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Generalized collisional radiative model for light elements. Part B: Data for the Be isonuclear sequence

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Abstract

A first-stage collision database is assembled which contains electron-impact excitation, ionization, and recombination rate coefficients for Be, Be^{+}, Be^{2+}, and Be^{3+}. The first-stage database is constructed using the *R*-matrix with pseudo-states, time-dependent close-coupling, and perturbative, distorted-wave methods. A second-stage collision database is then assembled which contains generalized collisional-radiative and radiated power loss coefficients. The second-stage database is constructed by solution of collisional-radiative equations in the quasi-static equilibrium approximation using the first-stage database. Both collision database stages reside in electronic form at the ORNL Controlled Fusion Atomic Data Center and in the ADAS database, and are easily accessed over the worldwide internet.
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1. Introduction

Accurate atomic and molecular databases underpin current research efforts in a variety of scientific and engineering areas, including controlled fusion energy, astrophysics, radiation biophysics, fluorescent lamps, and atmospheric pollutant removal [1]. In particular, beryllium has been proposed as a first wall component for the plasma-facing material in the planned ITER experiment [2], due to its low atomic number and attractive radiative properties at the low electron temperatures present in the divertor. Experiments involving beryllium transport are planned on current tokamaks to simulate conditions in ITER. In this paper, we report on the construction of an electron-ion collision database for the modelling of beryllium emission in plasmas, for both fusion and astrophysical applications. We present tables of all the fundamental data, along with a brief description of each dataset, and references to the original calculations from which the data was compiled.

Effective collision strengths are obtained from recent *R*-matrix with pseudo-states calculations of excitation cross-sections for all members of the Be isonuclear sequence [3]. Ionization rate coefficients are obtained from recent time-dependent close-coupling and perturbative distorted-wave calculations of ionization cross-sections for all members of the Be isonuclear sequence [4]. Recombination rate coefficients are obtained from recent intermediate-coupling distorted-wave calculations for first row ionization stages of all atoms [5], in particular, recombination for Li-like [6], He-like [7], and H-like [8] atomic ions. All the effective collision strengths and rate coefficients are obtained from a Maxwellian convolution of the cross-sections and are stored in electronic form at the Oak Ridge National Laboratory (ORNL) Controlled Fusion Atomic Data Center (CFADC) [9].

Making use of the complete electron-ion collision database for beryllium, the collisional-radiative codes found in the Atomic Data and Analysis Structure (ADAS) package [10,11] are employed to derive generalized collisional-radiative and radiated power loss coefficients for the ground and metastable terms of each ionization stage of beryllium. These generalized collisional-radiative coefficients can be used by subsequent plasma transport codes to track the evolution of the ground and metastable term populations of the Be ions. All the ADAS derived generalized collisional-radiative and radiated power loss coefficients are stored in electronic form at the ORNL CFADC [9] and in the ADAS database [11].

The generalized collisional-radiative methodology for light species is outlined in the recent work of Summers et al. [12]. The present paper is the second in a series pro-

viding generalized collisional-radiative data for the modelling of light species. The first data paper was on lithium [13], with work underway on papers for carbon and other light elements. The remainder of this paper is organized as follows. In Section 2, we give a brief review of the theoretical and computational methods used to generate the electron-impact excitation, ionization, and recombination cross-sections and rates forming the first-stage collision database. In Section 3, we describe the generalized collisional-radiative data which is generated from the first-stage data. In Section 4, we describe the line power loss coefficient data which is generated from the first-stage data. In Section 5, we summarize our findings and discuss future directions.

2. First-stage collision database

2.1. Electron-ion excitation

Excitation cross-sections for the 171 transitions among the LS terms of the $1s^22s^2$, $1s^22s2p$, $1s^22p^2$, $1s^22s3l$, and $1s^22s4l$ configurations of Be were calculated using the *R*-matrix with pseudo-states (RMPS) method [3]. The RMPS calculations included 280 states, of which 19 were spectroscopic and the remaining 261 were pseudo-states used to represent high Rydberg states and the target continuum. The RMPS results were found to be in good agreement with the results of earlier RMPS [14,15] and convergent close-coupling (CCC) calculations [16,17] for the 5 LS transitions within $1s^22s^2 \rightarrow 1s^22s2p$ and $1s^22p^2$. Effective collision strengths were obtained by Maxwellian convolution of the RMPS cross-sections for all 171 transitions. For example, effective collision strengths for the LS transitions within $1s^22s^2 \rightarrow 1s^22s2p$ and $1s^22p^2$ are shown in Fig. 1. The numerical entry form for the Be collision strengths is presented in the first part of Table 1. A detailed comparison of the excitation cross-sections for all ion stages of Be with archived data can be found in Ballance et al. [3].

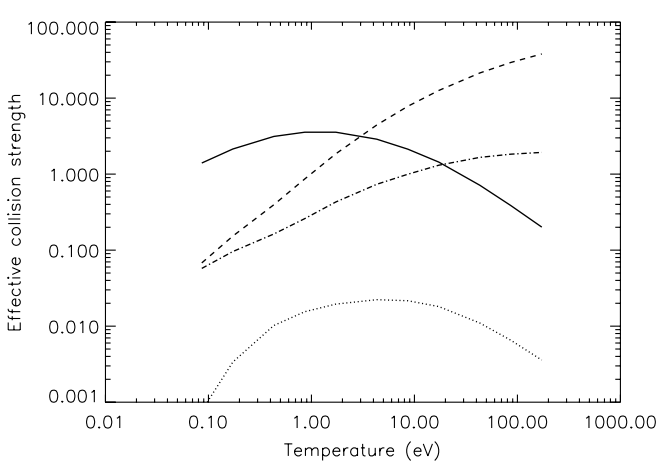

Fig. 1. Effective collision strengths for neutral Be. The solid line shows the results for the $1s^22s^2(^1S) \rightarrow 1s^22s2p(^3P)$ transition. The dashed line represents the $1s^22s^2(^1S) \rightarrow 1s^22s2p(^1P)$ transition, the dotted line represents the $1s^22s^2(^1S) \rightarrow 1s^22p^2(^3P)$ transition and the dot-dashed line represents the $1s^22s^2(^1S) \rightarrow 1s^22p^2(^1D)$ transition.

Excitation cross-sections for the 36 transitions among the $1s^22l$, $1s^23l$ and $1s^24l$ configurations of Be^+ were calculated using the *R*-matrix with pseudo-states method [3]. The RMPS calculation included 49 states, of which nine were spectroscopic and the remaining 40 were pseudo-states. Time-dependent close-coupling (TDCC) method results for the eight transitions $1s^22s \rightarrow 1s^22p$, $1s^23l$, and $1s^24l$ were in good agreement with the RMPS calculations at intermediate incident energies [3]. The RMPS and TDCC results were found to be in relatively good agreement with the results of earlier RMPS and CCC calculations [18] for the eight transitions from ground to excited configurations. Effective collision strengths were obtained by Maxwellian convolution of the RMPS cross-sections for all 36 transitions. The numerical entry form for the Be^+ collision strengths is presented in the first part of Table 2.

Excitation cross-sections for the 171 transitions among the LS terms of the $1s^2$, 1s2l,1s3l, and 1s4l configurations of Be^{2+} were calculated using the *R*-matrix with pseudo-states method [3]. The RMPS calculations included 103 states, of which 19 were spectroscopic and the remaining 84 were pseudo-states. Effective collision strengths were obtained by Maxwellian convolution of the RMPS cross-sections for all 171 transitions. The numerical entry form for the Be^{2+} collision strengths is presented in the first part of Table 3.

Excitation cross-sections for the 45 transitions among the 1s, 2l, 3l, and 4l configurations of Be^{3+} were calculated using the *R*-matrix with pseudo-states method [3]. The RMPS calculations included 57 states, of which 10 were spectroscopic and the remaining 47 were pseudo-states. TDCC method cross-sections for the eight transitions $2s \rightarrow 2p$, 3l, and 4l were in good agreement with the RMPS calculations at intermediate incident energies [3]. Effective collision strengths were obtained by Maxwellian convolution of the RMPS cross-sections for all 45 transitions. Note that the term resolved RMPS effective collision strengths have been bundled into *n*-shell resolved data. This is because proton collisions mix the degenerate populations within an *n*-shell for hydrogenic systems, and bundled-*n* population modeling is more appropriate. The numerical entry form for the Be^{3+} collision strengths is presented in the first part of Table 4.

2.2. Electron-ion ionization

Ionization cross-sections for the transitions $1s^22s^2 \rightarrow 1s^22s + e^-$ and $1s^22s2p \rightarrow 1s^22s + e^-$ of Be were calculated using both the *R*-matrix with pseudo-states and the time-dependent close-coupling methods [4]. The RMPS and TDCC results were found to be in good agreement with the results of earlier convergent close-coupling calculations for the $1s^22s^2 \rightarrow 1s^22s + e^-$ transition [16]. The ionization

cross-section for the transition $1s^22s2p \rightarrow 1s^22p + e^-$ was calculated using the configuration-average distorted-wave (CADW) method [19]. LS term resolution for the CADW transition was achieved using ionization branching factors [20]. The remaining transitions, namely $1s^22p^2 \rightarrow 1s^22p + e^-$, $1s^22s3l \rightarrow 1s^22s + e^-$, $1s^22s4l \rightarrow 1s^22s + e^-$, and $1s^22s5l \rightarrow 1s^22s + e^-$ were calculated using the Exchange Classical Impact Parameter (ECIP) approximation [21]. Ionization rate coefficients were obtained by Maxwellian convolution of the RMPS, TDCC, CADW, and ECIP cross-sections for all 29 transitions. For example, ionization rates for the $1s^22s^2 \rightarrow 1s^22s + e^-$ and $1s^22s2p \rightarrow 1s^22s + e^-$ transitions are shown in Fig. 2. The numerical entry form for the Be ionization rates is presented in the part of Table 1 with an "S" line label. The ECIP approximation is a semi-empirical method which is evaluated within the collisional-radiative code which processes the first-stage collision data. Thus, the ECIP rate coefficients are not included in Table 1, but can be evaluated from the structure information provided at the top of Table 1. Fig. 2 also shows the data from Bell et al. [22] and Vonorov [23] for ionization from the ground term. Both of these datasets are in reasonable agreement with our data at low temperatures, but show significant differences at higher temperatures. The Bell et al. [22] data is based on scaled cross-section results, and the Voronov [23] data is based on the Bell et al. data [22].

Ionization cross-sections for the transitions $1s^22l \rightarrow 1s^2 + e^-$ of Be^+ were calculated using the *R*-matrix with pseudo-states and the time-dependent close-coupling methods [4]. The ionization cross-section for the transition $1s^22s \rightarrow 1s2s + e^-$ was calculated using the CADW method, and split into term resolution using branching factors [20]. Ionization cross-sections for the transitions $1s^2nl \rightarrow 1s^2 + e^-$ for $n = 3$, 4, and 5 were calculated using the ECIP approximation [21]. Ionization rate coefficients were obtained by Maxwellian convolution of the TDCC, RMPS, CADW, and ECIP cross-sections for all 14 transitions. The numerical entry form for the Be^+ ionization rates is presented in the part of Table 2 with an "S" line label. The ECIP rate coefficients can be evaluated from the structure information at the top of Table 2, and so are not shown in the table.

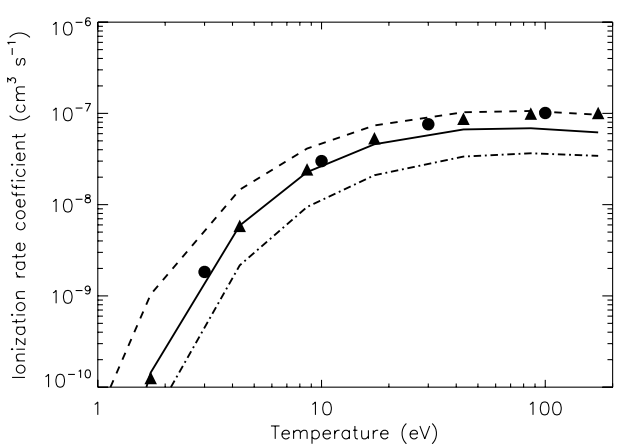

Fig. 2. Ionization rate coefficients for neutral Be. The solid line shows the results for the $1s^22s^2(^1S) \rightarrow 1s^22s(^2S) + e$ transition. The dashed line represents the $1s^22s2p(^3P) \rightarrow 1s^22s(^2S) + e$ transition, and the dot-dashed line represents the $1s^22s2p(^3P) \rightarrow 1\ s^22p(^2P) + e$ transition. The circles show the archived data of Voronov [23] and the triangles show the archived data of Bell et al. [22], with both of these being for ionization from the ground term.

Ionization cross-sections for the transitions $1s^2 \rightarrow 1s + e^-$ and $1s2s \rightarrow 1s + e^-$ of Be^{2+} were calculated using the *R*-matrix with pseudo-states and the time-dependent close-coupling methods [4]. The RMPS and TDCC results were found to be in good agreement with configuration-average distorted-wave results [4]. The ionization cross-section for the transition $1s2s \rightarrow 2s + e^-$ was evaluated using the CADW method, and split into term resolution using the appropriate branching factors [20]. Ionization cross-sections for the transitions $1s2p \rightarrow 1s + e^-$ and $1snl \rightarrow 1s + e^-$ for $n = 3$–4 were calculated using the ECIP method [21]. Ionization rate coefficients were obtained by Maxwellian convolution of the RMPS, TDCC, CADW, and ECIP cross-sections for all 19 transitions. The numerical entry form for the Be^{2+} ionization rates is presented in the part of Table 3 with an "S" line label. Again, the ECIP rate coefficients can be evaluated from the structure information at the top of Table 3, and so are not shown in the table.

Ionization cross-sections for the transitions $1s \rightarrow e^-$ and $2s \rightarrow e^-$ of Be^{3+} were calculated using the *R*-matrix with pseudo-states method [4]. The RMPS results were found to be in good agreement with configuration-average distorted-wave results [4]. Ionization cross-sections for the transitions $2p \rightarrow e^-$ and $nl \rightarrow e^-$ for $n = 3$–4 were calculated using the ECIP method [21]. Ionization rate coefficients were obtained by Maxwellian convolution of the RMPS and ECIP cross-sections for all of the above transitions. These were then bundled into *n*-shell resolved transitions, as is more appropriate for a hydrogenic system. The numerical entry form for the Be^{3+} ionization rates is presented in the part of Table 4 with an "S" line label. The ECIP rate coefficients can be evaluated from the structure information at the top of Table 4, and so are not shown in the table.

2.3. Electron-ion recombination

Recombination cross-sections for the transitions $1s^22s + e^- \rightarrow 1s^22lnl'$ for $n = 2$–5 and $l' = 0$–4 of Be^+ were calculated using the intermediate-coupling distorted-wave (ICDW) method [6]. The ICDW results consist of dielectronic recombination data, and radiative recombination data is evaluated using a Gaunt factor method [21]. Note that the ICDW calculations include dielectronic capture into *n*-shells up to $n = 1000$. This data forms part of the high *n*-shell data described in Section 2.4, and it is projected onto the 29 terms in our first-stage datafile. Recom-

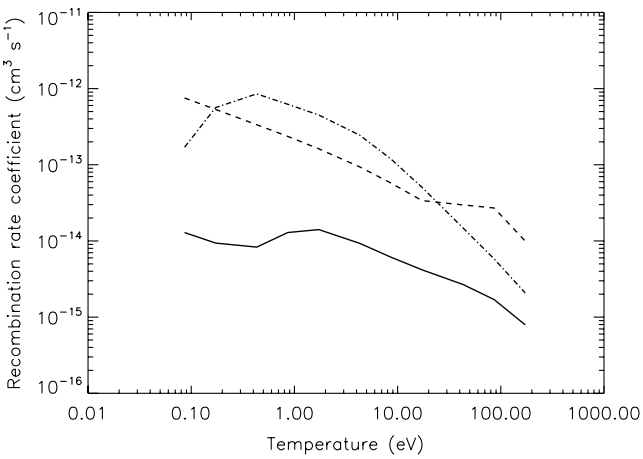

Fig. 3. Recombination rate coefficients for Be^+ recombining into neutral Be. The solid line shows the results for the $1s^22s(^2S) + e \rightarrow 1s^22s^2(^1S)$ transition, the dashed line represents the $1s^22s(^2S) + e \rightarrow 1s^22s2p(^1P)$ transition, and the dot-dashed line represents the $1s^22s(^2S) + e \rightarrow 1s^22s2p(^3P)$ transition.

bination rate coefficients were obtained by Maxwellian convolution of the dielectronic and radiative recombination cross-sections for all 29 transitions. For example, recombination rates for the $1s^22s + e^- \rightarrow 1s^22s^2$ and $1s^22s + e^- \rightarrow 1s^22s2p$ transitions are shown in Fig. 3. The numerical entry form for the Be^+ recombination rates is presented in the part of Table 1 with an "R" line label.

Recombination cross-sections for the transitions $1s^2 + e^- \rightarrow 1s^2nl$ for $n = 2$–8 and $l = 0$–4 of Be^{2+} were calculated using the intermediate-coupling distorted-wave method [7]. The ICDW results include both radiative and dielectronic recombination processes, including dielectronic capture into n-shells up to $n = 1000$. Recombination rate coefficients were obtained by Maxwellian convolution of the ICDW cross-sections for all 28 transitions (including recombination from both the ground and metastable of the Be^{2+} ion stage). The numerical entry form for the Be^{2+} recombination rates is presented in the part of Table 2 with an "R" line label.

Recombination cross-sections for the transitions $1s + e^- \rightarrow 1snl$ for $n = 2$–5 and $l = 0$–4 of Be^{3+} were calculated using the intermediate-coupling distorted-wave method [8]. The ICDW results consist of dielectronic recombination data, with radiative recombination being evaluated using a Gaunt factor approach [21]. Recombination rate coefficients were obtained by Maxwellian convolution of the dielectronic and radiative recombination cross-sections for all 27 transitions. As in the previous case, the ICDW dielectronic recombination calculations included capture into n-shells up to $n = 1000$, and are included in the first-stage collisional datafile through the projection matrix described in Section 2.4. The numerical entry form for the Be^{3+} recombination rates is presented in the part of Table 3 with an "R" line label.

Radiative recombination cross-sections for transitions $Be^{4+} + e^- \rightarrow Be^{3+}$ (nl) are evaluated for $n = 1$–5 and $l = 0$–4 using a Gaunt factor method [21]. Rate coefficients were produced by Maxwellian convolution, and the term resolved rate coefficient data was bundled into n-shell resolution for all five bundled-n recombination transitions in the first-stage Be^{3+} datafile, see Table 4.

2.4. High n-shell data

As with our previously published Li dataset, we evaluated approximate atomic data for n-shells above which our R-matrix data extended. It can be important to include data for these higher n-shells in population modeling for a number of reasons. Under low temperature or high density conditions, the total ionization losses from an ion stage can be dominated by stepwise ionization, and inclusion of these higher n-shells in the population modelling becomes important. Also, at low densities dielectronic recombination into the higher n-shells is a strong populating mechanism, and unless these higher n-shells are included in any population calculations, the excited populations do not go to their correct coronal value.

Our high n-shell data is included through the use of a projection matrix. Our data consists of semi-empirical expressions, based on the Gaunt factor and ECIP expressions of Burgess and Summers [21]. We note that the dielectronic recombination data in our projection matrix data is based on the ICDW calculations reported in Section 2.3, and as such are the only part of the projection matrix data that is not semi-empirical.

3. Second-stage collision database

The first-stage atomic collision data presented in Section 2 can be used directly to calculate term populations via the collisional-radiative equations

$$\begin{aligned}\frac{dN_j^z}{dt} = &-\sum_{j'<j} A_{j\rightarrow j'}N_j^z - N_e\sum_{j'\neq j} q_{j\rightarrow j'}N_j^z \\ &+\sum_{j'>j} A_{j'\rightarrow j}N_{j'}^z + N_e\sum_{j'\neq j} q_{j'\rightarrow j}N_{j'}^z \\ &- N_e\sum_k \mathcal{S}_{j\rightarrow k}N_j^z + N_e\sum_k \mathcal{R}_{k\rightarrow j}N_k^{z+1},\end{aligned} \tag{1}$$

where $A_{j\rightarrow j'}$ are radiative decay rates, $\mathcal{S}_{j\rightarrow k}$ are electron-impact ionization rates, $\mathcal{R}_{k\rightarrow j}$ are electron-impact recombination rates, and N_e is the electron density. The electron-impact excitation rates, $q_{i\rightarrow j}$, are easily determined from the effective collision strengths found in Tables 1–4 [13].

For many plasma conditions, the ground and metastable term populations evolve on a much slower timescale than the excited term populations, allowing the time derivative of the excited term populations to be set to zero. In the quasi-static equilibrium approximation, the ground and metastable term populations can be calculated via the collisional-radiative equations

$$\begin{aligned}\frac{\mathrm{d}N^z_\beta}{\mathrm{d}t} = &- N_\mathrm{e}\sum_{\beta'\neq\beta}(X_{\beta\to\beta'} + Q_{\beta\to\beta'})N^z_\beta \\ &+ N_\mathrm{e}\sum_{\beta'\neq\beta}(X_{\beta'\to\beta} + Q_{\beta'\to\beta})N^z_{\beta'} \\ &- N_\mathrm{e}\sum_\gamma S_{\beta\to\gamma}N^z_\beta + N_\mathrm{e}\sum_\alpha S_{\alpha\to\beta}N^{z-1}_\alpha \\ &+ N_\mathrm{e}\sum_\gamma R_{\gamma\to\beta}N^{z+1}_\gamma - N_\mathrm{e}\sum_\alpha R_{\beta\to\alpha}N^z_\beta. \end{aligned} \tag{2}$$

The cross-coupling rate coefficients are given by

$$X_{\beta\to\beta'} = \left(\mathcal{C}^z_{\beta'\beta} - \sum_j \mathcal{C}^z_{\beta' j}\sum_{j'}(\mathcal{C}^z_{jj'})^{-1}\mathcal{C}^z_{j'\beta}\right)\Big/ N_\mathrm{e}, \tag{3}$$

and the parent cross-coupling rate coefficients are given by

$$Q_{\beta\to\beta'} = N_\mathrm{e}\sum_i \mathcal{S}_{i\to\beta'}\sum_{i'}(\mathcal{C}^{z-1}_{ii'})^{-1}\mathcal{R}_{\beta\to i'}, \tag{4}$$

where the collisional-radiative matrix elements for ion stage z are given by

$$\mathcal{C}^z_{j'j} = \sum_{j'<j} A_{j\to j'} + N_\mathrm{e}\sum_{j'\neq j} q_{j\to j'}, \tag{5}$$

$$\mathcal{C}^z_{jj'} = -A_{j'\to j} - N_\mathrm{e}q_{j'\to j} \text{ for } j' > j, \tag{6}$$

$$\mathcal{C}^z_{jj'} = -N_\mathrm{e}q_{j'\to j} \text{ for } j' < j. \tag{7}$$

The generalized ionization rate coefficients are given by

$$S_{\beta\to\gamma} = \mathcal{S}_{\beta\to\gamma} - \sum_j \mathcal{S}_{j\to\gamma}\sum_{j'}(\mathcal{C}^z_{jj'})^{-1}\mathcal{C}^z_{j'\beta}, \tag{8}$$

$$S_{\alpha\to\beta} = \mathcal{S}_{\alpha\to\beta} - \sum_i \mathcal{S}_{i\to\beta}\sum_{i'}(\mathcal{C}^{z-1}_{ii'})^{-1}\mathcal{C}^{z-1}_{i'\alpha}. \tag{9}$$

The generalized recombination rate coefficients are given by

$$R_{\gamma\to\beta} = \mathcal{R}_{\gamma\to\beta} - \sum_j \mathcal{C}^z_{\beta j}\sum_{j'}(\mathcal{C}^z_{jj'})^{-1}\mathcal{R}_{\gamma\to j'}, \tag{10}$$

$$R_{\beta\to\alpha} = \mathcal{R}_{\beta\to\alpha} - \sum_i \mathcal{C}^{z-1}_{\alpha i}\sum_{i'}(\mathcal{C}^{z-1}_{ii'})^{-1}\mathcal{R}_{\beta\to i'}. \tag{11}$$

Our second-stage database contains the generalized collisional-radiative coefficients. These generalized collisional-radiative coefficients are a function of both temperature and density. For example, the generalized ionization rate coefficient for Be is shown in Fig. 4, while the generalized recombination rate coefficient for Be^+ is shown in Fig. 5. The R, S, Q, and X generalized collisional-radiative coefficients are presented Tables 5–8, respectively. We note that it is these generalized collisional-radiative coefficients that are most useful in plasma transport codes, since they contain the effects of the excited states on the ground and metastables, without the need for a large number of coefficients to be archived.

4. Radiated power loss

The radiated power loss function from a single excited term, due to all possible bound–bound spectral line emissions, is given by

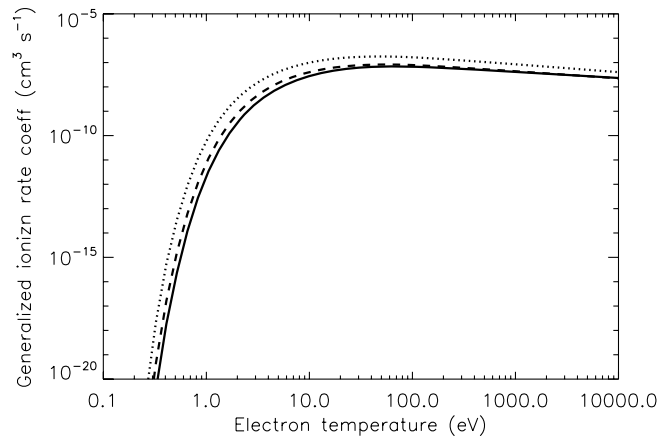

Fig. 4. The generalized collisional-radiative ionization rate coefficient for neutral Be, $1s^22s^2(^1S) \to 1s^22s(^2S) + e$, as a function of electron temperature for three electron densities. The solid line is for $N_\mathrm{e} = 1 \times 10^8$ cm^{-3}, the dashed line is for $N_\mathrm{e} = 1.6 \times 10^{12}$ cm^{-3} and the dotted line is for $N_\mathrm{e} = 2.1 \times 10^{14}$ cm^{-3}.

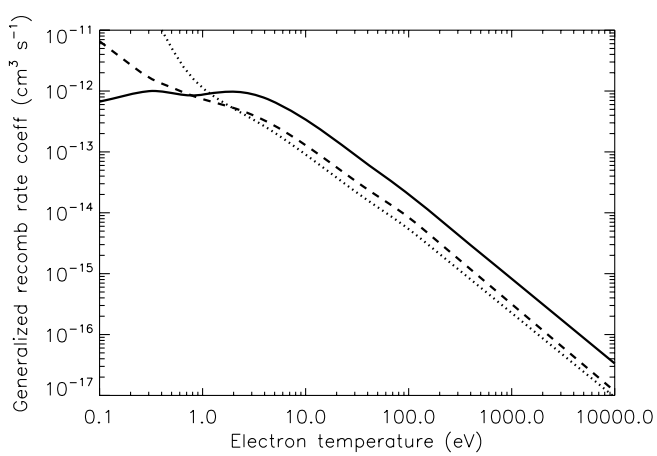

Fig. 5. The generalized collisional-radiative recombination rate coefficient for Be^+, $1s^22s(^2S) + e \to 1s^22s^2(^1S)$, as a function of electron temperature for three electron densities. The solid line is for $N_\mathrm{e} = 1 \times 10^8$ cm^{-3}, the dashed line is for $N_\mathrm{e} = 1.6 \times 10^{12}$ cm^{-3} and the dotted line is for $N_\mathrm{e} = 2.1 \times 10^{14}$ cm^{-3}.

$$RPL^z_j = \sum_{j'<j}\frac{A^z_{j\to j'}\Delta E^z_{jj'}N^z_j}{N_\mathrm{e}N_\mathrm{tot}}, \tag{12}$$

where $\Delta E^z_{jj'}$ is the transition energy. On the other hand, the total radiated power loss function from an ionization stage, due to spectral line emission, is given by

$$RPL^z = \sum_\beta \frac{P^z_{\mathrm{exc},\beta}N^z_\beta}{N_\mathrm{tot}} + \sum_\gamma \frac{P^z_{\mathrm{rec},\gamma}N^{z+1}_\gamma}{N_\mathrm{tot}}. \tag{13}$$

Note that to use this last equation, one needs to know the fractional abundances of each of the ion stages, either from an ionization balance calculation, or from an impurity transport calculation. The generalized excitation power loss coefficients are given by

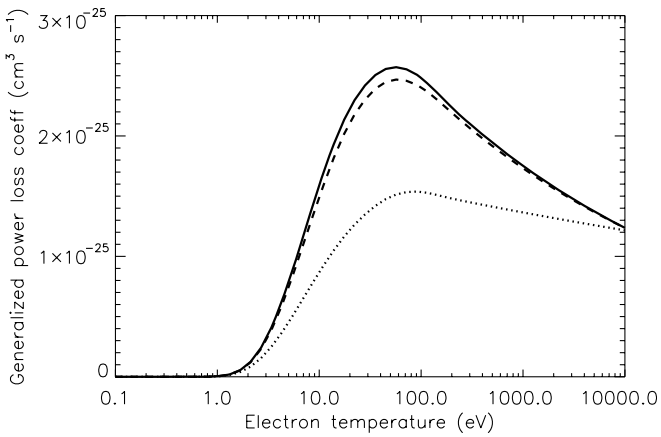

Fig. 6. The generalized collisional-radiative excitation power loss coefficient for neutral Be as a function of electron temperature for three electron densities. The solid line is for $N_e = 1 \times 10^8$ cm^{-3}, the dashed line is for $N_e = 1.6 \times 10^{12}$ cm^{-3}, and the dotted line is for $N_e = 2.1 \times 10^{14}$ cm^{-3}.

$$P^z_{\mathrm{exc},\beta} = \sum_j \sum_{j'<j} \frac{A^z_{j\to j'} \Delta E^z_{jj'}}{N_e} \left[-\sum_{j''} \mathcal{C}^{-1}_{jj''} \mathcal{C}_{j''\beta} \right], \tag{14}$$

and the generalized recombination power loss coefficients are given by

$$P^z_{\mathrm{rec},\gamma} = \sum_j \sum_{j'<j} \frac{A^z_{j\to j'} \Delta E^z_{jj'}}{N_e} \left[N_e \sum_{j''} \mathcal{C}^{-1}_{jj''} \mathcal{R}_{j''\gamma} \right]. \tag{15}$$

For example, the generalized excitation power loss coefficient for Be ground term is given in Fig. 6. For all ionization stages of Be, the generalized excitation power loss coefficients are presented in Table 9, while the generalized recombination power loss coefficients are presented in Table 10. One thing to note is that care should be taken when using the different Be datafiles as the units of the temperature are different in each of the different file types (e.g., Kelvin, eV, and $\log_{10}(T_e)$).

5. Summary

An atomic collision dataset for beryllium is presented consisting of the highest quality data available for electron impact excitation, ionization and recombination. We used *R*-matrix with pseudo-states data for the excitation processes, convergent close-coupling, time-dependent close-coupling and distorted-wave data for the ionization data, and intermediate-coupling distorted-wave data for dielectronic recombination data. For processes involving higher *n*-shells than our *R*-matrix data covers, we used various approximate expressions for the excitation, ionization and recombination processes. As well as presenting the fundamental data, we have presented the derived atomic coefficients necessary to calculate ionization balance and radiative power loss. These coefficients are referred to as generalized collisional-radiative and radiated power loss coefficients. The complete dataset is archived in the ADAS database [11] and at the ORNL CFADC [9].

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.adt.2007.11.002.

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Explanation of Tables

Table 1. First-stage collisional datafile for neutral Be

Datafile for neutral Be, containing the first-stage excitation, ionization and recombination data. Each line has a specific format.

On *Line 1* is the element symbol, with ion charge. Then follows the nuclear charge, then the ion charge plus one. Then there is the ionization potential (in cm^{-1}) for the transition $1s^22s^21S \rightarrow 1s^22s^2S$, with the term for the ionized system within a set of brackets after the ionization potential.

On *lines 2 through to 30* is the list of term descriptions. The data format on each of these lines is the same. Thus, each of these lines starts with the index number which will be used to identify the term. Then there is the configuration, followed by $(2S + 1)L(X)$, where $2S + 1$ is the multiplicity of the term, L is the total angular momentum of the term, and X is such that $(2 \times X) + 1$ is the statistical weight of the term. Then one has the excited energy of the term (in cm^{-1}) relative to the ground term.

Line 32 contains the temperature grid on which the data have been archived. The first number on the line is the ion charge plus one, then there is an index number representing the datatype in the file. The number 3 represents electron collisional data, in effective collision strength form. Then there are a list of 11 temperatures (in K) on which the effective collision strengths are tabulated.

Then on *lines 33–377* are the electron impact excitation data. The format for each line is the same, with the first two numbers being the term index numbers of the initial and final terms involved in the excitation. The next number is the Einstein A-value for that transition (in s^{-1}). Then there is a set of 11 numbers, which are the effective collision strengths for the transition at each of the 11 points on the temperature grid.

The recombination data can be found on *lines 378–406*. The letter R at the beginning of the line indicates that recombination data is to follow. Then one has the term index of the term that is being recombined into. The next number, with the plus beside it, is the index number for the ground or metastable of the adjacent ion stage, where the recombination originates from. Thus, $a + 1$ indicates that it is recombining from the ground term of the next ion stage. There then follows 11 recombination rate coefficients ($cm^3\ s^{-1}$) on the 11 temperature points of the grid.

On *lines 407 through to 408* are the ionization rate coefficient data. Again, each line has the same format. The letter S at the beginning of the line indicates ionization data. The next number is the term index of the term which one is ionizing from. Then follows the index number of the ground or metastable term of the adjacent ion stage. Thus, $a + 2$ indicates that one is ionizing to the first metastable term on the adjacent stage. Note that it is the scaled ionization rate coefficient which is archived. Thus, the archived rate coefficient is the ionization rate coefficient ($cm^3\ s^{-1}$) multiplied by e^{I_{ion}/kT_e}, where I_{ion} is the ionization potential of the term being ionized, k is Boltzmann's constant, and T_e is the electron temperature.

Table 2. First-stage collisional datafile for Be^+

Datafile for Be^+, containing the first-stage excitation, ionization and recombination data. The data format is the same as for Table 1. Note that the ionization potential on line 1 now describes the transition $1s^22s^2S \rightarrow 1s^21S$ with the term label in brackets after the ionization potential being the term of the ionized system. Then there is the ionization potential (in cm^{-1}) for the $1s^22s^2S \rightarrow 1s2s^3S$ transition, with the term for the ionized system in brackets after the ionization potential.

Table 3. First-stage collisional datafile for neutral Be^{2+}

Datafile for Be^{2+}, containing the first-stage excitation, ionization and recombination data. The data format is the same as for Table 1. Note that the ionization potential on line 1 now describes the transition $1s^21S \rightarrow 1s^2S$.

Table 4. First-stage collisional datafile for neutral Be^{3+}

Datafile for Be^{3+}, containing the first-stage excitation, ionization and recombination data. The data format is the same as for Table 1. Note that the ionization potential on line 1 now describes ionization of the $n = 1$ electron. Note that the data for the H-like Be case is n-shell resolved, all of the term resolved data having been bundled into n-shells, due to the strong mixing between the degenerate $n\ell$ subshells in hydrogenic ions.

Table 5. Generalized collisional-radiative recombination data for all ion stages of Be

Generalized collisional-radiative recombination data for all ion stages of beryllium, on a temperature, density grid. The format for the effective recombination, ionization, and cross-coupling coefficients files is the same.

On *line 1*, the list of numbers represents the nuclear charge, the number of electron density points for the grid, the number of electron temperature points for the grid, the lowest ion charge for which there is data in the file and the highest ion charge for which there is data in the file. At the end of line one is the name of the atom, and the project title.

On *line 3* is the number of ground and metastable levels in the dataset for Be, Be^{+}, Be^{2+}, Be^{2+} and the bare beryllium nucleus (which the file counts as having a ground term, so that it can have an index number to label it with).

On *lines 5–7* are the 24 electron densities which make up the density grid. $\log_{10}$ of the electron densities is given, with the electron density in units of cm^{-3}.

On *lines 8–11* are the 25 electron temperatures which make up the temperature grid. $\log_{10}$ of the electron temperatures is given, with the electron temperature in units of eV.

Line 12 is a labelling line to indicate which ion stage is about to be described. IPRT is the parent index number for the transition, IGRND is the ground term index. Z1 is the ion charge plus one, and the date the data was made is at the end of the line.

Lines 13 through to 87 take one T_e value at a time, and list $\log_{10}$ of the effective recombination rate coefficient for each of the electron densities on the grid.

- Thus *lines 13–15* give the values for the first electron temperature, for each of the 24 electron density values.
- *Lines 16–18* provide the data for the next temperature.
- etc.

Line 88 then gives a second labelling line, indicating that the following data is for the next ion stage.

Lines 89–163 are of the same format as lines 13–87, with the data corresponding to the recombination from the $1s^22s^2S$ of the Be^{+} ion stage into the $1s^22s2p^3P$ term of the neutral stage. In the same way, there are five more sets of effective recombination rate coefficients given, for recombination from transitions $1s^{21}S$ into $1s^22s^2S$, $1s2\ s^3S$ into $1s^22s^2S$, $1s^2S$ into $1s^{21}S$, $1s^2S$ into $1s^{23}S$ and the bare nucleus into $1s^2S$.

Table 6. Generalized collisional-radiative ionization data for all ion stages of Be

Generalized collisional-radiative ionization data for all ion stages of beryllium, on a temperature, density grid. The format of the file is identical to that for the generalized collisional-radiative recombination datafile (Table 6). The data this time is of $\log_{10}$ of the effective ionization rate coefficient, and the same electron temperature and density grid is used.

Table 7. Generalized collisional-radiative *X* coefficient data for all ion stages of Be

Generalized collisional-radiative *X* rate coefficient data for all ion stages of beryllium, on a temperature, density grid. The format of the file is identical to that for the generalized collisional-radiative recombination datafile (Table 6). The data this time is of $\log_{10}$ of the *X* rate coefficient.

Table 8. Generalized collisional-radiative *Q* coefficient data for all ion stages of Be

Generalized collisional-radiative *Q* rate coefficient data for all ion stages of beryllium, on a temperature, density grid. The format of the file is identical to that for the generalized collisional-radiative recombination datafile (Table 6). The data this time is of $\log_{10}$ of the *Q* rate coefficient.

Table 9. Total excitation line power loss data for all ion stages of Be

Total excitation line power loss data for all ion stages of beryllium, on a temperature, density grid. The format of the file is identical to that for the generalized collisional-radiative recombination datafile (Table 6). The data this time is of $\log_{10}$ of the total excitation line power loss coefficient.

Table 10. Total recombination line power loss data for all ion stages of Be

Total recombination line power loss data for all ion stages of beryllium, on a temperature, density grid. The format of the file is identical to that for the generalized collisional-radiative recombination datafile (Table 6). The data this time is of $\log_{10}$ of the total recombination line power loss coefficient.

Table 1
First-stage collisional datafile for neutral Be. See page 264 for Explanation of Tables

Be+ 0	4	1	75190.0(2S)
1 2S2		(1)0(0.0)	0.0 {1}2.000
2 2S1 2P1		(3)1(4.0)	21980.0 {1}2.000
3 2S1 2P1		(1)1(1.0)	42565.0 {1}2.000
4 2S1 3S1		(3)0(1.0)	52081.0 {1}1.000
5 2S1 3S1		(1)0(0.0)	54677.0 {1}1.000
6 2P2		(1)2(2.0)	56882.0 {X}
7 2S1 3P1		(3)1(4.0)	58908.0 {1}1.000
8 2P2		(3)1(4.0)	59696.0 {X}
9 2S1 3P1		(1)1(1.0)	60187.0 {1}1.000
10 2S1 3D1		(3)2(7.0)	62054.0 {1}1.000
11 2S1 3D1		(1)2(2.0)	64428.0 {1}1.000
12 2S1 4S1		(3)0(1.0)	64506.0 {1}1.000
13 2S1 4S1		(1)0(0.0)	65245.0 {1}1.000
14 2S1 4P1		(3)1(4.0)	66812.0 {1}1.000
15 2S1 4P1		(1)1(1.0)	67035.0 {1}1.000
16 2S1 4D1		(3)2(7.0)	67942.0 {1}1.000
17 2S1 4F1		(3)3(10.0)	68241.0 {1}1.000
18 2S1 4F1		(1)3(3.0)	68242.0 {1}1.000
19 2S1 4D1		(1)2(2.0)	68781.0 {1}1.000
20 2S1 5S1		(3)0(1.0)	69010.2 {1}1.000
21 2S1 5S1		(1)0(0.0)	69322.2 {1}1.000
22 2S1 5P1		(3)1(4.0)	70065.4 {1}1.000
23 2S1 5P1		(1)1(1.0)	70120.5 {1}1.000
24 2S1 5D1		(3)2(7.0)	70603.8 {1}1.000
25 2S1 5F1		(3)3(10.0)	70749.7 {1}1.000
26 2S1 5F1		(1)3(3.0)	70749.9 {1}1.000
27 2S1 5D1		(1)2(2.0)	71002.3 {1}1.000
28 2S1 5G1		(3)4(13.0)	71874.2 {1}1.000
29 2S1 5G1		(1)4(4.0)	71874.2 {1}1.000
−1			

1.0	3	1.00+03	2.00+03	5.00+03	1.00+04	2.00+04	5.00+04	1.00+05	2.00+05	5.00+05	1.00+06	2.00+06
2	1 4.60−02	1.40+00	2.14+00	3.13+00	3.56+00	3.56+00	2.88+00	2.13+00	1.44+00	7.14−01	3.86−01	2.01−01
3	1 5.51+08	6.79−02	1.53−01	3.95−01	8.65−01	1.85+00	4.43+00	7.80+00	1.26+01	2.14+01	2.94+01	3.81+01
4	1 1.00−30	2.55−02	8.59−02	1.84−01	2.13−01	2.01−01	1.56−01	1.15−01	7.84−02	4.05−02	2.24−02	1.18−02
5	1 1.00−30	1.59−02	4.49−02	9.44−02	1.34−01	1.81−01	2.54−01	3.36−01	4.67−01	6.18−01	6.89−01	7.31−01
6	1 1.48+01	5.75−02	9.58−02	1.63−01	2.60−01	4.30−01	7.35−01	9.96−01	1.31+00	1.66+00	1.83+00	1.93+00
7	1 1.27−01	3.64−02	7.64−02	1.21−01	1.35−01	1.32−01	1.11−01	8.96−02	6.67−02	3.74−02	2.15−02	1.16−02
8	1 1.84−03	7.72−04	3.37−03	1.02−02	1.55−02	1.95−02	2.23−02	2.16−02	1.81−02	1.10−02	6.53−03	3.58−03
9	1 8.86+06	1.59−02	4.00−02	8.19−02	1.26−01	2.00−01	3.52−01	4.90−01	6.24−01	7.19−01	7.72−01	8.27−01
10	1 1.00−30	1.15−02	2.72−02	4.98−02	6.42−02	7.60−02	8.11−02	7.27−02	5.70−02	3.32−02	1.94−02	1.05−02
11	1 1.00−30	8.24−03	1.83−02	3.12−02	4.16−02	5.67−02	9.36−02	1.37−01	1.76−01	2.17−01	2.37−01	2.49−01
12	1 1.00−30	2.01−02	3.58−02	4.68−02	4.73−02	4.37−02	3.51−02	2.70−02	1.90−02	1.02−02	5.76−03	3.07−03
13	1 1.00−30	1.04−02	1.88−02	3.04−02	4.03−02	5.18−02	6.81−02	8.54−02	1.14−01	1.49−01	1.67−01	1.77−01
14	1 9.24−03	2.49−02	3.53−02	4.34−02	4.46−02	4.24−02	3.57−02	2.87−02	2.14−02	1.22−02	7.03−03	3.81−03
15	1 1.96+05	8.95−03	1.58−02	2.67−02	3.92−02	5.90−02	9.33−02	1.17−01	1.35−01	1.54−01	1.63−01	1.69−01
16	1 8.39−30	1.09−02	1.45−02	2.00−02	2.45−02	2.89−02	3.16−02	2.89−02	2.30−02	1.37−02	8.04−03	4.39−03
17	1 1.00−30	2.18−03	3.31−03	5.00−03	6.11−03	6.78−03	6.32−03	5.06−03	3.57−03	1.90−03	1.07−03	5.70−04
18	1 1.00−30	7.04−03	9.24−03	1.04−02	1.03−02	9.86−03	1.11−02	1.44−02	1.81−02	2.23−02	2.44−02	2.57−02
19	1 1.83+02	3.68−03	6.68−03	1.21−02	1.72−02	2.30−02	3.57−02	5.39−02	7.46−02	9.81−02	1.10−01	1.17−01
21	1 1.00−30	1.84−02	2.57−02	3.93−02	5.68−02	8.16−02	1.20−01	1.47−01	1.69−01	1.89−01	1.98−01	2.03−01
22	1 8.37−04	1.37−13	2.10−13	3.77−13	6.28−13	1.08−12	2.18−12	3.58−12	5.60−12	9.29−12	1.29−11	1.75−11
23	1 1.19+07	6.57−02	9.07−02	1.35−01	1.90−01	2.65−01	3.70−01	4.36−01	4.85−01	5.26−01	5.44−01	5.56−01
24	1 1.65−26	3.16−30	4.82−30	8.66−30	1.43−29	2.39−29	4.42−29	6.51−29	8.91−29	1.20−28	1.39−28	1.52−28
27	1 7.28+03	1.47−02	2.19−02	3.77−02	6.02−02	9.73−02	1.72−01	2.46−01	3.27−01	4.31−01	5.00−01	5.56−01
3	2 2.79−06	4.12−01	1.13+00	2.29+00	3.04+00	3.39+00	3.03+00	2.35+00	1.62+00	8.10−01	4.38−01	2.28−01
4	2 1.37+08	4.01−01	7.38−01	1.42+00	1.80+00	2.08+00	2.92+00	4.58+00	7.46+00	1.36+01	1.93+01	2.55+01
5	2 1.38+01	7.63−02	1.74−01	3.25−01	4.10−01	4.29−01	3.55−01	2.63−01	1.76−01	8.78−02	4.77−02	2.49−02
6	2 7.73+02	1.75+00	2.71+00	3.53+00	3.80+00	3.87+00	3.48+00	2.79+00	1.99+00	1.04+00	5.77−01	3.04−01
7	2 2.08+02	4.54−01	1.06+00	1.97+00	2.55+00	3.12+00	4.03+00	4.98+00	6.27+00	7.56+00	8.12+00	8.43+00
8	2 4.33+08	2.76−01	9.06−01	2.56+00	5.04+00	9.72+00	2.14+01	3.59+01	5.53+01	8.72+01	1.15+02	1.46+02
9	2 2.97−06	1.05−01	2.57−01	4.42−01	5.07−01	5.18−01	4.62−01	3.74−01	2.70−01	1.43−01	7.99−02	4.23−02
10	2 1.92+08	1.46−01	3.89−01	8.47−01	1.33+00	2.15+00	4.81+00	9.39+00	1.71+01	3.43+01	5.07+01	6.88+01
11	2 1.00−30	1.07−01	2.18−01	3.64−01	4.52−01	5.17−01	5.12−01	4.31−01	3.18−01	1.72−01	9.69−02	5.15−02

(*continued on next page*)

Table 1 (*continued*)

12	2 3.79+07	1.24−01	2.20−01	3.17−01	3.47−01	3.57−01	3.92−01	5.05−01	7.42−01	1.29+00	1.83+00	2.43+00
13	2 1.73−02	7.25−02	9.91−02	1.26−01	1.34−01	1.30−01	1.06−01	7.97−02	5.43−02	2.78−02	1.53−02	8.04−03
14	2 2.20+01	3.65−01	4.97−01	6.25−01	7.08−01	8.18−01	1.03+00	1.23+00	1.52+00	1.83+00	1.97+00	2.06+00
15	2 8.82−07	4.66−02	7.96−02	1.14−01	1.29−01	1.34−01	1.25−01	1.05−01	7.94−02	4.42−02	2.51−02	1.34−02
16	2 8.07+07	1.92−01	2.66−01	3.82−01	5.10−01	7.34−01	1.43+00	2.63+00	4.68+00	9.33+00	1.38+01	1.88+01
17	2 1.40+02	4.21−02	7.12−02	1.19−01	1.65−01	2.25−01	3.51−01	4.85−01	6.23−01	7.62−01	8.25−01	8.61−01
18	2 1.01−06	5.38−02	6.93−02	7.79−02	7.74−02	7.05−02	5.13−02	3.51−02	2.20−02	1.05−02	5.60−03	2.90−03
19	2 2.16+00	3.24−02	5.54−02	9.05−02	1.16−01	1.35−01	1.38−01	1.18−01	8.88−02	4.92−02	2.79−02	1.50−02
20	2 2.11+07	4.47−03	8.55−03	2.06−02	4.03−02	7.78−02	1.71−01	2.88−01	4.55−01	7.55−01	1.03+00	1.31+00
21	2 9.44−03	1.74−10	2.35−10	3.56−10	5.03−10	6.79−10	9.01−10	1.05−09	1.20−09	1.45−09	1.66−09	1.86−09
22	2 3.89+02	6.71−02	9.31−02	1.49−01	2.22−01	3.18−01	4.63−01	5.67−01	6.52−01	7.29−01	7.68−01	7.98−01
23	2 3.35−05	3.50−10	5.00−10	8.43−10	1.31−09	1.98−09	3.17−09	4.23−09	5.38−09	7.04−09	8.38−09	9.71−09
24	2 2.46+07	1.02−01	1.54−01	2.82−01	4.74−01	8.09−01	1.59+00	2.53+00	3.82+00	5.98+00	7.82+00	9.67+00
25	2 7.65+02	9.68−03	1.43−02	2.55−02	4.14−02	6.60−02	1.12−01	1.53−01	1.93−01	2.41−01	2.77−01	3.13−01
26	2 4.27−06	1.21−11	2.13−11	4.75−11	9.06−11	1.74−10	3.78−10	6.17−10	9.07−10	1.27−09	1.46−09	1.59−09
27	2 4.87+00	7.26−09	1.03−08	1.69−08	2.60−08	3.97−08	6.64−08	9.46−08	1.31−07	1.90−07	2.43−07	3.02−07
28	2 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
4	3 1.41−04	2.98−01	8.12−01	1.36+00	1.43+00	1.28+00	9.11−01	6.20−01	3.86−01	1.78−01	9.32−02	4.78−02
5	3 3.52+07	5.28−01	1.27+00	2.37+00	3.38+00	4.99+00	8.97+00	1.41+01	2.11+01	3.16+01	4.01+01	4.89+01
6	3 3.68+03	1.42+00	2.30+00	2.91+00	3.02+00	3.11+00	3.28+00	3.48+00	3.73+00	3.93+00	4.01+00	4.05+00
7	3 7.46−09	5.45−01	1.16+00	1.73+00	1.79+00	1.59+00	1.15+00	8.01−01	5.22−01	2.51−01	1.34−01	6.91−02
8	3 9.74−01	1.95−01	5.11−01	9.88−01	1.24+00	1.32+00	1.19+00	9.68−01	7.06−01	3.62−01	1.97−01	1.03−01
9	3 2.14+01	2.86−01	7.40−01	1.54+00	2.35+00	3.50+00	5.44+00	6.92+00	8.27+00	9.35+00	9.76+00	9.98+00
10	3 1.23−03	1.42−01	3.87−01	7.96−01	1.03+00	1.12+00	9.57−01	7.16−01	4.79−01	2.34−01	1.26−01	6.53−02
11	3 7.38+07	1.45−01	3.67−01	7.39−01	1.19+00	2.14+00	5.50+00	1.11+01	1.98+01	3.57+01	4.96+01	6.46+01
12	3 1.69−02	9.90−02	1.88−01	2.69−01	2.85−01	2.67−01	2.04−01	1.45−01	9.30−02	4.44−02	2.37−02	1.22−02
13	3 7.92+06	7.98−02	1.37−01	2.15−01	2.78−01	3.57−01	5.16−01	7.20−01	9.93−01	1.23+00	1.33+00	1.38+00
14	3 2.47−08	2.64−01	3.90−01	4.84−01	4.86−01	4.37−01	3.20−01	2.24−01	1.44−01	6.92−02	3.70−02	1.92−02
15	3 6.43+00	1.20−01	1.95−01	3.24−01	4.73−01	6.91−01	1.01+00	1.19+00	1.29+00	1.37+00	1.40+00	1.41+00
16	3 8.59−03	1.43−01	2.08−01	2.84−01	3.22−01	3.27−01	2.72−01	2.04−01	1.39−01	6.97−02	3.78−02	1.97−02
17	3 9.52−09	3.49−02	5.94−02	9.68−02	1.24−01	1.37−01	1.18−01	8.74−02	5.74−02	2.80−02	1.50−02	7.81−03
18	3 4.49+01	1.49−01	2.25−01	3.16−01	3.99−01	5.39−01	8.75−01	1.21+00	1.51+00	1.77+00	1.87+00	1.92+00
19	3 4.66+07	5.87−02	1.16−01	2.34−01	3.89−01	7.02−01	1.79+00	3.64+00	6.63+00	1.23+01	1.73+01	2.27+01
20	3 8.95−03	3.05−11	4.97−11	1.04−10	1.91−10	3.57−10	7.94−10	1.34−09	2.07−09	3.22−09	4.15−09	5.09−09
21	3 1.36+07	1.68−01	2.36−01	3.93−01	5.64−01	7.62−01	1.02+00	1.19+00	1.35+00	1.57+00	1.77+00	2.03+00
22	3 4.89−08	1.21−10	1.73−10	2.93−10	4.25−10	5.80−10	7.86−10	9.13−10	1.00−09	1.09−09	1.14−09	1.18−09
23	3 8.47+02	5.15−01	7.10−01	1.14+00	1.60+00	2.12+00	2.86+00	3.49+00	4.22+00	5.31+00	6.09+00	6.77+00
24	3 2.53−03	3.76−10	5.44−10	9.54−10	1.47−09	2.22−09	3.75−09	5.40−09	7.35−09	1.01−08	1.20−08	1.37−08
25	3 2.13−08	1.20−11	1.62−11	2.59−11	3.88−11	6.16−11	1.13−10	1.58−10	1.96−10	2.32−10	2.51−10	2.67−10
26	3 1.09+02	6.80−02	1.05−01	2.02−01	3.29−01	5.16−01	8.44−01	1.10+00	1.29+00	1.46+00	1.53+00	1.58+00
27	3 3.11+08	3.95+00	5.72+00	1.00+01	1.54+01	2.28+01	3.66+01	5.03+01	6.73+01	9.52+01	1.20+02	1.49+02
5	4 1.00−30	2.04−01	4.11−01	7.64−01	9.58−01	9.70−01	7.78−01	5.95−01	4.30−01	2.09−01	1.11−01	5.72−02
6	4 1.00−30	2.52+00	3.36+00	3.89+00	3.56+00	2.78+00	1.65+00	1.00+00	5.75−01	2.51−01	1.29−01	6.56−02
7	4 1.15+07	2.73+00	7.88+00	1.97+01	3.59+01	6.81+01	1.57+02	2.69+02	4.13+02	6.09+02	7.58+02	9.08+02
8	4 1.00−30	1.79−03	8.64−03	2.78−02	5.26−02	9.94−02	2.12−01	3.23−01	3.98−01	4.49−01	4.67−01	4.76−01
9	4 1.39−01	7.47−02	2.08−01	4.91−01	6.91−01	7.74−01	6.60−01	4.87−01	3.19−01	1.51−01	7.95−02	4.08−02
10	4 1.38+01	1.01+00	3.33+00	9.35+00	1.64+01	2.53+01	3.81+01	4.82+01	5.80+01	6.53+01	6.79+01	6.93+01
11	4 1.00−30	1.99−01	4.12−01	6.73−01	7.63−01	7.33−01	5.45−01	3.73−01	2.31−01	1.06−01	5.59−02	2.87−02
12	4 1.11−30	6.17−01	1.30+00	2.20+00	2.58+00	2.86+00	3.91+00	5.75+00	8.37+00	1.05+01	1.12+01	1.16+01
13	4 1.00−30	8.63−02	1.68−01	2.55−01	2.61−01	2.22−01	1.43−01	9.26−02	5.70−02	2.63−02	1.38−02	7.08−03
14	4 8.58+04	7.74−01	1.26+00	1.89+00	2.49+00	3.40+00	5.15+00	6.61+00	7.88+00	8.86+00	9.22+00	9.42+00
15	4 6.61−03	8.04−02	1.57−01	2.47−01	2.74−01	2.58−01	1.91−01	1.32−01	8.39−02	3.95−02	2.09−02	1.08−02
16	4 2.93+00	9.65−01	1.35+00	1.66+00	1.78+00	1.87+00	2.02+00	2.25+00	2.58+00	2.85+00	2.96+00	3.01+00
17	4 1.00−30	3.95−01	7.75−01	1.59+00	2.50+00	3.72+00	5.80+00	7.47+00	8.71+00	9.65+00	1.00+01	1.02+01
18	4 1.00−30	1.46−01	2.11−01	2.70−01	2.88−01	2.75−01	2.10−01	1.47−01	9.34−02	4.40−02	2.33−02	1.20−02
19	4 3.01−28	5.22−02	9.70−02	1.58−01	1.81−01	1.74−01	1.29−01	8.91−02	5.60−02	2.62−02	1.39−02	7.14−03
20	4 3.61−30	3.04−01	4.74−01	8.73−01	1.32+00	1.87+00	2.66+00	3.21+00	3.68+00	4.12+00	4.34+00	4.49+00
22	4 7.59+05	5.67−01	8.12−01	1.33+00	1.81+00	2.30+00	2.85+00	3.21+00	3.54+00	4.00+00	4.38+00	4.79+00
23	4 3.64−04	1.63−12	3.40−12	9.18−12	1.94−11	3.86−11	8.25−11	1.30−10	1.87−10	2.73−10	3.42−10	4.13−10
24	4 8.12−01	3.33−01	4.37−01	6.26−01	7.65−01	8.70−01	9.59−01	9.99−01	1.02+00	1.04+00	1.05+00	1.05+00
25	4 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
27	4 5.32−29	5.18−30	6.75−30	9.65−30	1.18−29	1.34−29	1.49−29	1.55−29	1.59−29	1.61−29	1.62−29	1.63−29
28	4 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
6	5 3.62+01	8.96−01	1.37+00	1.81+00	1.90+00	2.00+00	2.47+00	3.14+00	4.01+00	4.61+00	4.81+00	4.91+00
7	5 1.83−03	6.95−01	1.38+00	1.96+00	1.98+00	1.72+00	1.17+00	7.78−01	4.77−01	2.16−01	1.12−01	5.72−02
8	5 3.42−09	2.03−03	1.08−02	3.59−02	5.35−02	5.82−02	4.54−02	3.18−02	2.04−02	9.46−03	4.96−03	2.54−03

