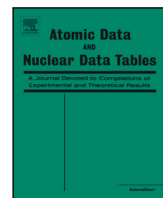




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journal homepage: www.elsevier.com/locate/adtNuclear β^- -decay with statistical de-excitationM.R. Mumpower^{a,c}^{*}, T. Kawano^a, O. Korobkin^a, G.W. Misch^b, T.M. Sprouse^a^a Theoretical Division, Los Alamos National Laboratory, Los Alamos, NM 87545, USA^b Theoretical Design, Los Alamos National Laboratory, Los Alamos, NM 87545, USA^c Center for Theoretical Astrophysics, Los Alamos National Laboratory, Los Alamos, NM 87545, USA

A B S T R A C T

The accurate description of nuclear β^- -decay has far-reaching consequences for applications spanning nuclear reactors to the creation of heavy elements in astrophysical environments. We present the nuclear particle spectra associated with the β^- -decay of neutron-rich nuclei calculated with the well benchmarked coupled Quasi-particle Random Phase Approximation and Hauser-Feshbach (QRPA+HF) model. This approach begins with the population of the daughter nucleus via semi-microscopic Gamow-Teller or First-Forbidden strength distributions (QRPA) and follows the statistical de-excitation (HF) until the initial available excitation energy is exhausted. At each stage of de-excitation the emission by neutrons and γ -rays is considered obeying quantum mechanical selection rules. For completeness we also provide parsed Auger and Internal Conversion (IC) electron spectra from Evaluated Nuclear Data Files (ENDF). Our results are tabulated and provided in parsable ASCII formatted tables that are suitable for inclusion in various applications.

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1. Introduction

The weak interaction is responsible for the process of nuclear β^- -decay in which a neutron is converted into a proton with emission of an electron and electron anti-neutrino. In nuclei, this process transforms the parent nucleus (Z, A), with Z protons and A nucleons into a daughter nucleus, ($Z+1, A$), often leaving the daughter nucleus in an excited state that may decay via emission of γ -rays. If the precursor nucleus is sufficiently neutron-rich, the excitation energy may be above the neutron separation energy opening the channel for neutron emission. When there are sufficient levels in the daughter nucleus, a statistical picture of the subsequent nuclear de-excitation may be employed [1–6]. The participating particles may be emitted at a host of energies and depend on the details of nuclear structure [7]. An accurate description of the particle spectra and branching ratios that arise during this phenomenon are important inputs for a number of applications including the study of fission [8–11], nuclear reactors [12–14] and associated reactor neutrinos [15–18], tests of fundamental symmetries [19–21], and during the production of elements in astrophysical events [22–25] that may produce observable electromagnetic signatures [26–32].

Experimental measurements of β^- -decay and β^- -delayed neutron emission have been performed by a number of groups [33–38]. More recently, the population of ^{131}Sn from β^- -decay of isomerically pure ^{131}In has allowed for the identification of the delayed neutron emission probabilities from each isomeric state in ^{131}In [39]. In similar work, the β^- -delayed neutron spectroscopy of ^{70}Co and ^{72}Co was explored where the β^- -decay strength above the neutron separation energy of ^{70}Ni was identified [40]. In the work of Yokoyama et al. β^- -delayed 2 neutron emitters were studied in the Ga ($Z = 31$) isotopic chain [41]. It was shown that the probability to emit neutrons in statistical model calculations are sensitive to the nuclear level densities, especially to the level density of the 1-neutron emitting daughter. Experimental evidence has also arisen for non-statistical decay, which may require a modification of the compound nucleus assumption in neutron-rich nuclei [42]. Using experimental data along the potassium isotopic chain, it has been proposed that non-statistical neutron emission may proceed via coupling with nearby doorway states that have sufficient neutron-emission probabilities [43]. While other methods are being developed [44], from a pragmatic perspective, the statistical picture of nuclear de-excitation is presently the only viable predictive model for large scale studies of the β^- -decay of atomic nuclei. Indeed, statistical de-excitation models have continually outperformed cut-off methods [45] for predicting delayed neutron emission [46,47].

The distribution of excited states populated in the daughter nucleus, particularly in the continuum, is not always measured experimentally. This quantity can be estimated via techniques like the Quasi-particle Random Phase Approximation (QRPA). In analogy to other uses of

strength functions in nuclear physics, the β -strength function refers to the behavior of the squares of overlap integrals. This quantity (definition provided in the next section) is typically given as an average over energy levels and may also include sums over multipolarity, parity, and spin of the final state [48]. Theoretical calculations of particle spectra and branching ratios have been performed in the past using simple models of the β -strength function [49–53]. More recent work on β^- -decay has been performed using microscopic approaches [54,55] and with the finite amplitude method [56–58], however, these works have not yet provided particle spectra.

In this work we present the particle spectra associated with nuclear β^- -decay using the Los Alamos statistical de-excitation framework [3, 4,6,59]. While the details of our model have been stated in previous work, we provide a brief overview of the assumptions in Section 2. In Section 3 we discuss the calculation of the particle spectra. In Section 4 we discuss the outputs of the model and end with a presentation of the results across the chart of nuclides which are also provided as supplementary ASCII formatted files.

2. The QRPA+HF Model

We employ the coupled Quasi-particle Random Phase Approximation and Hauser–Feshbach (QRPA+HF) model in this work. This model comprises a two step process which first describes the production of the daughter nucleus via Quasi-particle Random Phase Approximation (QRPA) and then follows the statistical de-excitation that ensues via Hauser–Feshbach (HF) theory. In addition to β^- -decay, our model is also capable of describing prompt fission spectra as discussed in Refs. [60,61], but we do not cover this particular application here. We review the basic tenets and assumptions of our framework below.

The initial population of the daughter from the parent is calculated using the QRPA theory of Möller et al. [45,62–64]. In this model, the Schrödinger equation is solved for the nuclear wave functions and single-particle energies. A folded-Yukawa Hamiltonian is used that describes finite density diffuseness [65–67]. Invoking Fermi’s Golden Rule, the rate to undergo β^- -decay from initial parent state, $|i\rangle$, to final daughter state, $|f\rangle$, is

$$\lambda_{if} = \frac{2\pi}{\hbar} |\langle f | \hat{O}_\beta | i \rangle|^2 \rho(E_f), \quad (1)$$

where $\langle f | \hat{O}_\beta | i \rangle$ is the matrix element from initial to final state, and $\rho(E_f)$ is the density of final states. The decay matrix element, often written M_{fi} , depends on the details of the nuclear interaction for which $\hat{O}_\beta$ may be replaced by the appropriate operator. Both Gamow–Teller and First-Forbidden transitions what about Fermi transitions? are considered as detailed in Refs. [45,64]. For this work we use the latest model of Ref. [59].

The β -strength function is defined as

$$S_\beta(E_x) = \frac{I(E_x)}{F(Z+1, A, Q_\beta - E_x) T_{1/2}} \approx C \times \frac{d \sum |M_{fi}|^2}{dE_x}, \quad (2)$$

where $I(E_x)$ is the β -intensity per MeV of levels at energy E_x in the daughter nucleus, F is the Fermi function and $T_{1/2}$ is the half-life of the parent nucleus in seconds, $\sum |M_{fi}|^2$ represents the smoothed sum of all allowed and forbidden matrix elements and $C \sim 6220$ is a collection of constants [48,68]. The units of S_β are $[s^{-1} \times MeV^{-1}]$ and the Fermi function for β^- -decay is defined as,

$$F(Z, A, w) = 2(1+s)(2pR)^{2(s-1)} e^{\pi\eta} \left| \frac{\Gamma(s+i\eta)}{\Gamma(2s+1)} \right|^2, \quad (3)$$

with

$$\begin{aligned} s &= [1 - (\alpha Z)^2]^{1/2}, \\ \eta &= \alpha Z \frac{w}{p}, \\ R &= 2.908 \times 10^{-3} A^{1/3} - 2.437 A^{-1/3}, \end{aligned}$$

where p is the final momentum, R is the nuclear radius in electron Compton wavelengths [69], Z and A are the charge and nucleon number of the daughter nucleus, w is the energy and Γ is the Gamma function.

The details of the β -strength distribution for the daughter nucleus are dependent on the level structure of this system. Experimental knowledge of this structure is often limited to a few levels or may be completely uncertain for neutron-rich nuclei [70]. In the case where the level structure and β -decay scheme are known completely, data may be incorporated from the Reference Input Parameter Library (RIPL-3) [71] or Evaluated Nuclear Structure Data Files (ENSDF) and no QRPA strength is used. If the database is incomplete, we combine and renormalize the QRPA solutions with the ENSDF data as in Ref. [4].

Naturally, there is an intrinsic uncertainty associated with our theoretical QRPA modeling. For these reasons, we smooth the β -strength distribution by a Gaussian,

$$\omega(E_x) = C_\omega \sum_k b^{(k)} \frac{1}{\sqrt{2\pi}\Omega} \exp \left\{ -\frac{[E^{(k)} - E_x]^2}{2\Omega^2} \right\}, \quad (4)$$

where $b^{(k)}$ are the branching ratios (the intensities of Eq. (2)) from the parent state to the daughter states $E^{(k)}$, E_x is the excitation energy of the daughter nucleus. The Gaussian width, Ω , is taken to be a function of the mass number of the parent system, $\Omega(A) = 8.62/A^{0.57}$ keV. We have tried numerous other functions for this variable, including the constant $\Omega = 100$ keV, as in Refs. [3,4], which does give some small variability in our results. We summarize the variation of our results based on three calculations of $\Omega \in \{30.0, 100.0, \Omega(A)\}$ in Table A. The predicted particle multiplicity is relatively insensitive to the choice of Ω while the average maximum energy change between the sample calculations is between 100 to 500 keV. The deviation in electron and neutrino average energies more strongly depend on the choice of this parameter than the average γ -ray energy. The comparison between neutron emission probabilities of Ref. [4] and those derived from the current work's spectra provide another quantification of uncertainty on the β -strength smoothing parameter.

The normalization constant, C_ω , of Eq. (4) is given by the condition

$$\int_0^{Q_\beta} \omega(E_x) dE_x = 1, \quad (5)$$

where Q_β is the β^- -decay energy window.

The second component of the QRPA+HF model involves tracking the statistical decay of the daughter nucleus, a process governed by the Hauser-Feshbach formalism. This approach is rooted in the Bohr independence hypothesis of compound nucleus formation, which asserts that the formation and subsequent decay of the compound nucleus are independent processes, a concept originally formulated within the statistical model of nuclear reactions [72]. This assumption can be understood as a manifestation of ergodicity in nuclear dynamics,

Table A

The average maximum deviation in multiplicity for particle channel x , N_x , and average energy, $\langle E \rangle$, of our β^- -decay spectra for the individual particles based on the change in the β -strength smoothing parameter, Ω .

Particle	Avg. max deviation in N_x	Avg. max deviation in $\langle E \rangle$
Gamma	0.225	0.088
Neutron	0.274	0.119
Electron	0	0.556
Neutrino	0	0.660

where the internal degrees of freedom of the nucleus equilibrate over timescales much shorter than the decay process, effectively “erasing” any memory of the entrance channel.

In this framework, the nucleus formed after an initial excitation redistributes its energy among a dense set of nuclear states before decaying. The probability of decay into a particular final state is then governed by the relative densities of accessible states and the associated transmission coefficients for the available reaction channels. This statistical treatment is particularly valid when the level density of the compound nucleus is sufficiently high, allowing for a quasi-continuum of states in which transitions occur according to well-defined statistical weights.

At high excitation energies, where experimental level information becomes sparse or unavailable due to the overwhelming density of nuclear states, a level density model must be employed. In our implementation, we utilize the Gilbert-Cameron level density model, which effectively bridges the low-energy discrete level region with the high-energy statistical continuum. This model consists of two primary components: a constant-temperature level density at low excitation energies and a Fermi gas description at higher energies. The transition between these two regimes ensures a smooth interpolation between the known discrete levels and the statistical continuum [73].

In our Hauser-Feshbach framework, the competition between neutron emission and gamma decay is treated using a statistical approach, where the probability of each decay channel is determined by the corresponding transmission coefficients and level densities [5,6]. The statistical model accounts for the branching ratios between these competing processes, ensuring that the total decay probability sums to unity. Neutron emission is dominant when the excitation energy of the compound nucleus exceeds the neutron separation energy, while gamma decay becomes more relevant at lower excitation energies where neutron emission is energetically suppressed. For further details of the statistical HF model and relevant inputs see Ref. [4]. Next, we focus on the calculation of the particle spectra.

