

Relativistic CI calculations of spectroscopic data for the $2p^6$ and $2p^53l$ configurations in Ne-like ions between Mg III and Kr XXVII

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Abstract

Energies, E1, M1, E2, M2 transition rates, oscillator strengths, and lifetimes from relativistic configuration interaction calculations are reported for the states of the $2p^6$, $2p^53s$, $2p^53p$, and $2p^53d$, configurations in all Ne-like ions between Mg III and Kr XXVII. Core-valence and core-core correlation effects are accounted for through SD-expansions to increasing sets of active orbitals. The Breit interaction and leading QED effects are included as perturbations. The results are compared with experiments and other recent benchmark calculations. In Mg III, Al IV, Si V, P VI, S VII, and Ar IX, for which experimental energies are known to high accuracy, the mean error in the calculated energies is only 0.011%.

Keywords: Ne-like ions, energy structure, transition rates, radiative life times, fine-structure, relativistic configuration interaction, MCDHF

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1. Introduction

The transitions connecting the $2p^53s$, $3p$, and $3d$ configurations in Ne-like ions give rise to prominent lines in the spectra of many high temperature light sources. Some of these lines are considered for diagnostics of fusion plasmas [1, 2]. The electric-dipole (E1) transitions between $2p^53s$ and $3p$ of Ne-like Fe ions are observed in extreme ultraviolet (EUV) wavelength ranges, and thought potentially useful for plasma diagnostics of active regions in the solar corona. New observations of a solar flare by means of the EUV Imaging Spectrometer (EIS) on the Hinode satellite [3] have shown difficulties in reconciling available atomic data with observed E1 line intensities [4].

The $3s$ and $3p$ states are also utilized to obtain laser action in the EUV range. Following an initial development for heavier elements such as Y and Se [5], lasing is also obtained in lighter elements [6]. The importance of Ne-like ions have motivated a series of experimental investigations of the lifetimes of the $3l$ configurations in a number of systems using the beam-foil method [8–13]. Through extensive cascade corrections utilizing the ANDC technique accurate measurements were obtained for S VII [14]. The work on S VII indicated that some of the previous measurements e.g. in Cl VIII [12] are in error.

Much work has been done on the theoretical side. Calculations of energies, transition rates, and lifetimes have been performed by a number of different methods. Calculations based on CI methods in the Breit-Pauli scheme have for example been reported by Hibbert [15], Tachiev and Froese Fischer [16], Chen *et al.* [17] and Nahar *et al.* [18]. Multiconfiguration Dirac-Hartree-Fock calculations have been performed by Quinet *et al.* [19], Gogordan *et al.* [20], Aggarwal *et al.* [21], and Dong *et al.* [22, 23]. Mixed CI and perturbation theory has been used by Savukov [24] and relativistic perturbation calculations have been used by Ivanova and Gulov [25] to compute energies of the $2p^53l$ and $2p^54l$ states. More recently benchmark calculations for ions in the iron group have been done by Ishikawa *et al.* using a relativistic multireference Möller - Plesset method [26, 27]. The high accuracy of these calculations made it possible for Ishikawa *et al.* to revise the identification of several lines.

The present work is motivated by the need to extend the term analysis to more highly ionized ions and to give a full set of consistent and high accuracy transition rates including also M1, E2, and M2 multipoles for large parts of the isoelectronic sequence. The paper presents large relativistic CI calculations of energies, transition rates, and lifetimes. The excellent description of the energy separations along the sequence makes it possible to point out a number of lines for which the experimental identifications can be questioned. The calculations are helpful in analyzing new data from EBITs, fusion plasmas, and astrophysical sources.

2. Computational procedure

The multiconfiguration Dirac-Hartree-Fock (MCDHF) method has recently been described in great detail by Grant [28], and here we just give a brief outline. Starting from the Dirac-Coulomb Hamiltonian

$$H_{\text{DC}} = \sum_{i=1}^N (c \boldsymbol{\alpha}_i \cdot \mathbf{p}_i + (\beta_i - 1)c^2 + V_i^N) + \sum_{i>j}^N 1/r_{ij}, \quad (1)$$

where V^N is the monopole part of the electron-nucleus Coulomb interaction, the atomic state functions (ASFs) describing different fine-structure states are obtained as linear combinations of symmetry adapted configuration state functions

(CSFs)

$$|\gamma JM_J\rangle = \sum_{j=1}^{NCSFs} c_j |\gamma_j JM_J\rangle. \quad (2)$$

In the expression above J and M_J are the angular quantum numbers. γ denotes other appropriate labeling of the configuration state function, for example parity, orbital occupancy, and coupling scheme. The configuration state functions are built from products of one-electron Dirac orbitals. In the relativistic self-consistent field (RSCF) procedure both the radial parts of the Dirac orbitals and the expansion coefficients are optimized to self-consistency. The Breit interaction

$$H_{\text{Breit}} = - \sum_{i < j}^N \left[\boldsymbol{\alpha}_i \cdot \boldsymbol{\alpha}_j \frac{\cos(\omega_{ij} r_{ij}/c)}{r_{ij}} + (\boldsymbol{\alpha}_i \cdot \nabla_i)(\boldsymbol{\alpha}_j \cdot \nabla_j) \frac{\cos(\omega_{ij} r_{ij}/c) - 1}{\omega_{ij}^2 r_{ij}/c^2} \right] \quad (3)$$

as well as leading QED corrections can be included in subsequent relativistic configuration interaction (RCI) calculations [29]. Calculations can be done for single levels, but also for portions of a spectrum in the extended optimal level (EOL) scheme, where optimization is on a weighted sum of energies [30]. Using the latter scheme a balanced description of a number of fine-structure states belonging to one or more configurations can be obtained in a single calculation. All calculations were performed with a new release [31] of the GRASP2K code [32].

3. Computation of transition parameters

The transition parameters, such as rates for spontaneous decay, for multipole transitions between two atomic states γJM_J and $\gamma' J' M'_J$ can be expressed in terms of reduced transition matrix elements

$$\langle \gamma J \| \mathbf{Q}_k^{(\lambda)} \| \gamma' J' \rangle, \quad (4)$$

where $\mathbf{Q}_k^{(\lambda)}$ is the electromagnetic multipole operator of order k in length or velocity gauge [33]. The superscript designates the type of multipole: $\lambda = 1$ for electric multipoles and $\lambda = 0$ for magnetic multipoles. Standard Racah algebra assumes that the atomic state functions are built from the same orthogonal radial orbital set [34]. However, this restriction can be relaxed. To compute transition matrix elements between two atomic state functions described by independently optimized orbital sets, transformations of the atomic state functions are performed in such a way that the orbital sets become biorthogonal, in which case the calculation can be handled using standard techniques [35].

4. Calculations

In this work calculations were done by configuration, i.e. wavefunctions for all states belonging to a specific configuration were determined simultaneously in an EOL calculation [30]. The configuration expansions were obtained using the active set method [36, 37]. Here CSFs of a specified parity and J symmetry are generated by excitations from a number of reference configurations to a set of relativistic orbitals. By applying restrictions on the allowed excitations, different electron correlation effects can be targeted. To monitor the convergence of the calculated energies and transition parameters, the active sets were increased in a systematic way by adding layers of correlation orbitals.

An initial analysis showed that the states were well described in a model with a single reference configuration. In the present work the $1s$ core shell was kept closed and the configuration expansions were obtained by SD-excitations from the remaining shells of the single reference configuration to active sets with principal quantum numbers $n = 4, 5, 6$. Due

to stability problems in the self-consistent procedure the calculations were done layer by layer, at each stage optimizing only the outer orbitals. To get a balance description of the states in the $2p^53l$ configurations the $1s, 2s, 2p, 3s, 3p, 3d$ orbitals were determined together in an EOL Dirac-Fock calculation. The $n = 4, 5, 6$ orbitals describe mainly correlation within the $2s$ and $2p$ shells. To improve the description of the correlation between the $2s$ and $2p$ shells and the outer electron we optimized $n = 7$ orbitals on expansions obtained by SD-excitations, but with the additional restriction that there should be at most one excitation from $2s$ or $2p$. For the $2p^6$ ground configuration no additional restrictions for the $n = 7$ expansion were imposed. The RSCF calculations were followed by RCI calculations including the Breit interaction and leading QED effects. The expansions for the RCI calculations were obtained by allowing all SD-excitations to the $n = 7$ orbital basis from the reference configurations, again with the $1s$ core shell closed. To capture higher order correlation effects these expansions were augmented with expansions obtained by SDT-excitations to the smaller $n = 4$ orbital basis. The largest expansion, that of the states of the $2p^53d$ configuration, contained more than 700 000 CSFs distributed over 5 symmetry blocks corresponding to $J = 0, 1, 2, 3, 4$.

5. Labeling of the states

Term mixing is extensive for the Ne-like sequence. In fact, NIST energy level data use the jk -coupling scheme in assigning labels to these levels. In relativistic calculations the states are normally given in jj -coupling. To get more appropriate labels we have performed a transformation to the LSJ coupling scheme. The transformation procedure was developed by Gaigalas and co-workers [38, 39] and adapted for large scale calculations in the new release of the GRASP2K code [31]. If only the largest LSJ component is used as a label there are ambiguities in some cases. In Table 1 there are for example two levels in K X with $2p^53p\ ^3D_1$ as the leading component. Thus, states are labeled by their squared LSJ composition. Due to space limitations only contributions larger than 0.1 are included. The paper by Froese Fischer and Tachiev [16] discusses an algorithm for generating unique labels for database requirements.

6. Results and evaluation of data

Table 1 displays the experimental energy levels and the computed energies from the largest RCI calculations including QED corrections. The computed energies agree very well with the experimental values. The differences between computed and experimental energies for the light elements Mg III, Al IV, Si V, P VI, S VII, and Ar IX, for which experimental energies are known to high accuracy, are in most cases around one or two hundred cm^{-1} . This corresponds to an average theoretical inaccuracy of only 0.011 %. Looking more carefully on the deviations we see that they are large for all the $2p^53p\ ^1S_0$ levels in the sequence. The large deviation for this level was also noted by Ishikawa *et al.* [26]. This state has been discussed in detail by Hansen [40], who showed that it has a very different radial behavior than all other states arising from the $2p^53p$ configuration. An EOL calculation, which weights all states by a statistical weight factor of $2J + 1$, will be strongly dominated by the other states, which have approximately the same radial characteristics. Thus the radial orbitals obtained in the EOL calculation will describe these states well, but will be less suited to describe the 1S_0 state. This is manifested in a slower convergence rate of the energy with respect to the increasing orbital basis and thus a too high final energy. It is interesting to note that Ishikawa *et al.* [26] obtain energies that are too low for this state rather than too high. Our calculations indicate that there might be calibration difficulties for Cl VIII, V XIV, Ni

XIX and Cu XX, where all levels from experiment are either too high or too low with approximately the same value. The large differences between theory and experiment for $2p^5 3d \ ^1P_1^o$ in Zn XXI and Ge XXIII suggest that these levels are not correctly identified experimentally. There are also three levels in Kr XXVII for which the deviations between theory and experiment are atypically large.

In Table 2 the present *ab initio* energies values for Ca XI, Ti XIII, and Fe XVII are compared with the values given by Ishikawa [26, 27] and by experiment. For Ca XI and Ti XIII the experimental values are from NIST [44], but for Fe XVII we have used the critically evaluated energies by Del Zanna and Ishikawa [27]. We see that the two sets of calculations give very consistent results, the exception being the $2p^5 3p \ ^1S_0$ state as discussed above. The calculations predict energy levels with such a high precision that the results can be utilized in identifying new levels.

Rates and weighted oscillator strengths for E1, M1, E2, M2 transitions between levels in the $2p^6$ and $2p^5 3s, 3p$ and $3d$ configurations are given in Table 3. Rates and oscillator strengths for the E1 and E2 transitions are given in the length gauge. To assess the accuracy of the computed values also the ratios R between the rates in the length and velocity gauges are given. In most cases the ratio is very close to 1, but for some weak intercombination transitions values in the two gauges differ substantially giving ratios far from 1. The weakness of a transition frequently comes out as a result of cancellation between a number of large contributions or between different parts of the radial transition integrals [41]. A small unbalance due to correlation effects may thus change the calculated transition probabilities dramatically in one of the gauges. For perturbation theory in the no-pair approximation, there is a significant correction to the velocity gauge from the negative energy states [42] for weak transitions. It is not known how well these corrections are represented in the present calculations. The values for the weak intercombination transitions should in general be considered as less accurate than the strong transitions. In Table 4 the current rates for transitions in S VII and Fe XVII are compared with rates from Breit-Pauli calculations by Tachiev and Froese Fischer [16] and Hibbert *et al.* [15]. There is an excellent agreement with the calculations by Tachiev and Fischer for all the listed transitions. The difference is on the average only 2.2 % for the rates. The calculations by Hibbert *et al.* are also in good agreement with the present values in S VII. For Fe XVII the agreement is less good. One explanation for the differences can be found in the fact that the Breit-Pauli method captures the relativistic contraction effects in a less efficient way than fully relativistic calculations [43].

In Table 5 lifetimes for the excited states are given for the ions in the sequence. In Table 6 our lifetimes in S VII are compared with values from cascade corrected beam-foil measurements [14] and with the calculated values by Tachiev and Froese Fischer [16]. Again there is an excellent agreement with the latter calculations and the average difference is 1.7 %. The theoretical values are also in detailed agreement with the experimental values. In most cases they are well within the quoted error bars. Beam-foil measurements of lifetimes in several other ions are also available. In Table 7 these values are compared with the theoretical values. In general there is a good agreement. However, there are exceptions. In Cl VIII for example the experimentally determined lifetime of $2p^5 3s \ ^3P_1^o$ is too short compared with the calculated lifetime. As discussed in [14] this difference can be attributed to the lack of cascade corrections.

7. Summary

In this work spectroscopic data for the levels of the $2p^6$ and $2p^5 3s, 3p, 3d$ configurations in Mg III to Kr XXVII are computed using a fully relativistic CI method. For the lowest ions in the sequence calculated energy levels differ from the ones listed in the NIST database by less than 0.011 %. The theoretical energies are of almost spectroscopic quality

and should be helpful when identifying levels for the more ionized species in the sequence. Some possible experimental misidentifications of lines in Zn XXI, Ge XXIII, and Kr XXVII have been pointed out. Transition data and rates from the present study is in excellent agreement with data given by Tachiev and Froese Fischer [16]. For the more ionized atoms the transition data is believed to be more accurate than the data from other methods.

Electronic form of the tables are available from the journal.

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References

- [1] C. Jupén, Nucl. Instr. Meth. **B31** (1988) 166.
- [2] P. Beiersdorfer, J. Clementson, J. Dunn, M. F. Gu, K. Morris, Y. Podpaly, E. Wang, M. Bitter, R. Feder, K. W. Hill, D. Johnson, and R. Barnsley J. Phys. B: At. Mol. Opt. Phys. **43**(14) (2010) 144008.
- [3] J.L. Culhane *et al.*, Sol. Phys. **243** (2007) 19.
- [4] H.P. Warren, U. Feldman, and C.M. Brown, ApJ **685** (2008) 1277.
- [5] D.L. Matthews *et al.* Phys. Rev. Lett. **54** (1985) 106.
- [6] J. Nilsen, B. J. MacGowan, L.B. DaSilva, and J.C. Moreno, Phys. Rev. A **48** (1993) 4682.
- [7] H.G. Berry, J. Desesquelles, K.T. Cheng, and R.M. Schectman, Phys. Rev. A **8** (1978) 546.
- [8] J.P. Buchet, M.C. Buchet-Poulizac, and P. Ceyzeriat, Phys. Lett. A **77** (1980) 424.
- [9] E. Träbert, Z. Phys. A **319** (1984) 25.
- [10] E. Träbert and C. Jupén, Phys. Scr. **30** (1987) 586.
- [11] M. Westerlind *et al.*, Phys. Scr. **38** (1988) 821.
- [12] M. Westerlind, L. Engström, P. Bengtsson, and L.J. Curtis, Phys. Rev. A **45** (1992) 6198.
- [13] L.J. Curtis, S.T. Maniak, R.W. Ghrist, R.E. Irving, D.G. Ellis, E. Träbert, J. Granzow, P. Bengtsson, and L. Engström, Phys. Rev. A **51** (1995) 4575.
- [14] M. Kirm, P. Bengtsson, and L. Engström, Phys. Scr. **54** (1996) 167.
- [15] A. Hibbert, M. Le Dourneuf, M. Mohan, At. Data and Nucl. Data Tables **53** (1993) 23
- [16] G. Tachiev and C. Froese Fischer, At. Data and Nucl. Data Tables **87** (2004) 1.
- [17] G.X. Chen, A.K. Pradhan, and W. Eissner, J. Phys. B: At. Mol. Opt. Phys. **36** (2003) 453.
- [18] S.N. Nahar, W. Eissner, G.X. Chen, and A.K. Pradhan, A & A **408**, (2003) 789.
- [19] P. Quinet, T. Gorlia, and E. Biemont, Phys. Scr. **44** (1991) 164.
- [20] J.A. Cogordan, S. Lunell, C. Jupén, and U. Litzén, Phys. Scr. **31** (1985) 545.

- [21] K.M. Aggarwal, F.P. Keenan, and R. Kisielius, *A& A* **420** (2004) 783.
- [22] C.Z. Dong, L.Y. Xie, X.X. Zhou, X.W. Ma, and S. Fritzsche, *Hyperfine Interactions* **146/147**, (2003) 161.
- [23] C.Z. Dong, L.Y. Xie, S. Fritzsche, and T. Kato, *Nucl. Instr. and Meth. in Phys. Res. B* **205** (2003) 87.
- [24] I.M. Savukov, *J. Phys. B: At. Mol. Opt. Phys.* **36** (2003) 4789.
- [25] E.P. Ivanova and A.V. Gulov, *At. Data and Nucl. Data Tables* **49**, (1991) 1.
- [26] Y. Ishikawa, J.M. Lopez Encarnacion, and E. Träbert, *Phys. Scr.* **79**. (2009) 025301.
- [27] G. Del Zanna and Y. Ishikawa, *A & A* 508 (2009) , 1517.
- [28] I.P. Grant, *Relativistic Quantum Theory of Atoms and Molecules*, Springer, New York, 2007.
- [29] B.J. McKenzie, I.P. Grant, and P.H. Norrington, *Comput. Phys. Commun.* 21 (1980) 233.
- [30] K.G. Dyall, I.P. Grant, C.T. Johnson, F.A. Parpia, and E.P. Plummer, *Comput. Phys. Commun.* 55 (1989) 425.
- [31] P. Jönsson, G. Gaigalas, J. Bieroń, C. Froese Fischer, and I.P. Grant, *Comput. Phys. Commun.* (2011) to be submitted.
- [32] P. Jönsson, X. He, C. Froese Fischer, and I.P. Grant, *Comput. Phys. Commun.* **177** (2007) 597.
- [33] I.P. Grant, *J. Phys. B* 7 (1974) 1458.
- [34] G. Gaigalas, S. Fritzsche, I. P. Grant, *Comput. Phys. Commun.* 139 (2001) 263.
- [35] J. Olsen , M. Godefroid, P. Jönsson, P.Å. Malmqvist, and C. Froese Fischer, *Phys. Rev. E* 52 (1995) 4499.
- [36] J. Olsen, B.O. Roos, P. Jorgensen, and H.J.Aa Jensen, *J. Chem. Phys.* 89 (1988) 2185.
- [37] L. Stuesson, P. Jönsson, and C. Froese Fischer, *Comput. Phys. Commun.* 177 (2007) 539.
- [38] G. Gaigalas, T. Žalandauskas, and Z. Rudzikas, *Atomic Data and Nuclear Data Tables*, 84 (2003) 99.
- [39] G. Gaigalas, T. Žalandauskas, and S. Fritzsche, *Comput. Phys. Commun.* 157 (2004) 239.
- [40] J.E. Hansen, *J. Phys. B: At. Mol. Opt. Phys.* **6** (1973) 1387.
- [41] A. Ynnerman and C. Froese Fischer, *Phys. Rev. A* **51**, (1995) 2020.
- [42] M.H. Chen, K.T. Cheng, and W.R. Johnson, *Phys. Rev. A* **64**, (2001) 042507.
- [43] M.R. Godefroid, P. Jönsson, and C. Froese Fischer, *Phys. Scr. T* **78**, (1998), 33.
- [44] Y. Ralchenko, A.E. Kramida, J. Reader, and NIST ASD Team (2008). NIST Atomic Spectra Database (v 3.1.5) [online]. Available : <http://physics.nist.gov/asd3> [2008, June 26] National Institute of Standards and Technology, Gaithersburg, MD.
- [45] C. Jupén, *Nuclear Instruments and Methods in Physics Research* **202**, Issues 1-2, (1982), 25.

Explanation of Tables

Table 1. Energy levels

Config.	Part of the label
LSJ	Leading LS term, J value of the level, and parity (superscript o designates an odd level)
Comp.	Squared LSJ composition obtained from a transformation from jj to LSJ coupling.
E_{RCI}	Calculated energies (in cm^{-1}) of the levels relative to the ground level
E_{obs}	Observed energies are those of [44] except for Cl VIII where data have been taken from Jupén [45] and for Fe XVII where we have adopted the energies by del Zanna and Ishikawa [27]
ΔE	Difference between calculated and observed energies (in cm^{-1})

Table 2. Comparison of energy levels

Config.	Part of the label
LSJ	Leading LS term, J value of the level, and parity (superscript o designates an odd level)
Comp.	Squared LSJ composition obtained from a transformation from jj to LSJ coupling.
E_{RCI}	Calculated energies (in cm^{-1}) of the levels relative to the ground level, this work
E_{MR-SD}	Calculated energies (in cm^{-1}) of the levels relative to the ground level from Ishikawa <i>et al.</i> [27] (Ca XI and Ti XIII) and from del Zanna and Ishikawa [27] (Fe XVII)
E_{obs}	Observed energies are those of [44] except for for Fe XVII where we have adopted the energies by del Zanna and Ishikawa [27]
ΔE	Difference between calculated and observed energies (in cm^{-1})

Table 3. Transition data

Upper	Characteristics of upper levels
Lower	Characteristics of lower levels
ΔE	Calculated transition energies in cm^{-1}
Type	Type of transitions (E1, E2, M1, M2)
E1	Electric dipole transitions
E2	Electric quadrupole transitions
M1	Magnetic dipole transitions
M2	Magnetic quadrupole transitions
gf	Oscillator strengths. Length gauge has been used for E1 and E2 transitions
A	Transition rates for spontaneous emission in units of s^{-1} . Rates are based on computed transition energies. Length gauge has been used for E1 and E2 transitions.
R	Ratio between transition rates in length and velocity gauge

Table 4. Comparison of transition data

Upper	Characteristics of upper levels
Lower	Characteristics of lower levels
ΔE	Calculated transition energies in cm^{-1}
Type	Type of transitions (E1, E2, M1, M2)
E1	Electric dipole transitions
E2	Electric quadrupole transitions
M1	Magnetic dipole transitions
M2	Magnetic quadrupole transitions
A_{RCI}	Transition rates for spontaneous emission in units of s^{-1} , this work. Rates are based on computed transition energies. Length gauge has been used for E1 and E2 transitions.
A_{BP}	Transition rates for spontaneous emission in units of s^{-1} from MCHF-BP calculations by Tachiev and Froese Fischer [16]
A_{CIV3}	Transition rates for spontaneous emission in units of s^{-1} from CIV3 calculations by Hibbert <i>et al.</i> [15]

Table 5. Lifetimes

Upper	Characteristics of upper levels
τ	Lifetime of the level in s.

Table 6. Comparison of lifetimes in s for S VII

Upper	Characteristics of upper levels
τ_{RCI}	Lifetime of the level in s, this work
τ_{BP}	Lifetime of the level in s from MCHF-BP calculations by Tachiev and Froese Fischer [16]
τ_{exp}	Lifetime of the level in s from cascade corrected beam-foil measurements by Kirm <i>et al.</i> [14]

Table 7. Comparison of lifetimes in s for several ions

Upper	Characteristics of upper levels
τ_{RCI}	Lifetime of the level in s, this work
τ_{exp}	Lifetime of the level in s
Mg	$^3P_1^o$ Buchet <i>et al.</i> [8], $^1P_1^o$ Curtis <i>et al.</i> [13]
Al	Curtis <i>et al.</i> [13]
Si	Curtis <i>et al.</i> [13]
P	Curtis <i>et al.</i> [13]
S	Kirm <i>et al.</i> [14]
Cl	Westerlind <i>et al.</i> [12]
Ar	Berry <i>et al.</i> [7]

Table 1

Energy levels. See page 8 for Explanation of Tables.

Config.	<i>LSJ</i>	Comp.	<i>E_{RCI}</i>	<i>E_{obs}</i>	ΔE
Mg III					
$2p^6$	1S_0	0.98	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	425 623	425 640	-17
$2p^5 3s$	$^3P_1^o$	0.93	426 819	426 868	-49
$2p^5 3s$	$^3P_0^o$	0.99	427 848	427 852	-4
$2p^5 3s$	$^1P_1^o$	0.93	431 489	431 530	-41
$2p^5 3p$	3S_1	0.97	467 580	467 379	201
$2p^5 3p$	3D_3	0.99	474 135	474 053	82
$2p^5 3p$	3D_2	0.88	474 717	474 655	62
$2p^5 3p$	3D_1	0.90	475 540	475 503	37
$2p^5 3p$	1D_2	$0.61 + 0.35 \ ^3P_2$	477 458	477 436	22
$2p^5 3p$	1P_1	$0.65 + 0.24 \ ^3P_1$	478 381	478 375	7
$2p^5 3p$	3P_2	$0.62 + 0.29 \ ^1D_2$	478 851	478 846	5
$2p^5 3p$	3P_0	0.98	479 305	479 265	40
$2p^5 3p$	3P_1	$0.70 + 0.27 \ ^1P_1$	479 455	479 456	-1
$2p^5 3p$	1S_0	0.97	497 139	496 012	1127
$2p^5 3d$	$^3P_0^o$	0.98	530 262	530 178	83
$2p^5 3d$	$^3P_1^o$	0.96	530 459	530 421	38
$2p^5 3d$	$^3P_2^o$	0.90	530 986	530 963	23
$2p^5 3d$	$^3F_4^o$	0.99	531 538	531 563	-25
$2p^5 3d$	$^3F_3^o$	$0.63 + 0.35 \ ^1F_3^o$	531 796	531 833	-37
$2p^5 3d$	$^3F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	532 656	532 726	-70
$2p^5 3d$	$^1F_3^o$	$0.45 + 0.34 \ ^3D_3^o + 0.20 \ ^3F_3^o$	532 898	532 971	-73
$2p^5 3d$	$^3D_1^o$	$0.66 + 0.32 \ ^1P_1^o$	534 147	534 198	-50
$2p^5 3d$	$^1D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	534 676	534 777	-101
$2p^5 3d$	$^3D_3^o$	$0.64 + 0.18 \ ^1F_3^o + 0.16 \ ^3F_3^o$	534 822	534 924	-101
$2p^5 3d$	$^3D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	535 082	535 180	-98
$2p^5 3d$	$^1P_1^o$	$0.65 + 0.31 \ ^3D_1^o$	536 090	536 152	-62
Al IV					
$2p^6$	1S_0	0.99	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	616 626	616 644	-18
$2p^5 3s$	$^3P_1^o$	0.92	618 428	618 474	-46
$2p^5 3s$	$^3P_0^o$	0.99	620 048	620 060	-12
$2p^5 3s$	$^1P_1^o$	0.92	624 701	624 717	-16
$2p^5 3p$	3S_1	0.97	671 850	671 632	218
$2p^5 3p$	3D_3	0.99	680 990	680 860	130
$2p^5 3p$	3D_2	0.87	681 796	681 683	113
$2p^5 3p$	3D_1	0.88	683 071	682 982	89
$2p^5 3p$	1D_2	$0.56 + 0.41 \ ^3P_2$	685 812	685 728	84
$2p^5 3p$	1P_1	$0.65 + 0.23 \ ^3P_1 + 0.11 \ ^3D_1$	687 026	686 959	67
$2p^5 3p$	3P_2	$0.56 + 0.33 \ ^1D_2$	687 895	687 830	65
$2p^5 3p$	3P_0	0.99	688 401	688 310	91
$2p^5 3p$	3P_1	$0.71 + 0.27 \ ^1P_1$	688 707	688 649	58
$2p^5 3p$	1S_0	0.97	715 148	714 097	1 051
$2p^5 3d$	$^3P_0^o$	0.99	759 339	759 193	146
$2p^5 3d$	$^3P_1^o$	0.97	759 690	759 597	93
$2p^5 3d$	$^3P_2^o$	0.93	760 550	760 472	78
$2p^5 3d$	$^3F_4^o$	0.99	761 732	761 688	44
$2p^5 3d$	$^3F_3^o$	$0.71 + 0.26 \ ^1F_3^o$	762 303	762 272	31
$2p^5 3d$	$^3F_2^o$	$0.75 + 0.15 \ ^1D_2^o$	763 614	763 614	0
$2p^5 3d$	$^1F_3^o$	$0.55 + 0.30 \ ^3D_3^o + 0.14 \ ^3F_3^o$	764 297	764 297	0
$2p^5 3d$	$^3D_1^o$	$0.86 + 0.12 \ ^1P_1^o$	766 886	766 881	5
$2p^5 3d$	$^1D_2^o$	$0.56 + 0.23 \ ^3F_2^o + 0.19 \ ^3D_2^o$	767 003	767 036	-33
$2p^5 3d$	$^3D_3^o$	$0.68 + 0.18 \ ^1F_3^o + 0.13 \ ^3F_3^o$	767 314	767 345	-31
$2p^5 3d$	$^3D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	767 719	767 751	-32
$2p^5 3d$	$^1P_1^o$	$0.87 + 0.11 \ ^3D_1^o$	770 927	770 837	90
Si V					
$2p^6$	1S_0	0.99	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	837 972	838 017	-46
$2p^5 3s$	$^3P_1^o$	0.89	840 523	840 590	-67
$2p^5 3s$	$^3P_0^o$	0.99	843 025	843 071	-46
$2p^5 3s$	$^1P_1^o$	0.89	848 484	848 511	-28
$2p^5 3p$	3S_1	0.97	906 458	906 252	206
$2p^5 3p$	3D_3	0.99	918 066	917 929	137
$2p^5 3p$	3D_2	$0.85 + 0.11 \ ^1D_2$	919 083	918 959	124
$2p^5 3p$	3D_1	0.84	920 963	920 864	99

Continued...

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3p$	1D_2	$0.51 + 0.47 \ ^3P_2$	924 391	924 292	99
$2p^5 3p$	1P_1	$0.63 + 0.22 \ ^3P_1 + 0.14 \ ^3D_1$	926 029	925 947	82
$2p^5 3p$	3P_2	$0.49 + 0.37 \ ^1D_2 + 0.13 \ ^3D_2$	927 477	927 398	79
$2p^5 3p$	3P_0	0.99	927 907	927 806	102
$2p^5 3p$	3P_1	$0.71 + 0.27 \ ^1P_1$	928 476	928 405	71
$2p^5 3p$	1S_0	0.97	963 878	962 950	928
$2p^5 3d$	$^3P_0^o$	0.99	1 017 764	1 017 629	135
$2p^5 3d$	$^3P_1^o$	0.97	1 018 310	1 018 236	74
$2p^5 3d$	$^3P_2^o$	0.93	1 019 597	1 019 537	59
$2p^5 3d$	$^3F_4^o$	0.99	1 021 424	1 021 384	40
$2p^5 3d$	$^3F_3^o$	$0.76 + 0.22 \ ^1F_3^o$	1 022 379	1 022 351	28
$2p^5 3d$	$^3F_2^o$	$0.76 + 0.14 \ ^1D_2^o$	1 024 241	1 024 240	1
$2p^5 3d$	$^1F_3^o$	$0.57 + 0.31 \ ^3D_3^o + 0.10 \ ^3F_3^o$	1 025 532	1 025 526	6
$2p^5 3d$	$^1D_2^o$	$0.57 + 0.23 \ ^3F_2^o + 0.20 \ ^3D_2^o$	1 029 310	1 029 340	-30
$2p^5 3d$	$^3D_1^o$	0.91	1 029 407	1 029 407	0
$2p^5 3d$	$^3D_2^o$	$0.66 + 0.20 \ ^1F_3^o + 0.13 \ ^3F_3^o$	1 029 849	1 029 875	-26
$2p^5 3d$	$^3D_3^o$	$0.67 + 0.25 \ ^1D_2^o$	1 030 384	1 030 414	-30
$2p^5 3d$	$^1P_1^o$	0.92	1 037 077	1 036 915	162
P VI					
$2p^6$	1S_0	0.99	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	1 089 662	1 089 845	-183
$2p^5 3s$	$^3P_1^o$	$0.86 + 0.13 \ ^1P_1^o$	1 093 092	1 093 290	-198
$2p^5 3s$	$^3P_0^o$	0.99	1 096 872	1 097 062	-190
$2p^5 3s$	$^1P_1^o$	$0.86 + 0.13 \ ^3P_1^o$	1 102 961	1 103 116	-155
$2p^5 3p$	3S_1	0.97	1 171 510	1 171 426	83
$2p^5 3p$	3D_3	0.99	1 185 478	1 185 452	26
$2p^5 3p$	3D_2	$0.82 + 0.13 \ ^1D_2$	1 186 658	1 186 645	12
$2p^5 3p$	3D_1	$0.79 + 0.12 \ ^1P_1$	1 189 306	1 189 314	-8
$2p^5 3p$	3P_2	$0.52 + 0.46 \ ^1D_2$	1 193 297	1 193 303	-6
$2p^5 3p$	1P_1	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	1 195 592	1 195 616	-25
$2p^5 3p$	3P_2	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	1 197 825	1 197 853	-28
$2p^5 3p$	3P_0	0.99	1 197 977	1 197 983	-7
$2p^5 3p$	3P_1	$0.70 + 0.27 \ ^1P_1$	1 198 962	1 198 999	-37
$2p^5 3p$	1S_0	0.98	1 243 296	1 242 589	707
$2p^5 3d$	$^3P_0^o$	0.99	1 305 799	1 305 796	3
$2p^5 3d$	$^3P_1^o$	0.97	1 306 592	1 306 655	-63
$2p^5 3d$	$^3P_2^o$	0.93	1 308 413	1 308 493	-80
$2p^5 3d$	$^3F_4^o$	0.99	1 310 804	1 310 891	-86
$2p^5 3d$	$^3F_3^o$	$0.77 + 0.20 \ ^1F_3^o$	1 312 199	1 312 298	-98
$2p^5 3d$	$^3F_2^o$	$0.74 + 0.15 \ ^1D_2^o$	1 314 734	1 314 860	-126
$2p^5 3d$	$^1F_3^o$	$0.56 + 0.35 \ ^3D_3^o$	1 316 692	1 316 804	-113
$2p^5 3d$	$^1D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.19 \ ^3D_2^o$	1 321 751	1 321 901	-151
$2p^5 3d$	$^3D_1^o$	0.93	1 321 895	1 322 017	-122
$2p^5 3d$	$^3D_2^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	1 322 602	1 322 751	-148
$2p^5 3d$	$^3D_3^o$	$0.67 + 0.26 \ ^1D_2^o$	1 323 226	1 323 378	-152
$2p^5 3d$	$^1P_1^o$	0.93	1 334 251	1 334 166	85
S VII					
$2p^6$	1S_0	0.99	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	1 371 667	1 371 784	-117
$2p^5 3s$	$^3P_1^o$	$0.81 + 0.18 \ ^1P_1^o$	1 376 084	1 376 207	-123
$2p^5 3s$	$^3P_0^o$	0.99	1 381 663	1 381 805	-142
$2p^5 3s$	$^1P_1^o$	$0.81 + 0.18 \ ^3P_1^o$	1 388 242	1 388 339	-97
$2p^5 3p$	3S_1	0.96	1 467 040	1 466 883	157
$2p^5 3p$	3D_3	0.99	1 483 276	1 483 165	111
$2p^5 3p$	3D_2	$0.79 + 0.16 \ ^1D_2$	1 484 530	1 484 428	102
$2p^5 3p$	3D_1	$0.72 + 0.17 \ ^1P_1 + 0.11 \ ^3P_1$	1 488 099	1 488 019	80
$2p^5 3p$	3P_2	$0.56 + 0.42 \ ^1D_2$	1 492 576	1 492 496	80
$2p^5 3p$	1P_1	$0.55 + 0.27 \ ^3D_1 + 0.17 \ ^3P_1$	1 495 881	1 495 849	32
$2p^5 3p$	3P_0	0.99	1 498 703	1 498 631	72
$2p^5 3p$	1D_2	$0.42 + 0.38 \ ^3P_2 + 0.19 \ ^3D_2$	1 499 115	1 499 068	47
$2p^5 3p$	3P_1	$0.70 + 0.27 \ ^1P_1$	1 500 313	1 500 286	27
$2p^5 3p$	1S_0	0.98	1 553 392	1 552 707	685
$2p^5 3d$	$^3P_0^o$	0.99	1 623 670	1 623 623	47
$2p^5 3d$	$^3P_1^o$	0.97	1 624 769	1 624 773	-4
$2p^5 3d$	$^3P_2^o$	0.92	1 627 240	1 627 260	-20
$2p^5 3d$	$^3F_4^o$	0.99	1 630 063	1 630 083	-20
$2p^5 3d$	$^3F_3^o$	$0.77 + 0.20 \ ^1F_3^o$	1 631 947	1 631 989	-42
$2p^5 3d$	$^3F_2^o$	$0.71 + 0.17 \ ^1D_2^o + 0.11 \ ^3D_2^o$	1 635 272	1 635 337	-65

Continued...

Table 1 (continued)

Config.	<i>LSJ</i>	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3d$	$^1F_3^o$	$0.53 + 0.40 \ ^3D_3^o$	1 637 878	1 637 915	-37
$2p^5 3d$	$^3D_3^o$	0.93	1 644 545	1 644 599	-54
$2p^5 3d$	$^1D_2^o$	$0.52 + 0.28 \ ^3F_2^o + 0.19 \ ^3D_2^o$	1 644 562	1 644 674	-112
$2p^5 3d$	$^3D_3^o$	$0.57 + 0.27 \ ^1F_3^o + 0.16 \ ^3F_3^o$	1 645 831	1 645 921	-90
$2p^5 3d$	$^3D_2^o$	$0.65 + 0.27 \ ^1D_2^o$	1 646 473	1 646 576	-103
$2p^5 3d$	$^1P_1^o$	0.94	1 662 347	1 662 194	153
Cl VIII					
$2p^6$	1S_0	0.99	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	1 683 947	1 683 856	91
$2p^5 3s$	$^3P_1^o$	$0.76 + 0.23 \ ^1P_1$	1 689 426	1 689 324	102
$2p^5 3s$	$^3P_0^o$	0.99	1 697 470	1 697 384	86
$2p^5 3s$	$^1P_1^o$	$0.76 + 0.23 \ ^3P_1$	1 704 439	1 704 292	147
$2p^5 3p$	3S_1	0.95	1 793 052	1 792 667	385
$2p^5 3p$	3D_3	0.99	1 811 483	1 811 135	348
$2p^5 3p$	3D_2	$0.76 + 0.18 \ ^1D_2$	1 812 677	1 812 318	359
$2p^5 3p$	3D_1	$0.64 + 0.22 \ ^1P_1 + 0.14 \ ^3P_1$	1 817 300	1 816 972	328
$2p^5 3p$	3P_2	$0.60 + 0.39 \ ^1D_2$	1 822 251	1 821 904	347
$2p^5 3p$	1P_1	$0.51 + 0.35 \ ^3D_1 + 0.14 \ ^3P_1$	1 827 054	1 826 737	317
$2p^5 3p$	3P_0	0.99	1 830 152	1 829 825	327
$2p^5 3p$	1D_2	$0.43 + 0.34 \ ^3P_2 + 0.23 \ ^3D_2$	1 831 502	1 831 198	304
$2p^5 3p$	3P_1	$0.69 + 0.26 \ ^1P_1$	1 832 665	1 832 347	318
$2p^5 3p$	1S_0	0.98	1 894 183	1 893 342	841
$2p^5 3d$	$^3P_0^o$	0.99	1 971 533	1 971 283	250
$2p^5 3d$	$^3P_1^o$	0.97	1 973 001	1 972 390	611
$2p^5 3d$	$^3P_2^o$	0.90	1 976 241	1 976 056	185
$2p^5 3d$	$^3F_4^o$	0.99	1 979 367	1 979 146	221
$2p^5 3d$	$^3F_3^o$	$0.76 + 0.20 \ ^1F_3^o$	1 981 755	1 981 551	204
$2p^5 3d$	$^3F_2^o$	$0.67 + 0.20 \ ^1D_2^o + 0.13 \ ^3D_2^o$	1 985 972	1 985 803	169
$2p^5 3d$	$^1F_3^o$	$0.49 + 0.45 \ ^3D_3^o$	1 989 173	1 988 939	234
$2p^5 3d$	$^3D_1^o$	0.93	1 997 514	1 997 044	470
$2p^5 3d$	$^1D_2^o$	$0.49 + 0.32 \ ^3F_2^o + 0.18 \ ^3D_2^o$	1 997 989	1 997 840	149
$2p^5 3d$	$^3D_3^o$	$0.52 + 0.30 \ ^1F_3^o + 0.18 \ ^3F_3^o$	1 999 787	1 999 625	162
$2p^5 3d$	$^3D_2^o$	$0.63 + 0.27 \ ^1D_2^o$	2 000 352	2 000 201	151
$2p^5 3d$	$^1P_1^o$	0.93	2 021 349	2 020 730	619
Ar IX					
$2p^6$	1S_0	0.99	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	2 026 458	2 026 545	-87
$2p^5 3s$	$^3P_1^o$	$0.71 + 0.28 \ ^1P_1^o$	2 033 045	2 033 118	-73
$2p^5 3s$	$^3P_0^o$	0.99	2 044 370	2 044 488	-118
$2p^5 3s$	$^1P_1^o$	$0.71 + 0.28 \ ^3P_1^o$	2 051 665	2 051 728	-63
$2p^5 3p$	3S_1	0.95	2 149 533	2 149 303	230
$2p^5 3p$	3D_3	0.99	2 170 111	2 169 931	180
$2p^5 3p$	3D_2	$0.73 + 0.20 \ ^1D_2$	2 171 067	2 170 884	183
$2p^5 3p$	3D_1	$0.56 + 0.27 \ ^1P_1 + 0.16 \ ^3P_1$	2 176 860	2 176 696	164
$2p^5 3p$	3P_2	$0.62 + 0.37 \ ^1D_2$	2 182 335	2 182 177	158
$2p^5 3p$	1P_1	$0.46 + 0.42 \ ^3D_1 + 0.11 \ ^3P_1$	2 189 261	2 189 139	122
$2p^5 3p$	3P_0	0.99	2 192 379	2 192 010	369
$2p^5 3p$	1D_2	$0.42 + 0.31 \ ^3P_2 + 0.26 \ ^3D_2$	2 195 137	2 195 028	109
$2p^5 3p$	3P_1	$0.69 + 0.26 \ ^1P_1$	2 196 159	2 195 887	272
$2p^5 3p$	1S_0	0.98	2 265 706		
$2p^5 3d$	$^3P_0^o$	0.99	2 349 502	2 349 367	135
$2p^5 3d$	$^3P_1^o$	0.96	2 351 405	2 351 408	-3
$2p^5 3d$	$^3P_2^o$	0.89	2 355 533	2 355 511	22
$2p^5 3d$	$^3F_4^o$	0.99	2 358 768	2 358 744	24
$2p^5 3d$	$^3F_3^o$	$0.75 + 0.21 \ ^1F_3^o$	2 361 722	2 361 707	15
$2p^5 3d$	$^3F_2^o$	$0.62 + 0.23 \ ^1D_2^o + 0.15 \ ^3D_2^o$	2 366 909		
$2p^5 3d$	$^3D_3^o$	$0.49 + 0.46 \ ^1F_3^o$	2 370 650	2 370 623	27
$2p^5 3d$	$^3D_1^o$	0.92	2 380 931	2 380 896	35
$2p^5 3d$	$^1D_2^o$	$0.45 + 0.37 \ ^3F_2^o + 0.17 \ ^3D_2^o$	2 382 273	2 382 301	-28
$2p^5 3d$	$^3D_3^o$	$0.48 + 0.32 \ ^1F_3^o + 0.20 \ ^3F_3^o$	2 384 709	2 384 725	-16
$2p^5 3d$	$^3D_2^o$	$0.62 + 0.27 \ ^1D_2^o + 0.10 \ ^3P_2^o$	2 385 087	2 384 960	127
$2p^5 3d$	$^1P_1^o$	0.93	2 411 305	2 411 033	272
K X					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	2 399 154	2 399 168	-14
$2p^5 3s$	$^3P_1^o$	$0.66 + 0.33 \ ^1P_1$	2 406 869	2 406 855	14
$2p^5 3s$	$^3P_0^o$	0.99	2 422 449	2 422 630	-181
$2p^5 3s$	$^1P_1^o$	$0.66 + 0.33 \ ^3P_1$	2 430 034	2 430 137	-103

Continued...

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3p$	3S_1	0.93	2 536 457	(2 536 246)	211
$2p^5 3p$	3D_3	0.99	2 559 166	2 558 910	256
$2p^5 3p$	3D_2	$0.70 + 0.22 \ ^1D_2$	2 559 659	2 559 399	260
$2p^5 3p$	3D_1	$0.49 + 0.32 \ ^1P_1 + 0.19 \ ^3P_1$	2 566 738	2 566 499	239
$2p^5 3p$	3P_2	$0.64 + 0.35 \ ^1D_2$	2 572 836	(2 572 660)	176
$2p^5 3p$	3D_1	$0.49 + 0.43 \ ^1P_1$	2 582 637	2 582 550	87
$2p^5 3p$	3P_0	0.99	2 585 430	2 585 190	240
$2p^5 3p$	1D_2	$0.42 + 0.29 \ ^3P_2 + 0.29 \ ^3D_2$	2 590 168	2 590 088	80
$2p^5 3p$	3P_1	$0.68 + 0.25 \ ^1P_1$	2 590 942	2 590 878	64
$2p^5 3p$	1S_0	0.98	2 668 012	2 667 264	748
$2p^5 3d$	$^3P_0^o$	0.99	2 757 663	(2 757 539)	124
$2p^5 3d$	$^3P_1^o$	0.96	2 760 066	(2 760 084)	-18
$2p^5 3d$	$^3P_2^o$	0.87	2 765 194	(2 765 178)	16
$2p^5 3d$	$^3F_4^o$	1.00	2 768 413	2 768 317	96
$2p^5 3d$	$^3F_3^o$	$0.74 + 0.22 \ ^1F_3^o$	2 771 918	2 771 824	94
$2p^5 3d$	$^3F_2^o$	$0.57 + 0.26 \ ^1D_2^o + 0.17 \ ^3D_2^o$	2 778 127	2 778 069	58
$2p^5 3d$	$^3D_3^o$	$0.52 + 0.43 \ ^1F_3^o$	2 782 372	(2 782 330)	42
$2p^5 3d$	$^3D_1^o$	0.90	2 794 901	2 794 790	111
$2p^5 3d$	$^3F_2^o$	$0.42 + 0.41 \ ^1D_2^o + 0.16 \ ^3D_2^o$	2 797 651	2 797 752	-101
$2p^5 3d$	$^3D_3^o$	$0.44 + 0.34 \ ^1F_3^o + 0.22 \ ^3F_3^o$	2 800 823	2 800 889	-66
$2p^5 3d$	$^3D_2^o$	$0.60 + 0.27 \ ^1D_2^o + 0.12 \ ^3P_2^o$	2 800 902	2 801 002	-100
$2p^5 3d$	$^1P_1^o$	0.92	2 832 299	2 832 117	182
Ca XI					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	2 801 989		
$2p^5 3s$	$^3P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	2 810 834	2 810 900	-66
$2p^5 3s$	$^3P_0^o$	0.99	2 831 800		
$2p^5 3s$	$^1P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	2 839 662	2 839 900	-238
$2p^5 3p$	3S_1	0.92	2 953 791		
$2p^5 3p$	3D_2	$0.68 + 0.24 \ ^1D_2$	2 978 410		
$2p^5 3p$	3D_3	1.00	2 978 650		
$2p^5 3p$	3D_1	$0.43 + 0.36 \ ^1P_1 + 0.20 \ ^3P_1$	2 986 908		
$2p^5 3p$	3P_2	$0.65 + 0.34 \ ^1D_2$	2 993 760		
$2p^5 3p$	3D_1	$0.54 + 0.40 \ ^1P_1$	3 007 301		
$2p^5 3p$	3P_0	0.98	3 009 345		
$2p^5 3p$	1D_2	$0.41 + 0.31 \ ^3D_2 + 0.27 \ ^3P_2$	3 016 749		
$2p^5 3p$	3P_1	$0.68 + 0.24 \ ^1P_1$	3 017 175		
$2p^5 3p$	1S_0	0.98	3 101 166		
$2p^5 3d$	$^3P_0^o$	0.99	3 196 075		
$2p^5 3d$	$^3P_1^o$	0.95	3 199 045	3 199 300	-255
$2p^5 3d$	$^3P_2^o$	0.85	3 205 278		
$2p^5 3d$	$^3F_4^o$	1.00	3 208 351		
$2p^5 3d$	$^3F_3^o$	$0.72 + 0.23 \ ^1F_3^o$	3 212 392		
$2p^5 3d$	$^3F_2^o$	$0.53 + 0.29 \ ^1D_2^o + 0.18 \ ^3D_2^o$	3 219 655		
$2p^5 3d$	$^3D_3^o$	$0.55 + 0.41 \ ^1F_3^o$	3 224 394		
$2p^5 3d$	$^3D_1^o$	0.89	3 239 502	3 239 700	-198
$2p^5 3d$	$^3F_2^o$	$0.47 + 0.38 \ ^1D_2^o + 0.14 \ ^3D_2^o$	3 244 348		
$2p^5 3d$	$^3D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$	3 248 017		
$2p^5 3d$	$^3D_3^o$	$0.40 + 0.35 \ ^1F_3^o + 0.24 \ ^3F_3^o$	3 248 345		
$2p^5 3d$	$^1P_1^o$	0.91	3 284 444	3 284 300	144
Sc XII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	0.99	3 234 914	3 235 171	-257
$2p^5 3s$	$^3P_1^o$	$0.58 + 0.42 \ ^1P_1$	3 244 880	3 245 100	-220
$2p^5 3s$	$^3P_0^o$	0.99	3 272 526	3 272 730	-204
$2p^5 3s$	$^1P_1^o$	$0.58 + 0.42 \ ^3P_1$	3 280 663	3 280 800	-137
$2p^5 3p$	3S_1	0.91	3 401 492	3 401 413	79
$2p^5 3p$	3D_2	$0.65 + 0.25 \ ^1D_2$	3 427 279	3 427 225	54
$2p^5 3p$	3D_3	1.00	3 428 568	3 428 533	35
$2p^5 3p$	1P_1	$0.39 + 0.38 \ ^3D_1 + 0.21 \ ^3P_1$	3 437 358	3 437 344	14
$2p^5 3p$	3P_2	$0.66 + 0.33 \ ^1D_2$	3 445 112	3 445 090	22
$2p^5 3p$	3D_1	$0.58 + 0.37 \ ^1P_1$	3 463 372	3 463 292	80
$2p^5 3p$	3P_0	0.98	3 464 163	3 464 198	-36
$2p^5 3p$	3P_1	$0.67 + 0.22 \ ^1P_1$	3 475 029	3 474 958	71
$2p^5 3p$	1D_2	$0.41 + 0.34 \ ^3D_2 + 0.25 \ ^3P_2$	3 475 041	3 474 958	83
$2p^5 3p$	1S_0	0.97	3 565 252	3 564 763	489
$2p^5 3d$	$^3P_0^o$	0.99	3 664 786		
$2p^5 3d$	$^3P_1^o$	0.95	3 668 386	3 668 546	-160

Continued...

Table 1 (continued)

Config.	<i>LSJ</i>	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3d$	$^3P_2^o$	$0.83 + 0.10 \ ^3D_2^o$	3 675 821	3 675 982	- 161
$2p^5 3d$	$^3F_4^o$	1.00	3 678 636	3 678 797	- 161
$2p^5 3d$	$^3F_3^o$	$0.71 + 0.24 \ ^1F_3^o$	3 683 181	3 683 330	- 149
$2p^5 3d$	$^3F_2^o$	$0.48 + 0.31 \ ^1D_2^o + 0.20 \ ^3D_2^o$	3 691 517	3 691 702	- 185
$2p^5 3d$	$^3D_3^o$	$0.57 + 0.39 \ ^1F_3^o$	3 696 765	3 696 911	- 146
$2p^5 3d$	$^3D_1^o$	0.88	3 714 797	3 714 700	97
$2p^5 3d$	$^3F_2^o$	$0.51 + 0.36 \ ^1D_2^o + 0.13 \ ^3D_2^o$	3 722 583	3 722 705	- 122
$2p^5 3d$	$^3D_2^o$	$0.57 + 0.26 \ ^1D_2^o + 0.16 \ ^3P_2^o$	3 726 657	3 726 769	- 112
$2p^5 3d$	$^3D_2^o$	$0.38 + 0.36 \ ^1F_3^o + 0.26 \ ^3F_3^o$	3 727 486	3 727 574	- 88
$2p^5 3d$	$^1P_1^o$	0.89	3 767 884	3 767 300	584
Ti XIII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	3 697 880	3 698 153	- 273
$2p^5 3s$	$^3P_1^o$	$0.54 + 0.45 \ ^1P_1$	3 708 954	3 709 200	- 246
$2p^5 3s$	$^3P_0^o$	1.00	3 744 739	3 745 238	- 499
$2p^5 3s$	$^1P_1^o$	$0.54 + 0.45 \ ^3P_1$	3 753 157	3 753 600	- 443
$2p^5 3p$	3S_1	0.89	3 879 510	3 879 444	66
$2p^5 3p$	3D_2	$0.64 + 0.27 \ ^1D_2$	3 906 220	3 906 203	17
$2p^5 3p$	3D_3	1.00	3 908 922	3 908 849	73
$2p^5 3p$	1P_1	$0.42 + 0.35 \ ^3D_1 + 0.22 \ ^3P_1$	3 918 085	3 918 095	10
$2p^5 3p$	3P_2	$0.66 + 0.33 \ ^1D_2$	3 926 897	3 926 887	10
$2p^5 3p$	3P_0	0.97	3 949 911	3 949 910	1
$2p^5 3p$	3D_1	$0.61 + 0.36 \ ^1P_1$	3 950 965	3 951 159	- 194
$2p^5 3p$	3P_1	$0.66 + 0.21 \ ^1P_1$	3 964 687	3 964 847	- 160
$2p^5 3p$	1D_2	$0.40 + 0.36 \ ^3D_2 + 0.24 \ ^3P_2$	3 965 211	3 965 425	- 214
$2p^5 3p$	1S_0	0.97	4 060 364	4 060 030	334
$2p^5 3d$	$^3P_0^o$	0.99	4 163 832	4 163 874	- 42
$2p^5 3d$	$^3P_1^o$	0.94	4 168 124	4 168 326	- 202
$2p^5 3d$	$^3P_2^o$	$0.81 + 0.12 \ ^3D_2^o$	4 176 849	4 177 038	- 89
$2p^5 3d$	$^3F_4^o$	1.00	4 179 315	4 179 462	- 147
$2p^5 3d$	$^3F_3^o$	$0.69 + 0.25 \ ^1F_3^o$	4 184 314	4 184 514	- 200
$2p^5 3d$	$^3F_2^o$	$0.45 + 0.33 \ ^1D_2^o + 0.21 \ ^3D_2^o$	4 193 733	4 193 932	- 199
$2p^5 3d$	$^3D_3^o$	$0.59 + 0.38 \ ^1F_3^o$	4 199 529	4 199 685	- 156
$2p^5 3d$	$^3D_1^o$	$0.85 + 0.11 \ ^1P_1^o$	4 220 828	4 219 800	1028
$2p^5 3d$	$^3F_2^o$	$0.54 + 0.34 \ ^1D_2^o + 0.12 \ ^3D_2^o$	4 232 567	4 233 020	- 453
$2p^5 3d$	$^3D_2^o$	$0.55 + 0.25 \ ^1D_2^o + 0.18 \ ^3P_2^o$	4 237 048	4 237 394	- 346
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.36 \ ^3D_3^o + 0.27 \ ^3F_3^o$	4 238 458	4 238 843	- 385
$2p^5 3d$	$^1P_1^o$	0.88	4 282 782	4 281 600	1182
V XIV					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	4 190 836	4 190 606	230
$2p^5 3s$	$^3P_1^o$	$0.52 + 0.48 \ ^1P_1^o$	4 203 003	4 202 700	303
$2p^5 3s$	$^3P_0^o$	1.00	4 248 560	4 248 410	150
$2p^5 3s$	$^1P_1^o$	$0.51 + 0.48 \ ^3P_1^o$	4 257 267	4 257 100	167
$2p^5 3p$	3S_1	$0.87 + 0.11 \ ^3P_1$	4 387 792	4 387 211	581
$2p^5 3p$	3D_2	$0.62 + 0.28 \ ^1D_2$	4 415 187	4 414 607	580
$2p^5 3p$	3D_3	1.00	4 419 718	4 419 174	544
$2p^5 3p$	1P_1	$0.45 + 0.32 \ ^3D_1 + 0.21 \ ^3P_1$	4 429 091	4 428 554	537
$2p^5 3p$	3P_2	$0.67 + 0.33 \ ^1D_2$	4 439 121	4 438 597	524
$2p^5 3p$	3P_0	0.97	4 466 613	4 466 070	543
$2p^5 3p$	3D_1	$0.63 + 0.34 \ ^1P_1$	4 470 206	4 469 715	491
$2p^5 3p$	3P_1	$0.66 + 0.20 \ ^1P_1$	4 486 341	4 485 944	397
$2p^5 3p$	1D_2	$0.39 + 0.37 \ ^3D_2 + 0.23 \ ^3P_2$	4 487 438	4 487 045	393
$2p^5 3p$	1S_0	0.96	4 586 616	4 585 819	797
$2p^5 3d$	$^3P_0^o$	0.99	4 693 244	4 692 510	734
$2p^5 3d$	$^3P_1^o$	0.94	4 698 286	4 696 000	2286
$2p^5 3d$	$^3P_2^o$	$0.78 + 0.13 \ ^3D_2^o$	4 708 381	4 708 057	324
$2p^5 3d$	$^3F_4^o$	1.00	4 710 430	4 710 105	325
$2p^5 3d$	$^3F_3^o$	$0.68 + 0.27 \ ^1F_3^o$	4 715 813	4 715 469	344
$2p^5 3d$	$^3F_2^o$	$0.42 + 0.35 \ ^1D_2^o + 0.22 \ ^3D_2^o$	4 726 324	4 726 016	308
$2p^5 3d$	$^3D_3^o$	$0.61 + 0.36 \ ^1F_3^o$	4 732 725	4 732 377	348
$2p^5 3d$	$^3D_1^o$	$0.83 + 0.13 \ ^1P_1^o$	4 757 622	4 757 800	- 178
$2p^5 3d$	$^3F_2^o$	$0.57 + 0.32 \ ^1D_2^o + 0.10 \ ^3D_2^o$	4 774 511	4 774 275	236
$2p^5 3d$	$^3D_2^o$	$0.54 + 0.24 \ ^1D_2^o + 0.21 \ ^3P_2^o$	4 779 422	4 779 239	183
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.34 \ ^3D_3^o + 0.29 \ ^3F_3^o$	4 781 476	4 781 291	185
$2p^5 3d$	$^1P_1^o$	$0.86 + 0.12 \ ^3D_1^o$	4 829 331	4 827 200	2131
Cr XV					
$2p^6$	1S_0	1.00	0	0	0

Continued. . .

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3s$	$^3P_2^o$	1.00	4 713 729	4 714 294	- 565
$2p^5 3s$	$^1P_1^o$	$0.50 + 0.49$ 3P_1	4 726 974	4 727 500	- 526
$2p^5 3s$	$^3P_0^o$	1.00	4 784 117	4 784 174	- 57
$2p^5 3s$	$^3P_1^o$	$0.50 + 0.49$ 1P_1	4 793 123	4 793 200	- 77
$2p^5 3p$	3S_1	$0.85 + 0.13$ 3P_1	4 926 276	4 926 429	- 153
$2p^5 3p$	3D_2	$0.61 + 0.28$ $^1D_2 + 0.11$ 3P_2	4 954 135	4 954 368	- 233
$2p^5 3p$	3D_3	1.00	4 960 958	4 961 187	- 229
$2p^5 3p$	1P_1	$0.47 + 0.29$ $^3D_1 + 0.21$ 3P_1	4 970 385	4 970 636	- 251
$2p^5 3p$	3P_2	$0.67 + 0.32$ 1D_2	4 981 788	4 982 062	- 274
$2p^5 3p$	3P_0	0.96	5 014 284	5 014 563	- 279
$2p^5 3p$	3D_1	$0.65 + 0.33$ 1P_1	5 021 227	5 020 941	286
$2p^5 3p$	3P_1	$0.65 + 0.19$ $^1P_1 + 0.11$ 3S_1	5 040 193	5 039 971	222
$2p^5 3p$	1D_2	$0.39 + 0.39$ $^3D_2 + 0.22$ 3P_2	5 041 910	5 041 714	196
$2p^5 3p$	1S_0	0.95	5 144 137	5 143 616	521
$2p^5 3d$	$^3P_0^o$	0.99	5 253 047	5 253 448	- 401
$2p^5 3d$	$^3P_1^o$	0.93	5 258 894	5 259 419	- 525
$2p^5 3d$	$^3P_2^o$	$0.76 + 0.15$ $^3D_2^o$	5 270 433	5 270 945	- 512
$2p^5 3d$	$^3F_4^o$	1.00	5 272 016	5 272 468	- 452
$2p^5 3d$	$^3F_3^o$	$0.67 + 0.28$ $^1F_3^o$	5 277 697	5 278 128	- 431
$2p^5 3d$	$^3F_2^o$	$0.39 + 0.37$ $^1D_2^o + 0.23$ $^3D_2^o$	5 289 311	5 289 794	- 483
$2p^5 3d$	$^3D_3^o$	$0.62 + 0.35$ $^1F_3^o$	5 296 391	5 296 812	- 421
$2p^5 3d$	$^3D_1^o$	$0.80 + 0.15$ $^1P_1^o$	5 325 196	5 324 200	996
$2p^5 3d$	$^3F_2^o$	$0.59 + 0.31$ $^1D_2^o$	5 348 628	5 348 574	54
$2p^5 3d$	$^3D_2^o$	$0.52 + 0.23$ $^1D_2^o + 0.23$ $^3P_2^o$	5 354 018	5 354 045	- 27
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.32$ $^3D_3^o + 0.30$ $^3F_3^o$	5 356 764	5 356 770	- 6
$2p^5 3d$	$^3P_1^o$	$0.83 + 0.14$ $^3D_1^o$	5 407 742	5 406 300	1442
Mn XVI					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	5 266 504	5 266 964	- 460
$2p^5 3s$	$^1P_1^o$	$0.53 + 0.47$ 3P_1	5 280 814	5 281 200	- 386
$2p^5 3s$	$^3P_0^o$	1.00	5 351 548	5 351 520	28
$2p^5 3s$	$^3P_1^o$	$0.53 + 0.47$ 1P_1	5 360 862	5 360 800	62
$2p^5 3p$	3S_1	$0.83 + 0.15$ 3P_1	5 494 893	5 494 974	- 81
$2p^5 3p$	3D_2	$0.59 + 0.29$ $^1D_2 + 0.11$ 3P_2	5 523 012	5 523 101	- 89
$2p^5 3p$	3D_3	1.00	5 532 648	5 532 778	- 130
$2p^5 3p$	1P_1	$0.49 + 0.27$ $^3D_1 + 0.20$ 3P_1	5 541 981	5 542 158	- 177
$2p^5 3p$	3P_2	$0.67 + 0.32$ 1D_2	5 554 906	5 555 050	- 144
$2p^5 3p$	3P_0	0.95	5 592 928		
$2p^5 3p$	3D_1	$0.66 + 0.32$ 1P_1	5 604 169	5 603 789	380
$2p^5 3p$	3P_1	$0.64 + 0.18$ $^1P_1 + 0.12$ 3S_1	5 626 455	5 626 306	149
$2p^5 3p$	3D_2	$0.40 + 0.38$ $^1D_2 + 0.21$ 3P_2	5 628 823	5 628 520	303
$2p^5 3p$	1S_0	0.94	5 733 078		
$2p^5 3d$	$^3P_0^o$	0.99	5 843 263	5 843 409	- 146
$2p^5 3d$	$^3P_1^o$	0.92	5 849 966	5 850 249	- 283
$2p^5 3d$	$^3P_2^o$	$0.74 + 0.17$ $^3D_2^o$	5 863 023	5 863 347	- 324
$2p^5 3d$	$^3F_4^o$	1.00	5 864 110	5 864 439	- 329
$2p^5 3d$	$^3F_3^o$	$0.66 + 0.28$ $^1F_3^o$	5 869 984	5 870 337	- 353
$2p^5 3d$	$^1D_2^o$	$0.39 + 0.37$ $^3F_2^o + 0.24$ $^3D_2^o$	5 882 716	5 883 137	- 421
$2p^5 3d$	$^3D_3^o$	$0.63 + 0.34$ $^1F_3^o$	5 890 563	5 890 952	- 389
$2p^5 3d$	$^3D_1^o$	$0.77 + 0.18$ $^1P_1^o$	5 923 554	5 923 500	54
$2p^5 3d$	$^3F_2^o$	$0.61 + 0.30$ $^1D_2^o$	5 955 137		
$2p^5 3d$	$^3D_2^o$	$0.51 + 0.25$ $^3P_2^o + 0.22$ $^1D_2^o$	5 961 078	5 961 148	- 70
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.32$ $^3F_3^o + 0.31$ $^3D_3^o$	5 964 551	5 964 431	120
$2p^5 3d$	$^1P_1^o$	$0.81 + 0.16$ $^3D_1^o$	6 018 249	6 018 300	- 51
Fe XVII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	5 849 108	5 849 490	-382
$2p^5 3s$	$^1P_1^o$	$0.54 + 0.45$ 3P_1	5 864 469	5 864 760	-291
$2p^5 3s$	$^3P_0^o$	1.00	5 951 003	5 951 478	-475
$2p^5 3s$	$^3P_1^o$	$0.54 + 0.45$ 1P_1	5 960 633	5 961 022	-389
$2p^5 3p$	3S_1	$0.80 + 0.17$ 3P_1	6 093 573	6 093 568	5
$2p^5 3p$	3D_2	$0.58 + 0.30$ $^1D_2 + 0.12$ 3P_2	6 121 769	6 121 756	13
$2p^5 3p$	3D_3	1.00	6 134 794	6 134 815	-21
$2p^5 3p$	1P_1	$0.51 + 0.25$ $^3D_1 + 0.19$ 3P_1	6 143 898	6 143 897	1
$2p^5 3p$	3P_2	$0.67 + 0.32$ 1D_2	6 158 481	6 158 540	-59
$2p^5 3p$	3P_0	0.94	6 202 542	6 202 620	-78
$2p^5 3p$	3D_1	$0.67 + 0.31$ 1P_1	6 219 185	6 219 266	-81
$2p^5 3p$	3P_1	$0.63 + 0.17$ $^1P_1 + 0.13$ 3S_1	6 245 346	6 245 490	-144

Continued...

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3p$	3D_2	$0.41 + 0.38 \ ^1D_2 + 0.21 \ ^3P_2$	6 248 390	6 248 530	-140
$2p^5 3p$	1S_0	0.93	6 353 605	6 353 356	249
$2p^5 3d$	$^3P_0^o$	0.99	6 463 913	6 464 095	-182
$2p^5 3d$	$^3P_1^o$	0.91	6 471 519	6 471 233	286
$2p^5 3d$	$^3P_2^o$	$0.72 + 0.18 \ ^3D_2^o$	6 486 166	6 486 440	-274
$2p^5 3d$	$^3F_4^o$	1.00	6 486 745	6 487 000	-255
$2p^5 3d$	$^3F_3^o$	$0.65 + 0.29 \ ^1F_3^o$	6 492 689	6 492 924	-235
$2p^5 3d$	$^1D_2^o$	$0.41 + 0.35 \ ^3F_2^o + 0.24 \ ^3D_2^o$	6 506 561	6 506 808	-247
$2p^5 3d$	$^3D_3^o$	$0.64 + 0.34 \ ^1F_3^o$	6 515 276	6 515 479	-203
$2p^5 3d$	$^3D_1^o$	$0.74 + 0.20 \ ^1P_1^o$	6 552 697	6 552 221	476
$2p^5 3d$	$^3F_2^o$	$0.63 + 0.29 \ ^1D_2^o$	6 594 260	6 594 617	-357
$2p^5 3d$	$^3D_2^o$	$0.50 + 0.27 \ ^3P_2^o + 0.21 \ ^1D_2^o$	6 600 855	6 601 210	-355
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.33 \ ^3F_3^o + 0.30 \ ^3D_3^o$	6 605 078	6 605 469	-391
$2p^5 3d$	$^1P_1^o$	$0.78 + 0.18 \ ^3D_1^o$	6 661 101	6 660 894	207
Co XVIII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	6 461 481		
$2p^5 3s$	$^1P_1^o$	$0.56 + 0.44 \ ^3P_1^o$	6 477 883	6 477 900	-17
$2p^5 3s$	$^3P_0^o$	1.00	6 582 637		
$2p^5 3s$	$^3P_1^o$	$0.56 + 0.44 \ ^1P_1^o$	6 592 589	6 592 400	189
$2p^5 3p$	3S_1	$0.78 + 0.20 \ ^3P_1$	6 722 238		
$2p^5 3p$	3D_2	$0.57 + 0.30 \ ^1D_2 + 0.12 \ ^3P_2$	6 750 353		
$2p^5 3p$	3D_3	1.00	6 767 402		
$2p^5 3p$	1P_1	$0.52 + 0.24 \ ^3D_1 + 0.18 \ ^3P_1$	6 776 159		
$2p^5 3p$	3P_2	$0.67 + 0.32 \ ^1D_2$	6 792 521		
$2p^5 3p$	3P_0	0.92	6 843 109		
$2p^5 3p$	3D_1	$0.68 + 0.31 \ ^1P_1$	6 866 436		
$2p^5 3p$	3P_1	$0.62 + 0.16 \ ^1P_1 + 0.15 \ ^3S_1$	6 897 097		
$2p^5 3p$	3D_2	$0.42 + 0.37 \ ^1D_2 + 0.20 \ ^3P_2$	6 900 830		
$2p^5 3p$	1S_0	0.92	7 005 908		
$2p^5 3d$	$^3P_0^o$	0.99	7 115 015		
$2p^5 3d$	$^3P_1^o$	0.91	7 123 568	7 122 000	1568
$2p^5 3d$	$^3P_2^o$	$0.70 + 0.20 \ ^3D_2^o$	7 139 881		
$2p^5 3d$	$^3F_4^o$	1.00	7 139 955		
$2p^5 3d$	$^3F_3^o$	$0.63 + 0.31 \ ^1F_3^o$	7 145 829		
$2p^5 3d$	$^1D_2^o$	$0.42 + 0.34 \ ^3F_2^o + 0.24 \ ^3D_2^o$	7 160 870		
$2p^5 3d$	$^3D_3^o$	$0.65 + 0.33 \ ^1F_3^o$	7 170 563		
$2p^5 3d$	$^3D_1^o$	$0.71 + 0.23 \ ^1P_1^o$	7 212 618	7 210 800	1818
$2p^5 3d$	$^3F_2^o$	$0.64 + 0.28 \ ^1D_2^o$	7 266 233		
$2p^5 3d$	$^3D_2^o$	$0.49 + 0.28 \ ^3P_2^o + 0.20 \ ^1D_2^o$	7 273 607		
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.34 \ ^3F_3^o + 0.29 \ ^3D_3^o$	7 278 592		
$2p^5 3d$	$^1P_1^o$	$0.76 + 0.20 \ ^3D_1^o$	7 336 563	7 334 600	1963
Ni XIX					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	7 103 562	7 105 260	-1698
$2p^5 3s$	$^1P_1^o$	$0.57 + 0.43 \ ^3P_1^o$	7 120 996	7 122 600	-1604
$2p^5 3s$	$^3P_0^o$	1.00	7 246 614	7 247 700	-1086
$2p^5 3s$	$^3P_1^o$	$0.57 + 0.43 \ ^1P_1^o$	7 256 896	7 258 100	-1204
$2p^5 3p$	3S_1	$0.75 + 0.22 \ ^3P_1$	7 380 805	7 381 990	-1185
$2p^5 3p$	3D_2	$0.57 + 0.31 \ ^1D_2 + 0.12 \ ^3P_2$	7 408 708	7 409 915	-1207
$2p^5 3p$	3D_3	1.00	7 430 482	7 431 735	-1253
$2p^5 3p$	1P_1	$0.54 + 0.22 \ ^3D_1 + 0.16 \ ^3P_1$	7 438 792	7 440 050	-1258
$2p^5 3p$	3P_2	$0.67 + 0.32 \ ^1D_2$	7 457 036	7 458 260	-1224
$2p^5 3p$	3P_0	0.91	7 514 603	7 515 675	-1072
$2p^5 3p$	3D_1	$0.68 + 0.30 \ ^1P_1$	7 546 091	7 546 760	-669
$2p^5 3p$	3P_1	$0.61 + 0.16 \ ^1P_1 + 0.15 \ ^3S_1$	7 581 948	7 582 880	-932
$2p^5 3p$	3D_2	$0.43 + 0.37 \ ^1D_2 + 0.20 \ ^3P_2$	7 586 378	7 587 265	-887
$2p^5 3p$	1S_0	0.90	7 690 196	7 690 800	-60
$2p^5 3d$	$^3P_0^o$	0.99	7 796 588	7 797 965	-1377
$2p^5 3d$	$^3P_1^o$	0.90	7 806 129	7 807 700	-1571
$2p^5 3d$	$^3F_4^o$	1.00	7 823 774	7 825 280	-1506
$2p^5 3d$	$^3P_2^o$	$0.68 + 0.22 \ ^3D_2^o$	7 824 183	7 825 770	-1587
$2p^5 3d$	$^3F_3^o$	$0.63 + 0.31 \ ^1F_3^o$	7 829 417	7 830 930	-1513
$2p^5 3d$	$^1D_2^o$	$0.44 + 0.32 \ ^3F_2^o + 0.24 \ ^3D_2^o$	7 845 669	7 847 100	-1431
$2p^5 3d$	$^3D_3^o$	$0.65 + 0.33 \ ^1F_3^o$	7 856 459	7 857 640	-1181
$2p^5 3d$	$^3D_1^o$	$0.68 + 0.26 \ ^1P_1^o$	7 903 313	7 901 400	1913
$2p^5 3d$	$^3F_2^o$	$0.66 + 0.27 \ ^1D_2^o$	7 971 299	7 972 475	-1176
$2p^5 3d$	$^3D_2^o$	$0.48 + 0.30 \ ^3P_2^o + 0.20 \ ^1D_2^o$	7 979 602	7 980 810	-1208

Continued. . .

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE		
$2p^5 3d$	$^1F_3^o$	$0.36+0.35$	$^3F_3^o+0.28$	7 985 356	7 986 640	-1284	
$2p^5 3d$	$^1P_1^o$	$0.73+0.22$	$^3D_1^o$	8 044 913	8 041 800	3113	
Cu XX							
$2p^6$	1S_0	1.00		0	0	0	
$2p^5 3s$	$^3P_2^o$	1.00		7 775 290	7 777 270	-1 980	
$2p^5 3s$	$^1P_1^o$	$0.58 + 0.42$	$^3P_1^o$	7 793 749	7 795 650	-1 901	
$2p^5 3s$	$^3P_0^o$	1.00		7 943 111	7 943 950	-839	
$2p^5 3s$	$^3P_1^o$	$0.58 + 0.42$	$^1P_1^o$	7 953 727	7 955 050	-1 323	
$2p^5 3p$	3S_1	$0.73 + 0.25$	3P_1	8 069 191	8 070 680	-1 489	
$2p^5 3p$	3D_2	$0.56 + 0.31$	$^1D_2 + 0.12$	3P_2	8 096 776	8 098 270	-1 494
$2p^5 3p$	3D_3	1.00		8 124 041	8 125 590	-1 549	
$2p^5 3p$	1P_1	$0.55 + 0.21$	$^3D_1 + 0.15$	3P_1	8 131 829	8 133 410	-1 581
$2p^5 3p$	3P_2	$0.67 + 0.32$	1D_2	8 152 033	8 153 580	-1 547	
$2p^5 3p$	3P_0	$0.89 + 0.12$	1S_0	8 216 992			
$2p^5 3p$	3D_1	$0.69 + 0.30$	1P_1	8 258 333	8 259 280	-947	
$2p^5 3p$	3P_1	$0.60 + 0.16$	$^3S_1 + 0.15$	1P_1	8 300 150		
$2p^5 3p$	3D_2	$0.44 + 0.37$	$^1D_2 + 0.20$	3P_2	8 305 281	8 306 290	-1 009
$2p^5 3p$	1S_0	$0.88 + 0.11$	3P_0	8 406 694	8 406 900	-206	
$2p^5 3d$	$^3P_0^o$	0.99		8 508 648	8 509 560	-912	
$2p^5 3d$	$^3P_1^o$	$0.89 + 0.10$	$^3D_1^o$	8 519 216	8 520 820	-1 604	
$2p^5 3d$	$^3F_4^o$	1.00		8 538 235	8 540 100	-1 865	
$2p^5 3d$	$^3P_2^o$	$0.66 + 0.24$	$^3D_2^o$	8 539 094	8 540 750	-1 656	
$2p^5 3d$	$^3F_3^o$	$0.62 + 0.31$	$^1F_3^o$	8 543 469	8 545 040	-1 571	
$2p^5 3d$	$^1D_2^o$	$0.45 + 0.31$	$^3F_2^o + 0.23$	$^3D_2^o$	8 560 984	8 562 820	-1 836
$2p^5 3d$	$^3D_3^o$	$0.66 + 0.32$	$^1F_3^o$	8 572 999	8 574 510	-1 511	
$2p^5 3d$	$^3D_1^o$	$0.65 + 0.29$	$^1P_1^o$	8 624 779	8 626 510	-1 731	
$2p^5 3d$	$^3F_2^o$	$0.66 + 0.27$	$^1D_2^o$	8 709 711	8 711 110	-1 399	
$2p^5 3d$	$^3D_2^o$	$0.47 + 0.31$	$^3P_2^o + 0.19$	$^1D_2^o$	8 719 119	8 720 400	-1 281
$2p^5 3d$	$^1F_3^o$	$0.36 + 0.35$	$^3F_3^o + 0.28$	$^3D_3^o$	8 725 643	8 727 220	-1 578
$2p^5 3d$	$^1P_1^o$	$0.70 + 0.24$	$^3D_1^o$	8 786 440	8 787 010	-570	
Zn XXI							
$2p^6$	1S_0	1.00		0	0	0	
$2p^5 3s$	$^3P_2^o$	1.00		8 476 598			
$2p^5 3s$	$^1P_1^o$	$0.59 + 0.41$	$^3P_1^o$	8 496 076	8 496 900	-824	
$2p^5 3s$	$^3P_0^o$	1.00		8 672 312			
$2p^5 3s$	$^3P_1^o$	$0.59 + 0.41$	$^1P_1^o$	8 683 264	8 683 600	-336	
$2p^5 3p$	3S_1	$0.70 + 0.27$	3P_1	8 787 308			
$2p^5 3p$	3D_2	$0.55 + 0.31$	$^1D_2 + 0.13$	3P_2	8 814 498		
$2p^5 3p$	3D_3	1.00		8 848 089			
$2p^5 3p$	1P_1	$0.56 + 0.20$	$^3D_1 + 0.13$	3P_1	8 855 301		
$2p^5 3p$	3P_2	$0.67 + 0.32$	1D_2	8 877 524	8 881 000	-3476	
$2p^5 3p$	3P_0	$0.87 + 0.13$	1S_0	8 950 235			
$2p^5 3p$	3D_1	$0.69 + 0.29$	1P_1	9 003 351			
$2p^5 3p$	3P_1	$0.59 + 0.17$	$^3S_1 + 0.15$	1P_1	9 051 965		
$2p^5 3p$	3D_2	$0.44 + 0.36$	$^1D_2 + 0.19$	3P_2	9 057 797	9 060 800	-3003
$2p^5 3p$	1S_0	$0.86 + 0.13$	3P_0	9 155 646	9 157 900	-2254	
$2p^5 3d$	$^3P_0^o$	0.99		9 251 212			
$2p^5 3d$	$^3P_1^o$	$0.88 + 0.11$	$^3D_1^o$	9 262 843	9 262 700	143	
$2p^5 3d$	$^3F_4^o$	1.00		9 283 373			
$2p^5 3d$	$^3P_2^o$	$0.64 + 0.26$	$^3D_2^o$	9 284 628			
$2p^5 3d$	$^3F_3^o$	$0.61 + 0.32$	$^1F_3^o$	9 287 999			
$2p^5 3d$	$^1D_2^o$	$0.47 + 0.30$	$^3F_2^o + 0.22$	$^3D_2^o$	9 306 844		
$2p^5 3d$	$^3D_3^o$	$0.66 + 0.32$	$^1F_3^o$	9 320 218			
$2p^5 3d$	$^3D_1^o$	$0.62 + 0.31$	$^1P_1^o$	9 377 015	9 378 200	-1185	
$2p^5 3d$	$^3F_2^o$	$0.67 + 0.26$	$^1D_2^o$	9 481 736			
$2p^5 3d$	$^3D_2^o$	$0.46 + 0.33$	$^3P_2^o + 0.18$	$^1D_2^o$	9 492 447		
$2p^5 3d$	$^3F_3^o$	$0.37 + 0.36$	$^1F_3^o + 0.27$	$^3D_3^o$	9 499 735		
$2p^5 3d$	$^1P_1^o$	$0.68 + 0.27$	$^3D_1^o$	9 561 440	9 584 000	-22560	
Ga XXII							
$2p^6$	1S_0	1.00		0	0	0	
$2p^5 3s$	$^3P_2^o$	1.00		9 207 422			
$2p^5 3s$	$^1P_1^o$	$0.60+0.40$	$^3P_1^o$	9 227 913	9 228 000	- 87	
$2p^5 3s$	$^3P_0^o$	1.00		9 434 411			
$2p^5 3s$	$^3P_1^o$	$0.60+0.40$	$^1P_1^o$	9 445 703	9 448 000	- 2297	
$2p^5 3p$	3S_1	$0.67+0.29$	3P_1	9 535 069			
$2p^5 3p$	3D_2	$0.55+0.31$	$^1D_2+0.13$	3P_2	9 561 811		
$2p^5 3p$	3D_3	1.00		9 602 636			
$2p^5 3p$	1P_1	$0.57+0.19$	$^3D_1+0.12$	3P_1	9 609 241		

Continued. . .

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3p$	3P_2	$0.67+0.32 \ ^1D_2$	9 633 520	9 633 400	120
$2p^5 3p$	3P_0	$0.84+0.15 \ ^1S_0$	9 714 287		
$2p^5 3p$	3D_1	$0.70+0.28 \ ^1P_1$	9 781 343		
$2p^5 3p$	3P_1	$0.59+0.18 \ ^3S_1+0.14 \ ^1P_1$	9 837 669		
$2p^5 3p$	3D_2	$0.45+0.36 \ ^1D_2+0.19 \ ^3P_2$	9 844 198	9 846 200	- 2002
$2p^5 3p$	1S_0	$0.84+0.16 \ ^3P_0$	9 937 310		
$2p^5 3d$	$^3P_0^o$	0.99	10 024 300		
$2p^5 3d$	$^3P_1^o$	$0.88+0.12 \ ^3D_1^o$	10 037 029	10 038 000	-971
$2p^5 3d$	$^3F_4^o$	1.00	10 059 225		
$2p^5 3d$	$^3P_2^o$	$0.63+0.28 \ ^3D_2^o$	10 060 805		
$2p^5 3d$	$^3F_3^o$	$0.61+0.33 \ ^1F_3^o$	10 063 024		
$2p^5 3d$	$^1D_2^o$	$0.49+0.29 \ ^3F_2^o+0.21 \ ^3D_2^o$	10 083 283		
$2p^5 3d$	$^3D_3^o$	$0.67+0.31 \ ^1F_3^o$	10 098 153		
$2p^5 3d$	$^3D_1^o$	$0.60+0.34 \ ^1P_1^o$	10 160 027	10 160 000	27
$2p^5 3d$	$^3F_2^o$	$0.68+0.26 \ ^1D_2^o$	10 287 654		
$2p^5 3d$	$^3D_2^o$	$0.45+0.34 \ ^3P_2^o+0.17 \ ^1D_2^o$	10 299 888		
$2p^5 3d$	$^3F_3^o$	$0.37+0.36 \ ^1F_3^o+0.27 \ ^3D_3^o$	10 307 933		
$2p^5 3d$	$^1P_1^o$	$0.65+0.29 \ ^3D_1^o$	10 370 221	10 370 000	221
Ge XXIII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	9 967 688		
$2p^5 3s$	$^1P_1^o$	$0.60+0.39 \ ^3P_1^o$	9 989 189	9 990 000	-811
$2p^5 3s$	$^3P_0^o$	1.00	10 229 610		
$2p^5 3s$	$^3P_1^o$	$0.60+0.39 \ ^1P_1^o$	10 241 243	10 244 000	-2757
$2p^5 3p$	3S_1	$0.64+0.31 \ ^3P_1$	10 312 386		
$2p^5 3p$	3D_2	$0.54+0.32 \ ^1D_2+0.14 \ ^3P_2$	10 338 649		
$2p^5 3p$	3D_3	1.00	10 387 696		
$2p^5 3p$	1P_1	$0.57+0.18 \ ^3D_1+0.14 \ ^3S_1$	10 393 680		
$2p^5 3p$	3P_2	$0.67+0.32 \ ^1D_2$	10 420 033	10 421 000	-967
$2p^5 3p$	3P_0	$0.82+0.18 \ ^1S_0$	10 509 104		
$2p^5 3p$	3D_1	$0.70+0.28 \ ^1P_1$	10 592 518		
$2p^5 3p$	3P_1	$0.58+0.19 \ ^3S_1+0.14 \ ^1P_1$	10 657 547		
$2p^5 3p$	3D_2	$0.45+0.36 \ ^1D_2+0.19 \ ^3P_2$	10 664 769	10 667 000	-2231
$2p^5 3p$	1S_0	$0.82+0.18 \ ^3P_0$	10 751 953	10 754 000	-2047
$2p^5 3d$	$^3P_0^o$	0.99	10 827 927		
$2p^5 3d$	$^3P_1^o$	$0.87+0.12 \ ^3D_1^o$	10 841 786	10 846 000	-4214
$2p^5 3d$	$^3F_4^o$	1.00	10 865 826		
$2p^5 3d$	$^3P_2^o$	$0.61+0.31 \ ^3D_2^o$	10 867 637		
$2p^5 3d$	$^3F_3^o$	$0.60+0.33 \ ^1F_3^o$	10 868 559		
$2p^5 3d$	$^1D_2^o$	$0.50+0.28 \ ^3F_2^o+0.20 \ ^3D_2^o$	10 890 340		
$2p^5 3d$	$^3D_3^o$	$0.67+0.31 \ ^1F_3^o$	10 906 841		
$2p^5 3d$	$^3D_1^o$	$0.57+0.36 \ ^1P_1^o$	10 973 826	10 976 000	-2174
$2p^5 3d$	$^3F_2^o$	$0.69+0.25 \ ^1D_2^o$	11 127 753		
$2p^5 3d$	$^3D_2^o$	$0.45+0.35 \ ^3P_2^o+0.17 \ ^1D_2^o$	11 141 754		
$2p^5 3d$	$^3F_3^o$	$0.38+0.36 \ ^1F_3^o+0.26 \ ^3D_3^o$	11 150 546		
$2p^5 3d$	$^1P_1^o$	$0.63+0.30 \ ^3D_1^o$	11 213 096	11 197 000	16096
As XXIV					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	10 757 323		
$2p^5 3s$	$^1P_1^o$	$0.61 + 0.39 \ ^3P_1^o$	10 779 832	10 789 000	-9 168
$2p^5 3s$	$^3P_0^o$	1.00	11 058 124		
$2p^5 3s$	$^3P_1^o$	$0.61 + 0.39 \ ^1P_1^o$	11 070 097	11 069 000	1 097
$2p^5 3p$	3S_1	$0.62 + 0.33 \ ^3P_1$	11 119 172		
$2p^5 3p$	3D_2	$0.54 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	11 144 943		
$2p^5 3p$	3D_3	1.00	11 203 278		
$2p^5 3p$	1P_1	$0.58 + 0.17 \ ^3D_1 + 0.15 \ ^3S_1$	11 208 647		
$2p^5 3p$	3P_2	$0.67 + 0.32 \ ^1D_2$	11 237 076		
$2p^5 3p$	3P_0	$0.80 + 0.20 \ ^1S_0$	11 334 643		
$2p^5 3p$	3D_1	$0.70 + 0.28 \ ^1P_1$	11 437 095		
$2p^5 3p$	3P_1	$0.57 + 0.20 \ ^3S_1 + 0.14 \ ^1P_1$	11 511 901		
$2p^5 3p$	3D_2	$0.46 + 0.36 \ ^1D_2 + 0.19 \ ^3P_2$	11 519 809		
$2p^5 3p$	1S_0	$0.79 + 0.20 \ ^3P_0$	11 599 853		
$2p^5 3d$	$^3P_0^o$	1.00	11 662 110		
$2p^5 3d$	$^3P_1^o$	$0.86 + 0.13 \ ^3D_1^o$	11 677 133	11 673 000	4 133
$2p^5 3d$	$^3F_4^o$	1.00	11 703 215		
$2p^5 3d$	$^3F_3^o$	$0.60 + 0.33 \ ^1F_3^o$	11 704 620		
$2p^5 3d$	$^3P_2^o$	$0.59 + 0.33 \ ^3D_2^o$	11 705 136		
$2p^5 3d$	$^1D_2^o$	$0.52 + 0.27 \ ^3F_2^o + 0.18 \ ^3D_2^o$	11 728 056		

Continued...

Table 1 (continued)

Config.	LSJ	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3d$	$^3D_3^o$	$0.67 + 0.31 \ ^1F_3^o$	11 746 320		
$2p^5 3d$	$^3D_1^o$	$0.55 + 0.39 \ ^1P_1^o$	11 818 427	11 815 000	3 427
$2p^5 3d$	$^3F_2^o$	$0.69 + 0.25 \ ^1D_2^o$	12 002 337		
$2p^5 3d$	$^3D_2^o$	$0.44 + 0.36 \ ^3P_2^o + 0.17 \ ^1D_2^o$	12 018 372		
$2p^5 3d$	$^3F_3^o$	$0.38 + 0.36 \ ^1F_3^o + 0.26 \ ^3D_3^o$	12 027 901		
$2p^5 3d$	$^1P_1^o$	$0.60 + 0.32 \ ^3D_1^o$	12 090 388	12 090 000	388
Se XXV					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	11 576 253		
$2p^5 3s$	$^1P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	11 599 768	11 608 000	-8232
$2p^5 3s$	$^3P_0^o$	1.00	11 920 176		
$2p^5 3s$	$^3P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	11 932 489	11 942 000	-9511
$2p^5 3p$	3S_1	$0.59 + 0.35 \ ^3P_1$	11 955 340		
$2p^5 3p$	3D_2	$0.54 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	11 980 623		
$2p^5 3p$	3D_3	1.00	12 049 397		
$2p^5 3p$	1P_1	$0.58 + 0.17 \ ^3S_1 + 0.16 \ ^3D_1$	12 054 169		
$2p^5 3p$	3P_2	$0.67 + 0.32 \ ^1D_2$	12 084 661		
$2p^5 3p$	3P_0	$0.77 + 0.23 \ ^1S_0$	12 190 866		
$2p^5 3p$	3D_1	$0.71 + 0.27 \ ^1P_1$	12 315 301		
$2p^5 3p$	3P_1	$0.57 + 0.20 \ ^3S_1 + 0.13 \ ^1P_1$	12 401 043		
$2p^5 3p$	3D_2	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	12 409 631		
$2p^5 3p$	1S_0	$0.77 + 0.23 \ ^3P_0$	12 481 293		
$2p^5 3d$	$^3P_0^o$	1.00	12 526 869		
$2p^5 3d$	$^3P_1^o$	$0.86 + 0.14 \ ^3D_1^o$	12 543 087	12 552 000	-8913
$2p^5 3d$	$^3F_3^o$	$0.59 + 0.34 \ ^1F_3^o$	12 573 310		
$2p^5 3d$	$^3F_4^o$	1.00	12 571 224		
$2p^5 3d$	$^3P_2^o$	$0.57 + 0.36 \ ^3D_2^o$	12 571 430		
$2p^5 3d$	$^1D_2^o$	$0.54 + 0.26 \ ^3F_2^o + 0.16 \ ^3D_2^o$	12 596 482		
$2p^5 3d$	$^3D_3^o$	$0.67 + 0.31 \ ^1F_3^o$	12 616 631		
$2p^5 3d$	$^3D_1^o$	$0.52 + 0.41 \ ^1P_1^o$	12 693 854	12 700 000	-6146
$2p^5 3d$	$^3F_2^o$	$0.69 + 0.25 \ ^1D_2^o$	12 911 725		
$2p^5 3d$	$^3D_2^o$	$0.43 + 0.37 \ ^3P_2^o + 0.16 \ ^1D_2^o$	12 930 083		
$2p^5 3d$	$^3F_3^o$	$0.39 + 0.35 \ ^1F_3^o + 0.25 \ ^3D_3^o$	12 940 336		
$2p^5 3d$	$^1P_1^o$	$0.58 + 0.34 \ ^3D_1^o$	13 002 432	13 012 000	-9568
Br XXVI					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	12 424 396		
$2p^5 3s$	$^1P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	12 448 916	12 453 000	- 4084
$2p^5 3s$	$^3P_0^o$	1.00	12 816 000		
$2p^5 3p$	3S_1	$0.57 + 0.37 \ ^3P_1$	12 820 807		
$2p^5 3s$	$^3P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	12 828 650	12 837 000	- 8350
$2p^5 3p$	3D_2	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	12 845 613		
$2p^5 3p$	3D_3	1.00	12 926 067		
$2p^5 3p$	1P_1	$0.58 + 0.19 \ ^3S_1 + 0.16 \ ^3D_1$	12 930 269		
$2p^5 3p$	3P_2	$0.67 + 0.33 \ ^1D_2$	12 962 804		
$2p^5 3p$	3P_0	$0.74 + 0.25 \ ^1S_0$	13 077 742		
$2p^5 3p$	3D_1	$0.71 + 0.27 \ ^1P_1$	13 227 376		
$2p^5 3p$	3P_1	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	13 325 301		
$2p^5 3p$	3D_2	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	13 334 562		
$2p^5 3p$	1S_0	$0.74 + 0.25 \ ^3P_0$	13 396 560		
$2p^5 3d$	$^3P_0^o$	1.00	13 422 222		
$2p^5 3d$	$^3P_1^o$	$0.85 + 0.15 \ ^3D_1^o$	13 439 665	13 448 000	- 8335
$2p^5 3d$	$^3F_3^o$	$0.59 + 0.34 \ ^1F_3^o$	13 468 389		
$2p^5 3d$	$^3F_4^o$	1.00	13 470 514		
$2p^5 3d$	$^3P_2^o$	$0.55 + 0.39 \ ^3D_2^o$	13 472 157		
$2p^5 3d$	$^1D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.14 \ ^3D_2^o$	13 495 675		
$2p^5 3d$	$^3D_3^o$	$0.68 + 0.30 \ ^1F_3^o$	13 517 815		
$2p^5 3d$	$^3D_1^o$	$0.50 + 0.43 \ ^1P_1^o$	13 600 131	13 604 000	- 3869
$2p^5 3d$	$^3F_2^o$	$0.70 + 0.24 \ ^1D_2^o$	13 856 247		
$2p^5 3d$	$^3D_2^o$	$0.43 + 0.38 \ ^3P_2^o + 0.16 \ ^1D_2^o$	13 877 242		
$2p^5 3d$	$^3F_3^o$	$0.39 + 0.35 \ ^1F_3^o + 0.25 \ ^3D_3^o$	13 888 207		
$2p^5 3d$	$^1P_1^o$	$0.56 + 0.35 \ ^3D_1^o$	13 949 569	13 949 000	569
Kr XXVII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	13 301 675	13 300 650	1025
$2p^5 3s$	$^1P_1^o$	$0.62 + 0.37 \ ^3P_1^o$	13 327 200	13 326 600	600
$2p^5 3p$	3S_1	$0.55 + 0.38 \ ^3P_1$	13 715 488	13 713 400	2088
$2p^5 3p$	3D_2	$0.53 + 0.32 \ ^1D_2 + 0.15 \ ^3P_2$	13 739 837	13 738 400	1437

Continued. . .

Table 1 (continued)

Config.	<i>LSJ</i>	Comp.	E_{RCI}	E_{obs}	ΔE
$2p^5 3s$	$^3P_0^o$	1.00	13 745 844	13 748 300	- 2456
$2p^5 3s$	$^3P_1^o$	$0.62 + 0.37 \ ^1P_1^o$	13 758 829	13 761 000	- 2171
$2p^5 3p$	3D_3	1.00	13 833 303	13 831 400	1903
$2p^5 3p$	1P_1	$0.59 + 0.20 \ ^3S_1 + 0.15 \ ^3D_1$	13 836 972	13 836 100	872
$2p^5 3p$	3P_2	$0.67 + 0.33 \ ^1D_2$	13 871 522	13 870 500	1022
$2p^5 3p$	3P_0	$0.72 + 0.28 \ ^1S_0$	13 995 248	14 004 500	- 9252
$2p^5 3p$	3D_1	$0.71 + 0.26 \ ^1P_1$	14 173 569	14 175 300	- 1731
$2p^5 3p$	3P_1	$0.56 + 0.22 \ ^3S_1 + 0.13 \ ^1P_1$	14 285 017	14 286 900	- 1883
$2p^5 3p$	3D_2	$0.47 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	14 294 944	14 296 600	- 1656
$2p^5 3p$	1S_0	$0.72 + 0.28 \ ^3P_0$	14 345 946	14 347 300	- 1354
$2p^5 3d$	$^3P_0^o$	1.00	14 348 189	14 342 000	6189
$2p^5 3d$	$^3P_1^o$	$0.84 + 0.15 \ ^3D_1^o$	14 366 888	14 369 600	- 2712
$2p^5 3d$	$^3F_3^o$	$0.58 + 0.35 \ ^1F_3^o$	14 396 133	14 394 600	1533
$2p^5 3d$	$^3F_4^o$	1.00	14 400 508	14 399 100	1408
$2p^5 3d$	$^3P_2^o$	$0.53 + 0.42 \ ^3D_2^o$	14 401 676	14 401 210	466
$2p^5 3d$	$^1D_2^o$	$0.58 + 0.24 \ ^3F_2^o + 0.12 \ ^3D_2^o$	14 425 703	14 424 400	1303
$2p^5 3d$	$^3D_3^o$	$0.68 + 0.30 \ ^1F_3^o$	14 448 815	14 448 400	415
$2p^5 3d$	$^3D_1^o$	$0.48 + 0.45 \ ^1P_1^o$	14 537 293	14 537 600	- 307
$2p^5 3d$	$^3F_2^o$	$0.70 + 0.24 \ ^1D_2^o$	14 836 248	14 843 100	- 6852
$2p^5 3d$	$^3D_2^o$	$0.42 + 0.39 \ ^3P_2^o + 0.16 \ ^1D_2^o$	14 860 219	14 861 300	- 1081
$2p^5 3d$	$^3F_3^o$	$0.40 + 0.35 \ ^1F_3^o + 0.25 \ ^3D_3^o$	14 871 882	14 872 800	- 918
$2p^5 3d$	$^1P_1^o$	$0.54 + 0.37 \ ^3D_1^o$	14 932 155	14 931 400	755

Table 2

Comparison of energy levels. See page 8 for Explanation of Tables.