Table 1 (*continued*)

9	5 6.13+06	3.87−01	1.55+00	5.88+00	1.31+01	2.68+01	6.13+01	1.03+02	1.54+02	2.22+02	2.73+02	3.24+02
10	5 1.00−30	3.33−01	7.87−01	1.33+00	1.45+00	1.31+00	9.02−01	5.98−01	3.66−01	1.66−01	8.68−02	4.43−02
11	5 1.00−30	1.30−01	5.37−01	1.83+00	3.63+00	6.23+00	1.07+01	1.46+01	1.83+01	2.10+01	2.20+01	2.25+01
12	5 1.00−30	1.17−01	2.15−01	3.01−01	3.06−01	2.62−01	1.73−01	1.14−01	7.15−02	3.32−02	1.74−02	8.94−03
13	5 1.00−30	1.60−01	2.91−01	4.82−01	6.22−01	8.42−01	1.55+00	2.52+00	3.73+00	4.66+00	5.00+00	5.17+00
14	5 2.92−03	2.19−01	3.14−01	3.64−01	3.46−01	2.98−01	2.08−01	1.40−01	8.56−02	3.91−02	2.05−02	1.05−02
15	5 4.40+05	8.08−02	1.89−01	3.95−01	5.95−01	8.51−01	1.23+00	1.46+00	1.66+00	1.99+00	2.28+00	2.58+00
16	5 1.00−30	1.64−01	2.28−01	2.76−01	2.69−01	2.35−01	1.64−01	1.11−01	6.89−02	3.19−02	1.68−02	8.60−03
17	5 1.00−30	8.12−02	1.57−01	2.67−01	3.18−01	3.15−01	2.40−01	1.68−01	1.06−01	4.95−02	2.61−02	1.34−02
18	5 1.00−30	1.96−01	3.71−01	7.60−01	1.26+00	1.97+00	3.15+00	4.00+00	4.58+00	5.00+00	5.16+00	5.24+00
19	5 1.33+01	3.78−02	7.41−02	1.57−01	2.59−01	4.05−01	6.80−01	9.80−01	1.35+00	1.65+00	1.76+00	1.81+00
21	5 1.00−30	2.28−01	3.37−01	5.48−01	7.25−01	8.80−01	1.02+00	1.08+00	1.12+00	1.14+00	1.15+00	1.15+00
22	5 7.95−05	5.18−13	1.13−12	3.25−12	7.17−12	1.50−11	3.62−11	6.50−11	1.08−10	1.86−10	2.59−10	3.42−10
23	5 1.29+06	6.77−01	9.79−01	1.59+00	2.13+00	2.66+00	3.20+00	3.47+00	3.66+00	3.90+00	4.13+00	4.41+00
24	5 6.08−28	3.73−28	5.07−28	7.42−28	9.07−28	1.03−27	1.13−27	1.17−27	1.20−27	1.22−27	1.23−27	1.24−27
27	5 3.29+01	7.39−01	9.89−01	1.43+00	1.75+00	1.98+00	2.16+00	2.27+00	2.36+00	2.48+00	2.56+00	2.62+00
7	6 1.00−30	1.18+00	3.32+00	6.34+00	6.94+00	5.92+00	3.70+00	2.29+00	1.33+00	5.82−01	2.99−01	1.52−01
8	6 1.29−06	8.52−02	3.12−01	8.96−01	1.48+00	2.04+00	2.35+00	2.08+00	1.55+00	7.63−01	4.06−01	2.09−01
9	6 7.26+05	1.01+00	4.02+00	1.35+01	2.58+01	4.30+01	7.37+01	1.03+02	1.35+02	1.76+02	2.05+02	2.34+02
10	6 1.00−30	7.17−01	2.00+00	4.02+00	4.90+00	4.76+00	3.54+00	2.50+00	1.64+00	7.70−01	4.05−01	2.08−01
11	6 1.00−30	8.26−01	2.36+00	5.41+00	8.63+00	1.30+01	1.99+01	2.45+01	2.77+01	2.99+01	3.07+01	3.11+01
12	6 1.00−30	1.64−01	3.73−01	6.27−01	6.68−01	5.78−01	3.77−01	2.40−01	1.41−01	6.25−02	3.24−02	1.65−02
13	6 2.11−07	3.06−01	6.30−01	1.11+00	1.44+00	1.68+00	1.80+00	1.71+00	1.51+00	1.36+00	1.30+00	1.27+00
14	6 5.71−03	7.47−01	1.23+00	1.58+00	1.52+00	1.25+00	7.99−01	5.08−01	3.00−01	1.34−01	6.96−02	3.55−02
15	6 6.78+05	4.29−01	8.64−01	1.58+00	2.20+00	2.92+00	4.09+00	5.18+00	6.39+00	7.30+00	7.64+00	7.81+00
16	6 1.00−30	6.98−01	9.61−01	1.17+00	1.17+00	1.05+00	7.64−01	5.42−01	3.58−01	1.71−01	9.10−02	4.69−02
17	6 1.52−25	1.96−01	3.46−01	5.27−01	5.90−01	5.71−01	4.42−01	3.16−01	2.03−01	9.55−02	5.04−02	2.59−02
18	6 7.53+06	7.94−01	1.36+00	2.26+00	2.93+00	3.92+00	7.62+00	1.44+01	2.51+01	4.29+01	5.77+01	7.32+01
19	6 5.50−01	3.38−01	6.57−01	1.22+00	1.75+00	2.36+00	3.17+00	3.54+00	3.60+00	3.62+00	3.62+00	3.63+00
20	6 1.46−28	6.91−29	1.47−28	3.36−28	5.33−28	7.46−28	1.00−27	1.15−27	1.26−27	1.35−27	1.40−27	1.43−27
21	6 9.93−01	1.17+00	1.77+00	2.78+00	3.62+00	4.40+00	5.21+00	5.62+00	5.89+00	6.10+00	6.19+00	6.24+00
22	6 8.99−04	1.92−09	2.87−09	4.74−09	6.56−09	8.64−09	1.17−08	1.41−08	1.66−08	1.99−08	2.24−08	2.49−08
23	6 1.32+07	5.30+00	8.91+00	1.72+01	2.71+01	4.14+01	6.82+01	9.45+01	1.26+02	1.73+02	2.13+02	2.54+02
24	6 8.77−28	2.45−26	3.56−26	5.20−26	6.35−26	7.29−26	8.17−26	8.60−26	8.88−26	9.10−26	9.18−26	9.24−26
25	6 1.96−22	5.51−30	2.85−29	2.61−28	9.81−28	2.76−27	7.63−27	1.35−26	2.12−26	3.36−26	4.42−26	5.54−26
26	6 4.24+06	1.01+01	1.42+01	2.12+01	2.81+01	3.73+01	5.30+01	6.65+01	8.03+01	9.78+01	1.10+02	1.22+02
27	6 1.67+01	2.79+01	4.15+01	6.53+01	8.66+01	1.09+02	1.38+02	1.56+02	1.70+02	1.84+02	1.91+02	1.96+02
28	6 2.57−28	2.60−29	5.19−29	1.74−28	3.87−28	7.12−28	1.23−27	1.60−27	1.91−27	2.20−27	2.35−27	2.46−27
29	6 1.29+01	2.19+01	3.60+01	6.27+01	8.63+01	1.09+02	1.35+02	1.49+02	1.59+02	1.67+02	1.71+02	1.74+02
8	7 4.41+00	9.44−01	1.04+00	9.33−01	8.33−01	8.43−01	1.02+00	1.21+00	1.37+00	1.47+00	1.51+00	1.53+00
9	7 5.97−09	7.08−01	2.16+00	4.41+00	5.15+00	4.76+00	3.41+00	2.40+00	1.60+00	7.48−01	3.93−01	2.01−01
10	7 1.92+06	9.55+00	3.49+01	1.26+02	2.60+02	4.69+02	8.89+02	1.33+03	1.83+03	2.46+03	2.92+03	3.37+03
11	7 1.00−30	9.51−01	2.54+00	4.79+00	5.37+00	4.83+00	3.26+00	2.13+00	1.28+00	5.74−01	2.98−01	1.52−01
12	7 1.00−30	2.21+00	5.00+00	1.21+01	2.21+01	4.01+01	8.80+01	1.52+02	2.39+02	3.65+02	4.63+02	5.62+02
13	7 1.54−01	4.34−01	6.53−01	8.78−01	9.15−01	8.11−01	5.45−01	3.50−01	2.05−01	9.06−02	4.68−02	2.38−02
14	7 6.75+00	7.24+00	1.11+01	1.55+01	1.97+01	2.79+01	4.79+01	6.77+01	8.71+01	1.01+02	1.06+02	1.09+02
15	7 1.34−07	4.69−01	9.52−01	1.54+00	1.67+00	1.49+00	1.01+00	6.67−01	4.09−01	1.86−01	9.74−02	4.98−02
16	7 4.63+06	6.30+00	9.16+00	1.26+01	1.47+01	1.70+01	2.40+01	3.74+01	5.99+01	1.02+02	1.39+02	1.79+02
17	7 3.39+01	3.22+00	6.75+00	1.50+01	2.51+01	4.01+01	7.23+01	1.05+02	1.37+02	1.61+02	1.69+02	1.73+02
18	7 2.26−07	7.55−01	1.32+00	1.93+00	2.09+00	1.91+00	1.35+00	9.06−01	5.53−01	2.52−01	1.31−01	6.72−02
19	7 1.07−03	2.52−01	4.98−01	8.44−01	9.58−01	8.95−01	6.44−01	4.36−01	2.69−01	1.23−01	6.46−02	3.30−02
20	7 4.91+06	5.80−01	1.18+00	2.87+00	5.20+00	8.60+00	1.46+01	1.99+01	2.56+01	3.34+01	3.94+01	4.55+01
21	7 5.25−02	1.05−09	2.12−09	5.06−09	9.00−09	1.48−08	2.55−08	3.60−08	4.86−08	6.78−08	8.39−08	1.01−07
22	7 1.06+00	2.33+00	3.75+00	6.68+00	9.46+00	1.23+01	1.55+01	1.72+01	1.84+01	1.93+01	1.97+01	1.99+01
23	7 3.55−07	9.15−09	1.48−08	2.77−08	4.22−08	6.08−08	8.96−08	1.12−07	1.31−07	1.51−07	1.62−07	1.69−07
24	7 1.92+06	9.29−01	1.20+00	1.77+00	2.66+00	4.42+00	8.77+00	1.36+01	1.96+01	2.85+01	3.58+01	4.33+01
25	7 6.23+00	5.90+00	8.88+00	1.48+01	2.01+01	2.55+01	3.16+01	3.49+01	3.73+01	3.91+01	3.99+01	4.04+01
26	7 1.50−07	5.45−09	8.31−09	1.38−08	1.86−08	2.36−08	3.00−08	3.45−08	3.85−08	4.27−08	4.49−08	4.66−08
27	7 1.13−01	3.96−10	7.92−10	2.19−09	5.03−09	1.16−08	3.23−08	6.24−08	1.08−07	1.93−07	2.73−07	3.63−07
28	7 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
9	8 1.00−30	4.54−02	1.33−01	2.75−01	3.49−01	3.77−01	3.33−01	2.55−01	1.73−01	8.12−02	4.26−02	2.18−02
10	8 1.00−30	2.06−02	5.87−02	1.32−01	2.11−01	3.45−01	6.55−01	9.52−01	1.14+00	1.26+00	1.30+00	1.32+00
11	8 1.00−30	4.95−02	1.26−01	2.49−01	3.56−01	4.64−01	5.31−01	4.80−01	3.69−01	1.86−01	9.95−02	5.15−02
12	8 1.00−30	1.12−02	1.78−02	2.55−02	3.17−02	3.85−02	4.47−02	4.80−02	4.89−02	4.94−02	4.95−02	4.96−02
13	8 1.18−06	3.92−02	4.44−02	5.24−02	5.43−02	4.84−02	3.27−02	2.11−02	1.26−02	5.63−03	2.92−03	1.49−03
14	8 1.90+02	4.66−02	6.26−02	7.77−02	8.98−02	1.12−01	1.53−01	1.81−01	2.02−01	2.17−01	2.22−01	2.24−01

(*continued on next page*)

Table 1 (*continued*)

15	8 4.77+00	6.05−02	8.75−02	1.14−01	1.28−01	1.36−01	1.21−01	9.31−02	6.29−02	3.01−02	1.60−02	8.21−03
16	8 3.04−29	3.33−02	4.60−02	6.25−02	8.61−02	1.30−01	2.20−01	3.00−01	3.49−01	3.82−01	3.94−01	4.00−01
17	8 7.67−25	8.05−03	1.37−02	2.30−02	3.49−02	5.11−02	6.49−02	6.51−02	5.77−02	5.17−02	4.95−02	4.84−02
18	8 1.55+01	2.33−02	3.79−02	5.27−02	5.86−02	5.80−02	4.52−02	3.14−02	1.94−02	8.87−03	4.64−03	2.37−03
19	8 9.54−06	2.30−02	4.22−02	7.37−02	1.04−01	1.35−01	1.55−01	1.42−01	1.11−01	5.72−02	3.10−02	1.61−02
20	8 1.90−27	1.00−30	1.00−30	1.00−30	1.50−30	5.67−30	1.92−29	3.52−29	5.33−29	7.49−29	8.78−29	9.77−29
21	8 3.04−06	6.47−08	1.25−07	2.87−07	4.79−07	6.97−07	9.43−07	1.07−06	1.14−06	1.19−06	1.21−06	1.23−06
22	8 1.60+03	2.40−03	3.56−03	5.88−03	8.12−03	1.07−02	1.44−02	1.74−02	2.05−02	2.49−02	2.82−02	3.17−02
23	8 1.95+01	1.54−06	2.26−06	3.64−06	4.90−06	6.29−06	8.67−06	1.15−05	1.57−05	2.38−05	3.19−05	4.12−05
24	8 2.32−27	1.72−29	2.82−29	6.00−29	1.15−28	2.30−28	5.21−28	8.41−28	1.19−27	1.62−27	1.88−27	2.07−27
25	8 2.18−22	1.00−30	1.00−30	1.00−30	1.00−30	4.10−30	4.09−29	1.41−28	3.58−28	8.70−28	1.43−27	2.10−27
26	8 4.10+00	1.14−06	2.01−06	4.57−06	8.57−06	1.53−05	2.83−05	3.98−05	5.14−05	6.52−05	7.42−05	8.23−05
27	8 8.98−05	8.47−07	1.19−06	1.88−06	2.57−06	3.59−06	5.83−06	8.26−06	1.10−05	1.46−05	1.67−05	1.84−05
28	8 9.08−28	1.00−30	1.00−30	1.00−30	1.69−30	4.92−30	2.00−29	4.32−29	7.40−29	1.16−28	1.43−28	1.65−28
29	8 2.90−05	2.21−07	3.42−07	5.66−07	7.49−07	9.33−07	1.23−06	1.53−06	1.89−06	2.34−06	2.63−06	2.86−06
10	9 2.75−08	7.16−01	2.10+00	4.18+00	4.90+00	4.60+00	3.26+00	2.18+00	1.34+00	6.03−01	3.13−01	1.59−01
11	9 4.97+06	1.93+00	6.43+00	2.07+01	4.25+01	8.35+01	1.89+02	3.17+02	4.78+02	6.89+02	8.44+02	9.98+02
12	9 1.00−30	4.78−01	7.92−01	9.34−01	8.22−01	6.39−01	3.98−01	2.52−01	1.48−01	6.53−02	3.37−02	1.71−02
13	9 1.05+07	7.66−01	1.63+00	3.78+00	7.03+00	1.35+01	3.20+01	5.65+01	8.91+01	1.36+02	1.72+02	2.08+02
14	9 1.35−09	1.19+00	1.88+00	2.26+00	2.08+00	1.68+00	1.09+00	7.14−01	4.39−01	2.00−01	1.04−01	5.33−02
15	9 3.57+00	9.92−01	2.10+00	4.21+00	6.59+00	1.05+01	1.96+01	2.87+01	3.79+01	4.45+01	4.68+01	4.80+01
16	9 7.86−05	1.05+00	1.58+00	1.98+00	1.90+00	1.58+00	1.02+00	6.58−01	3.92−01	1.75−01	9.11−02	4.64−02
17	9 2.65−09	4.10−01	8.03−01	1.37+00	1.61+00	1.55+00	1.15+00	7.83−01	4.85−01	2.22−01	1.16−01	5.94−02
18	9 1.16+01	1.72+00	3.50+00	7.20+00	1.16+01	1.86+01	3.32+01	4.70+01	5.97+01	6.88+01	7.21+01	7.38+01
19	9 2.69+05	5.39−01	1.15+00	2.37+00	3.50+00	4.86+00	6.70+00	7.77+00	8.56+00	9.12+00	9.32+00	9.42+00
20	9 5.18−03	1.83−09	3.37−09	7.45−09	1.29−08	2.09−08	3.55−08	4.92−08	6.46−08	8.69−08	1.05−07	1.23−07
21	9 3.52+06	8.69−01	1.51+00	2.86+00	4.28+00	6.05+00	8.90+00	1.14+01	1.42+01	1.82+01	2.14+01	2.48+01
22	9 5.54−10	5.12−09	7.70−09	1.23−08	1.63−08	2.01−08	2.42−08	2.64−08	2.80−08	2.92−08	2.98−08	3.01−08
23	9 2.25+01	4.93+00	7.64+00	1.30+01	1.83+01	2.44+01	3.27+01	3.83+01	4.29+01	4.72+01	4.93+01	5.08+01
24	9 7.99−04	7.01−10	1.05−09	1.96−09	3.42−09	6.01−09	1.15−08	1.71−08	2.37−08	3.32−08	4.09−08	4.89−08
25	9 3.51−09	1.00−08	1.46−08	2.25−08	2.90−08	3.52−08	4.20−08	4.57−08	4.83−08	5.04−08	5.14−08	5.20−08
26	9 7.74+00	3.07+00	4.29+00	6.20+00	7.60+00	8.88+00	1.04+01	1.14+01	1.21+01	1.29+01	1.32+01	1.35+01
27	9 1.36+07	3.36−01	4.56−01	9.30−01	2.06+00	4.77+00	1.28+01	2.35+01	3.86+01	6.47+01	8.81+01	1.14+02
11	10 1.00−30	1.35+00	3.76+00	7.38+00	8.53+00	7.89+00	5.61+00	3.86+00	2.48+00	1.14+00	5.98−01	3.06−01
12	10 1.00−30	4.29+00	9.75+00	1.68+01	1.99+01	2.25+01	2.89+01	3.78+01	4.80+01	5.49+01	5.73+01	5.85+01
13	10 1.00−30	5.40−01	9.76−01	1.30+00	1.21+00	9.72−01	6.24−01	4.00−01	2.37−01	1.05−01	5.42−02	2.76−02
14	10 1.91+06	9.98+00	1.78+01	2.86+01	3.74+01	5.12+01	8.66+01	1.32+02	1.92+02	2.80+02	3.49+02	4.20+02
15	10 9.05−03	9.36−01	1.57+00	2.31+00	2.45+00	2.17+00	1.48+00	9.62−01	5.73−01	2.55−01	1.32−01	6.73−02
16	10 1.71+00	1.12+01	1.97+01	3.43+01	4.95+01	7.33+01	1.20+02	1.61+02	1.99+02	2.26+02	2.35+02	2.40+02
17	10 1.52+07	5.86+00	1.33+01	3.41+01	7.05+01	1.51+02	4.20+02	8.19+02	1.37+03	2.15+03	2.75+03	3.36+03
18	10 4.31−26	1.74+00	2.87+00	4.06+00	4.30+00	3.90+00	2.78+00	1.88+00	1.16+00	5.28−01	2.76−01	1.41−01
19	10 1.12−28	6.79−01	1.32+00	2.16+00	2.39+00	2.19+00	1.54+00	1.04+00	6.55−01	3.02−01	1.58−01	8.11−02
20	10 7.64−02	1.80+00	2.38+00	3.14+00	3.57+00	3.86+00	4.07+00	4.15+00	4.20+00	4.22+00	4.24+00	4.26+00
21	10 1.04−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
22	10 6.86+05	1.11+00	1.70+00	3.06+00	4.77+00	7.26+00	1.18+01	1.59+01	2.05+01	2.69+01	3.19+01	3.71+01
23	10 8.44−06	2.78−11	4.66−11	8.65−11	1.26−10	1.69−10	2.23−10	2.58−10	2.88−10	3.21−10	3.42−10	3.62−10
24	10 5.38−01	8.69+00	1.30+01	2.07+01	2.69+01	3.26+01	3.86+01	4.16+01	4.37+01	4.53+01	4.60+01	4.64+01
25	10 6.71+06	1.83+01	3.10+01	6.11+01	9.75+01	1.47+02	2.31+02	3.05+02	3.86+02	4.99+02	5.87+02	6.78+02
26	10 2.18−25	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.68−30	2.43−30	3.26−30
27	10 5.84−29	1.01−28	1.57−28	2.66−28	3.64−28	4.62−28	5.71−28	6.31−28	6.73−28	7.08−28	7.22−28	7.32−28
28	10 1.56+01	5.43+00	9.34+00	1.84+01	2.86+01	4.08+01	5.75+01	6.84+01	7.70+01	8.47+01	8.84+01	9.09+01
29	10 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
12	11 1.00−30	4.27−01	1.43+00	2.60+00	2.56+00	1.99+00	1.17+00	7.03−01	3.97−01	1.70−01	8.71−02	4.40−02
13	11 1.00−30	1.44+00	2.97+00	5.02+00	6.85+00	1.01+01	1.80+01	2.67+01	3.58+01	4.18+01	4.38+01	4.48+01
14	11 1.00−30	3.21+00	5.11+00	6.18+00	5.53+00	4.26+00	2.54+00	1.55+00	8.85−01	3.83−01	1.97−01	9.97−02
15	11 1.64+06	4.02+00	1.01+01	2.66+01	5.17+01	9.72+01	2.04+02	3.25+02	4.67+02	6.50+02	7.85+02	9.17+02
16	11 1.00−30	4.86+00	7.38+00	9.13+00	8.45+00	6.65+00	4.05+00	2.53+00	1.50+00	6.66−01	3.44−01	1.75−01
17	11 1.00−30	2.01+00	3.82+00	6.06+00	6.65+00	6.09+00	4.30+00	2.87+00	1.74+00	7.81−01	4.05−01	2.06−01
18	11 7.28+06	6.16+00	1.52+01	3.89+01	7.94+01	1.70+02	4.42+02	8.00+02	1.25+03	1.84+03	2.28+03	2.71+03
19	11 1.00−30	2.50+00	6.44+00	1.50+01	2.38+01	3.70+01	6.36+01	8.81+01	1.12+02	1.28+02	1.34+02	1.37+02
13	12 1.00−30	5.64−01	8.73−01	1.04+00	9.28−01	7.34−01	5.03−01	3.71−01	2.64−01	1.27−01	6.70−02	3.44−02
14	12 1.92+06	1.49+01	3.17+01	7.27+01	1.55+02	3.48+02	8.89+02	1.55+03	2.34+03	3.33+03	4.04+03	4.74+03
15	12 1.79−02	2.18−01	4.74−01	8.28−01	9.18−01	8.40−01	5.95−01	4.01−01	2.48−01	1.12−01	5.83−02	2.97−02
16	12 9.96−01	1.33+01	2.12+01	4.01+01	6.87+01	1.14+02	1.95+02	2.61+02	3.14+02	3.49+02	3.61+02	3.68+02
17	12 1.00−30	9.14+00	1.58+01	2.83+01	3.81+01	4.85+01	6.46+01	7.73+01	8.75+01	9.43+01	9.67+01	9.79+01
18	12 1.00−30	1.65+00	2.43+00	2.87+00	2.57+00	1.96+00	1.15+00	6.98−01	3.96−01	1.71−01	8.78−02	4.45−02

Table 1 (*continued*)

19	12 1.00−30	3.96−01	7.03−01	1.01+00	1.03+00	8.85−01	5.82−01	3.70−01	2.17−01	9.57−02	4.94−02	2.51−02
20	12 1.00−30	1.01+01	1.69+01	2.98+01	4.16+01	5.34+01	6.67+01	7.41+01	7.94+01	8.38+01	8.60+01	8.75+01
22	12 2.21+05	1.04+01	1.65+01	2.75+01	3.72+01	4.71+01	5.91+01	6.72+01	7.43+01	8.28+01	8.88+01	9.46+01
23	12 1.54−04	1.57−11	2.27−11	5.49−11	1.31−10	2.96−10	7.02−10	1.16−09	1.74−09	2.64−09	3.40−09	4.20−09
24	12 6.38−03	8.39+00	1.15+01	1.55+01	1.78+01	1.95+01	2.07+01	2.12+01	2.15+01	2.17+01	2.18+01	2.18+01
25	12 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
27	12 1.20−30	9.32−29	1.37−28	2.04−28	2.50−28	2.84−28	3.13−28	3.25−28	3.32−28	3.36−28	3.37−28	3.38−28
28	12 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
14	13 2.18−04	1.17+00	1.60+00	1.71+00	1.47+00	1.12+00	6.93−01	4.43−01	2.66−01	1.18−01	6.12−02	3.11−02
15	13 1.01+06	3.48+00	1.17+01	4.06+01	9.05+01	1.87+02	4.24+02	6.94+02	1.01+03	1.40+03	1.68+03	1.94+03
16	13 1.00−30	1.78+00	2.51+00	2.79+00	2.45+00	1.89+00	1.13+00	6.83−01	3.88−01	1.68−01	8.60−02	4.36−02
17	13 1.00−30	4.21−01	8.29−01	1.29+00	1.36+00	1.21+00	8.28−01	5.37−01	3.17−01	1.40−01	7.22−02	3.67−02
18	13 1.00−30	1.84+00	3.16+00	5.13+00	6.95+00	9.77+00	1.60+01	2.20+01	2.75+01	3.12+01	3.25+01	3.31+01
19	13 1.90+00	1.15+00	3.75+00	1.15+01	2.16+01	3.63+01	6.20+01	8.18+01	9.61+01	1.06+02	1.09+02	1.10+02
21	13 1.00−30	5.07+00	7.83+00	1.26+01	1.65+01	2.02+01	2.41+01	2.62+01	2.77+01	2.89+01	2.94+01	2.98+01
22	13 1.14−05	6.14−11	7.82−11	1.07−10	1.55−10	2.58−10	5.12−10	8.00−10	1.16−09	1.73−09	2.19−09	2.69−09
23	13 2.99+04	6.32+00	1.01+01	1.66+01	2.19+01	2.66+01	3.12+01	3.36+01	3.52+01	3.66+01	3.73+01	3.78+01
24	13 1.50−27	4.32−27	7.53−27	1.43−26	2.10−26	2.81−26	3.66−26	4.16−26	4.53−26	4.84−26	4.99−26	5.10−26
27	13 8.32−03	3.97+00	5.90+00	8.81+00	1.08+01	1.23+01	1.35+01	1.41+01	1.43+01	1.45+01	1.46+01	1.46+01
15	14 3.37−10	1.72+00	3.08+00	4.21+00	4.04+00	3.27+00	2.10+00	1.41+00	9.25−01	4.28−01	2.24−01	1.14−01
16	14 4.13+05	8.21+01	1.64+02	5.05+02	1.15+03	2.32+03	4.87+03	7.49+03	1.03+04	1.37+04	1.60+04	1.83+04
17	14 3.14−02	8.36+01	1.58+02	2.83+02	3.73+02	4.60+02	5.86+02	6.79+02	7.43+02	7.84+02	7.97+02	8.04+02
18	14 7.86−11	5.89+00	9.27+00	1.10+01	9.56+00	7.00+00	3.93+00	2.33+00	1.31+00	5.62−01	2.87−01	1.45−01
19	14 1.55−02	1.33+00	2.63+00	4.19+00	4.26+00	3.47+00	2.11+00	1.30+00	7.56−01	3.31−01	1.70−01	8.64−02
20	14 3.53+06	6.55+01	1.31+02	2.91+02	4.80+02	7.27+02	1.13+03	1.48+03	1.85+03	2.38+03	2.79+03	3.20+03
21	14 3.17−02	3.79−08	9.17−08	2.53−07	4.75−07	7.94−07	1.36−06	1.87−06	2.43−06	3.24−06	3.88−06	4.53−06
22	14 8.20−01	6.09+01	9.86+01	1.66+02	2.24+02	2.78+02	3.37+02	3.69+02	3.90+02	4.09+02	4.18+02	4.24+02
23	14 1.60−08	9.70−08	1.69−07	3.22−07	4.75−07	6.37−07	8.28−07	9.40−07	1.02−06	1.09−06	1.12−06	1.15−06
24	14 3.32+05	3.14+01	4.06+01	5.02+01	5.63+01	6.42+01	8.20+01	1.03+02	1.29+02	1.71+02	2.06+02	2.43+02
25	14 2.43+00	1.35+01	2.69+01	5.82+01	9.02+01	1.24+02	1.65+02	1.88+02	2.05+02	2.19+02	2.26+02	2.31+02
26	14 2.54−08	3.07−08	6.53−08	1.51−07	2.44−07	3.47−07	4.73−07	5.48−07	6.03−07	6.50−07	6.73−07	6.91−07
27	14 1.55−03	2.01−08	3.42−08	5.83−08	7.57−08	8.91−08	1.02−07	1.11−07	1.22−07	1.41−07	1.59−07	1.79−07
28	14 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
16	15 1.00−30	2.92+00	4.75+00	5.79+00	5.26+00	4.12+00	2.48+00	1.53+00	8.83−01	3.84−01	1.97−01	9.99−02
17	15 1.92−14	1.57+00	3.21+00	4.96+00	5.04+00	4.23+00	2.74+00	1.74+00	1.02+00	4.47−01	2.30−01	1.17−01
18	15 2.47−05	8.62+00	1.57+01	2.84+01	4.14+01	6.15+01	1.06+02	1.48+02	1.87+02	2.13+02	2.21+02	2.26+02
19	15 1.41+06	6.87+00	2.12+01	8.05+01	1.92+02	4.14+02	9.79+02	1.64+03	2.41+03	3.37+03	4.05+03	4.71+03
20	15 3.14−04	2.69−07	4.06−07	6.52−07	8.84−07	1.15−06	1.53−06	1.84−06	2.16−06	2.59−06	2.92−06	3.26−06
21	15 2.54+06	7.72+01	1.40+02	2.77+02	4.24+02	6.06+02	8.88+02	1.12+03	1.37+03	1.72+03	1.99+03	2.26+03
22	15 4.24−11	1.25−07	1.71−07	2.34−07	2.77−07	3.11−07	3.44−07	3.59−07	3.69−07	3.77−07	3.81−07	3.84−07
23	15 1.41+00	6.83+01	1.08+02	1.79+02	2.37+02	2.91+02	3.48+02	3.78+02	3.98+02	4.16+02	4.24+02	4.31+02
24	15 3.27−05	3.72−08	4.41−08	5.01−08	5.36−08	5.75−08	6.48−08	7.21−08	8.09−08	9.41−08	1.05−07	1.16−07
25	15 2.90−10	2.72−08	4.42−08	7.30−08	9.62−08	1.17−07	1.38−07	1.49−07	1.57−07	1.63−07	1.66−07	1.69−07
26	15 1.95+00	3.43+01	5.97+01	1.07+02	1.48+02	1.87+02	2.29+02	2.51+02	2.66+02	2.80+02	2.86+02	2.91+02
27	15 4.46+05	1.41+01	2.06+01	2.89+01	3.37+01	3.74+01	4.30+01	4.92+01	5.76+01	7.17+01	8.40+01	9.71+01
17	16 5.97+03	1.04+03	1.94+03	3.85+03	5.89+03	8.41+03	1.24+04	1.59+04	1.93+04	2.33+04	2.61+04	2.87+04
18	16 1.23−28	3.81+00	8.48+00	1.37+01	1.38+01	1.12+01	6.79+00	4.18+00	2.41+00	1.05+00	5.37−01	2.72−01
19	16 8.57−30	2.02+00	3.95+00	6.35+00	6.80+00	5.92+00	3.92+00	2.58+00	1.63+00	7.43−01	3.87−01	1.97−01
20	16 3.97−02	2.15+02	2.56+02	3.01+02	3.26+02	3.44+02	3.59+02	3.65+02	3.69+02	3.72+02	3.74+02	3.75+02
21	16 1.00−30	5.44−30	7.44−30	1.01−29	1.19−29	1.34−29	1.47−29	1.53−29	1.57−29	1.61−29	1.63−29	1.64−29
22	16 8.90+05	4.24+01	7.91+01	1.83+02	3.21+02	5.14+02	8.45+02	1.14+03	1.47+03	1.92+03	2.28+03	2.65+03
23	16 2.10−04	1.03−09	2.27−09	5.72−09	1.02−08	1.65−08	2.74−08	3.71−08	4.79−08	6.31−08	7.51−08	8.73−08
24	16 3.31−01	1.72+02	2.66+02	4.20+02	5.41+02	6.51+02	7.62+02	8.20+02	8.60+02	8.93+02	9.09+02	9.21+02
25	16 2.91+06	5.36+01	1.37+02	4.00+02	7.72+02	1.32+03	2.30+03	3.20+03	4.20+03	5.63+03	6.77+03	7.93+03
26	16 9.41−25	3.64−30	1.02−29	3.30−29	6.76−29	1.21−28	2.20−28	3.13−28	4.18−28	5.69−28	6.90−28	8.13−28
27	16 1.31−28	1.13−27	2.05−27	4.12−27	6.23−27	8.49−27	1.12−26	1.28−26	1.39−26	1.49−26	1.54−26	1.57−26
28	16 1.93+00	3.80+02	5.56+02	8.27+02	1.03+03	1.21+03	1.39+03	1.49+03	1.55+03	1.60+03	1.62+03	1.64+03
29	16 1.00−30	3.73−30	6.75−30	1.27−29	1.80−29	2.31−29	2.88−29	3.18−29	3.40−29	3.58−29	3.67−29	3.74−29
18	17 1.00−30	2.51+00	6.76+00	1.30+01	1.47+01	1.34+01	9.40+00	6.43+00	4.12+00	1.88+00	9.81−01	5.00−01
19	17 5.96−24	1.64+00	3.84+00	6.65+00	7.15+00	6.25+00	4.19+00	2.72+00	1.62+00	7.15−01	3.69−01	1.87−01
20	17 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
22	17 4.56−02	2.50+01	3.75+01	5.47+01	6.62+01	7.54+01	8.40+01	8.81+01	9.09+01	9.35+01	9.50+01	9.63+01
23	17 1.64−11	6.52−10	9.72−10	1.46−09	1.82−09	2.13−09	2.44−09	2.59−09	2.69−09	2.78−09	2.82−09	2.85−09
24	17 9.59+04	5.45+01	6.35+01	7.48+01	8.74+01	1.07+02	1.45+02	1.82+02	2.25+02	2.87+02	3.37+02	3.88+02
25	17 1.57−01	2.90+02	4.17+02	6.05+02	7.42+02	8.58+02	9.72+02	1.03+03	1.07+03	1.10+03	1.11+03	1.12+03
26	17 1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30

(*continued on next page*)

Table 1 (*continued*)

27	17	1.72−23	5.96−28	7.80−28	9.77−28	1.10−27	1.25−27	1.59−27	1.98−27	2.48−27	3.28−27	3.95−27	4.66−27
28	17	4.47+06	8.38+02	1.47+03	2.90+03	4.51+03	6.57+03	9.90+03	1.28+04	1.58+04	2.01+04	2.35+04	2.69+04
29	17	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
19	18	3.46+04	1.19+02	2.51+02	5.51+02	8.98+02	1.37+03	2.18+03	2.90+03	3.65+03	4.55+03	5.18+03	5.77+03
22	18	4.37−13	2.83−10	4.07−10	5.77−10	6.91−10	7.82−10	8.66−10	9.07−10	9.34−10	9.59−10	9.72−10	9.85−10
23	18	8.45−02	5.58+00	7.09+00	9.04+00	1.04+01	1.17+01	1.30+01	1.36+01	1.41+01	1.45+01	1.47+01	1.49+01
24	18	4.33−22	5.34−26	9.83−26	2.01−25	3.16−25	4.65−25	7.03−25	9.07−25	1.12−24	1.43−24	1.67−24	1.91−24
25	18	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
26	18	1.57−01	9.70+01	1.39+02	2.02+02	2.48+02	2.87+02	3.26+02	3.45+02	3.58+02	3.68+02	3.73+02	3.77+02
27	18	2.41+05	1.31+01	2.13+01	3.61+01	4.91+01	6.27+01	8.02+01	9.29+01	1.05+02	1.20+02	1.32+02	1.43+02
28	18	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
29	18	4.46+06	2.80+02	4.92+02	9.69+02	1.51+03	2.20+03	3.31+03	4.27+03	5.29+03	6.72+03	7.84+03	8.98+03
20	19	1.00−30	1.28−25	1.38−25	1.47−25	1.51−25	1.54−25	1.56−25	1.56−25	1.57−25	1.57−25	1.57−25	1.57−25
21	19	7.49−06	2.47+02	2.66+02	2.79+02	2.84+02	2.87+02	2.89+02	2.89+02	2.90+02	2.90+02	2.90+02	2.90+02
22	19	1.71−06	2.79−08	4.04−08	6.15−08	8.05−08	1.01−07	1.31−07	1.54−07	1.79−07	2.11−07	2.36−07	2.61−07
23	19	1.43+06	1.85+02	3.58+02	7.43+02	1.16+03	1.68+03	2.49+03	3.17+03	3.88+03	4.87+03	5.64+03	6.41+03
24	19	3.30−29	2.81−25	3.64−25	4.67−25	5.30−25	5.78−25	6.20−25	6.40−25	6.53−25	6.63−25	6.69−25	6.74−25
25	19	3.62−22	3.39−25	6.40−25	1.30−24	2.02−24	2.91−24	4.28−24	5.43−24	6.65−24	8.33−24	9.63−24	1.09−23
26	19	1.71+06	6.48+02	1.16+03	2.26+03	3.43+03	4.85+03	7.03+03	8.85+03	1.08+04	1.34+04	1.54+04	1.75+04
27	19	1.23+00	1.89+02	2.96+02	4.80+02	6.30+02	7.69+02	9.12+02	9.88+02	1.04+03	1.08+03	1.10+03	1.12+03
28	19	1.93−29	9.27−26	1.29−25	1.77−25	2.08−25	2.33−25	2.56−25	2.67−25	2.74−25	2.80−25	2.83−25	2.86−25
29	19	1.26−01	3.40+02	4.40+02	5.64+02	6.42+02	7.02+02	7.55+02	7.80+02	7.96+02	8.09+02	8.16+02	8.22+02
22	20	5.23+05	1.24+03	1.97+03	3.34+03	4.65+03	6.17+03	8.39+03	1.02+04	1.21+04	1.46+04	1.66+04	1.85+04
23	20	6.72−05	4.33−09	8.02−09	1.63−08	2.53−08	3.67−08	5.47−08	6.98−08	8.59−08	1.08−07	1.25−07	1.43−07
24	20	1.67−01	2.99+02	4.13+02	5.69+02	6.73+02	7.56+02	8.32+02	8.69+02	8.93+02	9.13+02	9.24+02	9.32+02
25	20	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
27	20	1.79−28	1.19−27	2.25−27	4.42−27	6.42−27	8.40−27	1.06−26	1.18−26	1.27−26	1.34−26	1.37−26	1.40−26
28	20	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
22	21	3.90−07	2.33−08	3.13−08	4.39−08	5.46−08	6.61−08	8.22−08	9.48−08	1.08−07	1.25−07	1.38−07	1.51−07
23	21	5.77+05	2.14+02	3.56+02	6.38+02	9.21+02	1.26+03	1.76+03	2.17+03	2.60+03	3.18+03	3.63+03	4.09+03
24	21	1.98−30	5.79−26	6.97−26	8.26−26	8.98−26	9.50−26	9.94−26	1.01−25	1.03−25	1.04−25	1.04−25	1.05−25
27	21	5.07−01	1.22+01	2.14+01	3.80+01	5.20+01	6.50+01	7.86+01	8.57+01	9.06+01	9.46+01	9.66+01	9.82+01
23	22	6.82−13	2.04−08	2.34−08	2.65−08	2.82−08	2.93−08	3.02−08	3.05−08	3.08−08	3.10−08	3.11−08	3.12−08
24	22	1.40+05	8.27+03	1.16+04	1.70+04	2.17+04	2.68+04	3.40+04	3.97+04	4.55+04	5.33+04	5.92+04	6.52+04
25	22	7.22−03	1.66+03	1.92+03	2.18+03	2.33+03	2.42+03	2.50+03	2.54+03	2.56+03	2.58+03	2.59+03	2.60+03
26	22	1.40−13	1.08−08	1.25−08	1.42−08	1.51−08	1.57−08	1.62−08	1.64−08	1.66−08	1.67−08	1.68−08	1.69−08
27	22	4.77−05	1.51−09	3.38−09	8.35−09	1.45−08	2.29−08	3.69−08	4.91−08	6.24−08	8.10−08	9.56−08	1.10−07
28	22	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
24	23	1.00−30	1.26−07	1.52−07	1.89−07	2.18−07	2.48−07	2.89−07	3.21−07	3.53−07	3.95−07	4.27−07	4.59−07
27	23	7.03+05	3.50+02	5.98+02	1.10+03	1.62+03	2.23+03	3.17+03	3.94+03	4.75+03	5.86+03	6.71+03	7.57+03
25	24	4.52+03	2.89+04	3.53+04	4.43+04	5.15+04	5.90+04	6.91+04	7.69+04	8.47+04	9.51+04	1.03+05	1.11+05
26	24	1.21−24	2.60−24	3.15−24	3.93−24	4.55−24	5.18−24	6.04−24	6.71−24	7.38−24	8.27−24	8.94−24	9.62−24
27	24	4.19−29	4.01−25	5.18−25	6.61−25	7.51−25	8.19−25	8.79−25	9.08−25	9.26−25	9.41−25	9.49−25	9.56−25
28	24	9.29−06	1.43+03	1.52+03	1.59+03	1.62+03	1.64+03	1.65+03	1.65+03	1.65+03	1.65+03	1.65+03	1.65+03
29	24	1.00−30	3.03−25	3.29−25	3.49−25	3.57−25	3.61−25	3.64−25	3.65−25	3.66−25	3.67−25	3.67−25	3.68−25
27	25	9.23−23	4.15−26	7.39−26	1.41−25	2.11−25	2.95−25	4.22−25	5.28−25	6.38−25	7.90−25	9.07−25	1.03−24
27	26	7.34+05	2.78+02	5.18+02	1.03+03	1.58+03	2.23+03	3.24+03	4.08+03	4.97+03	6.18+03	7.12+03	8.06+03
28	27	3.56−30	1.04−26	1.36−26	1.75−26	1.99−26	2.17−26	2.33−26	2.40−26	2.45−26	2.48−26	2.50−26	2.52−26
29	27	1.00−30	4.90+01	6.77+01	9.14+01	1.06+02	1.18+02	1.28+02	1.32+02	1.36+02	1.38+02	1.40+02	1.42+02
R 1 +1		1.29−14	9.38−15	8.30−15	1.29−14	1.41−14	9.29−15	6.12−15	4.18−15	2.68−15	1.70−15	7.92−16	
R 2 +1		7.54−13	5.33−13	3.36−13	2.36−13	1.62−13	9.36−14	5.76−14	3.39−14	2.97−14	2.71−14	9.96−15	
R 3 +1		1.70−13	5.64−13	8.53−13	6.23−13	4.50−13	2.44−13	1.19−13	5.06−14	1.48−14	5.81−15	2.08−15	
R 4 +1		4.82−15	3.90−15	1.52−14	2.69−14	2.28−14	1.12−14	6.04−15	3.35−15	1.58−15	8.36−16	4.02−16	
R 5 +1		8.97−16	6.92−16	1.32−15	3.49−15	3.98−15	2.34−15	1.34−15	7.77−16	3.90−16	2.18−16	1.05−16	
R 6 +1		1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	2.90−30	6.44−25	1.88−22	2.74−21	3.77−21	1.33−21	
R 7 +1		7.00−14	5.07−14	3.99−14	4.53−14	4.03−14	2.23−14	1.21−14	6.24−15	2.90−15	1.83−15	6.97−16	
R 8 +1		2.38−21	4.60−18	4.28−16	2.62−15	4.73−15	3.35−15	1.69−15	7.12−16	2.02−16	7.55−17	2.67−17	
R 9 +1		2.46−14	1.82−14	1.87−14	1.77−14	1.30−14	7.03−15	3.93−15	2.01−15	8.90−16	5.41−16	2.04−16	
R 10 +1		1.20−13	8.17−14	4.97−14	4.88−14	4.74−14	2.84−14	1.52−14	6.97−15	2.12−15	8.08−16	2.89−16	
R 11 +1		1.50−14	1.00−14	5.76−15	5.91−15	7.27−15	4.78−15	2.41−15	1.04−15	4.87−16	3.85−16	1.36−16	
R 12 +1		2.16−15	1.59−15	1.58−15	5.50−15	9.00−15	6.54−15	3.67−15	1.87−15	6.42−16	3.13−16	1.42−16	
R 13 +1		2.56−16	2.07−16	3.01−16	1.44−15	2.59−15	1.93−15	1.09−15	5.60−16	2.22−16	1.12−16	4.91−17	
R 14 +1		2.33−14	1.71−14	1.24−14	1.59−14	2.03−14	1.39−14	7.56−15	3.64−15	1.33−15	6.35−16	2.44−16	
R 15 +1		8.35−15	6.24−15	4.27−15	4.10−15	4.72−15	3.45−15	1.98−15	9.99−16	4.92−16	3.53−16	1.31−16	
R 16 +1		6.02−14	4.10−14	2.42−14	2.44−14	2.97−14	1.95−14	9.82−15	4.19−15	1.20−15	4.52−16	1.61−16	
R 17 +1		2.98−14	1.85−14	9.79−15	1.80−14	3.18−14	2.32−14	1.17−14	4.96−15	1.40−15	5.13−16	1.82−16	

Table 1 (*continued*)

R 18 +1	9.92−15	6.17−15	3.26−15	6.00−15	1.06−14	7.73−15	3.92−15	1.65−15	4.67−16	1.72−16	6.07−17
R 19 +1	1.11−14	7.43−15	4.20−15	4.60−15	6.56−15	4.68−15	2.38−15	1.02−15	3.46−16	1.89−16	6.70−17
R 20 +1	5.03−16	3.92−16	4.83−16	2.88−15	6.35−15	5.06−15	2.75−15	1.31−15	4.57−16	2.11−16	9.39−17
R 21 +1	7.23−17	6.65−17	1.15−16	8.62−16	1.98−15	1.61−15	8.77−16	4.11−16	1.49−16	7.11−17	2.98−17
R 22 +1	1.04−14	7.68−15	5.65−15	8.68−15	1.43−14	1.09−14	5.96−15	2.72−15	9.48−16	4.57−16	1.75−16
R 23 +1	3.61−15	2.72−15	2.00−15	2.40−15	3.63−15	2.86−15	1.60−15	7.45−16	4.04−16	3.24−16	1.20−16
R 24 +1	3.30−14	2.25−14	1.33−14	1.49−14	2.25−14	1.69−14	8.83−15	3.83−15	1.11−15	4.19−16	1.49−16
R 25 +1	2.63−14	1.64−14	8.27−15	1.35−14	2.66−14	2.15−14	1.12−14	4.85−15	1.38−15	5.09−16	1.80−16
R 26 +1	8.78−15	5.46−15	2.75−15	4.48−15	8.90−15	7.18−15	3.76−15	1.62−15	4.62−16	1.70−16	6.02−17
R 27 +1	7.23−15	4.82−15	2.71−15	3.33−15	5.69−15	4.50−15	2.36−15	1.02−15	3.25−16	1.54−16	5.46−17
R 28 +1	5.65−15	3.44−15	2.18−15	1.28−14	3.19−14	2.68−14	1.41−14	6.13−15	1.76−15	6.46−16	2.28−16
R 29 +1	1.88−15	1.15−15	7.27−16	4.31−15	1.07−14	8.93−15	4.71−15	2.03−15	5.79−16	2.13−16	7.55−17
S 1 +1	2.07−09	5.51−09	1.34−08	2.14−08	3.22−08	5.14−08	6.70−08	7.88−08	8.28−08	7.66−08	6.53−08
S 2 +1	5.32−06	2.53−07	5.70−08	4.35−08	4.77−08	6.74−08	8.86−08	1.08−07	1.20−07	1.15−07	1.01−07
−1											
−1 −1											

Table 2
First-stage collisional datafile for Be^{+}. See page 264 for Explanation of Tables

Be+ 1	4	2	146872.0(1S)	1103374.0(3S)
1 2S1		(2)0(0.5)	0.0	{1}1.000 {2}1.500
2 2P1		(2)1(2.5)	31933.0	{1}1.000
3 3S1		(2)0(0.5)	88232.0	{1}1.000
4 3P1		(2)1(2.5)	96497.0	{1}1.000
5 3D1		(2)2(4.5)	98055.0	{1}1.000
6 4S1		(2)0(0.5)	115464.0	{1}1.000
7 4P1		(2)1(2.5)	118761.0	{1}1.000
8 4D1		(2)2(4.5)	119421.0	{1}1.000
9 4F1		(2)3(6.5)	119447.0	{1}1.000
10 5S1		(2)0(0.5)	127335.1	{1}1.000
11 5P1		(2)1(2.5)	128971.0	{1}1.000
12 5D1		(2)2(4.5)	129310.0	{1}1.000
13 5F1		(2)3(6.5)	129323.8	{1}1.000
14 5G1		(2)4(8.5)	129325.0	{1}1.000
−1				

