955.41(7/2)	137235.54(7/2)	pc
35	957	1311.227	76264.45	1311.2249	0.0023	-0.12	0.002	12	17	5d ⁶ s	52223.37(5/2)	128487.94(7/2)	pc
305	1778	1311.394	76254.73	1311.3957	0.0031	0.10	-0.002	17	27	5d ⁶ s	89302.04(9/2)	165556.67(7/2)	pc
115	351	1311.894	76225.68	1311.8893	0.0030	-0.26	0.005	10	15	5d ⁶ s	94803.68(9/2)	171029.63(11/2)	pc
33	297	1312.266	76204.06	1312.2700	0.0030	0.23	-0.004	9	15	5d ⁶ s	91821.76(5/2)	168025.59(3/2)	pc
73	357	1312.321	76200.87	1312.3212	0.0020	0.02	0.000	15	20	5d ⁶ s	90668.48(11/2)	166869.34(9/2)	pc
87	602	1312.379	76197.49	1312.3753	0.0030	-0.22	0.004	10	8	5d ⁶ s	79414.02(1/2)	155611.74(3/2)	pc
99	495	1313.091	76156.16	1313.0932	0.0030	0.10	-0.002	13	15	5d ⁶ s	86573.46(3/2)	162729.52(3/2)	pc
145	592	1313.396	76138.51	1313.3968	0.0050	0.05	-0.001	3	5	5d ⁶ s	95745.42(1/2)	171883.87(1/2)	pc
13	136	1313.577	76128.02	1313.5801	0.0040	0.19	-0.003	13	17	5d ⁶ s	83067.10(3/2)	159194.93(3/2)	pc *
34	183	1315.167	76035.97	1315.1645	0.0030	-0.15	0.003	13	24	5d ⁶ s	84752.88(7/2)	160788.99(5/2)	pc
222	3518	1315.758	76001.82	1315.7531	0.0024	-0.28	0.005	10	18	5d ⁶ s	65176.69(5/2)	141178.79(5/2)	pc
91	265	1316.283	75971.52	1316.2798	0.0040	-0.17	0.003	7	4	5d ⁶ s	102957.98(1/2)	178929.67(1/2)	pc
57	997	1317.204	75918.38	1317.2160	0.0030	0.69	-0.012	19	23	5d ⁶ s	74847.75(5/2)	150765.44(7/2)	pc * 300
13	112	1318.262	75857.44	1318.2654	0.0030	0.18	-0.003	19	24	5d ⁶ s	74908.18(7/2)	150765.44(7/2)	pc *
123	1421	1318.558	75840.43	1318.5483	0.0030	-0.55	0.010	17	24	5d ⁶ s	74908.18(7/2)	150749.16(5/2)	pc *
185	1468	1318.591	75838.54	1318.5849	0.0030	-0.34	0.006	16	26	5d ⁶ s	82725.07(9/2)	158563.95(7/2)	pc
75	1048	1318.667	75834.16	1318.6721	0.0031	0.30	-0.005	13	26	5d ⁶ s	82725.07(9/2)	158558.94(9/2)	pc * 400, Pt V (400)
102	1354	1319.172	75805.15	1319.1728	0.0022	0.07	-0.001	14	27	5d ⁶ s	73763.04(9/2)	149568.12(9/2)	pc
36	430	1319.242	75801.12	1319.2323	0.0020	-0.54	0.009	13	31	5d ⁶ s	81200.34(7/2)	157002.00(7/2)	pc * 200
57	430	1319.242	75801.12	1319.2422	0.0030	0.03	-0.001	12	10	5d ⁶ s	93535.72(3/2)	169336.81(5/2)	pc 200
22	147	1319.477	75787.58	1319.4783	0.0030	0.05	-0.001	15	25	5d ⁶ s	78224.11(5/2)	154011.64(5/2)	pc *
27	134	1321.446	75674.70	1321.4488	0.0050	0.18	-0.003	9	11	5d ⁶ s	96904.36(5/2)	172578.87(3/2)	pc *
36	168	1322.517	75613.42	1322.5182	0.0040	0.09	-0.002	6	17	5d ⁶ s	83067.10(3/2)	158680.43(1/2)	pc
122	640	1322.634	75606.71	1322.6270	0.0030	-0.40	0.007	16	16	5d ⁶ s	91590.90(7/2)	167198.01(7/2)	pc Pt V (300)
557	2962	1323.393	75563.33	1323.3932	0.0030	-0.01	0.000	7	27	5d ⁶ s	89302.04(9/2)	164865.38(11/2)	pc

52	973	1324.258	75513.99	1324.2591	0.0023	0.06	-0.001	17	24	5d ⁶ s	84752.88(7/2)	160266.80(7/2)	pc	
45	986	1324.583	75495.43	1324.5807	0.0023	-0.16	0.003	12	23	5d ⁶ s	60955.41(7/2)	136451.00(5/2)	pc	
140	3057	1325.552	75440.27	1325.5523	0.0030	0.02	0.000	9	17	5d ⁶ s	67233.76(3/2)	142674.01(3/2)	pc	2500
76	3057	1325.552	75440.27	1325.5553	0.0023	0.19	-0.003	16	25	5d ⁶ s	68196.37(7/2)	143636.45(7/2)	pc	300
549	5133	1326.870	75365.31	1326.8667	0.0030	-0.21	0.004	8	18	5d ⁶ s	65176.69(5/2)	140542.20(7/2)	pc	
49	752	1327.140	75350.01	1327.1387	0.0031	-0.06	0.001	15	27	5d ⁶ s	89302.04(9/2)	164652.12(7/2)	pc	
166	1120	1327.371	75336.88	1327.3704	0.0030	-0.05	0.001	13	22	5d ⁶ s	83222.01(11/2)	158558.94(9/2)	pc	
205	1049	1328.402	75278.40	1328.4017	0.0031	-0.04	0.001	15	16	5d ⁶ s	91590.90(7/2)	166869.34(9/2)	pc	
37	206	1328.550	75270.00	1328.5538	0.0030	0.19	-0.003	13	15	5d ⁶ s	91821.76(5/2)	167091.57(3/2)	pc	
123	422	1329.163	75235.32	1329.1590	0.0030	-0.23	0.004	10	15	5d ⁶ s	96585.01(7/2)	171820.55(9/2)	pc	
90	406	1329.209	75232.73	1329.2100	0.0030	0.07	-0.001	17	17	5d ⁶ s	90324.02(5/2)	165556.67(7/2)	pc	
252	3115	1330.073	75183.85	1330.0747	0.0023	0.11	-0.002	13	25	5d ⁶ s	68196.37(7/2)	143380.12(9/2)	pc	
144	1114	1330.205	75176.36	1330.2021	0.0022	-0.19	0.003	16	26	5d ⁶ s	82109.36(7/2)	157285.90(9/2)	pc	
67	1385	1330.910	75136.56	1330.9079	0.0024	-0.12	0.002	9	23	5d ⁶ s	60955.41(7/2)	136092.09(9/2)	pc	
17	108	1331.680	75093.10	1331.6730	0.0030	-0.41	0.007	15	27	5d ⁶ s	89302.04(9/2)	164395.55(9/2)	pc	*
102	3124	1331.852	75083.43	1331.8435	0.0050	-0.46	0.008	12	10	5d ⁶ s	93535.72(3/2)	168619.62(3/2)	pc	* 400, m(Pt V)
358	4860	1331.909	75080.23	1331.9092	0.0024	0.04	-0.001	12	23	5d ⁶ s	60955.41(7/2)	136035.60(7/2)	pc	
14	185	1331.993	75075.47	1331.9960	0.0032	0.17	-0.003	17	25	5d ⁶ s	78224.11(5/2)	153299.41(3/2)	pc	*
66	564	1332.168	75065.62	1332.1648	0.0040	-0.16	0.003	6	10	5d ⁶ s	93535.72(3/2)	168601.51(1/2)	pc	
22	133	1332.330	75056.50	1332.3229	0.0030	-0.38	0.007	9	22	5d ⁶ s	83222.01(11/2)	158278.89(11/2)	pc	*
112	892	1334.810	74917.04	1334.8110	0.0030	0.07	-0.001	12	18	5d ⁶ s	90008.92(7/2)	164925.89(5/2)	pc	400, 2d ord
245	3848	1336.198	74839.19	1336.2010	0.0030	0.15	-0.003	10	17	5d ⁶ s	67233.76(3/2)	142072.80(5/2)	pc	
88	564	1339.105	74676.74	1339.0921	0.0040	-0.73	0.013	8	13	5d ⁶ s	88233.47(13/2)	162910.93(11/2)	pc	* 300, 2d ord
747	4409	1339.319	74664.83	1339.3177	0.0024	-0.05	0.001	7	24	5d ⁶ s	75407.94(11/2)	150072.82(13/2)	pc	
76	256	1340.447	74601.96	1340.4489	0.0030	0.09	-0.002	12	17	5d ⁶ s	90324.02(5/2)	164925.89(5/2)	pc	
92	1411	1341.184	74560.99	1341.1867	0.0023	0.16	-0.003	16	26	5d ⁶ s	82725.07(9/2)	157285.90(9/2)	pc	Pt III
5	96	1341.568	74539.65	1341.5803	0.0040	0.69	-0.012	6	32	5d ⁷	39002.13(7/2)	113541.08(9/2)	pc	*
99	954	1341.975	74517.04	1341.9695	0.0040	-0.30	0.005	10	11	5d ⁶ s	96904.36(5/2)	171421.70(7/2)	pc	400, 2d ord
39	325	1342.457	74490.30	1342.4547	0.0030	-0.11	0.002	10	20	5d ⁶ s	74991.80(3/2)	149482.21(3/2)	pc	
132	219	1343.915	74409.47	1343.9161	0.0040	0.06	-0.001	9	5	5d ⁶ s	104992.68(5/2)	179402.08(7/2)	pc	
65	348	1344.333	74386.32	1344.3275	0.0030	-0.31	0.006	15	18	5d ⁶ s	90008.92(7/2)	164395.55(9/2)	pc	
933	2270	1345.484	74322.70	1345.4790	0.0040	-0.28	0.005	3	3	5d ⁶ s	114695.13(7/2)	189018.11(9/2)	pc	
52	142	1346.489	74267.23	1346.4825	0.0060	-0.36	0.006	10	5	5d ⁶ s	95745.42(1/2)	170013.00(3/2)	pc	*
69	1278	1347.415	74216.17	1347.4268	0.0030	0.63	-0.011	13	15	5d ⁶ s	86573.46(3/2)	160788.99(5/2)	pc	* 400, m(2d ord)
100	728	1347.664	74202.46	1347.6622	0.0030	-0.11	0.002	13	18	5d ⁶ s	87965.80(5/2)	162168.37(7/2)	pc	
402	3221	1348.434	74160.12	1348.4325	0.0024	-0.06	0.001	14	24	5d ⁶ s	75407.94(11/2)	149568.12(9/2)	pc	
25	118	1348.825	74138.59	1348.8204	0.0031	-0.27	0.005	15	15	5d ⁶ s	94803.68(9/2)	168942.54(9/2)	pc	*
130	1508	1350.190	74063.66	1350.1856	0.0023	-0.24	0.004	16	22	5d ⁶ s	83222.01(11/2)	157285.90(9/2)	pc	
13	104	1350.779	74031.36	1350.7846	0.0031	0.32	-0.006	17	26	5d ⁶ s	82109.36(7/2)	156140.40(5/2)	pc	*
19	110	1351.765	73977.36	1351.7689	0.0020	0.22	-0.004	15	23	5d ⁶ s	74847.75(5/2)	148824.89(5/2)	pc	*
35	131	1351.977	73965.78	1351.9767	0.0031	0.01	0.000	17	16	5d ⁶ s	91590.90(7/2)	165556.67(7/2)	pc	*
25	199	1352.004	73964.25	1352.0074	0.0030	0.16	-0.003	12	22	5d ⁶ s	72279.10(5/2)	146243.19(5/2)	pc	*
27	110	1352.258	73950.36	1352.2590	0.0030	0.03	-0.001	12	21	5d ⁶ s	79993.07(9/2)	153943.40(11/2)	pc	

15	320	1352.362	73944.69	1352.3561	0.0030	-0.34	0.006	10	17	5d ⁶ s	67233.76(3/2)	141178.79(5/2)	pc *
99	2745	1352.708	73925.80	1352.7073	0.0030	-0.02	0.000	15	25	5d ⁶ s	78224.11(5/2)	152149.93(7/2)	pc 700
181	2745	1352.708	73925.80	1352.7040	0.0032	-0.20	0.004	14	25	5d ⁶ s	78224.11(5/2)	152150.12(5/2)	pc 1000
15	106	1352.872	73916.85	1352.8741	0.0030	0.14	-0.003	15	24	5d ⁶ s	74908.18(7/2)	148824.89(5/2)	pc *
23	259	1353.620	73875.95	1353.6117	0.0030	-0.48	0.009	10	25	5d ⁶ s	68196.37(7/2)	142072.80(5/2)	pc *
133	551	1354.470	73829.64	1354.4643	0.0041	-0.29	0.005	10	11	5d ⁶ s	101563.88(9/2)	175393.81(9/2)	pc
506	4465	1356.077	73742.10	1356.0761	0.0024	-0.07	0.001	12	27	5d ⁶ s	73763.04(9/2)	147505.21(11/2)	pc
203	609	1356.300	73729.98	1356.2980	0.0030	-0.13	0.002	15	15	5d ⁶ s	96585.01(7/2)	170315.12(7/2)	pc
46	265	1356.360	73726.76	1356.3538	0.0030	-0.32	0.006	15	20	5d ⁶ s	90668.48(11/2)	164395.55(9/2)	pc
87	333	1356.621	73712.56	1356.6245	0.0030	0.20	-0.004	12	15	5d ⁶ s	91821.76(5/2)	165534.12(5/2)	pc
153	2539	1356.690	73708.82	1356.6916	0.0030	0.11	-0.002	13	22	5d ⁶ s	72279.10(5/2)	145987.82(7/2)	pc
462	5443	1358.248	73624.25	1358.2428	0.0030	-0.30	0.005	10	23	5d ⁶ s	60955.41(7/2)	134579.95(5/2)	pc
44	322	1358.457	73612.93	1358.4528	0.0040	-0.23	0.004	10	10	5d ⁶ s	81998.59(1/2)	155611.74(3/2)	pc
123	493	1358.537	73608.59	1358.5316	0.0031	-0.30	0.005	8	27	5d ⁶ s	89302.04(9/2)	162910.93(11/2)	pc
154	1335	1359.254	73569.76	1359.2504	0.0030	-0.21	0.004	16	27	5d ⁶ s	89302.04(9/2)	162872.01(7/2)	pc 800, Pt III
170	344	1359.881	73535.85	1359.8803	0.0041	-0.03	0.001	9	5	5d ⁶ s	104992.68(5/2)	178528.56(7/2)	pc
17	182	1360.571	73498.57	1360.5705	0.0030	-0.01	0.000	14	21	5d ⁶ s	79993.07(9/2)	153491.65(7/2)	pc
102	2262	1361.478	73449.57	1361.4714	0.0030	-0.37	0.007	9	23	5d ⁶ s	60955.41(7/2)	134405.36(7/2)	pc
33	346	1362.218	73409.71	1362.2115	0.0023	-0.33	0.006	12	27	5d ⁶ s	73763.04(9/2)	147173.08(9/2)	pc
96	1140	1363.187	73357.50	1363.1816	0.0030	-0.29	0.005	14	10	5d ⁶ s	70622.67(1/2)	143980.46(3/2)	pc
48	260	1363.427	73344.62	1363.4225	0.0024	-0.21	0.004	19	31	5d ⁶ s	81200.34(7/2)	154545.18(9/2)	pc
110	429	1363.607	73334.93	1363.6056	0.0031	-0.05	0.001	12	16	5d ⁶ s	91590.90(7/2)	164925.89(5/2)	pc
52	217	1363.928	73317.68	1363.9326	0.0030	0.27	-0.005	12	17	5d ⁶ s	90324.02(5/2)	163641.42(5/2)	pc
90	1045	1366.035	73204.59	1366.0317	0.0030	-0.15	0.003	8	10	5d ⁶ s	70622.67(1/2)	143827.41(1/2)	pc
85	598	1366.630	73172.70	1366.6236	0.0030	-0.34	0.006	12	15	5d ⁶ s	86573.46(3/2)	159746.50(5/2)	pc
13	177	1367.660	73117.61	1367.6570	0.0030	-0.14	0.003	10	17	5d ⁶ s	67233.76(3/2)	140351.51(3/2)	pc *
5	83	1367.903	73104.58	1367.9001	0.0030	-0.17	0.003	11	27	5d ⁶ s	73763.04(9/2)	146867.79(11/2)	pc *
131	829	1368.346	73080.90	1368.3400	0.0030	-0.35	0.006	12	17	5d ⁶ s	90324.02(5/2)	163405.27(5/2)	pc
30	137	1368.728	73060.54	1368.7153	0.0040	-0.67	0.013	15	16	5d ⁶ s	91590.90(7/2)	164652.12(7/2)	pc *
35	95	1368.779	73057.81	1368.7857	0.0050	0.35	-0.007	10	11	5d ⁶ s	96955.55(3/2)	170013.00(3/2)	pc *
11	109	1368.901	73051.31	1368.9104	0.0020	0.50	-0.009	13	18	5d ⁶ s	65176.69(5/2)	138227.49(5/2)	pc *
50	297	1372.374	72866.44	1372.3759	0.0030	0.11	-0.002	13	27	5d ⁶ s	89302.04(9/2)	162168.37(7/2)	pc
17	212	1373.420	72810.96	1373.4132	0.0040	-0.35	0.007	15	31	5d ⁶ s	81200.34(7/2)	154011.64(5/2)	pc *
61	330	1373.532	72805.00	1373.5387	0.0030	0.35	-0.007	15	16	5d ⁶ s	91590.90(7/2)	164395.55(9/2)	pc
59	145	1373.998	72780.33	1373.9969	0.0050	-0.04	0.001	4	4	5d ⁶ s	102957.98(1/2)	175738.35(1/2)	pc
24	67	1375.809	72684.49	1375.8063	0.0040	-0.17	0.003	15	19	5d ⁶ s	81326.99(5/2)	154011.64(5/2)	pc *
15	104	1377.006	72621.30	1377.0033	0.0040	-0.16	0.003	13	15	5d ⁶ s	86573.46(3/2)	159194.93(3/2)	pc *
33	253	1378.447	72545.39	1378.4616	0.0040	0.75	-0.014	10	17	5d ⁶ s	83067.10(3/2)	155611.74(3/2)	pc *
25	208	1378.525	72541.31	1378.5246	0.0031	-0.02	0.000	19	25	5d ⁶ s	78224.11(5/2)	150765.44(7/2)	pc *
122	740	1378.842	72524.64	1378.8348	0.0030	-0.36	0.007	5	20	5d ⁶ s	90668.48(11/2)	163193.48(13/2)	pc
80	498	1379.017	72515.41	1379.0241	0.0030	0.36	-0.007	15	17	5d ⁶ s	76309.84(3/2)	148824.89(5/2)	pc
8	505	1379.527	72488.62	1379.5251	0.0030	-0.09	0.002	7	20	5d ⁶ s	74991.80(3/2)	147480.52(1/2)	pc * 300
34	106	1380.538	72435.52	1380.5324	0.0031	-0.30	0.006	19	26	5d ⁶ s	82109.36(7/2)	154545.18(9/2)	pc *