Level	<i>LSJ</i>	comp	<i>E_{RCI}</i>	<i>E_{MR-SD}</i>	<i>E_{NIIST}</i>
Ca XI					
$2p^6$	1S_0	1.00	0		0
$2p^5 3s$	$^3P_2^o$	0.99	2 801 989	2 801 819	
$2p^5 3s$	$^3P_1^o$	0.62 + 0.38 $^1P_1^o$	2 810 834	2 810 588	2 810 900
$2p^5 3s$	$^3P_0^o$	0.99	2 831 800	2 831 670	
$2p^5 3s$	$^1P_1^o$	0.62 + 0.38 $^3P_1^o$	2 839 662	2 839 386	2 839 900
$2p^5 3p$	3S_1	0.92	2 953 791	2 953 594	
$2p^5 3p$	3D_2	0.68 + 0.24 1D_2	2 978 410	2 977 968	
$2p^5 3p$	3D_3	1.00	2 978 650	2 978 267	
$2p^5 3p$	3D_1	0.43 + 0.36 1P_1 + 0.20 3P_1	2 986 908	2 986 513	
$2p^5 3p$	3P_2	0.65 + 0.34 1D_2	2 993 760	2 993 336	
$2p^5 3p$	3D_1	0.54 + 0.40 1P_1	3 007 301	3 006 932	
$2p^5 3p$	3P_0	0.98	3 009 345	3 009 000	
$2p^5 3p$	1D_2	0.41 + 0.31 3D_2 + 0.27 3P_2	3 016 749	3 016 378	
$2p^5 3p$	3P_1	0.68 + 0.24 1P_1	3 017 175	3 016 845	
$2p^5 3p$	1S_0	0.98	3 101 166	3 098 308	
$2p^5 3d$	$^3P_0^o$	0.99	3 196 075	3 195 830	
$2p^5 3d$	$^3P_1^o$	0.95	3 199 045	3 198 902	3 199 300
$2p^5 3d$	$^3P_2^o$	0.85	3 205 278	3 205 169	
$2p^5 3d$	$^3F_4^o$	1.00	3 208 351	3 208 165	
$2p^5 3d$	$^3F_3^o$	0.72 + 0.23 $^1F_2^o$	3 212 392	3 212 144	
$2p^5 3d$	$^3F_2^o$	0.53 + 0.29 $^1D_2^o$ + 0.18 $^3D_2^o$	3 219 655	3 219 428	
$2p^5 3d$	$^3D_3^o$	0.55 + 0.41 $^1F_3^o$	3 224 394	3 224 078	
$2p^5 3d$	$^3D_1^o$	0.89	3 239 502	3 239 308	3 239 700
$2p^5 3d$	$^3F_2^o$	0.47 + 0.38 $^1D_2^o$ + 0.14 $^3D_2^o$	3 244 348	3 244 161	
$2p^5 3d$	$^3D_2^o$	0.58 + 0.27 $^1D_2^o$ + 0.14 $^3P_2^o$	3 248 017	3 247 805	
$2p^5 3d$	$^3D_3^o$	0.40 + 0.35 $^1F_3^o$ + 0.24 $^3F_3^o$	3 248 345	3 248 099	
$2p^5 3d$	$^1P_1^o$	0.91	3 284 444	3 283 473	3 284 300
Ti XIII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	3 697 880	3 697 789	3 698 153
$2p^5 3s$	$^3P_1^o$	0.54 + 0.45 1P_1	3 708 954	3 708 764	3 709 200
$2p^5 3s$	$^3P_0^o$	1.00	3 744 739	3 744 703	3 745 238
$2p^5 3s$	$^1P_1^o$	0.54 + 0.45 3P_1	3 753 157	3 752 993	3 753 600
$2p^5 3p$	3S_1	0.89	3 879 510	3 879 300	3 879 444
$2p^5 3p$	3D_2	0.64 + 0.27 1D_2	3 906 220	3 905 811	3 906 203
$2p^5 3p$	3D_3	1.00	3 908 922	3 908 590	3 908 849
$2p^5 3p$	1P_1	0.42 + 0.35 3D_1 + 0.22 3P_1	3 918 085	3 917 721	3 918 095
$2p^5 3p$	3P_2	0.66 + 0.33 1D_2	3 926 897	3 926 517	3 926 887
$2p^5 3p$	3P_0	0.97	3 949 911	3 949 632	3 949 910
$2p^5 3p$	3D_1	0.61 + 0.36 1P_1	3 950 965	3 950 645	3 951 159
$2p^5 3p$	3P_1	0.66 + 0.21 1P_1	3 964 687	3 964 413	3 964 847
$2p^5 3p$	1D_2	0.40 + 0.36 3D_2 + 0.24 3P_2	3 965 211	3 964 899	3 965 425
$2p^5 3p$	1S_0	0.97	4 060 364	4 057 766	4 060 030
$2p^5 3d$	$^3P_0^o$	0.99	4 163 832	4 163 608	4 163 874
$2p^5 3d$	$^3P_1^o$	0.94	4 168 124	4 168 003	4 168 326
$2p^5 3d$	$^3P_2^o$	0.81 + 0.12 $^3D_2^o$	4 176 849	4 176 754	4 177 038
$2p^5 3d$	$^3F_4^o$	1.00	4 179 315	4 179 158	4 179 462
$2p^5 3d$	$^3F_3^o$	0.69 + 0.25 $^1F_3^o$	4 184 314	4 184 091	4 184 514
$2p^5 3d$	$^3F_2^o$	0.45 + 0.33 $^1D_2^o$ + 0.21 $^3D_2^o$	4 193 733	4 193 529	4 193 932
$2p^5 3d$	$^3D_3^o$	0.59 + 0.38 $^1F_3^o$	4 199 529	4 199 249	4 199 685
$2p^5 3d$	$^3D_1^o$	0.85 + 0.11 $^1P_1^o$	4 220 828	4 220 684	4 219 800
$2p^5 3d$	$^3F_2^o$	0.54 + 0.34 $^1D_2^o$ + 0.12 $^3D_2^o$	4 232 567	4 232 431	4 233 020
$2p^5 3d$	$^3D_2^o$	0.55 + 0.25 $^1D_2^o$ + 0.18 $^3P_2^o$	4 237 048	4 236 893	4 237 394
$2p^5 3d$	$^1F_3^o$	0.37 + 0.36 $^3D_3^o$ + 0.27 $^3F_3^o$	4 238 458	4 238 261	4 238 843
$2p^5 3d$	$^1P_1^o$	0.88	4 282 782	4 281 869	4 281 600
Fe XVII					
$2p^6$	1S_0	1.00	0	0	0
$2p^5 3s$	$^3P_2^o$	1.00	5 849 108	5 848 891	5 849 490
$2p^5 3s$	$^1P_1^o$	0.54 + 0.45 3P_1	5 864 469	5 864 138	5 864 760
$2p^5 3s$	$^3P_0^o$	1.00	5 951 003	5 950 877	5 951 478
$2p^5 3s$	$^3P_1^o$	0.54 + 0.45 1P_1	5 960 633	5 960 410	5 961 022
$2p^5 3p$	3S_1	0.80 + 0.17 3P_1	6 093 573	6 093 209	6 093 568
$2p^5 3p$	3D_2	0.58 + 0.30 1D_2 + 0.12 3P_2	6 121 769	6 121 253	6 121 756
$2p^5 3p$	3D_3	1.00	6 134 794	6 134 360	6 134 815
$2p^5 3p$	1P_1	0.51 + 0.25 3D_1 + 0.19 3P_1	6 143 898	6 143 431	6 143 897

Continued...

Table 2 (continued)

Level	LSJ	comp	E_{RCI}	E_{MR-SD}	E_{NIST}
$2p^5 3p$	3P_2	$0.67 + 0.32 \ ^1D_2$	6 158 481	6 158 010	6 158 540
$2p^5 3p$	3P_0	0.94	6 202 542	6 202 238	6 202 620
$2p^5 3p$	3D_1	$0.67 + 0.31 \ ^1P_1$	6 219 185	6 218 795	6 219 266
$2p^5 3p$	3P_1	$0.63 + 0.17 \ ^1P_1 + 0.13 \ ^3S_1$	6 245 346	6 245 018	6 245 490
$2p^5 3p$	3D_2	$0.41 + 0.38 \ ^1D_2 + 0.21 \ ^3P_2$	6 248 390	6 248 024	6 248 530
$2p^5 3p$	1S_0	0.93	6 353 605	6 351 136	6 353 356
$2p^5 3d$	$^3P_0^o$	0.99	6 463 913	6 463 611	6 464 095
$2p^5 3d$	$^3P_1^o$	0.91	6 471 519	6 471 317	6 471 233
$2p^5 3d$	$^3P_2^o$	$0.72 + 0.18 \ ^3D_2^o$	6 486 166	6 485 977	6 486 440
$2p^5 3d$	$^3F_4^o$	1.00	6 486 745	6 486 514	6 487 000
$2p^5 3d$	$^3F_3^o$	$0.65 + 0.29 \ ^1F_3^o$	6 492 689	6 492 387	6 492 924
$2p^5 3d$	$^1D_2^o$	$0.41 + 0.35 \ ^3F_2^o + 0.24 \ ^3D_2^o$	6 506 561	6 506 276	6 506 808
$2p^5 3d$	$^3D_3^o$	$0.64 + 0.34 \ ^1F_3^o$	6 515 276	6 514 936	6 515 479
$2p^5 3d$	$^3D_1^o$	$0.74 + 0.20 \ ^1P_1^o$	6 552 697	6 552 491	6 552 221
$2p^5 3d$	$^3F_2^o$	$0.63 + 0.29 \ ^1D_2^o$	6 594 260	6 594 099	6 594 617
$2p^5 3d$	$^3D_2^o$	$0.50 + 0.27 \ ^3P_2^o + 0.21 \ ^1D_2^o$	6 600 855	6 600 688	6 601 210
$2p^5 3d$	$^1F_3^o$	$0.37 + 0.33 \ ^3F_3^o + 0.30 \ ^3D_3^o$	6 605 078	6 604 858	6 605 469
$2p^5 3d$	$^1P_1^o$	$0.78 + 0.18 \ ^3D_1^o$	6 661 101	6 660 232	6 660 894

Table 3

Transition data. See page 8 for Explanations of Tables.

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
Mg III							
$2p^5 3s^3 P_2^o$		$2p^6 1S_0$	425623	M2	3.157E-10	7.630E+00	1.00
$2p^5 3s^3 P_1^o$		$2p^6 1S_0$	426819	E1	1.197E-02	4.849E+08	0.97
$2p^5 3s^1 P_1^o$		$2p^6 1S_0$	431489	E1	2.188E-01	9.055E+09	0.97
$2p^5 3p^3 S_1$		$2p^6 1S_0$	467579	M1	7.675E-12	3.731E-01	1.00
$2p^5 3p^3 D_2$		$2p^6 1S_0$	474717	E2	1.083E-06	3.257E+04	0.98
$2p^5 3p^3 D_1$		$2p^6 1S_0$	475540	M1	2.546E-12	1.280E-01	1.00
$2p^5 3p^1 D_2$	$0.61 + 0.35^3 P_2$	$2p^6 1S_0$	477457	E2	7.990E-06	2.430E+05	0.98
$2p^5 3p^1 P_1$	$0.65 + 0.24^3 P_1$	$2p^6 1S_0$	478381	M1	1.241E-11	6.313E-01	1.00
$2p^5 3p^3 P_2$	$0.62 + 0.29^1 D_2$	$2p^6 1S_0$	478851	E2	3.362E-06	1.028E+05	0.98
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^6 1S_0$	479454	M1	8.184E-11	4.183E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^6 1S_0$	530458	E1	3.126E-03	1.956E+08	1.00
$2p^5 3d^3 P_2^o$		$2p^6 1S_0$	530985	M2	1.641E-09	6.173E+01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.19^1 D_2^o + 0.11^3 D_2^o$	$2p^6 1S_0$	532656	M2	8.593E-11	3.252E+00	1.00
$2p^5 3d^3 D_1^o$	$0.66 + 0.32^1 P_1^o$	$2p^6 1S_0$	534147	E1	1.912E-01	1.213E+10	0.99
$2p^5 3d^1 D_2^o$	$0.50 + 0.30^3 F_2^o + 0.19^3 D_2^o$	$2p^6 1S_0$	534676	M2	2.304E-10	8.788E+00	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.31^3 D_1^o$	$2p^6 1S_0$	536090	E1	2.947E-01	1.883E+10	0.99
$2p^5 3s^1 P_1^o$		$2p^5 3s^3 P_2^o$	5865	M1	3.013E-08	2.305E-01	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_2^o$	41956	E1	4.435E-01	1.736E+08	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	48511	E1	1.902E+00	4.265E+08	1.01
$2p^5 3p^3 D_2$		$2p^5 3s^3 P_2^o$	49093	E1	4.834E-01	1.554E+08	1.01
$2p^5 3p^3 D_1$		$2p^5 3s^3 P_2^o$	49916	E1	6.102E-02	3.380E+07	1.02
$2p^5 3p^1 D_2$	$0.61 + 0.35^3 P_2$	$2p^5 3s^3 P_2^o$	51834	E1	4.810E-01	1.724E+08	1.02
$2p^5 3p^1 P_1$	$0.65 + 0.24^3 P_1$	$2p^5 3s^3 P_2^o$	52757	E1	6.677E-02	4.132E+07	1.02
$2p^5 3p^3 P_2$	$0.62 + 0.29^1 D_2$	$2p^5 3s^3 P_2^o$	53228	E1	4.556E-01	1.722E+08	1.02
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_2^o$	53831	E1	1.970E-01	1.270E+08	1.03
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	104638	E2	2.145E-06	1.567E+04	1.03
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	104835	M1	3.368E-10	8.230E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	104835	E2	5.457E-06	1.334E+04	1.03
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	105362	M1	6.734E-09	9.973E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	105362	E2	5.739E-06	8.498E+03	1.02
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	105914	E2	1.942E-05	1.615E+04	1.02
$2p^5 3d^3 F_3^o$	$0.63 + 0.35^1 F_3^o$	$2p^5 3s^3 P_2^o$	106172	E2	4.067E-06	4.369E+03	1.02
$2p^5 3d^3 F_2^o$	$0.69 + 0.19^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3s^3 P_2^o$	107032	E2	2.446E-06	3.739E+03	1.01
$2p^5 3d^1 F_3^o$	$0.45 + 0.34^3 D_3^o + 0.20^3 F_3^o$	$2p^5 3s^3 P_2^o$	107274	E2	8.143E-06	8.929E+03	1.01
$2p^5 3d^3 D_1^o$	$0.66 + 0.32^1 P_1^o$	$2p^5 3s^3 P_2^o$	108523	E2	7.839E-07	2.053E+03	1.00
$2p^5 3d^1 D_2^o$	$0.50 + 0.30^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3s^3 P_2^o$	109053	E2	5.002E-07	7.935E+02	1.00
$2p^5 3d^3 D_3^o$	$0.64 + 0.18^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3s^3 P_2^o$	109198	E2	3.069E-06	3.488E+03	1.00
$2p^5 3d^3 D_2^o$	$0.64 + 0.27^1 D_2^o$	$2p^5 3s^3 P_2^o$	109458	M1	4.740E-10	7.576E-01	1.00
$2p^5 3d^3 D_2^o$	$0.64 + 0.27^1 D_2^o$	$2p^5 3s^3 P_2^o$	109458	E2	2.184E-06	3.490E+03	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.31^3 D_1^o$	$2p^5 3s^3 P_2^o$	110467	E2	2.234E-07	6.062E+02	0.99
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_1^o$	40760	E1	1.946E-01	7.189E+07	0.99
$2p^5 3p^3 D_2$		$2p^5 3s^3 P_1^o$	47898	E1	8.526E-01	2.610E+08	1.00
$2p^5 3p^3 D_1$		$2p^5 3s^3 P_1^o$	48720	E1	4.508E-01	2.379E+08	1.01
$2p^5 3p^1 D_2$	$0.61 + 0.35^3 P_2$	$2p^5 3s^3 P_1^o$	50638	E1	1.483E-01	5.073E+07	1.01
$2p^5 3p^1 P_1$	$0.65 + 0.24^3 P_1$	$2p^5 3s^3 P_1^o$	51561	E1	5.424E-02	3.206E+07	1.02
$2p^5 3p^3 P_2$	$0.62 + 0.29^1 D_2$	$2p^5 3s^3 P_1^o$	52032	E1	3.752E-01	1.355E+08	1.02
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	52485	E1	2.810E-01	5.163E+08	1.02
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_1^o$	52635	E1	8.878E-02	5.469E+07	1.03
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	70319	E1	1.336E-02	4.405E+07	1.01
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	103442	M1	3.648E-10	2.603E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	103639	M1	1.249E-09	2.983E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	103639	E2	9.735E-07	2.325E+03	1.04
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	104166	M1	1.754E-10	2.539E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	104166	E2	3.967E-06	5.743E+03	1.03
$2p^5 3d^3 F_3^o$	$0.63 + 0.35^1 F_3^o$	$2p^5 3s^3 P_1^o$	104976	E2	7.821E-06	8.213E+03	1.02
$2p^5 3d^3 F_2^o$	$0.69 + 0.19^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3s^3 P_1^o$	105836	E2	5.932E-06	8.865E+03	1.01
$2p^5 3d^1 F_3^o$	$0.45 + 0.34^3 D_3^o + 0.20^3 F_3^o$	$2p^5 3s^3 P_1^o$	106078	E2	1.398E-07	1.499E+02	0.94
$2p^5 3d^3 D_1^o$	$0.66 + 0.32^1 P_1^o$	$2p^5 3s^3 P_1^o$	107328	E2	4.498E-06	1.152E+04	1.01
$2p^5 3d^1 D_2^o$	$0.50 + 0.30^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3s^3 P_1^o$	107857	E2	1.077E-07	1.671E+02	1.10
$2p^5 3d^3 D_3^o$	$0.64 + 0.18^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3s^3 P_1^o$	108003	E2	7.177E-06	7.977E+03	1.01
$2p^5 3d^3 D_2^o$	$0.64 + 0.27^1 D_2^o$	$2p^5 3s^3 P_1^o$	108262	E2	7.330E-07	1.146E+03	1.03
$2p^5 3d^1 P_1^o$	$0.65 + 0.31^3 D_1^o$	$2p^5 3s^3 P_1^o$	109271	M1	4.309E-11	1.144E-01	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.31^3 D_1^o$	$2p^5 3s^3 P_1^o$	109271	E2	1.091E-06	2.897E+03	1.01
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$	39731	E1	5.559E-02	1.951E+07	0.95
$2p^5 3p^3 D_1$		$2p^5 3s^3 P_0^o$	47691	E1	2.981E-01	1.507E+08	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^1 P_1$	$0.65 + 0.24 \ ^3P_1$	$2p^5 3s^3 P_0^o$	50532	E1	2.162E-01	1.228E+08	1.02
$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	$2p^5 3s^3 P_0^o$	51606	E1	2.472E-01	1.464E+08	1.03
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	102610	M1	2.376E-10	5.563E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	103137	E2	9.747E-07	1.383E+03	1.04
$2p^5 3d^3 F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	$2p^5 3s^3 P_0^o$	104807	E2	1.656E-06	2.427E+03	1.03
$2p^5 3d^1 D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3s^3 P_0^o$	106828	E2	3.722E-06	5.667E+03	1.01
$2p^5 3d^3 D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	$2p^5 3s^3 P_0^o$	107233	E2	4.471E-06	6.859E+03	1.01
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	36090	E1	3.557E-03	1.030E+06	0.96
$2p^5 3p^3 D_2$		$2p^5 3s^1 P_1^o$	43228	E1	1.789E-02	4.459E+06	0.96
$2p^5 3p^3 D_1$		$2p^5 3s^1 P_1^o$	44050	E1	2.984E-03	1.287E+06	0.99
$2p^5 3p^1 D_2$	$0.61 + 0.35 \ ^3P_2$	$2p^5 3s^1 P_1^o$	45968	E1	7.480E-01	2.109E+08	0.99
$2p^5 3p^1 P_1$	$0.65 + 0.24 \ ^3P_1$	$2p^5 3s^1 P_1^o$	46892	E1	4.832E-01	2.362E+08	1.00
$2p^5 3p^3 P_2$	$0.62 + 0.29 \ ^1D_2$	$2p^5 3s^1 P_1^o$	47362	E1	5.784E-01	1.731E+08	0.99
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	47815	E1	7.734E-03	1.179E+07	1.03
$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	$2p^5 3s^1 P_1^o$	47965	E1	3.147E-01	1.610E+08	1.01
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	65649	E1	3.876E-01	1.114E+09	1.01
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	98969	M1	9.340E-11	2.034E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	98969	E2	2.781E-10	6.057E-01	1.37
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	99496	E2	1.850E-08	2.443E+01	0.86
$2p^5 3d^3 F_3^o$	$0.63 + 0.35 \ ^1F_3^o$	$2p^5 3s^1 P_1^o$	100307	E2	2.841E-06	2.724E+03	0.99
$2p^5 3d^3 F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	$2p^5 3s^1 P_1^o$	101166	E2	6.540E-07	8.929E+02	0.97
$2p^5 3d^1 F_3^o$	$0.45 + 0.34 \ ^3D_3^o + 0.20 \ ^3F_3^o$	$2p^5 3s^1 P_1^o$	101408	E2	6.424E-06	6.295E+03	1.00
$2p^5 3d^3 D_1^o$	$0.66 + 0.32 \ ^1P_1^o$	$2p^5 3s^1 P_1^o$	102658	M1	1.545E-10	3.621E-01	1.00
$2p^5 3d^3 D_1^o$	$0.66 + 0.32 \ ^1P_1^o$	$2p^5 3s^1 P_1^o$	102658	E2	1.380E-06	3.234E+03	1.02
$2p^5 3d^1 D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3s^1 P_1^o$	103187	E2	6.137E-06	8.717E+03	0.99
$2p^5 3d^3 D_3^o$	$0.64 + 0.18 \ ^1F_3^o + 0.16 \ ^3F_3^o$	$2p^5 3s^1 P_1^o$	103333	E2	4.864E-06	4.949E+03	1.00
$2p^5 3d^3 D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	$2p^5 3s^1 P_1^o$	103592	E2	3.358E-06	4.808E+03	0.99
$2p^5 3d^1 P_1^o$	$0.65 + 0.31 \ ^3D_1^o$	$2p^5 3s^1 P_1^o$	104601	M1	1.775E-10	4.319E-01	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.31 \ ^3D_1^o$	$2p^5 3s^1 P_1^o$	104601	E2	5.383E-06	1.310E+04	1.01
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	11725	M1	5.806E-09	5.325E-01	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	$2p^5 3p^3 S_1$	11875	M1	9.439E-09	2.960E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	62682	E1	3.248E-01	8.513E+08	1.03
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	62879	E1	9.110E-01	8.009E+08	1.03
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	63406	E1	1.293E+00	6.932E+08	1.03
$2p^5 3d^3 F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	$2p^5 3p^3 S_1$	65076	E1	3.058E-04	1.728E+05	1.04
$2p^5 3d^3 D_1^o$	$0.66 + 0.32 \ ^1P_1^o$	$2p^5 3p^3 S_1$	66567	E1	9.211E-04	9.075E+05	1.07
$2p^5 3d^1 D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3p^3 S_1$	67096	E1	1.878E-03	1.128E+06	1.05
$2p^5 3d^3 D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	$2p^5 3p^3 S_1$	67502	E1	4.426E-02	2.690E+07	1.04
$2p^5 3d^1 P_1^o$	$0.65 + 0.31 \ ^3D_1^o$	$2p^5 3p^3 S_1$	68510	E1	5.288E-03	5.518E+06	1.04
$2p^5 3p^3 P_2$	$0.62 + 0.29 \ ^1D_2$	$2p^5 3p^3 D_3$	4716	M1	7.025E-08	2.085E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	56850	E1	6.486E-02	2.796E+07	0.74
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	57403	E1	4.667E+00	1.140E+09	1.01
$2p^5 3d^3 F_3^o$	$0.63 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 D_3$	57661	E1	3.270E-01	1.036E+08	1.02
$2p^5 3d^3 F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	$2p^5 3p^3 D_3$	58521	E1	3.961E-02	1.810E+07	1.03
$2p^5 3d^1 F_3^o$	$0.45 + 0.34 \ ^3D_3^o + 0.20 \ ^3F_3^o$	$2p^5 3p^3 D_3$	58763	E1	6.644E-01	2.186E+08	1.03
$2p^5 3d^1 D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3p^3 D_3$	60541	E1	7.944E-03	3.884E+06	1.02
$2p^5 3d^3 D_3^o$	$0.64 + 0.18 \ ^1F_3^o + 0.16 \ ^3F_3^o$	$2p^5 3p^3 D_3$	60687	E1	2.564E-01	8.997E+07	1.06
$2p^5 3d^3 D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	$2p^5 3p^3 D_3$	60946	E1	4.208E-02	2.085E+07	1.18
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	22421	E2	3.421E-09	1.147E+00	1.29
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	55741	E1	5.888E-02	4.068E+07	0.80
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	56268	E1	2.595E-02	1.096E+07	1.34
$2p^5 3d^3 F_3^o$	$0.63 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 D_2$	57078	E1	2.811E+00	8.728E+08	1.01
$2p^5 3d^3 F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	$2p^5 3p^3 D_2$	57938	E1	7.287E-01	3.263E+08	1.02
$2p^5 3d^1 F_3^o$	$0.45 + 0.34 \ ^3D_3^o + 0.20 \ ^3F_3^o$	$2p^5 3p^3 D_2$	58180	E1	1.394E-01	4.497E+07	1.00
$2p^5 3d^3 D_1^o$	$0.66 + 0.32 \ ^1P_1^o$	$2p^5 3p^3 D_2$	59429	E1	7.666E-02	6.020E+07	1.01
$2p^5 3d^1 D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3p^3 D_2$	59959	E1	3.111E-02	1.492E+07	1.09
$2p^5 3d^3 D_3^o$	$0.64 + 0.18 \ ^1F_3^o + 0.16 \ ^3F_3^o$	$2p^5 3p^3 D_2$	60104	E1	2.500E-01	8.605E+07	1.04
$2p^5 3d^3 D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	$2p^5 3p^3 D_2$	60364	E1	1.931E-01	9.385E+07	1.02
$2p^5 3d^1 P_1^o$	$0.65 + 0.31 \ ^3D_1^o$	$2p^5 3p^3 D_2$	61373	E1	1.695E-02	1.420E+07	1.28
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	54721	E1	2.873E-02	5.739E+07	0.85
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	54918	E1	3.456E-03	2.318E+06	2.40
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	55445	E1	2.445E-02	1.003E+07	1.10
$2p^5 3d^3 F_2^o$	$0.69 + 0.19 \ ^1D_2^o + 0.11 \ ^3D_2^o$	$2p^5 3p^3 D_1$	57116	E1	1.688E+00	7.348E+08	1.01
$2p^5 3d^3 D_1^o$	$0.66 + 0.32 \ ^1P_1^o$	$2p^5 3p^3 D_1$	58607	E1	3.957E-01	3.022E+08	1.03
$2p^5 3d^1 D_2^o$	$0.50 + 0.30 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3p^3 D_1$	59136	E1	3.077E-01	1.435E+08	1.03
$2p^5 3d^3 D_2^o$	$0.64 + 0.27 \ ^1D_2^o$	$2p^5 3p^3 D_1$	59541	E1	9.102E-02	4.305E+07	1.03
$2p^5 3d^1 P_1^o$	$0.65 + 0.31 \ ^3D_1^o$	$2p^5 3p^3 D_1$	60550	E1	6.452E-02	5.260E+07	1.02

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^1 S_0$			$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	19680	E2	2.282E-08	5.896E+00	1.30
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	53000	E1	1.219E-01	7.614E+07	0.98
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	53527	E1	5.064E-01	1.936E+08	1.04
$2p^5 3d^3 F_3^o$	0.63 + 0.35 $^1 F_3^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	54338	E1	3.837E-01	1.080E+08	0.99
$2p^5 3d^3 F_2^o$	0.69 + 0.19 $^1 D_2^o$ + 0.11 $^3 D_2^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	55198	E1	1.729E-04	7.027E+04	1.68
$2p^5 3d^1 F_3^o$	0.45 + 0.34 $^3 D_3^o$ + 0.20 $^3 F_3^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	55440	E1	2.812E+00	8.235E+08	1.00
$2p^5 3d^3 D_1^o$	0.66 + 0.32 $^1 P_1^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	56689	E1	2.509E-04	1.793E+05	72.67
$2p^5 3d^1 D_2^o$	0.50 + 0.30 $^3 F_2^o$ + 0.19 $^3 D_2^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	57218	E1	8.698E-02	3.799E+07	1.04
$2p^5 3d^3 D_3^o$	0.64 + 0.18 $^1 F_3^o$ + 0.16 $^3 F_3^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	57364	E1	2.713E-06	8.508E+02	459.50
$2p^5 3d^3 D_2^o$	0.64 + 0.27 $^1 D_2^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	57623	E1	3.607E-01	1.598E+08	1.01
$2p^5 3d^1 P_1^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3p^1 D_2$	0.61 + 0.35 $^3 P_2$	58632	E1	2.574E-02	1.968E+07	0.79
$2p^5 3p^1 S_0$			$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	18757	M1	1.101E-09	2.583E-01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	51880	E1	4.317E-02	7.750E+07	1.04
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	52077	E1	3.757E-02	2.266E+07	0.96
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	52604	E1	9.987E-02	3.687E+07	1.01
$2p^5 3d^3 F_2^o$	0.69 + 0.19 $^1 D_2^o$ + 0.11 $^3 D_2^o$		$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	54274	E1	1.200E-01	4.717E+07	0.99
$2p^5 3d^3 D_1^o$	0.66 + 0.32 $^1 P_1^o$		$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	55765	E1	3.186E-01	2.203E+08	1.01
$2p^5 3d^1 D_2^o$	0.50 + 0.30 $^3 F_2^o$ + 0.19 $^3 D_2^o$		$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	56295	E1	1.811E+00	7.657E+08	1.00
$2p^5 3d^3 D_2^o$	0.64 + 0.27 $^1 D_2^o$		$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	56700	E1	1.216E-02	5.216E+06	1.05
$2p^5 3d^1 P_1^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3p^1 P_1$	0.65 + 0.24 $^3 P_1$	57709	E1	1.948E-01	1.442E+08	1.04
$2p^5 3p^1 S_0$			$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	18287	E2	8.781E-09	1.959E+00	1.30
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	51607	E1	1.400E-01	8.292E+07	1.10
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	52134	E1	5.185E-01	1.880E+08	1.01
$2p^5 3d^3 F_3^o$	0.63 + 0.35 $^1 F_3^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	52944	E1	9.258E-02	2.473E+07	0.98
$2p^5 3d^3 F_2^o$	0.69 + 0.19 $^1 D_2^o$ + 0.11 $^3 D_2^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	53804	E1	2.431E-02	9.389E+06	1.00
$2p^5 3d^1 F_3^o$	0.45 + 0.34 $^3 D_3^o$ + 0.20 $^3 F_3^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	54046	E1	1.036E-02	2.883E+06	1.00
$2p^5 3d^3 D_1^o$	0.66 + 0.32 $^1 P_1^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	55295	E1	6.644E-03	4.517E+06	0.73
$2p^5 3d^1 D_2^o$	0.50 + 0.30 $^3 F_2^o$ + 0.19 $^3 D_2^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	55824	E1	3.547E-01	1.474E+08	1.01
$2p^5 3d^3 D_2^o$	0.64 + 0.18 $^1 F_3^o$ + 0.16 $^3 F_3^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	55970	E1	3.156E+00	9.421E+08	1.00
$2p^5 3d^3 D_3^o$	0.64 + 0.27 $^1 D_2^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	56230	E1	1.089E-02	4.593E+06	1.20
$2p^5 3d^1 P_1^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3p^3 P_2$	0.62 + 0.29 $^1 D_2$	57239	E1	8.403E-03	6.121E+06	0.82
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_0$	0.62 + 0.29 $^1 D_2$	51153	E1	1.273E-01	7.406E+07	1.04
$2p^5 3d^3 D_1^o$	0.66 + 0.32 $^1 P_1^o$		$2p^5 3p^3 P_0$	0.62 + 0.29 $^1 D_2$	54842	E1	4.634E-01	3.099E+08	0.99
$2p^5 3d^1 P_1^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3p^3 P_0$	0.62 + 0.29 $^1 D_2$	56785	E1	2.769E-01	1.985E+08	1.01
$2p^5 3p^1 S_0$			$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	17684	M1	2.780E-09	5.799E-01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	50806	E1	1.155E-01	1.988E+08	1.05
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	51004	E1	1.317E-01	7.615E+07	1.02
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	51530	E1	2.790E-02	9.885E+06	1.11
$2p^5 3d^3 F_2^o$	0.69 + 0.19 $^1 D_2^o$ + 0.11 $^3 D_2^o$		$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	53201	E1	3.777E-04	1.426E+05	1.02
$2p^5 3d^3 D_1^o$	0.66 + 0.32 $^1 P_1^o$		$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	54692	E1	2.384E-02	1.586E+07	0.94
$2p^5 3d^1 D_2^o$	0.50 + 0.30 $^3 F_2^o$ + 0.19 $^3 D_2^o$		$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	55221	E1	1.304E-02	5.305E+06	1.00
$2p^5 3d^3 D_2^o$	0.64 + 0.27 $^1 D_2^o$		$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	55626	E1	1.870E+00	7.720E+08	1.00
$2p^5 3d^1 P_1^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3p^3 P_1$	0.70 + 0.27 $^1 P_1$	56635	E1	4.356E-01	3.107E+08	1.01
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 S_0$	0.70 + 0.27 $^1 P_1$	33319	E1	2.116E-03	5.224E+05	0.77
$2p^5 3d^3 D_1^o$	0.66 + 0.32 $^1 P_1^o$		$2p^5 3p^1 S_0$		37008	E1	2.266E-01	6.900E+07	0.84
$2p^5 3d^1 P_1^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3p^1 S_0$		38951	E1	4.457E-01	1.504E+08	0.86
$2p^5 3d^1 P_0^o$	0.65 + 0.31 $^3 D_1^o$		$2p^5 3d^3 P_1^o$		5631	M1	1.663E-08	1.173E-01	1.00
$2p^5 3d^3 D_2^o$	0.64 + 0.27 $^1 D_2^o$		$2p^5 3d^3 P_2^o$		4096	M1	5.399E-08	1.208E-01	1.00
$2p^5 3d^3 D_3^o$	0.64 + 0.18 $^1 F_3^o$ + 0.16 $^3 F_3^o$		$2p^5 3d^3 F_4^o$		3284	M1	1.383E-07	1.422E-01	1.00
$2p^5 3d^1 D_2^o$	0.50 + 0.30 $^3 F_2^o$ + 0.19 $^3 D_2^o$		$2p^5 3d^3 F_3^o$	0.63 + 0.35 $^1 F_3^o$	2880	M1	1.194E-07	1.322E-01	1.00
Al IV									
$2p^5 3s^3 P_2^o$			$2p^6^1 S_0$		616625	M2	6.621E-10	3.358E+01	1.00
$2p^5 3s^3 P_1^o$			$2p^6^1 S_0$		618428	E1	1.679E-02	1.427E+09	0.98
$2p^5 3s^1 P_1^o$			$2p^6^1 S_0$		624700	E1	2.221E-01	1.927E+10	0.98
$2p^5 3p^3 S_1$			$2p^6^1 S_0$		671849	M1	2.091E-11	2.099E+00	1.00
$2p^5 3p^3 D_2$			$2p^6^1 S_0$		681796	E2	2.118E-06	1.313E+05	0.99
$2p^5 3p^3 D_1$			$2p^6^1 S_0$		683070	M1	6.228E-12	6.461E-01	1.00
$2p^5 3p^1 D_2$	0.56 + 0.41 $^3 P_2$		$2p^6^1 S_0$		685811	E2	1.281E-05	8.040E+05	0.99
$2p^5 3p^1 P_1$	0.65 + 0.23 $^3 P_1$ + 0.11 $^3 D_1$		$2p^6^1 S_0$		687026	M1	2.073E-11	2.176E+00	1.00
$2p^5 3p^3 P_2$	0.56 + 0.33 $^1 D_2$		$2p^6^1 S_0$		687895	E2	6.994E-06	4.415E+05	0.99
$2p^5 3p^3 P_1$	0.71 + 0.27 $^1 P_1$		$2p^6^1 S_0$		688706	M1	1.749E-10	1.844E+01	1.00
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$		759689	E1	2.807E-03	3.602E+08	1.00
$2p^5 3d^3 P_2^o$			$2p^6^1 S_0$		760550	M2	5.590E-09	4.313E+02	1.00
$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1 D_2^o$		$2p^6^1 S_0$		763614	M2	2.332E-10	1.814E+01	1.00
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1 P_1^o$		$2p^6^1 S_0$		766885	E1	1.257E-01	1.643E+10	1.00
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3 F_2^o$ + 0.19 $^3 D_2^o$		$2p^6^1 S_0$		767003	M2	8.836E-10	6.934E+01	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1 D_2^o$		$2p^6^1 S_0$		767718	M2	1.492E-11	1.173E+00	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^1 P_1^o$	$0.87 + 0.11 \ ^3D_1^o$	$2p^6 \ ^1S_0$	770927	E1	6.858E-01	9.063E+10	1.00
$2p^5 3s \ ^3P_1^o$		$2p^5 3s \ ^3P_2^o$	1802	M1	1.696E-07	1.225E-01	1.00
$2p^5 3s \ ^1P_1^o$		$2p^5 3s \ ^3P_2^o$	8074	M1	5.627E-08	8.157E-01	1.00
$2p^5 3p \ ^3S_1$		$2p^5 3s \ ^3P_2^o$	55223	E1	3.956E-01	2.682E+08	0.98
$2p^5 3p \ ^3D_3$		$2p^5 3s \ ^3P_2^o$	64363	E1	1.712E+00	6.760E+08	1.00
$2p^5 3p \ ^3D_2$		$2p^5 3s \ ^3P_2^o$	65170	E1	4.491E-01	2.545E+08	1.00
$2p^5 3p \ ^3D_1$		$2p^5 3s \ ^3P_2^o$	66444	E1	5.977E-02	5.867E+07	1.01
$2p^5 3p \ ^1D_2$	$0.56 + 0.41 \ ^3P_2$	$2p^5 3s \ ^3P_2^o$	69185	E1	4.974E-01	3.176E+08	1.01
$2p^5 3p \ ^1P_1$	$0.65 + 0.23 \ ^3P_1 + 0.11 \ ^3D_1$	$2p^5 3s \ ^3P_2^o$	70400	E1	5.459E-02	6.016E+07	1.00
$2p^5 3p \ ^3P_2$	$0.56 + 0.33 \ ^1D_2$	$2p^5 3s \ ^3P_2^o$	71269	E1	3.427E-01	2.322E+08	1.01
$2p^5 3p \ ^3P_1$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3s \ ^3P_2^o$	72080	E1	1.758E-01	2.031E+08	1.01
$2p^5 3p \ ^1S_0$		$2p^5 3s \ ^3P_2^o$	98522	M2	2.840E-11	1.839E-01	1.00
$2p^5 3d \ ^3P_0^o$		$2p^5 3s \ ^3P_2^o$	142713	E2	2.379E-06	3.233E+04	1.01
$2p^5 3d \ ^3P_1^o$		$2p^5 3s \ ^3P_2^o$	143064	M1	2.973E-10	1.353E+00	1.00
$2p^5 3d \ ^3P_2^o$		$2p^5 3s \ ^3P_2^o$	143064	E2	6.024E-06	2.741E+04	1.01
$2p^5 3d \ ^3F_4^o$		$2p^5 3s \ ^3P_2^o$	143924	M1	5.414E-09	1.496E+01	1.00
$2p^5 3d \ ^3F_3^o$	$0.71 + 0.26 \ ^1F_3^o$	$2p^5 3s \ ^3P_2^o$	143924	E2	6.174E-06	1.706E+04	1.01
$2p^5 3d \ ^3F_2^o$	$0.75 + 0.15 \ ^1D_2^o$	$2p^5 3s \ ^3P_2^o$	145105	E2	2.196E-05	3.427E+04	1.01
$2p^5 3d \ ^1F_3^o$	$0.55 + 0.30 \ ^3D_3^o + 0.14 \ ^3F_3^o$	$2p^5 3s \ ^3P_2^o$	145677	E2	5.652E-06	1.143E+04	1.01
$2p^5 3d \ ^3D_1^o$	$0.86 + 0.12 \ ^1P_1^o$	$2p^5 3s \ ^3P_2^o$	146988	E2	2.556E-06	7.368E+03	1.01
$2p^5 3d \ ^1D_2^o$	$0.56 + 0.23 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3s \ ^3P_2^o$	147671	E2	7.671E-06	1.594E+04	1.00
$2p^5 3d \ ^3D_3^o$	$0.68 + 0.18 \ ^1F_3^o + 0.13 \ ^3F_3^o$	$2p^5 3s \ ^3P_2^o$	150259	E2	1.152E-06	5.782E+03	1.00
$2p^5 3d \ ^3D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3s \ ^3P_2^o$	150377	E2	7.213E-07	2.176E+03	1.00
$2p^5 3d \ ^3D_1^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3s \ ^3P_2^o$	150688	E2	4.331E-06	9.370E+03	1.00
$2p^5 3d \ ^1P_1^o$	$0.87 + 0.11 \ ^3D_1^o$	$2p^5 3s \ ^3P_2^o$	151092	M1	2.557E-10	7.788E-01	1.00
$2p^5 3s \ ^3P_0^o$		$2p^5 3s \ ^3P_2^o$	151092	E2	2.994E-06	9.120E+03	1.00
$2p^5 3s \ ^1P_1^o$		$2p^5 3s \ ^3P_1^o$	154301	E2	9.155E-08	4.846E+02	1.00
$2p^5 3p \ ^3S_1$		$2p^5 3s \ ^3P_1^o$	1619	M1	1.220E-07	2.135E-01	1.00
$2p^5 3p \ ^3D_2$		$2p^5 3s \ ^3P_1^o$	6272	M1	2.455E-08	2.148E-01	1.00
$2p^5 3p \ ^3D_1$		$2p^5 3s \ ^3P_1^o$	53421	E1	1.650E-01	1.047E+08	0.98
$2p^5 3p \ ^1D_2$	$0.56 + 0.41 \ ^3P_2$	$2p^5 3s \ ^3P_1^o$	63368	E1	7.554E-01	4.047E+08	1.00
$2p^5 3p \ ^1P_1$	$0.65 + 0.23 \ ^3P_1 + 0.11 \ ^3D_1$	$2p^5 3s \ ^3P_1^o$	64642	E1	4.215E-01	3.916E+08	1.00
$2p^5 3p \ ^3P_2$	$0.56 + 0.33 \ ^1D_2$	$2p^5 3s \ ^3P_1^o$	67383	E1	1.860E-01	1.127E+08	1.00
$2p^5 3p \ ^3P_0$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3s \ ^3P_1^o$	68598	E1	5.055E-02	5.289E+07	1.01
$2p^5 3p \ ^1S_0$		$2p^5 3s \ ^3P_1^o$	69467	E1	3.000E-01	1.932E+08	1.01
$2p^5 3d \ ^3P_0^o$		$2p^5 3s \ ^3P_1^o$	69973	E1	2.525E-01	8.245E+08	1.01
$2p^5 3d \ ^3P_1^o$		$2p^5 3s \ ^3P_1^o$	70278	E1	6.991E-02	7.677E+07	1.01
$2p^5 3d \ ^3P_2^o$		$2p^5 3s \ ^3P_1^o$	96719	E1	1.876E-02	1.171E+08	1.01
$2p^5 3d \ ^3F_3^o$	$0.71 + 0.26 \ ^1F_3^o$	$2p^5 3s \ ^3P_1^o$	140911	M1	3.221E-10	4.266E+00	1.00
$2p^5 3d \ ^3F_2^o$	$0.75 + 0.15 \ ^1D_2^o$	$2p^5 3s \ ^3P_1^o$	141261	M1	9.855E-10	4.372E+00	1.00
$2p^5 3d \ ^1F_3^o$	$0.55 + 0.30 \ ^3D_3^o + 0.14 \ ^3F_3^o$	$2p^5 3s \ ^3P_1^o$	141261	E2	1.103E-06	4.894E+03	1.02
$2p^5 3d \ ^3D_1^o$	$0.86 + 0.12 \ ^1P_1^o$	$2p^5 3s \ ^3P_1^o$	142122	M1	1.252E-10	3.374E-01	1.00
$2p^5 3d \ ^1D_2^o$	$0.56 + 0.23 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3s \ ^3P_1^o$	142122	E2	4.517E-06	1.217E+04	1.01
$2p^5 3d \ ^3D_3^o$	$0.68 + 0.18 \ ^1F_3^o + 0.13 \ ^3F_3^o$	$2p^5 3s \ ^3P_1^o$	143874	E2	9.411E-06	1.856E+04	1.01
$2p^5 3d \ ^3D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3s \ ^3P_1^o$	145186	E2	6.942E-06	1.952E+04	1.01
$2p^5 3d \ ^1P_1^o$	$0.87 + 0.11 \ ^3D_1^o$	$2p^5 3s \ ^3P_1^o$	145868	E2	5.519E-07	1.119E+03	0.98
$2p^5 3s \ ^3P_1^o$		$2p^5 3s \ ^3P_1^o$	148457	E2	6.410E-06	3.141E+04	1.00
$2p^5 3p \ ^3S_1$		$2p^5 3s \ ^3P_1^o$	148574	E2	2.079E-09	6.121E+00	1.55
$2p^5 3p \ ^3D_2$		$2p^5 3s \ ^3P_1^o$	148885	E2	7.317E-06	1.546E+04	1.01
$2p^5 3p \ ^3D_1$		$2p^5 3s \ ^3P_1^o$	149290	E2	6.185E-07	1.839E+03	1.02
$2p^5 3d \ ^3P_0^o$		$2p^5 3s \ ^3P_1^o$	152499	M1	2.889E-11	1.494E-01	1.00
$2p^5 3d \ ^3P_1^o$		$2p^5 3s \ ^3P_1^o$	152499	E2	9.792E-08	5.063E+02	0.98
$2p^5 3s \ ^1P_1^o$		$2p^5 3s \ ^3P_0^o$	4652	M1	2.611E-08	1.257E-01	1.00
$2p^5 3p \ ^3S_1$		$2p^5 3s \ ^3P_0^o$	51801	E1	4.666E-02	2.784E+07	0.95
$2p^5 3p \ ^3D_1$		$2p^5 3s \ ^3P_0^o$	63022	E1	2.482E-01	2.192E+08	0.99
$2p^5 3p \ ^1P_1$	$0.65 + 0.23 \ ^3P_1 + 0.11 \ ^3D_1$	$2p^5 3s \ ^3P_0^o$	66978	E1	2.080E-01	2.075E+08	1.01
$2p^5 3p \ ^3P_1$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3s \ ^3P_0^o$	68658	E1	2.338E-01	2.450E+08	1.01
$2p^5 3d \ ^3P_0^o$		$2p^5 3s \ ^3P_0^o$	139641	M1	1.835E-10	7.957E-01	1.00
$2p^5 3d \ ^3P_1^o$		$2p^5 3s \ ^3P_0^o$	140502	E2	1.213E-06	3.194E+03	1.02
$2p^5 3d \ ^3F_2^o$	$0.75 + 0.15 \ ^1D_2^o$	$2p^5 3s \ ^3P_0^o$	143566	E2	2.315E-06	6.365E+03	1.01
$2p^5 3d \ ^1D_2^o$	$0.56 + 0.23 \ ^3F_2^o + 0.19 \ ^3D_2^o$	$2p^5 3s \ ^3P_0^o$	146955	E2	3.772E-06	1.087E+04	1.01
$2p^5 3d \ ^3D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3s \ ^3P_0^o$	147670	E2	5.032E-06	1.464E+04	1.00
$2p^5 3p \ ^3S_1$		$2p^5 3s \ ^1P_1^o$	47148	E1	4.542E-03	2.245E+06	0.96
$2p^5 3p \ ^3D_2$		$2p^5 3s \ ^1P_1^o$	57095	E1	1.298E-02	5.647E+06	0.96
$2p^5 3p \ ^3D_1$		$2p^5 3s \ ^1P_1^o$	58369	E1	2.077E-03	1.573E+06	1.00
$2p^5 3p \ ^1D_2$	$0.56 + 0.41 \ ^3P_2$	$2p^5 3s \ ^1P_1^o$	61110	E1	5.716E-01	2.848E+08	0.99
$2p^5 3p \ ^1P_1$	$0.65 + 0.23 \ ^3P_1 + 0.11 \ ^3D_1$	$2p^5 3s \ ^1P_1^o$	62325	E1	4.265E-01	3.684E+08	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_2$	$0.56 + 0.33 {}^1D_2$	$2p^5 3s {}^1P_1^o$	63194	E1	6.306E-01	3.360E+08	0.99
$2p^5 3p^3 P_0$		$2p^5 3s {}^1P_1^o$	63700	E1	1.038E-02	2.810E+07	1.01
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3s {}^1P_1^o$	64005	E1	2.904E-01	2.645E+08	1.00
$2p^5 3p^1 S_0$		$2p^5 3s {}^1P_1^o$	90447	E1	3.650E-01	1.992E+09	1.01
$2p^5 3d^3 P_0^o$		$2p^5 3s {}^1P_1^o$	134638	M1	1.398E-11	1.690E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s {}^1P_1^o$	134989	M1	8.744E-11	3.543E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s {}^1P_1^o$	134989	E2	1.266E-08	5.130E+01	1.02
$2p^5 3d^3 P_2^o$		$2p^5 3s {}^1P_1^o$	135849	E2	1.479E-10	3.642E-01	4.89
$2p^5 3d^3 F_3^o$	$0.71 + 0.26 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	137602	E2	1.762E-06	3.179E+03	0.99
$2p^5 3d^3 F_2^o$	$0.75 + 0.15 {}^1D_2^o$	$2p^5 3s {}^1P_1^o$	138913	E2	3.629E-07	9.342E+02	0.97
$2p^5 3d^1 F_3^o$	$0.55 + 0.30 {}^3D_3^o + 0.14 {}^3F_3^o$	$2p^5 3s {}^1P_1^o$	139596	E2	8.548E-06	1.587E+04	1.00
$2p^5 3d^3 D_1^o$	$0.86 + 0.12 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	142184	M1	7.218E-11	3.245E-01	1.00
$2p^5 3d^3 D_1^o$	$0.86 + 0.12 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	142184	E2	2.316E-07	1.041E+03	1.03
$2p^5 3d^1 D_2^o$	$0.56 + 0.23 {}^3F_2^o + 0.19 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	142302	E2	7.518E-06	2.031E+04	0.99
$2p^5 3d^3 D_3^o$	$0.68 + 0.18 {}^1F_3^o + 0.13 {}^3F_3^o$	$2p^5 3s {}^1P_1^o$	142613	E2	5.888E-06	1.141E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3s {}^1P_1^o$	143017	E2	3.843E-06	1.049E+04	0.99
$2p^5 3d^1 P_1^o$	$0.87 + 0.11 {}^3D_1^o$	$2p^5 3s {}^1P_1^o$	146226	M1	2.696E-10	1.282E+00	1.00
$2p^5 3d^1 P_1^o$	$0.87 + 0.11 {}^3D_1^o$	$2p^5 3s {}^1P_1^o$	146226	E2	8.068E-06	3.836E+04	1.01
$2p^5 3p^1 D_2$	$0.56 + 0.41 {}^3P_2$	$2p^5 3p {}^3S_1$	13962	M1	4.228E-09	1.100E-01	1.00
$2p^5 3p^3 P_2$	$0.56 + 0.33 {}^1D_2$	$2p^5 3p {}^3S_1$	16045	M1	6.887E-09	2.366E-01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p {}^3S_1$	16551	M1	1.019E-08	1.863E+00	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3p {}^3S_1$	16857	M1	1.579E-08	9.978E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p {}^3S_1$	87489	E1	2.849E-01	1.454E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p {}^3S_1$	87840	E1	7.969E-01	1.367E+09	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3p {}^3S_1$	88700	E1	1.128E+00	1.184E+09	1.01
$2p^5 3d^3 F_2^o$	$0.75 + 0.15 {}^1D_2^o$	$2p^5 3p {}^3S_1$	91764	E1	2.761E-04	3.101E+05	1.02
$2p^5 3d^3 D_1^o$	$0.86 + 0.12 {}^1P_1^o$	$2p^5 3p {}^3S_1$	95036	E1	1.393E-03	2.797E+06	1.03
$2p^5 3d^3 D_1^o$	$0.86 + 0.12 {}^1P_1^o$	$2p^5 3p {}^3S_1$	95036	M2	5.310E-11	1.066E-01	1.00
$2p^5 3d^1 D_2^o$	$0.56 + 0.23 {}^3F_2^o + 0.19 {}^3D_2^o$	$2p^5 3p {}^3S_1$	95153	E1	1.496E-03	1.807E+06	1.02
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p {}^3S_1$	95869	E1	2.103E-02	2.579E+07	1.01
$2p^5 3d^1 P_1^o$	$0.87 + 0.11 {}^3D_1^o$	$2p^5 3p {}^3S_1$	99077	E1	9.232E-04	2.015E+06	0.99
$2p^5 3p^3 P_2$	$0.56 + 0.33 {}^1D_2$	$2p^5 3p {}^3D_3$	6905	M1	1.268E-07	8.067E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p {}^3D_3$	79560	E1	5.012E-02	4.232E+07	0.76
$2p^5 3d^3 F_4^o$		$2p^5 3p {}^3D_3$	80742	E1	4.045E+00	1.954E+09	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.26 {}^1F_3^o$	$2p^5 3p {}^3D_3$	80742	M2	2.815E-10	1.360E-01	1.00
$2p^5 3d^3 F_2^o$	$0.75 + 0.15 {}^1D_2^o$	$2p^5 3p {}^3D_3$	81313	E1	3.480E-01	2.192E+08	1.01
$2p^5 3d^1 F_3^o$	$0.55 + 0.30 {}^3D_3^o + 0.14 {}^3F_3^o$	$2p^5 3p {}^3D_3$	82624	E1	3.151E-02	2.870E+07	1.02
$2p^5 3d^1 D_2^o$	$0.56 + 0.23 {}^3F_2^o + 0.19 {}^3D_2^o$	$2p^5 3p {}^3D_3$	83307	E1	4.763E-01	3.150E+08	1.02
$2p^5 3d^3 D_3^o$	$0.68 + 0.18 {}^1F_3^o + 0.13 {}^3F_3^o$	$2p^5 3p {}^3D_3$	86013	E1	8.618E-03	8.506E+06	1.01
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p {}^3D_3$	86324	E1	2.718E-01	1.930E+08	1.04
$2p^5 3p^1 P_1$	$0.65 + 0.23 {}^3P_1 + 0.11 {}^3D_1$	$2p^5 3p {}^3D_3$	86728	E1	4.282E-02	4.296E+07	1.11
$2p^5 3p^1 S_0$		$2p^5 3p {}^3D_2$	5229	M1	5.610E-08	3.411E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p {}^3D_2$	33351	E2	5.050E-09	3.747E+00	1.15
$2p^5 3d^3 P_2^o$		$2p^5 3p {}^3D_2$	77893	E1	5.035E-02	6.792E+07	0.82
$2p^5 3d^3 F_3^o$	$0.71 + 0.26 {}^1F_3^o$	$2p^5 3p {}^3D_2$	78753	E1	2.301E-02	1.904E+07	1.25
$2p^5 3d^3 F_2^o$	$0.75 + 0.15 {}^1D_2^o$	$2p^5 3p {}^3D_2$	80506	E1	2.595E+00	1.603E+09	1.00
$2p^5 3d^1 F_3^o$	$0.55 + 0.30 {}^3D_3^o + 0.14 {}^3F_3^o$	$2p^5 3p {}^3D_2$	81818	E1	6.114E-01	5.460E+08	1.01
$2p^5 3d^3 D_1^o$	$0.86 + 0.12 {}^1P_1^o$	$2p^5 3p {}^3D_2$	82500	E1	3.545E-02	2.299E+07	0.99
$2p^5 3d^1 D_2^o$	$0.56 + 0.23 {}^3F_2^o + 0.19 {}^3D_2^o$	$2p^5 3p {}^3D_2$	85089	E1	8.121E-02	1.307E+08	1.02
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p {}^3D_2$	85206	E1	5.362E-02	5.193E+07	1.06
$2p^5 3d^3 D_2^o$	$0.68 + 0.18 {}^1F_3^o + 0.13 {}^3F_3^o$	$2p^5 3p {}^3D_2$	85517	E1	1.357E-01	9.459E+07	1.03
$2p^5 3d^1 P_1^o$	$0.87 + 0.11 {}^3D_1^o$	$2p^5 3p {}^3D_2$	85922	E1	1.803E-01	1.776E+08	1.02
$2p^5 3p^1 P_1$	$0.65 + 0.23 {}^3P_1 + 0.11 {}^3D_1$	$2p^5 3p {}^3D_2$	89130	E1	2.907E-03	5.134E+06	1.58
$2p^5 3p^3 P_0$		$2p^5 3p {}^3D_1$	3955	M1	3.852E-08	1.340E-01	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3p {}^3D_1$	5330	M1	1.717E-08	3.255E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p {}^3D_1$	5635	M1	1.461E-08	1.032E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p {}^3D_1$	32077	M1	2.951E-10	2.025E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p {}^3D_1$	76268	E1	2.604E-02	1.010E+08	0.89
$2p^5 3d^3 P_2^o$		$2p^5 3p {}^3D_1$	76619	E1	3.660E-03	4.777E+06	1.84
$2p^5 3d^3 F_2^o$	$0.75 + 0.15 {}^1D_2^o$	$2p^5 3p {}^3D_1$	77479	E1	2.251E-02	1.803E+07	1.08
$2p^5 3d^3 D_1^o$	$0.86 + 0.12 {}^1P_1^o$	$2p^5 3p {}^3D_1$	80543	E1	1.572E+00	1.361E+09	1.00
$2p^5 3d^1 D_2^o$	$0.56 + 0.23 {}^3F_2^o + 0.19 {}^3D_2^o$	$2p^5 3p {}^3D_1$	83814	E1	4.234E-01	6.613E+08	1.02
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p {}^3D_1$	83932	E1	1.466E-01	1.378E+08	1.02
$2p^5 3d^1 P_1^o$	$0.87 + 0.11 {}^3D_1^o$	$2p^5 3p {}^3D_1$	84647	E1	7.191E-02	6.874E+07	1.02
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3p {}^3D_1$	87856	E1	2.901E-03	4.979E+06	0.97
$2p^5 3p^1 S_0$		$2p^5 3p {}^1D_2$	2895	M1	7.906E-08	1.473E-01	1.00
		$2p^5 3p {}^1D_2$	29336	E2	2.742E-08	1.574E+01	1.15

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	73878	E1	1.162E-01	1.410E+08	0.98
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	74738	E1	4.639E-01	3.457E+08	1.02
$2p^5 3d^3 F_3^o$	0.71 + 0.26 $^1F_3^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	76491	E1	1.571E-01	8.761E+07	0.99
$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1D_2^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	77802	E1	1.025E-04	8.274E+04	0.67
$2p^5 3d^3 F_3^o$	0.55 + 0.30 $^3D_3^o$ + 0.14 $^3F_3^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	78485	E1	2.564E+00	1.505E+09	1.00
$2p^5 3d^3 D_3^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	81073	E1	4.020E-03	5.874E+06	1.37
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	81191	E1	6.207E-02	5.459E+07	1.04
$2p^5 3d^3 D_3^o$	0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	81502	E1	2.135E-02	1.352E+07	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	81907	E1	3.373E-01	3.018E+08	1.01
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3p^1 D_2$	0.56 + 0.41 3P_2	85115	E1	1.878E-02	3.025E+07	0.77
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	28121	M1	1.602E-09	8.452E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	72313	E1	3.377E-02	1.178E+08	1.01
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	72663	E1	3.331E-02	3.911E+07	0.95
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	73524	E1	8.059E-02	5.812E+07	1.00
$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1D_2^o$	$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	76588	E1	3.780E-02	2.958E+07	0.99
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	79859	E1	1.447E-01	2.051E+08	1.00
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	79976	E1	1.676E+00	1.430E+09	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	80692	E1	1.217E-02	1.057E+07	1.03
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3p^1 P_1$	0.65 + 0.23 3P_1 + 0.11 3D_1	83901	E1	3.101E-01	4.854E+08	1.03
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	27252	E2	1.367E-08	6.773E+00	1.15
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	71794	E1	1.040E-01	1.192E+08	1.08
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	72655	E1	3.887E-01	2.737E+08	1.00
$2p^5 3d^3 F_3^o$	0.71 + 0.26 $^1F_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	74407	E1	4.344E-02	2.292E+07	0.98
$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1D_2^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	75719	E1	8.027E-03	6.139E+06	1.01
$2p^5 3d^1 F_3^o$	0.55 + 0.30 $^3D_3^o$ + 0.14 $^3F_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	76401	E1	7.983E-02	4.440E+07	0.99
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	78990	E1	1.584E-03	2.198E+06	0.66
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	79107	E1	3.311E-01	2.764E+08	1.01
$2p^5 3d^3 D_3^o$	0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	79418	E1	2.782E+00	1.672E+09	1.00
$2p^5 3d^3 D_2^o$	0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	79418	M2	1.980E-10	1.190E-01	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	79823	E1	1.222E-02	1.038E+07	1.12
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3p^3 P_2$	0.56 + 0.33 1D_2	83032	E1	1.013E-02	1.554E+07	0.79
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_0$		71288	E1	1.142E-01	1.291E+08	1.02
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3p^3 P_0$		78484	E1	5.554E-01	7.607E+08	1.00
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3p^3 P_0$		82526	E1	8.652E-02	1.310E+08	1.01
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	26441	M1	4.250E-09	1.982E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	70632	E1	9.548E-02	3.177E+08	1.04
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	70983	E1	9.893E-02	1.108E+08	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	71843	E1	4.303E-02	2.963E+07	1.05
$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1D_2^o$	$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	74907	E1	8.805E-04	6.591E+05	1.00
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	78178	E1	9.152E-02	1.244E+08	0.98
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	78296	E1	1.216E-02	9.946E+06	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	79012	E1	1.626E+00	1.354E+09	1.00
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3p^3 P_1$	0.71 + 0.27 1P_1	82220	E1	3.245E-01	4.878E+08	1.02
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 S_0$		44541	E1	6.673E-04	2.944E+05	0.82
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3p^1 S_0$		51737	E1	6.637E-02	3.950E+07	0.90
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3p^1 S_0$		55779	E1	5.149E-01	3.562E+08	0.92
$2p^5 3d^1 P_0^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3d^3 P_0^o$		11587	M1	9.170E-09	2.738E-01	1.00
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3d^3 P_1^o$		7195	M1	1.622E-08	1.867E-01	1.00
$2p^5 3d^1 P_0^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3d^3 P_1^o$		11237	M1	1.389E-08	3.900E-01	1.00
$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	$2p^5 3d^3 P_2^o$		6335	M1	1.393E-08	1.243E-01	1.00
$2p^5 3d^3 D_2^o$	0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	$2p^5 3d^3 P_2^o$		6763	M1	3.194E-08	1.392E-01	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3d^3 P_2^o$		7168	M1	7.297E-08	5.002E-01	1.00
$2p^5 3d^3 D_3^o$	0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	$2p^5 3d^3 F_4^o$		5582	M1	1.880E-07	5.583E-01	1.00
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	$2p^5 3d^3 F_3^o$	0.71 + 0.26 $^1F_3^o$	4700	M1	1.632E-07	4.808E-01	1.00
$2p^5 3d^1 D_2^o$	0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1D_2^o$	3388	M1	1.029E-07	1.576E-01	1.00
$2p^5 3d^1 P_0^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3d^3 F_2^o$	0.75 + 0.15 $^1D_2^o$	7312	M1	1.594E-08	1.895E-01	1.00
$2p^5 3d^3 D_3^o$	0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	$2p^5 3d^1 F_3^o$	0.55 + 0.30 $^3D_3^o$ + 0.14 $^3F_3^o$	3016	M1	1.910E-07	1.656E-01	1.00
$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3d^1 F_3^o$	0.55 + 0.30 $^3D_3^o$ + 0.14 $^3F_3^o$	3421	M1	1.082E-07	1.690E-01	1.00
$2p^5 3d^1 P_1^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3d^3 D_1^o$	0.86 + 0.12 $^1P_1^o$	4041	M1	2.872E-08	1.043E-01	1.00
$2p^5 3d^1 P_0^o$	0.87 + 0.11 $^3D_1^o$	$2p^5 3d^3 D_2^o$	0.67 + 0.26 $^1D_2^o$	3208	M1	6.622E-08	1.516E-01	1.00
Si V								
$2p^5 3s^3 P_2^o$		$2p^6 1 S_0$		837971	M2	1.199E-09	1.123E+02	1.00
$2p^5 3s^3 P_0^o$		$2p^6 1 S_0$		840522	E1	2.382E-02	3.742E+09	0.98
$2p^5 3s^1 P_1^o$		$2p^6 1 S_0$		848483	E1	2.177E-01	3.485E+10	0.98
$2p^5 3p^3 S_1$		$2p^6 1 S_0$		906458	M1	4.966E-11	9.073E+00	1.00
$2p^5 3p^3 D_2$	0.85 + 0.11 1D_2	$2p^6 1 S_0$		919083	E2	3.864E-06	4.354E+05	0.99
$2p^5 3p^3 D_1$		$2p^6 1 S_0$		920963	M1	1.478E-11	2.787E+00	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	$2p^6 {}^1S_0$	924390	E2	1.756E-05	2.002E+06	0.99
$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	$2p^6 {}^1S_0$	926029	M1	3.123E-11	5.955E+00	1.00
$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	$2p^6 {}^1S_0$	927477	E2	1.227E-05	1.408E+06	0.99
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^6 {}^1S_0$	928476	M1	3.321E-10	6.366E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^6 {}^1S_0$	1018310	E1	2.899E-03	6.683E+08	1.01
$2p^5 3d^3 P_2^o$		$2p^6 {}^1S_0$	1019597	M2	1.358E-08	1.883E+03	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14 {}^1D_2^o$	$2p^6 {}^1S_0$	1024241	M2	5.579E-10	7.808E+01	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^6 {}^1S_0$	1029310	M2	2.192E-09	3.098E+02	1.00
$2p^5 3d^3 D_1^o$		$2p^6 {}^1S_0$	1029407	E1	9.749E-02	2.297E+10	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$	$2p^6 {}^1S_0$	1030384	M2	4.617E-11	6.539E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^6 {}^1S_0$	1037077	E1	1.022E+00	2.445E+11	1.00
$2p^5 3s^3 P_1^o$		$2p^5 3s^3 P_2^o$	2551	M1	2.329E-07	3.370E-01	1.00
$2p^5 3s^1 P_1^o$		$2p^5 3s^3 P_2^o$	10511	M1	1.030E-07	2.531E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_2^o$	68486	E1	3.610E-01	3.765E+08	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	80094	E1	1.556E+00	9.515E+08	1.00
$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	$2p^5 3s^3 P_2^o$	81111	E1	4.220E-01	3.704E+08	1.00
$2p^5 3p^3 D_1$		$2p^5 3s^3 P_2^o$	82991	E1	6.143E-02	9.407E+07	1.01
$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	$2p^5 3s^3 P_2^o$	86419	E1	5.145E-01	5.126E+08	1.00
$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	$2p^5 3s^3 P_2^o$	88057	E1	4.268E-02	7.358E+07	1.00
$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	$2p^5 3s^3 P_2^o$	89505	E1	2.423E-01	2.590E+08	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3s^3 P_2^o$	90504	E1	1.537E-01	2.800E+08	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	125906	M2	4.377E-11	4.628E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	179792	E2	2.387E-06	5.146E+04	1.01
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	180337	M1	2.645E-10	1.912E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	180337	E2	6.058E-06	4.380E+04	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	181625	M1	4.198E-09	1.848E+01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	181625	E2	6.213E-06	2.734E+04	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	183452	E2	2.235E-05	5.574E+04	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.22 {}^1F_3^o$	$2p^5 3s^3 P_2^o$	184407	E2	6.383E-06	2.068E+04	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14 {}^1D_2^o$	$2p^5 3s^3 P_2^o$	186269	E2	2.602E-06	1.204E+04	1.00
$2p^5 3d^1 F_3^o$	$0.57 + 0.31 {}^3D_3^o + 0.10 {}^3F_3^o$	$2p^5 3s^3 P_2^o$	187560	E2	7.466E-06	2.503E+04	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3s^3 P_2^o$	191338	E2	7.872E-07	3.845E+03	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_2^o$	191435	E2	1.260E-06	1.027E+04	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$	$2p^5 3s^3 P_2^o$	191877	E2	4.414E-06	1.548E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$	$2p^5 3s^3 P_2^o$	192412	M1	1.678E-10	8.290E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$	$2p^5 3s^3 P_2^o$	192412	E2	3.190E-06	1.575E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_2^o$	199105	E2	4.675E-08	4.120E+02	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_1^o$	2501	M1	1.827E-07	7.628E-01	1.00
$2p^5 3s^1 P_1^o$		$2p^5 3s^3 P_1^o$	7960	M1	4.249E-08	5.987E-01	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_1^o$	65935	E1	1.397E-01	1.350E+08	0.98
$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	$2p^5 3s^3 P_1^o$	78560	E1	6.728E-01	5.539E+08	1.00
$2p^5 3p^3 D_1$		$2p^5 3s^3 P_1^o$	80440	E1	4.057E-01	5.836E+08	1.00
$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	$2p^5 3s^3 P_1^o$	83868	E1	2.238E-01	2.100E+08	1.00
$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	$2p^5 3s^3 P_1^o$	85506	E1	4.423E-02	7.190E+07	1.01
$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	$2p^5 3s^3 P_1^o$	86954	E1	2.326E-01	2.347E+08	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	87384	E1	2.268E-01	1.155E+09	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3s^3 P_1^o$	87953	E1	5.126E-02	8.816E+07	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	123355	E1	2.619E-02	6.658E+08	1.01
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	177241	M1	2.841E-10	5.953E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	177786	M1	7.598E-10	5.340E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	177786	E2	1.075E-06	7.556E+03	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	179074	M1	8.319E-11	3.559E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	179074	E2	4.516E-06	1.932E+04	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.22 {}^1F_3^o$	$2p^5 3s^3 P_1^o$	181856	E2	9.842E-06	3.102E+04	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14 {}^1D_2^o$	$2p^5 3s^3 P_1^o$	183718	E2	7.248E-06	3.263E+04	1.00
$2p^5 3d^1 F_3^o$	$0.57 + 0.31 {}^3D_3^o + 0.10 {}^3F_3^o$	$2p^5 3s^3 P_1^o$	185009	E2	1.335E-06	4.354E+03	0.99
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3s^3 P_1^o$	188787	E2	1.766E-08	8.397E+01	0.91
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	188884	E2	6.853E-06	5.436E+04	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$	$2p^5 3s^3 P_1^o$	189326	E2	6.523E-06	2.228E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$	$2p^5 3s^3 P_1^o$	189861	E2	4.684E-07	2.253E+03	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	196554	M1	2.485E-11	2.134E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	196554	E2	1.987E-08	1.707E+02	1.09
$2p^5 3s^1 P_1^o$		$2p^5 3s^3 P_0^o$	5458	M1	4.308E-08	2.854E-01	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$	63433	E1	3.885E-02	3.475E+07	0.95
$2p^5 3p^3 D_1$		$2p^5 3s^3 P_0^o$	77938	E1	1.960E-01	2.648E+08	0.99
$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	$2p^5 3s^3 P_0^o$	83004	E1	2.128E-01	3.261E+08	1.01
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	$2p^5 3s^3 P_0^o$	85451	E1	2.224E-01	3.610E+08	1.01

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	175284	M1	1.370E-10	9.357E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	176572	E2	1.221E-06	5.080E+03	1.01
$2p^5 3d^3 F_2^o$	$0.76 + 0.14^1 D_2^o$	$2p^5 3s^3 P_0^o$	181216	E2	2.381E-06	1.043E+04	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_0^o$	186285	E2	3.872E-06	1.793E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3s^3 P_0^o$	187359	E2	5.147E-06	2.410E+04	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	57974	E1	5.839E-03	4.364E+06	0.97
$2p^5 3p^3 D_2$	$0.85 + 0.11^1 D_2$	$2p^5 3s^1 P_1^o$	70599	E1	1.014E-02	6.743E+06	0.97
$2p^5 3p^3 D_1$		$2p^5 3s^1 P_1^o$	72479	E1	1.810E-03	2.114E+06	1.00
$2p^5 3p^1 D_2$	$0.51 + 0.47^3 P_2$	$2p^5 3s^1 P_1^o$	75907	E1	4.153E-01	3.192E+08	0.99
$2p^5 3p^1 P_1$	$0.63 + 0.22^3 P_1 + 0.14^3 D_1$	$2p^5 3s^1 P_1^o$	77545	E1	3.722E-01	4.976E+08	1.00
$2p^5 3p^3 P_2$	$0.49 + 0.37^1 D_2 + 0.13^3 D_2$	$2p^5 3s^1 P_1^o$	78993	E1	6.822E-01	5.679E+08	0.99
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	79423	E1	1.406E-02	5.918E+07	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27^1 P_1$	$2p^5 3s^1 P_1^o$	79992	E1	2.763E-01	3.931E+08	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	115394	E1	3.378E-01	3.000E+09	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	169280	M1	1.533E-11	2.930E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	169825	M1	8.688E-11	5.571E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	169825	E2	3.257E-08	2.088E+02	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	171113	E2	1.545E-08	6.034E+01	1.07
$2p^5 3d^3 F_3^o$	$0.76 + 0.22^1 F_3^o$	$2p^5 3s^1 P_1^o$	173895	E2	9.928E-07	2.861E+03	0.99
$2p^5 3d^3 F_2^o$	$0.76 + 0.14^1 D_2^o$	$2p^5 3s^1 P_1^o$	175757	E2	2.094E-07	8.630E+02	0.97
$2p^5 3d^1 F_3^o$	$0.57 + 0.31^3 D_3^o + 0.10^3 F_3^o$	$2p^5 3s^1 P_1^o$	177048	E2	8.504E-06	2.540E+04	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3s^1 P_1^o$	180826	E2	7.710E-06	3.363E+04	0.99
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	180923	M1	4.758E-11	3.463E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	180923	E2	5.791E-09	4.215E+01	1.15
$2p^5 3d^3 D_3^o$	$0.66 + 0.20^1 F_3^o + 0.13^3 F_3^o$	$2p^5 3s^1 P_1^o$	181365	E2	7.218E-06	2.263E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3s^1 P_1^o$	181900	E2	4.155E-06	1.834E+04	0.99
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	188593	M1	2.956E-10	2.338E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	188593	E2	9.069E-06	7.172E+04	1.01
$2p^5 3p^1 D_2$	$0.51 + 0.47^3 P_2$	$2p^5 3p^3 S_1$	17932	M1	8.553E-09	3.669E-01	1.00
$2p^5 3p^1 P_1$	$0.63 + 0.22^3 P_1 + 0.14^3 D_1$	$2p^5 3p^3 S_1$	19571	M1	1.850E-09	1.576E-01	1.00
$2p^5 3p^3 P_2$	$0.49 + 0.37^1 D_2 + 0.13^3 D_2$	$2p^5 3p^3 S_1$	21019	M1	1.040E-08	6.130E-01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	21449	M1	1.774E-08	5.444E+00	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27^1 P_1$	$2p^5 3p^3 S_1$	22018	M1	2.635E-08	2.840E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$	57420	M1	1.318E-10	2.898E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	111305	E1	2.507E-01	2.072E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	111851	E1	6.960E-01	1.936E+09	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	113138	E1	9.685E-01	1.654E+09	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	113138	M2	6.468E-11	1.105E-01	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14^1 D_2^o$	$2p^5 3p^3 S_1$	117782	E1	3.273E-04	6.057E+05	1.01
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 S_1$	122851	E1	1.270E-03	2.557E+06	1.01
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	122949	E1	9.786E-04	3.289E+06	1.01
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	122949	M2	6.739E-11	2.265E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3p^3 S_1$	123925	E1	1.288E-02	2.638E+07	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	130619	E1	1.253E-04	4.754E+05	0.91
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	130619	M2	6.954E-11	2.638E-01	1.00
$2p^5 3p^1 D_2$	$0.51 + 0.47^3 P_2$	$2p^5 3p^3 D_3$	6325	M1	2.189E-08	1.168E-01	1.00
$2p^5 3p^3 P_2$	$0.49 + 0.37^1 D_2 + 0.13^3 D_2$	$2p^5 3p^3 D_3$	9411	M1	2.218E-07	2.621E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	101530	E1	4.124E-02	5.671E+07	0.79
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	103358	E1	3.489E+00	2.762E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	103358	M2	4.002E-10	3.168E-01	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.22^1 F_3^o$	$2p^5 3p^3 D_3$	104313	E1	3.327E-01	3.450E+08	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14^1 D_2^o$	$2p^5 3p^3 D_3$	106174	E1	2.709E-02	4.074E+07	1.01
$2p^5 3d^1 F_3^o$	$0.57 + 0.31^3 D_3^o + 0.10^3 F_3^o$	$2p^5 3p^3 D_3$	107466	E1	3.911E-01	4.304E+08	1.02
$2p^5 3d^1 F_3^o$	$0.57 + 0.31^3 D_3^o + 0.10^3 F_3^o$	$2p^5 3p^3 D_3$	107466	M2	1.836E-10	2.021E-01	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 D_3$	111243	E1	7.883E-03	1.301E+07	1.01
$2p^5 3d^3 D_3^o$	$0.66 + 0.20^1 F_3^o + 0.13^3 F_3^o$	$2p^5 3p^3 D_3$	111783	E1	2.323E-01	2.766E+08	1.03
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3p^3 D_3$	112317	E1	3.845E-02	6.470E+07	1.09
$2p^5 3p^3 D_1$		$2p^5 3p^3 D_2$	1880	M1	2.694E-07	2.117E-01	1.00
$2p^5 3p^1 D_2$	$0.51 + 0.47^3 P_2$	$2p^5 3p^3 D_2$	5307	M1	4.094E-08	1.539E-01	1.00
$2p^5 3p^1 P_1$	$0.63 + 0.22^3 P_1 + 0.14^3 D_1$	$2p^5 3p^3 D_2$	6946	M1	1.024E-07	1.098E+00	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27^1 P_1$	$2p^5 3p^3 D_2$	9393	M1	6.724E-09	1.319E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	44795	E2	7.019E-09	9.395E+00	1.08
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	99226	E1	4.484E-02	9.817E+07	0.85
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	100513	E1	2.367E-02	3.190E+07	1.18
$2p^5 3d^3 F_3^o$	$0.76 + 0.22^1 F_3^o$	$2p^5 3p^3 D_2$	103295	E1	2.301E+00	2.340E+09	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14^1 D_2^o$	$2p^5 3p^3 D_2$	105157	E1	5.312E-01	7.836E+08	1.01
$2p^5 3d^1 F_3^o$	$0.57 + 0.31^3 D_3^o + 0.10^3 F_3^o$	$2p^5 3p^3 D_2$	106449	E1	3.283E-03	3.545E+06	0.95

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$		$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	110226	E1	6.063E-02	9.827E+07	1.05
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	110324	E1	7.299E-02	1.975E+08	1.02
$2p^5 3d^3 D_3^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$		$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	110765	E1	7.472E-02	8.735E+07	1.02
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	111300	E1	1.506E-01	2.489E+08	1.01
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 D_2$	$0.85 + 0.11 {}^1D_2$	117994	E1	4.972E-04	1.539E+06	2.75
$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$		$2p^5 3p^3 D_1$		5065	M1	6.471E-08	3.693E-01	1.00
$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$		$2p^5 3p^3 D_1$		6513	M1	4.814E-08	2.725E-01	1.00
$2p^5 3p^3 P_0$			$2p^5 3p^3 D_1$		6944	M1	3.119E-08	1.003E+00	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$		$2p^5 3p^3 D_1$		7513	M1	2.773E-08	3.481E-01	1.00
$2p^5 3p^1 S_0$			$2p^5 3p^3 D_1$		42915	M1	6.464E-10	7.941E-01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 D_1$		96800	E1	2.502E-02	1.564E+08	0.93
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 D_1$		97346	E1	4.765E-03	1.004E+07	1.47
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 D_1$		98633	E1	2.490E-02	3.231E+07	1.05
$2p^5 3d^3 F_2^o$	$0.76 + 0.14 {}^1D_2^o$		$2p^5 3p^3 D_1$		103277	E1	1.383E+00	1.968E+09	1.00
$2p^5 3d^1 F_3^o$	$0.57 + 0.31 {}^3D_3^o + 0.10 {}^3F_3^o$		$2p^5 3p^3 D_1$		104568	M2	1.384E-10	1.442E-01	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$		$2p^5 3p^3 D_1$		108346	E1	7.659E-02	1.199E+08	1.01
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 D_1$		108443	E1	3.994E-01	1.044E+09	1.02
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^3 D_1$		109420	E1	5.374E-02	8.583E+07	1.02
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 D_1$		116113	E1	2.014E-03	6.037E+06	1.08
$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	3086	M1	2.051E-07	2.606E-01	1.00
$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	4085	M1	1.297E-07	4.814E-01	1.00
$2p^5 3p^1 S_0$			$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	39487	E2	2.855E-08	2.969E+01	1.08
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	93918	E1	1.114E-01	2.184E+08	0.98
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	95205	E1	4.424E-01	5.350E+08	1.02
$2p^5 3d^3 F_3^o$	$0.76 + 0.22 {}^1F_3^o$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	97987	E1	6.920E-02	6.331E+07	0.99
$2p^5 3d^3 F_2^o$	$0.76 + 0.14 {}^1D_2^o$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	99849	E1	4.905E-04	6.524E+05	0.85
$2p^5 3d^1 F_3^o$	$0.57 + 0.31 {}^3D_3^o + 0.10 {}^3F_3^o$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	101141	E1	2.231E+00	2.175E+09	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	104918	E1	3.715E-02	5.455E+07	1.03
$2p^5 3d^3 D_1^o$			$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	105016	E1	6.066E-03	1.487E+07	1.17
$2p^5 3d^3 D_3^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	105458	E1	3.943E-02	4.179E+07	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	105992	E1	2.950E-01	4.421E+08	1.01
$2p^5 3d^1 P_0^o$			$2p^5 3p^1 D_2$	$0.51 + 0.47 {}^3P_2$	112686	E1	1.262E-02	3.563E+07	0.77
$2p^5 3p^1 S_0$			$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	37849	M1	2.372E-09	2.267E+00	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	91734	E1	2.517E-02	1.413E+08	0.98
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	92280	E1	2.718E-02	5.146E+07	0.95
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	93567	E1	6.436E-02	7.517E+07	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.14 {}^1D_2^o$		$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	98211	E1	1.103E-02	1.420E+07	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$		$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	103280	E1	1.509E+00	2.147E+09	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	103377	E1	6.999E-02	1.663E+08	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$		$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	103819	M2	1.094E-10	1.123E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	104354	E1	1.150E-02	1.671E+07	1.02
$2p^5 3d^1 P_1^o$			$2p^5 3p^1 P_1$	$0.63 + 0.22 {}^3P_1 + 0.14 {}^3D_1$	111047	E1	3.200E-01	8.772E+08	1.02
$2p^5 3p^1 S_0$			$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	36401	E2	1.805E-08	1.596E+01	1.08
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	90832	E1	7.265E-02	1.333E+08	1.08
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	92119	E1	2.763E-01	3.128E+08	0.99
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	94901	E1	1.635E-02	1.403E+07	0.99
$2p^5 3d^3 F_3^o$	$0.76 + 0.22 {}^1F_3^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	96763	E1	2.886E-03	3.605E+06	1.03
$2p^5 3d^1 F_3^o$	$0.76 + 0.14 {}^1D_2^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	98054	E1	1.130E-01	1.035E+08	0.99
$2p^5 3d^1 D_2^o$	$0.57 + 0.31 {}^3D_3^o + 0.10 {}^3F_3^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	101832	E1	2.937E-01	4.064E+08	1.01
$2p^5 3d^3 D_1^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	101929	E1	1.260E-04	2.911E+05	0.40
$2p^5 3d^3 D_3^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	102371	E1	2.445E+00	2.441E+09	1.00
$2p^5 3d^3 D_2^o$	$0.66 + 0.20 {}^1F_3^o + 0.13 {}^3F_3^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	102371	M2	2.945E-10	2.940E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	102906	E1	2.282E-02	3.224E+07	1.07
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_2$	$0.49 + 0.37 {}^1D_2 + 0.13 {}^3D_2$	109600	E1	9.870E-03	2.636E+07	0.79
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_0$		90402	E1	9.644E-02	1.752E+08	1.01
$2p^5 3d^3 D_0^o$			$2p^5 3p^3 P_0$		101499	E1	5.202E-01	1.191E+09	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_0$		109169	E1	3.788E-02	1.004E+08	1.00
$2p^5 3p^1 S_0$			$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	35401	M1	6.625E-09	5.538E+00	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	89287	E1	7.617E-02	4.051E+08	1.03
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	89833	E1	7.563E-02	1.357E+08	1.01
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	91120	E1	4.282E-02	4.743E+07	1.02
$2p^5 3d^3 F_2^o$	$0.76 + 0.14 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	95764	E1	1.414E-03	1.731E+06	0.99
$2p^5 3d^1 D_2^o$	$0.57 + 0.23 {}^3F_2^o + 0.20 {}^3D_2^o$		$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	100833	E1	8.430E-03	1.143E+07	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	100930	E1	1.084E-01	2.455E+08	0.99
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	101907	E1	1.422E+00	1.970E+09	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	101907	M2	1.568E-10	2.173E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_1$	$0.71 + 0.27 {}^1P_1$	108600	E1	2.588E-01	6.787E+08	1.02

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 S_0$	54431	E1	2.926E-04	1.928E+05	0.85
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 S_0$	65528	E1	2.709E-02	2.586E+07	0.93
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 S_0$	73198	E1	4.748E-01	5.656E+08	0.95
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_0^o$	11643	M1	8.933E-09	2.693E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 P_0^o$	19313	M1	1.042E-08	8.638E-01	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3d^3 P_0^o$	11000	M1	1.313E-08	2.120E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_1^o$	11097	M1	2.903E-08	7.949E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3d^3 P_1^o$	12074	M1	1.386E-08	2.695E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 P_1^o$	18767	M1	1.480E-08	1.159E+00	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3d^3 P_2^o$	9713	M1	1.277E-08	1.608E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_2^o$	9810	M1	1.978E-08	4.232E-01	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.20^1 F_3^o + 0.13^3 F_3^o$	$2p^5 3d^3 P_2^o$	10252	M1	4.544E-08	4.551E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3d^3 P_2^o$	10787	M1	1.065E-07	1.653E+00	1.00
$2p^5 3d^1 F_3^o$	$0.57 + 0.31^3 D_3^o + 0.10^3 F_3^o$	$2p^5 3d^3 F_4^o$	4107	M1	1.302E-07	2.093E-01	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.20^1 F_3^o + 0.13^3 F_3^o$	$2p^5 3d^3 F_4^o$	8424	M1	2.797E-07	1.892E+00	1.00
$2p^5 3d^3 F_2^o$	$0.76 + 0.14^1 D_2^o$	$2p^5 3d^3 F_3^o$	1861	M1	3.222E-07	1.490E-01	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3d^3 F_3^o$	6930	M1	2.390E-07	1.531E+00	1.00
$2p^5 3d^1 D_2^o$	$0.57 + 0.23^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3d^3 F_2^o$	5068	M1	1.511E-07	5.178E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 F_2^o$	5166	M1	6.806E-08	4.039E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3d^3 F_2^o$	6142	M1	2.348E-08	1.182E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 F_2^o$	12836	M1	1.518E-08	5.560E-01	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.20^1 F_3^o + 0.13^3 F_3^o$	$2p^5 3d^1 F_3^o$	4316	M1	2.879E-07	5.113E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.25^1 D_2^o$	$2p^5 3d^1 F_3^o$	4851	M1	1.658E-07	5.207E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^1 D_2^o$	7767	M1	2.138E-08	2.868E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 D_1^o$	7670	M1	3.236E-08	4.232E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 D_2^o$	6693	M1	7.748E-08	7.718E-01	1.00
P VI							
$2p^5 3s^3 P_2^o$		$2p^6^1 S_0$	1089662	M2	1.974E-09	3.127E+02	1.00
$2p^5 3s^3 P_1^o$	$0.86 + 0.13^1 P_1^o$	$2p^6^1 S_0$	1093092	E1	3.305E-02	8.780E+09	0.98
$2p^5 3s^1 P_1^o$	$0.86 + 0.13^3 P_1^o$	$2p^6^1 S_0$	1102961	E1	2.086E-01	5.643E+10	0.98
$2p^5 3p^3 S_1$		$2p^6^1 S_0$	1171510	M1	1.069E-10	3.262E+01	1.00
$2p^5 3p^3 D_2$	$0.82 + 0.13^1 D_2$	$2p^6^1 S_0$	1186658	E2	6.532E-06	1.227E+06	1.00
$2p^5 3p^3 D_1$	$0.79 + 0.12^1 P_1$	$2p^6^1 S_0$	1189306	M1	3.273E-11	1.029E+01	1.00
$2p^5 3p^3 P_2$	$0.52 + 0.46^1 D_2$	$2p^6^1 S_0$	1193297	E2	2.222E-05	4.222E+06	1.00
$2p^5 3p^1 P_1$	$0.60 + 0.20^3 D_1 + 0.20^3 P_1$	$2p^6^1 S_0$	1195592	M1	4.181E-11	1.329E+01	1.00
$2p^5 3p^3 P_2$	$0.43 + 0.40^1 D_2 + 0.16^3 D_2$	$2p^6^1 S_0$	1197825	E2	1.889E-05	3.616E+06	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^6^1 S_0$	1198962	M1	5.819E-10	1.860E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^6^1 S_0$	1306592	E1	3.214E-03	1.220E+09	1.01
$2p^5 3d^3 P_2^o$		$2p^6^1 S_0$	1308413	M2	2.725E-08	6.223E+03	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15^1 D_2^o$	$2p^6^1 S_0$	1314734	M2	1.234E-09	2.845E+02	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25^3 F_2^o + 0.20^3 D_2^o$	$2p^6^1 S_0$	1321751	M2	4.274E-09	9.961E+02	1.00
$2p^5 3d^3 D_1^o$		$2p^6^1 S_0$	1321895	E1	9.371E-02	3.641E+10	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26^1 D_2^o$	$2p^6^1 S_0$	1323226	M2	7.920E-11	1.850E+01	1.00
$2p^5 3d^1 P_1^o$		$2p^6^1 S_0$	1334251	E1	1.303E+00	5.157E+11	1.00
$2p^5 3s^3 P_1^o$	$0.86 + 0.13^1 P_1^o$	$2p^5 3s^3 P_2^o$	3430	M1	3.001E-07	7.853E-01	1.00
$2p^5 3s^1 P_1^o$	$0.86 + 0.13^3 P_1^o$	$2p^5 3s^3 P_2^o$	13299	M1	1.810E-07	7.120E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_2^o$	81848	E1	3.355E-01	4.996E+08	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	95816	E1	1.427E+00	1.249E+09	1.00
$2p^5 3p^3 D_2$	$0.82 + 0.13^1 D_2$	$2p^5 3s^3 P_2^o$	96996	E1	3.991E-01	5.010E+08	1.00
$2p^5 3p^3 D_1$	$0.79 + 0.12^1 P_1$	$2p^5 3s^3 P_2^o$	99644	E1	6.406E-02	1.414E+08	1.00
$2p^5 3p^3 P_2$	$0.52 + 0.46^1 D_2$	$2p^5 3s^3 P_2^o$	103635	E1	5.195E-01	7.444E+08	1.00
$2p^5 3p^3 P_2$	$0.52 + 0.46^1 D_2$	$2p^5 3s^3 P_2^o$	103635	M2	8.969E-11	1.285E-01	1.00
$2p^5 3p^1 P_1$	$0.60 + 0.20^3 D_1 + 0.20^3 P_1$	$2p^5 3s^3 P_2^o$	105930	E1	3.115E-02	7.771E+07	0.99
$2p^5 3p^3 P_2$	$0.43 + 0.40^1 D_2 + 0.16^3 D_2$	$2p^5 3s^3 P_2^o$	108163	E1	1.666E-01	2.601E+08	0.99
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_2^o$	109300	E1	1.333E-01	3.541E+08	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	153633	M2	6.096E-11	9.597E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	216137	E2	2.299E-06	7.165E+04	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	216930	M1	2.434E-10	2.547E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	216930	E2	5.879E-06	6.151E+04	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	218751	M1	3.249E-09	2.074E+01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	218751	E2	6.111E-06	3.901E+04	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	221142	E2	2.176E-05	7.886E+04	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3s^3 P_2^o$	225237	E2	6.590E-06	3.110E+04	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15^1 D_2^o$	$2p^5 3s^3 P_2^o$	225071	E2	2.643E-06	1.786E+04	1.00
$2p^5 3d^1 F_3^o$	$0.56 + 0.35^3 D_3^o$	$2p^5 3s^3 P_2^o$	227030	E2	7.535E-06	3.701E+04	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_2^o$	232088	E2	7.576E-07	5.444E+03	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_2^o$	232233	M1	1.018E-11	1.221E-01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_2^o$	232233	E2	1.240E-06	1.487E+04	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.23^1 F_3^o + 0.14^3 F_3^o$	$2p^5 3s^3 P_2^o$	232940	E2	3.871E-06	2.002E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26^1 D_2^o$	$2p^5 3s^3 P_2^o$	233564	M1	1.229E-10	8.944E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26^1 D_2^o$	$2p^5 3s^3 P_2^o$	233564	E2	3.035E-06	2.209E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_2^o$	244589	E2	3.210E-08	4.269E+02	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_1^o$	3779	M1	2.644E-07	2.519E+00	1.00
$2p^5 3s^1 P_1^o$	$0.86 + 0.13^3 P_1^o$	$2p^5 3s^3 P_1^o$	9868	M1	7.007E-08	1.517E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_1^o$	78417	E1	1.181E-01	1.614E+08	0.98
$2p^5 3p^3 D_2$	$0.82 + 0.13^1 D_2$	$2p^5 3s^3 P_1^o$	93565	E1	6.043E-01	7.058E+08	0.99
$2p^5 3p^3 D_1$	$0.79 + 0.12^1 P_1$	$2p^5 3s^3 P_1^o$	96213	E1	3.978E-01	8.187E+08	1.00
$2p^5 3p^3 P_2$	$0.52 + 0.46^1 D_2$	$2p^5 3s^3 P_1^o$	100204	E1	2.560E-01	3.429E+08	0.99
$2p^5 3p^1 P_1$	$0.60 + 0.20^3 D_1 + 0.20^3 P_1$	$2p^5 3s^3 P_1^o$	102499	E1	3.596E-02	8.401E+07	1.00
$2p^5 3p^3 P_2$	$0.43 + 0.40^1 D_2 + 0.16^3 D_2$	$2p^5 3s^3 P_1^o$	104732	E1	1.748E-01	2.557E+08	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	104884	E1	2.036E-01	1.494E+09	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_1^o$	105869	E1	3.504E-02	8.732E+07	0.99
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	150203	E1	3.534E-02	5.319E+08	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	212706	M1	2.550E-10	7.695E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	213500	M1	5.887E-10	5.966E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	213500	E2	9.759E-07	9.891E+03	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	215321	M1	5.272E-11	3.261E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	215321	E2	4.277E-06	2.646E+04	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3s^3 P_1^o$	219107	E2	9.684E-06	4.430E+04	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15^1 D_2^o$	$2p^5 3s^3 P_1^o$	221641	E2	7.252E-06	4.753E+04	1.00
$2p^5 3d^1 F_3^o$	$0.56 + 0.35^3 D_3^o$	$2p^5 3s^3 P_1^o$	223599	E2	2.306E-06	1.099E+04	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_1^o$	228658	E2	5.876E-08	4.099E+02	0.96
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	228803	E2	6.780E-06	7.892E+04	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.23^1 F_3^o + 0.14^3 F_3^o$	$2p^5 3s^3 P_1^o$	229510	E2	5.313E-06	2.667E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26^1 D_2^o$	$2p^5 3s^3 P_1^o$	230134	E2	3.169E-07	2.239E+03	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	241159	M1	2.381E-11	3.078E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	241159	E2	2.017E-07	2.608E+03	1.04
$2p^5 3s^1 P_1^o$	$0.86 + 0.13^3 P_1^o$	$2p^5 3s^3 P_0^o$	6089	M1	6.674E-08	5.502E-01	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$	74637	E1	3.216E-02	3.984E+07	0.95
$2p^5 3p^3 D_1$	$0.79 + 0.12^1 P_1$	$2p^5 3s^3 P_0^o$	92434	E1	1.465E-01	2.783E+08	0.99
$2p^5 3p^1 P_1$	$0.60 + 0.20^3 D_1 + 0.20^3 P_1$	$2p^5 3s^3 P_0^o$	98719	E1	2.220E-01	4.809E+08	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_0^o$	102090	E1	2.140E-01	4.960E+08	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	209720	M1	1.011E-10	9.885E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	211541	E2	1.122E-06	6.699E+03	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15^1 D_2^o$	$2p^5 3s^3 P_0^o$	217861	E2	2.132E-06	1.350E+04	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_0^o$	224878	E2	4.034E-06	2.722E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26^1 D_2^o$	$2p^5 3s^3 P_0^o$	226354	E2	5.055E-06	3.455E+04	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	68548	E1	7.275E-03	7.601E+06	0.97
$2p^5 3p^3 D_2$	$0.82 + 0.13^1 D_2$	$2p^5 3s^1 P_1^o$	83696	E1	7.768E-03	7.259E+06	0.97
$2p^5 3p^3 D_1$	$0.79 + 0.12^1 P_1$	$2p^5 3s^1 P_1^o$	86344	E1	1.757E-03	2.912E+06	1.01
$2p^5 3p^3 P_2$	$0.52 + 0.46^1 D_2$	$2p^5 3s^1 P_1^o$	90335	E1	2.926E-01	3.185E+08	0.99
$2p^5 3p^1 P_1$	$0.60 + 0.20^3 D_1 + 0.20^3 P_1$	$2p^5 3s^1 P_1^o$	92630	E1	3.255E-01	6.209E+08	1.00
$2p^5 3p^3 P_2$	$0.43 + 0.40^1 D_2 + 0.16^3 D_2$	$2p^5 3s^1 P_1^o$	94863	E1	7.178E-01	8.617E+08	0.99
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	95015	E1	1.856E-02	1.118E+08	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^1 P_1^o$	96000	E1	2.652E-01	5.433E+08	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	140334	E1	3.086E-01	4.054E+09	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	202838	M1	1.682E-11	4.615E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	203631	M1	8.662E-11	7.986E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	203631	E2	5.439E-08	5.014E+02	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	205452	E2	4.580E-08	2.579E+02	1.03
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3s^1 P_1^o$	209238	E2	5.435E-07	2.267E+03	0.99
$2p^5 3d^3 F_2^o$	$0.74 + 0.15^1 D_2^o$	$2p^5 3s^1 P_1^o$	211772	E2	1.246E-07	7.454E+02	0.97
$2p^5 3d^1 F_3^o$	$0.56 + 0.35^3 D_3^o$	$2p^5 3s^1 P_1^o$	213730	E2	7.281E-06	3.169E+04	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25^3 F_2^o + 0.20^3 D_2^o$	$2p^5 3s^1 P_1^o$	218789	E2	7.327E-06	4.679E+04	0.99
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	218934	M1	4.164E-11	4.437E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	218934	E2	3.015E-08	3.213E+02	0.95
$2p^5 3d^3 D_3^o$	$0.62 + 0.23^1 F_3^o + 0.14^3 F_3^o$	$2p^5 3s^1 P_1^o$	219641	E2	8.660E-06	3.981E+04	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26^1 D_2^o$	$2p^5 3s^1 P_1^o$	220265	E2	4.375E-06	2.832E+04	0.99
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	231290	M1	2.990E-10	3.557E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	231290	E2	9.303E-06	1.107E+05	1.01
$2p^5 3p^3 P_2$	$0.52 + 0.46^1 D_2$	$2p^5 3p^3 S_1$	21787	M1	1.608E-08	1.018E+00	1.00
$2p^5 3p^1 P_1$	$0.60 + 0.20^3 D_1 + 0.20^3 P_1$	$2p^5 3p^3 S_1$	24082	M1	2.801E-09	3.612E-01	1.00
$2p^5 3p^3 P_2$	$0.43 + 0.40^1 D_2 + 0.16^3 D_2$	$2p^5 3p^3 S_1$	26315	M1	1.516E-08	1.401E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	26467	M1	3.000E-08	1.402E+01	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	$2p^5 3p^3 S_1$	27452	M1	4.278E-08	7.168E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$	71785	M1	2.875E-10	9.881E-01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	134289	E1	2.237E-01	2.691E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	135082	E1	6.146E-01	2.493E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	135082	M2	4.402E-11	1.786E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	136903	E1	8.346E-01	2.087E+09	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	136903	M2	8.063E-11	2.016E-01	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 {}^1D_2^o$	$2p^5 3p^3 S_1$	143223	E1	4.527E-04	1.239E+06	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3p^3 S_1$	150240	E1	1.161E-03	3.495E+06	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	150385	E1	6.385E-04	3.211E+06	1.01
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	150385	M2	8.542E-11	4.295E-01	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p^3 S_1$	151716	E1	9.312E-03	2.860E+07	0.99
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p^3 S_1$	151716	M2	4.169E-11	1.280E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	162741	E1	9.611E-07	5.660E+03	0.37
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	162741	M2	1.085E-10	6.390E-01	1.00
$2p^5 3p^3 P_2$	$0.52 + 0.46 {}^1D_2$	$2p^5 3p^3 D_3$	7819	M1	2.241E-08	1.827E-01	1.00
$2p^5 3p^3 P_2$	$0.43 + 0.40 {}^1D_2 + 0.16 {}^3D_2$	$2p^5 3p^3 D_3$	12346	M1	3.672E-07	7.468E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	122935	E1	3.558E-02	7.173E+07	0.82
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	125326	E1	3.035E+00	3.533E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	125326	M2	5.138E-10	5.982E-01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20 {}^1F_3^o$	$2p^5 3p^3 D_3$	126721	E1	3.068E-01	4.695E+08	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 {}^1D_2^o$	$2p^5 3p^3 D_3$	129255	E1	2.455E-02	5.471E+07	1.01
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 {}^3D_3^o$	$2p^5 3p^3 D_3$	131213	E1	3.516E-01	5.768E+08	1.02
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 {}^3D_3^o$	$2p^5 3p^3 D_3$	131213	M2	2.511E-10	4.119E-01	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3p^3 D_3$	136272	E1	6.726E-03	1.666E+07	1.01
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 {}^1F_3^o + 0.14 {}^3F_3^o$	$2p^5 3p^3 D_3$	137124	E1	1.808E-01	3.240E+08	1.03
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p^3 D_3$	137748	E1	3.299E-02	8.351E+07	1.08
$2p^5 3p^3 D_1$	$0.79 + 0.12 {}^1P_1$	$2p^5 3p^3 D_2$	2648	M1	3.511E-07	5.475E-01	1.00
$2p^5 3p^3 P_2$	$0.52 + 0.46 {}^1D_2$	$2p^5 3p^3 D_2$	6639	M1	6.286E-08	3.696E-01	1.00
$2p^5 3p^1 P_1$	$0.60 + 0.20 {}^3D_1 + 0.20 {}^3P_1$	$2p^5 3p^3 D_2$	8933	M1	1.849E-07	3.281E+00	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	$2p^5 3p^3 D_2$	12304	M1	9.385E-09	3.159E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	56637	E2	9.172E-09	1.962E+01	1.04
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	119934	E1	4.121E-02	1.318E+08	0.87
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	121755	E1	2.561E-02	5.065E+07	1.13
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	124146	M2	1.295E-10	1.479E-01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20 {}^1F_3^o$	$2p^5 3p^3 D_2$	125541	E1	2.025E+00	3.041E+09	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 {}^1D_2^o$	$2p^5 3p^3 D_2$	128075	E1	4.766E-01	1.043E+09	1.01
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 {}^3D_3^o$	$2p^5 3p^3 D_2$	130033	E1	5.086E-04	8.195E+05	1.15
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 {}^3D_3^o$	$2p^5 3p^3 D_2$	130033	M2	8.800E-11	1.418E-01	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3p^3 D_2$	135092	E1	5.856E-02	1.426E+08	1.04
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_2$	135237	E1	6.359E-02	2.586E+08	1.02
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 {}^1F_3^o + 0.14 {}^3F_3^o$	$2p^5 3p^3 D_2$	135944	E1	3.999E-02	7.043E+07	1.02
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p^3 D_2$	136568	E1	1.194E-01	2.972E+08	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_2$	147593	E1	9.001E-05	4.360E+05	24.58
$2p^5 3p^3 P_2$	$0.52 + 0.46 {}^1D_2$	$2p^5 3p^3 D_1$	3990	M1	4.981E-08	1.058E-01	1.00
$2p^5 3p^1 P_1$	$0.60 + 0.20 {}^3D_1 + 0.20 {}^3P_1$	$2p^5 3p^3 D_1$	6285	M1	1.043E-07	9.162E-01	1.00
$2p^5 3p^3 P_2$	$0.43 + 0.40 {}^1D_2 + 0.16 {}^3D_2$	$2p^5 3p^3 D_1$	8518	M1	7.220E-08	6.990E-01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_1$	8670	M1	5.476E-08	2.746E+00	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	$2p^5 3p^3 D_1$	9655	M1	5.064E-08	1.050E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	53989	M1	1.434E-09	2.787E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	116493	E1	2.471E-02	2.236E+08	0.95
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	117286	E1	6.356E-03	1.944E+07	1.28
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	119107	E1	2.953E-02	5.588E+07	1.04
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 {}^1D_2^o$	$2p^5 3p^3 D_1$	125427	E1	1.202E+00	2.524E+09	1.00
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 {}^3D_3^o$	$2p^5 3p^3 D_1$	127385	M2	1.867E-10	2.887E-01	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3p^3 D_1$	132444	E1	3.991E-02	9.340E+07	1.01
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	132589	E1	3.733E-01	1.459E+09	1.01
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 {}^1D_2^o$	$2p^5 3p^3 D_1$	133920	E1	3.908E-02	9.349E+07	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	144945	E1	1.074E-02	5.019E+07	1.04
$2p^5 3p^3 P_2$	$0.43 + 0.40 {}^1D_2 + 0.16 {}^3D_2$	$2p^5 3p^3 P_2$	4527	M1	2.948E-07	8.063E-01	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	$2p^5 3p^3 P_2$	5664	M1	2.006E-07	1.431E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	49998	E2	2.790E-08	4.652E+01	1.05
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_2$	113295	E1	1.053E-01	3.005E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	115116	E1	4.237E-01	7.490E+08	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	115116	M2	9.164E-11	1.620E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	117507	M2	1.677E-10	1.716E-01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20 {}^1F_3^o$	$2p^5 3p^3 P_2$	118902	E1	3.610E-02	4.863E+07	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 \ ^1D_2^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	121436	E1	$7.805E-04$	$1.536E+06$	0.90
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 \ ^3D_3^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	123394	E1	$1.942E+00$	$2.817E+09$	1.00
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 \ ^3D_3^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	123394	M2	$1.023E-10$	$1.484E-01$	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	128453	E1	$2.061E-02$	$4.536E+07$	1.03
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	128598	E1	$6.223E-03$	$2.288E+07$	1.12
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	128598	M2	$2.899E-11$	$1.066E-01$	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	129305	E1	$4.055E-02$	$6.460E+07$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	129929	E1	$2.491E-01$	$5.610E+08$	1.01
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	129929	M2	$6.775E-11$	$1.526E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	140954	E1	$8.757E-03$	$3.868E+07$	0.78
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	$0.52 + 0.46 \ ^1D_2$	140954	M2	$5.173E-11$	$2.285E-01$	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	2385	M1	$3.938E-08$	$1.494E-01$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	47703	M1	$3.386E-09$	$5.140E+00$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	110207	E1	$1.781E-02$	$1.442E+08$	0.96
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	111000	E1	$2.103E-02$	$5.762E+07$	0.94
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	112821	E1	$5.055E-02$	$8.584E+07$	0.99
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 \ ^1D_2^o$	$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	119141	E1	$1.984E-03$	$3.757E+06$	1.03
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	126158	E1	$1.361E+00$	$2.890E+09$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	126303	E1	$3.319E-02$	$1.177E+08$	0.99
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	127010	M2	$1.434E-10$	$2.204E-01$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	127634	E1	$1.008E-02$	$2.190E+07$	1.02
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 P_1$	$0.60 + 0.20 \ ^3D_1 + 0.20 \ ^3P_1$	138659	E1	$2.961E-01$	$1.266E+09$	1.02
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	45470	E2	$2.112E-08$	$2.913E+01$	1.05
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	108767	E1	$5.018E-02$	$1.320E+08$	1.08
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	110588	E1	$1.944E-01$	$3.172E+08$	0.99
$2p^5 3d^3 F_3^o$	$0.77 + 0.20 \ ^1F_3^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	114374	E1	$4.854E-03$	$6.051E+06$	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 \ ^1D_2^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	116908	E1	$1.122E-03$	$2.046E+06$	1.05
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 \ ^3D_3^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	118866	E1	$1.060E-01$	$1.427E+08$	0.99
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	123925	E1	$2.545E-01$	$5.213E+08$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	124070	E1	$9.533E-05$	$3.263E+05$	5.10
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	124777	E1	$2.178E+00$	$3.231E+09$	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	124777	M2	$3.965E-10$	$5.882E-01$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	125401	E1	$3.768E-02$	$7.904E+07$	1.04
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	$0.43 + 0.40 \ ^1D_2 + 0.16 \ ^3D_2$	136426	E1	$9.063E-03$	$3.751E+07$	0.80
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_0$		108615	E1	$7.993E-02$	$2.097E+08$	1.01
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_0$		123918	E1	$4.676E-01$	$1.597E+09$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^3 P_0$		125249	M2	$5.476E-11$	$1.146E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_0$		136274	E1	$2.300E-02$	$9.499E+07$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	44333	M1	$1.029E-08$	$1.349E+01$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	106837	E1	$6.028E-02$	$4.590E+08$	1.03
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	107630	E1	$5.865E-02$	$1.511E+08$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	109451	E1	$3.725E-02$	$5.952E+07$	1.01
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 \ ^1D_2^o$	$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	115771	E1	$1.892E-03$	$3.383E+06$	0.99
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	122788	E1	$4.338E-03$	$8.725E+06$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	122933	E1	$1.008E-01$	$3.389E+08$	0.99
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	124264	E1	$1.260E+00$	$2.596E+09$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	124264	M2	$2.089E-10$	$4.302E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	135289	E1	$2.211E-01$	$8.996E+08$	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 \ ^1P_1$	135289	M2	$2.623E-11$	$1.068E-01$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 S_0$		63296	E1	$1.558E-04$	$1.388E+05$	0.87
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 S_0$		78599	E1	$1.544E-02$	$2.121E+07$	0.95
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_0^o$		90955	E1	$4.224E-01$	$7.769E+08$	0.97
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_0^o$		16096	M1	$1.477E-08$	$8.508E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 P_0^o$		28452	M1	$1.349E-08$	$2.429E+00$	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3d^3 P_1^o$		15158	M1	$1.876E-08$	$5.751E-01$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_1^o$		15302	M1	$4.619E-08$	$2.405E+00$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3d^3 P_1^o$		16634	M1	$2.122E-08$	$7.833E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 P_1^o$		27658	M1	$1.888E-08$	$3.211E+00$	1.00
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 \ ^3D_3^o$	$2p^5 3d^3 P_2^o$		8278	M1	$1.889E-08$	$1.234E-01$	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3d^3 P_2^o$		13337	M1	$1.743E-08$	$4.136E-01$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_2^o$		13481	M1	$2.900E-08$	$1.172E+00$	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	$2p^5 3d^3 P_2^o$		14189	M1	$6.420E-08$	$1.232E+00$	1.00
$2p^5 3d^3 D_2^o$	$0.67 + 0.26 \ ^1D_2^o$	$2p^5 3d^3 P_2^o$		14813	M1	$1.595E-07$	$4.669E+00$	1.00
$2p^5 3d^1 F_3^o$	$0.56 + 0.35 \ ^3D_3^o$	$2p^5 3d^3 F_4^o$		5887	M1	$1.454E-07$	$4.803E-01$	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.23 \ ^1F_3^o + 0.14 \ ^3F_3^o$	$2p^5 3d^3 F_4^o$		11798	M1	$4.276E-07$	$5.671E+00$	1.00
$2p^5 3d^3 F_2^o$	$0.74 + 0.15 \ ^1D_2^o$	$2p^5 3d^3 F_3^o$	$0.77 + 0.20 \ ^1F_3^o$	2534	M1	$4.410E-07$	$3.779E-01$	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.20 \ ^3D_2^o$	$2p^5 3d^3 F_3^o$	$0.77 + 0.20 \ ^1F_3^o$	9551	M1	$3.614E-07$	$4.398E+00$	1.00

Continued...