2.0	3	2.00+03	5.00+03	1.00+04	2.00+04	5.00+04	1.00+05	2.00+05	5.00+05	1.00+06	2.00+06	5.00+06	1.00+07
2	1 1.14+08	1.32+01	1.36+01	1.43+01	1.57+01	1.90+01	2.30+01	2.88+01	3.91+01	4.80+01	5.73+01	6.98+01	7.94+01
3	1 1.00−30	1.56+00	1.45+00	1.29+00	1.11+00	9.49−01	9.18−01	9.59−01	1.08+00	1.19+00	1.26+00	1.31+00	1.33+00
4	1 1.65+08	7.64−01	6.71−01	6.23−01	5.73−01	4.94−01	4.53−01	4.57−01	5.81−01	7.85−01	1.11+00	1.66+00	2.12+00
5	1 1.13+04	7.09−01	7.72−01	8.34−01	8.90−01	9.87−01	1.14+00	1.40+00	1.90+00	2.29+00	2.55+00	2.73+00	2.80+00
6	1 1.00−30	2.80−01	2.63−01	2.33−01	2.02−01	1.76−01	1.72−01	1.82−01	2.08−01	2.30−01	2.45−01	2.56−01	2.60−01
7	1 9.48+07	2.23−01	2.17−01	2.06−01	1.89−01	1.66−01	1.55−01	1.55−01	1.90−01	2.49−01	3.47−01	5.14−01	6.54−01
8	1 3.47+03	1.83−01	1.90−01	1.91−01	1.91−01	2.04−01	2.32−01	2.84−01	3.88−01	4.78−01	5.42−01	5.87−01	6.04−01
9	1 1.00−30	1.63−01	1.78−01	1.73−01	1.58−01	1.40−01	1.35−01	1.38−01	1.46−01	1.48−01	1.49−01	1.49−01	1.50−01
10	1 1.00−30	9.19−02	9.19−02	9.20−02	9.22−02	9.30−02	9.42−02	9.63−02	1.01−01	1.04−01	1.07−01	1.11−01	1.12−01
11	1 5.54+07	5.26−02	5.27−02	5.29−02	5.34−02	5.51−02	5.86−02	6.63−02	8.81−02	1.16−01	1.55−01	2.21−01	2.78−01
12	1 1.50+03	2.50−01	2.50−01	2.51−01	2.51−01	2.52−01	2.55−01	2.59−01	2.68−01	2.75−01	2.82−01	2.89−01	2.92−01
3	2 4.15+08	4.88+00	4.68+00	3.92+00	3.03+00	2.22+00	2.09+00	2.43+00	3.62+00	4.95+00	6.61+00	9.10+00	1.11+01
4	2 1.90+03	7.40+00	6.37+00	5.85+00	5.38+00	4.82+00	4.62+00	4.74+00	5.35+00	5.97+00	6.37+00	6.64+00	6.73+00
5	2 1.12+09	6.63+00	7.08+00	7.67+00	8.46+00	1.03+01	1.34+01	1.90+01	3.11+01	4.32+01	5.76+01	7.87+01	9.55+01
6	2 1.44+08	1.01+00	8.78−01	7.30−01	5.85−01	4.42−01	3.91−01	3.95−01	4.85−01	6.04−01	7.67−01	1.02+00	1.23+00
7	2 7.98+02	1.87+00	1.73+00	1.58+00	1.41+00	1.19+00	1.07+00	1.03+00	1.08+00	1.18+00	1.25+00	1.30+00	1.32+00
8	2 3.80+08	1.47+00	1.51+00	1.55+00	1.60+00	1.86+00	2.33+00	3.19+00	5.02+00	6.81+00	8.91+00	1.20+01	1.45+01
9	2 4.53+02	1.26+00	1.39+00	1.37+00	1.28+00	1.19+00	1.21+00	1.31+00	1.51+00	1.63+00	1.71+00	1.76+00	1.78+00
10	2 7.00+07	1.00−01	1.01−01	1.01−01	1.02−01	1.06−01	1.14−01	1.29−01	1.65−01	2.05−01	2.56−01	3.33−01	3.97−01
11	2 4.03+02	4.99−01	4.99−01	4.99−01	5.01−01	5.05−01	5.12−01	5.23−01	5.42−01	5.57−01	5.69−01	5.81−01	5.87−01
12	2 1.87+08	1.96+00	1.96+00	1.97+00	1.98+00	2.04+00	2.15+00	2.36+00	2.84+00	3.37+00	4.01+00	5.00+00	5.81+00
4	3 1.26+07	4.28+01	4.47+01	5.29+01	6.97+01	1.10+02	1.56+02	2.15+02	3.07+02	3.79+02	4.48+02	5.36+02	6.01+02
5	3 2.34+00	2.35+01	2.45+01	2.47+01	2.42+01	2.29+01	2.24+01	2.27+01	2.39+01	2.47+01	2.51+01	2.54+01	2.55+01
6	3 1.00−30	5.56+00	5.02+00	4.38+00	3.88+00	3.73+00	4.09+00	4.73+00	5.76+00	6.47+00	6.88+00	7.13+00	7.22+00
7	3 1.36+07	2.66+00	2.39+00	2.20+00	1.99+00	1.81+00	1.81+00	2.03+00	2.72+00	3.54+00	4.56+00	6.09+00	7.31+00
8	3 4.47+02	2.43+00	2.58+00	2.66+00	2.77+00	3.20+00	3.87+00	4.74+00	5.76+00	6.22+00	6.47+00	6.63+00	6.69+00
9	3 1.00−30	3.28+00	3.69+00	3.84+00	3.95+00	4.43+00	5.13+00	5.98+00	6.86+00	7.20+00	7.38+00	7.50+00	7.54+00
10	3 1.00−30	1.09+00	1.09+00	1.10+00	1.12+00	1.16+00	1.21+00	1.27+00	1.36+00	1.41+00	1.45+00	1.48+00	1.50+00
11	3 1.06+07	5.24−01	5.25−01	5.27−01	5.32−01	5.55−01	6.01−01	6.95−01	9.18−01	1.16+00	1.47+00	1.93+00	2.32+00
12	3 2.51+02	1.19+00	1.19+00	1.20+00	1.22+00	1.29+00	1.37+00	1.47+00	1.61+00	1.70+00	1.77+00	1.82+00	1.85+00
5	4 7.89+04	2.67+02	3.03+02	3.48+02	4.11+02	5.22+02	6.26+02	7.46+02	9.15+02	1.04+03	1.16+03	1.30+03	1.41+03
6	4 9.84+07	8.81+00	7.84+00	6.52+00	5.76+00	6.75+00	9.89+00	1.58+01	2.79+01	3.90+01	5.10+01	6.75+01	8.03+01
7	4 1.87+02	1.27+01	1.15+01	1.11+01	1.13+01	1.33+01	1.64+01	2.03+01	2.57+01	2.94+01	3.15+01	3.28+01	3.32+01
8	4 1.09+08	1.42+01	1.47+01	1.49+01	1.53+01	1.94+01	2.84+01	4.56+01	8.10+01	1.14+02	1.50+02	2.02+02	2.41+02
9	4 5.00+02	1.21+01	1.39+01	1.49+01	1.64+01	2.15+01	2.92+01	3.97+01	5.37+01	6.15+01	6.58+01	6.85+01	6.95+01
10	4 4.24+07	1.22+00	1.23+00	1.27+00	1.34+00	1.58+00	1.95+00	2.53+00	3.61+00	4.61+00	5.72+00	7.31+00	8.57+00
11	4 1.03+02	5.26+00	5.28+00	5.31+00	5.40+00	5.62+00	5.87+00	6.17+00	6.55+00	6.78+00	6.94+00	7.08+00	7.15+00
12	4 5.72+07	6.47+00	6.55+00	6.72+00	7.10+00	8.38+00	1.03+01	1.34+01	1.93+01	2.48+01	3.10+01	3.98+01	4.69+01
6	5 7.98+01	1.59+01	1.31+01	9.77+00	6.87+00	4.57+00	3.89+00	3.81+00	4.01+00	4.12+00	4.18+00	4.22+00	4.23+00
7	5 8.83+06	2.39+01	1.93+01	1.64+01	1.36+01	1.08+01	9.57+00	9.26+00	1.02+01	1.17+01	1.37+01	1.68+01	1.92+01
8	5 7.76+01	2.40+01	2.40+01	2.33+01	2.27+01	2.44+01	2.83+01	3.35+01	4.06+01	4.50+01	4.75+01	4.90+01	4.95+01
9	5 2.22+08	4.27+01	5.02+01	5.58+01	6.46+01	9.33+01	1.41+02	2.22+02	3.75+02	5.08+02	6.47+02	8.34+02	9.78+02
10	5 4.00+01	4.58−01	4.60−01	4.62−01	4.68−01	4.82−01	4.98−01	5.15−01	5.36−01	5.48−01	5.56−01	5.62−01	5.65−01
11	5 3.75+06	9.49−01	9.51−01	9.54−01	9.64−01	1.00+00	1.06+00	1.18+00	1.41+00	1.65+00	1.92+00	2.33+00	2.66+00
12	5 3.73+01	7.63+00	7.65+00	7.69+00	7.78+00	8.01+00	8.27+00	8.56+00	8.93+00	9.14+00	9.29+00	9.43+00	9.49+00
14	5 7.56+02	1.24+01	1.25+01	1.26+01	1.30+01	1.39+01	1.51+01	1.65+01	1.84+01	1.95+01	2.04+01	2.12+01	2.16+01
7	6 2.74+06	5.27+01	7.44+01	1.18+02	1.99+02	3.86+02	5.92+02	8.46+02	1.21+03	1.48+03	1.73+03	2.05+03	2.28+03

Table 2 (*continued*)

8	6	3.45−01	6.56+01	7.24+01	7.70+01	8.14+01	8.77+01	9.35+01	9.94+01	1.05+02	1.07+02	1.08+02	1.09+02	1.09+02
9	6	1.00−30	2.97+01	2.81+01	2.53+01	2.17+01	1.79+01	1.66+01	1.64+01	1.67+01	1.69+01	1.70+01	1.71+01	1.71+01
10	6	1.00−30	1.47+01	1.50+01	1.55+01	1.65+01	1.83+01	2.00+01	2.15+01	2.31+01	2.40+01	2.46+01	2.51+01	2.55+01
11	6	2.53+06	7.59+00	7.59+00	7.59+00	7.62+00	7.80+00	8.24+00	9.07+00	1.09+01	1.27+01	1.49+01	1.80+01	2.05+01
12	6	4.80+01	5.18+00	5.32+00	5.58+00	6.09+00	7.25+00	8.38+00	9.53+00	1.08+01	1.15+01	1.20+01	1.26+01	1.29+01
8	7	2.55+04	6.81+02	8.99+02	1.17+03	1.55+03	2.18+03	2.75+03	3.35+03	4.14+03	4.69+03	5.20+03	5.84+03	6.31+03
9	7	7.94−05	1.37+02	1.48+02	1.48+02	1.40+02	1.29+02	1.25+02	1.23+02	1.21+02	1.19+02	1.18+02	1.17+02	1.17+02
10	7	3.12+07	1.88+01	2.05+01	2.38+01	3.07+01	4.87+01	7.03+01	9.85+01	1.44+02	1.83+02	2.24+02	2.81+02	3.25+02
11	7	3.22+01	6.41+01	6.57+01	6.84+01	7.31+01	8.21+01	8.97+01	9.66+01	1.04+02	1.07+02	1.10+02	1.13+02	1.14+02
12	7	2.22+07	2.45+01	2.65+01	3.08+01	4.02+01	6.71+01	1.02+02	1.50+02	2.31+02	3.02+02	3.78+02	4.85+02	5.68+02
9	8	8.92−01	2.44+03	3.12+03	3.69+03	4.28+03	5.06+03	5.66+03	6.24+03	6.95+03	7.43+03	7.68+03	7.84+03	7.89+03
10	8	2.20+01	1.15+01	1.18+01	1.24+01	1.32+01	1.48+01	1.59+01	1.70+01	1.80+01	1.85+01	1.89+01	1.93+01	1.95+01
11	8	4.53+06	1.28+01	1.30+01	1.34+01	1.45+01	1.80+01	2.31+01	3.03+01	4.31+01	5.45+01	6.71+01	8.46+01	9.83+01
12	8	1.73+01	1.07+02	1.09+02	1.13+02	1.20+02	1.32+02	1.43+02	1.52+02	1.62+02	1.67+02	1.70+02	1.73+02	1.76+02
14	8	6.72+01	2.11+02	2.15+02	2.20+02	2.30+02	2.47+02	2.61+02	2.74+02	2.86+02	2.93+02	2.97+02	3.02+02	3.04+02
11	9	2.27+00	3.70+00	3.75+00	3.83+00	3.98+00	4.26+00	4.49+00	4.71+00	4.92+00	5.03+00	5.09+00	5.14+00	5.15+00
12	9	8.47+05	1.42+01	1.42+01	1.43+01	1.45+01	1.52+01	1.63+01	1.81+01	2.15+01	2.46+01	2.81+01	3.31+01	3.70+01
14	9	6.82+07	6.36+02	6.65+02	7.18+02	8.26+02	1.09+03	1.40+03	1.79+03	2.41+03	2.93+03	3.48+03	4.23+03	4.81+03
11	10	8.51+05	1.21+03	1.40+03	1.64+03	1.97+03	2.50+03	2.97+03	3.46+03	4.14+03	4.67+03	5.21+03	5.92+03	6.47+03
12	10	7.27−02	2.50+02	2.56+02	2.62+02	2.68+02	2.75+02	2.79+02	2.82+02	2.84+02	2.85+02	2.86+02	2.87+02	2.88+02
12	11	1.01+04	5.61+03	6.55+03	7.42+03	8.38+03	9.75+03	1.08+04	1.19+04	1.34+04	1.45+04	1.56+04	1.71+04	1.83+04
14	12	1.05−09	1.92+02	2.19+02	2.32+02	2.40+02	2.47+02	2.51+02	2.54+02	2.59+02	2.62+02	2.65+02	2.69+02	2.72+02
13	1	7.27−02	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30
R 1 +1		1.68−13	1.08−13	7.75−14	5.66−14	3.86−14	2.95−14	2.70−14	5.46−14	5.74−14	3.64−14	1.30−14	4.94−15	
R 2 +1		7.43−13	4.63−13	3.20−13	2.16−13	1.23−13	7.52−14	4.73−14	6.38−14	6.76−14	4.32−14	1.49−14	5.32−15	
R 3 +1		4.04−14	2.61−14	1.91−14	1.43−14	1.01−14	7.82−15	6.06−15	4.69−15	3.68−15	2.31−15	9.54−16	4.24−16	
R 4 +1		2.60−13	1.63−13	1.13−13	7.66−14	4.36−14	2.68−14	1.87−14	5.60−14	7.31−14	4.99−14	1.76−14	6.24−15	
R 5 +1		2.56−13	1.54−13	1.00−13	6.21−14	2.93−14	1.50−14	1.21−14	7.69−14	1.07−13	7.44−14	2.64−14	9.34−15	
R 6 +1		1.60−14	1.04−14	7.69−15	5.81−15	4.13−15	3.21−15	2.46−15	1.61−15	1.07−15	6.47−16	2.80−16	1.34−16	
R 7 +1		1.20−13	7.49−14	5.19−14	3.52−14	2.00−14	1.22−14	8.53−15	2.84−14	3.86−14	2.69−14	9.64−15	3.41−15	
R 8 +1		1.60−13	9.59−14	6.26−14	3.87−14	1.82−14	9.28−15	4.68−15	7.18−15	9.09−15	6.24−15	2.22−15	7.84−16	
R 9 +1		1.12−13	6.35−14	3.87−14	2.17−14	8.73−15	3.92−15	2.07−15	7.56−15	1.07−14	7.46−15	2.67−15	9.44−16	
R 10 +1		7.97−15	5.20−15	3.85−15	2.94−15	2.11−15	1.63−15	1.22−15	8.01−16	5.18−16	3.13−16	1.34−16	6.15−17	
R 11 +1		6.54−14	4.08−14	2.82−14	1.91−14	1.08−14	6.53−15	5.28−15	2.79−14	4.00−14	2.82−14	1.01−14	3.58−15	
R 12 +1		9.61−14	5.76−14	3.75−14	2.31−14	1.08−14	5.47−15	2.95−15	8.09−15	1.13−14	7.88−15	2.82−15	9.98−16	
R 13 +1		9.85−14	5.59−14	3.40−14	1.91−14	7.67−15	3.45−15	1.78−15	6.39−15	9.10−15	6.42−15	2.30−15	8.15−16	
R 14 +1		5.06−14	2.68−14	1.51−14	7.71−15	2.72−15	1.12−15	4.36−16	1.18−16	4.26−17	1.52−17	3.89−18	1.38−18	
R 1 +2		1.76−12	1.25−12	9.91−13	6.93−13	3.99−13	2.60−13	1.71−13	9.85−14	6.13−14	3.48−14	1.38−14	6.24−15	
R 2 +2		9.32−14	4.17−13	8.35−13	6.98−13	3.18−13	1.38−13	5.43−14	1.46−14	5.29−15	1.89−15	4.81−16	1.70−16	
R 3 +2		1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.01−30	1.00−30	1.00−30	1.00−30	1.00−30	
R 4 +2		1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.01−30	1.00−30	1.00−30	1.00−30	1.00−30	
R 5 +2		1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.00−30	1.01−30	1.00−30	1.00−30	1.00−30	1.00−30	
R 6 +2		7.26−12	1.53−11	1.88−11	1.16−11	4.16−12	1.65−12	6.17−13	1.62−13	5.79−14	2.06−14	5.22−15	1.84−15	
R 7 +2		1.29−12	6.00−12	1.18−11	8.97−12	3.67−12	1.52−12	5.82−13	1.54−13	5.55−14	1.98−14	5.02−15	1.77−15	
R 8 +2		2.29−12	1.16−11	2.55−11	2.26−11	1.01−11	4.30−12	1.67−12	4.47−13	1.61−13	5.75−14	1.46−14	5.16−15	
R 9 +2		5.03−13	4.96−12	1.52−11	1.40−11	6.48−12	2.79−12	1.09−12	2.93−13	1.06−13	3.77−14	9.59−15	3.39−15	
R 10 +2		5.84−15	3.55−13	3.15−12	4.65−12	2.89−12	1.37−12	5.65−13	1.56−13	5.69−14	2.04−14	5.20−15	1.84−15	
R 11 +2		2.17−15	1.92−13	2.13−12	3.49−12	2.32−12	1.12−12	4.66−13	1.30−13	4.74−14	1.70−14	4.34−15	1.53−15	
R 12 +2		4.54−15	4.40−13	5.26−12	9.24−12	6.38−12	3.14−12	1.31−12	3.67−13	1.34−13	4.82−14	1.23−14	4.35−15	
R 13 +2		1.96−15	2.54−13	3.53−12	6.37−12	4.50−12	2.22−12	9.32−13	2.61−13	9.53−14	3.44−14	8.80−15	3.11−15	
S 1 +1		3.77−10	1.00−09	2.77−09	4.93−09	8.72−09	1.19−08	1.47−08	1.64−08	1.58−08	1.39−08	1.06−08	8.19−09	
S 1 +2		1.00+00	1.00+00	2.77−02	1.02−10	2.40−10	3.75−10	5.42−10	8.45−10	1.14−09	1.43−09	1.71−09	1.76−09	
−1														
−1 −1														

Table 3
First-stage collisional datafile for Be^{2+}. See page 264 for Explanation of Tables

Be^{+2}	4	3	1241170.0(2S)
1 1S2		(1)0(0.0)	0.0 {1}1.000
2 1S1 2S1		(3)0(1.0)	956502.0 {1}1.000
3 1S1 2S1		(1)0(0.0)	981178.0 {1}1.000
4 1S1 2P1		(3)1(4.0)	983355.0 {1}1.000
5 1S1 2P1		(1)1(1.0)	997454.0 {1}1.000
6 1S1 3S1		(3)0(1.0)	1121184.0 {1}1.000
7 1S1 3S1		(1)0(0.0)	1127704.0 {1}1.000
8 1S1 3P1		(3)1(4.0)	1128300.0 {1}1.000
9 1S1 3D1		(3)2(7.0)	1131383.0 {1}1.000
10 1S1 3D1		(1)2(2.0)	1131462.0 {1}1.000
11 1S1 3P1		(1)1(1.0)	1132390.0 {1}1.000
12 1S1 4S1		(3)0(1.0)	1175295.0 {1}1.000
13 1S1 4S1		(1)0(0.0)	1178005.0 {1}1.000
14 1S1 4P1		(3)1(4.0)	1178173.0 {1}1.000
15 1S1 4D1		(3)2(7.0)	1179451.0 {1}1.000
16 1S1 4D1		(1)2(2.0)	1179495.0 {1}1.000
17 1S1 4F1		(1)3(3.0)	1179514.0 {1}1.000
18 1S1 4F1		(3)3(10.0)	1179515.0 {1}1.000
19 1S1 4P1		(1)1(1.0)	1179830.0 {1}1.000
−1			

3.0	3	1.00+04	2.00+04	5.00+04	1.00+05	2.00+05	5.00+05	1.00+06	2.00+06	5.00+06	1.00+07	2.00+07
2	1 1.00−30	4.99−02	4.94−02	4.01−02	3.26−02	2.62−02	1.88−02	1.41−02	9.98−03	5.46−03	3.12−03	1.68−03
3	1 1.00−30	2.68−02	2.58−02	2.41−02	2.33−02	2.28−02	2.33−02	2.50−02	2.83−02	3.30−02	3.56−02	3.74−02
4	1 5.92+04	7.35−02	7.23−02	6.93−02	6.69−02	6.27−02	5.31−02	4.33−02	3.25−02	1.87−02	1.10−02	6.02−03
5	1 1.25+11	3.51−02	3.61−02	3.97−02	4.48−02	5.35−02	7.75−02	1.10−01	1.57−01	2.68−01	3.85−01	5.23−01
6	1 1.00−30	1.27−02	1.13−02	9.23−03	7.71−03	6.31−03	4.64−03	3.47−03	2.43−03	1.28−03	7.12−04	3.76−04
7	1 1.00−30	5.94−03	5.54−03	5.01−03	4.61−03	4.37−03	4.45−03	4.91−03	5.74−03	6.93−03	7.63−03	8.10−03
8	1 1.92+04	1.32−02	1.35−02	1.35−02	1.32−02	1.27−02	1.16−02	9.95−03	7.72−03	4.63−03	2.78−03	1.54−03
9	1 5.79+01	3.98−03	4.46−03	4.47−03	3.96−03	3.31−03	2.45−03	1.82−03	1.26−03	6.72−04	3.77−04	2.00−04
10	1 8.87+05	4.42−03	4.44−03	4.05−03	3.52−03	3.01−03	2.60−03	2.59−03	2.84−03	3.27−03	3.52−03	3.69−03
11	1 3.81+10	5.86−03	6.23−03	6.98−03	8.01−03	1.01−02	1.56−02	2.25−02	3.20−02	5.42−02	7.77−02	1.06−01
12	1 1.00−30	4.26−03	3.79−03	3.23−03	2.83−03	2.42−03	1.84−03	1.38−03	9.69−04	5.11−04	2.85−04	1.51−04
13	1 1.00−30	2.29−03	2.01−03	1.80−03	1.67−03	1.60−03	1.62−03	1.79−03	2.11−03	2.56−03	2.83−03	3.01−03
14	1 9.65+03	4.44−03	4.38−03	4.41−03	4.42−03	4.45−03	4.26−03	3.74−03	2.95−03	1.79−03	1.09−03	6.06−04
15	1 1.52+00	2.07−03	2.17−03	2.14−03	1.93−03	1.66−03	1.28−03	9.68−04	6.82−04	3.69−04	2.09−04	1.12−04
16	1 4.51+04	1.93−03	2.01−03	1.94−03	1.74−03	1.54−03	1.37−03	1.37−03	1.48−03	1.67−03	1.78−03	1.86−03
17	1 1.00−30	1.14−03	1.00−03	7.45−04	5.20−04	3.40−04	1.87−04	1.21−04	8.26−05	4.30−05	2.44−05	1.33−05
18	1 1.00−30	1.57−03	1.39−03	1.04−03	7.22−04	4.62−04	2.38−04	1.38−04	7.75−05	2.67−05	9.72−06	3.23−06
19	1 1.67+10	1.77−03	1.99−03	2.41−03	2.86−03	3.70−03	5.89−03	8.57−03	1.22−02	2.07−02	2.97−02	4.04−02
3	2 1.00−30	5.24−01	4.60−01	3.73−01	3.14−01	2.50−01	1.70−01	1.21−01	8.21−02	3.89−02	2.05−02	1.05−02
4	2 3.38+07	2.22+01	2.31+01	2.54+01	2.81+01	3.20+01	3.92+01	4.58+01	5.28+01	6.22+01	6.94+01	7.67+01
5	2 1.30+02	3.84−01	3.79−01	4.00−01	3.90−01	3.25−01	2.09−01	1.35−01	8.17−02	3.67−02	1.90−02	9.70−03
6	2 1.94−25	1.29+00	1.06+00	8.71−01	8.10−01	8.07−01	8.73−01	9.53−01	1.04+00	1.11+00	1.14+00	1.15+00
7	2 1.00−30	7.05−02	5.77−02	4.20−02	3.07−02	2.12−02	1.20−02	7.40−03	4.43−03	2.02−03	1.06−03	5.41−04
8	2 1.57+09	7.07−01	6.65−01	6.29−01	6.32−01	7.12−01	1.03+00	1.50+00	2.16+00	3.40+00	4.50+00	5.68+00
9	2 7.32+04	7.70−01	8.39−01	9.29−01	1.03+00	1.22+00	1.65+00	2.06+00	2.46+00	2.78+00	2.90+00	2.97+00
10	2 1.44+01	1.58−01	1.65−01	1.53−01	1.28−01	9.92−02	6.29−02	4.11−02	2.52−02	1.16−02	6.13−03	3.15−03
11	2 1.99+03	8.45−02	8.74−02	8.00−02	6.63−02	5.06−02	3.15−02	2.02−02	1.22−02	5.58−03	2.93−03	1.50−03
12	2 7.45−29	2.17−01	1.82−01	1.51−01	1.41−01	1.42−01	1.56−01	1.72−01	1.90−01	2.05−01	2.11−01	2.15−01
13	2 1.00−30	3.71−02	2.60−02	1.65−02	1.15−02	7.77−03	4.33−03	2.66−03	1.58−03	7.15−04	3.74−04	1.91−04
14	2 6.87+08	2.50−01	2.29−01	2.07−01	2.00−01	2.11−01	2.75−01	3.68−01	4.99−01	7.47−01	9.69−01	1.21+00
15	2 1.03+04	1.77−01	1.75−01	1.75−01	1.82−01	2.06−01	2.72−01	3.42−01	4.15−01	4.77−01	5.01−01	5.15−01
16	2 1.04+00	5.71−02	5.38−02	4.57−02	3.78−02	2.95−02	1.92−02	1.28−02	8.03−03	3.79−03	2.01−03	1.04−03
17	2 1.00−30	4.39−02	3.93−02	3.08−02	2.35−02	1.69−02	1.01−02	6.31−03	3.75−03	1.70−03	8.91−04	4.56−04
18	2 1.00−30	1.87−01	1.75−01	1.54−01	1.42−01	1.39−01	1.48−01	1.58−01	1.65−01	1.70−01	1.73−01	1.74−01
19	2 7.05+02	3.48−02	3.39−02	2.95−02	2.42−02	1.86−02	1.17−02	7.57−03	4.60−03	2.12−03	1.12−03	5.73−04
4	3 4.39−02	1.00+00	8.29−01	6.34−01	5.28−01	4.08−01	2.48−01	1.55−01	9.16−02	4.03−02	2.08−02	1.05−02
5	3 9.01+06	1.02+01	1.07+01	1.19+01	1.33+01	1.51+01	1.84+01	2.13+01	2.43+01	2.82+01	3.12+01	3.41+01
6	3 1.00−30	2.65−01	1.79−01	1.01−01	6.37−02	3.96−02	2.07−02	1.25−02	7.46−03	3.38−03	1.77−03	9.03−04
7	3 1.00−30	2.63−01	2.46−01	2.44−01	2.56−01	2.79−01	3.27−01	3.71−01	4.15−01	4.50−01	4.62−01	4.69−01
8	3 6.55+02	1.83−01	1.66−01	1.36−01	1.07−01	7.78−02	4.56−02	2.81−02	1.64−02	7.31−03	3.80−03	1.93−03
9	3 3.50+00	1.68−01	1.79−01	1.71−01	1.46−01	1.14−01	7.23−02	4.71−02	2.89−02	1.33−02	7.01−03	3.59−03
10	3 5.38+04	3.12−01	3.32−01	3.74−01	4.35−01	5.43−01	7.68−01	9.70−01	1.16+00	1.31+00	1.36+00	1.39+00
11	3 1.54+09	1.61−01	1.77−01	2.00−01	2.33−01	3.01−01	4.94−01	7.43−01	1.08+00	1.69+00	2.22+00	2.79+00

Table 3 (*continued*)

12	3 1.00−30	4.68−02	3.40−02	2.13−02	1.46−02	9.72−03	5.44−03	3.38−03	2.04−03	9.35−04	4.91−04	2.52−04
13	3 1.00−30	5.90−02	5.00−02	4.51−02	4.52−02	4.85−02	5.71−02	6.61−02	7.57−02	8.37−02	8.67−02	8.84−02
14	3 4.28+02	7.15−02	5.98−02	4.54−02	3.49−02	2.53−02	1.50−02	9.32−03	5.49−03	2.47−03	1.29−03	6.58−04
15	3 7.07−01	5.78−02	5.45−02	4.75−02	4.00−02	3.17−02	2.08−02	1.38−02	8.60−03	4.03−03	2.13−03	1.10−03
16	3 2.10+04	6.14−02	5.83−02	5.67−02	6.04−02	7.17−02	9.98−02	1.27−01	1.55−01	1.78−01	1.87−01	1.92−01
17	3 1.00−30	5.94−02	5.65−02	5.36−02	5.41−02	5.92−02	7.15−02	8.12−02	8.84−02	9.40−02	9.62−02	9.74−02
18	3 1.00−30	5.52−02	4.86−02	3.79−02	2.91−02	2.12−02	1.28−02	8.07−03	4.82−03	2.19−03	1.15−03	5.88−04
19	3 7.47+08	4.72−02	5.04−02	5.60−02	6.30−02	7.72−02	1.17−01	1.67−01	2.35−01	3.62−01	4.75−01	5.95−01
5	4 8.44−05	2.08+00	2.00+00	2.01+00	1.94+00	1.65+00	1.11+00	7.50−01	4.82−01	2.22−01	1.16−01	5.91−02
6	4 1.09+09	3.08+00	2.17+00	1.35+00	9.89−01	8.09−01	8.09−01	9.71−01	1.25+00	1.80+00	2.29+00	2.82+00
7	4 1.62+03	2.97−01	2.55−01	1.96−01	1.47−01	1.04−01	5.87−02	3.56−02	2.06−02	9.12−03	4.73−03	2.41−03
8	4 1.78+04	4.06+00	3.83+00	3.51+00	3.29+00	3.20+00	3.37+00	3.66+00	4.00+00	4.27+00	4.37+00	4.42+00
9	4 5.49+09	6.66+00	7.21+00	8.04+00	9.08+00	1.11+01	1.63+01	2.22+01	2.96+01	4.19+01	5.23+01	6.33+01
10	4 9.85+05	6.68−01	7.09−01	6.64−01	5.58−01	4.28−01	2.66−01	1.69−01	1.01−01	4.57−02	2.39−02	1.22−02
11	4 9.38−02	3.78−01	3.98−01	3.61−01	2.96−01	2.24−01	1.38−01	8.96−02	5.49−02	2.53−02	1.33−02	6.81−03
12	4 3.04+08	5.16−01	4.05−01	2.92−01	2.33−01	1.94−01	1.75−01	1.84−01	2.07−01	2.27−01	2.35−01	2.39−01
13	4 1.06+03	1.66−01	1.23−01	8.35−02	6.06−02	4.20−02	2.38−02	1.44−02	8.31−03	3.68−03	1.91−03	9.71−04
14	4 4.35+03	1.10+00	9.84−01	8.50−01	7.61−01	7.00−01	6.82−01	7.07−01	7.50−01	7.87−01	8.01−01	8.09−01
15	4 1.80+09	1.38+00	1.42+00	1.51+00	1.66+00	1.98+00	2.78+00	3.67+00	4.73+00	6.45+00	7.92+00	9.46+00
16	4 1.56+05	2.31−01	2.21−01	1.91−01	1.59−01	1.24−01	8.04−02	5.27−02	3.22−02	1.49−02	7.83−03	4.02−03
17	4 4.77+03	1.79−01	1.61−01	1.25−01	9.33−02	6.52−02	3.69−02	2.23−02	1.28−02	5.64−03	2.92−03	1.49−03
18	4 3.29+04	1.30+00	1.17+00	9.73−01	8.53−01	7.90−01	8.06−01	8.69−01	9.44−01	1.01+00	1.03+00	1.04+00
19	4 5.83−02	1.59−01	1.54−01	1.34−01	1.10−01	8.35−02	5.20−02	3.39−02	2.09−02	9.72−03	5.13−03	2.64−03
6	5 3.28+02	1.03+00	7.01−01	4.04−01	2.62−01	1.66−01	8.60−02	5.00−02	2.81−02	1.22−02	6.26−03	3.18−03
7	5 8.97+08	3.67−01	2.92−01	2.24−01	1.93−01	1.86−01	2.25−01	2.93−01	3.94−01	5.79−01	7.42−01	9.14−01
8	5 1.79−02	6.85−01	6.16−01	5.04−01	3.95−01	2.87−01	1.71−01	1.08−01	6.52−02	2.97−02	1.55−02	7.95−03
9	5 3.14+05	7.70−01	8.21−01	7.81−01	6.63−01	5.12−01	3.19−01	2.03−01	1.21−01	5.46−02	2.85−02	1.45−02
10	5 5.25+09	2.70+00	2.89+00	3.26+00	3.79+00	4.80+00	7.21+00	9.90+00	1.32+01	1.86+01	2.31+01	2.78+01
11	5 1.99+04	7.05−01	7.58−01	8.02−01	8.45−01	9.33−01	1.14+00	1.34+00	1.54+00	1.70+00	1.75+00	1.78+00
12	5 1.09+02	1.77−01	1.37−01	9.16−02	6.51−02	4.46−02	2.50−02	1.51−02	8.64−03	3.79−03	1.96−03	9.98−04
13	5 4.34+08	1.24−01	9.23−02	6.71−02	5.53−02	4.92−02	4.98−02	5.74−02	7.15−02	8.37−02	8.83−02	9.08−02
14	5 1.29−02	3.13−01	2.53−01	1.87−01	1.42−01	1.02−01	6.04−02	3.82−02	2.31−02	1.06−02	5.56−03	2.85−03
15	5 5.18+04	2.57−01	2.44−01	2.12−01	1.78−01	1.41−01	9.13−02	5.98−02	3.64−02	1.67−02	8.79−03	4.51−03
16	5 1.67+09	4.51−01	4.64−01	5.02−01	5.72−01	7.10−01	1.03+00	1.38+00	1.79+00	2.46+00	3.02+00	3.62+00
17	5 4.88+02	4.44−01	3.98−01	3.43−01	3.18−01	3.18−01	3.58−01	4.07−01	4.56−01	4.96−01	5.11−01	5.19−01
18	5 2.27+03	2.19−01	1.93−01	1.48−01	1.11−01	7.84−02	4.48−02	2.73−02	1.57−02	6.92−03	3.59−03	1.83−03
19	5 2.37+04	1.74−01	1.77−01	1.76−01	1.76−01	1.87−01	2.25−01	2.66−01	3.09−01	3.44−01	3.58−01	3.65−01
7	6 1.00−30	9.34−01	7.60−01	5.48−01	4.01−01	2.84−01	1.77−01	1.22−01	8.15−02	3.81−02	2.00−02	1.02−02
8	6 4.01+06	1.15+02	1.28+02	1.56+02	1.89+02	2.30+02	2.96+02	3.50+02	4.02+02	4.68+02	5.17+02	5.65+02
9	6 5.24−01	2.30+01	2.23+01	2.07+01	1.92+01	1.81+01	1.74+01	1.74+01	1.73+01	1.72+01	1.72+01	1.72+01
10	6 1.07−04	1.26+00	1.29+00	1.08+00	7.99−01	5.28−01	2.72−01	1.54−01	8.42−02	3.56−02	1.81−02	9.13−03
11	6 1.66+01	5.37−01	5.43−01	4.63−01	3.47−01	2.36−01	1.28−01	7.62−02	4.36−02	1.89−02	9.69−03	4.91−03
12	6 1.00−30	4.15+00	3.62+00	3.32+00	3.40+00	3.71+00	4.34+00	4.83+00	5.26+00	5.56+00	5.66+00	5.71+00
13	6 1.00−30	1.83−01	1.25−01	7.29−02	4.60−02	2.81−02	1.41−02	8.20−03	4.71−03	2.06−03	1.06−03	5.40−04
14	6 1.76+08	2.20+00	1.99+00	1.84+00	1.95+00	2.49+00	4.17+00	6.26+00	8.93+00	1.32+01	1.67+01	2.04+01
15	6 3.91+03	2.64+00	2.77+00	3.07+00	3.54+00	4.31+00	5.65+00	6.59+00	7.31+00	7.80+00	7.98+00	8.06+00
16	6 3.98−01	3.38−01	3.05−01	2.28−01	1.62−01	1.07−01	5.49−02	3.10−02	1.68−02	7.08−03	3.60−03	1.82−03
17	6 1.00−30	5.89−01	5.32−01	4.09−01	3.04−01	2.09−01	1.14−01	6.71−02	3.74−02	1.60−02	8.21−03	4.15−03
18	6 1.00−30	3.47+00	3.54+00	3.63+00	3.87+00	4.29+00	5.01+00	5.48+00	5.81+00	6.03+00	6.11+00	6.15+00
19	6 1.99+02	1.07−01	1.08−01	8.83−02	6.58−02	4.49−02	2.42−02	1.42−02	7.94−03	3.41−03	1.75−03	8.85−04
8	7 3.12−03	1.20+00	9.37−01	6.58−01	4.59−01	2.96−01	1.53−01	8.86−02	4.95−02	2.11−02	1.08−02	5.45−03
9	7 2.51−07	1.27+00	1.32+00	1.13+00	8.33−01	5.48−01	2.79−01	1.57−01	8.53−02	3.59−02	1.82−02	9.18−03
10	7 4.33−03	7.52+00	6.96+00	6.31+00	5.88+00	5.60+00	5.48+00	5.49+00	5.50+00	5.51+00	5.51+00	5.51+00
11	7 1.26+06	4.97+01	5.59+01	6.85+01	8.19+01	9.84+01	1.24+02	1.44+02	1.64+02	1.89+02	2.08+02	2.26+02
12	7 1.00−30	3.22−01	2.07−01	1.08−01	6.37−02	3.66−02	1.75−02	9.94−03	5.64−03	2.45−03	1.26−03	6.38−04
13	7 1.00−30	1.11+00	1.02+00	1.03+00	1.14+00	1.33+00	1.62+00	1.84+00	2.03+00	2.16+00	2.21+00	2.23+00
14	7 8.07+01	3.06−01	2.29−01	1.51−01	1.03−01	6.66−02	3.42−02	1.94−02	1.06−02	4.49−03	2.29−03	1.16−03
15	7 1.24−01	3.57−01	3.16−01	2.36−01	1.69−01	1.12−01	5.79−02	3.28−02	1.77−02	7.43−03	3.78−03	1.90−03
16	7 3.69+03	1.13+00	1.21+00	1.41+00	1.70+00	2.13+00	2.83+00	3.31+00	3.68+00	3.93+00	4.02+00	4.06+00
17	7 1.00−30	9.64−01	1.02+00	1.14+00	1.30+00	1.53+00	1.87+00	2.08+00	2.23+00	2.33+00	2.37+00	2.38+00
18	7 1.00−30	6.82−01	6.06−01	4.61−01	3.40−01	2.32−01	1.26−01	7.33−02	4.06−02	1.73−02	8.86−03	4.48−03
19	7 1.98+08	5.71−01	6.05−01	6.85−01	8.41−01	1.18+00	2.09+00	3.15+00	4.49+00	6.60+00	8.35+00	1.02+01
9	8 2.72+05	2.77+02	3.02+02	3.51+02	4.02+02	4.66+02	5.65+02	6.44+02	7.19+02	8.13+02	8.82+02	9.50+02
10	8 3.96+01	3.73+00	3.92+00	3.37+00	2.50+00	1.65+00	8.48−01	4.83−01	2.65−01	1.12−01	5.70−02	2.88−02
11	8 2.08−06	2.16+00	2.34+00	2.14+00	1.69+00	1.22+00	7.33−01	4.84−01	3.12−01	1.43−01	7.48−02	3.82−02
12	8 2.77+08	5.91+00	4.46+00	3.39+00	3.19+00	3.62+00	5.33+00	7.44+00	1.01+01	1.42+01	1.76+01	2.10+01

(*continued on next page*)

Table 3 (*continued*)

13	8 4.29+02	5.62−01	3.86−01	2.29−01	1.46−01	8.89−02	4.33−02	2.41−02	1.30−02	5.46−03	2.78−03	1.40−03
14	8 4.17+03	1.06+01	1.00+01	1.02+01	1.11+01	1.26+01	1.53+01	1.75+01	1.93+01	2.05+01	2.10+01	2.12+01
15	8 5.30+08	1.36+01	1.38+01	1.50+01	1.78+01	2.42+01	4.01+01	5.75+01	7.83+01	1.10+02	1.35+02	1.61+02
16	8 4.55+04	1.32+00	1.16+00	8.44−01	5.91−01	3.83−01	1.96−01	1.11−01	5.98−02	2.51−02	1.27−02	6.42−03
17	8 6.00+02	1.60+00	1.45+00	1.11+00	8.11−01	5.52−01	3.02−01	1.78−01	9.97−02	4.29−02	2.20−02	1.11−02
18	8 4.60+03	1.35+01	1.42+01	1.55+01	1.79+01	2.22+01	3.00+01	3.59+01	4.05+01	4.36+01	4.47+01	4.53+01
19	8 9.11−03	5.36−01	5.15−01	4.04−01	2.94−01	1.95−01	1.03−01	6.02−02	3.41−02	1.48−02	7.59−03	3.85−03
10	9 7.06−09	7.79+00	8.93+00	8.36+00	6.56+00	4.62+00	2.62+00	1.62+00	9.79−01	4.36−01	2.25−01	1.14−01
11	9 1.25+00	2.86+00	3.25+00	2.94+00	2.22+00	1.47+00	7.61−01	4.34−01	2.38−01	1.01−01	5.12−02	2.58−02
12	9 9.46+02	9.18+00	5.98+00	3.38+00	2.31+00	1.76+00	1.52+00	1.49+00	1.50+00	1.51+00	1.51+00	1.51+00
13	9 1.86−01	1.21+00	8.37−01	4.97−01	3.17−01	1.93−01	9.31−02	5.12−02	2.73−02	1.14−02	5.77−03	2.91−03
14	9 4.38+07	1.46+01	1.18+01	8.83+00	7.19+00	6.18+00	5.88+00	6.35+00	7.28+00	9.01+00	1.05+01	1.21+01
15	9 8.86+02	2.27+01	2.16+01	2.04+01	2.07+01	2.24+01	2.60+01	2.88+01	3.12+01	3.28+01	3.34+01	3.37+01
16	9 1.40−01	2.89+00	2.48+00	1.79+00	1.26+00	8.27−01	4.31−01	2.48−01	1.37−01	5.84−02	2.98−02	1.51−02
17	9 1.21+08	4.19+00	3.79+00	2.93+00	2.17+00	1.47+00	7.86−01	4.55−01	2.51−01	1.07−01	5.46−02	2.76−02
18	9 1.12+09	6.07+01	6.49+01	7.51+01	9.21+01	1.24+02	1.94+02	2.65+02	3.46+02	4.63+02	5.55+02	6.49+02
19	9 4.48+03	1.24+00	1.12+00	8.45−01	6.05−01	3.97−01	2.04−01	1.15−01	6.28−02	2.66−02	1.36−02	6.85−03
11	10 1.20+04	1.23+02	1.37+02	1.62+02	1.85+02	2.11+02	2.48+02	2.75+02	3.01+02	3.34+02	3.57+02	3.80+02
12	10 6.12−02	1.68+00	1.13+00	6.27−01	3.85−01	2.27−01	1.07−01	5.83−02	3.09−02	1.28−02	6.50−03	3.27−03
13	10 9.41+02	1.25+00	8.71−01	5.61−01	4.33−01	3.75−01	3.59−01	3.63−01	3.67−01	3.70−01	3.71−01	3.71−01
14	10 2.38+03	2.73+00	1.96+00	1.23+00	8.09−01	5.04−01	2.49−01	1.38−01	7.45−02	3.13−02	1.59−02	8.03−03
15	10 4.58−02	2.75+00	2.34+00	1.69+00	1.20+00	7.89−01	4.14−01	2.39−01	1.32−01	5.63−02	2.87−02	1.45−02
16	10 8.92+02	6.17+00	6.03+00	6.02+00	6.40+00	7.19+00	8.61+00	9.64+00	1.05+01	1.11+01	1.13+01	1.14+01
17	10 1.12+09	1.85+01	2.01+01	2.40+01	3.02+01	4.11+01	6.49+01	8.90+01	1.16+02	1.55+02	1.86+02	2.17+02
18	10 4.02+07	4.36+00	3.94+00	3.04+00	2.25+00	1.52+00	8.14−01	4.70−01	2.59−01	1.10−01	5.63−02	2.84−02
19	10 2.32+07	2.29+00	2.16+00	1.86+00	1.63+00	1.48+00	1.44+00	1.52+00	1.67+00	1.78+00	1.82+00	1.84+00
12	11 8.36+01	8.98−01	5.83−01	3.17−01	1.93−01	1.15−01	5.48−02	3.02−02	1.62−02	6.78−03	3.44−03	1.73−03
13	11 2.56+08	1.09+00	9.41−01	8.54−01	9.00−01	1.10+00	1.69+00	2.40+00	3.28+00	4.65+00	5.77+00	6.94+00
14	11 1.77−03	1.03+00	7.79−01	5.13−01	3.48−01	2.23−01	1.15−01	6.65−02	3.74−02	1.61−02	8.27−03	4.19−03
15	11 1.73+04	1.27+00	1.11+00	8.19−01	5.83−01	3.84−01	1.99−01	1.13−01	6.15−02	2.60−02	1.32−02	6.67−03
16	11 5.95+08	5.19+00	5.58+00	6.64+00	8.50+00	1.21+01	2.03+01	2.90+01	3.92+01	5.44+01	6.65+01	7.90+01
17	11 7.86−09	3.48+00	3.80+00	4.50+00	5.61+00	7.45+00	1.07+01	1.31+01	1.49+01	1.61+01	1.65+01	1.67+01
18	11 1.63+02	1.55+00	1.42+00	1.09+00	8.07−01	5.55−01	3.06−01	1.81−01	1.02−01	4.40−02	2.26−02	1.14−02
19	11 2.25+03	1.65+00	1.92+00	2.51+00	3.22+00	4.18+00	5.66+00	6.76+00	7.69+00	8.33+00	8.55+00	8.66+00
13	12 1.00−30	1.12+00	8.09−01	5.01−01	3.36−01	2.26−01	1.39−01	9.71−02	6.62−02	3.12−02	1.64−02	8.38−03
14	12 9.17+05	2.98+02	3.71+02	5.22+02	6.78+02	8.64+02	1.14+03	1.34+03	1.53+03	1.77+03	1.94+03	2.11+03
15	12 8.24−02	9.09+01	8.89+01	8.42+01	8.06+01	7.82+01	7.66+01	7.58+01	7.51+01	7.46+01	7.45+01	7.44+01
16	12 8.85−06	1.39+00	1.26+00	8.94−01	5.99−01	3.69−01	1.77−01	9.68−02	5.12−02	2.12−02	1.07−02	5.38−03
17	12 1.00−30	2.06+00	1.77+00	1.20+00	7.80−01	4.68−01	2.19−01	1.17−01	6.12−02	2.52−02	1.27−02	6.38−03
18	12 1.00−30	1.82+01	1.72+01	1.42+01	1.20+01	1.07+01	1.00+01	9.92+00	9.95+00	9.97+00	9.98+00	9.99+00
19	12 3.65+00	7.01−01	6.69−01	4.97−01	3.44−01	2.20−01	1.12−01	6.45−02	3.61−02	1.54−02	7.89−03	3.99−03
14	13 8.77−05	1.87+00	1.34+00	8.07−01	5.10−01	3.06−01	1.47−01	8.20−02	4.48−02	1.89−02	9.61−03	4.85−03
15	13 1.06−08	1.42+00	1.27+00	9.01−01	6.03−01	3.70−01	1.77−01	9.64−02	5.08−02	2.10−02	1.06−02	5.32−03
16	13 3.75−04	2.46+01	2.45+01	2.40+01	2.37+01	2.37+01	2.40+01	2.41+01	2.42+01	2.43+01	2.43+01	2.43+01
17	13 1.00−30	4.75+00	4.48+00	3.76+00	3.29+00	3.04+00	2.96+00	2.98+00	3.00+00	3.01+00	3.02+00	3.02+00
18	13 1.00−30	2.25+00	1.93+00	1.30+00	8.43−01	5.03−01	2.33−01	1.24−01	6.47−02	2.66−02	1.34−02	6.73−03
19	13 2.43+05	1.45+02	1.76+02	2.36+02	2.94+02	3.62+02	4.59+02	5.31+02	5.98+02	6.82+02	7.43+02	8.02+02
15	14 8.27+04	9.33+02	1.11+03	1.43+03	1.74+03	2.09+03	2.59+03	2.95+03	3.29+03	3.71+03	4.02+03	4.32+03
16	14 5.73+00	4.20+00	3.80+00	2.70+00	1.81+00	1.12+00	5.44−01	3.01−01	1.62−01	6.77−02	3.44−02	1.73−02
17	14 2.88−05	6.36+00	5.36+00	3.60+00	2.36+00	1.44+00	6.81−01	3.68−01	1.93−01	7.94−02	4.01−02	2.01−02
18	14 2.16−04	1.08+02	1.05+02	9.43+01	8.69+01	8.22+01	7.93+01	7.80+01	7.67+01	7.59+01	7.56+01	7.54+01
19	14 1.55−07	2.57+00	2.38+00	1.77+00	1.27+00	8.68−01	5.18−01	3.48−01	2.29−01	1.06−01	5.55−02	2.84−02
16	15 1.00−30	9.57+00	8.67+00	6.26+00	4.31+00	2.79+00	1.50+00	9.32−01	5.71−01	2.56−01	1.33−01	6.74−02
17	15 3.69+01	1.24+01	1.08+01	7.38+00	4.86+00	2.95+00	1.40+00	7.61−01	4.01−01	1.66−01	8.36−02	4.20−02
18	15 6.28+00	2.15+03	2.51+03	3.01+03	3.39+03	3.77+03	4.25+03	4.58+03	4.89+03	5.09+03	5.16+03	5.19+03
19	15 3.98−01	3.51+00	3.29+00	2.41+00	1.64+00	1.03+00	5.01−01	2.78−01	1.49−01	6.21−02	3.15−02	1.58−02
17	16 1.63−01	8.68+02	1.03+03	1.23+03	1.38+03	1.51+03	1.68+03	1.80+03	1.90+03	1.96+03	1.99+03	2.00+03
18	16 6.20+00	1.38+01	1.18+01	7.95+00	5.19+00	3.14+00	1.48+00	8.01−01	4.21−01	1.74−01	8.76−02	4.40−02
19	16 2.40+03	4.91+02	5.82+02	7.29+02	8.55+02	9.86+02	1.16+03	1.28+03	1.39+03	1.53+03	1.63+03	1.73+03
18	17 1.00−30	2.80+01	2.47+01	1.76+01	1.20+01	7.66+00	3.95+00	2.33+00	1.35+00	5.88−01	3.02−01	1.53−01
19	17 1.83−08	2.89+01	2.89+01	2.71+01	2.57+01	2.49+01	2.43+01	2.40+01	2.36+01	2.33+01	2.32+01	2.32+01
19	18 2.38−09	5.42+00	4.71+00	3.27+00	2.18+00	1.34+00	6.37−01	3.44−01	1.80−01	7.40−02	3.73−02	1.87−02
R 1 +1	5.35−13	3.78−13	2.37−13	1.66−13	1.15−13	6.87−14	4.46−14	2.73−14	1.27−14	6.39−15	2.99−15	
R 2 +1	1.77−13	1.26−13	8.00−14	5.69−14	4.13−14	4.67−14	4.87−14	3.37−14	1.39−14	6.04−15	2.40−15	
R 3 +1	5.48−14	3.88−14	2.46−14	1.73−14	1.22−14	1.35−14	1.48−14	1.05−14	4.38−15	1.88−15	7.35−16	
R 4 +1	5.32−13	3.68−13	2.19−13	1.42−13	8.69−14	4.36−14	2.64−14	1.45−14	5.30−15	2.16−15	8.08−16	

Table 3 (*continued*)

R 5 +1	1.40−13	9.62−14	5.66−14	3.62−14	2.27−14	3.32−14	4.19−14	3.03−14	1.20−14	4.84−15	1.72−15
R 6 +1	5.23−14	3.72−14	2.38−14	1.70−14	1.22−14	1.73−14	2.38−14	1.89−14	8.11−15	3.44−15	1.29−15
R 7 +1	1.75−14	1.24−14	7.86−15	5.53−15	3.89−15	5.64−15	7.95−15	6.34−15	2.72−15	1.15−15	4.25−16
R 8 +1	1.86−13	1.29−13	7.69−14	5.00−14	3.08−14	2.20−14	2.20−14	1.58−14	6.42−15	2.62−15	9.41−16
R 9 +1	1.81−13	1.19−13	6.30−14	3.56−14	1.90−14	3.64−14	6.02−14	4.96−14	2.10−14	8.58−15	3.04−15
R 10 +1	6.03−14	3.96−14	2.10−14	1.19−14	6.39−15	1.69−14	2.98−14	2.49−14	1.06−14	4.37−15	1.54−15
R 11 +1	5.38−14	3.71−14	2.19−14	1.40−14	8.54−15	1.28−14	1.92−14	1.55−14	6.56−15	2.68−15	9.52−16
R 12 +1	2.30−14	1.64−14	1.05−14	7.42−15	5.28−15	1.03−14	1.69−14	1.42−14	6.21−15	2.61−15	9.51−16
R 13 +1	8.00−15	5.66−15	3.56−15	2.48−15	1.73−15	3.24−15	5.30−15	4.47−15	1.95−15	8.19−16	2.98−16
R 14 +1	8.58−14	5.95−14	3.54−14	2.29−14	1.41−14	1.26−14	1.59−14	1.25−14	5.31−15	2.19−15	7.80−16
R 15 +1	1.13−13	7.45−14	3.94−14	2.22−14	1.19−14	2.83−14	5.20−14	4.47−14	1.94−14	8.00−15	2.83−15
R 16 +1	3.77−14	2.48−14	1.31−14	7.40−15	4.01−15	1.38−14	2.65−14	2.31−14	1.01−14	4.15−15	1.47−15
R 17 +1	2.57−14	1.58−14	7.38−15	3.71−15	1.78−15	6.54−15	1.27−14	1.10−14	4.83−15	1.99−15	7.03−16
R 18 +1	7.71−14	4.75−14	2.22−14	1.11−14	5.26−15	1.36−14	2.57−14	2.22−14	9.72−15	4.00−15	1.41−15
R 19 +1	2.59−14	1.79−14	1.05−14	6.66−15	4.08−15	9.46−15	1.68−14	1.44−14	6.24−15	2.57−15	9.09−16
S 1 +1	1.00+00	4.35−10	1.72−10	3.02−10	4.78−10	8.23−10	1.17−09	1.54−09	1.87−09	1.91−09	1.76−09
S 2 +1	3.26−09	2.91−09	3.35−09	4.18−09	5.26−09	6.55−09	6.97−09	6.75−09	5.68−09	4.62−09	3.58−09
−1											
−1 −1											