31	112	1381.113	72405.38	1381.1106	0.0030	-0.12	0.002	13	17	5d ⁶ s	90324.02(5/2)	162729.52(3/2)	pc	
34	118	1382.030	72357.33	1382.0261	0.0031	-0.20	0.004	15	15	5d ⁶ s	96585.01(7/2)	168942.54(9/2)	pc	*
60	1005	1382.690	72322.82	1382.6867	0.0030	-0.15	0.003	8	18	5d ⁶ s	65176.69(5/2)	137499.65(3/2)	pc	
87	1414	1383.130	72299.76	1383.1293	0.0030	-0.06	0.001	7	24	5d ⁶ s	65172.43(9/2)	137472.25(11/2)	pc	
59	109	1383.512	72279.82	1383.5054	0.0040	-0.35	0.007	9	5	5d ⁶ s	95745.42(1/2)	168025.59(3/2)	pc	
85	902	1384.111	72248.55	1384.0998	0.0030	-0.58	0.011	13	24	5d ⁶ s	84752.88(7/2)	157002.00(3/2)	pc	700
85	544	1384.212	72243.26	1384.2277	0.0041	0.81	-0.015	8	20	5d ⁶ s	90668.48(11/2)	162910.93(11/2)	pc	* 300
123	544	1384.212	72243.26	1384.2054	0.0040	-0.35	0.007	10	10	5d ⁶ s	93535.72(3/2)	165779.33(3/2)	pc	
130	1926	1384.571	72224.56	1384.5664	0.0030	-0.22	0.004	13	27	5d ⁶ s	73763.04(9/2)	145987.82(7/2)	pc	
46	894	1386.901	72103.17	1386.9053	0.0030	0.20	-0.004	18	23	5d ⁶ s	74847.75(5/2)	146950.72(7/2)	pc	* 200
88	978	1387.020	72097.04	1387.0150	0.0030	-0.24	0.005	12	24	5d ⁶ s	75407.94(11/2)	147505.21(11/2)	pc	
14	173	1387.680	72062.73	1387.6725	0.0030	-0.38	0.007	13	24	5d ⁶ s	65172.43(9/2)	137235.54(7/2)	pc	*
58	1061	1387.761	72058.51	1387.7545	0.0023	-0.35	0.007	13	18	5d ⁶ s	65176.69(5/2)	137235.54(7/2)	pc	
136	2590	1387.902	72051.22	1387.8991	0.0030	-0.13	0.003	9	10	5d ⁶ s	70622.67(1/2)	142674.01(3/2)	pc	
382	5345	1391.819	71848.43	1391.8163	0.0031	-0.13	0.002	9	18	5d ⁶ s	50953.00(7/2)	122801.56(7/2)	pc	
167	1184	1391.905	71843.98	1391.8978	0.0030	-0.38	0.007	13	17	5d ⁶ s	90324.02(5/2)	162168.37(7/2)	pc	
233	1438	1393.385	71767.66	1393.3778	0.0030	-0.38	0.007	11	27	5d ⁶ s	89302.04(9/2)	161070.08(11/2)	pc	Pt III
26	232	1393.437	71765.02	1393.4342	0.0022	-0.13	0.002	12	24	5d ⁶ s	75407.94(11/2)	147173.08(9/2)	pc	
59	605	1394.682	71700.91	1394.6736	0.0031	-0.45	0.009	14	22	5d ⁶ s	72279.10(5/2)	143980.46(3/2)	pc	
36	2091	1395.150	71676.91	1395.1524	0.0040	0.15	-0.003	5	10	5d ⁶ s	81998.59(1/2)	153675.34(1/2)	pc	700, Pt V (1500)
25	77	1395.400	71664.03	1395.3994	0.0060	-0.04	0.001	12	11	5d ⁶ s	96955.55(3/2)	168619.62(3/2)	pc	*
258	4107	1396.576	71603.67	1396.5727	0.0030	-0.19	0.004	9	18	5d ⁶ s	65176.69(5/2)	136780.55(5/2)	pc	Pt III
108	1139	1399.390	71459.70	1399.3871	0.0030	-0.16	0.003	11	24	5d ⁶ s	75407.94(11/2)	146867.79(11/2)	pc	
24	98	1400.110	71422.98	1400.1132	0.0051	0.18	-0.004	14	11	5d ⁶ s	96904.36(5/2)	168327.15(7/2)	pc	*
76	632	1400.812	71387.19	1400.8050	0.0032	-0.34	0.007	17	24	5d ⁶ s	84752.88(7/2)	156140.40(5/2)	pc	
9	93	1401.399	71357.26	1401.3972	0.0030	-0.09	0.002	16	22	5d ⁶ s	72279.10(5/2)	143636.45(7/2)	pc	*
142	1246	1401.540	71350.08	1401.5383	0.0040	-0.10	0.002	9	17	5d ⁶ s	83067.10(3/2)	154417.27(5/2)	pc	
67	675	1401.843	71334.67	1401.8362	0.0030	-0.34	0.007	12	24	5d ⁶ s	74908.18(7/2)	146243.19(5/2)	pc	
49	350	1402.083	71322.45	1402.0690	0.0030	-0.71	0.014	19	22	5d ⁶ s	83222.01(11/2)	154545.18(9/2)	pc	*
102	2204	1402.512	71300.65	1402.4989	0.0032	-0.65	0.013	14	25	5d ⁶ s	68196.37(7/2)	139497.68(5/2)	pc	*
57	2204	1402.512	71300.65	1402.5083	0.0040	-0.17	0.003	17	10	5d ⁶ s	81998.59(1/2)	153299.41(3/2)	pc	* 500, m
175	1287	1403.812	71234.59	1403.8081	0.0030	-0.22	0.004	14	31	5d ⁶ s	81200.34(7/2)	152435.15(9/2)	pc	
47	1090	1405.077	71170.48	1405.0730	0.0030	-0.20	0.004	7	17	5d ⁶ s	76309.84(3/2)	147480.52(1/2)	pc	500, 2d ord
34	1297	1405.369	71155.68	1405.3833	0.0050	0.71	-0.014	9	10	5d ⁶ s	70622.67(1/2)	141777.63(3/2)	pc	* 500, m(2d ord)
31	108	1406.453	71100.84	1406.4441	0.0030	-0.46	0.009	12	20	5d ⁶ s	90668.48(11/2)	161769.77(9/2)	pc	*
39	337	1406.878	71079.37	1406.8727	0.0030	-0.27	0.005	13	24	5d ⁶ s	74908.18(7/2)	145987.82(7/2)	pc	
26	176	1407.462	71049.86	1407.4546	0.0030	-0.39	0.008	16	15	5d ⁶ s	91821.76(5/2)	162872.01(7/2)	pc	*
23	251	1408.578	70993.57	1408.5752	0.0030	-0.15	0.003	13	17	5d ⁶ s	67233.76(3/2)	138227.49(5/2)	pc	
51	533	1409.445	70949.91	1409.4477	0.0031	0.13	-0.003	14	31	5d ⁶ s	81200.34(7/2)	152150.12(5/2)	pc	
10	61	1409.543	70944.96	1409.5517	0.0041	0.41	-0.008	15	17	5d ⁶ s	83067.10(3/2)	154011.64(5/2)	pc	*
56	235	1409.627	70940.77	1409.6215	0.0030	-0.25	0.005	12	24	5d ⁶ s	84752.88(7/2)	155693.90(7/2)	pc	
112	1490	1410.799	70881.84	1410.7955	0.0040	-0.15	0.003	6	17	5d ⁶ s	67233.76(3/2)	138115.76(1/2)	pc	
69	134	1410.940	70874.74	1410.9449	0.0040	0.25	-0.005	8	9	5d ⁶ s	105528.04(7/2)	176402.53(7/2)	pc	

52	412	1411.175	70862.93	1411.1702	0.0030	-0.25	0.005	12	24	5d ⁶ s	65172.43(9/2)	136035.60(7/2)	pc	
5	102	1411.242	70859.57	1411.2550	0.0030	0.66	-0.013	12	18	5d ⁶ s	65176.69(5/2)	136035.60(7/2)	pc *	
31	97	1412.977	70772.57	1412.9807	0.0030	0.20	-0.004	19	21	5d ⁶ s	79993.07(9/2)	150765.44(7/2)	pc *	
46	381	1414.009	70720.90	1413.9995	0.0030	-0.48	0.010	12	22	5d ⁶ s	83222.01(11/2)	153943.40(11/2)	pc *	200, 2d ord
69	125	1415.036	70669.60	1415.0315	0.0040	-0.21	0.004	9	11	5d ⁶ s	96955.55(3/2)	167625.35(5/2)	pc	
24	65	1415.133	70664.73	1415.1302	0.0030	-0.15	0.003	14	18	5d ⁶ s	90008.92(7/2)	160673.80(9/2)	pc *	
40	236	1415.606	70641.12	1415.6012	0.0030	-0.25	0.005	9	27	5d ⁶ s	73763.04(9/2)	144404.40(9/2)	pc *	
129	3694	1416.871	70578.08	1416.8683	0.0030	-0.11	0.002	9	17	5d ⁶ s	52223.37(5/2)	122801.56(7/2)	pc	
69	1595	1418.527	70495.67	1418.5260	0.0032	-0.05	0.001	8	15	5d ⁶ s	54407.02(3/2)	124902.73(3/2)	pc	
50	175	1419.590	70442.88	1419.5912	0.0030	0.07	-0.001	7	22	5d ⁶ s	83222.01(11/2)	153664.83(13/2)	pc	
66	446	1420.554	70395.08	1420.5572	0.0030	0.16	-0.003	9	22	5d ⁶ s	72279.10(5/2)	142674.01(3/2)	pc	
193	2001	1420.813	70382.23	1420.8152	0.0030	0.10	-0.002	7	25	5d ⁶ s	68196.37(7/2)	138578.51(9/2)	pc	
80	110	1422.793	70284.30	1422.7922	0.0030	-0.03	0.001	15	15	5d ⁶ s	96585.01(7/2)	166869.34(9/2)	pc	
84	812	1423.162	70266.05	1423.1657	0.0030	0.16	-0.003	8	17	5d ⁶ s	67233.76(3/2)	137499.65(3/2)	pc	
107	270	1423.331	70257.72	1423.3278	0.0030	-0.17	0.003	17	18	5d ⁶ s	90008.92(7/2)	160266.80(7/2)	pc	
132	190	1423.353	70256.63	1423.3525	0.0030	-0.04	0.001	10	11	5d ⁶ s	101563.88(9/2)	171820.55(9/2)	pc	
36	63	1423.838	70232.72	1423.8460	0.0041	0.41	-0.008	17	17	5d ⁶ s	83067.10(3/2)	153299.41(3/2)	pc *	
147	448	1424.932	70178.80	1424.9303	0.0030	-0.07	0.001	12	16	5d ⁶ s	91590.90(7/2)	161769.77(9/2)	pc	
103	830	1426.208	70115.98	1426.2111	0.0040	0.13	-0.003	7	18	5d ⁶ s	68462.66(11/2)	138578.51(9/2)	pc	
31	80	1426.417	70105.74	1426.4174	0.0040	0.03	-0.001	12	10	5d ⁶ s	93535.72(3/2)	163641.42(5/2)	pc *	
129	2540	1426.710	70091.32	1426.7122	0.0031	0.10	-0.002	8	20	5d ⁷	54811.51(3/2)	124902.73(3/2)	pc	Pt III
62	393	1426.886	70082.68	1426.8922	0.0030	0.30	-0.006	8	25	5d ⁶ s	78224.11(5/2)	148306.49(7/2)	pc	
39	100	1427.181	70068.20	1427.1812	0.0030	0.01	0.000	10	8	5d ⁶ s	79414.02(1/2)	149482.21(3/2)	pc	
305	885	1427.642	70045.58	1427.6450	0.0030	0.15	-0.003	9	13	5d ⁶ s	88233.47(13/2)	158278.89(11/2)	pc	
63	316	1427.735	70041.01	1427.7438	0.0040	0.44	-0.009	15	26	5d ⁶ s	82109.36(7/2)	152149.93(7/2)	pc *	
27	316	1427.735	70041.01	1427.7400	0.0032	0.25	-0.005	14	26	5d ⁶ s	82109.36(7/2)	152150.12(5/2)	pc	
22	61	1428.457	70005.61	1428.4629	0.0030	0.29	-0.006	14	20	5d ⁶ s	90668.48(11/2)	160673.80(9/2)	pc *	
33	136	1429.931	69933.43	1429.9329	0.0030	0.08	-0.002	12	17	5d ⁶ s	76309.84(3/2)	146243.19(5/2)	pc	
140	1057	1431.158	69873.49	1431.1594	0.0024	0.07	-0.001	16	27	5d ⁶ s	73763.04(9/2)	143636.45(7/2)	pc	
44	54	1431.485	69857.54	1431.4790	0.0050	-0.27	0.006	10	11	5d ⁶ s	101563.88(9/2)	171421.70(7/2)	pc *	
65	444	1431.671	69848.43	1431.6713	0.0040	0.00	0.000	15	15	5d ⁶ s	94803.68(9/2)	164652.12(7/2)	pc	2d ord
21	187	1432.798	69793.51	1432.7940	0.0030	-0.19	0.004	10	22	5d ⁶ s	72279.10(5/2)	142072.80(5/2)	pc *	
83	282	1432.821	69792.41	1432.8228	0.0030	0.11	-0.002	19	24	5d ⁶ s	84752.88(7/2)	154545.18(9/2)	pc	
33	33	1433.080	69779.79	1433.0837	0.0040	0.20	-0.004	7	15	5d ⁶ s	86573.46(3/2)	156353.05(1/2)	pc *	
33	93	1433.947	69737.57	1433.9471	0.0040	-0.01	0.000	12	18	5d ⁶ s	90008.92(7/2)	159746.50(5/2)	pc *	
22	142	1434.119	69729.23	1434.1267	0.0030	0.38	-0.008	10	10	5d ⁶ s	70622.67(1/2)	140351.51(3/2)	pc	
83	235	1434.510	69710.20	1434.5128	0.0030	0.12	-0.002	14	26	5d ⁶ s	82725.07(9/2)	152435.15(9/2)	pc	
20	41	1435.454	69664.36	1435.4535	0.0040	-0.04	0.001	9	24	5d ⁶ s	84752.88(7/2)	154417.27(5/2)	pc *	
63	258	1435.511	69661.60	1435.5181	0.0030	0.33	-0.007	10	23	5d ⁶ s	74847.75(5/2)	144509.01(3/2)	pc	
117	818	1436.426	69617.24	1436.4291	0.0024	0.15	-0.003	13	27	5d ⁶ s	73763.04(9/2)	143380.12(9/2)	pc	
85	238	1437.286	69575.57	1437.2968	0.0030	0.51	-0.011	14	21	5d ⁶ s	79993.07(9/2)	149568.12(9/2)	pc	
39	225	1437.827	69549.38	1437.8389	0.0030	0.55	-0.011	17	31	5d ⁶ s	81200.34(7/2)	150749.16(5/2)	pc *	
24	1247	1444.396	69233.07	1444.3994	0.0030	0.14	-0.003	9	24	5d ⁶ s	65172.43(9/2)	134405.36(7/2)	pc	400, 2d ord