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R			
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3F_2^o + 0.20$	${}^3D_2^o$	$2p^5 3d^1 D_2^o$	$0.74 + 0.15$	${}^1D_2^o$	7016	M1	2.244E-07	1.474E+00	1.00
$2p^5 3d^1 D_2^o$				$2p^5 3d^1 D_2^o$	$0.74 + 0.15$	${}^1D_2^o$	7161	M1	1.059E-07	1.208E+00	1.00
$2p^5 3d^1 D_2^o$	$0.62 + 0.23$	${}^1F_3^o + 0.14$	${}^3F_3^o$	$2p^5 3d^1 D_2^o$	$0.74 + 0.15$	${}^1D_2^o$	7868	M1	2.936E-08	1.732E-01	1.00
$2p^5 3d^1 D_2^o$	$0.67 + 0.26$	${}^1D_2^o$		$2p^5 3d^1 D_2^o$	$0.74 + 0.15$	${}^1D_2^o$	8492	M1	3.360E-08	3.233E-01	1.00
$2p^5 3d^1 P_1^o$				$2p^5 3d^1 P_1^o$	$0.74 + 0.15$	${}^1D_2^o$	19517	M1	1.944E-08	1.646E+00	1.00
$2p^5 3d^1 P_1^o$	$0.62 + 0.23$	${}^1F_3^o + 0.14$	${}^3F_3^o$	$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	${}^3D_3^o$	5910	M1	4.262E-07	1.419E+00	1.00
$2p^5 3d^1 P_1^o$	$0.67 + 0.26$	${}^1D_2^o$		$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	${}^3D_3^o$	6534	M1	2.541E-07	1.448E+00	1.00
$2p^5 3d^1 P_1^o$				$2p^5 3d^1 P_1^o$	$0.55 + 0.25$	${}^3F_2^o + 0.20$	12500	M1	2.663E-08	9.254E-01	1.00
$2p^5 3d^1 P_1^o$				$2p^5 3d^1 P_1^o$			12355	M1	4.021E-08	1.365E+00	1.00
$2p^5 3d^1 P_1^o$				$2p^5 3d^1 P_1^o$	$0.67 + 0.26$	${}^1D_2^o$	11024	M1	9.700E-08	2.621E+00	1.00
S VII											
$2p^5 3s^1 P_2^o$				$2p^6 1S_0$			1371667	M2	3.043E-09	7.638E+02	1.00
$2p^5 3s^1 P_2^o$	$0.81 + 0.18$	${}^1P_1^o$		$2p^6 1S_0$			1376084	E1	4.405E-02	1.855E+10	0.98
$2p^5 3s^1 P_1^o$	$0.81 + 0.18$	${}^3P_1^o$		$2p^6 1S_0$			1388242	E1	1.965E-01	8.421E+10	0.98
$2p^5 3p^3 S_1$				$2p^6 1S_0$			1467040	M1	2.136E-10	1.022E+02	1.00
$2p^5 3p^3 D_2$	$0.79 + 0.16$	1D_2		$2p^6 1S_0$			1484530	E2	1.028E-05	3.021E+06	1.00
$2p^5 3p^3 D_1$	$0.72 + 0.17$	${}^1P_1 + 0.11$	3P_1	$2p^6 1S_0$			1488099	M1	6.628E-11	3.263E+01	1.00
$2p^5 3p^3 P_2$	$0.56 + 0.42$	1D_2		$2p^6 1S_0$			1492576	E2	2.701E-05	8.028E+06	1.00
$2p^5 3p^1 P_1$	$0.55 + 0.27$	${}^3D_1 + 0.17$	3P_1	$2p^6 1S_0$			1495881	M1	4.864E-11	2.420E+01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38$	${}^3P_2 + 0.19$	3D_2	$2p^6 1S_0$			1499115	E2	2.645E-05	7.930E+06	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27$	1P_1		$2p^6 1S_0$			1500313	M1	9.597E-10	4.803E+02	1.00
$2p^5 3d^3 P_1^o$				$2p^6 1S_0$			1624769	E1	3.679E-03	2.160E+09	1.01
$2p^5 3d^3 P_2^o$				$2p^6 1S_0$			1627240	M2	4.841E-08	1.710E+04	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17$	${}^1D_2^o + 0.11$	${}^3D_2^o$	$2p^6 1S_0$			1635272	M2	2.540E-09	9.061E+02	1.00
$2p^5 3d^3 D_1^o$				$2p^6 1S_0$			1644545	E1	1.018E-01	6.122E+10	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28$	${}^3F_2^o + 0.19$	${}^3D_2^o$	$2p^6 1S_0$			1644562	M2	7.168E-09	2.586E+03	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27$	${}^1D_2^o$		$2p^6 1S_0$			1646473	M2	8.480E-11	3.067E+01	1.00
$2p^5 3d^1 P_1^o$				$2p^6 1S_0$			1662346	E1	1.538E+00	9.452E+11	1.00
$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$		$2p^5 3s^3 P_2^o$			4417	M1	3.659E-07	1.587E+00	1.00
$2p^5 3s^1 P_1^o$	$0.81 + 0.18$	${}^3P_1^o$		$2p^5 3s^3 P_2^o$			16575	M1	3.026E-07	1.849E+01	1.00
$2p^5 3p^3 S_1$				$2p^5 3s^3 P_2^o$			95373	E1	3.161E-01	6.393E+08	0.98
$2p^5 3p^3 D_3$				$2p^5 3s^3 P_2^o$			111609	E1	1.319E+00	1.566E+09	1.00
$2p^5 3p^3 D_2$	$0.79 + 0.16$	1D_2		$2p^5 3s^3 P_2^o$			112863	E1	3.789E-01	6.439E+08	1.00
$2p^5 3p^3 D_1$	$0.72 + 0.17$	${}^1P_1 + 0.11$	3P_1	$2p^5 3s^3 P_2^o$			116432	E1	6.615E-02	1.994E+08	1.00
$2p^5 3p^3 P_2$	$0.56 + 0.42$	1D_2		$2p^5 3s^3 P_2^o$			120909	E1	5.129E-01	1.000E+09	0.99
$2p^5 3p^3 P_2$	$0.56 + 0.42$	1D_2		$2p^5 3s^3 P_2^o$			120909	M2	1.144E-10	2.231E-01	1.00
$2p^5 3p^1 P_1$	$0.55 + 0.27$	${}^3D_1 + 0.17$	3P_1	$2p^5 3s^3 P_2^o$			124214	E1	2.077E-02	7.124E+07	0.98
$2p^5 3p^3 P_0$				$2p^5 3s^3 P_2^o$			127036	M2	1.648E-11	1.774E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38$	${}^3P_2 + 0.19$	3D_2	$2p^5 3s^3 P_2^o$			127448	E1	1.137E-01	2.464E+08	0.99
$2p^5 3p^3 P_1$	$0.70 + 0.27$	1P_1		$2p^5 3s^3 P_2^o$			128646	E1	1.151E-01	4.236E+08	0.99
$2p^5 3p^1 S_0$				$2p^5 3s^3 P_2^o$			181725	M2	7.943E-11	1.750E+00	1.00
$2p^5 3d^3 P_0^o$				$2p^5 3s^3 P_2^o$			252003	E2	2.181E-06	9.237E+04	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3s^3 P_2^o$			253102	M1	2.341E-10	3.335E+00	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3s^3 P_2^o$			253102	E2	5.632E-06	8.021E+04	1.00
$2p^5 3d^3 P_2^o$				$2p^5 3s^3 P_2^o$			255573	M1	2.541E-09	2.214E+01	1.00
$2p^5 3d^3 P_2^o$				$2p^5 3s^3 P_2^o$			255573	E2	5.973E-06	5.205E+04	1.00
$2p^5 3d^3 F_4^o$				$2p^5 3s^3 P_2^o$			258396	E2	2.080E-05	1.029E+05	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20$	${}^1F_3^o$		$2p^5 3s^3 P_2^o$			260280	E2	6.543E-06	4.224E+04	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17$	${}^1D_2^o + 0.11$	${}^3D_2^o$	$2p^5 3s^3 P_2^o$			263605	E2	2.683E-06	2.487E+04	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40$	${}^3D_3^o$		$2p^5 3s^3 P_2^o$			266211	E2	7.676E-06	5.184E+04	1.00
$2p^5 3d^3 D_1^o$				$2p^5 3s^3 P_2^o$			272878	M1	1.370E-11	2.268E-01	1.00
$2p^5 3d^3 D_1^o$				$2p^5 3s^3 P_2^o$			272878	E2	1.162E-06	1.924E+04	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28$	${}^3F_2^o + 0.19$	${}^3D_2^o$	$2p^5 3s^3 P_2^o$			272895	E2	6.715E-07	6.671E+03	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27$	${}^1F_3^o + 0.16$	${}^3F_3^o$	$2p^5 3s^3 P_2^o$			274164	E2	3.133E-06	2.244E+04	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27$	${}^1D_2^o$		$2p^5 3s^3 P_2^o$			274806	M1	9.509E-11	9.580E-01	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27$	${}^1D_2^o$		$2p^5 3s^3 P_2^o$			274806	E2	2.729E-06	2.749E+04	1.00
$2p^5 3d^1 P_1^o$				$2p^5 3s^3 P_2^o$			290680	M1	1.001E-11	1.880E-01	1.00
$2p^5 3d^1 P_1^o$				$2p^5 3s^3 P_2^o$			290680	E2	2.648E-08	4.974E+02	1.00
$2p^5 3s^3 P_0^o$				$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	5579	M1	3.694E-07	7.671E+00	1.00
$2p^5 3s^1 P_1^o$	$0.81 + 0.18$	${}^3P_1^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	12158	M1	1.096E-07	3.601E+00	1.00
$2p^5 3p^3 S_1$				$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	90955	E1	9.938E-02	1.828E+08	0.98
$2p^5 3p^3 D_2$	$0.79 + 0.16$	1D_2		$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	108445	E1	5.476E-01	8.592E+08	0.99
$2p^5 3p^3 D_1$	$0.72 + 0.17$	${}^1P_1 + 0.11$	3P_1	$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	112015	E1	3.935E-01	1.098E+09	1.00
$2p^5 3p^3 P_2$	$0.56 + 0.42$	1D_2		$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	116492	E1	2.802E-01	5.072E+08	0.99
$2p^5 3p^1 P_1$	$0.55 + 0.27$	${}^3D_1 + 0.17$	3P_1	$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	119796	E1	2.697E-02	8.606E+07	1.00
$2p^5 3p^3 P_0$				$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	122618	E1	1.828E-01	1.833E+09	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38$	${}^3P_2 + 0.19$	3D_2	$2p^5 3s^3 P_1^o$	$0.81 + 0.18$	${}^1P_1^o$	123030	E1	1.274E-01	2.573E+08	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	124228	E1	$2.224E-02$	$7.633E+07$	0.99
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	124228	M2	$3.069E-11$	$1.053E-01$	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	177308	E1	$4.549E-02$	$9.539E+08$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	247585	M1	$2.354E-10$	$9.627E+00$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	248685	M1	$4.653E-10$	$6.399E+00$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	248685	E2	$8.525E-07$	$1.172E+04$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	251155	M1	$3.199E-11$	$2.692E-01$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	251155	E2	$3.954E-06$	$3.327E+04$	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	255863	E2	$9.277E-06$	$5.787E+04$	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	259188	E2	$7.134E-06$	$6.394E+04$	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	261794	E2	$3.265E-06$	$2.133E+04$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	268461	E2	$6.520E-06$	$1.045E+05$	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	268478	E2	$9.227E-08$	$8.872E+02$	0.97
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	269747	E2	$4.029E-06$	$2.794E+04$	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	270389	E2	$1.899E-07$	$1.852E+03$	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	286262	M1	$2.283E-11$	$4.159E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	$0.81 + 0.18^1 P_1^o$	286262	E2	$4.732E-07$	$8.622E+03$	1.03
$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	$2p^5 3s^3 P_0^o$		6579	M1	$9.672E-08$	$9.309E-01$	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$		85376	E1	$2.646E-02$	$4.288E+07$	0.95
$2p^5 3p^3 D_1$	$0.72 + 0.17^1 P_1 + 0.11^3 P_1$	$2p^5 3s^3 P_0^o$		106435	E1	$1.030E-01$	$2.595E+08$	0.98
$2p^5 3p^1 P_1$	$0.55 + 0.27^3 D_1 + 0.17^3 P_1$	$2p^5 3s^3 P_0^o$		114217	E1	$2.297E-01$	$6.662E+08$	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38^3 P_2 + 0.19^3 D_2$	$2p^5 3s^3 P_0^o$		117451	M2	$5.673E-11$	$1.044E-01$	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^3 P_0^o$		118649	E1	$2.087E-01$	$6.532E+08$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$		243105	M1	$7.417E-11$	$9.746E-01$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$		245576	E2	$9.825E-07$	$7.905E+03$	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3s^3 P_0^o$		253608	E2	$1.760E-06$	$1.510E+04$	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3s^3 P_0^o$		262899	E2	$4.204E-06$	$3.877E+04$	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3s^3 P_0^o$		264810	E2	$4.888E-06$	$4.572E+04$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_0^o$		280683	M1	$1.528E-11$	$2.677E-01$	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	78797	E1	$8.606E-03$	$1.188E+07$	0.97
$2p^5 3p^3 D_2$	$0.79 + 0.16^1 D_2$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	96287	E1	$5.615E-03$	$6.945E+06$	0.97
$2p^5 3p^3 D_1$	$0.72 + 0.17^1 P_1 + 0.11^3 P_1$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	99856	E1	$1.725E-03$	$3.825E+06$	1.01
$2p^5 3p^3 P_2$	$0.56 + 0.42^1 D_2$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	104333	E1	$2.019E-01$	$2.932E+08$	0.99
$2p^5 3p^1 P_1$	$0.55 + 0.27^3 D_1 + 0.17^3 P_1$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	107638	E1	$2.878E-01$	$7.415E+08$	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	110460	E1	$2.345E-02$	$1.908E+08$	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38^3 P_2 + 0.19^3 D_2$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	110872	E1	$7.356E-01$	$1.206E+09$	0.99
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	112070	E1	$2.536E-01$	$7.082E+08$	0.99
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	112070	M2	$4.078E-11$	$1.139E-01$	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	165149	E1	$2.793E-01$	$5.082E+09$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	235427	M1	$1.810E-11$	$6.692E-01$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	236526	M1	$8.449E-11$	$1.051E+00$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	236526	E2	$7.494E-08$	$9.322E+02$	0.99
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	238997	E2	$8.131E-08$	$6.196E+02$	1.01
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	243704	E2	$2.859E-07$	$1.618E+03$	0.99
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	247029	E2	$7.428E-08$	$6.047E+02$	0.97
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	249635	E2	$5.683E-06$	$3.375E+04$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	256302	M1	$4.228E-11$	$6.176E-01$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	256302	E2	$1.237E-07$	$1.807E+03$	0.98
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	256319	E2	$6.743E-06$	$5.910E+04$	0.99
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	257588	E2	$9.963E-06$	$6.299E+04$	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	258230	E2	$4.506E-06$	$4.008E+04$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	274104	M1	$2.954E-10$	$4.934E+00$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	$0.81 + 0.18^3 P_1^o$	274104	E2	$9.137E-06$	$1.526E+05$	1.01
$2p^5 3p^3 D_2$	$0.79 + 0.16^1 D_2$	$2p^5 3p^3 S_1$		17489	M1	$2.650E-09$	$1.081E-01$	1.00
$2p^5 3p^3 P_2$	$0.56 + 0.42^1 D_2$	$2p^5 3p^3 S_1$		25536	M1	$2.809E-08$	$2.444E+00$	1.00
$2p^5 3p^1 P_1$	$0.55 + 0.27^3 D_1 + 0.17^3 P_1$	$2p^5 3p^3 S_1$		28840	M1	$4.431E-09$	$8.194E-01$	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$		31663	M1	$4.905E-08$	$3.280E+01$	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38^3 P_2 + 0.19^3 D_2$	$2p^5 3p^3 S_1$		32074	M1	$2.147E-08$	$2.946E+00$	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3p^3 S_1$		33272	M1	$6.703E-08$	$1.650E+01$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$		86352	M1	$6.225E-10$	$3.096E+00$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$		156630	E1	$2.025E-01$	$3.314E+09$	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$		157729	E1	$5.501E-01$	$3.043E+09$	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$		157729	M2	$5.315E-11$	$2.940E-01$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$		160200	E1	$7.255E-01$	$2.484E+09$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$		160200	M2	$9.384E-11$	$3.213E-01$	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3p^3 S_1$		168232	E1	$6.693E-04$	$2.527E+06$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$		177505	E1	$4.107E-04$	$2.878E+06$	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	177505	M2	1.074E-10	7.525E-01	1.00	
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3p^3 S_1$	177522	E1	1.116E-03	4.693E+06	1.00	
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3p^3 S_1$	178791	M2	3.867E-11	1.178E-01	1.00	
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3p^3 S_1$	179433	E1	7.481E-03	3.213E+07	0.99	
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3p^3 S_1$	179433	M2	4.827E-11	2.073E-01	1.00	
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	195306	E1	3.012E-05	2.554E+05	1.27	
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	195306	M2	1.482E-10	1.257E+00	1.00	
$2p^5 3p^3 P_2$	$0.56 + 0.42^1 D_2$	$2p^5 3p^3 D_3$	9300	M1	2.186E-08	2.523E-01	1.00	
$2p^5 3p^1 D_2$	$0.42 + 0.38^3 P_2 + 0.19^3 D_2$	$2p^5 3p^3 D_3$	15838	M1	5.747E-07	1.923E+01	1.00	
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	143963	E1	3.176E-02	8.782E+07	0.84	
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	143963	M2	4.642E-11	1.284E-01	1.00	
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	146786	E1	2.672E+00	4.267E+09	1.00	
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	146786	M2	6.221E-10	9.935E-01	1.00	
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3p^3 D_3$	148670	E1	2.805E-01	5.908E+08	1.00	
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3p^3 D_3$	151995	E1	2.294E-02	7.070E+07	1.01	
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 D_3$	154601	E1	3.292E-01	7.498E+08	1.02	
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 D_3$	154601	M2	3.222E-10	7.338E-01	1.00	
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3p^3 D_3$	161286	E1	5.455E-03	1.893E+07	1.01	
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3p^3 D_3$	162554	E1	1.342E-01	3.379E+08	1.03	
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3p^3 D_3$	162554	M2	4.512E-11	1.136E-01	1.00	
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3p^3 D_3$	163197	E1	2.785E-02	9.895E+07	1.07	
$2p^5 3p^3 D_1$	$0.72 + 0.17^1 P_1 + 0.11^3 P_1$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	3569	M1	4.280E-07	1.212E+00	1.00
$2p^5 3p^3 P_2$	$0.56 + 0.42^1 D_2$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	8046	M1	9.137E-08	7.892E-01	1.00
$2p^5 3p^1 P_1$	$0.55 + 0.27^3 D_1 + 0.17^3 P_1$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	11350	M1	3.206E-07	9.185E+00	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	15782	M1	1.224E-08	6.781E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	68862	E2	1.133E-08	3.584E+01	1.02
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	140239	E1	3.866E-02	1.691E+08	0.89
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	142710	E1	2.798E-02	7.602E+07	1.10
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	145533	M2	1.619E-10	2.542E-01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	147417	E1	1.791E+00	3.708E+09	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	150742	E1	4.378E-01	1.327E+09	1.01
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	153348	E1	4.693E-03	1.052E+07	1.04
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	153348	M2	9.816E-11	2.200E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	160015	E1	5.515E-02	3.140E+08	1.02
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	160032	E1	5.153E-02	1.761E+08	1.03
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	161301	E1	2.016E-02	4.999E+07	1.02
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	161943	E1	9.234E-02	3.231E+08	1.01
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	161943	M2	4.271E-11	1.494E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_2$	0.79 + 0.16 ¹ D ₂	177816	E1	1.659E-05	1.166E+05	2.39
$2p^5 3p^3 P_2$	$0.56 + 0.42^1 D_2$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	4477	M1	6.358E-08	1.700E-01	1.00
$2p^5 3p^1 P_1$	$0.55 + 0.27^3 D_1 + 0.17^3 P_1$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	7781	M1	1.577E-07	2.124E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	10603	M1	9.081E-08	6.811E+00	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38^3 P_2 + 0.19^3 D_2$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	11015	M1	9.847E-08	1.594E+00	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	12213	M1	8.795E-08	2.917E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	65292	M1	3.042E-09	8.651E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	135570	E1	2.440E-02	2.991E+08	0.97
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	136670	E1	8.044E-03	3.341E+07	1.19
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	139140	E1	3.531E-02	9.120E+07	1.03
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	147172	E1	1.047E+00	3.027E+09	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	149779	M2	2.378E-10	5.084E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	156446	E1	3.491E-01	1.900E+09	1.01
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	156463	E1	1.900E-02	6.206E+07	1.01
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	158374	E1	2.789E-02	9.333E+07	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	0.72 + 0.17 ¹ P ₁ + 0.11 ³ P ₁	174247	E1	2.131E-02	1.438E+08	1.03
$2p^5 3p^1 D_2$	$0.42 + 0.38^3 P_2 + 0.19^3 D_2$	$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	6538	M1	4.066E-07	2.319E+00	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27^1 P_1$	$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	7736	M1	2.952E-07	3.928E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	60815	E2	2.662E-08	6.568E+01	1.02
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	132192	E1	9.832E-02	3.820E+08	0.99
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	134663	E1	4.045E-01	9.786E+08	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	134663	M2	1.220E-10	2.951E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	137486	M2	1.970E-10	2.760E-01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	139370	E1	2.246E-02	4.156E+07	1.00
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	142695	E1	9.259E-04	2.515E+06	0.92
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	145301	E1	1.711E+00	3.443E+09	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	145301	M2	1.238E-10	2.490E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	151968	E1	5.561E-03	2.856E+07	1.10
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	0.56 + 0.42 ¹ D ₂	151968	M2	3.623E-11	1.860E-01	1.00

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^1 D_2^o$	$0.52 + 0.28 {}^3F_2^o + 0.19 {}^3D_2^o$		$2p^5 3p^3 P_2$	$0.56 + 0.42 {}^1D_2$	151986	E1	1.128E-02	3.475E+07	1.03
$2p^5 3d^3 D_3^o$	$0.57 + 0.27 {}^1F_3^o + 0.16 {}^3F_3^o$		$2p^5 3p^3 P_2$	$0.56 + 0.42 {}^1D_2$	153254	E1	3.283E-02	7.348E+07	1.01
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^3 P_2$	$0.56 + 0.42 {}^1D_2$	153897	E1	2.058E-01	6.504E+08	1.01
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^3 P_2$	$0.56 + 0.42 {}^1D_2$	153897	M2	7.625E-11	2.409E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_2$	$0.56 + 0.42 {}^1D_2$	169770	E1	6.336E-03	4.060E+07	0.79
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_2$	$0.56 + 0.42 {}^1D_2$	169770	M2	7.124E-11	4.566E-01	1.00
$2p^5 3p^3 P_0$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	2822	M1	4.002E-08	2.126E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$		$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	3234	M1	1.052E-07	1.468E-01	1.00
$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$		$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	4432	M1	2.643E-08	1.154E-01	1.00
$2p^5 3p^1 S_0$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	57511	M1	4.540E-09	1.002E+01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	127789	E1	1.184E-02	1.289E+08	0.94
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	128888	E1	1.541E-02	5.691E+07	0.93
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	131359	E1	3.855E-02	8.875E+07	0.99
$2p^5 3d^3 F_2^o$	$0.71 + 0.17 {}^1D_2^o + 0.11 {}^3D_2^o$		$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	139391	E1	5.714E-07	1.481E+03	39.26
$2p^5 3d^3 D_1^o$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	148664	E1	1.304E-02	6.406E+07	0.99
$2p^5 3d^1 D_2^o$	$0.52 + 0.28 {}^3F_2^o + 0.19 {}^3D_2^o$		$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	148681	E1	1.236E+00	3.646E+09	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27 {}^1F_3^o + 0.16 {}^3F_3^o$		$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	149950	M2	1.767E-10	3.786E-01	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	150592	E1	8.285E-03	2.507E+07	1.02
$2p^5 3d^1 P_1^o$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	166466	E1	2.646E-01	1.630E+09	1.02
$2p^5 3d^1 P_1^o$			$2p^5 3p^1 P_1$	$0.55 + 0.27 {}^3D_1 + 0.17 {}^3P_1$	166466	M2	1.820E-11	1.121E-01	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_0$		126066	E1	6.599E-02	2.332E+08	1.01
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 P_0$		145842	E1	4.199E-01	1.986E+09	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^3 P_0$		147770	M2	6.719E-11	1.957E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_0$		163643	E1	1.713E-02	1.020E+08	1.00
$2p^5 3p^1 S_0$			$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	54277	E2	2.270E-08	4.460E+01	1.02
$2p^5 3d^3 P_0^o$			$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	125654	E1	3.500E-02	1.229E+08	1.09
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	128125	E1	1.374E-01	3.010E+08	0.98
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	128125	M2	5.301E-11	1.161E-01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20 {}^1F_3^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	132832	E1	8.747E-04	1.471E+06	1.03
$2p^5 3d^3 F_2^o$	$0.71 + 0.17 {}^1D_2^o + 0.11 {}^3D_2^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	136157	E1	4.813E-04	1.190E+06	1.08
$2p^5 3d^1 F_3^o$	$0.53 + 0.40 {}^3D_3^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	138763	E1	8.233E-02	1.511E+08	0.99
$2p^5 3d^3 D_1^o$			$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	145430	E1	6.532E-04	3.071E+06	1.52
$2p^5 3d^1 D_2^o$	$0.52 + 0.28 {}^3F_2^o + 0.19 {}^3D_2^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	145447	E1	2.187E-01	6.172E+08	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27 {}^1F_3^o + 0.16 {}^3F_3^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	146716	E1	1.965E+00	4.030E+09	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27 {}^1F_3^o + 0.16 {}^3F_3^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	146716	M2	5.018E-10	1.029E+00	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	147358	E1	5.251E-02	1.521E+08	1.03
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	147358	M2	6.460E-11	1.871E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^1 D_2$	$0.42 + 0.38 {}^3P_2 + 0.19 {}^3D_2$	163231	E1	8.194E-03	4.854E+07	0.82
$2p^5 3p^1 S_0$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	53079	M1	1.578E-08	2.965E+01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	123357	E1	4.772E-02	4.844E+08	1.03
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	124456	E1	4.597E-02	1.583E+08	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	126927	E1	3.063E-02	6.583E+07	1.01
$2p^5 3d^3 F_2^o$	$0.71 + 0.17 {}^1D_2^o + 0.11 {}^3D_2^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	134959	E1	2.252E-03	5.472E+06	0.99
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	144232	E1	8.709E-02	4.028E+08	0.99
$2p^5 3d^1 D_2^o$	$0.52 + 0.28 {}^3F_2^o + 0.19 {}^3D_2^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	144249	E1	1.402E-03	3.891E+06	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	146160	E1	1.132E+00	3.227E+09	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	146160	M2	2.630E-10	7.497E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	162033	E1	1.948E-01	1.137E+09	1.01
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_1$	$0.70 + 0.27 {}^1P_1$	162033	M2	3.228E-11	1.884E-01	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 S_0$		71377	E1	9.264E-05	1.049E+05	0.89
$2p^5 3d^3 D_1^o$			$2p^5 3p^1 S_0$		91153	E1	1.086E-02	2.005E+07	0.97
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 P_0^o$		108954	E1	3.758E-01	9.919E+08	0.98
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_0^o$		20875	M1	2.288E-08	2.217E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 P_1^o$		38676	M1	1.862E-08	6.193E+00	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3d^3 P_1^o$		2470	M1	2.441E-07	1.988E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_1^o$		19776	M1	7.015E-08	6.100E+00	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28 {}^3F_2^o + 0.19 {}^3D_2^o$		$2p^5 3d^3 P_1^o$		19793	M1	2.617E-08	1.368E+00	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3d^3 P_2^o$		21704	M1	3.306E-08	2.078E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 P_1^o$		37577	M1	2.630E-08	8.257E+00	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40 {}^3D_3^o$		$2p^5 3d^3 P_2^o$		10638	M1	3.249E-08	3.504E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_2^o$		17305	M1	4.287E-08	2.855E+00	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28 {}^3F_2^o + 0.19 {}^3D_2^o$		$2p^5 3d^3 P_2^o$		17322	M1	2.312E-08	9.255E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27 {}^1F_3^o + 0.16 {}^3F_3^o$		$2p^5 3d^3 P_2^o$		18591	M1	8.925E-08	2.939E+00	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27 {}^1D_2^o$		$2p^5 3d^3 P_2^o$		19233	M1	2.384E-07	1.177E+01	1.00
$2p^5 3d^3 F_3^o$	$0.77 + 0.20 {}^1F_3^o$		$2p^5 3d^3 F_4^o$		1883	M1	3.988E-07	1.348E-01	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40 {}^3D_3^o$		$2p^5 3d^3 F_4^o$		7814	M1	1.562E-07	9.088E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27 {}^1F_3^o + 0.16 {}^3F_3^o$		$2p^5 3d^3 F_4^o$		15767	M1	6.471E-07	1.533E+01	1.00

Continued...

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$		$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	3324	M1	5.612E-07	8.276E-01	1.00
$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$		$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	5931	M1	5.173E-08	1.734E-01	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$		$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	12615	M1	5.477E-07	1.163E+01	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$		$2p^5 3d^3 F_3^o$	$0.77 + 0.20^1 F_3^o$	14526	M1	9.704E-09	2.732E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	9273	M1	1.599E-07	3.057E+00	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$		$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	9290	M1	3.288E-07	3.786E+00	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$		$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	10558	M1	4.350E-08	4.621E-01	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$		$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	11201	M1	4.755E-08	7.960E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 F_2^o$	$0.71 + 0.17^1 D_2^o + 0.11^3 D_2^o$	27074	M1	2.880E-08	4.694E+00	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.27^1 F_3^o + 0.16^3 F_3^o$		$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	7952	M1	6.097E-07	3.674E+00	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$		$2p^5 3d^1 F_3^o$	$0.53 + 0.40^3 D_3^o$	8595	M1	3.788E-07	3.734E+00	1.00
$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$		$2p^5 3d^3 D_1^o$		1928	M1	2.276E-07	1.129E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_1^o$		17801	M1	5.275E-08	3.717E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	17784	M1	3.453E-08	2.428E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^1 D_2^o$	$0.52 + 0.28^3 F_2^o + 0.19^3 D_2^o$	17784	E2	1.428E-09	1.005E-01	1.74
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_2^o$	$0.65 + 0.27^1 D_2^o$	15873	M1	1.270E-07	7.113E+00	1.00
Cl VIII									
$2p^5 3s^3 P_2^o$			$2p^6^1 S_0$		1683947	M2	4.465E-09	1.689E+03	1.00
$2p^5 3s^3 P_1^o$	$0.76 + 0.23^1 P_1^o$		$2p^6^1 S_0$		1689426	E1	5.605E-02	3.557E+10	0.99
$2p^5 3s^1 P_1^o$	$0.76 + 0.23^3 P_1^o$		$2p^6^1 S_0$		1704439	E1	1.829E-01	1.181E+11	0.99
$2p^5 3p^3 S_1$			$2p^6^1 S_0$		1793052	M1	4.021E-10	2.874E+02	1.00
$2p^5 3p^3 D_2$	$0.76 + 0.18^1 D_2$		$2p^6^1 S_0$		1812677	E2	1.516E-05	6.647E+06	1.00
$2p^5 3p^3 D_1$	$0.64 + 0.22^1 P_1 + 0.14^3 P_1$		$2p^6^1 S_0$		1817300	M1	1.215E-10	8.921E+01	1.00
$2p^5 3p^3 P_2$	$0.60 + 0.39^1 D_2$		$2p^6^1 S_0$		1822251	E2	3.215E-05	1.424E+07	1.00
$2p^5 3p^1 P_1$	$0.51 + 0.35^3 D_1 + 0.14^3 P_1$		$2p^6^1 S_0$		1827054	M1	4.788E-11	3.554E+01	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34^3 P_2 + 0.23^3 D_2$		$2p^6^1 S_0$		1831502	E2	3.463E-05	1.550E+07	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$		$2p^6^1 S_0$		1832665	M1	1.507E-09	1.126E+03	1.00
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$		1973001	E1	4.257E-03	3.684E+09	1.01
$2p^5 3d^3 P_2^o$			$2p^6^1 S_0$		1976241	M2	7.903E-08	4.118E+04	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$		$2p^6^1 S_0$		1985972	M2	4.873E-09	2.564E+03	1.00
$2p^5 3d^3 D_1^o$			$2p^6^1 S_0$		1997514	E1	1.182E-01	1.048E+11	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^6^1 S_0$		1997989	M2	1.084E-08	5.775E+03	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^6^1 S_0$		2000352	M2	4.480E-11	2.392E+01	1.00
$2p^5 3d^1 P_1^o$			$2p^6^1 S_0$		2021349	E1	1.735E+00	1.576E+12	1.00
$2p^5 3s^3 P_1^o$	$0.76 + 0.23^1 P_1^o$		$2p^5 3s^3 P_2^o$		5479	M1	4.256E-07	2.842E+00	1.00
$2p^5 3s^1 P_1^o$	$0.76 + 0.23^3 P_1^o$		$2p^5 3s^3 P_2^o$		20492	M1	4.799E-07	4.481E+01	1.00
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$		109105	E1	3.013E-01	7.975E+08	0.98
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$		127536	E1	1.228E+00	1.903E+09	1.00
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$		127536	M2	9.671E-11	1.499E-01	1.00
$2p^5 3p^3 D_2$	$0.76 + 0.18^1 D_2$		$2p^5 3s^3 P_2^o$		128730	E1	3.606E-01	7.973E+08	0.99
$2p^5 3p^3 D_1$	$0.64 + 0.22^1 P_1 + 0.14^3 P_1$		$2p^5 3s^3 P_2^o$		133353	E1	6.652E-02	2.630E+08	1.00
$2p^5 3p^3 D_1$	$0.64 + 0.22^1 P_1 + 0.14^3 P_1$		$2p^5 3s^3 P_2^o$		133353	M2	3.682E-11	1.456E-01	1.00
$2p^5 3p^3 P_2$	$0.60 + 0.39^1 D_2$		$2p^5 3s^3 P_2^o$		138304	E1	4.985E-01	1.272E+09	0.99
$2p^5 3p^3 P_2$	$0.60 + 0.39^1 D_2$		$2p^5 3s^3 P_2^o$		138304	M2	1.404E-10	3.582E-01	1.00
$2p^5 3p^1 P_1$	$0.51 + 0.35^3 D_1 + 0.14^3 P_1$		$2p^5 3s^3 P_2^o$		143107	E1	1.246E-02	5.673E+07	0.98
$2p^5 3p^3 P_0$			$2p^5 3s^3 P_2^o$		146205	M2	2.098E-11	2.991E-01	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34^3 P_2 + 0.23^3 D_2$		$2p^5 3s^3 P_2^o$		147555	E1	7.785E-02	2.261E+08	0.98
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$		$2p^5 3s^3 P_2^o$		148718	E1	9.907E-02	4.872E+08	0.99
$2p^5 3p^1 S_0$			$2p^5 3s^3 P_2^o$		210236	M2	9.881E-11	2.913E+00	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3s^3 P_2^o$		287586	E2	2.057E-06	1.135E+05	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$		289054	M1	2.357E-10	4.378E+00	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		289054	E2	5.374E-06	9.984E+04	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		292294	M1	2.020E-09	2.302E+01	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		292294	E2	5.837E-06	6.653E+04	1.00
$2p^5 3d^3 F_4^o$			$2p^5 3s^3 P_2^o$		295400	E2	1.973E-05	1.276E+05	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.20^1 F_3^o$		$2p^5 3s^3 P_2^o$		297808	E2	6.378E-06	5.390E+04	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3s^3 P_2^o$		302025	E2	2.713E-06	3.301E+04	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$		$2p^5 3s^3 P_2^o$		305226	E2	7.766E-06	6.894E+04	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3s^3 P_2^o$		313567	M1	1.936E-11	4.232E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3s^3 P_2^o$		313567	E2	1.062E-06	2.321E+04	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^5 3s^3 P_2^o$		314042	E2	5.583E-07	7.346E+03	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30^1 F_3^o + 0.18^3 F_3^o$		$2p^5 3s^3 P_2^o$		315840	E2	2.426E-06	2.306E+04	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3s^3 P_2^o$		316405	M1	7.522E-11	1.005E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3s^3 P_2^o$		316405	E2	2.377E-06	3.175E+04	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3s^3 P_2^o$		337402	M1	1.874E-11	4.742E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3s^3 P_2^o$		337402	E2	2.437E-08	6.167E+02	1.00
$2p^5 3s^3 P_0^o$			$2p^5 3s^3 P_1^o$	$0.76 + 0.23^1 P_1^o$	8043	M1	4.992E-07	2.154E+01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R		
$2p^5 3s^1 P_1^o$	$0.76 + 0.23$	$^3 P_1^o$							
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_1^o$	0.76 + 0.23	$^1 P_1^o$	15012	M1	1.626E-07	8.149E+00	1.00
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_1^o$	0.76 + 0.23	$^1 P_1^o$	103625	E1	8.328E-02	1.988E+08	0.98
$2p^5 3p^3 D_2$	$0.76 + 0.18$	$^1 D_2$			122056	M2	1.014E-10	1.439E-01	1.00
$2p^5 3p^3 D_1$	$0.64 + 0.22$	$^1 P_1 + 0.14$	$^3 P_1$		123250	E1	5.003E-01	1.014E+09	0.99
$2p^5 3p^3 P_2$	$0.60 + 0.39$	$^1 D_2$			127873	E1	3.893E-01	1.415E+09	0.99
$2p^5 3p^3 P_1$	$0.60 + 0.39$	$^1 D_2$			132824	E1	2.960E-01	6.966E+08	0.99
$2p^5 3p^1 P_1$	$0.51 + 0.35$	$^3 D_1 + 0.14$	$^3 P_1$		132824	M2	5.387E-11	1.268E-01	1.00
$2p^5 3p^3 P_0$					137627	E1	1.883E-02	7.930E+07	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34$	$^3 P_2 + 0.23$	$^3 D_2$		140725	E1	1.644E-01	2.172E+09	0.99
$2p^5 3p^3 P_1$	$0.69 + 0.26$	$^1 P_1$			142075	E1	9.050E-02	2.437E+08	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26$	$^1 P_1$			143238	E1	1.306E-02	5.957E+07	0.98
$2p^5 3p^1 S_0$					143238	M2	3.240E-11	1.478E-01	1.00
$2p^5 3d^3 P_0^o$					204756	E1	5.556E-02	1.554E+09	1.00
$2p^5 3d^3 P_1^o$					282106	M1	2.254E-10	1.196E+01	1.00
$2p^5 3d^3 P_2^o$					283574	M1	3.803E-10	6.799E+00	1.00
$2p^5 3d^3 P_1^o$					283574	E2	7.288E-07	1.303E+04	1.00
$2p^5 3d^3 P_2^o$					286814	M1	1.850E-11	2.031E-01	1.00
$2p^5 3d^3 P_2^o$					286814	E2	3.618E-06	3.971E+04	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.20$	$^1 F_3^o$			292328	E2	8.783E-06	7.152E+04	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20$	$^1 D_2^o + 0.13$	$^3 D_2^o$		296546	E2	6.965E-06	8.171E+04	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45$	$^3 D_3^o$			299747	E2	4.063E-06	3.479E+04	1.00
$2p^5 3d^3 D_1^o$					308087	M1	5.236E-12	1.105E-01	1.00
$2p^5 3d^3 D_1^o$					308087	E2	6.201E-06	1.309E+05	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32$	$^3 F_2^o + 0.18$	$^3 D_2^o$		308562	E2	1.086E-07	1.380E+03	0.98
$2p^5 3d^3 D_2^o$	$0.52 + 0.30$	$^1 F_3^o + 0.18$	$^3 F_3^o$		310360	E2	2.890E-06	2.653E+04	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27$	$^1 D_2^o$			310925	E2	9.923E-08	1.280E+03	1.01
$2p^5 3d^1 P_1^o$					331923	M1	2.048E-11	5.016E-01	1.00
$2p^5 3d^1 P_1^o$					331923	E2	7.717E-07	1.890E+04	1.02
$2p^5 3s^1 P_1^o$	$0.76 + 0.23$	$^3 P_1^o$			6969	M1	1.314E-07	1.419E+00	1.00
$2p^5 3p^3 S_1$					95581	E1	2.160E-02	4.388E+07	0.95
$2p^5 3p^3 D_1$	$0.64 + 0.22$	$^1 P_1 + 0.14$	$^3 P_1$		119830	E1	6.832E-02	2.181E+08	0.98
$2p^5 3p^1 P_1$	$0.51 + 0.35$	$^3 D_1 + 0.14$	$^3 P_1$		129584	E1	2.321E-01	8.668E+08	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34$	$^3 P_2 + 0.23$	$^3 D_2$		134031	M2	7.099E-11	1.701E-01	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26$	$^1 P_1$			135195	E1	2.059E-01	8.368E+08	1.00
$2p^5 3d^3 P_1^o$					275531	M1	5.408E-11	9.129E-01	1.00
$2p^5 3d^3 P_2^o$					278771	E2	8.347E-07	8.654E+03	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20$	$^1 D_2^o + 0.13$	$^3 D_2^o$		288502	E2	1.372E-06	1.524E+04	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32$	$^3 F_2^o + 0.18$	$^3 D_2^o$		300518	E2	4.339E-06	5.227E+04	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27$	$^1 D_2^o$			302882	E2	4.709E-06	5.763E+04	1.00
$2p^5 3d^1 P_2^o$					323879	M1	2.762E-11	6.441E-01	1.00
$2p^5 3p^3 S_1$					88612	E1	9.570E-03	1.671E+07	0.97
$2p^5 3p^3 D_2$	$0.76 + 0.18$	$^1 D_2$			108238	E1	3.791E-03	5.925E+06	0.96
$2p^5 3p^3 D_1$	$0.64 + 0.22$	$^1 P_1 + 0.14$	$^3 P_1$		112861	E1	1.584E-03	4.486E+06	1.02
$2p^5 3p^3 P_2$	$0.60 + 0.39$	$^1 D_2$			117812	E1	1.373E-01	2.542E+08	0.99
$2p^5 3p^1 P_1$	$0.51 + 0.35$	$^3 D_1 + 0.14$	$^3 P_1$		122615	E1	2.592E-01	8.665E+08	1.00
$2p^5 3p^3 P_0$					125712	E1	2.815E-02	2.967E+08	0.99
$2p^5 3p^1 D_2$	$0.43 + 0.34$	$^3 P_2 + 0.23$	$^3 D_2$		127062	E1	7.385E-01	1.591E+09	0.99
$2p^5 3p^1 D_2$	$0.43 + 0.34$	$^3 P_2 + 0.23$	$^3 D_2$		127062	M2	7.928E-11	1.707E-01	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26$	$^1 P_1$			128226	E1	2.404E-01	8.790E+08	0.99
$2p^5 3p^3 P_1$	$0.69 + 0.26$	$^1 P_1$			128226	M2	5.626E-11	2.057E-01	1.00
$2p^5 3p^1 S_0$					189744	E1	2.514E-01	6.036E+09	0.99
$2p^5 3d^3 P_0^o$					267093	M1	1.890E-11	8.992E-01	1.00
$2p^5 3d^3 P_1^o$					268562	M1	7.958E-11	1.276E+00	1.00
$2p^5 3d^3 P_1^o$					268562	E2	9.125E-08	1.463E+03	0.99
$2p^5 3d^3 P_2^o$					271802	E2	1.138E-07	1.122E+03	1.01
$2p^5 3d^3 F_3^o$	$0.76 + 0.20$	$^1 F_3^o$			277316	E2	1.411E-07	1.034E+03	0.99
$2p^5 3d^3 F_2^o$	$0.67 + 0.20$	$^1 D_2^o + 0.13$	$^3 D_2^o$		281533	E2	4.361E-08	4.611E+02	0.96
$2p^5 3d^1 F_3^o$	$0.49 + 0.45$	$^3 D_3^o$			284734	E2	4.172E-06	3.223E+04	1.00
$2p^5 3d^3 D_1^o$					293075	M1	4.639E-11	8.859E-01	1.00
$2p^5 3d^3 D_1^o$					293075	E2	2.347E-07	4.481E+03	0.98
$2p^5 3d^1 D_2^o$	$0.49 + 0.32$	$^3 F_2^o + 0.18$	$^3 D_2^o$		293549	E2	6.145E-06	7.064E+04	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30$	$^1 F_3^o + 0.18$	$^3 F_3^o$		295347	E2	1.095E-05	9.102E+04	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27$	$^1 D_2^o$			295913	M1	1.560E-11	1.822E-01	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27$	$^1 D_2^o$			295913	E2	4.549E-06	5.314E+04	1.00
$2p^5 3d^1 P_1^o$					316910	M1	2.908E-10	6.493E+00	1.00
$2p^5 3d^1 P_1^o$					316910	E2	8.757E-06	1.956E+05	1.01
$2p^5 3p^3 D_2$	$0.76 + 0.18$	$^1 D_2$			19625	M1	5.002E-09	2.570E-01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_2$	$0.60 + 0.39 {}^1D_2$	$2p^5 3p^3 S_1$	29199	M1	4.609E-08	5.242E+00	1.00
$2p^5 3p^1 P_1$	$0.51 + 0.35 {}^3D_1 + 0.14 {}^3P_1$	$2p^5 3p^3 S_1$	34002	M1	7.367E-09	1.894E+00	1.00
$2p^5 3p^1 P_1$	$0.51 + 0.35 {}^3D_1 + 0.14 {}^3P_1$	$2p^5 3p^3 S_1$	34002	E2	4.195E-10	1.078E-01	1.44
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	37100	M1	7.754E-08	7.119E+01	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34 {}^3P_2 + 0.23 {}^3D_2$	$2p^5 3p^3 S_1$	38450	M1	2.962E-08	5.842E+00	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34 {}^3P_2 + 0.23 {}^3D_2$	$2p^5 3p^3 S_1$	38450	E2	5.716E-10	1.127E-01	1.41
$2p^5 3p^3 P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3p^3 S_1$	39613	M1	1.011E-07	3.528E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$	101131	M1	1.313E-09	8.958E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	178481	E1	1.859E-01	3.950E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	179949	E1	4.987E-01	3.591E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	179949	M2	6.182E-11	4.451E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	183189	E1	6.364E-01	2.849E+09	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	183189	M2	1.046E-10	4.684E-01	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20 {}^1D_2^o + 0.13 {}^3D_2^o$	$2p^5 3p^3 S_1$	192920	E1	1.007E-03	4.999E+06	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45 {}^3D_3^o$	$2p^5 3p^3 S_1$	196121	M2	4.165E-11	1.526E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	204462	E1	2.527E-04	2.349E+06	0.99
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	204462	M2	1.337E-10	1.243E+00	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32 {}^3F_2^o + 0.18 {}^3D_2^o$	$2p^5 3p^3 S_1$	204937	E1	1.102E-03	6.172E+06	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30 {}^1F_3^o + 0.18 {}^3F_3^o$	$2p^5 3p^3 S_1$	206735	M2	3.940E-11	1.604E-01	1.00
$2p^5 3d^3 D_3^o$	$0.63 + 0.27 {}^1D_2^o$	$2p^5 3p^3 S_1$	207300	E1	6.405E-03	3.672E+07	0.99
$2p^5 3d^3 D_2^o$	$0.63 + 0.27 {}^1D_2^o$	$2p^5 3p^3 S_1$	207300	M2	5.369E-11	3.078E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	228297	E1	1.001E-04	1.159E+06	1.12
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$	228297	M2	1.874E-10	2.171E+00	1.00
$2p^5 3p^3 P_2$	$0.60 + 0.39 {}^1D_2$	$2p^5 3p^3 D_3$	10767	M1	2.064E-08	3.193E-01	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34 {}^3P_2 + 0.23 {}^3D_2$	$2p^5 3p^3 D_3$	20018	M1	8.560E-07	4.576E+01	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3p^3 D_3$	21181	E2	1.031E-09	1.028E-01	1.35
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	164757	E1	2.907E-02	1.053E+08	0.86
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	164757	M2	5.631E-11	2.039E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	167863	E1	2.380E+00	4.971E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	167863	M2	7.259E-10	1.516E+00	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.20 {}^1F_3^o$	$2p^5 3p^3 D_3$	170272	E1	2.567E-01	7.092E+08	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20 {}^1D_2^o + 0.13 {}^3D_2^o$	$2p^5 3p^3 D_3$	174489	E1	2.177E-02	8.843E+07	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45 {}^3D_3^o$	$2p^5 3p^3 D_3$	177690	E1	3.122E-01	9.394E+08	1.02
$2p^5 3d^1 F_3^o$	$0.49 + 0.45 {}^3D_3^o$	$2p^5 3p^3 D_3$	177690	M2	3.941E-10	1.186E+00	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32 {}^3F_2^o + 0.18 {}^3D_2^o$	$2p^5 3p^3 D_3$	186505	E1	4.226E-03	1.961E+07	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30 {}^1F_3^o + 0.18 {}^3F_3^o$	$2p^5 3p^3 D_3$	188303	E1	9.728E-02	3.287E+08	1.03
$2p^5 3d^3 D_3^o$	$0.52 + 0.30 {}^1F_3^o + 0.18 {}^3F_3^o$	$2p^5 3p^3 D_3$	188303	M2	3.918E-11	1.324E-01	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27 {}^1D_2^o$	$2p^5 3p^3 D_3$	188868	E1	2.341E-02	1.114E+08	1.07
$2p^5 3p^3 D_1$	$0.64 + 0.22 {}^1P_1 + 0.14 {}^3P_1$	$2p^5 3p^3 D_2$	4622	M1	4.927E-07	2.341E+00	1.00
$2p^5 3p^3 P_2$	$0.60 + 0.39 {}^1D_2$	$2p^5 3p^3 D_2$	9573	M1	1.270E-07	1.553E+00	1.00
$2p^5 3p^1 P_1$	$0.51 + 0.35 {}^3D_1 + 0.14 {}^3P_1$	$2p^5 3p^3 D_2$	14376	M1	5.246E-07	2.411E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_2$	17474	E2	6.093E-10	1.241E-01	1.26
$2p^5 3p^3 P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3p^3 D_2$	19987	M1	1.482E-08	1.316E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	81505	E2	1.334E-08	5.913E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_2$	160323	E1	3.675E-02	2.100E+08	0.91
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	163563	E1	3.039E-02	1.085E+08	1.07
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	166669	M2	1.942E-10	3.999E-01	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.20 {}^1F_3^o$	$2p^5 3p^3 D_2$	169078	E1	1.598E+00	4.354E+09	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20 {}^1D_2^o + 0.13 {}^3D_2^o$	$2p^5 3p^3 D_2$	173295	E1	4.083E-01	1.636E+09	1.01
$2p^5 3d^1 F_3^o$	$0.49 + 0.45 {}^3D_3^o$	$2p^5 3p^3 D_2$	176496	E1	8.633E-03	2.563E+07	1.03
$2p^5 3d^1 F_3^o$	$0.49 + 0.45 {}^3D_3^o$	$2p^5 3p^3 D_2$	176496	M2	1.074E-10	3.188E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_2$	184836	E1	4.792E-02	3.640E+08	1.01
$2p^5 3d^1 D_2^o$	$0.49 + 0.32 {}^3F_2^o + 0.18 {}^3D_2^o$	$2p^5 3p^3 D_2$	185311	E1	4.234E-02	1.940E+08	1.03
$2p^5 3d^3 D_3^o$	$0.52 + 0.30 {}^1F_3^o + 0.18 {}^3F_3^o$	$2p^5 3p^3 D_2$	187109	E1	9.381E-03	3.129E+07	1.02
$2p^5 3d^3 D_2^o$	$0.63 + 0.27 {}^1D_2^o$	$2p^5 3p^3 D_2$	187674	E1	7.058E-02	3.316E+08	1.01
$2p^5 3d^3 D_2^o$	$0.63 + 0.27 {}^1D_2^o$	$2p^5 3p^3 D_2$	187674	M2	4.426E-11	2.080E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_2$	208672	E1	5.017E-06	4.857E+04	0.35
$2p^5 3p^3 P_2$	$0.60 + 0.39 {}^1D_2$	$2p^5 3p^3 D_1$	4950	M1	7.869E-08	2.573E-01	1.00
$2p^5 3p^1 P_1$	$0.51 + 0.35 {}^3D_1 + 0.14 {}^3P_1$	$2p^5 3p^3 D_1$	9753	M1	2.222E-07	4.700E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_1$	12851	M1	1.408E-07	1.551E+01	1.00
$2p^5 3p^1 D_2$	$0.43 + 0.34 {}^3P_2 + 0.23 {}^3D_2$	$2p^5 3p^3 D_1$	14201	M1	1.248E-07	3.357E+00	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3p^3 D_1$	15364	M1	1.444E-07	7.579E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	76883	M1	6.013E-09	2.371E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	154232	E1	2.359E-02	3.744E+08	0.98
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	155701	E1	9.405E-03	5.069E+07	1.13
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	158941	E1	4.126E-02	1.390E+08	1.02
$2p^5 3d^3 F_2^o$	$0.67 + 0.20 {}^1D_2^o + 0.13 {}^3D_2^o$	$2p^5 3p^3 D_1$	168672	E1	9.190E-01	3.488E+09	1.00

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	167687	E1	1.029E+00	3.860E+09	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	167687	M2	3.191E-10	1.197E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	188684	E1	1.741E-01	1.378E+09	1.01
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	188684	M2	3.628E-11	2.872E-01	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3p^1 S_0$		78817	E1	5.829E-05	8.052E+04	0.90
$2p^5 3d^3 D_2^o$			$2p^5 3p^1 S_0$		103330	E1	8.710E-03	2.068E+07	0.98
$2p^5 3d^1 P_1^o$			$2p^5 3p^1 S_0$		127166	E1	3.367E-01	1.211E+09	0.99
$2p^5 3d^3 D_2^o$			$2p^5 3d^3 P_0^o$		25981	M1	3.405E-08	5.110E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 P_0^o$		49816	M1	2.642E-08	1.458E+01	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3d^3 P_0^o$		3239	M1	3.189E-07	4.466E-01	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3d^3 P_1^o$		12971	M1	6.660E-09	1.495E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_1^o$		24512	M1	1.030E-07	1.377E+01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_1^o$		24512	E2	8.918E-10	1.191E-01	1.02
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 P_1^o$		24987	M1	3.570E-08	2.974E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3d^3 P_1^o$		27350	M1	5.098E-08	5.087E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 P_1^o$		48348	M1	3.819E-08	1.985E+01	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$		$2p^5 3d^3 P_2^o$		12932	M1	5.329E-08	8.493E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_2^o$		21272	M1	6.275E-08	6.314E+00	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 P_2^o$		21747	M1	3.024E-08	1.908E+00	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30^1 F_3^o + 0.18^3 F_3^o$		$2p^5 3d^3 P_2^o$		23545	M1	1.219E-07	6.440E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3d^3 P_2^o$		24110	M1	3.507E-07	2.720E+01	1.00
$2p^5 3d^3 F_3^o$	$0.76 + 0.20^1 F_3^o$		$2p^5 3d^3 F_4^o$		2408	M1	5.043E-07	2.788E-01	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$		$2p^5 3d^3 F_4^o$		9826	M1	1.629E-07	1.499E+00	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30^1 F_3^o + 0.18^3 F_3^o$		$2p^5 3d^3 F_4^o$		20439	M1	9.544E-07	3.799E+00	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3d^3 F_4^o$		4217	M1	6.751E-07	1.602E+00	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$		$2p^5 3d^3 F_3^o$	$0.76 + 0.20^1 F_3^o$	7418	M1	7.223E-08	3.788E-01	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 F_3^o$	$0.76 + 0.20^1 F_3^o$	16233	M1	8.163E-07	2.870E+01	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30^1 F_3^o + 0.18^3 F_3^o$		$2p^5 3d^3 F_3^o$	$0.76 + 0.20^1 F_3^o$	18031	M1	5.381E-09	1.667E-01	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3d^3 F_3^o$	$0.76 + 0.20^1 F_3^o$	18596	M1	1.608E-08	7.420E-01	1.00
$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$		$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	3200	M1	1.361E-07	1.329E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	11541	M1	2.331E-07	6.905E+00	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	12016	M1	4.685E-07	9.025E+00	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30^1 F_3^o + 0.18^3 F_3^o$		$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	13814	M1	6.041E-08	1.098E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	14379	M1	6.656E-08	1.836E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	35376	M1	4.528E-08	1.260E+01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 F_2^o$	$0.67 + 0.20^1 D_2^o + 0.13^3 D_2^o$	35376	E2	6.261E-10	1.742E-01	1.68
$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$		$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$	8815	M1	2.335E-08	2.420E-01	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.30^1 F_3^o + 0.18^3 F_3^o$		$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$	10613	M1	8.403E-07	9.019E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3d^1 F_3^o$	$0.49 + 0.45^3 D_3^o$	11178	M1	5.446E-07	9.078E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$		$2p^5 3d^3 D_1^o$		2837	M1	3.271E-07	3.515E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_1^o$		23835	M1	7.089E-08	8.955E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$	23360	M1	4.481E-08	5.437E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^1 D_2^o$	$0.49 + 0.32^3 F_2^o + 0.18^3 D_2^o$	23360	E2	1.808E-09	2.194E-01	1.53
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_2^o$	$0.63 + 0.27^1 D_2^o$	20997	M1	1.696E-07	1.663E+01	1.00
Ar IX									
$2p^5 3s^3 P_2^o$			$2p^6^1 S_0$		2026458	M2	6.303E-09	3.453E+03	1.00
$2p^5 3s^3 P_1^o$	$0.71 + 0.28^1 P_1^o$		$2p^6^1 S_0$		2033045	E1	6.807E-02	6.255E+10	0.99
$2p^5 3s^1 P_1^o$	$0.71 + 0.28^3 P_1^o$		$2p^6^1 S_0$		2051665	E1	1.689E-01	1.581E+11	0.99
$2p^5 3p^3 S_1$			$2p^6^1 S_0$		2149533	M1	7.202E-10	7.398E+02	1.00
$2p^5 3p^3 D_2$	$0.73 + 0.20^1 D_2$		$2p^6^1 S_0$		2171067	E2	2.119E-05	1.333E+07	1.00
$2p^5 3p^3 D_1$	$0.56 + 0.27^1 P_1 + 0.16^3 P_1$		$2p^6^1 S_0$		2176860	M1	2.019E-10	2.127E+02	1.00
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$		$2p^6^1 S_0$		2182335	E2	3.779E-05	2.401E+07	1.00
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$		$2p^6^1 S_0$		2189261	M1	3.816E-11	4.066E+01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$		$2p^6^1 S_0$		2195137	E2	4.324E-05	2.780E+07	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$		$2p^6^1 S_0$		2196159	M1	2.272E-09	2.436E+03	1.00
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$		2351405	E1	4.919E-03	6.047E+09	1.01
$2p^5 3d^3 P_2^o$			$2p^6^1 S_0$		2355533	M2	1.212E-07	8.971E+04	1.00
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$		$2p^6^1 S_0$		2366909	M2	8.742E-09	6.533E+03	1.00
$2p^5 3d^3 D_1^o$			$2p^6^1 S_0$		2380931	E1	1.421E-01	1.791E+11	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$		$2p^6^1 S_0$		2382273	M2	1.523E-08	1.153E+04	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$		$2p^6^1 S_0$		2385087	M2	1.492E-13	1.132E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^6^1 S_0$		2411305	E1	1.896E+00	2.451E+12	1.00
$2p^5 3s^3 P_1^o$	$0.71 + 0.28^1 P_1^o$		$2p^5 3s^3 P_2^o$	6587	M1	4.768E-07	4.601E+00	1.00	
$2p^5 3s^1 P_1^o$	$0.71 + 0.28^3 P_1^o$		$2p^5 3s^3 P_2^o$	25206	M1	7.234E-07	1.022E+02	1.00	
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$	123075	E1	2.899E-01	9.763E+08	0.98	
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$	123075	M2	3.309E-11	1.114E-01	1.00	
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$	143653	E1	1.149E+00	2.260E+09	1.00	

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	143653	M2	1.149E-10	2.259E-01	1.00
$2p^5 3p^3 D_2$	$0.73 + 0.20^1 D_2$	$2p^5 3s^3 P_2^o$	144609	E1	3.439E-01	9.593E+08	0.99
$2p^5 3p^3 D_1$	$0.56 + 0.27^1 P_1 + 0.16^3 P_1$	$2p^5 3s^3 P_2^o$	150402	E1	6.465E-02	3.252E+08	0.99
$2p^5 3p^3 D_1$	$0.56 + 0.27^1 P_1 + 0.16^3 P_1$	$2p^5 3s^3 P_2^o$	150402	M2	4.898E-11	2.463E-01	1.00
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$	$2p^5 3s^3 P_2^o$	155877	E1	4.797E-01	1.555E+09	0.99
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$	$2p^5 3s^3 P_2^o$	155877	M2	1.676E-10	5.433E-01	1.00
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3s^3 P_2^o$	162803	E1	6.640E-03	3.913E+07	0.97
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3s^3 P_2^o$	162803	M2	1.778E-11	1.048E-01	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_2^o$	165921	M2	2.623E-11	4.816E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$	$2p^5 3s^3 P_2^o$	168678	E1	5.386E-02	2.045E+08	0.98
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3s^3 P_2^o$	169701	E1	8.498E-02	5.442E+08	0.99
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	239248	M2	1.188E-10	4.536E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	323044	E2	1.939E-06	1.350E+05	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	324947	M1	2.474E-10	5.808E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	324947	E2	5.131E-06	1.205E+05	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	329074	M1	1.634E-09	2.360E+01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_2^o$	329074	E2	5.716E-06	8.257E+04	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	332310	E2	1.869E-05	1.530E+05	1.00
$2p^5 3d^3 F_3^o$	$0.75 + 0.21^1 F_3^o$	$2p^5 3s^3 P_2^o$	335264	E2	6.164E-06	6.603E+04	1.00
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3s^3 P_2^o$	340451	E2	2.721E-06	4.207E+04	1.00
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3s^3 P_2^o$	344192	E2	7.766E-06	8.767E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_2^o$	354473	M1	2.824E-11	7.891E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_2^o$	354473	E2	9.554E-07	2.669E+04	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	$2p^5 3s^3 P_2^o$	355815	E2	4.411E-07	7.451E+03	1.00
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$	$2p^5 3s^3 P_2^o$	358251	E2	1.840E-06	2.250E+04	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3s^3 P_2^o$	358629	M1	5.924E-11	1.016E+00	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3s^3 P_2^o$	358629	E2	2.032E-06	3.487E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_2^o$	384847	M1	3.164E-11	1.042E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_2^o$	384847	E2	2.395E-08	7.888E+02	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_0^o$	11324	M1	6.548E-07	5.601E+01	1.00
$2p^5 3s^1 P_1^o$	$0.71 + 0.28^3 P_1^o$	$2p^5 3s^3 P_0^o$	18619	M1	2.302E-07	1.775E+01	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$	116487	E1	6.950E-02	2.097E+08	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_0^o$	137066	M2	1.258E-10	2.252E-01	1.00
$2p^5 3p^3 D_2$	$0.73 + 0.20^1 D_2$	$2p^5 3s^3 P_0^o$	138021	E1	4.603E-01	1.170E+09	0.99
$2p^5 3p^3 D_1$	$0.56 + 0.27^1 P_1 + 0.16^3 P_1$	$2p^5 3s^3 P_0^o$	143814	E1	3.834E-01	1.763E+09	0.99
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$	$2p^5 3s^3 P_0^o$	149289	E1	3.044E-01	9.050E+08	0.99
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$	$2p^5 3s^3 P_0^o$	149289	M2	6.388E-11	1.899E-01	1.00
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3s^3 P_0^o$	156216	E1	1.257E-02	6.820E+07	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_0^o$	159333	E1	1.486E-01	2.517E+09	0.99
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$	$2p^5 3s^3 P_0^o$	162091	E1	6.309E-02	2.211E+08	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3s^3 P_0^o$	163113	E1	7.054E-03	4.173E+07	0.97
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3s^3 P_0^o$	163113	M2	3.291E-11	1.947E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_0^o$	232660	E1	6.448E-02	2.328E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_0^o$	316457	M1	2.245E-10	1.500E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	318359	M1	3.246E-10	7.315E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	318359	E2	6.160E-07	1.388E+04	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	322487	M1	1.001E-11	1.388E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	322487	E2	3.303E-06	4.583E+04	1.00
$2p^5 3d^3 F_3^o$	$0.75 + 0.21^1 F_3^o$	$2p^5 3s^3 P_0^o$	328676	E2	8.280E-06	8.523E+04	1.00
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3s^3 P_0^o$	333863	E2	6.772E-06	1.007E+05	1.00
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3s^3 P_0^o$	337604	E2	4.632E-06	5.031E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_0^o$	347885	M1	9.621E-12	2.589E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_0^o$	347885	E2	5.887E-06	1.584E+05	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	$2p^5 3s^3 P_0^o$	349227	E2	1.090E-07	1.773E+03	0.98
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$	$2p^5 3s^3 P_0^o$	351663	E2	1.994E-06	2.350E+04	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3s^3 P_0^o$	352041	E2	4.377E-08	7.236E+02	1.02
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_0^o$	378260	M1	1.622E-11	5.160E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_0^o$	378260	E2	1.052E-06	3.348E+04	1.02
$2p^5 3s^1 P_0^o$	$0.71 + 0.28^3 P_1^o$	$2p^5 3s^3 P_0^o$	7294	M1	1.686E-07	1.995E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$	105163	E1	1.748E-02	4.298E+07	0.94
$2p^5 3p^3 D_1$	$0.56 + 0.27^1 P_1 + 0.16^3 P_1$	$2p^5 3s^3 P_0^o$	132490	E1	4.323E-02	1.687E+08	0.98
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3s^3 P_0^o$	144891	E1	2.279E-01	1.064E+09	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$	$2p^5 3s^3 P_0^o$	150766	M2	8.604E-11	2.609E-01	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3s^3 P_0^o$	151789	E1	2.051E-01	1.051E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	307035	M1	3.894E-11	8.162E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	311162	E2	6.939E-07	8.963E+03	1.00
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3s^3 P_0^o$	322539	E2	1.026E-06	1.424E+04	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^1 D_2^o$	$0.45 + 0.37 {}^3F_2^o + 0.17 {}^3D_2^o$	$2p^5 3s {}^3P_0^o$	337902	E2	4.412E-06	6.720E+04	1.00
$2p^5 3d {}^3D_2^o$	$0.62 + 0.27 {}^1D_2^o + 0.10 {}^3P_2^o$	$2p^5 3s {}^3P_0^o$	340717	E2	4.547E-06	7.041E+04	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3s {}^3P_0^o$	366935	M1	4.635E-11	1.388E+00	1.00
$2p^5 3p {}^3S_1$		$2p^5 3s {}^1P_1^o$	97868	E1	9.988E-03	2.127E+07	0.97
$2p^5 3p {}^3D_2$	$0.73 + 0.20 {}^1D_2$	$2p^5 3s {}^1P_1^o$	119402	E1	2.406E-03	4.576E+06	0.95
$2p^5 3p {}^3D_1$	$0.56 + 0.27 {}^1P_1 + 0.16 {}^3P_1$	$2p^5 3s {}^1P_1^o$	125195	E1	1.294E-03	4.509E+06	1.03
$2p^5 3p {}^3P_2$	$0.62 + 0.37 {}^1D_2$	$2p^5 3s {}^1P_1^o$	130670	E1	9.247E-02	2.106E+08	1.00
$2p^5 3p {}^1P_1$	$0.46 + 0.42 {}^3D_1 + 0.11 {}^3P_1$	$2p^5 3s {}^1P_1^o$	137597	E1	2.385E-01	1.004E+09	1.00
$2p^5 3p {}^3P_0$		$2p^5 3s {}^1P_1^o$	140714	E1	3.209E-02	4.238E+08	0.99
$2p^5 3p {}^1D_2$	$0.42 + 0.31 {}^3P_2 + 0.26 {}^3D_2$	$2p^5 3s {}^1P_1^o$	143472	E1	7.304E-01	2.006E+09	0.99
$2p^5 3p {}^1D_2$	$0.42 + 0.31 {}^3P_2 + 0.26 {}^3D_2$	$2p^5 3s {}^1P_1^o$	143472	M2	9.987E-11	2.742E-01	1.00
$2p^5 3p {}^3P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3s {}^1P_1^o$	144494	E1	2.256E-01	1.047E+09	0.99
$2p^5 3p {}^3P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3s {}^1P_1^o$	144494	M2	7.452E-11	3.459E-01	1.00
$2p^5 3p {}^1S_0$		$2p^5 3s {}^1P_1^o$	214041	E1	2.259E-01	6.904E+09	0.99
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^1P_1^o$	297838	M1	1.900E-11	1.125E+00	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^1P_1^o$	299740	M1	7.176E-11	1.433E+00	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^1P_1^o$	299740	E2	1.013E-07	2.023E+03	0.99
$2p^5 3d {}^3P_2^o$		$2p^5 3s {}^1P_1^o$	303868	E2	1.370E-07	1.688E+03	1.01
$2p^5 3d {}^3F_3^o$	$0.75 + 0.21 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	310057	E2	6.393E-08	5.857E+02	0.99
$2p^5 3d {}^3F_2^o$	$0.62 + 0.23 {}^1D_2^o + 0.15 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	315244	E2	2.502E-08	3.317E+02	0.96
$2p^5 3d {}^3D_3^o$	$0.49 + 0.46 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	318985	E2	2.945E-06	2.855E+04	1.00
$2p^5 3d {}^3D_1^o$		$2p^5 3s {}^1P_1^o$	329266	M1	5.317E-11	1.282E+00	1.00
$2p^5 3d {}^3D_1^o$		$2p^5 3s {}^1P_1^o$	329266	E2	3.367E-07	8.117E+03	0.99
$2p^5 3d {}^1D_2^o$	$0.45 + 0.37 {}^3F_2^o + 0.17 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	330608	E2	5.612E-06	8.183E+04	1.00
$2p^5 3d {}^3D_3^o$	$0.48 + 0.32 {}^1F_3^o + 0.20 {}^3F_3^o$	$2p^5 3s {}^1P_1^o$	333044	E2	1.157E-05	1.223E+05	1.00
$2p^5 3d {}^3D_2^o$	$0.62 + 0.27 {}^1D_2^o + 0.10 {}^3P_2^o$	$2p^5 3s {}^1P_1^o$	333422	M1	2.896E-11	4.295E-01	1.00
$2p^5 3d {}^3D_2^o$	$0.62 + 0.27 {}^1D_2^o + 0.10 {}^3P_2^o$	$2p^5 3s {}^1P_1^o$	333422	E2	4.516E-06	6.697E+04	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3s {}^1P_1^o$	359641	M1	2.889E-10	8.308E+00	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3s {}^1P_1^o$	359641	E2	8.286E-06	2.383E+05	1.01
$2p^5 3p {}^3D_2$	$0.73 + 0.20 {}^1D_2$	$2p^5 3p {}^3S_1$	21534	M1	8.853E-09	5.477E-01	1.00
$2p^5 3p {}^3D_1$	$0.56 + 0.27 {}^1P_1 + 0.16 {}^3P_1$	$2p^5 3p {}^3S_1$	27327	M1	1.569E-09	2.606E-01	1.00
$2p^5 3p {}^3P_2$	$0.62 + 0.37 {}^1D_2$	$2p^5 3p {}^3S_1$	32802	M1	7.172E-08	1.029E+01	1.00
$2p^5 3p {}^1P_1$	$0.46 + 0.42 {}^3D_1 + 0.11 {}^3P_1$	$2p^5 3p {}^3S_1$	39728	M1	1.270E-08	4.457E+00	1.00
$2p^5 3p {}^1P_1$	$0.46 + 0.42 {}^3D_1 + 0.11 {}^3P_1$	$2p^5 3p {}^3S_1$	39728	E2	4.926E-10	1.729E-01	1.42
$2p^5 3p {}^3P_0$		$2p^5 3p {}^3S_1$	42845	M1	1.187E-07	1.453E+02	1.00
$2p^5 3p {}^1D_2$	$0.42 + 0.31 {}^3P_2 + 0.26 {}^3D_2$	$2p^5 3p {}^3S_1$	45603	M1	3.991E-08	1.107E+01	1.00
$2p^5 3p {}^1D_2$	$0.42 + 0.31 {}^3P_2 + 0.26 {}^3D_2$	$2p^5 3p {}^3S_1$	45603	E2	6.498E-10	1.803E-01	1.38
$2p^5 3p {}^3P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3p {}^3S_1$	46626	M1	1.469E-07	7.101E+01	1.00
$2p^5 3p {}^1S_0$		$2p^5 3p {}^3S_1$	116173	M1	2.678E-09	2.411E+01	1.00
$2p^5 3d {}^3P_0^o$		$2p^5 3p {}^3S_1$	199969	E1	1.726E-01	4.604E+09	0.99
$2p^5 3d {}^3P_1^o$		$2p^5 3p {}^3S_1$	201872	E1	4.573E-01	4.143E+09	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3p {}^3S_1$	201872	M2	7.000E-11	6.343E-01	1.00
$2p^5 3d {}^3P_2^o$		$2p^5 3p {}^3S_1$	205999	E1	5.629E-01	3.187E+09	1.00
$2p^5 3d {}^3P_2^o$		$2p^5 3p {}^3S_1$	205999	M2	1.134E-10	6.422E-01	1.00
$2p^5 3d {}^3F_2^o$	$0.62 + 0.23 {}^1D_2^o + 0.15 {}^3D_2^o$	$2p^5 3p {}^3S_1$	217376	E1	1.502E-03	9.465E+06	1.00
$2p^5 3d {}^3F_2^o$	$0.62 + 0.23 {}^1D_2^o + 0.15 {}^3D_2^o$	$2p^5 3p {}^3S_1$	217376	M2	1.659E-11	1.046E-01	1.00
$2p^5 3d {}^3D_3^o$	$0.49 + 0.46 {}^1F_3^o$	$2p^5 3p {}^3S_1$	221117	M2	5.036E-11	2.346E-01	1.00
$2p^5 3d {}^3D_1^o$		$2p^5 3p {}^3S_1$	231398	E1	1.389E-04	1.654E+06	0.99
$2p^5 3d {}^3D_1^o$		$2p^5 3p {}^3S_1$	231398	M2	1.647E-10	1.961E+00	1.00
$2p^5 3d {}^1D_2^o$	$0.45 + 0.37 {}^3F_2^o + 0.17 {}^3D_2^o$	$2p^5 3p {}^3S_1$	232739	E1	1.095E-03	7.912E+06	1.00
$2p^5 3d {}^3D_3^o$	$0.48 + 0.32 {}^1F_3^o + 0.20 {}^3F_3^o$	$2p^5 3p {}^3S_1$	235176	M2	3.867E-11	2.038E-01	1.00
$2p^5 3d {}^3D_2^o$	$0.62 + 0.27 {}^1D_2^o + 0.10 {}^3P_2^o$	$2p^5 3p {}^3S_1$	235554	E1	5.688E-03	4.211E+07	0.99
$2p^5 3d {}^3D_2^o$	$0.62 + 0.27 {}^1D_2^o + 0.10 {}^3P_2^o$	$2p^5 3p {}^3S_1$	235554	M2	5.797E-11	4.291E-01	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3p {}^3S_1$	261772	E1	1.753E-04	2.671E+06	1.08
$2p^5 3d {}^1P_1^o$		$2p^5 3p {}^3S_1$	261772	M2	2.247E-10	3.424E+00	1.00
$2p^5 3p {}^3P_2$	$0.62 + 0.37 {}^1D_2$	$2p^5 3p {}^3D_3$	12223	M1	1.903E-08	3.794E-01	1.00
$2p^5 3p {}^1D_2$	$0.42 + 0.31 {}^3P_2 + 0.26 {}^3D_2$	$2p^5 3p {}^3D_3$	25025	M1	1.223E-06	1.022E+02	1.00
$2p^5 3p {}^3P_1$	$0.69 + 0.26 {}^1P_1$	$2p^5 3p {}^3D_3$	26047	E2	1.207E-09	1.820E-01	1.32
$2p^5 3d {}^3P_2^o$		$2p^5 3p {}^3D_3$	185421	E1	2.711E-02	1.244E+08	0.88
$2p^5 3d {}^3P_2^o$		$2p^5 3p {}^3D_3$	185421	M2	6.671E-11	3.060E-01	1.00
$2p^5 3d {}^3F_4^o$		$2p^5 3p {}^3D_3$	188656	E1	2.143E+00	5.652E+09	1.00
$2p^5 3d {}^3F_4^o$		$2p^5 3p {}^3D_3$	188656	M2	8.261E-10	2.179E+00	1.00
$2p^5 3d {}^3F_3^o$	$0.75 + 0.21 {}^1F_3^o$	$2p^5 3p {}^3D_3$	191610	E1	2.358E-01	8.250E+08	1.00
$2p^5 3d {}^3F_2^o$	$0.62 + 0.23 {}^1D_2^o + 0.15 {}^3D_2^o$	$2p^5 3p {}^3D_3$	196797	E1	2.077E-02	1.073E+08	1.00
$2p^5 3d {}^3D_3^o$	$0.49 + 0.46 {}^1F_3^o$	$2p^5 3p {}^3D_3$	200538	E1	2.965E-01	1.136E+09	1.02
$2p^5 3d {}^3D_3^o$	$0.49 + 0.46 {}^1F_3^o$	$2p^5 3p {}^3D_3$	200538	M2	4.649E-10	1.781E+00	1.00
$2p^5 3d {}^1D_2^o$	$0.45 + 0.37 {}^3F_2^o + 0.17 {}^3D_2^o$	$2p^5 3p {}^3D_3$	212161	E1	3.142E-03	1.887E+07	1.00

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Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$	$2p^5 3p^3 D_3$	214597	E1	6.996E-02	3.070E+08	1.03
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$	$2p^5 3p^3 D_3$	214597	M2	3.260E-11	1.431E-01	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 D_3$	214975	E1	1.968E-02	1.213E+08	1.07
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 D_3$	214975	M2	2.152E-11	1.327E-01	1.00
$2p^5 3p^3 D_1$	$0.56 + 0.27^1 P_1 + 0.16^3 P_1$	$2p^5 3p^3 D_2$	5793	M1	5.444E-07	4.062E+00	1.00
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$	$2p^5 3p^3 D_2$	11268	M1	1.704E-07	2.886E+00	1.00
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3p^3 D_2$	18194	M1	8.060E-07	5.933E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_2$	21311	E2	7.194E-10	2.179E-01	1.21
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3p^3 D_2$	25092	M1	1.656E-08	2.318E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	94639	E2	1.511E-08	9.026E+01	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_2$	180338	E1	3.526E-02	2.550E+08	0.92
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	184465	E1	3.266E-02	1.483E+08	1.06
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	187700	M2	2.261E-10	5.905E-01	1.00
$2p^5 3d^3 F_3^o$	$0.75 + 0.21^1 F_3^o$	$2p^5 3p^3 D_2$	190655	E1	1.441E+00	4.990E+09	1.00
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3p^3 D_2$	195842	E1	3.839E-01	1.964E+09	1.01
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3p^3 D_2$	199583	E1	1.080E-02	4.098E+07	1.02
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3p^3 D_2$	199583	M2	1.169E-10	4.437E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_2$	209864	E1	4.182E-02	4.095E+08	1.01
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 D_2$	211205	E1	3.302E-02	1.965E+08	1.03
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$	$2p^5 3p^3 D_2$	213642	E1	3.936E-03	1.712E+07	1.02
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 D_2$	214020	E1	5.378E-02	3.287E+08	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 D_2$	214020	M2	4.441E-11	2.714E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_2$	240238	E1	5.650E-06	7.251E+04	0.58
$2p^5 3p^3 P_2$	$0.62 + 0.37^1 D_2$	$2p^5 3p^3 D_1$	5475	M1	9.474E-08	3.789E-01	1.00
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3p^3 D_1$	12401	M1	2.926E-07	1.000E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_1$	15518	M1	2.039E-07	3.275E+01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$	$2p^5 3p^3 D_1$	18276	M1	1.507E-07	6.715E+00	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3p^3 D_1$	19298	M1	2.244E-07	1.858E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	88845	M1	1.100E-08	5.789E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	172642	E1	2.212E-02	4.399E+08	0.98
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	174545	E1	1.012E-02	6.856E+07	1.10
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	178672	E1	4.659E-02	1.984E+08	1.02
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3p^3 D_1$	190048	E1	8.146E-01	3.925E+09	1.00
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3p^3 D_1$	193790	M2	3.472E-10	1.242E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	204071	E1	3.028E-01	2.803E+09	1.01
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 D_1$	205412	E1	2.523E-03	1.420E+07	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 D_1$	208227	E1	1.381E-02	7.988E+07	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	234445	E1	3.929E-02	4.802E+08	1.01
$2p^5 3p^1 P_1$	$0.46 + 0.42^3 D_1 + 0.11^3 P_1$	$2p^5 3p^3 D_2$	6926	M1	2.353E-08	2.510E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$	$2p^5 3p^3 P_2$	12801	M1	7.092E-07	1.550E+01	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3p^3 P_2$	13823	M1	5.719E-07	2.430E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	83370	E2	2.407E-08	1.116E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_2$	169070	E1	8.434E-02	5.360E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	169070	M2	2.522E-11	1.603E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	173197	E1	3.669E-01	1.468E+09	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	173197	M2	1.870E-10	7.484E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	176432	M2	2.514E-10	5.799E-01	1.00
$2p^5 3d^3 F_3^o$	$0.75 + 0.21^1 F_3^o$	$2p^5 3p^3 P_2$	179386	E1	1.322E-02	4.054E+07	1.00
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3p^3 P_2$	184573	E1	9.046E-04	4.111E+06	0.93
$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	$2p^5 3p^3 P_2$	184573	M2	4.436E-11	2.016E-01	1.00
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3p^3 P_2$	188315	E1	1.380E+00	4.664E+09	1.00
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	$2p^5 3p^3 P_2$	188315	M2	1.663E-10	5.621E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	198595	E1	3.681E-03	3.228E+07	1.10
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	198595	M2	5.515E-11	4.836E-01	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 P_2$	199937	E1	3.809E-03	2.031E+07	1.03
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$	$2p^5 3p^3 P_2$	202373	E1	1.602E-02	6.250E+07	1.01
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 P_2$	202751	E1	1.356E-01	7.435E+08	1.01
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	$2p^5 3p^3 P_2$	202751	M2	8.364E-11	4.587E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	228970	E1	3.702E-03	4.315E+07	0.80
$2p^5 3d^1 P_0^o$		$2p^5 3p^3 P_2$	228970	M2	1.083E-10	1.262E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^1 P_1$	3117	M1	2.784E-08	1.805E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.31^3 P_2 + 0.26^3 D_2$	$2p^5 3p^1 P_1$	5875	M1	2.371E-07	1.092E+00	1.00
$2p^5 3p^3 P_1$	$0.69 + 0.26^1 P_1$	$2p^5 3p^1 P_1$	6897	M1	1.769E-08	1.871E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	76444	M1	6.605E-09	2.575E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	160241	E1	4.317E-03	7.393E+07	0.86
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	162143	E1	6.951E-03	4.063E+07	0.91
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 P_1$	166271	E1	2.031E-02	7.489E+07	0.99

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Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$		$2p^5 3d^3 F_3^o$	$0.75 + 0.21^1 F_3^o$	23364	M1	2.422E-08	1.764E+00	1.00
$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$		$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	3741	M1	1.611E-07	2.149E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	14022	M1	3.273E-07	1.431E+01	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$		$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	15363	M1	6.455E-07	2.033E+01	1.00
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$		$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	17800	M1	7.932E-08	2.395E+00	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$		$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	18178	M1	9.212E-08	4.061E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	44396	M1	7.211E-08	3.160E+01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 F_2^o$	$0.62 + 0.23^1 D_2^o + 0.15^3 D_2^o$	44396	E2	9.218E-10	4.040E-01	1.51
$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$		$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	11622	M1	3.484E-08	6.278E-01	1.00
$2p^5 3d^3 D_3^o$	$0.48 + 0.32^1 F_3^o + 0.20^3 F_3^o$		$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	14058	M1	1.120E-06	2.110E+01	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$		$2p^5 3d^3 D_3^o$	$0.49 + 0.46^1 F_3^o$	14436	M1	7.557E-07	2.101E+01	1.00
$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$		$2p^5 3d^3 D_1^o$		4155	M1	4.663E-07	1.074E+00	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_1^o$		30374	M1	9.589E-08	1.967E+01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	29032	M1	5.710E-08	1.070E+01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^1 D_2^o$	$0.45 + 0.37^3 F_2^o + 0.17^3 D_2^o$	29032	E2	2.069E-09	3.877E-01	1.40
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	26218	M1	2.280E-07	3.484E+01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3d^3 D_2^o$	$0.62 + 0.27^1 D_2^o + 0.10^3 P_2^o$	26218	E2	1.150E-09	1.758E-01	1.37
K X									
$2p^5 3s^3 P_2^o$			$2p^6^1 S_0$		2399154	M2	8.629E-09	6.626E+03	1.00
$2p^5 3s^3 P_1^o$	$0.66 + 0.33^1 P_1^o$		$2p^6^1 S_0$		2406869	E1	7.930E-02	1.021E+11	0.99
$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$		$2p^6^1 S_0$		2430034	E1	1.557E-01	2.045E+11	0.99
$2p^5 3p^3 S_1$			$2p^6^1 S_0$		2536457	M1	1.236E-09	1.768E+03	1.00
$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$		$2p^6^1 S_0$		2559659	E2	2.830E-05	2.474E+07	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$		$2p^6^1 S_0$		2566738	M1	3.069E-10	4.496E+02	1.00
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$		$2p^6^1 S_0$		2572836	E2	4.406E-05	3.891E+07	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$		$2p^6^1 S_0$		2582636	M1	2.206E-11	3.271E+01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$		$2p^6^1 S_0$		2590168	E2	5.221E-05	4.673E+07	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$		$2p^6^1 S_0$		2590942	M1	3.305E-09	4.933E+03	1.00
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$		2760066	E1	5.638E-03	9.550E+09	1.01
$2p^5 3d^3 P_2^o$			$2p^6^1 S_0$		2765194	M2	1.770E-07	1.806E+05	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$		$2p^6^1 S_0$		2778127	M2	1.474E-08	1.518E+04	1.00
$2p^5 3d^3 D_1^o$			$2p^6^1 S_0$		2794901	E1	1.737E-01	3.018E+11	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$		$2p^6^1 S_0$		2797651	M2	2.025E-08	2.115E+04	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$		$2p^6^1 S_0$		2800902	M2	1.109E-10	1.161E+02	1.00
$2p^5 3d^1 P_1^o$			$2p^6^1 S_0$		2832299	E1	2.026E+00	3.614E+12	1.00
$2p^5 3s^3 P_1^o$	$0.66 + 0.33^1 P_1^o$		$2p^5 3s^3 P_2^o$		7715	M1	5.195E-07	6.875E+00	1.00
$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$		$2p^5 3s^3 P_2^o$		30879	M1	1.042E-06	2.209E+02	1.00
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$		137303	E1	2.810E-01	1.178E+09	0.98
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$		137303	M2	3.871E-11	1.622E-01	1.00
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$		160011	E1	1.082E+00	2.639E+09	1.00
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$		160011	M2	1.341E-10	3.273E-01	1.00
$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$		$2p^5 3s^3 P_2^o$		160504	E1	3.285E-01	1.129E+09	0.99
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$		$2p^5 3s^3 P_2^o$		167583	E1	6.073E-02	3.792E+08	0.99
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$		$2p^5 3s^3 P_2^o$		167583	M2	6.264E-11	3.911E-01	1.00
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$		$2p^5 3s^3 P_2^o$		173681	E1	4.592E-01	1.848E+09	0.99
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$		$2p^5 3s^3 P_2^o$		173681	M2	1.963E-10	7.899E-01	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$		$2p^5 3s^3 P_2^o$		183482	E1	3.069E-03	2.297E+07	0.96
$2p^5 3p^3 P_0$			$2p^5 3s^3 P_2^o$		183482	M2	1.678E-11	1.256E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$		$2p^5 3s^3 P_2^o$		186275	M2	3.238E-11	7.495E-01	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$		$2p^5 3s^3 P_2^o$		191013	E1	3.780E-02	1.840E+08	0.97
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$		$2p^5 3s^3 P_2^o$		191788	E1	7.265E-02	5.942E+08	0.99
$2p^5 3p^1 S_0$			$2p^5 3s^3 P_2^o$		191788	M2	1.424E-11	1.165E-01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3s^3 P_2^o$		268857	M2	1.392E-10	6.711E+00	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$		358508	E2	1.831E-06	1.570E+05	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		360911	M1	2.709E-10	7.847E+00	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		360911	E2	4.910E-06	1.422E+05	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		366039	M1	1.361E-09	2.433E+01	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3s^3 P_2^o$		366039	E2	5.611E-06	1.003E+05	1.00
$2p^5 3d^3 F_4^o$			$2p^5 3s^3 P_2^o$		369259	E2	1.773E-05	1.791E+05	1.00
$2p^5 3d^3 F_3^o$	$0.74 + 0.22^1 F_3^o$		$2p^5 3s^3 P_2^o$		372763	E2	5.934E-06	7.858E+04	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$		$2p^5 3s^3 P_2^o$		378972	E2	2.703E-06	5.178E+04	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.43^1 F_3^o$		$2p^5 3s^3 P_2^o$		383217	E2	7.686E-06	1.076E+05	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3s^3 P_2^o$		395746	M1	4.212E-11	1.467E+00	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3s^3 P_2^o$		395746	E2	8.510E-07	2.964E+04	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$		$2p^5 3s^3 P_2^o$		398496	E2	3.350E-07	7.097E+03	1.00
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$		$2p^5 3s^3 P_2^o$		401669	M1	7.042E-12	1.083E-01	1.00
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$		$2p^5 3s^3 P_2^o$		401669	E2	1.386E-06	2.131E+04	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^3 P_2^o$	401747	M1	4.604E-11	9.914E-01	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^3 P_2^o$	401747	E2	1.717E-06	3.697E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_2^o$	433145	M1	5.012E-11	2.091E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_2^o$	433145	E2	2.450E-08	1.022E+03	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_1^o$	15579	M1	8.375E-07	1.356E+02	1.00
$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	$2p^5 3s^3 P_1^o$	23164	M1	3.131E-07	3.735E+01	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_1^o$	129588	E1	5.777E-02	2.157E+08	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_1^o$	152296	M2	1.518E-10	3.355E-01	1.00
$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	$2p^5 3s^3 P_1^o$	152789	E1	4.259E-01	1.326E+09	0.99
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$	$2p^5 3s^3 P_1^o$	159868	E1	3.754E-01	2.133E+09	0.99
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$	$2p^5 3s^3 P_1^o$	165966	E1	3.070E-01	1.128E+09	0.99
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$	$2p^5 3s^3 P_1^o$	165966	M2	7.461E-11	2.742E-01	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$	$2p^5 3s^3 P_1^o$	175767	E1	8.305E-03	5.705E+07	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	178560	E1	1.356E-01	2.883E+09	0.99
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3s^3 P_1^o$	183298	E1	4.354E-02	1.952E+08	0.99
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3s^3 P_1^o$	184073	E1	3.477E-03	2.619E+07	0.96
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3s^3 P_1^o$	184073	M2	3.258E-11	2.454E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	261142	E1	7.149E-02	3.252E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	350793	M1	2.342E-10	1.922E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	353196	M1	2.948E-10	8.177E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	353196	E2	5.185E-07	1.438E+04	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	358324	E2	3.022E-06	5.176E+04	1.00
$2p^5 3d^3 F_3^o$	$0.74 + 0.22^1 F_3^o$	$2p^5 3s^3 P_1^o$	365048	E2	7.804E-06	9.910E+04	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3s^3 P_1^o$	371257	E2	6.571E-06	1.208E+05	1.00
$2p^5 3d^3 D_2^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3s^3 P_1^o$	375502	E2	4.980E-06	6.691E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	388031	M1	1.535E-11	5.138E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	388031	E2	5.613E-06	1.879E+05	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3s^3 P_1^o$	390781	E2	9.890E-08	2.015E+03	0.98
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$	$2p^5 3s^3 P_1^o$	393954	E2	1.344E-06	1.988E+04	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^3 P_1^o$	394032	M1	6.903E-12	1.430E-01	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^3 P_1^o$	394032	E2	1.508E-08	3.123E+02	1.03
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	425430	M1	1.054E-11	4.240E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	425430	E2	1.283E-06	5.163E+04	1.02
$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	$2p^5 3s^3 P_0^o$	7585	M1	2.062E-07	2.638E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$	114008	E1	1.401E-02	4.049E+07	0.94
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$	$2p^5 3s^3 P_0^o$	144289	E1	2.650E-02	1.227E+08	0.97
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$	$2p^5 3s^3 P_0^o$	160187	E1	2.177E-01	1.242E+09	0.99
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3s^3 P_0^o$	167719	M2	1.018E-10	3.822E-01	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3s^3 P_0^o$	168493	E1	2.057E-01	1.299E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	337617	M1	2.789E-11	7.069E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$	342745	E2	5.671E-07	8.888E+03	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3s^3 P_0^o$	355678	E2	7.433E-07	1.254E+04	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3s^3 P_0^o$	375201	E2	4.416E-06	8.293E+04	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^3 P_0^o$	378453	E2	4.410E-06	8.427E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_0^o$	409850	M1	7.397E-11	2.763E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_0^o$	106423	E1	9.822E-03	2.473E+07	0.97
$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	$2p^5 3s^1 P_0^o$	129624	E1	1.456E-03	3.264E+06	0.94
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$	$2p^5 3s^1 P_0^o$	136703	E1	9.202E-04	3.823E+06	1.04
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$	$2p^5 3s^1 P_0^o$	142802	E1	6.200E-02	1.687E+08	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$	$2p^5 3s^1 P_0^o$	152602	E1	2.241E-01	1.160E+09	0.99
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_0^o$	155395	E1	3.489E-02	5.619E+08	0.99
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3s^1 P_0^o$	160133	E1	7.149E-01	2.446E+09	0.99
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3s^1 P_0^o$	160133	M2	1.223E-10	4.185E-01	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3s^1 P_0^o$	160908	E1	2.098E-01	1.208E+09	0.99
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3s^1 P_0^o$	160908	M2	9.524E-11	5.483E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_0^o$	237977	E1	2.037E-01	7.696E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_0^o$	327628	M1	1.858E-11	1.330E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_0^o$	330032	M1	6.265E-11	1.517E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_0^o$	330032	E2	1.045E-07	2.530E+03	0.99
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_0^o$	335159	M1	1.047E-11	1.569E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_0^o$	335159	E2	1.481E-07	2.219E+03	1.00
$2p^5 3d^3 F_3^o$	$0.74 + 0.22^1 F_3^o$	$2p^5 3s^1 P_0^o$	341883	E2	2.585E-08	2.879E+02	0.98
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3s^1 P_0^o$	348093	E2	1.398E-08	2.260E+02	0.95
$2p^5 3d^3 D_3^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3s^1 P_0^o$	352338	E2	2.032E-06	2.404E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_0^o$	364866	M1	6.315E-11	1.869E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_0^o$	364866	E2	4.142E-07	1.226E+04	0.99
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3s^1 P_0^o$	367616	E2	5.171E-06	9.322E+04	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_2^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$	$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	370789	E2	1.186E-05	1.553E+05	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	370867	M1	5.035E-11	9.239E-01	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	370867	E2	4.424E-06	8.118E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	402265	M1	2.937E-10	1.057E+01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	$0.66 + 0.33^3 P_1^o$	402265	E2	7.801E-06	2.807E+05	1.01
$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	$2p^5 3p^3 S_1$		23201	M1	1.477E-08	1.061E+00	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$	$2p^5 3p^3 S_1$		30280	M1	3.579E-09	7.296E-01	1.00
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$	$2p^5 3p^3 S_1$		36378	M1	1.067E-07	1.885E+01	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$	$2p^5 3p^3 S_1$		46179	M1	2.217E-08	1.051E+01	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$	$2p^5 3p^3 S_1$		46179	E2	5.457E-10	2.588E-01	1.41
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$		48972	M1	1.763E-07	2.820E+02	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3p^3 S_1$		53710	M1	5.253E-08	2.022E+01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3p^3 S_1$		53710	E2	7.163E-10	2.757E-01	1.36
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3p^3 S_1$		54485	M1	2.056E-07	1.357E+02	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$		131554	M1	5.265E-09	6.078E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$		221205	E1	1.618E-01	5.282E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$		223608	E1	4.233E-01	4.706E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$		223608	M2	7.762E-11	8.629E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$		228736	E1	5.015E-01	3.500E+09	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$		228736	M2	1.207E-10	8.428E-01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 S_1$		241669	E1	2.194E-03	1.709E+07	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 S_1$		241669	M2	2.215E-11	1.726E-01	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3p^3 S_1$		245914	M2	5.771E-11	3.326E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$		258443	E1	5.864E-05	8.708E+05	0.98
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$		258443	M2	2.010E-10	2.985E+00	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3p^3 S_1$		261193	E1	1.085E-03	9.874E+06	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3p^3 S_1$		261193	M2	1.141E-11	1.038E-01	1.00
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$	$2p^5 3p^3 S_1$		264366	M2	3.712E-11	2.472E-01	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3p^3 S_1$		264444	E1	5.142E-03	4.797E+07	0.99
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3p^3 S_1$		264444	M2	6.115E-11	5.705E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$		295842	E1	2.399E-04	4.668E+06	1.06
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 S_1$		295842	M2	2.591E-10	5.043E+00	1.00
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$	$2p^5 3p^3 D_3$		13670	M1	1.724E-08	4.298E-01	1.00
$2p^5 3p^1 D_2$	$0.42 + 0.29^3 P_2 + 0.29^3 D_2$	$2p^5 3p^3 D_3$		31001	M1	1.687E-06	2.163E+02	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3p^3 D_3$		31776	E2	1.420E-09	3.189E-01	1.29
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$		206028	E1	2.564E-02	1.452E+08	0.89
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$		206028	M2	7.753E-11	4.391E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$		209247	E1	1.947E+00	6.318E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$		209247	M2	9.238E-10	2.998E+00	1.00
$2p^5 3d^3 F_3^o$	$0.74 + 0.22^1 F_3^o$	$2p^5 3p^3 D_3$		212752	E1	2.176E-01	9.385E+08	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 D_3$		218961	E1	1.980E-02	1.267E+08	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 D_3$		218961	M2	1.872E-11	1.198E-01	1.00
$2p^5 3d^3 D_3^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3p^3 D_3$		223206	E1	2.810E-01	1.334E+09	1.02
$2p^5 3d^3 D_3^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3p^3 D_3$		223206	M2	5.338E-10	2.534E+00	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3p^3 D_3$		238484	E1	2.256E-03	1.712E+07	1.00
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$	$2p^5 3p^3 D_3$		241657	E1	5.042E-02	2.806E+08	1.03
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$	$2p^5 3p^3 D_3$		241657	M2	2.659E-11	1.480E-01	1.00
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3p^3 D_3$		241736	E1	1.660E-02	1.294E+08	1.08
$2p^5 3d^3 D_2^o$	$0.60 + 0.27^1 D_2^o + 0.12^3 P_2^o$	$2p^5 3p^3 D_3$		241736	M2	2.218E-11	1.729E-01	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.32^1 P_1 + 0.19^3 P_1$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	7079	M1	5.875E-07	6.547E+00	1.00
$2p^5 3p^3 P_2$	$0.64 + 0.35^1 D_2$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	13177	M1	2.223E-07	5.150E+00	1.00
$2p^5 3p^3 D_1$	$0.49 + 0.43^1 P_1$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	22977	M1	1.169E-06	1.373E+02	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	25770	E2	8.630E-10	3.823E-01	1.18
$2p^5 3p^3 P_1$	$0.68 + 0.25^1 P_1$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	31283	M1	1.703E-08	3.705E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	108353	E2	1.658E-08	1.298E+02	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	200407	E1	3.405E-02	3.041E+08	0.93
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	200407	M2	1.348E-11	1.203E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	205535	E1	3.473E-02	1.957E+08	1.05
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	208754	M2	2.576E-10	8.321E-01	1.00
$2p^5 3d^3 F_3^o$	$0.74 + 0.22^1 F_3^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	212259	E1	1.311E+00	5.627E+09	1.00
$2p^5 3d^3 F_3^o$	$0.74 + 0.22^1 F_3^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	212259	M2	2.387E-11	1.025E-01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.26^1 D_2^o + 0.17^3 D_2^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	218468	E1	3.624E-01	2.308E+09	1.01
$2p^5 3d^3 D_2^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	222713	E1	1.142E-02	5.397E+07	1.02
$2p^5 3d^3 D_3^o$	$0.52 + 0.43^1 F_3^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	222713	M2	1.273E-10	6.018E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	235242	E1	3.667E-02	4.512E+08	1.01
$2p^5 3d^3 F_2^o$	$0.42 + 0.41^1 D_2^o + 0.16^3 D_2^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	237991	E1	2.481E-02	1.875E+08	1.03
$2p^5 3d^3 D_3^o$	$0.44 + 0.34^1 F_3^o + 0.22^3 F_3^o$	$2p^5 3p^3 D_2$	$0.70 + 0.22^1 D_2$	241164	E1	1.426E-03	7.903E+06	1.02

Continued...