Table 4
First-stage collisional datafile for Be^{3+}. See page 264 for Explanation of Tables

BE^{+3}			4			4 1755796.0(1S)								
1 $n = 1$			(2)0(0.5)			0.0								
2 $n = 2$			(2)0(3.5)			1316847.8								
3 $n = 3$			(2)0(8.5)			1560710.0								
4 $n = 4$			(2)0(15.5)			1646062.1								
5 $n = 5$			(2)0(24.5)			1685788.5								
−1														
4.00	3		2.00+04	5.00+04	1.00+05	2.00+05	5.00+05	1.00+06	2.00+06	5.00+06	1.00+07	2.00+07	5.00+07	1.00+08
2	1	1.20+11	1.70−01	1.72−01	1.78−01	1.85−01	1.99−01	2.23−01	2.66−01	3.58−01	4.69−01	6.12−01	8.30−01	1.01+00
3	1	1.43+10	5.39−02	5.06−02	4.79−02	4.53−02	4.45−02	4.73−02	5.35−02	6.76−02	8.48−02	1.07−01	1.41−01	1.70−01
4	1	3.28+09	2.00−02	1.89−02	1.76−02	1.68−02	1.67−02	1.78−02	2.00−02	2.48−02	3.07−02	3.83−02	5.02−02	6.00−02
5	1	1.06+09	1.12−02	1.12−02	1.11−02	1.10−02	1.10−02	1.13−02	1.22−02	1.47−02	1.80−02	2.20−02	2.84−02	3.38−02
3	2	1.13+10	8.99+00	9.03+00	9.10+00	9.47+00	1.12+01	1.38+01	1.76+01	2.36+01	2.91+01	3.50+01	4.30+01	4.93+01
4	2	2.16+09	2.50+00	2.40+00	2.27+00	2.23+00	2.41+00	2.79+00	3.33+00	4.21+00	4.98+00	5.78+00	6.89+00	7.73+00
5	2	6.48+08	1.18+00	1.18+00	1.17+00	1.17+00	1.22+00	1.32+00	1.49+00	1.81+00	2.08+00	2.34+00	2.72+00	2.99+00
4	3	2.30+09	7.40+01	7.67+01	8.12+01	9.25+01	1.24+02	1.60+02	2.04+02	2.67+02	3.17+02	3.68+02	4.39+02	4.91+02
5	3	5.63+08	2.51+01	2.58+01	2.65+01	2.77+01	3.14+01	3.57+01	4.12+01	4.97+01	5.64+01	6.29+01	7.13+01	7.77+01
5	4	6.91+08	5.59+02	6.19+02	6.76+02	7.65+02	9.51+02	1.14+03	1.36+03	1.68+03	1.93+03	2.17+03	2.50+03	2.75+03
R 1	+1		1.85−12	1.16−12	8.12−13	5.61−13	3.33−13	2.15−13	1.32−13	6.24−14	3.27−14	1.59−14	5.61−15	2.39−15
R 2	+1		9.99−13	6.10−13	4.11−13	2.67−13	1.40−13	7.98−14	4.28−14	1.70−14	7.92−15	3.51−15	1.12−15	4.53−16
R 3	+1		6.68−13	3.94−13	2.53−13	1.54−13	7.32−14	3.87−14	1.92−14	7.04−15	3.11−15	1.33−15	4.09−16	1.62−16
R 4	+1		4.90−13	2.78−13	1.71−13	9.88−14	4.35−14	2.18−14	1.04−14	3.62−15	1.56−15	6.50−16	1.95−16	7.64−17
R 5	+1		3.75−13	2.04−13	1.21−13	6.72−14	2.80−14	1.36−14	6.25−15	2.11−15	8.93−16	3.67−16	1.09−16	4.24−17
S 1	+1		2.16−03	2.99−11	9.00−11	1.43−10	2.43−10	3.39−10	4.38−10	5.26−10	5.35−10	4.94−10	3.94−10	3.11−10
−1														
−1	−1													

Table 5
Effective recombination data for all ion stages of Be. See page 265 for Explanation of Tables

4 24	25 1	4	BERYLLIUM		GCR PROJECT		
2 1	2 1	1					
4.00000	4.47712	5.00000	5.47712	6.00000	6.47712	7.00000	7.47712
8.00000	8.47712	9.00000	9.47712	10.00000	10.47712	11.00000	11.47712
12.00000	12.47712	13.00000	13.47712	14.00000	14.47712	15.00000	15.47712
−0.69877	−0.52268	−0.30083	−0.15470	0.07938	0.30123	0.47732	0.65341
0.84530	1.04159	1.25547	1.44736	1.65341	1.84530	2.00020	2.23065
2.43157	2.63367	2.82628	3.02139	3.21690	3.39814	3.60766	3.79954
4.00020							

——————/ IPRT = 1/ IGRD = 1/——/ Z1 = 1/ DATE = 03/02/06

−12.08451	−12.08341	−12.08182	−12.08000	−12.07729	−12.07402	−12.06966	−12.06356
−12.05449	−12.04294	−12.02680	−12.00792	−11.97745	−11.93645	−11.87406	−11.78889
−11.64751	−11.44257	−11.10866	−10.73160	−10.28182	−9.81168	−9.21767	−8.74055
−12.01385	−12.01342	−12.01276	−12.01182	−12.01053	−12.00925	−12.00748	−12.00479
−12.00063	−11.99570	−11.98816	−11.98237	−11.96578	−11.95390	−11.92570	−11.89014
−11.82089	−11.69822	−11.46498	−11.18466	−10.83695	−10.42805	−9.87340	−9.39628
−12.02682	−12.02822	−12.02943	−12.03051	−12.03171	−12.03259	−12.03254	−12.03243
−12.03180	−12.03056	−12.02872	−12.02574	−12.02052	−12.01643	−12.00409	−11.99121
−11.96133	−11.90337	−11.78303	−11.63641	−11.44992	−11.19231	−10.77802	−10.30090
−12.00435	−12.01451	−12.02513	−12.03468	−12.04436	−12.05159	−12.05774	−12.06431
−12.06996	−12.07415	−12.07800	−12.08065	−12.08237	−12.08141	−12.07847	−12.07154
−12.05471	−12.02012	−11.94689	−11.86361	−11.76081	−11.61385	−11.33529	−10.85817
−11.79448	−11.82519	−11.85848	−11.89102	−11.92686	−11.95702	−11.98561	−12.00781
−12.03885	−12.06406	−12.08859	−12.10971	−12.13192	−12.14921	−12.16469	−12.17431
−12.17474	−12.16333	−12.13610	−12.10673	−12.07504	−12.03430	−11.94274	−11.46562
−11.65881	−11.69833	−11.74223	−11.78664	−11.83632	−11.87816	−11.92089	−11.96252
−12.00995	−12.05255	−12.09546	−12.13313	−12.17309	−12.20706	−12.23929	−12.26156
−12.27551	−12.27903	−12.27729	−12.27519	−12.27958	−12.29355	−12.32081	−11.84369
−11.65736	−11.69988	−11.74721	−11.79514	−11.84995	−11.89858	−11.94967	−11.99393
−12.04917	−12.09942	−12.15075	−12.19642	−12.24668	−12.28970	−12.33159	−12.36089
−12.38131	−12.39244	−12.40150	−12.41143	−12.43151	−12.47372	−12.56230	−12.08518
−11.73515	−11.77993	−11.82994	−11.87978	−11.93668	−11.98724	−12.03942	−12.08860
−12.14683	−12.20119	−12.25802	−12.30838	−12.36452	−12.41337	−12.46184	−12.49503
−12.51978	−12.53559	−12.55069	−12.56767	−12.59920	−12.66126	−12.79164	−12.31452
−11.88682	−11.93191	−11.98195	−12.03229	−12.09181	−12.14628	−12.19898	−12.24951
−12.30981	−12.36628	−12.42599	−12.47943	−12.53963	−12.59306	−12.64461	−12.68135
−12.70887	−12.72747	−12.74694	−12.76853	−12.80809	−12.88827	−13.04384	−12.56671
−12.08827	−12.13384	−12.18396	−12.23412	−12.29400	−12.34982	−12.40376	−12.45470
−12.51688	−12.57505	−12.63561	−12.69127	−12.75416	−12.80744	−12.86146	−12.90063
−12.92922	−12.94943	−12.97176	−12.99777	−13.04273	−13.13275	−13.30315	−12.82603
−12.34122	−12.38679	−12.43665	−12.48665	−12.54601	−12.60156	−12.65773	−12.70716
−12.76764	−12.82709	−12.88952	−12.94387	−13.00581	−13.06254	−13.11798	−13.15752
−13.18750	−13.20846	−13.23244	−13.26025	−13.30953	−13.40390	−13.57820	−13.10108
−12.58539	−12.63071	−12.67940	−12.72779	−12.78646	−12.84281	−12.89796	−12.94707
−13.00636	−13.06514	−13.12670	−13.18131	−13.24284	−13.29727	−13.35285	−13.39279
−13.42315	−13.44582	−13.47128	−13.50029	−13.55209	−13.64503	−13.81371	−13.33659
−12.85465	−12.90033	−12.94902	−12.99542	−13.05118	−13.10598	−13.16049	−13.20805
−13.26519	−13.31969	−13.37913	−13.43021	−13.48900	−13.54165	−13.59484	−13.63393
−13.66544	−13.68928	−13.71872	−13.75064	−13.80221	−13.89160	−14.04888	−13.57176
−13.10820	−13.15172	−13.19782	−13.24252	−13.29627	−13.34861	−13.40123	−13.44576
−13.49882	−13.54938	−13.60476	−13.65253	−13.70602	−13.75582	−13.80624	−13.84634
−13.87841	−13.90457	−13.93680	−13.97457	−14.02686	−14.11134	−14.25496	−13.77784
−13.31817	−13.36085	−13.40615	−13.44949	−13.50075	−13.55038	−13.60218	−13.64641
−13.69416	−13.74250	−13.79737	−13.84158	−13.89343	−13.94049	−13.99058	−14.03117
−14.06421	−14.09072	−14.12601	−14.16489	−14.21947	−14.29892	−14.43375	−13.95663
−13.64338	−13.68651	−13.73157	−13.77275	−13.82153	−13.87118	−13.92354	−13.96248
−14.01179	−14.05837	−14.10999	−14.15497	−14.20587	−14.25389	−14.30603	−14.34919
−14.38520	−14.41293	−14.44633	−14.48389	−14.53546	−14.60996	−14.73226	−14.25514
−13.93144	−13.97453	−14.01975	−14.06033	−14.10771	−14.15562	−14.20684	−14.24804
−14.29435	−14.34082	−14.39187	−14.43729	−14.48677	−14.53559	−14.59060	−14.63566
−14.67425	−14.70202	−14.73389	−14.76828	−14.81884	−14.88847	−15.00305	−14.52593
−14.23460	−14.27769	−14.32291	−14.36348	−14.41087	−14.45877	−14.51000	−14.55119

(*continued on next page*)

Table 5 (*continued*)

−14.59751	−14.64398	−14.69502	−14.74045	−14.78993	−14.83875	−14.89376	−14.93881
−14.97740	−15.00518	−15.03704	−15.07144	−15.12200	−15.19163	−15.30621	−14.82908
−14.52351	−14.56660	−14.61182	−14.65239	−14.69978	−14.74768	−14.79891	−14.84010
−14.88642	−14.93289	−14.98393	−15.02936	−15.07884	−15.12766	−15.18267	−15.22772
−15.26631	−15.29408	−15.32595	−15.36035	−15.41091	−15.48054	−15.59511	−15.11799
−14.81618	−14.85927	−14.90449	−14.94507	−14.99245	−15.04035	−15.09158	−15.13277
−15.17909	−15.22556	−15.27660	−15.32203	−15.37151	−15.42033	−15.47534	−15.52040
−15.55898	−15.58676	−15.61863	−15.65302	−15.70358	−15.77321	−15.88779	−15.41067
−15.10944	−15.15253	−15.19775	−15.23832	−15.28570	−15.33361	−15.38484	−15.42603
−15.47235	−15.51882	−15.56986	−15.61528	−15.66477	−15.71359	−15.76860	−15.81365
−15.85224	−15.88001	−15.91188	−15.94628	−15.99683	−16.06647	−16.18104	−15.70392
−15.38131	−15.42439	−15.46962	−15.51019	−15.55757	−15.60548	−15.65670	−15.69790
−15.74422	−15.79069	−15.84173	−15.88715	−15.93664	−15.98546	−16.04047	−16.08552
−16.12411	−16.15188	−16.18375	−16.21815	−16.26870	−16.33834	−16.45291	−15.97579
−15.69558	−15.73867	−15.78389	−15.82446	−15.87185	−15.91975	−15.97098	−16.01217
−16.05849	−16.10496	−16.15600	−16.20143	−16.25091	−16.29973	−16.35474	−16.39979
−16.43838	−16.46615	−16.49802	−16.53242	−16.58298	−16.65261	−16.76718	−16.29006
−15.98341	−16.02650	−16.07172	−16.11229	−16.15967	−16.20758	−16.25881	−16.30000
−16.34632	−16.39279	−16.44383	−16.48925	−16.53874	−16.58756	−16.64257	−16.68762
−16.72621	−16.75398	−16.78585	−16.82025	−16.87080	−16.94044	−17.05501	−16.57789
−16.28440	−16.32748	−16.37271	−16.41328	−16.46066	−16.50857	−16.55979	−16.60099
−16.64731	−16.69378	−16.74482	−16.79024	−16.83973	−16.88855	−16.94356	−16.98861
−17.02720	−17.05497	−17.08684	−17.12124	−17.17179	−17.24143	−17.35600	−16.87888

——————/ IPRT = 1/ IGRD = 2/———/ Z1 = 1/ DATE = 03/02/06

−11.98529	−11.98319	−11.97896	−11.97288	−11.96601	−11.96015	−11.94812	−11.93406
−11.91451	−11.88809	−11.85290	−11.80891	−11.74262	−11.66772	−11.55887	−11.43119
−11.24223	−10.99813	−10.63703	−10.24887	−9.79047	−9.35616	−8.88669	−8.40957
−12.10259	−12.10084	−12.09819	−12.09464	−12.08975	−12.08469	−12.07765	−12.06769
−12.05298	−12.03493	−12.01430	−11.98507	−11.94087	−11.88826	−11.81614	−11.72629
−11.58784	−11.39359	−11.09118	−10.76330	−10.36545	−9.97520	−9.53758	−9.06046
−12.13698	−12.14323	−12.14957	−12.15478	−12.15945	−12.16236	−12.16382	−12.16347
−12.16124	−12.15656	−12.14765	−12.13502	−12.11469	−12.08992	−12.05306	−12.00460
−11.92130	−11.79490	−11.59367	−11.37294	−11.08164	−10.78093	−10.43188	−9.95476
−11.93710	−11.95986	−11.98533	−12.01005	−12.03537	−12.05455	−12.07448	−12.09018
−12.10992	−12.12437	−12.13686	−12.14459	−12.14835	−12.14688	−12.13743	−12.11723
−12.07196	−11.99289	−11.86316	−11.71649	−11.50336	−11.27609	−11.00588	−10.52876
−11.47468	−11.51534	−11.56297	−11.61081	−11.66467	−11.71063	−11.75619	−11.80383
−11.85835	−11.91084	−11.96339	−12.01105	−12.06644	−12.11370	−12.15926	−12.19053
−12.20599	−12.19658	−12.16014	−12.09886	−11.98805	−11.86037	−11.69536	−11.21824
−11.26555	−11.30992	−11.36207	−11.41579	−11.47821	−11.53362	−11.58993	−11.64700
−11.71660	−11.78411	−11.85769	−11.92849	−12.01247	−12.09026	−12.17305	−12.24100
−12.29950	−12.33918	−12.36481	−12.36171	−12.32486	−12.26865	−12.16828	−11.69116
−11.24764	−11.29288	−11.34621	−11.40152	−11.46679	−11.52550	−11.58395	−11.64465
−11.71894	−11.79252	−11.87593	−11.95391	−12.05010	−12.14128	−12.24072	−12.32499
−12.40321	−12.46374	−12.51542	−12.54062	−12.54104	−12.51972	−12.45669	−11.97957
−11.31993	−11.36571	−11.41897	−11.47370	−11.53978	−11.60133	−11.66126	−11.72367
−11.79948	−11.87527	−11.96276	−12.04676	−12.14833	−12.24689	−12.35507	−12.44754
−12.53532	−12.60592	−12.67044	−12.71036	−12.73416	−12.73410	−12.69538	−12.21826
−11.46527	−11.51127	−11.56500	−11.62046	−11.68644	−11.74761	−11.81050	−11.87000
−11.94831	−12.02598	−12.11275	−12.19873	−12.30324	−12.40429	−12.51626	−12.61094
−12.70225	−12.77650	−12.84540	−12.89108	−12.92863	−12.94498	−12.92228	−12.44516
−11.66344	−11.70788	−11.76004	−11.81531	−11.88166	−11.94286	−12.00592	−12.06556
−12.14304	−12.21936	−12.30700	−12.39285	−12.49871	−12.59931	−12.70913	−12.80369
−12.89504	−12.96785	−13.03561	−13.08491	−13.13020	−13.15280	−13.14377	−12.66665
−11.91230	−11.95806	−12.00999	−12.06219	−12.12600	−12.18804	−12.25004	−12.30866
−12.38335	−12.45803	−12.54419	−12.62833	−12.72811	−12.82641	−12.93263	−13.02121
−13.10420	−13.16912	−13.23130	−13.27897	−13.32499	−13.35145	−13.34922	−12.87210
−12.15115	−12.19454	−12.24425	−12.29545	−12.35812	−12.41836	−12.47921	−12.53561
−12.60511	−12.67519	−12.75635	−12.83441	−12.92663	−13.01006	−13.10431	−13.18073
−13.24905	−13.30087	−13.35009	−13.38832	−13.42740	−13.44969	−13.45273	−12.97560
−12.41074	−12.45241	−12.49931	−12.54646	−12.60380	−12.65985	−12.71771	−12.76746
−12.82910	−12.89120	−12.96012	−13.02476	−13.09931	−13.16811	−13.23804	−13.29322
−13.34107	−13.37573	−13.40836	−13.43466	−13.46157	−13.47907	−13.48294	−13.00582
−12.64591	−12.68476	−12.72812	−12.77099	−12.82220	−12.87150	−12.92231	−12.96564

Table 5 (*continued*)

−13.01732	−13.06752	−13.12368	−13.17413	−13.23040	−13.28048	−13.33045	−13.36815
−13.40005	−13.42283	−13.44445	−13.46272	−13.48175	−13.49411	−13.49910	−13.02197
−12.84580	−12.88268	−12.92376	−12.96396	−13.01139	−13.05712	−13.10567	−13.14500
−13.19134	−13.23678	−13.28702	−13.33134	−13.38045	−13.42378	−13.46549	−13.49842
−13.52564	−13.54470	−13.56265	−13.57860	−13.59578	−13.60611	−13.61174	−13.13462
−13.17899	−13.21616	−13.25717	−13.29672	−13.34376	−13.39013	−13.43957	−13.47905
−13.52551	−13.57087	−13.62154	−13.66842	−13.71866	−13.76251	−13.80830	−13.84387
−13.87261	−13.89629	−13.91406	−13.93262	−13.94804	−13.96399	−13.97212	−13.49500
−13.47690	−13.51501	−13.55706	−13.59701	−13.64454	−13.69189	−13.74280	−13.78532
−13.83245	−13.87913	−13.93144	−13.97914	−14.03404	−14.08289	−14.13293	−14.17283
−14.20684	−14.23109	−14.25384	−14.27248	−14.29435	−14.31152	−14.32078	−13.84366
−13.78006	−13.81817	−13.86022	−13.90017	−13.94770	−13.99505	−14.04595	−14.08847
−14.13561	−14.18229	−14.23460	−14.28229	−14.33719	−14.38604	−14.43609	−14.47599
−14.51000	−14.53424	−14.55699	−14.57564	−14.59751	−14.61467	−14.62394	−14.14682
−14.06897	−14.10708	−14.14913	−14.18908	−14.23661	−14.28396	−14.33486	−14.37738
−14.42452	−14.47120	−14.52351	−14.57120	−14.62610	−14.67495	−14.72500	−14.76490
−14.79891	−14.82315	−14.84590	−14.86455	−14.88642	−14.90358	−14.91285	−14.43573
−14.36164	−14.39975	−14.44180	−14.48175	−14.52928	−14.57663	−14.62753	−14.67005
−14.71719	−14.76387	−14.81618	−14.86387	−14.91878	−14.96762	−15.01767	−15.05757
−15.09158	−15.11582	−15.13858	−15.15722	−15.17909	−15.19625	−15.20552	−14.72840
−14.65490	−14.69300	−14.73506	−14.77501	−14.82253	−14.86989	−14.92079	−14.96331
−15.01045	−15.05713	−15.10944	−15.15713	−15.21203	−15.26088	−15.31093	−15.35083
−15.38484	−15.40908	−15.43183	−15.45047	−15.47235	−15.48951	−15.49878	−15.02166
−14.92677	−14.96487	−15.00693	−15.04688	−15.09440	−15.14176	−15.19266	−15.23518
−15.28232	−15.32900	−15.38131	−15.42900	−15.48390	−15.53275	−15.58280	−15.62270
−15.65670	−15.68095	−15.70370	−15.72234	−15.74422	−15.76138	−15.77065	−15.29353
−15.24104	−15.27915	−15.32120	−15.36115	−15.40868	−15.45603	−15.50693	−15.54945
−15.59659	−15.64327	−15.69558	−15.74327	−15.79817	−15.84702	−15.89707	−15.93697
−15.97098	−15.99522	−16.01797	−16.03662	−16.05849	−16.07565	−16.08492	−15.60780
−15.52887	−15.56697	−15.60903	−15.64898	−15.69650	−15.74386	−15.79476	−15.83728
−15.88442	−15.93110	−15.98341	−16.03110	−16.08600	−16.13485	−16.18490	−16.22480
−16.25881	−16.28305	−16.30580	−16.32444	−16.34632	−16.36348	−16.37275	−15.89563
−15.82986	−15.86796	−15.91002	−15.94997	−15.99749	−16.04485	−16.09575	−16.13827
−16.18541	−16.23209	−16.28440	−16.33209	−16.38699	−16.43584	−16.48589	−16.52579
−16.55979	−16.58404	−16.60679	−16.62543	−16.64731	−16.66447	−16.67374	−16.19662

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−11.35649	−11.35172	−11.34650	−11.34031	−11.33095	−11.31930	−11.30086	−11.27680
−11.24586	−11.21570	−11.16298	−11.12466	−11.04795	−10.95216	−10.82227	−10.66992
−10.45200	−10.19796	−9.87332	−9.53541	−9.14113	−8.74842	−8.26323	−7.79207
−11.48341	−11.47922	−11.47484	−11.46995	−11.46241	−11.45244	−11.43687	−11.41755
−11.39231	−11.36618	−11.32337	−11.28735	−11.22098	−11.13970	−11.02915	−10.90079
−10.71261	−10.53866	−10.28248	−10.00467	−9.67649	−9.32732	−8.87355	−8.41659
−11.63986	−11.63776	−11.63572	−11.63299	−11.62845	−11.62260	−11.61405	−11.60402
−11.58992	−11.57334	−11.54879	−11.51618	−11.46892	−11.41479	−11.34106	−11.25163
−11.12332	−10.98438	−10.79589	−10.59764	−10.34829	−10.05619	−9.64105	−9.20385
−11.74510	−11.74388	−11.74270	−11.74121	−11.73855	−11.73466	−11.72813	−11.71962
−11.70880	−11.69878	−11.68226	−11.65838	−11.62557	−11.58628	−11.53147	−11.46554
−11.37096	−11.26463	−11.12439	−10.97729	−10.78071	−10.52410	−10.13743	−9.71497
−11.91774	−11.91683	−11.91510	−11.91373	−11.91240	−11.91080	−11.90782	−11.90337
−11.89781	−11.89302	−11.88151	−11.86759	−11.85003	−11.82759	−11.79466	−11.75603
−11.70034	−11.63734	−11.55468	−11.46521	−11.33264	−11.14036	−10.82854	−10.46638
−12.08448	−12.08425	−12.08405	−12.08368	−12.08292	−12.08183	−12.08006	−12.07774
−12.07444	−12.07073	−12.06510	−12.05787	−12.04672	−12.03336	−12.01481	−11.99109
−11.95965	−11.92438	−11.87673	−11.82374	−11.74024	−11.60821	−11.39110	−11.13177
−12.22009	−12.22015	−12.22050	−12.22039	−12.21978	−12.21905	−12.21792	−12.21636
−12.21431	−12.21241	−12.20921	−12.20427	−12.19709	−12.18919	−12.17782	−12.16352
−12.14307	−12.12104	−12.09241	−12.05947	−12.00395	−11.91460	−11.77002	−11.59729
−12.35697	−12.35745	−12.35821	−12.35798	−12.35720	−12.35703	−12.35700	−12.35619
−12.35471	−12.35344	−12.35113	−12.34828	−12.34451	−12.33989	−12.33280	−12.32404
−12.31282	−12.30055	−12.28536	−12.26650	−12.23142	−12.17790	−12.09443	−11.99488
−12.51129	−12.51158	−12.51142	−12.51143	−12.51148	−12.51109	−12.51022	−12.50929
−12.50869	−12.50880	−12.50767	−12.50638	−12.50388	−12.50131	−12.49757	−12.49376
−12.48877	−12.48393	−12.47681	−12.46911	−12.45250	−12.42819	−12.39619	−12.35988
−12.67781	−12.67779	−12.67777	−12.67768	−12.67762	−12.67781	−12.67806	−12.67802

(*continued on next page*)

Table 5 (*continued*)

−12.67798	−12.67810	−12.67631	−12.67645	−12.67496	−12.67476	−12.67352	−12.67161
−12.67027	−12.66828	−12.66911	−12.66695	−12.66310	−12.65926	−12.66714	−12.67857
−12.76999	−12.77011	−12.77023	−12.77012	−12.77029	−12.77135	−12.77279	−12.77330
−12.77334	−12.77365	−12.77336	−12.77568	−12.77652	−12.77657	−12.77692	−12.77688
−12.77970	−12.78035	−12.78470	−12.79093	−12.79925	−12.81696	−12.86389	−12.91854
−12.62336	−12.62431	−12.62584	−12.62725	−12.62861	−12.62968	−12.63123	−12.63362
−12.63698	−12.63987	−12.64170	−12.64381	−12.64712	−12.64980	−12.65321	−12.65596
−12.66024	−12.66579	−12.67360	−12.68650	−12.70797	−12.74867	−12.83766	−12.93850
−12.38081	−12.38221	−12.38369	−12.38486	−12.38633	−12.38839	−12.39154	−12.39508
−12.39912	−12.40255	−12.40755	−12.41140	−12.41614	−12.42082	−12.42533	−12.42905
−12.43382	−12.43952	−12.45102	−12.46785	−12.49907	−12.55527	−12.67853	−12.82370
−12.28996	−12.29112	−12.29245	−12.29391	−12.29579	−12.29776	−12.30064	−12.30437
−12.30923	−12.31366	−12.31905	−12.32367	−12.32916	−12.33395	−12.33873	−12.34339
−12.34906	−12.35540	−12.36688	−12.38557	−12.42029	−12.48032	−12.61758	−12.78367
−12.31639	−12.31730	−12.31826	−12.31966	−12.32173	−12.32387	−12.32690	−12.33085
−12.33609	−12.34094	−12.34587	−12.35061	−12.35657	−12.36155	−12.36767	−12.37194
−12.37784	−12.38396	−12.39525	−12.41425	−12.45083	−12.51173	−12.65124	−12.82484
−12.45946	−12.46033	−12.46084	−12.46198	−12.46426	−12.46708	−12.47059	−12.47384
−12.47810	−12.48330	−12.48873	−12.49410	−12.49968	−12.50522	−12.51096	−12.51661
−12.52264	−12.52788	−12.53976	−12.55806	−12.59378	−12.65396	−12.79267	−12.97519
−12.65670	−12.65777	−12.65881	−12.66002	−12.66180	−12.66384	−12.66673	−12.67020
−12.67513	−12.68061	−12.68619	−12.69184	−12.69752	−12.70406	−12.71056	−12.71400
−12.71942	−12.72673	−12.73808	−12.75525	−12.78978	−12.84785	−12.97969	−13.16515
−12.90661	−12.90794	−12.90923	−12.91050	−12.91225	−12.91435	−12.91734	−12.92078
−12.92561	−12.93116	−12.93717	−12.94260	−12.94846	−12.95600	−12.96293	−12.96749
−12.97312	−12.97913	−12.98968	−13.00661	−13.03934	−13.09310	−13.21572	−13.39710
−13.18009	−13.18117	−13.18219	−13.18343	−13.18540	−13.18788	−13.19134	−13.19516
−13.20025	−13.20586	−13.21245	−13.21841	−13.22503	−13.23178	−13.23899	−13.24468
−13.25095	−13.25713	−13.26753	−13.28377	−13.31423	−13.36257	−13.47324	−13.65083
−13.47071	−13.47176	−13.47313	−13.47461	−13.47672	−13.47936	−13.48289	−13.48647
−13.49151	−13.49792	−13.50496	−13.51032	−13.51828	−13.52560	−13.53294	−13.53883
−13.54601	−13.55335	−13.56338	−13.57741	−13.60579	−13.65058	−13.75303	−13.92097
−13.76396	−13.76502	−13.76639	−13.76787	−13.76998	−13.77262	−13.77615	−13.77972
−13.78477	−13.79118	−13.79821	−13.80357	−13.81154	−13.81885	−13.82619	−13.83209
−13.83926	−13.84661	−13.85664	−13.87067	−13.89905	−13.94383	−14.04628	−14.21422
−14.03583	−14.03689	−14.03826	−14.03974	−14.04184	−14.04449	−14.04802	−14.05159
−14.05664	−14.06305	−14.07008	−14.07544	−14.08341	−14.09072	−14.09806	−14.10396
−14.11113	−14.11848	−14.12851	−14.14254	−14.17092	−14.21570	−14.31815	−14.48609
−14.35011	−14.35116	−14.35253	−14.35401	−14.35612	−14.35876	−14.36229	−14.36586
−14.37091	−14.37732	−14.38436	−14.38972	−14.39768	−14.40500	−14.41233	−14.41823
−14.42540	−14.43275	−14.44278	−14.45681	−14.48519	−14.52998	−14.63243	−14.80037
−14.63793	−14.63899	−14.64036	−14.64184	−14.64395	−14.64659	−14.65012	−14.65369
−14.65874	−14.66515	−14.67219	−14.67754	−14.68551	−14.69282	−14.70016	−14.70606
−14.71323	−14.72058	−14.73061	−14.74464	−14.77302	−14.81781	−14.92025	−15.08820
−14.93892	−14.93998	−14.94135	−14.94283	−14.94493	−14.94758	−14.95111	−14.95468
−14.95973	−14.96614	−14.97317	−14.97853	−14.98650	−14.99381	−15.00115	−15.00705
−15.01422	−15.02157	−15.03160	−15.04563	−15.07401	−15.11879	−15.22124	−15.38918

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−10.84642	−10.84642	−10.84642	−10.84642	−10.84642	−10.84642	−10.84642	−10.84642
−10.84642	−10.84642	−10.84642	−10.84642	−10.84642	−10.84642	−10.84641	−10.84644
−10.84632	−10.84673	−10.84516	−10.85079	−10.79315	−10.70736	−10.50841	−10.20643
−10.58578	−10.58578	−10.58578	−10.58578	−10.58578	−10.58578	−10.58578	−10.58579
−10.58580	−10.58581	−10.58581	−10.58581	−10.58580	−10.58580	−10.58580	−10.58582
−10.58584	−10.58583	−10.58562	−10.58627	−10.57209	−10.50825	−10.39859	−10.24125
−10.30568	−10.30568	−10.30568	−10.30568	−10.30568	−10.30569	−10.30569	−10.30567
−10.30564	−10.30563	−10.30564	−10.30563	−10.30564	−10.30564	−10.30564	−10.30563
−10.30550	−10.30614	−10.30687	−10.30786	−10.31089	−10.30926	−10.30575	−10.29607
−10.13310	−10.13310	−10.13310	−10.13312	−10.13312	−10.13306	−10.13308	−10.13335
−10.13369	−10.13373	−10.13372	−10.13372	−10.13373	−10.13375	−10.13368	−10.13422
−10.13484	−10.13584	−10.13806	−10.14119	−10.14749	−10.15493	−10.16180	−10.15937
−10.02747	−10.02773	−10.02809	−10.02823	−10.02826	−10.02842	−10.02866	−10.02872
−10.02868	−10.02870	−10.02871	−10.02865	−10.02916	−10.02930	−10.02992	−10.03078
−10.03207	−10.03454	−10.03902	−10.04346	−10.04006	−10.00734	−9.86807	−9.61234
−10.12083	−10.12124	−10.12200	−10.12250	−10.12271	−10.12266	−10.12264	−10.12296

Table 5 (*continued*)

−10.12335	−10.12330	−10.12331	−10.12329	−10.12369	−10.12440	−10.12514	−10.12643
−10.12942	−10.13543	−10.14824	−10.17028	−10.21791	−10.30022	−10.44174	−10.59763
−10.24413	−10.24454	−10.24499	−10.24546	−10.24589	−10.24604	−10.24597	−10.24587
−10.24607	−10.24670	−10.24671	−10.24654	−10.24745	−10.24761	−10.24869	−10.25028
−10.25433	−10.26216	−10.27955	−10.30998	−10.37286	−10.47791	−10.64804	−10.82909
−10.40456	−10.40537	−10.40657	−10.40706	−10.40704	−10.40703	−10.40711	−10.40710
−10.40706	−10.40724	−10.40832	−10.40857	−10.40834	−10.40921	−10.41051	−10.41267
−10.41695	−10.42627	−10.44921	−10.48823	−10.56806	−10.70269	−10.92429	−11.18198
−10.62225	−10.62336	−10.62414	−10.62435	−10.62425	−10.62423	−10.62430	−10.62433
−10.62432	−10.62431	−10.62432	−10.62410	−10.62582	−10.62599	−10.62743	−10.62896
−10.63503	−10.64648	−10.67179	−10.71927	−10.81435	−10.96220	−11.19776	−11.39256
−10.87014	−10.87086	−10.87050	−10.87005	−10.87024	−10.87150	−10.87318	−10.87371
−10.87346	−10.87339	−10.87351	−10.87356	−10.87339	−10.87348	−10.87328	−10.87531
−10.88350	−10.89414	−10.92545	−10.97841	−11.08077	−11.24607	−11.52350	−11.83053
−11.15442	−11.15514	−11.15580	−11.15625	−11.15651	−11.15650	−11.15639	−11.15639
−11.15640	−11.15633	−11.15684	−11.15690	−11.15734	−11.15801	−11.15906	−11.16101
−11.16669	−11.18018	−11.21254	−11.26754	−11.37777	−11.54986	−11.83623	−12.13525
−11.41863	−11.41925	−11.42014	−11.42099	−11.42170	−11.42193	−11.42188	−11.42183
−11.42185	−11.42187	−11.42180	−11.42180	−11.42169	−11.42189	−11.42281	−11.42548
−11.43082	−11.44406	−11.47798	−11.53439	−11.64650	−11.82147	−12.10881	−12.39817
−11.70787	−11.70897	−11.71059	−11.71103	−11.71064	−11.71045	−11.71052	−11.71057
−11.71055	−11.71055	−11.71054	−11.71060	−11.71036	−11.71242	−11.71323	−11.71526
−11.72001	−11.73365	−11.76612	−11.82269	−11.93174	−12.09985	−12.37665	−12.64027
−11.98015	−11.97975	−11.97979	−11.98146	−11.98385	−11.98464	−11.98427	−11.98407
−11.98417	−11.98419	−11.98419	−11.98418	−11.98417	−11.98420	−11.98370	−11.98741
−11.99070	−12.00447	−12.03442	−12.08841	−12.19342	−12.35226	−12.61187	−12.85158
−12.19972	−12.20027	−12.20094	−12.20159	−12.20215	−12.20231	−12.20224	−12.20220
−12.20222	−12.20221	−12.20224	−12.20210	−12.20272	−12.20278	−12.20314	−12.20525
−12.20923	−12.22103	−12.25056	−12.30217	−12.40149	−12.55064	−12.79376	−13.01207
−12.52613	−12.52675	−12.52764	−12.52789	−12.52769	−12.52760	−12.52765	−12.52764
−12.52764	−12.52769	−12.52750	−12.52888	−12.52928	−12.52923	−12.52915	−12.53022
−12.53386	−12.54382	−12.57020	−12.61725	−12.70916	−12.84298	−13.05986	−13.25090
−12.81179	−12.81155	−12.81149	−12.81223	−12.81334	−12.81370	−12.81353	−12.81345
−12.81349	−12.81348	−12.81354	−12.81322	−12.81442	−12.81481	−12.81450	−12.81608
−12.81811	−12.82680	−12.85113	−12.89232	−12.97663	−13.09786	−13.29350	−13.46780
−13.09978	−13.09998	−13.10015	−13.10027	−13.10036	−13.10038	−13.10037	−13.10036
−13.10036	−13.10041	−13.10049	−13.10029	−13.10234	−13.10252	−13.10291	−13.10275
−13.10612	−13.11229	−13.13278	−13.17114	−13.24520	−13.35377	−13.52993	−13.69137
−13.37593	−13.37659	−13.37712	−13.37729	−13.37727	−13.37724	−13.37725	−13.37728
−13.37727	−13.37720	−13.37717	−13.37721	−13.37702	−13.37797	−13.37817	−13.37904
−13.38081	−13.38697	−13.40421	−13.43815	−13.50580	−13.60372	−13.76498	−13.91590
−13.65570	−13.65616	−13.65595	−13.65579	−13.65586	−13.65603	−13.65598	−13.65546
−13.65559	−13.65748	−13.65790	−13.65780	−13.65783	−13.65781	−13.65785	−13.65773
−13.65916	−13.66349	−13.68033	−13.71035	−13.77078	−13.85731	−14.00410	−14.14804
−13.94896	−13.94942	−13.94921	−13.94905	−13.94911	−13.94928	−13.94923	−13.94872
−13.94885	−13.95074	−13.95116	−13.95105	−13.95108	−13.95107	−13.95110	−13.95098
−13.95242	−13.95675	−13.97358	−14.00360	−14.06403	−14.15057	−14.29735	−14.44130
−14.22083	−14.22129	−14.22108	−14.22092	−14.22098	−14.22115	−14.22110	−14.22058
−14.22072	−14.22261	−14.22303	−14.22292	−14.22295	−14.22294	−14.22297	−14.22285
−14.22429	−14.22862	−14.24545	−14.27547	−14.33590	−14.42244	−14.56922	−14.71317
−14.53510	−14.53556	−14.53535	−14.53519	−14.53526	−14.53543	−14.53538	−14.53486
−14.53499	−14.53688	−14.53730	−14.53720	−14.53723	−14.53721	−14.53725	−14.53713
−14.53856	−14.54289	−14.55973	−14.58974	−14.65017	−14.73671	−14.88350	−15.02744
−14.82293	−14.82339	−14.82318	−14.82302	−14.82309	−14.82325	−14.82321	−14.82269
−14.82282	−14.82471	−14.82513	−14.82502	−14.82505	−14.82504	−14.82507	−14.82495
−14.82639	−14.83072	−14.84755	−14.87757	−14.93800	−15.02454	−15.17133	−15.31527
−15.12392	−15.12438	−15.12417	−15.12401	−15.12407	−15.12424	−15.12419	−15.12367
−15.12381	−15.12570	−15.12612	−15.12601	−15.12604	−15.12603	−15.12606	−15.12594
−15.12738	−15.13171	−15.14854	−15.17856	−15.23899	−15.32553	−15.47231	−15.61626

——————/ IPRT = 1/ IGRD = 1/———/ Z1 = 3/ DATE = 03/02/06

−11.48780	−11.48714	−11.47551	−11.45962	−11.44426	−11.43466	−11.42752	−11.41707
−11.39705	−11.37364	−11.34157	−11.29911	−11.23941	−11.16993	−11.05767	−10.92781
−10.75469	−10.55456	−10.27423	−9.91927	−9.47878	−8.97404	−8.24701	−7.63930
−11.58228	−11.58175	−11.57264	−11.56053	−11.54913	−11.54154	−11.53480	−11.52534

(*continued on next page*)

Table 5 (*continued*)

−11.50819	−11.48745	−11.45868	−11.42325	−11.37353	−11.31285	−11.21713	−11.10600
−10.95687	−10.78441	−10.54126	−10.23579	−9.85148	−9.41054	−8.77863	−8.22886
−11.70164	−11.70128	−11.69518	−11.68765	−11.68115	−11.67608	−11.66986	−11.66168
−11.64822	−11.63099	−11.60646	−11.57968	−11.54239	−11.49301	−11.41795	−11.33042
−11.21156	−11.07395	−10.87773	−10.63447	−10.32105	−9.96065	−9.44795	−8.97346
−11.78265	−11.78234	−11.77727	−11.77150	−11.76715	−11.76336	−11.75774	−11.75084
−11.74037	−11.72653	−11.70586	−11.68305	−11.65265	−11.61259	−11.54983	−11.47765
−11.37906	−11.26435	−11.09968	−10.89635	−10.63037	−10.32428	−9.88565	−9.47782
−11.90705	−11.90710	−11.90753	−11.90658	−11.90330	−11.90012	−11.89706	−11.89258
−11.88457	−11.87546	−11.86365	−11.84954	−11.82921	−11.80347	−11.76307	−11.71443
−11.64784	−11.57012	−11.45444	−11.31622	−11.12498	−10.90321	−10.59435	−10.26028
−12.05171	−12.05141	−12.04687	−12.04304	−12.04243	−12.04183	−12.03887	−12.03536
−12.03126	−12.02600	−12.01811	−12.01028	−11.99899	−11.98231	−11.95719	−11.92859
−11.88869	−11.83997	−11.76752	−11.67808	−11.55250	−11.40200	−11.19244	−10.94643
−12.12760	−12.12850	−12.14228	−12.15488	−12.15796	−12.15694	−12.15645	−12.15546
−12.15277	−12.14930	−12.14450	−12.13862	−12.13040	−12.12040	−12.10382	−12.08356
−12.05617	−12.02330	−11.97264	−11.91049	−11.82060	−11.71070	−11.55680	−11.37629
−12.34329	−12.34143	−12.31258	−12.28545	−12.27694	−12.27667	−12.27452	−12.27212
−12.27016	−12.26807	−12.26484	−12.26147	−12.25671	−12.24960	−12.23862	−12.22595
−12.20759	−12.18505	−12.15091	−12.10871	−12.04544	−11.96730	−11.85754	−11.72834
−11.89186	−11.90582	−12.12186	−12.32459	−12.38619	−12.38366	−12.39130	−12.39929
−12.39996	−12.39756	−12.39543	−12.39353	−12.39067	−12.38666	−12.37989	−12.37146
−12.35968	−12.34549	−12.32404	−12.29614	−12.25394	−12.20059	−12.12508	−12.03752
−12.46433	−12.46650	−12.50004	−12.53106	−12.53963	−12.53879	−12.54026	−12.54150
−12.54082	−12.53978	−12.53907	−12.53803	−12.53559	−12.53257	−12.52857	−12.52408
−12.51751	−12.50809	−12.49467	−12.47650	−12.44822	−12.41207	−12.36193	−12.30285
−12.64199	−12.64265	−12.65301	−12.66294	−12.66617	−12.66560	−12.66472	−12.66473
−12.66566	−12.66600	−12.66539	−12.66538	−12.66549	−12.66438	−12.66302	−12.66085
−12.65766	−12.65381	−12.64683	−12.63753	−12.62262	−12.60161	−12.57016	−12.53475
−12.58568	−12.58553	−12.58314	−12.58070	−12.57966	−12.57979	−12.58071	−12.58238
−12.58522	−12.58872	−12.59340	−12.59822	−12.60391	−12.60968	−12.61829	−12.62804
−12.63821	−12.64688	−12.65615	−12.66461	−12.66880	−12.66794	−12.66185	−12.65110
−12.26848	−12.26860	−12.27049	−12.27267	−12.27451	−12.27665	−12.28014	−12.28405
−12.28936	−12.29640	−12.30718	−12.31898	−12.33339	−12.34952	−12.37297	−12.39896
−12.43066	−12.46092	−12.49708	−12.53174	−12.56864	−12.60042	−12.63197	−12.65649
−12.08310	−12.08296	−12.08079	−12.07873	−12.07823	−12.07899	−12.08090	−12.08408
−12.08983	−12.09794	−12.11029	−12.12400	−12.14113	−12.16017	−12.18824	−12.22100
−12.26135	−12.30073	−12.34967	−12.39847	−12.45431	−12.50723	−12.56547	−12.61417
−12.02485	−12.02480	−12.02414	−12.02372	−12.02426	−12.02572	−12.02847	−12.03224
−12.03832	−12.04656	−12.05910	−12.07355	−12.09157	−12.11087	−12.14008	−12.17459
−12.21756	−12.26021	−12.31275	−12.36669	−12.42965	−12.48999	−12.55805	−12.61779
−12.08571	−12.08576	−12.08660	−12.08787	−12.08952	−12.09156	−12.09472	−12.09877
−12.10502	−12.11313	−12.12542	−12.14025	−12.15896	−12.17826	−12.20735	−12.24168
−12.28543	−12.33013	−12.38517	−12.44159	−12.50996	−12.57665	−12.65279	−12.72171
−12.23439	−12.23446	−12.23564	−12.23739	−12.23954	−12.24182	−12.24499	−12.24902
−12.25532	−12.26329	−12.27510	−12.28925	−12.30784	−12.32687	−12.35458	−12.38902
−12.43275	−12.47715	−12.53217	−12.58936	−12.65915	−12.72716	−12.80638	−12.88015
−12.43490	−12.43504	−12.43740	−12.44056	−12.44372	−12.44639	−12.44965	−12.45389
−12.46064	−12.46870	−12.47995	−12.49343	−12.51168	−12.53024	−12.55656	−12.59054
−12.63417	−12.67769	−12.73185	−12.78888	−12.85763	−12.92444	−13.00492	−13.07972
−12.68614	−12.68604	−12.68446	−12.68263	−12.68152	−12.68162	−12.68308	−12.68572
−12.69029	−12.69654	−12.70672	−12.72048	−12.73915	−12.75774	−12.78291	−12.81400
−12.85800	−12.90135	−12.95457	−13.01053	−13.07864	−13.14567	−13.22538	−13.30000
−12.93122	−12.93136	−12.93321	−12.93384	−12.93228	−12.93262	−12.93673	−12.94102
−12.94500	−12.95044	−12.96051	−12.97371	−12.99155	−13.00975	−13.03364	−13.06331
−13.10562	−13.14855	−13.20093	−13.25585	−13.32398	−13.39154	−13.47086	−13.54586
−13.20254	−13.20249	−13.20199	−13.20199	−13.20312	−13.20464	−13.20659	−13.20915
−13.21350	−13.21951	−13.22915	−13.24156	−13.25852	−13.27582	−13.29942	−13.32834
−13.36904	−13.41204	−13.46366	−13.51834	−13.58601	−13.65270	−13.73220	−13.80819
−13.45136	−13.45149	−13.45377	−13.45652	−13.45886	−13.46087	−13.46361	−13.46703
−13.47214	−13.47821	−13.48724	−13.49936	−13.51648	−13.53333	−13.55609	−13.58442
−13.62416	−13.66657	−13.71712	−13.77086	−13.83851	−13.90442	−13.98254	−14.05982
−13.76563	−13.76577	−13.76804	−13.77080	−13.77313	−13.77515	−13.77788	−13.78130
−13.78641	−13.79248	−13.80151	−13.81364	−13.83075	−13.84760	−13.87036	−13.89870
−13.93843	−13.98084	−14.03140	−14.08513	−14.15279	−14.21869	−14.29681	−14.37409
−14.05346	−14.05360	−14.05587	−14.05862	−14.06096	−14.06297	−14.06571	−14.06913

Table 5 (*continued*)

−14.07424	−14.08031	−14.08934	−14.10147	−14.11858	−14.13543	−14.15819	−14.18653
−14.22626	−14.26867	−14.31922	−14.37296	−14.44061	−14.50652	−14.58464	−14.66192
−14.35445	−14.35458	−14.35686	−14.35961	−14.36195	−14.36396	−14.36670	−14.37012
−14.37523	−14.38130	−14.39033	−14.40245	−14.41957	−14.43642	−14.45918	−14.48751
−14.52725	−14.56966	−14.62021	−14.67395	−14.74160	−14.80751	−14.88563	−14.96291

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−11.01700	−11.01695	−11.01562	−11.01250	−11.00656	−10.99858	−10.98669	−10.97251
−10.95130	−10.92277	−10.88253	−10.84718	−10.79168	−10.71135	−10.60273	−10.46051
−10.28354	−10.08385	−9.77909	−9.43600	−8.97494	−8.48016	−7.86398	−7.25084
−11.14558	−11.14550	−11.14375	−11.14053	−11.13540	−11.12902	−11.11954	−11.10764
−11.08943	−11.06603	−11.03331	−11.00138	−10.95332	−10.88601	−10.79121	−10.67476
−10.52082	−10.34325	−10.08093	−9.78274	−9.38472	−8.95403	−8.41229	−7.87048
−11.30750	−11.30739	−11.30542	−11.30226	−11.29807	−11.29349	−11.28688	−11.27784
−11.26343	−11.24608	−11.22218	−11.19517	−11.15646	−11.10498	−11.02813	−10.94116
−10.81724	−10.67023	−10.46095	−10.21984	−9.90078	−9.55084	−9.10335	−8.65135
−11.41368	−11.41371	−11.41379	−11.41223	−11.40788	−11.40289	−11.39692	−11.38972
−11.37795	−11.36148	−11.33836	−11.31920	−11.28655	−11.24119	−11.18030	−11.09044
−10.99375	−10.88688	−10.70915	−10.50956	−10.23914	−9.94230	−9.56064	−9.16755
−11.58491	−11.58489	−11.58423	−11.58286	−11.58055	−11.57783	−11.57408	−11.56949
−11.56238	−11.55291	−11.53907	−11.52463	−11.50392	−11.47528	−11.43311	−11.38389
−11.31499	−11.23155	−11.10972	−10.97009	−10.78261	−10.56979	−10.29018	−9.99320
−11.74697	−11.74701	−11.74738	−11.74699	−11.74520	−11.74334	−11.74149	−11.73903
−11.73459	−11.72871	−11.72063	−11.71304	−11.70135	−11.68442	−11.65945	−11.62837
−11.58689	−11.53530	−11.45956	−11.37203	−11.25133	−11.11277	−10.92430	−10.71495
−11.87826	−11.87827	−11.87828	−11.87803	−11.87743	−11.87713	−11.87700	−11.87594
−11.87314	−11.86968	−11.86492	−11.85860	−11.84920	−11.83838	−11.82200	−11.80264
−11.77499	−11.74006	−11.68925	−11.62955	−11.54832	−11.45315	−11.32356	−11.17325
−12.01246	−12.01246	−12.01251	−12.01244	−12.01221	−12.01213	−12.01209	−12.01142
−12.00964	−12.00757	−12.00464	−12.00009	−11.99383	−11.98715	−11.97618	−11.96400
−11.94588	−11.92388	−11.89145	−11.85135	−11.79867	−11.73798	−11.65153	−11.55010
−12.16195	−12.16196	−12.16202	−12.16187	−12.16137	−12.16090	−12.16051	−12.16008
−12.15926	−12.15795	−12.15594	−12.15408	−12.15143	−12.14731	−12.14110	−12.13340
−12.12221	−12.10868	−12.08877	−12.06509	−12.03355	−11.99831	−11.94830	−11.88697
−12.32705	−12.32704	−12.32703	−12.32706	−12.32711	−12.32690	−12.32635	−12.32585
−12.32544	−12.32484	−12.32378	−12.32267	−12.32122	−12.31898	−12.31545	−12.31139
−12.30507	−12.29709	−12.28564	−12.27263	−12.25533	−12.23717	−12.21288	−12.18106
−12.48851	−12.48851	−12.48853	−12.48850	−12.48843	−12.48849	−12.48865	−12.48851
−12.48795	−12.48746	−12.48724	−12.48724	−12.48692	−12.48589	−12.48414	−12.48266
−12.48063	−12.47711	−12.47241	−12.46682	−12.46136	−12.45723	−12.45326	−12.44781
−12.48393	−12.48392	−12.48391	−12.48397	−12.48412	−12.48422	−12.48429	−12.48451
−12.48507	−12.48582	−12.48693	−12.48830	−12.48944	−12.49138	−12.49514	−12.49829
−12.50363	−12.50884	−12.51669	−12.52420	−12.53624	−12.55130	−12.57298	−12.59710
−12.27905	−12.27904	−12.27893	−12.27912	−12.27983	−12.28045	−12.28097	−12.28182
−12.28348	−12.28532	−12.28778	−12.29127	−12.29599	−12.30166	−12.31179	−12.32361
−12.34011	−12.35917	−12.38595	−12.41641	−12.45795	−12.50418	−12.56616	−12.63211
−12.10891	−12.10892	−12.10910	−12.10936	−12.10971	−12.11015	−12.11085	−12.11183
−12.11355	−12.11603	−12.11987	−12.12410	−12.12967	−12.13721	−12.14968	−12.16474
−12.18590	−12.21105	−12.24767	−12.28975	−12.34723	−12.41359	−12.50454	−12.60311
−12.06610	−12.06613	−12.06649	−12.06689	−12.06721	−12.06771	−12.06869	−12.06988
−12.07160	−12.07391	−12.07758	−12.08206	−12.08834	−12.09605	−12.10848	−12.12433
−12.14664	−12.17345	−12.21298	−12.25817	−12.32069	−12.39514	−12.49757	−12.60992
−12.14148	−12.14147	−12.14148	−12.14169	−12.14222	−12.14280	−12.14353	−12.14469
−12.14671	−12.14907	−12.15236	−12.15677	−12.16294	−12.17043	−12.18324	−12.19911
−12.22185	−12.24900	−12.28946	−12.33721	−12.40324	−12.48242	−12.59463	−12.71960
−12.29657	−12.29658	−12.29678	−12.29714	−12.29765	−12.29810	−12.29866	−12.29965
−12.30153	−12.30382	−12.30710	−12.31139	−12.31754	−12.32487	−12.33718	−12.35310
−12.37519	−12.40151	−12.44159	−12.48897	−12.55582	−12.63632	−12.75069	−12.88190
−12.50545	−12.50547	−12.50575	−12.50617	−12.50664	−12.50711	−12.50780	−12.50890
−12.51074	−12.51264	−12.51530	−12.51969	−12.52545	−12.53224	−12.54502	−12.55976
−12.58185	−12.60721	−12.64564	−12.69200	−12.75804	−12.83798	−12.95187	−13.08394
−12.73820	−12.73824	−12.73879	−12.73922	−12.73913	−12.73884	−12.73890	−12.74006
−12.74273	−12.74554	−12.74844	−12.75132	−12.75699	−12.76413	−12.77413	−12.78919
−12.81056	−12.83713	−12.87257	−12.91756	−12.98324	−13.06138	−13.17438	−13.30591
−12.99690	−12.99688	−12.99666	−12.99667	−12.99714	−12.99759	−12.99800	−12.99887