99	911	1444.720	69217.55	1444.7268	0.0030	0.32	-0.007	12	17	5d ⁶ s	67233.76(3/2)	136451.00(5/2)	pc	
95	293	1444.807	69213.40	1444.8124	0.0030	0.26	-0.005	14	22	5d ⁶ s	83222.01(11/2)	152435.15(9/2)	pc	
16	145	1448.463	69038.70	1448.4531	0.0031	-0.47	0.010	13	25	5d ⁶ s	68196.37(7/2)	137235.54(7/2)	pc	*
131	1199	1448.512	69036.35	1448.5153	0.0030	0.15	-0.003	13	18	5d ⁶ s	87965.80(5/2)	157002.00(7/2)	pc	Pt III
115	787	1449.072	69009.71	1449.0739	0.0030	0.12	-0.002	7	18	5d ⁶ s	68462.66(11/2)	137472.25(11/2)	pc	
143	1183	1449.344	68996.72	1449.3496	0.0031	0.25	-0.005	9	24	5d ⁶ s	75407.94(11/2)	144404.40(9/2)	pc	
27	68	1449.512	68988.73	1449.5136	0.0031	0.07	-0.001	14	20	5d ⁶ s	74991.80(3/2)	143980.46(3/2)	pc	*
50	85	1449.764	68976.74	1449.7617	0.0030	-0.11	0.002	9	27	5d ⁶ s	89302.04(9/2)	158278.89(11/2)	pc	*
36	137	1449.857	68972.34	1449.8707	0.0041	0.67	-0.014	17	15	5d ⁶ s	96585.01(7/2)	165556.67(7/2)	pc	*
53	196	1450.347	68949.02	1450.3450	0.0030	-0.09	0.002	12	15	5d ⁶ s	96585.01(7/2)	165534.12(5/2)	pc	
32	156	1451.382	68899.85	1451.3854	0.0031	0.17	-0.003	10	22	5d ⁶ s	72279.10(5/2)	141178.79(5/2)	pc	
17	95	1452.733	68835.76	1452.7365	0.0040	0.15	-0.003	8	20	5d ⁶ s	74991.80(3/2)	143827.41(1/2)	pc	*
126	1933	1452.820	68831.64	1452.8276	0.0040	0.35	-0.007	8	7	5d ⁶ s	56071.44(1/2)	124902.73(3/2)	pc	
71	87	1452.970	68824.53	1452.9860	0.0060	0.74	-0.016	10	11	5d ⁶ s	96955.55(3/2)	165779.33(3/2)	pc	*
94	100	1454.517	68751.33	1454.5193	0.0030	0.09	-0.002	15	11	5d ⁶ s	101563.88(9/2)	170315.12(7/2)	pc	
62	286	1455.008	68728.13	1455.0053	0.0030	-0.14	0.003	16	24	5d ⁶ s	74908.18(7/2)	143636.45(7/2)	pc	
79	306	1455.035	68726.88	1455.0405	0.0030	0.27	-0.006	18	25	5d ⁶ s	78224.11(5/2)	146950.72(7/2)	pc	
125	122	1455.448	68707.38	1455.4497	0.0040	0.09	-0.002	6	9	5d ⁶ s	105528.04(7/2)	174235.33(5/2)	pc	
112	1338	1456.146	68674.44	1456.1525	0.0030	0.32	-0.007	7	24	5d ⁶ s	65172.43(9/2)	133846.55(11/2)	pc	
44	135	1456.877	68639.99	1456.8806	0.0030	0.18	-0.004	17	26	5d ⁶ s	82109.36(7/2)	150749.16(5/2)	pc	
176	2040	1460.290	68479.54	1460.2942	0.0030	0.18	-0.004	9	18	5d ⁶ s	65176.69(5/2)	133656.04(3/2)	pc	
204	1006	1460.451	68472.00	1460.4523	0.0030	0.06	-0.001	13	24	5d ⁶ s	74908.18(7/2)	143380.12(9/2)	pc	
761	3604	1460.932	68449.47	1460.9333	0.0040	0.08	-0.002	6	15	5d ⁶ s	45091.69(9/2)	113541.08(9/2)	pc	
41	54	1462.665	68368.36	1462.6774	0.0030	0.59	-0.013	14	31	5d ⁶ s	81200.34(7/2)	149568.12(9/2)	pc	*
18	83	1465.103	68254.61	1465.1021	0.0031	-0.02	0.000	12	25	5d ⁶ s	68196.37(7/2)	136451.00(5/2)	pc	*
728	2494	1465.227	68248.82	1465.2281	0.0030	0.06	-0.001	7	15	5d ⁶ s	69223.49(13/2)	137472.25(11/2)	pc	
71	270	1465.428	68239.44	1465.4276	0.0040	-0.03	0.001	13	15	5d ⁶ s	86573.46(3/2)	154812.93(3/2)	pc	
71	270	1465.428	68239.44	1465.4177	0.0040	-0.49	0.011	16	17	5d ⁶ s	90324.02(5/2)	158563.95(7/2)	pc	*
26	55	1466.285	68199.55	1466.2935	0.0040	0.38	-0.008	10	17	5d ⁶ s	76309.84(3/2)	144509.01(3/2)	pc	*
149	1691	1466.619	68184.03	1466.6191	0.0060	0.00	0.000	1	7	5d ⁶ s	56071.44(1/2)	124255.47(1/2)	pc	
80	140	1466.826	68174.40	1466.8219	0.0030	-0.20	0.004	17	18	5d ⁶ s	87965.80(5/2)	156140.40(5/2)	pc	
37	57	1467.194	68157.30	1467.1981	0.0031	0.18	-0.004	9	26	5d ⁶ s	82725.07(9/2)	150882.19(11/2)	pc	*
78	137	1467.239	68155.23	1467.2389	0.0030	0.00	0.000	10	19	5d ⁶ s	81326.99(5/2)	149482.21(3/2)	pc	
55	129	1469.111	68068.38	1469.1122	0.0040	0.06	-0.001	16	15	5d ⁶ s	94803.68(9/2)	162872.01(7/2)	pc	* Pt III
232	633	1469.708	68040.72	1469.7157	0.0030	0.35	-0.007	19	26	5d ⁶ s	82725.07(9/2)	150765.44(7/2)	pc	
21	106	1470.949	67983.33	1470.9373	0.0030	-0.54	0.012	16	27	5d ⁶ s	89302.04(9/2)	157285.90(9/2)	pc	*
22	129	1471.183	67972.52	1471.1901	0.0030	0.34	-0.007	13	24	5d ⁶ s	75407.94(11/2)	143380.12(9/2)	pc	
236	2098	1471.907	67939.07	1471.9107	0.0030	0.17	-0.004	6	17	5d ⁶ s	52223.37(5/2)	120162.27(5/2)	pc	
69	1208	1472.855	67895.35	1472.8470	0.0030	-0.37	0.008	9	25	5d ⁶ s	68196.37(7/2)	136092.09(9/2)	pc	2d ord
60	636	1473.010	67888.22	1473.0119	0.0051	0.10	-0.002	2	15	5d ⁶ s	54407.02(3/2)	122295.13(1/2)	pc	
38	57	1473.392	67870.61	1473.3981	0.0060	0.29	-0.006	7	10	5d ⁶ s	81998.59(1/2)	149868.90(1/2)	pc	*
143	534	1474.069	67839.45	1474.0734	0.0031	0.22	-0.005	12	25	5d ⁶ s	68196.37(7/2)	136035.60(7/2)	pc	
447	2079	1474.688	67810.96	1474.6972	0.0031	0.43	-0.009	6	18	5d ⁶ s	50953.00(7/2)	118763.53(5/2)	pc	

15	31	1475.711	67763.94	1475.7163	0.0030	0.24	-0.005	13	25	5d ⁶ s	78224.11(5/2)	145987.82(7/2)	pc *
352	1163	1478.639	67629.75	1478.6461	0.0030	0.32	-0.007	9	18	5d ⁶ s	68462.66(11/2)	136092.09(9/2)	pc
81	73	1478.751	67624.66	1478.7530	0.0030	0.11	-0.002	15	31	5d ⁶ s	81200.34(7/2)	148824.89(5/2)	pc
140	97	1479.062	67610.41	1479.0621	0.0030	-0.01	0.000	9	20	5d ⁶ s	90668.48(11/2)	158278.89(11/2)	pc
93	830	1480.768	67532.54	1480.7679	0.0030	0.01	0.000	12	23	5d ⁶ s	60955.41(7/2)	128487.94(7/2)	pc
25	129	1481.362	67505.46	1481.3571	0.0060	-0.21	0.005	12	11	5d ⁶ s	96904.36(5/2)	164410.03(3/2)	pc *
24	713	1481.632	67493.15	1481.6331	0.0041	0.05	-0.001	6	10	5d ⁶ s	70622.67(1/2)	138115.76(1/2)	pc 2d ord
102	1517	1481.843	67483.52	1481.8410	0.0051	-0.10	0.002	2	20	5d ⁷	54811.51(3/2)	122295.13(1/2)	pc
41	1517	1481.843	67483.52	1481.8409	0.0041	-0.11	0.002	10	10	5d ⁶ s	81998.59(1/2)	149482.21(3/2)	pc 300
54	177	1483.751	67396.73	1483.7443	0.0040	-0.33	0.007	15	24	5d ⁶ s	84752.88(7/2)	152149.93(7/2)	pc *
574	4399	1484.516	67362.01	1484.5167	0.0040	0.02	0.000	5	15	5d ⁶ s	45091.69(9/2)	112453.68(7/2)	pc
23	114	1484.876	67345.70	1484.8650	0.0040	-0.49	0.011	10	17	5d ⁶ s	67233.76(3/2)	134579.95(5/2)	pc *
55	329	1487.684	67218.59	1487.6839	0.0030	0.01	0.000	14	22	5d ⁶ s	72279.10(5/2)	139497.68(5/2)	pc
77	274	1490.174	67106.27	1490.1763	0.0030	0.12	-0.003	8	31	5d ⁶ s	81200.34(7/2)	148306.49(7/2)	pc
53	160	1490.738	67080.88	1490.7351	0.0031	-0.12	0.003	10	20	5d ⁶ s	74991.80(3/2)	142072.80(5/2)	pc
317	275	1491.133	67063.09	1491.1339	0.0041	0.03	-0.001	9	8	5d ⁶ s	112339.02(9/2)	179402.08(7/2)	pc
103	1890	1492.976	66980.33	1492.9940	0.0040	0.82	-0.018	8	19	5d ⁶ s	81326.99(5/2)	148306.49(7/2)	pc * 400, m(Pt III)
224	2295	1493.176	66971.32	1493.1783	0.0030	0.09	-0.002	4	18	5d ⁶ s	68462.66(11/2)	135433.89(13/2)	pc
94	141	1493.247	66968.15	1493.2498	0.0030	0.12	-0.003	13	16	5d ⁶ s	91590.90(7/2)	158558.94(9/2)	pc
152	454	1493.488	66957.36	1493.4811	0.0030	-0.30	0.007	18	21	5d ⁶ s	79993.07(9/2)	146950.72(7/2)	pc
192	777	1495.332	66874.79	1495.3332	0.0031	0.06	-0.001	11	21	5d ⁶ s	79993.07(9/2)	146867.79(11/2)	pc
133	412	1495.866	66850.90	1495.8682	0.0030	0.10	-0.002	7	22	5d ⁶ s	83222.01(11/2)	150072.82(13/2)	pc
87	245	1496.042	66843.06	1496.0419	0.0030	0.01	0.000	14	26	5d ⁶ s	82725.07(9/2)	149568.12(9/2)	pc
27	330	1497.328	66785.61	1497.3237	0.0050	-0.22	0.005	9	20	5d ⁶ s	74991.80(3/2)	141777.63(3/2)	pc * 2d ord
147	775	1497.827	66763.38	1497.8296	0.0040	0.11	-0.003	14	11	5d ⁶ s	101563.88(9/2)	168327.15(7/2)	pc 2d ord
40	116	1498.670	66725.83	1498.6672	0.0040	-0.12	0.003	17	15	5d ⁶ s	86573.46(3/2)	153299.41(3/2)	pc
85	160	1498.913	66715.02	1498.9013	0.0031	-0.52	0.012	15	26	5d ⁶ s	82109.36(7/2)	148824.89(5/2)	pc
31	126	1501.104	66617.65	1501.1087	0.0030	0.23	-0.005	16	20	5d ⁶ s	90668.48(11/2)	157285.90(9/2)	pc
68	1275	1502.852	66540.14	1502.8519	0.0030	-0.01	0.000	6	17	5d ⁶ s	52223.37(5/2)	118763.53(5/2)	pc
178	571	1507.253	66345.85	1507.2475	0.0030	-0.26	0.006	14	22	5d ⁶ s	83222.01(11/2)	149568.12(9/2)	pc
97	478	1507.595	66330.83	1507.5898	0.0030	-0.21	0.005	10	23	5d ⁶ s	74847.75(5/2)	141178.79(5/2)	pc
420	472	1507.990	66313.44	1507.9832	0.0040	-0.30	0.007	10	4	5d ⁶ s	112123.89(7/2)	178437.63(9/2)	pc
268	242	1508.470	66292.33	1508.4660	0.0040	-0.18	0.004	10	9	5d ⁶ s	105528.04(7/2)	171820.55(9/2)	pc
112	443	1508.649	66284.47	1508.6393	0.0030	-0.43	0.010	10	25	5d ⁶ s	78224.11(5/2)	144509.01(3/2)	pc
30	114	1509.076	66265.71	1509.0604	0.0040	-0.69	0.016	11	15	5d ⁶ s	94803.68(9/2)	161070.08(11/2)	pc *
53	3805	1510.339	66210.28	1510.3691	0.0040	1.30	-0.030	9	25	5d ⁶ s	68196.37(7/2)	134405.36(7/2)	pc * 500, m
550	3805	1510.339	66210.28	1510.3366	0.0040	-0.12	0.003	4	15	5d ⁶ s	69223.49(13/2)	135433.89(13/2)	pc
74	269	1510.645	66196.88	1510.6393	0.0031	-0.25	0.006	8	26	5d ⁶ s	82109.36(7/2)	148306.49(7/2)	pc
107	337	1510.814	66189.49	1510.8129	0.0041	-0.04	0.001	9	8	5d ⁶ s	112339.02(9/2)	178528.56(7/2)	pc
74	1169	1512.857	66100.11	1512.8669	0.0050	0.44	-0.010	13	16	5d ⁶ s	91590.90(7/2)	157690.57(5/2)	pc * 600, 2d ord
273	602	1512.887	66098.79	1512.8913	0.0040	0.19	-0.004	10	8	5d ⁶ s	112339.02(9/2)	178437.63(9/2)	pc
26	76	1514.853	66013.00	1514.8632	0.0040	0.44	-0.010	19	24	5d ⁶ s	84752.88(7/2)	150765.44(7/2)	pc *
78	313	1515.272	65994.77	1515.2752	0.0050	0.16	-0.004	12	6	5d ⁶ s	98415.42(3/2)	164410.03(3/2)	pc

93	151	1515.537	65983.22	1515.5336	0.0040	-0.14	0.003	12	11	5d ⁶ s	101563.88(9/2)	167547.24(9/2)	pc	
27	124	1519.052	65830.54	1519.0467	0.0070	-0.22	0.005	17	6	5d ⁶ s	87468.65(1/2)	153299.41(3/2)	pc	*
23	94	1520.612	65762.99	1520.6128	0.0040	0.03	-0.001	10	17	5d ⁶ s	76309.84(3/2)	142072.80(5/2)	pc	*
52	163	1520.740	65757.44	1520.7324	0.0040	-0.35	0.008	15	17	5d ⁶ s	83067.10(3/2)	148824.89(5/2)	pc	
83	1316	1520.793	65755.17	1520.7910	0.0030	-0.09	0.002	6	15	5d ⁶ s	54407.02(3/2)	120162.27(5/2)	pc	
62	185	1520.909	65750.15	1520.9037	0.0041	-0.23	0.005	18	31	5d ⁶ s	81200.34(7/2)	146950.72(7/2)	pc	*
384	1226	1521.841	65709.89	1521.8400	0.0040	-0.04	0.001	12	13	5d ⁶ s	88233.47(13/2)	153943.40(11/2)	pc	
116	686	1522.201	65694.35	1522.1984	0.0040	-0.11	0.003	8	23	5d ⁶ s	74847.75(5/2)	140542.20(7/2)	pc	
325	3540	1523.379	65643.56	1523.3773	0.0033	-0.05	0.001	8	24	5d ⁶ s	65172.43(9/2)	130816.05(9/2)	pc	
236	341	1523.601	65633.99	1523.5976	0.0040	-0.14	0.003	16	11	5d ⁶ s	101563.88(9/2)	167198.01(7/2)	pc	
43	323	1526.636	65503.49	1526.6299	0.0031	-0.27	0.006	10	23	5d ⁶ s	74847.75(5/2)	140351.51(3/2)	pc	Pt III
308	4632	1527.020	65487.05	1527.0168	0.0040	-0.12	0.003	3	17	5d ⁶ s	52223.37(5/2)	117710.54(3/2)	pc	
43	130	1527.135	65482.10	1527.1388	0.0040	0.16	-0.004	7	10	5d ⁶ s	81998.59(1/2)	147480.52(1/2)	pc	
249	375	1527.580	65463.01	1527.5777	0.0031	-0.11	0.003	17	15	5d ⁶ s	94803.68(9/2)	160266.80(7/2)	pc	
197	492	1528.320	65431.30	1528.3192	0.0030	-0.06	0.001	7	13	5d ⁶ s	88233.47(13/2)	153664.83(13/2)	pc	
436	3724	1529.432	65383.77	1529.4285	0.0030	-0.13	0.003	7	18	5d ⁶ s	68462.66(11/2)	133846.55(11/2)	pc	
27	100	1529.997	65359.62	1529.9946	0.0030	-0.09	0.002	10	20	5d ⁶ s	74991.80(3/2)	140351.51(3/2)	pc	
71	2548	1530.206	65350.66	1530.2039	0.0030	-0.11	0.002	6	20	5d ⁷	54811.51(3/2)	120162.27(5/2)	pc	
53	108	1532.744	65242.46	1532.7283	0.0031	-0.67	0.016	19	27	5d ⁶ s	89302.04(9/2)	154545.18(9/2)	pc	*
30	346	1533.261	65220.46	1533.2591	0.0030	-0.09	0.002	8	22	5d ⁶ s	72279.10(5/2)	137499.65(3/2)	pc	
15	79	1534.104	65184.62	1534.1007	0.0040	-0.15	0.004	12	15	5d ⁶ s	96585.01(7/2)	161769.77(9/2)	pc	*
35	104	1537.438	65043.29	1537.4480	0.0040	0.43	-0.010	12	31	5d ⁶ s	81200.34(7/2)	146243.19(5/2)	pc	*
10	150	1538.233	65009.68	1538.2336	0.0050	0.05	-0.001	3	24	5d ⁶ s	65172.43(9/2)	130182.06(11/2)	pc	
125	646	1539.490	64956.56	1539.4931	0.0030	0.12	-0.003	13	22	5d ⁶ s	72279.10(5/2)	137235.54(7/2)	pc	
161	413	1540.449	64916.13	1540.4474	0.0040	-0.08	0.002	12	19	5d ⁶ s	81326.99(5/2)	146243.19(5/2)	pc	
35	121	1542.230	64841.15	1542.2253	0.0040	-0.21	0.005	18	26	5d ⁶ s	82109.36(7/2)	146950.72(7/2)	pc	*
38	475	1542.847	64815.25	1542.8416	0.0040	-0.21	0.005	7	27	5d ⁶ s	73763.04(9/2)	138578.51(9/2)	pc	* 200
102	475	1542.847	64815.25	1542.8470	0.0030	0.01	0.000	14	24	5d ⁶ s	84752.88(7/2)	149568.12(9/2)	pc	
36	118	1543.507	64787.51	1543.5082	0.0030	0.04	-0.001	13	31	5d ⁶ s	81200.34(7/2)	145987.82(7/2)	pc	
70	226	1543.690	64779.84	1543.6830	0.0030	-0.30	0.007	12	26	5d ⁶ s	82725.07(9/2)	147505.21(11/2)	pc	
14	145	1546.793	64649.87	1546.7920	0.0030	-0.06	0.001	14	23	5d ⁶ s	74847.75(5/2)	139497.68(5/2)	pc	
10	68	1546.985	64641.86	1546.9973	0.0040	0.51	-0.012	12	27	5d ⁶ s	89302.04(9/2)	153943.40(11/2)	pc	*
214	2885	1547.440	64622.86	1547.4350	0.0040	-0.20	0.005	7	15	5d ⁶ s	69223.49(13/2)	133846.55(11/2)	pc	
113	6106	1548.196	64591.31	1548.2393	0.0031	1.81	-0.043	14	24	5d ⁶ s	74908.18(7/2)	139497.68(5/2)	pc	* 2000, m(C IV)
59	294	1550.251	64505.68	1550.2463	0.0031	-0.19	0.005	14	20	5d ⁶ s	74991.80(3/2)	139497.68(5/2)	pc	
122	687	1552.524	64411.26	1552.5217	0.0030	-0.08	0.002	9	21	5d ⁶ s	79993.07(9/2)	144404.40(9/2)	pc	
94	214	1553.754	64360.24	1553.7486	0.0040	-0.23	0.006	6	13	5d ⁶ s	88233.47(13/2)	152593.95(13/2)	pc	
4	100	1553.842	64356.60	1553.8443	0.0041	0.09	-0.002	6	15	5d ⁶ s	54407.02(3/2)	118763.53(5/2)	pc	*
106	362	1555.618	64283.13	1555.6165	0.0030	-0.07	0.002	12	22	5d ⁶ s	83222.01(11/2)	147505.21(11/2)	pc	
58	148	1557.023	64225.12	1557.0102	0.0040	-0.53	0.013	18	26	5d ⁶ s	82725.07(9/2)	146950.72(7/2)	pc	*
138	418	1558.025	64183.82	1558.0174	0.0040	-0.31	0.008	15	18	5d ⁶ s	87965.80(5/2)	152149.93(7/2)	pc	
110	1394	1558.316	64171.84	1558.3144	0.0030	-0.07	0.002	12	22	5d ⁶ s	72279.10(5/2)	136451.00(5/2)	pc	
46	336	1560.736	64072.32	1560.7439	0.0030	0.31	-0.008	15	24	5d ⁶ s	84752.88(7/2)	148824.89(5/2)	pc	