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_3^o$	$0.44 + 0.34 {}^1F_3^o + 0.22 {}^3F_3^o$		$2p^5 3d {}^3F_2^o$	$0.42 + 0.41 {}^1D_2^o + 0.16 {}^3D_2^o$	3172	M1	2.356E-07	2.261E-01	1.00
$2p^5 3d {}^1P_1^o$			$2p^5 3d {}^3F_2^o$	$0.42 + 0.41 {}^1D_2^o + 0.16 {}^3D_2^o$	34648	M1	7.091E-08	1.893E+01	1.00
$2p^5 3d {}^1P_1^o$			$2p^5 3d {}^3F_2^o$	$0.42 + 0.41 {}^1D_2^o + 0.16 {}^3D_2^o$	34648	E2	2.218E-09	5.920E-01	1.33
$2p^5 3d {}^1P_1^o$			$2p^5 3d {}^3D_2^o$	$0.60 + 0.27 {}^1D_2^o + 0.12 {}^3P_2^o$	31397	M1	3.052E-07	6.690E+01	1.00
$2p^5 3d {}^1P_1^o$			$2p^5 3d {}^3D_2^o$	$0.60 + 0.27 {}^1D_2^o + 0.12 {}^3P_2^o$	31397	E2	1.332E-09	2.920E-01	1.30
Ca XI									
$2p^5 3s {}^3P_2^o$			$2p^6 {}^1S_0$		2801989	M2	1.152E-08	1.206E+04	1.00
$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$		$2p^6 {}^1S_0$		2810834	E1	8.924E-02	1.568E+11	0.99
$2p^5 3s {}^1P_1^o$	$0.62 + 0.38 {}^3P_1^o$		$2p^6 {}^1S_0$		2839662	E1	1.438E-01	2.579E+11	0.99
$2p^5 3p {}^3S_1$			$2p^6 {}^1S_0$		2953791	M1	2.043E-09	3.963E+03	1.00
$2p^5 3p {}^3D_2$	$0.68 + 0.24 {}^1D_2$		$2p^6 {}^1S_0$		2978410	E2	3.641E-05	4.309E+07	1.00
$2p^5 3p {}^3D_1$	$0.43 + 0.36 {}^1P_1 + 0.20 {}^3P_1$		$2p^6 {}^1S_0$		2986908	M1	4.317E-10	8.563E+02	1.00
$2p^5 3p {}^3P_2$	$0.65 + 0.34 {}^1D_2$		$2p^6 {}^1S_0$		2993760	E2	5.102E-05	6.100E+07	1.00
$2p^5 3p {}^3D_1$	$0.54 + 0.40 {}^1P_1$		$2p^6 {}^1S_0$		3007301	M1	6.141E-12	1.235E+01	1.00
$2p^5 3p {}^1D_2$	$0.41 + 0.31 {}^3D_2 + 0.27 {}^3P_2$		$2p^6 {}^1S_0$		3016749	E2	6.154E-05	7.472E+07	1.00
$2p^5 3p {}^3P_1$	$0.68 + 0.24 {}^1P_1$		$2p^6 {}^1S_0$		3017175	M1	4.663E-09	9.439E+03	1.00
$2p^5 3d {}^3P_1^o$			$2p^6 {}^1S_0$		3199045	E1	6.386E-03	1.453E+10	1.01
$2p^5 3d {}^3P_2^o$			$2p^6 {}^1S_0$		3205278	M2	2.486E-07	3.408E+05	1.00
$2p^5 3d {}^3F_2^o$	$0.53 + 0.29 {}^1D_2^o + 0.18 {}^3D_2^o$		$2p^6 {}^1S_0$		3219655	M2	2.356E-08	3.259E+04	1.00
$2p^5 3d {}^3D_1^o$			$2p^6 {}^1S_0$		3239502	E1	2.137E-01	4.987E+11	1.00
$2p^5 3d {}^3F_2^o$	$0.47 + 0.38 {}^1D_2^o + 0.14 {}^3D_2^o$		$2p^6 {}^1S_0$		3244348	M2	2.585E-08	3.630E+04	1.00
$2p^5 3d {}^3D_2^o$	$0.58 + 0.27 {}^1D_2^o + 0.14 {}^3P_2^o$		$2p^6 {}^1S_0$		3248017	M2	7.111E-10	1.001E+03	1.00
$2p^5 3d {}^1P_1^o$			$2p^6 {}^1S_0$		3284444	E1	2.128E+00	5.104E+12	1.00
$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$		$2p^5 3s {}^3P_2^o$		8844	M1	5.550E-07	9.654E+00	1.00
$2p^5 3s {}^1P_1^o$	$0.62 + 0.38 {}^3P_1^o$		$2p^5 3s {}^3P_2^o$		37672	M1	1.444E-06	4.556E+02	1.00
$2p^5 3p {}^3S_1$			$2p^5 3s {}^3P_2^o$		151801	E1	2.740E-01	1.404E+09	0.98
$2p^5 3p {}^3S_1$			$2p^5 3s {}^3P_2^o$		151801	M2	4.436E-11	2.273E-01	1.00
$2p^5 3p {}^3D_2$	$0.68 + 0.24 {}^1D_2$		$2p^5 3s {}^3P_2^o$		176421	E1	3.143E-01	1.305E+09	0.99
$2p^5 3p {}^3D_3$			$2p^5 3s {}^3P_2^o$		176661	E1	1.023E+00	3.043E+09	0.99
$2p^5 3p {}^3D_3$			$2p^5 3s {}^3P_2^o$		176661	M2	1.546E-10	4.597E-01	1.00
$2p^5 3p {}^3D_1$	$0.43 + 0.36 {}^1P_1 + 0.20 {}^3P_1$		$2p^5 3s {}^3P_2^o$		184918	E1	5.534E-02	4.207E+08	0.99
$2p^5 3p {}^3D_1$	$0.43 + 0.36 {}^1P_1 + 0.20 {}^3P_1$		$2p^5 3s {}^3P_2^o$		184918	M2	7.774E-11	5.910E-01	1.00
$2p^5 3p {}^3P_2$	$0.65 + 0.34 {}^1D_2$		$2p^5 3s {}^3P_2^o$		191770	E1	4.385E-01	2.151E+09	0.99
$2p^5 3p {}^3P_2$	$0.65 + 0.34 {}^1D_2$		$2p^5 3s {}^3P_2^o$		191770	M2	2.266E-10	1.112E+00	1.00
$2p^5 3p {}^3D_1$	$0.54 + 0.40 {}^1P_1$		$2p^5 3s {}^3P_2^o$		205311	E1	1.154E-03	1.082E+07	0.94
$2p^5 3p {}^3D_1$	$0.54 + 0.40 {}^1P_1$		$2p^5 3s {}^3P_2^o$		205311	M2	1.581E-11	1.482E-01	1.00
$2p^5 3p {}^3P_0$			$2p^5 3s {}^3P_2^o$		207356	M2	3.965E-11	1.137E+00	1.00
$2p^5 3p {}^1D_2$	$0.41 + 0.31 {}^3D_2 + 0.27 {}^3P_2$		$2p^5 3s {}^3P_2^o$		214759	E1	2.696E-02	1.659E+08	0.97
$2p^5 3p {}^3P_1$	$0.68 + 0.24 {}^1P_1$		$2p^5 3s {}^3P_2^o$		215186	E1	6.190E-02	6.373E+08	0.99
$2p^5 3p {}^3P_1$	$0.68 + 0.24 {}^1P_1$		$2p^5 3s {}^3P_2^o$		215186	M2	1.482E-11	1.526E-01	1.00
$2p^5 3p {}^1S_0$			$2p^5 3s {}^3P_2^o$		299177	M2	1.598E-10	9.539E+00	1.00
$2p^5 3d {}^3P_0^o$			$2p^5 3s {}^3P_2^o$		394085	E2	1.734E-06	1.796E+05	1.00
$2p^5 3d {}^3P_1^o$			$2p^5 3s {}^3P_2^o$		397055	M1	3.022E-10	1.059E+01	1.00
$2p^5 3d {}^3P_1^o$			$2p^5 3s {}^3P_2^o$		397055	E2	4.713E-06	1.652E+05	1.00
$2p^5 3d {}^3P_2^o$			$2p^5 3s {}^3P_2^o$		403288	M1	1.127E-09	2.445E+01	1.00
$2p^5 3d {}^3P_2^o$			$2p^5 3s {}^3P_2^o$		403288	E2	5.521E-06	1.198E+05	1.00
$2p^5 3d {}^3F_4^o$			$2p^5 3s {}^3P_2^o$		406361	E2	1.685E-05	2.062E+05	1.00
$2p^5 3d {}^3F_3^o$	$0.72 + 0.23 {}^1F_3^o$		$2p^5 3s {}^3P_2^o$		410402	E2	5.705E-06	9.157E+04	1.00
$2p^5 3d {}^3F_2^o$	$0.53 + 0.29 {}^1D_2^o + 0.18 {}^3D_2^o$		$2p^5 3s {}^3P_2^o$		417666	E2	2.657E-06	6.183E+04	1.00
$2p^5 3d {}^3D_3^o$	$0.55 + 0.41 {}^1F_3^o$		$2p^5 3s {}^3P_2^o$		422404	M1	8.634E-12	1.468E-01	1.00
$2p^5 3d {}^3D_3^o$	$0.55 + 0.41 {}^1F_3^o$		$2p^5 3s {}^3P_2^o$		422404	E2	7.548E-06	1.283E+05	1.00
$2p^5 3d {}^3D_1^o$			$2p^5 3s {}^3P_2^o$		437513	M1	6.310E-11	2.686E+00	1.00
$2p^5 3d {}^3D_1^o$			$2p^5 3s {}^3P_2^o$		437513	E2	7.528E-07	3.204E+04	1.00
$2p^5 3d {}^3F_2^o$	$0.47 + 0.38 {}^1D_2^o + 0.14 {}^3D_2^o$		$2p^5 3s {}^3P_2^o$		442358	E2	2.471E-07	6.450E+03	1.00
$2p^5 3d {}^3D_2^o$	$0.58 + 0.27 {}^1D_2^o + 0.14 {}^3P_2^o$		$2p^5 3s {}^3P_2^o$		446027	M1	3.312E-11	8.789E-01	1.00
$2p^5 3d {}^3D_2^o$	$0.58 + 0.27 {}^1D_2^o + 0.14 {}^3P_2^o$		$2p^5 3s {}^3P_2^o$		446027	E2	1.439E-06	3.820E+04	1.00
$2p^5 3d {}^3D_3^o$	$0.40 + 0.35 {}^1F_3^o + 0.24 {}^3F_3^o$		$2p^5 3s {}^3P_2^o$		446356	M1	9.002E-12	1.709E-01	1.00
$2p^5 3d {}^3D_3^o$	$0.40 + 0.35 {}^1F_3^o + 0.24 {}^3F_3^o$		$2p^5 3s {}^3P_2^o$		446356	E2	1.047E-06	1.987E+04	1.00
$2p^5 3d {}^1P_1^o$			$2p^5 3s {}^3P_2^o$		482455	M1	7.498E-11	3.880E+00	1.00
$2p^5 3d {}^1P_1^o$			$2p^5 3s {}^3P_2^o$		482455	E2	2.564E-08	1.327E+03	1.01
$2p^5 3s {}^3P_0^o$			$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	20965	M1	1.050E-06	3.078E+02	1.00
$2p^5 3s {}^1P_1^o$	$0.62 + 0.38 {}^3P_1^o$		$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	28827	M1	4.121E-07	7.615E+01	1.00
$2p^5 3p {}^3S_1$			$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	142957	E1	4.777E-02	2.171E+08	0.98
$2p^5 3p {}^3D_2$	$0.68 + 0.24 {}^1D_2$		$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	167576	E1	3.960E-01	1.483E+09	0.99
$2p^5 3p {}^3D_3$			$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	167816	M2	1.792E-10	4.808E-01	1.00
$2p^5 3p {}^3D_1$	$0.43 + 0.36 {}^1P_1 + 0.20 {}^3P_1$		$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	176074	E1	3.662E-01	2.524E+09	0.99
$2p^5 3p {}^3P_2$	$0.65 + 0.34 {}^1D_2$		$2p^5 3s {}^3P_1^o$	$0.62 + 0.38 {}^1P_1^o$	182926	E1	3.055E-01	1.364E+09	0.99

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^3 P_2$	$0.65 + 0.34 \ ^1D_2$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	182926	M2	8.605E-11	3.841E-01	1.00
$2p^5 3p^3 D_1$	$0.54 + 0.40 \ ^1P_1$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	196467	E1	5.594E-03	4.800E+07	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	198511	E1	1.251E-01	3.289E+09	0.99
$2p^5 3p^1 D_2$	$0.41 + 0.31 \ ^3D_2 + 0.27 \ ^3P_2$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	205915	E1	3.002E-02	1.698E+08	0.99
$2p^5 3p^3 P_1$	$0.68 + 0.24 \ ^1P_1$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	206341	E1	1.530E-03	1.448E+07	0.94
$2p^5 3p^3 P_1$	$0.68 + 0.24 \ ^1P_1$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	206341	M2	3.176E-11	3.007E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	290332	E1	7.627E-02	4.289E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	385240	M1	2.513E-10	2.488E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	388210	M1	2.778E-10	9.308E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	388210	E2	4.368E-07	1.464E+04	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23 \ ^1F_3^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	394443	E2	2.778E-06	5.765E+04	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29 \ ^1D_2^o + 0.18 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	401557	E2	7.371E-06	1.133E+05	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29 \ ^1D_2^o + 0.18 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	408821	M1	7.852E-12	1.751E-01	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41 \ ^1F_3^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	408821	E2	6.370E-06	1.420E+05	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	413559	E2	5.151E-06	8.394E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	428668	M1	2.211E-11	9.035E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	428668	E2	5.392E-06	2.203E+05	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38 \ ^1D_2^o + 0.14 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	433513	M1	5.578E-12	1.398E-01	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38 \ ^1D_2^o + 0.14 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	433513	E2	8.437E-08	2.115E+03	0.98
$2p^5 3d^3 D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	437183	M1	1.102E-11	2.810E-01	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	437183	E2	3.176E-09	8.098E+01	1.07
$2p^5 3d^3 D_3^o$	$0.40 + 0.35 \ ^1F_3^o + 0.24 \ ^3F_3^o$	$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	437511	E2	8.982E-07	1.638E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	473610	M1	4.472E-12	2.230E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	$0.62 + 0.38 \ ^1P_1^o$	473610	E2	1.447E-06	7.217E+04	1.02
$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	$2p^5 3s^3 P_0^o$		7861	M1	2.427E-07	3.336E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_0^o$		121991	E1	1.112E-02	3.679E+07	0.93
$2p^5 3p^3 D_1$	$0.43 + 0.36 \ ^1P_1 + 0.20 \ ^3P_1$	$2p^5 3s^3 P_0^o$		155108	E1	1.595E-02	8.534E+07	0.97
$2p^5 3p^3 D_1$	$0.54 + 0.40 \ ^1P_1$	$2p^5 3s^3 P_0^o$		175501	E1	2.039E-01	1.397E+09	0.99
$2p^5 3p^1 D_2$	$0.41 + 0.31 \ ^3D_2 + 0.27 \ ^3P_2$	$2p^5 3s^3 P_0^o$		184949	M2	1.184E-10	5.405E-01	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.24 \ ^1P_1$	$2p^5 3s^3 P_0^o$		185375	E1	2.070E-01	1.582E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$		367244	M1	1.867E-11	5.600E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^3 P_0^o$		373478	E2	4.570E-07	8.505E+03	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29 \ ^1D_2^o + 0.18 \ ^3D_2^o$	$2p^5 3s^3 P_0^o$		387855	E2	5.268E-07	1.057E+04	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38 \ ^1D_2^o + 0.14 \ ^3D_2^o$	$2p^5 3s^3 P_0^o$		412547	E2	4.356E-06	9.890E+04	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$	$2p^5 3s^3 P_0^o$		416217	E2	4.302E-06	9.942E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_0^o$		452644	M1	1.130E-10	5.148E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	114129	E1	9.162E-03	2.653E+07	0.97
$2p^5 3p^3 D_2$	$0.68 + 0.24 \ ^1D_2$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	138748	E1	8.545E-04	2.195E+06	0.93
$2p^5 3p^3 D_1$	$0.43 + 0.36 \ ^1P_1 + 0.20 \ ^3P_1$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	147246	E1	5.639E-04	2.718E+06	1.05
$2p^5 3p^3 P_2$	$0.65 + 0.34 \ ^1D_2$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	154098	E1	4.160E-02	1.318E+08	1.00
$2p^5 3p^3 D_1$	$0.54 + 0.40 \ ^1P_1$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	167639	E1	2.142E-01	1.339E+09	0.99
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	169683	E1	3.642E-02	6.994E+08	0.99
$2p^5 3p^1 D_2$	$0.41 + 0.31 \ ^3D_2 + 0.27 \ ^3P_2$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	177087	E1	6.951E-01	2.908E+09	0.99
$2p^5 3p^1 D_2$	$0.41 + 0.31 \ ^3D_2 + 0.27 \ ^3P_2$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	177087	M2	1.463E-10	6.122E-01	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.24 \ ^1P_1$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	177513	E1	1.938E-01	1.358E+09	0.99
$2p^5 3p^3 P_1$	$0.68 + 0.24 \ ^1P_1$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	177513	M2	1.181E-10	8.272E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	261504	E1	1.850E-01	8.438E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	356412	M1	1.707E-11	1.446E+00	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	359382	M1	5.007E-11	1.438E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	359382	E2	1.017E-07	2.921E+03	0.99
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	365616	M1	2.118E-11	3.776E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	365616	E2	1.475E-07	2.630E+03	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23 \ ^1F_3^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	372729	E2	8.853E-09	1.172E+02	0.98
$2p^5 3d^3 F_2^o$	$0.53 + 0.29 \ ^1D_2^o + 0.18 \ ^3D_2^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	379993	E2	7.550E-09	1.454E+02	0.94
$2p^5 3d^3 D_3^o$	$0.55 + 0.41 \ ^1F_3^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	384732	E2	1.388E-06	1.957E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	399840	M1	7.578E-11	2.694E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	399840	E2	4.604E-07	1.637E+04	0.99
$2p^5 3d^3 F_2^o$	$0.47 + 0.38 \ ^1D_2^o + 0.14 \ ^3D_2^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	404685	E2	4.821E-06	1.053E+05	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	408355	M1	8.357E-11	1.859E+00	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	408355	E2	4.292E-06	9.548E+04	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35 \ ^1F_3^o + 0.24 \ ^3F_3^o$	$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	408683	E2	1.190E-05	1.894E+05	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	444782	M1	3.010E-10	1.324E+01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	444782	E2	7.351E-06	3.234E+05	1.01
$2p^5 3p^3 D_2$	$0.68 + 0.24 \ ^1D_2$	$2p^5 3p^3 S_1$		24619	M1	2.339E-08	1.891E+00	1.00
$2p^5 3p^3 D_1$	$0.43 + 0.36 \ ^1P_1 + 0.20 \ ^3P_1$	$2p^5 3p^3 S_1$		33117	M1	7.467E-09	1.821E+00	1.00
$2p^5 3p^3 P_2$	$0.65 + 0.34 \ ^1D_2$	$2p^5 3p^3 S_1$		39969	M1	1.530E-07	3.261E+01	1.00
$2p^5 3p^3 D_1$	$0.54 + 0.40 \ ^1P_1$	$2p^5 3p^3 S_1$		53510	M1	3.830E-08	2.438E+01	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	$2p^5 3p^3 S_1$	53510	E2	5.763E-10	3.669E-01	1.41
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	55554	M1	2.547E-07	5.242E+02	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 S_1$	62958	M1	6.756E-08	3.572E+01	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 S_1$	62958	E2	7.697E-10	4.070E-01	1.35
$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	$2p^5 3p^3 S_1$	63384	M1	2.775E-07	2.479E+02	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$	147375	M1	9.982E-09	1.446E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	242283	E1	1.530E-01	5.990E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	245253	E1	3.951E-01	5.284E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	245253	M2	8.461E-11	1.131E+00	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	251486	E1	4.497E-01	3.794E+09	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 S_1$	251486	M2	1.271E-10	1.072E+00	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 S_1$	265864	E1	3.125E-03	2.946E+07	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 S_1$	265864	M2	2.860E-11	2.697E-01	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 S_1$	270602	M2	6.307E-11	4.401E-01	1.00
$2p^5 3d^3 D_3^o$		$2p^5 3p^3 S_1$	285711	E1	1.095E-05	1.988E+05	0.94
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 S_1$	285711	M2	2.430E-10	4.410E+00	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 S_1$	290556	E1	1.066E-03	1.201E+07	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 S_1$	290556	M2	1.112E-11	1.253E-01	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 S_1$	294226	E1	4.674E-03	5.397E+07	0.99
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 S_1$	294226	M2	6.326E-11	7.306E-01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 S_1$	294554	M2	3.517E-11	2.908E-01	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3p^3 S_1$	330653	E1	2.845E-04	6.916E+06	1.05
$2p^5 3d^1 P_0^o$		$2p^5 3p^3 S_1$	330653	M2	2.895E-10	7.038E+00	1.00
$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	$2p^5 3p^3 D_2$	8497	M1	6.281E-07	1.008E+01	1.00
$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	$2p^5 3p^3 D_2$	15349	M1	2.839E-07	8.924E+00	1.00
$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	$2p^5 3p^3 D_2$	28890	M1	1.619E-06	3.004E+02	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_2$	30935	E2	1.050E-09	6.702E-01	1.15
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 D_2$	38338	M1	8.508E-10	1.668E-01	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	$2p^5 3p^3 D_2$	38765	M1	1.606E-08	5.365E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	122756	E2	1.774E-08	1.784E+02	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_2$	220634	E1	3.305E-02	3.577E+08	0.94
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_2$	220634	M2	1.554E-11	1.683E-01	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	226867	E1	3.661E-02	2.514E+08	1.04
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_2$	226867	M2	2.079E-11	1.428E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	229940	M2	2.889E-10	1.132E+00	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	$2p^5 3p^3 D_2$	233981	E1	1.203E+00	6.274E+09	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	$2p^5 3p^3 D_2$	233981	M2	2.439E-11	1.273E-01	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 D_2$	241245	E1	3.427E-01	2.660E+09	1.01
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 D_2$	245983	E1	1.107E-02	6.380E+07	1.02
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 D_2$	245983	M2	1.390E-10	8.014E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_2$	261092	E1	3.233E-02	4.900E+08	1.01
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 D_2$	265937	E1	1.819E-02	1.716E+08	1.03
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_2$	269606	E1	3.149E-02	3.054E+08	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_2$	269606	M2	4.236E-11	4.108E-01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 D_2$	269935	E1	3.986E-04	2.768E+06	1.01
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 D_2$	269935	M2	1.603E-11	1.113E-01	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3p^3 D_2$	306034	E1	3.374E-05	7.026E+05	23.28
$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	$2p^5 3p^3 D_3$	15109	M1	1.539E-08	4.687E-01	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 D_3$	38098	M1	2.260E-06	4.377E+02	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 D_3$	38098	E2	6.841E-10	1.325E-01	1.24
$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	$2p^5 3p^3 D_3$	38525	E2	1.680E-09	5.543E-01	1.27
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	226627	E1	2.451E-02	1.679E+08	0.90
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_3$	226627	M2	8.870E-11	6.078E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	229700	E1	1.783E+00	6.973E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	229700	M2	1.020E-09	3.987E+00	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	$2p^5 3p^3 D_3$	233741	E1	2.017E-01	1.050E+09	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 D_3$	241005	E1	1.881E-02	1.457E+08	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 D_3$	241005	M2	2.180E-11	1.690E-01	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 D_3$	245743	E1	2.658E-01	1.530E+09	1.02
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 D_3$	245743	M2	6.008E-10	3.457E+00	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 D_3$	265697	E1	1.573E-03	1.481E+07	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_3$	269366	E1	1.405E-02	1.360E+08	1.08
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_3$	269366	M2	2.219E-11	2.147E-01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 D_3$	269695	E1	3.663E-02	2.539E+08	1.03
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 D_3$	269695	M2	2.156E-11	1.495E-01	1.00
$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	$2p^5 3p^3 D_1$	6852	M1	1.289E-07	8.071E-01	1.00
$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	$2p^5 3p^3 D_1$	20393	M1	4.343E-07	4.015E+01	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	22437	M1	$3.607E-07$	$1.211E+02$	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	29841	M1	$2.079E-07$	$2.470E+01$	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	30267	M1	$4.740E-07$	$9.656E+01$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	114258	M1	$2.999E-08$	$2.612E+02$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	209166	E1	$1.770E-02$	$5.164E+08$	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	212136	E1	$9.468E-03$	$9.474E+07$	1.07
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	212136	M2	$1.011E-11$	$1.012E-01$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	218369	E1	$5.448E-02$	$3.465E+08$	1.01
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	232747	E1	$6.629E-01$	$4.791E+09$	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	237485	M2	$4.619E-10$	$2.483E+00$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	252594	E1	$2.621E-01$	$3.718E+09$	1.01
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	252594	M2	$1.767E-11$	$2.507E-01$	1.00
$2p^5 3d^3 F_3^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	257439	E1	$5.551E-05$	$4.908E+05$	0.98
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	261109	E1	$6.861E-03$	$6.240E+07$	1.01
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	261109	M2	$1.101E-11$	$1.002E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	297536	E1	$4.608E-02$	$9.070E+08$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	$0.43 + 0.36^1 P_1 + 0.20^3 P_1$	297536	M2	$1.375E-11$	$2.707E-01$	1.00
$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	13541	M1	$2.085E-08$	$8.498E-01$	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	22988	M1	$1.144E-06$	$8.064E+01$	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	23415	M1	$9.971E-07$	$1.215E+02$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	107406	E2	$2.220E-08$	$1.709E+02$	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	205284	E1	$7.229E-02$	$6.773E+08$	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	205284	M2	$3.024E-11$	$2.833E-01$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	211517	E1	$3.330E-01$	$1.988E+09$	1.00
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	211517	M2	$2.549E-10$	$1.521E+00$	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	214590	M2	$3.052E-10$	$1.042E+00$	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	218631	E1	$1.091E-02$	$4.969E+07$	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	225895	E1	$6.261E-04$	$4.262E+06$	0.93
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	225895	M2	$5.996E-11$	$4.082E-01$	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	230633	E1	$1.155E+00$	$5.855E+09$	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	230633	M2	$2.076E-10$	$1.052E+00$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	245742	E1	$2.087E-03$	$2.803E+07$	1.11
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	245742	M2	$8.153E-11$	$1.095E+00$	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	250587	E1	$1.756E-03$	$1.471E+07$	1.03
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	250587	M2	$1.419E-11$	$1.188E-01$	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	254257	E1	$8.714E-02$	$7.515E+08$	1.01
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	254257	M2	$8.127E-11$	$7.009E-01$	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	254585	E1	$7.032E-03$	$4.343E+07$	1.01
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	290684	E1	$2.405E-03$	$4.518E+07$	0.81
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	$0.65 + 0.34^1 D_2$	290684	M2	$1.395E-10$	$2.621E+00$	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	9447	M1	$4.430E-07$	$5.275E+00$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	93865	M1	$7.541E-09$	$4.432E+01$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	188773	E1	$1.286E-03$	$3.057E+07$	0.74
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	191743	E1	$2.555E-03$	$2.089E+07$	0.87
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	197976	E1	$9.908E-03$	$5.181E+07$	0.98
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	212354	E1	$2.827E-03$	$1.701E+07$	0.97
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	232201	E1	$2.485E-03$	$2.978E+07$	1.04
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$	$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	237046	E1	$8.814E-01$	$6.608E+09$	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	240716	E1	$1.448E-03$	$1.120E+07$	1.03
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$	$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	241044	M2	$3.002E-10$	$1.662E+00$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	277143	E1	$1.704E-01$	$2.910E+09$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	$0.54 + 0.40^1 P_1$	277143	M2	$3.391E-11$	$5.791E-01$	1.00
$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	$2p^5 3p^3 P_0$		7829	M1	$4.236E-07$	$5.774E+00$	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_0$		189699	E1	$3.094E-02$	$2.475E+08$	1.01
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_0$		195932	M2	$2.263E-11$	$1.159E-01$	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^3 P_0$		210309	M2	$2.042E-11$	$1.205E-01$	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_0$		230156	E1	$2.927E-01$	$3.448E+09$	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$	$2p^5 3p^3 P_0$		238671	M2	$1.094E-10$	$8.317E-01$	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_0$		275099	E1	$1.288E-02$	$2.167E+08$	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	84417	E2	$1.988E-08$	$9.448E+01$	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	182295	E1	$9.984E-03$	$7.377E+07$	1.13
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	188528	E1	$3.673E-02$	$1.742E+08$	0.98
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	188528	M2	$3.510E-11$	$1.664E-01$	1.00
$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	195642	E1	$8.271E-04$	$3.017E+06$	0.95
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	202906	E1	$6.706E-05$	$3.683E+05$	1.12
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	207644	E1	$1.625E-02$	$6.675E+07$	0.99
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	222753	E1	$3.034E-03$	$3.348E+07$	1.17

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	227598	E1	1.307E-01	9.031E+08	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	231268	E1	8.107E-02	5.784E+08	1.02
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	231268	M2	1.720E-10	1.227E+00	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	231596	E1	1.391E+00	7.110E+09	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	231596	M2	9.224E-10	4.714E+00	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3p^1 D_2$	$0.41 + 0.31^3 D_2 + 0.27^3 P_2$	267695	E1	5.926E-03	9.442E+07	0.86
$2p^5 3p^1 S_0$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	83990	M1	7.202E-08	3.389E+02	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	178899	E1	1.871E-02	3.994E+08	1.04
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	181869	E1	1.773E-02	1.304E+08	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	188102	E1	1.107E-02	5.224E+07	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$		$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	202479	E1	2.060E-03	1.127E+07	0.99
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	222326	E1	3.841E-02	4.221E+08	0.99
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	222326	M2	1.612E-11	1.772E-01	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	227172	E1	3.822E-03	2.631E+07	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	230841	E1	8.133E-01	5.782E+09	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	230841	M2	4.949E-10	3.518E+00	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	231169	M2	7.487E-11	3.813E-01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	267269	E1	1.277E-01	2.028E+09	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 P_1$	$0.68 + 0.24^1 P_1$	267269	M2	3.603E-11	5.722E-01	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3p^1 S_0$		97878	E1	1.390E-05	2.960E+04	0.89
$2p^5 3d^3 D_1^o$			$2p^5 3p^1 S_0$		138335	E1	6.723E-03	2.860E+07	0.99
$2p^5 3d^3 P_0^o$			$2p^5 3p^1 S_0$		183278	E1	2.546E-01	1.902E+09	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3d^3 P_0^o$		2969	M1	2.305E-07	4.520E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_0^o$		43427	M1	9.284E-08	3.893E+01	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 P_0^o$		51942	E2	6.773E-10	2.438E-01	0.93
$2p^5 3d^3 P_1^o$			$2p^5 3d^3 P_0^o$		88369	M1	7.741E-08	1.344E+02	1.00
$2p^5 3d^3 P_2^o$			$2p^5 3d^3 P_0^o$		6233	M1	6.048E-07	3.135E+00	1.00
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 P_1^o$		20610	M1	2.214E-08	1.255E+00	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_1^o$		40457	M1	2.744E-07	9.986E+01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_1^o$		40457	E2	8.805E-10	3.204E-01	1.02
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 P_1^o$		45303	M1	8.273E-08	2.265E+01	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 P_1^o$		48972	M1	1.596E-07	5.106E+01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 P_1^o$		49300	E2	9.389E-10	2.175E-01	0.78
$2p^5 3d^3 P_0^o$			$2p^5 3d^3 P_1^o$		85399	M1	1.237E-07	2.005E+02	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3d^3 P_1^o$		85399	E2	2.160E-10	3.502E-01	1.03
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 P_2^o$		14377	M1	6.175E-09	1.703E-01	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.41^1 F_3^o$		$2p^5 3d^3 P_2^o$		19115	M1	1.699E-07	5.917E+00	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 P_2^o$		34224	M1	1.718E-07	4.474E+01	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 P_2^o$		39069	M1	6.867E-08	1.398E+01	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 P_2^o$		42739	M1	9.673E-07	2.357E+02	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 P_2^o$		42739	E2	6.979E-10	1.701E-01	1.02
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 P_2^o$		43067	M1	2.834E-07	5.008E+01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 P_2^o$		43067	E2	8.110E-10	1.433E-01	1.34
$2p^5 3d^3 P_0^o$			$2p^5 3d^3 P_2^o$		79166	M1	1.744E-09	2.429E+00	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3d^3 P_2^o$		79166	E2	4.943E-10	6.888E-01	1.33
$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$		$2p^5 3d^3 F_4^o$		4040	M1	7.990E-07	1.243E+00	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$		$2p^5 3d^3 F_4^o$		16042	M1	1.698E-07	4.165E+00	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 F_4^o$		39666	E2	6.379E-10	1.339E-01	1.75
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 F_4^o$		39994	M1	2.567E-06	3.913E+02	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 F_4^o$		39994	E2	1.094E-09	1.668E-01	1.26
$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$		$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	7263	M1	9.369E-07	6.595E+00	1.00
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$		$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	12002	M1	1.578E-07	2.167E+00	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	31956	M1	2.275E-06	3.099E+02	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	35625	M1	4.391E-08	7.434E+00	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	35953	M1	6.829E-09	8.412E-01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3d^3 F_3^o$	$0.72 + 0.23^1 F_3^o$	72052	E2	1.776E-10	2.050E-01	9.72
$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$		$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	4738	M1	2.138E-07	4.575E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	19846	M1	5.742E-07	5.029E+01	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	24692	M1	1.112E-06	9.041E+01	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	28361	M1	1.713E-07	1.839E+01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	28689	M1	1.224E-07	9.597E+00	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	64789	M1	1.748E-07	1.631E+02	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3d^3 F_2^o$	$0.53 + 0.29^1 D_2^o + 0.18^3 D_2^o$	64789	E2	1.537E-09	1.435E+00	1.34
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	19953	M1	5.862E-08	3.113E+00	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	23623	M1	1.333E-06	9.926E+01	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 D_3^o$	$0.55 + 0.41^1 F_3^o$	23951	M1	1.847E-06	1.010E+02	1.00
$2p^5 3d^3 F_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 D_1^o$		4845	M1	1.133E-07	3.548E-01	1.00

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Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 D_1^o$	8514	M1	9.019E-07	8.724E+00	1.00
$2p^5 3d^3 D_3^o$	$0.40 + 0.35^1 F_3^o + 0.24^3 F_3^o$		$2p^5 3d^3 D_2^o$	44942	M1	1.728E-07	7.758E+01	1.00
$2p^5 3d^3 D_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 F_2^o$	3997	M1	3.114E-07	4.743E-01	1.00
$2p^5 3d^3 D_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 F_2^o$	40096	M1	8.563E-08	3.061E+01	1.00
$2p^5 3d^3 D_2^o$	$0.47 + 0.38^1 D_2^o + 0.14^3 D_2^o$		$2p^5 3d^3 F_2^o$	40096	E2	2.280E-09	8.151E-01	1.27
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 D_2^o$	36427	M1	4.047E-07	1.194E+02	1.00
$2p^5 3d^3 D_2^o$	$0.58 + 0.27^1 D_2^o + 0.14^3 P_2^o$		$2p^5 3d^3 D_2^o$	36427	E2	1.454E-09	4.291E-01	1.25
Sc XII								
$2p^5 3s^3 P_2^o$			$2p^6^1 S_0$	3234914	M2	1.505E-08	2.101E+04	1.00
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^1 P_1^o$		$2p^6^1 S_0$	3244880	E1	9.771E-02	2.287E+11	0.99
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^3 P_1^o$		$2p^6^1 S_0$	3280663	E1	1.335E-01	3.194E+11	0.99
$2p^5 3p^3 S_1$			$2p^6^1 S_0$	3401492	M1	3.265E-09	8.399E+03	1.00
$2p^5 3p^3 D_2$	$0.65 + 0.25^1 D_2$		$2p^6^1 S_0$	3427279	E2	4.544E-05	7.120E+07	1.00
$2p^5 3p^3 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$		$2p^6^1 S_0$	3437358	M1	5.666E-10	1.489E+03	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$		$2p^6^1 S_0$	3445112	E2	5.870E-05	9.295E+07	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$		$2p^6^1 S_0$	3463372	M1	1.990E-13	5.307E-01	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$		$2p^6^1 S_0$	3475029	M1	6.405E-09	1.720E+04	1.00
$2p^5 3p^3 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^6^1 S_0$	3475041	E2	7.125E-05	1.148E+08	1.00
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$	3668386	E1	7.133E-03	2.134E+10	1.01
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^6^1 S_0$	3675821	M2	3.380E-07	6.093E+05	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^6^1 S_0$	3691517	M2	3.599E-08	6.544E+04	1.00
$2p^5 3d^3 D_1^o$			$2p^6^1 S_0$	3714797	E1	2.626E-01	8.057E+11	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$		$2p^6^1 S_0$	3722583	M2	3.196E-08	5.909E+04	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^6^1 S_0$	3726657	M2	2.343E-09	4.340E+03	1.00
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$	3767884	E1	2.203E+00	6.955E+12	1.00
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^1 P_1^o$		$2p^5 3s^3 P_2^o$	9966	M1	5.854E-07	1.293E+01	1.00
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^3 P_1^o$		$2p^5 3s^3 P_2^o$	45749	M1	1.937E-06	9.013E+02	1.00
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$	166577	E1	2.684E-01	1.656E+09	0.98
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_2^o$	166577	M2	4.990E-11	3.078E-01	1.00
$2p^5 3p^3 D_2$	$0.65 + 0.25^1 D_2$		$2p^5 3s^3 P_2^o$	192364	E1	3.013E-01	1.488E+09	0.99
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$	193654	E1	9.721E-01	3.474E+09	0.99
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$	193654	M2	1.763E-10	6.301E-01	1.00
$2p^5 3p^3 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$		$2p^5 3s^3 P_2^o$	202444	E1	4.906E-02	4.470E+08	0.99
$2p^5 3p^3 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$		$2p^5 3s^3 P_2^o$	202444	M2	9.443E-11	8.605E-01	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$		$2p^5 3s^3 P_2^o$	210198	E1	4.184E-01	2.466E+09	0.99
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$		$2p^5 3s^3 P_2^o$	210198	M2	2.587E-10	1.525E+00	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$		$2p^5 3s^3 P_2^o$	228457	E1	2.905E-04	3.371E+06	0.89
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$		$2p^5 3s^3 P_2^o$	228457	M2	1.501E-11	1.742E-01	1.00
$2p^5 3p^3 P_0$			$2p^5 3s^3 P_2^o$	229248	M2	4.825E-11	1.691E+00	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$		$2p^5 3s^3 P_2^o$	240115	E1	5.260E-02	6.743E+08	0.98
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$		$2p^5 3s^3 P_2^o$	240115	M2	1.509E-11	1.934E-01	1.00
$2p^5 3p^3 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3s^3 P_2^o$	240126	E1	1.956E-02	1.505E+08	0.96
$2p^5 3p^3 S_0$			$2p^5 3s^3 P_2^o$	330337	M2	1.804E-10	1.313E+01	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	429871	E2	1.648E-06	2.031E+05	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	433471	M1	3.475E-10	1.452E+01	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3s^3 P_2^o$	433471	E2	4.537E-06	1.896E+05	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3s^3 P_2^o$	440907	M1	9.609E-10	2.492E+01	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3s^3 P_2^o$	440907	E2	5.444E-06	1.412E+05	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3s^3 P_2^o$	443722	E2	1.607E-05	2.345E+05	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$		$2p^5 3s^3 P_2^o$	448266	E2	5.486E-06	1.050E+05	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3s^3 P_2^o$	456603	M1	4.700E-12	1.307E-01	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3s^3 P_2^o$	456603	E2	2.587E-06	7.196E+04	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3s^3 P_2^o$	461850	M1	1.203E-11	2.444E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3s^3 P_2^o$	461850	E2	7.378E-06	1.500E+05	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3s^3 P_2^o$	479882	M1	9.503E-11	4.866E+00	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3s^3 P_2^o$	479882	E2	6.625E-07	3.392E+04	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3s^3 P_2^o$	487668	E2	1.785E-07	5.663E+03	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3s^3 P_2^o$	491742	M1	2.221E-11	7.164E-01	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3s^3 P_2^o$	491742	E2	1.202E-06	3.876E+04	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$		$2p^5 3s^3 P_2^o$	492571	M1	1.137E-11	2.629E-01	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$		$2p^5 3s^3 P_2^o$	492571	E2	7.961E-07	1.841E+04	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	532969	M1	1.081E-10	6.828E+00	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	532969	E2	2.713E-08	1.714E+03	1.01
$2p^5 3s^3 P_0^o$			$2p^5 3s^3 P_1^o$	27645	M1	1.295E-06	6.601E+02	1.00
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^3 P_1^o$		$2p^5 3s^3 P_1^o$	35783	M1	5.286E-07	1.505E+02	1.00
$2p^5 3p^3 S_1$			$2p^5 3s^3 P_1^o$	156611	E1	3.920E-02	2.138E+08	0.98
$2p^5 3p^3 D_2$	$0.65 + 0.25^1 D_2$		$2p^5 3s^3 P_1^o$	182398	E1	3.698E-01	1.641E+09	0.99

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R		
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	183688	M2	2.080E-10	6.686E-01	1.00
$2p^5 3p^1 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	192477	E1	3.565E-01	2.936E+09	0.99
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	200231	E1	3.015E-01	1.612E+09	0.99
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	200231	M2	9.821E-11	5.253E-01	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	218491	E1	3.911E-03	4.151E+07	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	219282	E1	1.170E-01	3.754E+09	0.99
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	230149	E1	5.703E-04	6.717E+06	0.91
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	230149	M2	3.074E-11	3.621E-01	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	230160	E1	2.082E-02	1.471E+08	0.99
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	320371	E1	7.889E-02	5.401E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	419905	M1	2.806E-10	3.300E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	423505	M1	2.797E-10	1.115E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	423505	E2	3.695E-07	1.473E+04	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	430940	E2	2.566E-06	6.357E+04	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	438300	E2	6.986E-06	1.279E+05	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	446636	M1	1.273E-11	3.387E-01	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	446636	E2	6.177E-06	1.644E+05	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	451884	E2	5.198E-06	1.011E+05	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	469916	M1	2.929E-11	1.438E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	469916	E2	5.228E-06	2.567E+05	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	477702	M1	7.887E-12	2.401E-01	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	477702	E2	6.944E-08	2.114E+03	0.98
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	481776	M1	1.774E-11	5.492E-01	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	481776	E2	6.247E-11	1.934E+00	1.63
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$	$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	482605	E2	6.010E-07	1.334E+04	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$	0.58 + 0.42	$1P_1^o$	523003	E2	1.543E-06	9.381E+04	1.01
$2p^5 3s^1 P_1^o$	$0.58 + 0.42^3 P_1^o$	$2p^5 3s^3 P_1^o$			8137	M1	2.776E-07	4.087E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_1^o$			128965	E1	8.731E-03	3.229E+07	0.93
$2p^5 3p^1 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$	$2p^5 3s^3 P_1^o$			164832	E1	9.509E-03	5.744E+07	0.97
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$	$2p^5 3s^3 P_1^o$			190845	E1	1.885E-01	1.526E+09	0.99
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3s^3 P_1^o$			202503	E1	2.084E-01	1.901E+09	0.99
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3s^3 P_1^o$			202514	M2	1.359E-10	7.437E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$			395859	M1	1.203E-11	4.192E-01	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3s^3 P_1^o$			403295	E2	3.641E-07	7.901E+03	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3s^3 P_1^o$			418991	E2	3.682E-07	8.622E+03	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^3 P_1^o$			442271	M1	2.885E-12	1.255E-01	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3s^3 P_1^o$			450056	E2	4.244E-06	1.147E+05	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3s^3 P_1^o$			454130	E2	4.220E-06	1.161E+05	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^3 P_1^o$			495357	M1	1.673E-10	9.125E+00	1.00
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	120828	E1	8.166E-03	2.651E+07	0.96
$2p^5 3p^3 D_2$	$0.65 + 0.25^1 D_2$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	146615	E1	4.940E-04	1.417E+06	0.91
$2p^5 3p^1 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	156694	E1	2.909E-04	1.588E+06	1.09
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	164448	E1	2.803E-02	1.011E+08	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	182708	E1	2.072E-01	1.538E+09	0.99
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	183499	E1	3.674E-02	8.253E+08	0.99
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	194366	E1	1.784E-01	1.499E+09	0.99
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	194366	M2	1.427E-10	1.199E+00	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	194377	E1	6.733E-01	3.394E+09	0.99
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	194377	M2	1.718E-10	8.658E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	284588	E1	1.696E-01	9.160E+09	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	384122	M1	1.522E-11	1.498E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	387722	E2	9.461E-08	3.162E+03	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	395157	M1	3.605E-11	7.509E-01	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	395157	E2	1.380E-07	2.876E+03	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	402517	E2	2.252E-09	3.477E+01	0.96
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	410853	E2	3.882E-09	8.742E+01	0.92
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	416101	E2	9.463E-07	1.561E+04	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	434133	M1	9.334E-11	3.911E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	434133	E2	4.758E-07	1.994E+04	0.99
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	441919	E2	4.550E-10	1.186E+05	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	445993	M1	1.328E-06	3.525E+00	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	445993	E2	4.135E-06	1.097E+05	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$	$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	446822	E2	1.179E-05	2.243E+05	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	487220	M1	3.172E-10	1.674E+01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3s^1 P_1^o$	0.58 + 0.42	$3P_1^o$	487220	E2	6.956E-06	3.671E+05	1.01
$2p^5 3p^3 D_2$	$0.65 + 0.25^1 D_2$	$2p^5 3p^3 S_1$			25787	M1	3.530E-08	3.131E+00	1.00

Continued...

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_3$			$2p^5 3p^3 S_1$	27076	E2	1.687E-09	1.178E-01	1.20
$2p^5 3p^1 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$		$2p^5 3p^3 S_1$	35866	M1	1.449E-08	4.144E+00	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$		$2p^5 3p^3 S_1$	43620	M1	2.124E-07	5.392E+01	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$		$2p^5 3p^3 S_1$	61879	M1	6.445E-08	5.487E+01	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$		$2p^5 3p^3 S_1$	61879	E2	5.856E-10	4.985E-01	1.42
$2p^5 3p^3 P_0$			$2p^5 3p^3 S_1$	62670	M1	3.585E-07	9.392E+02	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$		$2p^5 3p^3 S_1$	73537	M1	3.617E-07	4.349E+02	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3p^3 S_1$	73549	M1	8.488E-08	6.126E+01	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3p^3 S_1$	73549	E2	8.093E-10	5.841E-01	1.34
$2p^5 3p^1 S_0$			$2p^5 3p^3 S_1$	163760	M1	1.827E-08	3.268E+02	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 S_1$	263293	E1	1.456E-01	6.731E+09	0.99
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 S_1$	266894	E1	3.714E-01	5.882E+09	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 S_1$	266894	M2	9.088E-11	1.439E+00	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3p^3 S_1$	274329	E1	4.054E-01	4.070E+09	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3p^3 S_1$	274329	M2	1.329E-10	1.334E+00	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3p^3 S_1$	290025	E1	4.338E-03	4.867E+07	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3p^3 S_1$	290025	M2	3.589E-11	4.028E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3p^3 S_1$	295273	M2	6.601E-11	5.484E-01	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 S_1$	313305	E1	2.031E-06	4.433E+04	1.17
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 S_1$	313305	M2	2.908E-10	6.346E+00	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3p^3 S_1$	321090	E1	1.039E-03	1.429E+07	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3p^3 S_1$	321090	M2	1.052E-11	1.446E-01	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3p^3 S_1$	325165	E1	4.234E-03	5.972E+07	0.99
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3p^3 S_1$	325165	M2	6.436E-11	9.078E-01	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$		$2p^5 3p^3 S_1$	325994	M2	3.308E-11	3.350E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 S_1$	366391	E1	3.043E-04	9.084E+06	1.04
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 S_1$	366391	M2	3.149E-10	9.399E+00	1.00
$2p^5 3p^1 P_1$	$0.39 + 0.38^3 D_1 + 0.21^3 P_1$		$2p^5 3p^3 D_2$	10079	M1	6.711E-07	1.516E+01	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$		$2p^5 3p^3 D_2$	17833	M1	3.564E-07	1.512E+01	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$		$2p^5 3p^3 D_2$	36092	M1	2.159E-06	6.253E+02	1.00
$2p^5 3p^3 P_0$			$2p^5 3p^3 D_2$	36883	E2	1.292E-09	1.172E+00	1.13
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$		$2p^5 3p^3 D_2$	47750	M1	1.382E-08	7.005E+00	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3p^3 D_2$	47762	M1	1.270E-09	3.863E-01	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3p^3 D_2$	47762	E2	4.476E-10	1.362E-01	1.26
$2p^5 3p^1 S_0$			$2p^5 3p^3 D_2$	137972	E2	1.863E-08	2.365E+02	0.98
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 D_2$	241107	E1	3.220E-02	4.162E+08	0.95
$2p^5 3d^3 P_1^o$			$2p^5 3p^3 D_2$	241107	M2	1.773E-11	2.292E-01	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3p^3 D_2$	248542	E1	3.833E-02	3.159E+08	1.04
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3p^3 D_2$	248542	M2	2.679E-11	2.208E-01	1.00
$2p^5 3d^3 F_4^o$			$2p^5 3p^3 D_2$	251357	M2	3.202E-10	1.500E+00	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$		$2p^5 3p^3 D_2$	255902	E1	1.112E+00	6.940E+09	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$		$2p^5 3p^3 D_2$	255902	M2	2.501E-11	1.561E-01	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3p^3 D_2$	264238	E1	3.241E-01	3.019E+09	1.01
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3p^3 D_2$	269486	E1	1.021E-02	7.064E+07	1.02
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3p^3 D_2$	269486	M2	1.521E-10	1.052E+00	1.00
$2p^5 3d^3 D_1^o$			$2p^5 3p^3 D_2$	287518	E1	2.864E-02	5.264E+08	1.01
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3p^3 D_2$	295303	E1	1.316E-02	1.531E+08	1.03
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3p^3 D_2$	299378	E1	2.431E-02	2.906E+08	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3p^3 D_2$	299378	M2	4.078E-11	4.876E-01	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$		$2p^5 3p^3 D_2$	300207	E1	5.748E-05	4.936E+05	1.01
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$		$2p^5 3p^3 D_2$	300207	M2	1.474E-11	1.266E-01	1.00
$2p^5 3d^1 P_1^o$			$2p^5 3p^3 D_2$	340604	E1	6.966E-05	1.797E+06	4.12
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$		$2p^5 3p^3 D_3$	16543	M1	1.357E-08	4.956E-01	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$		$2p^5 3p^3 D_3$	46461	E2	1.993E-09	9.566E-01	1.25
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3p^3 D_3$	46472	M1	2.957E-06	8.519E+02	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$		$2p^5 3p^3 D_3$	46472	E2	7.691E-10	2.216E-01	1.22
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3p^3 D_3$	247252	E1	2.361E-02	1.926E+08	0.91
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$		$2p^5 3p^3 D_3$	247252	M2	1.001E-10	8.162E-01	1.00
$2p^5 3d^3 F_4^o$			$2p^5 3p^3 D_3$	250067	E1	1.645E+00	7.623E+09	1.00
$2p^5 3d^3 F_4^o$			$2p^5 3p^3 D_3$	250067	M2	1.115E-09	5.165E+00	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$		$2p^5 3p^3 D_3$	254612	E1	1.877E-01	1.159E+09	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3p^3 D_3$	262949	E1	1.777E-02	1.639E+08	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$		$2p^5 3p^3 D_3$	262949	M2	2.502E-11	2.308E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3p^3 D_3$	268196	E1	2.513E-01	1.722E+09	1.02
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$		$2p^5 3p^3 D_3$	268196	M2	6.663E-10	4.567E+00	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$		$2p^5 3p^3 D_3$	294014	E1	1.069E-03	1.232E+07	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$		$2p^5 3p^3 D_3$	298088	E1	1.196E-02	1.418E+08	1.08

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^3 D_3$	298088	M2	2.167E-11	2.568E-01	1.00	
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$	$2p^5 3p^3 D_3$	298917	E1	2.692E-02	2.292E+08	1.03	
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$	$2p^5 3p^3 D_3$	298917	M2	1.754E-11	1.494E-01	1.00	
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	7753	M1	1.467E-07	1.177E+00	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	26013	M1	5.009E-07	7.537E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	26804	M1	4.489E-07	2.151E+02	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	37671	M1	6.552E-07	2.067E+02	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	37682	M1	2.437E-07	4.617E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	127893	M1	4.575E-08	4.991E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	227427	E1	1.516E-02	5.231E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	231027	E1	8.369E-03	9.932E+07	1.07
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	231027	M2	1.179E-11	1.399E-01	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	238463	E1	5.727E-02	4.344E+08	1.01
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	254159	E1	6.077E-01	5.237E+09	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	254159	M2	1.242E-11	1.070E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	259406	M2	5.215E-10	3.344E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	277438	E1	2.456E-01	4.203E+09	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	277438	M2	2.316E-11	3.964E-01	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	285224	E1	5.965E-06	6.473E+04	1.08
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	289298	E1	4.863E-03	5.430E+07	1.01
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	289298	M2	1.268E-11	1.416E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	330525	E1	4.561E-02	1.108E+09	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 P_1$	0.39 + 0.38 ³ D_1 + 0.21 ³ P_1	330525	M2	1.924E-11	4.674E-01	1.00
$2p^5 3p^3 D_1$	$0.58 + 0.37^1 P_1$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	18259	M1	1.734E-08	1.285E+00	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	29917	M1	1.277E-06	2.542E+02	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	29928	M1	1.422E-06	1.700E+02	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	120139	E2	2.151E-08	2.071E+02	0.98
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	223273	E1	6.715E-02	7.442E+08	0.99
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	223273	M2	3.236E-11	3.587E-01	1.00
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	230709	E1	3.175E-01	2.255E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	230709	M2	2.889E-10	2.051E+00	1.00
$2p^5 3d^3 F_3^o$	$0.71 + 0.24^1 F_3^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	233524	M2	3.327E-10	1.345E+00	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	238068	E1	1.055E-02	5.696E+07	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	246405	E1	4.455E-04	3.608E+06	0.92
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	246405	M2	6.839E-11	5.539E-01	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	251652	E1	1.068E+00	6.444E+09	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.39^1 F_3^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	251652	M2	2.276E-10	1.373E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	269684	E1	1.490E-03	2.410E+07	1.13
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	269684	M2	9.809E-11	1.586E+00	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	277470	E1	1.353E-03	1.389E+07	1.03
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	277470	M2	1.300E-11	1.335E-01	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	281544	E1	6.958E-02	7.358E+08	1.01
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	281544	M2	7.773E-11	8.219E-01	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$	$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	282374	E1	4.698E-03	3.570E+07	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	322771	E1	1.985E-03	4.599E+07	0.82
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	0.66 + 0.33 ¹ D_2	322771	M2	1.522E-10	3.526E+00	1.00
$2p^5 3p^1 D_2$	$0.41 + 0.34^3 D_2 + 0.25^3 P_2$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	11669	M1	5.744E-07	1.044E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	101880	M1	7.495E-09	5.189E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	201414	E1	6.681E-04	1.808E+07	0.65
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	205014	E1	1.448E-03	1.353E+07	0.84
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	212449	E1	6.899E-03	4.154E+07	0.98
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	228145	E1	2.387E-03	1.657E+07	0.97
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	251425	E1	4.384E-03	6.162E+07	1.03
$2p^5 3d^3 F_2^o$	$0.51 + 0.36^1 D_2^o + 0.13^3 D_2^o$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	259211	E1	8.173E-01	7.326E+09	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	263285	E1	6.317E-04	5.841E+06	1.04
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	263285	M2	1.486E-11	1.374E-01	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 F_3^o$	$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	264114	M2	3.272E-10	2.175E+00	1.00
$2p^5 3d^1 P_3^o$		$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	304512	E1	1.585E-01	3.268E+09	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	0.58 + 0.37 ¹ P_1	304512	M2	3.742E-11	7.715E-01	1.00
$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	$2p^5 3p^3 P_0$		10866	M1	5.797E-07	1.522E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_0$		204223	E1	2.565E-02	2.379E+08	1.01
$2p^5 3d^3 P_2^o$	$0.83 + 0.10^3 D_2$	$2p^5 3p^3 P_0$		211658	M2	2.808E-11	1.678E-01	1.00
$2p^5 3d^3 F_2^o$	$0.48 + 0.31^1 D_2^o + 0.20^3 D_2^o$	$2p^5 3p^3 P_0$		227354	M2	2.173E-11	1.498E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_0$		250634	E1	2.717E-01	3.795E+09	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26^1 D_2^o + 0.16^3 P_2^o$	$2p^5 3p^3 P_0$		262494	M2	1.184E-10	1.088E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_0$		303720	E1	1.314E-02	2.696E+08	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_1$	$0.67 + 0.22^1 P_1$	90222	M1	9.976E-08	5.417E+02	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	189756	E1	1.469E-02	3.529E+08	1.04
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	193356	E1	1.383E-02	1.150E+08	1.00
$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	200791	E1	8.234E-03	4.429E+07	1.00
$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	216487	E1	1.744E-03	1.091E+07	0.99
$2p^5 3d^3 D_1^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	239767	E1	3.023E-02	3.864E+08	1.00
$2p^5 3d^3 D_2^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	239767	M2	1.629E-11	2.083E-01	1.00
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	247553	E1	6.177E-03	5.050E+07	1.00
$2p^5 3d^3 D_3^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	251627	E1	7.611E-01	6.428E+09	1.00
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	251627	M2	5.546E-10	4.684E+00	1.00
$2p^5 3d^3 D_3^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	252456	M2	9.500E-11	5.770E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	292854	E1	1.157E-01	2.206E+09	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3p^3 P_1$ 0.67 + 0.22 1P_1	292854	M2	3.293E-11	6.280E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	90210	E2	1.824E-08	9.902E+01	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	193345	E1	7.611E-03	6.326E+07	1.14
$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	200780	E1	2.657E-02	1.429E+08	0.97
$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	200780	M2	2.968E-11	1.596E-01	1.00
$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	208140	E1	9.392E-04	3.877E+06	0.95
$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	216476	E1	4.872E-05	3.046E+05	1.12
$2p^5 3d^3 D_3^o$ 0.57 + 0.39 $^1F_3^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	221724	E1	1.051E-02	4.924E+07	0.99
$2p^5 3d^3 D_2^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	239756	E1	3.269E-03	4.178E+07	1.16
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	247541	E1	1.192E-01	9.748E+08	1.00
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	251616	E1	8.124E-02	6.861E+08	1.02
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	251616	M2	2.005E-10	1.693E+00	1.00
$2p^5 3d^3 D_3^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	252445	E1	1.291E+00	7.840E+09	1.00
$2p^5 3d^3 D_2^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	252445	M2	1.024E-09	6.219E+00	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3p^1 D_2$ 0.41 + 0.34 3D_2 + 0.25 3P_2	292842	E1	5.670E-03	1.081E+08	0.88
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 S_0$	103134	E1	7.336E-06	1.735E+04	0.87
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 S_0$	149545	E1	6.568E-03	3.266E+07	0.99
$2p^5 3d^1 P_0^o$		$2p^5 3p^1 S_0$	202631	E1	2.354E-01	2.149E+09	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3d^3 P_0^o$	3600	M1	2.775E-07	7.997E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_0^o$	50011	M1	1.226E-07	6.819E+01	1.00
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3d^3 P_0^o$	57796	E2	2.947E-10	1.313E-01	0.63
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3d^3 P_0^o$	61871	E2	7.010E-10	3.580E-01	0.93
$2p^5 3d^1 P_0^o$		$2p^5 3d^3 P_0^o$	103097	M1	1.094E-07	2.586E+02	1.00
$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2		$2p^5 3d^3 P_1^o$	7435	M1	7.178E-07	5.294E+00	1.00
$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$		$2p^5 3d^3 P_1^o$	23131	M1	2.989E-08	2.134E+00	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_1^o$	46411	M1	3.603E-07	1.725E+02	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 P_1^o$	46411	E2	8.527E-10	4.084E-01	1.02
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3d^3 P_1^o$	54196	M1	1.077E-07	4.221E+01	1.00
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3d^3 P_1^o$	58271	M1	2.196E-07	9.949E+01	1.00
$2p^5 3d^3 D_3^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3d^3 P_2^o$	59100	E2	1.013E-09	3.372E-01	0.79
$2p^5 3d^1 P_0^o$		$2p^5 3d^3 P_2^o$	99497	M1	1.810E-07	3.984E+02	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3d^3 P_2^o$	99497	E2	2.545E-10	5.602E-01	1.03
$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	15696	M1	7.024E-09	2.309E-01	1.00
$2p^5 3d^3 D_3^o$ 0.57 + 0.39 $^1F_3^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	20943	M1	2.284E-07	9.544E+00	1.00
$2p^5 3d^3 D_2^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	38975	M1	2.279E-07	7.696E+01	1.00
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	46761	M1	9.248E-08	2.698E+01	1.00
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	50835	M1	1.290E-06	4.448E+02	1.00
$2p^5 3d^3 D_3^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	50835	E2	6.879E-10	2.372E-01	1.02
$2p^5 3d^3 D_3^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	51664	M1	3.650E-07	9.283E+01	1.00
$2p^5 3d^3 D_2^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	51664	E2	7.259E-10	1.846E-01	1.36
$2p^5 3d^1 P_0^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	92062	M1	5.733E-09	1.080E+01	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3d^3 P_2^o$ 0.83 + 0.10 3D_2	92062	E2	6.383E-10	1.203E+00	1.27
$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$		$2p^5 3d^3 F_4^o$	4544	M1	8.797E-07	1.731E+00	1.00
$2p^5 3d^3 D_3^o$ 0.57 + 0.39 $^1F_3^o$		$2p^5 3d^3 F_4^o$	18128	M1	1.709E-07	5.351E+00	1.00
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3d^3 F_4^o$	48020	E2	7.879E-10	2.424E-01	1.66
$2p^5 3d^3 D_3^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3d^3 F_4^o$	48849	M1	3.395E-06	7.719E+02	1.00
$2p^5 3d^3 D_2^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3d^3 F_4^o$	48849	E2	1.225E-09	2.785E-01	1.22
$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$		$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$	8336	M1	9.985E-07	9.257E+00	1.00
$2p^5 3d^3 D_3^o$ 0.57 + 0.39 $^1F_3^o$		$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$	13583	M1	1.936E-07	3.403E+00	1.00
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$	39401	M1	3.021E-06	6.256E+02	1.00
$2p^5 3d^3 D_2^o$ 0.57 + 0.26 $^1D_2^o$ + 0.16 $^3P_2^o$		$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$	43475	M1	5.368E-08	1.354E+01	1.00
$2p^5 3d^3 D_3^o$ 0.38 + 0.36 $^1F_3^o$ + 0.26 $^3F_3^o$		$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$	44305	M1	7.242E-09	1.355E+00	1.00
$2p^5 3d^1 P_0^o$		$2p^5 3d^3 F_3^o$ 0.71 + 0.24 $^1F_3^o$	84702	E2	2.772E-10	4.423E-01	4.68
$2p^5 3d^3 D_3^o$ 0.57 + 0.39 $^1F_3^o$		$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$	5247	M1	2.421E-07	6.352E-01	1.00
$2p^5 3d^3 D_1^o$		$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$	23279	M1	7.209E-07	8.686E+01	1.00
$2p^5 3d^3 F_2^o$ 0.51 + 0.36 $^1D_2^o$ + 0.13 $^3D_2^o$		$2p^5 3d^3 F_2^o$ 0.48 + 0.31 $^1D_2^o$ + 0.20 $^3D_2^o$	31065	M1	1.399E-06	1.802E+02	1.00

Continued...

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R				
$2p^5 3d^3 D_3^o$	$0.57 + 0.26$	$^1D_2^o + 0.16$	$^3P_2^o$	$2p^5 3d^3 F_2^o$	$0.48 + 0.31$	$^1D_2^o + 0.20$	$^3D_2^o$	35139	M1	2.309E-07	3.804E+01	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36$	$^1F_3^o + 0.26$	$^3F_3^o$	$2p^5 3d^3 F_2^o$	$0.48 + 0.31$	$^1D_2^o + 0.20$	$^3D_2^o$	35968	M1	1.475E-07	1.819E+01	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 F_2^o$	$0.48 + 0.31$	$^1D_2^o + 0.20$	$^3D_2^o$	76366	M1	2.618E-07	3.394E+02	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 F_2^o$	$0.48 + 0.31$	$^1D_2^o + 0.20$	$^3D_2^o$	76366	E2	1.808E-09	2.344E+00	1.29
$2p^5 3d^3 F_2^o$	$0.51 + 0.36$	$^1D_2^o + 0.13$	$^3D_2^o$	$2p^5 3d^3 D_3^o$	$0.57 + 0.39$	$^1F_3^o$		25817	M1	6.890E-08	6.127E+00	1.00
$2p^5 3d^3 D_3^o$	$0.57 + 0.26$	$^1D_2^o + 0.16$	$^3P_2^o$	$2p^5 3d^3 D_3^o$	$0.57 + 0.39$	$^1F_3^o$		29892	M1	1.711E-06	2.039E+02	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36$	$^1F_3^o + 0.26$	$^3F_3^o$	$2p^5 3d^3 D_3^o$	$0.57 + 0.39$	$^1F_3^o$		30721	M1	2.307E-06	2.075E+02	1.00
$2p^5 3d^3 F_2^o$	$0.51 + 0.36$	$^1D_2^o + 0.13$	$^3D_2^o$	$2p^5 3d^3 D_1^o$				7785	M1	1.601E-07	1.294E+00	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.26$	$^1D_2^o + 0.16$	$^3P_2^o$	$2p^5 3d^3 D_1^o$				11859	M1	1.219E-06	2.288E+01	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 D_1^o$				53086	M1	2.280E-07	1.429E+02	1.00
$2p^5 3d^3 D_3^o$	$0.38 + 0.36$	$^1F_3^o + 0.26$	$^3F_3^o$	$2p^5 3d^3 F_2^o$	$0.51 + 0.36$	$^1D_2^o + 0.13$	$^3D_2^o$	4903	M1	3.984E-07	9.127E-01	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 F_2^o$	$0.51 + 0.36$	$^1D_2^o + 0.13$	$^3D_2^o$	45301	M1	1.006E-07	4.588E+01	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 F_2^o$	$0.51 + 0.36$	$^1D_2^o + 0.13$	$^3D_2^o$	45301	E2	2.284E-09	1.042E+00	1.23
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 D_2^o$	$0.57 + 0.26$	$^1D_2^o + 0.16$	$^3P_2^o$	41226	M1	5.295E-07	2.001E+02	1.00
$2p^5 3d^3 P_1^o$				$2p^5 3d^3 D_2^o$	$0.57 + 0.26$	$^1D_2^o + 0.16$	$^3P_2^o$	41226	E2	1.516E-09	5.728E-01	1.22
Ti XIII												
$2p^5 3s^3 P_2^o$				$2p^6 1S_0$				3697880	M2	1.931E-08	3.523E+04	1.00
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	$^1P_1^o$		$2p^6 1S_0$				3708954	E1	1.047E-01	3.204E+11	0.99
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	$^3P_1^o$		$2p^6 1S_0$				3753157	E1	1.246E-01	3.903E+11	0.99
$2p^5 3p^3 S_1$				$2p^6 1S_0$				3879510	M1	5.060E-09	1.693E+04	1.00
$2p^5 3p^3 D_2$	$0.64 + 0.27$	1D_2		$2p^6 1S_0$				3906220	E2	5.531E-05	1.126E+08	1.00
$2p^5 3p^3 P_1$	$0.42 + 0.35$	$^3D_1 + 0.22$	3P_1	$2p^6 1S_0$				3918085	M1	6.972E-10	2.380E+03	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33$	1D_2		$2p^6 1S_0$				3926897	E2	6.715E-05	1.381E+08	1.00
$2p^5 3p^3 D_1$	$0.61 + 0.36$	1P_1		$2p^6 1S_0$				3950965	M1	1.615E-11	5.604E+01	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.21$	1P_1		$2p^6 1S_0$				3964687	M1	8.594E-09	3.004E+04	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.36$	$^3D_2 + 0.24$	3P_2	$2p^6 1S_0$				3965211	E2	8.137E-05	1.707E+08	1.00
$2p^5 3d^3 P_1^o$				$2p^6 1S_0$				4168124	E1	7.849E-03	3.032E+10	1.01
$2p^5 3d^3 P_2^o$	$0.81 + 0.12$	3D_2		$2p^6 1S_0$				4176849	M2	4.470E-07	1.040E+06	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33$	$^1D_2^o + 0.21$	$^3D_2^o$	$2p^6 1S_0$				4193733	M2	5.299E-08	1.243E+05	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11$	$^1P_1^o$		$2p^6 1S_0$				4220828	E1	3.206E-01	1.270E+12	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34$	$^1D_2^o + 0.12$	$^3D_2^o$	$2p^6 1S_0$				4232567	M2	3.854E-08	9.212E+04	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25$	$^1D_2^o + 0.18$	$^3P_2^o$	$2p^6 1S_0$				4237048	M2	5.758E-09	1.379E+04	1.00
$2p^5 3d^3 P_1^o$				$2p^6 1S_0$				4282782	E1	2.255E+00	9.197E+12	1.00
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	$^1P_1^o$		$2p^5 3s^3 P_2^o$	11074	M1	6.124E-07	1.670E+01	1.00			
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	$^3P_1^o$		$2p^5 3s^3 P_2^o$	55277	M1	2.530E-06	1.719E+03	1.00			
$2p^5 3p^3 S_1$				$2p^5 3s^3 P_2^o$	181630	E1	2.638E-01	1.935E+09	0.98			
$2p^5 3p^3 S_1$				$2p^5 3s^3 P_2^o$	181630	M2	5.511E-11	4.043E-01	1.00			
$2p^5 3p^3 D_2$	$0.64 + 0.27$	1D_2		$2p^5 3s^3 P_2^o$	208339	E1	2.893E-01	1.675E+09	0.99			
$2p^5 3p^3 D_3$				$2p^5 3s^3 P_2^o$	211042	E1	9.272E-01	3.935E+09	0.99			
$2p^5 3p^3 D_3$				$2p^5 3s^3 P_2^o$	211042	M2	1.996E-10	8.470E-01	1.00			
$2p^5 3p^3 P_1$	$0.42 + 0.35$	$^3D_1 + 0.22$	3P_1	$2p^5 3s^3 P_2^o$	220204	E1	4.236E-02	4.567E+08	0.99			
$2p^5 3p^3 P_1$	$0.42 + 0.35$	$^3D_1 + 0.22$	3P_1	$2p^5 3s^3 P_2^o$	220204	M2	1.130E-10	1.219E+00	1.00			
$2p^5 3p^3 P_2$	$0.66 + 0.33$	1D_2		$2p^5 3s^3 P_2^o$	229017	E1	3.996E-01	2.796E+09	0.99			
$2p^5 3p^3 P_2$	$0.66 + 0.33$	1D_2		$2p^5 3s^3 P_2^o$	229017	M2	2.930E-10	2.050E+00	1.00			
$2p^5 3p^3 P_0$				$2p^5 3s^3 P_2^o$	252030	M2	5.847E-11	2.477E+00	1.00			
$2p^5 3p^3 D_1$	$0.61 + 0.36$	1P_1		$2p^5 3s^3 P_2^o$	253085	E1	1.662E-05	2.367E+05	0.68			
$2p^5 3p^3 D_1$	$0.61 + 0.36$	1P_1		$2p^5 3s^3 P_2^o$	253085	M2	1.436E-11	2.046E-01	1.00			
$2p^5 3p^3 P_1$	$0.66 + 0.21$	1P_1		$2p^5 3s^3 P_2^o$	266806	E1	4.463E-02	7.063E+08	0.98			
$2p^5 3p^3 P_1$	$0.66 + 0.21$	1P_1		$2p^5 3s^3 P_2^o$	266806	M2	1.510E-11	2.390E-01	1.00			
$2p^5 3p^3 D_2$	$0.40 + 0.36$	$^3D_2 + 0.24$	3P_2	$2p^5 3s^3 P_2^o$	267331	E1	1.444E-02	1.377E+08	0.96			
$2p^5 3p^3 S_0$				$2p^5 3s^3 P_2^o$	362483	M2	2.009E-10	1.761E+01	1.00			
$2p^5 3d^3 P_0^o$				$2p^5 3s^3 P_2^o$	465951	E2	1.572E-06	2.276E+05	1.00			
$2p^5 3d^3 P_1^o$				$2p^5 3s^3 P_2^o$	470244	M1	4.071E-10	2.002E+01	1.00			
$2p^5 3d^3 P_1^o$				$2p^5 3s^3 P_2^o$	470244	E2	4.383E-06	2.155E+05	1.00			
$2p^5 3d^3 P_2^o$	$0.81 + 0.12$	3D_2		$2p^5 3s^3 P_2^o$	478968	M1	8.340E-10	2.552E+01	1.00			
$2p^5 3d^3 P_2^o$	$0.81 + 0.12$	3D_2		$2p^5 3s^3 P_2^o$	478968	E2	5.380E-06	1.646E+05	1.00			
$2p^5 3d^3 F_4^o$				$2p^5 3s^3 P_2^o$	481435	E2	1.538E-05	2.641E+05	1.00			
$2p^5 3d^3 F_3^o$	$0.69 + 0.25$	$^1F_3^o$		$2p^5 3s^3 P_2^o$	486433	E2	5.280E-06	1.191E+05	1.00			
$2p^5 3d^3 F_2^o$	$0.45 + 0.33$	$^1D_2^o + 0.21$	$^3D_2^o$	$2p^5 3s^3 P_2^o$	495853	M1	6.489E-12	2.128E-01	1.00			
$2p^5 3d^3 F_2^o$	$0.45 + 0.33$	$^1D_2^o + 0.21$	$^3D_2^o$	$2p^5 3s^3 P_2^o$	495853	E2	2.498E-06	8.195E+04	1.00			
$2p^5 3d^3 D_3^o$	$0.59 + 0.38$	$^1F_3^o$		$2p^5 3s^3 P_2^o$	501648	M1	1.630E-11	3.907E-01	1.00			
$2p^5 3d^3 D_3^o$	$0.59 + 0.38$	$^1F_3^o$		$2p^5 3s^3 P_2^o$	501648	E2	7.194E-06	1.725E+05	1.00			
$2p^5 3d^3 D_1^o$	$0.85 + 0.11$	$^1P_1^o$		$2p^5 3s^3 P_2^o$	522947	M1	1.427E-10	8.678E+00	1.00			
$2p^5 3d^3 D_1^o$	$0.85 + 0.11$	$^1P_1^o$		$2p^5 3s^3 P_2^o$	522947	E2	5.807E-07	3.531E+04	1.00			
$2p^5 3d^3 F_2^o$	$0.54 + 0.34$	$^1D_2^o + 0.12$	$^3D_2^o$	$2p^5 3s^3 P_2^o$	534686	E2	1.272E-07	4.850E+03	1.00			
$2p^5 3d^3 D_2^o$	$0.55 + 0.25$	$^1D_2^o + 0.18$	$^3P_2^o$	$2p^5 3s^3 P_2^o$	539168	M1	1.297E-11	5.029E-01	1.00			
$2p^5 3d^3 D_2^o$	$0.55 + 0.25$	$^1D_2^o + 0.18$	$^3P_2^o$	$2p^5 3s^3 P_2^o$	539168	E2	1.001E-06	3.881E+04	1.00			

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^1 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3s {}^3P_2^o$	540577	M1	1.422E-11	3.961E-01	1.00	
$2p^5 3d^1 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3s {}^3P_2^o$	540577	E2	6.117E-07	1.703E+04	1.00	
$2p^5 3d^1 P_1^o$		$2p^5 3s {}^3P_2^o$	584902	M1	1.507E-10	1.146E+01	1.00	
$2p^5 3d^1 P_1^o$		$2p^5 3s {}^3P_2^o$	584902	E2	2.882E-08	2.192E+03	1.00	
$2p^5 3s {}^3P_0^o$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	35785	1.577E-06	1.347E+03	1.00
$2p^5 3s {}^3P_1^o$	$0.54 + 0.45 {}^3P_1^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	44203	6.642E-07	2.886E+02	1.00
$2p^5 3p {}^3S_1$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	170556	3.177E-02	2.055E+08	0.98
$2p^5 3p {}^3D_2$	$0.64 + 0.27 {}^1D_2$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	197265	3.466E-01	1.799E+09	0.99
$2p^5 3p {}^3D_3$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	199968	2.383E-10	9.080E-01	1.00
$2p^5 3p {}^1P_1$	$0.42 + 0.35 {}^3D_1 + 0.22 {}^3P_1$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	209130	3.469E-01	3.373E+09	0.99
$2p^5 3p {}^1P_1$	$0.42 + 0.35 {}^3D_1 + 0.22 {}^3P_1$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	209130	1.059E-11	1.030E-01	1.00
$2p^5 3p {}^3P_2$	$0.66 + 0.33 {}^1D_2$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	217942	2.960E-01	1.876E+09	0.99
$2p^5 3p {}^3P_2$	$0.66 + 0.33 {}^1D_2$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	217942	1.112E-10	7.044E-01	1.00
$2p^5 3p {}^3P_0$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	240956	1.110E-01	4.298E+09	0.99
$2p^5 3p {}^3D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	242011	2.858E-03	3.721E+07	1.01
$2p^5 3p {}^3P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	255732	1.557E-04	2.264E+06	0.84
$2p^5 3p {}^3P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	255732	2.972E-11	4.321E-01	1.00
$2p^5 3p {}^1D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	256257	1.459E-02	1.278E+08	0.99
$2p^5 3p {}^1D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	256257	1.260E-11	1.104E-01	1.00
$2p^5 3p {}^1S_0$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	351409	7.959E-02	6.555E+09	0.99
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	454877	3.222E-10	4.447E+01	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	459170	2.965E-10	1.390E+01	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	459170	3.143E-07	1.473E+04	1.00
$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	467894	2.381E-06	6.955E+04	1.00
$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	475359	6.648E-06	1.432E+05	1.00
$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	484779	1.976E-11	6.195E-01	1.00
$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	484779	6.000E-06	1.881E+05	1.00
$2p^5 3d {}^3D_3$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	490574	5.168E-06	1.185E+05	1.00
$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	511873	3.607E-11	2.102E+00	1.00
$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	511873	5.116E-06	2.981E+05	1.00
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	523612	1.072E-11	3.922E-01	1.00
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	523612	5.614E-08	2.054E+03	0.98
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	528093	2.809E-11	1.045E+00	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	528093	6.610E-10	2.459E+01	0.88
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	529503	4.058E-07	1.084E+04	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3s {}^3P_1^o$	0.54 + 0.45	${}^1P_1^o$	573828	1.576E-06	1.154E+05	1.01
$2p^5 3s {}^3P_1^o$	$0.54 + 0.45 {}^3P_1^o$	$2p^5 3s {}^3P_0^o$			8417	3.106E-07	4.893E+00	1.00
$2p^5 3p {}^3S_1$		$2p^5 3s {}^3P_0^o$			134771	6.783E-03	2.739E+07	0.92
$2p^5 3p {}^1P_1$	$0.42 + 0.35 {}^3D_1 + 0.22 {}^3P_1$	$2p^5 3s {}^3P_0^o$			173345	5.630E-03	3.762E+07	0.96
$2p^5 3p {}^3D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3s {}^3P_0^o$			206225	1.730E-01	1.636E+09	0.99
$2p^5 3p {}^3P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3s {}^3P_0^o$			219947	2.096E-01	2.254E+09	0.99
$2p^5 3p {}^1D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3s {}^3P_0^o$			220472	1.544E-10	1.001E+00	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^3P_0^o$			423385	7.098E-12	2.829E-01	1.00
$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3s {}^3P_0^o$			432109	2.874E-07	7.159E+03	1.00
$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3s {}^3P_0^o$			448994	2.552E-07	6.863E+03	0.99
$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3s {}^3P_0^o$			476088	5.945E-12	2.996E-01	1.00
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3s {}^3P_0^o$			487827	4.096E-06	1.300E+05	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3s {}^3P_0^o$			492308	4.161E-06	1.346E+05	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3s {}^3P_0^o$			538043	2.406E-10	1.548E+01	1.00
$2p^5 3p {}^3S_1$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	126353	7.001E-03	2.485E+07	0.96
$2p^5 3p {}^3D_2$	$0.64 + 0.27 {}^1D_2$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	153062	2.852E-04	8.912E+05	0.88
$2p^5 3p {}^1P_1$	$0.42 + 0.35 {}^3D_1 + 0.22 {}^3P_1$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	164927	1.176E-04	7.111E+05	1.16
$2p^5 3p {}^3P_2$	$0.66 + 0.33 {}^1D_2$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	173739	1.902E-02	7.657E+07	1.01
$2p^5 3p {}^3P_0$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	196753	3.604E-02	9.306E+08	0.99
$2p^5 3p {}^3D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	197808	2.019E-01	1.756E+09	0.99
$2p^5 3p {}^3P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	211529	1.642E-01	1.633E+09	0.99
$2p^5 3p {}^3P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	211529	1.691E-10	1.682E+00	1.00
$2p^5 3p {}^1D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	212054	6.510E-01	3.905E+09	0.99
$2p^5 3p {}^1D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	212054	1.987E-10	1.192E+00	1.00
$2p^5 3p {}^1S_0$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	307206	1.570E-01	9.884E+09	0.98
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	410674	1.300E-11	1.463E+00	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	414967	2.662E-11	1.019E+00	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	414967	8.489E-08	3.250E+03	0.99
$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	423691	5.558E-11	1.331E+00	1.00
$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	423691	1.233E-07	2.953E+03	1.00
$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	431156	2.546E-10	4.510E+00	0.90
$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	440576	6.381E-12	1.652E-01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R		
$2p^5 3d^3 F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	440576	E2	1.842E-09	4.771E+01	0.90
$2p^5 3d^3 D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	446371	E2	6.476E-07	1.230E+04	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	467670	M1	1.170E-10	5.689E+00	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	467670	E2	4.650E-07	2.261E+04	0.99
$2p^5 3d^3 F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	479409	M1	4.542E-12	1.393E-01	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	479409	E2	4.346E-06	1.332E+05	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	483890	M1	2.039E-10	6.370E+00	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	483890	E2	3.964E-06	1.238E+05	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	485300	E2	1.159E-05	2.600E+05	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	529625	M1	3.408E-10	2.126E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s {}^1P_1^o$	0.54 + 0.45	${}^3P_1^o$	529625	E2	6.619E-06	4.128E+05	1.01
$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$	$2p^5 3p^3 S_1$			26709	M1	5.106E-08	4.859E+00	1.00
$2p^5 3p^3 D_3$		$2p^5 3p^3 S_1$			29412	E2	1.704E-09	1.405E-01	1.18
$2p^5 3p^3 P_1$	$0.42 + 0.35 {}^3D_1 + 0.22 {}^3P_1$	$2p^5 3p^3 S_1$			38574	M1	2.643E-08	8.745E+00	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33 {}^1D_2$	$2p^5 3p^3 S_1$			47386	M1	2.869E-07	8.593E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$			70400	M1	4.928E-07	1.629E+03	1.00
$2p^5 3p^3 D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3p^3 S_1$			71454	M1	1.047E-07	1.189E+02	1.00
$2p^5 3p^3 D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3p^3 S_1$			71454	E2	5.758E-10	6.536E-01	1.43
$2p^5 3p^3 P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3p^3 S_1$			85176	M1	4.562E-07	7.358E+02	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3p^3 S_1$			85701	M1	1.042E-07	1.021E+02	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3p^3 S_1$			85701	E2	8.351E-10	8.182E-01	1.34
$2p^5 3p^3 S_0$		$2p^5 3p^3 S_1$			180853	M1	3.233E-08	7.054E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$			284321	E1	1.392E-01	7.508E+09	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$			288614	E1	3.512E-01	6.503E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$			288614	M2	9.636E-11	1.785E+00	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3p^3 S_1$			297338	E1	3.671E-01	4.330E+09	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3p^3 S_1$			297338	M2	1.385E-10	1.633E+00	1.00
$2p^5 3d^3 F_3^o$	$0.69 + 0.25 {}^1F_3^o$	$2p^5 3p^3 S_1$			304803	M2	1.331E-11	1.178E-01	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3p^3 S_1$			314223	E1	5.874E-03	7.737E+07	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3p^3 S_1$			314223	M2	4.406E-11	5.804E-01	1.00
$2p^5 3d^3 D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3p^3 S_1$			320018	M2	6.627E-11	6.468E-01	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3p^3 S_1$			341317	E1	4.458E-05	1.155E+06	1.04
$2p^5 3d^3 D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3p^3 S_1$			341317	M2	3.444E-10	8.921E+00	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3p^3 S_1$			353056	E1	1.003E-03	1.667E+07	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3p^3 S_1$			353056	M2	9.718E-12	1.616E-01	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3p^3 S_1$			357537	E1	3.805E-03	6.490E+07	0.98
$2p^5 3d^3 D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3p^3 S_1$			357537	M2	6.452E-11	1.100E+00	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3p^3 S_1$			358947	M2	3.100E-11	3.806E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$			403271	E1	2.987E-04	1.080E+07	1.03
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$			403271	M2	3.344E-10	1.209E+01	1.00
$2p^5 3p^3 D_3$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		2703	M1	3.255E-07	2.267E-01	1.00
$2p^5 3p^3 P_1$	$0.42 + 0.35 {}^3D_1 + 0.22 {}^3P_1$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		11865	M1	7.195E-07	2.252E+01	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33 {}^1D_2$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		20677	M1	4.411E-07	2.516E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		43691	E2	1.602E-09	2.040E+00	1.11
$2p^5 3p^3 D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		44745	M1	2.798E-06	1.245E+03	1.00
$2p^5 3p^3 D_1$	$0.61 + 0.36 {}^1P_1$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		44745	E2	2.270E-10	1.010E-01	1.18
$2p^5 3p^3 P_1$	$0.66 + 0.21 {}^1P_1$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		58467	M1	1.077E-08	8.185E+00	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		58991	M1	1.682E-09	7.808E-01	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.36 {}^3D_2 + 0.24 {}^3P_2$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		58991	E2	4.885E-10	2.268E-01	1.24
$2p^5 3p^3 S_0$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		154144	E2	1.925E-08	3.052E+02	0.97
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		257612	M2	2.744E-12	1.215E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		261904	E1	3.147E-02	4.800E+08	0.95
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		261904	M2	2.004E-11	3.056E-01	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		270629	E1	3.996E-02	3.904E+08	1.03
$2p^5 3d^3 P_2^o$	$0.81 + 0.12 {}^3D_2$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		270629	M2	3.349E-11	3.272E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		273095	M2	3.520E-10	1.946E+00	1.00
$2p^5 3d^3 F_3^o$	$0.69 + 0.25 {}^1F_3^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		278094	E1	1.035E+00	7.629E+09	1.00
$2p^5 3d^3 F_3^o$	$0.69 + 0.25 {}^1F_3^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		278094	M2	2.579E-11	1.901E-01	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		287513	E1	3.065E-01	3.380E+09	1.01
$2p^5 3d^3 D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		293309	E1	9.153E-03	7.503E+07	1.02
$2p^5 3d^3 D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		293309	M2	1.666E-10	1.365E+00	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		314608	E1	2.549E-02	5.609E+08	1.01
$2p^5 3d^3 F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		326347	E1	9.472E-03	1.346E+08	1.03
$2p^5 3d^3 D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		330828	E1	1.889E-02	2.758E+08	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		330828	M2	3.908E-11	5.706E-01	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		332238	E1	7.175E-07	7.547E+03	1.07
$2p^5 3d^3 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3p^3 D_2$	$0.64 + 0.27 {}^1D_2$		332238	M2	1.348E-11	1.418E-01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_2$	$0.64 + 0.27^1 D_2$	376562	E1	1.238E-04	3.904E+06	2.37
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	$2p^5 3p^3 D_3$		17974	M1	1.185E-08	5.108E-01	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.21^1 P_1$	$2p^5 3p^3 D_3$		55764	E2	2.371E-09	1.639E+00	1.23
$2p^5 3p^1 D_2$	$0.40 + 0.36^3 D_2 + 0.24^3 P_2$	$2p^5 3p^3 D_3$		56288	M1	3.791E-06	1.602E+03	1.00
$2p^5 3p^1 D_2$	$0.40 + 0.36^3 D_2 + 0.24^3 P_2$	$2p^5 3p^3 D_3$		56288	E2	8.803E-10	3.721E-01	1.20
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 D_3$		267925	E1	2.288E-02	2.191E+08	0.92
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 D_3$		267925	M2	1.115E-10	1.068E+00	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$		270392	E1	1.526E+00	8.271E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$		270392	M2	1.209E-09	6.551E+00	1.00
$2p^5 3d^3 F_3^o$	$0.69 + 0.25^1 F_3^o$	$2p^5 3p^3 D_3$		275390	E1	1.753E-01	1.267E+09	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2 + 0.21^3 D_2^o$	$2p^5 3p^3 D_3$		284810	E1	1.672E-02	1.809E+08	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^3 D_3$		284810	M2	2.842E-11	3.076E-01	1.00
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3p^3 D_3$		290605	E1	2.377E-01	1.912E+09	1.02
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3p^3 D_3$		290605	M2	7.306E-10	5.879E+00	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^3 D_3$		323643	E1	7.089E-04	9.905E+06	0.99
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 D_3$		328125	E1	1.023E-02	1.470E+08	1.09
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 D_3$		328125	M2	2.076E-11	2.981E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^3 D_3$		329534	E1	2.003E-02	2.073E+08	1.04
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^3 D_3$		329534	M2	1.439E-11	1.489E-01	1.00
$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	8812	M1	1.647E-07	1.706E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	31825	M1	5.395E-07	3.645E+02	1.00
$2p^5 3p^3 D_1$	$0.61 + 0.36^1 P_1$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	32880	M1	5.635E-07	1.354E+02	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.21^1 P_1$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	46602	M1	8.830E-07	4.264E+02	1.00
$2p^5 3p^1 D_2$	$0.40 + 0.36^3 D_2 + 0.24^3 P_2$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	47126	M1	2.872E-07	8.510E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	142279	M1	6.695E-08	9.040E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	245747	E1	1.264E-02	5.092E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	250039	E1	6.990E-03	9.717E+07	1.07
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	250039	M2	1.376E-11	1.913E-01	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	258764	E1	5.958E-02	5.322E+08	1.01
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	275648	E1	5.620E-01	5.696E+09	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	275648	M2	1.375E-11	1.394E-01	1.00
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	281443	M2	5.831E-10	4.401E+00	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	302742	E1	2.316E-01	4.719E+09	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	302742	M2	3.070E-11	6.256E-01	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	314481	E1	6.186E-05	8.161E+05	1.03
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	318963	E1	3.451E-03	4.684E+07	1.01
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	318963	M2	1.429E-11	1.939E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	364697	E1	4.348E-02	1.286E+09	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 P_1$	$0.42 + 0.35^3 D_1 + 0.22^3 P_1$	364697	M2	2.570E-11	7.601E-01	1.00
$2p^5 3p^3 D_1$	$0.61 + 0.36^1 P_1$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	24068	M1	1.323E-08	1.704E+00	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.21^1 P_1$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	37789	M1	1.610E-06	5.110E+02	1.00
$2p^5 3p^1 D_2$	$0.40 + 0.36^3 D_2 + 0.24^3 P_2$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	38314	M1	1.749E-06	3.425E+02	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	133466	E2	2.094E-08	2.488E+02	0.98
$2p^5 3d^3 P_2^o$		$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	241227	E1	6.255E-02	8.093E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	241227	M2	3.426E-11	4.433E-01	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	249951	E1	3.029E-01	2.525E+09	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	249951	M2	3.226E-10	2.688E+00	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	252418	M2	3.608E-10	1.704E+00	1.00
$2p^5 3d^3 F_3^o$	$0.69 + 0.25^1 F_3^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	257416	E1	1.041E-02	6.575E+07	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	266836	E1	2.691E-04	2.556E+06	0.91
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	266836	M2	7.735E-11	7.348E-01	1.00
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	272631	E1	9.929E-01	7.032E+09	1.00
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	272631	M2	2.472E-10	1.751E+00	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	293930	E1	1.020E-03	1.960E+07	1.16
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	293930	M2	1.171E-10	2.250E+00	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	305669	E1	1.116E-03	1.391E+07	1.03
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	305669	M2	1.200E-11	1.495E-01	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	310150	E1	5.552E-02	7.125E+08	1.01
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	310150	M2	7.326E-11	9.401E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	311560	E1	3.188E-03	2.949E+07	1.01
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	355885	E1	1.654E-03	4.659E+07	0.82
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_2$	$0.66 + 0.33^1 D_2$	355885	M2	1.629E-10	4.587E+00	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.21^1 P_1$	$2p^5 3p^3 P_0$		14776	M1	7.747E-07	3.761E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_0$		218213	E1	2.128E-02	2.253E+08	1.01
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 P_0$		226938	M2	3.415E-11	2.346E-01	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^3 P_0$		243822	M2	2.311E-11	1.833E-01	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^3 P_0$		270917	E1	2.533E-01	4.134E+09	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 P_0$	287137	M2	1.269E-10	1.395E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_0$	332871	E1	1.355E-02	3.337E+08	1.00
$2p^5 3p^1 D_2$	$0.40 + 0.36^3 D_2 + 0.24^3 P_2$	$2p^5 3p^3 D_1$	14246	M1	7.269E-07	1.968E+01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	109398	M1	7.147E-09	5.705E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	212866	E1	3.412E-04	1.031E+07	0.55
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	217159	E1	7.817E-04	8.197E+06	0.80
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 D_1$	225883	E1	4.838E-03	3.293E+07	0.98
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^3 D_1$	242768	E1	1.829E-03	1.438E+07	0.97
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^3 D_1$	269862	E1	5.742E-03	9.298E+07	1.03
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^3 D_1$	281601	E1	7.608E-01	8.048E+09	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^3 D_1$	281601	M2	1.002E-11	1.060E-01	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 D_1$	286082	E1	2.033E-04	2.220E+06	1.05
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 D_1$	286082	M2	2.308E-11	2.520E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^3 D_1$	287492	M2	3.531E-10	2.781E+00	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	331817	E1	1.497E-01	3.664E+09	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 D_1$	331817	M2	4.070E-11	9.963E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_1$	95676	M1	1.351E-07	8.251E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_1$	199145	E1	1.149E-02	3.039E+08	1.04
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_1$	203437	E1	1.071E-02	9.857E+07	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^3 P_1$	212161	E1	6.041E-03	3.627E+07	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^3 P_1$	229046	E1	1.419E-03	9.930E+06	0.99
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^3 P_1$	256140	E1	2.352E-02	3.431E+08	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^3 P_1$	256140	M2	1.610E-11	2.348E-01	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^3 P_1$	267879	E1	8.339E-03	7.983E+07	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 P_1$	272361	E1	7.153E-01	7.079E+09	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^3 P_1$	272361	M2	6.142E-10	6.078E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^3 P_1$	273770	M2	1.170E-10	8.360E-01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_1$	318095	E1	1.052E-01	2.366E+09	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3p^3 P_1$	318095	M2	2.913E-11	6.553E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 D_2$	95152	E2	1.653E-08	9.981E+01	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 D_2$	202912	E1	5.874E-03	5.378E+07	1.15
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^1 D_2$	211637	E1	1.919E-02	1.147E+08	0.97
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3p^1 D_2$	211637	M2	2.456E-11	1.467E-01	1.00
$2p^5 3d^3 F_3^o$	$0.69 + 0.25^1 F_3^o$	$2p^5 3p^1 D_2$	219102	E1	9.305E-04	4.257E+06	0.95
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3p^1 D_2$	228521	E1	3.430E-05	2.390E+05	1.1 1
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3p^1 D_2$	234317	E1	6.837E-03	3.577E+07	0.99
$2p^5 3d^3 D_3^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^1 D_2$	255616	E1	3.367E-03	4.891E+07	1.15
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3p^1 D_2$	267355	E1	1.103E-01	1.052E+09	1.0 0
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^1 D_2$	271836	E1	7.976E-02	7.863E+08	1.02
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3p^1 D_2$	271836	M2	2.288E-10	2.256E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^1 D_2$	273246	E1	1.204E+00	8.562E+09	1.0 0
$2p^5 3d^1 F_3^o$	$0.37 + 0.36^3 D_3^o + 0.27^3 F_3^o$	$2p^5 3p^1 D_2$	273246	M2	1.124E-09	8.000E+00	1.0 0
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 D_2$	317570	E1	5.499E-03	1.233E+08	0.89
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 S_0$	107760	E1	3.068E-06	7.921E+03	0.83
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3p^1 S_0$	160463	E1	6.481E-03	3.710E+07	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 S_0$	222418	E1	2.192E-01	2.411E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3d^3 P_0^o$	4292	M1	3.283E-07	1.345E+00	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3d^3 P_0^o$	56995	M1	1.579E-07	1.140E+02	1.00
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3d^3 P_0^o$	68734	E2	3.308E-10	2.085E-01	0.65
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3d^3 P_0^o$	73216	E2	7.291E-10	5.214E-01	0.93
$2p^5 3d^3 P_1^o$		$2p^5 3d^3 P_0^o$	118950	M1	1.530E-07	4.812E+02	1.00
$2p^5 3d^3 P_2^o$	$0.81 + 0.12^3 D_2$	$2p^5 3d^3 P_1^o$	8724	M1	8.386E-07	8.515E+00	1.00
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3d^3 P_1^o$	25609	M1	3.850E-08	3.368E+00	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3d^3 P_1^o$	52703	M1	4.613E-07	2.849E+02	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3d^3 P_1^o$	52703	E2	8.175E-10	5.049E-01	1.01
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3d^3 P_1^o$	64442	M1	1.397E-07	7.741E+01	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3d^3 P_1^o$	68923	M1	2.935E-07	1.860E+02	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3d^3 P_1^o$	70333	E2	1.108E-09	5.221E-01	0.80
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 P_1^o$	114658	M1	2.616E-07	7.647E+02	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d^3 P_1^o$	114658	E2	2.982E-10	8.716E-01	1.03
$2p^5 3d^3 F_2^o$	$0.45 + 0.33^1 D_2^o + 0.21^3 D_2^o$	$2p^5 3d^3 P_2^o$	16884	M1	7.429E-09	2.826E-01	1.00
$2p^5 3d^3 D_3^o$	$0.59 + 0.38^1 F_3^o$	$2p^5 3d^3 P_2^o$	22679	M1	2.964E-07	1.453E+01	1.00
$2p^5 3d^3 D_3^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3d^3 P_2^o$	43978	M1	2.944E-07	1.266E+02	1.00
$2p^5 3d^3 D_1^o$	$0.85 + 0.11^1 P_1^o$	$2p^5 3d^3 P_2^o$	43978	E2	2.961E-10	1.274E-01	1.07
$2p^5 3d^3 F_2^o$	$0.54 + 0.34^1 D_2^o + 0.12^3 D_2^o$	$2p^5 3d^3 P_2^o$	55717	M1	1.262E-07	5.228E+01	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3d^3 P_2^o$	60199	M1	1.681E-06	8.129E+02	1.00
$2p^5 3d^3 D_2^o$	$0.55 + 0.25^1 D_2^o + 0.18^3 P_2^o$	$2p^5 3d^3 P_2^o$	60199	E2	6.774E-10	3.275E-01	1.02