3. Calculation of particle spectra

In β^- -decay, an electron and an anti-neutrino are emitted when the nucleus undergoes transmutation from parent to daughter. The spectrum of these particles can be calculated via Fermi's theory of β -decay [74]. Following standard practice, the nucleus is assumed to carry away zero kinetic energy but arbitrary momentum (justified by its large relative mass), so that the total decay energy is divided between the electron and anti-neutrino and their momenta are uncorrelated. For a given electron energy and neutrino energy, the momenta each have two degrees of freedom from the vector direction; this leads the density of final states in Eq. (1) to take the form:

$$\rho(Q_\beta) \sim p_e^2 p_\nu^2 \delta(Q_\beta - E_e - E_\nu). \quad (6)$$

The interaction between the nucleus and outgoing electron distorts the electron wave function (introducing the factor F from Eq. (3)), and in high-density environments, ambient electrons block otherwise available outgoing electron states (introducing a factor of $1 - f(E_e)$, defined presently in Eq. (13)). Incorporating these elements, we have

$$\rho(Q_\beta) \sim p_e^2 p_\nu^2 F(Z+1, A, E_e) (1 - f(E_e)) \delta(Q_\beta - E_e - E_\nu). \quad (7)$$

Using $p^2 = (E + m)^2 - m^2$, defining $\mathcal{E} \equiv E + m$, $Q \equiv Q_\beta + m_e$, and treating the neutrino as massless, we arrive at

$$\rho(Q_\beta) \sim (\mathcal{E}_e^2 - m_e^2) \mathcal{E}_\nu^2 F(Z + 1, A, \mathcal{E}_e) (1 - f(\mathcal{E}_e)) \delta(Q - \mathcal{E}_e - \mathcal{E}_\nu). \quad (8)$$

From here, we are positioned to construct the shapes of the electron and neutrino energy spectra. To obtain the spectrum S of either lepton, integrate (8) over the energy of the other lepton; this eliminates the δ function.

$$S_e(\mathcal{E}_e) \sim (\mathcal{E}_e^2 - m_e^2) (Q - \mathcal{E}_e)^2 F(Z + 1, A, \mathcal{E}_e) (1 - f(\mathcal{E}_e)) \quad (9)$$

$$S_\nu(\mathcal{E}_\nu) \sim ((Q - \mathcal{E}_\nu)^2 - m_e^2) \mathcal{E}_\nu^2 F(Z + 1, A, Q - \mathcal{E}_\nu) (1 - f(Q - \mathcal{E}_\nu)) \quad (10)$$

Integrating (9) over electron energy gives the phase-space integral, we denote as g below, typically used in β -decay calculations. For the present purpose, however, all that remains is to reintroduce the factors that scale the spectra and put them in the correct units, then sum over final states in the daughter nucleus.

$$S_{e,i}(\mathcal{E}_e) = \frac{\lambda_0}{m_e^5} \sum_f B_{if} (\mathcal{E}_e^2 - m_e^2) (Q_{if} - \mathcal{E}_e)^2 F(Z + 1, A, \mathcal{E}_e) (1 - f(\mathcal{E}_e)) \quad (11)$$

$$S_{\nu,i}(\mathcal{E}_\nu) = \frac{\lambda_0}{m_e^5} \sum_f B_{if} ((Q - \mathcal{E}_\nu)^2 - m_e^2) \mathcal{E}_\nu^2 F(Z + 1, A, Q - \mathcal{E}_\nu) (1 - f(Q - \mathcal{E}_\nu)) \quad (12)$$

In these equations, i and f index the initial and final nuclear states. λ_0 contains physical constants, and for the decays considered in this work, $\lambda_0 \approx \frac{\ln 2}{10^{3.596}} \text{ s}^{-1}$ [75]. The factor of B_{if} is the reduced square nuclear transition matrix element and, with dimensionful constants absorbed by λ_0 , plays the role of $|\langle f | \hat{O}_\beta | i \rangle|^2$ from Eq. (1). The blocking factor $1 - f(E)$ is simply Pauli blocking in a Fermi-Dirac distribution of ambient electrons.

$$f(E_e) = \frac{1}{1 + e^{\frac{E_e - \mu_e}{T}}} \quad (13)$$

Here, μ_e is the electron chemical potential and T is the temperature in units of energy. Since we reserve ourselves to the study of decays from the ground-state (GS) of the parent nucleus, $i = \text{GS}$ in Eqs. (11) and (12), $T = 0$, and all outgoing electron states are available $\rightarrow f(E_e) = 0$.

Subsequent particle spectra (of the emitted neutrons and γ -rays) is calculated by following the statistical de-excitation in the Hauser-Feshbach code. We denote the compound state as $c_k^{(j)}$ where $c^{(j)}$ represents the compound nucleus after emitting j neutrons, and k indexes the excited states in this nucleus starting from the ground state ($k = 0$) and proceeding higher. Using this definition, $c^{(0)}$ would be shorthand for describing the β -decay daughter nucleus ($Z + 1, A$) and $c^{(j)}$ would describe ($Z + 1, A - j$).

Label the discrete energy levels of the $c^{(j)}$ compound nucleus by $E_1, E_2, \dots, E_i, \dots, E_N$, with the energies ordered, $E_1 < E_2 < \dots < E_N$. Energies in the neutron-emission daughter nucleus (with $j > 0$) are marked with primes. The initial population of the levels from the β -decaying parent is defined by the strength function and the phase space factor,

$$P_0(E_i) = BS_\beta(E_i)g(Q_\beta - E_i), \quad (14)$$

where B is a normalization factor that is defined by integrating over all energies E_i in the daughter nucleus, and g is the phase space factor that accounts for the available energy of the leptons.

The unnormalized γ -emission transition probability from state i to state k in the j th compound nucleus is defined as

$$p^{(j)}(E_i \rightarrow E_k) \propto T_\gamma^{(j)}(E_i - E_k) \rho^{(j)}(E_k) \quad (15)$$

where the transition is from a level with high excitation energy E_i to a level of energy E_k , $T_\gamma^{(j)}$ is the γ -ray transmission coefficient for $c^{(j)}$, $\rho^{(j)}(E_k)$ is the level density in $c^{(j)}$ at energy E_k , and $N^{(j)}(E_i)$ is a normalization factor defined below. The neutron-emission transition probability from state i in $c^{(j)}$ to state k' in $c^{(j+1)}$ is defined as

$$q^{(j)}(E_i \rightarrow E_{k'}) \propto T_n^{(j+1)}(E_i - S_n^{(j)} - E_{k'}) \rho^{(j+1)}(E_{k'}) \quad (16)$$

where $S_n^{(j)}$ is the neutron separation energy of $c^{(j)}$, $T_n^{(j+1)}$ is the neutron transmission coefficient from $c^{(j+1)}$ to $c^{(j)}$, and $\rho^{(j+1)}(E_{k'})$ is the level density in $c^{(j+1)}$ evaluated at $E_{k'}$. Recall that the prime on the k index indicates that the energy level is in a different compound nucleus.

To calculate branching ratios from state E_i , we must normalize by summing over all possible exit channels. In this case, the exit channels are γ and neutron emission.

$$N_j(E_i) = \sum_{E_k > E_i} T_\gamma^{(j)}(E_i - E_k) \rho^{(j)}(E_k) + \sum_{E_{k'} > E_i} T_n^{(j+1)}(E_i - S_n^{(j)} - E_{k'}) \rho^{(j+1)}(E_{k'}) \quad (17)$$

The first sum represents γ transitions to lower states in the same nucleus. The second sum represents neutron emission leading to levels $E_{k'}$ in a subsequent daughter nucleus. The branching ratio for γ emission from energy level E_i is

$$B_\gamma(E_i \rightarrow E_k) = \frac{p^{(j)}(E_i \rightarrow E_k)}{N_j(E_i)}, \quad (18)$$

and the branching ratio for neutron emission from the same level is

$$B_n(E_i \rightarrow E_{k'}) = \frac{q^{(j)}(E_i \rightarrow E_{k'})}{N_j(E_i)}. \quad (19)$$

The branching ratios are unitless probabilities, while p , q and N have units of [1/MeV].

With these terms defined, we may now determine the probability $P(E_x)$ of landing in a state E_x in the daughter nucleus for the case of no neutron emission ($j = 0$),

$$P_{(j=0)}(E_x) = P_0(E_x) + \sum_{i > x} P(E_i) B_\gamma(E_i \rightarrow E_x). \quad (20)$$

In this equation, the first term represents direct population from β -decay and the second term takes into account γ feeding from higher-lying levels within the same nucleus. If any neutron emission occurs from states above the neutron threshold, this reduction in level population is accounted for via the normalization factor. Once the daughter nucleus is defined by this population, one must then calculate the nuclear de-excitation, taking into account competition between neutron emission and photon emission.

The probability to populate a level in the neutron-emission daughter, compound system $j + 1$, is

$$P_{(j=1)}(E_{x'}) = \sum_i P(E_i) B_n(E_i \rightarrow E_{x'}) + \sum_{k' > x} P(E_{k'}) B_\gamma(E_{k'} \rightarrow E_{x'}). \quad (21)$$

The first term takes into account direct population via neutron emission from the preceding nucleus while the second term takes into account γ transitions from higher-lying states in the daughter nucleus. Note the recursion in the last two equations. A given $P(E_i)$ must also again use the same equation to find its respective feeding until the highest accessible level k can only be directly populated via $\bar{S}_\beta(E_k)$. This type of function can be handled naturally on a computer.

Without loss of generality the equations can be extended to j neutron emission along the initial β -decaying daughter's isotopic chain

$$P(E_x) = \begin{cases} P_{(j=0)}(E_x), & \text{if } E_x \text{ is in the first daughter nucleus,} \\ P_{(j=1)}(E_x), & \text{if } E_x \text{ is in the second daughter nucleus,} \\ \vdots & \vdots \end{cases} \quad (22)$$

The equations may also be generalized to include more exit channels, for example with the emission of other charged particles. Since we are primarily focused on neutron-rich nuclei, this latter generalization is not considered in this work.

For neutron-rich nuclei we can compute the j th neutron emission probability (j_n) by considering all the channels that end in the j th compound nucleus relative to all possible pathways:

$$P_{j_n} = P_j(E_{gs}) \quad (23)$$

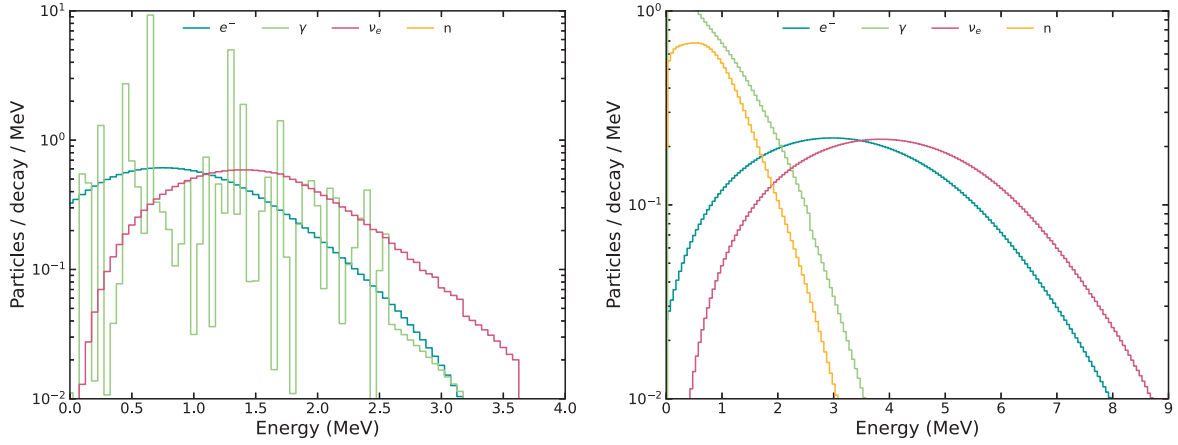


Fig. 1. The β^- -decay particle energy spectra of (left) ^{139}Cs and (right) ^{155}Cs . In the left panel the nucleus' decay daughter has many known levels resulting in discrete γ lines while in the right panel, ^{155}Cs is predicted to emit a delayed neutron.

where we evaluate the level population at the ground state energy, E_{gs} , in $c^{(j)}$. In general a P_{jn} value may increase or decrease relative to calculations based on the energy window argument that has been used in past work. Beta-decay with no neutron emission is denoted as P_{0n} (just Eq. (20)) and because of the normalization in the calculation of the level population we have a similar constraint on the neutron emission probabilities, $\sum_{j=0} P_{jn} = 1$.

We use the above probabilities to calculate the γ emission spectra. The γ spectra per unit energy are

$$\frac{dN_{\gamma}}{dE}(E_{\gamma}) = \sum_j \sum_i P_j(E_i) \sum_{k < i} \frac{B_{\gamma}^j(E_i \rightarrow E_k)}{\Delta E_{\gamma}} \Theta(E_{\gamma} - (E_i - E_k)), \quad (24)$$

where E_{γ} is the γ -ray energy, j indexes all the daughter nuclei, $P_j(E_i)$ is the population probability of level E_i in nucleus j , $B_{\gamma}^j(E_i \rightarrow E_k)$ is the γ branching ratio for transitions within nucleus j , $\Theta(E_{\gamma} - (E_i - E_k))$ is a step function to ensure γ emission occurs at the expected energy, and ΔE_{γ} is the energy bin width. Delayed neutron spectra have been covered in the context of the QRPA+HF model in a previous study [3]. Here we provide the equation used to calculate the spectra,

$$\frac{dN_n}{dE}(E_n) = \sum_j \sum_i P_j(E_i) \sum_{k'} \frac{B_n^j(E_i \rightarrow E_{k'})}{\Delta E_n} \Theta(E_n - (E_i - S_n^j - E_{k'})), \quad (25)$$

where E_n is the neutron energy, $P_j(E_i)$ is the population probability of level E_i in nucleus j , $B_n^j(E_i \rightarrow E_{k'})$ is the neutron branching ratio between the two states, $\Theta(E_n - (E_i - S_n^j - E_{k'}))$ is a step function to ensure neutron emission occurs at the expected energy, and ΔE_n is the energy bin width. The units of the $\frac{dN}{dE}$ quantities are in MeV^{-1} such that the integration over energy yields the particle multiplicity for photons and neutrons respectively,

$$N_{\gamma} = \int_0^{Q_{\beta}} \frac{dN_{\gamma}}{dE} dE_{\gamma}, \quad (26)$$

$$N_n = \int_0^{Q_{\beta}} \frac{dN_n}{dE} dE_n. \quad (27)$$

The average energy of photons and neutrons can be calculated by computing the energy weighted integrals

$$\langle E_{\gamma} \rangle = \int_0^{Q_{\beta}} E_{\gamma} \frac{dN_{\gamma}}{dE} dE_{\gamma}, \quad (28)$$

$$\langle E_n \rangle = \int_0^{Q_{\beta}} E_n \frac{dN_n}{dE} dE_n. \quad (29)$$

De-excitation of a nucleus from a discrete level may also include internal conversion (IC). Internal conversion is a process where an excited nucleus transfers its excess energy directly to one of its own atomic electrons that is then ejected from the atom. The atom then

fills the vacancy left by the first electron from a higher lying atomic orbital, emitting characteristic X-rays or Auger electrons. This process may compete with γ -ray emission, becoming more probable in nuclei where the γ -ray transition energy is low or the atomic number is high. Auger electrons can also be emitted after photoionization by a nuclear γ -ray. The ratio of the number of conversion electrons to the number of photons emitted is the internal conversion coefficient (α). In nuclear transitions such as $0^+ \rightarrow 0^+$ this is the primary decay process.

We include measured internal conversion rates in the calculation of our γ -ray spectra. The impact of this inclusion is minor as α values are typically not available. Values of α are taken from relevant ENSDF files when available. In the case that no information is available, we use $\alpha = 0$. See Section 6 for more information regarding atomic effects.