82	658	1561.490	64041.39	1561.4833	0.0030	-0.28	0.007	10	17	5d ⁶ s	76309.84(3/2)	140351.51(3/2)	pc	
140	277	1562.433	64002.72	1562.4336	0.0040	0.00	0.000	15	18	5d ⁶ s	90008.92(7/2)	154011.64(5/2)	pc	
40	125	1562.671	63993.00	1562.6760	0.0050	0.21	-0.005	17	11	5d ⁶ s	101563.88(9/2)	165556.67(7/2)	pc	*
111	396	1563.695	63951.09	1563.6956	0.0030	0.02	-0.001	12	22	5d ⁶ s	83222.01(11/2)	147173.08(9/2)	pc	
41	47	1564.542	63916.48	1564.5381	0.0070	-0.15	0.004	12	11	5d ⁶ s	96904.36(5/2)	160820.99(3/2)	pc	*
85	550	1565.478	63878.26	1565.4729	0.0030	-0.20	0.005	13	26	5d ⁶ s	82109.36(7/2)	145987.82(7/2)	pc	
120	293	1565.630	63872.05	1565.6277	0.0040	-0.10	0.002	12	15	5d ⁶ s	91821.76(5/2)	155693.90(7/2)	pc	
33	57	1566.574	63833.55	1566.5768	0.0060	0.10	-0.003	13	11	5d ⁶ s	96955.55(3/2)	160788.99(5/2)	pc	*
71	88	1568.504	63755.02	1568.4982	0.0041	-0.23	0.006	13	15	5d ⁶ s	94803.68(9/2)	158558.94(9/2)	pc	*
117	145	1568.812	63742.52	1568.8121	0.0051	0.03	-0.001	10	3	5d ⁶ s	114695.13(7/2)	178437.63(9/2)	pc	Pt V
78	267	1569.634	63709.10	1569.6317	0.0030	-0.11	0.003	7	27	5d ⁶ s	73763.04(9/2)	137472.25(11/2)	pc	
154	784	1571.197	63645.75	1571.1961	0.0030	-0.02	0.001	11	22	5d ⁶ s	83222.01(11/2)	146867.79(11/2)	pc	
100	583	1571.258	63643.28	1571.2551	0.0030	-0.11	0.003	16	21	5d ⁶ s	79993.07(9/2)	143636.45(7/2)	pc	
100	409	1573.477	63553.53	1573.4745	0.0030	-0.09	0.002	8	24	5d ⁶ s	84752.88(7/2)	148306.49(7/2)	pc	
48	166	1576.933	63414.24	1576.9264	0.0040	-0.26	0.006	15	9	5d ⁶ s	105528.04(7/2)	168942.54(9/2)	pc	
127	626	1577.616	63386.79	1577.6092	0.0031	-0.27	0.007	13	21	5d ⁶ s	79993.07(9/2)	143380.12(9/2)	pc	
85	598	1577.790	63379.78	1577.7912	0.0030	0.03	-0.001	13	23	5d ⁶ s	74847.75(5/2)	138227.49(5/2)	pc	
102	1355	1578.149	63365.38	1578.1464	0.0043	-0.10	0.002	7	24	5d ⁶ s	65172.43(9/2)	128537.91(9/2)	pc	
253	4111	1579.394	63315.44	1579.3918	0.0030	-0.08	0.002	12	24	5d ⁶ s	65172.43(9/2)	128487.94(7/2)	pc	
26	264	1579.500	63311.18	1579.4980	0.0032	-0.07	0.002	12	18	5d ⁶ s	65176.69(5/2)	128487.94(7/2)	pc	
11	106	1579.694	63303.39	1579.6910	0.0040	-0.12	0.003	3	15	5d ⁶ s	54407.02(3/2)	117710.54(3/2)	pc	
30	132	1579.896	63295.30	1579.8925	0.0070	-0.14	0.004	7	15	5d ⁶ s	86573.46(3/2)	149868.90(1/2)	pc	*
58	2331	1580.394	63275.36	1580.4051	0.0040	0.44	-0.011	12	20	5d ⁶ s	90668.48(11/2)	153943.40(11/2)	pc	* 500, bl(O IV 2d ord)
22	193	1580.713	63262.61	1580.7091	0.0041	-0.14	0.003	13	26	5d ⁶ s	82725.07(9/2)	145987.82(7/2)	pc	*
77	576	1581.382	63235.83	1581.3855	0.0030	0.14	-0.004	13	20	5d ⁶ s	74991.80(3/2)	138227.49(5/2)	pc	
96	506	1582.178	63203.99	1582.1768	0.0031	-0.07	0.002	9	31	5d ⁶ s	81200.34(7/2)	144404.40(9/2)	pc	
44	122	1582.867	63176.51	1582.8772	0.0050	0.42	-0.011	12	17	5d ⁶ s	83067.10(3/2)	146243.19(5/2)	pc	*
11	52	1583.086	63167.75	1583.0894	0.0040	0.12	-0.003	14	17	5d ⁶ s	90324.02(5/2)	153491.65(7/2)	pc	*
509	2229	1587.393	62996.38	1587.3936	0.0040	0.03	-0.001	7	20	5d ⁶ s	90668.48(11/2)	153664.83(13/2)	pc	
47	145	1589.606	62908.69	1589.6039	0.0040	-0.06	0.002	10	15	5d ⁶ s	86573.46(3/2)	149482.21(3/2)	pc	
10	176	1589.844	62899.25	1589.8497	0.0040	0.22	-0.006	3	20	5d ⁷	54811.51(3/2)	117710.54(3/2)	pc	
53	248	1591.920	62817.21	1591.9173	0.0050	-0.12	0.003	7	10	5d ⁶ s	93535.72(3/2)	156353.05(1/2)	pc	
40	190	1592.778	62783.41	1592.7786	0.0040	0.05	-0.001	17	18	5d ⁶ s	87965.80(5/2)	150749.16(5/2)	pc	
23	115	1596.087	62653.21	1596.0807	0.0041	-0.26	0.007	14	19	5d ⁶ s	81326.99(5/2)	143980.46(3/2)	pc	*
116	555	1596.197	62648.91	1596.2017	0.0040	0.19	-0.005	9	13	5d ⁶ s	88233.47(13/2)	150882.19(11/2)	pc	
306	4123	1596.944	62619.59	1596.9423	0.0040	-0.08	0.002	8	25	5d ⁶ s	68196.37(7/2)	130816.05(9/2)	pc	
7	183	1597.645	62592.14	1597.6425	0.0050	-0.08	0.002	2	13	5d ⁶ s	88233.47(13/2)	150825.70(15/2)	pc	Pt V
64	1620	1597.754	62587.87	1597.7482	0.0041	-0.21	0.005	6	18	5d ⁶ s	50953.00(7/2)	113541.08(9/2)	pc	
124	1363	1600.461	62482.00	1600.4552	0.0031	-0.22	0.006	16	15	5d ⁶ s	94803.68(9/2)	157285.90(9/2)	pc	Pt III
56	201	1601.637	62436.10	1601.6372	0.0030	-0.01	0.000	16	31	5d ⁶ s	81200.34(7/2)	143636.45(7/2)	pc	
104	663	1602.043	62420.29	1602.0454	0.0031	0.08	-0.002	12	24	5d ⁶ s	84752.88(7/2)	147173.08(9/2)	pc	400
116	663	1602.043	62420.29	1602.0317	0.0050	-0.45	0.012	15	16	5d ⁶ s	91590.90(7/2)	154011.64(5/2)	pc	* 300
62	186	1602.565	62399.95	1602.5576	0.0052	-0.30	0.008	7	6	5d ⁶ s	87468.65(1/2)	149868.90(1/2)	pc	

109	1107	1602.876	62387.85	1602.8776	0.0031	0.06	-0.001	13	23	5d ⁶ s	74847.75(5/2)	137235.54(7/2)	pc	1500, Pt III
112	1581	1603.765	62353.28	1603.7620	0.0041	-0.11	0.003	8	18	5d ⁶ s	68462.66(11/2)	130816.05(9/2)	pc	
119	1232	1604.391	62328.96	1604.3882	0.0030	-0.09	0.002	9	27	5d ⁶ s	73763.04(9/2)	136092.09(9/2)	pc	
199	2440	1604.432	62327.33	1604.4318	0.0030	-0.03	0.001	13	24	5d ⁶ s	74908.18(7/2)	137235.54(7/2)	pc	
15	86	1604.891	62309.53	1604.8926	0.0040	0.07	-0.002	16	19	5d ⁶ s	81326.99(5/2)	143636.45(7/2)	pc *	
208	2901	1605.261	62295.16	1605.2641	0.0030	0.11	-0.003	9	26	5d ⁶ s	82109.36(7/2)	144404.40(9/2)	pc	
57	978	1605.377	62290.67	1605.3795	0.0050	0.10	-0.003	13	11	5d ⁶ s	96904.36(5/2)	159194.93(3/2)	pc	
66	444	1608.241	62179.74	1608.2399	0.0030	-0.04	0.001	13	31	5d ⁶ s	81200.34(7/2)	143380.12(9/2)	pc	
88	561	1609.235	62141.34	1609.2431	0.0050	0.33	-0.009	15	18	5d ⁶ s	90008.92(7/2)	152149.93(7/2)	pc *	
35	561	1609.235	62141.34	1609.2384	0.0040	0.15	-0.004	14	18	5d ⁶ s	90008.92(7/2)	152150.12(5/2)	pc	
66	593	1610.312	62099.78	1610.3083	0.0050	-0.13	0.003	2	8	5d ⁶ s	79414.02(1/2)	141513.93(1/2)	pc	
159	1872	1611.233	62064.27	1611.2319	0.0030	-0.04	0.001	7	24	5d ⁶ s	75407.94(11/2)	137472.25(11/2)	pc	
70	94	1612.404	62019.20	1612.4038	0.0051	0.00	0.000	12	9	5d ⁶ s	105528.04(7/2)	167547.24(9/2)	pc *	
164	381	1613.582	61973.93	1613.5817	0.0040	0.00	0.000	13	15	5d ⁶ s	96585.01(7/2)	158558.94(9/2)	pc	
21	286	1614.657	61932.66	1614.6533	0.0030	-0.14	0.004	9	23	5d ⁶ s	74847.75(5/2)	136780.55(5/2)	pc	
296	1606	1614.839	61925.68	1614.8445	0.0040	0.22	-0.006	6	20	5d ⁶ s	90668.48(11/2)	152593.95(13/2)	pc	
51	303	1615.050	61917.60	1615.0484	0.0030	-0.05	0.001	13	17	5d ⁶ s	76309.84(3/2)	138227.49(5/2)	pc	
82	1702	1616.916	61846.12	1616.9156	0.0030	-0.03	0.001	9	23	5d ⁶ s	60955.41(7/2)	122801.56(7/2)	pc	
81	332	1617.091	61839.43	1617.0932	0.0040	0.08	-0.002	7	13	5d ⁶ s	88233.47(13/2)	150072.82(13/2)	pc	
19	88	1617.447	61825.82	1617.4399	0.0041	-0.28	0.007	14	17	5d ⁶ s	90324.02(5/2)	152150.12(5/2)	pc *	
25	53	1618.992	61766.84	1618.9961	0.0040	0.17	-0.005	14	20	5d ⁶ s	90668.48(11/2)	152435.15(9/2)	pc *	
63	267	1621.293	61679.15	1621.2886	0.0030	-0.18	0.005	9	26	5d ⁶ s	82725.07(9/2)	144404.40(9/2)	pc	
59	468	1623.897	61580.26	1623.8999	0.0040	0.11	-0.003	9	27	5d ⁶ s	89302.04(9/2)	150882.19(11/2)	pc	
50	496	1624.894	61542.46	1624.8849	0.0040	-0.36	0.010	12	24	5d ⁶ s	74908.18(7/2)	136451.00(5/2)	pc *	
115	3580	1625.999	61500.66	1625.9983	0.0050	-0.01	0.000	5	18	5d ⁶ s	50953.00(7/2)	112453.68(7/2)	pc	
116	1429	1627.092	61459.33	1627.0957	0.0030	0.13	-0.003	12	20	5d ⁶ s	74991.80(3/2)	136451.00(5/2)	pc	
21	100	1627.281	61452.22	1627.2850	0.0090	0.17	-0.004	12	4	5d ⁶ s	102957.98(1/2)	164410.03(3/2)	pc *	
95	951	1629.276	61376.96	1629.2764	0.0030	0.02	0.000	9	22	5d ⁶ s	72279.10(5/2)	133656.04(3/2)	pc	
79	434	1632.030	61273.40	1632.0252	0.0030	-0.17	0.004	14	25	5d ⁶ s	78224.11(5/2)	139497.68(5/2)	pc	
19	119	1635.927	61127.41	1635.9270	0.0040	-0.01	0.000	12	24	5d ⁶ s	74908.18(7/2)	136035.60(7/2)	pc	
29	137	1641.025	60937.51	1641.0260	0.0040	0.02	-0.001	10	8	5d ⁶ s	79414.02(1/2)	140351.51(3/2)	pc	
91	674	1641.729	60911.39	1641.7292	0.0031	0.00	0.000	16	26	5d ⁶ s	82725.07(9/2)	143636.45(7/2)	pc	
38	245	1642.778	60872.50	1642.7790	0.0040	0.04	-0.001	10	31	5d ⁶ s	81200.34(7/2)	142072.80(5/2)	pc	
31	108	1646.362	60739.98	1646.3550	0.0040	-0.26	0.007	17	18	5d ⁶ s	90008.92(7/2)	150749.16(5/2)	pc *	
138	336	1647.424	60700.84	1647.4221	0.0040	-0.06	0.002	16	15	5d ⁶ s	96585.01(7/2)	157285.90(9/2)	pc	
33	204	1647.879	60684.06	1647.8766	0.0031	-0.10	0.003	9	24	5d ⁶ s	75407.94(11/2)	136092.09(9/2)	pc	
36	181	1648.682	60654.51	1648.6674	0.0031	-0.53	0.015	13	26	5d ⁶ s	82725.07(9/2)	143380.12(9/2)	pc *	
51	718	1653.696	60470.62	1653.6933	0.0040	-0.09	0.002	9	17	5d ⁶ s	76309.84(3/2)	136780.55(5/2)	pc	
23	280	1654.245	60450.52	1654.2422	0.0070	-0.12	0.003	9	19	5d ⁶ s	81326.99(5/2)	141777.63(3/2)	pc *	
61	145	1657.598	60328.25	1657.6003	0.0050	0.07	-0.002	15	15	5d ⁶ s	91821.76(5/2)	152149.93(7/2)	pc *	
101	1571	1658.606	60291.59	1658.6068	0.0030	0.02	-0.001	12	25	5d ⁶ s	68196.37(7/2)	128487.94(7/2)	pc	
37	396	1662.292	60157.89	1662.2864	0.0030	-0.21	0.006	13	22	5d ⁶ s	83222.01(11/2)	143380.12(9/2)	pc	
257	3783	1664.349	60083.55	1664.3499	0.0040	0.03	-0.001	7	27	5d ⁶ s	73763.04(9/2)	133846.55(11/2)	pc	