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^1 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	61608	M1	4.636E-07	1.677E+02	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	61608	E2	6.390E-10	2.311E-01	1.39
$2p^5 3d^1 P_1^o$		$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	105933	M1	1.425E-08	3.556E+01	1.00
$2p^5 3d^1 P_1^o$		$2p^5 3d {}^3P_2^o$	$0.81 + 0.12 {}^3D_2$	105933	E2	7.927E-10	1.978E+00	1.23
$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	$2p^5 3d {}^3F_4^o$		4998	M1	9.473E-07	2.255E+00	1.00
$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3d {}^3F_4^o$		20213	M1	1.721E-07	6.702E+00	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3d {}^3F_4^o$		57732	E2	9.794E-10	4.355E-01	1.58
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3F_4^o$		59142	M1	4.399E-06	1.466E+03	1.00
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3F_4^o$		59142	E2	1.387E-09	4.624E-01	1.20
$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	9419	M1	1.052E-06	1.245E+01	1.00
$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	15214	M1	2.325E-07	5.129E+00	1.00
$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	36513	E2	3.514E-10	1.042E-01	1.10
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3d {}^3F_2^o$	$0.69 + 0.25 {}^1F_3^o$	48252	M1	3.916E-06	1.217E+03	1.00
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	48252	E2	4.016E-10	1.247E-01	1.27
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	52734	M1	6.190E-08	2.296E+01	1.00
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	54143	M1	7.716E-09	2.155E+00	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3F_3^o$	$0.69 + 0.25 {}^1F_3^o$	98468	E2	4.164E-10	8.977E-01	3.14
$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	5795	M1	2.720E-07	8.706E-01	1.00
$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	27094	M1	8.772E-07	1.432E+02	1.00
$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	$2p^5 3d {}^3D_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	27094	E2	6.375E-10	1.041E-01	1.18
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	38833	M1	1.723E-06	3.467E+02	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	43314	M1	3.095E-07	7.746E+01	1.00
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	44724	M1	1.766E-07	3.366E+01	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	89048	M1	3.813E-07	6.724E+01	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3F_2^o$	$0.45 + 0.33 {}^1D_2^o + 0.21 {}^3D_2^o$	89048	E2	2.033E-09	3.584E+00	1.26
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	33037	M1	7.704E-08	1.122E+01	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	37519	M1	2.156E-06	4.049E+02	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	37519	E2	6.710E-10	1.260E-01	1.11
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	38929	M1	2.841E-06	4.102E+02	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3D_3^o$	$0.59 + 0.38 {}^1F_3^o$	83253	E2	8.283E-11	1.276E-01	0.30
$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	11738	M1	2.095E-07	3.851E+00	1.00
$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	16220	M1	1.617E-06	5.674E+01	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3D_1^o$	$0.85 + 0.11 {}^1P_1^o$	61954	M1	2.968E-07	2.533E+02	1.00
$2p^5 3d {}^1F_3^o$	$0.37 + 0.36 {}^3D_3^o + 0.27 {}^3F_3^o$	$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	5891	M1	4.958E-07	1.640E+00	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	50215	M1	1.149E-07	6.442E+01	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3F_2^o$	$0.54 + 0.34 {}^1D_2^o + 0.12 {}^3D_2^o$	50215	E2	2.250E-09	1.261E+00	1.20
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	45734	M1	6.815E-07	3.169E+02	1.00
$2p^5 3d {}^1P_1^o$		$2p^5 3d {}^3D_2^o$	$0.55 + 0.25 {}^1D_2^o + 0.18 {}^3P_2^o$	45734	E2	1.522E-09	7.078E-01	1.19
V XIV								
$2p^5 3s {}^3P_2^o$		$2p^6 {}^1S_0$		4190836	M2	2.440E-08	5.716E+04	1.00
$2p^5 3s {}^3P_1^o$	$0.52 + 0.48 {}^1P_1^o$	$2p^6 {}^1S_0$		4203003	E1	1.105E-01	4.339E+11	0.99
$2p^5 3s {}^1P_1^o$	$0.51 + 0.48 {}^3P_1^o$	$2p^6 {}^1S_0$		4257267	E1	1.172E-01	4.723E+11	0.99
$2p^5 3p {}^3S_1$	$0.87 + 0.11 {}^3P_1$	$2p^6 {}^1S_0$		4387792	M1	7.627E-09	3.265E+04	1.00
$2p^5 3p {}^3D_2$	$0.62 + 0.28 {}^1D_2$	$2p^6 {}^1S_0$		4415187	E2	6.597E-05	1.716E+08	1.00
$2p^5 3p {}^1P_1$	$0.45 + 0.32 {}^3D_1 + 0.21 {}^3P_1$	$2p^6 {}^1S_0$		4429091	M1	8.038E-10	3.506E+03	1.00
$2p^5 3p {}^3P_2$	$0.67 + 0.33 {}^1D_2$	$2p^6 {}^1S_0$		4439121	E2	7.635E-05	2.007E+08	1.00
$2p^5 3p {}^3D_1$	$0.63 + 0.34 {}^1P_1$	$2p^6 {}^1S_0$		4470206	M1	6.661E-11	2.959E+02	1.00
$2p^5 3p {}^3P_1$	$0.66 + 0.20 {}^1P_1$	$2p^6 {}^1S_0$		4486341	M1	1.130E-08	5.059E+04	1.00
$2p^5 3p {}^1D_2$	$0.39 + 0.37 {}^3D_2 + 0.23 {}^3P_2$	$2p^6 {}^1S_0$		4487438	E2	9.194E-05	2.470E+08	1.00
$2p^5 3d {}^3P_1^o$		$2p^6 {}^1S_0$		4698286	E1	8.505E-03	4.174E+10	1.01
$2p^5 3d {}^3P_2^o$	$0.78 + 0.13 {}^3D_2$	$2p^6 {}^1S_0$		4708380	M2	5.773E-07	1.707E+06	1.00
$2p^5 3d {}^3F_2^o$	$0.42 + 0.35 {}^1D_2^o + 0.22 {}^3D_2^o$	$2p^6 {}^1S_0$		4726324	M2	7.574E-08	2.257E+05	1.00
$2p^5 3d {}^3D_1^o$	$0.83 + 0.13 {}^1P_1^o$	$2p^6 {}^1S_0$		4757622	E1	3.878E-01	1.952E+12	1.00
$2p^5 3d {}^3F_2^o$	$0.57 + 0.32 {}^1D_2^o + 0.10 {}^3D_2^o$	$2p^6 {}^1S_0$		4774511	M2	4.552E-08	1.384E+05	1.00
$2p^5 3d {}^3D_2^o$	$0.54 + 0.24 {}^1D_2^o + 0.21 {}^3P_2^o$	$2p^6 {}^1S_0$		4779422	M2	1.189E-08	3.625E+04	1.00
$2p^5 3d {}^1P_1^o$	$0.86 + 0.12 {}^3D_1^o$	$2p^6 {}^1S_0$		4829331	E1	2.285E+00	1.185E+13	1.00
$2p^5 3s {}^3P_1^o$	$0.52 + 0.48 {}^1P_1^o$	$2p^5 3s {}^3P_2^o$		12167	M1	6.375E-07	2.098E+01	1.00
$2p^5 3s {}^3P_0^o$		$2p^5 3s {}^3P_2^o$		57724	E2	5.897E-11	1.311E-01	1.07
$2p^5 3s {}^1P_1^o$	$0.51 + 0.48 {}^3P_1^o$	$2p^5 3s {}^3P_2^o$		66431	M1	3.233E-06	3.172E+03	1.00
$2p^5 3p {}^3S_1$	$0.87 + 0.11 {}^3P_1$	$2p^5 3s {}^3P_2^o$		196956	E1	2.600E-01	2.242E+09	0.98
$2p^5 3p {}^3S_1$	$0.87 + 0.11 {}^3P_1$	$2p^5 3s {}^3P_2^o$		196956	M2	5.980E-11	5.158E-01	1.00
$2p^5 3p {}^3D_2$	$0.62 + 0.28 {}^1D_2$	$2p^5 3s {}^3P_2^o$		224351	E1	2.783E-01	1.869E+09	0.99
$2p^5 3p {}^3D_3$		$2p^5 3s {}^3P_2^o$		228882	E1	8.877E-01	4.432E+09	0.99
$2p^5 3p {}^3D_3$		$2p^5 3s {}^3P_2^o$		228882	M2	2.245E-10	1.121E+00	1.00
$2p^5 3p {}^1P_1$	$0.45 + 0.32 {}^3D_1 + 0.21 {}^3P_1$	$2p^5 3s {}^3P_2^o$		238255	E1	3.560E-02	4.493E+08	0.98
$2p^5 3p {}^1P_1$	$0.45 + 0.32 {}^3D_1 + 0.21 {}^3P_1$	$2p^5 3s {}^3P_2^o$		238255	M2	1.339E-10	1.690E+00	1.00
$2p^5 3p {}^3P_2$	$0.67 + 0.33 {}^1D_2$	$2p^5 3s {}^3P_2^o$		248284	E1	3.821E-01	3.142E+09	0.98

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_2$	$0.67 + 0.33 \ ^1D_2$	$2p^5 3s^3 P_2^o$	248284	M2	3.296E-10	2.710E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_2^o$	275777	M2	7.063E-11	3.583E+00	1.00
$2p^5 3p^3 D_1$	$0.63 + 0.34 \ ^1P_1$	$2p^5 3s^3 P_2^o$	279370	E1	3.100E-05	5.380E+05	1.36
$2p^5 3p^3 D_1$	$0.63 + 0.34 \ ^1P_1$	$2p^5 3s^3 P_2^o$	279370	M2	1.384E-11	2.402E-01	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.20 \ ^1P_1$	$2p^5 3s^3 P_2^o$	295505	E1	3.785E-02	7.350E+08	0.98
$2p^5 3p^3 P_1$	$0.66 + 0.20 \ ^1P_1$	$2p^5 3s^3 P_2^o$	295505	M2	1.492E-11	2.896E-01	1.00
$2p^5 3p^1 D_2$	$0.39 + 0.37 \ ^3D_2 + 0.23 \ ^3P_2$	$2p^5 3s^3 P_2^o$	296602	E1	1.085E-02	1.273E+08	0.95
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	395780	M2	2.211E-10	2.310E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	502408	E2	1.505E-06	2.534E+05	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	507450	M1	4.838E-10	2.770E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	507450	E2	4.247E-06	2.432E+05	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13 \ ^3D_2$	$2p^5 3s^3 P_2^o$	517544	M1	7.365E-10	2.632E+01	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13 \ ^3D_2$	$2p^5 3s^3 P_2^o$	517544	E2	5.327E-06	1.904E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	519593	E2	1.477E-05	2.955E+05	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	524977	M1	4.562E-12	1.198E-01	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	524977	E2	5.090E-06	1.337E+05	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35 \ ^1D_2^o + 0.22 \ ^3D_2^o$	$2p^5 3s^3 P_2^o$	535488	M1	8.747E-12	3.346E-01	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35 \ ^1D_2^o + 0.22 \ ^3D_2^o$	$2p^5 3s^3 P_2^o$	535488	E2	2.395E-06	9.163E+04	1.00
$2p^5 3d^3 D_3^o$	$0.61 + 0.36 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	541889	M1	2.156E-11	6.032E-01	1.00
$2p^5 3d^3 D_3^o$	$0.61 + 0.36 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	541889	E2	7.010E-06	1.961E+05	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13 \ ^1P_1^o$	$2p^5 3s^3 P_2^o$	566786	M1	2.129E-10	1.521E+01	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13 \ ^1P_1^o$	$2p^5 3s^3 P_2^o$	566786	E2	5.074E-07	3.624E+04	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32 \ ^1D_2^o + 0.10 \ ^3D_2^o$	$2p^5 3s^3 P_2^o$	583675	E2	8.978E-08	4.080E+03	1.01
$2p^5 3d^3 D_2^o$	$0.54 + 0.24 \ ^1D_2^o + 0.21 \ ^3P_2^o$	$2p^5 3s^3 P_2^o$	588586	M1	5.838E-12	2.698E-01	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24 \ ^1D_2^o + 0.21 \ ^3P_2^o$	$2p^5 3s^3 P_2^o$	588586	E2	8.334E-07	3.852E+04	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 \ ^3D_3^o + 0.29 \ ^3F_3^o$	$2p^5 3s^3 P_2^o$	590640	M1	1.764E-11	5.863E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 \ ^3D_3^o + 0.29 \ ^3F_3^o$	$2p^5 3s^3 P_2^o$	590640	E2	4.755E-07	1.581E+04	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12 \ ^3D_1^o$	$2p^5 3s^3 P_2^o$	638495	M1	2.039E-10	1.848E+01	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12 \ ^3D_1^o$	$2p^5 3s^3 P_2^o$	638495	E2	3.055E-08	2.769E+03	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_1^o$	45556	M1	1.901E-06	2.631E+03	1.00
$2p^5 3s^1 P_1^o$	$0.51 + 0.48 \ ^3P_1^o$	$2p^5 3s^3 P_1^o$	54264	M1	8.210E-07	5.375E+02	1.00
$2p^5 3p^3 S_1$	$0.87 + 0.11 \ ^3P_1$	$2p^5 3s^3 P_1^o$	184789	E1	2.528E-02	1.920E+08	0.98
$2p^5 3p^3 D_2$	$0.62 + 0.28 \ ^1D_2$	$2p^5 3s^3 P_1^o$	212184	E1	3.260E-01	1.958E+09	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_1^o$	216715	M2	2.705E-10	1.211E+00	1.00
$2p^5 3p^1 P_1$	$0.45 + 0.32 \ ^3D_1 + 0.21 \ ^3P_1$	$2p^5 3s^3 P_1^o$	226088	E1	3.379E-01	3.840E+09	0.99
$2p^5 3p^1 P_1$	$0.45 + 0.32 \ ^3D_1 + 0.21 \ ^3P_1$	$2p^5 3s^3 P_1^o$	226088	M2	1.230E-11	1.398E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33 \ ^1D_2$	$2p^5 3s^3 P_1^o$	236117	E1	2.898E-01	2.156E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.33 \ ^1D_2$	$2p^5 3s^3 P_1^o$	236117	M2	1.250E-10	9.296E-01	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	263609	E1	1.067E-01	4.945E+09	0.99
$2p^5 3p^3 D_1$	$0.63 + 0.34 \ ^1P_1$	$2p^5 3s^3 P_1^o$	267203	E1	2.178E-03	3.457E+07	1.01
$2p^5 3p^3 P_1$	$0.66 + 0.20 \ ^1P_1$	$2p^5 3s^3 P_1^o$	283338	E1	1.686E-05	3.009E+05	0.63
$2p^5 3p^3 P_1$	$0.66 + 0.20 \ ^1P_1$	$2p^5 3s^3 P_1^o$	283338	M2	2.881E-11	5.143E-01	1.00
$2p^5 3p^1 D_2$	$0.39 + 0.37 \ ^3D_2 + 0.23 \ ^3P_2$	$2p^5 3s^3 P_1^o$	284435	E1	1.037E-02	1.119E+08	0.99
$2p^5 3p^1 D_2$	$0.39 + 0.37 \ ^3D_2 + 0.23 \ ^3P_2$	$2p^5 3s^3 P_1^o$	284435	M2	1.159E-11	1.251E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	383612	E1	7.870E-02	7.725E+09	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	490241	M1	3.782E-10	6.064E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	495283	M1	3.285E-10	1.792E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	495283	E2	2.689E-07	1.467E+04	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13 \ ^3D_2$	$2p^5 3s^3 P_1^o$	505377	E2	2.218E-06	7.557E+04	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27 \ ^1F_3^o$	$2p^5 3s^3 P_1^o$	512809	E2	6.354E-06	1.592E+05	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35 \ ^1D_2^o + 0.22 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	523321	M1	2.950E-11	1.078E+00	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35 \ ^1D_2^o + 0.22 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	523321	E2	5.842E-06	2.134E+05	1.00
$2p^5 3d^3 D_3^o$	$0.61 + 0.36 \ ^1F_3^o$	$2p^5 3s^3 P_1^o$	529722	E2	5.093E-06	1.362E+05	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13 \ ^1P_1^o$	$2p^5 3s^3 P_1^o$	554619	M1	4.147E-11	2.836E+00	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13 \ ^1P_1^o$	$2p^5 3s^3 P_1^o$	554619	E2	5.048E-06	3.453E+05	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32 \ ^1D_2^o + 0.10 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	571508	M1	1.409E-11	6.141E-01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32 \ ^1D_2^o + 0.10 \ ^3D_2^o$	$2p^5 3s^3 P_1^o$	571508	E2	4.515E-08	1.967E+03	0.98
$2p^5 3d^3 D_2^o$	$0.54 + 0.24 \ ^1D_2^o + 0.21 \ ^3P_2^o$	$2p^5 3s^3 P_1^o$	576419	M1	4.341E-11	1.924E+00	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24 \ ^1D_2^o + 0.21 \ ^3P_2^o$	$2p^5 3s^3 P_1^o$	576419	E2	2.290E-09	1.015E+02	0.94
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 \ ^3D_3^o + 0.29 \ ^3F_3^o$	$2p^5 3s^3 P_1^o$	578473	E2	2.778E-07	8.858E+03	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12 \ ^3D_1^o$	$2p^5 3s^3 P_1^o$	626328	M1	9.861E-12	8.601E-01	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12 \ ^3D_1^o$	$2p^5 3s^3 P_1^o$	626328	E2	1.560E-06	1.360E+05	1.01
$2p^5 3s^1 P_1^o$	$0.51 + 0.48 \ ^3P_1^o$	$2p^5 3s^3 P_0^o$	8707	M1	3.417E-07	5.761E+00	1.00
$2p^5 3p^3 S_1$	$0.87 + 0.11 \ ^3P_1$	$2p^5 3s^3 P_0^o$	139232	E1	5.211E-03	2.246E+07	0.91
$2p^5 3p^1 P_1$	$0.45 + 0.32 \ ^3D_1 + 0.21 \ ^3P_1$	$2p^5 3s^3 P_0^o$	180531	E1	3.311E-03	2.399E+07	0.95
$2p^5 3p^3 D_1$	$0.63 + 0.34 \ ^1P_1$	$2p^5 3s^3 P_0^o$	221646	E1	1.584E-01	1.730E+09	0.99
$2p^5 3p^3 P_1$	$0.66 + 0.20 \ ^1P_1$	$2p^5 3s^3 P_0^o$	237781	E1	2.101E-01	2.641E+09	0.99

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^1 D_2$	$0.39 + 0.37^3 D_2 + 0.23^3 P_2$	$2p^5 3s^3 P_0^o$	238878	M2	1.741E-10	1.326E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_0^o$	449726	M1	3.585E-12	1.612E-01	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13^3 D_2$	$2p^5 3s^3 P_0^o$	459820	E2	2.252E-07	6.353E+03	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35^1 D_2^o + 0.22^3 D_2^o$	$2p^5 3s^3 P_0^o$	477764	E2	1.761E-07	5.362E+03	0.99
$2p^5 3d^3 D_1^o$	$0.83 + 0.13^1 P_1^o$	$2p^5 3s^3 P_0^o$	509062	M1	1.186E-11	6.834E-01	1.00
$2p^5 3d^3 F_1^o$	$0.57 + 0.32^1 D_2^o + 0.10^3 D_2^o$	$2p^5 3s^3 P_0^o$	525951	E2	3.926E-06	1.449E+05	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24^1 D_2^o + 0.21^3 P_2^o$	$2p^5 3s^3 P_0^o$	530862	E2	4.122E-06	1.550E+05	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12^3 D_1^o$	$2p^5 3s^3 P_0^o$	580771	M1	3.374E-10	2.530E+01	1.00
$2p^5 3p^3 S_1$	$0.87 + 0.11^3 P_1$	$2p^5 3s^1 P_1^o$	130525	E1	5.804E-03	2.199E+07	0.96
$2p^5 3p^3 D_2$	$0.62 + 0.28^1 D_2$	$2p^5 3s^1 P_1^o$	157920	E1	1.661E-04	5.527E+05	0.85
$2p^5 3p^1 P_1$	$0.45 + 0.32^3 D_1 + 0.21^3 P_1$	$2p^5 3s^1 P_1^o$	171824	E1	2.932E-05	1.925E+05	1.40
$2p^5 3p^3 P_2$	$0.67 + 0.33^1 D_2$	$2p^5 3s^1 P_1^o$	181853	E1	1.300E-02	5.738E+07	1.01
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	209345	E1	3.452E-02	1.009E+09	0.99
$2p^5 3p^3 D_1$	$0.63 + 0.34^1 P_1$	$2p^5 3s^1 P_1^o$	212939	E1	1.973E-01	1.989E+09	0.99
$2p^5 3p^3 P_1$	$0.66 + 0.20^1 P_1$	$2p^5 3s^1 P_1^o$	229074	E1	1.514E-01	1.766E+09	0.99
$2p^5 3p^3 P_1$	$0.66 + 0.20^1 P_1$	$2p^5 3s^1 P_1^o$	229074	M2	1.970E-10	2.299E+00	1.00
$2p^5 3p^1 D_2$	$0.39 + 0.37^3 D_2 + 0.23^3 P_2$	$2p^5 3s^1 P_1^o$	230171	E1	6.292E-01	4.447E+09	0.99
$2p^5 3p^1 D_2$	$0.39 + 0.37^3 D_2 + 0.23^3 P_2$	$2p^5 3s^1 P_1^o$	230171	M2	2.271E-10	1.605E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	329348	E1	1.469E-01	1.063E+10	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	435976	M1	1.057E-11	1.340E+00	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	441019	M1	1.634E-11	7.068E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	441019	E2	7.403E-08	3.201E+03	0.99
$2p^5 3d^3 P_2^o$	$0.78 + 0.13^3 D_2$	$2p^5 3s^1 P_1^o$	451113	M1	7.995E-11	2.170E+00	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13^3 D_2$	$2p^5 3s^1 P_1^o$	451113	E2	1.063E-07	2.885E+03	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27^1 F_3^o$	$2p^5 3s^1 P_1^o$	458545	E2	2.045E-11	4.097E-01	1.45
$2p^5 3d^3 F_2^o$	$0.42 + 0.35^1 D_2^o + 0.22^3 D_2^o$	$2p^5 3s^1 P_1^o$	469057	M1	1.038E-11	3.046E-01	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35^1 D_2^o + 0.22^3 D_2^o$	$2p^5 3s^1 P_1^o$	469057	E2	7.577E-10	2.224E+01	0.86
$2p^5 3d^3 D_3^o$	$0.61 + 0.36^1 F_3^o$	$2p^5 3s^1 P_1^o$	475458	E2	4.463E-07	9.613E+03	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13^1 P_1^o$	$2p^5 3s^1 P_1^o$	500355	M1	1.487E-10	8.280E+00	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13^1 P_1^o$	$2p^5 3s^1 P_1^o$	500355	E2	4.349E-07	2.421E+04	0.99
$2p^5 3d^3 F_2^o$	$0.57 + 0.32^1 D_2^o + 0.10^3 D_2^o$	$2p^5 3s^1 P_1^o$	517244	M1	5.142E-12	1.835E-01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32^1 D_2^o + 0.10^3 D_2^o$	$2p^5 3s^1 P_1^o$	517244	E2	4.193E-06	1.496E+05	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24^1 D_2^o + 0.21^3 P_2^o$	$2p^5 3s^1 P_1^o$	522155	M1	3.040E-10	1.106E+01	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24^1 D_2^o + 0.21^3 P_2^o$	$2p^5 3s^1 P_1^o$	522155	E2	3.787E-06	1.378E+05	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34^3 D_3^o + 0.29^3 F_3^o$	$2p^5 3s^1 P_1^o$	524209	E2	1.134E-05	2.969E+05	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12^3 D_1^o$	$2p^5 3s^1 P_1^o$	572064	M1	3.724E-10	2.709E+01	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12^3 D_1^o$	$2p^5 3s^1 P_1^o$	572064	E2	6.337E-06	4.611E+05	1.01
$2p^5 3p^3 D_2$	$0.62 + 0.28^1 D_2$	$2p^5 3p^3 S_1$	27395	M1	7.105E-08	7.113E+00	1.00
$2p^5 3p^3 D_3$		$2p^5 3p^3 S_1$	31926	E2	1.748E-09	1.698E-01	1.16
$2p^5 3p^1 P_1$	$0.45 + 0.32^3 D_1 + 0.21^3 P_1$	$2p^5 3p^3 S_1$	41298	M1	4.572E-08	1.734E+01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33^1 D_2$	$2p^5 3p^3 S_1$	51328	M1	3.785E-07	1.330E+02	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	78820	M1	6.626E-07	2.746E+03	1.00
$2p^5 3p^3 D_1$	$0.63 + 0.34^1 P_1$	$2p^5 3p^3 S_1$	82414	M1	1.639E-07	2.475E+02	1.00
$2p^5 3p^3 D_1$	$0.63 + 0.34^1 P_1$	$2p^5 3p^3 S_1$	82414	E2	5.492E-10	8.293E-01	1.45
$2p^5 3p^3 P_1$	$0.66 + 0.20^1 P_1$	$2p^5 3p^3 S_1$	98548	M1	5.576E-07	1.204E+03	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.20^1 P_1$	$2p^5 3p^3 S_1$	98548	E2	7.199E-11	1.555E-01	1.38
$2p^5 3p^1 D_2$	$0.39 + 0.37^3 D_2 + 0.23^3 P_2$	$2p^5 3p^3 S_1$	99646	M1	1.249E-07	1.655E+02	1.00
$2p^5 3p^1 D_2$	$0.39 + 0.37^3 D_2 + 0.23^3 P_2$	$2p^5 3p^3 S_1$	99646	E2	8.473E-10	1.122E+00	1.34
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$	198823	M1	5.543E-08	1.462E+03	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	305451	E1	1.338E-01	8.325E+09	0.99
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	310494	E1	3.337E-01	7.152E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	310494	M2	1.010E-10	2.165E+00	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13^3 D_2$	$2p^5 3p^3 S_1$	320588	E1	3.338E-01	4.577E+09	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13^3 D_2$	$2p^5 3p^3 S_1$	320588	M2	1.442E-10	1.978E+00	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27^1 F_3^o$	$2p^5 3p^3 S_1$	328020	M2	1.567E-11	1.607E-01	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35^1 D_2^o + 0.22^3 D_2^o$	$2p^5 3p^3 S_1$	338532	E1	7.769E-03	1.188E+08	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35^1 D_2^o + 0.22^3 D_2^o$	$2p^5 3p^3 S_1$	338532	M2	5.318E-11	8.130E-01	1.00
$2p^5 3d^3 D_3^o$	$0.61 + 0.36^1 F_3^o$	$2p^5 3p^3 S_1$	344933	M2	6.379E-11	7.232E-01	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13^1 P_1^o$	$2p^5 3p^3 S_1$	369830	E1	1.574E-04	4.786E+06	1.02
$2p^5 3d^3 D_1^o$	$0.83 + 0.13^1 P_1^o$	$2p^5 3p^3 S_1$	369830	M2	4.035E-10	1.227E+01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32^1 D_2^o + 0.10^3 D_2^o$	$2p^5 3p^3 S_1$	386719	E1	9.591E-04	1.913E+07	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32^1 D_2^o + 0.10^3 D_2^o$	$2p^5 3p^3 S_1$	386719	M2	8.837E-12	1.763E-01	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24^1 D_2^o + 0.21^3 P_2^o$	$2p^5 3p^3 S_1$	391630	E1	3.384E-03	6.924E+07	0.98
$2p^5 3d^3 D_2^o$	$0.54 + 0.24^1 D_2^o + 0.21^3 P_2^o$	$2p^5 3p^3 S_1$	391630	M2	6.385E-11	1.306E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34^3 D_3^o + 0.29^3 F_3^o$	$2p^5 3p^3 S_1$	393684	M2	2.901E-11	4.285E-01	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12^3 D_1^o$	$2p^5 3p^3 S_1$	441539	E1	2.708E-04	1.174E+07	1.03
$2p^5 3d^1 P_1^o$	$0.86 + 0.12^3 D_1^o$	$2p^5 3p^3 S_1$	441539	M2	3.477E-10	1.507E+01	1.00

Continued. . .

Table 3 (continued)

Upper		Lower		ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^3 D_3$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	4530	M1	5.314E-07	1.040E+00	1.00
$2p^5 3p^1 P_1$	$0.45 + 0.32$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	13903	M1	7.753E-07	3.332E+01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	23933	M1	5.396E-07	4.124E+01	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	51425	E2	1.999E-09	3.525E+00	1.09
$2p^5 3p^3 D_1$	$0.63 + 0.34$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	55019	M1	3.545E-06	2.386E+03	1.00
$2p^5 3p^3 D_1$	$0.63 + 0.34$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	55019	E2	3.076E-10	2.071E-01	1.16
$2p^5 3p^3 P_1$	$0.66 + 0.20$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	71153	M1	7.497E-09	8.440E+00	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.20$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	71153	E2	1.483E-10	1.669E-01	1.30
$2p^5 3p^1 D_2$	$0.39 + 0.37$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	72251	M1	2.060E-09	1.434E+00	1.00
$2p^5 3p^1 D_2$	$0.39 + 0.37$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	72251	E2	5.340E-10	3.719E-01	1.23
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	171428	E2	1.966E-08	3.853E+02	0.97
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	278056	M2	2.942E-12	1.517E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	283099	E1	3.083E-02	5.495E+08	0.96
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	283099	M2	2.248E-11	4.006E-01	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	293193	E1	4.156E-02	4.766E+08	1.03
$2p^5 3d^3 P_2^o$	$0.78 + 0.13$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	293193	M2	4.084E-11	4.683E-01	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	295242	M2	3.847E-10	2.485E+00	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	300625	E1	9.695E-01	8.349E+09	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	300625	M2	2.677E-11	2.305E-01	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	311136	E1	2.900E-01	3.746E+09	1.01
$2p^5 3d^3 D_3^o$	$0.61 + 0.36$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	317537	E1	8.072E-03	7.756E+07	1.02
$2p^5 3d^3 D_3^o$	$0.61 + 0.36$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	317537	M2	1.826E-10	1.754E+00	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	342435	E1	2.278E-02	5.938E+08	1.00
$2p^5 3d^3 D_2^o$	$0.57 + 0.32$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	359323	E1	6.828E-03	1.176E+08	1.03
$2p^5 3d^3 D_2^o$	$0.54 + 0.24$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	364235	E1	1.478E-02	2.616E+08	1.00
$2p^5 3d^3 D_2^o$	$0.54 + 0.24$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	364235	M2	3.738E-11	6.616E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	366289	E1	4.160E-05	5.319E+05	1.03
$2p^5 3d^1 F_3^o$	$0.37 + 0.34$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	366289	M2	1.232E-11	1.575E-01	1.00
$2p^5 3d^1 P_1^o$	$0.86 + 0.12$	$2p^5 3p^3 D_2$	$0.62 + 0.28$	¹ D_2	414143	E1	1.960E-04	7.474E+06	1.81
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$2p^5 3p^3 D_3$			19402	M1	1.026E-08	5.153E-01	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.20$	$2p^5 3p^3 D_3$			66622	E2	2.825E-09	2.788E+00	1.22
$2p^5 3p^1 D_2$	$0.39 + 0.37$	$2p^5 3p^3 D_3$			67720	M1	4.778E-06	2.923E+03	1.00
$2p^5 3p^1 D_2$	$0.39 + 0.37$	$2p^5 3p^3 D_3$			67720	E2	1.023E-09	6.258E-01	1.18
$2p^5 3d^3 P_2^o$	$0.78 + 0.13$	$2p^5 3p^3 D_3$			288662	E1	2.228E-02	2.477E+08	0.93
$2p^5 3d^3 P_2^o$	$0.78 + 0.13$	$2p^5 3p^3 D_3$			288662	M2	1.229E-10	1.366E+00	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$			290711	E1	1.424E+00	8.920E+09	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$			290711	M2	1.303E-09	8.163E+00	1.00
$2p^5 3d^3 F_3^o$	$0.68 + 0.27$	$2p^5 3p^3 D_3$			296094	E1	1.643E-01	1.373E+09	1.00
$2p^5 3d^3 F_3^o$	$0.42 + 0.35$	$2p^5 3p^3 D_3$			306606	E1	1.565E-02	1.963E+08	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35$	$2p^5 3p^3 D_3$			306606	M2	3.206E-11	4.021E-01	1.00
$2p^5 3d^3 D_3^o$	$0.61 + 0.36$	$2p^5 3p^3 D_3$			313006	E1	2.250E-01	2.100E+09	1.02
$2p^5 3d^3 D_3^o$	$0.61 + 0.36$	$2p^5 3p^3 D_3$			313006	M2	7.943E-10	7.415E+00	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13$	$2p^5 3p^3 D_3$			337904	M2	5.117E-12	1.299E-01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32$	$2p^5 3p^3 D_3$			354792	E1	4.587E-04	7.703E+06	0.99
$2p^5 3d^3 D_2^o$	$0.54 + 0.24$	$2p^5 3p^3 D_3$			359704	E1	8.812E-03	1.521E+08	1.09
$2p^5 3d^3 D_2^o$	$0.54 + 0.24$	$2p^5 3p^3 D_3$			359704	M2	1.959E-11	3.381E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34$	$2p^5 3p^3 D_3$			361758	E1	1.511E-02	1.885E+08	1.04
$2p^5 3d^1 F_3^o$	$0.37 + 0.34$	$2p^5 3p^3 D_3$			361758	M2	1.193E-11	1.488E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	10029	M1	1.823E-07	2.447E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	37521	M1	6.286E-07	5.903E+02	1.00
$2p^5 3p^3 D_1$	$0.63 + 0.34$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	41115	M1	6.214E-07	2.336E+02	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.20$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	57250	M1	1.166E-06	8.495E+02	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.20$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	57250	E2	2.092E-10	1.525E-01	1.18
$2p^5 3p^1 D_2$	$0.39 + 0.37$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	58347	M1	3.405E-07	1.547E+02	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	157524	M1	9.457E-08	1.565E+03	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	264152	E1	1.023E-02	4.761E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	269195	E1	5.487E-03	8.840E+07	1.07
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	269195	M2	1.609E-11	2.593E-01	1.00
$2p^5 3d^3 P_2^o$	$0.78 + 0.13$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	279289	E1	6.155E-02	6.404E+08	1.01
$2p^5 3d^3 F_2^o$	$0.42 + 0.35$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	297233	E1	5.233E-01	6.168E+09	1.00
$2p^5 3d^3 F_2^o$	$0.42 + 0.35$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	297233	M2	1.466E-11	1.728E-01	1.00
$2p^5 3d^3 D_3^o$	$0.61 + 0.36$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	303634	M2	6.472E-10	5.686E+00	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	328531	E1	2.197E-01	5.273E+09	1.00
$2p^5 3d^3 D_1^o$	$0.83 + 0.13$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	328531	M2	4.097E-11	9.832E-01	1.00
$2p^5 3d^3 F_2^o$	$0.57 + 0.32$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	345420	E1	1.101E-04	1.753E+06	1.02
$2p^5 3d^3 D_2^o$	$0.54 + 0.24$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	350331	E1	2.446E-03	4.005E+07	1.01
$2p^5 3d^3 D_2^o$	$0.54 + 0.24$	$2p^5 3p^1 P_1$	$0.45 + 0.32$	³ $D_1 + 0.21$	350331	M2	1.586E-11	2.597E-01	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_2^o$	$0.76 + 0.15 \ ^3D_2$	$2p^5 3p^3 D_3$	309474	M2	1.340E-10	1.712E+00	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 D_3$	311057	E1	1.335E+00	9.573E+09	1.00
$2p^5 3d^3 F_3^o$		$2p^5 3p^3 D_3$	311057	M2	1.398E-09	1.002E+01	1.00
$2p^5 3d^3 F_3^o$	$0.67 + 0.28 \ ^1F_3^o$	$2p^5 3p^3 D_3$	316738	E1	1.545E-01	1.477E+09	1.00
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 D_3$	328352	E1	1.459E-02	2.098E+08	1.00
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 D_3$	328352	M2	3.603E-11	5.183E-01	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 D_3$	335433	E1	2.133E-01	2.287E+09	1.02
$2p^5 3d^3 D_3^o$	$0.62 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 D_3$	335433	M2	8.577E-10	9.196E+00	1.00
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 \ ^1P_1^o$	$2p^5 3p^3 D_3$	364237	M2	5.769E-12	1.702E-01	1.00
$2p^5 3d^3 F_2^o$	$0.59 + 0.31 \ ^1D_2^o$	$2p^5 3p^3 D_3$	387670	E1	2.887E-04	5.789E+06	0.98
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 D_3$	393059	E1	7.638E-03	1.574E+08	1.09
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 D_3$	393059	M2	1.827E-11	3.766E-01	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.32 \ ^3D_3^o + 0.30 \ ^3F_3^o$	$2p^5 3p^3 D_3$	395805	E1	1.156E-02	1.725E+08	1.04
$2p^5 3d^3 F_3^o$	$0.37 + 0.32 \ ^3D_3^o + 0.30 \ ^3F_3^o$	$2p^5 3p^3 D_3$	395805	M2	1.001E-11	1.494E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 \ ^1D_2$	$2p^5 3p^3 P_1$	11402	M1	1.988E-07	3.449E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 P_1$	43898	M1	7.121E-07	9.153E+02	1.00
$2p^5 3p^3 D_1$	$0.65 + 0.32 \ ^1P_1$	$2p^5 3p^3 P_1$	50842	M1	6.743E-07	3.875E+02	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.19 \ ^1P_1 + 0.11 \ ^3S_1$	$2p^5 3p^3 P_1$	69808	M1	1.512E-06	1.638E+03	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.19 \ ^1P_1 + 0.11 \ ^3S_1$	$2p^5 3p^3 P_1$	69808	E2	2.194E-10	2.377E-01	1.17
$2p^5 3p^3 D_2$	$0.39 + 0.39 \ ^3D_2 + 0.22 \ ^3P_2$	$2p^5 3p^3 P_1$	71524	M1	4.058E-07	2.769E+02	1.00
$2p^5 3p^3 S_0$		$2p^5 3p^3 P_1$	173752	M1	1.294E-07	2.605E+03	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_1$	282661	E1	7.999E-03	4.263E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_1$	288508	E1	3.993E-03	7.390E+07	1.07
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_1$	288508	M2	1.883E-11	3.485E-01	1.00
$2p^5 3d^3 P_0^o$	$0.76 + 0.15 \ ^3D_2$	$2p^5 3p^3 P_1$	300047	E1	6.324E-02	7.596E+08	1.01
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 P_1$	318925	E1	4.901E-01	6.651E+09	1.00
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 P_1$	318925	M2	1.516E-11	2.056E-01	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 P_1$	326006	M2	7.141E-10	7.232E+00	1.00
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 \ ^1P_1^o$	$2p^5 3p^3 P_1$	354810	E1	2.096E-01	5.867E+09	1.00
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 \ ^1P_1^o$	$2p^5 3p^3 P_1$	354810	M2	5.478E-11	1.533E+00	1.00
$2p^5 3d^3 F_2^o$	$0.59 + 0.31 \ ^1D_2^o$	$2p^5 3p^3 P_1$	378243	E1	1.308E-04	2.497E+06	1.02
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 P_1$	383632	E1	1.728E-03	3.393E+07	1.01
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 P_1$	383632	M2	1.746E-11	3.428E-01	1.00
$2p^5 3d^3 P_1^o$	$0.83 + 0.14 \ ^3D_1^o$	$2p^5 3p^3 P_1$	437357	E1	3.662E-02	1.557E+09	0.99
$2p^5 3d^3 P_1^o$	$0.83 + 0.14 \ ^3D_1^o$	$2p^5 3p^3 P_1$	437357	M2	4.158E-11	1.768E+00	1.00
$2p^5 3p^3 D_1$	$0.65 + 0.32 \ ^1P_1$	$2p^5 3p^3 P_2$	39439	M1	5.651E-09	1.954E+00	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.19 \ ^1P_1 + 0.11 \ ^3S_1$	$2p^5 3p^3 P_2$	58405	M1	2.449E-06	1.857E+03	1.00
$2p^5 3p^3 D_2$	$0.39 + 0.39 \ ^3D_2 + 0.22 \ ^3P_2$	$2p^5 3p^3 P_2$	60121	M1	2.569E-06	1.239E+03	1.00
$2p^5 3p^3 S_0$		$2p^5 3p^3 P_2$	162349	E2	2.007E-08	3.529E+02	0.98
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	277105	E1	5.477E-02	9.352E+08	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	277105	M2	3.748E-11	6.399E-01	1.00
$2p^5 3d^3 P_2^o$	$0.76 + 0.15 \ ^3D_2$	$2p^5 3p^3 P_2$	288644	E1	2.762E-01	3.070E+09	1.01
$2p^5 3d^3 P_2^o$	$0.76 + 0.15 \ ^3D_2$	$2p^5 3p^3 P_2$	288644	M2	3.874E-10	4.306E+00	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	290227	M2	4.188E-10	2.614E+00	1.00
$2p^5 3d^3 F_3^o$	$0.67 + 0.28 \ ^1F_3^o$	$2p^5 3p^3 P_2$	295908	E1	1.045E-02	8.720E+07	1.00
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 P_2$	307522	E1	2.427E-05	3.062E+05	0.74
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 P_2$	307522	M2	9.773E-11	1.233E+00	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 P_2$	314603	E1	8.709E-01	8.214E+09	1.00
$2p^5 3d^3 D_3^o$	$0.62 + 0.35 \ ^1F_3^o$	$2p^5 3p^3 P_2$	314603	M2	2.859E-10	2.696E+00	1.00
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 \ ^1P_1^o$	$2p^5 3p^3 P_2$	343407	E1	4.014E-04	1.053E+07	1.25
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 \ ^1P_1^o$	$2p^5 3p^3 P_2$	343407	M2	1.629E-10	4.270E+00	1.00
$2p^5 3d^3 F_2^o$	$0.59 + 0.31 \ ^1D_2^o$	$2p^5 3p^3 P_2$	366840	E1	8.682E-04	1.559E+07	1.02
$2p^5 3d^3 F_2^o$	$0.59 + 0.31 \ ^1D_2^o$	$2p^5 3p^3 P_2$	366840	M2	1.053E-11	1.890E-01	1.00
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 P_2$	372229	E1	3.551E-02	6.563E+08	1.01
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 P_2$	372229	M2	6.315E-11	1.167E+00	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.32 \ ^3D_3^o + 0.30 \ ^3F_3^o$	$2p^5 3p^3 P_2$	374975	E1	1.554E-03	2.082E+07	1.01
$2p^5 3d^3 P_1^o$	$0.83 + 0.14 \ ^3D_1^o$	$2p^5 3p^3 P_2$	425954	E1	1.161E-03	4.685E+07	0.83
$2p^5 3d^3 P_1^o$	$0.83 + 0.14 \ ^3D_1^o$	$2p^5 3p^3 P_2$	425954	M2	1.778E-10	7.171E+00	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.19 \ ^1P_1 + 0.11 \ ^3S_1$	$2p^5 3p^3 P_0$	25909	M1	1.300E-06	1.940E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_0$	244610	E1	1.464E-02	1.947E+08	1.01
$2p^5 3d^3 P_2^o$	$0.76 + 0.15 \ ^3D_2$	$2p^5 3p^3 P_0$	256149	M2	4.762E-11	4.168E-01	1.00
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 \ ^1D_2^o + 0.23 \ ^3D_2^o$	$2p^5 3p^3 P_0$	275027	M2	2.646E-11	2.670E-01	1.00
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 \ ^1P_1^o$	$2p^5 3p^3 P_0$	310912	E1	2.228E-01	4.789E+09	1.00
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 \ ^1D_2^o + 0.23 \ ^3P_2^o$	$2p^5 3p^3 P_0$	339734	M2	1.430E-10	2.201E+00	1.00
$2p^5 3d^3 P_1^o$	$0.83 + 0.14 \ ^3D_1^o$	$2p^5 3p^3 P_0$	393458	E1	1.440E-02	4.958E+08	1.00
$2p^5 3p^3 P_1$	$0.66 + 0.19 \ ^1P_1 + 0.11 \ ^3S_1$	$2p^5 3p^3 D_1$	18966	M1	2.103E-08	1.682E+00	1.00
$2p^5 3p^3 D_2$	$0.39 + 0.39 \ ^3D_2 + 0.22 \ ^3P_2$	$2p^5 3p^3 D_1$	20682	M1	1.106E-06	6.313E+01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_2$	$0.67 + 0.32 \ ^1D_2$	$2p^5 3s^3 P_2^o$	288401	E1	3.515E-01	3.901E+09	0.98
$2p^5 3p^3 P_2$	$0.67 + 0.32 \ ^1D_2$	$2p^5 3s^3 P_2^o$	288401	M2	4.114E-10	4.565E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_2^o$	326423	M2	1.023E-10	7.269E+00	1.00
$2p^5 3p^3 D_1$	$0.66 + 0.32 \ ^1P_1$	$2p^5 3s^3 P_2^o$	337665	E1	3.013E-04	7.638E+06	1.08
$2p^5 3p^3 D_1$	$0.66 + 0.32 \ ^1P_1$	$2p^5 3s^3 P_2^o$	337665	M2	1.302E-11	3.300E-01	1.00
$2p^5 3p^3 P_1$	$0.64 + 0.18 \ ^1P_1 + 0.12 \ ^3S_1$	$2p^5 3s^3 P_2^o$	359950	E1	2.740E-02	7.894E+08	0.98
$2p^5 3p^3 P_1$	$0.64 + 0.18 \ ^1P_1 + 0.12 \ ^3S_1$	$2p^5 3s^3 P_2^o$	359950	M2	1.415E-11	4.075E-01	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.38 \ ^1D_2 + 0.21 \ ^3P_2$	$2p^5 3s^3 P_2^o$	362318	E1	6.422E-03	1.125E+08	0.95
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	466573	M2	2.597E-10	3.771E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	576758	E2	1.395E-06	3.095E+05	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	583461	M1	7.019E-10	5.313E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	583461	E2	4.023E-06	3.045E+05	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17 \ ^3D_2$	$2p^5 3s^3 P_2^o$	596518	M1	6.039E-10	2.867E+01	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17 \ ^3D_2$	$2p^5 3s^3 P_2^o$	596518	E2	5.262E-06	2.498E+05	1.00
$2p^5 3d^3 F_3^o$		$2p^5 3s^3 P_2^o$	597605	E2	1.377E-05	3.645E+05	1.00
$2p^5 3d^3 F_3^o$	$0.66 + 0.28 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	603479	M1	8.200E-12	2.846E-01	1.00
$2p^5 3d^3 F_3^o$	$0.66 + 0.28 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	603479	E2	4.760E-06	1.652E+05	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37 \ ^3F_2^o + 0.24 \ ^3D_2^o$	$2p^5 3s^3 P_2^o$	616211	M1	1.513E-11	7.664E-01	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37 \ ^3F_2^o + 0.24 \ ^3D_2^o$	$2p^5 3s^3 P_2^o$	616211	E2	2.159E-06	1.094E+05	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.34 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	624059	M1	3.552E-11	1.318E+00	1.00
$2p^5 3d^3 D_2^o$	$0.63 + 0.34 \ ^1F_3^o$	$2p^5 3s^3 P_2^o$	624059	E2	6.670E-06	2.475E+05	1.00
$2p^5 3d^3 D_3^o$	$0.77 + 0.18 \ ^1P_1^o$	$2p^5 3s^3 P_2^o$	657050	M1	4.599E-10	4.415E+01	1.00
$2p^5 3d^3 D_3^o$	$0.77 + 0.18 \ ^1P_1^o$	$2p^5 3s^3 P_2^o$	657050	E2	3.848E-07	3.693E+04	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30 \ ^1D_2^o$	$2p^5 3s^3 P_2^o$	688632	E2	4.439E-08	2.808E+03	1.01
$2p^5 3d^3 D_2^o$	$0.51 + 0.25 \ ^3P_2^o + 0.22 \ ^1D_2^o$	$2p^5 3s^3 P_2^o$	694573	E2	5.815E-07	3.742E+04	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.32 \ ^3F_3^o + 0.31 \ ^3D_3^o$	$2p^5 3s^3 P_2^o$	698047	M1	2.644E-11	1.228E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.32 \ ^3F_3^o + 0.31 \ ^3D_3^o$	$2p^5 3s^3 P_2^o$	698047	E2	2.985E-07	1.386E+04	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16 \ ^3D_1^o$	$2p^5 3s^3 P_2^o$	751744	M1	3.460E-10	4.348E+01	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16 \ ^3D_1^o$	$2p^5 3s^3 P_2^o$	751744	E2	3.368E-08	4.232E+03	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_1^o$	70734	M1	2.694E-06	8.990E+03	1.00
$2p^5 3s^3 P_1^o$	$0.53 + 0.47 \ ^1P_1^o$	$2p^5 3s^1 P_1^o$	80048	M1	1.208E-06	1.721E+03	1.00
$2p^5 3s^3 P_1^o$	$0.53 + 0.47 \ ^1P_1^o$	$2p^5 3s^1 P_1^o$	80048	E2	1.380E-10	1.966E-01	1.06
$2p^5 3p^3 S_1$	$0.83 + 0.15 \ ^3P_1$	$2p^5 3s^1 P_1^o$	214079	E1	1.465E-02	1.493E+08	0.98
$2p^5 3p^3 D_2$	$0.59 + 0.29 \ ^1D_2 + 0.11 \ ^3P_2$	$2p^5 3s^1 P_1^o$	242198	E1	2.912E-01	2.279E+09	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^1 P_1^o$	251834	M2	3.420E-10	2.067E+00	1.00
$2p^5 3p^1 P_1$	$0.49 + 0.27 \ ^3D_1 + 0.20 \ ^3P_1$	$2p^5 3s^1 P_1^o$	261167	E1	3.218E-01	4.880E+09	0.99
$2p^5 3p^1 P_1$	$0.49 + 0.27 \ ^3D_1 + 0.20 \ ^3P_1$	$2p^5 3s^1 P_1^o$	261167	M2	1.653E-11	2.507E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 \ ^1D_2$	$2p^5 3s^1 P_1^o$	274092	E1	2.772E-01	2.778E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32 \ ^1D_2$	$2p^5 3s^1 P_1^o$	274092	M2	1.558E-10	1.562E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	312114	E1	1.021E-01	6.633E+09	0.98
$2p^5 3p^3 D_1$	$0.66 + 0.32 \ ^1P_1$	$2p^5 3s^1 P_1^o$	323355	E1	1.397E-03	3.248E+07	1.01
$2p^5 3p^3 P_1$	$0.64 + 0.18 \ ^1P_1 + 0.12 \ ^3S_1$	$2p^5 3s^1 P_1^o$	345641	E1	3.948E-05	1.049E+06	1.41
$2p^5 3p^3 P_1$	$0.64 + 0.18 \ ^1P_1 + 0.12 \ ^3S_1$	$2p^5 3s^1 P_1^o$	345641	M2	2.762E-11	7.336E-01	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.38 \ ^1D_2 + 0.21 \ ^3P_2$	$2p^5 3s^1 P_1^o$	348009	E1	5.488E-03	8.867E+07	0.99
$2p^5 3p^3 D_2$	$0.40 + 0.38 \ ^1D_2 + 0.21 \ ^3P_2$	$2p^5 3s^1 P_1^o$	348009	M2	9.986E-12	1.613E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	452264	E1	7.348E-02	1.002E+10	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	562449	M1	5.452E-10	1.150E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	569152	M1	4.441E-10	3.199E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	569152	E2	2.003E-07	1.443E+04	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17 \ ^3D_2$	$2p^5 3s^1 P_1^o$	582209	M1	6.575E-12	2.973E-01	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17 \ ^3D_2$	$2p^5 3s^1 P_1^o$	582209	E2	1.931E-06	8.730E+04	1.00
$2p^5 3d^3 F_3^o$	$0.66 + 0.28 \ ^1F_3^o$	$2p^5 3s^1 P_1^o$	589170	E2	5.878E-06	1.944E+05	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37 \ ^3F_2^o + 0.24 \ ^3D_2^o$	$2p^5 3s^1 P_1^o$	601902	M1	5.931E-11	2.867E+00	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37 \ ^3F_2^o + 0.24 \ ^3D_2^o$	$2p^5 3s^1 P_1^o$	601902	E2	5.597E-06	2.705E+05	1.00
$2p^5 3d^3 D_3^o$	$0.63 + 0.34 \ ^1F_3^o$	$2p^5 3s^1 P_1^o$	609749	E2	4.891E-06	1.733E+05	1.00
$2p^5 3d^3 D_3^o$	$0.77 + 0.18 \ ^1P_1^o$	$2p^5 3s^1 P_1^o$	642740	M1	4.417E-11	4.058E+00	1.00
$2p^5 3d^3 D_1^o$	$0.77 + 0.18 \ ^1P_1^o$	$2p^5 3s^1 P_1^o$	642740	E2	5.010E-06	4.602E+05	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30 \ ^1D_2^o$	$2p^5 3s^1 P_1^o$	674323	M1	2.242E-11	1.360E+00	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30 \ ^1D_2^o$	$2p^5 3s^1 P_1^o$	674323	E2	2.952E-08	1.791E+03	0.98
$2p^5 3d^3 D_2^o$	$0.51 + 0.25 \ ^3P_2^o + 0.22 \ ^1D_2^o$	$2p^5 3s^1 P_1^o$	680264	M1	9.560E-11	5.902E+00	1.00
$2p^5 3d^3 D_2^o$	$0.51 + 0.25 \ ^3P_2^o + 0.22 \ ^1D_2^o$	$2p^5 3s^1 P_1^o$	680264	E2	4.796E-09	2.961E+02	0.96
$2p^5 3d^1 F_3^o$	$0.37 + 0.32 \ ^3F_3^o + 0.31 \ ^3D_3^o$	$2p^5 3s^1 P_1^o$	683737	E2	1.370E-07	6.105E+03	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16 \ ^3D_1^o$	$2p^5 3s^1 P_1^o$	737435	M1	6.549E-11	7.918E+00	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16 \ ^3D_1^o$	$2p^5 3s^1 P_1^o$	737435	E2	1.426E-06	1.724E+05	1.01
$2p^5 3s^3 P_1^o$	$0.53 + 0.47 \ ^1P_1^o$	$2p^5 3s^3 P_0^o$	9313	M1	3.996E-07	7.707E+00	1.00
$2p^5 3p^3 S_1$	$0.83 + 0.15 \ ^3P_1$	$2p^5 3s^3 P_0^o$	143344	E1	2.970E-03	1.357E+07	0.89
$2p^5 3p^1 P_1$	$0.49 + 0.27 \ ^3D_1 + 0.20 \ ^3P_1$	$2p^5 3s^3 P_0^o$	190432	E1	1.107E-03	8.928E+06	0.94

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_1$	$0.66 + 0.32^1 P_1$	$2p^5 3s^3 P_0^o$	252621	E1	1.337E-01	1.897E+09	0.99
$2p^5 3p^3 P_1$	$0.64 + 0.18^1 P_1 + 0.12^3 S_1$	$2p^5 3s^3 P_0^o$	274906	E1	2.089E-01	3.511E+09	0.99
$2p^5 3p^3 D_2$	$0.40 + 0.38^1 D_2 + 0.21^3 P_2$	$2p^5 3s^3 P_0^o$	277274	M2	2.179E-10	2.234E+00	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17^3 D_2$	$2p^5 3s^3 P_0^o$	511474	E2	1.364E-07	4.760E+03	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^3 P_0^o$	511167	E2	8.332E-08	3.136E+03	0.99
$2p^5 3d^3 D_1^o$	$0.77 + 0.18^1 P_1^o$	$2p^5 3s^3 P_0^o$	572006	M1	4.122E-11	2.999E+00	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30^1 D_2^o$	$2p^5 3s^3 P_0^o$	603588	E2	3.567E-06	1.733E+05	1.00
$2p^5 3d^3 D_2^o$	$0.51 + 0.25^3 P_2^o + 0.22^1 D_2^o$	$2p^5 3s^3 P_0^o$	609529	E2	4.083E-06	2.024E+05	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16^3 D_1^o$	$2p^5 3s^3 P_0^o$	666700	M1	6.212E-10	6.139E+01	1.00
$2p^5 3p^3 S_1$	$0.83 + 0.15^3 P_1$	$2p^5 3s^3 P_1^o$	134031	E1	3.658E-03	1.461E+07	0.96
$2p^5 3p^3 D_2$	$0.59 + 0.29^1 D_2 + 0.11^3 P_2$	$2p^5 3s^3 P_1^o$	162149	E1	5.989E-05	2.101E+05	0.76
$2p^5 3p^1 P_1$	$0.49 + 0.27^3 D_1 + 0.20^3 P_1$	$2p^5 3s^3 P_1^o$	181119	E1	7.689E-06	5.608E+04	0.55
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_1^o$	194043	E1	6.236E-03	3.132E+07	1.02
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_1^o$	232066	E1	2.982E-02	1.071E+09	0.99
$2p^5 3p^3 D_1$	$0.66 + 0.32^1 P_1$	$2p^5 3s^3 P_1^o$	243307	E1	1.887E-01	2.484E+09	0.99
$2p^5 3p^3 P_1$	$0.64 + 0.18^1 P_1 + 0.12^3 S_1$	$2p^5 3s^3 P_1^o$	265592	E1	1.306E-01	2.049E+09	0.99
$2p^5 3p^3 P_1$	$0.64 + 0.18^1 P_1 + 0.12^3 S_1$	$2p^5 3s^3 P_1^o$	265592	M2	2.583E-10	4.050E+00	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.38^1 D_2 + 0.21^3 P_2$	$2p^5 3s^3 P_1^o$	267961	E1	5.895E-01	5.646E+09	0.99
$2p^5 3p^3 D_2$	$0.40 + 0.38^1 D_2 + 0.21^3 P_2$	$2p^5 3s^3 P_1^o$	267961	M2	2.899E-10	2.777E+00	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_1^o$	372215	E1	1.323E-01	1.222E+10	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	482401	M1	5.677E-12	8.812E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	489104	M1	2.302E-12	1.225E-01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_1^o$	489104	E2	5.276E-08	2.806E+03	0.99
$2p^5 3d^3 P_2^o$	$0.74 + 0.17^3 D_2$	$2p^5 3s^3 P_1^o$	502160	M1	1.436E-10	4.830E+00	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17^3 D_2$	$2p^5 3s^3 P_1^o$	502160	E2	7.328E-08	2.465E+03	1.00
$2p^5 3d^3 F_3^o$	$0.66 + 0.28^1 F_3^o$	$2p^5 3s^3 P_1^o$	509121	E2	5.992E-10	1.480E+01	1.06
$2p^5 3d^1 D_2^o$	$0.39 + 0.37^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^3 P_1^o$	521853	M1	2.515E-11	9.138E-01	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^3 P_1^o$	521853	E2	2.717E-11	9.869E-01	0.54
$2p^5 3d^3 D_3^o$	$0.63 + 0.34^1 F_3^o$	$2p^5 3s^3 P_1^o$	529701	E2	2.174E-07	5.813E+03	1.00
$2p^5 3d^3 D_1^o$	$0.77 + 0.18^1 P_1^o$	$2p^5 3s^3 P_1^o$	562692	M1	2.477E-10	1.744E+01	1.00
$2p^5 3d^3 D_1^o$	$0.77 + 0.18^1 P_1^o$	$2p^5 3s^3 P_1^o$	562692	E2	3.431E-07	2.415E+04	0.99
$2p^5 3d^3 F_2^o$	$0.61 + 0.30^1 D_2^o$	$2p^5 3s^3 P_1^o$	594274	M1	5.520E-12	2.600E-01	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30^1 D_2^o$	$2p^5 3s^3 P_1^o$	594274	E2	3.994E-06	1.882E+05	1.00
$2p^5 3d^3 D_2^o$	$0.51 + 0.25^3 P_2^o + 0.22^1 D_2^o$	$2p^5 3s^3 P_1^o$	600216	M1	6.274E-10	3.015E+01	1.00
$2p^5 3d^3 D_2^o$	$0.51 + 0.25^3 P_2^o + 0.22^1 D_2^o$	$2p^5 3s^3 P_1^o$	600216	E2	3.446E-06	1.656E+05	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.32^3 F_3^o + 0.31^3 D_3^o$	$2p^5 3s^3 P_1^o$	603689	E2	1.082E-05	3.758E+05	1.00
$2p^5 3d^1 P_0^o$	$0.81 + 0.16^3 D_1^o$	$2p^5 3s^3 P_1^o$	657386	M1	4.603E-10	4.423E+01	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16^3 D_1^o$	$2p^5 3s^3 P_1^o$	657386	E2	5.906E-06	5.675E+05	1.00
$2p^5 3p^3 D_2$	$0.59 + 0.29^1 D_2 + 0.11^3 P_2$	$2p^5 3p^3 S_1$	28118	M1	1.242E-07	1.310E+01	1.00
$2p^5 3p^3 D_3$		$2p^5 3p^3 S_1$	37754	E2	1.939E-09	2.633E-01	1.13
$2p^5 3p^1 P_1$	$0.49 + 0.27^3 D_1 + 0.20^3 P_1$	$2p^5 3p^3 S_1$	47087	M1	1.194E-07	5.885E+01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3p^3 S_1$	60012	M1	6.217E-07	2.987E+02	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 S_1$	98035	M1	1.126E-06	7.219E+03	1.00
$2p^5 3p^3 D_1$	$0.66 + 0.32^1 P_1$	$2p^5 3p^3 S_1$	109276	M1	3.592E-07	9.536E+02	1.00
$2p^5 3p^3 D_1$	$0.66 + 0.32^1 P_1$	$2p^5 3p^3 S_1$	109276	E2	4.518E-10	1.199E+00	1.53
$2p^5 3p^3 P_1$	$0.64 + 0.18^1 P_1 + 0.12^3 S_1$	$2p^5 3p^3 S_1$	131561	M1	7.643E-07	2.941E+03	1.00
$2p^5 3p^3 P_1$	$0.64 + 0.18^1 P_1 + 0.12^3 S_1$	$2p^5 3p^3 S_1$	131561	E2	9.432E-11	3.630E-01	1.39
$2p^5 3p^3 D_2$	$0.40 + 0.38^1 D_2 + 0.21^3 P_2$	$2p^5 3p^3 S_1$	133930	M1	1.676E-07	4.012E+02	1.00
$2p^5 3p^3 D_2$	$0.40 + 0.38^1 D_2 + 0.21^3 P_2$	$2p^5 3p^3 S_1$	133930	E2	8.337E-10	1.995E+00	1.34
$2p^5 3p^1 S_0$		$2p^5 3p^3 S_1$	238184	M1	1.490E-07	5.637E+03	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 S_1$	348369	E1	1.246E-01	1.009E+10	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 S_1$	355072	E1	3.048E-01	8.544E+09	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17^3 D_2$	$2p^5 3p^3 S_1$	355072	M2	1.075E-10	3.012E+00	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17^3 D_2$	$2p^5 3p^3 S_1$	368129	E1	2.788E-01	5.040E+09	1.00
$2p^5 3d^3 P_2^o$	$0.74 + 0.17^3 D_2$	$2p^5 3p^3 S_1$	368129	M2	1.567E-10	2.834E+00	1.00
$2p^5 3d^3 F_3^o$	$0.66 + 0.28^1 F_3^o$	$2p^5 3p^3 S_1$	375090	M2	2.089E-11	2.801E-01	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3p^3 S_1$	387822	E1	1.270E-02	2.547E+08	1.00
$2p^5 3d^1 D_2^o$	$0.39 + 0.37^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3p^3 S_1$	387822	M2	7.487E-11	1.502E+00	1.00
$2p^5 3d^3 D_3^o$	$0.63 + 0.34^1 F_3^o$	$2p^5 3p^3 S_1$	395670	M2	5.120E-11	7.639E-01	1.00
$2p^5 3d^3 D_1^o$	$0.77 + 0.18^1 P_1^o$	$2p^5 3p^3 S_1$	428661	E1	6.935E-04	2.833E+07	1.01
$2p^5 3d^3 D_1^o$	$0.77 + 0.18^1 P_1^o$	$2p^5 3p^3 S_1$	428661	M2	5.344E-10	2.183E+01	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30^1 D_2^o$	$2p^5 3p^3 S_1$	460243	E1	8.535E-04	2.412E+07	1.00
$2p^5 3d^3 F_2^o$	$0.61 + 0.30^1 D_2^o$	$2p^5 3p^3 S_1$	460243	M2	7.131E-12	2.015E-01	1.00
$2p^5 3d^3 D_2^o$	$0.51 + 0.25^3 P_2^o + 0.22^1 D_2^o$	$2p^5 3p^3 S_1$	466184	E1	2.588E-03	7.504E+07	0.98
$2p^5 3d^3 D_2^o$	$0.51 + 0.25^3 P_2^o + 0.22^1 D_2^o$	$2p^5 3p^3 S_1$	466184	M2	6.051E-11	1.754E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.32^3 F_3^o + 0.31^3 D_3^o$	$2p^5 3p^3 S_1$	469658	M2	2.550E-11	5.360E-01	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16^3 D_1^o$	$2p^5 3p^3 S_1$	523355	E1	1.754E-04	1.068E+07	1.03

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R			
$2p^5 3d^1 F_3^o$	$0.37 + 0.32$	${}^3F_3^o + 0.31$	${}^3D_3^o$	$2p^5 3d^3 D_3^o$	$0.63 + 0.34$	${}^1F_3^o$	73988	M1	4.980E-06	2.598E+03	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16$	${}^3D_1^o$	$2p^5 3d^3 D_3^o$	$0.63 + 0.34$	${}^1F_3^o$		127685	E2	7.476E-11	2.710E-01	0.33
$2p^5 3d^3 F_2^o$	$0.61 + 0.30$	${}^1D_2^o$	$2p^5 3d^3 D_1^o$	$0.77 + 0.18$	${}^1P_1^o$		31582	M1	3.484E-07	4.636E+01	1.00
$2p^5 3d^3 D_2^o$	$0.51 + 0.25$	${}^3P_2^o + 0.22$	${}^1D_2^o$	$2p^5 3d^3 D_1^o$	$0.77 + 0.18$	${}^1P_1^o$	37523	M1	3.377E-06	6.343E+02	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16$	${}^3D_1^o$	$2p^5 3d^3 D_1^o$	$0.77 + 0.18$	${}^1P_1^o$		94694	M1	5.954E-07	1.187E+03	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.32$	${}^3F_3^o + 0.31$	${}^3D_3^o$	$2p^5 3d^3 F_2^o$	$0.61 + 0.30$	${}^1D_2^o$	9414	M1	8.521E-07	7.197E+00	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16$	${}^3D_1^o$	$2p^5 3d^3 F_2^o$	$0.61 + 0.30$	${}^1D_2^o$		63112	M1	1.474E-07	1.305E+02	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16$	${}^3D_1^o$	$2p^5 3d^3 F_2^o$	$0.61 + 0.30$	${}^1D_2^o$		63112	E2	2.046E-09	1.812E+00	1.15
$2p^5 3d^1 F_3^o$	$0.37 + 0.32$	${}^3F_3^o + 0.31$	${}^3D_3^o$	$2p^5 3d^3 D_2^o$	$0.51 + 0.25$	${}^3P_2^o + 0.22$	3473	M1	1.474E-07	1.695E-01	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16$	${}^3D_1^o$	$2p^5 3d^3 D_2^o$	$0.51 + 0.25$	${}^3P_2^o + 0.22$	${}^1D_2^o$	57170	M1	1.298E-06	9.434E+02	1.00
$2p^5 3d^1 P_1^o$	$0.81 + 0.16$	${}^3D_1^o$	$2p^5 3d^3 D_2^o$	$0.51 + 0.25$	${}^3P_2^o + 0.22$	${}^1D_2^o$	57170	E2	1.314E-09	9.552E-01	1.14
Fe XVII											
$2p^5 3s^3 P_2^o$			$2p^6^1 S_0$	5849108	M2	4.559E-08	2.081E+05	1.00			
$2p^5 3s^1 P_1^o$	$0.54 + 0.45$	${}^3P_1^o$	$2p^6^1 S_0$	5864469	E1	1.219E-01	9.320E+11	0.99			
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	${}^1P_1^o$	$2p^6^1 S_0$	5960633	E1	1.013E-01	8.006E+11	0.99			
$2p^5 3p^3 S_1$	$0.80 + 0.17$	3P_1	$2p^6^1 S_0$	6093573	M1	2.252E-08	1.859E+05	1.00			
$2p^5 3p^3 D_2$	$0.58 + 0.30$	${}^1D_2 + 0.12$	3P_2	$2p^6^1 S_0$	6121769	E2	1.023E-04	5.112E+08	1.00		
$2p^5 3p^1 P_1$	$0.51 + 0.25$	${}^3D_1 + 0.19$	3P_1	$2p^6^1 S_0$	6143898	M1	7.617E-10	6.393E+03	1.00		
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^6^1 S_0$	6158481	E2	1.085E-04	5.490E+08	1.00			
$2p^5 3p^3 D_1$	$0.67 + 0.31$	1P_1	$2p^6^1 S_0$	6219185	M1	5.381E-10	4.628E+03	1.00			
$2p^5 3p^3 P_1$	$0.63 + 0.17$	${}^1P_1 + 0.13$	3S_1	$2p^6^1 S_0$	6245346	M1	2.346E-08	2.034E+05	1.00		
$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	$2p^6^1 S_0$	6248389	E2	1.267E-04	6.597E+08	1.00		
$2p^5 3d^3 P_1^o$			$2p^6^1 S_0$	6471519	E1	9.864E-03	9.185E+10	1.01			
$2p^5 3d^3 P_2^o$	$0.72 + 0.18$	3D_2	$2p^6^1 S_0$	6486166	M2	1.109E-06	6.227E+06	1.00			
$2p^5 3d^1 D_2^o$	$0.41 + 0.35$	${}^3F_2^o + 0.24$	${}^3D_2^o$	$2p^6^1 S_0$	6506561	M2	1.961E-07	1.108E+06	1.00		
$2p^5 3d^3 D_1^o$	$0.74 + 0.20$	${}^1P_1^o$	$2p^6^1 S_0$	6552697	E1	6.367E-01	6.079E+12	1.00			
$2p^5 3d^3 F_2^o$	$0.63 + 0.29$	${}^1D_2^o$	$2p^6^1 S_0$	6594260	M2	6.816E-08	3.954E+05	1.00			
$2p^5 3d^3 D_2^o$	$0.50 + 0.27$	${}^3P_2^o + 0.21$	${}^1D_2^o$	$2p^6^1 S_0$	6600855	M2	5.761E-08	3.349E+05	1.00		
$2p^5 3d^1 P_1^o$	$0.78 + 0.18$	${}^3D_1^o$	$2p^6^1 S_0$	6661101	E1	2.269E+00	2.238E+13	1.00			
$2p^5 3s^1 P_1^o$	$0.54 + 0.45$	${}^3P_1^o$	$2p^5 3s^3 P_2^o$	15360	M1	7.094E-07	3.722E+01	1.00			
$2p^5 3s^3 P_0^o$			$2p^5 3s^3 P_2^o$	101895	E2	1.864E-10	1.291E+00	1.06			
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	${}^1P_1^o$	$2p^5 3s^3 P_2^o$	111524	M1	6.119E-06	1.692E+04	1.00			
$2p^5 3s^3 P_1^o$	$0.54 + 0.45$	${}^1P_1^o$	$2p^5 3s^3 P_2^o$	111524	E2	2.979E-10	8.237E-01	1.04			
$2p^5 3p^3 S_1$	$0.80 + 0.17$	3P_1	$2p^5 3s^3 P_2^o$	244464	E1	2.502E-01	3.324E+09	0.98			
$2p^5 3p^3 S_1$	$0.80 + 0.17$	3P_1	$2p^5 3s^3 P_2^o$	244464	M2	6.874E-11	9.134E-01	1.00			
$2p^5 3p^3 D_2$	$0.58 + 0.30$	${}^1D_2 + 0.12$	3P_2	$2p^5 3s^3 P_2^o$	272661	E1	2.495E-01	2.475E+09	0.98		
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$	285685	E1	7.947E-01	6.180E+09	0.99			
$2p^5 3p^3 D_3$			$2p^5 3s^3 P_2^o$	285685	M2	3.121E-10	2.427E+00	1.00			
$2p^5 3p^1 P_1$	$0.51 + 0.25$	${}^3D_1 + 0.19$	3P_1	$2p^5 3s^3 P_2^o$	294789	E1	1.719E-02	3.321E+08	0.98		
$2p^5 3p^1 P_1$	$0.51 + 0.25$	${}^3D_1 + 0.19$	3P_1	$2p^5 3s^3 P_2^o$	294789	M2	2.145E-10	4.145E+00	1.00		
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3s^3 P_2^o$	309372	E1	3.384E-01	4.321E+09	0.98			
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3s^3 P_2^o$	309372	M2	4.573E-10	5.839E+00	1.00			
$2p^5 3p^3 P_0$			$2p^5 3s^3 P_2^o$	353433	M2	1.226E-10	1.022E+01	1.00			
$2p^5 3p^3 D_1$	$0.67 + 0.31$	1P_1	$2p^5 3s^3 P_2^o$	370077	E1	4.231E-04	1.288E+07	1.06			
$2p^5 3p^3 D_1$	$0.67 + 0.31$	1P_1	$2p^5 3s^3 P_2^o$	370077	M2	1.266E-11	3.854E-01	1.00			
$2p^5 3p^3 P_1$	$0.63 + 0.17$	${}^1P_1 + 0.13$	3S_1	396238	E1	2.345E-02	8.187E+08	0.98			
$2p^5 3p^3 P_1$	$0.63 + 0.17$	${}^1P_1 + 0.13$	3S_1	396238	M2	1.364E-11	4.762E-01	1.00			
$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	399281	E1	5.056E-03	1.075E+08	0.94			
$2p^5 3p^1 S_0$			$2p^5 3s^3 P_2^o$	504496	M2	2.778E-10	4.716E+01	1.00			
$2p^5 3d^3 P_0^o$			$2p^5 3s^3 P_2^o$	614804	E2	1.350E-06	3.404E+05	1.00			
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	622411	M1	8.524E-10	7.342E+01	1.00			
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	622411	E2	3.933E-06	3.387E+05	1.00			
$2p^5 3d^3 P_2^o$	$0.72 + 0.18$	3D_2	$2p^5 3s^3 P_2^o$	637058	M1	5.596E-10	3.030E+01	1.00			
$2p^5 3d^3 P_2^o$	$0.72 + 0.18$	3D_2	$2p^5 3s^3 P_2^o$	637058	E2	5.252E-06	2.843E+05	1.00			
$2p^5 3d^3 F_4^o$			$2p^5 3s^3 P_2^o$	637636	E2	1.337E-05	4.029E+05	1.00			
$2p^5 3d^3 F_3^o$	$0.65 + 0.29$	${}^1F_3^o$	$2p^5 3s^3 P_2^o$	643581	M1	1.070E-11	4.222E-01	1.00			
$2p^5 3d^3 F_3^o$	$0.65 + 0.29$	${}^1F_3^o$	$2p^5 3s^3 P_2^o$	643581	E2	4.618E-06	1.823E+05	1.00			
$2p^5 3d^1 D_2^o$	$0.41 + 0.35$	${}^3F_2^o + 0.24$	${}^3D_2^o$	657452	M1	1.956E-11	1.128E+00	1.00			
$2p^5 3d^1 D_2^o$	$0.41 + 0.35$	${}^3F_2^o + 0.24$	${}^3D_2^o$	657452	E2	2.030E-06	1.170E+05	1.00			
$2p^5 3d^3 D_3^o$	$0.64 + 0.34$	${}^1F_3^o$	$2p^5 3s^3 P_2^o$	666167	M1	4.442E-11	1.878E+00	1.00			
$2p^5 3d^3 D_3^o$	$0.64 + 0.34$	${}^1F_3^o$	$2p^5 3s^3 P_2^o$	666167	E2	6.522E-06	2.758E+05	1.00			
$2p^5 3d^3 D_1^o$	$0.74 + 0.20$	${}^1P_1^o$	$2p^5 3s^3 P_2^o$	703588	M1	6.639E-10	7.308E+01	1.00			
$2p^5 3d^3 D_1^o$	$0.74 + 0.20$	${}^1P_1^o$	$2p^5 3s^3 P_2^o$	703588	E2	3.343E-07	3.679E+04	1.00			
$2p^5 3d^3 F_2^o$	$0.63 + 0.29$	${}^1D_2^o$	$2p^5 3s^3 P_2^o$	745152	E2	3.136E-08	2.323E+03	1.01			
$2p^5 3d^3 D_2^o$	$0.50 + 0.27$	${}^3P_2^o + 0.21$	${}^1D_2^o$	$2p^5 3s^3 P_2^o$	751746	M1	2.336E-12	1.761E-01	1.00		
$2p^5 3d^3 D_2^o$	$0.50 + 0.27$	${}^3P_2^o + 0.21$	${}^1D_2^o$	$2p^5 3s^3 P_2^o$	751746	E2	4.885E-07	3.683E+04	1.00		
$2p^5 3d^1 F_3^o$	$0.37 + 0.33$	${}^3F_3^o + 0.30$	${}^3D_3^o$	$2p^5 3s^3 P_2^o$	755969	M1	3.198E-11	1.742E+00	1.00		

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^1 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$	$2p^5 3s {}^3P_2^o$	755969	E2	2.410E-07	1.313E+04	1.00
$2p^5 3d^1 P_1^o$	$0.78 + 0.18 {}^3D_1^o$	$2p^5 3s {}^3P_2^o$	811992	M1	4.363E-10	6.396E+01	1.00
$2p^5 3d^1 P_1^o$	$0.78 + 0.18 {}^3D_1^o$	$2p^5 3s {}^3P_2^o$	811992	E2	3.489E-08	5.115E+03	1.01
$2p^5 3s {}^3P_0^o$		$2p^5 3s {}^1P_1^o$	86534	M1	3.174E-06	1.585E+04	1.00
$2p^5 3s {}^3P_1^o$	$0.54 + 0.45 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	96163	M1	1.443E-06	2.967E+03	1.00
$2p^5 3s {}^3P_1^o$	$0.54 + 0.45 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	96163	E2	1.974E-10	4.058E-01	1.06
$2p^5 3p {}^3S_1$	$0.80 + 0.17 {}^3P_1$	$2p^5 3s {}^1P_1^o$	229103	E1	1.042E-02	1.216E+08	0.99
$2p^5 3p {}^3D_2$	$0.58 + 0.30 {}^1D_2 + 0.12 {}^3P_2$	$2p^5 3s {}^1P_1^o$	257300	E1	2.764E-01	2.441E+09	0.99
$2p^5 3p {}^3D_3$		$2p^5 3s {}^1P_1^o$	270324	M2	3.822E-10	2.661E+00	1.00
$2p^5 3p {}^1P_1$	$0.51 + 0.25 {}^3D_1 + 0.19 {}^3P_1$	$2p^5 3s {}^1P_1^o$	279428	E1	3.146E-01	5.462E+09	0.99
$2p^5 3p {}^1P_1$	$0.51 + 0.25 {}^3D_1 + 0.19 {}^3P_1$	$2p^5 3s {}^1P_1^o$	279428	M2	1.911E-11	3.318E-01	1.00
$2p^5 3p {}^3P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s {}^1P_1^o$	294012	E1	2.712E-01	3.128E+09	0.99
$2p^5 3p {}^3P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s {}^1P_1^o$	294012	M2	1.732E-10	1.997E+00	1.00
$2p^5 3p {}^3P_0$		$2p^5 3s {}^1P_1^o$	338072	E1	1.013E-01	7.725E+09	0.98
$2p^5 3p {}^3D_1$	$0.67 + 0.31 {}^1P_1$	$2p^5 3s {}^1P_1^o$	354716	E1	1.160E-03	3.244E+07	1.01
$2p^5 3p {}^3P_1$	$0.63 + 0.17 {}^1P_1 + 0.13 {}^3S_1$	$2p^5 3s {}^1P_1^o$	380877	E1	8.741E-05	2.819E+06	1.24
$2p^5 3p {}^3P_1$	$0.63 + 0.17 {}^1P_1 + 0.13 {}^3S_1$	$2p^5 3s {}^1P_1^o$	380877	M2	2.739E-11	8.836E-01	1.00
$2p^5 3p {}^3D_2$	$0.41 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	$2p^5 3s {}^1P_1^o$	383920	E1	4.087E-03	8.037E+07	0.98
$2p^5 3p {}^3D_2$	$0.41 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	$2p^5 3s {}^1P_1^o$	383920	M2	9.381E-12	1.845E-01	1.00
$2p^5 3p {}^1S_0$		$2p^5 3s {}^1P_1^o$	489136	E1	6.968E-02	1.112E+10	0.98
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^1P_1^o$	599444	M1	6.638E-10	1.591E+02	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^1P_1^o$	607050	M1	5.329E-10	4.366E+01	1.00
$2p^5 3d {}^3P_1^o$		$2p^5 3s {}^1P_1^o$	607050	E2	1.742E-07	1.427E+04	1.00
$2p^5 3d {}^3P_2^o$	$0.72 + 0.18 {}^3D_2$	$2p^5 3s {}^1P_1^o$	621697	M1	1.233E-11	6.356E-01	1.00
$2p^5 3d {}^3P_2^o$	$0.72 + 0.18 {}^3D_2$	$2p^5 3s {}^1P_1^o$	621697	E2	1.798E-06	9.273E+04	1.00
$2p^5 3d {}^3F_3^o$	$0.65 + 0.29 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	628220	E2	5.687E-06	2.139E+05	1.00
$2p^5 3d {}^1D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	642091	M1	8.037E-11	4.421E+00	1.00
$2p^5 3d {}^1D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3s {}^1P_1^o$	642091	E2	5.513E-06	3.032E+05	1.00
$2p^5 3d {}^3D_3^o$	$0.64 + 0.34 {}^1F_3^o$	$2p^5 3s {}^1P_1^o$	650806	E2	4.787E-06	1.932E+05	1.00
$2p^5 3d {}^3D_1^o$	$0.74 + 0.20 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	688227	M1	4.008E-11	4.221E+00	1.00
$2p^5 3d {}^3D_1^o$	$0.74 + 0.20 {}^1P_1^o$	$2p^5 3s {}^1P_1^o$	688227	E2	5.024E-06	5.291E+05	1.00
$2p^5 3d {}^3F_2^o$	$0.63 + 0.29 {}^1D_2^o$	$2p^5 3s {}^1P_1^o$	729791	M1	2.736E-11	1.944E+00	1.00
$2p^5 3d {}^3F_2^o$	$0.63 + 0.29 {}^1D_2^o$	$2p^5 3s {}^1P_1^o$	729791	E2	2.415E-08	1.716E+03	0.98
$2p^5 3d {}^3D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$	$2p^5 3s {}^1P_1^o$	736385	M1	1.364E-10	9.865E+00	1.00
$2p^5 3d {}^3D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$	$2p^5 3s {}^1P_1^o$	736385	E2	5.314E-09	3.844E+02	0.97
$2p^5 3d {}^1F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$	$2p^5 3s {}^1P_1^o$	740608	E2	9.897E-08	5.173E+03	1.00
$2p^5 3d {}^1P_1^o$	$0.78 + 0.18 {}^3D_1^o$	$2p^5 3s {}^1P_1^o$	796631	M1	1.198E-10	1.691E+01	1.00
$2p^5 3d {}^1P_1^o$	$0.78 + 0.18 {}^3D_1^o$	$2p^5 3s {}^1P_1^o$	796631	E2	1.331E-06	1.878E+05	1.01
$2p^5 3s {}^3P_1^o$	$0.54 + 0.45 {}^1P_1^o$	$2p^5 3s {}^3P_0^o$	9629	M1	4.268E-07	8.799E+00	1.00
$2p^5 3p {}^3S_1$	$0.80 + 0.17 {}^3P_1$	$2p^5 3s {}^3P_0^o$	142569	E1	2.199E-03	9.938E+06	0.88
$2p^5 3p {}^1P_1$	$0.51 + 0.25 {}^3D_1 + 0.19 {}^3P_1$	$2p^5 3s {}^3P_0^o$	192894	E1	6.234E-04	5.157E+06	0.92
$2p^5 3p {}^3D_1$	$0.67 + 0.31 {}^1P_1$	$2p^5 3s {}^3P_0^o$	268181	E1	1.237E-01	1.978E+09	0.99
$2p^5 3p {}^3P_1$	$0.63 + 0.17 {}^1P_1 + 0.13 {}^3S_1$	$2p^5 3s {}^3P_0^o$	294343	E1	2.074E-01	3.995E+09	0.99
$2p^5 3p {}^3D_2$	$0.41 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	$2p^5 3s {}^3P_0^o$	297386	M2	2.423E-10	2.859E+00	1.00
$2p^5 3d {}^3P_2^o$	$0.72 + 0.18 {}^3D_2$	$2p^5 3s {}^3P_0^o$	535163	E2	1.057E-07	4.039E+03	1.00
$2p^5 3d {}^1D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3s {}^3P_0^o$	555557	E2	5.714E-08	2.353E+03	0.99
$2p^5 3d {}^3D_1^o$	$0.74 + 0.20 {}^1P_1^o$	$2p^5 3s {}^3P_0^o$	601693	M1	7.168E-11	5.770E+00	1.00
$2p^5 3d {}^3F_2^o$	$0.63 + 0.29 {}^1D_2^o$	$2p^5 3s {}^3P_0^o$	643257	E2	3.396E-06	1.875E+05	1.00
$2p^5 3d {}^3D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$	$2p^5 3s {}^3P_0^o$	649851	E2	4.075E-06	2.296E+05	1.00
$2p^5 3d {}^1P_1^o$	$0.78 + 0.18 {}^3D_1^o$	$2p^5 3s {}^3P_0^o$	710097	M1	8.190E-10	9.182E+01	1.00
$2p^5 3p {}^3S_1$	$0.80 + 0.17 {}^3P_1$	$2p^5 3s {}^3P_1^o$	132940	E1	2.792E-03	1.097E+07	0.95
$2p^5 3p {}^3D_2$	$0.58 + 0.30 {}^1D_2 + 0.12 {}^3P_2$	$2p^5 3s {}^3P_1^o$	161136	E1	3.748E-05	1.298E+05	0.71
$2p^5 3p {}^1P_1$	$0.51 + 0.25 {}^3D_1 + 0.19 {}^3P_1$	$2p^5 3s {}^3P_1^o$	183264	E1	3.133E-05	2.339E+05	0.71
$2p^5 3p {}^3P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s {}^3P_1^o$	197848	E1	4.367E-03	2.281E+07	1.03
$2p^5 3p {}^3P_0$		$2p^5 3s {}^3P_1^o$	241908	E1	2.699E-02	1.053E+09	0.99
$2p^5 3p {}^3D_1$	$0.67 + 0.31 {}^1P_1$	$2p^5 3s {}^3P_1^o$	258552	E1	1.842E-01	2.738E+09	0.99
$2p^5 3p {}^3P_1$	$0.63 + 0.17 {}^1P_1 + 0.13 {}^3S_1$	$2p^5 3s {}^3P_1^o$	284713	E1	1.225E-01	2.208E+09	0.99
$2p^5 3p {}^3P_1$	$0.63 + 0.17 {}^1P_1 + 0.13 {}^3S_1$	$2p^5 3s {}^3P_1^o$	284713	M2	2.920E-10	5.262E+00	1.00
$2p^5 3p {}^3D_2$	$0.41 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	$2p^5 3s {}^3P_1^o$	287756	E1	5.718E-01	6.317E+09	0.99
$2p^5 3p {}^3D_2$	$0.41 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	$2p^5 3s {}^3P_1^o$	287756	M2	3.248E-10	3.588E+00	1.00
$2p^5 3p {}^1S_0$		$2p^5 3s {}^3P_1^o$	392972	E1	1.270E-01	1.308E+10	0.97
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^3P_1^o$	503280	M1	3.509E-12	5.929E-01	1.00
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^3P_1^o$	510886	E2	4.345E-08	2.521E+03	0.99
$2p^5 3d {}^3P_2^o$	$0.72 + 0.18 {}^3D_2$	$2p^5 3s {}^3P_1^o$	525533	M1	1.830E-10	6.741E+00	1.00
$2p^5 3d {}^3P_2^o$	$0.72 + 0.18 {}^3D_2$	$2p^5 3s {}^3P_1^o$	525533	E2	5.930E-08	2.185E+03	1.00
$2p^5 3d {}^3F_3^o$	$0.65 + 0.29 {}^1F_3^o$	$2p^5 3s {}^3P_1^o$	532056	E2	7.897E-10	2.130E+01	1.05
$2p^5 3d {}^1D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	545928	M1	3.783E-11	1.504E+00	1.00

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 P_1^o$	129335	M1	7.288E-07	1.626E+03	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 P_1^o$	129335	E2	1.067E-10	2.381E-01	1.12
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 P_1^o$	133558	E2	1.751E-09	2.977E+00	0.83
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 P_1^o$	189581	M1	9.708E-07	7.758E+03	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 P_1^o$	189581	E2	5.058E-10	4.042E+00	1.03
$2p^5 3d^3 D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$		$2p^5 3d^3 P_2^o$	20394	M1	3.213E-09	1.783E-01	1.00
$2p^5 3d^3 D_2^o$	$0.64 + 0.34 {}^1F_3^o$		$2p^5 3d^3 P_2^o$	29109	M1	6.620E-07	5.345E+01	1.00
$2p^5 3d^3 D_1^o$	$0.74 + 0.20 {}^1P_1^o$		$2p^5 3d^3 P_2^o$	66530	M1	6.555E-07	6.451E+02	1.00
$2p^5 3d^3 D_1^o$	$0.74 + 0.20 {}^1P_1^o$		$2p^5 3d^3 P_2^o$	66530	E2	3.120E-10	3.070E-01	1.07
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$		$2p^5 3d^3 P_2^o$	108094	M1	4.570E-07	7.124E+02	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 P_2^o$	114688	M1	3.969E-06	6.965E+03	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 P_2^o$	114688	E2	6.141E-10	1.078E+00	1.03
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 P_2^o$	118911	M1	1.055E-06	1.422E+03	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 P_2^o$	118911	E2	2.756E-10	3.713E-01	1.71
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 P_2^o$	174934	M1	1.642E-07	1.117E+03	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 P_2^o$	174934	E2	1.458E-09	9.918E+00	1.15
$2p^5 3d^3 F_3^o$	$0.65 + 0.29 {}^1F_3^o$		$2p^5 3d^3 F_4^o$	5944	M1	1.047E-06	3.524E+00	1.00
$2p^5 3d^3 D_3^o$	$0.64 + 0.34 {}^1F_3^o$		$2p^5 3d^3 F_4^o$	28530	M1	1.819E-07	1.411E+01	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 F_4^o$	114109	E2	2.437E-09	4.233E+00	1.39
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 F_4^o$	118332	M1	1.061E-05	1.416E+04	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 F_4^o$	118332	E2	2.526E-09	3.371E+00	1.13
$2p^5 3d^3 D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$		$2p^5 3d^3 F_3^o$	13871	M1	1.232E-06	3.162E+01	1.00
$2p^5 3d^3 D_3^o$	$0.64 + 0.34 {}^1F_3^o$		$2p^5 3d^3 F_3^o$	22586	M1	4.206E-07	2.045E+01	1.00
$2p^5 3d^3 D_1^o$	$0.74 + 0.20 {}^1P_1^o$		$2p^5 3d^3 F_3^o$	60007	E2	4.525E-10	3.623E-01	1.02
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$		$2p^5 3d^3 F_3^o$	101571	M1	9.279E-06	1.277E+04	1.00
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$		$2p^5 3d^3 F_3^o$	101571	E2	8.714E-10	1.199E+00	1.17
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 F_3^o$	108165	M1	6.512E-08	1.016E+02	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 F_3^o$	108165	E2	3.724E-10	5.813E-01	0.90
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 F_3^o$	112388	M1	1.050E-08	1.264E+01	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 F_3^o$	112388	E2	1.799E-10	2.165E-01	1.21
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 F_3^o$	168411	E2	1.620E-09	1.022E+01	1.64
$2p^5 3d^3 D_3^o$	$0.64 + 0.34 {}^1F_3^o$		$2p^5 3d^3 D_2^o$	8714	M1	4.149E-07	3.003E+00	1.00
$2p^5 3d^3 D_1^o$	$0.74 + 0.20 {}^1P_1^o$		$2p^5 3d^3 D_2^o$	46136	M1	1.495E-06	7.074E+02	1.00
$2p^5 3d^3 D_1^o$	$0.74 + 0.20 {}^1P_1^o$		$2p^5 3d^3 D_2^o$	46136	E2	1.163E-09	5.506E-01	1.12
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$		$2p^5 3d^3 D_2^o$	87699	M1	3.388E-06	3.476E+03	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 D_2^o$	94293	M1	9.456E-07	1.122E+03	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 D_2^o$	94293	E2	6.503E-10	7.713E-01	1.06
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 D_2^o$	98516	M1	3.662E-07	3.387E+02	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 D_2^o$	98516	E2	1.233E-10	1.140E-01	0.88
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 D_2^o$	154539	M1	1.323E-06	7.026E+03	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 D_2^o$	154539	E2	2.412E-09	1.281E+01	1.20
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$		$2p^5 3d^3 D_3^o$	78984	M1	8.284E-08	6.894E+01	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 F_3^o$	85578	M1	4.740E-06	4.631E+03	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 D_3^o$	85578	E2	1.738E-09	1.698E+00	1.07
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 D_3^o$	89801	M1	5.906E-06	4.538E+03	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 D_3^o$	145824	E2	7.317E-11	3.460E-01	0.34
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$		$2p^5 3d^3 D_1^o$	41563	M1	3.868E-07	8.915E+01	1.00
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$		$2p^5 3d^3 D_1^o$	48157	M1	4.173E-06	1.291E+03	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 D_1^o$	108403	M1	7.277E-07	1.901E+03	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 F_2^o$	10817	M1	9.949E-07	1.109E+01	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 F_2^o$	66840	M1	1.536E-07	1.526E+02	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 F_2^o$	66840	E2	1.961E-09	1.948E+00	1.14
$2p^5 3d^3 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$		$2p^5 3d^3 D_2^o$	4222	M1	1.768E-07	3.004E-01	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 D_2^o$	60245	M1	1.547E-06	1.249E+03	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^5 3d^3 D_2^o$	60245	E2	1.206E-09	9.732E-01	1.13
Co XVIII								
$2p^5 3s^3 P_2^o$			$2p^6 {}^1S_0$	6461481	M2	5.501E-08	3.064E+05	1.00
$2p^5 3s^3 P_1^o$	$0.56 + 0.44 {}^3P_1^o$		$2p^6 {}^1S_0$	6477883	E1	1.243E-01	1.160E+12	0.99
$2p^5 3s^3 P_1^o$	$0.56 + 0.44 {}^3P_1^o$		$2p^6 {}^1S_0$	6592589	E1	9.767E-02	9.439E+11	0.99
$2p^5 3p^3 S_1$	$0.78 + 0.20 {}^3P_1$		$2p^6 {}^1S_0$	6722238	M1	3.093E-08	3.108E+05	1.00
$2p^5 3p^3 D_2$	$0.57 + 0.30 {}^1D_2 + 0.12 {}^3P_2$		$2p^6 {}^1S_0$	6750353	E2	1.157E-04	7.034E+08	1.00
$2p^5 3p^3 P_1$	$0.52 + 0.24 {}^3D_1 + 0.18 {}^3P_1$		$2p^6 {}^1S_0$	6776159	M1	5.840E-10	5.962E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$		$2p^6 {}^1S_0$	6792522	E2	1.207E-04	7.429E+08	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$		$2p^6 {}^1S_0$	6866436	M1	8.327E-10	8.729E+03	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$		$2p^6 {}^1S_0$	6897097	M1	2.923E-08	3.092E+05	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$		$2p^6 {}^1S_0$	6900830	E2	1.393E-04	8.850E+08	1.00
$2p^5 3d^3 P_1^o$	$0.78 + 0.18 {}^3D_1^o$		$2p^6 {}^1S_0$	7123568	E1	1.006E-02	1.135E+11	1.01