When calculating the β -decay particle spectra, Q_{β} is an important input quantity that defines the maximum energy available in the decay. Neutron separation energies also define the maximum energy available for emitted neutrons. We use the FRDM12 masses when one or more of the participating species's mass is unknown. When both the parent and daughter masses are measured, the AME20 is used for Q_{β} [76]. It is crucial to note that theoretical predictions and evaluated data for masses are not mixed. If they were mixed, prominent shifts can arise from the mismatch of model and data (generally on the order of the σ_{RMS} of the mass model, which is typically around 500 keV or more). Both Q_{β} or the S_{1n} values can be impacted in this regard, causing subsequent *unphysical* alterations in the predicted particle spectra. The variation of our results with other theoretical mass predictions are available upon request.

4. Model output and sensitivities

Two example particle spectra from the β -decay of ^{139}Cs and ^{155}Cs ($Z = 55$) are shown in the left and right panels of Fig. 1 respectively. Emitted particles includes electrons (e^- or β), γ -rays, neutrinos (ν), and neutrons (n). The decay of ^{139}Cs populates ^{139}Ba with over 100 known levels below Q_{β} . The γ spectra for this decay is therefore less smooth than in the right panel where no data is known. For ^{155}Cs , the multiplicity of γ -rays is $N_{\gamma} = 3.33$ and for neutrons $N_n = 0.024$ for this decay. Average energies for particle emission are $\langle E_{\gamma} \rangle = 0.703$ MeV, $\langle E_n \rangle = 0.4130$ MeV, $\langle E_{\beta} \rangle = 2.998$ MeV, and $\langle E_{\nu} \rangle = 3.751$ MeV. These values can be confirmed by observing the peaks in the distributions shown in Fig. 1. For this decay, the FRDM12 predicted Q value is $Q_{\beta} = 10.25$ MeV. Extrapolation from the AME20, the Q value is instead $Q_{\beta} = 7.64$ MeV, highlighting an intrinsic uncertainty that exists in our calculations for neutron-rich nuclei: unmeasured ground state masses.

The calculated particle spectra are also sensitive to the β -strength distribution from QRPA. To simulate this uncertainty we run three

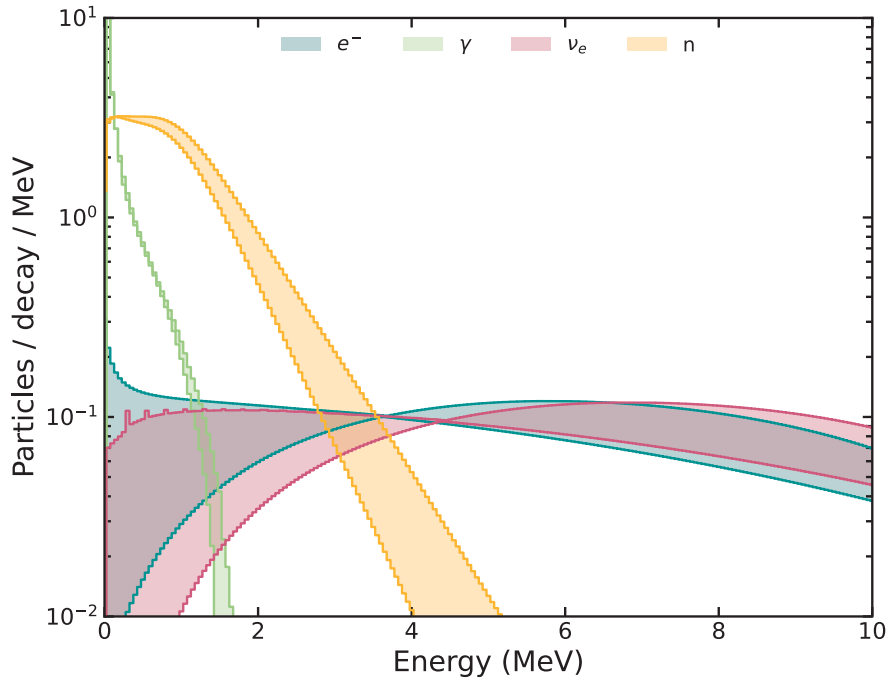


Fig. 2. The spread in β^- -decay particle energy spectra of the unmeasured nucleus ^{165}Sn for three choices of Ω . This nucleus is predicted to be a delayed neutron emitter.

smoothing procedures for the β -strength, $\Omega \in \{30.0, 100.0, \Omega(A)\}$. As mentioned previously, this uncertainty can impact the multiplicity of γ 's and neutrons, however electrons and neutrinos remain unaltered as there is always just a single particle emitted of each respectively. The difference in the particle energy distributions can be quite large for the varying choices of Ω , as shown in Fig. 2. This figure reinforces the importance of making accurate β -strength predictions, which in turn relies on the prediction of nuclear structure for exotic nuclei.

Energy partitioning in β -decay has important consequences for a host of applications. The total energy release from the emitted particles is

$$E_{\text{release}} = N_\gamma \langle E_\gamma \rangle + N_n \langle E_n \rangle + N_\beta \langle E_\beta \rangle + N_\nu \langle E_\nu \rangle, \quad (30)$$

where this quantity is less than or equal to Q_β for a typical decay. In β -decay, $N_\beta = N_\nu = 1$. The partition of a specified particle, x , is defined by the ratio

$$G_x = \frac{N_x \langle E_x \rangle}{E_{\text{release}}}. \quad (31)$$

We show the energy partition for select nuclei in Fig. 3. We find that electrons typically range from 20% to 35% of the energy release. Neutrinos typically take around 40% of the energy, but can take a higher percentage for β -decaying nuclei that reside closer to stability. Gamma-rays and neutrons take up the remainder of the energy reservoir. For nuclei near stability, $Q_\beta < S_{1n}$ and no neutrons are released in β -decay; the multiplicity and average energy is zero.

Across the chart of nuclides, for most nuclei, the bulk of the energy in β^- -decay is taken away by the neutrino. However, there are a few exceptions. Some spherical and deformed nuclei have γ -rays as the most dominant fraction of the total energy release. In extremely neutron-rich nuclei beyond the neutron dripline, neutrons may take away the highest fraction of the energy released due to a unique feature of their production.

For almost every nuclear β -decay across the chart of nuclides, $E_{\text{release}} < Q_\beta$, as one would expect via conservation of energy. However, the case can arise that $E_{\text{release}} > Q_\beta$ while still conserving energy. When nuclei beyond the neutron dripline participate in the decay process, the maximum excitation energy in one (or more) of the populated daughter

nuclei may be greater than Q_β . Beyond the dripline, it is usually first that odd- N nuclei that are unbound to neutron emission, $S_{1n} < 0$, and this additional energy is added to the available window. Even if some of the even- N isotopes along the decay chain may have $S_{1n} > 0$ the scenario can still ensue so long as at least one nucleus in the decay chain is encountered with $S_{1n} < 0$. The increase to the decay energy can result in an increase to the mean emission energy of neutrons and γ 's. This situation is very sensitive to the masses of nuclei that remain unmeasured and thus this effect could vary between different model predictions. The effect may impact the study of nuclei that exist in the crusts of neutron stars.

5. Global results

We summarize the particle multiplicity and average energy calculations across the chart of nuclides in Figs. 4, 5, and 6. In these calculations we have used AME20 masses when available, and fallen back to FRDM12 when no measurements exist. To indicate the use of AME20, we highlight the nuclei encompassed closer to stability with a bold black line. The bulk of our calculations are predictions. We discuss trends below.

Of all the particle spectra, γ -ray have the most structure in both as a function of energy and between neighboring nuclei. Gamma-ray multiplicity also deviates for neighboring nuclei depending sensitively on the structure of daughter nuclei. The average γ -ray energy is larger near closed shells, owing to the large level spacing in these nuclei. Odd- N nuclei also tend to have higher average γ -ray energies due to the structure in daughter even- N nuclei. Odd even observations. Average γ -ray energy trails off as a function of neutron excess; here the level structure is unknown but is predicted to be less dense.

Fig. 5 shows several noteworthy trends. Neutron emission after β -decay is small for the majority of nuclei (blue). It is only for very neutron-rich nuclei, where S_{1n} is small, that the multiplicity increases significantly with nuclei near the dripline having $\langle N_n \rangle$ in the range of 3 to 5. On average, neutrons are emitted at higher energies for lighter nuclei, just beyond closed shells, and in general further from stability. Above mass number $A \sim 140$, we find that there are very few neutron emitters with average neutron energies above 1 MeV.

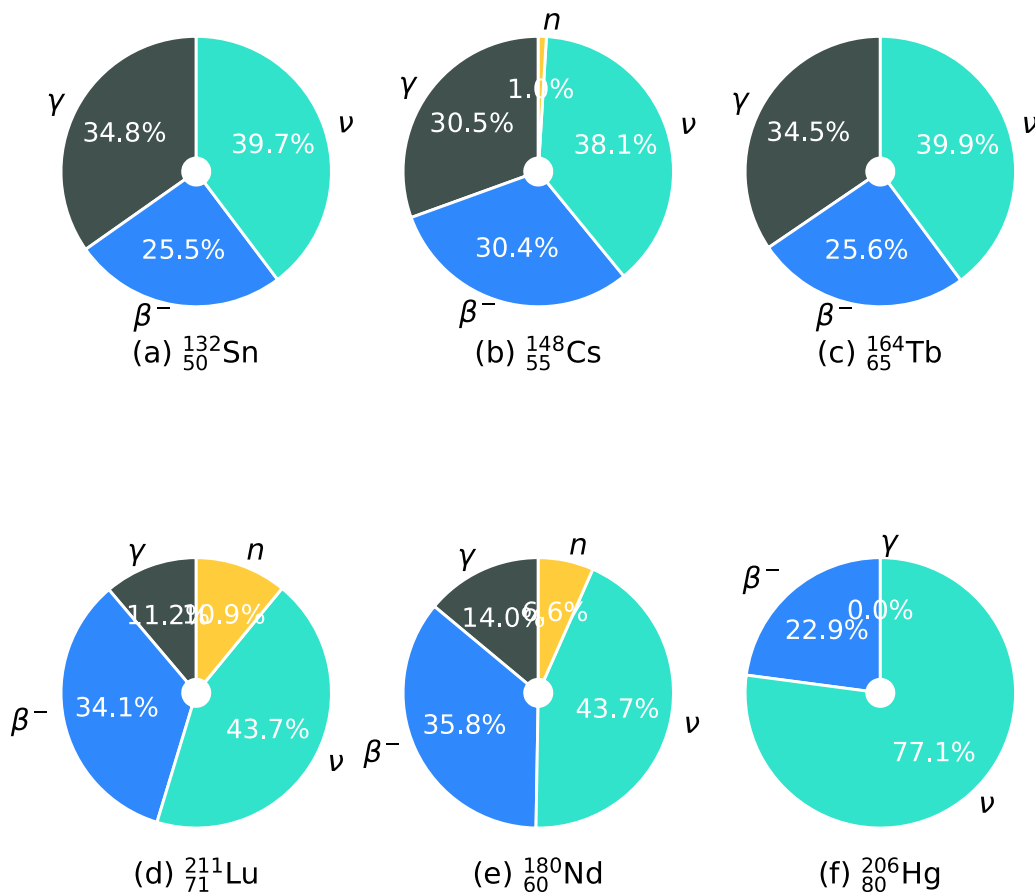


Fig. 3. The energy partition between electrons, γ -rays, neutrinos and neutrons associated with the β^- -decay of select nuclei.

Electrons and neutrinos naturally have a multiplicity of unity. Therefore we only show the average energies in Fig. 6. The average energy for both particles increases somewhat monotonically with Q_β and is relatively larger for lighter nuclei at the dripline in comparison to heavier nuclei. The electron energy plays a particularly important role in the electromagnetic follow up of astrophysical events [78].

Above neutron number $N \sim 160$ and for $Z \gtrsim 90$ fission may follow β -decay in a process known as β -delayed fission [5,6,79]. In this work we do not consider this mode as fission may take remarkable amount of the β -decay strength. Thus the fission channel will alter the number and energy of emitted particles when it participates.

Our results are presented in the form of ASCII data tables associated with this work. Particle spectra files are named by the parent nucleus which undergoes β^- -decay: “bspec_ZZAA.dat” where Z is replaced by the parent nucleus proton number and A is the parent nucleus nucleon number. These files have several rows containing metadata followed by the data block consisting of the follow columns: Lower bound of energy bin (MeV), upper bound of energy bin (MeV), β spectrum ($\frac{dN_\beta}{dE}$), ν spectrum ($\frac{dN_\nu}{dE}$), γ spectrum ($\frac{dN_\gamma}{dE}$), and neutron spectrum ($\frac{dN_n}{dE}$). The spectra are calculated assuming the spreading of the β -strength obeys $\Omega(A)$ and have a constant energy binning of 50 keV. Recall that we have normalized the spectra such that the integration of the curve gives the particle multiplicity for β^- -decay.

6. Non-nuclear electron radiation

There are other types of electron radiation due to interactions of nuclear decay products with the surrounding atomic structure, namely Auger and Internal Conversion (IC) electrons. The theoretical calculation of these processes are not the subject of this study. However, we consider the experimental confirmed values here and tabulate their

spectra because their impact may be important for various applications. The theoretical calculated spectrum from nuclear processes defined in Section 3 may be combined with the atomic processes outlined in this Section to form a more complete picture of the decay spectra for electrons.

Auger electron emission occurs when an inner-shell electron is removed, often due to photoionization, electron capture, or interaction with a β -particle. The vacancy left in the inner shell is filled by an electron from a higher-energy shell, and the excess energy is transferred to another (Auger) electron, which is then ejected from the atom. Internal conversion is a similar electron emission process triggered by the decay of an excited nucleus, when the excess nuclear energy is transferred to an orbital electron instead of emitting a γ photon. When a nucleus transitions to a lower energy state, it can transfer its excess energy to an orbital electron instead of emitting a gamma photon. The electron, typically from the inner shells, is then ejected, and this is known as an IC electron. This process is more likely when the energy difference between nuclear states is relatively small, making gamma emission less probable. Both Auger and Internal Conversion electrons can contribute significantly to the overall electron spectrum.