442	5939	1665.946	60025.96	1665.9460	0.0040	0.01	0.000	4	24	5d ⁶ s	75407.94(11/2)	135433.89(13/2)	pc
44	131	1673.249	59763.96	1673.2567	0.0041	0.27	-0.008	17	10	5d ⁶ s	93535.72(3/2)	153299.41(3/2)	pc
60	146	1673.878	59741.52	1673.8785	0.0040	0.03	-0.001	19	15	5d ⁶ s	94803.68(9/2)	154545.18(9/2)	pc
80	225	1675.130	59696.84	1675.1356	0.0050	0.18	-0.005	10	4	5d ⁶ s	112123.89(7/2)	171820.55(9/2)	pc
11	156	1675.838	59671.64	1675.8343	0.0050	-0.13	0.004	10	24	5d ⁶ s	74908.18(7/2)	134579.95(5/2)	pc *
22	442	1683.005	59417.54	1683.0100	0.0091	0.19	-0.005	12	5	5d ⁶ s	104992.68(5/2)	164410.03(3/2)	pc * 100, bl
59	199	1683.385	59404.13	1683.3786	0.0040	-0.21	0.006	7	20	5d ⁶ s	90668.48(11/2)	150072.82(13/2)	pc
73	565	1687.034	59275.63	1687.0367	0.0040	0.10	-0.003	8	25	5d ⁶ s	78224.11(5/2)	137499.65(3/2)	pc
43	83	1688.166	59235.88	1688.1614	0.0070	-0.16	0.005	17	11	5d ⁶ s	96904.36(5/2)	156140.40(5/2)	pc *
52	92	1689.906	59174.89	1689.9161	0.0050	0.35	-0.010	19	16	5d ⁶ s	91590.90(7/2)	150765.44(7/2)	pc *
34	116	1690.395	59157.78	1690.3811	0.0050	-0.48	0.014	17	16	5d ⁶ s	91590.90(7/2)	150749.16(5/2)	pc *
25	262	1694.583	59011.57	1694.5870	0.0030	0.14	-0.004	13	25	5d ⁶ s	78224.11(5/2)	137235.54(7/2)	pc
93	331	1696.540	58943.51	1696.5347	0.0040	-0.17	0.005	19	15	5d ⁶ s	91821.76(5/2)	150765.44(7/2)	pc
9	58	1698.270	58883.44	1698.2664	0.0040	-0.14	0.004	16	24	5d ⁶ s	84752.88(7/2)	143636.45(7/2)	pc *
18	124	1700.446	58808.09	1700.4405	0.0040	-0.20	0.006	9	23	5d ⁶ s	74847.75(5/2)	133656.04(3/2)	pc
74	1219	1705.711	58626.58	1705.6917	0.0040	-0.66	0.019	13	24	5d ⁶ s	84752.88(7/2)	143380.12(9/2)	pc * 500, Pt III
9	216	1711.194	58438.72	1711.1972	0.0040	0.10	-0.003	7	24	5d ⁶ s	75407.94(11/2)	133846.55(11/2)	pc *
20	108	1717.421	58226.83	1717.4196	0.0040	-0.06	0.002	12	25	5d ⁶ s	78224.11(5/2)	136451.00(5/2)	pc
124	1125	1718.112	58203.42	1718.1195	0.0040	0.25	-0.007	12	27	5d ⁶ s	89302.04(9/2)	147505.21(11/2)	pc
34	96	1724.844	57976.25	1724.8489	0.0061	0.16	-0.005	15	8	5d ⁶ s	112339.02(9/2)	170315.12(7/2)	pc *
39	197	1725.319	57960.30	1725.3228	0.0050	0.13	-0.004	19	15	5d ⁶ s	96585.01(7/2)	154545.18(9/2)	pc *
9	93	1729.762	57811.43	1729.7600	0.0040	-0.05	0.002	12	25	5d ⁶ s	78224.11(5/2)	136035.60(7/2)	pc *
29	1509	1729.864	57808.01	1729.8609	0.0041	-0.11	0.003	6	23	5d ⁶ s	60955.41(7/2)	118763.53(5/2)	pc
25	263	1734.035	57668.97	1734.0348	0.0042	0.01	0.000	8	17	5d ⁶ s	67233.76(3/2)	124902.73(3/2)	pc
27	142	1734.654	57648.38	1734.6450	0.0051	-0.30	0.009	18	27	5d ⁶ s	89302.04(9/2)	146950.72(7/2)	pc *
37	1200	1735.236	57629.06	1735.2335	0.0040	-0.07	0.002	9	24	5d ⁶ s	65172.43(9/2)	122801.56(7/2)	pc
99	3053	1735.359	57624.95	1735.3617	0.0040	0.08	-0.002	9	18	5d ⁶ s	65176.69(5/2)	122801.56(7/2)	pc
126	935	1737.148	57565.63	1737.1441	0.0040	-0.12	0.004	11	27	5d ⁶ s	89302.04(9/2)	146867.79(11/2)	pc
9	106	1743.792	57346.29	1743.7947	0.0040	0.09	-0.003	9	17	5d ⁶ s	76309.84(3/2)	133656.04(3/2)	pc
19	1072	1757.453	56900.54	1757.4538	0.0050	0.04	-0.001	13	19	5d ⁶ s	81326.99(5/2)	138227.49(5/2)	pc * 200, m
23	131	1765.948	56626.82	1765.9512	0.0060	0.12	-0.004	18	17	5d ⁶ s	90324.02(5/2)	146950.72(7/2)	pc *
31	264	1772.087	56430.64	1772.0889	0.0040	0.07	-0.002	14	17	5d ⁶ s	83067.10(3/2)	139497.68(5/2)	pc

Table 2Experimental and calculated energy levels (cm⁻¹) in the 5d⁷ and 5d⁶6s configurations of Pt IV.

E _{obs}	E _{calc}	Δ	N	N _{opt}	rwmv ₁	rwmv ₂	Unc	Composition
J = 0.5								
-	145247.44	-						55% 2 ¹ S1) ² S + 8% 2 ¹ S2) ² S
-	112353.58	-						37% 2 ³ P1) ² P + 28% 2 ¹ S2) ² S + 11% 2 ³ P1) ⁴ P
102957.98	102955.35	2.63	4	3	0.20	0.12	0.30	39% 2 ³ P1) ² P + 25% 2 ³ P2) ² P + 25% 2 ³ P1) ⁴ P
95745.42	95749.25	-3.83	5	4	0.18	0.15	0.23	56% 2 ³ P2) ² P + 16% 2 ³ P1) ⁴ P + 7% 2 ¹ S2) ² S
87468.65	87493.11	-24.46	6	3	0.18	0.28	0.30	65% 2 ³ P2) ⁴ P + 17% 2 ³ P1) ⁴ P + 6% 2 ³ D) ⁴ D
81998.59	81992.34	6.25	10	8	0.11	0.07	0.16	26% 2 ³ D) ⁴ D + 25% 2 ¹ S2) ² S + 23% 2 ⁵ D) ⁴ D
79414.02	79422.54	-8.52	8	8	0.11	0.07	0.16	51% 2 ³ D) ⁴ D + 16% 2 ¹ S2) ² S + 14% 2 ³ P2) ⁴ P
70622.67	70667.29	-44.62	10	8	0.12	0.08	0.15	61% 2 ⁵ D) ⁴ D + 12% 2 ³ P1) ² P + 9% 2 ³ D) ⁴ D
56071.44	56093.16	-21.72	7	4	0.18	0.18	0.21	82% 2 ⁵ D) ⁶ D + 11% 2 ³ P1) ⁴ P + 3% 2 ³ P2) ⁴ P
32952.87	32953.33	-0.46	13	9	0.19	0.18	0.23	70% 1 ² P + 28% 1 ⁴ P + 1% 2 ³ P2) ⁴ P
19624.95	19621.08	3.87	20	15	0.14	0.11	0.18	69% 1 ⁴ P + 29% 1 ² P + 2% 2 ³ P2) ⁴ P
J = 1.5								
-	123898.33	-						76% 2 ¹ D1) ² D + 16% 2 ¹ D2) ² D
-	116122.93	-						49% 2 ³ P1) ² P + 26% 2 ³ P2) ² P + 6% 2 ¹ D1) ² D
-	101908.61	-						75% 2 ³ F1) ⁴ F + 12% 2 ³ D) ² D + 5% 2 ³ F2) ⁴ F
98415.42	98409.95	5.47	6	4	0.17	0.27	0.30	37% 2 ³ P1) ⁴ P + 27% 2 ¹ D2) ² D + 10% 2 ³ P1) ² P
96955.55	96955.35	0.20	11	7	0.14	0.09	0.19	33% 2 ³ P1) ⁴ P + 30% 2 ¹ D2) ² D + 14% 2 ³ P2) ² P
93535.72	93536.38	-0.66	10	8	0.11	0.09	0.15	33% 2 ³ D) ² D + 26% 2 ³ P2) ⁴ P + 14% 2 ³ P2) ² P
86573.46	86555.61	17.85	15	11	0.10	0.07	0.13	36% 2 ³ D) ² D + 31% 2 ³ P2) ⁴ P + 10% 2 ⁵ D) ⁴ D
83067.10	83083.33	-16.23	17	7	0.11	0.12	0.15	43% 2 ³ D) ⁴ D + 17% 2 ³ P1) ⁴ P + 15% 2 ³ P2) ² P
76309.84	76300.10	9.74	17	13	0.08	0.07	0.12	34% 2 ³ D) ⁴ D + 20% 2 ³ P2) ⁴ P + 17% 2 ⁵ D) ⁴ D
74991.80	74980.27	11.53	20	13	0.09	0.05	0.12	65% 2 ³ F2) ⁴ F + 14% 2 ⁵ D) ⁴ D + 10% 2 ¹ D2) ² D
67233.76	67232.59	1.17	17	11	0.09	0.05	0.13	41% 2 ⁵ D) ⁴ D + 13% 2 ³ P2) ² P + 12% 2 ³ P1) ² P
54811.51	54801.57	9.94	20	15	0.08	0.05	0.13	56% 2 ⁵ D) ⁶ D + 28% 1 ² D1 + 6% 2 ³ P1) ⁴ P
54407.02	54396.36	10.66	15	12	0.09	0.05	0.14	59% 1 ² D1 + 22% 2 ⁵ D) ⁶ D + 3% 1 ⁴ F
39096.28	39089.62	6.66	17	13	0.15	0.13	0.19	51% 1 ² D2 + 29% 1 ² P + 6% 1 ⁴ P
27870.20	27887.94	-17.74	35	30	0.09	0.09	0.13	36% 1 ⁴ P + 24% 1 ⁴ F + 20% 1 ² P
15539.29	15541.20	-1.91	35	29	0.11	0.09	0.14	49% 1 ⁴ F + 32% 1 ⁴ P + 8% 1 ² P
9214.92	9210.46	4.46	29	29	0.10	0.07	0.13	38% 1 ² P + 21% 1 ⁴ P + 21% 1 ² D2
J = 2.5								
-	123860.41	-						78% 2 ¹ D1) ² D + 14% 2 ¹ D2) ² D
-	114516.72	-						52% 2 ³ F1) ² F + 14% 2 ¹ F) ² F + 13% 2 ³ D) ² D
109491.32	109501.63	-10.31	2	2	0.29	0.09	0.40	37% 2 ³ P1) ⁴ P + 19% 2 ¹ D2) ² D + 18% 2 ³ P2) ⁴ P
104992.68	105016.32	-23.64	5	4	0.18	0.05	0.24	45% 2 ³ F1) ⁴ F + 24% 2 ³ F1) ² F + 14% 2 ¹ F) ² F
96904.36	96900.83	3.53	11	3	0.17	0.13	0.22	34% 2 ¹ D2) ² D + 21% 2 ³ F2) ² F + 18% 2 ³ P2) ⁴ P
91821.76	91812.12	9.64	15	11	0.10	0.06	0.14	55% 2 ¹ F) ² F + 29% 2 ³ F1) ⁴ F + 6% 2 ³ F1) ² F
90324.02	90325.57	-1.55	17	13	0.10	0.06	0.13	69% 2 ³ D) ² D + 6% 2 ¹ F) ² F + 6% 2 ³ G) ⁴ G
87965.80	87997.31	-31.51	18	13	0.09	0.06	0.12	42% 2 ³ F2) ² F + 18% 2 ³ G) ⁴ G + 17% 2 ³ F2) ⁴ F
81326.99	81335.76	-8.77	19	10	0.11	0.05	0.14	52% 2 ³ D) ⁴ D + 17% 2 ³ G) ⁴ G + 11% 2 ³ P1) ⁴ P
78224.11	78200.19	23.92	25	14	0.07	0.06	0.11	21% 2 ³ G) ⁴ G + 19% 2 ³ F2) ² F + 18% 2 ³ F2) ⁴ F
74847.75	74855.01	-7.26	23	13	0.08	0.07	0.11	33% 2 ⁵ D) ⁴ D + 19% 2 ³ G) ⁴ G + 15% 2 ³ F2) ⁴ F
72279.10	72263.45	15.65	22	16	0.08	0.05	0.11	29% 2 ³ F2) ⁴ F + 14% 2 ³ D) ⁴ D + 13% 2 ⁵ D) ⁶ D
65176.69	65162.40	14.29	18	15	0.08	0.06	0.12	41% 2 ⁵ D) ⁴ D + 17% 2 ³ P2) ⁴ P + 11% 2 ⁵ D) ⁶ D
56588.63	56596.08	-7.45	14	12	0.13	0.17	0.20	67% 1 ² D1 + 17% 1 ² D2 + 9% 1 ² F
52223.37	52219.87	3.50	17	15	0.09	0.04	0.12	72% 2 ⁵ D) ⁶ D + 9% 2 ³ P1) ⁴ P + 9% 2 ³ P2) ⁴ P
32168.62	32160.36	8.26	39	27	0.10	0.08	0.13	85% 1 ² F + 6% 1 ² D2 + 3% 1 ² D1
28755.29	28749.36	5.93	39	28	0.10	0.07	0.13	58% 1 ² D2 + 21% 1 ⁴ F + 13% 1 ² D1

16169.35	16161.24	8.11	49	40	0.08	0.06	0.11	71% 1 ⁴ P	+	25% 1 ⁴ F	+	2% 2 (³ P2) ⁴ P
10452.87	10472.72	-19.85	45	37	0.09	0.08	0.12	51% 1 ⁴ F	+	17% 1 ⁴ P	+	14% 1 ² D2
J = 3.5												
114695.13	114709.42	-14.29	3	3	0.18	0.16	0.24	44% 2 (³ F1) ² F	+	14% 2 (¹ G1) ² G	+	13% 2 (³ F2) ² F
112123.89	112139.96	-16.07	4	4	0.14	0.21	0.21	47% 2 (¹ G1) ² G	+	9% 2 (³ F1) ⁴ F	+	9% 2 (¹ G2) ² G
105528.04	105520.25	7.79	9	8	0.11	0.09	0.15	38% 2 (³ F1) ⁴ F	+	24% 2 (³ F1) ² F	+	12% 2 (¹ F) ² F
96585.01	96586.84	-1.83	15	11	0.09	0.05	0.13	51% 2 (¹ G2) ² G	+	36% 2 (³ F2) ² F	+	4% 2 (³ H) ⁴ H
91590.90	91569.34	21.56	16	10	0.11	0.07	0.13	42% 2 (³ G) ² G	+	14% 2 (¹ F) ² F	+	12% 2 (³ F2) ⁴ F
90008.92	90023.45	-14.53	18	12	0.09	0.06	0.13	47% 2 (¹ F) ² F	+	17% 2 (³ G) ² G	+	17% 2 (³ F1) ⁴ F
84752.88	84768.66	-15.78	24	19	0.07	0.06	0.10	23% 2 (³ F2) ² F	+	17% 2 (³ D) ⁴ D	+	16% 2 (³ H) ⁴ H
82109.36	82113.25	-3.89	26	20	0.07	0.06	0.10	39% 2 (³ F2) ⁴ F	+	38% 2 (³ G) ⁴ G	+	9% 2 (¹ G1) ² G
81200.34	81184.70	15.65	31	22	0.06	0.03	0.00	50% 2 (³ D) ⁴ D	+	18% 2 (³ H) ⁴ H	+	12% 2 (³ G) ⁴ G
74908.18	74898.83	9.36	24	15	0.08	0.08	0.11	27% 2 (³ F2) ⁴ F	+	17% 2 (³ H) ⁴ H	+	13% 2 (³ G) ⁴ G
68196.37	68212.05	-15.68	25	16	0.08	0.05	0.11	33% 2 (³ H) ⁴ H	+	30% 2 (³ D) ⁴ D	+	18% 2 (³ G) ⁴ G
60955.41	60951.14	4.27	23	18	0.07	0.05	0.11	51% 2 (³ D) ⁴ D	+	9% 2 (³ F2) ² F	+	7% 2 (⁵ D) ⁶ D
50953.00	50945.90	7.10	18	16	0.08	0.05	0.12	86% 2 (⁵ D) ⁶ D	+	5% 2 (³ F2) ⁴ F	+	3% 2 (⁵ D) ⁴ D
39002.13	39008.83	-6.70	32	27	0.10	0.07	0.13	79% 1 ² F	+	15% 1 ² G	+	2% 1 ⁴ F
24800.74	24800.00	0.74	46	37	0.09	0.08	0.12	80% 1 ² G	+	16% 1 ² F	+	3% 1 ⁴ F
9567.18	9554.84	12.35	53	41	0.09	0.07	0.12	95% 1 ⁴ F	+	4% 1 ² G	+	1% 2 (³ F2) ⁴ F
J = 4.5												
112339.02	112320.05	18.97	8	6	0.13	0.06	0.19	66% 2 (¹ G1) ² G	+	16% 2 (¹ G2) ² G	+	7% 2 (³ F2) ⁴ F
101563.88	101554.24	9.64	11	9	0.10	0.07	0.14	67% 2 (³ F1) ⁴ F	+	7% 2 (³ F2) ⁴ F	+	6% 2 (³ H) ² H
94803.68	94799.72	3.96	15	10	0.10	0.07	0.13	55% 2 (¹ G2) ² G	+	18% 2 (³ H) ² H	+	17% 2 (³ F2) ⁴ F
89302.04	89285.04	17.00	27	18	0.07	0.05	0.11	54% 2 (³ G) ² G	+	21% 2 (³ H) ² H	+	9% 2 (¹ G1) ² G
82725.07	82732.97	-7.90	26	19	0.07	0.06	0.11	35% 2 (³ F2) ⁴ F	+	32% 2 (³ H) ² H	+	16% 2 (³ G) ² G
79993.07	79992.15	0.92	21	17	0.08	0.06	0.11	48% 2 (³ G) ⁴ G	+	25% 2 (³ H) ⁴ H	+	12% 2 (¹ G1) ² G
73763.04	73766.66	-3.62	27	22	0.07	0.03	0.10	42% 2 (³ H) ⁴ H	+	18% 2 (³ G) ² G	+	13% 2 (³ F2) ⁴ F
65172.43	65179.21	-6.78	24	15	0.08	0.05	0.11	29% 2 (³ G) ⁴ G	+	21% 2 (³ H) ⁴ H	+	13% 2 (³ F2) ⁴ F
45091.69	45090.00	1.69	15	12	0.11	0.07	0.15	85% 2 (⁵ D) ⁶ D	+	8% 2 (³ F2) ⁴ F	+	5% 2 (³ F1) ⁴ F
34556.09	34560.31	-4.22	32	22	0.12	0.09	0.15	71% 1 ² H	+	27% 1 ² G	+	2% 1 ⁴ F
18361.43	18359.79	1.64	47	37	0.10	0.08	0.13	57% 1 ² G	+	28% 1 ² H	+	15% 1 ⁴ F
0.00	4.77	-4.77	42	36	0.10	0.08	0.13	83% 1 ⁴ F	+	16% 1 ² G	+	1% 1 ² H
J = 5.5												
90668.48	90667.10	1.38	20	15	0.08	0.06	0.12	62% 2 (¹ I) ² I	+	36% 2 (³ H) ² H	+	1% 2 (³ G) ⁴ G
83222.01	83211.09	10.92	22	15	0.07	0.05	0.11	31% 2 (³ H) ² H	+	26% 2 (³ H) ⁴ H	+	24% 2 (³ G) ⁴ G
75407.94	75400.92	7.02	24	19	0.07	0.05	0.11	32% 2 (³ H) ² H	+	28% 2 (³ G) ⁴ G	+	22% 2 (³ H) ⁴ H
68462.66	68473.79	-11.13	18	16	0.08	0.06	0.12	52% 2 (³ H) ⁴ H	+	46% 2 (³ G) ⁴ G	+	1% 2 (¹ I) ² I
24437.46	24434.77	2.70	32	29	0.10	0.09	0.14	99% 1 ² H	+	1% 2 (³ H) ² H		
J = 6.5												
88233.47	88230.14	3.33	13	10	0.09	0.04	0.13	87% 2 (¹ I) ² I	+	13% 2 (³ H) ⁴ H		
69223.49	69240.80	-17.31	15	12	0.10	0.06	0.14	87% 2 (³ H) ⁴ H	+	13% 2 (¹ I) ² I		

Table 3Experimental and calculated energy levels (cm^{-1}) in the $5d^66p$ and $5d^56s6p$ configurations of Pt IV.