(*continued on next page*)

Table 5 (*continued*)

−13.00074	−13.00312	−13.00624	−13.00934	−13.01479	−13.02179	−13.03142	−13.04589
−13.06639	−13.09102	−13.12647	−13.17090	−13.23479	−13.31079	−13.42348	−13.55342
−13.27039	−13.27042	−13.27078	−13.27121	−13.27159	−13.27204	−13.27276	−13.27356
−13.27463	−13.27611	−13.27883	−13.28299	−13.28895	−13.29510	−13.30484	−13.31819
−13.33808	−13.36163	−13.39663	−13.43981	−13.50228	−13.57784	−13.68890	−13.81987
−13.53364	−13.53363	−13.53354	−13.53375	−13.53445	−13.53516	−13.53581	−13.53656
−13.53782	−13.53957	−13.54224	−13.54542	−13.55081	−13.55733	−13.56641	−13.57987
−13.59948	−13.62287	−13.65669	−13.69863	−13.76099	−13.83429	−13.94367	−14.07313
−13.84791	−13.84790	−13.84781	−13.84802	−13.84872	−13.84943	−13.85008	−13.85083
−13.85210	−13.85384	−13.85651	−13.85970	−13.86508	−13.87160	−13.88068	−13.89414
−13.91376	−13.93714	−13.97096	−14.01290	−14.07526	−14.14856	−14.25794	−14.38740
−14.13574	−14.13573	−14.13564	−14.13585	−14.13655	−14.13726	−14.13791	−14.13866
−14.13993	−14.14167	−14.14434	−14.14752	−14.15291	−14.15943	−14.16851	−14.18197
−14.20159	−14.22497	−14.25879	−14.30073	−14.36309	−14.43639	−14.54577	−14.67523
−14.43673	−14.43672	−14.43663	−14.43684	−14.43754	−14.43825	−14.43890	−14.43965
−14.44091	−14.44266	−14.44533	−14.44851	−14.45390	−14.46042	−14.46950	−14.48296
−14.50257	−14.52596	−14.55978	−14.60172	−14.66408	−14.73738	−14.84676	−14.97622

——————/ IPRT = 1/ IGRD = 1/——/ Z1 = 4/ DATE = 03/02/06

−10.54517	−10.54517	−10.54517	−10.54334	−10.53261	−10.52164	−10.51354	−10.51085
−10.50646	−10.48981	−10.45651	−10.42021	−10.37557	−10.32547	−10.24558	−10.13964
−9.99604	−9.82311	−9.58306	−9.30321	−8.88010	−8.38327	−7.71415	−6.97371
−10.66132	−10.66132	−10.66132	−10.65986	−10.65132	−10.64243	−10.63529	−10.63163
−10.62591	−10.61105	−10.58285	−10.55099	−10.51081	−10.46692	−10.39690	−10.30404
−10.17628	−10.02339	−9.81170	−9.56336	−9.19016	−8.75258	−8.16076	−7.50398
−10.80764	−10.80764	−10.80764	−10.80667	−10.80088	−10.79460	−10.78868	−10.78380
−10.77639	−10.76380	−10.74202	−10.71574	−10.68120	−10.64512	−10.58755	−10.51115
−10.40336	−10.27570	−10.09975	−9.89111	−9.58078	−9.21785	−8.72342	−8.17203
−10.90403	−10.90403	−10.90403	−10.90337	−10.89939	−10.89484	−10.88971	−10.88403
−10.87551	−10.86442	−10.84687	−10.82426	−10.79343	−10.76250	−10.71313	−10.64757
−10.55293	−10.44189	−10.28949	−10.10699	−9.83808	−9.52431	−9.09404	−8.61207
−11.05718	−11.05718	−11.05718	−11.05686	−11.05480	−11.05211	−11.04842	−11.04370
−11.03654	−11.02793	−11.01505	−10.99852	−10.97532	−10.95082	−10.91359	−10.86488
−10.79391	−10.70936	−10.59361	−10.45443	−10.25033	−10.01351	−9.68625	−9.31893
−11.20230	−11.20230	−11.20230	−11.20212	−11.20088	−11.19901	−11.19633	−11.19334
−11.18892	−11.18304	−11.17390	−11.16276	−11.14750	−11.13087	−11.10509	−11.07113
−11.02162	−10.96371	−10.88355	−10.78573	−10.64137	−10.47591	−10.24912	−9.99038
−11.31866	−11.31866	−11.31866	−11.31852	−11.31758	−11.31635	−11.31476	−11.31294
−11.31016	−11.30641	−11.30048	−11.29301	−11.28263	−11.27146	−11.25451	−11.23198
−11.19857	−11.15937	−11.10442	−11.03630	−10.93854	−10.82569	−10.66846	−10.48784
−11.43840	−11.43840	−11.43840	−11.43831	−11.43777	−11.43708	−11.43605	−11.43447
−11.43209	−11.42969	−11.42630	−11.42145	−11.41447	−11.40772	−11.39631	−11.38128
−11.35879	−11.33189	−11.29477	−11.24790	−11.17971	−11.09997	−10.98952	−10.85664
−11.57006	−11.57006	−11.57006	−11.57008	−11.57013	−11.56986	−11.56899	−11.56765
−11.56598	−11.56488	−11.56342	−11.56020	−11.55508	−11.55093	−11.54375	−11.53457
−11.52027	−11.50300	−11.47858	−11.44820	−11.40418	−11.35183	−11.27681	−11.18740
−11.70754	−11.70754	−11.70754	−11.70758	−11.70765	−11.70717	−11.70631	−11.70616
−11.70643	−11.70587	−11.70392	−11.70130	−11.69838	−11.69657	−11.69224	−11.68606
−11.67754	−11.66755	−11.65200	−11.63231	−11.60299	−11.56986	−11.52176	−11.46275
−11.86182	−11.86182	−11.86182	−11.86183	−11.86184	−11.86179	−11.86185	−11.86233
−11.86285	−11.86223	−11.86017	−11.85768	−11.85520	−11.85402	−11.85250	−11.84873
−11.84456	−11.83870	−11.82851	−11.81766	−11.80171	−11.78141	−11.75149	−11.71553
−12.00498	−12.00498	−12.00498	−12.00494	−12.00488	−12.00522	−12.00538	−12.00396
−12.00134	−12.00021	−12.00054	−12.00068	−12.00057	−12.00122	−11.99808	−11.99656
−11.99445	−11.99029	−11.98378	−11.97577	−11.96582	−11.95218	−11.93556	−11.91306
−12.15999	−12.15999	−12.15999	−12.15999	−12.16000	−12.15997	−12.15995	−12.16007
−12.16019	−12.16001	−12.15956	−12.15931	−12.15893	−12.15783	−12.15734	−12.15619
−12.15404	−12.15220	−12.14932	−12.14561	−12.13934	−12.13230	−12.12165	−12.10835
−12.31167	−12.31167	−12.31167	−12.31166	−12.31166	−12.31167	−12.31168	−12.31163
−12.31158	−12.31165	−12.31170	−12.31138	−12.31085	−12.31082	−12.31038	−12.30942
−12.30868	−12.30733	−12.30555	−12.30358	−12.29983	−12.29593	−12.28990	−12.28192
−12.43877	−12.43877	−12.43877	−12.43876	−12.43875	−12.43883	−12.43887	−12.43851
−12.43785	−12.43752	−12.43757	−12.43768	−12.43770	−12.43764	−12.43776	−12.43694
−12.43651	−12.43604	−12.43488	−12.43322	−12.43105	−12.42846	−12.42431	−12.42051
−12.63461	−12.63461	−12.63461	−12.63461	−12.63461	−12.63460	−12.63460	−12.63464

Table 5 (*continued*)

−12.63474	−12.63480	−12.63480	−12.63473	−12.63469	−12.63485	−12.63416	−12.63382
−12.63395	−12.63403	−12.63371	−12.63254	−12.63144	−12.63121	−12.62900	−12.62738
−12.81544	−12.81544	−12.81544	−12.81544	−12.81544	−12.81544	−12.81544	−12.81544
−12.81544	−12.81544	−12.81544	−12.81544	−12.81544	−12.81544	−12.81546	−12.81546
−12.81546	−12.81545	−12.81549	−12.81538	−12.81533	−12.81528	−12.81561	−12.81370
−13.00783	−13.00783	−13.00783	−13.00783	−13.00781	−13.00780	−13.00780	−13.00780
−13.00780	−13.00780	−13.00779	−13.00781	−13.00785	−13.00785	−13.00786	−13.00787
−13.00787	−13.00787	−13.00788	−13.00785	−13.00783	−13.00788	−13.00781	−13.00815
−13.19989	−13.19989	−13.19989	−13.19988	−13.19984	−13.19981	−13.19981	−13.19983
−13.19984	−13.19977	−13.19975	−13.20000	−13.20044	−13.20057	−13.20054	−13.20056
−13.20057	−13.20059	−13.20049	−13.20095	−13.20122	−13.20153	−13.20234	−13.20296
−13.40488	−13.40488	−13.40488	−13.40500	−13.40559	−13.40590	−13.40584	−13.40576
−13.40577	−13.40580	−13.40580	−13.40576	−13.40571	−13.40572	−13.40567	−13.40591
−13.40609	−13.40608	−13.40596	−13.40655	−13.40688	−13.40756	−13.40797	−13.40833
−13.62143	−13.62143	−13.62143	−13.62141	−13.62131	−13.62125	−13.62126	−13.62127
−13.62127	−13.62127	−13.62127	−13.62127	−13.62128	−13.62133	−13.62117	−13.62187
−13.62243	−13.62232	−13.62232	−13.62240	−13.62158	−13.62296	−13.62394	−13.62527
−13.83127	−13.83127	−13.83127	−13.83128	−13.83129	−13.83129	−13.83129	−13.83129
−13.83129	−13.83129	−13.83129	−13.83129	−13.83129	−13.83129	−13.83130	−13.83124
−13.83117	−13.83114	−13.83122	−13.83093	−13.83255	−13.83426	−13.83428	−13.83447
−14.07752	−14.07752	−14.07752	−14.07752	−14.07752	−14.07752	−14.07752	−14.07752
−14.07752	−14.07752	−14.07752	−14.07752	−14.07753	−14.07752	−14.07754	−14.07747
−14.07784	−14.07811	−14.07799	−14.07831	−14.07894	−14.07940	−14.08029	−14.08127
−14.36512	−14.36512	−14.36512	−14.36512	−14.36512	−14.36512	−14.36512	−14.36512
−14.36512	−14.36512	−14.36512	−14.36512	−14.36512	−14.36511	−14.36513	−14.36507
−14.36544	−14.36571	−14.36559	−14.36592	−14.36653	−14.36698	−14.36788	−14.36887
−14.66611	−14.66611	−14.66611	−14.66611	−14.66611	−14.66611	−14.66611	−14.66611
−14.66611	−14.66611	−14.66611	−14.66611	−14.66611	−14.66610	−14.66612	−14.66606
−14.66643	−14.66670	−14.66658	−14.66691	−14.66752	−14.66797	−14.66887	−14.66986

Table 6
Generalized ionization data for all ion stages of Be. See page 265 for Explanation of Tables

4 24	25 1	4	BERYLLIUM		GCR PROJECT		
2 1	2 1	1					
4.00000	4.47712	5.00000	5.47712	6.00000	6.47712	7.00000	7.47712
8.00000	8.47712	9.00000	9.47712	10.00000	10.47712	11.00000	11.47712
12.00000	12.47712	13.00000	13.47712	14.00000	14.47712	15.00000	15.47712
−0.69877	−0.52268	−0.30083	−0.15470	0.07938	0.30123	0.47732	0.65341
0.84530	1.04159	1.25547	1.44736	1.65341	1.84530	2.00020	2.23065
2.43157	2.63367	2.82628	3.02139	3.21690	3.39814	3.60766	3.79954
4.00020							
——————/ IPRT = 1/ IGRD = 1/——/ Z1 = 1/ DATE = 03/02/06							
−28.40669	−28.40669	−28.40669	−28.40667	−28.40666	−28.40673	−28.40676	−28.40586
−28.40577	−28.40499	−28.40232	−28.38731	−28.34569	−28.22852	−27.91801	−27.49710
−26.98935	−26.51976	−25.99954	−25.53793	−25.08309	−24.70966	−24.34547	−24.02247
−21.50418	−21.50414	−21.50420	−21.50439	−21.50433	−21.50399	−21.50385	−21.50163
−21.50137	−21.50148	−21.50190	−21.50064	−21.48719	−21.41763	−21.21071	−20.90372
−20.51236	−20.11901	−19.65325	−19.24257	−18.84225	−18.49962	−18.15915	−17.85654
−15.92064	−15.92066	−15.92058	−15.92031	−15.92001	−15.91967	−15.91856	−15.91784
−15.91568	−15.91295	−15.90986	−15.90288	−15.88586	−15.83773	−15.70112	−15.48734
−15.19732	−14.88615	−14.51231	−14.19288	−13.88081	−13.60297	−13.32217	−13.07201
−13.50949	−13.50973	−13.50972	−13.50909	−13.50820	−13.50760	−13.50642	−13.50426
−13.50157	−13.49742	−13.49251	−13.48487	−13.46860	−13.42857	−13.32356	−13.15957
−12.92854	−12.67518	−12.36691	−12.10891	−11.85698	−11.63310	−11.40080	−11.19214
−10.95707	−10.95585	−10.95493	−10.95553	−10.95527	−10.95268	−10.95089	−10.94867
−10.94443	−10.94055	−10.93212	−10.92418	−10.90630	−10.87554	−10.80002	−10.68912
−10.53000	−10.34692	−10.11873	−9.92776	−9.74353	−9.57949	−9.39347	−9.22219
−9.48051	−9.48092	−9.48094	−9.47995	−9.47841	−9.47724	−9.47522	−9.47173
−9.46861	−9.46311	−9.45847	−9.45024	−9.43429	−9.40872	−9.35252	−9.26917
−9.15479	−9.01785	−8.84601	−8.70194	−8.55726	−8.42191	−8.26100	−8.11137
−8.71278	−8.71240	−8.71263	−8.71382	−8.71299	−8.70949	−8.70943	−8.70558
−8.70208	−8.69867	−8.69475	−8.68732	−8.67374	−8.65097	−8.60595	−8.54120
−8.44940	−8.33759	−8.19677	−8.07526	−7.95388	−7.82942	−7.68188	−7.54555
−8.18009	−8.18013	−8.18011	−8.17992	−8.17937	−8.17848	−8.17708	−8.17526
−8.17300	−8.16937	−8.16517	−8.15921	−8.14829	−8.13126	−8.09462	−8.04179
−7.96711	−7.87589	−7.75663	−7.65253	−7.54147	−7.42302	−7.28498	−7.15816
−7.78282	−7.78256	−7.78281	−7.78378	−7.78294	−7.77970	−7.77988	−7.77929
−7.77626	−7.77344	−7.77008	−7.76680	−7.75882	−7.74406	−7.71602	−7.67463
−7.61366	−7.53991	−7.43861	−7.34637	−7.24257	−7.12507	−6.99576	−6.87919
−7.51178	−7.51167	−7.51178	−7.51218	−7.51173	−7.51031	−7.51043	−7.50872
−7.50741	−7.50625	−7.50230	−7.49943	−7.49395	−7.48359	−7.46079	−7.42622
−7.37709	−7.31469	−7.22671	−7.14362	−7.04289	−6.92758	−6.80393	−6.69329
−7.32538	−7.32540	−7.32537	−7.32526	−7.32531	−7.32542	−7.32440	−7.32353
−7.32256	−7.32070	−7.31899	−7.31618	−7.31175	−7.30469	−7.28647	−7.25859
−7.21767	−7.16524	−7.08896	−7.01181	−6.91228	−6.79542	−6.67538	−6.56950
−7.22713	−7.22724	−7.22717	−7.22675	−7.22641	−7.22636	−7.22565	−7.22567
−7.22420	−7.22360	−7.22211	−7.21996	−7.21643	−7.21080	−7.19570	−7.17252
−7.13786	−7.09276	−7.02516	−6.95110	−6.85268	−6.73426	−6.61341	−6.50720
−7.17278	−7.17274	−7.17269	−7.17268	−7.17275	−7.17276	−7.17217	−7.17149
−7.17088	−7.17023	−7.16893	−7.16707	−7.16454	−7.16020	−7.14860	−7.12914
−7.09943	−7.06122	−7.00066	−6.93150	−6.83225	−6.70934	−6.58541	−6.47700
−7.15940	−7.15921	−7.15895	−7.15876	−7.15863	−7.15863	−7.15871	−7.15812
−7.15748	−7.15679	−7.15586	−7.15464	−7.15242	−7.14898	−7.13941	−7.12314
−7.09725	−7.06373	−7.00910	−6.94147	−6.84136	−6.71710	−6.58718	−6.47218
−7.16916	−7.16925	−7.16926	−7.16903	−7.16877	−7.16877	−7.16874	−7.16801
−7.16739	−7.16706	−7.16619	−7.16512	−7.16322	−7.16038	−7.15239	−7.13766
−7.11491	−7.08403	−7.03328	−6.96799	−6.86613	−6.73966	−6.60599	−6.48720
−7.20713	−7.20713	−7.20713	−7.20713	−7.20713	−7.20713	−7.20714	−7.20711
−7.20641	−7.20574	−7.20501	−7.20432	−7.20290	−7.20013	−7.19392	−7.18178
−7.16166	−7.13521	−7.08938	−7.02755	−6.92640	−6.79432	−6.65035	−6.52149
−7.24985	−7.24987	−7.24985	−7.24980	−7.24986	−7.24986	−7.24899	−7.24895
−7.24905	−7.24833	−7.24751	−7.24675	−7.24518	−7.24386	−7.23870	−7.22859
−7.21104	−7.18677	−7.14572	−7.08610	−6.98432	−6.85011	−6.69949	−6.56354
−7.29635	−7.29636	−7.29632	−7.29625	−7.29641	−7.29641	−7.29440	−7.29396
−7.29513	−7.29480	−7.29342	−7.29265	−7.29051	−7.29121	−7.28695	−7.27898

Table 6 (*continued*)

−7.26421	−7.24170	−7.20565	−7.14867	−7.04481	−6.90993	−6.75281	−6.60929
−7.34260	−7.34260	−7.34255	−7.34245	−7.34272	−7.34272	−7.33962	−7.33879
−7.34098	−7.34103	−7.33911	−7.33834	−7.33566	−7.33827	−7.33488	−7.32894
−7.31683	−7.29599	−7.26470	−7.21023	−7.10440	−6.96888	−6.80556	−6.65484
−7.39068	−7.39068	−7.39060	−7.39049	−7.39086	−7.39086	−7.38666	−7.38544
−7.38866	−7.38909	−7.38663	−7.38585	−7.38262	−7.38718	−7.38467	−7.38078
−7.37136	−7.35222	−7.32575	−7.27383	−7.16600	−7.02983	−6.86023	−6.70221
−7.43966	−7.43965	−7.43955	−7.43941	−7.43989	−7.43989	−7.43459	−7.43297
−7.43723	−7.43804	−7.43503	−7.43426	−7.43046	−7.43698	−7.43534	−7.43352
−7.42679	−7.40935	−7.38772	−7.33834	−7.22851	−7.09170	−6.91580	−6.75047
−7.48552	−7.48551	−7.48539	−7.48523	−7.48580	−7.48580	−7.47947	−7.47749
−7.48271	−7.48388	−7.48036	−7.47959	−7.47528	−7.48361	−7.48278	−7.48287
−7.47864	−7.46278	−7.44563	−7.39861	−7.28692	−7.14951	−6.96778	−6.79566
−7.53888	−7.53886	−7.53872	−7.53854	−7.53922	−7.53922	−7.53171	−7.52931
−7.53564	−7.53722	−7.53311	−7.53233	−7.52744	−7.53785	−7.53797	−7.54026
−7.53893	−7.52488	−7.51291	−7.46863	−7.35479	−7.21668	−7.02822	−6.84825
−7.58796	−7.58794	−7.58778	−7.58758	−7.58835	−7.58835	−7.57977	−7.57698
−7.58432	−7.58628	−7.58164	−7.58085	−7.57541	−7.58775	−7.58872	−7.59304
−7.59435	−7.58198	−7.57475	−7.53297	−7.41716	−7.27842	−7.08378	−6.89663
−7.63942	−7.63940	−7.63921	−7.63899	−7.63987	−7.63987	−7.63015	−7.62696
−7.63536	−7.63772	−7.63252	−7.63173	−7.62572	−7.64005	−7.64193	−7.64837
−7.65244	−7.64181	−7.63955	−7.60038	−7.48251	−7.34311	−7.14201	−6.94736

——————/ IPRT = 1/ IGRD = 2/———/ Z1 = 1/ DATE = 03/02/06

−21.11029	−21.11029	−21.11029	−21.11029	−21.11029	−21.11029	−21.11029	−21.11029
−21.11029	−21.11029	−21.10972	−21.10881	−21.10476	−21.09278	−21.04403	−20.92433
−20.67988	−20.35830	−19.92519	−19.51266	−19.11170	−18.79322	−18.48388	−18.20924
−16.65274	−16.65274	−16.65274	−16.65274	−16.65274	−16.65274	−16.65274	−16.65274
−16.65274	−16.65275	−16.65239	−16.65222	−16.64741	−16.62461	−16.54340	−16.38490
−16.13215	−15.82930	−15.42787	−15.06399	−14.71945	−14.43465	−14.15035	−13.89678
−13.01255	−13.01255	−13.01255	−13.01255	−13.01254	−13.01254	−13.01254	−13.01254
−13.01254	−13.01249	−13.01256	−13.01219	−13.00540	−12.98031	−12.89656	−12.74799
−12.52506	−12.26780	−11.94375	−11.66559	−11.40230	−11.17481	−10.94954	−10.74981
−11.43650	−11.43650	−11.43650	−11.43650	−11.43650	−11.43650	−11.43650	−11.43651
−11.43651	−11.43669	−11.43654	−11.43500	−11.42985	−11.40860	−11.33639	−11.21084
−11.02092	−10.80240	−10.53393	−10.30984	−10.09390	−9.90807	−9.73239	−9.57879
−9.74475	−9.74475	−9.74475	−9.74474	−9.74472	−9.74472	−9.74472	−9.74469
−9.74468	−9.74306	−9.74367	−9.74170	−9.73700	−9.72391	−9.67739	−9.59225
−9.45840	−9.29964	−9.10160	−8.93676	−8.77145	−8.63619	−8.51424	−8.40870
−8.73277	−8.73280	−8.73277	−8.73259	−8.73239	−8.73234	−8.73234	−8.73197
−8.73178	−8.73168	−8.72795	−8.72723	−8.72323	−8.71177	−8.68126	−8.62678
−8.53826	−8.42791	−8.29006	−8.16649	−8.03977	−7.94029	−7.85366	−7.77927
−8.19077	−8.19088	−8.19077	−8.19027	−8.18987	−8.19006	−8.19006	−8.18913
−8.18734	−8.18654	−8.18561	−8.18214	−8.17846	−8.16912	−8.14570	−8.10697
−8.03976	−7.95828	−7.85668	−7.75809	−7.65592	−7.57701	−7.51085	−7.45474
−7.79956	−7.79954	−7.79956	−7.79963	−7.79961	−7.79941	−7.79941	−7.79949
−7.79660	−7.79645	−7.79350	−7.79059	−7.78768	−7.77932	−7.76053	−7.73227
−7.68143	−7.62042	−7.54095	−7.46196	−7.37618	−7.31261	−7.26341	−7.22270
−7.49555	−7.49543	−7.49555	−7.49598	−7.49552	−7.49390	−7.49389	−7.49342
−7.49215	−7.49058	−7.48939	−7.48598	−7.48278	−7.47656	−7.46404	−7.44048
−7.40352	−7.35622	−7.29319	−7.22753	−7.15306	−7.10144	−7.06279	−7.03089
−7.27809	−7.27802	−7.27809	−7.27835	−7.27809	−7.27724	−7.27734	−7.27638
−7.27554	−7.27422	−7.27304	−7.27097	−7.26753	−7.26252	−7.25285	−7.23539
−7.20538	−7.16721	−7.11415	−7.05608	−6.98885	−6.94354	−6.91410	−6.89120
−7.12145	−7.12146	−7.12145	−7.12140	−7.12145	−7.12151	−7.12087	−7.12029
−7.11971	−7.11921	−7.11752	−7.11632	−7.11348	−7.11015	−7.10232	−7.08871
−7.06352	−7.03127	−6.98657	−6.93052	−6.86753	−6.82727	−6.80151	−6.78147
−7.03466	−7.03466	−7.03466	−7.03465	−7.03466	−7.03463	−7.03424	−7.03382
−7.03341	−7.03295	−7.03100	−7.03044	−7.02838	−7.02513	−7.01895	−7.00826
−6.98475	−6.95624	−6.91435	−6.86316	−6.80000	−6.75976	−6.73769	−6.72183
−6.98408	−6.98409	−6.98408	−6.98408	−6.98408	−6.98409	−6.98410	−6.98412
−6.98413	−6.98416	−6.98032	−6.97980	−6.97985	−6.97624	−6.97220	−6.96370
−6.94467	−6.91872	−6.87735	−6.82470	−6.76228	−6.72125	−6.69893	−6.68316
−6.96836	−6.96836	−6.96836	−6.96836	−6.96836	−6.96836	−6.96834	−6.96833
−6.96832	−6.96830	−6.96880	−6.96587	−6.96625	−6.96479	−6.96083	−6.94981

(*continued on next page*)

Table 6 (*continued*)

−6.93497	−6.90939	−6.87044	−6.81995	−6.75567	−6.71217	−6.68948	−6.67394
−6.97622	−6.97622	−6.97622	−6.97623	−6.97622	−6.97622	−6.97628	−6.97628
−6.97628	−6.97634	−6.97623	−6.97700	−6.97513	−6.97200	−6.96776	−6.96194
−6.94626	−6.92100	−6.88291	−6.83390	−6.76879	−6.72264	−6.69811	−6.68126
−7.01129	−7.01130	−7.01129	−7.01126	−7.01129	−7.01129	−7.01086	−7.01086
−7.01086	−7.01043	−7.01001	−7.00914	−7.00810	−7.00685	−7.00414	−6.99895
−6.98190	−6.96146	−6.92325	−6.87492	−6.80846	−6.75838	−6.72957	−6.70896
−7.04780	−7.04780	−7.04780	−7.04777	−7.04780	−7.04780	−7.04734	−7.04734
−7.04734	−7.04688	−7.04642	−7.04603	−7.04484	−7.04407	−7.04164	−7.03654
−7.02372	−6.99923	−6.96219	−6.91361	−6.84837	−6.79377	−6.76265	−6.74104
−7.08505	−7.08505	−7.08505	−7.08503	−7.08505	−7.08505	−7.08481	−7.08481
−7.08481	−7.08457	−7.08437	−7.08498	−7.08120	−7.08238	−7.07939	−7.07527
−7.06836	−7.03717	−7.00044	−6.95122	−6.88802	−6.82891	−6.79685	−6.77593
−7.12055	−7.12055	−7.12055	−7.12055	−7.12055	−7.12055	−7.12052	−7.12052
−7.12052	−7.12049	−7.12054	−7.12209	−7.11585	−7.11890	−7.11537	−7.11217
−7.11090	−7.07332	−7.03690	−6.98706	−6.92581	−6.86240	−6.82944	−6.80918
−7.15651	−7.15651	−7.15651	−7.15653	−7.15651	−7.15651	−7.15670	−7.15669
−7.15669	−7.15687	−7.15719	−7.15968	−7.15096	−7.15590	−7.15182	−7.14955
−7.15400	−7.10995	−7.07384	−7.02336	−6.96408	−6.89633	−6.86246	−6.84285
−7.19255	−7.19254	−7.19255	−7.19258	−7.19255	−7.19255	−7.19295	−7.19294
−7.19294	−7.19333	−7.19390	−7.19735	−7.18613	−7.19296	−7.18835	−7.18701
−7.19719	−7.14665	−7.11084	−7.05974	−7.00244	−6.93032	−6.89554	−6.87660
−7.22596	−7.22595	−7.22596	−7.22600	−7.22596	−7.22596	−7.22655	−7.22655
−7.22654	−7.22714	−7.22794	−7.23227	−7.21875	−7.22733	−7.22220	−7.22174
−7.23722	−7.18067	−7.14515	−7.09347	−7.03799	−6.96183	−6.92621	−6.90789
−7.26458	−7.26456	−7.26458	−7.26463	−7.26458	−7.26458	−7.26540	−7.26539
−7.26539	−7.26621	−7.26728	−7.27264	−7.25644	−7.26705	−7.26134	−7.26189
−7.28350	−7.22000	−7.18481	−7.13245	−7.07909	−6.99826	−6.96167	−6.94405
−7.29995	−7.29993	−7.29995	−7.30001	−7.29995	−7.29994	−7.30097	−7.30097
−7.30097	−7.30199	−7.30331	−7.30962	−7.29097	−7.30343	−7.29719	−7.29865
−7.32588	−7.25602	−7.22113	−7.16816	−7.11674	−7.03162	−6.99414	−6.97717
−7.33693	−7.33691	−7.33693	−7.33701	−7.33693	−7.33693	−7.33818	−7.33817
−7.33817	−7.33942	−7.34100	−7.34828	−7.32707	−7.34148	−7.33468	−7.33710
−7.37021	−7.29369	−7.25912	−7.20550	−7.15610	−7.06651	−7.02810	−7.01181

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−44.36584	−43.80714	−43.33794	−42.91465	−42.44844	−42.06920	−41.71462	−41.43664
−41.17294	−40.96220	−40.75061	−40.56722	−40.36647	−40.17612	−39.94981	−39.71898
−39.42946	−39.12811	−38.76617	−38.44760	−38.18412	−38.05611	−37.99837	−37.97860
−34.76932	−34.29801	−33.80023	−33.35039	−32.87852	−32.49310	−32.12795	−31.84395
−31.57906	−31.37080	−31.16601	−30.99136	−30.80476	−30.63279	−30.43250	−30.23325
−29.99046	−29.73947	−29.44290	−29.18456	−28.97656	−28.87740	−28.82346	−28.78972
−24.67729	−24.61294	−24.45934	−24.20242	−23.82832	−23.46699	−23.09530	−22.80427
−22.53790	−22.33022	−22.13142	−21.96651	−21.79240	−21.63521	−21.45930	−21.29107
−21.09109	−20.89118	−20.66309	−20.47352	−20.32758	−20.21761	−19.98027	−19.71103
−19.97247	−19.96798	−19.94648	−19.89157	−19.76211	−19.55686	−19.27322	−19.01743
−18.76562	−18.56570	−18.37177	−18.21131	−18.04481	−17.89564	−17.73069	−17.57535
−17.39379	−17.21798	−17.02292	−16.86761	−16.73458	−16.54615	−16.11068	−15.69816
−15.00743	−15.00763	−15.00601	−15.00143	−14.98767	−14.96007	−14.89901	−14.80247
−14.66480	−14.53191	−14.38814	−14.25895	−14.12031	−13.99124	−13.84793	−13.71218
−13.55583	−13.40901	−13.24985	−13.11883	−12.96489	−12.64741	−12.08585	−11.61560
−12.21890	−12.21900	−12.21907	−12.21848	−12.21564	−12.20911	−12.19271	−12.16425
−12.11722	−12.06103	−11.98714	−11.91193	−11.82157	−11.73046	−11.62260	−11.51470
−11.38826	−11.26694	−11.13167	−11.01113	−10.82108	−10.46275	−9.91704	−9.48839
−10.78740	−10.78745	−10.78740	−10.78708	−10.78609	−10.78406	−10.77820	−10.76675
−10.74549	−10.71725	−10.67878	−10.63610	−10.58035	−10.52074	−10.44502	−10.36504
−10.26840	−10.16706	−10.05190	−9.93820	−9.73787	−9.38789	−8.88539	−8.50525
−9.80653	−9.80656	−9.80664	−9.80669	−9.80650	−9.80569	−9.80297	−9.79751
−9.78699	−9.77231	−9.75034	−9.72576	−9.69226	−9.65459	−9.60461	−9.54896
−9.47682	−9.39840	−9.30398	−9.20036	−9.00628	−8.68005	−8.22188	−7.89237
−9.08995	−9.08971	−9.08939	−9.08935	−9.08938	−9.08903	−9.08762	−9.08474
−9.07903	−9.07076	−9.05811	−9.04342	−9.02260	−8.99861	−8.96429	−8.92744
−8.87441	−8.81847	−8.74197	−8.65143	−8.47589	−8.17989	−7.76661	−7.47919
−8.60666	−8.60666	−8.60671	−8.60682	−8.60680	−8.60631	−8.60517	−8.60349
−8.60029	−8.59529	−8.58682	−8.57653	−8.56364	−8.54652	−8.52389	−8.49721

Table 6 (*continued*)

−8.45814	−8.41365	−8.35372	−8.27638	−8.12058	−7.85151	−7.47818	−7.22532
−8.26781	−8.26779	−8.26779	−8.26783	−8.26782	−8.26764	−8.26715	−8.26633
−8.26434	−8.26077	−8.25472	−8.24793	−8.23839	−8.22700	−8.21040	−8.19003
−8.16077	−8.12607	−8.07736	−8.01164	−7.87480	−7.63089	−7.28883	−7.06367
−8.07941	−8.07941	−8.07941	−8.07943	−8.07943	−8.07932	−8.07897	−8.07831
−8.07680	−8.07421	−8.06980	−8.06505	−8.05669	−8.04736	−8.03448	−8.01816
−7.99419	−7.96540	−7.92279	−7.86296	−7.74035	−7.51556	−7.19672	−6.98781
−7.96153	−7.96155	−7.96154	−7.96147	−7.96149	−7.96175	−7.96160	−7.96023
−7.95835	−7.95753	−7.95478	−7.94762	−7.94256	−7.93635	−7.92314	−7.90964
−7.89081	−7.86470	−7.82574	−7.77401	−7.66077	−7.45072	−7.14600	−6.94602
−7.90534	−7.90536	−7.90536	−7.90525	−7.90528	−7.90568	−7.90558	−7.90388
−7.90196	−7.90205	−7.89920	−7.89603	−7.88976	−7.88302	−7.87454	−7.85964
−7.84205	−7.81792	−7.78502	−7.73638	−7.62950	−7.43223	−7.13717	−6.94142
−7.88973	−7.88976	−7.88975	−7.88964	−7.88967	−7.89008	−7.88997	−7.88828
−7.88639	−7.88654	−7.88388	−7.88067	−7.87455	−7.86821	−7.85962	−7.84775
−7.83090	−7.80979	−7.77543	−7.73046	−7.63056	−7.44120	−7.15125	−6.95443
−7.90233	−7.90232	−7.90232	−7.90236	−7.90235	−7.90219	−7.90223	−7.90284
−7.90263	−7.89980	−7.89565	−7.89570	−7.89030	−7.88350	−7.87407	−7.86507
−7.84805	−7.82819	−7.79776	−7.75287	−7.65994	−7.48387	−7.19868	−6.99497
−7.93921	−7.93921	−7.93921	−7.93922	−7.93922	−7.93916	−7.93917	−7.93932
−7.93835	−7.93561	−7.93590	−7.93285	−7.92640	−7.92199	−7.91349	−7.90300
−7.88884	−7.86749	−7.83694	−7.79503	−7.70774	−7.54165	−7.26089	−7.05062
−7.99360	−7.99362	−7.99361	−7.99355	−7.99357	−7.99379	−7.99373	−7.99278
−7.99139	−7.99081	−7.99013	−7.98704	−7.98340	−7.97727	−7.96825	−7.95919
−7.94517	−7.92509	−7.89406	−7.85509	−7.77202	−7.61562	−7.33652	−7.11283
−8.05659	−8.05659	−8.05659	−8.05659	−8.05659	−8.05659	−8.05659	−8.05660
−8.05631	−8.05540	−8.05361	−8.05090	−8.04669	−8.04178	−8.03395	−8.02493
−8.01014	−7.99200	−7.96196	−7.92103	−7.84372	−7.69614	−7.42059	−7.18472
−8.12740	−8.12740	−8.12740	−8.12740	−8.12740	−8.12739	−8.12739	−8.12739
−8.12701	−8.12594	−8.12439	−8.12180	−8.11801	−8.11342	−8.10562	−8.09644
−8.08236	−8.06374	−8.03389	−7.99689	−7.92224	−7.78611	−7.51697	−7.26771
−8.20018	−8.20018	−8.20018	−8.20021	−8.20020	−8.20010	−8.20012	−8.20049
−8.20028	−8.19853	−8.19712	−8.19473	−8.19119	−8.18769	−8.17814	−8.16953
−8.15618	−8.13724	−8.10732	−8.07627	−8.00297	−7.87889	−7.61608	−7.35209
−8.26855	−8.26854	−8.26854	−8.26860	−8.26858	−8.26839	−8.26844	−8.26915
−8.26910	−8.26671	−8.26543	−8.26324	−8.25991	−8.25744	−8.24626	−8.23819
−8.22551	−8.20627	−8.17628	−8.15076	−8.07871	−7.96579	−7.70886	−7.43120
−8.34827	−8.34825	−8.34826	−8.34833	−8.34832	−8.34803	−8.34810	−8.34921
−8.34933	−8.34622	−8.34509	−8.34311	−8.34004	−8.33875	−8.32569	−8.31823
−8.30634	−8.28675	−8.25668	−8.23754	−8.16694	−8.06694	−7.81679	−7.52333
−8.42169	−8.42167	−8.42167	−8.42178	−8.42175	−8.42137	−8.42146	−8.42294
−8.42322	−8.41944	−8.41845	−8.41667	−8.41384	−8.41362	−8.39884	−8.39195
−8.38078	−8.36087	−8.33072	−8.31743	−8.24816	−8.15998	−7.91604	−7.60812
−8.49874	−8.49870	−8.49871	−8.49884	−8.49881	−8.49833	−8.49845	−8.50030
−8.50076	−8.49628	−8.49544	−8.49386	−8.49128	−8.49219	−8.47561	−8.46931
−8.45888	−8.43864	−8.40842	−8.40124	−8.33336	−8.25755	−8.02011	−7.69706

——————/ IPRT = 2/ IGRD = 1/———/ Z1 = 2/ DATE = 03/02/06

−45.02245	−44.46674	−43.98085	−43.52533	−42.99360	−42.51275	−42.00104	−41.54650
−41.07582	−40.68863	−40.31278	−40.01594	−39.73452	−39.51262	−39.29537	−39.11255
−38.92041	−38.74487	−38.54511	−38.34799	−38.10873	−37.86047	−37.54460	−37.21157
−37.48689	−36.93104	−36.44478	−35.98882	−35.45662	−34.97541	−34.46253	−34.00500
−33.52739	−33.12967	−32.74168	−32.43610	−32.14949	−31.92741	−31.71410	−31.53789
−31.35627	−31.19417	−31.01262	−30.83900	−30.63277	−30.42398	−30.16332	−29.88743
−28.11502	−27.55926	−27.07301	−26.61668	−26.08395	−25.60255	−25.08868	−24.62790
−24.14166	−23.73011	−23.32756	−23.00760	−22.71342	−22.48757	−22.27549	−22.10359
−21.93148	−21.78042	−21.61609	−21.46373	−21.28920	−21.11776	−20.90864	−20.69235
−24.43037	−23.87448	−23.38824	−22.93244	−22.40048	−21.91921	−21.40411	−20.94033
−20.44866	−20.03002	−19.61537	−19.28714	−18.98417	−18.75552	−18.54203	−18.37102
−18.20095	−18.05365	−17.89675	−17.75234	−17.59087	−17.43591	−17.25034	−17.06202
−20.64554	−20.09083	−19.60590	−19.15132	−18.62043	−18.13953	−17.62409	−17.15905
−16.66186	−16.23129	−15.80036	−15.45499	−15.13617	−14.89660	−14.67837	−14.50731
−14.33881	−14.19629	−14.04533	−13.91115	−13.76280	−13.62292	−13.46108	−13.30310
−18.63219	−18.07253	−17.58200	−17.12155	−16.58403	−16.09787	−15.57666	−15.10492
−14.59871	−14.15853	−13.71237	−13.35046	−13.01449	−12.76348	−12.53735	−12.36184

(*continued on next page*)

Table 6 (*continued*)

−12.19185	−12.04985	−11.90212	−11.77117	−11.62924	−11.49791	−11.34975	−11.20774
−17.48130	−16.94293	−16.47583	−16.03812	−15.52712	−15.06593	−14.57000	−14.11594
−13.62001	−13.17912	−12.72524	−12.35226	−12.00341	−11.74049	−11.50594	−11.32645
−11.15301	−11.01100	−10.86281	−10.73352	−10.59387	−10.46572	−10.32367	−10.18867
−17.70596	−17.08057	−16.50795	−15.96754	−15.33902	−14.76813	−14.15923	−13.62039
−13.05982	−12.58818	−12.11289	−11.72612	−11.36237	−11.08838	−10.84242	−10.65780
−10.48157	−10.33691	−10.18812	−10.05754	−9.91849	−9.79306	−9.65408	−9.52336
−12.84437	−12.86319	−12.87863	−12.88790	−12.89205	−12.88641	−12.83587	−12.70835
−12.45430	−12.11346	−11.68788	−11.30708	−10.93390	−10.64893	−10.39455	−10.20279
−10.02267	−9.87613	−9.72524	−9.59464	−9.45591	−9.33010	−9.19141	−9.06209
−15.01422	−14.97716	−14.88462	−14.69804	−14.36843	−13.96622	−13.45800	−12.98069
−12.46262	−11.99794	−11.51096	−11.10053	−10.70572	−10.40278	−10.13382	−9.93301
−9.74834	−9.59636	−9.44374	−9.31233	−9.17120	−9.04518	−8.90497	−8.77584
−12.16638	−12.17037	−12.17660	−12.18601	−12.20081	−12.21582	−12.21069	−12.15601
−11.99902	−11.73437	−11.35140	−10.97553	−10.58073	−10.26773	−9.98763	−9.77712
−9.58452	−9.43004	−9.27456	−9.14065	−8.99647	−8.87070	−8.73022	−8.59843
−11.09077	−11.08889	−11.08584	−11.08089	−11.07259	−11.06260	−11.05195	−11.04517
−11.03357	−11.00438	−10.90424	−10.72345	−10.44868	−10.17946	−9.91012	−9.70326
−9.50953	−9.35362	−9.19754	−9.06252	−8.91870	−8.78986	−8.64793	−8.51532
−10.19380	−10.19419	−10.19483	−10.19587	−10.19759	−10.19960	−10.20143	−10.20171
−10.19917	−10.19273	−10.17607	−10.14286	−10.05503	−9.92363	−9.74892	−9.58702
−9.42161	−9.28175	−9.13669	−9.00789	−8.87042	−8.74443	−8.60362	−8.47109
−9.71673	−9.71676	−9.71677	−9.71671	−9.71677	−9.71714	−9.71712	−9.71584
−9.71458	−9.71495	−9.70993	−9.69867	−9.67088	−9.61799	−9.52879	−9.42751
−9.30878	−9.19770	−9.07588	−8.96257	−8.83682	−8.71848	−8.58344	−8.45520
−9.31663	−9.31664	−9.31665	−9.31667	−9.31670	−9.31672	−9.31677	−9.31684
−9.31671	−9.31607	−9.31450	−9.31072	−9.30012	−9.27979	−9.23951	−9.18754
−9.11835	−9.04696	−8.96050	−8.87566	−8.77239	−8.67295	−8.55410	−8.43500
−9.05250	−9.05250	−9.05250	−9.05248	−9.05248	−9.05253	−9.05251	−9.05230
−9.05204	−9.05199	−9.05170	−9.05010	−9.04568	−9.03666	−9.01811	−8.98901
−8.95063	−8.90586	−8.84989	−8.78835	−8.71219	−8.63249	−8.53231	−8.42822
−8.87200	−8.87199	−8.87199	−8.87200	−8.87199	−8.87197	−8.87197	−8.87204
−8.87208	−8.87198	−8.87219	−8.87148	−8.86968	−8.86409	−8.85360	−8.83830
−8.81462	−8.78585	−8.74934	−8.70666	−8.65087	−8.58864	−8.50754	−8.42040
−9.23899	−9.23900	−9.23900	−9.23899	−9.23899	−9.23902	−9.23902	−9.23890
−9.23892	−9.23924	−9.23859	−9.23679	−9.23505	−9.22652	−9.20780	−9.17768
−9.12834	−9.07356	−9.00471	−8.93537	−8.85096	−8.76367	−8.66030	−8.55342
−10.22411	−10.22410	−10.22411	−10.22412	−10.22412	−10.22406	−10.22407	−10.22430
−10.22425	−10.22315	−10.22014	−10.21308	−10.19018	−10.14028	−10.03800	−9.90474
−9.74260	−9.59527	−9.44200	−9.30711	−9.16172	−9.03058	−8.88190	−8.74134
−9.03024	−9.03024	−9.03024	−9.03023	−9.03023	−9.03025	−9.03025	−9.03019
−9.03021	−9.03035	−9.03004	−9.02999	−9.03007	−9.02993	−9.02762	−9.02107
−9.00568	−8.98362	−8.95116	−8.91234	−8.85823	−8.79974	−8.72036	−8.63577
−7.17575	−7.17576	−7.17576	−7.17571	−7.17572	−7.17591	−7.17586	−7.17515
−7.17533	−7.17816	−7.18191	−7.19533	−7.23562	−7.32073	−7.48815	−7.69251
−7.91512	−8.08889	−8.23965	−8.34300	−8.42125	−8.46287	−8.48199	−8.47438
−5.46321	−5.46324	−5.46323	−5.46314	−5.46316	−5.46352	−5.46343	−5.46209
−5.46244	−5.46776	−5.47527	−5.50117	−5.57875	−5.74289	−6.06767	−6.46755
−6.91080	−7.26611	−7.58673	−7.82188	−8.02283	−8.15728	−8.26771	−8.33147
−3.48871	−3.48875	−3.48874	−3.48859	−3.48863	−3.48917	−3.48904	−3.48699
−3.48752	−3.49572	−3.50758	−3.54792	−3.66859	−3.92409	−4.43076	−5.05667
−5.75497	−6.32014	−6.83711	−7.22462	−7.56741	−7.80916	−8.02515	−8.17141
−1.68344	−1.68349	−1.68348	−1.68328	−1.68333	−1.68405	−1.68387	−1.68117
−1.68187	−1.69270	−1.70856	−1.76210	−1.92224	−2.26142	−2.93469	−3.76759
−4.69949	−5.45685	−6.15366	−6.68070	−7.15340	−7.49342	−7.80608	−8.02790
0.20239	0.20233	0.20234	0.20258	0.20252	0.20162	0.20185	0.20523
0.20436	0.19076	0.17074	0.10337	−0.09804	−0.52472	−1.37219	−2.42157
−3.59773	−4.55609	−5.44094	−6.11391	−6.72245	−7.16524	−7.57899	−7.87982

——————/ IPRT = 1/ IGRD = 1/———/ Z1 = 3/ DATE = 03/02/06

−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000

Table 6 (*continued*)

−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−71.52177	−71.52177	−71.52177	−71.52177	−71.52177	−71.52177	−71.52177	−71.52177
−71.52177	−71.52178	−71.52179	−71.52179	−71.52179	−71.52180	−71.52182	−71.52184
−71.52188	−71.52192	−71.52206	−71.52225	−71.52354	−71.52574	−71.53330	−71.52948
−72.21192	−72.21192	−72.21192	−72.21192	−72.21192	−72.21192	−72.21192	−72.21192
−72.21189	−72.21187	−72.21185	−72.21185	−72.21185	−72.21179	−72.21171	−72.21165
−72.21151	−72.21134	−72.21083	−72.20998	−72.20573	−72.19522	−72.17595	−72.15774
−65.31164	−65.31164	−65.31164	−65.31164	−65.31164	−65.31164	−65.31165	−65.31163
−65.31158	−65.31152	−65.31147	−65.31147	−65.31147	−65.31134	−65.31115	−65.31099
−65.31066	−65.31024	−65.30904	−65.30697	−65.29697	−65.27139	−65.22737	−65.17688
−42.54169	−42.54169	−42.54169	−42.54169	−42.54169	−42.54170	−42.54170	−42.54168
−42.54150	−42.54098	−42.54006	−42.53934	−42.53862	−42.53739	−42.53522	−42.53247
−42.52821	−42.52160	−42.50516	−42.46917	−42.33647	−42.03639	−41.49997	−40.88490
−32.09380	−32.09380	−32.09379	−32.09380	−32.09380	−32.09379	−32.09377	−32.09383
−32.09397	−32.09397	−32.09367	−32.09304	−32.09301	−32.09184	−32.08903	−32.08771
−32.08350	−32.07767	−32.06214	−32.02495	−31.91510	−31.70712	−31.33145	−30.90474
−24.57193	−24.57193	−24.57193	−24.57193	−24.57192	−24.57193	−24.57193	−24.57192
−24.57190	−24.57189	−24.57186	−24.57171	−24.57175	−24.57040	−24.56810	−24.56705
−24.56346	−24.55810	−24.54416	−24.51505	−24.41833	−24.22497	−23.88155	−23.48585
−19.15195	−19.15195	−19.15195	−19.15195	−19.15195	−19.15195	−19.15196	−19.15195
−19.15193	−19.15198	−19.15198	−19.15152	−19.15091	−19.15070	−19.15003	−19.14898
−19.14725	−19.14444	−19.13773	−19.12145	−19.06710	−18.94885	−18.71570	−18.42178
−15.50280	−15.50280	−15.50280	−15.50280	−15.50280	−15.50281	−15.50281	−15.50280
−15.50278	−15.50283	−15.50296	−15.50308	−15.50277	−15.50234	−15.50209	−15.50151
−15.50060	−15.49869	−15.49508	−15.48604	−15.45624	−15.38921	−15.24474	−15.04020
−13.01769	−13.01769	−13.01768	−13.01769	−13.01770	−13.01767	−13.01763	−13.01774
−13.01790	−13.01748	−13.01636	−13.01576	−13.01581	−13.01561	−13.01562	−13.01518
−13.01278	−13.01118	−13.00842	−13.00217	−12.98413	−12.94229	−12.85019	−12.71752
−11.57771	−11.57771	−11.57771	−11.57771	−11.57771	−11.57771	−11.57770	−11.57772
−11.57774	−11.57769	−11.57760	−11.57774	−11.57766	−11.57724	−11.57629	−11.57493
−11.57472	−11.57346	−11.56974	−11.56411	−11.55121	−11.52304	−11.46360	−11.37576
−10.55517	−10.55517	−10.55517	−10.55517	−10.55516	−10.55517	−10.55517	−10.55516
−10.55513	−10.55520	−10.55528	−10.55503	−10.55467	−10.55487	−10.55404	−10.55212
−10.55168	−10.55063	−10.54687	−10.54276	−10.53364	−10.51520	−10.47885	−10.42456
−9.92663	−9.92663	−9.92663	−9.92663	−9.92663	−9.92664	−9.92664	−9.92662
−9.92660	−9.92667	−9.92676	−9.92652	−9.92656	−9.92575	−9.92356	−9.92396
−9.92245	−9.92062	−9.91883	−9.91431	−9.90896	−9.89562	−9.87060	−9.83648
−9.56887	−9.56887	−9.56887	−9.56887	−9.56887	−9.56887	−9.56887	−9.56887
−9.56887	−9.56888	−9.56889	−9.56886	−9.56914	−9.56842	−9.56679	−9.56711
−9.56568	−9.56443	−9.56285	−9.55933	−9.55464	−9.54435	−9.52700	−9.50302
−9.20552	−9.20552	−9.20552	−9.20552	−9.20553	−9.20553	−9.20553	−9.20553
−9.20553	−9.20553	−9.20554	−9.20553	−9.20556	−9.20528	−9.20437	−9.20364
−9.20296	−9.20190	−9.20039	−9.19877	−9.19486	−9.18891	−9.17857	−9.16466
−9.00599	−9.00599	−9.00600	−9.00598	−9.00593	−9.00590	−9.00589	−9.00591
−9.00591	−9.00590	−9.00588	−9.00592	−9.00578	−9.00534	−9.00504	−9.00476
−9.00435	−9.00402	−9.00259	−9.00060	−8.99867	−8.99474	−8.98782	−8.97812
−8.88103	−8.88103	−8.88101	−8.88105	−8.88118	−8.88127	−8.88127	−8.88125
−8.88125	−8.88125	−8.88126	−8.88125	−8.88126	−8.88131	−8.88128	−8.88137
−8.88092	−8.88041	−8.87983	−8.87766	−8.87613	−8.87283	−8.86919	−8.86297
−8.81657	−8.81659	−8.81674	−8.81638	−8.81527	−8.81454	−8.81452	−8.81470
−8.81470	−8.81466	−8.81466	−8.81467	−8.81467	−8.81465	−8.81471	−8.81495
−8.81455	−8.81272	−8.81146	−8.81171	−8.80958	−8.80674	−8.80353	−8.79930
−8.78944	−8.78945	−8.78950	−8.78937	−8.78894	−8.78865	−8.78865	−8.78872
−8.78872	−8.78870	−8.78869	−8.78871	−8.78866	−8.78882	−8.78805	−8.78644
−8.78686	−8.78668	−8.78618	−8.78560	−8.78394	−8.78323	−8.77912	−8.77391
−8.79176	−8.79176	−8.79177	−8.79176	−8.79171	−8.79168	−8.79168	−8.79169
−8.79169	−8.79168	−8.79167	−8.79170	−8.79164	−8.79182	−8.79091	−8.78905
−8.78937	−8.78924	−8.78936	−8.78836	−8.78645	−8.78585	−8.78317	−8.78049
−8.80378	−8.80378	−8.80378	−8.80379	−8.80382	−8.80384	−8.80384	−8.80384
−8.80384	−8.80384	−8.80384	−8.80384	−8.80385	−8.80381	−8.80402	−8.80449
−8.80431	−8.80463	−8.80325	−8.80112	−8.80065	−8.79824	−8.79853	−8.79457
−8.82329	−8.82328	−8.82325	−8.82333	−8.82359	−8.82376	−8.82376	−8.82372
−8.82371	−8.82374	−8.82375	−8.82371	−8.82382	−8.82348	−8.82515	−8.82865
−8.82778	−8.82870	−8.82553	−8.82178	−8.82309	−8.81846	−8.82243	−8.81612
−8.84462	−8.84462	−8.84455	−8.84470	−8.84517	−8.84548	−8.84548	−8.84540
−8.84539	−8.84544	−8.84547	−8.84538	−8.84558	−8.84498	−8.84798	−8.85425