We consider the average and total energy for non-nuclear electron emission across the nuclear chart and show the results in panels (a) and (b) of Fig. 7. This data is taken from the ENDF VIII.0 database [70]. Because of the trivial nature to parse this information, non-nuclear electron radiation is provided for both neutron-deficient and neutron-rich nuclei. As can be seen from the scale of the color bar, the contribution of atomic electrons are much smaller in energy than that from nuclear β -decay. These processes primarily alter the low-energy part of the electron spectrum. From the top panel, one can observe that the average electron energy is higher for neutron-rich nuclei than for neutron-deficient nuclei. The total energy from these non-nuclear processes

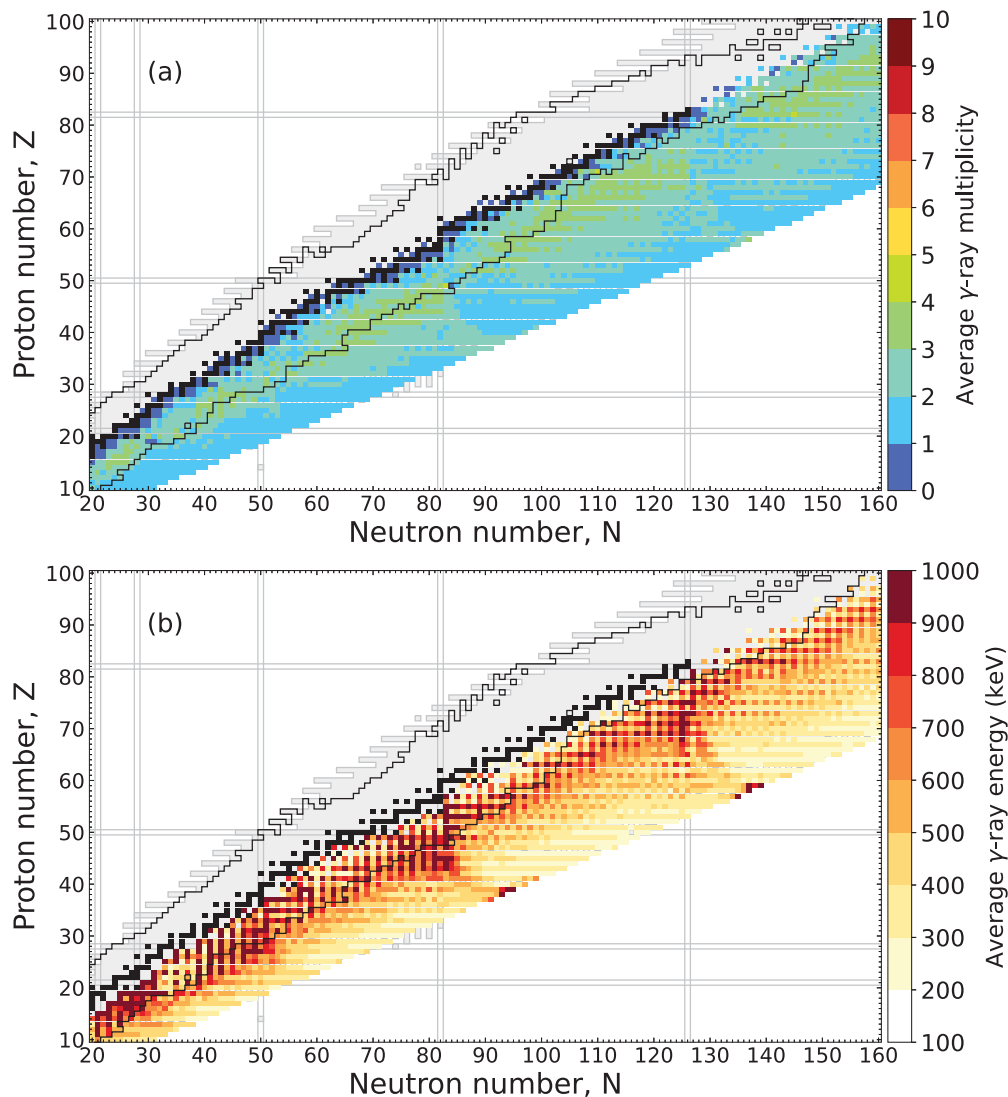


Fig. 4. (a) The γ -ray multiplicity and (b) average γ -ray energy after β^- -decay across the chart of nuclides. Black shading denotes β -stable nuclei and gray denotes the extent of bound nuclei in the FRDM12 model [77]. Bounded region (black outline) indicates extent of measured masses part of AME20.

increases as a function of mass number, as can be seen in the bottom panel of Fig. 7.

ASCII tables associated with Auger and IC electron data are provided as supplemental material. These data files are labeled by the element symbol and nucleon number. Each data file has two columns. The first column gives the electron line energy (in keV) and the second column gives the intensity (counts per decay).

CRediT authorship contribution statement

M.R. Mumpower: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **T. Kawano:** Software. **O. Korobkin:** Formal analysis, Data curation. **G.W. Misch:** Writing – review & editing, Formal analysis. **T.M. Sprouse:** Formal analysis, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Tabulated data in text

In this section we provide a summary of the tabulated results, Table 1, of the particle spectra associated with β^- -decay. The particle spectra themselves are not listed in the text as this data would take too many pages in length to describe. Consult the supplemental ASCII data tables for this information. In what follows we list for each β^- -decay the particle multiplicity and average energy and whether or not masses from the AME20 were used. A zero indicates that FRDM12 was used, and a 1 indicates that AME20 was used to define Q_β . This table is

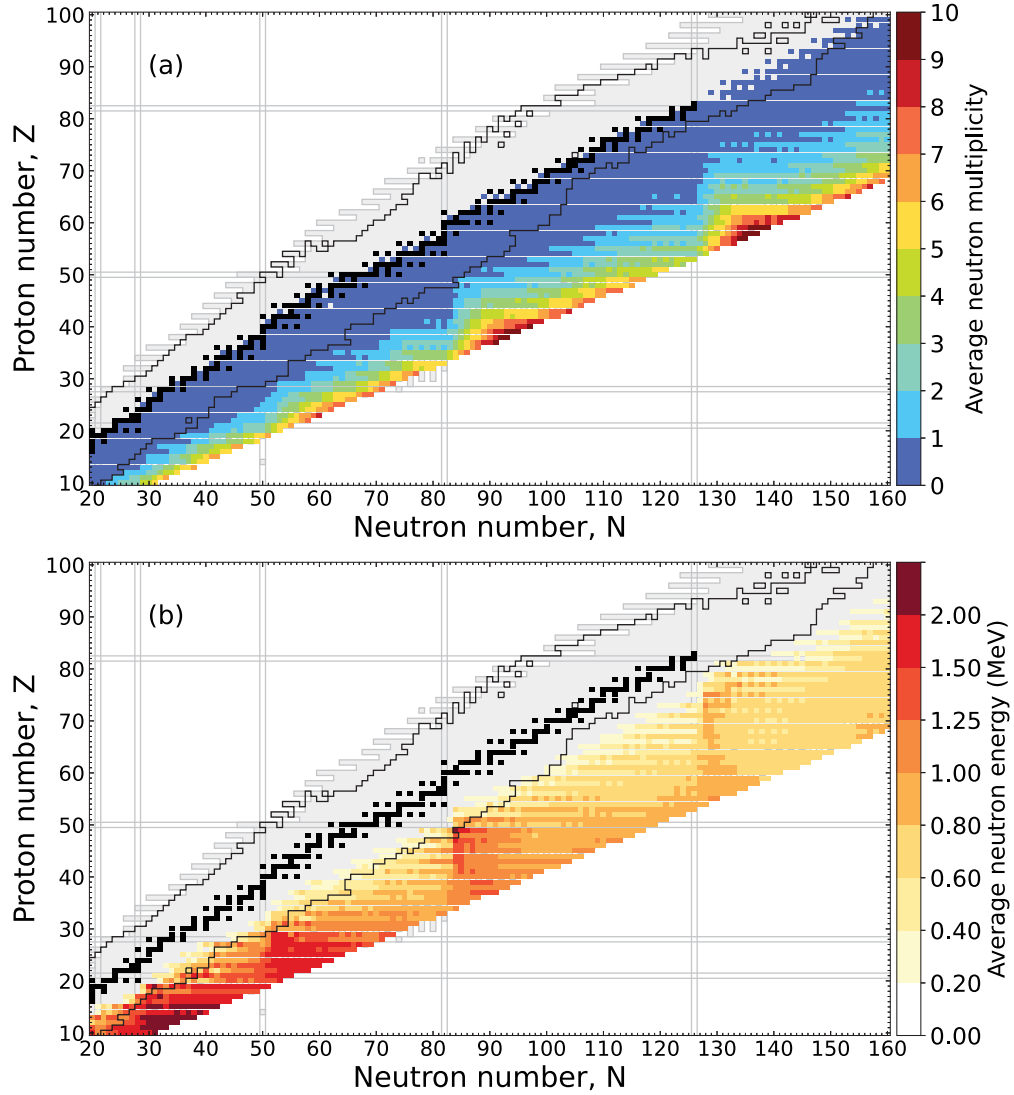


Fig. 5. (a) Neutron multiplicity and (b) average neutron energy after β^- -decay across the chart of nuclides. Black shading denotes β -stable nuclei and gray denotes the extent of bound nuclei in the FRDM12 model [77]. Bounded region (black outline) indicates extent of measured masses part of AME20.

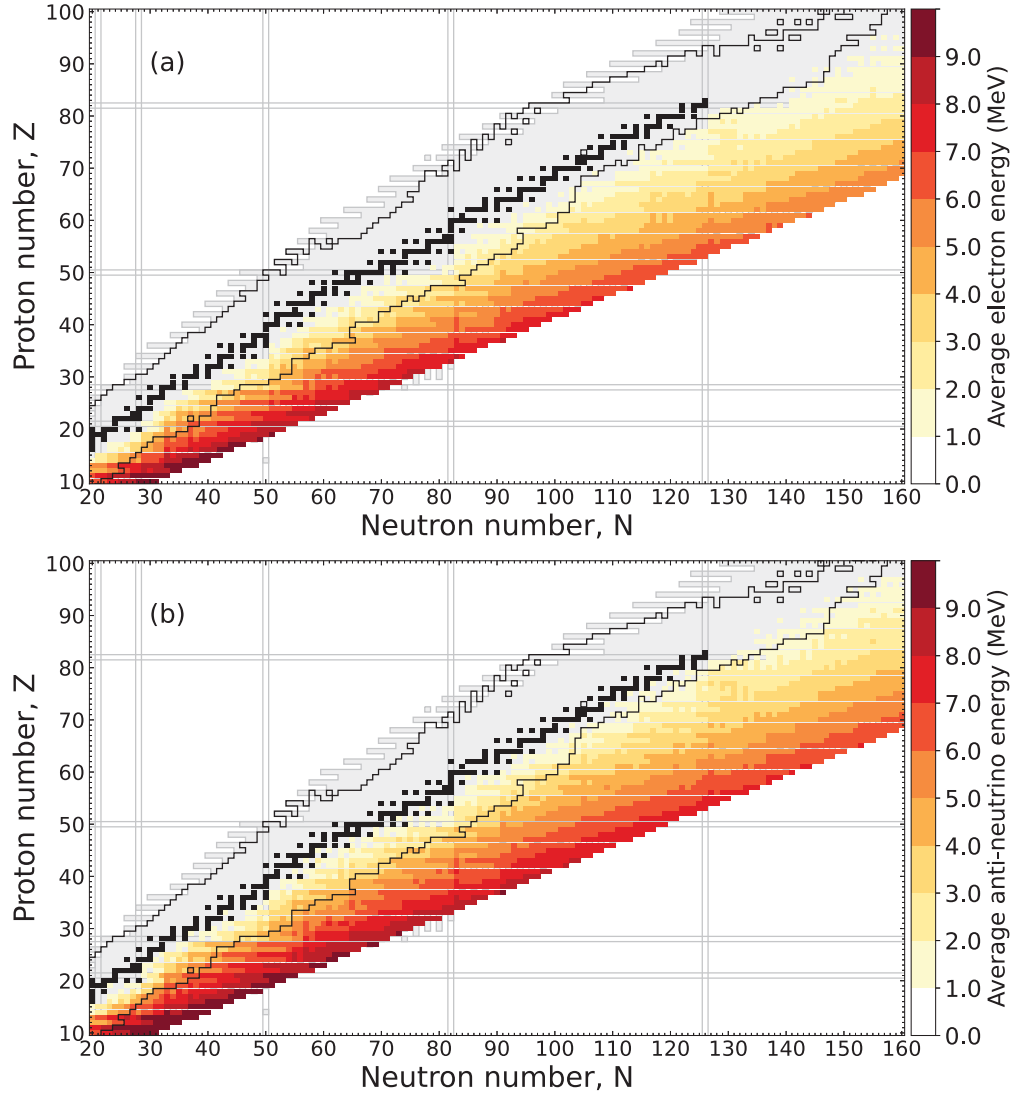


Fig. 6. (a) The average electron and (b) anti-neutrino energy after β^- -decay across the chart of nuclides. Black shading denotes β -stable nuclei and gray denotes the extent of bound nuclei in the FRDM12 model [77]. Bounded region (black outline) indicates extent of measured masses part of AME20.