E_{obs}	E_{calc}	Δ	N	N_{opt}	rwmv ₁	rwmv ₂	Unc	Composition
J = 0.5								
-	214611.80	-						14% 1 (¹ S1) ² P + 11% 2 (⁴ P ³ P) ² P + 10% 2 (⁴ D ³ D) ² P
-	214409.78	-						15% 1 (¹ S1) ² P + 10% 2 (⁴ P ³ P) ⁴ P + 7% 2 (⁴ P ⁵ P) ⁴ P
-	212690.88	-						14% 1 (¹ S1) ² P + 13% 1 (¹ D1) ² P + 8% 2 (⁴ F ⁵ F) ⁶ F
-	209268.42	-						31% 2 (⁴ P ³ P) ⁴ D + 21% 2 (⁴ F ⁵ F) ⁶ F + 9% 2 (⁴ P ³ P) ² P
-	204889.45	-						21% 2 (⁶ S ⁵ S) ⁴ P + 19% 2 (⁴ G ⁵ G) ⁶ F + 8% 2 (⁴ D ³ D) ⁴ D
-	203912.15	-						27% 2 (⁴ D ⁵ D) ⁶ D + 16% 2 (⁶ S ⁵ S) ⁴ P + 13% 2 (⁴ G ⁵ G) ⁶ F
-	203035.26	-						31% 1 (¹ D1) ² P + 25% 1 (¹ S1) ² P + 11% 1 (¹ D2) ² P
-	202042.60	-						26% 2 (⁴ G ⁵ G) ⁶ F + 16% 2 (⁶ S ⁵ S) ⁴ P + 7% 2 (² F1 ³ F) ⁴ D
-	197198.32	-						15% 2 (⁴ P ³ P) ⁴ P + 15% 2 (⁶ S ⁵ S) ⁴ P + 11% 2 (⁴ D ⁵ D) ⁶ D
-	193305.58	-						53% 2 (⁴ D ⁵ D) ⁶ F + 18% 2 (⁴ P ⁵ P) ⁶ D + 8% 2 (⁴ F ⁵ F) ⁶ F
-	190286.76	-						32% 1 (³ P1) ² P + 17% 1 (³ P1) ² S + 14% 1 (¹ D2) ² P
-	186161.97	-						45% 2 (⁴ P ⁵ P) ⁶ D + 20% 2 (⁴ D ⁵ D) ⁶ F + 19% 2 (⁴ D ⁵ D) ⁶ D
184044.66	184093.00	-48.34	5	4	0.36	0.27	0.40	69% 1 (³ F1) ⁴ D + 8% 1 (³ D) ² P + 4% 1 (³ P1) ⁴ D
180932.71	181016.89	-84.18	3	3	0.30	0.17	0.30	29% 1 (³ P1) ² S + 23% 1 (³ P1) ² P + 12% 1 (³ P2) ² P
178929.67	178912.03	17.64	7	6	0.19	0.19	0.24	30% 1 (³ P2) ² P + 21% 1 (¹ D2) ² P + 9% 1 (³ F2) ⁴ D
175738.35	175697.17	41.18	4	4	0.21	0.20	0.30	19% 1 (¹ S2) ² P + 16% 1 (³ P1) ⁴ P + 16% 1 (³ P1) ⁴ D
171883.87	171932.27	-48.40	3	3	0.27	0.08	0.30	28% 1 (³ P2) ⁴ P + 13% 1 (³ P2) ² S + 11% 1 (³ P2) ⁴ D
168601.51	168609.39	-7.88	6	5	0.19	0.16	0.22	35% 1 (³ D) ² P + 21% 1 (³ D) ⁴ D + 9% 1 (³ P1) ² S
-	164981.25	-						38% 1 (³ D) ⁴ P + 16% 1 (³ P1) ⁴ P + 8% 1 (³ D) ⁴ D
162855.55	162872.19	-16.64	3	3	0.28	0.35	0.40	17% 1 (³ P1) ² S + 15% 1 (³ P2) ² P + 13% 1 (³ P1) ⁴ P
158680.43	158694.77	-14.34	6	4	0.22	0.11	0.24	38% 1 (³ F2) ⁴ D + 11% 1 (¹ D2) ² P + 9% 1 (³ D) ² P
156353.05	156399.45	-46.40	7	6	0.16	0.10	0.19	21% 1 (³ P2) ⁴ P + 21% 1 (³ P2) ⁴ D + 14% 1 (³ F2) ⁴ D
153675.34	153708.72	-33.38	5	4	0.20	0.10	0.23	20% 1 (³ P1) ⁴ D + 18% 1 (³ D) ⁴ P + 14% 1 (³ P1) ⁴ P
149868.90	149924.50	-55.60	7	4	0.18	0.31	0.30	24% 1 (³ P2) ² S + 18% 1 (³ P2) ⁴ P + 13% 1 (³ P2) ⁴ D
147480.52	147458.40	22.13	7	6	0.14	0.10	0.17	35% 1 (⁵ D) ⁴ D + 15% 1 (³ P2) ⁴ D + 8% 1 (⁵ D) ⁴ P
143827.41	143820.14	7.27	8	7	0.14	0.09	0.17	43% 1 (⁵ D) ⁴ P + 17% 1 (⁵ D) ⁶ D + 12% 1 (³ P1) ² S
141513.93	141528.09	-14.16	2	2	0.20	0.25	0.24	24% 1 (¹ S2) ² P + 19% 1 (³ D) ⁴ D + 13% 1 (³ D) ² P
138115.76	138137.41	-21.65	6	3	0.19	0.10	0.22	16% 1 (⁵ D) ⁴ D + 15% 1 (⁵ D) ⁶ F + 15% 1 (³ D) ⁴ D
124255.47	124248.62	6.85	1	1	0.28	0.28	0.30	54% 1 (⁵ D) ⁶ F + 14% 1 (⁵ D) ⁴ D + 13% 1 (³ P1) ⁴ D
122295.13	122296.25	-1.12	2	2	0.19	0.10	0.30	63% 1 (⁵ D) ⁶ D + 11% 1 (³ P1) ⁴ P + 11% 1 (⁵ D) ⁴ P
J = 1.5								
-	226384.65	-						37% 1 (¹ S1) ² P + 6% 2 (⁴ D ⁵ D) ⁴ D + 5% 1 (¹ S2) ² P
-	225835.42	-						22% 2 (² S ³ S) ⁴ P + 6% 2 (⁴ F ³ F) ⁴ D + 5% 2 (⁴ P ⁵ P) ⁴ S
-	225078.79	-						26% 1 (¹ S1) ² P + 9% 2 (⁴ P ³ P) ² D + 6% 2 (⁴ D ⁵ D) ⁴ D
-	205641.55	-						35% 1 (¹ D1) ² P + 19% 1 (¹ D1) ² D + 13% 1 (¹ D2) ² P
-	202574.01	-						25% 2 (⁴ G ⁵ G) ⁶ F + 14% 2 (⁴ D ⁵ D) ⁶ P + 11% 2 (⁴ F ⁵ F) ⁶ G
-	202463.25	-						19% 2 (⁴ G ⁵ G) ⁶ F + 8% 2 (⁴ F ⁵ F) ⁶ G + 8% 2 (⁴ P ⁵ P) ⁶ P
-	202053.62	-						11% 2 (⁴ G ⁵ G) ⁶ G + 9% 2 (⁶ S ⁵ S) ⁴ P + 8% 2 (² D ³ D) ⁴ F
-	199708.29	-						13% 2 (⁴ F ⁵ F) ⁶ G + 9% 2 (⁶ S ⁵ S) ⁴ P + 8% 2 (⁴ D ⁵ D) ⁶ F
-	197279.99	-						33% 2 (⁴ P ⁵ P) ⁶ D + 10% 2 (⁴ P ⁵ P) ⁶ P + 9% 2 (⁴ D ⁵ D) ⁶ F
-	196078.98	-						17% 1 (¹ D1) ² D + 7% 1 (³ P2) ² P + 7% 1 (³ P1) ² P
-	195238.77	-						15% 1 (³ F1) ² D + 6% 1 (¹ S2) ² P + 6% 1 (¹ F) ² D
-	194702.80	-						14% 1 (³ P1) ² P + 7% 1 (¹ D1) ² D + 7% 1 (³ F1) ² D
-	193336.18	-						18% 2 (⁴ D ⁵ D) ⁶ D + 17% 2 (⁴ D ⁵ D) ⁶ F + 15% 2 (⁴ P ⁵ P) ⁶ P
-	189086.15	-						20% 1 (¹ S2) ² P + 10% 1 (³ P1) ² D + 9% 1 (¹ D1) ² P
186839.53	186820.81	18.72	2	2	0.48	0.65	0.70	24% 1 (¹ D1) ² D + 14% 1 (¹ D1) ² P + 11% 1 (³ F1) ⁴ F
-	185969.67	-						21% 2 (⁴ D ⁵ D) ⁶ F + 20% 2 (⁴ P ⁵ P) ⁶ D + 10% 2 (⁴ D ⁵ D) ⁶ D
-	185374.10	-						34% 1 (³ F1) ⁴ D + 23% 1 (³ F1) ⁴ F + 5% 1 (³ F1) ² D

-	183052.54	-						29% 2	(⁴ G ⁵ G)	⁶ G	+ 13% 2	(⁶ S ⁵ S)	⁶ P	+ 11% 2	(² F1 ³ F)	⁴ F
182447.71	182354.81	92.90	10	7	0.22	0.18	0.30	34% 1	(³ P1)	⁴ S	+ 27% 1	(³ P1)	² D	+ 5% 1	(³ P1)	⁴ P
-	177957.63	-						13% 2	(⁶ S ⁵ S)	⁶ P	+ 10% 1	(¹ D2)	² P	+ 9% 1	(³ P1)	⁴ P
-	177193.87	-						26% 1	(¹ D2)	² D	+ 12% 1	(³ P2)	⁴ P	+ 8% 1	(¹ D2)	² P
-	176486.81	-						16% 2	(⁶ S ⁵ S)	⁶ P	+ 9% 1	(³ P1)	⁴ P	+ 8% 1	(³ P2)	⁴ P
-	174802.78	-						29% 1	(³ F1)	² D	+ 12% 1	(¹ F)	² D	+ 9% 1	(³ D)	² D
172578.87	172505.77	73.11	9	7	0.19	0.15	0.24	24% 1	(¹ F)	² D	+ 12% 1	(³ F1)	⁴ D	+ 11% 1	(³ P2)	² D
170013.00	170012.39	0.61	10	6	0.21	0.26	0.30	19% 1	(³ P2)	² D	+ 17% 1	(³ G)	⁴ F	+ 10% 1	(³ P1)	⁴ P
168619.62	168611.08	8.55	12	7	0.22	0.15	0.30	20% 1	(³ P2)	⁴ S	+ 16% 1	(³ P1)	² D	+ 16% 1	(³ P2)	⁴ P
168025.59	168081.59	-56.00	9	8	0.14	0.14	0.18	23% 1	(³ D)	² P	+ 11% 1	(³ P1)	⁴ D	+ 7% 1	(³ P2)	² D
167091.57	167125.86	-34.29	13	13	0.13	0.11	0.17	16% 1	(³ F2)	² D	+ 13% 1	(¹ F)	² D	+ 10% 1	(³ F2)	⁴ D
165779.33	165744.41	34.92	10	5	0.19	0.29	0.30	22% 1	(³ P2)	² P	+ 9% 1	(³ F1)	⁴ F	+ 9% 1	(³ G)	⁴ F
164410.03	164387.65	22.39	12	6	0.18	0.11	0.23	15% 1	(³ P1)	⁴ D	+ 11% 1	(³ P1)	² P	+ 9% 1	(³ D)	⁴ D
162729.52	162673.72	55.80	13	11	0.14	0.05	0.16	17% 1	(³ D)	² D	+ 14% 1	(³ D)	⁴ D	+ 11% 1	(³ G)	⁴ F
160820.99	160817.99	3.00	12	7	0.18	0.20	0.30	23% 1	(³ P1)	⁴ D	+ 10% 1	(¹ S2)	² P	+ 9% 1	(³ D)	⁴ D
159194.93	159184.79	10.14	13	7	0.14	0.06	0.18	20% 1	(³ F2)	² D	+ 18% 1	(³ D)	⁴ P	+ 10% 1	(³ F2)	⁴ D
-	157726.13	-						20% 1	(³ G)	⁴ F	+ 9% 1	(³ D)	⁴ P	+ 9% 1	(¹ F)	² D
155611.74	155572.34	39.40	10	7	0.16	0.10	0.18	23% 1	(³ F2)	⁴ F	+ 11% 1	(¹ S2)	² P	+ 10% 1	(¹ D2)	² P
154812.93	154783.61	29.32	13	9	0.14	0.07	0.16	12% 1	(³ F2)	⁴ D	+ 10% 1	(³ D)	² D	+ 9% 1	(⁵ D)	⁴ P
153299.41	153263.03	36.38	17	8	0.13	0.10	0.17	39% 1	(³ P2)	⁴ D	+ 17% 1	(³ D)	⁴ F	+ 7% 1	(³ P2)	² D
149482.21	149388.71	93.50	10	10	0.11	0.06	0.15	20% 1	(⁵ D)	⁴ F	+ 10% 1	(³ D)	⁴ P	+ 10% 1	(³ D)	² P
144509.01	144507.10	1.91	10	8	0.14	0.14	0.20	17% 1	(⁵ D)	⁴ D	+ 10% 1	(³ F2)	² D	+ 8% 1	(⁵ D)	⁴ F
143980.46	143883.53	96.93	14	11	0.12	0.10	0.15	39% 1	(⁵ D)	⁴ P	+ 14% 1	(⁵ D)	⁶ P	+ 6% 1	(³ F2)	⁴ D
142674.01	142710.06	-36.05	9	9	0.12	0.04	0.15	28% 1	(⁵ D)	⁴ F	+ 20% 1	(⁵ D)	⁴ P	+ 7% 1	(⁵ D)	⁶ P
141777.63	141778.12	-0.49	9	5	0.20	0.23	0.30	26% 1	(⁵ D)	⁶ P	+ 14% 1	(⁵ D)	⁴ D	+ 10% 1	(³ P1)	⁴ P
140351.51	140405.25	-53.74	10	8	0.10	0.13	0.15	30% 1	(³ D)	⁴ F	+ 11% 1	(⁵ D)	⁶ P	+ 8% 1	(³ F2)	⁴ F
137499.65	137484.31	15.34	8	8	0.11	0.06	0.14	17% 1	(³ F2)	⁴ F	+ 13% 1	(⁵ D)	⁴ D	+ 10% 1	(³ P2)	⁴ S
133656.04	133608.81	47.23	9	7	0.10	0.07	0.13	36% 1	(⁵ D)	⁶ D	+ 12% 1	(³ P2)	⁴ S	+ 6% 1	(⁵ D)	⁶ F
124902.73	124886.40	16.33	8	7	0.11	0.09	0.14	45% 1	(⁵ D)	⁶ F	+ 16% 1	(⁵ D)	⁴ D	+ 8% 1	(³ P1)	⁴ D
117710.54	117729.88	-19.34	3	3	0.14	0.11	0.18	37% 1	(⁵ D)	⁶ D	+ 9% 1	(³ P1)	⁴ P	+ 8% 1	(⁵ D)	⁶ F

J = 2.5

-	202599.16	-						37% 1	(¹ D1)	² D	+ 13% 1	(¹ D1)	² F	+ 6% 2	(⁴ G ⁵ G)	⁶ F
-	201177.48	-						16% 2	(⁴ D ⁵ D)	⁶ F	+ 9% 2	(⁴ G ⁵ G)	⁶ F	+ 6% 2	(² D3 ³ D)	⁴ F
-	199268.40	-						12% 2	(⁴ P ⁵ P)	⁶ S	+ 10% 2	(⁴ G ³ G)	⁴ G	+ 8% 2	(⁴ G ³ G)	² F
-	197952.90	-						21% 2	(⁴ P ⁵ P)	⁶ D	+ 7% 2	(⁴ G ⁵ G)	⁶ F	+ 6% 2	(⁴ D ³ D)	⁴ F
-	197151.97	-						9% 2	(⁴ D ⁵ D)	⁶ D	+ 9% 2	(⁴ D ⁵ D)	⁶ P	+ 6% 2	(⁴ G ⁵ G)	⁶ H
196285.17	196318.88	-33.71	1	1	0.59	0.59	0.60	24% 1	(¹ G1)	² F	+ 9% 1	(¹ G2)	² F	+ 6% 1	(¹ D1)	² D
-	193559.38	-						24% 1	(³ F1)	² F	+ 14% 1	(³ F1)	⁴ D	+ 14% 1	(¹ F)	² F
-	192653.09	-						11% 1	(¹ G1)	² F	+ 10% 2	(⁶ S ⁵ S)	⁴ P	+ 10% 1	(³ P1)	⁴ P
-	191759.67	-						23% 2	(⁶ S ⁵ S)	⁴ P	+ 11% 2	(⁶ S ⁷ S)	⁶ P	+ 7% 1	(³ P1)	⁴ P
-	189522.30	-						24% 2	(⁴ G ⁵ G)	⁶ G	+ 12% 2	(⁴ P ⁵ P)	⁶ S	+ 8% 2	(⁴ D ⁵ D)	⁶ F
189053.62	189026.07	27.55	5	5	0.20	0.21	0.30	29% 1	(³ F1)	² D	+ 19% 1	(¹ G1)	² F	+ 15% 1	(¹ D1)	² F
-	187635.68	-						21% 2	(⁴ D ⁵ D)	⁶ F	+ 15% 2	(⁴ G ⁵ G)	⁶ G	+ 9% 2	(⁴ P ⁵ P)	⁶ D
186944.13	186992.94	-48.81	4	4	0.26	0.43	0.40	21% 1	(³ F1)	⁴ F	+ 16% 1	(³ F1)	² F	+ 15% 1	(³ F1)	² D
184517.91	184472.74	45.18	4	4	0.26	0.16	0.30	19% 1	(¹ D1)	² F	+ 14% 1	(¹ D1)	² D	+ 12% 1	(³ F1)	² D
-	184354.09	-						41% 2	(⁴ G ⁵ G)	⁶ H	+ 12% 2	(² F1 ³ F)	⁴ G	+ 6% 2	(⁴ D ⁵ D)	⁶ D
182427.13	182471.10	-43.97	5	3	0.28	0.47	0.50	21% 1	(³ P1)	² D	+ 20% 1	(¹ D2)	² D	+ 15% 1	(³ P2)	² D
-	181233.41	-						13% 2	(⁶ S ⁵ S)	⁶ P	+ 9% 2	(⁴ G ⁵ G)	⁶ G	+ 8% 2	(⁶ S ⁷ S)	⁶ P
179508.38	179519.12	-10.74	7	7	0.20	0.26	0.40	23% 1	(³ P1)	⁴ D	+ 13% 1	(³ P1)	⁴ P	+ 8% 1	(³ F1)	⁴ F
177681.88	177767.00	-85.12	5	5	0.24	0.27	0.30	38% 1	(¹ G2)	² F	+ 13% 1	(³ F2)	² D	+ 8% 1	(³ F2)	² F
-	177523.79	-						12% 2	(⁶ S ⁵ S)	⁶ P	+ 7% 2	(⁴ P ⁵ P)	⁶ D	+ 7% 2	(⁴ D ⁵ D)	⁶ F
175988.72	175938.45	50.27	11	9	0.15	0.10	0.18	18% 1	(¹ D2)	² D	+ 11% 1	(³ D)	² F	+ 9% 1	(¹ D2)	² F
174535.45	174501.39	34.06	4	4	0.26	0.10	0.30	16% 1	(¹ F)	² F	+ 14% 1	(¹ F)	² D	+ 12% 1	(³ P1)	⁴ D
174235.33	174213.44	21.89	6	6	0.16	0.18	0.20	22% 1	(³ F1)	⁴ D	+ 16% 1	(³ P1)	⁴ D	+ 15% 1	(¹ F)	² F
171097.73	171138.90	-41.17	5	4	0.26	0.08	0.30	27% 1	(³ F1)	⁴ G	+ 19% 1	(³ P2)	⁴ D	+ 11% 1	(³ D)	⁴ F