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^6 {}^1S_0$	7139881	M2	1.336E-06	9.088E+06	1.00
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^6 {}^1S_0$	7160870	M2	2.625E-07	1.795E+06	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^6 {}^1S_0$	7212618	E1	7.307E-01	8.451E+12	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28 {}^1D_2^o$	$2p^6 {}^1S_0$	7266233	M2	7.615E-08	5.364E+05	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^6 {}^1S_0$	7273607	M2	8.576E-08	6.053E+05	1.00
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^6 {}^1S_0$	7336563	E1	2.237E+00	2.677E+13	1.00
$2p^5 3s^1 P_1^o$	$0.56 + 0.44 {}^3P_1^o$	$2p^5 3s^3 P_2^o$	16402	M1	7.336E-07	4.388E+01	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_2^o$	121155	E2	2.644E-10	2.588E+00	1.06
$2p^5 3s^3 P_1^o$	$0.56 + 0.44 {}^1P_1^o$	$2p^5 3s^3 P_2^o$	131108	M1	7.383E-06	2.822E+04	1.00
$2p^5 3s^3 P_1^o$	$0.56 + 0.44 {}^1P_1^o$	$2p^5 3s^3 P_2^o$	131108	E2	4.193E-10	1.603E+00	1.04
$2p^5 3p^3 S_1$	$0.78 + 0.20 {}^3P_1$	$2p^5 3s^3 P_2^o$	260756	E1	2.468E-01	3.732E+09	0.97
$2p^5 3p^3 S_1$	$0.78 + 0.20 {}^3P_1$	$2p^5 3s^3 P_2^o$	260756	M2	6.953E-11	1.051E+00	1.00
$2p^5 3p^3 D_2$	$0.57 + 0.30 {}^1D_2 + 0.12 {}^3P_2$	$2p^5 3s^3 P_2^o$	288872	E1	2.412E-01	2.685E+09	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	305921	E1	7.705E-01	6.871E+09	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	305921	M2	3.465E-10	3.090E+00	1.00
$2p^5 3p^1 P_1$	$0.52 + 0.24 {}^3D_1 + 0.18 {}^3P_1$	$2p^5 3s^3 P_2^o$	314677	E1	1.224E-02	2.695E+08	0.98
$2p^5 3p^1 P_1$	$0.52 + 0.24 {}^3D_1 + 0.18 {}^3P_1$	$2p^5 3s^3 P_2^o$	314677	M2	2.489E-10	5.479E+00	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s^3 P_2^o$	331040	E1	3.266E-01	4.774E+09	0.98
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s^3 P_2^o$	331040	M2	5.072E-10	7.416E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_2^o$	381627	M2	1.465E-10	1.424E+01	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3s^3 P_2^o$	404954	E1	5.093E-04	1.857E+07	1.05
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3s^3 P_2^o$	404954	M2	1.232E-11	4.491E-01	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3s^3 P_2^o$	435616	E1	2.019E-02	8.517E+08	0.98
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3s^3 P_2^o$	435616	M2	1.309E-11	5.523E-01	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3s^3 P_2^o$	439349	E1	4.037E-03	1.040E+08	0.94
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	544427	M2	2.948E-10	5.828E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	653534	E2	1.311E-06	3.736E+05	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	662087	M1	1.038E-09	1.012E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	662087	E2	3.854E-06	3.756E+05	1.00
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3s^3 P_2^o$	678399	M1	5.256E-10	3.227E+01	1.00
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3s^3 P_2^o$	678399	E2	5.259E-06	3.229E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	678474	E2	1.303E-05	4.445E+05	1.00
$2p^5 3d^3 F_3^o$	$0.63 + 0.31 {}^1F_3^o$	$2p^5 3s^3 P_2^o$	684347	M1	1.374E-11	6.132E-01	1.00
$2p^5 3d^3 F_3^o$	$0.63 + 0.31 {}^1F_3^o$	$2p^5 3s^3 P_2^o$	684347	E2	4.492E-06	2.005E+05	1.00
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3s^3 P_2^o$	699389	M1	2.508E-11	1.637E+00	1.00
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3s^3 P_2^o$	699389	E2	1.894E-06	1.236E+05	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33 {}^1F_3^o$	$2p^5 3s^3 P_2^o$	709082	M1	5.472E-11	2.622E+00	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33 {}^1F_3^o$	$2p^5 3s^3 P_2^o$	709082	E2	6.392E-06	3.063E+05	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3s^3 P_2^o$	751137	M1	9.462E-10	1.187E+02	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3s^3 P_2^o$	751137	E2	2.900E-07	3.638E+04	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28 {}^1D_2^o$	$2p^5 3s^3 P_2^o$	804752	E2	2.237E-08	1.933E+03	1.01
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3s^3 P_2^o$	812125	M1	8.681E-12	7.638E-01	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3s^3 P_2^o$	812125	E2	4.125E-07	3.629E+04	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 {}^3F_3^o + 0.29 {}^3D_3^o$	$2p^5 3s^3 P_2^o$	817111	M1	3.838E-11	2.442E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 {}^3F_3^o + 0.29 {}^3D_3^o$	$2p^5 3s^3 P_2^o$	817111	E2	1.971E-07	1.254E+04	1.00
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3s^3 P_2^o$	875081	M1	5.399E-10	9.193E+01	1.00
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3s^3 P_2^o$	875081	E2	3.579E-08	6.094E+03	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_1^o$	104753	M1	3.718E-06	2.721E+04	1.00
$2p^5 3s^3 P_1^o$	$0.56 + 0.44 {}^1P_1^o$	$2p^5 3s^1 P_1^o$	114706	M1	1.710E-06	5.002E+03	1.00
$2p^5 3s^3 P_1^o$	$0.56 + 0.44 {}^1P_1^o$	$2p^5 3s^1 P_1^o$	114706	E2	2.782E-10	8.138E-01	1.05
$2p^5 3p^3 S_1$	$0.78 + 0.20 {}^3P_1$	$2p^5 3s^1 P_1^o$	244354	E1	6.914E-03	9.179E+07	0.99
$2p^5 3p^3 D_2$	$0.57 + 0.30 {}^1D_2 + 0.12 {}^3P_2$	$2p^5 3s^1 P_1^o$	272469	E1	2.630E-01	2.605E+09	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^1 P_1^o$	289519	M2	4.260E-10	3.402E+00	1.00
$2p^5 3p^1 P_1$	$0.52 + 0.24 {}^3D_1 + 0.18 {}^3P_1$	$2p^5 3s^1 P_1^o$	298275	E1	3.080E-01	6.092E+09	0.99
$2p^5 3p^1 P_1$	$0.52 + 0.24 {}^3D_1 + 0.18 {}^3P_1$	$2p^5 3s^1 P_1^o$	298275	M2	2.205E-11	4.362E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s^1 P_1^o$	314638	E1	2.656E-01	3.508E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s^1 P_1^o$	314638	M2	1.920E-10	2.536E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	365225	E1	1.013E-01	9.015E+09	0.98
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3s^1 P_1^o$	388552	E1	9.782E-04	3.284E+07	1.02
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3s^1 P_1^o$	419214	E1	1.322E-04	5.166E+06	1.18
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3s^1 P_1^o$	419214	M2	2.744E-11	1.072E+00	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3s^1 P_1^o$	422947	E1	3.090E-03	7.374E+07	0.98
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3s^1 P_1^o$	422947	M2	8.892E-12	2.122E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	528025	E1	6.538E-02	1.216E+10	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	637132	M1	8.122E-10	2.199E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	645685	M1	6.471E-10	5.998E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	645685	E2	1.520E-07	1.409E+04	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3p^3 D_3$	506204	M2	1.423E-11	4.865E-01	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 {}^3F_3^o + 0.29 {}^3D_3^o$	$2p^5 3p^3 D_3$	511190	E1	5.586E-03	1.391E+08	1.05
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 {}^3F_3^o + 0.29 {}^3D_3^o$	$2p^5 3p^3 D_3$	511190	M2	6.376E-12	1.588E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3p^1 P_1$	16362	M1	2.337E-07	8.347E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^1 P_1$	66949	M1	8.830E-07	2.640E+03	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3p^1 P_1$	90276	M1	7.939E-07	1.439E+03	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^1 P_1$	120938	M1	3.032E-06	9.858E+03	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^1 P_1$	120938	E2	2.659E-10	8.647E-01	1.13
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3p^1 P_1$	124671	M1	6.957E-07	1.442E+03	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^1 P_1$	229749	M1	2.784E-07	9.802E+03	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	338856	E1	2.815E-03	2.156E+08	0.99
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	347409	E1	6.280E-04	1.685E+07	1.16
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 P_1$	347409	M2	2.975E-11	7.984E-01	1.00
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3p^1 P_1$	363721	E1	6.635E-02	1.171E+09	1.01
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3p^1 P_1$	384711	E1	4.131E-01	8.156E+09	1.00
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3p^1 P_1$	384711	M2	1.429E-11	2.821E-01	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33 {}^1F_3^o$	$2p^5 3p^1 P_1$	394404	M2	9.301E-10	1.379E+01	1.00
$2p^5 3d^3 D_3^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3p^1 P_1$	436459	E1	1.859E-01	7.874E+09	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3p^1 P_1$	436459	M2	1.266E-10	5.362E+00	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28 {}^1D_2^o$	$2p^5 3p^1 P_1$	490074	E1	9.740E-05	3.121E+06	1.02
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3p^1 P_1$	497447	E1	5.956E-04	1.966E+07	1.01
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3p^1 P_1$	497447	M2	2.281E-11	7.529E-01	1.00
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3p^1 P_1$	560403	E1	2.523E-02	1.762E+09	0.98
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3p^1 P_1$	560403	M2	7.193E-11	5.023E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3p^3 P_2$	50586	E2	3.283E-10	5.605E-01	0.96
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3p^3 P_2$	73913	M1	2.390E-10	2.904E-01	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3p^3 P_2$	73913	E2	1.041E-10	1.264E-01	1.61
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^3 P_2$	104575	M1	4.232E-06	1.029E+04	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^3 P_2$	104575	E2	2.476E-10	6.020E-01	1.11
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3p^3 P_2$	108308	M1	4.312E-06	6.748E+03	1.00
$2p^5 3p^1 S_0$		$2p^5 3p^3 P_2$	213386	E2	1.918E-08	5.827E+02	0.98
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	331046	E1	4.586E-02	1.117E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 P_2$	331046	M2	4.113E-11	1.002E+00	1.00
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3p^3 P_2$	347359	E1	2.412E-01	3.883E+09	1.01
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3p^3 P_2$	347359	M2	4.737E-10	7.626E+00	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	347433	M2	5.109E-10	4.571E+00	1.00
$2p^5 3d^3 F_3^o$	$0.63 + 0.31 {}^1F_3^o$	$2p^5 3p^3 P_2$	353307	E1	1.069E-02	1.271E+08	1.00
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3p^3 P_2$	368348	E1	2.981E-04	5.396E+06	1.10
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3p^3 P_2$	368348	M2	1.388E-10	2.513E+00	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33 {}^1F_3^o$	$2p^5 3p^3 P_2$	378041	E1	7.367E-01	1.003E+10	1.01
$2p^5 3d^3 D_3^o$	$0.65 + 0.33 {}^1F_3^o$	$2p^5 3p^3 P_2$	378041	M2	3.438E-10	4.682E+00	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3p^3 P_2$	420096	E1	3.268E-05	1.282E+06	2.35
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3p^3 P_2$	420096	M2	2.495E-10	9.792E+00	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28 {}^1D_2^o$	$2p^5 3p^3 P_2$	473711	E1	6.653E-04	1.992E+07	1.02
$2p^5 3d^3 F_2^o$	$0.64 + 0.28 {}^1D_2^o$	$2p^5 3p^3 P_2$	473711	M2	9.145E-12	2.738E-01	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3p^3 P_2$	481085	E1	1.875E-02	5.791E+08	1.02
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3p^3 P_2$	481085	M2	4.883E-11	1.508E+00	1.00
$2p^5 3d^1 F_3^o$	$0.37 + 0.34 {}^3F_3^o + 0.29 {}^3D_3^o$	$2p^5 3p^3 P_2$	486070	E1	6.155E-04	1.386E+07	1.02
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3p^3 P_2$	544041	E1	6.727E-04	4.427E+07	0.83
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3p^3 P_2$	544041	M2	1.862E-10	1.225E+01	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.31 {}^1P_1$	$2p^5 3p^3 P_0$	23326	M1	5.414E-09	6.550E-01	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^3 P_0$	53988	M1	2.482E-06	1.609E+03	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3p^3 P_0$	57721	E2	9.515E-10	4.229E-01	0.90
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 P_0$	280459	E1	8.347E-03	1.460E+08	1.02
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3p^3 P_0$	296772	M2	6.894E-11	8.100E-01	1.00
$2p^5 3d^1 D_2^o$	$0.42 + 0.34 {}^3F_2^o + 0.24 {}^3D_2^o$	$2p^5 3p^3 P_0$	317761	M2	3.408E-11	4.591E-01	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23 {}^1P_1^o$	$2p^5 3p^3 P_0$	369509	E1	1.884E-01	5.721E+09	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28 {}^3P_2^o + 0.20 {}^1D_2^o$	$2p^5 3p^3 P_0$	430498	M2	1.661E-10	4.106E+00	1.00
$2p^5 3d^1 P_1^o$	$0.76 + 0.20 {}^3D_1^o$	$2p^5 3p^3 P_0$	493454	E1	1.481E-02	8.019E+08	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^3 D_1$	30661	M1	1.144E-07	2.392E+01	1.00
$2p^5 3p^3 P_1$	$0.62 + 0.16 {}^1P_1 + 0.15 {}^3S_1$	$2p^5 3p^3 D_1$	30661	E2	5.406E-10	1.130E-01	1.05
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3p^3 D_1$	34394	M1	1.921E-06	3.031E+02	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37 {}^1D_2 + 0.20 {}^3P_2$	$2p^5 3p^3 D_1$	34394	E2	7.124E-10	1.124E-01	0.99
$2p^5 3p^1 S_0$		$2p^5 3p^3 D_1$	139472	M1	3.454E-09	4.482E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^3 D_1$	248579	E1	2.289E-05	9.434E+05	0.17
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_1$	257133	E1	5.132E-06	7.545E+04	0.21
$2p^5 3d^3 P_2^o$	$0.70 + 0.20 {}^3D_2$	$2p^5 3p^3 D_1$	273445	E1	9.807E-04	9.783E+06	0.96

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 D_3^o$	$0.65 + 0.33$	$1F_3^o$	30607	M1	1.857E-07	1.658E+01	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	126278	E2	4.862E-11	1.034E-01	0.97
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	133651	E2	3.073E-09	7.322E+00	1.35
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	138637	M1	1.284E-05	2.351E+04	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	138637	E2	2.990E-09	5.475E+00	1.12
$2p^5 3d^3 D_2^o$	$0.42 + 0.34$	$3F_2^o + 0.24$	15041	M1	1.275E-06	3.848E+01	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33$	$1F_3^o$	24734	M1	4.762E-07	2.776E+01	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23$	$1P_1^o$	66789	E2	4.721E-10	4.683E-01	1.01
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	120404	M1	1.115E-05	2.156E+04	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	120404	E2	1.085E-09	2.098E+00	1.15
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	127777	M1	5.940E-08	1.294E+02	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	127777	E2	4.090E-10	8.909E-01	0.90
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	132763	M1	1.141E-08	1.917E+01	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	132763	E2	1.864E-10	3.130E-01	1.20
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	190734	E2	2.169E-09	1.754E+01	1.53
$2p^5 3d^3 D_3^o$	$0.65 + 0.33$	$1F_3^o$	9692	M1	4.562E-07	4.084E+00	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23$	$1P_1^o$	51748	M1	1.622E-06	9.659E+02	1.00
$2p^5 3d^3 D_1^o$	$0.71 + 0.23$	$1P_1^o$	51748	E2	1.331E-09	7.924E-01	1.12
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	105362	M1	3.896E-06	5.770E+03	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	105362	E2	1.126E-10	1.668E-01	0.88
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	112736	M1	1.231E-06	2.088E+03	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	112736	E2	7.453E-10	1.264E+00	1.06
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	117722	M1	4.443E-07	5.867E+02	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	117722	E2	1.788E-10	2.361E-01	0.90
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	175692	M1	1.702E-06	1.168E+04	1.00
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	175692	E2	2.395E-09	1.643E+01	1.19
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	95670	M1	7.911E-08	9.660E+01	1.00
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	95670	E2	9.365E-11	1.144E-01	1.29
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	103043	M1	5.622E-06	7.964E+03	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	103043	E2	2.175E-09	3.080E+00	1.06
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	108029	M1	6.956E-06	7.735E+03	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	108029	E2	1.678E-10	1.866E-01	0.89
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	165999	E2	7.186E-11	4.402E-01	0.35
$2p^5 3d^3 F_2^o$	$0.64 + 0.28$	$1D_2^o$	53614	M1	4.211E-07	1.615E+02	1.00
$2p^5 3d^3 D_2^o$	$0.49 + 0.28$	$3P_2^o + 0.20$	60988	M1	5.081E-06	2.521E+03	1.00
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	123944	M1	8.763E-07	2.993E+03	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	12359	M1	1.152E-06	1.677E+01	1.00
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	70329	M1	1.577E-07	1.734E+02	1.00
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	70329	E2	1.872E-09	2.059E+00	1.13
$2p^5 3d^3 F_3^o$	$0.37 + 0.34$	$3F_3^o + 0.29$	4985	M1	2.069E-07	4.900E-01	1.00
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	62956	M1	1.808E-06	1.594E+03	1.00
$2p^5 3d^3 P_1^o$	$0.76 + 0.20$	$3D_1^o$	62956	E2	1.093E-09	9.628E-01	1.12
Ni XIX							
$2p^5 3s^3 P_2^o$		$2p^6 1S_0$	7103562	M2	6.580E-08	4.430E+05	1.00
$2p^5 3s^3 P_1^o$	$0.57 + 0.43$	$3P_1^o$	7120996	E1	1.262E-01	1.423E+12	0.99
$2p^5 3s^3 P_1^o$	$0.57 + 0.43$	$1P_1^o$	7256896	E1	9.459E-02	1.108E+12	0.99
$2p^5 3p^3 S_1$	$0.75 + 0.22$	$3P_1$	7380805	M1	4.166E-08	5.046E+05	1.00
$2p^5 3p^3 D_2$	$0.57 + 0.31$	$1D_2 + 0.12$	7408708	E2	1.298E-04	9.505E+08	1.00
$2p^5 3p^3 P_1$	$0.54 + 0.22$	$3D_1 + 0.16$	7438792	M1	3.485E-10	4.288E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	$1D_2$	7457036	E2	1.336E-04	9.911E+08	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.30$	$1P_1$	7546091	M1	1.209E-09	1.531E+04	1.00
$2p^5 3p^3 P_1$	$0.61 + 0.16$	$1P_1 + 0.15$	7581948	M1	3.609E-08	4.613E+05	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37$	$1D_2 + 0.20$	7586378	E2	1.525E-04	1.171E+09	1.00
$2p^5 3d^3 P_1^o$		$2p^6 1S_0$	7806129	E1	1.010E-02	1.369E+11	1.01
$2p^5 3d^3 P_2^o$	$0.68 + 0.22$	$3D_2$	7824183	M2	1.587E-06	1.296E+07	1.00
$2p^5 3d^3 D_2^o$	$0.44 + 0.32$	$3F_2^o + 0.24$	7845669	M2	3.484E-07	2.861E+06	1.00
$2p^5 3d^3 D_1^o$	$0.68 + 0.26$	$1P_1^o$	7903313	E1	8.271E-01	1.149E+13	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27$	$1D_2^o$	7971299	M2	8.442E-08	7.156E+05	1.00
$2p^5 3d^3 D_2^o$	$0.48 + 0.30$	$3P_2^o + 0.20$	7979602	M2	1.222E-07	1.038E+06	1.00
$2p^5 3d^3 P_1^o$	$0.73 + 0.22$	$3D_1^o$	8044913	E1	2.196E+00	3.161E+13	1.00
$2p^5 3s^3 P_1^o$	$0.57 + 0.43$	$3P_1^o$	17434	M1	7.582E-07	5.124E+01	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_2^o$	143052	E2	3.695E-10	5.043E+00	1.05
$2p^5 3s^3 P_0^o$	$0.57 + 0.43$	$1P_1^o$	153333	M1	8.822E-06	4.612E+04	1.00
$2p^5 3s^3 P_1^o$	$0.57 + 0.43$	$1P_1^o$	153333	E2	5.821E-10	3.043E+00	1.04
$2p^5 3p^3 S_1$	$0.75 + 0.22$	$3P_1$	277243	E1	2.432E-01	4.156E+09	0.97
$2p^5 3p^3 S_1$	$0.75 + 0.22$	$3P_1$	277243	M2	6.912E-11	1.181E+00	1.00
$2p^5 3p^3 D_2$	$0.57 + 0.31$	$1D_2 + 0.12$	305146	E1	2.333E-01	2.898E+09	0.98

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	326919	E1	7.490E-01	7.628E+09	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	326919	M2	3.842E-10	3.912E+00	1.00
$2p^5 3p^1 P_1$	$0.54 + 0.22^3 D_1 + 0.16^3 P_1$	$2p^5 3s^3 P_2^o$	335230	E1	8.095E-03	2.023E+08	0.98
$2p^5 3p^1 P_1$	$0.54 + 0.22^3 D_1 + 0.16^3 P_1$	$2p^5 3s^3 P_2^o$	335230	M2	2.876E-10	7.185E+00	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_2^o$	353473	E1	3.159E-01	5.266E+09	0.98
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_2^o$	353473	M2	5.617E-10	9.362E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^3 P_2^o$	411041	M2	1.745E-10	1.967E+01	1.00
$2p^5 3p^3 D_1$	$0.68 + 0.30^1 P_1$	$2p^5 3s^3 P_2^o$	442529	E1	5.608E-04	2.442E+07	1.04
$2p^5 3p^3 D_1$	$0.68 + 0.30^1 P_1$	$2p^5 3s^3 P_2^o$	442529	M2	1.199E-11	5.221E-01	1.00
$2p^5 3p^3 P_1$	$0.61 + 0.16^1 P_1 + 0.15^3 S_1$	$2p^5 3s^3 P_2^o$	478386	E1	1.749E-02	8.898E+08	0.98
$2p^5 3p^3 P_1$	$0.61 + 0.16^1 P_1 + 0.15^3 S_1$	$2p^5 3s^3 P_2^o$	478386	M2	1.250E-11	6.363E-01	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^3 P_2^o$	482816	E1	3.267E-03	1.016E+08	0.93
$2p^5 3p^1 S_0$		$2p^5 3s^3 P_2^o$	586633	M2	3.105E-10	7.128E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	693025	E2	1.278E-06	4.094E+05	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	702567	M1	1.266E-09	1.389E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^3 P_2^o$	702567	E2	3.787E-06	4.156E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	720212	E2	1.274E-05	4.898E+05	1.00
$2p^5 3d^3 P_2^o$	$0.68 + 0.22^3 D_2$	$2p^5 3s^3 P_2^o$	720621	M1	4.993E-10	3.459E+01	1.00
$2p^5 3d^3 P_2^o$	$0.68 + 0.22^3 D_2$	$2p^5 3s^3 P_2^o$	720621	E2	5.285E-06	3.662E+05	1.00
$2p^5 3d^3 F_3^o$	$0.63 + 0.31^1 F_3^o$	$2p^5 3s^3 P_2^o$	725854	M1	1.739E-11	8.732E-01	1.00
$2p^5 3d^3 F_3^o$	$0.63 + 0.31^1 F_3^o$	$2p^5 3s^3 P_2^o$	725854	E2	4.380E-06	2.199E+05	1.00
$2p^5 3d^1 D_2^o$	$0.44 + 0.32^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^3 P_2^o$	742107	M1	3.199E-11	2.350E+00	1.00
$2p^5 3d^1 D_2^o$	$0.44 + 0.32^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^3 P_2^o$	742107	E2	1.751E-06	1.287E+05	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33^1 F_3^o$	$2p^5 3s^3 P_2^o$	752897	M1	6.649E-11	3.591E+00	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33^1 F_3^o$	$2p^5 3s^3 P_2^o$	752897	E2	6.281E-06	3.393E+05	1.00
$2p^5 3d^3 D_1^o$	$0.68 + 0.26^1 P_1^o$	$2p^5 3s^3 P_2^o$	799751	M1	1.332E-09	1.894E+02	1.00
$2p^5 3d^3 D_1^o$	$0.68 + 0.26^1 P_1^o$	$2p^5 3s^3 P_2^o$	799751	E2	2.514E-07	3.576E+04	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27^1 D_2^o$	$2p^5 3s^3 P_2^o$	867736	E2	1.618E-08	1.626E+03	1.01
$2p^5 3d^3 D_2^o$	$0.48 + 0.30^3 P_2^o + 0.20^1 D_2^o$	$2p^5 3s^3 P_2^o$	876040	M1	1.937E-11	1.983E+00	1.00
$2p^5 3d^3 D_2^o$	$0.48 + 0.30^3 P_2^o + 0.20^1 D_2^o$	$2p^5 3s^3 P_2^o$	876040	E2	3.504E-07	3.587E+04	1.00
$2p^5 3d^1 F_3^o$	$0.36 + 0.35^3 F_3^o + 0.28^3 D_3^o$	$2p^5 3s^3 P_2^o$	881794	M1	4.572E-11	3.387E+00	1.00
$2p^5 3d^1 F_3^o$	$0.36 + 0.35^3 F_3^o + 0.28^3 D_3^o$	$2p^5 3s^3 P_2^o$	881794	E2	1.632E-07	1.209E+04	1.00
$2p^5 3d^1 P_1^o$	$0.73 + 0.22^3 D_1^o$	$2p^5 3s^3 P_2^o$	941351	M1	6.572E-10	1.295E+02	1.00
$2p^5 3d^1 P_1^o$	$0.73 + 0.22^3 D_1^o$	$2p^5 3s^3 P_2^o$	941351	E2	3.636E-08	7.164E+03	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_1^o$	125617	M1	4.331E-06	4.559E+04	1.00
$2p^5 3s^3 P_1^o$	$0.57 + 0.43^1 P_1^o$	$2p^5 3s^1 P_1^o$	135899	M1	2.011E-06	8.259E+03	1.00
$2p^5 3s^3 P_1^o$	$0.57 + 0.43^1 P_1^o$	$2p^5 3s^1 P_1^o$	135899	E2	3.867E-10	1.588E+00	1.05
$2p^5 3p^3 S_1$	$0.75 + 0.22^3 P_1$	$2p^5 3s^1 P_1^o$	259809	E1	4.140E-03	6.214E+07	0.99
$2p^5 3p^3 D_2$	$0.57 + 0.31^1 D_2 + 0.12^3 P_2$	$2p^5 3s^1 P_1^o$	287711	E1	2.509E-01	2.771E+09	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^1 P_1^o$	309485	M2	4.739E-10	4.325E+00	1.00
$2p^5 3p^1 P_1$	$0.54 + 0.22^3 D_1 + 0.16^3 P_1$	$2p^5 3s^1 P_1^o$	317796	E1	3.016E-01	6.773E+09	0.99
$2p^5 3p^1 P_1$	$0.54 + 0.22^3 D_1 + 0.16^3 P_1$	$2p^5 3s^1 P_1^o$	317796	M2	2.537E-11	5.697E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^1 P_1^o$	336039	E1	2.605E-01	3.924E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^1 P_1^o$	336039	M2	2.126E-10	3.203E+00	1.00
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	393607	E1	1.019E-01	1.053E+10	0.98
$2p^5 3p^3 D_1$	$0.68 + 0.30^1 P_1$	$2p^5 3s^1 P_1^o$	425095	E1	8.353E-04	3.356E+07	1.02
$2p^5 3p^3 P_1$	$0.61 + 0.16^1 P_1 + 0.15^3 S_1$	$2p^5 3s^1 P_1^o$	460952	E1	1.688E-04	7.973E+06	1.15
$2p^5 3p^3 P_1$	$0.61 + 0.16^1 P_1 + 0.15^3 S_1$	$2p^5 3s^1 P_1^o$	460952	M2	2.776E-11	1.312E+00	1.00
$2p^5 3p^3 D_2$	$0.42 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^1 P_1^o$	465382	E1	2.370E-03	6.847E+07	0.98
$2p^5 3p^3 D_2$	$0.42 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^1 P_1^o$	465382	M2	8.505E-12	2.457E-01	1.00
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	569199	E1	6.077E-02	1.313E+10	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	675591	M1	9.969E-10	3.035E+02	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	685132	M1	7.912E-10	8.257E+01	1.00
$2p^5 3d^3 P_1^o$		$2p^5 3s^1 P_1^o$	685132	E2	1.331E-07	1.389E+04	1.00
$2p^5 3d^3 P_2^o$	$0.68 + 0.22^3 D_2$	$2p^5 3s^1 P_1^o$	703187	M1	3.311E-11	2.184E+00	1.00
$2p^5 3d^3 P_2^o$	$0.68 + 0.22^3 D_2$	$2p^5 3s^1 P_1^o$	703187	E2	1.539E-06	1.015E+05	1.00
$2p^5 3d^3 F_3^o$	$0.63 + 0.31^1 F_3^o$	$2p^5 3s^1 P_1^o$	708420	E2	5.384E-06	2.575E+05	1.00
$2p^5 3d^1 D_2^o$	$0.44 + 0.32^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^1 P_1^o$	724672	M1	1.363E-10	9.549E+00	1.00
$2p^5 3d^1 D_2^o$	$0.44 + 0.32^3 F_2^o + 0.24^3 D_2^o$	$2p^5 3s^1 P_1^o$	724672	E2	5.428E-06	3.803E+05	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.33^1 F_3^o$	$2p^5 3s^1 P_1^o$	735463	E2	4.599E-06	2.371E+05	1.00
$2p^5 3d^3 D_1^o$	$0.68 + 0.26^1 P_1^o$	$2p^5 3s^1 P_1^o$	782317	M1	2.164E-11	2.945E+00	1.00
$2p^5 3d^3 D_1^o$	$0.68 + 0.26^1 P_1^o$	$2p^5 3s^1 P_1^o$	782317	E2	5.087E-06	6.923E+05	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27^1 D_2^o$	$2p^5 3s^1 P_1^o$	850302	M1	3.899E-11	3.760E+00	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27^1 D_2^o$	$2p^5 3s^1 P_1^o$	850302	E2	1.661E-08	1.602E+03	0.98
$2p^5 3d^3 D_2^o$	$0.48 + 0.30^3 P_2^o + 0.20^1 D_2^o$	$2p^5 3s^1 P_1^o$	858605	M1	2.585E-10	2.542E+01	1.00
$2p^5 3d^3 D_2^o$	$0.48 + 0.30^3 P_2^o + 0.20^1 D_2^o$	$2p^5 3s^1 P_1^o$	858605	E2	5.350E-09	5.262E+02	0.97
$2p^5 3d^1 F_3^o$	$0.36 + 0.35^3 F_3^o + 0.28^3 D_3^o$	$2p^5 3s^1 P_1^o$	864360	E2	5.456E-08	3.885E+03	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_1$	$0.60 + 0.16^3 S_1 + 0.15^1 P_1$	$2p^5 3s^3 P_2^o$	524860	M2	1.189E-11	7.283E-01	1.00
$2p^5 3p^3 D_2$	$0.44 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^3 P_2^o$	529991	E1	2.676E-03	1.003E+08	0.93
$2p^5 3p^1 S_0$	$0.88 + 0.11^3 P_0$	$2p^5 3s^3 P_2^o$	631404	M2	3.249E-10	8.640E+01	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	733358	E2	1.249E-06	4.482E+05	1.00
$2p^5 3d^3 P_1^o$	$0.89 + 0.10^3 D_1^o$	$2p^5 3s^3 P_2^o$	743926	M1	1.545E-09	1.901E+02	1.00
$2p^5 3d^3 P_2^o$	$0.89 + 0.10^3 D_1^o$	$2p^5 3s^3 P_2^o$	743926	E2	3.730E-06	4.590E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	762945	E2	1.250E-05	5.394E+05	1.00
$2p^5 3d^3 P_2^o$	$0.66 + 0.24^3 D_2^o$	$2p^5 3s^3 P_2^o$	763803	M1	4.788E-10	3.726E+01	1.00
$2p^5 3d^3 P_2^o$	$0.66 + 0.24^3 D_2^o$	$2p^5 3s^3 P_2^o$	763803	E2	5.333E-06	4.151E+05	1.00
$2p^5 3d^3 F_3^o$	$0.62 + 0.31^1 F_3^o$	$2p^5 3s^3 P_2^o$	768178	M1	2.173E-11	1.222E+00	1.00
$2p^5 3d^3 F_3^o$	$0.62 + 0.31^1 F_3^o$	$2p^5 3s^3 P_2^o$	768178	E2	4.281E-06	2.407E+05	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.31^3 F_2^o + 0.23^3 D_2^o$	$2p^5 3s^3 P_2^o$	785693	M1	4.062E-11	3.345E+00	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.31^3 F_2^o + 0.23^3 D_2^o$	$2p^5 3s^3 P_2^o$	785693	E2	1.601E-06	1.319E+05	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.32^1 F_3^o$	$2p^5 3s^3 P_2^o$	797709	M1	7.977E-11	4.837E+00	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.32^1 F_3^o$	$2p^5 3s^3 P_2^o$	797709	E2	6.188E-06	3.752E+05	1.00
$2p^5 3d^3 D_1^o$	$0.65 + 0.29^1 P_1^o$	$2p^5 3s^3 P_2^o$	849489	M1	1.851E-09	2.970E+02	1.00
$2p^5 3d^3 D_1^o$	$0.65 + 0.29^1 P_1^o$	$2p^5 3s^3 P_2^o$	849489	E2	2.178E-07	3.494E+04	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27^1 D_2^o$	$2p^5 3s^3 P_2^o$	934421	E2	1.192E-08	1.389E+03	1.01
$2p^5 3d^3 D_2^o$	$0.47 + 0.31^3 P_2^o + 0.19^1 D_2^o$	$2p^5 3s^3 P_2^o$	943829	M1	3.464E-11	4.117E+00	1.00
$2p^5 3d^3 D_2^o$	$0.47 + 0.31^3 P_2^o + 0.19^1 D_2^o$	$2p^5 3s^3 P_2^o$	943829	E2	2.997E-07	3.561E+04	1.00
$2p^5 3d^1 F_3^o$	$0.36 + 0.35^3 F_3^o + 0.28^3 D_3^o$	$2p^5 3s^3 P_2^o$	950352	M1	5.404E-11	4.651E+00	1.00
$2p^5 3d^1 F_3^o$	$0.36 + 0.35^3 F_3^o + 0.28^3 D_3^o$	$2p^5 3s^3 P_2^o$	950352	E2	1.367E-07	1.177E+04	1.01
$2p^5 3d^1 P_1^o$	$0.70 + 0.24^3 D_1^o$	$2p^5 3s^3 P_2^o$	1011150	M1	7.884E-10	1.792E+02	1.00
$2p^5 3d^1 P_1^o$	$0.70 + 0.24^3 D_1^o$	$2p^5 3s^3 P_2^o$	1011150	E2	3.660E-08	8.321E+03	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_2^o$	149362	M1	5.021E-06	7.472E+04	1.00
$2p^5 3s^3 P_0^o$	$0.58 + 0.42^1 P_1^o$	$2p^5 3s^1 P_2^o$	159977	M1	2.351E-06	1.338E+04	1.00
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^1 P_1^o$	$2p^5 3s^1 P_2^o$	159977	E2	5.307E-10	3.020E+00	1.05
$2p^5 3p^3 S_1$	$0.73 + 0.25^3 P_1$	$2p^5 3s^1 P_2^o$	275442	E1	2.104E-03	3.549E+07	0.99
$2p^5 3p^3 D_2$	$0.56 + 0.31^1 D_2 + 0.12^3 P_2$	$2p^5 3s^1 P_2^o$	303027	E1	2.399E-01	2.938E+09	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^1 P_2^o$	330291	M2	5.266E-10	5.474E+00	1.00
$2p^5 3p^1 P_1$	$0.55 + 0.21^3 D_1 + 0.15^3 P_1$	$2p^5 3s^1 P_2^o$	338079	E1	2.955E-01	7.509E+09	0.99
$2p^5 3p^1 P_1$	$0.55 + 0.21^3 D_1 + 0.15^3 P_1$	$2p^5 3s^1 P_2^o$	338079	M2	2.911E-11	7.398E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^1 P_2^o$	358284	E1	2.557E-01	4.379E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^1 P_2^o$	358284	M2	2.352E-10	4.027E+00	1.00
$2p^5 3p^3 P_0$	$0.89 + 0.12^1 S_0$	$2p^5 3s^1 P_2^o$	423243	E1	1.029E-01	1.230E+10	0.98
$2p^5 3p^3 D_1$	$0.69 + 0.30^1 P_1$	$2p^5 3s^1 P_2^o$	464584	E1	7.203E-04	3.457E+07	1.02
$2p^5 3p^3 P_1$	$0.60 + 0.16^3 S_1 + 0.15^1 P_1$	$2p^5 3s^1 P_2^o$	506401	E1	1.965E-04	1.121E+07	1.13
$2p^5 3p^3 P_1$	$0.60 + 0.16^3 S_1 + 0.15^1 P_1$	$2p^5 3s^1 P_2^o$	506401	M2	2.838E-11	1.618E+00	1.00
$2p^5 3p^3 D_2$	$0.44 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^1 P_2^o$	511532	E1	1.842E-03	6.430E+07	0.98
$2p^5 3p^3 D_2$	$0.44 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^1 P_2^o$	511532	M2	8.208E-12	2.865E-01	1.00
$2p^5 3p^1 S_0$	$0.88 + 0.11^3 P_0$	$2p^5 3s^1 P_2^o$	612945	E1	5.600E-02	1.403E+10	0.98
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_2^o$	714899	M1	1.225E-09	4.178E+02	1.00
$2p^5 3d^3 P_1^o$	$0.89 + 0.10^3 D_1^o$	$2p^5 3s^1 P_2^o$	725467	M1	9.702E-10	1.135E+02	1.00
$2p^5 3d^3 P_2^o$	$0.89 + 0.10^3 D_1^o$	$2p^5 3s^1 P_2^o$	725467	E2	1.169E-07	1.367E+04	1.00
$2p^5 3d^3 P_2^o$	$0.66 + 0.24^3 D_2^o$	$2p^5 3s^1 P_2^o$	745344	M1	5.027E-11	3.726E+00	1.00
$2p^5 3d^3 P_2^o$	$0.66 + 0.24^3 D_2^o$	$2p^5 3s^1 P_2^o$	745344	E2	1.407E-06	1.043E+05	1.00
$2p^5 3d^3 F_3^o$	$0.62 + 0.31^1 F_3^o$	$2p^5 3s^1 P_2^o$	749719	E2	5.266E-06	2.820E+05	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.31^3 F_2^o + 0.23^3 D_2^o$	$2p^5 3s^1 P_2^o$	767234	M1	1.710E-10	1.343E+01	1.00
$2p^5 3d^1 D_2^o$	$0.45 + 0.31^3 F_2^o + 0.23^3 D_2^o$	$2p^5 3s^1 P_2^o$	767234	E2	5.428E-06	4.262E+05	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.32^1 F_3^o$	$2p^5 3s^1 P_2^o$	779250	E2	4.521E-06	2.616E+05	1.00
$2p^5 3d^3 D_3^o$	$0.65 + 0.29^1 P_1^o$	$2p^5 3s^1 P_2^o$	831030	M1	1.030E-11	1.581E+00	1.00
$2p^5 3d^3 D_1^o$	$0.65 + 0.29^1 P_1^o$	$2p^5 3s^1 P_2^o$	831030	E2	5.130E-06	7.877E+05	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27^1 D_2^o$	$2p^5 3s^1 P_2^o$	915962	M1	4.583E-11	5.130E+00	1.00
$2p^5 3d^3 F_2^o$	$0.66 + 0.27^1 D_2^o$	$2p^5 3s^1 P_2^o$	915962	E2	1.395E-08	1.562E+03	0.97
$2p^5 3d^3 D_2^o$	$0.47 + 0.31^3 P_2^o + 0.19^1 D_2^o$	$2p^5 3s^1 P_2^o$	925370	M1	3.449E-10	3.940E+01	1.00
$2p^5 3d^3 D_2^o$	$0.47 + 0.31^3 P_2^o + 0.19^1 D_2^o$	$2p^5 3s^1 P_2^o$	925370	E2	5.099E-09	5.826E+02	0.97
$2p^5 3d^1 F_3^o$	$0.36 + 0.35^3 F_3^o + 0.28^3 D_3^o$	$2p^5 3s^1 P_2^o$	931893	E2	4.162E-08	3.444E+03	1.00
$2p^5 3d^1 P_1^o$	$0.70 + 0.24^3 D_1^o$	$2p^5 3s^1 P_2^o$	992690	M1	4.310E-10	9.444E+01	1.00
$2p^5 3d^1 P_1^o$	$0.70 + 0.24^3 D_1^o$	$2p^5 3s^1 P_2^o$	992690	E2	1.027E-06	2.251E+05	1.01
$2p^5 3s^3 P_1^o$	$0.58 + 0.42^1 P_1^o$	$2p^5 3s^3 P_0^o$	10615	M1	5.033E-07	1.261E+01	1.00
$2p^5 3p^3 S_1$	$0.73 + 0.25^3 P_1$	$2p^5 3s^3 P_0^o$	126080	E1	8.037E-04	2.841E+06	0.81
$2p^5 3p^1 P_1$	$0.55 + 0.21^3 D_1 + 0.15^3 P_1$	$2p^5 3s^3 P_0^o$	188717	E1	9.159E-05	7.252E+05	0.87
$2p^5 3p^3 D_1$	$0.69 + 0.30^1 P_1$	$2p^5 3s^3 P_0^o$	315222	E1	1.013E-01	2.238E+09	0.98
$2p^5 3p^3 P_1$	$0.60 + 0.16^3 S_1 + 0.15^1 P_1$	$2p^5 3s^3 P_0^o$	357038	E1	2.003E-01	5.678E+09	0.99
$2p^5 3p^3 D_2$	$0.44 + 0.37^1 D_2 + 0.20^3 P_2$	$2p^5 3s^3 P_0^o$	362169	M2	3.296E-10	5.767E+00	1.00
$2p^5 3d^3 P_1^o$	$0.89 + 0.10^3 D_1^o$	$2p^5 3s^3 P_0^o$	576104	M1	7.024E-12	5.183E-01	1.00
$2p^5 3d^3 P_2^o$	$0.66 + 0.24^3 D_2^o$	$2p^5 3s^3 P_0^o$	595982	E2	4.908E-08	2.326E+03	1.00

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	774614	E2	1.225E-06	4.905E+05	1.00
$2p^5 3d^3 P_1^o$	0.88 + 0.11 $^3D_1^o$	$2p^5 3s^3 P_2^o$	786245	M1	1.886E-09	2.592E+02	1.00
$2p^5 3d^3 P_2^o$	0.88 + 0.11 $^3D_1^o$	$2p^5 3s^3 P_2^o$	786245	E2	3.684E-06	5.064E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	806774	E2	1.231E-05	5.938E+05	1.00
$2p^5 3d^3 P_2^o$	0.64 + 0.26 $^3D_2^o$	$2p^5 3s^3 P_2^o$	808029	M1	4.624E-10	4.027E+01	1.00
$2p^5 3d^3 P_2^o$	0.64 + 0.26 $^3D_2^o$	$2p^5 3s^3 P_2^o$	808029	E2	5.403E-06	4.706E+05	1.00
$2p^5 3d^3 F_3^o$	0.61 + 0.32 $^1F_3^o$	$2p^5 3s^3 P_2^o$	811400	M1	2.684E-11	1.684E+00	1.00
$2p^5 3d^3 F_3^o$	0.61 + 0.32 $^1F_3^o$	$2p^5 3s^3 P_2^o$	811400	E2	4.195E-06	2.632E+05	1.00
$2p^5 3d^3 D_2^o$	0.47 + 0.30 $^3F_2^o$ + 0.22 $^3D_2^o$	$2p^5 3s^3 P_2^o$	830245	M1	5.142E-11	4.728E+00	1.00
$2p^5 3d^3 D_2^o$	0.47 + 0.30 $^3F_2^o$ + 0.22 $^3D_2^o$	$2p^5 3s^3 P_2^o$	830245	E2	1.444E-06	1.327E+05	1.00
$2p^5 3d^3 D_3^o$	0.66 + 0.32 $^1F_3^o$	$2p^5 3s^3 P_2^o$	843619	M1	9.459E-11	6.415E+00	1.00
$2p^5 3d^3 D_3^o$	0.66 + 0.32 $^1F_3^o$	$2p^5 3s^3 P_2^o$	843619	E2	6.114E-06	4.146E+05	1.00
$2p^5 3d^3 D_1^o$	0.62 + 0.31 $^1P_1^o$	$2p^5 3s^3 P_2^o$	900416	M1	2.544E-09	4.586E+02	1.00
$2p^5 3d^3 D_1^o$	0.62 + 0.31 $^1P_1^o$	$2p^5 3s^3 P_2^o$	900416	E2	1.884E-07	3.397E+04	1.00
$2p^5 3d^3 F_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3s^3 P_2^o$	1005138	E2	8.970E-09	1.209E+03	1.02
$2p^5 3d^3 D_2^o$	0.46 + 0.33 $^3P_2^o$ + 0.18 $^1D_2^o$	$2p^5 3s^3 P_2^o$	1015849	M1	5.463E-11	7.521E+00	1.00
$2p^5 3d^3 D_2^o$	0.46 + 0.33 $^3P_2^o$ + 0.18 $^1D_2^o$	$2p^5 3s^3 P_2^o$	1015849	E2	2.581E-07	3.554E+04	1.00
$2p^5 3d^3 F_3^o$	0.37 + 0.36 $^1F_3^o$ + 0.27 $^3D_3^o$	$2p^5 3s^3 P_2^o$	1023136	M1	6.343E-11	6.327E+00	1.00
$2p^5 3d^3 F_3^o$	0.37 + 0.36 $^1F_3^o$ + 0.27 $^3D_3^o$	$2p^5 3s^3 P_2^o$	1023136	E2	1.159E-07	1.156E+04	1.01
$2p^5 3d^3 P_1^o$	0.68 + 0.27 $^3D_1^o$	$2p^5 3s^3 P_2^o$	1084841	M1	9.339E-10	2.444E+02	1.00
$2p^5 3d^3 P_1^o$	0.68 + 0.27 $^3D_1^o$	$2p^5 3s^3 P_2^o$	1084841	E2	3.655E-08	9.564E+03	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_1^o$	176235	M1	5.793E-06	1.200E+05	1.00
$2p^5 3s^3 P_1^o$	0.59 + 0.41 1P_1	$2p^5 3s^3 P_1^o$	187188	M1	2.731E-06	2.128E+04	1.00
$2p^5 3s^3 P_1^o$	0.59 + 0.41 1P_1	$2p^5 3s^3 P_1^o$	187188	E2	7.193E-10	5.604E+00	1.05
$2p^5 3p^3 S_1$	0.70 + 0.27 3P_1	$2p^5 3s^3 P_1^o$	291232	E1	7.805E-04	1.472E+07	1.00
$2p^5 3p^3 D_2$	0.55 + 0.31 1D_2 + 0.13 3P_2	$2p^5 3s^3 P_1^o$	318422	E1	2.298E-01	3.108E+09	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_1^o$	352012	M2	5.848E-10	6.905E+00	1.00
$2p^5 3p^3 P_1$	0.56 + 0.20 3D_1 + 0.13 3P_1	$2p^5 3s^3 P_1^o$	359224	E1	2.895E-01	8.306E+09	0.99
$2p^5 3p^3 P_1$	0.56 + 0.20 3D_1 + 0.13 3P_1	$2p^5 3s^3 P_1^o$	359224	M2	3.331E-11	9.556E-01	1.00
$2p^5 3p^3 P_2$	0.67 + 0.32 1D_2	$2p^5 3s^3 P_1^o$	381448	E1	2.514E-01	4.880E+09	0.99
$2p^5 3p^3 P_2$	0.67 + 0.32 1D_2	$2p^5 3s^3 P_1^o$	381448	M2	2.600E-10	5.047E+00	1.00
$2p^5 3p^3 P_0$	0.87 + 0.13 1S_0	$2p^5 3s^3 P_1^o$	454158	E1	1.042E-01	1.434E+10	0.98
$2p^5 3p^3 D_1$	0.69 + 0.29 1P_1	$2p^5 3s^3 P_1^o$	507274	E1	6.262E-04	3.583E+07	1.02
$2p^5 3p^3 D_1$	0.69 + 0.29 1P_1	$2p^5 3s^3 P_1^o$	507274	M2	2.060E-12	1.178E-01	1.00
$2p^5 3p^3 P_1$	0.59 + 0.17 3S_1 + 0.15 1P_1	$2p^5 3s^3 P_1^o$	555889	E1	2.167E-04	1.489E+07	1.12
$2p^5 3p^3 P_1$	0.59 + 0.17 3S_1 + 0.15 1P_1	$2p^5 3s^3 P_1^o$	555889	M2	2.931E-11	2.013E+00	1.00
$2p^5 3p^3 D_2$	0.44 + 0.36 1D_2 + 0.19 3P_2	$2p^5 3s^3 P_1^o$	561721	E1	1.450E-03	6.103E+07	0.98
$2p^5 3p^3 D_2$	0.44 + 0.36 1D_2 + 0.19 3P_2	$2p^5 3s^3 P_1^o$	561721	M2	7.990E-12	3.363E-01	1.00
$2p^5 3p^3 S_0$	0.86 + 0.13 3P_0	$2p^5 3s^3 P_1^o$	659570	E1	5.120E-02	1.486E+10	0.97
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_1^o$	755136	M1	1.508E-09	5.734E+02	1.00
$2p^5 3d^3 P_1^o$	0.88 + 0.11 $^3D_1^o$	$2p^5 3s^3 P_1^o$	766767	M1	1.190E-09	1.556E+02	1.00
$2p^5 3d^3 P_1^o$	0.88 + 0.11 $^3D_1^o$	$2p^5 3s^3 P_1^o$	766767	E2	1.027E-07	1.343E+04	1.00
$2p^5 3d^3 P_2^o$	0.64 + 0.26 $^3D_2^o$	$2p^5 3s^3 P_1^o$	788551	M1	7.388E-11	6.128E+00	1.00
$2p^5 3d^3 P_2^o$	0.64 + 0.26 $^3D_2^o$	$2p^5 3s^3 P_1^o$	788551	E2	1.270E-06	1.054E+05	1.00
$2p^5 3d^3 F_3^o$	0.61 + 0.32 $^1F_3^o$	$2p^5 3s^3 P_1^o$	791922	E2	5.167E-06	3.088E+05	1.00
$2p^5 3d^3 D_2^o$	0.47 + 0.30 $^3F_2^o$ + 0.22 $^3D_2^o$	$2p^5 3s^3 P_1^o$	810767	M1	2.096E-10	1.838E+01	1.00
$2p^5 3d^3 D_2^o$	0.47 + 0.30 $^3F_2^o$ + 0.22 $^3D_2^o$	$2p^5 3s^3 P_1^o$	810767	E2	5.455E-06	4.784E+05	1.00
$2p^5 3d^3 D_3^o$	0.66 + 0.32 $^1F_3^o$	$2p^5 3s^3 P_1^o$	824141	E2	4.454E-06	2.883E+05	1.00
$2p^5 3d^3 D_1^o$	0.62 + 0.31 $^1P_1^o$	$2p^5 3s^3 P_1^o$	880938	M1	1.710E-12	2.951E-01	1.00
$2p^5 3d^3 D_1^o$	0.62 + 0.31 $^1P_1^o$	$2p^5 3s^3 P_1^o$	880938	E2	5.176E-06	8.932E+05	1.00
$2p^5 3d^3 F_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3s^3 P_1^o$	985660	M1	5.353E-11	6.937E+00	1.00
$2p^5 3d^3 F_2^o$	0.67 + 0.26 $^1D_2^o$	$2p^5 3s^3 P_1^o$	985660	E2	1.183E-08	1.533E+03	0.97
$2p^5 3d^3 D_2^o$	0.46 + 0.33 $^3P_2^o$ + 0.18 $^1D_2^o$	$2p^5 3s^3 P_1^o$	996371	M1	4.516E-10	5.980E+01	1.00
$2p^5 3d^3 D_2^o$	0.46 + 0.33 $^3P_2^o$ + 0.18 $^1D_2^o$	$2p^5 3s^3 P_1^o$	996371	E2	4.777E-09	6.326E+02	0.97
$2p^5 3d^3 F_3^o$	0.37 + 0.36 $^1F_3^o$ + 0.27 $^3D_3^o$	$2p^5 3s^3 P_1^o$	1003659	E2	3.229E-08	3.099E+03	1.00
$2p^5 3d^3 P_1^o$	0.68 + 0.27 $^3D_1^o$	$2p^5 3s^3 P_1^o$	1065364	M1	5.945E-10	1.500E+02	1.00
$2p^5 3d^3 P_1^o$	0.68 + 0.27 $^3D_1^o$	$2p^5 3s^3 P_1^o$	1065364	E2	9.341E-07	2.357E+05	1.01
$2p^5 3s^3 P_1^o$	0.59 + 0.41 1P_1	$2p^5 3s^3 P_0^o$	10952	M1	5.276E-07	1.407E+01	1.00
$2p^5 3p^3 S_1$	0.70 + 0.27 3P_1	$2p^5 3s^3 P_0^o$	114996	E1	5.468E-04	1.608E+06	0.77
$2p^5 3p^3 P_1$	0.56 + 0.20 3D_1 + 0.13 3P_1	$2p^5 3s^3 P_0^o$	182989	E1	4.363E-05	3.248E+05	0.83
$2p^5 3p^3 D_1$	0.69 + 0.29 1P_1	$2p^5 3s^3 P_0^o$	331039	E1	9.582E-02	2.335E+09	0.98
$2p^5 3p^3 P_1$	0.59 + 0.17 3S_1 + 0.15 1P_1	$2p^5 3s^3 P_0^o$	379653	E1	1.977E-01	6.334E+09	0.99
$2p^5 3p^3 D_2$	0.44 + 0.36 1D_2 + 0.19 3P_2	$2p^5 3s^3 P_0^o$	385485	M2	3.644E-10	7.224E+00	1.00
$2p^5 3d^3 P_1^o$	0.88 + 0.11 $^3D_1^o$	$2p^5 3s^3 P_0^o$	590531	M1	1.227E-11	9.512E-01	1.00
$2p^5 3d^3 P_2^o$	0.64 + 0.26 $^3D_2^o$	$2p^5 3s^3 P_0^o$	612316	E2	3.803E-08	1.902E+03	1.00
$2p^5 3d^3 D_2^o$	0.47 + 0.30 $^3F_2^o$ + 0.22 $^3D_2^o$	$2p^5 3s^3 P_0^o$	634532	E2	1.186E-08	6.369E+02	0.98
$2p^5 3d^3 D_1^o$	0.62 + 0.31 $^1P_1^o$	$2p^5 3s^3 P_0^o$	704702	M1	4.435E-10	4.897E+01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 F_2^o$	$0.67 + 0.26$	${}^1D_2^o$	$2p^5 3s^3 P_0^o$	809424	E2	2.875E-06	2.513E+05	1.00
$2p^5 3d^3 D_2^o$	$0.46 + 0.33$	${}^3P_2^o + 0.18$	${}^1D_2^o$	820135	E2	4.062E-06	3.645E+05	1.00
$2p^5 3d^1 P_1^o$	$0.68 + 0.27$	${}^3D_1^o$	$2p^5 3s^3 P_0^o$	889128	M1	2.130E-09	3.745E+02	1.00
$2p^5 3p^3 S_1$	$0.70 + 0.27$	3P_1	$2p^5 3s^3 P_0^o$	104044	E1	7.105E-04	1.710E+06	0.93
$2p^5 3p^3 D_2$	$0.55 + 0.31$	${}^1D_2 + 0.13$	3P_2	131234	E1	7.679E-06	1.764E+04	0.44
$2p^5 3p^1 P_1$	$0.56 + 0.20$	${}^3D_1 + 0.13$	3P_1	172036	E1	1.074E-04	7.071E+05	0.80
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3s^3 P_1^o$	194260	E1	1.100E-03	5.536E+06	1.09
$2p^5 3p^3 P_0$	$0.87 + 0.13$	1S_0	$2p^5 3s^3 P_1^o$	266970	E1	1.534E-02	7.294E+08	0.99
$2p^5 3p^3 D_1$	$0.69 + 0.29$	1P_1	$2p^5 3s^3 P_1^o$	320086	E1	1.653E-01	3.766E+09	0.98
$2p^5 3p^3 P_1$	$0.59 + 0.17$	${}^3S_1 + 0.15$	1P_1	368701	E1	1.010E-01	3.052E+09	0.98
$2p^5 3p^3 P_1$	$0.59 + 0.17$	${}^3S_1 + 0.15$	1P_1	368701	M2	4.566E-10	1.380E+01	1.00
$2p^5 3p^3 D_2$	$0.44 + 0.36$	${}^1D_2 + 0.19$	3P_2	374532	E1	5.164E-01	9.663E+09	0.99
$2p^5 3p^3 D_2$	$0.44 + 0.36$	${}^1D_2 + 0.19$	3P_2	374532	M2	4.981E-10	9.321E+00	1.00
$2p^5 3p^1 S_0$	$0.86 + 0.13$	3P_0	$2p^5 3s^3 P_1^o$	472381	E1	1.134E-01	1.689E+10	0.97
$2p^5 3d^3 P_2^o$	$0.88 + 0.11$	${}^3D_2^o$	$2p^5 3s^3 P_1^o$	579579	M1	4.622E-11	3.452E+00	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.11$	${}^3D_1^o$	$2p^5 3s^3 P_1^o$	579579	E2	1.778E-08	1.328E+03	0.98
$2p^5 3d^3 P_2^o$	$0.64 + 0.26$	${}^3D_2^o$	$2p^5 3s^3 P_1^o$	601363	M1	3.867E-10	1.866E+01	1.00
$2p^5 3d^3 P_2^o$	$0.64 + 0.26$	${}^3D_2^o$	$2p^5 3s^3 P_1^o$	601363	E2	2.297E-08	1.108E+03	1.00
$2p^5 3d^3 F_3^o$	$0.61 + 0.32$	${}^1F_3^o$	$2p^5 3s^3 P_1^o$	604734	E2	6.605E-10	2.302E+01	1.04
$2p^5 3d^1 D_2^o$	$0.47 + 0.30$	${}^3F_2^o + 0.22$	${}^3D_2^o$	623579	M1	1.646E-10	8.540E+00	1.00
$2p^5 3d^1 D_2^o$	$0.47 + 0.30$	${}^3F_2^o + 0.22$	${}^3D_2^o$	623579	E2	5.552E-10	2.880E+01	1.13
$2p^5 3d^3 D_3^o$	$0.66 + 0.32$	${}^1F_3^o$	$2p^5 3s^3 P_1^o$	636953	E2	4.149E-08	1.604E+03	0.99
$2p^5 3d^3 D_1^o$	$0.62 + 0.31$	${}^1P_1^o$	$2p^5 3s^3 P_1^o$	693750	M1	9.149E-10	9.791E+01	1.00
$2p^5 3d^3 D_1^o$	$0.62 + 0.31$	${}^1P_1^o$	$2p^5 3s^3 P_1^o$	693750	E2	1.259E-07	1.347E+04	0.98
$2p^5 3d^3 F_2^o$	$0.67 + 0.26$	${}^1D_2^o$	$2p^5 3s^3 P_1^o$	798472	M1	2.230E-12	1.897E-01	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.26$	${}^1D_2^o$	$2p^5 3s^3 P_1^o$	798472	E2	3.768E-06	3.205E+05	1.00
$2p^5 3d^3 D_2^o$	$0.46 + 0.33$	${}^3P_2^o + 0.18$	${}^1D_2^o$	809183	M1	2.850E-09	2.490E+02	1.00
$2p^5 3d^3 D_2^o$	$0.46 + 0.33$	${}^3P_2^o + 0.18$	${}^1D_2^o$	809183	E2	2.847E-06	2.487E+05	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	${}^1F_3^o + 0.27$	${}^3D_3^o$	816470	E2	9.880E-06	6.276E+05	1.00
$2p^5 3d^1 P_0^o$	$0.68 + 0.27$	${}^3D_1^o$	$2p^5 3s^3 P_1^o$	878175	M1	8.403E-10	1.441E+02	1.00
$2p^5 3d^1 P_0^o$	$0.68 + 0.27$	${}^3D_1^o$	$2p^5 3s^3 P_1^o$	878175	E2	5.278E-06	9.050E+05	1.00
$2p^5 3p^3 D_2$	$0.55 + 0.31$	${}^1D_2 + 0.13$	3P_2	27189	M1	3.092E-07	3.049E+01	1.00
$2p^5 3p^3 D_3$			$2p^5 3p^3 S_1$	60780	E2	3.451E-09	1.215E+00	1.07
$2p^5 3p^1 P_1$	$0.56 + 0.20$	${}^3D_1 + 0.13$	3P_1	67992	M1	7.085E-07	7.282E+02	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 S_1$	90215	M1	1.683E-06	1.827E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 S_1$	90215	E2	7.245E-10	7.866E-01	1.02
$2p^5 3p^3 P_0$	$0.87 + 0.13$	1S_0	$2p^5 3p^3 S_1$	162926	M1	3.065E-06	5.427E+04	1.00
$2p^5 3p^3 D_1$	$0.69 + 0.29$	1P_1	$2p^5 3p^3 S_1$	216042	M1	1.535E-06	1.593E+04	1.00
$2p^5 3p^3 D_1$	$0.69 + 0.29$	1P_1	$2p^5 3p^3 S_1$	216042	E2	6.434E-11	6.677E-01	4.72
$2p^5 3p^3 P_1$	$0.59 + 0.17$	${}^3S_1 + 0.15$	1P_1	264656	M1	1.094E-06	1.704E+04	1.00
$2p^5 3p^3 P_1$	$0.59 + 0.17$	${}^3S_1 + 0.15$	1P_1	264656	E2	1.331E-10	2.073E+00	1.45
$2p^5 3p^3 D_2$	$0.44 + 0.36$	${}^1D_2 + 0.19$	3P_2	270488	M1	2.390E-07	2.333E+03	1.00
$2p^5 3p^3 D_2$	$0.44 + 0.36$	${}^1D_2 + 0.19$	3P_2	270488	E2	6.517E-10	6.361E+00	1.39
$2p^5 3p^1 S_0$	$0.86 + 0.13$	3P_0	$2p^5 3p^3 S_1$	368337	M1	1.098E-06	9.932E+04	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 S_1$	463903	E1	1.069E-01	1.535E+10	0.99
$2p^5 3d^3 P_0^o$	$0.88 + 0.11$	${}^3D_0^o$	$2p^5 3p^3 S_1$	475534	E1	2.528E-01	1.271E+10	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.11$	${}^3D_1^o$	$2p^5 3p^3 S_1$	475534	M2	1.084E-10	5.449E+00	1.00
$2p^5 3d^3 P_2^o$	$0.64 + 0.26$	${}^3D_2^o$	$2p^5 3p^3 S_1$	497319	E1	1.894E-01	6.249E+09	1.00
$2p^5 3d^3 P_2^o$	$0.64 + 0.26$	${}^3D_2^o$	$2p^5 3p^3 S_1$	497319	M2	1.899E-10	6.265E+00	1.00
$2p^5 3d^3 F_3^o$	$0.61 + 0.32$	${}^1F_3^o$	$2p^5 3p^3 S_1$	500690	M2	3.713E-11	8.869E-01	1.00
$2p^5 3d^1 D_2^o$	$0.47 + 0.30$	${}^3F_2^o + 0.22$	${}^3D_2^o$	519535	E1	2.886E-02	1.039E+09	1.00
$2p^5 3d^1 D_2^o$	$0.47 + 0.30$	${}^3F_2^o + 0.22$	${}^3D_2^o$	519535	M2	1.626E-10	5.856E+00	1.00
$2p^5 3d^3 D_3^o$	$0.66 + 0.32$	${}^1F_3^o$	$2p^5 3p^3 S_1$	532909	M2	5.022E-12	1.359E-01	1.00
$2p^5 3d^3 D_1^o$	$0.62 + 0.31$	${}^1P_1^o$	$2p^5 3p^3 S_1$	589706	E1	4.811E-03	3.720E+08	1.00
$2p^5 3d^3 D_1^o$	$0.62 + 0.31$	${}^1P_1^o$	$2p^5 3p^3 S_1$	589706	M2	8.775E-10	6.785E+01	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.26$	${}^1D_2^o$	$2p^5 3p^3 S_1$	694428	E1	5.397E-04	3.472E+07	1.00
$2p^5 3d^3 F_2^o$	$0.67 + 0.26$	${}^1D_2^o$	$2p^5 3p^3 S_1$	694428	M2	4.600E-12	2.959E-01	1.00
$2p^5 3d^3 D_2^o$	$0.46 + 0.33$	${}^3P_2^o + 0.18$	${}^1D_2^o$	705138	E1	1.151E-03	7.635E+07	0.98
$2p^5 3d^3 D_2^o$	$0.46 + 0.33$	${}^3P_2^o + 0.18$	${}^1D_2^o$	705138	M2	4.656E-11	3.089E+00	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	${}^1F_3^o + 0.27$	${}^3D_3^o$	712426	M2	1.949E-11	9.424E-01	1.00
$2p^5 3d^1 P_0^o$	$0.68 + 0.27$	${}^3D_1^o$	$2p^5 3p^3 S_1$	774131	E1	6.177E-06	8.230E+05	1.26
$2p^5 3d^1 P_0^o$	$0.68 + 0.27$	${}^3D_1^o$	$2p^5 3p^3 S_1$	774131	M2	2.903E-10	3.868E+01	1.00
$2p^5 3p^3 D_3$			$2p^5 3p^3 D_2$	33590	M1	3.512E-06	3.776E+02	1.00
$2p^5 3p^1 P_1$	$0.56 + 0.20$	${}^3D_1 + 0.13$	3P_1	40802	M1	1.392E-06	5.153E+02	1.00
$2p^5 3p^1 P_1$	$0.56 + 0.20$	${}^3D_1 + 0.13$	3P_1	40802	E2	5.547E-10	2.053E-01	1.08
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 D_2$	63026	M1	1.773E-06	9.394E+02	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 D_2$	63026	E2	3.075E-09	1.629E+00	1.06

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^1 S_0$	$0.84 + 0.16$	3P_0						
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	729888	M2	3.496E-10	1.242E+02	1.00	
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	${}^3D_1^o$	816878	E2	1.206E-06	5.367E+05	1.00	
$2p^5 3d^3 P_2^o$	$0.88 + 0.12$	${}^3D_2^o$	829607	M1	2.301E-09	3.521E+02	1.00	
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	${}^1F_3^o$	829607	E2	3.647E-06	5.582E+05	1.00	
$2p^5 3d^3 F_4^o$	$0.63 + 0.28$	${}^3D_2^o$	851803	E2	1.216E-05	6.539E+05	1.00	
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	${}^3D_2^o$	853383	M1	4.483E-10	4.355E+01	1.00	
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	${}^1F_3^o$	853383	E2	5.497E-06	5.340E+05	1.00	
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	${}^1F_3^o$	855602	M1	3.278E-11	2.287E+00	1.00	
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	${}^1F_3^o$	855602	E2	4.121E-06	2.875E+05	1.00	
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	${}^3F_2^o + 0.21$	875862	M1	6.492E-11	6.644E+00	1.00	
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	${}^3F_2^o + 0.21$	875862	E2	1.277E-06	1.307E+05	1.00	
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	890731	M1	1.110E-10	8.389E+00	1.00	
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	890731	E2	6.057E-06	4.579E+05	1.00	
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	${}^1P_1^o$	952605	M1	3.461E-09	6.982E+02	1.00	
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	${}^1P_1^o$	952605	E2	1.628E-07	3.285E+04	1.00	
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	${}^1D_2^o$	1080232	E2	6.905E-09	1.075E+03	1.02	
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	${}^3P_2^o + 0.17$	1092466	M1	7.946E-11	1.265E+01	1.00	
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	${}^3P_2^o + 0.17$	1092466	E2	2.241E-07	3.568E+04	1.00	
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	${}^1F_3^o + 0.27$	1100511	M1	7.393E-11	8.532E+00	1.00	
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	${}^1F_3^o + 0.27$	1100511	E2	9.931E-08	1.146E+04	1.01	
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	${}^3D_1^o$	1162799	M1	1.094E-09	3.289E+02	1.00	
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	${}^3D_1^o$	1162799	E2	3.625E-08	1.090E+04	1.01	
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_1^o$	0.60 + 0.40	${}^3P_1^o$	206497	6.656E-06	1.893E+05	1.00
$2p^5 3s^3 P_1^o$	$0.60 + 0.40$	1P_1	0.60 + 0.40	${}^3P_1^o$	217789	3.157E-06	3.329E+04	1.00
$2p^5 3s^3 P_1^o$	$0.60 + 0.40$	1P_1	0.60 + 0.40	${}^3P_1^o$	217789	9.635E-10	1.016E+01	1.05
$2p^5 3p^3 S_1$	$0.67 + 0.29$	3P_1	0.60 + 0.40	${}^3P_1^o$	307156	1.164E-04	2.441E+06	1.04
$2p^5 3p^3 D_2$	$0.55 + 0.31$	${}^1D_2 + 0.13$	0.60 + 0.40	${}^3P_1^o$	333898	2.205E-01	3.280E+09	0.98
$2p^5 3p^3 D_3$			0.60 + 0.40	${}^3P_1^o$	374723	6.493E-10	8.688E+00	1.00
$2p^5 3p^1 P_1$	$0.57 + 0.19$	${}^3D_1 + 0.13$	0.60 + 0.40	${}^3P_1^o$	381327	2.837E-01	9.171E+09	0.99
$2p^5 3p^1 P_1$	$0.57 + 0.19$	${}^3D_1 + 0.13$	0.60 + 0.40	${}^3P_1^o$	381327	3.799E-11	1.228E+00	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	0.60 + 0.40	${}^3P_1^o$	405607	2.476E-01	5.433E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	0.60 + 0.40	${}^3P_1^o$	405607	2.874E-10	6.308E+00	1.00
$2p^5 3p^3 P_0$	$0.84 + 0.15$	1S_0	0.60 + 0.40	${}^3P_1^o$	486374	1.057E-01	1.668E+10	0.98
$2p^5 3p^3 D_1$	$0.70 + 0.28$	1P_1	0.60 + 0.40	${}^3P_1^o$	553429	5.483E-04	3.734E+07	1.02
$2p^5 3p^3 D_1$	$0.70 + 0.28$	1P_1	0.60 + 0.40	${}^3P_1^o$	553429	2.238E-12	1.524E-01	1.00
$2p^5 3p^3 P_1$	$0.59 + 0.18$	${}^3S_1 + 0.14$	0.60 + 0.40	${}^3P_1^o$	609755	2.309E-04	1.908E+07	1.11
$2p^5 3p^3 P_1$	$0.59 + 0.18$	${}^3S_1 + 0.14$	0.60 + 0.40	${}^3P_1^o$	609755	3.056E-11	2.526E+00	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36$	${}^1D_2 + 0.19$	0.60 + 0.40	${}^3P_1^o$	616284	1.155E-03	5.850E+07	0.97
$2p^5 3p^3 D_2$	$0.45 + 0.36$	${}^1D_2 + 0.19$	0.60 + 0.40	${}^3P_1^o$	616284	7.839E-12	3.972E-01	1.00
$2p^5 3p^1 S_0$	$0.84 + 0.16$	3P_0	0.60 + 0.40	${}^3P_1^o$	709396	4.648E-02	1.560E+10	0.97
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	0.60 + 0.40	${}^3P_1^o$	796386	1.855E-09	7.847E+02	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	${}^3D_1^o$	0.60 + 0.40	${}^3P_1^o$	809115	1.458E-09	2.123E+02	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	${}^3D_1^o$	0.60 + 0.40	${}^3P_1^o$	809115	9.038E-08	1.316E+04	0.99
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	${}^3D_2^o$	0.60 + 0.40	${}^3P_1^o$	832891	1.059E-10	9.799E+00	1.00
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	${}^3D_2^o$	0.60 + 0.40	${}^3P_1^o$	832891	1.127E-06	1.043E+05	1.00
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	${}^1F_3^o$	0.60 + 0.40	${}^3P_1^o$	835110	5.087E-06	3.381E+05	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	${}^3F_2^o + 0.21$	0.60 + 0.40	${}^3P_1^o$	855370	2.509E-10	2.449E+01	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	${}^3F_2^o + 0.21$	0.60 + 0.40	${}^3P_1^o$	855370	5.512E-06	5.380E+05	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	0.60 + 0.40	${}^3P_1^o$	870239	4.399E-06	3.174E+05	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	${}^1P_1^o$	0.60 + 0.40	${}^3P_1^o$	932113	1.201E-12	2.320E-01	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	${}^1P_1^o$	0.60 + 0.40	${}^3P_1^o$	932113	5.226E-06	1.010E+06	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	${}^1D_2^o$	0.60 + 0.40	${}^3P_1^o$	1059741	6.222E-11	9.321E+00	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	${}^1D_2^o$	0.60 + 0.40	${}^3P_1^o$	1059741	1.010E-08	1.514E+03	0.97
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	${}^3P_2^o + 0.17$	0.60 + 0.40	${}^3P_1^o$	1071975	5.813E-10	8.911E+01	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	${}^3P_2^o + 0.17$	0.60 + 0.40	${}^3P_1^o$	1071975	4.429E-09	6.790E+02	0.97
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	${}^1F_3^o + 0.27$	0.60 + 0.40	${}^3P_1^o$	1080020	2.546E-08	2.829E+03	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	${}^3D_1^o$	0.60 + 0.40	${}^3P_1^o$	1142307	7.921E-10	2.298E+02	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	${}^3D_1^o$	0.60 + 0.40	${}^3P_1^o$	1142307	8.489E-07	2.463E+05	1.01
$2p^5 3s^3 P_0^o$	$0.60 + 0.40$	1P_1		${}^3P_0^o$	11291	5.513E-07	1.563E+01	1.00
$2p^5 3p^3 S_1$	$0.67 + 0.29$	3P_1		${}^3P_0^o$	100658	3.574E-04	8.052E+05	0.72
$2p^5 3p^1 P_1$	$0.57 + 0.19$	${}^3D_1 + 0.13$		${}^3P_0^o$	174830	1.913E-05	1.300E+05	0.79
$2p^5 3p^3 D_1$	$0.70 + 0.28$	1P_1		${}^3P_0^o$	346932	9.104E-02	2.436E+09	0.98
$2p^5 3p^3 P_1$	$0.59 + 0.18$	${}^3S_1 + 0.14$		${}^3P_0^o$	403258	1.950E-01	7.050E+09	0.99
$2p^5 3p^3 D_2$	$0.45 + 0.36$	${}^1D_2 + 0.19$		${}^3P_0^o$	409787	4.027E-10	9.023E+00	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	${}^3D_1^o$		${}^3P_0^o$	602617	1.952E-11	1.576E+00	1.00
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	${}^3D_2^o$		${}^3P_0^o$	626394	2.948E-08	1.543E+03	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	${}^3F_2^o + 0.21$		${}^3P_0^o$	648873	7.725E-09	4.339E+02	0.98

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	$1P_1^o$	$2p^5 3s^3 P_0^o$	725616	M1	6.462E-10	7.565E+01	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	$1D_2^o$	$2p^5 3s^3 P_0^o$	853243	E2	2.790E-06	2.710E+05	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	$3P_2^o + 0.17$	$1D_2^o$	865477	E2	4.062E-06	4.059E+05	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	$3D_1^o$	$2p^5 3s^3 P_0^o$	935809	M1	2.627E-09	5.116E+02	1.00
$2p^5 3p^3 S_1$	$0.67 + 0.29$	$3P_1$	$2p^5 3s^3 P_1^o$	89366	E1	4.556E-04	8.090E+05	0.92
$2p^5 3p^3 D_2$	$0.55 + 0.31$	$1D_2 + 0.13$	$3P_2$	116108	E1	5.377E-06	9.670E+03	0.37
$2p^5 3p^1 P_1$	$0.57 + 0.19$	$3D_1 + 0.13$	$3P_1$	163538	E1	1.073E-04	6.383E+05	0.79
$2p^5 3p^3 P_2$	$0.67 + 0.32$	$1D_2$	$2p^5 3s^3 P_1^o$	187817	E1	7.808E-04	3.674E+06	1.12
$2p^5 3p^3 P_0$	$0.84 + 0.15$	$1S_0$	$2p^5 3s^3 P_1^o$	268584	E1	1.278E-02	6.150E+08	0.99
$2p^5 3p^3 D_1$	$0.70 + 0.28$	$1P_1$	$2p^5 3s^3 P_1^o$	335640	E1	1.606E-01	4.023E+09	0.98
$2p^5 3p^3 P_1$	$0.59 + 0.18$	$3S_1 + 0.14$	$1P_1$	391966	E1	9.756E-02	3.333E+09	0.98
$2p^5 3p^3 P_1$	$0.59 + 0.18$	$3S_1 + 0.14$	$1P_1$	391966	M2	5.078E-10	1.735E+01	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36$	$1D_2 + 0.19$	$3P_2$	398495	E1	5.060E-01	1.072E+10	0.99
$2p^5 3p^3 D_2$	$0.45 + 0.36$	$1D_2 + 0.19$	$3P_2$	398495	M2	5.525E-10	1.170E+01	1.00
$2p^5 3p^1 S_0$	$0.84 + 0.16$	$3P_0$	$2p^5 3s^3 P_1^o$	491607	E1	1.110E-01	1.790E+10	0.97
$2p^5 3d^3 P_0^o$			$2p^5 3s^3 P_1^o$	578597	M1	1.929E-12	4.307E-01	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	$3D_1^o$	$2p^5 3s^3 P_1^o$	591326	M1	7.911E-11	6.150E+00	1.00
$2p^5 3d^3 P_2^o$	$0.88 + 0.12$	$3D_2^o$	$2p^5 3s^3 P_1^o$	591326	E2	1.389E-08	1.080E+03	0.98
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	$3D_2^o$	$2p^5 3s^3 P_1^o$	615102	M1	4.457E-10	2.250E+01	1.00
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	$3D_2^o$	$2p^5 3s^3 P_1^o$	615102	E2	1.777E-08	8.969E+02	1.00
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	$1F_3^o$	$2p^5 3s^3 P_1^o$	617321	E2	5.522E-10	2.005E+01	1.05
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	$3F_2^o + 0.21$	$3D_2^o$	637581	M1	2.307E-10	1.251E+01	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	$3F_2^o + 0.21$	$3D_2^o$	637581	E2	7.169E-10	3.888E+01	1.11
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	$1F_3^o$	$2p^5 3s^3 P_1^o$	652450	E2	3.034E-08	1.231E+03	0.99
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	$1P_1^o$	$2p^5 3s^3 P_1^o$	714324	M1	1.175E-09	1.333E+02	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	$1P_1^o$	$2p^5 3s^3 P_1^o$	714324	E2	9.796E-08	1.111E+04	0.98
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	$1D_2^o$	$2p^5 3s^3 P_1^o$	841951	M1	1.487E-12	1.406E-01	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	$1D_2^o$	$2p^5 3s^3 P_1^o$	841951	E2	3.741E-06	3.538E+05	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	$3P_2^o + 0.17$	$1D_2^o$	854185	M1	3.729E-09	3.630E+02	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	$3P_2^o + 0.17$	$1D_2^o$	854185	E2	2.781E-06	2.707E+05	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	$1F_3^o + 0.27$	$3D_3^o$	862230	E2	9.775E-06	6.925E+05	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	$3D_1^o$	$2p^5 3s^3 P_1^o$	924518	M1	9.466E-10	1.799E+02	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	$3D_1^o$	$2p^5 3s^3 P_1^o$	924518	E2	5.198E-06	9.878E+05	1.00
$2p^5 3p^3 D_2$	$0.55 + 0.31$	$1D_2 + 0.13$	$3P_2$	26741	M1	3.470E-07	3.311E+01	1.00
$2p^5 3p^3 D_3$			$2p^5 3p^3 S_1$	67567	E2	4.058E-09	1.765E+00	1.06
$2p^5 3p^1 P_1$	$0.57 + 0.19$	$3D_1 + 0.13$	$3P_1$	74171	M1	9.303E-07	1.138E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	$1D_2$	$2p^5 3p^3 S_1$	98451	M1	1.989E-06	2.572E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32$	$1D_2$	$2p^5 3p^3 S_1$	98451	E2	9.560E-10	1.236E+00	1.02
$2p^5 3p^3 P_0$	$0.84 + 0.15$	$1S_0$	$2p^5 3p^3 S_1$	179217	M1	3.559E-06	7.625E+04	1.00
$2p^5 3p^3 D_1$	$0.70 + 0.28$	$1P_1$	$2p^5 3p^3 S_1$	246273	M1	1.923E-06	2.593E+04	1.00
$2p^5 3p^3 D_1$	$0.70 + 0.28$	$1P_1$	$2p^5 3p^3 S_1$	246273	E2	1.307E-11	1.763E-01	23.15
$2p^5 3p^3 P_1$	$0.59 + 0.18$	$3S_1 + 0.14$	$1P_1$	302599	M1	1.106E-06	2.252E+04	1.00
$2p^5 3p^3 P_1$	$0.59 + 0.18$	$3S_1 + 0.14$	$1P_1$	302599	E2	1.381E-10	2.811E+00	1.46
$2p^5 3p^3 D_2$	$0.45 + 0.36$	$1D_2 + 0.19$	$3P_2$	309128	M1	2.423E-07	3.089E+03	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36$	$1D_2 + 0.19$	$3P_2$	309128	E2	6.063E-10	7.729E+00	1.41
$2p^5 3p^1 S_0$	$0.84 + 0.16$	$3P_0$	$2p^5 3p^3 S_1$	402240	M1	1.517E-06	1.637E+05	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 S_1$	489230	E1	1.038E-01	1.656E+10	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	$3D_1^o$	$2p^5 3p^3 S_1$	501959	E1	2.444E-01	1.369E+10	1.00
$2p^5 3d^3 P_1^o$	$0.88 + 0.12$	$3D_1^o$	$2p^5 3p^3 S_1$	501959	M2	1.066E-10	5.974E+00	1.00
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	$3D_2^o$	$2p^5 3p^3 S_1$	525735	E1	1.785E-01	6.581E+09	1.00
$2p^5 3d^3 P_2^o$	$0.63 + 0.28$	$3D_2^o$	$2p^5 3p^3 S_1$	525735	M2	1.943E-10	7.164E+00	1.00
$2p^5 3d^3 F_3^o$	$0.61 + 0.33$	$1F_3^o$	$2p^5 3p^3 S_1$	527954	M2	4.100E-11	1.089E+00	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	$3F_2^o + 0.21$	$3D_2^o$	548214	E1	3.153E-02	1.264E+09	1.00
$2p^5 3d^1 D_2^o$	$0.49 + 0.29$	$3F_2^o + 0.21$	$3D_2^o$	548214	M2	1.895E-10	7.598E+00	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	$1P_1^o$	$2p^5 3p^3 S_1$	624957	E1	6.084E-03	5.283E+08	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34$	$1P_1^o$	$2p^5 3p^3 S_1$	624957	M2	9.408E-10	8.170E+01	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	$1D_2^o$	$2p^5 3p^3 S_1$	752584	E1	4.811E-04	3.635E+07	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26$	$1D_2^o$	$2p^5 3p^3 S_1$	752584	M2	4.384E-12	3.313E-01	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	$3P_2^o + 0.17$	$1D_2^o$	764818	E1	9.671E-04	7.546E+07	0.98
$2p^5 3d^3 D_2^o$	$0.45 + 0.34$	$3P_2^o + 0.17$	$1D_2^o$	764818	M2	4.371E-11	3.411E+00	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36$	$1F_3^o + 0.27$	$3D_3^o$	772863	M2	1.869E-11	1.064E+00	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	$3D_1^o$	$2p^5 3p^3 S_1$	835151	E1	6.612E-07	1.025E+05	2.56
$2p^5 3d^1 P_1^o$	$0.65 + 0.29$	$3D_1^o$	$2p^5 3p^3 S_1$	835151	M2	2.710E-10	4.202E+01	1.00
$2p^5 3p^3 D_3$			$2p^5 3p^3 D_2$	40825	M1	4.227E-06	6.714E+02	1.00
$2p^5 3p^1 P_1$	$0.57 + 0.19$	$3D_1 + 0.13$	$3P_1$	47429	M1	1.507E-06	7.538E+02	1.00
$2p^5 3p^1 P_1$	$0.57 + 0.19$	$3D_1 + 0.13$	$3P_1$	47429	E2	7.541E-10	3.772E-01	1.07
$2p^5 3p^3 P_2$	$0.67 + 0.32$	$1D_2$	$2p^5 3p^3 D_2$	71709	M1	2.052E-06	1.408E+03	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^3 F_3^o$	0.61 + 0.33 $^1 F_3^o$	M1	1.559E-08	8.910E+01	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^3 F_3^o$	0.61 + 0.33 $^1 F_3^o$	E2	2.100E-10	1.201E+00	1.16
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 F_3^o$	0.61 + 0.33 $^1 F_3^o$	E2	6.150E-09	1.290E+02	1.28
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	M1	6.189E-07	1.304E+01	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	M1	1.911E-06	2.503E+03	1.00
$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	E2	2.087E-09	2.733E+00	1.10
$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	M1	6.213E-06	3.462E+04	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	E2	7.883E-10	4.392E+00	0.98
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	M1	3.363E-06	2.105E+04	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	E2	1.247E-09	7.804E+00	1.04
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	M1	1.018E-06	4.894E+03	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	E2	6.924E-10	3.330E+00	0.93
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	M1	3.794E-06	6.945E+04	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^1 D_2^o$	$0.49 + 0.29^3 F_2^o + 0.21^3 D_2^o$	E2	2.085E-09	3.816E+01	1.19
$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	M1	6.159E-08	2.951E+02	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	E2	1.841E-10	8.820E-01	1.20
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	M1	1.034E-05	5.613E+04	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	E2	5.109E-09	2.774E+01	1.05
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	M1	1.264E-05	5.300E+04	1.00
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	E2	1.101E-09	4.615E+00	0.96
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	E2	6.697E-11	1.102E+00	0.37
$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	M1	5.399E-07	1.173E+03	1.00
$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	E2	3.284E-10	7.135E-01	1.12
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	M1	9.878E-06	2.578E+04	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	E2	3.652E-10	9.530E-01	1.16
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	E2	1.084E-09	2.260E+00	0.76
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	M1	1.620E-06	1.592E+04	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 D_1^o$	$0.60 + 0.34^1 P_1^o$	E2	1.258E-10	1.236E+00	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^3 D_2^o$	$0.68 + 0.26^1 D_2^o$	M1	3.602E-08	7.191E-01	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	M1	1.972E-06	7.727E+01	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	M1	1.633E-07	2.474E+02	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 F_2^o$	$0.68 + 0.26^1 D_2^o$	E2	1.504E-09	2.280E+00	1.10
$2p^5 3d^3 F_3^o$	$0.37 + 0.36^1 F_3^o + 0.27^3 D_3^o$	$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	M1	3.277E-07	2.021E+00	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	M1	2.841E-06	3.124E+03	1.00
$2p^5 3d^1 P_1^o$	$0.65 + 0.29^3 D_1^o$	$2p^5 3d^3 D_2^o$	$0.45 + 0.34^3 P_2^o + 0.17^1 D_2^o$	E2	6.776E-10	7.452E-01	1.10
Ge XXIII							
$2p^5 3s^3 P_2^o$		$2p^6 1 S_0$	9967688	M2	1.255E-07	1.663E+06	1.00
$2p^5 3s^1 P_1^o$	$0.60 + 0.39^3 P_1^o$	$2p^6 1 S_0$	9989189	E1	1.307E-01	2.899E+12	0.99
$2p^5 3s^3 P_1^o$	$0.60 + 0.39^3 P_1^o$	$2p^6 1 S_0$	10241240	E1	8.649E-02	2.017E+12	0.99
$2p^5 3p^3 S_1$	$0.64 + 0.31^3 P_1$	$2p^6 1 S_0$	10312390	M1	1.160E-07	2.742E+06	1.00
$2p^5 3p^3 D_2$	$0.54 + 0.32^1 D_2 + 0.14^3 P_2$	$2p^6 1 S_0$	10338650	E2	1.927E-04	2.748E+09	1.00
$2p^5 3p^1 P_1$	$0.57 + 0.18^3 D_1 + 0.14^3 P_1$	$2p^6 1 S_0$	10393680	M1	7.712E-10	1.852E+04	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^6 1 S_0$	10420030	E2	1.921E-04	2.783E+09	1.00
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$	$2p^6 1 S_0$	10592520	M1	3.706E-09	9.247E+04	1.00
$2p^5 3p^3 P_1$	$0.58 + 0.19^3 S_1 + 0.14^1 P_1$	$2p^6 1 S_0$	10657550	M1	7.827E-08	1.977E+06	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36^1 D_2 + 0.19^3 P_2$	$2p^6 1 S_0$	10664770	E2	2.109E-04	3.200E+09	1.00
$2p^5 3d^3 P_1^o$	$0.87 + 0.12^3 D_1^o$	$2p^6 1 S_0$	10841790	E1	8.868E-03	2.318E+11	1.01
$2p^5 3d^3 P_2^o$	$0.61 + 0.31^3 D_2^o$	$2p^6 1 S_0$	10867640	M2	2.766E-06	4.357E+07	1.00
$2p^5 3d^1 D_2^o$	$0.50 + 0.28^3 F_2^o + 0.20^3 D_2^o$	$2p^6 1 S_0$	10890340	M2	1.040E-06	1.646E+07	1.00
$2p^5 3d^3 D_1^o$	$0.57 + 0.36^1 P_1^o$	$2p^6 1 S_0$	10973830	E1	1.203E+00	3.222E+13	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$	$2p^6 1 S_0$	11127750	M2	1.228E-07	2.029E+06	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.35^3 P_2^o + 0.17^1 D_2^o$	$2p^6 1 S_0$	11141750	M2	3.719E-07	6.159E+06	1.00
$2p^5 3d^1 P_1^o$	$0.63 + 0.30^3 D_1^o$	$2p^6 1 S_0$	11213100	E1	1.996E+00	5.580E+13	1.00
$2p^5 3s^1 P_1^o$	$0.60 + 0.39^3 P_1^o$	$2p^5 3s^3 P_2^o$	21501	M1	8.625E-07	8.866E+01	1.00
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_2^o$	261922	E2	1.242E-09	5.682E+01	1.05
$2p^5 3s^3 P_1^o$	$0.60 + 0.39^3 P_1$	$2p^5 3s^3 P_2^o$	273555	M1	1.665E-05	2.771E+05	1.00
$2p^5 3s^3 P_1^o$	$0.60 + 0.39^3 P_1$	$2p^5 3s^3 P_2^o$	273555	E2	1.919E-09	3.193E+01	1.04
$2p^5 3p^3 S_1$	$0.64 + 0.31^3 P_1$	$2p^5 3s^3 P_2^o$	344698	E1	2.245E-01	5.931E+09	0.97
$2p^5 3p^3 S_1$	$0.64 + 0.31^3 P_1$	$2p^5 3s^3 P_2^o$	344698	M2	5.791E-11	1.530E+00	1.00
$2p^5 3p^3 D_2$	$0.54 + 0.32^1 D_2 + 0.14^3 P_2$	$2p^5 3s^3 P_2^o$	370961	E1	2.061E-01	3.783E+09	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	420008	E1	6.856E-01	1.152E+10	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	420008	M2	5.771E-10	9.701E+00	1.00
$2p^5 3p^1 P_1$	$0.57 + 0.18^3 D_1 + 0.14^3 P_1$	$2p^5 3s^3 P_2^o$	425992	E1	1.173E-04	4.731E+06	0.93
$2p^5 3p^1 P_1$	$0.57 + 0.18^3 D_1 + 0.14^3 P_1$	$2p^5 3s^3 P_2^o$	425992	M2	4.937E-10	1.992E+01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_2^o$	452345	E1	2.837E-01	7.744E+09	0.98
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_2^o$	452345	M2	8.383E-10	2.288E+01	1.00
$2p^5 3p^3 P_0$	$0.82 + 0.18^1 S_0$	$2p^5 3s^3 P_2^o$	541416	M2	3.357E-10	6.564E+01	1.00

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm $^{-1}$)	Type	gf	A (s $^{-1}$)	R
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$		$2p^5 3s^3 P_2^o$	624830	E1	5.527E-04	4.797E+07	1.03
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$		$2p^5 3s^3 P_2^o$	624830	M2	1.083E-11	9.402E-01	1.00
$2p^5 3p^3 P_1$	$0.58 + 0.19^3 S_1 + 0.14^1 P_1$		$2p^5 3s^3 P_2^o$	689859	E1	1.061E-02	1.123E+09	0.98
$2p^5 3p^3 P_1$	$0.58 + 0.19^3 S_1 + 0.14^1 P_1$		$2p^5 3s^3 P_2^o$	689859	M2	9.890E-12	1.047E+00	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36^1 D_2 + 0.19^3 P_2$		$2p^5 3s^3 P_2^o$	697081	E1	1.573E-03	1.020E+08	0.92
$2p^5 3p^1 S_0$	$0.82 + 0.18^3 P_0$		$2p^5 3s^3 P_2^o$	784265	M2	3.601E-10	1.477E+02	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3s^3 P_2^o$	860238	E2	1.190E-06	5.874E+05	1.00
$2p^5 3d^3 P_0^o$	$0.87 + 0.12^3 D_0^o$		$2p^5 3s^3 P_2^o$	874098	M1	2.808E-09	4.770E+02	1.00
$2p^5 3d^3 P_0^o$	$0.87 + 0.12^3 D_0^o$		$2p^5 3s^3 P_2^o$	874098	E2	3.620E-06	6.150E+05	1.00
$2p^5 3d^3 P_1^o$			$2p^5 3s^3 P_2^o$	898138	E2	1.205E-05	7.205E+05	1.00
$2p^5 3d^3 P_2^o$	$0.61 + 0.31^3 D_2^o$		$2p^5 3s^3 P_2^o$	899949	M1	4.351E-10	4.701E+01	1.00
$2p^5 3d^3 P_2^o$	$0.61 + 0.31^3 D_2^o$		$2p^5 3s^3 P_2^o$	899949	E2	5.615E-06	6.066E+05	1.00
$2p^5 3d^3 F_3^o$	$0.60 + 0.33^1 F_3^o$		$2p^5 3s^3 P_2^o$	900871	M1	3.966E-11	3.067E+00	1.00
$2p^5 3d^3 F_3^o$	$0.60 + 0.33^1 F_3^o$		$2p^5 3s^3 P_2^o$	900871	E2	4.059E-06	3.139E+05	1.00
$2p^5 3d^1 D_2^o$	$0.50 + 0.28^3 F_2^o + 0.20^3 D_2^o$		$2p^5 3s^3 P_2^o$	922652	M1	8.180E-11	9.290E+00	1.00
$2p^5 3d^1 D_2^o$	$0.50 + 0.28^3 F_2^o + 0.20^3 D_2^o$		$2p^5 3s^3 P_2^o$	922652	E2	1.102E-06	1.252E+05	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$		$2p^5 3s^3 P_2^o$	939153	M1	1.288E-10	1.083E+01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$		$2p^5 3s^3 P_2^o$	939153	E2	6.019E-06	5.058E+05	1.00
$2p^5 3d^3 D_1^o$	$0.57 + 0.36^1 P_1^o$		$2p^5 3s^3 P_2^o$	1006138	M1	4.664E-09	1.050E+03	1.00
$2p^5 3d^3 D_1^o$	$0.57 + 0.36^1 P_1^o$		$2p^5 3s^3 P_2^o$	1006138	E2	1.404E-07	3.161E+04	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$		$2p^5 3s^3 P_2^o$	1160065	M1	7.403E-13	1.329E-01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$		$2p^5 3s^3 P_2^o$	1160065	E2	5.442E-09	9.770E+02	1.02
$2p^5 3d^3 D_2^o$	$0.45 + 0.35^3 P_2^o + 0.17^1 D_2^o$		$2p^5 3s^3 P_2^o$	1174066	M1	1.092E-10	2.007E+01	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.35^3 P_2^o + 0.17^1 D_2^o$		$2p^5 3s^3 P_2^o$	1174066	E2	1.960E-07	3.605E+04	1.00
$2p^5 3d^3 F_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 D_3^o$		$2p^5 3s^3 P_2^o$	1182859	M1	8.558E-11	1.141E+01	1.00
$2p^5 3d^3 F_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 D_3^o$		$2p^5 3s^3 P_2^o$	1182859	E2	8.602E-08	1.147E+04	1.01
$2p^5 3d^1 P_0^o$	$0.63 + 0.30^3 D_0^o$		$2p^5 3s^3 P_2^o$	1245408	M1	1.269E-09	4.376E+02	1.00
$2p^5 3d^1 P_0^o$	$0.63 + 0.30^3 D_0^o$		$2p^5 3s^3 P_2^o$	1245408	E2	3.575E-08	1.233E+04	1.01
$2p^5 3s^3 P_1^o$			$2p^5 3s^1 P_1^o$	240421	M1	7.614E-06	2.936E+05	1.00
$2p^5 3s^3 P_1^o$	$0.60 + 0.39^1 P_1$		$2p^5 3s^1 P_1^o$	252053	M1	3.630E-06	5.128E+04	1.00
$2p^5 3s^3 P_1^o$	$0.60 + 0.39^1 P_1$		$2p^5 3s^1 P_1^o$	252053	E2	1.276E-09	1.803E+01	1.05
$2p^5 3p^3 S_1$	$0.64 + 0.31^3 P_1$		$2p^5 3s^1 P_1^o$	323196	E1	2.893E-05	6.719E+05	0.87
$2p^5 3p^3 D_2$	$0.54 + 0.32^1 D_2 + 0.14^3 P_2$		$2p^5 3s^1 P_1^o$	349459	E1	2.120E-01	3.454E+09	0.98
$2p^5 3p^3 D_3$			$2p^5 3s^1 P_1^o$	398506	M2	7.210E-10	1.091E+01	1.00
$2p^5 3p^1 P_1$	$0.57 + 0.18^3 D_1 + 0.14^3 P_1$		$2p^5 3s^1 P_1^o$	404490	E1	2.780E-01	1.011E+10	0.99
$2p^5 3p^1 P_1$	$0.57 + 0.18^3 D_1 + 0.14^3 P_1$		$2p^5 3s^1 P_1^o$	404490	M2	4.322E-11	1.572E+00	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$		$2p^5 3s^1 P_1^o$	430843	E1	2.441E-01	6.045E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$		$2p^5 3s^1 P_1^o$	430843	M2	3.177E-10	7.868E+00	1.00
$2p^5 3p^3 P_0$	$0.82 + 0.18^1 S_0$		$2p^5 3s^1 P_1^o$	519914	E1	1.073E-01	1.934E+10	0.98
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$		$2p^5 3s^1 P_1^o$	603328	E1	4.832E-04	3.911E+07	1.02
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$		$2p^5 3s^1 P_1^o$	603328	M2	2.427E-12	1.964E-01	1.00
$2p^5 3p^3 P_1$	$0.58 + 0.19^3 S_1 + 0.14^1 P_1$		$2p^5 3s^1 P_1^o$	668357	E1	2.407E-04	2.391E+07	1.10
$2p^5 3p^3 P_1$	$0.58 + 0.19^3 S_1 + 0.14^1 P_1$		$2p^5 3s^1 P_1^o$	668357	M2	3.218E-11	3.196E+00	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36^1 D_2 + 0.19^3 P_2$		$2p^5 3s^1 P_1^o$	675579	E1	9.294E-04	5.659E+07	0.97
$2p^5 3p^3 D_2$	$0.45 + 0.36^1 D_2 + 0.19^3 P_2$		$2p^5 3s^1 P_1^o$	675579	M2	7.751E-12	4.719E-01	1.00
$2p^5 3p^1 S_0$	$0.82 + 0.18^3 P_0$		$2p^5 3s^1 P_1^o$	762763	E1	4.195E-02	1.628E+10	0.97
$2p^5 3d^3 P_0^o$			$2p^5 3s^1 P_1^o$	838737	M1	2.283E-09	1.071E+03	1.00
$2p^5 3d^3 P_0^o$	$0.87 + 0.12^3 D_0^o$		$2p^5 3s^1 P_1^o$	852596	M1	1.782E-09	2.880E+02	1.00
$2p^5 3d^3 P_0^o$	$0.87 + 0.12^3 D_0^o$		$2p^5 3s^1 P_1^o$	852596	E2	7.950E-08	1.285E+04	0.99
$2p^5 3d^3 P_2^o$	$0.61 + 0.31^3 D_2^o$		$2p^5 3s^1 P_1^o$	878447	M1	1.487E-10	1.531E+01	1.00
$2p^5 3d^3 P_2^o$	$0.61 + 0.31^3 D_2^o$		$2p^5 3s^1 P_1^o$	878447	E2	9.772E-07	1.006E+05	1.00
$2p^5 3d^3 F_3^o$	$0.60 + 0.33^1 F_3^o$		$2p^5 3s^1 P_1^o$	879369	E2	5.023E-06	3.702E+05	1.00
$2p^5 3d^1 D_2^o$	$0.50 + 0.28^3 F_2^o + 0.20^3 D_2^o$		$2p^5 3s^1 P_1^o$	901150	M1	2.930E-10	3.174E+01	1.00
$2p^5 3d^1 D_2^o$	$0.50 + 0.28^3 F_2^o + 0.20^3 D_2^o$		$2p^5 3s^1 P_1^o$	901150	E2	5.597E-06	6.063E+05	0.99
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$		$2p^5 3s^1 P_1^o$	917651	E2	4.356E-06	3.495E+05	1.00
$2p^5 3d^3 D_0^o$	$0.57 + 0.36^1 P_0^o$		$2p^5 3s^1 P_1^o$	984636	M1	1.641E-11	3.538E+00	1.00
$2p^5 3d^3 D_0^o$	$0.57 + 0.36^1 P_0^o$		$2p^5 3s^1 P_1^o$	984636	E2	5.279E-06	1.138E+06	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$		$2p^5 3s^1 P_1^o$	1138564	M1	7.205E-11	1.246E+01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$		$2p^5 3s^1 P_1^o$	1138564	E2	8.700E-09	1.505E+03	0.97
$2p^5 3d^3 D_2^o$	$0.45 + 0.35^3 P_2^o + 0.17^1 D_2^o$		$2p^5 3s^1 P_1^o$	1152564	M1	7.367E-10	1.306E+02	1.00
$2p^5 3d^3 D_2^o$	$0.45 + 0.35^3 P_2^o + 0.17^1 D_2^o$		$2p^5 3s^1 P_1^o$	1152564	E2	4.084E-09	7.238E+02	0.97
$2p^5 3d^3 F_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 D_3^o$		$2p^5 3s^1 P_1^o$	1161357	E2	2.038E-08	2.620E+03	1.00
$2p^5 3d^1 P_0^o$	$0.63 + 0.30^3 D_0^o$		$2p^5 3s^1 P_1^o$	1223906	M1	1.026E-09	3.418E+02	1.00
$2p^5 3d^1 P_0^o$	$0.63 + 0.30^3 D_0^o$		$2p^5 3s^1 P_1^o$	1223906	E2	7.720E-07	2.571E+05	1.01
$2p^5 3s^3 P_1^o$	$0.60 + 0.39^1 P_1$		$2p^5 3s^3 P_0^o$	11632	M1	5.745E-07	1.729E+01	1.00
$2p^5 3p^3 S_1$	$0.64 + 0.31^3 P_1$		$2p^5 3s^3 P_0^o$	82775	E1	2.199E-04	3.350E+05	0.64
$2p^5 3p^1 P_1$	$0.57 + 0.18^3 D_1 + 0.14^3 P_1$		$2p^5 3s^3 P_0^o$	164069	E1	7.427E-06	4.445E+04	0.72