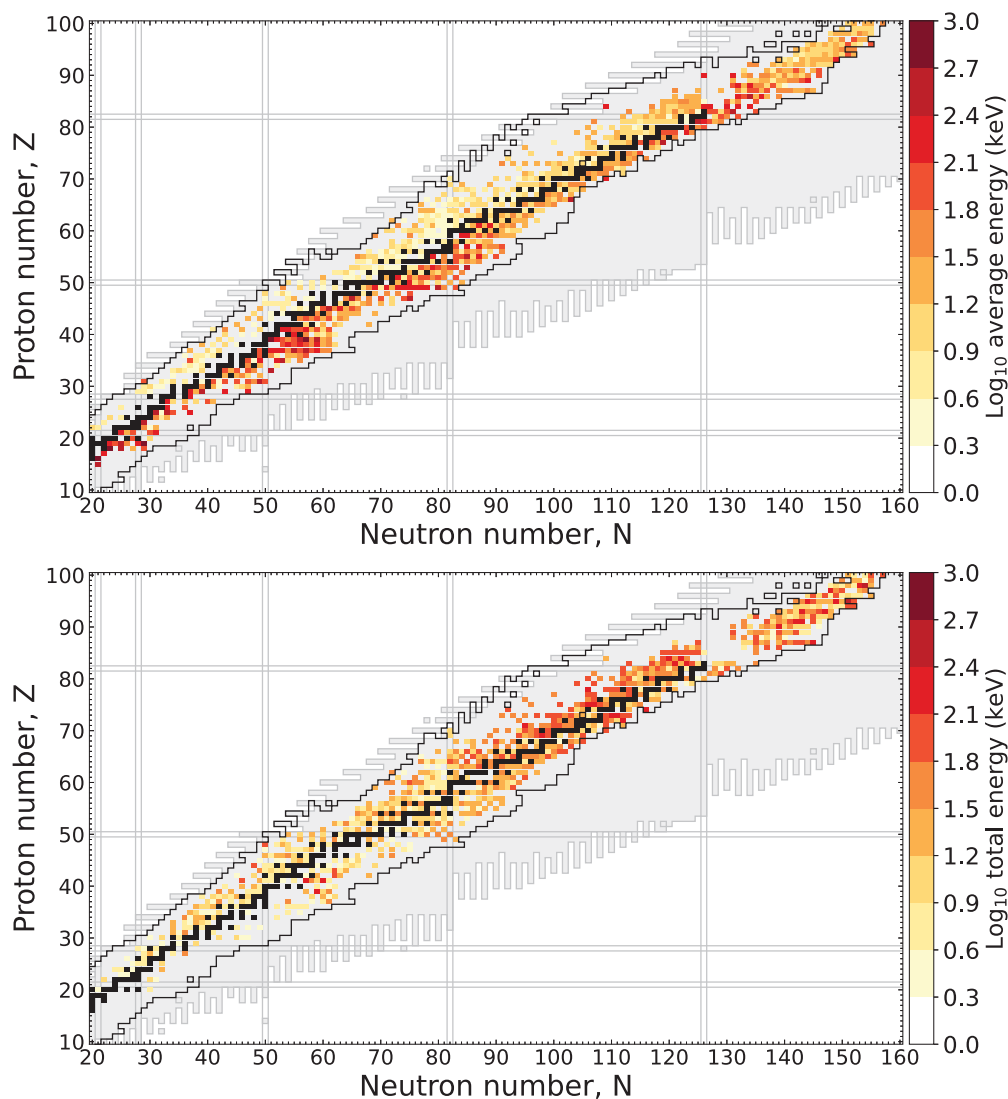


Fig. 7. (a) The average electron and (b) total electron energy for non-nuclear (Auger and Internal Conversion) electrons across the chart of nuclides, according to ENDF VIII.0 data tables [70]. Black shading denotes stable nuclei.

also provided in ASCII format as the file “beta_avg_spec.dat” in the associated supplemental material to the text. The first two lines of this file provides some metadata about the calculations. The third line of this file defines the column names and the remaining lines contain the data.

Appendix B. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.adt.2025.101736>.

Data availability

Data will be made available on request.

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Explanation of Tables

Table 1. The average particle spectra quantities for the β -minus decay of the particular parent species.

Table 1

The average particle spectra quantities for the β -minus decay of the particular parent species.

Z	N	A	N_γ	$\langle E_\gamma \rangle$	N_n	$\langle E_n \rangle$	$\langle E_e \rangle$	$\langle E_\nu \rangle$	Exp mass
Oxygen (O)									
8	11	19	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.54513e+00	1.94988e+00	1
8	12	20	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.24258e-01	8.64014e-01	1
8	13	21	1.50741e+00	1.35209e+00	0.00000e+00	0.00000e+00	2.82248e+00	3.27926e+00	1
8	14	22	2.34873e+00	1.10703e+00	1.85028e-02	2.60650e-01	1.69532e+00	2.12107e+00	1
8	15	23	3.14962e+00	1.32629e+00	5.19007e-02	5.85628e-01	3.15548e+00	3.64340e+00	1
8	16	24	1.94957e+00	8.15526e-01	3.62021e-01	9.45095e-01	3.58869e+00	4.08505e+00	1
8	17	25	2.39247e+00	5.28831e-01	6.37273e-02	1.76929e+00	6.93157e+00	7.46681e+00	1
8	18	26	1.63895e+00	3.66649e-01	9.42595e-01	1.34429e+00	6.38279e+00	6.91372e+00	1
8	19	27	1.92304e+00	4.91021e-01	5.49286e-01	1.68774e+00	8.66180e+00	9.19134e+00	0
8	20	28	1.77159e+00	3.61735e-01	1.15233e+00	1.55196e+00	8.13555e+00	8.67746e+00	0
8	21	29	1.12252e+00	4.20472e-01	1.93964e+00	2.03747e+00	8.65879e+00	9.18861e+00	0
8	22	30	1.18749e+00	3.77355e-01	1.90674e+00	1.89042e+00	8.81642e+00	9.35735e+00	0
8	23	31	1.04633e+00	3.90280e-01	2.64394e+00	2.14704e+00	9.27957e+00	9.82074e+00	0
8	24	32	1.14722e+00	3.49939e-01	2.95017e+00	2.12393e+00	9.26306e+00	9.78896e+00	0
8	25	33	1.11492e+00	3.57450e-01	4.16346e+00	2.37569e+00	1.03371e+01	1.08882e+01	0
8	26	34	1.12396e+00	3.40179e-01	4.62387e+00	2.30417e+00	1.05843e+01	1.11303e+01	0
8	27	35	1.16582e+00	3.38475e-01	5.65441e+00	2.39179e+00	1.00851e+01	1.06133e+01	0
8	28	36	1.08989e+00	3.32827e-01	6.02009e+00	2.24582e+00	1.04699e+01	1.10215e+01	0
8	29	37	1.13847e+00	3.61973e-01	7.13747e+00	2.37104e+00	1.20489e+01	1.25948e+01	0
8	30	38	1.26748e+00	4.54329e-01	8.03749e+00	2.45432e+00	1.18037e+01	1.23288e+01	0
8	31	39	1.56490e+00	1.04914e+00	9.17852e+00	2.65926e+00	1.15636e+01	1.21080e+01	0
8	32	40	1.69390e+00	1.10771e+00	9.26392e+00	2.56550e+00	1.17650e+01	1.23007e+01	0
8	33	41	2.50801e+00	1.95031e+00	9.70463e+00	2.74562e+00	1.18815e+01	1.24050e+01	0
8	34	42	2.38878e+00	2.46355e+00	9.83971e+00	2.83748e+00	1.22060e+01	1.27619e+01	0
Fluorine (F)									
9	11	20	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.91184e+00	2.31092e+00	1
9	12	21	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.90855e+00	2.32698e+00	1
9	13	22	2.33784e+00	2.55487e+00	7.67160e-05	1.72907e-01	2.20930e+00	2.65008e+00	1
9	14	23	1.24048e+00	1.56208e+00	8.58141e-03	4.32950e-01	2.99819e+00	3.46587e+00	1
9	15	24	3.02149e+00	1.35266e+00	2.51084e-02	6.56689e-01	4.35271e+00	4.86480e+00	1
9	16	25	2.25093e+00	7.66045e-01	5.77962e-02	1.07654e+00	5.41808e+00	5.94453e+00	1
9	17	26	2.28365e+00	7.64784e-01	1.98399e-01	1.12276e+00	7.31795e+00	7.85030e+00	1
9	18	27	1.92508e+00	4.72549e-01	5.04672e-01	1.60825e+00	7.51623e+00	8.02987e+00	1
9	19	28	1.64066e+00	6.87598e-01	7.82150e-01	1.47403e+00	8.33661e+00	8.88304e+00	1
9	20	29	1.76949e+00	4.68388e-01	8.79035e-01	1.85118e+00	8.72145e+00	9.26447e+00	1
9	21	30	1.44498e+00	7.26958e-01	1.44438e+00	1.82941e+00	9.25889e+00	9.80922e+00	0
9	22	31	1.56621e+00	5.22775e-01	1.57603e+00	1.93011e+00	9.36012e+00	9.89497e+00	0
9	23	32	1.38098e+00	5.60598e-01	2.23543e+00	2.01165e+00	9.99686e+00	1.05453e+01	0
9	24	33	1.64350e+00	5.48763e-01	2.46405e+00	2.12544e+00	9.94751e+00	1.04855e+01	0
9	25	34	1.62287e+00	5.23923e-01	3.37141e+00	2.22116e+00	1.04404e+01	1.09745e+01	0
9	26	35	1.63234e+00	4.92679e-01	3.84610e+00	2.24246e+00	1.06779e+01	1.12278e+01	0
9	27	36	1.67939e+00	4.88713e-01	4.74824e+00	2.30383e+00	1.08438e+01	1.14008e+01	0
9	28	37	1.54214e+00	4.52614e-01	4.66436e+00	2.14685e+00	1.10017e+01	1.15502e+01	0
9	29	38	1.63501e+00	4.53850e-01	5.82758e+00	2.26039e+00	1.18318e+01	1.23925e+01	0
9	30	39	1.67686e+00	4.70875e-01	7.01968e+00	2.39191e+00	1.13331e+01	1.18588e+01	0
9	31	40	1.73362e+00	5.46431e-01	7.87919e+00	2.42432e+00	1.12780e+01	1.18132e+01	0
9	32	41	1.70579e+00	6.95250e-01	8.44089e+00	2.46795e+00	1.13528e+01	1.19118e+01	0
9	33	42	2.30425e+00	1.30551e+00	9.28024e+00	2.61518e+00	1.17905e+01	1.23261e+01	0
9	34	43	1.90822e+00	1.72036e+00	9.48524e+00	2.66080e+00	1.22843e+01	1.28467e+01	0
9	35	44	2.91733e+00	2.44969e+00	9.83479e+00	2.85903e+00	1.15720e+01	1.21065e+01	0
9	36	45	2.19233e+00	2.43371e+00	9.66794e+00	2.67446e+00	1.30085e+01	1.35730e+01	0
9	37	46	2.90137e+00	2.96859e+00	9.85447e+00	2.86246e+00	1.32819e+01	1.38432e+01	0
Neon (Ne)									
10	13	23	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.03724e+00	1.38531e+00	1
10	14	24	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.60564e-01	7.36586e-01	1
10	15	25	1.74166e+00	1.86622e+00	0.00000e+00	0.00000e+00	1.83908e+00	2.26778e+00	1
10	16	26	2.60452e+00	9.32061e-01	1.49646e-02	4.19928e-01	2.21818e+00	2.66187e+00	1
10	17	27	2.37493e+00	4.69936e-01	1.79410e-02	9.66437e-01	5.40796e+00	5.92541e+00	1
10	18	28	2.18880e+00	5.15151e-01	2.15343e-01	1.33079e+00	4.82356e+00	5.33097e+00	1
10	19	29	1.98230e+00	5.52620e-01	1.53944e-01	1.18574e+00	6.62737e+00	7.16539e+00	1
10	20	30	2.24433e+00	4.71587e-01	2.33619e-01	1.52506e+00	6.17420e+00	6.69616e+00	1
10	21	31	1.98816e+00	6.10737e-01	8.10785e-01	1.23391e+00	6.48823e+00	7.01755e+00	1
10	22	32	1.63593e+00	4.26263e-01	8.31508e-01	1.14184e+00	6.65557e+00	7.19534e+00	0
10	23	33	1.52801e+00	4.36321e-01	1.33574e+00	1.47289e+00	7.33116e+00	7.87518e+00	0
10	24	34	1.65887e+00	4.64809e-01	1.22842e+00	1.47918e+00	7.70345e+00	8.23140e+00	0
10	25	35	1.63071e+00	4.17949e-01	2.02575e+00	1.71806e+00	8.24879e+00	8.78472e+00	0
10	26	36	1.55738e+00	3.78493e-01	2.23107e+00	1.73327e+00	8.43353e+00	8.96473e+00	0
10	27	37	1.60494e+00	3.64135e-01	2.93205e+00	1.84513e+00	8.58797e+00	9.13598e+00	0
10	28	38	1.43821e+00	3.24656e-01	2.68193e+00	1.66251e+00	9.03933e+00	9.57135e+00	0
10	29	39	1.57581e+00	3.32586e-01	4.07836e+00	1.94757e+00	9.85041e+00	1.04003e+01	0
10	30	40	1.59423e+00	3.10015e-01	4.70373e+00	1.98283e+00	9.51748e+00	1.00736e+01	0
10	31	41	1.63380e+00	3.15598e-01	5.89304e+00	2.15321e+00	9.38249e+00	9.93373e+00	0
10	32	42	1.54538e+00	3.00962e-01	6.44655e+00	2.13570e+00	9.53106e+00	1.00640e+01	0

(continued on next page)

Table 1 (continued)