(*continued on next page*)

Table 6 (*continued*)

−8.85275	−8.85422	−8.84940	−8.84418	−8.84713	−8.84046	−8.84779	−8.83932
−8.86918	−8.86916	−8.86907	−8.86929	−8.86997	−8.87042	−8.87043	−8.87032
−8.87030	−8.87036	−8.87041	−8.87029	−8.87058	−8.86969	−8.87409	−8.88327
−8.88110	−8.88315	−8.87661	−8.86983	−8.87450	−8.86570	−8.87655	−8.86583

——————/ IPRT = 1/ IGRD = 2/———/ Z1 = 3/ DATE = 03/02/06

−71.42738	−71.42692	−71.38454	−71.21318	−70.79570	−70.17419	−69.31423	−68.61447
−68.09224	−67.75066	−67.43895	−67.19370	−66.94740	−66.72748	−66.47971	−66.23153
−65.92618	−65.60347	−65.19166	−64.74603	−64.20821	−63.70320	−63.21655	−62.97421
−56.99570	−56.99533	−56.96964	−56.87064	−56.62684	−56.24882	−55.69921	−55.21036
−54.78240	−54.46576	−54.17024	−53.93590	−53.70238	−53.49742	−53.27038	−53.04887
−52.78091	−52.50166	−52.14690	−51.76661	−51.29818	−50.84387	−50.38080	−50.08615
−39.12382	−39.12359	−39.11800	−39.10517	−39.06863	−38.98392	−38.81224	−38.58550
−38.28299	−38.00539	−37.73449	−37.51568	−37.29936	−37.11371	−36.91292	−36.72453
−36.50327	−36.27805	−35.99473	−35.69584	−35.31430	−34.92397	−34.48992	−34.12829
−30.25280	−30.25274	−30.25203	−30.25230	−30.25108	−30.23898	−30.19565	−30.10329
−29.93604	−29.74852	−29.53204	−29.34116	−29.14728	−28.97926	−28.79746	−28.62751
−28.43318	−28.23693	−27.99592	−27.74180	−27.41199	−27.06393	−26.64282	−26.22989
−21.21969	−21.21969	−21.21976	−21.21976	−21.21932	−21.21785	−21.21141	−21.19360
−21.15245	−21.08837	−20.98849	−20.88050	−20.75315	−20.63077	−20.49192	−20.36058
−20.20470	−20.04853	−19.85634	−19.65227	−19.38275	−19.08526	−18.68203	−18.23270
−16.14422	−16.14421	−16.14398	−16.14376	−16.14356	−16.14310	−16.14116	−16.13598
−16.12268	−16.09806	−16.05428	−16.00126	−15.93033	−15.85467	−15.76331	−15.66997
−15.55285	−15.43349	−15.28024	−15.10782	−14.86790	−14.59363	−14.22031	−13.80307
−13.61998	−13.61996	−13.61974	−13.61970	−13.61994	−13.61974	−13.61838	−13.61568
−13.60900	−13.59525	−13.56907	−13.53623	−13.49059	−13.43856	−13.37196	−13.30211
−13.21103	−13.11463	−12.98485	−12.83070	−12.60347	−12.33878	−11.99381	−11.61896
−11.93818	−11.93818	−11.93819	−11.93824	−11.93829	−11.93810	−11.93730	−11.93564
−11.93150	−11.92310	−11.90662	−11.88405	−11.85097	−11.81404	−11.76507	−11.71103
−11.63999	−11.56114	−11.45148	−11.31131	−11.09363	−10.83825	−10.51987	−10.18912
−10.68541	−10.68541	−10.68542	−10.68539	−10.68536	−10.68546	−10.68556	−10.68500
−10.68261	−10.67739	−10.66725	−10.65370	−10.63285	−10.60754	−10.57401	−10.53637
−10.48356	−10.42217	−10.33202	−10.21050	−10.00803	−9.76395	−9.47059	−9.18085
−9.83516	−9.83516	−9.83516	−9.83515	−9.83514	−9.83518	−9.83524	−9.83510
−9.83415	−9.83161	−9.82580	−9.81654	−9.80196	−9.78598	−9.76352	−9.73572
−9.69739	−9.65104	−9.57787	−9.47339	−9.28824	−9.05675	−8.78266	−8.52483
−9.21027	−9.21027	−9.21027	−9.21028	−9.21028	−9.21027	−9.21025	−9.21030
−9.20997	−9.20808	−9.20374	−9.19864	−9.19081	−9.17980	−9.16422	−9.14639
−9.12046	−9.08664	−9.03098	−8.94452	−8.78119	−8.56863	−8.31269	−8.08481
−8.84485	−8.84484	−8.84483	−8.84486	−8.84490	−8.84479	−8.84463	−8.84505
−8.84579	−8.84482	−8.84127	−8.83754	−8.83287	−8.82530	−8.81357	−8.80011
−8.77996	−8.75465	−8.71007	−8.63678	−8.48905	−8.29029	−8.05098	−7.84161
−8.62267	−8.62267	−8.62267	−8.62267	−8.62266	−8.62268	−8.62270	−8.62263
−8.62232	−8.62168	−8.62021	−8.61744	−8.61299	−8.60730	−8.59783	−8.58674
−8.57041	−8.54883	−8.50974	−8.44325	−8.30508	−8.11332	−7.88075	−7.68491
−8.43181	−8.43181	−8.43182	−8.43180	−8.43179	−8.43183	−8.43190	−8.43172
−8.43109	−8.43026	−8.42910	−8.42759	−8.42456	−8.42027	−8.41413	−8.40625
−8.39417	−8.37694	−8.34595	−8.29109	−8.17162	−7.99724	−7.77841	−7.59340
−8.31974	−8.31974	−8.31975	−8.31973	−8.31971	−8.31976	−8.31984	−8.31964
−8.31913	−8.31884	−8.31854	−8.31702	−8.31415	−8.31114	−8.30616	−8.30007
−8.28994	−8.27588	−8.25022	−8.20292	−8.09840	−7.93816	−7.72861	−7.55275
−8.24974	−8.24974	−8.24974	−8.24973	−8.24972	−8.24976	−8.24981	−8.24966
−8.24922	−8.24887	−8.24857	−8.24788	−8.24575	−8.24287	−8.23927	−8.23390
−8.22574	−8.21436	−8.19208	−8.15150	−8.05757	−7.90821	−7.70686	−7.53673
−8.21926	−8.21926	−8.21926	−8.21926	−8.21925	−8.21928	−8.21932	−8.21920
−8.21889	−8.21868	−8.21849	−8.21771	−8.21614	−8.21400	−8.21056	−8.20637
−8.19896	−8.18908	−8.17022	−8.13473	−8.05132	−7.91313	−7.71684	−7.55020
−8.20875	−8.20875	−8.20875	−8.20875	−8.20876	−8.20875	−8.20873	−8.20877
−8.20885	−8.20873	−8.20834	−8.20793	−8.20679	−8.20452	−8.20159	−8.19817
−8.19224	−8.18355	−8.16721	−8.13629	−8.06325	−7.93590	−7.74707	−7.58382
−8.23601	−8.23601	−8.23601	−8.23601	−8.23601	−8.23601	−8.23601	−8.23601
−8.23601	−8.23599	−8.23588	−8.23552	−8.23441	−8.23260	−8.22972	−8.22618
−8.22105	−8.21313	−8.19826	−8.17056	−8.10350	−7.98432	−7.80149	−7.63567
−8.30833	−8.30833	−8.30833	−8.30833	−8.30832	−8.30833	−8.30835	−8.30831
−8.30825	−8.30841	−8.30870	−8.30834	−8.30696	−8.30537	−8.30266	−8.29911

Table 6 (*continued*)

−8.29448	−8.28646	−8.27176	−8.24517	−8.18033	−8.06333	−7.87638	−7.70598
−8.40615	−8.40615	−8.40615	−8.40615	−8.40616	−8.40614	−8.40611	−8.40619
−8.40632	−8.40599	−8.40523	−8.40519	−8.40469	−8.40246	−8.39981	−8.39648
−8.39105	−8.38317	−8.36808	−8.34096	−8.27752	−8.16110	−7.97075	−7.79216
−8.84886	−8.84886	−8.84886	−8.84886	−8.84886	−8.84887	−8.84887	−8.84886
−8.84885	−8.84888	−8.84903	−8.84927	−8.84858	−8.84521	−8.83801	−8.83046
−8.81999	−8.80347	−8.77312	−8.72209	−8.61323	−8.43213	−8.17072	−7.94491
−9.43181	−9.43181	−9.43182	−9.43180	−9.43179	−9.43183	−9.43190	−9.43173
−9.43148	−9.43213	−9.43376	−9.43430	−9.43309	−9.42831	−9.41500	−9.40165
−9.38458	−9.35628	−9.30526	−9.22186	−9.05093	−8.78167	−8.42395	−8.13576
−9.96570	−9.96571	−9.96571	−9.96569	−9.96566	−9.96575	−9.96587	−9.96555
−9.96509	−9.96630	−9.96930	−9.97011	−9.96842	−9.96234	−9.94343	−9.92479
−9.90166	−9.86258	−9.79262	−9.67958	−9.45181	−9.10179	−8.65588	−8.31056
−10.52401	−10.52401	−10.52402	−10.52399	−10.52395	−10.52407	−10.52425	−10.52377
−10.52310	−10.52490	−10.52932	−10.53042	−10.52822	−10.52079	−10.49602	−10.47184
−10.44238	−10.39202	−10.30227	−10.15823	−9.87102	−9.43655	−8.89841	−8.49334

——————/ IPRT = 1/ IGRD = 1/———/ Z1 = 4/ DATE = 03/02/06

−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−71.80851	−71.80851	−71.80851	−71.80851	−71.80851	−71.80851	−71.80851	−71.80851
−71.80851	−71.80850	−71.80850	−71.80849	−71.80848	−71.80846	−71.80845	−71.80843
−71.80841	−71.80839	−71.80837	−71.80834	−71.80832	−71.80830	−71.80828	−71.80826
−71.52614	−71.52614	−71.52614	−71.52614	−71.52614	−71.52614	−71.52615	−71.52615
−71.52617	−71.52622	−71.52634	−71.52656	−71.52692	−71.52733	−71.52789	−71.52830
−71.52881	−71.52943	−71.53016	−71.53076	−71.53144	−71.53205	−71.53265	−71.53316
−51.86163	−51.86163	−51.86163	−51.86163	−51.86163	−51.86163	−51.86162	−51.86161
−51.86157	−51.86148	−51.86125	−51.86084	−51.86017	−51.85941	−51.85837	−51.85760
−51.85664	−51.85549	−51.85412	−51.85300	−51.85174	−51.85060	−51.84947	−51.84852
−40.03964	−40.03964	−40.03964	−40.03964	−40.03964	−40.03963	−40.03957	−40.03944
−40.03893	−40.03765	−40.03450	−40.02906	−40.01996	−40.00921	−39.99626	−39.98007
−39.96256	−39.94764	−39.92983	−39.90955	−39.88397	−39.85672	−39.82003	−39.77963
−31.59592	−31.59592	−31.59592	−31.59593	−31.59594	−31.59585	−31.59541	−31.59436
−31.59055	−31.58158	−31.55886	−31.51798	−31.44869	−31.36671	−31.26359	−31.16197
−31.04404	−30.92930	−30.79431	−30.66308	−30.50739	−30.35324	−30.16695	−29.97895
−23.93666	−23.93666	−23.93666	−23.93667	−23.93668	−23.93661	−23.93629	−23.93558
−23.93316	−23.92749	−23.91208	−23.88257	−23.82980	−23.76398	−23.68288	−23.60195
−23.50343	−23.41039	−23.30149	−23.19614	−23.07379	−22.95357	−22.81308	−22.67560
−18.41627	−18.41627	−18.41627	−18.41627	−18.41628	−18.41624	−18.41631	−18.41671
−18.41708	−18.41638	−18.41369	−18.40904	−18.40032	−18.38747	−18.36724	−18.34244
−18.30815	−18.27089	−18.22027	−18.16477	−18.09320	−18.01714	−17.92347	−17.82829
−15.09443	−15.09443	−15.09443	−15.09446	−15.09451	−15.09421	−15.09362	−15.09339
−15.09342	−15.09308	−15.09114	−15.08663	−15.07747	−15.06452	−15.04499	−15.02272
−14.99336	−14.96050	−14.91728	−14.87044	−14.81032	−14.74690	−14.66969	−14.59154
−13.14116	−13.14116	−13.14116	−13.14116	−13.14116	−13.14116	−13.14119	−13.14123
−13.14124	−13.14108	−13.14008	−13.13748	−13.13192	−13.12374	−13.11044	−13.09485
−13.07378	−13.05025	−13.01810	−12.98270	−12.93491	−12.88426	−12.82450	−12.76370
−11.70357	−11.70357	−11.70357	−11.70358	−11.70360	−11.70350	−11.70343	−11.70374
−11.70388	−11.70260	−11.70027	−11.69925	−11.69816	−11.69371	−11.68543	−11.67666
−11.66647	−11.65181	−11.63069	−11.60920	−11.58054	−11.54763	−11.50447	−11.46196
−10.85578	−10.85578	−10.85578	−10.85579	−10.85580	−10.85574	−10.85572	−10.85594
−10.85604	−10.85514	−10.85333	−10.85198	−10.85045	−10.84760	−10.84458	−10.83996
−10.83171	−10.82119	−10.80725	−10.79230	−10.77051	−10.74639	−10.71707	−10.68649
−10.39042	−10.39042	−10.39042	−10.39042	−10.39042	−10.39043	−10.39043	−10.39041
−10.39040	−10.39048	−10.39059	−10.39051	−10.38945	−10.38657	−10.38290	−10.37934
−10.37270	−10.36551	−10.35561	−10.34341	−10.32728	−10.30852	−10.28357	−10.25863
−9.91692	−9.91692	−9.91692	−9.91692	−9.91691	−9.91693	−9.91693	−9.91688
−9.91684	−9.91697	−9.91698	−9.91628	−9.91501	−9.91426	−9.91232	−9.90912

(*continued on next page*)

Table 6 (*continued*)

−9.90607	−9.90151	−9.89380	−9.88558	−9.87508	−9.86155	−9.84279	−9.82567
−9.65884	−9.65884	−9.65884	−9.65884	−9.65883	−9.65885	−9.65885	−9.65881
−9.65881	−9.65903	−9.65911	−9.65830	−9.65702	−9.65698	−9.65584	−9.65390
−9.65087	−9.64719	−9.64197	−9.63680	−9.62794	−9.61724	−9.60442	−9.59039
−9.49966	−9.49966	−9.49966	−9.49965	−9.49963	−9.49973	−9.49978	−9.49936
−9.49853	−9.49804	−9.49808	−9.49853	−9.49867	−9.49737	−9.49706	−9.49560
−9.49253	−9.49008	−9.48657	−9.48196	−9.47510	−9.46685	−9.45634	−9.44408
−9.41072	−9.41072	−9.41072	−9.41072	−9.41072	−9.41073	−9.41074	−9.41069
−9.41064	−9.41073	−9.41078	−9.41036	−9.40967	−9.40959	−9.40903	−9.40788
−9.40623	−9.40333	−9.39993	−9.39634	−9.39062	−9.38396	−9.37461	−9.36409
−9.36756	−9.36756	−9.36756	−9.36756	−9.36756	−9.36756	−9.36756	−9.36757
−9.36756	−9.36747	−9.36744	−9.36776	−9.36797	−9.36708	−9.36609	−9.36518
−9.36348	−9.36175	−9.35922	−9.35579	−9.35075	−9.34458	−9.33670	−9.32781
−9.36052	−9.36052	−9.36052	−9.36052	−9.36052	−9.36052	−9.36052	−9.36052
−9.36052	−9.36054	−9.36055	−9.36046	−9.36013	−9.35956	−9.35936	−9.35818
−9.35694	−9.35554	−9.35324	−9.34990	−9.34565	−9.34062	−9.33259	−9.32436
−9.37741	−9.37741	−9.37741	−9.37741	−9.37741	−9.37741	−9.37741	−9.37740
−9.37739	−9.37744	−9.37746	−9.37727	−9.37702	−9.37714	−9.37649	−9.37533
−9.37447	−9.37281	−9.37082	−9.36809	−9.36428	−9.35946	−9.35183	−9.34372
−9.41919	−9.41919	−9.41919	−9.41919	−9.41919	−9.41919	−9.41919	−9.41919
−9.41919	−9.41919	−9.41919	−9.41921	−9.41923	−9.41920	−9.41930	−9.41856
−9.41743	−9.41571	−9.41322	−9.41124	−9.40770	−9.40272	−9.39578	−9.38792
−9.46667	−9.46667	−9.46667	−9.46667	−9.46666	−9.46667	−9.46667	−9.46666
−9.46665	−9.46669	−9.46671	−9.46655	−9.46620	−9.46589	−9.46704	−9.46697
−9.46561	−9.46376	−9.46094	−9.45947	−9.45589	−9.45131	−9.44496	−9.43740
−9.51948	−9.51948	−9.51948	−9.51948	−9.51947	−9.51948	−9.51948	−9.51946
−9.51945	−9.51953	−9.51956	−9.51923	−9.51847	−9.51788	−9.52013	−9.52075
−9.51916	−9.51717	−9.51401	−9.51308	−9.50944	−9.50530	−9.49956	−9.49232

Table 7
Generalised collisional-radiative X coefficient data for all ion stages of Be. See page 265 for Explanation of Tables

4 24	25 1	4	BERYLLIUM		GCR PROJECT		
2 1	2 1	1					
4.00000	4.47712	5.00000	5.47712	6.00000	6.47712	7.00000	7.47712
8.00000	8.47712	9.00000	9.47712	10.00000	10.47712	11.00000	11.47712
12.00000	12.47712	13.00000	13.47712	14.00000	14.47712	15.00000	15.47712
−0.69877	−0.52268	−0.30083	−0.15470	0.07938	0.30123	0.47732	0.65341
0.84530	1.04159	1.25547	1.44736	1.65341	1.84530	2.00020	2.23065
2.43157	2.63367	2.82628	3.02139	3.21690	3.39814	3.60766	3.79954
4.00020							
——————/ IPRT = 2/ JPRT = 1/——/ Z1 = 2/ DATE = 03/02/06							
−21.52395	−21.52588	−21.52925	−21.53424	−21.56471	−21.64172	−21.77538	−21.92253
−22.08483	−22.21247	−22.34156	−22.46041	−22.58912	−22.70083	−22.80889	−22.88740
−22.94307	−22.96005	−22.94143	−22.90627	−22.88628	−22.93517	−23.08420	−23.26497
−10.34759	−10.34758	−10.34624	−10.34174	−10.32817	−10.29958	−10.21467	−10.04852
−9.75800	−9.40516	−8.99065	−8.63392	−8.28247	−7.99867	−7.72225	−7.49160
−7.25603	−7.04973	−6.82481	−6.61219	−6.35649	−6.08569	−5.73601	−5.36862
−12.28768	−12.28780	−12.28730	−12.28536	−12.28194	−12.27659	−12.24844	−12.17658
−12.01783	−11.78111	−11.46722	−11.18298	−10.90337	−10.68133	−10.46713	−10.29200
−10.11215	−9.95306	−9.78277	−9.62236	−9.44002	−9.26278	−9.04988	−8.83575
−12.32893	−12.32884	−12.32827	−12.32692	−12.32441	−12.31997	−12.29894	−12.24608
−12.11724	−11.90624	−11.60626	−11.32083	−11.03599	−10.80846	−10.59241	−10.41677
−10.23816	−10.08331	−9.91697	−9.76442	−9.59344	−9.42989	−9.23812	−9.04721
−12.49556	−12.49553	−12.49568	−12.49535	−12.49398	−12.49083	−12.47836	−12.44803
−12.36243	−12.20339	−11.94054	−11.66296	−11.37313	−11.14145	−10.92307	−10.74547
−10.56959	−10.41848	−10.25896	−10.11550	−9.95843	−9.81017	−9.64158	−9.47899
−12.70509	−12.70499	−12.70505	−12.70426	−12.70280	−12.70144	−12.69577	−12.67937
−12.62450	−12.51197	−12.29579	−12.03961	−11.75225	−11.51757	−11.29447	−11.11599
−10.94139	−10.79245	−10.63670	−10.49709	−10.34712	−10.20934	−10.05602	−9.91007
−12.85851	−12.85862	−12.85863	−12.85846	−12.85784	−12.85643	−12.85189	−12.84106
−12.80339	−12.72141	−12.54425	−12.31205	−12.03134	−11.79415	−11.56709	−11.38654
−11.20926	−11.06033	−10.90408	−10.76800	−10.61972	−10.48662	−10.33888	−10.20108
−13.02105	−13.02082	−13.02058	−13.02067	−13.02059	−13.01950	−13.01625	−13.00943
−12.98427	−12.92597	−12.78475	−12.58110	−12.31400	−12.07635	−11.84464	−11.66301
−11.48359	−11.33284	−11.17718	−11.04153	−10.89484	−10.76284	−10.61925	−10.48705
−13.20441	−13.20446	−13.20446	−13.20429	−13.20386	−13.20322	−13.20160	−13.19768
−13.18081	−13.14004	−13.03656	−12.86423	−12.61676	−12.38252	−12.14933	−11.96285
−11.78269	−11.63160	−11.47448	−11.33801	−11.19171	−11.06127	−10.91914	−10.79007
−13.39972	−13.39977	−13.39974	−13.39947	−13.39889	−13.39814	−13.39698	−13.39484
−13.38423	−13.35670	−13.28174	−13.14420	−12.92228	−12.69503	−12.46073	−12.27196
−12.08832	−11.93471	−11.77831	−11.64064	−11.49451	−11.36442	−11.22412	−11.09602
−13.62027	−13.62024	−13.62025	−13.62038	−13.62037	−13.61988	−13.61897	−13.61772
−13.61133	−13.59375	−13.54143	−13.43753	−13.24781	−13.03375	−12.80101	−12.60913
−12.42384	−12.26928	−12.11038	−11.97324	−11.82640	−11.69475	−11.55435	−11.42699
−13.82793	−13.82795	−13.82795	−13.82785	−13.82786	−13.82821	−13.82827	−13.82686
−13.82113	−13.80841	−13.77222	−13.69259	−13.53285	−13.33486	−13.10654	−12.91484
−12.72653	−12.57016	−12.41040	−12.27134	−12.12549	−11.99310	−11.85231	−11.72385
−14.05806	−14.05806	−14.05806	−14.05808	−14.05807	−14.05800	−14.05776	−14.05711
−14.05363	−14.04468	−14.01971	−13.96182	−13.83028	−13.65574	−13.43552	−13.24274
−13.05257	−12.89345	−12.73243	−12.59381	−12.44531	−12.31373	−12.17155	−12.04307
−14.27947	−14.27945	−14.27945	−14.27952	−14.27950	−14.27922	−14.27875	−14.27830
−14.27630	−14.27066	−14.25234	−14.20878	−14.10505	−13.94753	−13.74023	−13.54943
−13.35731	−13.19871	−13.03847	−12.89565	−12.74798	−12.61528	−12.47264	−12.34337
−14.46282	−14.46281	−14.46281	−14.46283	−14.46283	−14.46276	−14.46274	−14.46275
−14.46095	−14.45540	−14.44183	−14.40724	−14.32149	−14.18305	−13.98618	−13.79766
−13.60555	−13.44543	−13.28260	−13.14137	−12.99404	−12.86073	−12.71657	−12.58647
−14.74226	−14.74228	−14.74227	−14.74223	−14.74224	−14.74241	−14.74237	−14.74160
−14.74019	−14.73830	−14.72906	−14.70487	−14.63958	−14.52560	−14.34725	−14.16527
−13.97474	−13.81302	−13.64975	−13.50854	−13.35821	−13.22434	−13.08106	−12.95036
−14.99303	−14.99305	−14.99305	−14.99294	−14.99297	−14.99335	−14.99326	−14.99167
−14.98997	−14.98998	−14.98272	−14.96402	−14.91397	−14.82233	−14.66021	−14.48564
−14.29538	−14.13444	−13.97072	−13.82807	−13.67869	−13.54423	−13.40076	−13.26937
−15.24972	−15.24972	−15.24972	−15.24972	−15.24972	−15.24969	−15.24970	−15.24977

(*continued on next page*)

Table 7 (*continued*)

−15.24914	−15.24698	−15.24207	−15.22935	−15.19194	−15.11580	−14.97295	−14.80802
−14.62057	−14.45947	−14.29421	−14.15188	−14.00184	−13.86827	−13.72359	−13.59132
−15.49993	−15.49993	−15.49993	−15.49994	−15.49994	−15.49988	−15.49990	−15.50010
−15.49999	−15.49887	−15.49545	−15.48532	−15.45571	−15.39302	−15.26880	−15.11286
−14.93067	−14.76729	−14.60228	−14.45989	−14.30954	−14.17535	−14.03118	−13.89786
−15.75958	−15.75957	−15.75958	−15.75962	−15.75961	−15.75945	−15.75949	−15.76009
−15.75994	−15.75764	−15.75561	−15.74821	−15.72583	−15.67520	−15.56655	−15.42186
−15.24213	−15.08107	−14.91568	−14.77190	−14.62183	−14.48831	−14.34355	−14.21095
−16.05284	−16.05283	−16.05283	−16.05288	−16.05286	−16.05270	−16.05274	−16.05335
−16.05320	−16.05089	−16.04886	−16.04147	−16.01909	−15.96846	−15.85980	−15.71512
−15.53538	−15.37432	−15.20893	−15.06516	−14.91508	−14.78157	−14.63681	−14.50420
−16.32471	−16.32470	−16.32470	−16.32474	−16.32473	−16.32457	−16.32461	−16.32522
−16.32507	−16.32276	−16.32073	−16.31334	−16.29096	−16.24033	−16.13167	−15.98699
−15.80725	−15.64619	−15.48080	−15.33703	−15.18695	−15.05344	−14.90868	−14.77607
−16.63898	−16.63897	−16.63897	−16.63902	−16.63901	−16.63884	−16.63889	−16.63949
−16.63934	−16.63703	−16.63500	−16.62761	−16.60523	−16.55460	−16.44595	−16.30126
−16.12153	−15.96047	−15.79508	−15.65130	−15.50123	−15.36771	−15.22295	−15.09035
−16.92681	−16.92680	−16.92680	−16.92685	−16.92683	−16.92667	−16.92671	−16.92732
−16.92717	−16.92486	−16.92283	−16.91544	−16.89306	−16.84243	−16.73377	−16.58909
−16.40936	−16.24829	−16.08291	−15.93913	−15.78905	−15.65554	−15.51078	−15.37817
−17.22780	−17.22779	−17.22779	−17.22783	−17.22782	−17.22766	−17.22770	−17.22831
−17.22816	−17.22585	−17.22382	−17.21643	−17.19405	−17.14342	−17.03476	−16.89008
−16.71034	−16.54928	−16.38389	−16.24012	−16.09004	−15.95653	−15.81177	−15.67916

——————/ IPRT = 1/ JPRT = 2/——/ Z1 = 2/ DATE = 03/02/06

−72.01225	−72.01225	−72.01225	−72.01225	−72.01225	−72.01225	−72.01225	−72.01225
−72.01225	−72.01225	−72.01225	−72.01225	−72.01225	−72.01225	−72.01225	−72.01225
−72.01225	−72.01225	−72.01225	−72.01224	−72.01228	−72.01216	−72.01262	−72.01097
−71.99715	−71.99715	−71.99715	−71.99715	−71.99715	−71.99715	−71.99715	−71.99715
−71.99715	−71.99715	−71.99715	−71.99715	−71.99715	−71.99715	−71.99715	−71.99715
−71.99715	−71.99715	−71.99715	−71.99714	−71.99718	−71.99706	−71.99752	−71.99586
−72.00015	−72.00015	−72.00015	−72.00015	−72.00015	−72.00015	−72.00015	−72.00015
−72.00015	−72.00015	−72.00015	−72.00015	−72.00015	−72.00015	−72.00015	−72.00015
−72.00015	−72.00015	−72.00015	−72.00014	−72.00018	−72.00006	−72.00052	−71.99887
−72.00002	−72.00002	−72.00002	−72.00002	−72.00002	−72.00002	−72.00002	−72.00002
−72.00002	−72.00002	−72.00002	−72.00002	−72.00002	−72.00002	−72.00002	−72.00002
−72.00002	−72.00002	−72.00002	−72.00001	−72.00004	−71.99993	−72.00039	−71.99873
−71.99997	−71.99997	−71.99997	−71.99997	−71.99997	−71.99997	−71.99997	−71.99997
−71.99997	−71.99997	−71.99997	−71.99997	−71.99997	−71.99997	−71.99997	−71.99997
−71.99997	−71.99997	−71.99997	−71.99996	−72.00000	−71.99988	−72.00034	−71.99869
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00001	−72.00000	−72.00003	−71.99991	−72.00038	−71.99872
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99871
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99872
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99872
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99872
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99872
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99871
−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000

Table 7 (*continued*)

−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000	−72.00000
−72.00000	−72.00000	−72.00000	−71.99999	−72.00003	−71.99991	−72.00037	−71.99871
−71.99999	−71.99999	−71.99999	−71.99999	−71.99999	−71.99999	−71.99999	−71.99999
−71.99999	−71.99999	−71.99999	−71.99999	−71.99999	−71.99999	−71.99999	−71.99999
−71.99999	−71.99999	−72.00000	−71.99999	−72.00002	−71.99990	−72.00036	−71.99871
−72.00001	−72.00001	−72.00001	−72.00001	−72.00001	−72.00001	−72.00001	−72.00001
−72.00001	−72.00001	−72.00001	−72.00001	−72.00001	−72.00001	−72.00001	−72.00001
−72.00001	−72.00001	−72.00001	−72.00001	−72.00004	−71.99992	−72.00038	−71.99873
−72.00044	−72.00044	−72.00044	−72.00044	−72.00044	−72.00044	−72.00044	−72.00044
−72.00044	−72.00044	−72.00044	−72.00044	−72.00044	−72.00044	−72.00044	−72.00044
−72.00044	−72.00044	−72.00044	−72.00043	−72.00047	−72.00035	−72.00081	−71.99916
−71.99696	−71.99696	−71.99696	−71.99696	−71.99696	−71.99696	−71.99696	−71.99696
−71.99696	−71.99696	−71.99696	−71.99696	−71.99696	−71.99696	−71.99696	−71.99696
−71.99696	−71.99696	−71.99696	−71.99695	−71.99698	−71.99687	−71.99733	−71.99567
−72.00355	−72.00355	−72.00355	−72.00355	−72.00355	−72.00355	−72.00355	−72.00355
−72.00355	−72.00355	−72.00355	−72.00355	−72.00355	−72.00355	−72.00355	−72.00355
−72.00355	−72.00355	−72.00355	−72.00354	−72.00358	−72.00346	−72.00392	−72.00226
−72.01000	−72.01000	−72.01000	−72.01000	−72.01000	−72.01000	−72.01000	−72.01000
−72.01000	−72.01000	−72.01000	−72.01000	−72.01000	−72.01000	−72.01000	−72.01000
−72.01000	−72.01000	−72.01000	−72.01000	−72.01003	−72.00991	−72.01037	−72.00872
−72.30326	−72.30326	−72.30326	−72.30326	−72.30326	−72.30326	−72.30326	−72.30326
−72.30326	−72.30326	−72.30326	−72.30326	−72.30326	−72.30326	−72.30326	−72.30326
−72.30326	−72.30326	−72.30326	−72.30325	−72.30329	−72.30317	−72.30363	−72.30197
−72.57513	−72.57513	−72.57513	−72.57513	−72.57513	−72.57513	−72.57513	−72.57513
−72.57513	−72.57513	−72.57513	−72.57513	−72.57513	−72.57513	−72.57513	−72.57513
−72.57513	−72.57513	−72.57513	−72.57512	−72.57515	−72.57504	−72.57550	−72.57384
−72.88940	−72.88940	−72.88940	−72.88940	−72.88940	−72.88940	−72.88940	−72.88940
−72.88940	−72.88940	−72.88940	−72.88940	−72.88940	−72.88940	−72.88940	−72.88940
−72.88940	−72.88940	−72.88940	−72.88939	−72.88943	−72.88931	−72.88977	−72.88812
−73.17723	−73.17723	−73.17723	−73.17723	−73.17723	−73.17723	−73.17723	−73.17723
−73.17723	−73.17723	−73.17723	−73.17723	−73.17723	−73.17723	−73.17723	−73.17723
−73.17723	−73.17723	−73.17723	−73.17722	−73.17726	−73.17714	−73.17760	−73.17594
−73.47822	−73.47822	−73.47822	−73.47822	−73.47822	−73.47822	−73.47822	−73.47822
−73.47822	−73.47822	−73.47822	−73.47822	−73.47822	−73.47822	−73.47822	−73.47822
−73.47822	−73.47822	−73.47822	−73.47821	−73.47824	−73.47813	−73.47859	−73.47693

Table 8
Generalized Q coefficient data for all ion stages of Be. See page 265 for Explanation of Tables

4 24	25 1	4	BERYLLIUM		GCR PROJECT		
2 1	2 1	1					
4.00000	4.47712	5.00000	5.47712	6.00000	6.47712	7.00000	7.47712
8.00000	8.47712	9.00000	9.47712	10.00000	10.47712	11.00000	11.47712
12.00000	12.47712	13.00000	13.47712	14.00000	14.47712	15.00000	15.47712
−0.69877	−0.52268	−0.30083	−0.15470	0.07938	0.30123	0.47732	0.65341
0.84530	1.04159	1.25547	1.44736	1.65341	1.84530	2.00020	2.23065
2.43157	2.63367	2.82628	3.02139	3.21690	3.39814	3.60766	3.79954
4.00020							
——————/ IGRD = 2/ JGRD = 1/——/ Z1 = 1/ DATE = 03/02/06							
−5.33242	−5.80622	−6.29578	−6.69770	−7.03590	−7.21206	−7.29521	−7.32266
−7.33301	−7.33585	−7.33680	−7.33649	−7.33649	−7.33653	−7.33654	−7.33653
−7.33654	−7.33653	−7.33653	−7.33653	−7.33653	−7.33656	−7.33655	−6.85943
−5.33281	−5.80634	−6.29620	−6.69982	−7.04062	−7.21892	−7.30392	−7.33156
−7.34197	−7.34469	−7.34565	−7.34614	−7.34614	−7.34613	−7.34612	−7.34612
−7.34612	−7.34615	−7.34614	−7.34613	−7.34615	−7.34603	−7.34606	−6.86894
−5.33355	−5.80756	−6.29996	−6.70935	−7.05978	−7.24795	−7.33969	−7.36957
−7.38047	−7.38420	−7.38525	−7.38573	−7.38573	−7.38573	−7.38576	−7.38575
−7.38577	−7.38564	−7.38567	−7.38573	−7.38565	−7.38616	−7.38605	−6.90893
−5.33340	−5.80814	−6.30310	−6.71735	−7.07668	−7.27489	−7.37251	−7.40560
−7.41654	−7.42074	−7.42188	−7.42233	−7.42234	−7.42234	−7.42223	−7.42227
−7.42220	−7.42274	−7.42263	−7.42244	−7.42281	−7.42399	−7.42456	−6.94744
−5.33429	−5.80928	−6.30678	−6.72766	−7.09907	−7.31065	−7.41789	−7.45463
−7.46847	−7.47227	−7.47356	−7.47376	−7.47374	−7.47374	−7.47488	−7.47473
−7.47575	−7.47681	−7.47871	−7.48171	−7.48496	−7.48815	−7.49628	−7.01916
−5.33442	−5.80955	−6.30854	−6.73316	−7.11167	−7.33145	−7.44458	−7.48389
−7.49694	−7.50117	−7.50259	−7.50219	−7.50183	−7.50183	−7.50354	−7.50548
−7.50959	−7.51538	−7.52572	−7.53713	−7.54904	−7.56074	−7.58302	−7.10589
−5.33432	−5.81000	−6.31077	−6.73867	−7.12308	−7.35008	−7.46951	−7.51057
−7.52554	−7.52935	−7.53061	−7.52892	−7.52683	−7.52683	−7.53039	−7.53410
−7.54334	−7.55454	−7.57479	−7.59648	−7.61859	−7.63978	−7.67802	−7.20090
−5.33453	−5.81051	−6.31366	−6.74735	−7.14280	−7.38331	−7.51459	−7.55956
−7.57710	−7.58053	−7.58028	−7.57865	−7.57537	−7.57537	−7.58031	−7.58726
−7.60105	−7.61911	−7.64979	−7.68214	−7.71497	−7.74807	−7.79953	−7.32241
−5.33539	−5.81182	−6.31792	−6.75953	−7.17393	−7.44036	−7.59179	−7.64825
−7.66761	−7.67411	−7.67183	−7.66978	−7.66539	−7.66540	−7.67169	−7.68226
−7.69855	−7.72349	−7.76568	−7.80881	−7.85057	−7.89343	−7.95901	−7.48189
−5.33592	−5.81280	−6.32271	−6.77437	−7.21188	−7.51199	−7.69912	−7.77056
−7.79877	−7.80525	−7.80365	−7.80092	−7.79810	−7.79808	−7.80436	−7.81706
−7.83529	−7.86608	−7.91385	−7.96764	−8.01786	−8.06892	−8.14196	−7.66484
−5.33627	−5.81440	−6.32836	−6.78911	−7.25206	−7.59571	−7.83663	−7.93693
−7.98015	−7.98890	−7.99314	−7.98896	−7.98068	−7.98064	−7.98877	−8.00126
−8.02560	−8.05771	−8.11284	−8.17206	−8.22996	−8.28914	−8.36687	−7.88974
−5.33644	−5.81496	−6.33111	−6.79827	−7.28225	−7.66557	−7.96610	−8.10975
−8.17344	−8.19314	−8.19573	−8.19154	−8.18711	−8.18639	−8.19290	−8.20836
−8.23192	−8.26512	−8.32305	−8.38662	−8.45045	−8.51317	−8.59432	−8.11719
−5.33723	−5.81637	−6.33370	−6.80441	−7.30533	−7.72581	−8.09131	−8.29745
−8.40106	−8.43517	−8.44379	−8.44179	−8.43603	−8.43487	−8.44171	−8.45662
−8.48086	−8.51446	−8.57360	−8.64209	−8.70845	−8.77422	−8.86041	−8.38329
−5.33780	−5.81781	−6.33647	−6.80928	−7.31949	−7.76319	−8.18317	−8.45623
−8.61545	−8.67260	−8.68999	−8.69090	−8.68672	−8.68442	−8.69097	−8.70521
−8.72932	−8.76394	−8.82267	−8.89231	−8.96322	−9.03070	−9.11631	−8.63919
−5.33497	−5.81495	−6.33411	−6.80867	−7.32386	−7.77922	−8.23418	−8.56015
−8.77754	−8.86470	−8.89620	−8.90133	−8.89890	−8.89637	−8.90122	−8.91540
−8.93919	−8.97368	−9.03050	−9.10091	−9.17502	−9.24342	−9.32977	−8.85265
−5.33911	−5.81895	−6.33814	−6.81361	−7.33338	−7.80008	−8.28818	−8.67920
−8.98791	−9.14032	−9.20714	−9.22328	−9.22381	−9.22156	−9.22528	−9.23815
−9.26178	−9.29370	−9.34943	−9.41905	−9.49627	−9.56692	−9.65329	−9.17617
−5.36560	−5.84598	−6.36560	−6.84107	−7.36277	−7.83523	−8.33727	−8.76118
−9.14017	−9.35904	−9.46965	−9.50331	−9.50984	−9.50984	−9.51248	−9.52456
−9.54691	−9.57657	−9.63041	−9.69997	−9.78038	−9.84938	−9.93845	−9.46133
−5.66875	−6.14913	−6.66875	−7.14423	−7.66593	−8.13839	−8.64043	−9.06434
−9.44333	−9.66219	−9.77280	−9.80647	−9.81300	−9.81300	−9.81564	−9.82772

Table 8 (*continued*)

−9.85007	−9.87972	−9.93357	−10.00313	−10.08354	−10.15253	−10.24161	−9.76448
−5.95766	−6.43804	−6.95766	−7.43314	−7.95484	−8.42730	−8.92934	−9.35325
−9.73224	−9.95110	−10.06171	−10.09538	−10.10191	−10.10191	−10.10455	−10.11663
−10.13898	−10.16863	−10.22248	−10.29204	−10.37245	−10.44144	−10.53052	−10.05339
−6.25033	−6.73071	−7.25033	−7.72581	−8.24751	−8.71997	−9.22201	−9.64592
−10.02491	−10.24378	−10.35438	−10.38805	−10.39458	−10.39458	−10.39722	−10.40930
−10.43165	−10.46131	−10.51515	−10.58471	−10.66512	−10.73412	−10.82319	−10.34607
−6.54359	−7.02397	−7.54359	−8.01906	−8.54077	−9.01322	−9.51527	−9.93918
−10.31817	−10.53703	−10.64764	−10.68130	−10.68783	−10.68783	−10.69047	−10.70256
−10.72491	−10.75456	−10.80841	−10.87797	−10.95838	−11.02737	−11.11644	−10.63932
−6.81546	−7.29584	−7.81546	−8.29093	−8.81264	−9.28509	−9.78714	−10.21105
−10.59004	−10.80890	−10.91951	−10.95317	−10.95970	−10.95970	−10.96234	−10.97443
−10.99678	−11.02643	−11.08028	−11.14984	−11.23025	−11.29924	−11.38831	−10.91119
−7.12973	−7.61011	−8.12973	−8.60521	−9.12691	−9.59937	−10.10141	−10.52532
−10.90431	−11.12317	−11.23378	−11.26745	−11.27398	−11.27398	−11.27662	−11.28870
−11.31105	−11.34070	−11.39455	−11.46411	−11.54452	−11.61351	−11.70259	−11.22546
−7.41756	−7.89794	−8.41756	−8.89303	−9.41474	−9.88719	−10.38924	−10.81315
−11.19214	−11.41100	−11.52161	−11.55527	−11.56181	−11.56181	−11.56445	−11.57653
−11.59888	−11.62853	−11.68238	−11.75194	−11.83235	−11.90134	−11.99041	−11.51329
−7.71855	−8.19893	−8.71855	−9.19402	−9.71573	−10.18818	−10.69023	−11.11414
−11.49313	−11.71199	−11.82260	−11.85626	−11.86279	−11.86279	−11.86543	−11.87752
−11.89987	−11.92952	−11.98337	−12.05293	−12.13334	−12.20233	−12.29140	−11.81428

——————/ IGRD = 1/ JGRD = 2/———/ Z1 = 1/ DATE = 03/02/06

−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892
−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892
−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−12.30892	−11.83179
−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126
−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126
−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33126	−10.33127	−9.85415
−8.80124	−8.80124	−8.80124	−8.80124	−8.80124	−8.80124	−8.80124	−8.80124
−8.80124	−8.80124	−8.80124	−8.80124	−8.80124	−8.80124	−8.80124	−8.80124
−8.80124	−8.80124	−8.80124	−8.80123	−8.80123	−8.80123	−8.80120	−8.32408
−8.16887	−8.16887	−8.16887	−8.16887	−8.16887	−8.16887	−8.16887	−8.16887
−8.16887	−8.16887	−8.16887	−8.16887	−8.16887	−8.16887	−8.16887	−8.16887
−8.16887	−8.16887	−8.16886	−8.16889	−8.16889	−8.16889	−8.16901	−7.69189
−7.56217	−7.56217	−7.56217	−7.56217	−7.56217	−7.56217	−7.56217	−7.56217
−7.56217	−7.56216	−7.56216	−7.56218	−7.56217	−7.56217	−7.56217	−7.56219
−7.56219	−7.56218	−7.56220	−7.56208	−7.56210	−7.56210	−7.56081	−7.08368
−7.28639	−7.28639	−7.28639	−7.28639	−7.28639	−7.28639	−7.28639	−7.28640
−7.28639	−7.28635	−7.28635	−7.28658	−7.28651	−7.28649	−7.28646	−7.28672
−7.28671	−7.28663	−7.28687	−7.28807	−7.28848	−7.28843	−7.28703	−6.80991
−7.20254	−7.20254	−7.20254	−7.20254	−7.20254	−7.20254	−7.20254	−7.20254
−7.20256	−7.20276	−7.20278	−7.20363	−7.20393	−7.20405	−7.20422	−7.20489
−7.20496	−7.20533	−7.20616	−7.20802	−7.21002	−7.21023	−7.20666	−6.72953
−7.19937	−7.19937	−7.19937	−7.19936	−7.19937	−7.19937	−7.19937	−7.19937
−7.19934	−7.20003	−7.20090	−7.20244	−7.20392	−7.20470	−7.20542	−7.20537
−7.20619	−7.20762	−7.20920	−7.21201	−7.21580	−7.21651	−7.21225	−6.73512
−7.26102	−7.26102	−7.26102	−7.26102	−7.26102	−7.26102	−7.26102	−7.26100
−7.26134	−7.26246	−7.26517	−7.26879	−7.27183	−7.27387	−7.27459	−7.27495
−7.27631	−7.27829	−7.28170	−7.28584	−7.29154	−7.29283	−7.28755	−6.81043
−7.36948	−7.36948	−7.36948	−7.36949	−7.36948	−7.36948	−7.36948	−7.36955
−7.37064	−7.37276	−7.37832	−7.38452	−7.39120	−7.39451	−7.39633	−7.39749
−7.39849	−7.40180	−7.40645	−7.41243	−7.41900	−7.42060	−7.41544	−6.93831
−7.52678	−7.52678	−7.52678	−7.52678	−7.52678	−7.52678	−7.52678	−7.52695
−7.52841	−7.53135	−7.54032	−7.55426	−7.56712	−7.57205	−7.57530	−7.57696
−7.57861	−7.58347	−7.58843	−7.59667	−7.60682	−7.60861	−7.60188	−7.12476
−7.69587	−7.69588	−7.69587	−7.69583	−7.69587	−7.69587	−7.69584	−7.69777
−7.70003	−7.70445	−7.71750	−7.73855	−7.76062	−7.77138	−7.77648	−7.77887
−7.78141	−7.78613	−7.79376	−7.80135	−7.81158	−7.81426	−7.80919	−7.33207
−7.89427	−7.89427	−7.89427	−7.89428	−7.89427	−7.89427	−7.89433	−7.89432
−7.89756	−7.90438	−7.92207	−7.95552	−7.99233	−8.01423	−8.02344	−8.02623
−8.02932	−8.03379	−8.04144	−8.05170	−8.06299	−8.06648	−8.05972	−7.58260
−8.07643	−8.07642	−8.07643	−8.07643	−8.07643	−8.07643	−8.07674	−8.07797
−8.08078	−8.08901	−8.11374	−8.15743	−8.21525	−8.25134	−8.26870	−8.27442

(*continued on next page*)

Table 8 (*continued*)

−8.27816	−8.28270	−8.29144	−8.30166	−8.31391	−8.31834	−8.31216	−7.83504
−8.21844	−8.21845	−8.21844	−8.21843	−8.21844	−8.21844	−8.21841	−8.21948
−8.22277	−8.23239	−8.26036	−8.31384	−8.39255	−8.44660	−8.47471	−8.48396
−8.48865	−8.49348	−8.50192	−8.51316	−8.52555	−8.53137	−8.52494	−8.04781
−8.41760	−8.41761	−8.41760	−8.41759	−8.41760	−8.41760	−8.41757	−8.41873
−8.42332	−8.43274	−8.46465	−8.53193	−8.64265	−8.73330	−8.78550	−8.80436
−8.81273	−8.81851	−8.82731	−8.83640	−8.85180	−8.85498	−8.85174	−8.37462
−8.58275	−8.58272	−8.58275	−8.58287	−8.58275	−8.58275	−8.58431	−8.58431
−8.58902	−8.59860	−8.63215	−8.70407	−8.84083	−8.97145	−9.05430	−9.08585
−9.09842	−9.10511	−9.11348	−9.12418	−9.13737	−9.14469	−9.14017	−8.66305
−8.88591	−8.88588	−8.88591	−8.88602	−8.88591	−8.88591	−8.88747	−8.88747
−8.89218	−8.90176	−8.93531	−9.00723	−9.14399	−9.27461	−9.35746	−9.38901
−9.40158	−9.40827	−9.41664	−9.42734	−9.44053	−9.44785	−9.44333	−8.96621
−9.17482	−9.17478	−9.17482	−9.17493	−9.17482	−9.17482	−9.17638	−9.17638
−9.18109	−9.19067	−9.22422	−9.29614	−9.43290	−9.56352	−9.64637	−9.67792
−9.69049	−9.69718	−9.70555	−9.71625	−9.72944	−9.73676	−9.73224	−9.25512
−9.46749	−9.46746	−9.46749	−9.46761	−9.46749	−9.46749	−9.46905	−9.46905
−9.47376	−9.48334	−9.51689	−9.58881	−9.72557	−9.85619	−9.93904	−9.97059
−9.98316	−9.98985	−9.99822	−10.00892	−10.02211	−10.02943	−10.02491	−9.54779
−9.76074	−9.76071	−9.76074	−9.76086	−9.76074	−9.76074	−9.76230	−9.76230
−9.76702	−9.77660	−9.81015	−9.88207	−10.01883	−10.14944	−10.23230	−10.26384
−10.27642	−10.28310	−10.29148	−10.30217	−10.31537	−10.32269	−10.31817	−9.84105
−10.03261	−10.03258	−10.03261	−10.03273	−10.03261	−10.03261	−10.03417	−10.03417
−10.03889	−10.04847	−10.08202	−10.15394	−10.29070	−10.42131	−10.50417	−10.53571
−10.54829	−10.55497	−10.56335	−10.57404	−10.58724	−10.59456	−10.59004	−10.11292
−10.34689	−10.34686	−10.34689	−10.34700	−10.34689	−10.34689	−10.34845	−10.34845
−10.35316	−10.36274	−10.39629	−10.46821	−10.60497	−10.73559	−10.81844	−10.84999
−10.86256	−10.86925	−10.87762	−10.88832	−10.90151	−10.90883	−10.90431	−10.42719
−10.63471	−10.63468	−10.63471	−10.63483	−10.63471	−10.63471	−10.63627	−10.63627
−10.64099	−10.65057	−10.68412	−10.75604	−10.89280	−11.02341	−11.10627	−11.13782
−11.15039	−11.15708	−11.16545	−11.17614	−11.18934	−11.19666	−11.19214	−10.71502
−10.93570	−10.93567	−10.93570	−10.93582	−10.93570	−10.93570	−10.93726	−10.93726
−10.94198	−10.95156	−10.98511	−11.05703	−11.19379	−11.32440	−11.40726	−11.43880
−11.45138	−11.45806	−11.46644	−11.47713	−11.49033	−11.49765	−11.49313	−11.01601

——————/ IGRD = 2/ JGRD = 1/——/ Z1 = 3/ DATE = 03/02/06

−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609
−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609
−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53609	−8.53612	−8.53603
−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62414
−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62414
−8.62414	−8.62414	−8.62414	−8.62414	−8.62414	−8.62413	−8.62416	−8.62408
−8.73043	−8.73043	−8.73042	−8.73040	−8.73040	−8.73039	−8.73039	−8.73039
−8.73039	−8.73039	−8.73039	−8.73039	−8.73039	−8.73039	−8.73040	−8.73039
−8.73033	−8.73034	−8.73063	−8.73032	−8.72861	−8.72806	−8.72859	−8.72865
−8.77696	−8.77696	−8.77703	−8.77710	−8.77714	−8.77716	−8.77717	−8.77717
−8.77718	−8.77717	−8.77717	−8.77718	−8.77717	−8.77718	−8.77715	−8.77715
−8.77758	−8.77709	−8.77524	−8.77156	−8.76093	−8.75101	−8.74559	−8.74264
−8.69960	−8.69961	−8.69978	−8.69995	−8.70005	−8.70009	−8.70011	−8.70012
−8.70012	−8.70013	−8.70013	−8.70013	−8.70013	−8.70011	−8.70024	−8.69950
−8.69710	−8.69419	−8.68247	−8.65273	−8.59142	−8.52654	−8.48028	−8.46148
−8.53150	−8.53122	−8.52673	−8.52192	−8.51919	−8.51808	−8.51739	−8.51708
−8.51698	−8.51697	−8.51697	−8.51693	−8.51701	−8.51674	−8.51563	−8.51522
−8.51363	−8.50665	−8.48619	−8.43767	−8.33539	−8.22708	−8.14738	−8.11613
−8.33418	−8.33555	−8.35767	−8.38141	−8.39490	−8.40038	−8.40378	−8.40529
−8.40579	−8.40586	−8.40596	−8.40599	−8.40604	−8.40585	−8.40523	−8.40482
−8.40253	−8.39521	−8.37270	−8.31865	−8.20232	−8.07598	−7.97850	−7.93784
−8.49276	−8.48992	−8.44428	−8.39531	−8.36748	−8.35618	−8.34916	−8.34605
−8.34500	−8.34486	−8.34468	−8.34458	−8.34462	−8.34451	−8.34403	−8.34338
−8.34108	−8.33409	−8.31110	−8.25641	−8.13606	−7.99758	−7.88658	−7.83859
−7.20775	−7.22922	−7.57405	−7.94401	−8.15429	−8.23969	−8.29270	−8.31627
−8.32418	−8.32522	−8.32662	−8.32732	−8.32724	−8.32720	−8.32670	−8.32606
−8.32392	−8.31710	−8.29545	−8.24197	−8.12106	−7.97481	−7.84953	−7.79401
−8.18358	−8.18690	−8.24020	−8.29739	−8.32990	−8.34311	−8.35131	−8.35495
−8.35618	−8.35634	−8.35656	−8.35667	−8.35665	−8.35665	−8.35678	−8.35618