169336.81	169343.59	-6.78	12	11	0.12	0.05	0.14	19% 1	(³ G)	⁴ F	+ 11% 1	(³ P2)	⁴ D	+ 8% 1	(¹ F)	² F
167625.35	167621.92	3.44	9	8	0.15	0.07	0.18	15% 1	(³ D)	² D	+ 10% 1	(³ D)	⁴ P	+ 8% 1	(³ D)	² F
165534.12	165535.75	-1.63	12	11	0.14	0.11	0.16	15% 1	(³ F2)	² F	+ 12% 1	(³ G)	² F	+ 12% 1	(³ F2)	² D
164925.89	164839.48	86.41	12	11	0.12	0.05	0.15	29% 1	(³ G)	² F	+ 14% 1	(³ F2)	⁴ D	+ 9% 1	(³ H)	⁴ G
163641.42	163628.58	12.84	12	9	0.15	0.09	0.16	31% 1	(³ D)	² F	+ 14% 1	(³ H)	⁴ G	+ 8% 1	(³ P2)	⁴ P
163405.27	163386.15	19.12	12	9	0.13	0.12	0.18	19% 1	(³ D)	² D	+ 17% 1	(³ D)	⁴ D	+ 16% 1	(³ D)	⁴ F
160788.99	160777.51	11.48	13	11	0.14	0.10	0.17	13% 1	(³ G)	⁴ F	+ 12% 1	(³ F2)	² D	+ 10% 1	(¹ D2)	² F
159746.50	159758.78	-12.28	12	9	0.15	0.13	0.19	16% 1	(³ D)	⁴ D	+ 14% 1	(³ F1)	⁴ G	+ 10% 1	(³ F2)	² F
157690.57	157710.28	-19.71	13	5	0.20	0.21	0.30	21% 1	(³ F2)	⁴ F	+ 10% 1	(³ F1)	⁴ D	+ 8% 1	(³ P2)	⁴ P
-	157033.31	-						77% 2	(⁶ S ⁷ S)	⁸ P	+ 6% 2	(⁴ P ⁵ P)	⁶ P	+ 4% 2	(⁶ S ⁷ S)	⁶ P
156140.40	156131.36	9.04	17	10	0.13	0.14	0.18	24% 1	(³ F2)	⁴ G	+ 13% 1	(¹ D2)	² F	+ 12% 1	(¹ D2)	² D
154417.27	154455.85	-38.58	9	6	0.17	0.08	0.19	11% 1	(³ P2)	² D	+ 11% 1	(⁵ D)	⁴ F	+ 10% 1	(⁵ D)	⁶ P
154011.64	153986.13	25.52	15	6	0.17	0.16	0.20	34% 1	(¹ F)	² D	+ 10% 1	(¹ F)	² F	+ 7% 1	(³ F1)	⁴ F
152150.12	152234.69	-84.57	14	13	0.11	0.07	0.13	18% 1	(³ H)	⁴ G	+ 12% 1	(³ G)	⁴ G	+ 8% 1	(³ G)	² F
150749.16	150750.11	-0.95	17	12	0.11	0.07	0.14	20% 1	(³ G)	⁴ G	+ 16% 1	(³ F2)	² D	+ 13% 1	(³ H)	⁴ G
148824.89	148843.22	-18.33	15	11	0.10	0.11	0.16	27% 1	(⁵ D)	⁴ D	+ 17% 1	(³ F2)	⁴ D	+ 9% 1	(³ D)	⁴ D
146243.19	146277.40	-34.21	12	8	0.13	0.13	0.17	13% 1	(³ D)	⁴ F	+ 11% 1	(³ D)	⁴ P	+ 9% 1	(³ G)	² F
142072.80	142083.03	-10.23	10	7	0.12	0.10	0.14	23% 1	(⁵ D)	⁴ F	+ 13% 1	(⁵ D)	⁶ D	+ 8% 1	(³ D)	⁴ D
141178.79	141211.96	-33.17	10	9	0.11	0.08	0.14	29% 1	(⁵ D)	⁶ P	+ 22% 1	(⁵ D)	⁴ D	+ 13% 1	(⁵ D)	⁴ F
139497.68	139498.30	-0.62	14	9	0.09	0.07	0.13	13% 1	(³ G)	⁴ G	+ 8% 1	(³ F2)	² D	+ 8% 1	(³ F2)	⁴ F
138227.49	138257.25	-29.76	13	11	0.09	0.05	0.13	20% 1	(⁵ D)	⁶ P	+ 15% 1	(³ F2)	⁴ G	+ 9% 1	(³ P2)	² D
136780.55	136788.44	-7.89	9	8	0.11	0.08	0.14	25% 1	(⁵ D)	⁶ F	+ 14% 1	(⁵ D)	⁶ D	+ 12% 1	(⁵ D)	⁴ F
136451.00	136451.43	-0.43	12	9	0.10	0.07	0.13	33% 1	(³ F2)	⁴ G	+ 11% 1	(¹ D2)	² F	+ 9% 1	(⁵ D)	⁶ F
134579.95	134550.84	29.11	10	8	0.15	0.08	0.17	39% 1	(⁵ D)	⁴ P	+ 9% 1	(³ D)	⁴ P	+ 5% 1	(⁵ D)	⁶ P
120162.27	120146.94	15.33	6	6	0.12	0.06	0.15	25% 1	(⁵ D)	⁶ F	+ 14% 1	(⁵ D)	⁴ D	+ 8% 1	(³ P2)	⁴ D
118763.53	118760.71	2.82	6	4	0.13	0.18	0.18	56% 1	(⁵ D)	⁶ D	+ 12% 1	(⁵ D)	⁶ P	+ 10% 1	(⁵ D)	⁶ F

J = 3.5

-	205037.92	-						49% 1	(¹ D1)	² F	+ 12% 1	(¹ D2)	² F	+ 4% 2	(⁴ F ⁵ F)	⁶ D
-	204411.46	-						19% 2	(⁴ D ⁵ D)	⁶ D	+ 11% 2	(⁴ P ⁵ P)	⁶ D	+ 9% 1	(¹ D1)	² F
-	202803.11	-						11% 2	(⁴ D ⁵ D)	⁶ F	+ 10% 2	(⁴ G ³ G)	⁴ G	+ 8% 2	(⁴ D ⁵ D)	⁶ P
-	200776.37	-						23% 2	(⁴ G ⁵ G)	⁶ F	+ 11% 2	(⁴ F ⁵ F)	⁶ F	+ 7% 2	(⁴ P ⁵ P)	⁶ D
-	199339.50	-						14% 2	(⁴ D ⁵ D)	⁶ D	+ 9% 2	(⁴ G ³ G)	⁴ H	+ 8% 2	(⁴ F ⁵ F)	⁶ G
197794.35	197803.55	-9.20	4	3	0.31	0.44	0.40	13% 1	(¹ F)	² F	+ 12% 1	(¹ G1)	² G	+ 12% 1	(¹ G1)	² F
-	196409.13	-						11% 2	(⁴ G ³ G)	⁴ H	+ 8% 2	(⁴ D ⁵ D)	⁶ F	+ 8% 2	(⁴ D ⁵ D)	⁶ P
-	194275.84	-						27% 2	(⁴ D ⁵ D)	⁶ P	+ 18% 2	(⁴ G ⁵ G)	⁶ G	+ 9% 2	(⁴ P ⁵ P)	⁶ P
193666.61	193645.85	20.76	5	5	0.23	0.29	0.40	15% 1	(¹ G1)	² G	+ 13% 1	(³ P1)	⁴ D	+ 12% 1	(³ F1)	⁴ F
-	190623.57	-						31% 2	(⁴ G ⁵ G)	⁶ H	+ 8% 2	(⁴ G ⁵ G)	⁶ G	+ 6% 2	(² F1 ³ F)	⁴ G
189966.16	189937.00	29.16	3	3	0.30	0.09	0.40	19% 1	(³ P1)	⁴ D	+ 14% 1	(¹ G1)	² G	+ 10% 1	(³ P2)	⁴ D
-	188533.49	-						20% 2	(⁶ S ⁷ S)	⁶ P	+ 11% 2	(⁴ G ⁵ G)	⁶ H	+ 10% 2	(⁴ G ⁵ G)	⁶ G
186487.83	186564.72	-76.89	1	1	0.69	0.69	0.70	27% 1	(³ F1)	² F	+ 22% 1	(³ F1)	² G	+ 9% 1	(³ P1)	⁴ D
184827.64	184799.04	28.60	4	4	0.24	0.10	0.30	35% 1	(³ F1)	² G	+ 14% 1	(³ F1)	⁴ F	+ 9% 1	(³ F1)	⁴ D
-	184516.07	-						18% 2	(⁶ S ⁷ S)	⁶ P	+ 13% 2	(⁴ G ⁵ G)	⁶ G	+ 11% 2	(⁶ S ⁷ S)	⁸ P
-	181798.79	-						17% 2	(⁴ G ⁵ G)	⁶ H	+ 13% 2	(⁴ D ⁵ D)	⁶ F	+ 10% 2	(⁶ S ⁷ S)	⁸ P
179402.08	179348.73	53.35	9	6	0.17	0.16	0.22	23% 1	(¹ G1)	² F	+ 16% 1	(³ F1)	⁴ G	+ 12% 1	(¹ G1)	² G
178528.56	178505.94	22.62	9	7	0.15	0.09	0.20	23% 1	(¹ G2)	² F	+ 16% 1	(³ F1)	⁴ G	+ 8% 1	(¹ G2)	² G
176402.53	176412.44	-9.91	8	6	0.20	0.22	0.30	34% 1	(¹ D2)	² F	+ 12% 1	(³ P2)	⁴ D	+ 8% 1	(³ P1)	⁴ D
173324.72	173284.20	40.52	12	8	0.16	0.13	0.20	26% 1	(¹ F)	² F	+ 17% 1	(¹ F)	² G	+ 13% 1	(³ F1)	⁴ F
171421.70	171416.76	4.94	10	6	0.17	0.09	0.20	14% 1	(¹ G2)	² G	+ 12% 1	(³ F1)	⁴ G	+ 11% 1	(¹ F)	² F
170315.12	170360.29	-45.17	15	9	0.13	0.09	0.16	18% 1	(³ G)	² G	+ 10% 1	(¹ F)	² F	+ 10% 1	(³ F2)	² F
168327.15	168343.31	-16.16	14	9	0.13	0.14	0.19	15% 1	(³ F1)	⁴ D	+ 13% 1	(³ F2)	⁴ F	+ 12% 1	(³ D)	² F
167198.01	167226.23	-28.22	16	13	0.11	0.10	0.14	14% 1	(³ F1)	⁴ D	+ 14% 1	(³ G)	² G	+ 9% 1	(³ F2)	⁴ F
165556.67	165534.57	22.10	17	11	0.14	0.11	0.16	22% 1	(³ G)	⁴ F	+ 14% 1	(³ H)	⁴ G	+ 9% 1	(³ G)	² F
164652.12	164641.90	10.22	15	9	0.15	0.08	0.17	35% 1	(³ D)	⁴ D	+ 14% 1	(³ D)	⁴ F	+ 5% 1	(³ F2)	² G
162872.01	162842.15	29.87	16	12	0.13	0.12	0.16	20% 1	(³ H)	⁴ H	+ 12% 1	(³ F1)	⁴ D	+ 12% 1	(³ G)	⁴ G
162168.37	162200.78	-32.41	13	11	0.12	0.09	0.15	14% 1	(³ D)	² F	+ 13% 1	(³ G)	⁴ G	+ 13% 1	(³ F2)	² F

-	161313.60	-							68% 2	(⁶ S ⁷ S)	⁸ P	+ 10% 2	(⁶ S ⁷ S)	⁶ P	+ 6% 2	(⁴ P ⁵ P)	⁶ P
160266.80	160260.52	6.28	17	13	0.11	0.07	0.13	22% 1	(³ H)	² G	+ 12% 1	(¹ G2)	² G	+ 8% 1	(¹ G2)	² F	
158563.95	158528.48	35.47	16	9	0.13	0.14	0.18	16% 1	(³ F2)	⁴ D	+ 13% 1	(³ H)	⁴ H	+ 10% 1	(³ F2)	² G	
157002.00	157028.38	-26.38	13	12	0.12	0.12	0.17	33% 1	(³ F2)	² G	+ 9% 1	(³ G)	² G	+ 9% 1	(³ G)	⁴ F	
155693.90	155721.01	-27.11	12	8	0.13	0.16	0.19	17% 1	(³ F2)	⁴ F	+ 7% 1	(¹ F)	² G	+ 7% 1	(³ F1)	⁴ G	
153491.65	153511.12	-19.47	14	10	0.14	0.13	0.18	17% 1	(³ P2)	⁴ D	+ 14% 1	(⁵ D)	⁶ F	+ 12% 1	(⁵ D)	⁴ F	
152149.93	152150.24	-0.31	15	10	0.13	0.10	0.20	17% 1	(³ F2)	⁴ G	+ 15% 1	(¹ F)	² G	+ 8% 1	(³ H)	⁴ G	
150765.44	150779.30	-13.86	19	9	0.13	0.12	0.17	15% 1	(¹ F)	² G	+ 11% 1	(³ G)	⁴ F	+ 9% 1	(³ G)	² F	
148306.49	148308.17	-1.68	8	7	0.12	0.10	0.15	37% 1	(³ G)	⁴ H	+ 9% 1	(³ D)	⁴ D	+ 8% 1	(³ D)	⁴ F	
146950.72	146972.84	-22.12	18	8	0.14	0.10	0.18	23% 1	(³ G)	⁴ G	+ 12% 1	(³ H)	⁴ G	+ 9% 1	(¹ G1)	² F	
145987.82	145974.53	13.29	13	9	0.11	0.10	0.14	20% 1	(³ F2)	⁴ G	+ 13% 1	(³ D)	⁴ F	+ 8% 1	(³ D)	⁴ D	
143636.45	143657.90	-21.45	16	11	0.09	0.04	0.11	26% 1	(³ H)	⁴ H	+ 16% 1	(³ F2)	⁴ D	+ 8% 1	(³ H)	² G	
140542.20	140526.62	15.58	8	6	0.14	0.10	0.17	36% 1	(⁵ D)	⁴ F	+ 14% 1	(⁵ D)	⁴ D	+ 12% 1	(⁵ D)	⁶ F	
137235.54	137253.49	-17.95	13	11	0.09	0.05	0.12	19% 1	(³ G)	⁴ H	+ 18% 1	(³ F2)	⁴ G	+ 6% 1	(³ F1)	⁴ G	
136035.60	136059.96	-24.36	12	9	0.11	0.07	0.14	29% 1	(⁵ D)	⁴ D	+ 23% 1	(⁵ D)	⁶ D	+ 11% 1	(⁵ D)	⁴ F	
134405.36	134425.90	-20.54	9	8	0.13	0.09	0.16	30% 1	(⁵ D)	⁶ P	+ 16% 1	(⁵ D)	⁴ D	+ 12% 1	(⁵ D)	⁶ D	
128487.94	128499.41	-11.47	12	9	0.10	0.06	0.13	17% 1	(⁵ D)	⁶ P	+ 9% 1	(³ H)	⁴ H	+ 8% 1	(¹ G2)	² G	
122801.56	122785.16	16.40	9	7	0.10	0.07	0.13	38% 1	(⁵ D)	⁶ F	+ 16% 1	(⁵ D)	⁴ F	+ 12% 1	(⁵ D)	⁴ D	
112453.68	112413.08	40.60	5	2	0.17	0.02	0.21	36% 1	(⁵ D)	⁶ D	+ 23% 1	(⁵ D)	⁶ P	+ 9% 1	(⁵ D)	⁴ D	