10	33	43	1.60218e+00	3.10796e-01	7.28497e+00	2.19552e+00	1.02922e+01	1.08434e+01	0
10	34	44	1.62901e+00	4.13756e-01	8.18608e+00	2.28168e+00	1.05229e+01	1.10838e+01	0
10	35	45	1.87651e+00	7.37834e-01	8.96755e+00	2.37485e+00	9.61199e+00	1.01637e+01	0
10	36	46	1.63716e+00	8.14360e-01	9.03736e+00	2.32861e+00	1.07672e+01	1.12968e+01	0
10	37	47	2.28001e+00	1.48611e+00	9.66658e+00	2.54397e+00	1.16014e+01	1.21664e+01	0
10	38	48	2.36746e+00	1.93127e+00	9.77294e+00	2.61869e+00	1.17168e+01	1.22720e+01	0
10	39	49	2.95707e+00	2.59223e+00	9.87710e+00	2.77784e+00	1.20357e+01	1.26012e+01	0
10	40	50	2.85295e+00	2.71478e+00	9.92666e+00	2.84231e+00	1.19433e+01	1.25098e+01	0
10	41	51	3.03856e+00	3.34538e+00	9.95975e+00	2.97587e+00	1.19886e+01	1.25544e+01	0
Sodium (Na)									
11	13	24	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.63349e+00	2.01882e+00	1
11	14	25	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.11803e+00	1.49412e+00	1
11	15	26	2.29996e+00	1.99491e+00	0.00000e+00	0.00000e+00	2.17752e+00	2.61810e+00	1
11	16	27	1.49188e+00	1.59176e+00	9.36509e-04	6.68734e-01	3.12398e+00	3.59495e+00	1
11	17	28	1.96532e+00	2.51672e+00	2.42686e-02	7.38265e-01	4.19006e+00	4.69187e+00	1
11	18	29	1.66248e+00	5.57573e-01	1.34337e-01	1.21535e+00	5.61643e+00	6.13877e+00	1
11	19	30	2.66429e+00	9.92168e-01	1.02220e-01	1.04210e+00	6.72224e+00	7.23143e+00	1
11	20	31	1.85358e+00	4.45797e-01	2.54029e-01	1.47206e+00	6.52422e+00	7.06646e+00	1
11	21	32	2.51157e+00	1.12304e+00	3.43149e-01	1.24533e+00	6.94643e+00	7.48311e+00	1
11	22	33	1.66460e+00	6.68546e-01	4.62439e-01	1.31963e+00	7.72705e+00	8.27783e+00	1
11	23	34	2.00342e+00	8.28807e-01	7.57618e-01	1.37463e+00	8.44846e+00	9.00360e+00	1
11	24	35	1.86525e+00	5.49736e-01	1.01492e+00	1.56360e+00	8.47278e+00	9.02416e+00	0
11	25	36	1.65081e+00	5.74001e-01	1.55191e+00	1.66658e+00	8.88892e+00	9.44188e+00	0
11	26	37	1.91640e+00	5.46036e-01	1.76550e+00	1.83191e+00	8.95821e+00	9.49521e+00	0
11	27	38	1.72205e+00	5.61679e-01	2.30326e+00	1.89814e+00	9.00603e+00	9.54987e+00	0
11	28	39	1.79822e+00	5.01451e-01	2.48196e+00	1.88895e+00	9.28590e+00	9.84023e+00	0
11	29	40	1.62385e+00	4.94559e-01	3.08278e+00	2.01873e+00	1.01033e+01	1.06449e+01	0
11	30	41	1.67313e+00	4.80414e-01	3.67684e+00	2.13406e+00	1.00130e+01	1.05760e+01	0
11	31	42	1.69554e+00	4.73306e-01	4.49795e+00	2.24247e+00	1.03635e+01	1.09182e+01	0
11	32	43	1.66590e+00	4.70922e-01	5.16651e+00	2.29335e+00	1.02234e+01	1.07875e+01	0
11	33	44	1.66287e+00	4.74856e-01	6.15012e+00	2.39365e+00	1.03848e+01	1.09496e+01	0
11	34	45	1.64379e+00	4.77035e-01	6.79989e+00	2.41510e+00	1.06271e+01	1.11599e+01	0
11	35	46	1.66690e+00	5.14615e-01	7.51311e+00	2.44826e+00	1.04996e+01	1.10650e+01	0
11	36	47	1.62085e+00	5.82571e-01	8.07355e+00	2.47752e+00	1.07929e+01	1.13597e+01	0
11	37	48	1.97663e+00	9.52278e-01	8.96630e+00	2.57696e+00	1.11186e+01	1.16743e+01	0
11	38	49	1.88912e+00	1.29549e+00	9.25716e+00	2.61543e+00	1.13061e+01	1.18418e+01	0
11	39	50	2.86771e+00	2.04671e+00	9.70354e+00	2.76425e+00	1.19853e+01	1.25550e+01	0
11	40	51	2.19397e+00	2.29652e+00	9.79556e+00	2.79364e+00	1.22955e+01	1.28691e+01	0
11	41	52	3.00061e+00	2.75774e+00	9.90070e+00	2.91850e+00	1.25203e+01	1.30948e+01	0
11	42	53	2.60189e+00	3.02771e+00	9.94111e+00	2.93996e+00	1.21403e+01	1.27009e+01	0
11	43	54	3.10070e+00	3.66032e+00	9.97336e+00	3.09574e+00	1.21377e+01	1.27068e+01	0
11	44	55	2.92930e+00	3.59027e+00	9.97987e+00	3.05505e+00	1.29611e+01	1.35341e+01	0
Magnesium (Mg)									
12	15	27	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.50325e-01	9.69259e-01	1
12	16	28	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.00531e-01	6.64871e-01	1
12	17	29	1.27734e+00	2.13718e+00	0.00000e+00	0.00000e+00	2.21809e+00	2.66281e+00	1
12	18	30	2.01740e+00	9.58925e-01	4.13884e-03	4.07329e-01	2.30164e+00	2.75750e+00	1
12	19	31	2.34461e+00	4.95313e-01	9.72292e-03	6.94631e-01	5.06470e+00	5.59740e+00	1
12	20	32	2.13640e+00	5.49671e-01	1.20038e-01	7.46344e-01	4.00380e+00	4.52156e+00	1
12	21	33	2.51213e+00	9.59417e-01	3.79913e-01	8.79652e-01	4.07973e+00	4.59393e+00	1
12	22	34	2.00666e+00	5.34419e-01	2.78449e-01	9.39557e-01	4.38578e+00	4.89692e+00	1
12	23	35	2.81903e+00	8.27170e-01	3.73594e-01	1.02793e+00	5.36498e+00	5.89960e+00	1
12	24	36	1.71158e+00	5.75550e-01	5.34883e-01	1.15507e+00	5.65108e+00	6.18826e+00	1
12	25	37	2.35578e+00	5.17274e-01	8.87702e-01	1.21975e+00	6.12086e+00	6.63663e+00	1
12	26	38	1.66657e+00	4.78919e-01	1.02445e+00	1.39681e+00	6.56822e+00	7.11450e+00	0
12	27	39	1.62879e+00	4.86765e-01	1.19750e+00	1.35598e+00	7.30971e+00	7.86169e+00	0
12	28	40	1.71569e+00	4.90640e-01	1.06600e+00	1.61895e+00	7.27756e+00	7.80692e+00	0
12	29	41	1.84454e+00	4.45780e-01	1.87887e+00	1.96106e+00	8.08952e+00	8.64381e+00	0
12	30	42	1.81695e+00	4.48367e-01	2.20042e+00	2.12232e+00	7.94521e+00	8.49946e+00	0
12	31	43	1.92775e+00	4.56492e-01	2.80647e+00	2.21635e+00	8.91941e+00	9.46580e+00	0
12	32	44	1.87111e+00	4.46532e-01	3.39074e+00	2.26114e+00	8.51238e+00	9.06877e+00	0
12	33	45	1.86296e+00	4.39275e-01	4.27661e+00	2.35774e+00	8.90680e+00	9.44444e+00	0
12	34	46	1.67120e+00	4.14418e-01	4.57000e+00	2.23275e+00	9.23994e+00	9.79868e+00	0
12	35	47	1.61520e+00	3.95754e-01	5.31371e+00	2.26160e+00	9.98596e+00	1.05489e+01	0
12	36	48	1.46644e+00	3.75832e-01	5.84953e+00	2.20287e+00	1.01737e+01	1.07264e+01	0
12	37	49	1.55996e+00	3.93616e-01	7.08040e+00	2.34238e+00	1.01460e+01	1.07152e+01	0
12	38	50	1.49503e+00	4.09227e-01	7.74250e+00	2.27621e+00	1.03842e+01	1.09330e+01	0
12	39	51	1.67937e+00	6.70200e-01	8.69742e+00	2.35499e+00	1.07335e+01	1.13058e+01	0
12	40	52	1.35447e+00	7.04118e-01	9.11033e+00	2.33102e+00	1.07664e+01	1.13221e+01	0
12	41	53	2.05763e+00	1.26644e+00	9.69384e+00	2.50510e+00	1.12447e+01	1.17871e+01	0
12	42	54	1.89070e+00	1.57693e+00	9.78732e+00	2.52017e+00	1.17268e+01	1.22835e+01	0
12	43	55	2.36749e+00	2.24421e+00	9.91455e+00	2.69157e+00	1.10503e+01	1.16029e+01	0
12	44	56	2.58166e+00	2.28052e+00	9.93602e+00	2.66555e+00	1.13275e+01	1.18821e+01	0
12	45	57	2.89297e+00	2.95181e+00	9.90897e+00	2.71929e+00	1.21088e+01	1.26876e+01	0
12	46	58	3.11960e+00	2.93594e+00	9.96167e+00	2.73736e+00	1.19275e+01	1.25055e+01	0
12	47	59	3.33089e+00	3.42602e+00	9.98111e+00	2.84175e+00	1.22950e+01	1.28627e+01	0

(continued on next page)

Table 1 (continued)

Aluminum (Al)									
13	15	28	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.24210e+00	1.66057e+00	1
13	16	29	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.74624e-01	1.12724e+00	1
13	17	30	2.08226e+00	2.45152e+00	0.00000e+00	0.00000e+00	1.54343e+00	1.95761e+00	1
13	18	31	1.30577e+00	1.45267e+00	8.82307e-04	2.16379e-01	2.82570e+00	3.28944e+00	1
13	19	32	1.89293e+00	2.74040e+00	3.15289e-03	6.45160e-01	3.65352e+00	4.14007e+00	1
13	20	33	2.03591e+00	4.05718e-01	4.75923e-02	1.21122e+00	5.20616e+00	5.74418e+00	1
13	21	34	3.10443e+00	1.27424e+00	6.38122e-02	1.30583e+00	5.98891e+00	6.53473e+00	1
13	22	35	1.65092e+00	7.69096e-01	1.60956e-01	8.69558e-01	5.92071e+00	6.44610e+00	1
13	23	36	2.81330e+00	1.14325e+00	1.75163e-01	1.24209e+00	6.71775e+00	7.24630e+00	1
13	24	37	2.57997e+00	4.48890e-01	2.30143e-01	1.34806e+00	6.92796e+00	7.46192e+00	1
13	25	38	2.78172e+00	1.18469e+00	3.05736e-01	1.30768e+00	7.45379e+00	8.00101e+00	0
13	26	39	1.50036e+00	5.13392e-01	9.02617e-01	1.14996e+00	7.53587e+00	8.09423e+00	0
13	27	40	1.55889e+00	6.75323e-01	9.88458e-01	1.45447e+00	7.33915e+00	7.89531e+00	0
13	28	41	1.64536e+00	5.73103e-01	8.48454e-01	1.61808e+00	7.98416e+00	8.54307e+00	0
13	29	42	1.69707e+00	6.38274e-01	1.38485e+00	2.00033e+00	8.83334e+00	9.37483e+00	0
13	30	43	1.95051e+00	6.95316e-01	1.81750e+00	2.39443e+00	8.47665e+00	9.04103e+00	0
13	31	44	1.95255e+00	6.62320e-01	2.44412e+00	2.51150e+00	8.71751e+00	9.28359e+00	0
13	32	45	1.86185e+00	6.15382e-01	2.91237e+00	2.48223e+00	8.80274e+00	9.36935e+00	0
13	33	46	1.77250e+00	5.51754e-01	3.35715e+00	2.45915e+00	9.47342e+00	1.00401e+01	0
13	34	47	1.68875e+00	5.06172e-01	3.81305e+00	2.45614e+00	9.19620e+00	9.75975e+00	0
13	35	48	1.67218e+00	4.90524e-01	4.58327e+00	2.51680e+00	9.28631e+00	9.85603e+00	0
13	36	49	1.59024e+00	4.44522e-01	5.02293e+00	2.48014e+00	9.67611e+00	1.02483e+01	0
13	37	50	1.58577e+00	4.41919e-01	5.89100e+00	2.52144e+00	1.01694e+01	1.07219e+01	0
13	38	51	1.50853e+00	4.09198e-01	6.35347e+00	2.45353e+00	1.04193e+01	1.09861e+01	0
13	39	52	1.56370e+00	4.55439e-01	7.40271e+00	2.50026e+00	1.04273e+01	1.09923e+01	0
13	40	53	1.45669e+00	4.63151e-01	7.96294e+00	2.46737e+00	1.05016e+01	1.10454e+01	0
13	41	54	1.77434e+00	7.75035e-01	8.77155e+00	2.51627e+00	1.07449e+01	1.13231e+01	0
13	42	55	1.55273e+00	1.00087e+00	9.17005e+00	2.52305e+00	1.11419e+01	1.17109e+01	0
13	43	56	2.32493e+00	1.60652e+00	9.64039e+00	2.61615e+00	1.12270e+01	1.18057e+01	0
13	44	57	1.98481e+00	1.96449e+00	9.74486e+00	2.55203e+00	1.09150e+01	1.14939e+01	0
13	45	58	2.96003e+00	2.46093e+00	9.93154e+00	2.63556e+00	1.15871e+01	1.21571e+01	0
13	46	59	2.63129e+00	2.66926e+00	9.94704e+00	2.57839e+00	1.21599e+01	1.27227e+01	0
13	47	60	3.24523e+00	3.17005e+00	9.97415e+00	2.68204e+00	1.21803e+01	1.27418e+01	0
13	48	61	3.12923e+00	3.22189e+00	9.96998e+00	2.66850e+00	1.22576e+01	1.28438e+01	0
13	49	62	3.50259e+00	3.45571e+00	9.97401e+00	2.73679e+00	1.24957e+01	1.30830e+01	0
13	50	63	3.42370e+00	3.39578e+00	9.98035e+00	2.73064e+00	1.30425e+01	1.36324e+01	0
Silicon (Si)									
14	17	31	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.98742e-02	1.94498e-01	1
14	18	32	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.50984e-02	1.19725e-01	1
14	19	33	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.82433e+00	2.25394e+00	1
14	20	34	2.83664e+00	7.76739e-01	0.00000e+00	0.00000e+00	1.00403e+00	1.40021e+00	1
14	21	35	2.26727e+00	2.27069e+00	1.36982e-02	3.92647e-01	2.38119e+00	2.84798e+00	1
14	22	36	2.01667e+00	6.97968e-01	3.79413e-01	8.76386e-01	2.14549e+00	2.61498e+00	1
14	23	37	3.17917e+00	1.02020e+00	1.05773e-01	7.57143e-01	3.92964e+00	4.43072e+00	1
14	24	38	2.06860e+00	7.24559e-01	3.21218e-01	9.79454e-01	3.48482e+00	3.99762e+00	1
14	25	39	2.43611e+00	1.02344e+00	3.73165e-01	1.10969e+00	4.68576e+00	5.21835e+00	1
14	26	40	2.23875e+00	6.17844e-01	5.13885e-01	1.40471e+00	4.71068e+00	5.22924e+00	1
14	27	41	2.20337e+00	9.06357e-01	5.57971e-01	1.29748e+00	4.82494e+00	5.33527e+00	0
14	28	42	1.79250e+00	5.60218e-01	4.90200e-01	1.46490e+00	4.95656e+00	5.47295e+00	0
14	29	43	1.77693e+00	6.66566e-01	9.41501e-01	1.47921e+00	6.09291e+00	6.64280e+00	0
14	30	44	1.79765e+00	6.35665e-01	1.08917e+00	1.94967e+00	6.13937e+00	6.69006e+00	0
14	31	45	1.64576e+00	4.74569e-01	1.64283e+00	1.94844e+00	6.88799e+00	7.44547e+00	0
14	32	46	1.53183e+00	4.41107e-01	1.67545e+00	1.97566e+00	7.15751e+00	7.71744e+00	0
14	33	47	1.14028e+00	3.64776e-01	1.83888e+00	1.65542e+00	8.81187e+00	9.37909e+00	0
14	34	48	1.24698e+00	3.57640e-01	2.18301e+00	1.90057e+00	8.13030e+00	8.67694e+00	0
14	35	49	1.39614e+00	3.27542e-01	2.99473e+00	2.04965e+00	8.37890e+00	8.93386e+00	0
14	36	50	1.21346e+00	3.01914e-01	2.97865e+00	1.90956e+00	9.00474e+00	9.56233e+00	0
14	37	51	1.32681e+00	2.90365e-01	3.92517e+00	2.02350e+00	9.09628e+00	9.66573e+00	0
14	38	52	1.30786e+00	2.72767e-01	4.29539e+00	1.96447e+00	9.50716e+00	1.00677e+01	0
14	39	53	1.36509e+00	2.71299e-01	5.33097e+00	2.05261e+00	9.64920e+00	1.02038e+01	0
14	40	54	1.30815e+00	2.63265e-01	5.87172e+00	1.97573e+00	9.59483e+00	1.01724e+01	0
14	41	55	1.38909e+00	2.71008e-01	7.03783e+00	2.07074e+00	9.76689e+00	1.03287e+01	0
14	42	56	1.34812e+00	2.88598e-01	7.59234e+00	1.99849e+00	1.01277e+01	1.07034e+01	0
14	43	57	1.57101e+00	4.71343e-01	8.72933e+00	2.12101e+00	1.01258e+01	1.06895e+01	0
14	44	58	1.51023e+00	6.02814e-01	9.10571e+00	2.08821e+00	1.02091e+01	1.07685e+01	0
14	45	59	2.12684e+00	1.13676e+00	9.70127e+00	2.20670e+00	1.00377e+01	1.05849e+01	0
14	46	60	2.08429e+00	1.30958e+00	9.80076e+00	2.16611e+00	1.06076e+01	1.11702e+01	0
14	47	61	2.68956e+00	1.90275e+00	9.90443e+00	2.28774e+00	1.06744e+01	1.12587e+01	0
14	48	62	2.71324e+00	1.82386e+00	9.89270e+00	2.20727e+00	1.11650e+01	1.17523e+01	0
14	49	63	3.13408e+00	2.56827e+00	9.97032e+00	2.38269e+00	1.06272e+01	1.12011e+01	0
14	50	64	3.14161e+00	2.18222e+00	9.94328e+00	2.23944e+00	1.06490e+01	1.12271e+01	0
14	51	65	3.50098e+00	3.00431e+00	9.95363e+00	2.44416e+00	1.20541e+01	1.26463e+01	0
14	52	66	3.68214e+00	2.89610e+00	9.98237e+00	2.46394e+00	1.21809e+01	1.27420e+01	0
14	53	67	3.82744e+00	3.36506e+00	9.98879e+00	2.57396e+00	1.24182e+01	1.30000e+01	0
14	54	68	4.01792e+00	3.27309e+00	9.99234e+00	2.59652e+00	1.25709e+01	1.31543e+01	0