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_1$	$0.70 + 0.28 {}^1P_1$	$2p^5 3s {}^3P_0^o$	362907	E1	8.684E-02	2.543E+09	0.98
$2p^5 3p^3 P_1$	$0.58 + 0.19 {}^3S_1 + 0.14 {}^1P_1$	$2p^5 3s {}^3P_0^o$	427936	E1	1.924E-01	7.835E+09	0.99
$2p^5 3p^3 D_2$	$0.45 + 0.36 {}^1D_2 + 0.19 {}^3P_2$	$2p^5 3s {}^3P_0^o$	435158	M2	4.451E-10	1.124E+01	1.00
$2p^5 3d {}^3P_1^o$	$0.87 + 0.12 {}^3D_1^o$	$2p^5 3s {}^3P_0^o$	612175	M1	2.932E-11	2.443E+00	1.00
$2p^5 3d {}^3P_2^o$	$0.61 + 0.31 {}^3D_2^o$	$2p^5 3s {}^3P_0^o$	638026	E2	2.285E-08	1.241E+03	1.00
$2p^5 3d {}^1D_2^o$	$0.50 + 0.28 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3s {}^3P_0^o$	660729	E2	4.899E-09	2.853E+02	0.97
$2p^5 3d {}^3D_1^o$	$0.57 + 0.36 {}^1P_1^o$	$2p^5 3s {}^3P_0^o$	744215	M1	9.187E-10	1.131E+02	1.00
$2p^5 3d {}^3F_2^o$	$0.69 + 0.25 {}^1D_2^o$	$2p^5 3s {}^3P_0^o$	898142	E2	2.721E-06	2.928E+05	1.00
$2p^5 3d {}^3D_2^o$	$0.45 + 0.35 {}^3P_2^o + 0.17 {}^1D_2^o$	$2p^5 3s {}^3P_0^o$	912143	E2	4.065E-06	4.512E+05	1.00
$2p^5 3d {}^1P_1^o$	$0.63 + 0.30 {}^3D_1^o$	$2p^5 3s {}^3P_0^o$	983485	M1	3.213E-09	6.909E+02	1.00
$2p^5 3p^3 S_1$	$0.64 + 0.31 {}^3P_1$	$2p^5 3s {}^3P_0^o$	71143	E1	2.703E-04	3.042E+05	0.89
$2p^5 3p^3 D_2$	$0.54 + 0.32 {}^1D_2 + 0.14 {}^3P_2$	$2p^5 3s {}^3P_1^o$	97406	E1	3.702E-06	4.685E+03	0.29
$2p^5 3p^1 P_1$	$0.57 + 0.18 {}^3D_1 + 0.14 {}^3P_1$	$2p^5 3s {}^3P_1^o$	152437	E1	1.007E-04	5.201E+05	0.77
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3s {}^3P_1^o$	178790	E1	5.521E-04	2.354E+06	1.16
$2p^5 3p^3 P_0$	$0.82 + 0.18 {}^1S_0$	$2p^5 3s {}^3P_1^o$	267861	E1	1.047E-02	5.010E+08	0.99
$2p^5 3p^3 D_1$	$0.70 + 0.28 {}^1P_1$	$2p^5 3s {}^3P_1^o$	351275	E1	1.560E-01	4.280E+09	0.98
$2p^5 3p^3 P_1$	$0.58 + 0.19 {}^3S_1 + 0.14 {}^1P_1$	$2p^5 3s {}^3P_1^o$	416304	E1	9.469E-02	3.649E+09	0.98
$2p^5 3p^3 P_1$	$0.58 + 0.19 {}^3S_1 + 0.14 {}^1P_1$	$2p^5 3s {}^3P_1^o$	416304	M2	5.643E-10	2.175E+01	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36 {}^1D_2 + 0.19 {}^3P_2$	$2p^5 3s {}^3P_1^o$	423526	E1	4.967E-01	1.189E+10	0.99
$2p^5 3p^3 D_2$	$0.45 + 0.36 {}^1D_2 + 0.19 {}^3P_2$	$2p^5 3s {}^3P_1^o$	423526	M2	6.126E-10	1.466E+01	1.00
$2p^5 3p^1 S_0$	$0.82 + 0.18 {}^3P_0$	$2p^5 3s {}^3P_1^o$	510710	E1	1.088E-01	1.893E+10	0.97
$2p^5 3d {}^3P_0^o$		$2p^5 3s {}^3P_1^o$	586683	M1	4.726E-12	1.085E+00	1.00
$2p^5 3d {}^3P_1^o$	$0.87 + 0.12 {}^3D_1^o$	$2p^5 3s {}^3P_1^o$	600543	M1	1.247E-10	9.996E+00	1.00
$2p^5 3d {}^3P_1^o$	$0.87 + 0.12 {}^3D_1^o$	$2p^5 3s {}^3P_1^o$	600543	E2	1.076E-08	8.629E+02	0.98
$2p^5 3d {}^3P_2^o$	$0.61 + 0.31 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	626394	M1	5.046E-10	2.641E+01	1.00
$2p^5 3d {}^3P_2^o$	$0.61 + 0.31 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	626394	E2	1.363E-08	7.136E+02	1.00
$2p^5 3d {}^3F_3^o$	$0.60 + 0.33 {}^1F_3^o$	$2p^5 3s {}^3P_1^o$	627316	E2	4.488E-10	1.683E+01	1.05
$2p^5 3d {}^1D_2^o$	$0.50 + 0.28 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	649097	M1	3.204E-10	1.801E+01	1.00
$2p^5 3d {}^1D_2^o$	$0.50 + 0.28 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3s {}^3P_1^o$	649097	E2	8.674E-10	4.875E+01	1.09
$2p^5 3d {}^3D_3^o$	$0.67 + 0.31 {}^1F_3^o$	$2p^5 3s {}^3P_1^o$	665598	E2	2.227E-08	9.403E+02	0.99
$2p^5 3d {}^3D_1^o$	$0.57 + 0.36 {}^1P_1^o$	$2p^5 3s {}^3P_1^o$	732582	M1	1.501E-09	1.791E+02	1.00
$2p^5 3d {}^3D_1^o$	$0.57 + 0.36 {}^1P_1^o$	$2p^5 3s {}^3P_1^o$	732582	E2	7.525E-08	8.979E+03	0.98
$2p^5 3d {}^3F_2^o$	$0.69 + 0.25 {}^1D_2^o$	$2p^5 3s {}^3P_1^o$	886510	E2	3.718E-06	3.898E+05	1.00
$2p^5 3d {}^3D_2^o$	$0.45 + 0.35 {}^3P_2^o + 0.17 {}^1D_2^o$	$2p^5 3s {}^3P_1^o$	900511	M1	4.844E-09	5.240E+02	1.00
$2p^5 3d {}^3D_2^o$	$0.45 + 0.35 {}^3P_2^o + 0.17 {}^1D_2^o$	$2p^5 3s {}^3P_1^o$	900511	E2	2.730E-06	2.954E+05	1.00
$2p^5 3d {}^3F_3^o$	$0.38 + 0.36 {}^1F_3^o + 0.26 {}^3D_3^o$	$2p^5 3s {}^3P_1^o$	909303	E2	9.699E-06	7.641E+05	1.00
$2p^5 3d {}^1P_1^o$	$0.63 + 0.30 {}^3D_1^o$	$2p^5 3s {}^3P_1^o$	971852	M1	1.064E-09	2.235E+02	1.00
$2p^5 3d {}^1P_1^o$	$0.63 + 0.30 {}^3D_1^o$	$2p^5 3s {}^3P_1^o$	971852	E2	5.129E-06	1.077E+06	1.00
$2p^5 3p^3 D_2$	$0.54 + 0.32 {}^1D_2 + 0.14 {}^3P_2$	$2p^5 3p {}^3S_1$	26262	M1	3.827E-07	3.521E+01	1.00
$2p^5 3p^3 D_3$		$2p^5 3p {}^3S_1$	75309	E2	4.825E-09	2.608E+00	1.05
$2p^5 3p^1 P_1$	$0.57 + 0.18 {}^3D_1 + 0.14 {}^3P_1$	$2p^5 3p {}^3S_1$	81293	M1	1.195E-06	1.755E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3p {}^3S_1$	107647	M1	2.331E-06	3.604E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	$2p^5 3p {}^3S_1$	107647	E2	1.252E-09	1.936E+00	1.02
$2p^5 3p^3 P_0$	$0.82 + 0.18 {}^1S_0$	$2p^5 3p {}^3S_1$	196718	M1	4.071E-06	1.051E+05	1.00
$2p^5 3p^3 D_1$	$0.70 + 0.28 {}^1P_1$	$2p^5 3p {}^3S_1$	280132	M1	2.369E-06	4.134E+04	1.00
$2p^5 3p^3 P_1$	$0.58 + 0.19 {}^3S_1 + 0.14 {}^1P_1$	$2p^5 3p {}^3S_1$	345161	M1	1.101E-06	2.917E+04	1.00
$2p^5 3p^3 P_1$	$0.58 + 0.19 {}^3S_1 + 0.14 {}^1P_1$	$2p^5 3p {}^3S_1$	345161	E2	1.424E-10	3.771E+00	1.47
$2p^5 3p^3 D_2$	$0.45 + 0.36 {}^1D_2 + 0.19 {}^3P_2$	$2p^5 3p {}^3S_1$	352382	M1	2.420E-07	4.009E+03	1.00
$2p^5 3p^3 D_2$	$0.45 + 0.36 {}^1D_2 + 0.19 {}^3P_2$	$2p^5 3p {}^3S_1$	352382	E2	5.623E-10	9.315E+00	1.42
$2p^5 3p^1 S_0$	$0.82 + 0.18 {}^3P_0$	$2p^5 3p {}^3S_1$	439567	M1	2.048E-06	2.640E+05	1.00
$2p^5 3d {}^3P_0^o$		$2p^5 3p {}^3S_1$	515540	E1	1.007E-01	1.785E+10	1.00
$2p^5 3d {}^3P_1^o$	$0.87 + 0.12 {}^3D_1^o$	$2p^5 3p {}^3S_1$	529400	E1	2.365E-01	1.474E+10	1.00
$2p^5 3d {}^3P_1^o$	$0.87 + 0.12 {}^3D_1^o$	$2p^5 3p {}^3S_1$	529400	M2	1.046E-10	6.517E+00	1.00
$2p^5 3d {}^3P_2^o$	$0.61 + 0.31 {}^3D_2^o$	$2p^5 3p {}^3S_1$	555251	E1	1.698E-01	6.983E+09	1.00
$2p^5 3d {}^3P_2^o$	$0.61 + 0.31 {}^3D_2^o$	$2p^5 3p {}^3S_1$	555251	M2	1.967E-10	8.090E+00	1.00
$2p^5 3d {}^3F_3^o$	$0.60 + 0.33 {}^1F_3^o$	$2p^5 3p {}^3S_1$	556172	M2	4.512E-11	1.330E+00	1.00
$2p^5 3d {}^1D_2^o$	$0.50 + 0.28 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3p {}^3S_1$	577953	E1	3.349E-02	1.493E+09	1.00
$2p^5 3d {}^1D_2^o$	$0.50 + 0.28 {}^3F_2^o + 0.20 {}^3D_2^o$	$2p^5 3p {}^3S_1$	577953	M2	2.211E-10	9.853E+00	1.00
$2p^5 3d {}^3D_1^o$	$0.57 + 0.36 {}^1P_1^o$	$2p^5 3p {}^3S_1$	661439	E1	7.424E-03	7.221E+08	1.00
$2p^5 3d {}^3D_1^o$	$0.57 + 0.36 {}^1P_1^o$	$2p^5 3p {}^3S_1$	661439	M2	1.002E-09	9.746E+01	1.00
$2p^5 3d {}^3F_2^o$	$0.69 + 0.25 {}^1D_2^o$	$2p^5 3p {}^3S_1$	815366	E1	4.267E-04	3.785E+07	1.00
$2p^5 3d {}^3F_2^o$	$0.69 + 0.25 {}^1D_2^o$	$2p^5 3p {}^3S_1$	815366	M2	4.234E-12	3.755E-01	1.00
$2p^5 3d {}^3D_2^o$	$0.45 + 0.35 {}^3P_2^o + 0.17 {}^1D_2^o$	$2p^5 3p {}^3S_1$	829367	E1	8.115E-04	7.447E+07	0.98
$2p^5 3d {}^3D_2^o$	$0.45 + 0.35 {}^3P_2^o + 0.17 {}^1D_2^o$	$2p^5 3p {}^3S_1$	829367	M2	4.103E-11	3.765E+00	1.00
$2p^5 3d {}^3F_3^o$	$0.38 + 0.36 {}^1F_3^o + 0.26 {}^3D_3^o$	$2p^5 3p {}^3S_1$	838160	M2	1.801E-11	1.205E+00	1.00
$2p^5 3d {}^1P_1^o$	$0.63 + 0.30 {}^3D_1^o$	$2p^5 3p {}^3S_1$	900709	E1	3.012E-07	5.434E+04	0.39
$2p^5 3d {}^1P_1^o$	$0.63 + 0.30 {}^3D_1^o$	$2p^5 3p {}^3S_1$	900709	M2	2.516E-10	4.538E+01	1.00

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	445955	M2	6.390E-10	1.211E+01	1.00
$2p^5 3p^1 P_1$	$0.58 + 0.17^3 D_1 + 0.15^3 S_1$	$2p^5 3s^3 P_2^o$	451324	E1	4.652E-05	2.107E+06	1.07
$2p^5 3p^1 P_1$	$0.58 + 0.17^3 D_1 + 0.15^3 S_1$	$2p^5 3s^3 P_2^o$	451324	M2	5.600E-10	2.536E+01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_2^o$	479753	E1	2.778E-01	8.529E+09	0.98
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^3 P_2^o$	479753	M2	9.263E-10	2.844E+01	1.00
$2p^5 3p^3 P_0$	$0.80 + 0.20^1 S_0$	$2p^5 3s^3 P_2^o$	577320	M2	3.902E-10	8.675E+01	1.00
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$	$2p^5 3s^3 P_2^o$	679772	E1	5.267E-04	5.412E+07	1.03
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$	$2p^5 3s^3 P_2^o$	679772	M2	1.058E-11	1.087E+00	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20^3 S_1 + 0.14^1 P_1$	$2p^5 3s^3 P_2^o$	754578	E1	9.556E-03	1.210E+09	0.98
$2p^5 3p^3 P_1$	$0.57 + 0.20^3 S_1 + 0.14^1 P_1$	$2p^5 3s^3 P_2^o$	754578	M2	9.158E-12	1.159E+00	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.36^1 D_2 + 0.19^3 P_2$	$2p^5 3s^3 P_2^o$	762486	E1	1.344E-03	1.042E+08	0.92
$2p^5 3p^1 S_0$	$0.79 + 0.20^3 P_0$	$2p^5 3s^3 P_2^o$	842530	M2	3.695E-10	1.749E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	904787	E2	1.178E-06	6.432E+05	1.00
$2p^5 3d^3 P_1^o$	$0.86 + 0.13^3 D_1^o$	$2p^5 3s^3 P_2^o$	919810	M1	3.427E-09	6.446E+02	1.00
$2p^5 3d^3 P_1^o$	$0.86 + 0.13^3 D_1^o$	$2p^5 3s^3 P_2^o$	919810	E2	3.602E-06	6.775E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	945892	E2	1.198E-05	7.946E+05	1.00
$2p^5 3d^3 F_3^o$	$0.60 + 0.33^1 F_3^o$	$2p^5 3s^3 P_2^o$	947297	M1	4.755E-11	4.066E+00	1.00
$2p^5 3d^3 F_3^o$	$0.60 + 0.33^1 F_3^o$	$2p^5 3s^3 P_2^o$	947297	E2	4.008E-10	3.427E+05	1.00
$2p^5 3d^3 P_2^o$	$0.59 + 0.33^3 D_2^o$	$2p^5 3s^3 P_2^o$	947813	M1	4.215E-06	5.051E+01	1.00
$2p^5 3d^3 P_2^o$	$0.59 + 0.33^3 D_2^o$	$2p^5 3s^3 P_2^o$	947813	E2	5.755E-06	6.897E+05	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.27^3 F_2^o + 0.18^3 D_2^o$	$2p^5 3s^3 P_2^o$	970733	M1	1.028E-10	1.292E+01	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.27^3 F_2^o + 0.18^3 D_2^o$	$2p^5 3s^3 P_2^o$	970733	E2	9.198E-07	1.156E+05	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	$2p^5 3s^3 P_2^o$	988997	M1	1.482E-10	1.382E+01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	$2p^5 3s^3 P_2^o$	988997	E2	5.998E-06	5.590E+05	1.00
$2p^5 3d^3 D_1^o$	$0.55 + 0.39^1 P_1^o$	$2p^5 3s^3 P_2^o$	1061104	M1	6.235E-09	1.561E+03	1.00
$2p^5 3d^3 D_1^o$	$0.55 + 0.39^1 P_1^o$	$2p^5 3s^3 P_2^o$	1061104	E2	1.208E-07	3.025E+04	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$	$2p^5 3s^3 P_2^o$	1245015	M1	1.184E-12	2.449E-01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$	$2p^5 3s^3 P_2^o$	1245015	E2	4.390E-09	9.078E+02	1.02
$2p^5 3d^3 D_2^o$	$0.44 + 0.36^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3s^3 P_2^o$	1261049	M1	1.437E-10	3.048E+01	1.00
$2p^5 3d^3 D_2^o$	$0.44 + 0.36^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3s^3 P_2^o$	1261049	E2	1.729E-07	3.667E+04	1.00
$2p^5 3d^3 F_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 D_3^o$	$2p^5 3s^3 P_2^o$	1270578	M1	9.843E-11	1.514E+01	1.00
$2p^5 3d^3 F_3^o$	$0.38 + 0.36^1 F_3^o + 0.26^3 D_3^o$	$2p^5 3s^3 P_2^o$	1270578	E2	7.528E-08	1.158E+04	1.01
$2p^5 3d^1 P_1^o$	$0.60 + 0.32^3 D_1^o$	$2p^5 3s^3 P_2^o$	1333066	M1	1.459E-09	5.766E+02	1.00
$2p^5 3d^1 P_1^o$	$0.60 + 0.32^3 D_1^o$	$2p^5 3s^3 P_2^o$	1333066	E2	3.510E-08	1.387E+04	1.01
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_1^o$	278291	M1	8.678E-06	4.483E+05	1.00
$2p^5 3s^3 P_1^o$	$0.61 + 0.39^1 P_1^o$	$2p^5 3s^1 P_1^o$	290264	M1	4.156E-06	7.785E+04	1.00
$2p^5 3s^3 P_1^o$	$0.61 + 0.39^1 P_1^o$	$2p^5 3s^1 P_1^o$	290264	E2	1.673E-09	3.134E+01	1.05
$2p^5 3p^3 S_1$	$0.62 + 0.33^3 P_1$	$2p^5 3s^1 P_1^o$	339339	E1	4.162E-04	1.066E+07	0.95
$2p^5 3p^3 D_2$	$0.54 + 0.32^1 D_2 + 0.14^3 P_2$	$2p^5 3s^1 P_1^o$	365111	E1	2.042E-01	3.631E+09	0.98
$2p^5 3p^3 D_3$		$2p^5 3s^1 P_1^o$	423446	M2	8.009E-10	1.368E+01	1.00
$2p^5 3p^1 P_1$	$0.58 + 0.17^3 D_1 + 0.15^3 S_1$	$2p^5 3s^1 P_1^o$	428814	E1	2.725E-01	1.114E+10	0.99
$2p^5 3p^1 P_1$	$0.58 + 0.17^3 D_1 + 0.15^3 S_1$	$2p^5 3s^1 P_1^o$	428814	M2	4.905E-11	2.005E+00	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^1 P_1^o$	457243	E1	2.411E-01	6.724E+09	0.99
$2p^5 3p^3 P_2$	$0.67 + 0.32^1 D_2$	$2p^5 3s^1 P_1^o$	457243	M2	3.514E-10	9.800E+00	1.00
$2p^5 3p^3 P_0$	$0.80 + 0.20^1 S_0$	$2p^5 3s^1 P_1^o$	554810	E1	1.088E-01	2.234E+10	0.98
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$	$2p^5 3s^1 P_1^o$	657262	E1	4.285E-04	4.116E+07	1.03
$2p^5 3p^3 D_1$	$0.70 + 0.28^1 P_1$	$2p^5 3s^1 P_1^o$	657262	M2	2.630E-12	2.526E-01	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20^3 S_1 + 0.14^1 P_1$	$2p^5 3s^1 P_1^o$	732068	E1	2.477E-04	2.951E+07	1.10
$2p^5 3p^3 P_1$	$0.57 + 0.20^3 S_1 + 0.14^1 P_1$	$2p^5 3s^1 P_1^o$	732068	M2	3.419E-11	4.074E+00	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.36^1 D_2 + 0.19^3 P_2$	$2p^5 3s^1 P_1^o$	739977	E1	7.557E-04	5.520E+07	0.97
$2p^5 3p^3 D_2$	$0.46 + 0.36^1 D_2 + 0.19^3 P_2$	$2p^5 3s^1 P_1^o$	739977	M2	7.717E-12	5.637E-01	1.00
$2p^5 3p^1 S_0$	$0.79 + 0.20^3 P_0$	$2p^5 3s^1 P_1^o$	820021	E1	3.766E-02	1.689E+10	0.97
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_1^o$	882278	M1	2.811E-09	1.459E+03	1.00
$2p^5 3d^3 P_1^o$	$0.86 + 0.13^3 D_1^o$	$2p^5 3s^1 P_1^o$	897301	M1	2.171E-09	3.887E+02	1.00
$2p^5 3d^3 P_1^o$	$0.86 + 0.13^3 D_1^o$	$2p^5 3s^1 P_1^o$	897301	E2	6.985E-08	1.251E+04	0.99
$2p^5 3d^3 F_3^o$	$0.60 + 0.33^1 F_3^o$	$2p^5 3s^1 P_1^o$	924787	E2	4.976E-10	4.055E+05	1.00
$2p^5 3d^3 P_2^o$	$0.59 + 0.33^3 D_2^o$	$2p^5 3s^1 P_1^o$	925304	M1	2.053E-10	2.345E+01	1.00
$2p^5 3d^3 P_2^o$	$0.59 + 0.33^3 D_2^o$	$2p^5 3s^1 P_1^o$	925304	E2	8.205E-07	9.372E+04	0.99
$2p^5 3d^1 D_2^o$	$0.52 + 0.27^3 F_2^o + 0.18^3 D_2^o$	$2p^5 3s^1 P_1^o$	948223	M1	3.336E-10	4.001E+01	1.00
$2p^5 3d^1 D_2^o$	$0.52 + 0.27^3 F_2^o + 0.18^3 D_2^o$	$2p^5 3s^1 P_1^o$	948223	E2	5.709E-06	6.848E+05	0.99
$2p^5 3d^3 D_3^o$	$0.67 + 0.31^1 F_3^o$	$2p^5 3s^1 P_1^o$	966488	E2	4.324E-06	3.849E+05	1.00
$2p^5 3d^3 D_1^o$	$0.55 + 0.39^1 P_1^o$	$2p^5 3s^1 P_1^o$	1038595	M1	5.804E-11	1.392E+01	1.00
$2p^5 3d^3 D_1^o$	$0.55 + 0.39^1 P_1^o$	$2p^5 3s^1 P_1^o$	1038595	E2	5.336E-06	1.280E+06	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$	$2p^5 3s^1 P_1^o$	1222505	M1	8.318E-11	1.658E+01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25^1 D_2^o$	$2p^5 3s^1 P_1^o$	1222505	E2	7.551E-09	1.505E+03	0.97
$2p^5 3d^3 D_2^o$	$0.44 + 0.36^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3s^1 P_1^o$	1238540	M1	9.205E-10	1.884E+02	1.00
$2p^5 3d^3 D_2^o$	$0.44 + 0.36^3 P_2^o + 0.17^1 D_2^o$	$2p^5 3s^1 P_1^o$	1238540	E2	3.757E-09	7.688E+02	0.97

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R				
$2p^5 3d^3 P_1^o$	$0.86 + 0.14$	${}^3D_1^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	587746	M2	1.00E-10	7.684E+00	1.00	
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	${}^1F_3^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	615883	M2	5.425E-11	1.961E+00	1.00	
$2p^5 3d^3 P_2^o$	$0.57 + 0.36$	${}^3D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	617969	E1	1.589E-01	8.094E+09	1.00	
$2p^5 3d^3 P_2^o$	$0.57 + 0.36$	${}^3D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	617969	M2	1.928E-10	9.824E+00	1.00	
$2p^5 3d^1 D_2^o$	$0.54 + 0.26$	${}^3F_2^o + 0.16$	${}^3D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	641141	E1	3.461E-02	1.898E+09	1.00
$2p^5 3d^1 D_2^o$	$0.54 + 0.26$	${}^3F_2^o + 0.16$	${}^3D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	641141	M2	3.023E-10	1.658E+01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	661290	M2	1.303E-11	5.429E-01	1.00	
$2p^5 3d^3 D_1^o$	$0.52 + 0.41$	${}^1P_1^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	738513	E1	1.009E-02	1.224E+09	1.00	
$2p^5 3d^3 D_1^o$	$0.52 + 0.41$	${}^1P_1^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	738513	M2	1.121E-09	1.359E+02	1.00	
$2p^5 3d^3 F_2^o$	$0.69 + 0.25$	${}^1D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	956384	E1	3.330E-04	4.063E+07	1.00	
$2p^5 3d^3 F_2^o$	$0.69 + 0.25$	${}^1D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	956384	M2	4.085E-12	4.985E-01	1.00	
$2p^5 3d^3 D_2^o$	$0.43 + 0.37$	${}^3P_2^o + 0.16$	${}^1D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	974742	E1	5.716E-04	7.245E+07	0.97
$2p^5 3d^3 D_2^o$	$0.43 + 0.37$	${}^3P_2^o + 0.16$	${}^1D_2^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	974742	M2	3.631E-11	4.602E+00	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	${}^1F_3^o + 0.25$	${}^3D_3^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	984995	M2	1.696E-11	1.568E+00	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34$	${}^3D_1^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	1047091	E1	5.411E-06	1.319E+06	0.73	
$2p^5 3d^1 P_1^o$	$0.58 + 0.34$	${}^3D_1^o$	$2p^5 3p^3 S_1$	$0.59 + 0.35$	3P_1	1047091	M2	2.146E-10	5.232E+01	1.00	
$2p^5 3p^3 D_3$			$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	68774	M1	6.956E-06	3.135E+03	1.00	
$2p^5 3p^3 D_3$			$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	68774	E2	1.556E-09	7.012E-01	0.96	
$2p^5 3p^1 P_1$	$0.58 + 0.17$	${}^3S_1 + 0.16$	3D_1	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	73546	M1	1.881E-06	2.262E+03	1.00
$2p^5 3p^1 P_1$	$0.58 + 0.17$	${}^3S_1 + 0.16$	3D_1	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	73546	E2	1.859E-09	2.235E+00	1.04
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	104038	M1	3.100E-06	4.476E+03	1.00	
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	104038	E2	7.255E-09	1.048E+01	1.04	
$2p^5 3p^3 P_0$	$0.77 + 0.23$	1S_0	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	210243	E2	1.818E-08	5.360E+02	1.02	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	1P_1	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	334678	M1	2.279E-05	5.675E+05	1.00	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	1P_1	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	334678	E2	6.067E-09	1.511E+02	1.06	
$2p^5 3p^3 P_1$	$0.57 + 0.20$	${}^3S_1 + 0.13$	1P_1	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	420420	M1	6.083E-09	2.390E+02	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20$	${}^3S_1 + 0.13$	1P_1	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	420420	E2	8.718E-10	3.426E+01	1.20
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1D_2 + 0.18$	3P_2	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	429008	M1	3.028E-09	7.435E+01	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1D_2 + 0.18$	3P_2	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	429008	E2	1.265E-09	3.106E+01	1.18
$2p^5 3p^1 S_0$	$0.77 + 0.23$	3P_0	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	500670	E2	1.267E-08	2.118E+03	0.94	
$2p^5 3d^3 P_0^o$	$0.86 + 0.14$	${}^3D_0^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	546246	M2	6.929E-12	1.379E+00	1.00	
$2p^5 3d^3 P_0^o$	$0.86 + 0.14$	${}^3D_0^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	562464	E1	2.713E-02	1.909E+09	0.98	
$2p^5 3d^3 P_1^o$	$0.86 + 0.14$	${}^3D_1^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	562464	M2	6.292E-11	4.426E+00	1.00	
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	${}^1F_3^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	590601	E1	6.160E-01	2.047E+10	1.00	
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	${}^1F_3^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	590601	M2	5.166E-11	1.717E+00	1.00	
$2p^5 3d^3 F_4^o$			$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	590807	M2	9.491E-10	2.455E+01	1.00	
$2p^5 3d^3 P_2^o$	$0.57 + 0.36$	${}^3D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	592686	E1	8.205E-02	3.845E+09	1.01	
$2p^5 3d^3 P_2^o$	$0.57 + 0.36$	${}^3D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	592686	M2	1.682E-10	7.880E+00	1.00	
$2p^5 3d^1 D_2^o$	$0.54 + 0.26$	${}^3F_2^o + 0.16$	${}^3D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	615859	E1	1.475E-01	7.465E+09	1.01
$2p^5 3d^1 D_2^o$	$0.54 + 0.26$	${}^3F_2^o + 0.16$	${}^3D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	615859	M2	3.943E-12	1.995E-01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	636008	E1	1.808E-03	6.970E+07	1.02	
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	636008	M2	4.978E-10	1.919E+01	1.00	
$2p^5 3d^3 D_1^o$	$0.52 + 0.41$	${}^1P_1^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	713231	E1	8.240E-03	9.320E+08	0.99	
$2p^5 3d^3 D_1^o$	$0.52 + 0.41$	${}^1P_1^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	713231	M2	3.774E-12	4.269E-01	1.00	
$2p^5 3d^3 F_2^o$	$0.69 + 0.25$	${}^1D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	931102	E1	4.595E-04	5.314E+07	1.05	
$2p^5 3d^3 D_2^o$	$0.43 + 0.37$	${}^3P_2^o + 0.16$	${}^1D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	949460	E1	1.508E-03	1.813E+08	0.99
$2p^5 3d^3 D_2^o$	$0.43 + 0.37$	${}^3P_2^o + 0.16$	${}^1D_2^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	949460	M2	2.834E-11	3.408E+00	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	${}^1F_3^o + 0.25$	${}^3D_3^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	959713	E1	1.497E-04	1.314E+07	1.03
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	${}^1F_3^o + 0.25$	${}^3D_3^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	959713	M2	6.889E-12	6.047E-01	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34$	${}^3D_1^o$	$2p^5 3p^3 D_2$	$0.54 + 0.32$	${}^1D_2 + 0.14$	1021809	E1	1.229E-03	2.853E+08	1.09	
$2p^5 3p^3 P_2$	$0.67 + 0.32$	1D_2	$2p^5 3p^3 D_3$			35263	M1	1.311E-09	2.175E-01	1.00	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	1P_1	$2p^5 3p^3 D_3$			265904	E2	8.213E-11	1.291E+00	1.23	
$2p^5 3p^3 P_1$	$0.57 + 0.20$	${}^3S_1 + 0.13$	1P_1	$2p^5 3p^3 D_3$		351645	E2	1.974E-08	5.427E+02	1.12	
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1D_2 + 0.18$	3P_2	$2p^5 3p^3 D_3$		360233	M1	3.120E-05	5.401E+05	1.00	
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1D_2 + 0.18$	3P_2	$2p^5 3p^3 D_3$		360233	E2	8.116E-09	1.405E+02	1.08	
$2p^5 3d^3 P_0^o$	$0.86 + 0.14$	${}^3D_0^o$	$2p^5 3p^3 D_3$			493689	M2	2.575E-12	1.395E-01	1.00	
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	${}^1F_3^o$	$2p^5 3p^3 D_3$			521827	E1	9.454E-02	2.453E+09	1.00	
$2p^5 3d^3 F_3^o$			$2p^5 3p^3 D_3$			522033	E1	8.366E-01	1.690E+10	1.01	
$2p^5 3d^3 F_4^o$			$2p^5 3p^3 D_3$			522033	M2	2.448E-09	4.944E+01	1.00	
$2p^5 3d^3 P_2^o$	$0.57 + 0.36$	${}^3D_2^o$	$2p^5 3p^3 D_3$			523912	E1	2.121E-02	7.766E+08	0.97	
$2p^5 3d^3 P_2^o$	$0.57 + 0.36$	${}^3D_2^o$	$2p^5 3p^3 D_3$			523912	M2	1.956E-10	7.162E+00	1.00	
$2p^5 3d^1 D_2^o$	$0.54 + 0.26$	${}^3F_2^o + 0.16$	${}^3D_2^o$	$2p^5 3p^3 D_3$		547084	E1	4.278E-03	1.708E+08	1.01	
$2p^5 3d^1 D_2^o$	$0.54 + 0.26$	${}^3F_2^o + 0.16$	${}^3D_2^o$	$2p^5 3p^3 D_3$		547084	M2	1.335E-10	5.329E+00	1.00	
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	$2p^5 3p^3 D_3$			567234	E1	1.401E-01	4.296E+09	1.02	
$2p^5 3d^3 D_3^o$	$0.67 + 0.31$	${}^1F_3^o$	$2p^5 3p^3 D_3$			567234	M2	1.545E-09	4.737E+01	1.00	
$2p^5 3d^3 D_1^o$	$0.52 + 0.41$	${}^1P_1^o$	$2p^5 3p^3 D_3$			644456	M2	1.448E-11	1.337E+00	1.00	
$2p^5 3d^3 F_2^o$	$0.69 + 0.25$	${}^1D_2^o$	$2p^5 3p^3 D_3$			862328	E1	1.263E-06	1.253E+05	1.93	

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$	$2p^5 3p^3 D_3$	862328	M2	2.427E-12	2.407E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^3 D_3$	880685	E1	2.742E-03	2.837E+08	1.10
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^3 D_3$	880685	M2	7.313E-12	7.567E-01	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1 F_3^o + 0.25 {}^3 D_3^o$	$2p^5 3p^3 D_3$	890939	E1	1.503E-03	1.137E+08	1.07
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1 F_3^o + 0.25 {}^3 D_3^o$	$2p^5 3p^3 D_3$	890939	M2	3.257E-12	2.463E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1 D_2$	$2p^5 3p^1 P_1$	30492	M1	1.898E-07	2.355E+01	1.00
$2p^5 3p^3 P_0$	$0.77 + 0.23 {}^1 S_0$	$2p^5 3p^1 P_1$	136697	M1	6.464E-07	8.056E+03	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1 P_1$	$2p^5 3p^1 P_1$	261132	M1	7.684E-07	1.165E+04	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1 P_1$	$2p^5 3p^1 P_1$	261132	E2	2.720E-10	4.124E+00	1.09
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$	$2p^5 3p^1 P_1$	346874	M1	1.062E-05	2.841E+05	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$	$2p^5 3p^1 P_1$	346874	E2	6.182E-10	1.654E+01	1.04
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1 D_2 + 0.18 {}^3 P_2$	$2p^5 3p^1 P_1$	355462	M1	2.186E-06	3.685E+04	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1 D_2 + 0.18 {}^3 P_2$	$2p^5 3p^1 P_1$	355462	E2	6.624E-10	1.117E+01	0.76
$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3 P_0$	$2p^5 3p^1 P_1$	427124	M1	6.727E-07	8.186E+04	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3p^1 P_1$	472700	E1	4.504E-04	6.713E+07	1.01
$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3 D_1^o$	$2p^5 3p^1 P_1$	488918	E1	3.734E-03	1.984E+08	0.96
$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3 D_1^o$	$2p^5 3p^1 P_1$	488918	M2	6.509E-11	3.459E+00	1.00
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3 D_2^o$	$2p^5 3p^1 P_1$	519140	E1	4.541E-02	1.633E+09	1.01
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3 F_2^o + 0.16 {}^3 D_2^o$	$2p^5 3p^1 P_1$	542313	E1	3.177E-01	1.246E+10	1.00
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3 F_2^o + 0.16 {}^3 D_2^o$	$2p^5 3p^1 P_1$	542313	M2	4.279E-12	1.679E-01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31 {}^1 F_3^o$	$2p^5 3p^1 P_1$	562462	M2	1.463E-09	4.409E+01	1.00
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1 P_1^o$	$2p^5 3p^1 P_1$	639684	E1	1.441E-01	1.311E+10	1.00
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1 P_1^o$	$2p^5 3p^1 P_1$	639684	M2	5.454E-10	4.962E+01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$	$2p^5 3p^1 P_1$	857556	E1	1.433E-05	1.406E+06	1.05
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$	$2p^5 3p^1 P_1$	857556	M2	1.329E-12	1.304E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^1 P_1$	875914	E1	5.831E-05	5.969E+06	1.04
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^1 P_1$	875914	M2	3.951E-11	4.044E+00	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3 D_1^o$	$2p^5 3p^1 P_1$	948262	E1	8.779E-03	1.755E+09	0.97
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3 D_1^o$	$2p^5 3p^1 P_1$	948262	M2	1.472E-10	2.944E+01	1.00
$2p^5 3p^3 P_0$	$0.77 + 0.23 {}^1 S_0$	$2p^5 3p^3 P_2$	106204	E2	1.294E-09	9.733E+00	0.96
$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1 P_1$	$2p^5 3p^3 P_2$	230640	M1	4.508E-09	5.332E+01	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1 P_1$	$2p^5 3p^3 P_2$	230640	E2	2.278E-10	2.695E+00	1.47
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$	$2p^5 3p^3 P_2$	316381	M1	1.185E-05	2.638E+05	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$	$2p^5 3p^3 P_2$	316381	E2	2.038E-09	4.536E+01	1.05
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1 D_2 + 0.18 {}^3 P_2$	$2p^5 3p^3 P_2$	324969	M1	1.184E-05	1.667E+05	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1 D_2 + 0.18 {}^3 P_2$	$2p^5 3p^3 P_2$	324969	E2	1.834E-09	2.583E+01	0.92
$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3 P_0$	$2p^5 3p^3 P_2$	396631	E2	1.808E-08	1.897E+03	0.98
$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3 D_1^o$	$2p^5 3p^3 P_2$	458425	E1	3.287E-02	1.536E+09	1.00
$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3 D_1^o$	$2p^5 3p^3 P_2$	458425	M2	4.572E-11	2.136E+00	1.00
$2p^5 3d^3 F_3^o$	$0.59 + 0.34 {}^1 F_3^o$	$2p^5 3p^3 P_2$	486563	E1	1.086E-02	2.449E+08	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3p^3 P_2$	486769	M2	7.582E-10	1.331E+01	1.00
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3 D_2^o$	$2p^5 3p^3 P_2$	488648	E1	1.739E-01	5.540E+09	1.01
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3 D_2^o$	$2p^5 3p^3 P_2$	488648	M2	5.582E-10	1.778E+01	1.00
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3 F_2^o + 0.16 {}^3 D_2^o$	$2p^5 3p^3 P_2$	511820	E1	1.063E-02	3.716E+08	1.02
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3 F_2^o + 0.16 {}^3 D_2^o$	$2p^5 3p^3 P_2$	511820	M2	3.672E-10	1.283E+01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31 {}^1 F_3^o$	$2p^5 3p^3 P_2$	531970	E1	5.478E-01	1.477E+10	1.01
$2p^5 3d^3 D_3^o$	$0.67 + 0.31 {}^1 F_3^o$	$2p^5 3p^3 P_2$	531970	M2	4.927E-10	1.329E+01	1.00
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1 P_1^o$	$2p^5 3p^3 P_2$	609192	E1	2.382E-04	1.965E+07	0.82
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1 P_1^o$	$2p^5 3p^3 P_2$	609192	M2	5.086E-10	4.197E+01	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$	$2p^5 3p^3 P_2$	827064	E1	3.118E-04	2.846E+07	1.01
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$	$2p^5 3p^3 P_2$	827064	M2	6.892E-12	6.289E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^3 P_2$	845421	E1	5.544E-03	5.286E+08	1.02
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^3 P_2$	845421	M2	2.769E-11	2.640E+00	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1 F_3^o + 0.25 {}^3 D_3^o$	$2p^5 3p^3 P_2$	855675	E1	1.303E-04	9.091E+06	1.02
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3 D_1^o$	$2p^5 3p^3 P_2$	917770	E1	1.476E-04	2.764E+07	0.82
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3 D_1^o$	$2p^5 3p^3 P_2$	917770	M2	1.790E-10	3.351E+01	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1 P_1$	$2p^5 3p^3 P_0$	124435	M1	6.040E-10	2.079E+00	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$	$2p^5 3p^3 P_0$	210177	M1	7.329E-06	7.199E+04	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1 D_2 + 0.18 {}^3 P_2$	$2p^5 3p^3 P_0$	218764	E2	9.105E-09	5.813E+01	0.95
$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3 D_1^o$	$2p^5 3p^3 P_0$	352221	E1	2.200E-03	6.068E+07	1.05
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3 D_2^o$	$2p^5 3p^3 P_0$	382443	M2	9.671E-11	1.887E+00	1.00
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3 F_2^o + 0.16 {}^3 D_2^o$	$2p^5 3p^3 P_0$	405616	M2	7.994E-11	1.755E+00	1.00
$2p^5 3d^3 D_2^o$	$0.52 + 0.41 {}^1 P_1^o$	$2p^5 3p^3 P_0$	502987	E1	1.406E-01	7.910E+09	1.01
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$	$2p^5 3p^3 P_0$	720859	M2	1.928E-12	1.337E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3 P_2^o + 0.16 {}^1 D_2^o$	$2p^5 3p^3 P_0$	739216	M2	2.209E-10	1.610E+01	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3 D_1^o$	$2p^5 3p^3 P_0$	811565	E1	9.877E-03	1.446E+09	1.00
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$	$2p^5 3p^3 D_1$	85741	M1	7.485E-07	1.223E+03	1.00

Continued. . .

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	85741	E2	3.447E-09	5.635E+00	1.02
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	94329	M1	5.638E-06	6.693E+03	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	94329	E2	4.636E-09	5.503E+00	1.00
$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	165991	M1	6.172E-10	1.134E+01	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	211568	E1	1.957E-05	5.844E+05	0.14
$2p^5 3d^3 P_0^o$	$0.86 + 0.14 {}^3D_1^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	227785	E1	2.878E-05	3.321E+05	3.49
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3D_2^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	258008	E1	1.322E-04	1.174E+06	0.90
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3F_2^o + 0.16 {}^3D_2^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	281180	E1	1.883E-06	1.986E+04	0.64
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	378552	E1	8.156E-04	2.599E+07	1.14
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	596423	E1	4.436E-01	2.105E+10	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	596423	M2	4.140E-11	1.965E+00	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	614781	E1	2.948E-06	1.486E+05	0.90
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	614781	M2	2.136E-10	1.077E+01	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	625034	M2	8.476E-10	3.155E+01	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	687130	E1	1.035E-01	1.086E+10	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3p^3 D_1$	$0.71 + 0.27 {}^1P_1$	687130	M2	7.413E-11	7.782E+00	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	8587	M1	3.144E-07	3.093E+00	1.00
$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	80250	M1	8.734E-07	3.752E+03	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	125826	E1	3.801E-04	4.014E+06	1.21
$2p^5 3d^3 P_0^o$	$0.86 + 0.14 {}^3D_1^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	142044	E1	2.736E-04	1.228E+06	0.98
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3D_2^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	172266	E1	6.876E-05	2.722E+05	1.00
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3F_2^o + 0.16 {}^3D_2^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	195439	E1	1.877E-05	9.562E+04	0.91
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	292810	E1	5.255E-04	1.002E+07	1.08
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	510682	E1	7.871E-03	2.739E+08	1.00
$2p^5 3d^3 F_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	529039	E1	4.192E-01	1.565E+10	1.01
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	529039	M2	1.356E-09	5.063E+01	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	539293	M2	4.078E-10	1.130E+01	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	601388	E1	4.781E-02	3.845E+09	0.99
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3p^3 P_1$	$0.57 + 0.20 {}^3S_1 + 0.13 {}^1P_1$	601388	M2	2.449E-12	1.969E-01	1.00
$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	71662	E2	1.029E-09	3.526E+00	0.97
$2p^5 3d^3 P_0^o$	$0.86 + 0.14 {}^3D_1^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	133456	E1	2.983E-04	1.181E+06	2.19
$2p^5 3d^3 F_3^o$	$0.59 + 0.34 {}^1F_3^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	161593	E1	4.330E-05	1.077E+05	0.79
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3D_2^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	163678	E1	2.390E-04	8.542E+05	0.82
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3F_2^o + 0.16 {}^3D_2^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	186851	E1	3.947E-06	1.838E+04	0.80
$2p^5 3d^3 D_3^o$	$0.67 + 0.31 {}^1F_3^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	207000	E1	4.731E-05	1.932E+05	1.05
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	284222	E1	1.218E-03	2.188E+07	1.36
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	502094	E1	6.611E-02	2.223E+09	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	520452	E1	4.448E-02	1.607E+09	1.02
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	520452	M2	5.528E-10	1.998E+01	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	530705	E1	6.671E-01	1.790E+10	1.01
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	530705	M2	2.387E-09	6.407E+01	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3p^3 D_2$	$0.46 + 0.35 {}^1D_2 + 0.18 {}^3P_2$	592800	E1	5.110E-03	3.993E+08	0.97
$2p^5 3d^3 P_0^o$	$0.86 + 0.14 {}^3D_1^o$		$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$	61793	E1	1.289E-05	1.095E+04	1.59
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$	212560	E1	1.863E-03	1.872E+07	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$	430432	M2	1.160E-11	2.866E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3p^1 S_0$	$0.77 + 0.23 {}^3P_0$	448789	M2	8.551E-11	2.298E+00	1.00
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3d^3 P_0^o$		521138	E1	1.407E-01	8.497E+09	1.01
$2p^5 3d^3 P_0^o$	$0.86 + 0.14 {}^3D_1^o$		$2p^5 3d^3 P_0^o$		16217	M1	1.113E-06	6.508E+01	1.00
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3d^3 P_0^o$		166984	M1	8.823E-07	5.470E+03	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3d^3 P_0^o$		384855	E2	3.077E-09	6.079E+01	0.87
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3d^3 P_0^o$		403213	E2	1.853E-09	4.019E+01	0.93
$2p^5 3d^1 P_1^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3d^3 P_0^o$		475562	M1	2.910E-06	1.463E+05	1.00
$2p^5 3d^3 P_2^o$	$0.57 + 0.36 {}^3D_2^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	30222	M1	3.026E-06	3.688E+02	1.00
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3F_2^o + 0.16 {}^3D_2^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	53394	M1	1.958E-09	7.449E-01	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31 {}^1F_3^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	73544	E2	3.681E-10	1.897E-01	1.08
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	150766	M1	2.346E-06	1.186E+04	1.00
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	150766	E2	2.467E-10	1.247E+00	0.97
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	368638	M1	1.710E-06	3.101E+04	1.00
$2p^5 3d^3 F_2^o$	$0.69 + 0.25 {}^1D_2^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	368638	E2	1.926E-09	3.492E+01	0.83
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	386995	M1	2.233E-06	4.461E+04	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.37 {}^3P_2^o + 0.16 {}^1D_2^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	386995	E2	1.132E-10	2.261E+00	1.17
$2p^5 3d^3 F_3^o$	$0.39 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	397249	E2	5.533E-09	8.321E+01	0.90
$2p^5 3d^1 P_0^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	459344	M1	6.196E-06	2.907E+05	1.00
$2p^5 3d^1 P_0^o$	$0.58 + 0.34 {}^3D_1^o$		$2p^5 3d^3 P_1^o$	$0.86 + 0.14 {}^3D_1^o$	459344	E2	7.871E-10	3.693E+01	1.03
$2p^5 3d^1 D_2^o$	$0.54 + 0.26 {}^3F_2^o + 0.16 {}^3D_2^o$		$2p^5 3d^3 F_3^o$	$0.59 + 0.34 {}^1F_3^o$	25257	M1	1.541E-06	1.311E+02	1.00
$2p^5 3d^3 D_3^o$	$0.67 + 0.31 {}^1F_3^o$		$2p^5 3d^3 F_3^o$	$0.59 + 0.34 {}^1F_3^o$	45406	M1	9.970E-07	1.959E+02	1.00
$2p^5 3d^3 D_1^o$	$0.52 + 0.41 {}^1P_1^o$		$2p^5 3d^3 F_3^o$	$0.59 + 0.34 {}^1F_3^o$	122629	E2	5.362E-10	1.793E+00	0.96

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R			
$2p^5 3d^3 P_1^o$	$0.85 + 0.15$	$^3 D_1^o$	$2p^6$	$^1 S_0$	13439670	E1	6.761E-03	2.715E+11	1.01	
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	$^3 D_2^o$	$2p^6$	$^1 S_0$	13472160	M2	3.573E-06	8.650E+07	1.00	
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	$^3 F_2^o + 0.14$	$^3 D_2^o$	$2p^6$	$^1 S_0$	13495680	M2	2.312E-06	5.618E+07	1.00
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	$^1 P_1^o$	$2p^6$	$^1 S_0$	13600130	E1	1.445E+00	5.942E+13	1.00	
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	$^1 D_2^o$	$2p^6$	$^1 S_0$	13856250	M2	1.613E-07	4.131E+06	1.00	
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	$^3 P_2^o + 0.16$	$^1 D_2^o$	$2p^6$	$^1 S_0$	13877240	M2	6.982E-07	1.794E+07	1.00
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	$^3 D_1^o$	$2p^6$	$^1 S_0$	13949570	E1	1.849E+00	7.999E+13	1.00	
$2p^5 3s^1 P_1^o$	$0.62 + 0.38$	$^3 P_1^o$	$2p^5 3s$	$^3 P_2^o$	24520	M1	9.465E-07	1.265E+02	1.00	
$2p^5 3s^3 P_0^o$			$2p^5 3s$	$^3 P_2^o$	391604	E2	2.756E-09	2.819E+02	1.04	
$2p^5 3p^3 S_1$	$0.57 + 0.37$	$^3 P_1$	$2p^5 3s$	$^3 P_2^o$	396411	E1	2.072E-01	7.238E+09	0.97	
$2p^5 3p^3 S_1$	$0.57 + 0.37$	$^3 P_1$	$2p^5 3s$	$^3 P_2^o$	396411	M2	4.499E-11	1.572E+00	1.00	
$2p^5 3s^3 P_1^o$	$0.62 + 0.38$	$^1 P_1$	$2p^5 3s$	$^3 P_2^o$	404254	M1	2.520E-05	9.157E+05	1.00	
$2p^5 3s^3 P_1^o$	$0.62 + 0.38$	$^1 P_1$	$2p^5 3s$	$^3 P_2^o$	404254	E2	4.222E-09	1.534E+02	1.04	
$2p^5 3p^3 D_2$	$0.53 + 0.32$	$^1 D_2 + 0.14$	$^3 P_2$	$2p^5 3s$	$^3 P_2^o$	421217	E1	1.892E-01	4.477E+09	0.97
$2p^5 3p^3 D_3$			$2p^5 3s$	$^3 P_2^o$	501671	E1	6.563E-01	1.574E+10	0.99	
$2p^5 3p^3 D_3$			$2p^5 3s$	$^3 P_2^o$	501671	M2	7.846E-10	1.882E+01	1.00	
$2p^5 3p^1 P_1$	$0.58 + 0.19$	$^3 S_1 + 0.16$	$^3 D_1$	$2p^5 3s$	$^3 P_2^o$	505873	E1	1.482E-03	8.434E+07	0.99
$2p^5 3p^1 P_1$	$0.58 + 0.19$	$^3 S_1 + 0.16$	$^3 D_1$	$2p^5 3s$	$^3 P_2^o$	505873	M2	7.147E-10	4.066E+01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$^1 D_2$	$2p^5 3s$	$^3 P_2^o$	538408	E1	2.680E-01	1.037E+10	0.98	
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$^1 D_2$	$2p^5 3s$	$^3 P_2^o$	538408	M2	1.132E-09	4.380E+01	1.00	
$2p^5 3p^3 P_0$	$0.74 + 0.25$	$^1 S_0$	$2p^5 3s$	$^3 P_2^o$	653346	M2	5.185E-10	1.476E+02	1.00	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	$^1 P_1$	$2p^5 3s$	$^3 P_2^o$	802980	E1	4.703E-04	6.742E+07	1.03	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	$^1 P_1$	$2p^5 3s$	$^3 P_2^o$	802980	M2	1.012E-11	1.451E+00	1.00	
$2p^5 3p^3 P_1$	$0.56 + 0.21$	$^3 S_1 + 0.13$	$^1 P_1$	$2p^5 3s$	$^3 P_2^o$	900905	E1	7.932E-03	1.431E+09	0.98
$2p^5 3p^3 P_1$	$0.56 + 0.21$	$^3 S_1 + 0.13$	$^1 P_1$	$2p^5 3s$	$^3 P_2^o$	900905	M2	7.569E-12	1.366E+00	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35$	$^1 D_2 + 0.18$	$^3 P_2$	$2p^5 3s$	$^3 P_2^o$	910166	E1	1.006E-03	1.112E+08	0.91
$2p^5 3p^1 S_0$	$0.74 + 0.25$	$^3 P_0$	$2p^5 3s$	$^3 P_2^o$	972164	M2	3.862E-10	2.435E+02	1.00	
$2p^5 3d^3 P_0^o$			$2p^5 3s$	$^3 P_2^o$	997826	E2	1.164E-06	7.732E+05	0.99	
$2p^5 3d^3 P_1^o$	$0.85 + 0.15$	$^3 D_1^o$	$2p^5 3s$	$^3 P_2^o$	1015269	M1	5.116E-09	1.172E+03	1.00	
$2p^5 3d^3 P_1^o$	$0.85 + 0.15$	$^3 D_1^o$	$2p^5 3s$	$^3 P_2^o$	1015269	E2	3.591E-06	8.231E+05	1.00	
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	$^1 F_3^o$	$2p^5 3s$	$^3 P_2^o$	1043993	M1	6.677E-11	6.934E+00	1.00	
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	$^1 F_3^o$	$2p^5 3s$	$^3 P_2^o$	1043993	E2	3.937E-06	4.088E+05	1.00	
$2p^5 3d^3 F_4^o$			$2p^5 3s$	$^3 P_2^o$	1046118	E2	1.196E-05	9.697E+05	1.00	
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	$^3 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1047762	M1	3.872E-10	5.670E+01	1.00	
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	$^3 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1047762	E2	6.091E-06	8.920E+05	1.00	
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	$^3 F_2^o + 0.14$	$^3 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1071280	M1	1.604E-10	2.456E+01	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	$^3 F_2^o + 0.14$	$^3 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1071280	E2	5.479E-07	8.389E+04	1.00
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	$^1 F_3^o$	$2p^5 3s$	$^3 P_2^o$	1093419	M1	1.911E-10	2.178E+01	1.00	
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	$^1 F_3^o$	$2p^5 3s$	$^3 P_2^o$	1093419	E2	6.007E-06	6.844E+05	1.00	
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	$^1 P_1^o$	$2p^5 3s$	$^3 P_2^o$	1175736	M1	1.093E-08	3.360E+03	1.00	
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	$^1 P_1^o$	$2p^5 3s$	$^3 P_2^o$	1175736	E2	8.836E-08	2.716E+04	1.00	
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	$^1 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1431851	M1	2.394E-12	6.547E-01	1.00	
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	$^1 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1431851	E2	3.051E-09	8.344E+02	1.03	
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	$^3 P_2^o + 0.16$	$^1 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1452846	M1	2.271E-10	6.394E+01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	$^3 P_2^o + 0.16$	$^1 D_2^o$	$2p^5 3s$	$^3 P_2^o$	1452846	E2	1.376E-07	3.876E+04	1.01
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	$^1 F_3^o + 0.25$	$^3 D_3^o$	$2p^5 3s$	$^3 P_2^o$	1463811	M1	1.278E-10	2.609E+01	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	$^1 F_3^o + 0.25$	$^3 D_3^o$	$2p^5 3s$	$^3 P_2^o$	1463811	E2	5.934E-08	1.212E+04	1.01
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	$^3 D_1^o$	$2p^5 3s$	$^3 P_2^o$	1525173	M1	1.888E-09	9.767E+02	1.00	
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	$^3 D_1^o$	$2p^5 3s$	$^3 P_2^o$	1525173	E2	3.356E-08	1.736E+04	1.01	
$2p^5 3s^3 P_0^o$			$2p^5 3s$	$^1 P_1^o$	367083	M1	1.115E-05	1.002E+06	1.00	
$2p^5 3p^3 S_1$	$0.57 + 0.37$	$^3 P_1$	$2p^5 3s$	$^1 P_1^o$	371890	E1	2.176E-03	6.692E+07	0.96	
$2p^5 3s^3 P_1^o$	$0.62 + 0.38$	$^1 P_1$	$2p^5 3s$	$^3 P_1^o$	379734	M1	5.379E-06	1.725E+05	1.00	
$2p^5 3s^3 P_1^o$	$0.62 + 0.38$	$^1 P_1$	$2p^5 3s$	$^3 P_1^o$	379734	E2	2.787E-09	8.936E+01	1.04	
$2p^5 3p^3 D_2$	$0.53 + 0.32$	$^1 D_2 + 0.14$	$^3 P_2$	$2p^5 3s$	$^1 P_1^o$	396696	E1	1.902E-01	3.993E+09	0.98
$2p^5 3p^3 D_3$			$2p^5 3s$	$^1 P_1^o$	477150	M2	9.900E-10	2.148E+01	1.00	
$2p^5 3p^1 P_1$	$0.58 + 0.19$	$^3 S_1 + 0.16$	$^3 D_1$	$2p^5 3s$	$^1 P_1^o$	481353	E1	2.622E-01	1.351E+10	0.99
$2p^5 3p^1 P_1$	$0.58 + 0.19$	$^3 S_1 + 0.16$	$^3 D_1$	$2p^5 3s$	$^1 P_1^o$	481353	M2	6.277E-11	3.233E+00	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$^1 D_2$	$2p^5 3s$	$^3 P_1^o$	513888	E1	2.362E-01	8.320E+09	0.99	
$2p^5 3p^3 P_2$	$0.67 + 0.33$	$^1 D_2$	$2p^5 3s$	$^3 P_1^o$	513888	M2	4.305E-10	1.517E+01	1.00	
$2p^5 3p^3 P_0$	$0.74 + 0.25$	$^1 S_0$	$2p^5 3s$	$^3 P_1^o$	628825	E1	1.117E-01	2.946E+10	0.98	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	$^1 P_1$	$2p^5 3s$	$^3 P_1^o$	778459	E1	3.430E-04	4.621E+07	1.03	
$2p^5 3p^3 D_1$	$0.71 + 0.27$	$^1 P_1$	$2p^5 3s$	$^3 P_1^o$	778459	M2	3.098E-12	4.174E-01	1.00	
$2p^5 3p^3 P_1$	$0.56 + 0.21$	$^3 S_1 + 0.13$	$^1 P_1$	$2p^5 3s$	$^1 P_1^o$	876384	E1	2.568E-04	4.386E+07	1.09
$2p^5 3p^3 P_1$	$0.56 + 0.21$	$^3 S_1 + 0.13$	$^1 P_1$	$2p^5 3s$	$^1 P_1^o$	876384	M2	3.962E-11	6.766E+00	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35$	$^1 D_2 + 0.18$	$^3 P_2$	$2p^5 3s$	$^1 P_1^o$	885645	E1	5.134E-04	5.372E+07	0.97
$2p^5 3p^3 D_2$	$0.46 + 0.35$	$^1 D_2 + 0.18$	$^3 P_2$	$2p^5 3s$	$^1 P_1^o$	885645	M2	7.796E-12	8.158E-01	1.00
$2p^5 3p^1 S_0$	$0.74 + 0.25$	$^3 P_0$	$2p^5 3s$	$^1 P_1^o$	947643	E1	3.002E-02	1.798E+10	0.97	

Continued...

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R				
$2p^5 3d^3 P_0^o$		$2p^5 3s^1 P_0^o$	0.62 + 0.38	$3P_1^o$	973306	M1	4.276E-09	2.702E+03	1.00		
$2p^5 3d^3 P_1^o$	0.85 + 0.15	$3D_1^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	990748	M1	3.192E-09	6.966E+02	1.00	
$2p^5 3d^3 P_1^o$	0.85 + 0.15	$3D_1^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	990748	E2	5.352E-08	1.168E+04	0.99	
$2p^5 3d^3 F_3^o$	0.59 + 0.34	$1F_3^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1019473	E2	4.923E-06	4.876E+05	0.99	
$2p^5 3d^3 P_2^o$	0.55 + 0.39	$3D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1023241	M1	3.735E-10	5.216E+01	1.00	
$2p^5 3d^3 P_2^o$	0.55 + 0.39	$3D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1023241	E2	4.981E-07	6.957E+04	0.99	
$2p^5 3d^1 D_2^o$	0.55 + 0.25	$3F_2^o + 0.14$	$3D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1046759	M1	3.970E-10	5.804E+01	1.00
$2p^5 3d^1 D_2^o$	0.55 + 0.25	$3F_2^o + 0.14$	$3D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1046759	E2	6.000E-06	8.771E+05	0.99
$2p^5 3d^3 D_3^o$	0.68 + 0.30	$1F_3^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1068899	E2	4.298E-06	4.679E+05	1.00	
$2p^5 3d^3 D_1^o$	0.50 + 0.43	$1P_1^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1151215	M1	2.849E-10	8.395E+01	1.00	
$2p^5 3d^3 D_1^o$	0.50 + 0.43	$1P_1^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1151215	E2	5.463E-06	1.610E+06	1.00	
$2p^5 3d^3 F_2^o$	0.70 + 0.24	$1D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1407330	M1	1.099E-10	2.903E+01	1.00	
$2p^5 3d^3 F_2^o$	0.70 + 0.24	$1D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1407330	E2	5.822E-09	1.538E+03	0.96	
$2p^5 3d^3 D_2^o$	0.43 + 0.38	$3P_2^o + 0.16$	$1D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1428325	M1	1.382E-09	3.763E+02	1.00
$2p^5 3d^3 D_2^o$	0.43 + 0.38	$3P_2^o + 0.16$	$1D_2^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1428325	E2	3.183E-09	8.662E+02	0.97
$2p^5 3d^3 F_3^o$	0.39 + 0.35	$1F_3^o + 0.25$	$3D_3^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1439290	E2	1.139E-08	2.248E+03	1.00
$2p^5 3d^1 P_1^o$	0.56 + 0.35	$3D_1^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1500653	M1	1.965E-09	9.838E+02	1.00	
$2p^5 3d^1 P_1^o$	0.56 + 0.35	$3D_1^o$	$2p^5 3s^1 P_1^o$	0.62 + 0.38	$3P_1^o$	1500653	E2	5.902E-07	2.955E+05	1.01	
$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	$2p^5 3s^3 P_0^o$		4807	E1	5.467E-06	2.809E+01	0.02		
$2p^5 3s^3 P_1^o$	0.62 + 0.38	$1P_1$	$2p^5 3s^3 P_0^o$		12650	M1	6.417E-07	2.283E+01	1.00		
$2p^5 3p^1 P_1$	0.58 + 0.19	$3S_1 + 0.16$	$3D_1$	$2p^5 3s^3 P_0^o$	114269	E1	2.438E-08	7.077E+01	0.09		
$2p^5 3p^3 D_1$	0.71 + 0.27	$1P_1$	$2p^5 3s^3 P_0^o$		411376	E1	7.684E-02	2.891E+09	0.98		
$2p^5 3p^3 P_1$	0.56 + 0.21	$3S_1 + 0.13$	$1P_1$	$2p^5 3s^3 P_0^o$	509300	E1	1.857E-01	1.071E+10	0.98		
$2p^5 3p^3 D_2$	0.46 + 0.35	$1D_2 + 0.18$	$3P_2$	$2p^5 3s^3 P_0^o$	518561	M2	6.023E-10	2.161E+01	1.00		
$2p^5 3d^3 P_1^o$	0.85 + 0.15	$3D_1^o$	$2p^5 3s^3 P_0^o$		623665	M1	8.283E-11	7.163E+00	1.00		
$2p^5 3d^3 P_2^o$	0.55 + 0.39	$3D_2^o$	$2p^5 3s^3 P_0^o$		656157	E2	1.052E-08	6.039E+02	1.00		
$2p^5 3d^1 D_2^o$	0.55 + 0.25	$3F_2^o + 0.14$	$3D_2^o$	$2p^5 3s^3 P_0^o$	679675	E2	9.288E-10	5.724E+01	0.95		
$2p^5 3d^3 D_1^o$	0.50 + 0.43	$1P_1^o$	$2p^5 3s^3 P_0^o$		784131	M1	2.338E-09	3.196E+02	1.00		
$2p^5 3d^3 F_2^o$	0.70 + 0.24	$1D_2^o$	$2p^5 3s^3 P_0^o$		1040247	E2	2.594E-06	3.745E+05	1.00		
$2p^5 3d^3 D_2^o$	0.43 + 0.38	$3P_2^o + 0.16$	$1D_2^o$	$2p^5 3s^3 P_0^o$	1061242	E2	4.105E-06	6.167E+05	1.00		
$2p^5 3d^1 P_1^o$	0.56 + 0.35	$3D_1^o$	$2p^5 3s^3 P_0^o$		1133569	M1	5.655E-09	1.616E+03	1.00		
$2p^5 3s^3 P_1^o$	0.62 + 0.38	$1P_1$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	7843	E1	1.235E-05	1.689E+02	4.53	
$2p^5 3p^3 D_2$	0.53 + 0.32	$1D_2 + 0.14$	$3P_2$	$2p^5 3p^3 S_1$	24805	M1	4.708E-07	3.865E+01	1.00		
$2p^5 3p^3 D_3$			$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	105259	E2	8.493E-09	8.966E+00	1.03	
$2p^5 3p^1 P_1$	0.58 + 0.19	$3S_1 + 0.16$	$3D_1$	$2p^5 3p^3 S_1$	109462	M1	2.262E-06	6.026E+03	1.00		
$2p^5 3p^1 P_1$	0.58 + 0.19	$3S_1 + 0.16$	$3D_1$	$2p^5 3p^3 S_1$	109462	E2	1.078E-10	2.871E-01	0.80		
$2p^5 3p^3 P_2$	0.67 + 0.33	$1D_2$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	141997	M1	3.588E-06	9.652E+03	1.00	
$2p^5 3p^3 P_2$	0.67 + 0.33	$1D_2$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	141997	E2	2.692E-09	7.240E+00	1.01	
$2p^5 3p^3 P_0$	0.74 + 0.25	$1S_0$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	256934	M1	5.647E-06	2.487E+05	1.00	
$2p^5 3p^3 D_1$	0.71 + 0.27	$1P_1$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	406568	M1	4.084E-06	1.501E+05	1.00	
$2p^5 3p^3 D_1$	0.71 + 0.27	$1P_1$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	406568	E2	4.691E-10	1.724E+01	0.69	
$2p^5 3p^3 P_1$	0.56 + 0.21	$3S_1 + 0.13$	$1P_1$	$2p^5 3p^3 S_1$	504493	M1	1.010E-06	5.715E+04	1.00		
$2p^5 3p^3 P_1$	0.56 + 0.21	$3S_1 + 0.13$	$1P_1$	$2p^5 3p^3 S_1$	504493	E2	1.524E-10	8.622E+00	1.50		
$2p^5 3p^3 D_2$	0.46 + 0.35	$1D_2 + 0.18$	$3P_2$	$2p^5 3p^3 S_1$	513754	M1	2.247E-07	7.912E+03	1.00		
$2p^5 3p^3 D_2$	0.46 + 0.35	$1D_2 + 0.18$	$3P_2$	$2p^5 3p^3 S_1$	513754	E2	4.491E-10	1.581E+01	1.48		
$2p^5 3p^1 S_0$	0.74 + 0.25	$3P_0$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	575752	M1	4.443E-06	9.824E+05	1.00	
$2p^5 3d^3 P_0^o$			$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	601415	E1	9.236E-02	2.228E+10	1.00	
$2p^5 3d^3 P_1^o$	0.85 + 0.15	$3D_1^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	618858	E1	2.160E-01	1.839E+10	1.00	
$2p^5 3d^3 P_1^o$	0.85 + 0.15	$3D_1^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	618858	M2	9.779E-11	8.328E+00	1.00	
$2p^5 3d^3 F_3^o$	0.59 + 0.34	$1F_3^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	647581	M2	5.934E-11	2.371E+00	1.00	
$2p^5 3d^3 P_2^o$	0.55 + 0.39	$3D_2^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	651350	E1	1.564E-01	8.854E+09	1.00	
$2p^5 3d^3 P_2^o$	0.55 + 0.39	$3D_2^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	651350	M2	1.852E-10	1.048E+01	1.00	
$2p^5 3d^1 D_2^o$	0.55 + 0.25	$3F_2^o + 0.14$	$3D_2^o$	$2p^5 3p^3 S_1$	674868	E1	3.355E-02	2.038E+09	1.00		
$2p^5 3d^1 D_2^o$	0.55 + 0.25	$3F_2^o + 0.14$	$3D_2^o$	$2p^5 3p^3 S_1$	674868	M2	3.539E-10	2.150E+01	1.00		
$2p^5 3d^3 D_3^o$	0.68 + 0.30	$1F_3^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	697007	M2	2.691E-11	1.246E+00	1.00	
$2p^5 3d^3 D_1^o$	0.50 + 0.43	$1P_1^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	779324	E1	1.133E-02	1.530E+09	1.00	
$2p^5 3d^3 D_1^o$	0.50 + 0.43	$1P_1^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	779324	M2	1.181E-09	1.595E+02	1.00	
$2p^5 3d^3 F_2^o$	0.70 + 0.24	$1D_2^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	1035440	E1	2.937E-04	4.200E+07	1.00	
$2p^5 3d^3 F_2^o$	0.70 + 0.24	$1D_2^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	1035440	M2	4.069E-12	5.819E-01	1.00	
$2p^5 3d^3 D_2^o$	0.43 + 0.38	$3P_2^o + 0.16$	$1D_2^o$	$2p^5 3p^3 S_1$	1056435	E1	4.804E-04	7.153E+07	0.97		
$2p^5 3d^3 D_2^o$	0.43 + 0.38	$3P_2^o + 0.16$	$1D_2^o$	$2p^5 3p^3 S_1$	1056435	M2	3.431E-11	5.108E+00	1.00		
$2p^5 3d^3 F_3^o$	0.39 + 0.35	$1F_3^o + 0.25$	$3D_3^o$	$2p^5 3p^3 S_1$	1067399	M2	1.658E-11	1.800E+01	1.00		
$2p^5 3d^1 P_1^o$	0.56 + 0.35	$3D_1^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	1128762	E1	7.719E-06	2.187E+06	0.76	
$2p^5 3d^1 P_1^o$	0.56 + 0.35	$3D_1^o$	$2p^5 3p^3 S_1$	0.57 + 0.37	$3P_1$	1128762	M2	1.977E-10	5.600E+01	1.00	
$2p^5 3p^3 D_2$	0.53 + 0.32	$1D_2 + 0.14$	$3P_2$	$2p^5 3s^3 P_1^o$	16962	E1	4.186E-07	1.607E+01	0.02		
$2p^5 3p^1 P_1$	0.58 + 0.19	$3S_1 + 0.16$	$3D_1$	$2p^5 3s^3 P_1^o$	101619	E1	5.864E-05	1.346E+05	0.66		
$2p^5 3p^3 P_2$	0.67 + 0.33	$1D_2$	$2p^5 3s^3 P_1^o$	0.62 + 0.38	$1P_1$	134154	E1	1.813E-04	4.353E+05	1.39	

Continued. . .

Table 3 (continued)

Upper		Lower		ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3p^3 P_0$	$0.74 + 0.25 \ ^1S_0$	$2p^5 3s^3 P_0^\circ$	$0.62 + 0.38 \ ^1P_1$	249091	E1	5.159E-03	2.135E+08	1.01
$2p^5 3p^3 D_1$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	398725	E1	1.429E-01	5.053E+09	0.98
$2p^5 3p^3 P_1$	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	496650	E1	8.854E-02	4.856E+09	0.98
$2p^5 3p^3 P_1$	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	496650	M2	7.739E-10	4.245E+01	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	505911	E1	4.754E-01	1.623E+10	0.99
$2p^5 3p^3 D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	505911	M2	8.360E-10	2.854E+01	1.00
$2p^5 3p^1 S_0$	$0.74 + 0.25 \ ^3P_0$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	567909	E1	1.023E-01	2.202E+10	0.96
$2p^5 3d^3 P_0^\circ$		$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	593572	M1	2.204E-11	5.180E+00	1.00
$2p^5 3d^3 P_1^\circ$	$0.85 + 0.15 \ ^3D_1^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	611015	M1	3.673E-10	3.049E+01	1.00
$2p^5 3d^3 P_1^\circ$	$0.85 + 0.15 \ ^3D_1^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	611015	E2	4.764E-09	3.954E+02	0.97
$2p^5 3d^3 F_3^\circ$	$0.59 + 0.34 \ ^1F_3^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	639738	E2	2.114E-10	8.243E+00	1.08
$2p^5 3d^3 P_2^\circ$	$0.55 + 0.39 \ ^3D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	643507	M1	6.482E-10	3.581E+01	1.00
$2p^5 3d^3 P_2^\circ$	$0.55 + 0.39 \ ^3D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	643507	E2	5.747E-09	3.175E+02	0.99
$2p^5 3d^1 D_2^\circ$	$0.55 + 0.25 \ ^3F_2^\circ + 0.14 \ ^3D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	667025	M1	8.144E-10	4.834E+01	1.00
$2p^5 3d^1 D_2^\circ$	$0.55 + 0.25 \ ^3F_2^\circ + 0.14 \ ^3D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	667025	E2	1.202E-09	7.133E+01	1.07
$2p^5 3d^3 D_3^\circ$	$0.68 + 0.30 \ ^1F_3^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	689164	E2	8.937E-09	4.045E+02	0.99
$2p^5 3d^3 D_1^\circ$	$0.50 + 0.43 \ ^1P_0^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	771481	M1	3.015E-09	3.989E+02	1.00
$2p^5 3d^3 D_1^\circ$	$0.50 + 0.43 \ ^1P_0^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	771481	E2	3.167E-08	4.192E+03	0.98
$2p^5 3d^3 F_2^\circ$	$0.70 + 0.24 \ ^1D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	1027596	E2	3.681E-06	5.186E+05	0.99
$2p^5 3d^3 D_2^\circ$	$0.43 + 0.38 \ ^3P_2^\circ + 0.16 \ ^1D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	1048591	M1	1.030E-08	1.511E+03	1.00
$2p^5 3d^3 D_2^\circ$	$0.43 + 0.38 \ ^3P_2^\circ + 0.16 \ ^1D_2^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	1048591	E2	2.661E-06	3.904E+05	1.00
$2p^5 3d^3 F_3^\circ$	$0.39 + 0.35 \ ^1F_3^\circ + 0.25 \ ^3D_3^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	1059556	E2	9.636E-06	1.031E+06	1.00
$2p^5 3d^1 P_1^\circ$	$0.56 + 0.35 \ ^3D_1^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	1120919	M1	1.496E-09	4.179E+02	1.00
$2p^5 3d^1 P_1^\circ$	$0.56 + 0.35 \ ^3D_1^\circ$	$2p^5 3s^3 P_1^\circ$	$0.62 + 0.38 \ ^1P_1$	1120919	E2	4.988E-06	1.393E+06	1.00
$2p^5 3p^3 D_3$		$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	80453	M1	8.087E-06	4.988E+03	1.00
$2p^5 3p^3 D_3$		$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	80453	E2	2.163E-09	1.334E+00	0.96
$2p^5 3p^1 P_1$	$0.58 + 0.19 \ ^3S_1 + 0.16 \ ^3D_1$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	84656	M1	2.016E-06	3.212E+03	1.00
$2p^5 3p^1 P_1$	$0.58 + 0.19 \ ^3S_1 + 0.16 \ ^3D_1$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	84656	E2	2.482E-09	3.956E+00	1.03
$2p^5 3p^3 P_2$	$0.67 + 0.33 \ ^1D_2$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	117191	M1	3.528E-06	6.464E+03	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33 \ ^1D_2$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	117191	E2	8.953E-09	1.640E+01	1.04
$2p^5 3p^3 P_0$	$0.74 + 0.25 \ ^1S_0$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	232129	E2	2.127E-08	7.646E+02	1.02
$2p^5 3p^3 D_1$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	381763	M1	2.597E-05	8.416E+05	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	381763	E2	7.627E-09	2.472E+02	1.06
$2p^5 3p^3 P_1$	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	479688	M1	7.147E-09	3.657E+02	1.00
$2p^5 3p^3 P_1$	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	479688	E2	9.629E-10	4.926E+01	1.20
$2p^5 3p^3 D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	488948	M1	2.950E-09	9.409E+01	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	488948	E2	1.348E-09	4.300E+01	1.18
$2p^5 3p^1 S_0$	$0.74 + 0.25 \ ^3P_0$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	550947	E2	1.123E-08	2.273E+03	0.93
$2p^5 3d^3 P_0^\circ$		$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	576609	M2	7.586E-12	1.682E+00	1.00
$2p^5 3d^3 P_0^\circ$	$0.85 + 0.15 \ ^3D_1^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	594052	E1	2.702E-02	2.120E+09	0.99
$2p^5 3d^3 P_0^\circ$	$0.85 + 0.15 \ ^3D_1^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	594052	M2	6.854E-11	5.378E+00	1.00
$2p^5 3d^3 F_3^\circ$	$0.59 + 0.34 \ ^1F_3^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	622776	E1	6.016E-01	2.223E+10	1.00
$2p^5 3d^3 F_3^\circ$	$0.59 + 0.34 \ ^1F_3^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	622776	M2	5.549E-11	2.051E+00	1.00
$2p^5 3d^3 F_4^\circ$		$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	624901	M2	1.036E-09	3.000E+01	1.00
$2p^5 3d^3 P_2^\circ$	$0.55 + 0.39 \ ^3D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	626544	E1	9.052E-02	4.740E+09	1.01
$2p^5 3d^3 P_2^\circ$	$0.55 + 0.39 \ ^3D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	626544	M2	1.836E-10	9.615E+00	1.00
$2p^5 3d^1 D_2^\circ$	$0.55 + 0.25 \ ^3F_2^\circ + 0.14 \ ^3D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	650062	E1	1.341E-01	7.562E+09	1.01
$2p^5 3d^1 D_2^\circ$	$0.55 + 0.25 \ ^3F_2^\circ + 0.14 \ ^3D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	650062	M2	7.646E-12	4.311E-01	1.00
$2p^5 3d^3 D_3^\circ$	$0.68 + 0.30 \ ^1F_3^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	672202	E1	1.595E-03	6.866E+07	1.03
$2p^5 3d^3 D_3^\circ$	$0.68 + 0.30 \ ^1F_3^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	672202	M2	5.466E-10	2.353E+01	1.00
$2p^5 3d^3 D_1^\circ$	$0.50 + 0.43 \ ^1P_0^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	754518	E1	7.658E-03	9.693E+08	0.99
$2p^5 3d^3 D_1^\circ$	$0.50 + 0.43 \ ^1P_0^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	754518	M2	4.903E-12	6.206E-01	1.00
$2p^5 3d^3 F_2^\circ$	$0.70 + 0.24 \ ^1D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	1010634	E1	3.948E-04	5.380E+07	1.05
$2p^5 3d^3 D_2^\circ$	$0.43 + 0.38 \ ^3P_2^\circ + 0.16 \ ^1D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	1031629	E1	1.270E-03	1.802E+08	0.99
$2p^5 3d^3 D_2^\circ$	$0.43 + 0.38 \ ^3P_2^\circ + 0.16 \ ^1D_2^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	1031629	M2	2.849E-11	4.045E+00	1.00
$2p^5 3d^3 F_3^\circ$	$0.39 + 0.35 \ ^1F_3^\circ + 0.25 \ ^3D_3^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	1042594	E1	1.376E-04	1.426E+07	1.03
$2p^5 3d^3 F_3^\circ$	$0.39 + 0.35 \ ^1F_3^\circ + 0.25 \ ^3D_3^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	1042594	M2	6.821E-12	7.065E-01	1.00
$2p^5 3d^1 P_1^\circ$	$0.56 + 0.35 \ ^3D_1^\circ$	$2p^5 3p^3 D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	1103956	E1	1.290E-03	3.495E+08	1.08
$2p^5 3p^3 P_2$	$0.67 + 0.33 \ ^1D_2$	$2p^5 3p^3 D_3$		36737	M1	1.024E-09	1.843E-01	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27 \ ^1P_1$	$2p^5 3p^3 D_3$		301309	E2	9.509E-11	1.919E+00	1.23
$2p^5 3p^3 P_1$	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	$2p^5 3p^3 D_3$		399234	E2	2.348E-08	8.321E+02	1.11
$2p^5 3p^3 D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	$2p^5 3p^3 D_3$		408494	M1	3.561E-05	7.927E+05	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	$2p^5 3p^3 D_3$		408494	E2	9.871E-09	2.197E+02	1.07
$2p^5 3d^3 P_0^\circ$	$0.85 + 0.15 \ ^3D_1^\circ$	$2p^5 3p^3 D_3$		513598	M2	2.613E-12	1.533E-01	1.00
$2p^5 3d^3 F_3^\circ$	$0.59 + 0.34 \ ^1F_3^\circ$	$2p^5 3p^3 D_3$		542322	E1	9.083E-02	2.546E+09	1.00
$2p^5 3d^3 F_4^\circ$		$2p^5 3p^3 D_3$		544447	E1	8.087E-01	1.777E+10	1.01
$2p^5 3d^3 F_4^\circ$		$2p^5 3p^3 D_3$		544447	M2	2.571E-09	5.648E+01	1.00

Continued...

Table 3 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	${}^3 D_2^o$	$2p^5 3p^3 D_3$	546090	E1	2.147E-02	8.539E+08	0.97
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	${}^3 D_2^o$	$2p^5 3p^3 D_3$	546090	M2	1.908E-10	7.589E+00	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3 F_2^o + 0.14$	${}^3 D_2^o$	569608	E1	3.292E-03	1.425E+08	1.02
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3 F_2^o + 0.14$	${}^3 D_2^o$	569608	M2	1.559E-10	6.750E+00	1.00
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	${}^1 F_3^o$	$2p^5 3p^3 D_3$	591748	E1	1.358E-01	4.529E+09	1.02
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	${}^1 F_3^o$	$2p^5 3p^3 D_3$	591748	M2	1.625E-09	5.421E+01	1.00
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	${}^1 P_1^o$	$2p^5 3p^3 D_3$	674064	M2	1.563E-11	1.579E+00	1.00
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	${}^1 D_2^o$	$2p^5 3p^3 D_3$	930180	E1	2.668E-06	3.080E+05	1.51
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	${}^1 D_2^o$	$2p^5 3p^3 D_3$	930180	M2	2.320E-12	2.678E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	${}^3 P_2^o + 0.16$	${}^1 D_2^o$	951175	E1	2.573E-03	3.105E+08	1.10
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	${}^3 P_2^o + 0.16$	${}^1 D_2^o$	951175	M2	6.577E-12	7.938E-01	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	${}^1 F_3^o + 0.25$	${}^3 D_3^o$	962139	E1	1.291E-03	1.139E+08	1.07
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	${}^1 F_3^o + 0.25$	${}^3 D_3^o$	962139	M2	3.063E-12	2.702E-01	1.00
$2p^5 3p^3 P_2$	$0.67 + 0.33$	${}^1 D_2$	$2p^5 3p^1 P_1$	32534	M1	1.753E-07	2.475E+01	1.00
$2p^5 3p^3 P_0$	$0.74 + 0.25$	${}^1 S_0$	$2p^5 3p^1 P_1$	147472	M1	5.767E-07	8.365E+03	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27$	${}^1 P_1$	$2p^5 3p^1 P_1$	297106	M1	7.375E-07	1.447E+04	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27$	${}^1 P_1$	$2p^5 3p^1 P_1$	297106	E2	3.395E-10	6.664E+00	1.10
$2p^5 3p^3 P_1$	$0.56 + 0.21$	${}^3 S_1 + 0.13$	${}^1 P_1$	395031	M1	1.228E-05	4.260E+05	1.00
$2p^5 3p^3 P_1$	$0.56 + 0.21$	${}^3 S_1 + 0.13$	${}^1 P_1$	395031	E2	7.299E-10	2.532E+01	1.04
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1 D_2 + 0.18$	${}^3 P_2$	404292	M1	2.515E-06	5.485E+04	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1 D_2 + 0.18$	${}^3 P_2$	404292	E2	1.045E-09	2.280E+01	0.80
$2p^5 3p^1 S_0$	$0.74 + 0.25$	${}^3 P_0$	$2p^5 3p^1 P_1$	466290	M1	7.020E-07	1.018E+05	1.00
$2p^5 3d^3 P_0^o$			$2p^5 3p^1 P_1$	491952	E1	8.339E-04	1.346E+08	1.00
$2p^5 3d^3 P_1^o$	$0.85 + 0.15$	${}^3 D_1^o$	$2p^5 3p^1 P_1$	509395	E1	4.881E-03	2.816E+08	0.97
$2p^5 3d^3 P_1^o$	$0.85 + 0.15$	${}^3 D_1^o$	$2p^5 3p^1 P_1$	509395	M2	6.979E-11	4.026E+00	1.00
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	${}^3 D_2^o$	$2p^5 3p^1 P_1$	541887	E1	3.828E-02	1.500E+09	1.01
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3 F_2^o + 0.14$	${}^3 D_2^o$	565406	E1	3.119E-01	1.330E+10	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3 F_2^o + 0.14$	${}^3 D_2^o$	565406	M2	2.887E-12	1.231E-01	1.00
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	${}^1 F_3^o$	$2p^5 3p^1 P_1$	587545	M2	1.537E-09	5.055E+01	1.00
$2p^5 3d^3 D_3^o$	$0.50 + 0.43$	${}^1 P_1^o$	$2p^5 3p^1 P_1$	669861	E1	1.391E-01	1.388E+10	1.00
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	${}^1 P_1^o$	$2p^5 3p^1 P_1$	669861	M2	6.319E-10	6.304E+01	1.00
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	${}^1 D_2^o$	$2p^5 3p^1 P_1$	925977	E1	1.102E-05	1.260E+06	1.06
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	${}^1 D_2^o$	$2p^5 3p^1 P_1$	925977	M2	1.254E-12	1.435E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	${}^3 P_2^o + 0.16$	${}^1 D_2^o$	946972	E1	4.573E-05	5.471E+06	1.05
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	${}^3 P_2^o + 0.16$	${}^1 D_2^o$	946972	M2	4.236E-11	5.068E+00	1.00
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	${}^3 D_1^o$	$2p^5 3p^1 P_1$	1019299	E1	7.551E-03	1.744E+09	0.97
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	${}^3 D_1^o$	$2p^5 3p^1 P_1$	1019299	M2	1.560E-10	3.604E+01	1.00
$2p^5 3p^3 P_0$	$0.74 + 0.25$	${}^1 S_0$	$2p^5 3p^3 P_2$	114937	E2	1.464E-09	1.290E+01	0.97
$2p^5 3p^3 D_1$	$0.71 + 0.27$	${}^1 P_1$	$2p^5 3p^3 P_2$	264571	M1	5.309E-09	8.263E+01	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27$	${}^1 P_1$	$2p^5 3p^3 P_2$	264571	E2	2.487E-10	3.871E+00	1.45
$2p^5 3p^3 P_1$	$0.56 + 0.21$	${}^3 S_1 + 0.13$	${}^1 P_1$	362496	M1	1.346E-05	3.933E+05	1.00
$2p^5 3p^3 P_1$	$0.56 + 0.21$	${}^3 S_1 + 0.13$	${}^1 P_1$	362496	E2	2.647E-09	7.735E+01	1.05
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1 D_2 + 0.18$	${}^3 P_2$	371757	M1	1.343E-05	2.477E+05	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1 D_2 + 0.18$	${}^3 P_2$	371757	E2	2.636E-09	4.860E+01	0.93
$2p^5 3p^1 S_0$	$0.74 + 0.25$	${}^3 P_0$	$2p^5 3p^3 P_2$	433755	E2	1.802E-08	2.262E+03	0.98
$2p^5 3d^3 P_0^o$	$0.85 + 0.15$	${}^3 D_0^o$	$2p^5 3p^3 P_2$	476860	E1	3.157E-02	1.596E+09	1.00
$2p^5 3d^3 P_1^o$	$0.85 + 0.15$	${}^3 D_1^o$	$2p^5 3p^3 P_2$	476860	M2	4.602E-11	2.327E+00	1.00
$2p^5 3d^3 F_3^o$	$0.59 + 0.34$	${}^1 F_3^o$	$2p^5 3p^3 P_2$	505584	E1	1.083E-02	2.638E+08	1.00
$2p^5 3d^3 F_3^o$			$2p^5 3p^3 P_2$	507709	M2	7.986E-10	1.526E+01	1.00
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	${}^3 D_2^o$	$2p^5 3p^3 P_2$	509352	E1	1.640E-01	5.676E+09	1.01
$2p^5 3d^3 P_2^o$	$0.55 + 0.39$	${}^3 D_2^o$	$2p^5 3p^3 P_2$	509352	M2	5.446E-10	1.885E+01	1.00
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3 F_2^o + 0.14$	${}^3 D_2^o$	532871	E1	1.458E-02	5.524E+08	1.02
$2p^5 3d^1 D_2^o$	$0.55 + 0.25$	${}^3 F_2^o + 0.14$	${}^3 D_2^o$	532871	M2	4.301E-10	1.629E+01	1.00
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	${}^1 F_3^o$	$2p^5 3p^3 P_2$	555010	E1	5.294E-01	1.554E+10	1.01
$2p^5 3d^3 D_3^o$	$0.68 + 0.30$	${}^1 F_3^o$	$2p^5 3p^3 P_2$	555010	M2	5.169E-10	1.517E+01	1.00
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	${}^1 P_1^o$	$2p^5 3p^3 P_2$	637327	E1	3.094E-04	2.794E+07	0.85
$2p^5 3d^3 D_1^o$	$0.50 + 0.43$	${}^1 P_1^o$	$2p^5 3p^3 P_2$	637327	M2	5.501E-10	4.968E+01	1.00
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	${}^1 D_2^o$	$2p^5 3p^3 P_2$	893442	E1	2.779E-04	2.959E+07	1.01
$2p^5 3d^3 F_2^o$	$0.70 + 0.24$	${}^1 D_2^o$	$2p^5 3p^3 P_2$	893442	M2	6.640E-12	7.071E-01	1.00
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	${}^3 P_2^o + 0.16$	${}^1 D_2^o$	914437	E1	4.821E-03	5.378E+08	1.02
$2p^5 3d^3 D_2^o$	$0.43 + 0.38$	${}^3 P_2^o + 0.16$	${}^1 D_2^o$	914437	M2	2.571E-11	2.868E+00	1.00
$2p^5 3d^3 F_3^o$	$0.39 + 0.35$	${}^1 F_3^o + 0.25$	${}^3 D_3^o$	925402	E1	1.103E-04	9.000E+06	1.02
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	${}^3 D_1^o$	$2p^5 3p^3 P_2$	986764	E1	1.147E-04	2.483E+07	0.82
$2p^5 3d^1 P_1^o$	$0.56 + 0.35$	${}^3 D_1^o$	$2p^5 3p^3 P_2$	986764	M2	1.783E-10	3.859E+01	1.00
$2p^5 3p^3 D_1$	$0.71 + 0.27$	${}^1 P_1$	$2p^5 3p^3 P_0$	149634	M1	3.781E-10	1.882E+00	1.00
$2p^5 3p^3 P_1$	$0.56 + 0.21$	${}^3 S_1 + 0.13$	${}^1 P_1$	247559	M1	8.262E-06	1.126E+05	1.00
$2p^5 3p^3 D_2$	$0.46 + 0.35$	${}^1 D_2 + 0.18$	${}^3 P_2$	256819	E2	1.155E-08	1.016E+02	0.95

Continued. . .