J = 4.5

194999.42	195037.75	-38.33	3	3	0.33	0.38	0.40	41% 1	(¹ G1)	² G	+ 8% 1	(¹ G1)	² H	+ 7% 1	(¹ F)	² G
-	191033.72	-						28% 2	(⁴ G ⁵ G)	⁶ F	+ 14% 2	(⁴ D ⁵ D)	⁶ F	+ 11% 2	(⁴ G ⁵ G)	⁶ G
189018.11	189002.09	16.02	3	3	0.19	0.24	0.30	26% 1	(³ F1)	² G	+ 19% 1	(³ F1)	⁴ G	+ 10% 1	(¹ F)	² G
186010.43	186071.83	-61.40	7	6	0.23	0.19	0.30	39% 1	(³ F1)	⁴ F	+ 8% 1	(¹ G1)	² G	+ 7% 1	(³ F1)	⁴ G
-	185605.39	-						29% 2	(⁴ G ⁵ G)	⁶ H	+ 25% 2	(⁴ G ⁵ G)	⁶ G	+ 8% 2	(⁴ F ⁵ F)	⁶ G
178437.63	178451.65	-14.02	10	8	0.12	0.11	0.17	35% 1	(¹ G1)	² H	+ 14% 1	(¹ G2)	² H	+ 11% 1	(¹ G1)	² G
175393.81	175367.14	26.68	10	7	0.17	0.13	0.22	41% 1	(¹ G2)	² G	+ 16% 1	(³ H)	² H	+ 9% 1	(³ F2)	² G
-	173746.43	-						86% 2	(⁶ S ⁷ S)	⁸ P	+ 12% 2	(⁴ P ⁵ P)	⁶ D	+ 1% 2	(⁴ D ⁵ D)	⁶ F
173021.91	173000.25	21.67	13	11	0.14	0.09	0.16	25% 1	(¹ F)	² G	+ 19% 1	(¹ I)	² H	+ 11% 1	(³ F1)	² G
171820.55	171809.62	10.93	10	8	0.12	0.11	0.15	18% 1	(¹ I)	² H	+ 18% 1	(³ F1)	² G	+ 15% 1	(¹ F)	² G
168942.54	168954.32	-11.78	15	13	0.10	0.10	0.15	12% 1	(³ H)	² H	+ 10% 1	(³ G)	⁴ F	+ 9% 1	(¹ I)	² H
167547.24	167570.84	-23.60	12	8	0.14	0.20	0.22	24% 1	(³ F1)	⁴ G	+ 20% 1	(¹ F)	² G	+ 9% 1	(³ H)	² H
166869.34	166861.25	8.09	15	12	0.12	0.06	0.14	32% 1	(³ G)	² G	+ 19% 1	(³ G)	⁴ H	+ 9% 1	(³ H)	² G
164395.55	164371.42	24.13	15	10	0.12	0.08	0.14	30% 1	(³ D)	⁴ F	+ 18% 1	(³ F2)	⁴ G	+ 12% 1	(³ F2)	² G
161769.77	161778.15	-8.38	12	10	0.14	0.12	0.18	17% 1	(³ G)	⁴ G	+ 10% 1	(³ G)	² H	+ 9% 1	(³ H)	⁴ G
160673.80	160645.44	28.36	14	11	0.13	0.10	0.16	19% 1	(³ D)	⁴ F	+ 16% 1	(³ H)	² H	+ 10% 1	(³ H)	⁴ I
158558.94	158544.14	14.81	13	9	0.12	0.08	0.14	17% 1	(¹ G2)	² H	+ 14% 1	(³ H)	² G	+ 12% 1	(³ G)	² H
157285.90	157339.61	-53.71	16	12	0.10	0.06	0.13	23% 1	(³ H)	² G	+ 17% 1	(³ H)	⁴ H	+ 14% 1	(¹ G2)	² H
154545.18	154565.16	-19.98	19	12	0.11	0.04	0.13	12% 1	(³ G)	⁴ H	+ 11% 1	(³ F2)	⁴ G	+ 10% 1	(³ G)	² G
152435.15	152425.22	9.93	14	11	0.11	0.07	0.13	16% 1	(³ H)	² G	+ 11% 1	(³ G)	⁴ F	+ 11% 1	(³ F2)	⁴ G
149568.12	149583.95	-15.83	14	9	0.11	0.09	0.14	35% 1	(³ H)	⁴ G	+ 17% 1	(³ G)	⁴ G	+ 6% 1	(³ G)	⁴ F
147173.08	147187.58	-14.50	12	12	0.10	0.08	0.13	26% 1	(³ G)	⁴ F	+ 22% 1	(³ H)	⁴ H	+ 8% 1	(³ F2)	² G
144404.40	144406.53	-2.13	9	7	0.11	0.08	0.12	24% 1	(³ G)	⁴ H	+ 12% 1	(³ G)	² H	+ 11% 1	(¹ G1)	² H
143380.12	143371.14	8.98	13	11	0.09	0.07	0.11	45% 1	(³ H)	⁴ I	+ 11% 1	(³ G)	⁴ G	+ 9% 1	(³ F2)	⁴ F
138578.51	138579.72	-1.21	7	5	0.15	0.08	0.18	38% 1	(⁵ D)	⁶ F	+ 32% 1	(⁵ D)	⁴ F	+ 6% 1	(³ H)	⁴ G
136092.09	136087.96	4.13	9	8	0.11	0.11	0.14	27% 1	(⁵ D)	⁶ F	+ 17% 1	(³ G)	⁴ F	+ 10% 1	(³ H)	⁴ G
130816.05	130801.45	14.60	8	7	0.11	0.12	0.15	16% 1	(⁵ D)	⁴ F	+ 12% 1	(³ H)	⁴ I	+ 11% 1	(³ G)	⁴ G
128537.91	128513.15	24.76	7	7	0.13	0.08	0.15	44% 1	(⁵ D)	⁶ D	+ 13% 1	(⁵ D)	⁴ F	+ 6% 1	(³ F2)	² G
113541.08	113539.97	1.11	6	3	0.16	0.17	0.21	36% 1	(⁵ D)	⁶ D	+ 23% 1	(⁵ D)	⁴ F	+ 18% 1	(⁵ D)	⁶ F

J = 5.5

191838.90	191816.71	22.19	4	4	0.28	0.37	0.40	53% 1	(¹ G1)	² H	+ 14% 1	(¹ G2)	² H	+ 7% 1	(³ F2)	⁴ G
-	191640.24	-						42% 2	(⁴ G ⁵ G)	⁶ F	+ 14% 2	(⁴ G ⁵ G)	⁶ H	+ 9% 1	(¹ G1)	² H
-	186962.73	-						36% 2	(⁴ G ⁵ G)	⁶ G	+ 25% 2	(⁴ G ⁵ G)	⁶ H	+ 12% 2	(⁴ G ⁵ G)	⁶ F
182146.77	182142.56	4.22	2	2	0.33	0.25	0.40	69% 1	(³ F1)	⁴ G	+ 6% 1	(³ G)	⁴ H	+ 5% 1	(¹ G1)	² H

174571.88	174556.46	15.42	8	7	0.14	0.13	0.19	52% 1	(¹ G2)	² H + 19% 1	(³ F2)	⁴ G + 6% 1	(³ H)	² I
171029.63	171012.54	17.09	10	8	0.15	0.13	0.19	52% 1	(¹ I)	² I + 16% 1	(¹ I)	² H + 14% 1	(³ H)	² H
164865.38	164880.62	-15.24	7	6	0.17	0.11	0.19	23% 1	(³ H)	⁴ H + 17% 1	(³ G)	² H + 14% 1	(³ H)	² H
162910.93	162914.07	-3.14	8	5	0.17	0.11	0.20	31% 1	(³ G)	⁴ H + 14% 1	(¹ G1)	² H + 14% 1	(³ F2)	⁴ G
161070.08	161092.63	-22.55	11	10	0.13	0.13	0.18	36% 1	(³ H)	² I + 22% 1	(³ F2)	⁴ G + 14% 1	(³ H)	⁴ I
158278.89	158291.59	-12.70	9	8	0.12	0.05	0.15	31% 1	(³ H)	² H + 28% 1	(¹ I)	² H + 11% 1	(³ G)	⁴ G
153943.40	153928.25	15.15	12	9	0.13	0.08	0.16	32% 1	(¹ I)	² I + 30% 1	(³ H)	⁴ G + 15% 1	(¹ I)	² H
150882.19	150842.58	39.61	9	8	0.12	0.11	0.15	37% 1	(³ H)	⁴ H + 21% 1	(³ G)	⁴ G + 19% 1	(³ G)	² H
147505.21	147498.25	6.96	12	8	0.11	0.09	0.14	31% 1	(³ H)	² I + 20% 1	(³ G)	⁴ H + 9% 1	(³ H)	⁴ I
146867.79	146869.02	-1.23	11	7	0.11	0.08	0.14	34% 1	(³ H)	⁴ I + 22% 1	(³ G)	² H + 15% 1	(³ G)	⁴ G
137472.25	137488.37	-16.12	7	6	0.12	0.05	0.14	47% 1	(³ H)	⁴ G + 12% 1	(³ H)	² H + 9% 1	(¹ I)	² H
133846.55	133860.91	-14.36	7	5	0.12	0.09	0.15	20% 1	(³ H)	⁴ I + 19% 1	(³ H)	⁴ H + 14% 1	(³ G)	⁴ H
130182.06	130201.08	-19.02	3	2	0.22	0.10	0.24	76% 1	(⁵ D)	⁶ F + 11% 1	(³ F2)	⁴ G + 7% 1	(³ F1)	⁴ G

J = 6.5

170615.99	170616.45	-0.46	3	3	0.26	0.18	0.30	69% 1	(¹ I)	² I + 16% 1	(¹ I)	² K + 10% 1	(³ H)	⁴ H
163193.48	163160.55	32.93	5	5	0.16	0.17	0.23	45% 1	(³ G)	⁴ H + 32% 1	(³ H)	⁴ I + 20% 1	(³ H)	² I
153664.83	153640.77	24.06	7	7	0.12	0.05	0.15	24% 1	(¹ I)	² I + 23% 1	(³ H)	² I + 19% 1	(³ H)	⁴ H
152593.95	152568.90	25.06	6	5	0.14	0.11	0.18	32% 1	(³ H)	⁴ H + 28% 1	(¹ I)	² K + 20% 1	(³ G)	⁴ H
150072.82	150097.26	-24.44	7	7	0.11	0.07	0.14	32% 1	(³ G)	⁴ H + 24% 1	(¹ I)	² K + 15% 1	(³ H)	² I
135433.89	135452.42	-18.53	4	4	0.13	0.05	0.16	31% 1	(³ H)	² I + 27% 1	(³ H)	⁴ I + 23% 1	(³ H)	⁴ H

J = 7.5

167569.50	167563.33	6.17	1	1	0.38	0.38	0.40	82% 1	(¹ I)	² K + 18% 1	(³ H)	⁴ I
150825.70	150848.97	-23.27	2	2	0.20	0.16	0.24	82% 1	(³ H)	⁴ I + 18% 1	(¹ I)	² K

Table 4Fitted and calculated parameter values (cm⁻¹) in the 5d⁷, 5d⁶6s and 5d⁵6s² configurations of Pt IV.

Parameter	Fitted value		HFR	Fitted/HFR
5d⁷				
E _{av}	25838.5	(3.8)	29713.4	
O ₂	6588.5	(5.1)	7901.6	0.8338
O ₂ '	4009.6	(5.2)	5380.6	0.7452
E _α	86.1	(4.9)		
E _β	37.8	(4.7)		
ζ _d	4926.4	(3.9)	5111.3	0.9638
T ₁	-0.14	(0.24)		
T ₂	0.42	(0.22)		
T ₃	0.0			
T ₄	0.0			
A _c	33.4	(3.5)		
A ₃	6.0	(3.6)		
A ₄	2.0	(3.5)		
A ₅	7.2	(3.5)		
A ₆	20.2	(4.0)		
A ₁	-4.0			
A ₂	4.5			
5d⁶6s				
E _{av}	85309.0	(2.2)	91751.4	0.9586 ^a
O ₂	6751.8	(4.1)	8103.3	0.8332
O ₂ '	4160.4	(5.5)	5502.0	0.7562
E _α	92.4	(2.9)		
E _β	29.0	(4.2)		
ζ _d	5182.4	(3.1)	5362.1	0.9665
T ₁	0.09	(0.11)		
T ₂	0.21	(0.13)		
T ₃	-0.02	(0.09)		
T ₄	0.01	(0.10)		
A _c	33.4	(2.0)		
A ₃	2.0			
A ₄	9.4	(3.0)		
A ₅	5.4	(2.8)		
A ₆	10.4	(1.8)		
A ₁	-5.2	(2.0)		
A ₂	5.4	(2.4)		
C _{ds}	3059.5	(2.6)	3756.7	0.8144
T _{dds}	-3.5	(3.8)		
A _{mso}	56.7	(1.7)		
A _{ss}	-1.6			

5d⁵6s²

E _{av}	160731.0	171638.6	0.9504 ^a
O ₂	6935.0	8295.5	0.8360
O ₂ '	4258.0	5617.4	0.7580
E _α	97.0		
E _β	83.0		
ζ _d	5447.0	5614.9	0.9701
R ² (dd, ds)12 ^b	-22106.0	-26634.3	0.83
R ² (dd, ss)12	19851.0	23917.0	0.83
R ² (dd, ds)23	-22110.0	-26638.2	0.83

Mean Deviation^c = 15 cm⁻¹

^a The energy differences with respect to the ground configuration were used:
(E_{av}(conf) - E_{av}(5d⁷))_{LSF}/(E_{av}(conf) - E_{av}(5d⁷))_{HFR}, where "conf" is either 5d⁶6s or 5d⁵6s².

^b "xy" behind R-integral means interaction between configuration x and y.
1 stands for 5d⁷, 2 stands for 5d⁶6s and 3 stands for 5d⁵6s².

^c Mean Deviation = [(Σ(E_{obs}-E_{calc})²)/(n-m)]^{1/2}, where n is the number of known levels, m is the number of free parameters.

Table 5Fitted and calculated parameter values (cm^{-1}) in the $5d^66p$, $5d^56s6p$ and $5d^46s^26p$ configurations of Pt IV.

Parameter	Fitted value		HFR	Fitted/HFR
5d⁶6p				
E _{av}	161741.9	(3.6)	165421.6	1.0014 ^a
O ₂	6810.9	(6.0)	8160.1	0.8347
O ₂ '	4161.8	(8.0)	5535.7	0.7518
E _α	85.8	(4.7)		
E _β	55.9	(5.7)		
ζ _d	5289.8	(5.6)	5424.2	0.9752
T ₁	0.47	(0.19)		
T ₂	0.44	(0.22)		
T ₃	0.13	(0.22)		
T ₄	0.05	(0.18)		
A _c	34.4	(4.7)		
A ₃	2.7	(3.6)		
A ₄	11.3	(5.0)		
A ₅	7.9	(4.3)		
A ₆	15.4	(3.7)		
A ₁	-5.0			
A ₂	5.0			
A ₀	-5.0			
C ₁ (dp)	2631.0	(8.3)	3115.9	0.8444
C ₂ (dp)	2203.4	(8.9)	2861.8	0.7699
C ₃ (dp)	1141.8	(9.2)	1505.8	0.7583
S ₁ (dp)	169.6	(7.8)		
S ₂ (dp)	-103.2	(8.3)		
ζ _p	10858.9	(12.4)	9655.5	1.1246
S _d ·L _p	-84.3	(8.3)		
S _p ·L _d	-17.4	(10.3)		
Z ² _{pp'}	-73.1	(8.9)		
Z ² _{dd'}	57.0	(9.6)		
Z ¹ _{pp'}	134.9	(7.0)		
Z ¹ _{dd'}	-32.5	(7.4)		
Z ³ _{pp'}	62.9	(8.6)		
Z ³ _{dd'}	-13.1	(7.8)		
SS ₀₂	-13.9	(6.1)		
SS ₂₀	-15.5	(9.2)		
T ₁₆	-6.3	(6.8)		
T ₁₇	23.4	(5.2)		
T ₁₈	-14.4	(6.0)		
T ₁₉	-3.7	(5.0)		
T ₂₀	-53.1	(5.7)		
T ₂₁	-18.9	(4.8)		

T ₂₂	-19.9	(5.7)
T ₂₃	0.3	(5.2)
T ₂₄	-23.5	(6.1)
T ₂₅	5.0	(5.5)
T ₂₆	-34.4	(6.3)
T ₂₇	10.0	(5.0)
T ₂₈	53.0	(6.9)
T ₂₉	-13.0	(5.1)
T ₃₀	23.3	(6.6)
T ₃₁	-14.8	(5.9)
T ₃₂	7.8	(5.2)
T ₃₃	10.3	(6.0)
T ₃₄	-22.8	(5.7)
T ₃₅	-51.8	(5.7)

5d⁵6s6p

E _{av}	233191.0	240193.9	0.9851 ^a
O ₂	6971.0	8345.5	0.8353
O ₂ '	4261.0	5646.9	0.7546
E _α	91.0		
E _β	61.0		
ζ _d	5530.0	5673.1	0.9748
A _c	40.4		
A ₃	5.4		
A ₄	7.8		
A ₅	8.6		
A ₆	15.8		
A ₁	-3.6		
A ₂	8.0		
A ₀	-3.6		
C _{ds}	3093.0	3756.5	0.8234
T _{dds}	-3.0		
A _{mso}	57.0		
A _{ss}	0.0		
C ₁ (dp)	2795.0	3296.6	0.8478
C ₂ (dp)	2279.0	2947.2	0.7733
C ₃ (dp)	1154.0	1530.8	0.7539
S ₁ (dp)	166.0		
S ₂ (dp)	-106.0		
ζ _p	12212.0	10870.6	1.1234
S _d .L _p	-99.9		
S _p .L _d	-11.5		
Z ² _{pp'}	-63.4		
Z ² _{dd'}	60.8		
Z ¹ _{pp'}	141.5		
Z ¹ _{dd'}	-26.2		

$Z_{pp'}^3$	55.5		
$Z_{dd'}^3$	-24.8		
C_{sp}	11919.0	14360.4	0.8300
$A_{mso}(sp)$	0.0		

5d⁴6s²6p

E_{av}	321716.0	333005.6	0.9756 ^a
O_2	7118.0	8521.5	0.8353
O_2	4341.0	5752.3	0.7547
E_α	91.0		
E_β	61.0		
ζ_d	5773.0	5922.7	0.9747
$C_1(dp)$	2948.0	3476.6	0.8480
$C_2(dp)$	2347.0	3035.3	0.7732
$C_3(dp)$	1174.0	1557.6	0.7537
$S_1(dp)$	166.0		
$S_2(dp)$	-106.0		
ζ_p	13623.0	12126.9	1.1234
$R^2(dd, ds)12^b$	-22049.2	-26565.3	0.83
$R^2(dp, sp)12$	-19516.8	-23514.2	0.83
$R^1(dp, ps)12$	-17529.7	-21120.1	0.83
$R^2(dd, ss)13$	19807.0	23863.9	0.83
$R^2(dd, ds)23$	-22068.6	-26588.7	0.83
$R^2(dp, sp)23$	-19944.2	-24029.2	0.83
$R^1(dp, ps)23$	-17823.9	-21474.6	0.83

Mean Deviation^c = 39 cm⁻¹

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- ^a The energy differences with respect to the ground configuration were used:
 $(E_{av}(conf) - E_{av}(5d^7))_{LSF} / (E_{av}(conf) - E_{av}(5d^7))_{HFR}$, where "conf" is either 5d⁶6p, 5d⁵6s6p or 5d⁴6s²6p.
- ^b "xy" behind *R*-integral means interaction between configuration x and y.
1 stands for 5d⁶6p, 2 stands for 5d⁵6s6p and 3 stands for 5d⁴6s²6p.
- ^c Mean Deviation = $[(\sum (E_{obs} - E_{calc})^2) / (n-m)]^{1/2}$, where n is the number of known levels, m is the number of free parameters.