(continued on next page)

Table 1 (continued)

Phosphorus (P)									
15	17	32	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
15	18	33	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
15	19	34	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.54652e-01	1.08325e+00	1
15	20	35	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.48497e-01	1.20836e+00	1
15	21	36	2.64945e+00	2.08395e+00	1.65878e-04	2.27503e-01	2.23247e+00	2.69142e+00	1
15	22	37	2.10536e+00	1.26675e+00	3.35308e-02	6.59601e-01	2.31688e+00	2.78242e+00	1
15	23	38	3.29557e+00	1.45206e+00	2.42828e-02	5.30288e-01	3.39002e+00	3.90664e+00	1
15	24	39	3.15414e+00	6.55749e-01	6.16716e-02	1.11606e+00	3.75397e+00	4.26197e+00	1
15	25	40	3.03849e+00	1.39389e+00	1.36227e-01	9.04468e-01	4.38815e+00	4.91664e+00	1
15	26	41	3.01047e+00	7.19900e-01	2.39831e-01	1.71344e+00	4.97607e+00	5.49929e+00	1
15	27	42	2.62032e+00	1.03877e+00	5.56502e-01	1.33670e+00	5.56938e+00	6.11676e+00	1
15	28	43	2.07378e+00	7.99697e-01	6.24532e-01	1.96769e+00	5.72883e+00	6.23892e+00	0
15	29	44	1.80621e+00	8.36545e-01	9.60894e-01	1.74278e+00	6.16090e+00	6.68658e+00	0
15	30	45	1.97323e+00	7.83223e-01	1.18270e+00	2.16987e+00	6.12598e+00	6.67975e+00	0
15	31	46	1.58205e+00	5.71776e-01	1.62689e+00	2.07472e+00	6.74038e+00	7.30036e+00	0
15	32	47	1.79542e+00	6.68708e-01	1.71346e+00	2.16986e+00	6.84934e+00	7.41069e+00	0
15	33	48	1.37797e+00	5.02775e-01	1.90888e+00	1.96417e+00	8.34725e+00	8.89868e+00	0
15	34	49	1.51873e+00	5.17654e-01	2.33882e+00	2.07769e+00	7.71724e+00	8.27309e+00	0
15	35	50	1.60692e+00	4.92433e-01	2.84329e+00	2.16900e+00	8.07888e+00	8.64820e+00	0
15	36	51	1.52615e+00	4.54440e-01	3.12103e+00	2.09714e+00	8.36395e+00	8.93581e+00	0
15	37	52	1.49881e+00	4.29491e-01	3.74048e+00	2.09751e+00	8.76115e+00	9.33635e+00	0
15	38	53	1.43021e+00	4.10741e-01	4.23660e+00	2.05487e+00	8.74576e+00	9.31060e+00	0
15	39	54	1.48597e+00	3.99567e-01	4.73805e+00	2.04848e+00	9.56171e+00	1.01403e+01	0
15	40	55	1.48145e+00	3.87834e-01	5.17725e+00	2.00682e+00	9.57452e+00	1.01581e+01	0
15	41	56	1.51830e+00	3.84965e-01	6.13056e+00	2.04948e+00	9.71037e+00	1.02724e+01	0
15	42	57	1.53123e+00	3.80389e-01	6.73364e+00	2.02835e+00	9.95128e+00	1.05324e+01	0
15	43	58	1.57347e+00	4.01913e-01	7.55343e+00	2.04009e+00	1.03893e+01	1.09564e+01	0
15	44	59	1.60670e+00	4.69897e-01	8.17572e+00	2.05828e+00	1.02915e+01	1.08800e+01	0
15	45	60	1.99198e+00	7.92988e-01	8.99619e+00	2.11592e+00	1.03368e+01	1.08915e+01	0
15	46	61	1.82070e+00	9.20633e-01	9.20268e+00	2.09493e+00	1.05677e+01	1.11580e+01	0
15	47	62	2.54046e+00	1.44924e+00	9.51214e+00	2.14362e+00	1.03572e+01	1.09235e+01	0
15	48	63	2.19926e+00	1.71815e+00	9.67700e+00	2.15010e+00	1.10649e+01	1.16251e+01	0
15	49	64	3.11416e+00	2.18920e+00	9.75860e+00	2.21374e+00	1.12508e+01	1.18453e+01	0
15	50	65	2.82652e+00	2.34690e+00	9.92327e+00	2.19963e+00	1.12344e+01	1.18064e+01	0
15	51	66	3.45914e+00	2.83214e+00	9.96208e+00	2.30197e+00	1.13498e+01	1.19452e+01	0
15	52	67	3.19611e+00	2.86986e+00	9.97404e+00	2.31610e+00	1.16970e+01	1.22927e+01	0
15	53	68	3.77314e+00	3.25712e+00	9.98619e+00	2.41046e+00	1.20268e+01	1.26124e+01	0
15	54	69	3.58591e+00	3.32581e+00	9.99114e+00	2.45344e+00	1.22468e+01	1.28348e+01	0
15	55	70	4.01031e+00	3.74070e+00	9.99279e+00	2.55775e+00	1.23576e+01	1.29590e+01	0
15	56	71	3.91945e+00	3.74173e+00	9.99356e+00	2.55733e+00	1.29788e+01	1.35837e+01	0
15	57	72	4.08433e+00	3.95622e+00	9.98673e+00	2.48665e+00	1.35311e+01	1.41247e+01	0
15	58	73	4.00938e+00	3.99040e+00	9.99155e+00	2.49201e+00	1.34873e+01	1.40949e+01	0
Sulfur (S)									
16	19	35	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
16	21	37	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.62809e-01	8.54281e-01	1
16	22	38	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.46459e-01	8.42077e-01	1
16	23	39	2.13763e+00	1.16995e+00	0.00000e+00	0.00000e+00	1.85911e+00	2.30637e+00	1
16	24	40	3.23362e+00	7.18809e-01	0.00000e+00	0.00000e+00	1.01821e+00	1.37423e+00	1
16	25	41	3.24597e+00	8.07743e-01	4.58702e-04	1.54879e-01	2.60479e+00	3.09502e+00	1
16	26	42	3.05121e+00	9.99388e-01	2.47029e-02	4.02912e-01	1.79586e+00	2.25995e+00	1
16	27	43	2.57464e+00	1.11783e+00	1.82759e-01	7.26597e-01	3.54913e+00	4.06055e+00	1
16	28	44	2.16387e+00	8.13019e-01	3.17301e-01	1.06646e+00	3.64900e+00	4.17333e+00	1
16	29	45	2.57728e+00	9.64485e-01	2.56819e-01	1.32058e+00	5.09785e+00	5.64394e+00	0
16	30	46	1.84656e+00	6.46632e-01	6.30885e-01	1.65523e+00	4.56703e+00	5.08362e+00	0
16	31	47	1.81559e+00	6.61903e-01	8.57881e-01	1.46560e+00	5.54439e+00	6.09684e+00	0
16	32	48	1.37851e+00	5.78485e-01	9.27269e-01	1.47662e+00	5.79767e+00	6.35387e+00	0
16	33	49	1.91774e+00	7.19710e-01	5.92411e-01	1.41534e+00	7.42238e+00	7.99504e+00	0
16	34	50	1.35910e+00	4.88700e-01	1.14492e+00	1.55324e+00	6.81300e+00	7.38004e+00	0
16	35	51	1.49543e+00	3.82500e-01	1.62921e+00	1.60394e+00	7.40222e+00	7.96307e+00	0
16	36	52	1.59206e+00	4.54511e-01	1.61562e+00	1.71258e+00	7.41745e+00	7.97936e+00	0
16	37	53	1.44289e+00	3.93507e-01	2.24579e+00	1.68567e+00	8.16743e+00	8.74663e+00	0
16	38	54	1.12057e+00	3.16470e-01	2.57328e+00	1.55700e+00	7.85487e+00	8.41282e+00	0
16	39	55	1.33488e+00	2.87329e-01	3.34090e+00	1.67271e+00	8.11199e+00	8.67884e+00	0
16	40	56	1.23202e+00	2.59815e-01	3.35445e+00	1.54240e+00	8.44477e+00	9.02367e+00	0
16	41	57	1.37522e+00	2.65567e-01	4.15806e+00	1.65197e+00	8.99871e+00	9.55983e+00	0
16	42	58	1.42777e+00	2.66004e-01	4.22998e+00	1.58624e+00	9.25405e+00	9.82473e+00	0
16	43	59	1.47825e+00	2.58984e-01	5.17119e+00	1.65527e+00	9.76853e+00	1.03529e+01	0
16	44	60	1.46054e+00	2.56343e-01	5.36293e+00	1.59186e+00	1.00724e+01	1.06438e+01	0
16	45	61	1.52475e+00	2.63849e-01	6.73827e+00	1.71254e+00	9.85126e+00	1.04359e+01	0
16	46	62	1.57029e+00	2.74383e-01	7.13525e+00	1.67580e+00	9.91451e+00	1.05073e+01	0
16	47	63	1.72707e+00	3.68517e-01	8.22188e+00	1.75405e+00	1.00887e+01	1.06745e+01	0
16	48	64	1.74081e+00	4.12711e-01	8.44752e+00	1.72094e+00	1.04731e+01	1.10642e+01	0
16	49	65	2.15338e+00	7.75590e-01	9.29630e+00	1.81173e+00	1.05543e+01	1.11427e+01	0
16	50	66	2.00926e+00	9.10122e-01	9.47212e+00	1.81895e+00	1.07540e+01	1.13445e+01	0
16	51	67	2.80612e+00	1.45454e+00	9.80867e+00	1.95476e+00	1.07044e+01	1.12700e+01	0
16	52	68	2.75449e+00	1.61874e+00	9.87819e+00	1.97906e+00	1.06742e+01	1.12512e+01	0

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Table 1 (continued)