Table 3 (continued)

Upper	States	Lower	ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R
$2p^5 3s^3 P_2^o$		$2p^6 1S_0$	13301680	M2	2.190E-07	5.171E+06	1.00
$2p^5 3s^1 P_1^o$	0.62 + 0.37 $^3 P_1^o$	$2p^6 1S_0$	13327200	E1	1.323E-01	5.225E+12	0.99
$2p^5 3p^3 S_1$	0.55 + 0.38 $^3 P_1$	$2p^6 1S_0$	13715490	M1	2.636E-07	1.103E+07	1.00
$2p^5 3p^3 D_2$	0.53 + 0.32 $^1 D_2$ + 0.15 $^3 P_2$	$2p^6 1S_0$	13739840	E2	2.658E-04	6.694E+09	1.00
$2p^5 3s^3 P_1^o$	0.62 + 0.37 $^1 P_1$	$2p^6 1S_0$	13758830	E1	8.304E-02	3.495E+12	0.99
$2p^5 3p^1 P_1$	0.59 + 0.20 $^3 S_1$ + 0.15 $^3 D_1$	$2p^6 1S_0$	13836970	M1	1.336E-08	5.687E+05	1.00
$2p^5 3p^3 P_2$	0.67 + 0.33 $^1 D_2$	$2p^6 1S_0$	13871520	E2	2.609E-04	6.698E+09	1.00
$2p^5 3p^3 D_1$	0.71 + 0.26 $^1 P_1$	$2p^6 1S_0$	14173570	M1	8.404E-09	3.754E+05	1.00
$2p^5 3p^3 P_1$	0.56 + 0.22 $^3 S_1$ + 0.13 $^1 P_1$	$2p^6 1S_0$	14285020	M1	1.560E-07	7.080E+06	1.00
$2p^5 3p^3 D_2$	0.47 + 0.35 $^1 D_2$ + 0.18 $^3 P_2$	$2p^6 1S_0$	14294940	E2	2.783E-04	7.586E+09	1.00
$2p^5 3d^3 P_1^o$	0.84 + 0.15 $^3 D_1^o$	$2p^6 1S_0$	14366890	E1	5.928E-03	2.720E+11	1.01
$2p^5 3d^3 P_2^o$	0.53 + 0.42 $^3 D_2^o$	$2p^6 1S_0$	14401680	M2	3.741E-06	1.035E+08	1.00
$2p^5 3d^1 D_2^o$	0.58 + 0.24 $^3 F_2^o$ + 0.12 $^3 D_2^o$	$2p^6 1S_0$	14425700	M2	2.993E-06	8.309E+07	1.00
$2p^5 3d^3 D_1^o$	0.48 + 0.45 $^1 P_1^o$	$2p^6 1S_0$	14537290	E1	1.515E+00	7.120E+13	1.00
$2p^5 3d^3 F_2^o$	0.70 + 0.24 $^1 D_2^o$	$2p^6 1S_0$	14836250	M2	1.767E-07	5.188E+06	1.00
$2p^5 3d^3 D_2^o$	0.42 + 0.39 $^3 P_2^o$ + 0.16 $^1 D_2^o$	$2p^6 1S_0$	14860220	M2	8.395E-07	2.473E+07	1.00
$2p^5 3d^1 P_1^o$	0.54 + 0.37 $^3 D_1^o$	$2p^6 1S_0$	14932160	E1	1.804E+00	8.946E+13	1.00
$2p^5 3s^1 P_1^o$	0.62 + 0.37 $^3 P_1^o$	$2p^5 3s^3 P_2^o$	25525	M1	9.756E-07	1.413E+02	1.00
$2p^5 3p^3 S_1$	0.55 + 0.38 $^3 P_1$	$2p^5 3s^3 P_2^o$	413812	E1	2.012E-01	7.661E+09	0.96
$2p^5 3p^3 S_1$	0.55 + 0.38 $^3 P_1$	$2p^5 3s^3 P_2^o$	413812	M2	4.080E-11	1.553E+00	1.00
$2p^5 3p^3 D_2$	0.53 + 0.32 $^1 D_2$ + 0.15 $^3 P_2$	$2p^5 3s^3 P_2^o$	438161	E1	1.841E-01	4.715E+09	0.97
$2p^5 3s^3 P_0^o$		$2p^5 3s^3 P_2^o$	444169	E2	3.530E-09	4.645E+02	1.04
$2p^5 3s^3 P_1^o$	0.62 + 0.37 $^1 P_1$	$2p^5 3s^3 P_2^o$	457153	M1	2.867E-05	1.332E+06	1.00
$2p^5 3s^3 P_1^o$	0.62 + 0.37 $^1 P_1$	$2p^5 3s^3 P_2^o$	457153	E2	5.396E-09	2.507E+02	1.03
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	531627	E1	6.494E-01	1.749E+10	0.99
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	531627	M2	8.704E-10	2.344E+01	1.00
$2p^5 3p^1 P_1$	0.59 + 0.20 $^3 S_1$ + 0.15 $^3 D_1$	$2p^5 3s^3 P_2^o$	535296	E1	2.753E-03	1.754E+08	0.99
$2p^5 3p^1 P_1$	0.59 + 0.20 $^3 S_1$ + 0.15 $^3 D_1$	$2p^5 3s^3 P_2^o$	535296	M2	8.046E-10	5.126E+01	1.00
$2p^5 3p^3 P_2$	0.67 + 0.33 $^1 D_2$	$2p^5 3s^3 P_2^o$	569846	E1	2.641E-01	1.144E+10	0.98
$2p^5 3p^3 P_2$	0.67 + 0.33 $^1 D_2$	$2p^5 3s^3 P_2^o$	569846	M2	1.253E-09	5.430E+01	1.00
$2p^5 3p^3 P_0$	0.72 + 0.28 $^1 S_0$	$2p^5 3s^3 P_2^o$	693573	M2	5.932E-10	1.903E+02	1.00
$2p^5 3p^3 D_1$	0.71 + 0.26 $^1 P_1$	$2p^5 3s^3 P_2^o$	871893	E1	4.427E-04	7.482E+07	1.03
$2p^5 3p^3 D_1$	0.71 + 0.26 $^1 P_1$	$2p^5 3s^3 P_2^o$	871893	M2	9.909E-12	1.675E+00	1.00
$2p^5 3p^3 P_1$	0.56 + 0.22 $^3 S_1$ + 0.13 $^1 P_1$	$2p^5 3s^3 P_2^o$	983342	E1	7.312E-03	1.572E+09	0.98
$2p^5 3p^3 P_1$	0.56 + 0.22 $^3 S_1$ + 0.13 $^1 P_1$	$2p^5 3s^3 P_2^o$	983342	M2	6.707E-12	1.442E+00	1.00
$2p^5 3p^3 D_2$	0.47 + 0.35 $^1 D_2$ + 0.18 $^3 P_2$	$2p^5 3s^3 P_2^o$	993269	E1	8.801E-04	1.158E+08	0.91
$2p^5 3p^1 S_0$	0.72 + 0.28 $^3 P_0$	$2p^5 3s^3 P_2^o$	1044270	M2	3.942E-10	2.867E+02	1.00
$2p^5 3d^3 P_0^o$		$2p^5 3s^3 P_2^o$	1046514	E2	1.162E-06	8.492E+05	0.99
$2p^5 3d^3 P_1^o$	0.84 + 0.15 $^3 D_1^o$	$2p^5 3s^3 P_2^o$	1065212	M1	6.268E-09	1.581E+03	1.00
$2p^5 3d^3 P_1^o$	0.84 + 0.15 $^3 D_1^o$	$2p^5 3s^3 P_2^o$	1065212	E2	3.599E-06	9.080E+05	0.99
$2p^5 3d^3 F_3^o$	0.58 + 0.35 $^1 F_3^o$	$2p^5 3s^3 P_2^o$	1094457	M1	7.830E-11	8.937E+00	1.00
$2p^5 3d^3 F_3^o$	0.58 + 0.35 $^1 F_3^o$	$2p^5 3s^3 P_2^o$	1094457	E2	3.916E-06	4.470E+05	1.00
$2p^5 3d^3 F_4^o$		$2p^5 3s^3 P_2^o$	1098832	E2	1.200E-05	1.074E+06	0.99
$2p^5 3d^3 P_2^o$	0.53 + 0.42 $^3 D_2^o$	$2p^5 3s^3 P_2^o$	1100000	M1	3.644E-10	5.882E+01	1.00
$2p^5 3d^3 P_2^o$	0.53 + 0.42 $^3 D_2^o$	$2p^5 3s^3 P_2^o$	1100000	E2	6.272E-06	1.012E+06	1.00
$2p^5 3d^1 D_2^o$	0.58 + 0.24 $^3 F_2^o$ + 0.12 $^3 D_2^o$	$2p^5 3s^3 P_2^o$	1124028	M1	1.983E-10	3.343E+01	1.00
$2p^5 3d^1 D_2^o$	0.58 + 0.24 $^3 F_2^o$ + 0.12 $^3 D_2^o$	$2p^5 3s^3 P_2^o$	1124028	E2	3.728E-07	6.283E+04	1.00
$2p^5 3d^3 D_3^o$	0.68 + 0.30 $^1 F_3^o$	$2p^5 3s^3 P_2^o$	1148240	M1	2.145E-10	2.695E+01	1.00
$2p^5 3d^3 D_3^o$	0.68 + 0.30 $^1 F_3^o$	$2p^5 3s^3 P_2^o$	1148240	E2	6.037E-06	7.585E+05	1.00
$2p^5 3d^3 D_1^o$	0.48 + 0.45 $^1 P_1^o$	$2p^5 3s^3 P_2^o$	1235618	M1	1.438E-08	4.880E+03	1.00
$2p^5 3d^3 D_1^o$	0.48 + 0.45 $^1 P_1^o$	$2p^5 3s^3 P_2^o$	1235618	E2	7.488E-08	2.542E+04	1.00
$2p^5 3d^3 F_2^o$	0.70 + 0.24 $^1 D_2^o$	$2p^5 3s^3 P_2^o$	1534573	M1	3.148E-12	9.890E-01	1.00
$2p^5 3d^3 F_2^o$	0.70 + 0.24 $^1 D_2^o$	$2p^5 3s^3 P_2^o$	1534573	E2	2.620E-09	8.231E+02	1.03
$2p^5 3d^3 D_2^o$	0.42 + 0.39 $^3 P_2^o$ + 0.16 $^1 D_2^o$	$2p^5 3s^3 P_2^o$	1558544	M1	2.756E-10	8.932E+01	1.00
$2p^5 3d^3 D_2^o$	0.42 + 0.39 $^3 P_2^o$ + 0.16 $^1 D_2^o$	$2p^5 3s^3 P_2^o$	1558544	E2	1.242E-07	4.026E+04	1.01
$2p^5 3d^3 F_3^o$	0.40 + 0.35 $^1 F_3^o$ + 0.25 $^3 D_3^o$	$2p^5 3s^3 P_2^o$	1570207	M1	1.443E-10	3.390E+01	1.00
$2p^5 3d^3 F_3^o$	0.40 + 0.35 $^1 F_3^o$ + 0.25 $^3 D_3^o$	$2p^5 3s^3 P_2^o$	1570207	E2	5.339E-08	1.254E+04	1.01
$2p^5 3d^1 P_1^o$	0.54 + 0.37 $^3 D_1^o$	$2p^5 3s^3 P_2^o$	1630480	M1	2.128E-09	1.258E+03	1.00
$2p^5 3d^1 P_1^o$	0.54 + 0.37 $^3 D_1^o$	$2p^5 3s^3 P_2^o$	1630480	E2	3.274E-08	1.935E+04	1.01
$2p^5 3p^3 S_1$	0.55 + 0.38 $^3 P_1$	$2p^5 3s^1 P_1^o$	388286	E1	3.345E-03	1.121E+08	0.96
$2p^5 3p^3 D_2$	0.53 + 0.32 $^1 D_2$ + 0.15 $^3 P_2$	$2p^5 3s^1 P_1^o$	412636	E1	1.840E-01	4.178E+09	0.98
$2p^5 3s^3 P_0^o$		$2p^5 3s^1 P_1^o$	418643	M1	1.257E-05	1.470E+06	1.00
$2p^5 3s^3 P_0^o$	0.62 + 0.37 $^1 P_1$	$2p^5 3s^1 P_1^o$	431628	M1	6.085E-06	2.520E+05	1.00
$2p^5 3s^3 P_1^o$	0.62 + 0.37 $^1 P_1$	$2p^5 3s^1 P_1^o$	431628	E2	3.545E-09	1.468E+02	1.04
$2p^5 3p^3 D_3$		$2p^5 3s^1 P_1^o$	506102	M2	1.102E-09	2.690E+01	1.00
$2p^5 3p^1 P_1$	0.59 + 0.20 $^3 S_1$ + 0.15 $^3 D_1$	$2p^5 3s^1 P_1^o$	509770	E1	2.576E-01	1.489E+10	0.99
$2p^5 3p^1 P_1$	0.59 + 0.20 $^3 S_1$ + 0.15 $^3 D_1$	$2p^5 3s^1 P_1^o$	509770	M2	7.084E-11	4.093E+00	1.00

Continued...

Table 3 (continued)

Upper	States		ΔE (cm ⁻¹)	Type	gf	A (s ⁻¹)	R	
		Lower						
$2p^5 3d^3 D_2^o$	$0.42 + 0.39 {}^3P_2^o + 0.16 {}^1D_2^o$	$2p^5 3d^3 F_2^o$	$0.70 + 0.24 {}^1D_2^o$	23971	M1	1.240E-07	9.506E+00	1.00
$2p^5 3d^3 F_3^o$	$0.40 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$	$2p^5 3d^3 F_2^o$	$0.70 + 0.24 {}^1D_2^o$	35633	M1	3.613E-06	4.372E+02	1.00
$2p^5 3d^1 P_1^o$	$0.54 + 0.37 {}^3D_1^o$	$2p^5 3d^3 F_2^o$	$0.70 + 0.24 {}^1D_2^o$	95906	M1	1.711E-07	3.498E+02	1.00
$2p^5 3d^1 P_1^o$	$0.54 + 0.37 {}^3D_1^o$	$2p^5 3d^3 F_2^o$	$0.70 + 0.24 {}^1D_2^o$	95906	E2	1.115E-09	2.280E+00	1.08
$2p^5 3d^3 F_3^o$	$0.40 + 0.35 {}^1F_3^o + 0.25 {}^3D_3^o$	$2p^5 3d^3 D_2^o$	$0.42 + 0.39 {}^3P_2^o + 0.16 {}^1D_2^o$	11662	M1	4.621E-07	5.990E+00	1.00
$2p^5 3d^1 P_1^o$	$0.54 + 0.37 {}^3D_1^o$	$2p^5 3d^3 D_2^o$	$0.42 + 0.39 {}^3P_2^o + 0.16 {}^1D_2^o$	71935	M1	3.698E-06	4.254E+03	1.00
$2p^5 3d^1 P_1^o$	$0.54 + 0.37 {}^3D_1^o$	$2p^5 3d^3 D_2^o$	$0.42 + 0.39 {}^3P_2^o + 0.16 {}^1D_2^o$	71935	E2	3.215E-10	3.699E-01	1.08

Table 4

Comparison of transition data. See page 8 for Explanations of Tables.

Upper	States	Lower	ΔE (cm ⁻¹)	Type	A	A_{BP}	A_{CIV3}
S VII							
$2p^5 3s^3 P_2^o$		$2p^6 1S_0$	1371667	M2	7.638E+02	7.617E+02	
$2p^5 3s^3 P_1^o$	0.81 + 0.18 $1P_1^o$	$2p^6 1S_0$	1376084	E1	1.855E+10	1.816E+10	1.989E+10
$2p^5 3s^1 P_1^o$	0.81 + 0.18 $3P_1^o$	$2p^6 1S_0$	1388242	E1	8.421E+10	8.507E+10	8.777E+10
$2p^5 3p^3 D_2$	0.79 + 0.16 $1D_2$	$2p^6 1S_0$	1484530	E2	3.021E+06	2.964E+06	
$2p^5 3p^3 P_2$	0.56 + 0.42 $1D_2$	$2p^6 1S_0$	1492576	E2	8.028E+06	8.008E+06	
$2p^5 3d^3 P_1^o$		$2p^6 1S_0$	1624769	E1	2.160E+09	2.182E+09	2.312E+09
$2p^5 3d^3 P_2^o$		$2p^6 1S_0$	1627240	M2	1.710E+04	1.728E+04	
$2p^5 3d^3 D_1^o$		$2p^6 1S_0$	1644545	E1	6.122E+10	6.206E+10	6.230E+10
$2p^5 3d^1 P_1^o$		$2p^6 1S_0$	1662346	E1	9.452E+11	9.448E+11	9.087E+11
$2p^5 3s^3 P_1^o$	0.81 + 0.18 $1P_1^o$	$2p^5 3s^3 P_2^o$	4417	M1	1.587E+00	1.601E+00	
$2p^5 3s^1 P_1^o$	0.81 + 0.18 $3P_1^o$	$2p^5 3s^3 P_2^o$	16575	M1	1.849E+01	1.867E+01	
$2p^5 3p^3 S_1$		$2p^5 3s^3 P_2^o$	95373	E1	6.393E+08	6.504E+08	6.480E+08
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	111609	E1	1.566E+09	1.608E+09	1.594E+09
$2p^5 3p^3 D_2$	0.79 + 0.16 $1D_2$	$2p^5 3s^3 P_2^o$	112863	E1	6.439E+08	6.627E+08	6.418E+08
$2p^5 3p^3 D_1$	0.72 + 0.17 $1P_1$ + 0.11 $3P_1$	$2p^5 3s^3 P_2^o$	116432	E1	1.994E+08	2.060E+08	2.023E+08
$2p^5 3p^3 P_2$	0.56 + 0.42 $1D_2$	$2p^5 3s^3 P_2^o$	120909	E1	1.000E+09	1.031E+09	1.006E+09
$2p^5 3p^1 P_1$	0.55 + 0.27 $3D_1$ + 0.17 $3P_1$	$2p^5 3s^3 P_2^o$	124214	E1	7.124E+07	7.315E+07	6.807E+07
$2p^5 3p^1 D_2$	0.42 + 0.38 $3P_2$ + 0.19 $3D_2$	$2p^5 3s^3 P_2^o$	127448	E1	2.464E+08	2.501E+08	2.832E+08
$2p^5 3p^3 S_1$		$2p^5 3s^1 P_1^o$	78797	E1	1.188E+07	1.206E+07	1.253E+07
$2p^5 3p^3 D_2$	0.79 + 0.16 $1D_2$	$2p^5 3s^1 P_1^o$	96287	E1	6.945E+06	7.197E+06	5.508E+06
$2p^5 3p^3 D_1$	0.72 + 0.17 $1P_1$ + 0.11 $3P_1$	$2p^5 3s^1 P_1^o$	99856	E1	3.825E+06	4.290E+06	4.536E+06
$2p^5 3p^3 P_2$	0.56 + 0.42 $1D_2$	$2p^5 3s^1 P_1^o$	104333	E1	2.932E+08	2.977E+08	3.152E+08
$2p^5 3p^1 P_1$	0.55 + 0.27 $3D_1$ + 0.17 $3P_1$	$2p^5 3s^1 P_1^o$	107638	E1	7.415E+08	7.625E+08	7.557E+08
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	110460	E1	1.908E+08	1.974E+08	2.006E+08
$2p^5 3p^1 D_2$	0.42 + 0.38 $3P_2$ + 0.19 $3D_2$	$2p^5 3s^1 P_1^o$	110872	E1	1.206E+09	1.243E+09	1.199E+09
$2p^5 3p^3 P_1$	0.70 + 0.27 $1P_1$	$2p^5 3s^1 P_1^o$	112070	E1	7.082E+08	7.307E+08	7.000E+08
$2p^5 3p^3 P_1$	0.70 + 0.27 $1P_1$	$2p^5 3s^1 P_1^o$	112070	M2	1.139E-01	1.191E-01	
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	165149	E1	5.082E+09	5.118E+09	5.073E+09
$2p^5 3d^3 P_1^o$		$2p^5 3p^1 D_2$	125654	E1	1.229E+08	1.235E+08	1.323E+08
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 D_2$	128125	E1	3.010E+08	3.017E+08	3.358E+08
$2p^5 3d^3 P_2^o$		$2p^5 3p^1 D_2$	128125	M2	1.161E-01	1.175E-01	
$2p^5 3d^3 F_3^o$	0.77 + 0.20 $1F_3^o$	$2p^5 3p^1 D_2$	132832	E1	1.471E+06	1.472E+06	1.078E+06
$2p^5 3d^3 F_2^o$	0.71 + 0.17 $1D_2^o$ + 0.11 $3D_2^o$	$2p^5 3p^1 D_2$	136157	E1	1.190E+06	1.370E+06	1.643E+06
$2p^5 3d^1 F_3^o$	0.53 + 0.40 $3D_3^o$	$2p^5 3p^1 D_2$	138763	E1	1.511E+08	1.519E+08	1.131E+08
$2p^5 3d^3 D_1^o$		$2p^5 3p^1 D_2$	145430	E1	3.071E+06	3.159E+06	1.717E+06
$2p^5 3d^1 D_2^o$	0.52 + 0.28 $3F_2^o$ + 0.19 $3D_2^o$	$2p^5 3p^1 D_2$	145447	E1	6.172E+08	6.286E+08	6.276E+08
$2p^5 3d^3 D_3^o$	0.57 + 0.27 $1F_3^o$ + 0.16 $3F_3^o$	$2p^5 3p^1 D_2$	146716	E1	4.030E+09	4.093E+09	4.183E+09
$2p^5 3d^3 D_3^o$	0.57 + 0.27 $1F_3^o$ + 0.16 $3F_3^o$	$2p^5 3p^1 D_2$	146716	M2	1.029E+00	1.054E+00	
$2p^5 3d^3 D_2^o$	0.65 + 0.27 $1D_2^o$	$2p^5 3p^1 D_2$	147358	E1	1.521E+08	1.531E+08	1.489E+08
$2p^5 3d^1 P_1^o$		$2p^5 3p^1 D_2$	163231	E1	4.854E+07	4.851E+07	5.550E+07
Fe XVII							
$2p^5 3s^1 P_1^o$	0.54 + 0.45 $3P_1^o$	$2p^6 1S_0$	5864469	E1	9.320E+11		9.317E+11
$2p^5 3s^3 P_1^o$	0.54 + 0.45 $1P_1^o$	$2p^6 1S_0$	5960633	E1	8.006E+11		8.020E+11
$2p^5 3d^3 P_1^o$		$2p^6 1S_0$	6471519	E1	9.185E+10		9.880E+10
$2p^5 3d^3 D_1^o$	0.74 + 0.20 $1P_1^o$	$2p^6 1S_0$	6552697	E1	6.079E+12		5.770E+12
$2p^5 3d^1 P_1^o$	0.78 + 0.18 $3D_1^o$	$2p^6 1S_0$	6661101	E1	2.238E+13		2.324E+13
$2p^5 3p^3 S_1$	0.80 + 0.17 $3P_1$	$2p^5 3s^3 P_2^o$	244464	E1	3.324E+09		3.299E+09
$2p^5 3p^3 D_2$	0.58 + 0.30 $1D_2$ + 0.12 $3P_2$	$2p^5 3s^3 P_2^o$	272661	E1	2.475E+09		2.528E+09
$2p^5 3p^3 D_3$		$2p^5 3s^3 P_2^o$	285685	E1	6.180E+09		6.274E+09
$2p^5 3p^1 P_1$	0.51 + 0.25 $3D_1$ + 0.19 $3P_1$	$2p^5 3s^3 P_2^o$	294789	E1	3.321E+08		3.737E+08
$2p^5 3p^3 P_2$	0.67 + 0.32 $1D_2$	$2p^5 3s^3 P_2^o$	309372	E1	4.321E+09		4.418E+09
$2p^5 3p^3 D_1$	0.67 + 0.31 $1P_1$	$2p^5 3s^3 P_2^o$	370077	E1	1.288E+07		1.305E+07
$2p^5 3p^3 P_1$	0.63 + 0.17 $1P_1$ + 0.13 $3S_1$	$2p^5 3s^3 P_2^o$	396238	E1	8.187E+08		8.933E+08
$2p^5 3p^3 D_2$	0.41 + 0.38 $1D_2$ + 0.21 $3P_2$	$2p^5 3s^3 P_2^o$	399281	E1	1.075E+08		1.193E+08
$2p^5 3p^3 S_1$	0.80 + 0.17 $3P_1$	$2p^5 3s^1 P_1^o$	229103	E1	1.216E+08		1.316E+08
$2p^5 3p^3 D_2$	0.58 + 0.30 $1D_2$ + 0.12 $3P_2$	$2p^5 3s^1 P_1^o$	257300	E1	2.441E+09		2.526E+09
$2p^5 3p^1 P_1$	0.51 + 0.25 $3D_1$ + 0.19 $3P_1$	$2p^5 3s^1 P_1^o$	279428	E1	5.462E+09		5.517E+09
$2p^5 3p^3 P_2$	0.67 + 0.32 $1D_2$	$2p^5 3s^1 P_1^o$	294012	E1	3.128E+09		3.144E+09
$2p^5 3p^3 P_0$		$2p^5 3s^1 P_1^o$	338072	E1	7.725E+09		7.870E+09
$2p^5 3p^3 D_1$	0.67 + 0.31 $1P_1$	$2p^5 3s^1 P_1^o$	354716	E1	3.244E+07		3.730E+07
$2p^5 3p^3 P_1$	0.63 + 0.17 $1P_1$ + 0.13 $3S_1$	$2p^5 3s^1 P_1^o$	380877	E1	2.819E+06		3.148E+06
$2p^5 3p^3 D_2$	0.41 + 0.38 $1D_2$ + 0.21 $3P_2$	$2p^5 3s^1 P_1^o$	383920	E1	8.037E+07		8.454E+07
$2p^5 3p^1 S_0$		$2p^5 3s^1 P_1^o$	489136	E1	1.112E+10		1.202E+10
$2p^5 3d^3 P_1^o$		$2p^5 3p^3 D_2$	223129	E1	2.503E+07		2.707E+07

Continued. . .

Table 4 (continued)

Upper		States	Lower	ΔE (cm ⁻¹)	Type	A	A_{BP}	A_{CIV3}			
$2p^5 3d^3 P_2^o$	$0.72 + 0.18$	3D_2	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	237776	E1	3.829E+07	4.080E+07	
$2p^5 3d^3 F_3^o$	$0.65 + 0.29$	${}^1F_3^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	244299	E1	2.801E+06	3.639E+06	
$2p^5 3d^1 D_2^o$	$0.41 + 0.35$	${}^3F_2^o + 0.24$	${}^3D_2^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	258171	E1	3.019E+04	2.566E+04
$2p^5 3d^3 D_3^o$	$0.64 + 0.34$	${}^1F_3^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	266886	E1	8.911E+06	8.820E+06	
$2p^5 3d^3 D_1^o$	$0.74 + 0.20$	${}^1P_1^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	304307	E1	5.981E+07	6.367E+07	
$2p^5 3d^3 F_2^o$	$0.63 + 0.29$	${}^1D_2^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	345870	E1	1.420E+09	1.425E+09	
$2p^5 3d^3 D_2^o$	$0.50 + 0.27$	${}^3P_2^o + 0.21$	${}^1D_2^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	352465	E1	1.100E+09	1.123E+09
$2p^5 3d^1 F_3^o$	$0.37 + 0.33$	${}^3F_3^o + 0.30$	${}^3D_3^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	356688	E1	1.145E+10	1.168E+10
$2p^5 3d^1 P_1^o$	$0.78 + 0.18$	${}^3D_1^o$	$2p^5 3p^3 D_2$	$0.41 + 0.38$	${}^1D_2 + 0.21$	3P_2	412711	E1	2.003E+08	2.003E+08	

Table 5
Lifetimes in s. See page 9 for Explanation of Tables.

State	τ (s)
Mg III	
$2p^5 3s \ ^3P_2^o$	0.1311E+00
$2p^5 3s \ ^3P_1^o$	0.2062E-08
$2p^5 3s \ ^3P_0^o$	0.1792E+02
$2p^5 3s \ ^1P_1^o$	0.1104E-09
$2p^5 3p \ ^3S_1$	0.3759E-08
$2p^5 3p \ ^3D_3$	0.2345E-08
$2p^5 3p \ ^3D_2$	0.2376E-08
$2p^5 3p \ ^3D_1$	0.2360E-08
$2p^5 3p \ ^1D_2$ 0.61 + 0.35 3P_2	0.2303E-08
$2p^5 3p \ ^1P_1$ 0.65 + 0.24 3P_1	0.2313E-08
$2p^5 3p \ ^3P_2$ 0.62 + 0.29 1D_2	0.2079E-08
$2p^5 3p \ ^3P_0$	0.1894E-08
$2p^5 3p \ ^3P_1$ 0.70 + 0.27 1P_1	0.2045E-08
$2p^5 3p \ ^1S_0$	0.8633E-09
$2p^5 3d \ ^3P_0^o$	0.8439E-09
$2p^5 3d \ ^3P_1^o$	0.7289E-09
$2p^5 3d \ ^3P_2^o$	0.8543E-09
$2p^5 3d \ ^3F_4^o$	0.8774E-09
$2p^5 3d \ ^3F_3^o$ 0.63 + 0.35 $^1F_3^o$	0.9017E-09
$2p^5 3d \ ^3F_2^o$ 0.69 + 0.19 $^1D_2^o$ + 0.11 $^3D_2^o$	0.8801E-09
$2p^5 3d \ ^1F_3^o$ 0.45 + 0.34 $^3D_3^o$ + 0.20 $^3F_3^o$	0.9175E-09
$2p^5 3d \ ^3D_1^o$ 0.66 + 0.32 $^1P_1^o$	0.7625E-10
$2p^5 3d \ ^1D_2^o$ 0.50 + 0.30 $^3F_2^o$ + 0.19 $^3D_2^o$	0.8929E-09
$2p^5 3d \ ^3D_3^o$ 0.64 + 0.18 $^1F_3^o$ + 0.16 $^3F_3^o$	0.8944E-09
$2p^5 3d \ ^3D_2^o$ 0.64 + 0.27 $^1D_2^o$	0.8879E-09
$2p^5 3d \ ^1P_1^o$ 0.65 + 0.31 $^3D_1^o$	0.5068E-10
Al IV	
$2p^5 3s \ ^3P_2^o$	0.2978E-01
$2p^5 3s \ ^3P_1^o$	0.7006E-09
$2p^5 3s \ ^3P_0^o$	0.4685E+01
$2p^5 3s \ ^1P_1^o$	0.5189E-10
$2p^5 3p \ ^3S_1$	0.2482E-08
$2p^5 3p \ ^3D_3$	0.1479E-08
$2p^5 3p \ ^3D_2$	0.1504E-08
$2p^5 3p \ ^3D_1$	0.1490E-08
$2p^5 3p \ ^1D_2$ 0.56 + 0.41 3P_2	0.1397E-08
$2p^5 3p \ ^1P_1$ 0.65 + 0.23 3P_1 + 0.11 3D_1	0.1452E-08
$2p^5 3p \ ^3P_2$ 0.56 + 0.33 1D_2	0.1313E-08
$2p^5 3p \ ^3P_0$	0.1173E-08
$2p^5 3p \ ^3P_1$ 0.71 + 0.27 1P_1	0.1267E-08
$2p^5 3p \ ^1S_0$	0.4742E-09
$2p^5 3d \ ^3P_0^o$	0.5023E-09
$2p^5 3d \ ^3P_1^o$	0.4274E-09
$2p^5 3d \ ^3P_2^o$	0.5074E-09
$2p^5 3d \ ^3F_4^o$	0.5117E-09
$2p^5 3d \ ^3F_3^o$ 0.71 + 0.26 $^1F_3^o$	0.5174E-09
$2p^5 3d \ ^3F_2^o$ 0.75 + 0.15 $^1D_2^o$	0.5070E-09
$2p^5 3d \ ^1F_3^o$ 0.55 + 0.30 $^3D_3^o$ + 0.14 $^3F_3^o$	0.5299E-09
$2p^5 3d \ ^3D_1^o$ 0.86 + 0.12 $^1P_1^o$	0.5446E-10
$2p^5 3d \ ^1D_2^o$ 0.56 + 0.23 $^3F_2^o$ + 0.19 $^3D_2^o$	0.5073E-09
$2p^5 3d \ ^3D_3^o$ 0.68 + 0.18 $^1F_3^o$ + 0.13 $^3F_3^o$	0.5068E-09
$2p^5 3d \ ^3D_2^o$ 0.67 + 0.26 $^1D_2^o$	0.5019E-09
$2p^5 3d \ ^1P_1^o$ 0.87 + 0.11 $^3D_1^o$	0.1085E-10
Si V	
$2p^5 3s \ ^3P_2^o$	0.8906E-02
$2p^5 3s \ ^3P_1^o$	0.2672E-09
$2p^5 3s \ ^3P_0^o$	0.1311E+01
$2p^5 3s \ ^1P_1^o$	0.2869E-10
$2p^5 3p \ ^3S_1$	0.1816E-08
$2p^5 3p \ ^3D_3$	0.1051E-08
$2p^5 3p \ ^3D_2$ 0.85 + 0.11 1D_2	0.1074E-08
$2p^5 3p \ ^3D_1$	0.1059E-08
$2p^5 3p \ ^1D_2$ 0.51 + 0.47 3P_2	0.9581E-09
$2p^5 3p \ ^1P_1$ 0.63 + 0.22 3P_1 + 0.14 3D_1	0.1032E-08
$2p^5 3p \ ^3P_2$ 0.49 + 0.37 1D_2 + 0.13 3D_2	0.9408E-09

Continued. . .

Table 5 (continued)

State	τ (s)
$2p^5 3p \ ^3P_0$	0.8235E-09
$2p^5 3p \ ^3P_1$ 0.71 + 0.27 1P_1	0.8910E-09
$2p^5 3p \ ^1S_0$	0.3062E-09
$2p^5 3d \ ^3P_0^o$	0.3604E-09
$2p^5 3d \ ^3P_1^o$	0.2918E-09
$2p^5 3d \ ^3P_2^o$	0.3643E-09
$2p^5 3d \ ^3F_2^o$	0.3620E-09
$2p^5 3d \ ^3F_3^o$ 0.76 + 0.22 $^1F_3^o$	0.3620E-09
$2p^5 3d \ ^3F_2^o$ 0.76 + 0.14 $^1D_2^o$	0.3554E-09
$2p^5 3d \ ^1F_3^o$ 0.57 + 0.31 $^3D_3^o$ + 0.10 $^3F_3^o$	0.3686E-09
$2p^5 3d \ ^1D_2^o$ 0.57 + 0.23 $^3F_2^o$ + 0.20 $^3D_2^o$	0.3504E-09
$2p^5 3d \ ^3D_1^o$	0.3867E-10
$2p^5 3d \ ^3D_3^o$ 0.66 + 0.20 $^1F_3^o$ + 0.13 $^3F_3^o$	0.3512E-09
$2p^5 3d \ ^3D_2^o$ 0.67 + 0.25 $^1D_2^o$	0.3464E-09
$2p^5 3d \ ^1P_1^o$	0.4053E-11
P VI	
$2p^5 3s \ ^3P_2^o$	0.3198E-02
$2p^5 3s \ ^3P_1^o$ 0.86 + 0.13 $^1P_1^o$	0.1139E-09
$2p^5 3s \ ^3P_0^o$	0.3969E+00
$2p^5 3s \ ^1P_1^o$ 0.86 + 0.13 $^3P_1^o$	0.1772E-10
$2p^5 3p \ ^3S_1$	0.1411E-08
$2p^5 3p \ ^3D_3$	0.8008E-09
$2p^5 3p \ ^3D_2$ 0.82 + 0.13 1D_2	0.8229E-09
$2p^5 3p \ ^3D_1$ 0.79 + 0.12 1P_1	0.8056E-09
$2p^5 3p \ ^3P_2$ 0.52 + 0.46 1D_2	0.7092E-09
$2p^5 3p \ ^1P_1$ 0.60 + 0.20 3D_1 + 0.20 3P_1	0.7914E-09
$2p^5 3p \ ^3P_2$ 0.43 + 0.40 1D_2 + 0.16 3D_2	0.7240E-09
$2p^5 3p \ ^3P_0$	0.6227E-09
$2p^5 3p \ ^3P_1$ 0.70 + 0.27 1P_1	0.6753E-09
$2p^5 3p \ ^1S_0$	0.2180E-09
$2p^5 3d \ ^3P_0^o$	0.2843E-09
$2p^5 3d \ ^3P_1^o$	0.2121E-09
$2p^5 3d \ ^3P_2^o$	0.2876E-09
$2p^5 3d \ ^3F_4^o$	0.2830E-09
$2p^5 3d \ ^3F_3^o$ 0.77 + 0.20 $^1F_3^o$	0.2805E-09
$2p^5 3d \ ^3F_2^o$ 0.74 + 0.15 $^1D_2^o$	0.2752E-09
$2p^5 3d \ ^1F_3^o$ 0.56 + 0.35 $^3D_3^o$	0.2827E-09
$2p^5 3d \ ^1D_2^o$ 0.55 + 0.25 $^3F_2^o$ + 0.20 $^3D_2^o$	0.2687E-09
$2p^5 3d \ ^3D_1^o$	0.2486E-10
$2p^5 3d \ ^3D_3^o$ 0.62 + 0.23 $^1F_3^o$ + 0.14 $^3F_3^o$	0.2710E-09
$2p^5 3d \ ^3D_2^o$ 0.67 + 0.26 $^1D_2^o$	0.2659E-09
$2p^5 3d \ ^1P_1^o$	0.1927E-11
S VII	
$2p^5 3s \ ^3P_2^o$	0.1309E-02
$2p^5 3s \ ^3P_1^o$ 0.81 + 0.18 $^1P_1^o$	0.5391E-10
$2p^5 3s \ ^3P_0^o$	0.1304E+00
$2p^5 3s \ ^1P_1^o$ 0.81 + 0.18 $^3P_1^o$	0.1187E-10
$2p^5 3p \ ^3S_1$	0.1140E-08
$2p^5 3p \ ^3D_3$	0.6386E-09
$2p^5 3p \ ^3D_2$ 0.79 + 0.16 1D_2	0.6609E-09
$2p^5 3p \ ^3D_1$ 0.72 + 0.17 1P_1 + 0.11 3P_1	0.6409E-09
$2p^5 3p \ ^3P_2$ 0.56 + 0.42 1D_2	0.5529E-09
$2p^5 3p \ ^1P_1$ 0.55 + 0.27 3D_1 + 0.17 3P_1	0.6390E-09
$2p^5 3p \ ^3P_0$	0.4940E-09
$2p^5 3p \ ^1D_2$ 0.42 + 0.38 3P_2 + 0.19 3D_2	0.5821E-09
$2p^5 3p \ ^3P_1$ 0.70 + 0.27 1P_1	0.5372E-09
$2p^5 3p \ ^1S_0$	0.1657E-09
$2p^5 3d \ ^3P_0^o$	0.2366E-09
$2p^5 3d \ ^3P_1^o$	0.1573E-09
$2p^5 3d \ ^3P_2^o$	0.2396E-09
$2p^5 3d \ ^3F_4^o$	0.2343E-09
$2p^5 3d \ ^3F_3^o$ 0.77 + 0.20 $^1F_3^o$	0.2303E-09
$2p^5 3d \ ^3F_2^o$ 0.71 + 0.17 $^1D_2^o$ + 0.11 $^3D_2^o$	0.2254E-09
$2p^5 3d \ ^1F_3^o$ 0.53 + 0.40 $^3D_3^o$	0.2296E-09
$2p^5 3d \ ^3D_1^o$	0.1517E-10
$2p^5 3d \ ^1D_2^o$ 0.52 + 0.28 $^3F_2^o$ + 0.19 $^3D_2^o$	0.2191E-09
$2p^5 3d \ ^3D_3^o$ 0.57 + 0.27 $^1F_3^o$ + 0.16 $^3F_3^o$	0.2226E-09
$2p^5 3d \ ^3D_2^o$ 0.65 + 0.27 $^1D_2^o$	0.2173E-09

Continued...

Table 5 (continued)

State	τ (s)
$2p^5 3d^1 P_1^o$	0.1053E-11
Cl VIII	
$2p^5 3s^3 P_2^o$	0.5921E-03
$2p^5 3s^3 P_1^o$ 0.76 + 0.23 $^1 P_1^o$	0.2812E-10
$2p^5 3s^3 P_0^o$	0.4642E-01
$2p^5 3s^1 P_1^o$ 0.76 + 0.23 $^3 P_1^o$	0.8466E-11
$2p^5 3p^3 S_1$	0.9462E-09
$2p^5 3p^3 D_3$	0.5255E-09
$2p^5 3p^3 D_2$ 0.76 + 0.18 $^1 D_2$	0.5483E-09
$2p^5 3p^3 D_1$ 0.64 + 0.22 $^1 P_1$ + 0.14 $^3 P_1$	0.5261E-09
$2p^5 3p^3 P_2$ 0.60 + 0.39 $^1 D_2$	0.4470E-09
$2p^5 3p^1 P_1$ 0.51 + 0.35 $^3 D_1$ + 0.14 $^3 P_1$	0.5350E-09
$2p^5 3p^3 P_0$	0.4051E-09
$2p^5 3p^1 D_2$ 0.43 + 0.34 $^3 P_2$ + 0.23 $^3 D_2$	0.4817E-09
$2p^5 3p^3 P_1$ 0.69 + 0.26 $^1 P_1$	0.4420E-09
$2p^5 3p^1 S_0$	0.1317E-09
$2p^5 3d^3 P_0^o$	0.2035E-09
$2p^5 3d^3 P_1^o$	0.1168E-09
$2p^5 3d^3 P_2^o$	0.2063E-09
$2p^5 3d^3 F_4^o$	0.2012E-09
$2p^5 3d^3 F_3^o$ 0.76 + 0.20 $^1 F_3^o$	0.1960E-09
$2p^5 3d^3 F_2^o$ 0.67 + 0.20 $^1 D_2^o$ + 0.13 $^3 D_2^o$	0.1911E-09
$2p^5 3d^1 F_3^o$ 0.49 + 0.45 $^3 D_3^o$	0.1938E-09
$2p^5 3d^3 D_1^o$	0.9054E-11
$2p^5 3d^1 D_2^o$ 0.49 + 0.32 $^3 F_2^o$ + 0.18 $^3 D_2^o$	0.1858E-09
$2p^5 3d^3 D_3^o$ 0.52 + 0.30 $^1 F_3^o$ + 0.18 $^3 F_3^o$	0.1903E-09
$2p^5 3d^3 D_2^o$ 0.63 + 0.27 $^1 D_2^o$	0.1849E-09
$2p^5 3d^1 P_1^o$	0.6326E-12
Ar IX	
$2p^5 3s^3 P_2^o$	0.2896E-03
$2p^5 3s^3 P_1^o$ 0.71 + 0.28 $^1 P_1^o$	0.1599E-10
$2p^5 3s^3 P_0^o$	0.1785E-01
$2p^5 3s^1 P_1^o$ 0.71 + 0.28 $^3 P_1^o$	0.6325E-11
$2p^5 3p^3 S_1$	0.7999E-09
$2p^5 3p^3 D_3$	0.4425E-09
$2p^5 3p^3 D_2$ 0.73 + 0.20 $^1 D_2$	0.4658E-09
$2p^5 3p^3 D_1$ 0.56 + 0.27 $^1 P_1$ + 0.16 $^3 P_1$	0.4422E-09
$2p^5 3p^3 P_2$ 0.62 + 0.37 $^1 D_2$	0.3711E-09
$2p^5 3p^1 P_1$ 0.46 + 0.42 $^3 D_1$ + 0.11 $^3 P_1$	0.4598E-09
$2p^5 3p^3 P_0$	0.3401E-09
$2p^5 3p^1 D_2$ 0.42 + 0.31 $^3 P_2$ + 0.26 $^3 D_2$	0.4067E-09
$2p^5 3p^3 P_1$ 0.69 + 0.26 $^1 P_1$	0.3726E-09
$2p^5 3p^1 S_0$	0.1083E-09
$2p^5 3d^3 P_0^o$	0.1790E-09
$2p^5 3d^3 P_1^o$	0.8624E-10
$2p^5 3d^3 P_2^o$	0.1816E-09
$2p^5 3d^3 F_4^o$	0.1769E-09
$2p^5 3d^3 F_3^o$ 0.75 + 0.21 $^1 F_3^o$	0.1708E-09
$2p^5 3d^3 F_2^o$ 0.62 + 0.23 $^1 D_2^o$ + 0.15 $^3 D_2^o$	0.1658E-09
$2p^5 3d^3 D_3^o$ 0.49 + 0.46 $^1 F_3^o$	0.1679E-09
$2p^5 3d^3 D_1^o$	0.5389E-11
$2p^5 3d^1 D_2^o$ 0.45 + 0.37 $^3 F_2^o$ + 0.17 $^3 D_2^o$	0.1619E-09
$2p^5 3d^3 D_3^o$ 0.48 + 0.32 $^1 F_3^o$ + 0.20 $^3 F_3^o$	0.1669E-09
$2p^5 3d^3 D_2^o$ 0.62 + 0.27 $^1 D_2^o$ + 0.10 $^3 P_2^o$	0.1616E-09
$2p^5 3d^1 P_1^o$	0.4070E-12
K X	
$2p^5 3s^3 P_2^o$	0.1509E-03
$2p^5 3s^3 P_1^o$ 0.66 + 0.33 $^1 P_1^o$	0.9791E-11
$2p^5 3s^3 P_0^o$	0.7375E-02
$2p^5 3s^1 P_1^o$ 0.66 + 0.33 $^3 P_1^o$	0.4891E-11
$2p^5 3p^3 S_1$	0.6856E-09
$2p^5 3p^3 D_3$	0.3789E-09
$2p^5 3p^3 D_2$ 0.70 + 0.22 $^1 D_2$	0.4027E-09
$2p^5 3p^3 D_1$ 0.49 + 0.32 $^1 P_1$ + 0.19 $^3 P_1$	0.3789E-09
$2p^5 3p^3 P_2$ 0.64 + 0.35 $^1 D_2$	0.3141E-09
$2p^5 3p^3 D_1$ 0.49 + 0.43 $^1 P_1$	0.4028E-09
$2p^5 3p^3 P_0$	0.2903E-09
$2p^5 3p^1 D_2$ 0.42 + 0.29 $^3 P_2$ + 0.29 $^3 D_2$	0.3482E-09

Continued...

Table 5 (continued)

State	τ (s)
$2p^5 3p \ ^3P_1$	$0.68 + 0.25 \ ^1P_1$
$2p^5 3p \ ^1S_0$	
$2p^5 3d \ ^3P_0^o$	
$2p^5 3d \ ^3P_1^o$	
$2p^5 3d \ ^3P_2^o$	
$2p^5 3d \ ^3F_4^o$	
$2p^5 3d \ ^3F_3^o$	$0.74 + 0.22 \ ^1F_3^o$
$2p^5 3d \ ^3F_2^o$	$0.57 + 0.26 \ ^1D_2^o + 0.17 \ ^3D_2^o$
$2p^5 3d \ ^3D_3^o$	$0.52 + 0.43 \ ^1F_3^o$
$2p^5 3d \ ^3D_1^o$	
$2p^5 3d \ ^3F_2^o$	$0.42 + 0.41 \ ^1D_2^o + 0.16 \ ^3D_2^o$
$2p^5 3d \ ^3D_3^o$	$0.44 + 0.34 \ ^1F_3^o + 0.22 \ ^3F_3^o$
$2p^5 3d \ ^3D_2^o$	$0.60 + 0.27 \ ^1D_2^o + 0.12 \ ^3P_2^o$
$2p^5 3d \ ^1P_1^o$	
Ca XI	
$2p^5 3s \ ^3P_2^o$	
$2p^5 3s \ ^3P_1^o$	$0.62 + 0.38 \ ^1P_1^o$
$2p^5 3s \ ^3P_0^o$	
$2p^5 3s \ ^1P_1^o$	$0.62 + 0.38 \ ^3P_1^o$
$2p^5 3p \ ^3S_1$	
$2p^5 3p \ ^3D_2$	$0.68 + 0.24 \ ^1D_2$
$2p^5 3p \ ^3D_3$	
$2p^5 3p \ ^3D_1$	$0.43 + 0.36 \ ^1P_1 + 0.20 \ ^3P_1$
$2p^5 3p \ ^3P_2$	$0.65 + 0.34 \ ^1D_2$
$2p^5 3p \ ^3D_1$	$0.54 + 0.40 \ ^1P_1$
$2p^5 3p \ ^3P_0$	
$2p^5 3p \ ^1D_2$	$0.41 + 0.31 \ ^3D_2 + 0.27 \ ^3P_2$
$2p^5 3p \ ^3P_1$	$0.68 + 0.24 \ ^1P_1$
$2p^5 3p \ ^1S_0$	
$2p^5 3d \ ^3P_0^o$	
$2p^5 3d \ ^3P_1^o$	
$2p^5 3d \ ^3P_2^o$	
$2p^5 3d \ ^3F_4^o$	
$2p^5 3d \ ^3F_3^o$	$0.72 + 0.23 \ ^1F_3^o$
$2p^5 3d \ ^3F_2^o$	$0.53 + 0.29 \ ^1D_2^o + 0.18 \ ^3D_2^o$
$2p^5 3d \ ^3D_3^o$	$0.55 + 0.41 \ ^1F_3^o$
$2p^5 3d \ ^3D_1^o$	
$2p^5 3d \ ^3F_2^o$	$0.47 + 0.38 \ ^1D_2^o + 0.14 \ ^3D_2^o$
$2p^5 3d \ ^3D_2^o$	$0.58 + 0.27 \ ^1D_2^o + 0.14 \ ^3P_2^o$
$2p^5 3d \ ^3D_3^o$	$0.40 + 0.35 \ ^1F_3^o + 0.24 \ ^3F_3^o$
$2p^5 3d \ ^1P_1^o$	
Sc XII	
$2p^5 3s \ ^3P_2^o$	
$2p^5 3s \ ^3P_1^o$	$0.58 + 0.42 \ ^1P_1^o$
$2p^5 3s \ ^3P_0^o$	
$2p^5 3s \ ^1P_1^o$	$0.58 + 0.42 \ ^3P_1^o$
$2p^5 3p \ ^3S_1$	
$2p^5 3p \ ^3D_2$	$0.65 + 0.25 \ ^1D_2$
$2p^5 3p \ ^3D_3$	
$2p^5 3p \ ^1P_1$	$0.39 + 0.38 \ ^3D_1 + 0.21 \ ^3P_1$
$2p^5 3p \ ^3P_2$	$0.66 + 0.33 \ ^1D_2$
$2p^5 3p \ ^3D_1$	$0.58 + 0.37 \ ^1P_1$
$2p^5 3p \ ^3P_0$	
$2p^5 3p \ ^3P_1$	$0.67 + 0.22 \ ^1P_1$
$2p^5 3p \ ^1D_2$	$0.41 + 0.34 \ ^3D_2 + 0.25 \ ^3P_2$
$2p^5 3p \ ^1S_0$	
$2p^5 3d \ ^3P_0^o$	
$2p^5 3d \ ^3P_1^o$	
$2p^5 3d \ ^3P_2^o$	$0.83 + 0.10 \ ^3D_2$
$2p^5 3d \ ^3F_4^o$	
$2p^5 3d \ ^3F_3^o$	$0.71 + 0.24 \ ^1F_3^o$
$2p^5 3d \ ^3F_2^o$	$0.48 + 0.31 \ ^1D_2^o + 0.20 \ ^3D_2^o$
$2p^5 3d \ ^3D_3^o$	$0.57 + 0.39 \ ^1F_3^o$
$2p^5 3d \ ^3D_1^o$	
$2p^5 3d \ ^3F_2^o$	$0.51 + 0.36 \ ^1D_2^o + 0.13 \ ^3D_2^o$
$2p^5 3d \ ^3D_2^o$	$0.57 + 0.26 \ ^1D_2^o + 0.16 \ ^3P_2^o$
$2p^5 3d \ ^3D_3^o$	$0.38 + 0.36 \ ^1F_3^o + 0.26 \ ^3F_3^o$

Continued. . .

Table 5 (continued)

State	τ (s)
$2p^5 3d^1 P_1^o$	0.1436E-12
Ti XIII	
$2p^5 3s^3 P_2^o$	0.2839E-04
$2p^5 3s^3 P_1^o$ 0.54 + 0.45 $^1 P_1^o$	0.3122E-11
$2p^5 3s^3 P_0^o$	0.7423E-03
$2p^5 3s^1 P_1^o$ 0.54 + 0.45 $^3 P_1^o$	0.2562E-11
$2p^5 3p^3 S_1$	0.4560E-09
$2p^5 3p^3 D_2$ 0.64 + 0.27 $^1 D_2$	0.2787E-09
$2p^5 3p^3 D_3$	0.2541E-09
$2p^5 3p^1 P_1$ 0.42 + 0.35 $^3 D_1$ + 0.22 $^3 P_1$	0.2585E-09
$2p^5 3p^3 P_2$ 0.66 + 0.33 $^1 D_2$	0.2047E-09
$2p^5 3p^3 P_0$	0.1912E-09
$2p^5 3p^3 D_1$ 0.61 + 0.36 $^1 P_1$	0.2916E-09
$2p^5 3p^3 P_1$ 0.66 + 0.21 $^1 P_1$	0.2176E-09
$2p^5 3p^1 D_2$ 0.40 + 0.36 $^3 D_2$ + 0.24 $^3 P_2$	0.2303E-09
$2p^5 3p^1 S_0$	0.6083E-10
$2p^5 3d^3 P_0^o$	0.1200E-09
$2p^5 3d^3 P_1^o$	0.2591E-10
$2p^5 3d^3 P_2^o$ 0.81 + 0.12 $^3 D_2$	0.1222E-09
$2p^5 3d^3 F_4^o$	0.1209E-09
$2p^5 3d^3 F_3^o$ 0.69 + 0.25 $^1 F_3^o$	0.1115E-09
$2p^5 3d^3 F_2^o$ 0.45 + 0.33 $^1 D_2^o$ + 0.21 $^3 D_2^o$	0.1068E-09
$2p^5 3d^3 D_3^o$ 0.59 + 0.38 $^1 F_3^o$	0.1104E-09
$2p^5 3d^3 D_1^o$ 0.85 + 0.11 $^1 P_1^o$	0.7812E-12
$2p^5 3d^3 F_2^o$ 0.54 + 0.34 $^1 D_2^o$ + 0.12 $^3 D_2^o$	0.1069E-09
$2p^5 3d^3 D_2^o$ 0.55 + 0.25 $^1 D_2^o$ + 0.18 $^3 P_2^o$	0.1097E-09
$2p^5 3d^1 F_3^o$ 0.37 + 0.36 $^3 D_3^o$ + 0.27 $^3 F_3^o$	0.1136E-09
$2p^5 3d^1 P_1^o$	0.1086E-12
V XIV	
$2p^5 3s^3 P_2^o$	0.1750E-04
$2p^5 3s^3 P_1^o$ 0.52 + 0.48 $^1 P_1^o$	0.2304E-11
$2p^5 3s^3 P_0^o$	0.3800E-03
$2p^5 3s^1 P_1^o$ 0.51 + 0.48 $^3 P_1^o$	0.2118E-11
$2p^5 3p^3 S_1$ 0.87 + 0.11 $^3 P_1$	0.4035E-09
$2p^5 3p^3 D_2$ 0.62 + 0.28 $^1 D_2$	0.2501E-09
$2p^5 3p^3 D_3$	0.2257E-09
$2p^5 3p^1 P_1$ 0.45 + 0.32 $^3 D_1$ + 0.21 $^3 P_1$	0.2318E-09
$2p^5 3p^3 P_2$ 0.67 + 0.33 $^1 D_2$	0.1800E-09
$2p^5 3p^3 P_0$	0.1680E-09
$2p^5 3p^3 D_1$ 0.63 + 0.34 $^1 P_1$	0.2663E-09
$2p^5 3p^3 P_1$ 0.66 + 0.20 $^1 P_1$	0.1944E-09
$2p^5 3p^1 D_2$ 0.39 + 0.37 $^3 D_2$ + 0.23 $^3 P_2$	0.2027E-09
$2p^5 3p^1 S_0$	0.5448E-10
$2p^5 3d^3 P_0^o$	0.1103E-09
$2p^5 3d^3 P_1^o$	0.1971E-10
$2p^5 3d^3 P_2^o$ 0.78 + 0.13 $^3 D_2$	0.1125E-09
$2p^5 3d^3 F_4^o$	0.1121E-09
$2p^5 3d^3 F_3^o$ 0.68 + 0.27 $^1 F_3^o$	0.1020E-09
$2p^5 3d^3 F_2^o$ 0.42 + 0.35 $^1 D_2^o$ + 0.22 $^3 D_2^o$	0.9755E-10
$2p^5 3d^3 D_3^o$ 0.61 + 0.36 $^1 F_3^o$	0.1018E-09
$2p^5 3d^3 D_1^o$ 0.83 + 0.13 $^1 P_1^o$	0.5095E-12
$2p^5 3d^3 F_2^o$ 0.57 + 0.32 $^1 D_2^o$ + 0.10 $^3 D_2^o$	0.9809E-10
$2p^5 3d^3 D_2^o$ 0.54 + 0.24 $^1 D_2^o$ + 0.21 $^3 P_2^o$	0.1018E-09
$2p^5 3d^1 F_3^o$ 0.37 + 0.34 $^3 D_3^o$ + 0.29 $^3 F_3^o$	0.1053E-09
$2p^5 3d^1 P_1^o$ 0.86 + 0.12 $^3 D_1^o$	0.8431E-13
Cr XV	
$2p^5 3s^3 P_2^o$	0.1110E-04
$2p^5 3s^1 P_1^o$ 0.50 + 0.49 $^3 P_1^o$	0.1748E-11
$2p^5 3s^3 P_0^o$	0.2021E-03
$2p^5 3s^3 P_1^o$ 0.50 + 0.49 $^1 P_1^o$	0.1764E-11
$2p^5 3p^3 S_1$ 0.85 + 0.13 $^3 P_1$	0.3589E-09
$2p^5 3p^3 D_2$ 0.61 + 0.28 $^1 D_2$ + 0.11 $^3 P_2$	0.2253E-09
$2p^5 3p^3 D_3$	0.2013E-09
$2p^5 3p^1 P_1$ 0.47 + 0.29 $^3 D_1$ + 0.21 $^3 P_1$	0.2092E-09
$2p^5 3p^3 P_2$ 0.67 + 0.32 $^1 D_2$	0.1589E-09
$2p^5 3p^3 P_0$	0.1477E-09
$2p^5 3p^3 D_1$ 0.65 + 0.32 $^1 P_1$	0.2448E-09
$2p^5 3p^3 P_1$ 0.66 + 0.19 $^1 P_1$ + 0.11 $^3 S_1$	0.1747E-09

Continued...

Table 5 (continued)

State	τ (s)	
$2p^5 3p^1 D_2$	$0.39 + 0.39 {}^3D_2 + 0.22 {}^3P_2$	0.1788E-09
$2p^5 3p^1 S_0$		0.4928E-10
$2p^5 3d^3 P_0^o$		0.1018E-09
$2p^5 3d^3 P_1^o$		0.1525E-10
$2p^5 3d^3 P_2^o$	$0.76 + 0.15 {}^3D_2$	0.1040E-09
$2p^5 3d^3 F_3^o$		0.1045E-09
$2p^5 3d^3 F_4^o$	$0.67 + 0.28 {}^1F_3^o$	0.9367E-10
$2p^5 3d^3 F_2^o$	$0.39 + 0.37 {}^1D_2^o + 0.23 {}^3D_2^o$	0.8954E-10
$2p^5 3d^3 D_3^o$	$0.62 + 0.35 {}^1F_3^o$	0.9436E-10
$2p^5 3d^3 D_1^o$	$0.80 + 0.15 {}^1P_1^o$	0.3407E-12
$2p^5 3d^3 F_2^o$	$0.59 + 0.31 {}^1D_2^o$	0.9036E-10
$2p^5 3d^3 D_2^o$	$0.52 + 0.23 {}^1D_2^o + 0.23 {}^3P_2^o$	0.9502E-10
$2p^5 3d^1 F_3^o$	$0.37 + 0.32 {}^3D_3^o + 0.30 {}^3F_3^o$	0.9810E-10
$2p^5 3d^1 P_1^o$	$0.83 + 0.14 {}^3D_1^o$	0.6694E-13
Mn XVI		
$2p^5 3s^3 P_2^o$		0.7221E-05
$2p^5 3s^1 P_1^o$	$0.53 + 0.47 {}^3P_1^o$	0.1357E-11
$2p^5 3s^3 P_0^o$		0.1112E-03
$2p^5 3s^3 P_1^o$	$0.53 + 0.47 {}^1P_1^o$	0.1480E-11
$2p^5 3p^3 S_1$	$0.83 + 0.15 {}^3P_1$	0.3209E-09
$2p^5 3p^3 D_2$	$0.59 + 0.29 {}^1D_2 + 0.11 {}^3P_2$	0.2036E-09
$2p^5 3p^3 D_3$		0.1802E-09
$2p^5 3p^1 P_1$	$0.49 + 0.27 {}^3D_1 + 0.20 {}^3P_1$	0.1896E-09
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	0.1407E-09
$2p^5 3p^3 P_0$		0.1298E-09
$2p^5 3p^3 D_1$	$0.66 + 0.32 {}^1P_1$	0.2262E-09
$2p^5 3p^3 P_1$	$0.64 + 0.18 {}^1P_1 + 0.12 {}^3S_1$	0.1575E-09
$2p^5 3p^3 D_2$	$0.40 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	0.1579E-09
$2p^5 3p^1 S_0$		0.4495E-10
$2p^5 3d^3 P_0^o$		0.9414E-10
$2p^5 3d^3 P_1^o$		0.1203E-10
$2p^5 3d^3 P_2^o$	$0.74 + 0.17 {}^3D_2$	0.9648E-10
$2p^5 3d^3 F_4^o$		0.9772E-10
$2p^5 3d^3 F_3^o$	$0.66 + 0.28 {}^1F_3^o$	0.8627E-10
$2p^5 3d^1 D_2^o$	$0.39 + 0.37 {}^3F_2^o + 0.24 {}^3D_2^o$	0.8251E-10
$2p^5 3d^3 D_3^o$	$0.63 + 0.34 {}^1F_3^o$	0.8789E-10
$2p^5 3d^3 D_1^o$	$0.77 + 0.18 {}^1P_1^o$	0.2336E-12
$2p^5 3d^3 F_2^o$	$0.61 + 0.30 {}^1D_2^o$	0.8345E-10
$2p^5 3d^3 D_2^o$	$0.51 + 0.25 {}^3P_2^o + 0.22 {}^1D_2^o$	0.8904E-10
$2p^5 3d^1 F_3^o$	$0.37 + 0.32 {}^3F_3^o + 0.31 {}^3D_3^o$	0.9174E-10
$2p^5 3d^1 P_1^o$	$0.81 + 0.16 {}^3D_1^o$	0.5420E-13
Fe XVII		
$2p^5 3s^3 P_2^o$		0.4806E-05
$2p^5 3s^1 P_1^o$	$0.54 + 0.45 {}^3P_1^o$	0.1073E-11
$2p^5 3s^3 P_0^o$		0.6307E-04
$2p^5 3s^3 P_1^o$	$0.54 + 0.45 {}^1P_1^o$	0.1249E-11
$2p^5 3p^3 S_1$	$0.80 + 0.17 {}^3P_1$	0.2884E-09
$2p^5 3p^3 D_2$	$0.58 + 0.30 {}^1D_2 + 0.12 {}^3P_2$	0.1842E-09
$2p^5 3p^3 D_3$		0.1618E-09
$2p^5 3p^1 P_1$	$0.51 + 0.25 {}^3D_1 + 0.19 {}^3P_1$	0.1724E-09
$2p^5 3p^3 P_2$	$0.67 + 0.32 {}^1D_2$	0.1247E-09
$2p^5 3p^3 P_0$		0.1139E-09
$2p^5 3p^3 D_1$	$0.67 + 0.31 {}^1P_1$	0.2100E-09
$2p^5 3p^3 P_1$	$0.63 + 0.17 {}^1P_1 + 0.13 {}^3S_1$	0.1424E-09
$2p^5 3p^3 D_2$	$0.41 + 0.38 {}^1D_2 + 0.21 {}^3P_2$	0.1396E-09
$2p^5 3p^1 S_0$		0.4132E-10
$2p^5 3d^3 P_0^o$		0.8723E-10
$2p^5 3d^3 P_1^o$		0.9684E-11
$2p^5 3d^3 P_2^o$	$0.72 + 0.18 {}^3D_2$	0.8968E-10
$2p^5 3d^3 F_4^o$		0.9172E-10
$2p^5 3d^3 F_3^o$	$0.65 + 0.29 {}^1F_3^o$	0.7964E-10
$2p^5 3d^1 D_2^o$	$0.41 + 0.35 {}^3F_2^o + 0.24 {}^3D_2^o$	0.7630E-10
$2p^5 3d^3 D_3^o$	$0.64 + 0.34 {}^1F_3^o$	0.8219E-10
$2p^5 3d^3 D_1^o$	$0.74 + 0.20 {}^1P_1^o$	0.1641E-12
$2p^5 3d^3 F_2^o$	$0.63 + 0.29 {}^1D_2^o$	0.7722E-10
$2p^5 3d^3 D_2^o$	$0.50 + 0.27 {}^3P_2^o + 0.21 {}^1D_2^o$	0.8373E-10
$2p^5 3d^1 F_3^o$	$0.37 + 0.33 {}^3F_3^o + 0.30 {}^3D_3^o$	0.8608E-10

Continued. . .

Table 5 (continued)

State	τ (s)
$2p^5 3d^1 P_1^o$	$0.78 + 0.18 {}^3 D_1^o$
	0.4465E-13
Co XVIII	
$2p^5 3s {}^3 P_2^o$	0.3264E-05
$2p^5 3s {}^1 P_1^o$	$0.56 + 0.44 {}^3 P_1^o$
$2p^5 3s {}^3 P_0^o$	0.8623E-12
$2p^5 3s {}^3 P_1^o$	0.3674E-04
$2p^5 3s {}^3 P_1^o$	0.56 + 0.44 ${}^1 P_1^o$
$2p^5 3p {}^3 S_1$	$0.78 + 0.20 {}^3 P_1$
$2p^5 3p {}^3 D_2$	0.1059E-11
$2p^5 3p {}^3 D_2$	$0.57 + 0.30 {}^1 D_2 + 0.12 {}^3 P_2$
$2p^5 3p {}^3 D_3$	0.2605E-09
$2p^5 3p {}^1 P_1$	0.1669E-09
$2p^5 3p {}^3 P_2$	$0.52 + 0.24 {}^3 D_1 + 0.18 {}^3 P_1$
$2p^5 3p {}^3 P_2$	0.1455E-09
$2p^5 3p {}^3 P_0$	0.1571E-09
$2p^5 3p {}^3 D_1$	$0.67 + 0.32 {}^1 D_2$
$2p^5 3p {}^3 P_0$	0.1106E-09
$2p^5 3p {}^3 D_1$	0.9980E-10
$2p^5 3p {}^3 P_1$	$0.68 + 0.31 {}^1 P_1$
$2p^5 3p {}^3 P_1$	0.1958E-09
$2p^5 3p {}^3 D_2$	$0.62 + 0.16 {}^1 P_1 + 0.15 {}^3 S_1$
$2p^5 3p {}^3 D_2$	0.1289E-09
$2p^5 3p {}^1 S_0$	$0.42 + 0.37 {}^1 D_2 + 0.20 {}^3 P_2$
$2p^5 3p {}^1 S_0$	0.1234E-09
$2p^5 3d {}^3 P_0^o$	0.3825E-10
$2p^5 3d {}^3 P_1^o$	0.8093E-10
$2p^5 3d {}^3 P_1^o$	0.7951E-11
$2p^5 3d {}^3 P_2^o$	$0.70 + 0.20 {}^3 D_2$
$2p^5 3d {}^3 P_2^o$	0.8350E-10
$2p^5 3d {}^3 F_4^o$	0.8632E-10
$2p^5 3d {}^3 F_3^o$	$0.63 + 0.31 {}^1 F_3^o$
$2p^5 3d {}^3 F_3^o$	0.7364E-10
$2p^5 3d {}^1 D_2^o$	$0.42 + 0.34 {}^3 F_2^o + 0.24 {}^3 D_2^o$
$2p^5 3d {}^1 D_2^o$	0.7075E-10
$2p^5 3d {}^3 D_3^o$	$0.65 + 0.33 {}^1 F_3^o$
$2p^5 3d {}^3 D_3^o$	0.7712E-10
$2p^5 3d {}^3 D_1^o$	$0.71 + 0.23 {}^1 P_1^o$
$2p^5 3d {}^3 D_1^o$	0.1181E-12
$2p^5 3d {}^3 F_2^o$	$0.64 + 0.28 {}^1 D_2^o$
$2p^5 3d {}^3 F_2^o$	0.7155E-10
$2p^5 3d {}^3 D_2^o$	$0.49 + 0.28 {}^3 P_2^o + 0.20 {}^1 D_2^o$
$2p^5 3d {}^3 D_2^o$	0.7895E-10
$2p^5 3d {}^1 F_3^o$	$0.37 + 0.34 {}^3 F_3^o + 0.29 {}^3 D_3^o$
$2p^5 3d {}^1 F_3^o$	0.8099E-10
$2p^5 3d {}^1 P_1^o$	$0.76 + 0.20 {}^3 D_1^o$
$2p^5 3d {}^1 P_1^o$	0.3733E-13
Ni XIX	
$2p^5 3s {}^3 P_2^o$	0.2257E-05
$2p^5 3s {}^1 P_1^o$	$0.57 + 0.43 {}^3 P_1^o$
$2p^5 3s {}^3 P_0^o$	0.7027E-12
$2p^5 3s {}^3 P_1^o$	0.2193E-04
$2p^5 3s {}^3 P_1^o$	$0.57 + 0.43 {}^1 P_1^o$
$2p^5 3p {}^3 S_1$	0.9029E-12
$2p^5 3p {}^3 S_1$	$0.75 + 0.22 {}^3 P_1$
$2p^5 3p {}^3 D_2$	0.2365E-09
$2p^5 3p {}^3 D_2$	$0.57 + 0.31 {}^1 D_2 + 0.12 {}^3 P_2$
$2p^5 3p {}^3 D_3$	0.1511E-09
$2p^5 3p {}^1 P_1$	0.1311E-09
$2p^5 3p {}^3 P_2$	$0.54 + 0.22 {}^3 D_1 + 0.16 {}^3 P_1$
$2p^5 3p {}^3 P_2$	0.1433E-09
$2p^5 3p {}^3 P_0$	0.9811E-10
$2p^5 3p {}^3 D_1$	$0.68 + 0.30 {}^1 P_1$
$2p^5 3p {}^3 D_1$	0.8725E-10
$2p^5 3p {}^3 P_1$	0.1832E-09
$2p^5 3p {}^3 P_1$	$0.61 + 0.16 {}^1 P_1 + 0.15 {}^3 S_1$
$2p^5 3p {}^3 D_2$	0.1169E-09
$2p^5 3p {}^3 D_2$	$0.42 + 0.37 {}^1 D_2 + 0.20 {}^3 P_2$
$2p^5 3p {}^1 S_0$	0.1089E-09
$2p^5 3p {}^1 S_0$	0.3565E-10
$2p^5 3d {}^3 P_0^o$	0.7515E-10
$2p^5 3d {}^3 P_1^o$	0.6661E-11
$2p^5 3d {}^3 P_1^o$	0.8143E-10
$2p^5 3d {}^3 F_4^o$	$0.68 + 0.22 {}^3 D_2$
$2p^5 3d {}^3 F_4^o$	0.7783E-10
$2p^5 3d {}^3 F_3^o$	$0.63 + 0.31 {}^1 F_3^o$
$2p^5 3d {}^3 F_3^o$	0.6817E-10
$2p^5 3d {}^1 D_2^o$	$0.44 + 0.32 {}^3 F_2^o + 0.24 {}^3 D_2^o$
$2p^5 3d {}^1 D_2^o$	0.6577E-10
$2p^5 3d {}^3 D_3^o$	$0.65 + 0.33 {}^1 F_3^o$
$2p^5 3d {}^3 D_3^o$	0.7256E-10
$2p^5 3d {}^3 D_1^o$	$0.68 + 0.26 {}^1 P_1^o$
$2p^5 3d {}^3 D_1^o$	0.8694E-13
$2p^5 3d {}^3 F_2^o$	$0.66 + 0.27 {}^1 D_2^o$
$2p^5 3d {}^3 F_2^o$	0.6636E-10
$2p^5 3d {}^3 D_2^o$	$0.48 + 0.30 {}^3 P_2^o + 0.20 {}^1 D_2^o$
$2p^5 3d {}^3 D_2^o$	0.7460E-10
$2p^5 3d {}^1 F_3^o$	$0.36 + 0.35 {}^3 F_3^o + 0.28 {}^3 D_3^o$
$2p^5 3d {}^1 F_3^o$	0.7638E-10
$2p^5 3d {}^1 P_1^o$	$0.73 + 0.22 {}^3 D_1^o$
$2p^5 3d {}^1 P_1^o$	0.3162E-13
Cu XX	
$2p^5 3s {}^3 P_2^o$	0.1588E-05
$2p^5 3s {}^1 P_1^o$	$0.58 + 0.42 {}^3 P_1^o$
$2p^5 3s {}^3 P_0^o$	0.5796E-12
$2p^5 3s {}^3 P_1^o$	0.1338E-04
$2p^5 3s {}^3 P_1^o$	$0.58 + 0.42 {}^1 P_1^o$
$2p^5 3p {}^3 S_1$	0.7728E-12
$2p^5 3p {}^3 S_1$	$0.73 + 0.25 {}^3 P_1$
$2p^5 3p {}^3 D_2$	0.2157E-09
$2p^5 3p {}^3 D_2$	$0.56 + 0.31 {}^1 D_2 + 0.12 {}^3 P_2$
$2p^5 3p {}^3 D_3$	0.1367E-09
$2p^5 3p {}^1 P_1$	0.1182E-09
$2p^5 3p {}^3 P_2$	$0.55 + 0.21 {}^3 D_1 + 0.15 {}^3 P_1$
$2p^5 3p {}^3 P_2$	0.1308E-09
$2p^5 3p {}^3 P_0$	$0.67 + 0.32 {}^1 D_2$
$2p^5 3p {}^3 P_0$	0.8700E-10
$2p^5 3p {}^3 D_1$	$0.89 + 0.12 {}^1 S_0$
$2p^5 3p {}^3 D_1$	0.7614E-10
$2p^5 3p {}^3 P_1$	$0.69 + 0.30 {}^1 P_1$
$2p^5 3p {}^3 P_1$	0.1720E-09
$2p^5 3p {}^3 P_1$	$0.60 + 0.16 {}^3 S_1 + 0.15 {}^1 P_1$
$2p^5 3p {}^3 P_1$	0.1061E-09

Continued...

Table 5 (continued)

State	τ (s)	
$2p^5 3p \ ^3D_2$	$0.44 + 0.37 \ ^1D_2 + 0.20 \ ^3P_2$	0.9614E-10
$2p^5 3p \ ^1S_0$	$0.88 + 0.11 \ ^3P_0$	0.3342E-10
$2p^5 3d \ ^3P_0^o$		0.6981E-10
$2p^5 3d \ ^3P_1^o$	$0.89 + 0.10 \ ^3D_1^o$	0.5693E-11
$2p^5 3d \ ^3F_4^o$		0.7696E-10
$2p^5 3d \ ^3P_2^o$	$0.66 + 0.24 \ ^3D_2^o$	0.7257E-10
$2p^5 3d \ ^3F_3^o$	$0.62 + 0.31 \ ^1F_3^o$	0.6316E-10
$2p^5 3d \ ^1D_2^o$	$0.45 + 0.31 \ ^3F_2^o + 0.23 \ ^3D_2^o$	0.6129E-10
$2p^5 3d \ ^3D_3^o$	$0.66 + 0.32 \ ^1F_3^o$	0.6842E-10
$2p^5 3d \ ^3D_1^o$	$0.65 + 0.29 \ ^1P_1^o$	0.6535E-13
$2p^5 3d \ ^3F_2^o$	$0.66 + 0.27 \ ^1D_2^o$	0.6157E-10
$2p^5 3d \ ^3D_2^o$	$0.47 + 0.31 \ ^3P_2^o + 0.19 \ ^1D_2^o$	0.7062E-10
$2p^5 3d \ ^1F_3^o$	$0.36 + 0.35 \ ^3F_3^o + 0.28 \ ^3D_3^o$	0.7217E-10
$2p^5 3d \ ^1P_1^o$	$0.70 + 0.24 \ ^3D_1^o$	0.2708E-13
Zn XXI		
$2p^5 3s \ ^3P_2^o$		0.1133E-05
$2p^5 3s \ ^1P_1^o$	$0.59 + 0.41 \ ^3P_1^o$	0.4832E-12
$2p^5 3s \ ^3P_0^o$		0.8330E-05
$2p^5 3s \ ^3P_1^o$	$0.59 + 0.41 \ ^1P_1$	0.6642E-12
$2p^5 3p \ ^3S_1$	$0.70 + 0.27 \ ^3P_1$	0.1977E-09
$2p^5 3p \ ^3D_2$	$0.55 + 0.31 \ ^1D_2 + 0.13 \ ^3P_2$	0.1235E-09
$2p^5 3p \ ^3D_3$		0.1066E-09
$2p^5 3p \ ^1P_1$	$0.56 + 0.20 \ ^3D_1 + 0.13 \ ^3P_1$	0.1193E-09
$2p^5 3p \ ^3P_2$	$0.67 + 0.32 \ ^1D_2$	0.7708E-10
$2p^5 3p \ ^3P_0$	$0.87 + 0.13 \ ^1S_0$	0.6637E-10
$2p^5 3p \ ^3D_1$	$0.69 + 0.29 \ ^1P_1$	0.1620E-09
$2p^5 3p \ ^3P_1$	$0.59 + 0.17 \ ^3S_1 + 0.15 \ ^1P_1$	0.9625E-10
$2p^5 3p \ ^3D_2$	$0.44 + 0.36 \ ^1D_2 + 0.19 \ ^3P_2$	0.8474E-10
$2p^5 3p \ ^1S_0$	$0.86 + 0.13 \ ^3P_0$	0.3150E-10
$2p^5 3d \ ^3P_0^o$		0.6487E-10
$2p^5 3d \ ^3P_1^o$	$0.88 + 0.11 \ ^3D_1^o$	0.4963E-11
$2p^5 3d \ ^3F_4^o$		0.7286E-10
$2p^5 3d \ ^3P_2^o$	$0.64 + 0.26 \ ^3D_2^o$	0.6765E-10
$2p^5 3d \ ^3F_3^o$	$0.61 + 0.32 \ ^1F_3^o$	0.5854E-10
$2p^5 3d \ ^1D_2^o$	$0.47 + 0.30 \ ^3F_2^o + 0.22 \ ^3D_2^o$	0.5723E-10
$2p^5 3d \ ^3D_3^o$	$0.66 + 0.32 \ ^1F_3^o$	0.6465E-10
$2p^5 3d \ ^3D_1^o$	$0.62 + 0.31 \ ^1P_1^o$	0.5010E-13
$2p^5 3d \ ^3F_2^o$	$0.67 + 0.26 \ ^1D_2^o$	0.5713E-10
$2p^5 3d \ ^3D_2^o$	$0.46 + 0.33 \ ^3P_2^o + 0.18 \ ^1D_2^o$	0.6694E-10
$2p^5 3d \ ^3F_3^o$	$0.37 + 0.36 \ ^1F_3^o + 0.27 \ ^3D_3^o$	0.6830E-10
$2p^5 3d \ ^1P_1^o$	$0.68 + 0.27 \ ^3D_1^o$	0.2342E-13
Ga XXII		
$2p^5 3s \ ^3P_2^o$		0.8203E-06
$2p^5 3s \ ^1P_1^o$	$0.60 + 0.40 \ ^3P_1^o$	0.4065E-12
$2p^5 3s \ ^3P_0^o$		0.5282E-05
$2p^5 3s \ ^3P_1^o$	$0.60 + 0.40 \ ^1P_1$	0.5729E-12
$2p^5 3p \ ^3S_1$	$0.67 + 0.29 \ ^3P_1$	0.1821E-09
$2p^5 3p \ ^3D_2$	$0.55 + 0.31 \ ^1D_2 + 0.13 \ ^3P_2$	0.1113E-09
$2p^5 3p \ ^3D_3$		0.9619E-10
$2p^5 3p \ ^1P_1$	$0.57 + 0.19 \ ^3D_1 + 0.13 \ ^3P_1$	0.1087E-09
$2p^5 3p \ ^3P_2$	$0.67 + 0.32 \ ^1D_2$	0.6823E-10
$2p^5 3p \ ^3P_0$	$0.84 + 0.15 \ ^1S_0$	0.5782E-10
$2p^5 3p \ ^3D_1$	$0.70 + 0.28 \ ^1P_1$	0.1529E-09
$2p^5 3p \ ^3P_1$	$0.59 + 0.18 \ ^3S_1 + 0.14 \ ^1P_1$	0.8731E-10
$2p^5 3p \ ^3D_2$	$0.45 + 0.36 \ ^1D_2 + 0.19 \ ^3P_2$	0.7460E-10
$2p^5 3p \ ^1S_0$	$0.84 + 0.16 \ ^3P_0$	0.2985E-10
$2p^5 3d \ ^3P_0^o$		0.6026E-10
$2p^5 3d \ ^3P_1^o$	$0.88 + 0.12 \ ^3D_1^o$	0.4414E-11
$2p^5 3d \ ^3F_4^o$		0.6906E-10
$2p^5 3d \ ^3P_2^o$	$0.63 + 0.28 \ ^3D_2^o$	0.6299E-10
$2p^5 3d \ ^3F_3^o$	$0.61 + 0.33 \ ^1F_3^o$	0.5427E-10
$2p^5 3d \ ^1D_2^o$	$0.49 + 0.29 \ ^3F_2^o + 0.21 \ ^3D_2^o$	0.5356E-10
$2p^5 3d \ ^3D_3^o$	$0.67 + 0.31 \ ^1F_3^o$	0.6118E-10
$2p^5 3d \ ^3D_1^o$	$0.60 + 0.34 \ ^1P_1^o$	0.3910E-13
$2p^5 3d \ ^3F_2^o$	$0.68 + 0.26 \ ^1D_2^o$	0.5302E-10
$2p^5 3d \ ^3D_2^o$	$0.45 + 0.34 \ ^3P_2^o + 0.17 \ ^1D_2^o$	0.6352E-10
$2p^5 3d \ ^3F_3^o$	$0.37 + 0.36 \ ^1F_3^o + 0.27 \ ^3D_3^o$	0.6473E-10

Continued. . .

Table 5 (continued)

State	τ (s)
$2p^5 3d^1 P_1^o$	$0.65 + 0.29 {}^3 D_1^o$
	0.2041E-13
Ge XXIII	
$2p^5 3s {}^3 P_2^o$	0.6013E-06
$2p^5 3s {}^1 P_1^o$	$0.60 + 0.39 {}^3 P_1^o$
$2p^5 3s {}^3 P_0^o$	0.3449E-12
$2p^5 3s {}^3 P_1^o$	0.3406E-05
$2p^5 3p {}^3 S_1$	$0.60 + 0.39 {}^1 P_1$
$2p^5 3p {}^3 S_1$	0.4958E-12
$2p^5 3p {}^3 S_1$	$0.64 + 0.31 {}^3 P_1$
$2p^5 3p {}^3 S_1$	0.1685E-09
$2p^5 3p {}^3 D_2$	$0.54 + 0.32 {}^1 D_2 + 0.14 {}^3 P_2$
$2p^5 3p {}^3 D_2$	0.1002E-09
$2p^5 3p {}^3 D_3$	0.8677E-10
$2p^5 3p {}^1 P_1$	$0.57 + 0.18 {}^3 D_1 + 0.14 {}^3 P_1$
$2p^5 3p {}^1 P_1$	0.9884E-10
$2p^5 3p {}^3 P_2$	$0.67 + 0.32 {}^1 D_2$
$2p^5 3p {}^3 P_2$	0.6033E-10
$2p^5 3p {}^3 P_0$	$0.82 + 0.18 {}^1 S_0$
$2p^5 3p {}^3 P_0$	0.5040E-10
$2p^5 3p {}^3 D_1$	$0.70 + 0.28 {}^1 P_1$
$2p^5 3p {}^3 D_1$	0.1447E-09
$2p^5 3p {}^3 P_1$	$0.58 + 0.19 {}^3 S_1 + 0.14 {}^1 P_1$
$2p^5 3p {}^3 P_1$	0.7916E-10
$2p^5 3p {}^3 D_2$	$0.45 + 0.36 {}^1 D_2 + 0.19 {}^3 P_2$
$2p^5 3p {}^3 D_2$	0.6559E-10
$2p^5 3p {}^1 S_0$	$0.82 + 0.18 {}^3 P_0$
$2p^5 3p {}^1 S_0$	0.2840E-10
$2p^5 3d {}^3 P_0^o$	0.5595E-10
$2p^5 3d {}^3 P_1^o$	$0.87 + 0.12 {}^3 D_1^o$
$2p^5 3d {}^3 P_1^o$	0.4006E-11
$2p^5 3d {}^3 F_4^o$	0.6554E-10
$2p^5 3d {}^3 P_2^o$	$0.61 + 0.31 {}^3 D_2^o$
$2p^5 3d {}^3 P_2^o$	0.5854E-10
$2p^5 3d {}^3 F_3^o$	$0.60 + 0.33 {}^1 F_3^o$
$2p^5 3d {}^3 F_3^o$	0.5030E-10
$2p^5 3d {}^1 D_2^o$	$0.50 + 0.28 {}^3 F_2^o + 0.20 {}^3 D_2^o$
$2p^5 3d {}^1 D_2^o$	0.5025E-10
$2p^5 3d {}^3 D_3^o$	$0.67 + 0.31 {}^1 F_3^o$
$2p^5 3d {}^3 D_3^o$	0.5798E-10
$2p^5 3d {}^3 D_1^o$	$0.57 + 0.36 {}^1 P_1^o$
$2p^5 3d {}^3 D_1^o$	0.3102E-13
$2p^5 3d {}^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$
$2p^5 3d {}^3 F_2^o$	0.4918E-10
$2p^5 3d {}^3 D_2^o$	$0.45 + 0.35 {}^3 P_2^o + 0.17 {}^1 D_2^o$
$2p^5 3d {}^3 D_2^o$	0.6033E-10
$2p^5 3d {}^3 F_3^o$	$0.38 + 0.36 {}^1 F_3^o + 0.26 {}^3 D_3^o$
$2p^5 3d {}^3 F_3^o$	0.6142E-10
$2p^5 3d {}^1 P_1^o$	$0.63 + 0.30 {}^3 D_1^o$
$2p^5 3d {}^1 P_1^o$	0.1792E-13
As XXIV	
$2p^5 3s {}^3 P_2^o$	0.4460E-06
$2p^5 3s {}^1 P_1^o$	$0.61 + 0.39 {}^3 P_1^o$
$2p^5 3s {}^1 P_1^o$	0.2949E-12
$2p^5 3s {}^3 P_0^o$	0.2230E-05
$2p^5 3s {}^3 P_1^o$	$0.61 + 0.39 {}^1 P_1^o$
$2p^5 3s {}^3 P_1^o$	0.4304E-12
$2p^5 3p {}^3 S_1$	$0.62 + 0.33 {}^3 P_1$
$2p^5 3p {}^3 S_1$	0.1565E-09
$2p^5 3p {}^3 D_2$	$0.54 + 0.32 {}^1 D_2 + 0.14 {}^3 P_2$
$2p^5 3p {}^3 D_2$	0.8991E-10
$2p^5 3p {}^3 D_3$	0.7825E-10
$2p^5 3p {}^1 P_1$	$0.58 + 0.17 {}^3 D_1 + 0.15 {}^3 S_1$
$2p^5 3p {}^1 P_1$	0.8975E-10
$2p^5 3p {}^3 P_2$	$0.67 + 0.32 {}^1 D_2$
$2p^5 3p {}^3 P_2$	0.5329E-10
$2p^5 3p {}^3 P_0$	$0.80 + 0.20 {}^1 S_0$
$2p^5 3p {}^3 P_0$	0.4398E-10
$2p^5 3p {}^3 D_1$	$0.70 + 0.28 {}^1 P_1$
$2p^5 3p {}^3 D_1$	0.1372E-09
$2p^5 3p {}^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.14 {}^1 P_1$
$2p^5 3p {}^3 P_1$	0.7170E-10
$2p^5 3p {}^3 D_2$	$0.46 + 0.36 {}^1 D_2 + 0.19 {}^3 P_2$
$2p^5 3p {}^3 D_2$	0.5760E-10
$2p^5 3p {}^1 S_0$	$0.79 + 0.20 {}^3 P_0$
$2p^5 3p {}^1 S_0$	0.2714E-10
$2p^5 3d {}^3 P_0^o$	0.5193E-10
$2p^5 3d {}^3 P_1^o$	$0.86 + 0.13 {}^3 D_1^o$
$2p^5 3d {}^3 P_1^o$	0.3712E-11
$2p^5 3d {}^3 F_4^o$	0.6226E-10
$2p^5 3d {}^3 F_3^o$	$0.60 + 0.33 {}^1 F_3^o$
$2p^5 3d {}^3 F_3^o$	0.4660E-10
$2p^5 3d {}^3 P_2^o$	$0.59 + 0.33 {}^3 D_2^o$
$2p^5 3d {}^3 P_2^o$	0.5425E-10
$2p^5 3d {}^1 D_2^o$	$0.52 + 0.27 {}^3 F_2^o + 0.18 {}^3 D_2^o$
$2p^5 3d {}^1 D_2^o$	0.4728E-10
$2p^5 3d {}^3 D_3^o$	$0.67 + 0.31 {}^1 F_3^o$
$2p^5 3d {}^3 D_3^o$	0.5501E-10
$2p^5 3d {}^3 D_1^o$	$0.55 + 0.39 {}^1 P_1^o$
$2p^5 3d {}^3 D_1^o$	0.2497E-13
$2p^5 3d {}^3 F_2^o$	$0.69 + 0.25 {}^1 D_2^o$
$2p^5 3d {}^3 F_2^o$	0.4559E-10
$2p^5 3d {}^3 D_2^o$	$0.44 + 0.36 {}^3 P_2^o + 0.17 {}^1 D_2^o$
$2p^5 3d {}^3 D_2^o$	0.5733E-10
$2p^5 3d {}^3 F_3^o$	$0.38 + 0.36 {}^1 F_3^o + 0.26 {}^3 D_3^o$
$2p^5 3d {}^3 F_3^o$	0.5832E-10
$2p^5 3d {}^1 P_1^o$	$0.60 + 0.32 {}^3 D_1^o$
$2p^5 3d {}^1 P_1^o$	0.1581E-13
Se XXV	
$2p^5 3s {}^3 P_2^o$	0.3343E-06
$2p^5 3s {}^1 P_1^o$	$0.62 + 0.38 {}^3 P_1^o$
$2p^5 3s {}^1 P_1^o$	0.2538E-12
$2p^5 3s {}^3 P_0^o$	0.1482E-05
$2p^5 3s {}^3 P_1^o$	$0.62 + 0.38 {}^1 P_1$
$2p^5 3s {}^3 P_1^o$	0.3747E-12
$2p^5 3p {}^3 S_1$	$0.59 + 0.35 {}^3 P_1$
$2p^5 3p {}^3 S_1$	0.1460E-09
$2p^5 3p {}^3 D_2$	$0.54 + 0.32 {}^1 D_2 + 0.14 {}^3 P_2$
$2p^5 3p {}^3 D_2$	0.8052E-10
$2p^5 3p {}^3 D_3$	0.7053E-10
$2p^5 3p {}^1 P_1$	$0.58 + 0.17 {}^3 S_1 + 0.16 {}^3 D_1$
$2p^5 3p {}^1 P_1$	0.8134E-10
$2p^5 3p {}^3 P_2$	$0.67 + 0.32 {}^1 D_2$
$2p^5 3p {}^3 P_2$	0.4702E-10
$2p^5 3p {}^3 P_0$	$0.77 + 0.23 {}^1 S_0$
$2p^5 3p {}^3 P_0$	0.3845E-10
$2p^5 3p {}^3 D_1$	$0.71 + 0.27 {}^1 P_1$
$2p^5 3p {}^3 D_1$	0.1304E-09
$2p^5 3p {}^3 P_1$	$0.57 + 0.20 {}^3 S_1 + 0.13 {}^1 P_1$
$2p^5 3p {}^3 P_1$	0.6489E-10

Continued...

Table 5 (continued)

State	τ (s)	
$2p^5 3p \ ^3D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	0.5053E-10
$2p^5 3p \ ^1S_0$	$0.77 + 0.23 \ ^3P_0$	0.2601E-10
$2p^5 3d \ ^3P_0^o$		0.4815E-10
$2p^5 3d \ ^3P_1^o$	$0.86 + 0.14 \ ^3D_1^o$	0.3513E-11
$2p^5 3d \ ^3F_3^o$	$0.59 + 0.34 \ ^1F_3^o$	0.4315E-10
$2p^5 3d \ ^3F_4^o$		0.5918E-10
$2p^5 3d \ ^3P_2^o$	$0.57 + 0.36 \ ^3D_2^o$	0.5010E-10
$2p^5 3d \ ^1D_2^o$	$0.54 + 0.26 \ ^3F_2^o + 0.16 \ ^3D_2^o$	0.4463E-10
$2p^5 3d \ ^3D_3^o$	$0.67 + 0.31 \ ^1F_3^o$	0.5225E-10
$2p^5 3d \ ^3D_1^o$	$0.52 + 0.41 \ ^1P_1^o$	0.2037E-13
$2p^5 3d \ ^3F_2^o$	$0.69 + 0.25 \ ^1D_2^o$	0.4224E-10
$2p^5 3d \ ^3D_2^o$	$0.43 + 0.37 \ ^3P_2^o + 0.16 \ ^1D_2^o$	0.5451E-10
$2p^5 3d \ ^3F_3^o$	$0.39 + 0.35 \ ^1F_3^o + 0.25 \ ^3D_3^o$	0.5543E-10
$2p^5 3d \ ^1P_1^o$	$0.58 + 0.34 \ ^3D_1^o$	0.1403E-13
Br XXVI		
$2p^5 3s \ ^3P_2^o$		0.2531E-06
$2p^5 3s \ ^1P_1^o$	$0.62 + 0.38 \ ^3P_1^o$	0.2198E-12
$2p^5 3s \ ^3P_0^o$		0.9976E-06
$2p^5 3p \ ^3S_1$	$0.57 + 0.37 \ ^3P_1$	0.1367E-09
$2p^5 3s \ ^3P_1^o$	$0.62 + 0.38 \ ^1P_1$	0.3271E-12
$2p^5 3p \ ^3D_2$	$0.53 + 0.32 \ ^1D_2 + 0.14 \ ^3P_2$	0.7195E-10
$2p^5 3p \ ^3D_3$		0.6353E-10
$2p^5 3p \ ^1P_1$	$0.58 + 0.19 \ ^3S_1 + 0.16 \ ^3D_1$	0.7356E-10
$2p^5 3p \ ^3P_2$	$0.67 + 0.33 \ ^1D_2$	0.4144E-10
$2p^5 3p \ ^3P_0$	$0.74 + 0.25 \ ^1S_0$	0.3370E-10
$2p^5 3p \ ^3D_1$	$0.71 + 0.27 \ ^1P_1$	0.1241E-09
$2p^5 3p \ ^3P_1$	$0.56 + 0.21 \ ^3S_1 + 0.13 \ ^1P_1$	0.5865E-10
$2p^5 3p \ ^3D_2$	$0.46 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	0.4428E-10
$2p^5 3p \ ^1S_0$	$0.74 + 0.25 \ ^3P_0$	0.2500E-10
$2p^5 3d \ ^3P_0^o$		0.4460E-10
$2p^5 3d \ ^3P_1^o$	$0.85 + 0.15 \ ^3D_1^o$	0.3402E-11
$2p^5 3d \ ^3F_3^o$	$0.59 + 0.34 \ ^1F_3^o$	0.3993E-10
$2p^5 3d \ ^3F_4^o$		0.5629E-10
$2p^5 3d \ ^3P_2^o$	$0.55 + 0.39 \ ^3D_2^o$	0.4606E-10
$2p^5 3d \ ^1D_2^o$	$0.55 + 0.25 \ ^3F_2^o + 0.14 \ ^3D_2^o$	0.4228E-10
$2p^5 3d \ ^3D_3^o$	$0.68 + 0.30 \ ^1F_3^o$	0.4966E-10
$2p^5 3d \ ^3D_1^o$	$0.50 + 0.43 \ ^1P_1^o$	0.1682E-13
$2p^5 3d \ ^3F_2^o$	$0.70 + 0.24 \ ^1D_2^o$	0.3909E-10
$2p^5 3d \ ^3D_2^o$	$0.43 + 0.38 \ ^3P_2^o + 0.16 \ ^1D_2^o$	0.5183E-10
$2p^5 3d \ ^3F_3^o$	$0.39 + 0.35 \ ^1F_3^o + 0.25 \ ^3D_3^o$	0.5271E-10
$2p^5 3d \ ^1P_1^o$	$0.56 + 0.35 \ ^3D_1^o$	0.1250E-13
Kr XXVII		
$2p^5 3s \ ^3P_2^o$		0.1934E-06
$2p^5 3s \ ^1P_1^o$	$0.62 + 0.37 \ ^3P_1^o$	0.1914E-12
$2p^5 3p \ ^3S_1$	$0.55 + 0.38 \ ^3P_1$	0.1285E-09
$2p^5 3p \ ^3D_2$	$0.53 + 0.32 \ ^1D_2 + 0.15 \ ^3P_2$	0.6415E-10
$2p^5 3s \ ^3P_0^o$		0.6727E-06
$2p^5 3s \ ^3P_1^o$	$0.62 + 0.37 \ ^1P_1$	0.2861E-12
$2p^5 3p \ ^3D_3$		0.5718E-10
$2p^5 3p \ ^1P_1$	$0.59 + 0.20 \ ^3S_1 + 0.15 \ ^3D_1$	0.6639E-10
$2p^5 3p \ ^3P_2$	$0.67 + 0.33 \ ^1D_2$	0.3650E-10
$2p^5 3p \ ^3P_0$	$0.72 + 0.28 \ ^1S_0$	0.2961E-10
$2p^5 3p \ ^3D_1$	$0.71 + 0.26 \ ^1P_1$	0.1183E-09
$2p^5 3p \ ^3P_1$	$0.56 + 0.22 \ ^3S_1 + 0.13 \ ^1P_1$	0.5295E-10
$2p^5 3p \ ^3D_2$	$0.47 + 0.35 \ ^1D_2 + 0.18 \ ^3P_2$	0.3878E-10
$2p^5 3p \ ^1S_0$	$0.72 + 0.28 \ ^3P_0$	0.2408E-10
$2p^5 3d \ ^3P_0^o$		0.4127E-10
$2p^5 3d \ ^3P_1^o$	$0.84 + 0.15 \ ^3D_1^o$	0.3375E-11
$2p^5 3d \ ^3F_3^o$	$0.58 + 0.35 \ ^1F_3^o$	0.3692E-10
$2p^5 3d \ ^3F_4^o$		0.5356E-10
$2p^5 3d \ ^3P_2^o$	$0.53 + 0.42 \ ^3D_2^o$	0.4213E-10
$2p^5 3d \ ^1D_2^o$	$0.58 + 0.24 \ ^3F_2^o + 0.12 \ ^3D_2^o$	0.4022E-10
$2p^5 3d \ ^3D_3^o$	$0.68 + 0.30 \ ^1F_3^o$	0.4722E-10
$2p^5 3d \ ^3D_1^o$	$0.48 + 0.45 \ ^1P_1^o$	0.1404E-13
$2p^5 3d \ ^3F_2^o$	$0.70 + 0.24 \ ^1D_2^o$	0.3615E-10
$2p^5 3d \ ^3D_2^o$	$0.42 + 0.39 \ ^3P_2^o + 0.16 \ ^1D_2^o$	0.4929E-10
$2p^5 3d \ ^3F_3^o$	$0.40 + 0.35 \ ^1F_3^o + 0.25 \ ^3D_3^o$	0.5014E-10
$2p^5 3d \ ^1P_1^o$	$0.54 + 0.37 \ ^3D_1^o$	0.1117E-13

Table 6

Comparison of lifetimes in s for S VII. See page 9 for Explanation of Tables.

State	τ_{RCI} (s)	τ_{BP} (s)	τ_{exp} (s)
S VII			
$2p^5 3s \ ^3P_2^o$	0.1309E-02	0.1313E-02	
$2p^5 3s \ ^3P_1^o$ 0.81 + 0.18 $^1P_1^o$	0.5391E-10	0.5507E-10	0.49 ± 0.02E-10
$2p^5 3s \ ^3P_0^o$	0.1304E+00	0.1328E+00	
$2p^5 3s \ ^1P_1^o$ 0.81 + 0.18 $^3P_1^o$	0.1187E-10	0.1175E-10	0.119 ± 0.01E-10
$2p^5 3p \ ^3S_1$	0.1140E-08	0.1121E-08	0.113 ± 0.004E-8
$2p^5 3p \ ^3D_3$	0.6386E-09	0.6221E-09	0.67 ± 0.02E-9
$2p^5 3p \ ^3D_2$ 0.79 + 0.16 1D_2	0.6609E-09	0.6438E-09	0.64 ± 0.03E-9
$2p^5 3p \ ^3D_1$ 0.72 + 0.17 1P_1 + 0.11 3P_1	0.6409E-09	0.6235E-09	0.66 ± 0.02E-9
$2p^5 3p \ ^3P_2$ 0.56 + 0.42 1D_2	0.5529E-09	0.5373E-09	0.55 ± 0.02E-9
$2p^5 3p \ ^1P_1$ 0.55 + 0.27 3D_1 + 0.17 3P_1	0.6390E-09	0.6206E-09	
$2p^5 3p \ ^3P_0$	0.4940E-09	0.4813E-09	
$2p^5 3p \ ^1D_2$ 0.42 + 0.38 3P_2 + 0.19 3D_2	0.5821E-09	0.5669E-09	0.54 ± 0.02E-9
$2p^5 3p \ ^3P_1$ 0.70 + 0.27 1P_1	0.5372E-09	0.5224E-09	
$2p^5 3p \ ^1S_0$	0.1657E-09	0.1646E-09	
$2p^5 3d \ ^3P_0^o$	0.2366E-09	0.2344E-09	
$2p^5 3d \ ^3P_1^o$	0.1573E-09	0.1555E-09	
$2p^5 3d \ ^3P_2^o$	0.2396E-09	0.2369E-09	0.242 ± 0.015E-9
$2p^5 3d \ ^3F_4^o$	0.2343E-09	0.2313E-09	0.243 ± 0.015E-9
$2p^5 3d \ ^3F_3^o$ 0.77 + 0.20 $^1F_3^o$	0.2303E-09	0.2271E-09	0.234 ± 0.015E-9
$2p^5 3d \ ^3F_2^o$ 0.71 + 0.17 $^1D_2^o$ + 0.11 $^3D_2^o$	0.2254E-09	0.2223E-09	0.233 ± 0.015E-9
$2p^5 3d \ ^1F_3^o$ 0.53 + 0.40 $^3D_3^o$	0.2296E-09	0.2263E-09	0.230 ± 0.015E-9
$2p^5 3d \ ^3D_1^o$	0.1517E-10	0.1496E-11	
$2p^5 3d \ ^1D_2^o$ 0.52 + 0.28 $^3F_2^o$ + 0.19 $^3D_2^o$	0.2191E-09	0.2161E-09	
$2p^5 3d \ ^3D_3^o$ 0.57 + 0.27 $^1F_3^o$ + 0.16 $^3F_3^o$	0.2226E-09	0.2196E-09	0.238 ± 0.015E-9
$2p^5 3d \ ^3D_2^o$ 0.65 + 0.27 $^1D_2^o$	0.2173E-09	0.2143E-09	
$2p^5 3d \ ^1P_1^o$	0.1053E-11	0.1054E-11	

Table 7

Comparison of lifetimes in s for several ions. See page 9 for Explanation of Tables.

State	τ_{RCI} (s)	τ_{exp} (s)
Mg III		
$2p^5 3s \ ^3P_1^o$	0.2062E-08	$0.19 \pm 0.019E-08$
$2p^5 3s \ ^1P_1^o$	0.1104E-09	$0.11 \begin{smallmatrix} +0.015 \\ -0.010 \end{smallmatrix} E-09$
Al IV		
$2p^5 3s \ ^1P_1^o$	0.5189E-10	$0.46 \begin{smallmatrix} +0.10 \\ -0.05 \end{smallmatrix} E-10$
Si V		
$2p^5 3s \ ^1P_1^o$	0.2869E-10	$0.28 \begin{smallmatrix} +0.08 \\ -0.04 \end{smallmatrix} E-10$
P VI		
$2p^5 3s \ ^3P_1^o$ 0.86 + 0.13 $^1P_1^o$	0.1139E-09	$0.13 \pm 0.03E-09$
$2p^5 3s \ ^1P_1^o$ 0.86 + 0.13 $^3P_1^o$	0.1772E-10	$0.18 \begin{smallmatrix} +0.07 \\ -0.02 \end{smallmatrix} E-10$
S VII		
$2p^5 3s \ ^3P_1^o$ 0.81 + 0.18 $^1P_1^o$	0.5391E-10	$0.52 \pm 0.02E-10$
$2p^5 3s \ ^1P_1^o$ 0.81 + 0.18 $^3P_1^o$	0.1187E-10	$0.145 \pm 0.01E-10$
Cl VIII		
$2p^5 3s \ ^3P_1^o$ 0.76 + 0.23 $^1P_1^o$	0.2812E-10	$0.27 \pm 0.01E-10$
$2p^5 3s \ ^1P_1^o$ 0.76 + 0.23 $^3P_1^o$	0.8466E-11	$1.3 \pm 0.1E-11$
Ar IX		
$2p^5 3s \ ^3P_1^o$ 0.71 + 0.28 $^1P_1^o$	0.1599E-10	$0.19 \pm 0.04E-10$
$2p^5 3s \ ^1P_1^o$ 0.71 + 0.28 $^3P_1^o$	0.6325E-11	$0.65 \pm 0.2E-11$