Table 8 (*continued*)

−8.35389	−8.34805	−8.32718	−8.27714	−8.15879	−8.00903	−7.87421	−7.80966
−8.38576	−8.38676	−8.40284	−8.42013	−8.43002	−8.43408	−8.43660	−8.43773
−8.43813	−8.43820	−8.43828	−8.43831	−8.43832	−8.43829	−8.43848	−8.43808
−8.43523	−8.42991	−8.41182	−8.36531	−8.25269	−8.10311	−7.96037	−7.88997
−8.56764	−8.56728	−8.56146	−8.55503	−8.55100	−8.54913	−8.54794	−8.54738
−8.54710	−8.54697	−8.54686	−8.54683	−8.54681	−8.54687	−8.54656	−8.54575
−8.54441	−8.53949	−8.52342	−8.48126	−8.37493	−8.22910	−8.08334	−8.01304
−8.67931	−8.67951	−8.68274	−8.68620	−8.68821	−8.68923	−8.69018	−8.69083
−8.69126	−8.69151	−8.69173	−8.69183	−8.69180	−8.69191	−8.69139	−8.69074
−8.68971	−8.68463	−8.67123	−8.63389	−8.53831	−8.39980	−8.25443	−8.18390
−8.90902	−8.90821	−8.89487	−8.87933	−8.86786	−8.86065	−8.85437	−8.85016
−8.84711	−8.84512	−8.84347	−8.84284	−8.84287	−8.84286	−8.84285	−8.84319
−8.84211	−8.83780	−8.82738	−8.79698	−8.71187	−8.58164	−8.43994	−8.36980
−9.00497	−9.00457	−8.99805	−8.99030	−8.98433	−8.98048	−8.97720	−8.97513
−8.97374	−8.97275	−8.97181	−8.97171	−8.97207	−8.97201	−8.97201	−8.97192
−8.97108	−8.96818	−8.95898	−8.93234	−8.85624	−8.73636	−8.59956	−8.53093
−9.17102	−9.17097	−9.17030	−9.16973	−9.16964	−9.16961	−9.16939	−9.16934
−9.16958	−9.16979	−9.16981	−9.16972	−9.16966	−9.16969	−9.16967	−9.16967
−9.16957	−9.16788	−9.16103	−9.14164	−9.08459	−8.98351	−8.85493	−8.78851
−9.33755	−9.33767	−9.33952	−9.34145	−9.34251	−9.34312	−9.34387	−9.34444
−9.34487	−9.34541	−9.34618	−9.34654	−9.34654	−9.34642	−9.34639	−9.34684
−9.34663	−9.34597	−9.34149	−9.32753	−9.28624	−9.20466	−9.09225	−9.03041
−9.49337	−9.49367	−9.49853	−9.50389	−9.50729	−9.50919	−9.51095	−9.51220
−9.51313	−9.51377	−9.51433	−9.51454	−9.51450	−9.51468	−9.51560	−9.51621
−9.51600	−9.51604	−9.51391	−9.50559	−9.47921	−9.42211	−9.33129	−9.27715
−9.67828	−9.67815	−9.67576	−9.67206	−9.66763	−9.66387	−9.66065	−9.65899
−9.65852	−9.65851	−9.65840	−9.65844	−9.65820	−9.65825	−9.65881	−9.65908
−9.66038	−9.66021	−9.65961	−9.65620	−9.64303	−9.60742	−9.54194	−9.49952
−9.78983	−9.78979	−9.78891	−9.78738	−9.78532	−9.78363	−9.78233	−9.78157
−9.78112	−9.78109	−9.78125	−9.78091	−9.78196	−9.78397	−9.78346	−9.78389
−9.78426	−9.78490	−9.78651	−9.78612	−9.78284	−9.76695	−9.72740	−9.69836
−9.89196	−9.89185	−9.89020	−9.88874	−9.88851	−9.88880	−9.88900	−9.88905
−9.88902	−9.88897	−9.88896	−9.88901	−9.88888	−9.88864	−9.88859	−9.88885
−9.88906	−9.88999	−9.89238	−9.89341	−9.89772	−9.89612	−9.87999	−9.86782
−10.00943	−10.00959	−10.01198	−10.01367	−10.01338	−10.01377	−10.01610	−10.01777
−10.01779	−10.01739	−10.01739	−10.01749	−10.01744	−10.01754	−10.01713	−10.01851
−10.02210	−10.02127	−10.02261	−10.02698	−10.03100	−10.03597	−10.03547	−10.03087
−10.32370	−10.32386	−10.32625	−10.32794	−10.32765	−10.32804	−10.33038	−10.33204
−10.33207	−10.33166	−10.33166	−10.33176	−10.33172	−10.33181	−10.33140	−10.33278
−10.33637	−10.33554	−10.33688	−10.34125	−10.34528	−10.35024	−10.34974	−10.34514
−10.61153	−10.61169	−10.61408	−10.61577	−10.61548	−10.61587	−10.61820	−10.61987
−10.61989	−10.61949	−10.61949	−10.61959	−10.61954	−10.61964	−10.61923	−10.62061
−10.62420	−10.62337	−10.62471	−10.62908	−10.63310	−10.63807	−10.63757	−10.63297
−10.91252	−10.91268	−10.91507	−10.91676	−10.91647	−10.91686	−10.91919	−10.92086
−10.92088	−10.92048	−10.92048	−10.92058	−10.92053	−10.92063	−10.92022	−10.92160
−10.92519	−10.92436	−10.92570	−10.93007	−10.93409	−10.93906	−10.93856	−10.93396

——————/ IGRD = 1/ JGRD = 2/———/ Z1 = 3/ DATE = 03/02/06

−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85624
−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85624
−71.85624	−71.85624	−71.85624	−71.85624	−71.85624	−71.85623	−71.85626	−71.85618
−71.94428	−71.94428	−71.94428	−71.94428	−71.94428	−71.94428	−71.94428	−71.94428
−71.94428	−71.94428	−71.94428	−71.94428	−71.94428	−71.94428	−71.94428	−71.94428
−71.94428	−71.94428	−71.94428	−71.94428	−71.94429	−71.94428	−71.94431	−71.94422
−71.73909	−71.73912	−71.73952	−71.73982	−71.73978	−71.73966	−71.73965	−71.73968
−71.73968	−71.73967	−71.73967	−71.73967	−71.73967	−71.73967	−71.73967	−71.73967
−71.73967	−71.73967	−71.73967	−71.73967	−71.73967	−71.73966	−71.73969	−71.73960
−73.33671	−73.33657	−73.33458	−73.33305	−73.33327	−73.33385	−73.33390	−73.33379
−73.33378	−73.33382	−73.33382	−73.33381	−73.33381	−73.33381	−73.33381	−73.33381
−73.33381	−73.33381	−73.33381	−73.33381	−73.33382	−73.33387	−73.33387	−73.33379
−51.22241	−51.22208	−51.21722	−51.21348	−51.21402	−51.21544	−51.21557	−51.21528
−51.21527	−51.21535	−51.21535	−51.21534	−51.21534	−51.21534	−51.21534	−51.21534
−51.21534	−51.21534	−51.21535	−51.21533	−51.21537	−51.21548	−51.21546	−51.21538
−34.30897	−34.30730	−34.28253	−34.26346	−34.26623	−34.27346	−34.27411	−34.27264
−34.27261	−34.27301	−34.27301	−34.27293	−34.27294	−34.27294	−34.27294	−34.27294

(*continued on next page*)

Table 8 (*continued*)

−34.27293	−34.27299	−34.27279	−34.27286	−34.27468	−34.27625	−34.27743	−34.27789
−25.61064	−25.61129	−25.62090	−25.62830	−25.62722	−25.62442	−25.62417	−25.62474
−25.62475	−25.62459	−25.62459	−25.62463	−25.62462	−25.62462	−25.62462	−25.62462
−25.62462	−25.62440	−25.62509	−25.62664	−25.62765	−25.62981	−25.63229	−25.63470
−20.00451	−20.00441	−20.00290	−20.00175	−20.00191	−20.00235	−20.00239	−20.00230
−20.00230	−20.00233	−20.00233	−20.00232	−20.00232	−20.00232	−20.00233	−20.00230
−20.00245	−20.00252	−20.00318	−20.00477	−20.00614	−20.00966	−20.01332	−20.01596
−15.97435	−15.97437	−15.97463	−15.97483	−15.97480	−15.97473	−15.97472	−15.97474
−15.97474	−15.97473	−15.97473	−15.97473	−15.97473	−15.97473	−15.97474	−15.97472
−15.97479	−15.97491	−15.97500	−15.97588	−15.97856	−15.98274	−15.98808	−15.99144
−13.37398	−13.37398	−13.37395	−13.37392	−13.37392	−13.37393	−13.37393	−13.37393
−13.37393	−13.37393	−13.37393	−13.37393	−13.37393	−13.37393	−13.37393	−13.37393
−13.37394	−13.37388	−13.37398	−13.37482	−13.37747	−13.38257	−13.38987	−13.39661
−11.64378	−11.64377	−11.64376	−11.64376	−11.64376	−11.64376	−11.64376	−11.64376
−11.64376	−11.64376	−11.64376	−11.64376	−11.64376	−11.64376	−11.64376	−11.64377
−11.64372	−11.64390	−11.64447	−11.64529	−11.64819	−11.65359	−11.66366	−11.67613
−10.71827	−10.71827	−10.71827	−10.71828	−10.71828	−10.71828	−10.71827	−10.71828
−10.71828	−10.71828	−10.71827	−10.71828	−10.71827	−10.71828	−10.71827	−10.71829
−10.71819	−10.71838	−10.71887	−10.71944	−10.72255	−10.72892	−10.74243	−10.76105
−10.14585	−10.14585	−10.14585	−10.14585	−10.14585	−10.14585	−10.14585	−10.14585
−10.14585	−10.14585	−10.14585	−10.14585	−10.14585	−10.14585	−10.14585	−10.14585
−10.14588	−10.14625	−10.14673	−10.14752	−10.15105	−10.15886	−10.17579	−10.20128
−9.87084	−9.87084	−9.87084	−9.87084	−9.87084	−9.87084	−9.87084	−9.87084
−9.87084	−9.87084	−9.87084	−9.87084	−9.87084	−9.87084	−9.87085	−9.87083
−9.87091	−9.87092	−9.87050	−9.87149	−9.87520	−9.88277	−9.90390	−9.93603
−9.76961	−9.76961	−9.76961	−9.76961	−9.76961	−9.76961	−9.76961	−9.76961
−9.76961	−9.76961	−9.76961	−9.76962	−9.76961	−9.76962	−9.76960	−9.76965
−9.76941	−9.77013	−9.77168	−9.77197	−9.77582	−9.78500	−9.80771	−9.84263
−9.76336	−9.76336	−9.76337	−9.76337	−9.76337	−9.76337	−9.76337	−9.76337
−9.76337	−9.76337	−9.76337	−9.76337	−9.76337	−9.76337	−9.76337	−9.76337
−9.76340	−9.76328	−9.76277	−9.76337	−9.76726	−9.77684	−9.80251	−9.84394
−9.85603	−9.85603	−9.85601	−9.85600	−9.85601	−9.85600	−9.85599	−9.85598
−9.85598	−9.85598	−9.85598	−9.85598	−9.85598	−9.85598	−9.85598	−9.85598
−9.85595	−9.85607	−9.85595	−9.85659	−9.86176	−9.87224	−9.89692	−9.93904
−10.01454	−10.01454	−10.01458	−10.01461	−10.01460	−10.01461	−10.01465	−10.01467
−10.01468	−10.01467	−10.01467	−10.01467	−10.01467	−10.01467	−10.01467	−10.01467
−10.01466	−10.01469	−10.01454	−10.01572	−10.02076	−10.03037	−10.05598	−10.09887
−10.21117	−10.21115	−10.21080	−10.21056	−10.21060	−10.21055	−10.21022	−10.20998
−10.20998	−10.21003	−10.21003	−10.21002	−10.21002	−10.21002	−10.21002	−10.21002
−10.21004	−10.20998	−10.21031	−10.21137	−10.21436	−10.22404	−10.24935	−10.29167
−10.43935	−10.43934	−10.43921	−10.43912	−10.43913	−10.43911	−10.43899	−10.43889
−10.43889	−10.43891	−10.43891	−10.43891	−10.43891	−10.43891	−10.43891	−10.43891
−10.43893	−10.43886	−10.43919	−10.44027	−10.44339	−10.45201	−10.47503	−10.51670
−10.68865	−10.68865	−10.68864	−10.68863	−10.68863	−10.68863	−10.68862	−10.68861
−10.68861	−10.68862	−10.68862	−10.68862	−10.68862	−10.68862	−10.68862	−10.68861
−10.68865	−10.68851	−10.68920	−10.69048	−10.69157	−10.69963	−10.72188	−10.75950
−10.93626	−10.93626	−10.93626	−10.93626	−10.93626	−10.93626	−10.93626	−10.93626
−10.93626	−10.93626	−10.93626	−10.93626	−10.93626	−10.93627	−10.93626	−10.93627
−10.93625	−10.93632	−10.93600	−10.93709	−10.94042	−10.94563	−10.96610	−11.00255
−11.25054	−11.25054	−11.25054	−11.25054	−11.25054	−11.25054	−11.25054	−11.25054
−11.25054	−11.25054	−11.25054	−11.25054	−11.25054	−11.25054	−11.25054	−11.25054
−11.25052	−11.25059	−11.25027	−11.25136	−11.25469	−11.25990	−11.28037	−11.31682
−11.53837	−11.53837	−11.53837	−11.53837	−11.53837	−11.53837	−11.53837	−11.53837
−11.53837	−11.53837	−11.53837	−11.53837	−11.53837	−11.53837	−11.53836	−11.53837
−11.53835	−11.53842	−11.53810	−11.53919	−11.54252	−11.54773	−11.56820	−11.60465
−11.83935	−11.83935	−11.83935	−11.83935	−11.83935	−11.83935	−11.83935	−11.83935
−11.83935	−11.83935	−11.83935	−11.83935	−11.83935	−11.83936	−11.83935	−11.83936
−11.83934	−11.83941	−11.83909	−11.84018	−11.84351	−11.84872	−11.86919	−11.90564

Table 9
Total excitation line power loss data for all ion stages of Be. See page 266 for Explanation of Tables

4 24	25 1	4	BERYLLIUM		GCR PROJECT		
2 1	2 1	1					
4.00000	4.47712	5.00000	5.47712	6.00000	6.47712	7.00000	7.47712
8.00000	8.47712	9.00000	9.47712	10.00000	10.47712	11.00000	11.47712
12.00000	12.47712	13.00000	13.47712	14.00000	14.47712	15.00000	15.47712
−0.69877	−0.52268	−0.30083	−0.15470	0.07938	0.30123	0.47732	0.65341
0.84530	1.04159	1.25547	1.44736	1.65341	1.84530	2.00020	2.23065
2.43157	2.63367	2.82628	3.02139	3.21690	3.39814	3.60766	3.79954
4.00020							
——————/ IGRD = 1/ IPRT = 0/——/ Z1 = 1/ DATE = 03/02/06							
−36.82831	−36.82832	−36.82831	−36.82829	−36.82831	−36.82831	−36.82831	−36.82831
−36.82831	−36.82831	−36.82831	−37.05298	−37.05011	−37.05012	−37.04982	−37.04973
−37.04978	−37.05259	−37.05240	−37.05288	−37.05673	−37.07206	−37.11762	−36.64050
−33.17388	−33.17387	−33.17388	−33.17388	−33.17388	−33.17388	−33.17388	−33.17388
−33.17388	−33.17387	−33.17389	−33.09706	−33.09805	−33.09799	−33.09807	−33.09809
−33.09807	−33.09800	−33.09792	−33.10010	−33.10630	−33.12220	−33.17372	−32.69660
−29.89704	−29.89704	−29.89704	−29.89704	−29.89704	−29.89704	−29.89704	−29.89704
−29.89704	−29.89704	−29.89698	−29.90879	−29.90859	−29.90886	−29.90890	−29.90894
−29.90900	−29.91104	−29.91176	−29.91506	−29.92450	−29.94478	−30.00505	−29.52793
−28.47997	−28.47997	−28.47997	−28.47998	−28.47997	−28.47997	−28.47997	−28.47999
−28.47998	−28.47996	−28.48018	−28.47705	−28.47729	−28.47765	−28.47743	−28.47729
−28.47858	−28.48017	−28.48480	−28.49235	−28.50678	−28.53431	−28.60989	−28.13277
−26.91422	−26.91422	−26.91422	−26.91422	−26.91422	−26.91422	−26.91422	−26.91417
−26.91418	−26.91428	−26.91204	−26.91260	−26.91046	−26.91043	−26.91267	−26.91462
−26.91908	−26.92542	−26.93934	−26.95872	−26.98787	−27.03496	−27.14288	−26.66575
−25.98712	−25.98712	−25.98712	−25.98712	−25.98712	−25.98717	−25.98716	−25.98642
−25.98646	−25.98589	−25.98459	−25.98161	−25.97967	−25.97961	−25.98096	−25.98656
−25.99480	−26.00906	−26.03463	−26.06737	−26.11159	−26.17713	−26.32486	−25.84774
−25.50467	−25.50464	−25.50467	−25.50478	−25.50467	−25.50441	−25.50447	−25.50271
−25.50251	−25.50248	−25.50008	−25.49591	−25.49394	−25.49419	−25.49632	−25.50490
−25.51621	−25.53441	−25.56744	−25.60775	−25.66085	−25.74250	−25.92510	−25.44798
−25.17291	−25.17286	−25.17291	−25.17308	−25.17291	−25.17227	−25.17221	−25.17231
−25.17161	−25.17088	−25.16729	−25.16325	−25.16032	−25.16094	−25.16562	−25.17369
−25.18802	−25.20946	−25.24670	−25.29092	−25.35184	−25.44854	−25.66050	−25.18338
−24.93064	−24.93065	−24.93064	−24.93059	−24.93064	−24.93073	−24.93042	−24.93030
−24.93008	−24.93012	−24.92610	−24.92100	−24.91707	−24.91698	−24.92506	−24.93307
−24.94826	−24.97082	−25.00988	−25.05580	−25.12173	−25.23258	−25.47062	−24.99350
−24.77070	−24.77070	−24.77070	−24.77071	−24.77070	−24.77068	−24.77074	−24.77115
−24.77118	−24.76929	−24.76721	−24.76184	−24.75936	−24.75940	−24.76421	−24.77345
−24.79057	−24.81137	−24.84905	−24.89658	−24.96559	−25.08784	−25.34365	−24.86653
−24.66884	−24.66883	−24.66884	−24.66888	−24.66884	−24.66884	−24.66884	−24.66675
−24.66674	−24.66684	−24.66278	−24.65879	−24.65666	−24.65670	−24.66065	−24.67086
−24.68314	−24.70501	−24.74216	−24.78556	−24.85896	−24.98409	−25.25397	−24.77685
−24.61623	−24.61623	−24.61623	−24.61623	−24.61623	−24.61623	−24.61623	−24.61651
−24.61662	−24.61471	−24.61293	−24.60941	−24.60597	−24.60566	−24.60919	−24.61820
−24.63104	−24.64999	−24.68173	−24.72658	−24.79783	−24.92683	−25.19989	−24.72277
−24.59250	−24.59250	−24.59250	−24.59250	−24.59250	−24.59250	−24.59250	−24.59252
−24.59229	−24.59240	−24.58909	−24.58569	−24.58394	−24.58244	−24.58576	−24.59385
−24.60431	−24.62180	−24.65000	−24.69012	−24.75934	−24.88659	−25.16007	−24.68295
−24.59481	−24.59480	−24.59481	−24.59482	−24.59481	−24.59481	−24.59481	−24.59401
−24.59280	−24.59268	−24.59128	−24.58858	−24.58481	−24.58442	−24.58784	−24.59253
−24.60442	−24.61755	−24.64415	−24.67896	−24.74526	−24.86953	−25.13828	−24.66116
−24.60411	−24.60410	−24.60411	−24.60413	−24.60411	−24.60411	−24.60411	−24.60276
−24.60303	−24.60333	−24.60128	−24.59975	−24.59721	−24.59498	−24.59804	−24.60333
−24.61234	−24.62453	−24.64739	−24.68047	−24.74423	−24.86427	−25.12608	−24.64896
−24.64086	−24.64086	−24.64086	−24.64086	−24.64086	−24.64086	−24.64086	−24.64087
−24.64087	−24.63900	−24.63894	−24.63706	−24.63339	−24.63334	−24.63339	−24.63904
−24.64667	−24.65641	−24.67662	−24.70439	−24.76320	−24.87768	−25.12626	−24.64914
−24.69592	−24.69592	−24.69592	−24.69592	−24.69592	−24.69592	−24.69592	−24.69592
−24.69592	−24.69592	−24.69592	−24.69390	−24.68990	−24.68990	−24.68990	−24.69390
−24.69997	−24.71029	−24.72732	−24.75189	−24.80564	−24.91108	−25.15214	−24.67501
−24.99907	−24.99907	−24.99907	−24.99907	−24.99907	−24.99907	−24.99907	−24.99907

(*continued on next page*)

Table 9 (*continued*)

−24.99907	−24.99907	−24.99907	−24.99706	−24.99305	−24.99305	−24.99305	−24.99706
−25.00313	−25.01345	−25.03048	−25.05505	−25.10879	−25.21424	−25.45529	−24.97817
−25.28798	−25.28798	−25.28798	−25.28798	−25.28798	−25.28798	−25.28798	−25.28798
−25.28798	−25.28798	−25.28798	−25.28597	−25.28196	−25.28196	−25.28196	−25.28597
−25.29204	−25.30236	−25.31939	−25.34396	−25.39770	−25.50315	−25.74420	−25.26708
−25.58065	−25.58065	−25.58065	−25.58065	−25.58065	−25.58065	−25.58065	−25.58065
−25.58065	−25.58065	−25.58065	−25.57864	−25.57464	−25.57464	−25.57464	−25.57864
−25.58471	−25.59503	−25.61206	−25.63663	−25.69038	−25.79582	−26.03687	−25.55975
−25.87391	−25.87391	−25.87391	−25.87391	−25.87391	−25.87391	−25.87391	−25.87391
−25.87391	−25.87391	−25.87391	−25.87189	−25.86789	−25.86789	−25.86789	−25.87189
−25.87797	−25.88829	−25.90532	−25.92989	−25.98363	−26.08908	−26.33013	−25.85301
−26.14578	−26.14578	−26.14578	−26.14578	−26.14578	−26.14578	−26.14578	−26.14578
−26.14578	−26.14578	−26.14578	−26.14376	−26.13976	−26.13976	−26.13976	−26.14376
−26.14984	−26.16015	−26.17719	−26.20176	−26.25550	−26.36095	−26.60200	−26.12488
−26.46005	−26.46005	−26.46005	−26.46005	−26.46005	−26.46005	−26.46005	−26.46005
−26.46005	−26.46005	−26.46005	−26.45804	−26.45403	−26.45403	−26.45403	−26.45804
−26.46411	−26.47443	−26.49146	−26.51603	−26.56977	−26.67522	−26.91627	−26.43915
−26.74788	−26.74788	−26.74788	−26.74788	−26.74788	−26.74788	−26.74788	−26.74788
−26.74788	−26.74788	−26.74788	−26.74587	−26.74186	−26.74186	−26.74186	−26.74587
−26.75194	−26.76226	−26.77929	−26.80386	−26.85760	−26.96305	−27.20410	−26.72698
−27.04887	−27.04887	−27.04887	−27.04887	−27.04887	−27.04887	−27.04887	−27.04887
−27.04887	−27.04887	−27.04887	−27.04685	−27.04285	−27.04285	−27.04285	−27.04685
−27.05293	−27.06324	−27.08028	−27.10485	−27.15859	−27.26404	−27.50509	−27.02797

——————/ IGRD = 2/ IPRT = 0/———/ Z1 = 1/ DATE = 03/02/06

−23.69688	−24.17716	−24.69691	−25.17311	−25.69689	−26.17440	−26.69670	−27.17392
−27.69664	−28.17817	−28.70942	−29.18962	−29.68587	−30.09291	−30.48453	−30.79741
−31.07966	−31.24387	−31.30380	−31.28183	−31.22997	−31.19426	−31.21021	−30.73309
−23.69679	−24.17697	−24.69670	−25.17306	−25.69670	−26.17392	−26.69718	−27.17330
−27.68905	−28.13072	−28.55919	−28.89173	−29.16611	−29.30104	−29.33421	−29.30654
−29.26403	−29.23622	−29.23434	−29.24799	−29.27672	−29.30889	−29.37412	−28.89699
−23.69676	−24.17738	−24.69706	−25.17194	−25.69217	−26.16269	−26.66015	−27.06780
−27.41456	−27.61139	−27.70792	−27.73039	−27.72965	−27.72772	−27.73171	−27.73870
−27.74675	−27.75228	−27.75594	−27.75876	−27.76608	−27.78642	−27.84761	−27.37049
−23.69698	−24.17693	−24.69558	−25.16846	−25.67762	−26.11817	−26.53254	−26.80066
−26.95457	−27.00615	−27.02561	−27.03430	−27.04010	−27.04265	−27.04322	−27.04271
−27.04155	−27.04529	−27.05332	−27.06701	−27.08957	−27.12547	−27.20817	−26.73105
−23.69487	−24.17268	−24.68456	−25.13922	−25.58547	−25.90018	−26.10123	−26.18129
−26.21326	−26.22229	−26.22396	−26.22241	−26.21939	−26.21901	−26.22141	−26.22548
−26.23346	−26.24673	−26.27162	−26.30445	−26.35289	−26.41549	−26.52973	−26.05261
−23.69350	−24.16717	−24.65726	−25.06183	−25.40496	−25.58573	−25.67068	−25.70001
−25.70811	−25.71028	−25.70944	−25.70584	−25.70293	−25.70044	−25.70392	−25.71346
−25.72677	−25.74782	−25.78424	−25.83073	−25.89372	−25.97333	−26.10127	−25.62415
−23.68894	−24.15754	−24.62341	−24.97666	−25.24419	−25.36042	−25.41027	−25.42457
−25.42942	−25.43040	−25.42725	−25.42285	−25.41985	−25.42065	−25.42514	−25.43364
−25.44947	−25.47334	−25.51415	−25.56241	−25.63097	−25.71278	−25.83840	−25.36128
−23.68572	−24.14656	−24.58588	−24.89173	−25.10238	−25.18317	−25.21539	−25.22480
−25.22772	−25.22768	−25.22540	−25.22175	−25.21888	−25.21958	−25.22411	−25.23338
−25.25075	−25.27474	−25.31475	−25.36315	−25.43213	−25.50948	−25.62964	−25.15252
−23.67930	−24.12997	−24.54370	−24.81054	−24.97873	−25.03732	−25.06091	−25.06752
−25.06939	−25.06941	−25.06777	−25.06500	−25.06351	−25.06405	−25.06858	−25.07733
−25.09374	−25.11703	−25.15442	−25.20143	−25.26980	−25.34510	−25.45723	−24.98011
−23.67291	−24.11369	−24.50721	−24.74619	−24.88597	−24.93151	−24.95081	−24.95518
−24.95817	−24.95817	−24.95484	−24.95472	−24.95423	−24.95436	−24.95838	−24.96607
−24.98124	−25.00247	−25.03871	−25.08416	−25.15267	−25.22646	−25.33637	−24.85925
−23.66931	−24.10062	−24.47656	−24.69484	−24.81597	−24.85458	−24.87042	−24.87367
−24.87690	−24.87690	−24.87726	−24.87392	−24.87390	−24.87384	−24.87715	−24.88373
−24.90077	−24.91857	−24.95259	−24.99921	−25.06939	−25.14297	−25.25059	−24.77347
−23.66733	−24.09269	−24.45830	−24.66541	−24.77696	−24.81218	−24.82649	−24.82941
−24.83232	−24.83232	−24.83214	−24.83217	−24.83218	−24.83270	−24.83532	−24.84132
−24.85300	−24.87289	−24.90694	−24.95175	−25.02248	−25.09893	−25.20636	−24.72924
−23.66517	−24.08743	−24.44793	−24.64933	−24.75582	−24.78917	−24.80275	−24.80552
−24.80839	−24.80839	−24.80841	−24.80577	−24.80576	−24.80826	−24.80817	−24.81377
−24.82538	−24.84593	−24.87744	−24.92237	−24.99442	−25.07481	−25.18235	−24.70523
−23.66477	−24.08712	−24.44718	−24.64695	−24.75243	−24.78679	−24.80029	−24.80302
−24.80448	−24.80448	−24.80447	−24.80486	−24.80487	−24.80580	−24.80566	−24.81146

Table 9 (*continued*)

−24.82169	−24.83906	−24.87038	−24.91447	−24.99143	−25.07013	−25.17756	−24.70044
−23.66334	−24.08680	−24.44827	−24.64948	−24.75677	−24.79261	−24.80629	−24.80918
−24.80975	−24.80975	−24.80975	−24.80963	−24.80963	−24.81199	−24.81290	−24.81759
−24.82585	−24.84318	−24.87347	−24.91731	−24.99136	−25.07311	−25.17987	−24.70275
−23.66936	−24.09546	−24.46240	−24.67095	−24.78363	−24.81912	−24.83368	−24.83657
−24.83964	−24.83964	−24.83964	−24.83964	−24.83964	−24.83955	−24.84263	−24.84564
−24.85490	−24.86755	−24.89729	−24.93666	−25.01093	−25.09382	−25.20053	−24.72341
−23.69592	−24.12646	−24.49944	−24.71200	−24.82970	−24.86999	−24.88223	−24.88847
−24.88847	−24.88847	−24.88847	−24.88847	−24.88847	−24.89163	−24.89163	−24.89482
−24.90125	−24.91441	−24.94199	−24.98303	−25.05292	−25.13737	−25.24302	−24.76590
−23.99907	−24.42962	−24.80259	−25.01516	−25.13285	−25.17315	−25.18538	−25.19163
−25.19163	−25.19163	−25.19163	−25.19163	−25.19163	−25.19479	−25.19479	−25.19797
−25.20441	−25.21757	−25.24515	−25.28619	−25.35608	−25.44053	−25.54618	−25.06906
−24.28798	−24.71853	−25.09150	−25.30407	−25.42176	−25.46206	−25.47429	−25.48054
−25.48054	−25.48054	−25.48054	−25.48054	−25.48054	−25.48370	−25.48370	−25.48688
−25.49332	−25.50648	−25.53406	−25.57510	−25.64499	−25.72944	−25.83509	−25.35797
−24.58065	−25.01120	−25.38418	−25.59674	−25.71444	−25.75473	−25.76696	−25.77321
−25.77321	−25.77321	−25.77321	−25.77321	−25.77321	−25.77637	−25.77637	−25.77955
−25.78599	−25.79915	−25.82673	−25.86777	−25.93766	−26.02211	−26.12776	−25.65064
−24.87391	−25.30445	−25.67743	−25.88999	−26.00769	−26.04799	−26.06022	−26.06647
−26.06647	−26.06647	−26.06647	−26.06647	−26.06647	−26.06963	−26.06963	−26.07281
−26.07924	−26.09241	−26.11999	−26.16103	−26.23092	−26.31537	−26.42102	−25.94390
−25.14578	−25.57632	−25.94930	−26.16186	−26.27956	−26.31986	−26.33209	−26.33834
−26.33834	−26.33834	−26.33834	−26.33834	−26.33834	−26.34150	−26.34150	−26.34468
−26.35111	−26.36427	−26.39186	−26.43290	−26.50279	−26.58724	−26.69289	−26.21577
−25.46005	−25.89060	−26.26357	−26.47614	−26.59383	−26.63413	−26.64636	−26.65261
−26.65261	−26.65261	−26.65261	−26.65261	−26.65261	−26.65577	−26.65577	−26.65895
−26.66539	−26.67855	−26.70613	−26.74717	−26.81706	−26.90151	−27.00716	−26.53004
−25.74788	−26.17842	−26.55140	−26.76396	−26.88166	−26.92196	−26.93419	−26.94044
−26.94044	−26.94044	−26.94044	−26.94044	−26.94044	−26.94360	−26.94360	−26.94678
−26.95321	−26.96638	−26.99396	−27.03500	−27.10489	−27.18934	−27.29499	−26.81787
−26.04887	−26.47941	−26.85239	−27.06495	−27.18265	−27.22295	−27.23518	−27.24143
−27.24143	−27.24143	−27.24143	−27.24143	−27.24143	−27.24459	−27.24459	−27.24777
−27.25420	−27.26736	−27.29495	−27.33599	−27.40588	−27.49033	−27.59598	−27.11886

——————/ IGRD = 1/ IPRT = 0/———/ Z1 = 2/ DATE = 03/02/06

−33.28326	−33.28326	−33.28326	−33.28326	−33.28326	−33.28326	−33.28326	−33.28326
−33.28326	−33.28326	−33.28326	−33.28326	−33.28326	−33.28323	−33.28353	−33.28383
−33.28476	−33.28782	−33.29852	−33.32761	−33.41585	−33.59918	−33.94263	−34.34851
−29.80652	−29.80652	−29.80652	−29.80652	−29.80652	−29.80652	−29.80652	−29.80652
−29.80652	−29.80652	−29.80652	−29.80652	−29.80652	−29.80653	−29.80645	−29.80674
−29.80780	−29.81012	−29.81826	−29.84139	−29.91507	−30.07400	−30.39122	−30.78325
−27.75363	−27.75363	−27.75363	−27.75363	−27.75363	−27.75363	−27.75363	−27.75363
−27.75363	−27.75363	−27.75363	−27.75363	−27.75362	−27.75364	−27.75362	−27.75368
−27.75341	−27.75649	−27.76284	−27.78195	−27.84265	−27.97983	−28.26933	−28.64352
−26.82883	−26.82883	−26.82883	−26.82883	−26.82883	−26.82883	−26.82883	−26.82883
−26.82883	−26.82883	−26.82883	−26.82883	−26.82883	−26.82885	−26.82883	−26.82890
−26.82863	−26.83115	−26.83638	−26.85160	−26.90390	−27.02828	−27.30079	−27.66325
−25.89304	−25.89304	−25.89304	−25.89304	−25.89304	−25.89304	−25.89304	−25.89304
−25.89304	−25.89304	−25.89303	−25.89305	−25.89299	−25.89343	−25.89355	−25.89352
−25.89383	−25.89528	−25.90016	−25.91353	−25.95757	−26.06174	−26.30467	−26.64580
−25.39405	−25.39405	−25.39405	−25.39405	−25.39405	−25.39405	−25.39405	−25.39405
−25.39405	−25.39405	−25.39405	−25.39404	−25.39405	−25.39401	−25.39400	−25.39398
−25.39382	−25.39489	−25.39890	−25.40960	−25.44498	−25.53068	−25.73761	−26.03897
−25.14791	−25.14791	−25.14791	−25.14791	−25.14791	−25.14791	−25.14791	−25.14791
−25.14791	−25.14791	−25.14791	−25.14791	−25.14791	−25.14793	−25.14788	−25.14825
−25.14822	−25.14931	−25.15189	−25.16051	−25.18842	−25.25586	−25.42604	−25.68851
−24.98564	−24.98564	−24.98564	−24.98564	−24.98564	−24.98564	−24.98564	−24.98564
−24.98564	−24.98564	−24.98564	−24.98564	−24.98564	−24.98564	−24.98562	−24.98580
−24.98589	−24.98583	−24.98884	−24.99345	−25.01060	−25.06149	−25.19888	−25.43885
−24.86636	−24.86636	−24.86636	−24.86636	−24.86636	−24.86636	−24.86636	−24.86636
−24.86636	−24.86636	−24.86636	−24.86636	−24.86636	−24.86636	−24.86637	−24.86635
−24.86643	−24.86614	−24.86889	−24.87147	−24.88441	−24.91693	−25.03221	−25.26452
−24.79362	−24.79362	−24.79362	−24.79362	−24.79362	−24.79362	−24.79362	−24.79362
−24.79362	−24.79362	−24.79362	−24.79362	−24.79362	−24.79362	−24.79362	−24.79362

(*continued on next page*)

Table 9 (*continued*)

−24.79360	−24.79367	−24.79325	−24.79503	−24.80075	−24.82193	−24.92782	−25.16302
−24.74913	−24.74913	−24.74913	−24.74913	−24.74913	−24.74913	−24.74913	−24.74913
−24.74913	−24.74913	−24.74913	−24.74913	−24.74913	−24.74913	−24.74913	−24.74913
−24.74914	−24.74913	−24.74916	−24.74909	−24.75034	−24.76381	−24.86326	−25.10506
−24.73254	−24.73254	−24.73254	−24.73254	−24.73254	−24.73254	−24.73254	−24.73254
−24.73254	−24.73254	−24.73254	−24.73254	−24.73254	−24.73255	−24.73247	−24.73245
−24.73246	−24.73243	−24.73271	−24.73214	−24.73066	−24.74053	−24.83822	−25.08563
−24.73764	−24.73764	−24.73764	−24.73764	−24.73764	−24.73764	−24.73764	−24.73764
−24.73764	−24.73764	−24.73764	−24.73764	−24.73765	−24.73760	−24.73804	−24.73815
−24.73809	−24.73817	−24.73653	−24.73403	−24.73064	−24.73280	−24.82390	−25.07069
−24.75788	−24.75788	−24.75788	−24.75788	−24.75788	−24.75788	−24.75788	−24.75788
−24.75788	−24.75788	−24.75788	−24.75790	−24.75782	−24.75809	−24.75579	−24.75526
−24.75542	−24.75527	−24.75551	−24.75388	−24.74725	−24.74641	−24.82891	−25.06816
−24.78250	−24.78250	−24.78250	−24.78250	−24.78250	−24.78250	−24.78250	−24.78250
−24.78250	−24.78250	−24.78250	−24.78250	−24.78249	−24.78251	−24.78232	−24.78219
−24.78253	−24.78018	−24.77982	−24.77843	−24.76952	−24.76513	−24.83939	−25.07038
−24.83128	−24.83128	−24.83128	−24.83128	−24.83128	−24.83128	−24.83128	−24.83128
−24.83128	−24.83128	−24.83128	−24.83128	−24.83128	−24.83128	−24.83130	−24.83132
−24.83125	−24.83144	−24.82894	−24.82647	−24.81715	−24.80628	−24.86346	−25.08019
−24.88344	−24.88344	−24.88344	−24.88344	−24.88344	−24.88344	−24.88344	−24.88344
−24.88344	−24.88344	−24.88344	−24.88343	−24.88344	−24.88343	−24.88346	−24.88344
−24.88355	−24.88255	−24.88061	−24.87807	−24.86843	−24.85418	−24.89779	−25.09547
−24.93990	−24.93990	−24.93990	−24.93990	−24.93990	−24.93990	−24.93990	−24.93990
−24.93990	−24.93990	−24.93990	−24.93990	−24.93990	−24.93990	−24.93991	−24.93986
−24.94005	−24.93853	−24.93635	−24.93289	−24.92463	−24.90651	−24.93245	−25.10555
−25.00414	−25.00414	−25.00414	−25.00414	−25.00414	−25.00414	−25.00414	−25.00414
−25.00414	−25.00414	−25.00414	−25.00414	−25.00414	−25.00414	−25.00414	−25.00414
−25.00413	−25.00398	−25.00225	−24.99979	−24.98984	−24.96926	−24.97825	−25.12925
−25.07198	−25.07198	−25.07198	−25.07198	−25.07198	−25.07198	−25.07198	−25.07198
−25.07198	−25.07198	−25.07198	−25.07198	−25.07198	−25.07198	−25.07199	−25.07198
−25.07201	−25.07164	−25.07045	−25.06726	−25.05752	−25.03704	−25.03461	−25.16109
−25.36524	−25.36524	−25.36524	−25.36524	−25.36524	−25.36524	−25.36524	−25.36524
−25.36524	−25.36524	−25.36524	−25.36524	−25.36524	−25.36524	−25.36524	−25.36523
−25.36527	−25.36490	−25.36370	−25.36052	−25.35077	−25.33030	−25.32787	−25.45435
−25.63711	−25.63711	−25.63711	−25.63711	−25.63711	−25.63711	−25.63711	−25.63711
−25.63711	−25.63711	−25.63711	−25.63711	−25.63711	−25.63711	−25.63711	−25.63710
−25.63714	−25.63677	−25.63557	−25.63239	−25.62264	−25.60217	−25.59974	−25.72622
−25.95138	−25.95138	−25.95138	−25.95138	−25.95138	−25.95138	−25.95138	−25.95138
−25.95138	−25.95138	−25.95138	−25.95138	−25.95138	−25.95138	−25.95138	−25.95137
−25.95141	−25.95104	−25.94985	−25.94666	−25.93692	−25.91644	−25.91401	−26.04049
−26.23921	−26.23921	−26.23921	−26.23921	−26.23921	−26.23921	−26.23921	−26.23921
−26.23921	−26.23921	−26.23921	−26.23921	−26.23921	−26.23921	−26.23921	−26.23920
−26.23924	−26.23887	−26.23767	−26.23449	−26.22474	−26.20427	−26.20184	−26.32832
−26.54020	−26.54020	−26.54020	−26.54020	−26.54020	−26.54020	−26.54020	−26.54020
−26.54020	−26.54020	−26.54020	−26.54020	−26.54020	−26.54020	−26.54020	−26.54019
−26.54023	−26.53986	−26.53866	−26.53548	−26.52573	−26.50526	−26.50283	−26.62931

————————/ IGRD = 1/ IPRT = 0/———/ Z1 = 3/ DATE = 03/02/06

−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−61.02540	−60.62992	−54.69766	−49.83048	−49.77708	−50.97908	−50.98633	−50.70073
−50.74939	−50.69258	−50.31877	−50.11161	−50.13989	−50.13254	−50.13759	−50.13726

Table 9 (*continued*)

−50.13790	−50.13733	−50.13644	−50.13444	−50.12940	−50.12220	−50.11640	−50.11444
−39.52200	−39.67541	−41.97666	−43.86474	−43.88546	−43.41918	−43.41636	−43.52716
−43.50828	−43.53032	−43.67533	−43.75569	−43.74472	−43.74757	−43.74560	−43.74577
−43.74531	−43.74510	−43.74469	−43.74278	−43.73848	−43.73252	−43.72673	−43.72384
−37.72292	−37.69886	−37.33794	−37.04182	−37.03857	−37.11170	−37.11214	−37.09476
−37.09772	−37.09427	−37.07152	−37.05892	−37.06064	−37.06019	−37.06051	−37.06047
−37.06058	−37.06063	−37.05995	−37.05832	−37.05420	−37.04783	−37.04153	−37.03815
−32.91334	−32.91753	−32.98040	−33.03198	−33.03255	−33.01981	−33.01973	−33.02276
−33.02224	−33.02284	−33.02680	−33.02900	−33.02870	−33.02878	−33.02871	−33.02877
−33.02848	−33.02801	−33.02792	−33.02671	−33.02300	−33.01682	−33.01050	−33.00677
−30.30170	−30.30116	−30.29316	−30.28659	−30.28652	−30.28815	−30.28816	−30.28778
−30.28784	−30.28777	−30.28726	−30.28698	−30.28702	−30.28701	−30.28701	−30.28702
−30.28698	−30.28693	−30.28674	−30.28531	−30.28192	−30.27655	−30.26977	−30.26718
−28.44399	−28.44383	−28.44144	−28.43950	−28.43954	−28.44007	−28.44010	−28.44000
−28.44004	−28.44002	−28.43987	−28.43979	−28.43980	−28.43979	−28.43980	−28.43980
−28.43978	−28.43977	−28.43974	−28.44016	−28.43785	−28.43221	−28.42883	−28.42812
−27.40588	−27.40592	−27.40642	−27.40671	−27.40640	−27.40603	−27.40587	−27.40581
−27.40574	−27.40571	−27.40574	−27.40576	−27.40576	−27.40576	−27.40576	−27.40575
−27.40578	−27.40570	−27.40609	−27.40466	−27.40149	−27.39986	−27.39509	−27.39749
−26.69376	−26.69381	−26.69468	−26.69572	−26.69656	−26.69710	−26.69754	−26.69780
−26.69798	−26.69807	−26.69814	−26.69816	−26.69816	−26.69816	−26.69816	−26.69815
−26.69817	−26.69813	−26.69830	−26.69772	−26.69632	−26.69511	−26.69232	−26.69580
−26.31490	−26.31445	−26.30699	−26.29833	−26.29200	−26.28810	−26.28480	−26.28275
−26.28146	−26.28071	−26.28009	−26.27987	−26.27989	−26.27989	−26.27989	−26.27989
−26.27989	−26.27988	−26.27992	−26.27979	−26.27913	−26.27787	−26.27747	−26.28134
−26.07444	−26.07420	−26.07029	−26.06575	−26.06246	−26.06042	−26.05869	−26.05766
−26.05705	−26.05650	−26.05575	−26.05542	−26.05546	−26.05545	−26.05545	−26.05545
−26.05545	−26.05546	−26.05542	−26.05553	−26.05563	−26.05567	−26.05478	−26.05785
−25.84103	−25.84101	−25.84073	−25.84038	−25.84014	−25.84006	−25.84003	−25.83977
−25.83946	−25.84017	−25.84206	−25.84302	−25.84289	−25.84293	−25.84292	−25.84292
−25.84294	−25.84286	−25.84319	−25.84209	−25.83939	−25.83969	−25.84046	−25.84505
−25.72096	−25.72096	−25.72103	−25.72106	−25.72099	−25.72086	−25.72071	−25.72065
−25.72063	−25.72045	−25.72005	−25.71986	−25.71988	−25.71987	−25.71988	−25.71988
−25.71987	−25.71989	−25.71982	−25.72005	−25.72066	−25.72049	−25.72089	−25.72384
−25.63656	−25.63656	−25.63667	−25.63692	−25.63734	−25.63778	−25.63824	−25.63856
−25.63879	−25.63891	−25.63898	−25.63899	−25.63899	−25.63899	−25.63899	−25.63899
−25.63899	−25.63899	−25.63900	−25.63896	−25.63887	−25.63887	−25.63912	−25.64238
−25.61669	−25.61664	−25.61557	−25.61328	−25.60953	−25.60568	−25.60175	−25.59886
−25.59681	−25.59596	−25.59590	−25.59602	−25.59600	−25.59601	−25.59601	−25.59601
−25.59600	−25.59601	−25.59600	−25.59603	−25.59614	−25.59603	−25.59604	−25.59898
−25.58043	−25.58044	−25.58042	−25.57984	−25.57837	−25.57688	−25.57556	−25.57458
−25.57375	−25.57347	−25.57366	−25.57382	−25.57380	−25.57381	−25.57381	−25.57381
−25.57381	−25.57380	−25.57382	−25.57375	−25.57334	−25.57386	−25.57550	−25.57767
−25.57171	−25.57159	−25.56968	−25.56818	−25.56817	−25.56806	−25.56698	−25.56628
−25.56634	−25.56611	−25.56515	−25.56463	−25.56470	−25.56468	−25.56468	−25.56468
−25.56467	−25.56471	−25.56455	−25.56508	−25.56650	−25.56609	−25.56654	−25.56809
−25.62855	−25.62855	−25.62855	−25.62855	−25.62855	−25.62855	−25.62855	−25.62855
−25.62855	−25.62855	−25.62855	−25.62855	−25.62855	−25.62855	−25.62855	−25.62855
−25.62855	−25.62855	−25.62856	−25.62855	−25.62858	−25.62848	−25.62900	−25.63069
−25.94283	−25.94283	−25.94283	−25.94283	−25.94283	−25.94283	−25.94283	−25.94283
−25.94283	−25.94283	−25.94283	−25.94283	−25.94283	−25.94283	−25.94283	−25.94283
−25.94283	−25.94283	−25.94283	−25.94282	−25.94285	−25.94275	−25.94328	−25.94496
−26.23065	−26.23065	−26.23065	−26.23065	−26.23065	−26.23065	−26.23065	−26.23065
−26.23065	−26.23065	−26.23065	−26.23065	−26.23065	−26.23065	−26.23065	−26.23065
−26.23065	−26.23065	−26.23066	−26.23065	−26.23068	−26.23058	−26.23110	−26.23279
−26.53164	−26.53164	−26.53164	−26.53164	−26.53164	−26.53164	−26.53164	−26.53164
−26.53164	−26.53164	−26.53164	−26.53164	−26.53164	−26.53164	−26.53164	−26.53164
−26.53164	−26.53164	−26.53165	−26.53164	−26.53167	−26.53157	−26.53209	−26.53378

——————/ IGRD = 2/ IPRT = 0/———/ Z1 = 3/ DATE = 03/02/06

−27.82282	−27.82282	−27.82282	−27.82282	−27.82281	−27.82282	−27.82282	−27.82281
−27.82281	−27.82282	−27.82282	−27.82281	−27.82282	−27.82279	−27.82294	−27.82247
−27.82489	−27.83351	−27.85342	−27.90748	−28.03880	−28.21821	−28.39729	−28.49110
−27.91086	−27.91086	−27.91086	−27.91086	−27.91086	−27.91086	−27.91086	−27.91086
−27.91086	−27.91086	−27.91086	−27.91086	−27.91087	−27.91084	−27.91098	−27.91052

(*continued on next page*)

Table 9 (*continued*)

−27.91293	−27.92156	−27.94147	−27.99552	−28.12684	−28.30626	−28.48534	−28.57915
−27.24492	−27.24492	−27.24492	−27.24492	−27.24492	−27.24492	−27.24492	−27.24492
−27.24492	−27.24492	−27.24492	−27.24492	−27.24492	−27.24490	−27.24499	−27.24473
−27.24611	−27.25166	−27.26582	−27.30108	−27.38259	−27.48777	−27.58351	−27.63064
−26.26646	−26.26646	−26.26646	−26.26646	−26.26646	−26.26646	−26.26646	−26.26646
−26.26646	−26.26646	−26.26646	−26.26646	−26.26646	−26.26646	−26.26646	−26.26638
−26.26669	−26.26794	−26.27115	−26.27886	−26.29545	−26.31350	−26.32588	−26.33138
−25.47225	−25.47225	−25.47225	−25.47225	−25.47225	−25.47225	−25.47225	−25.47225
−25.47225	−25.47225	−25.47225	−25.47225	−25.47225	−25.47226	−25.47221	−25.47222
−25.47185	−25.47005	−25.46565	−25.45451	−25.42788	−25.39710	−25.37366	−25.36509
−25.06235	−25.06236	−25.06237	−25.06238	−25.06238	−25.06238	−25.06238	−25.06238
−25.06238	−25.06238	−25.06238	−25.06238	−25.06237	−25.06240	−25.06226	−25.06195
−25.06210	−25.06105	−25.05377	−25.03477	−24.99191	−24.94099	−24.89957	−24.88228
−24.88466	−24.88465	−24.88458	−24.88452	−24.88452	−24.88454	−24.88454	−24.88454
−24.88454	−24.88454	−24.88454	−24.88454	−24.88455	−24.88454	−24.88458	−24.88473
−24.88448	−24.88256	−24.87447	−24.85364	−24.80563	−24.74503	−24.69269	−24.66963
−24.78924	−24.78925	−24.78939	−24.78952	−24.78952	−24.78949	−24.78948	−24.78947
−24.78947	−24.78947	−24.78947	−24.78948	−24.78947	−24.78948	−24.78943	−24.78955
−24.78881	−24.78533	−24.77760	−24.75751	−24.70673	−24.64000	−24.57748	−24.54917
−24.74054	−24.74047	−24.73935	−24.73843	−24.73839	−24.73863	−24.73869	−24.73867
−24.73867	−24.73868	−24.73867	−24.73867	−24.73867	−24.73868	−24.73865	−24.73876
−24.73817	−24.73534	−24.72842	−24.70828	−24.65502	−24.58193	−24.50923	−24.47463
−24.72415	−24.72413	−24.72395	−24.72383	−24.72388	−24.72388	−24.72371	−24.72359
−24.72359	−24.72362	−24.72362	−24.72362	−24.72362	−24.72362	−24.72357	−24.72370
−24.72303	−24.72054	−24.71254	−24.69104	−24.63805	−24.55985	−24.47995	−24.44117
−24.73021	−24.73021	−24.73014	−24.73018	−24.73058	−24.73137	−24.73253	−24.73318
−24.73319	−24.73305	−24.73311	−24.73316	−24.73317	−24.73311	−24.73289	−24.73306
−24.73238	−24.72991	−24.72326	−24.70349	−24.65021	−24.56911	−24.48380	−24.44874
−24.75421	−24.75419	−24.75400	−24.75430	−24.75533	−24.75589	−24.75560	−24.75528
−24.75532	−24.75528	−24.75498	−24.75487	−24.75476	−24.75519	−24.75618	−24.75621
−24.75511	−24.75317	−24.74779	−24.72757	−24.67777	−24.59678	−24.51160	−24.48246
−24.78755	−24.78756	−24.78772	−24.78795	−24.78821	−24.78839	−24.78847	−24.78837
−24.78825	−24.78859	−24.78947	−24.79000	−24.78977	−24.79033	−24.79171	−24.79160
−24.79129	−24.78924	−24.78297	−24.76602	−24.71700	−24.63877	−24.55553	−24.53321
−24.83616	−24.83611	−24.83505	−24.83292	−24.83003	−24.82841	−24.82840	−24.82872
−24.82863	−24.82874	−24.82929	−24.82959	−24.82956	−24.82953	−24.82922	−24.82889
−24.82951	−24.82881	−24.82297	−24.80829	−24.76083	−24.68360	−24.60144	−24.58320
−24.86577	−24.86575	−24.86519	−24.86408	−24.86255	−24.86168	−24.86165	−24.86190
−24.86200	−24.86193	−24.86173	−24.86161	−24.86169	−24.86150	−24.86261	−24.86463
−24.86279	−24.86177	−24.85798	−24.84226	−24.79938	−24.72235	−24.63906	−24.62387
−24.91671	−24.91670	−24.91664	−24.91656	−24.91646	−24.91634	−24.91627	−24.91645
−24.91692	−24.91719	−24.91715	−24.91710	−24.91706	−24.91719	−24.91656	−24.91753
−24.91934	−24.91698	−24.91541	−24.90079	−24.85827	−24.78590	−24.69974	−24.68139
−24.96838	−24.96839	−24.96847	−24.96864	−24.96880	−24.96866	−24.96844	−24.96921
−24.97126	−24.97265	−24.97277	−24.97251	−24.97258	−24.97265	−24.97277	−24.97281
−24.97231	−24.97317	−24.96996	−24.95620	−24.91865	−24.84665	−24.75587	−24.73161
−25.02728	−25.02729	−25.02745	−25.02770	−25.02798	−25.02826	−25.02856	−25.02875
−25.02885	−25.02897	−25.02917	−25.02930	−25.02954	−25.02981	−25.03003	−25.03058
−25.03112	−25.03059	−25.02731	−25.01634	−24.98005	−24.91056	−24.81679	−24.78389
−25.08798	−25.08798	−25.08793	−25.08785	−25.08774	−25.08768	−25.08773	−25.08790
−25.08810	−25.08805	−25.08784	−25.08820	−25.08860	−25.08865	−25.08924	−25.08942
−25.08997	−25.08962	−25.08688	−25.07706	−25.04332	−24.97498	−24.87795	−24.83614
−25.14626	−25.14628	−25.14660	−25.14678	−25.14664	−25.14661	−25.14688	−25.14705
−25.14700	−25.14706	−25.14735	−25.14750	−25.14785	−25.14825	−25.14840	−25.14883
−25.14902	−25.14931	−25.14679	−25.13811	−25.10768	−25.04292	−24.94159	−24.88740
−25.20313	−25.20316	−25.20357	−25.20387	−25.20382	−25.20386	−25.20421	−25.20445
−25.20447	−25.20456	−25.20489	−25.20519	−25.20515	−25.20533	−25.20587	−25.20603
−25.20661	−25.20646	−25.20461	−25.19659	−25.16941	−25.10847	−25.00561	−24.93968
−25.30807	−25.30810	−25.30855	−25.30894	−25.30897	−25.30882	−25.30875	−25.30897
−25.30948	−25.30965	−25.30948	−25.30988	−25.31056	−25.31039	−25.31072	−25.31132
−25.31126	−25.31117	−25.30960	−25.30274	−25.27734	−25.21933	−25.11598	−25.04327
−25.62235	−25.62238	−25.62283	−25.62321	−25.62324	−25.62310	−25.62302	−25.62325
−25.62376	−25.62392	−25.62375	−25.62415	−25.62484	−25.62467	−25.62500	−25.62559
−25.62553	−25.62544	−25.62388	−25.61701	−25.59162	−25.53360	−25.43025	−25.35754
−25.91017	−25.91020	−25.91066	−25.91104	−25.91107	−25.91092	−25.91085	−25.91107
−25.91158	−25.91175	−25.91158	−25.91198	−25.91267	−25.91249	−25.91283	−25.91342

Table 9 (*continued*)

−25.91336	−25.91327	−25.91170	−25.90484	−25.87944	−25.82143	−25.71808	−25.64537
−26.21116	−26.21119	−26.21164	−26.21203	−26.21206	−26.21191	−26.21184	−26.21206
−26.21257	−26.21274	−26.21257	−26.21297	−26.21365	−26.21348	−26.21381	−26.21441
−26.21435	−26.21426	−26.21269	−26.20583	−26.18043	−26.12242	−26.01907	−25.94636

——————/ IGRD = 1/ IPRT = 0/———/ Z1 = 4/ DATE = 03/02/06

−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000	−74.00000
−74.00000	−74.00000	−64.87070	−58.85634	−60.06711	−61.04186	−60.82425	−60.88473
−60.86892	−60.87325	−60.87212	−60.87243	−60.87235	−60.87237	−60.87236	−60.87235
−45.24741	−45.24741	−45.24741	−45.23964	−45.22721	−45.30029	−45.33374	−45.04366
−44.92229	−46.07468	−48.20368	−49.18137	−48.98455	−48.82609	−48.86147	−48.85164
−48.85421	−48.85350	−48.85369	−48.85364	−48.85365	−48.85365	−48.85365	−48.85362
−41.88754	−41.88754	−41.88754	−41.88999	−41.89391	−41.87088	−41.86034	−41.95174
−41.98998	−41.62690	−40.95612	−40.64809	−40.71010	−40.76002	−40.74888	−40.75198
−40.75117	−40.75139	−40.75133	−40.75135	−40.75134	−40.75134	−40.75136	−40.75134
−35.23080	−35.23080	−35.23080	−35.23068	−35.23048	−35.23163	−35.23216	−35.22759
−35.22567	−35.24385	−35.27742	−35.29284	−35.28974	−35.28724	−35.28779	−35.28764
−35.28768	−35.28767	−35.28767	−35.28767	−35.28767	−35.28767	−35.28767	−35.28765
−31.74252	−31.74252	−31.74252	−31.74266	−31.74290	−31.74153	−31.74090	−31.74634
−31.74861	−31.72701	−31.68710	−31.66878	−31.67247	−31.67544	−31.67477	−31.67496
−31.67491	−31.67492	−31.67492	−31.67492	−31.67493	−31.67487	−31.67523	−31.67523
−29.23426	−29.23426	−29.23426	−29.23423	−29.23419	−29.23447	−29.23460	−29.23347
−29.23300	−29.23748	−29.24574	−29.24954	−29.24877	−29.24816	−29.24829	−29.24826
−29.24827	−29.24826	−29.24826	−29.24826	−29.24827	−29.24828	−29.24836	−29.24986
−27.90178	−27.90178	−27.90178	−27.90178	−27.90178	−27.90178	−27.90178	−27.90176
−27.90175	−27.90185	−27.90204	−27.90212	−27.90211	−27.90209	−27.90210	−27.90210
−27.90210	−27.90210	−27.90210	−27.90209	−27.90211	−27.90208	−27.90220	−27.90192
−27.00052	−27.00052	−27.00052	−27.00052	−27.00052	−27.00051	−27.00051	−27.00054
−27.00055	−27.00043	−27.00019	−27.00008	−27.00011	−27.00012	−27.00012	−27.00012
−27.00012	−27.00012	−27.00014	−27.00005	−27.00063	−27.00088	−27.00172	−27.00448
−26.48485	−26.48485	−26.48485	−26.48485	−26.48485	−26.48485	−26.48485	−26.48485
−26.48484	−26.48485	−26.48486	−26.48487	−26.48487	−26.48487	−26.48487	−26.48487
−26.48487	−26.48486	−26.48491	−26.48473	−26.48570	−26.48628	−26.48670	−26.48953
−26.21565	−26.21565	−26.21565	−26.21565	−26.21565	−26.21565	−26.21565	−26.21565
−26.21565	−26.21565	−26.21564	−26.21564	−26.21564	−26.21564	−26.21564	−26.21564
−26.21564	−26.21564	−26.21566	−26.21559	−26.21613	−26.21632	−26.21741	−26.22090
−25.96893	−25.96893	−25.96893	−25.96893	−25.96893	−25.96893	−25.96893	−25.96893
−25.96893	−25.96893	−25.96894	−25.96894	−25.96894	−25.96894	−25.96894	−25.96894
−25.96894	−25.96895	−25.96889	−25.96914	−25.96893	−25.96841	−25.97092	−25.97416
−25.84863	−25.84863	−25.84863	−25.84863	−25.84863	−25.84863	−25.84863	−25.84863
−25.84863	−25.84863	−25.84863	−25.84863	−25.84863	−25.84863	−25.84863	−25.84863
−25.84864	−25.84861	−25.84872	−25.84836	−25.85038	−25.85194	−25.85103	−25.85458
−25.78368	−25.78368	−25.78368	−25.78368	−25.78368	−25.78368	−25.78368	−25.78368
−25.78368	−25.78368	−25.78368	−25.78368	−25.78368	−25.78368	−25.78368	−25.78368
−25.78368	−25.78368	−25.78368	−25.78369	−25.78360	−25.78314	−25.78511	−25.78721
−25.74650	−25.74650	−25.74650	−25.74650	−25.74650	−25.74650	−25.74650	−25.74650
−25.74650	−25.74650	−25.74650	−25.74650	−25.74650	−25.74650	−25.74650	−25.74650
−25.74650	−25.74649	−25.74650	−25.74649	−25.74650	−25.74631	−25.74748	−25.75135
−25.72921	−25.72921	−25.72921	−25.72921	−25.72921	−25.72921	−25.72921	−25.72921
−25.72921	−25.72921	−25.72921	−25.72921	−25.72921	−25.72921	−25.72921	−25.72921

(*continued on next page*)

Table 9 (*continued*)

−25.72921	−25.72921	−25.72921	−25.72920	−25.72921	−25.72912	−25.72982	−25.73342
−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72763
−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72763
−25.72763	−25.72763	−25.72763	−25.72763	−25.72763	−25.72765	−25.72772	−25.72997
−25.74898	−25.74898	−25.74898	−25.74898	−25.74898	−25.74898	−25.74898	−25.74898
−25.74898	−25.74898	−25.74898	−25.74898	−25.74898	−25.74898	−25.74898	−25.74898
−25.74898	−25.74898	−25.74899	−25.74897	−25.74905	−25.74877	−25.75046	−25.75300
−25.75953	−25.75953	−25.75953	−25.75953	−25.75953	−25.75953	−25.75953	−25.75953
−25.75953	−25.75953	−25.75953	−25.75953	−25.75953	−25.75953	−25.75953	−25.75953
−25.75953	−25.75953	−25.75953	−25.75953	−25.75952	−25.75956	−25.75941	−25.76038
−26.04625	−26.04625	−26.04625	−26.04625	−26.04625	−26.04625	−26.04625	−26.04625
−26.04625	−26.04625	−26.04625	−26.04625	−26.04625	−26.04625	−26.04625	−26.04625
−26.04625	−26.04625	−26.04625	−26.04625	−26.04624	−26.04628	−26.04613	−26.04709
−26.34724	−26.34724	−26.34724	−26.34724	−26.34724	−26.34724	−26.34724	−26.34724
−26.34724	−26.34724	−26.34724	−26.34724	−26.34724	−26.34724	−26.34724	−26.34724
−26.34724	−26.34724	−26.34724	−26.34724	−26.34723	−26.34727	−26.34712	−26.34808

Table 10
Total recombination line power loss data for all ion stages of Be. See page 266 for Explanation of Tables

4 24	25 1	4	BERYLLIUM		GCR PROJECT		
2 1	2 1	1					
4.00000	4.47712	5.00000	5.47712	6.00000	6.47712	7.00000	7.47712
8.00000	8.47712	9.00000	9.47712	10.00000	10.47712	11.00000	11.47712
12.00000	12.47712	13.00000	13.47712	14.00000	14.47712	15.00000	15.47712
−0.69877	−0.52268	−0.30083	−0.15470	0.07938	0.30123	0.47732	0.65341
0.84530	1.04159	1.25547	1.44736	1.65341	1.84530	2.00020	2.23065
2.43157	2.63367	2.82628	3.02139	3.21690	3.39814	3.60766	3.79954
4.00020							
——————/ IPRT = 1/ IGRD = 0/——/ Z1 = 1/ DATE = 03/02/06							
−29.75762	−29.75387	−29.74857	−29.74278	−29.73403	−29.72316	−29.70936	−29.69124
−29.66270	−29.63088	−29.58623	−29.53459	−29.45857	−29.37178	−29.25294	−29.11877
−28.93067	−28.71592	−28.43485	−28.13403	−27.77537	−27.46581	−27.22012	−26.74300
−29.88200	−29.87963	−29.87710	−29.87324	−29.86671	−29.85874	−29.84908	−29.83826
−29.81796	−29.79664	−29.76758	−29.73125	−29.68005	−29.61812	−29.53564	−29.43826
−29.30215	−29.14516	−28.93267	−28.69554	−28.40144	−28.12377	−27.89091	−27.41379
−29.80629	−29.81238	−29.81903	−29.82485	−29.82979	−29.83222	−29.83386	−29.83466
−29.83189	−29.82528	−29.81760	−29.80506	−29.78485	−29.75860	−29.72187	−29.67402
−29.60508	−29.52128	−29.40000	−29.25756	−29.05899	−28.85876	−28.69459	−28.21747
−29.41985	−29.43598	−29.45339	−29.46977	−29.48709	−29.50090	−29.51311	−29.52334
−29.53490	−29.54270	−29.55032	−29.55415	−29.55613	−29.55435	−29.54756	−29.53627
−29.51383	−29.48362	−29.43398	−29.36978	−29.26802	−29.16035	−29.07379	−28.59667
−28.82514	−28.84728	−28.87113	−28.89266	−28.91577	−28.93510	−28.95205	−28.96948
−28.98384	−28.99879	−29.01457	−29.02665	−29.03875	−29.04930	−29.05793	−29.06409
−29.06877	−29.07052	−29.06965	−29.06633	−29.05859	−29.04933	−29.04279	−28.56567
−28.59944	−28.62123	−28.64512	−28.66879	−28.69409	−28.71356	−28.73172	−28.75001
−28.76972	−28.78715	−28.80295	−28.81518	−28.83091	−28.83981	−28.85043	−28.85697
−28.86091	−28.86430	−28.86810	−28.86840	−28.87020	−28.87060	−28.86800	−28.39088
−28.57802	−28.60068	−28.62475	−28.64742	−28.67229	−28.69352	−28.71361	−28.73153
−28.75051	−28.76754	−28.78475	−28.79925	−28.81180	−28.82074	−28.83224	−28.83797
−28.84472	−28.84781	−28.85082	−28.85057	−28.85291	−28.85390	−28.85450	−28.37738
−28.64717	−28.67002	−28.69491	−28.71833	−28.74394	−28.76559	−28.78564	−28.80438
−28.82345	−28.84084	−28.85612	−28.87116	−28.88439	−28.89404	−28.90384	−28.91097
−28.91780	−28.92129	−28.92478	−28.92494	−28.92497	−28.92840	−28.92833	−28.45121
−28.79450	−28.81679	−28.84111	−28.86540	−28.89195	−28.91307	−28.93267	−28.95188
−28.97025	−28.98816	−29.00680	−29.01918	−29.03485	−29.04411	−29.05294	−29.06121
−29.06652	−29.06977	−29.07235	−29.07373	−29.07531	−29.07572	−29.07604	−28.59892
−28.99441	−29.01671	−29.04036	−29.06373	−29.09002	−29.11230	−29.13257	−29.15031
−29.17108	−29.18817	−29.20489	−29.21890	−29.23347	−29.24456	−29.25387	−29.26127
−29.26593	−29.27006	−29.27206	−29.27385	−29.27477	−29.27562	−29.27591	−28.79879
−29.24336	−29.26595	−29.28974	−29.31233	−29.33805	−29.36097	−29.38134	−29.39841
−29.41851	−29.43613	−29.45328	−29.46758	−29.48103	−29.49238	−29.50292	−29.50940
−29.51475	−29.51748	−29.52021	−29.52161	−29.52293	−29.52436	−29.52437	−29.04725
−29.48128	−29.50358	−29.52744	−29.55009	−29.57456	−29.59530	−29.61617	−29.63263
−29.65342	−29.66907	−29.68610	−29.69979	−29.71355	−29.72390	−29.73405	−29.74080
−29.74495	−29.74957	−29.75202	−29.75401	−29.75379	−29.75648	−29.75644	−29.27932
−29.73733	−29.75787	−29.77931	−29.80030	−29.82350	−29.84333	−29.86348	−29.87870
−29.89751	−29.91085	−29.92776	−29.94179	−29.95275	−29.96395	−29.97161	−29.97930
−29.98334	−29.98725	−29.99116	−29.99126	−29.99140	−29.99522	−29.99530	−29.51818
−29.95742	−29.97562	−29.99447	−30.01251	−30.03384	−30.05330	−30.06889	−30.08251
−30.09747	−30.11119	−30.12453	−30.13532	−30.14647	−30.15504	−30.16311	−30.16876
−30.17308	−30.17629	−30.17846	−30.18029	−30.18177	−30.18237	−30.18282	−29.70570
−30.10613	−30.12221	−30.13860	−30.15333	−30.16988	−30.18507	−30.19897	−30.21029
−30.22255	−30.23309	−30.24423	−30.25299	−30.26202	−30.26860	−30.27537	−30.28009
−30.28354	−30.28657	−30.28847	−30.29014	−30.29148	−30.29251	−30.29226	−29.81514
−30.26658	−30.27739	−30.28836	−30.29815	−30.30858	−30.31768	−30.32693	−30.33355
−30.34125	−30.34808	−30.35406	−30.36007	−30.36518	−30.36928	−30.37344	−30.37659
−30.37868	−30.38080	−30.38183	−30.38293	−30.38397	−30.38401	−30.38505	−29.90793
−30.34711	−30.35354	−30.35997	−30.36582	−30.37226	−30.37805	−30.38392	−30.38787
−30.39187	−30.39590	−30.39894	−30.40201	−30.40510	−30.40822	−30.41031	−30.41135
−30.41346	−30.41451	−30.41557	−30.41557	−30.41663	−30.41663	−30.41663	−29.93951
−30.65027	−30.65669	−30.66313	−30.66898	−30.67541	−30.68120	−30.68707	−30.69103
−30.69502	−30.69905	−30.70210	−30.70517	−30.70826	−30.71137	−30.71346	−30.71451

(*continued on next page*)

Table 10 (*continued*)

−30.71661	−30.71767	−30.71873	−30.71873	−30.71979	−30.71979	−30.71979	−30.24267
−30.93918	−30.94560	−30.95203	−30.95789	−30.96432	−30.97011	−30.97598	−30.97994
−30.98393	−30.98796	−30.99101	−30.99408	−30.99717	−31.00028	−31.00237	−31.00342
−31.00552	−31.00658	−31.00764	−31.00764	−31.00870	−31.00870	−31.00870	−30.53158
−31.23185	−31.23827	−31.24471	−31.25056	−31.25699	−31.26278	−31.26865	−31.27261
−31.27660	−31.28063	−31.28368	−31.28675	−31.28984	−31.29296	−31.29504	−31.29609
−31.29820	−31.29925	−31.30031	−31.30031	−31.30137	−31.30137	−31.30137	−30.82425
−31.52511	−31.53153	−31.53796	−31.54382	−31.55025	−31.55604	−31.56191	−31.56587
−31.56986	−31.57389	−31.57694	−31.58001	−31.58310	−31.58621	−31.58830	−31.58935
−31.59145	−31.59251	−31.59356	−31.59356	−31.59463	−31.59463	−31.59463	−31.11750
−31.79698	−31.80340	−31.80983	−31.81569	−31.82212	−31.82791	−31.83378	−31.83774
−31.84173	−31.84576	−31.84881	−31.85188	−31.85497	−31.85808	−31.86017	−31.86122
−31.86332	−31.86438	−31.86543	−31.86543	−31.86649	−31.86649	−31.86649	−31.38937
−32.11125	−32.11767	−32.12410	−32.12996	−32.13639	−32.14218	−32.14805	−32.15201
−32.15600	−32.16003	−32.16308	−32.16615	−32.16924	−32.17235	−32.17444	−32.17549
−32.17759	−32.17865	−32.17971	−32.17971	−32.18077	−32.18077	−32.18077	−31.70365
−32.39908	−32.40550	−32.41193	−32.41779	−32.42422	−32.43001	−32.43588	−32.43984
−32.44383	−32.44786	−32.45091	−32.45398	−32.45707	−32.46018	−32.46227	−32.46332
−32.46542	−32.46648	−32.46754	−32.46754	−32.46860	−32.46860	−32.46860	−31.99147
−32.70007	−32.70649	−32.71292	−32.71878	−32.72521	−32.73100	−32.73687	−32.74083
−32.74482	−32.74885	−32.75190	−32.75497	−32.75806	−32.76117	−32.76326	−32.76431
−32.76641	−32.76747	−32.76852	−32.76852	−32.76958	−32.76958	−32.76958	−32.29246

——————/ IPRT = 1/ IGRD = 0/———/ Z1 = 2/ DATE = 03/02/06

−64.17630	−64.17460	−64.17277	−64.17063	−64.16748	−64.16369	−64.15767	−64.14962
−64.13897	−64.12865	−64.11249	−64.09081	−64.06040	−64.02610	−63.97970	−63.92685
−63.85108	−63.76735	−63.65953	−63.54653	−63.40967	−63.27739	−63.13235	−63.00729
−22.97087	−22.96633	−22.96149	−22.95556	−22.94649	−22.93533	−22.91809	−22.89597
−22.86641	−22.83636	−22.79020	−22.72842	−22.64075	−22.54196	−22.40763	−22.25196
−22.03000	−21.78075	−21.45636	−21.10925	−20.67697	−20.24930	−19.76609	−19.34201
−29.54391	−29.54170	−29.53940	−29.53669	−29.53249	−29.52710	−29.51852	−29.50737
−29.49263	−29.47785	−29.45334	−29.42212	−29.37631	−29.32392	−29.24929	−29.16397
−29.03922	−28.89649	−28.70488	−28.49010	−28.20958	−27.91054	−27.54894	−27.20402
−29.35875	−29.35739	−29.35610	−29.35438	−29.35134	−29.34718	−29.34090	−29.33352
−29.32352	−29.31225	−29.29449	−29.27179	−29.23884	−29.20011	−29.14687	−29.08168
−28.98758	−28.88128	−28.73472	−28.56819	−28.34405	−28.10288	−27.79815	−27.49836
−29.42072	−29.42003	−29.41981	−29.41900	−29.41731	−29.41532	−29.41206	−29.40737
−29.40105	−29.39503	−29.38550	−29.37346	−29.35361	−29.33183	−29.30031	−29.26153
−29.20588	−29.14189	−29.05277	−28.95010	−28.80757	−28.65110	−28.44976	−28.23747
−29.63855	−29.63851	−29.63860	−29.63797	−29.63680	−29.63593	−29.63447	−29.63163
−29.62820	−29.62613	−29.61956	−29.61273	−29.60258	−29.59102	−29.57358	−29.55080
−29.51936	−29.48303	−29.43056	−29.37108	−29.28875	−29.19665	−29.07629	−28.94468
−29.73872	−29.73878	−29.73875	−29.73855	−29.73804	−29.73720	−29.73600	−29.73483
−29.73312	−29.73076	−29.72739	−29.72341	−29.71814	−29.71041	−29.69969	−29.68578
−29.66762	−29.64458	−29.61341	−29.57643	−29.52630	−29.47060	−29.39752	−29.31717
−29.84482	−29.84471	−29.84474	−29.84515	−29.84518	−29.84380	−29.84166	−29.84067
−29.84058	−29.84020	−29.83684	−29.83674	−29.83351	−29.82938	−29.82245	−29.81503
−29.80386	−29.79291	−29.77415	−29.75311	−29.72510	−29.69363	−29.65595	−29.61210
−29.93867	−29.93867	−29.93867	−29.93866	−29.93867	−29.93869	−29.93876	−29.93886
−29.93882	−29.93863	−29.93923	−29.93571	−29.93527	−29.93249	−29.92861	−29.92513
−29.92189	−29.91586	−29.90600	−29.89628	−29.88378	−29.87178	−29.85469	−29.83813
−30.00449	−30.00446	−30.00448	−30.00453	−30.00451	−30.00428	−30.00397	−30.00391
−30.00391	−30.00360	−30.00292	−30.00332	−30.00312	−30.00386	−30.00007	−29.99990
−29.99619	−29.99606	−29.99361	−29.98982	−29.98675	−29.98365	−29.97801	−29.97182
−29.85136	−29.85140	−29.85136	−29.85135	−29.85136	−29.85135	−29.85136	−29.85146
−29.85157	−29.85157	−29.85163	−29.85152	−29.85172	−29.85168	−29.85183	−29.85177
−29.85214	−29.85210	−29.85220	−29.85206	−29.85547	−29.85589	−29.85956	−29.85900
−29.44161	−29.44203	−29.44213	−29.44212	−29.44209	−29.44207	−29.44227	−29.44289
−29.44374	−29.44419	−29.44417	−29.44437	−29.44576	−29.44642	−29.44631	−29.44651
−29.44753	−29.44811	−29.44821	−29.44998	−29.45292	−29.45538	−29.45898	−29.46263
−29.13019	−29.13036	−29.13052	−29.13063	−29.13084	−29.13130	−29.13190	−29.13225
−29.13267	−29.13338	−29.13382	−29.13433	−29.13530	−29.13600	−29.13639	−29.13709
−29.13737	−29.13795	−29.13883	−29.14089	−29.14383	−29.14680	−29.15194	−29.15462
−29.02513	−29.02522	−29.02518	−29.02527	−29.02556	−29.02592	−29.02643	−29.02706
−29.02781	−29.02834	−29.02874	−29.02964	−29.03016	−29.03102	−29.03162	−29.03205

Table 10 (*continued*)

−29.03255	−29.03293	−29.03418	−29.03590	−29.03898	−29.04257	−29.04775	−29.05065
−29.03406	−29.03416	−29.03411	−29.03419	−29.03448	−29.03492	−29.03543	−29.03579
−29.03633	−29.03725	−29.03783	−29.03827	−29.03918	−29.03974	−29.04062	−29.04119
−29.04166	−29.04206	−29.04334	−29.04515	−29.04795	−29.05113	−29.05633	−29.05938
−29.13970	−29.13965	−29.13966	−29.13988	−29.14024	−29.14052	−29.14084	−29.14130
−29.14197	−29.14262	−29.14323	−29.14382	−29.14444	−29.14503	−29.14567	−29.14628
−29.14688	−29.14753	−29.14807	−29.14959	−29.15261	−29.15544	−29.16077	−29.16320
−29.26969	−29.26989	−29.26973	−29.26960	−29.26962	−29.26984	−29.27038	−29.27118
−29.27184	−29.27176	−29.27253	−29.27307	−29.27388	−29.27455	−29.27474	−29.27520
−29.27617	−29.27620	−29.27678	−29.27794	−29.28049	−29.28345	−29.28755	−29.28969
−29.38408	−29.38453	−29.38496	−29.38499	−29.38480	−29.38478	−29.38508	−29.38568
−29.38631	−29.38645	−29.38653	−29.38720	−29.38781	−29.38762	−29.38891	−29.38884
−29.38911	−29.38914	−29.39023	−29.39128	−29.39254	−29.39400	−29.39834	−29.39949
−29.46067	−29.46060	−29.46068	−29.46120	−29.46188	−29.46207	−29.46196	−29.46203
−29.46209	−29.46191	−29.46298	−29.46334	−29.46328	−29.46332	−29.46324	−29.46437
−29.46464	−29.46459	−29.46452	−29.46560	−29.46701	−29.46813	−29.46988	−29.47067
−29.48366	−29.48367	−29.48367	−29.48364	−29.48365	−29.48374	−29.48372	−29.48337
−29.48346	−29.48473	−29.48501	−29.48494	−29.48496	−29.48496	−29.48496	−29.48495
−29.48499	−29.48485	−29.48603	−29.48633	−29.48616	−29.48715	−29.48894	−29.48871
−29.77692	−29.77692	−29.77692	−29.77690	−29.77690	−29.77700	−29.77697	−29.77663
−29.77672	−29.77799	−29.77827	−29.77820	−29.77822	−29.77821	−29.77822	−29.77821
−29.77824	−29.77811	−29.77929	−29.77959	−29.77942	−29.78040	−29.78219	−29.78197
−30.04879	−30.04879	−30.04879	−30.04877	−30.04877	−30.04887	−30.04884	−30.04850
−30.04859	−30.04986	−30.05014	−30.05007	−30.05009	−30.05008	−30.05009	−30.05008
−30.05011	−30.04998	−30.05116	−30.05146	−30.05129	−30.05227	−30.05406	−30.05384
−30.36306	−30.36307	−30.36307	−30.36304	−30.36305	−30.36314	−30.36312	−30.36277
−30.36286	−30.36413	−30.36441	−30.36434	−30.36436	−30.36435	−30.36436	−30.36435
−30.36439	−30.36425	−30.36543	−30.36573	−30.36556	−30.36655	−30.36834	−30.36811
−30.65089	−30.65090	−30.65089	−30.65087	−30.65088	−30.65097	−30.65094	−30.65060
−30.65069	−30.65196	−30.65224	−30.65217	−30.65219	−30.65218	−30.65219	−30.65218
−30.65221	−30.65208	−30.65326	−30.65356	−30.65339	−30.65438	−30.65616	−30.65594
−30.95188	−30.95188	−30.95188	−30.95186	−30.95186	−30.95196	−30.95193	−30.95159
−30.95168	−30.95295	−30.95323	−30.95316	−30.95318	−30.95317	−30.95318	−30.95317
−30.95320	−30.95307	−30.95425	−30.95455	−30.95438	−30.95536	−30.95715	−30.95693

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−64.50605	−64.50415	−64.50201	−64.49817	−64.47965	−64.43481	−64.34253	−64.21207
−64.03306	−63.85810	−63.66309	−63.48445	−63.29232	−63.12337	−62.94778	−62.79387
−62.62889	−62.47866	−62.31431	−62.16259	−61.99494	−61.84011	−61.67069	−61.51437
−24.08683	−24.08353	−24.07994	−24.07422	−24.04883	−23.98829	−23.86448	−23.69011
−23.45009	−23.21305	−22.94126	−22.67334	−22.34372	−21.97239	−21.47496	−20.95379
−20.34995	−19.79003	−19.17553	−18.62290	−18.02983	−17.49733	−16.91809	−16.38878
−30.48555	−30.48506	−30.48442	−30.48389	−30.48389	−30.48506	−30.48841	−30.49381
−30.50092	−30.50649	−30.51035	−30.51039	−30.50269	−30.48706	−30.45734	−30.41516
−30.34803	−30.25885	−30.10902	−29.89091	−29.53834	−29.13417	−28.64046	−28.17470
−30.27283	−30.27246	−30.27212	−30.27167	−30.27095	−30.27009	−30.26912	−30.26837
−30.26723	−30.26515	−30.26115	−30.25566	−30.24659	−30.23663	−30.22286	−30.20410
−30.17524	−30.14118	−30.09442	−30.04295	−29.95515	−29.83439	−29.63219	−29.36383
−30.28070	−30.28029	−30.27962	−30.27930	−30.27892	−30.27789	−30.27590	−30.27346
−30.27004	−30.26613	−30.26116	−30.25626	−30.24938	−30.24425	−30.23825	−30.23103
−30.21864	−30.20121	−30.17542	−30.14103	−30.08980	−30.02968	−29.95810	−29.88673
−30.43980	−30.43959	−30.43921	−30.43886	−30.43858	−30.43845	−30.43828	−30.43789
−30.43721	−30.43640	−30.43503	−30.43378	−30.43079	−30.42730	−30.42304	−30.41631
−30.40725	−30.39554	−30.38083	−30.36411	−30.33910	−30.30796	−30.26485	−30.21141
−30.49137	−30.49155	−30.49171	−30.49149	−30.49112	−30.49113	−30.49118	−30.49066
−30.48975	−30.48912	−30.48799	−30.48653	−30.48501	−30.48272	−30.47964	−30.47684
−30.47160	−30.46389	−30.45385	−30.44231	−30.42530	−30.40471	−30.37622	−30.34170
−30.54745	−30.54690	−30.54609	−30.54586	−30.54607	−30.54627	−30.54619	−30.54574
−30.54557	−30.54621	−30.54466	−30.54405	−30.54239	−30.54223	−30.54102	−30.53770
−30.53400	−30.53019	−30.52363	−30.51651	−30.50590	−30.49305	−30.47577	−30.45339
−30.58958	−30.58959	−30.58963	−30.58968	−30.58967	−30.58954	−30.58958	−30.59003
−30.58991	−30.58823	−30.58792	−30.58798	−30.58811	−30.58679	−30.58478	−30.58492
−30.58209	−30.58037	−30.57598	−30.57276	−30.56585	−30.55802	−30.54856	−30.53462
−30.61492	−30.61489	−30.61485	−30.61484	−30.61484	−30.61486	−30.61486	−30.61479

(*continued on next page*)

Table 10 (*continued*)

−30.61481	−30.61504	−30.61498	−30.61515	−30.61351	−30.61302	−30.61350	−30.61179
−30.61187	−30.61039	−30.60900	−30.60594	−30.60284	−30.59854	−30.59274	−30.58544
−30.61910	−30.61911	−30.61911	−30.61911	−30.61911	−30.61911	−30.61911	−30.61912
−30.61912	−30.61908	−30.61910	−30.61904	−30.61934	−30.61781	−30.61740	−30.61733
−30.61744	−30.61594	−30.61581	−30.61445	−30.61272	−30.61114	−30.60852	−30.60374
−30.60047	−30.60047	−30.60047	−30.60046	−30.60046	−30.60047	−30.60047	−30.60046
−30.60046	−30.60048	−30.60048	−30.60048	−30.60042	−30.60060	−30.60083	−30.59963
−30.59931	−30.59962	−30.59907	−30.59782	−30.59802	−30.59649	−30.59585	−30.59280
−30.56018	−30.56018	−30.56018	−30.56018	−30.56018	−30.56018	−30.56018	−30.56018
−30.56018	−30.56017	−30.56017	−30.56017	−30.56019	−30.56015	−30.56011	−30.56029
−30.56032	−30.56034	−30.55974	−30.55969	−30.55998	−30.55819	−30.55832	−30.55674
−30.50805	−30.50805	−30.50805	−30.50805	−30.50805	−30.50805	−30.50805	−30.50805
−30.50805	−30.50805	−30.50805	−30.50805	−30.50805	−30.50805	−30.50805	−30.50805
−30.50805	−30.50805	−30.50804	−30.50803	−30.50807	−30.50796	−30.50861	−30.50566
−30.45847	−30.45847	−30.45847	−30.45847	−30.45847	−30.45847	−30.45847	−30.45847
−30.45847	−30.45847	−30.45847	−30.45847	−30.45847	−30.45847	−30.45846	−30.45847
−30.45847	−30.45847	−30.45846	−30.45845	−30.45848	−30.45840	−30.45886	−30.45720
−30.37290	−30.37290	−30.37290	−30.37290	−30.37290	−30.37290	−30.37290	−30.37290
−30.37290	−30.37290	−30.37290	−30.37290	−30.37290	−30.37290	−30.37290	−30.37290
−30.37290	−30.37290	−30.37290	−30.37289	−30.37292	−30.37280	−30.37326	−30.37162
−30.29416	−30.29416	−30.29416	−30.29416	−30.29416	−30.29416	−30.29416	−30.29416
−30.29416	−30.29416	−30.29416	−30.29416	−30.29416	−30.29416	−30.29416	−30.29416
−30.29416	−30.29416	−30.29416	−30.29416	−30.29419	−30.29407	−30.29453	−30.29287
−30.20765	−30.20765	−30.20765	−30.20765	−30.20765	−30.20765	−30.20765	−30.20765
−30.20765	−30.20765	−30.20765	−30.20765	−30.20765	−30.20765	−30.20765	−30.20765
−30.20765	−30.20765	−30.20765	−30.20764	−30.20767	−30.20756	−30.20802	−30.20636
−30.13697	−30.13697	−30.13697	−30.13697	−30.13697	−30.13697	−30.13697	−30.13697
−30.13697	−30.13697	−30.13697	−30.13697	−30.13697	−30.13697	−30.13697	−30.13697
−30.13697	−30.13697	−30.13697	−30.13696	−30.13700	−30.13688	−30.13734	−30.13569
−30.06355	−30.06355	−30.06355	−30.06355	−30.06355	−30.06355	−30.06355	−30.06355
−30.06355	−30.06355	−30.06355	−30.06355	−30.06355	−30.06355	−30.06355	−30.06355
−30.06355	−30.06355	−30.06355	−30.06354	−30.06358	−30.06346	−30.06392	−30.06227
−30.35681	−30.35681	−30.35681	−30.35681	−30.35681	−30.35681	−30.35681	−30.35681
−30.35681	−30.35681	−30.35681	−30.35681	−30.35681	−30.35681	−30.35681	−30.35681
−30.35681	−30.35681	−30.35681	−30.35680	−30.35683	−30.35671	−30.35718	−30.35552
−30.62868	−30.62868	−30.62868	−30.62868	−30.62868	−30.62868	−30.62868	−30.62868
−30.62868	−30.62868	−30.62868	−30.62868	−30.62868	−30.62868	−30.62868	−30.62868
−30.62868	−30.62868	−30.62868	−30.62867	−30.62870	−30.62858	−30.62905	−30.62739
−30.94295	−30.94295	−30.94295	−30.94295	−30.94295	−30.94295	−30.94295	−30.94295
−30.94295	−30.94295	−30.94295	−30.94295	−30.94295	−30.94295	−30.94295	−30.94295
−30.94295	−30.94295	−30.94295	−30.94294	−30.94298	−30.94286	−30.94332	−30.94166
−31.23078	−31.23078	−31.23078	−31.23078	−31.23078	−31.23078	−31.23078	−31.23078
−31.23078	−31.23078	−31.23078	−31.23078	−31.23078	−31.23078	−31.23078	−31.23078
−31.23078	−31.23078	−31.23078	−31.23077	−31.23080	−31.23068	−31.23115	−31.22949
−31.53177	−31.53177	−31.53177	−31.53177	−31.53177	−31.53177	−31.53177	−31.53177
−31.53177	−31.53177	−31.53177	−31.53177	−31.53177	−31.53177	−31.53177	−31.53177
−31.53177	−31.53177	−31.53177	−31.53176	−31.53179	−31.53167	−31.53214	−31.53048

————————/ IPRT = 1/ IGRD = 0/———/ Z1 = 3/ DATE = 03/02/06

−27.80431	−27.80401	−27.79783	−27.78643	−27.77067	−27.75799	−27.74462	−27.72148
−27.67738	−27.62504	−27.55908	−27.49188	−27.40023	−27.27937	−27.10030	−26.90041
−26.63931	−26.35575	−25.97448	−25.55181	−25.03493	−24.53873	−23.98091	−23.48956
−27.92151	−27.92127	−27.91649	−27.90812	−27.89677	−27.88672	−27.87484	−27.85632
−27.82308	−27.78273	−27.73015	−27.67673	−27.60385	−27.50753	−27.36536	−27.20476
−26.99489	−26.76441	−26.45022	−26.09922	−25.66064	−25.22707	−24.72431	−24.26187
−28.06925	−28.06909	−28.06604	−28.06137	−28.05534	−28.04858	−28.03876	−28.02606
−28.00613	−27.98062	−27.94485	−27.90864	−27.85909	−27.79340	−27.69715	−27.58553
−27.43921	−27.27480	−27.04451	−26.78309	−26.44320	−26.08915	−25.65706	−25.23263
−28.16729	−28.16717	−28.16506	−28.16173	−28.15732	−28.15243	−28.14543	−28.13631
−28.12195	−28.10380	−28.07837	−28.05183	−28.01492	−27.96640	−27.89476	−27.81044
−27.69716	−27.56898	−27.38757	−27.17860	−26.90343	−26.60691	−26.23298	−25.84850
−28.32523	−28.32515	−28.32385	−28.32213	−28.32014	−28.31742	−28.31284	−28.30733
−28.29944	−28.28926	−28.27429	−28.25819	−28.23565	−28.20564	−28.16092	−28.10846
−28.03794	−27.95484	−27.83281	−27.69457	−27.50779	−27.30133	−27.02751	−26.73312
−28.47650	−28.47645	−28.47551	−28.47445	−28.47356	−28.47238	−28.47009	−28.46686

Table 10 (*continued*)

−28.46187	−28.45582	−28.44725	−28.43719	−28.42316	−28.40565	−28.37780	−28.34469
−28.29976	−28.24576	−28.16747	−28.07610	−27.95221	−27.81251	−27.62322	−27.41472
−28.59739	−28.59738	−28.59713	−28.59656	−28.59562	−28.59465	−28.59334	−28.59120
−28.58757	−28.58368	−28.57866	−28.57184	−28.56205	−28.55051	−28.53190	−28.50991
−28.47888	−28.44192	−28.38769	−28.32430	−28.23665	−28.13591	−27.99988	−27.84880
−28.71736	−28.71737	−28.71749	−28.71734	−28.71667	−28.71589	−28.71493	−28.71367
−28.71149	−28.70844	−28.70419	−28.70063	−28.69494	−28.68632	−28.67543	−28.66129
−28.63983	−28.61423	−28.57774	−28.53397	−28.47423	−28.40438	−28.30789	−28.20139
−28.84636	−28.84634	−28.84621	−28.84650	−28.84717	−28.84669	−28.84466	−28.84334
−28.84328	−28.84283	−28.84079	−28.83801	−28.83433	−28.82966	−28.82134	−28.81193
−28.79946	−28.78276	−28.76022	−28.73230	−28.69253	−28.64697	−28.58391	−28.51367
−28.97590	−28.97594	−28.97627	−28.97548	−28.97303	−28.97126	−28.97102	−28.97161
−28.97200	−28.97106	−28.96863	−28.96706	−28.96742	−28.96602	−28.96111	−28.95577
−28.94657	−28.93772	−28.92312	−28.90745	−28.88357	−28.85420	−28.81500	−28.77174
−29.05949	−29.05949	−29.05946	−29.05956	−29.05993	−29.06047	−29.06107	−29.06113
−29.06067	−29.06064	−29.06121	−29.06103	−29.05932	−29.05855	−29.05775	−29.05546
−29.05392	−29.04957	−29.04400	−29.03635	−29.02655	−29.01242	−28.99163	−28.97146
−28.83331	−28.83332	−28.83334	−28.83309	−28.83282	−28.83381	−28.83638	−28.83804
−28.83849	−28.83986	−28.84331	−28.84614	−28.84750	−28.85092	−28.85701	−28.86133
−28.86824	−28.87169	−28.87619	−28.88127	−28.88609	−28.88746	−28.88632	−28.88481
−28.38569	−28.38569	−28.38582	−28.38621	−28.38701	−28.38806	−28.38950	−28.39103
−28.39321	−28.39639	−28.40127	−28.40601	−28.41185	−28.41859	−28.42809	−28.43901
−28.45085	−28.46264	−28.47580	−28.48779	−28.50129	−28.51362	−28.52518	−28.53381
−28.15657	−28.15659	−28.15696	−28.15742	−28.15794	−28.15882	−28.16040	−28.16213
−28.16451	−28.16797	−28.17336	−28.17862	−28.18493	−28.19249	−28.20255	−28.21399
−28.22783	−28.24073	−28.25642	−28.27039	−28.28589	−28.29898	−28.31312	−28.32463
−28.09796	−28.09797	−28.09811	−28.09851	−28.09927	−28.10017	−28.10145	−28.10317
−28.10594	−28.10936	−28.11423	−28.11981	−28.12656	−28.13374	−28.14453	−28.15616
−28.17029	−28.18393	−28.19964	−28.21425	−28.23082	−28.24498	−28.25919	−28.27165
−28.15535	−28.15539	−28.15602	−28.15670	−28.15723	−28.15799	−28.15944	−28.16112
−28.16342	−28.16648	−28.17128	−28.17694	−28.18385	−28.19068	−28.20053	−28.21223
−28.22682	−28.24025	−28.25596	−28.27121	−28.28727	−28.30196	−28.31714	−28.32933
−28.29283	−28.29285	−28.29326	−28.29389	−28.29467	−28.29541	−28.29645	−28.29807
−28.30075	−28.30362	−28.30742	−28.31267	−28.31985	−28.32624	−28.33535	−28.34691
−28.36105	−28.37409	−28.38929	−28.40409	−28.42031	−28.43372	−28.44902	−28.46126
−28.47063	−28.47066	−28.47112	−28.47173	−28.47235	−28.47292	−28.47382	−28.47534
−28.47789	−28.48046	−28.48365	−28.48824	−28.49460	−28.50082	−28.50943	−28.51902
−28.53215	−28.54440	−28.55789	−28.57137	−28.58615	−28.59940	−28.61406	−28.62487
−28.64510	−28.64506	−28.64465	−28.64474	−28.64587	−28.64713	−28.64828	−28.64933
−28.65080	−28.65275	−28.65589	−28.65991	−28.66534	−28.67047	−28.67740	−28.68654
−28.69751	−28.70766	−28.71910	−28.73017	−28.74396	−28.75518	−28.76705	−28.77549
−28.78873	−28.78883	−28.79036	−28.79177	−28.79211	−28.79186	−28.79166	−28.79201
−28.79336	−28.79560	−28.79895	−28.80217	−28.80550	−28.80812	−28.81263	−28.81962
−28.82818	−28.83630	−28.84465	−28.85403	−28.86278	−28.87225	−28.88016	−28.88694
−28.87407	−28.87407	−28.87394	−28.87362	−28.87337	−28.87414	−28.87607	−28.87712
−28.87682	−28.87677	−28.87815	−28.88056	−28.88393	−28.88703	−28.89029	−28.89320
−28.89743	−28.90404	−28.90983	−28.91306	−28.92078	−28.92565	−28.93054	−28.93659
−28.96049	−28.96050	−28.96050	−28.96049	−28.96046	−28.96053	−28.96063	−28.96037
−28.96000	−28.96098	−28.96335	−28.96394	−28.96526	−28.96785	−28.96849	−28.97245
−28.97626	−28.97967	−28.98404	−28.98626	−28.98703	−28.99115	−28.99504	−28.99892
−29.27477	−29.27477	−29.27477	−29.27476	−29.27473	−29.27480	−29.27490	−29.27464
−29.27428	−29.27525	−29.27763	−29.27821	−29.27954	−29.28213	−29.28277	−29.28672
−29.29054	−29.29394	−29.29831	−29.30053	−29.30131	−29.30542	−29.30931	−29.31319
−29.56260	−29.56260	−29.56260	−29.56259	−29.56256	−29.56263	−29.56273	−29.56247
−29.56210	−29.56308	−29.56546	−29.56604	−29.56736	−29.56996	−29.57059	−29.57455
−29.57837	−29.58177	−29.58614	−29.58836	−29.58913	−29.59325	−29.59714	−29.60102
−29.86358	−29.86359	−29.86359	−29.86358	−29.86355	−29.86362	−29.86372	−29.86346
−29.86309	−29.86407	−29.86644	−29.86703	−29.86835	−29.87094	−29.87158	−29.87554
−29.87935	−29.88276	−29.88713	−29.88935	−29.89012	−29.89424	−29.89813	−29.90201

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−27.00464	−27.00464	−27.00464	−27.00265	−26.99091	−26.97826	−26.96435	−26.94766
−26.92101	−26.88598	−26.83092	−26.76044	−26.66679	−26.57817	−26.44443	−26.25800
−26.00344	−25.73007	−25.37271	−24.96887	−24.43732	−23.87050	−23.21445	−22.62532
−27.11834	−27.11834	−27.11834	−27.11677	−27.10739	−27.09702	−27.08526	−27.07120

(*continued on next page*)

Table 10 (*continued*)

−27.04896	−27.01983	−26.97427	−26.91627	−26.83895	−26.76464	−26.65257	−26.49745
−26.28416	−26.05276	−25.74948	−25.40609	−24.94877	−24.45791	−23.88012	−23.34739
−27.26159	−27.26159	−27.26159	−27.26055	−27.25415	−27.24663	−27.23759	−27.22684
−27.21015	−27.18847	−27.15487	−27.11260	−27.05585	−26.99957	−26.91481	−26.79912
−26.63783	−26.45929	−26.22414	−25.95693	−25.59312	−25.19796	−24.71878	−24.25710
−27.35595	−27.35595	−27.35595	−27.35525	−27.35081	−27.34518	−27.33793	−27.32935
−27.31632	−27.29954	−27.27382	−27.24192	−27.19872	−27.15431	−27.08753	−26.99783
−26.87078	−26.72707	−26.53679	−26.31975	−26.01754	−25.68541	−25.27118	−24.85631
−27.50755	−27.50755	−27.50755	−27.50726	−27.50522	−27.50200	−27.49736	−27.49229
−27.48499	−27.47524	−27.46002	−27.44144	−27.41618	−27.38909	−27.34796	−27.29428
−27.21524	−27.12383	−26.99982	−26.85505	−26.64542	−26.41015	−26.10239	−25.77268
−27.65195	−27.65195	−27.65195	−27.65178	−27.65066	−27.64905	−27.64682	−27.64430
−27.64022	−27.63418	−27.62473	−27.61403	−27.59942	−27.58198	−27.55745	−27.52450
−27.47496	−27.41841	−27.33965	−27.24346	−27.10521	−26.94605	−26.73235	−26.49388
−27.76887	−27.76887	−27.76887	−27.76863	−27.76733	−27.76623	−27.76511	−27.76308
−27.75956	−27.75579	−27.75057	−27.74352	−27.73344	−27.72319	−27.70578	−27.68320
−27.65089	−27.61281	−27.55794	−27.49155	−27.39514	−27.28277	−27.12978	−26.95298
−27.88432	−27.88432	−27.88432	−27.88443	−27.88470	−27.88401	−27.88223	−27.88073
−27.87945	−27.87806	−27.87524	−27.87034	−27.86272	−27.85512	−27.84459	−27.82916
−27.80711	−27.78180	−27.74531	−27.70032	−27.63449	−27.55680	−27.44847	−27.32361
−28.01233	−28.01233	−28.01233	−28.01229	−28.01203	−28.01161	−28.01094	−28.01009
−28.00893	−28.00773	−28.00577	−28.00256	−27.99793	−27.99400	−27.98772	−27.97758
−27.96247	−27.94871	−27.92567	−27.89535	−27.85259	−27.80200	−27.73087	−27.64657
−28.14199	−28.14199	−28.14199	−28.14190	−28.14149	−28.14128	−28.14121	−28.14079
−28.13989	−28.13905	−28.13800	−28.13644	−28.13397	−28.13124	−28.12708	−28.12177
−28.11348	−28.10314	−28.08869	−28.07048	−28.04273	−28.01174	−27.96632	−27.91268
−28.28116	−28.28116	−28.28116	−28.28114	−28.28102	−28.28079	−28.28048	−28.28034
−28.28016	−28.27962	−28.27865	−28.27782	−28.27672	−28.27481	−28.27254	−28.27007
−28.26505	−28.25910	−28.25115	−28.24073	−28.22538	−28.20674	−28.18004	−28.14902
−28.40204	−28.40204	−28.40204	−28.40207	−28.40212	−28.40178	−28.40114	−28.40092
−28.40100	−28.40077	−28.40014	−28.39969	−28.39922	−28.39828	−28.39729	−28.39572
−28.39300	−28.38936	−28.38461	−28.37865	−28.36978	−28.35888	−28.34307	−28.32399
−28.52412	−28.52412	−28.52412	−28.52412	−28.52412	−28.52413	−28.52418	−28.52434
−28.52439	−28.52391	−28.52314	−28.52301	−28.52306	−28.52197	−28.52155	−28.52107
−28.51973	−28.51779	−28.51565	−28.51183	−28.50685	−28.50119	−28.49256	−28.48309
−28.62670	−28.62670	−28.62670	−28.62670	−28.62670	−28.62670	−28.62671	−28.62666
−28.62664	−28.62681	−28.62689	−28.62626	−28.62518	−28.62490	−28.62490	−28.62512
−28.62384	−28.62322	−28.62231	−28.62057	−28.61777	−28.61439	−28.60983	−28.60497
−28.69697	−28.69697	−28.69697	−28.69697	−28.69697	−28.69697	−28.69697	−28.69697
−28.69698	−28.69696	−28.69695	−28.69698	−28.69705	−28.69711	−28.69713	−28.69712
−28.69715	−28.69730	−28.69571	−28.69500	−28.69421	−28.69190	−28.69025	−28.68713
−28.78184	−28.78184	−28.78184	−28.78184	−28.78184	−28.78184	−28.78183	−28.78186
−28.78187	−28.78177	−28.78172	−28.78213	−28.78227	−28.78066	−28.77973	−28.77990
−28.78003	−28.77901	−28.77845	−28.77865	−28.77888	−28.77814	−28.77761	−28.77753
−28.82545	−28.82545	−28.82545	−28.82545	−28.82545	−28.82545	−28.82545	−28.82545
−28.82545	−28.82544	−28.82543	−28.82548	−28.82549	−28.82534	−28.82525	−28.82527
−28.82526	−28.82529	−28.82530	−28.82529	−28.82529	−28.82530	−28.82531	−28.82532
−28.84524	−28.84524	−28.84524	−28.84524	−28.84524	−28.84524	−28.84524	−28.84524
−28.84524	−28.84523	−28.84523	−28.84525	−28.84526	−28.84519	−28.84515	−28.84516
−28.84516	−28.84517	−28.84517	−28.84517	−28.84517	−28.84517	−28.84518	−28.84518
−28.83697	−28.83697	−28.83697	−28.83697	−28.83697	−28.83697	−28.83697	−28.83697
−28.83697	−28.83697	−28.83697	−28.83697	−28.83697	−28.83696	−28.83695	−28.83695
−28.83695	−28.83696	−28.83696	−28.83696	−28.83696	−28.83696	−28.83696	−28.83695
−28.80934	−28.80934	−28.80934	−28.80934	−28.80934	−28.80934	−28.80934	−28.80934
−28.80934	−28.80934	−28.80934	−28.80934	−28.80934	−28.80934	−28.80933	−28.80934
−28.80933	−28.80934	−28.80934	−28.80934	−28.80934	−28.80933	−28.80937	−28.80938
−28.76359	−28.76359	−28.76359	−28.76359	−28.76359	−28.76359	−28.76359	−28.76359
−28.76359	−28.76359	−28.76359	−28.76359	−28.76358	−28.76359	−28.76359	−28.76359
−28.76359	−28.76359	−28.76359	−28.76359	−28.76358	−28.76362	−28.76336	−28.76316
−28.72367	−28.72367	−28.72367	−28.72367	−28.72367	−28.72367	−28.72367	−28.72367
−28.72367	−28.72367	−28.72367	−28.72367	−28.72367	−28.72367	−28.72367	−28.72367
−28.72367	−28.72367	−28.72367	−28.72366	−28.72372	−28.72351	−28.72469	−28.72549
−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178
−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178
−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63178	−28.63179	−28.63179
−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811

Table 10 (*continued*)

−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811
−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91811	−28.91812	−28.91811
−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910
−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910
−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21910	−29.21909