16	53	69	3.39180e+00	2.23305e+00	9.95002e+00	2.09932e+00	1.09814e+01	1.15712e+01	0
16	54	70	3.33607e+00	2.42052e+00	9.96359e+00	2.12800e+00	1.07879e+01	1.13867e+01	0
16	55	71	3.40294e+00	2.81569e+00	9.93377e+00	2.17635e+00	1.12634e+01	1.18650e+01	0
16	56	72	3.53889e+00	2.59735e+00	9.94964e+00	2.15111e+00	1.17838e+01	1.23784e+01	0
16	57	73	3.73473e+00	3.26220e+00	9.98217e+00	2.25084e+00	1.21031e+01	1.26989e+01	0
16	58	74	3.99516e+00	3.29992e+00	9.98878e+00	2.27695e+00	1.27211e+01	1.33013e+01	0
16	59	75	4.13372e+00	3.89033e+00	9.98836e+00	2.37541e+00	1.25023e+01	1.31106e+01	0
16	60	76	4.26944e+00	3.90618e+00	9.99212e+00	2.40133e+00	1.25018e+01	1.30805e+01	0
Chlorine (Cl)									
17	19	36	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
17	21	38	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.89672e-01	7.58161e-01	1
17	22	39	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.67089e-01	6.14550e-01	1
17	23	40	2.35766e+00	2.02812e+00	0.00000e+00	0.00000e+00	1.16134e+00	1.56492e+00	1
17	24	41	2.92711e+00	9.64324e-01	0.00000e+00	0.00000e+00	1.26644e+00	1.68348e+00	1
17	25	42	2.41284e+00	2.14325e+00	1.46392e-05	6.09869e-02	1.99734e+00	2.46960e+00	1
17	26	43	3.12782e+00	9.65858e-01	1.70059e-02	4.78268e-01	2.14501e+00	2.61491e+00	1
17	27	44	3.27029e+00	1.48740e+00	2.60076e-02	5.47733e-01	3.30593e+00	3.81746e+00	1
17	28	45	2.29125e+00	9.38760e-01	2.06341e-01	1.39197e+00	3.75866e+00	4.28528e+00	1
17	29	46	2.88035e+00	1.40076e+00	1.90927e-01	1.38956e+00	4.84252e+00	5.38806e+00	1
17	30	47	1.81400e+00	6.82214e-01	7.78238e-01	1.66768e+00	4.89655e+00	5.42905e+00	0
17	31	48	1.56210e+00	7.27364e-01	9.67520e-01	1.52292e+00	5.39070e+00	5.91706e+00	0
17	32	49	1.92675e+00	7.48848e-01	1.01918e+00	2.00387e+00	5.47603e+00	6.03272e+00	0
17	33	50	1.39852e+00	6.78303e-01	1.01494e+00	1.45193e+00	6.82346e+00	7.36920e+00	0
17	34	51	1.99541e+00	7.05820e-01	1.22587e+00	1.92729e+00	6.29623e+00	6.85314e+00	0
17	35	52	1.48704e+00	5.00460e-01	1.68366e+00	1.82019e+00	6.89094e+00	7.43607e+00	0
17	36	53	1.67621e+00	5.79106e-01	1.93311e+00	1.83770e+00	6.92688e+00	7.47323e+00	0
17	37	54	1.79484e+00	5.57261e-01	2.26247e+00	1.78254e+00	7.70974e+00	8.28932e+00	0
17	38	55	1.56245e+00	4.91991e-01	2.67736e+00	1.70427e+00	7.33447e+00	7.88725e+00	0
17	39	56	1.58577e+00	4.97393e-01	3.19644e+00	1.76461e+00	7.55226e+00	8.10236e+00	0
17	40	57	1.58779e+00	4.84179e-01	3.26172e+00	1.71432e+00	7.85453e+00	8.43606e+00	0
17	41	58	1.64277e+00	4.54612e-01	3.95856e+00	1.73115e+00	8.06087e+00	8.64512e+00	0
17	42	59	1.62697e+00	4.45306e-01	4.12633e+00	1.67670e+00	8.24057e+00	8.82389e+00	0
17	43	60	1.63416e+00	4.43395e-01	4.88143e+00	1.71319e+00	8.41633e+00	8.97932e+00	0
17	44	61	1.70066e+00	4.16827e-01	4.99060e+00	1.65770e+00	9.43918e+00	1.00195e+01	0
17	45	62	1.73967e+00	4.20090e-01	6.16092e+00	1.73309e+00	9.24218e+00	9.81921e+00	0
17	46	63	1.75777e+00	4.07908e-01	6.50933e+00	1.70070e+00	9.38151e+00	9.97706e+00	0
17	47	64	1.77868e+00	4.18064e-01	7.41344e+00	1.73359e+00	9.32682e+00	9.89924e+00	0
17	48	65	1.81284e+00	4.30177e-01	7.78129e+00	1.72696e+00	9.58463e+00	1.01763e+01	0
17	49	66	1.99566e+00	6.06945e-01	8.62800e+00	1.77529e+00	9.83170e+00	1.04308e+01	0
17	50	67	1.85292e+00	7.08932e-01	8.87285e+00	1.79331e+00	1.01747e+01	1.07426e+01	0
17	51	68	2.49926e+00	1.18720e+00	9.37062e+00	1.86938e+00	1.05958e+01	1.12007e+01	0
17	52	69	2.18304e+00	1.43472e+00	9.50675e+00	1.90552e+00	1.06745e+01	1.12686e+01	0
17	53	70	3.03629e+00	1.94084e+00	9.66800e+00	1.99482e+00	1.11068e+01	1.17031e+01	0
17	54	71	2.77043e+00	2.22713e+00	9.74569e+00	2.01357e+00	1.08731e+01	1.14685e+01	0
17	55	72	3.06551e+00	2.56106e+00	9.83509e+00	2.08528e+00	1.08099e+01	1.14161e+01	0
17	56	73	3.02426e+00	2.54565e+00	9.88505e+00	2.09133e+00	1.12939e+01	1.19032e+01	0
17	57	74	3.63111e+00	2.96516e+00	9.95670e+00	2.19117e+00	1.15188e+01	1.21178e+01	0
17	58	75	3.44093e+00	3.21527e+00	9.97258e+00	2.22634e+00	1.18428e+01	1.24446e+01	0
17	59	76	4.05203e+00	3.61575e+00	9.98563e+00	2.33232e+00	1.20533e+01	1.26656e+01	0
17	60	77	3.86210e+00	3.85803e+00	9.99045e+00	2.35435e+00	1.23700e+01	1.29880e+01	0
17	61	78	4.19655e+00	4.36752e+00	9.99239e+00	2.44707e+00	1.24372e+01	1.30516e+01	0
17	62	79	4.09827e+00	4.53781e+00	9.99456e+00	2.50433e+00	1.27428e+01	1.33500e+01	0
Argon (Ar)									
18	21	39	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
18	23	41	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.39749e-01	5.65674e-01	1
18	24	42	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.37331e-01	3.02812e-01	1
18	25	43	2.23467e+00	1.10167e+00	0.00000e+00	0.00000e+00	8.85163e-01	1.26147e+00	1
18	26	44	3.06331e+00	5.01695e-01	0.00000e+00	0.00000e+00	6.46824e-01	9.78179e-01	1
18	27	45	2.12930e+00	1.19623e+00	0.00000e+00	0.00000e+00	1.92167e+00	2.38196e+00	1
18	28	46	3.00191e+00	8.60540e-01	0.00000e+00	0.00000e+00	1.34320e+00	1.75140e+00	1
18	29	47	2.47104e+00	1.25571e+00	1.01734e-02	4.76711e-01	3.32964e+00	3.83307e+00	1
18	30	48	2.56136e+00	6.48901e-01	2.08838e-01	1.00588e+00	3.31736e+00	3.83967e+00	1
18	31	49	2.48327e+00	8.80292e-01	2.79805e-01	1.10559e+00	4.51707e+00	5.04768e+00	0
18	32	50	2.34678e+00	4.62152e-01	2.74760e-01	1.33333e+00	4.58888e+00	5.11810e+00	0
18	33	51	2.23002e+00	5.56265e-01	1.58257e-01	1.05877e+00	6.14207e+00	6.69127e+00	0
18	34	52	1.97903e+00	4.20802e-01	4.15064e-01	1.12869e+00	5.20367e+00	5.74162e+00	0
18	35	53	2.47414e+00	7.06381e-01	4.49654e-01	1.14715e+00	6.44080e+00	7.01010e+00	0
18	36	54	1.37193e+00	4.56419e-01	9.18688e-01	1.17869e+00	6.05546e+00	6.60808e+00	0
18	37	55	1.84675e+00	5.76324e-01	7.38891e-01	1.18853e+00	7.18837e+00	7.73793e+00	0
18	38	56	1.36869e+00	4.44821e-01	1.09522e+00	1.25033e+00	6.65122e+00	7.22520e+00	0
18	39	57	1.58510e+00	3.48443e-01	1.57911e+00	1.26532e+00	7.07264e+00	7.62855e+00	0
18	40	58	2.02152e+00	5.49840e-01	1.37582e+00	1.47194e+00	7.18818e+00	7.77036e+00	0
18	41	59	1.97305e+00	4.48428e-01	2.22164e+00	1.45221e+00	7.41341e+00	7.99776e+00	0
18	42	60	1.57709e+00	4.07038e-01	2.12889e+00	1.29417e+00	7.66407e+00	8.25048e+00	0
18	43	61	1.75286e+00	3.64771e-01	2.91652e+00	1.38825e+00	7.72193e+00	8.30846e+00	0
18	44	62	1.52913e+00	3.31329e-01	3.10605e+00	1.33016e+00	8.27924e+00	8.87214e+00	0
18	45	63	1.59285e+00	3.20848e-01	3.89518e+00	1.40853e+00	8.51318e+00	9.09502e+00	0

(continued on next page)

Table 1 (continued)

18	46	64	1.56997e+00	2.97563e-01	3.94598e+00	1.37435e+00	8.65525e+00	9.23626e+00	0
18	47	65	1.63577e+00	2.91245e-01	4.88332e+00	1.44615e+00	8.79581e+00	9.38834e+00	0
18	48	66	1.61108e+00	2.72677e-01	4.97499e+00	1.41243e+00	8.92791e+00	9.50373e+00	0
18	49	67	1.67140e+00	2.69998e-01	5.92764e+00	1.48611e+00	9.13179e+00	9.73220e+00	0
18	50	68	1.63961e+00	2.57673e-01	5.95601e+00	1.46240e+00	9.42806e+00	1.00126e+01	0
18	51	69	1.71431e+00	2.95806e-01	7.11224e+00	1.55872e+00	9.68267e+00	1.02715e+01	0
18	52	70	1.74540e+00	3.26201e-01	7.59396e+00	1.59438e+00	9.74736e+00	1.03455e+01	0
18	53	71	2.01945e+00	5.59538e-01	8.59124e+00	1.69908e+00	1.00207e+01	1.05952e+01	0
18	54	72	2.03606e+00	6.93067e-01	8.95825e+00	1.76145e+00	1.00438e+01	1.06439e+01	0
18	55	73	2.59736e+00	1.15647e+00	9.52966e+00	1.86852e+00	9.85208e+00	1.04587e+01	0
18	56	74	2.47857e+00	1.39634e+00	9.61698e+00	1.92505e+00	1.01086e+01	1.07125e+01	0
18	57	75	3.07392e+00	1.91007e+00	9.77261e+00	2.01887e+00	1.03530e+01	1.09293e+01	0
18	58	76	3.00020e+00	2.05346e+00	9.83377e+00	2.01888e+00	1.08750e+01	1.14692e+01	0
18	59	77	3.58255e+00	2.62563e+00	9.96906e+00	2.12305e+00	1.09820e+01	1.15651e+01	0
18	60	78	3.59167e+00	2.88851e+00	9.98459e+00	2.15669e+00	1.11759e+01	1.17838e+01	0
18	61	79	3.92432e+00	3.59159e+00	9.99032e+00	2.26993e+00	1.15407e+01	1.21615e+01	0
18	62	80	3.85097e+00	3.71654e+00	9.99330e+00	2.28348e+00	1.18401e+01	1.24524e+01	0
18	63	81	3.98462e+00	4.17490e+00	9.99434e+00	2.35514e+00	1.22901e+01	1.28942e+01	0
18	64	82	4.20657e+00	4.21517e+00	9.99609e+00	2.45866e+00	1.13548e+01	1.19742e+01	0
18	65	83	4.36948e+00	4.62812e+00	9.99600e+00	2.56327e+00	1.15573e+01	1.21662e+01	0
Potassium (K)									
19	21	40	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
19	23	42	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.64160e-01	1.14921e+00	1
19	24	43	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.32683e-01	7.16835e-01	1
19	25	44	2.66676e+00	1.56923e+00	0.00000e+00	0.00000e+00	6.09253e-01	9.30261e-01	1
19	26	45	2.17418e+00	1.16550e+00	0.00000e+00	0.00000e+00	6.75772e-01	1.00928e+00	1
19	27	46	3.78586e+00	1.37776e+00	0.00000e+00	0.00000e+00	1.07091e+00	1.46747e+00	1
19	28	47	2.21490e+00	1.79927e+00	0.00000e+00	0.00000e+00	1.13274e+00	1.53818e+00	1
19	29	48	2.08618e+00	2.54562e+00	1.06301e-02	6.21450e-01	3.03382e+00	3.53033e+00	1
19	30	49	8.56767e-01	2.88757e+00	2.89655e-01	1.80185e+00	3.36028e+00	3.86994e+00	1
19	31	50	9.44397e-01	3.54889e+00	2.07316e-01	2.08152e+00	4.13846e+00	4.65213e+00	1
19	32	51	1.22562e+00	9.21293e-01	5.90155e-01	1.42326e+00	4.25174e+00	4.78296e+00	1
19	33	52	2.82656e+00	1.26757e+00	2.00478e-01	1.21503e+00	5.77946e+00	6.32467e+00	1
19	34	53	1.96979e+00	3.88676e-01	4.03334e-01	1.37590e+00	6.96657e+00	7.52273e+00	1
19	35	54	1.84742e+00	8.86759e-01	8.85921e-01	1.27039e+00	5.97526e+00	6.54892e+00	0
19	36	55	2.29439e+00	8.38928e-01	1.05122e+00	1.88172e+00	5.60094e+00	6.16073e+00	0
19	37	56	1.48682e+00	6.61360e-01	1.21568e+00	1.39133e+00	6.71620e+00	7.27260e+00	0
19	38	57	2.14938e+00	8.29172e-01	1.31232e+00	1.68056e+00	5.98775e+00	6.53324e+00	0
19	39	58	1.80351e+00	5.94370e-01	1.81283e+00	1.60544e+00	6.68040e+00	7.26273e+00	0
19	40	59	1.63111e+00	6.21946e-01	1.89511e+00	1.50978e+00	6.68417e+00	7.26649e+00	0
19	41	60	2.03655e+00	6.39991e-01	2.29360e+00	1.65174e+00	6.96154e+00	7.51288e+00	0
19	42	61	1.58552e+00	4.61931e-01	2.54028e+00	1.51939e+00	7.19390e+00	7.78174e+00	0
19	43	62	1.77528e+00	5.40425e-01	2.99787e+00	1.58070e+00	7.43237e+00	8.00838e+00	0
19	44	63	1.88539e+00	5.43420e-01	3.14244e+00	1.55785e+00	7.75081e+00	8.32136e+00	0
19	45	64	1.77506e+00	5.00233e-01	3.85088e+00	1.54836e+00	7.95567e+00	8.52635e+00	0
19	46	65	1.73427e+00	4.73983e-01	3.96697e+00	1.50510e+00	8.20159e+00	8.77589e+00	0
19	47	66	1.78436e+00	4.58203e-01	4.61687e+00	1.53921e+00	8.35849e+00	8.95674e+00	0
19	48	67	1.73945e+00	4.28396e-01	4.70124e+00	1.51258e+00	8.58608e+00	9.18849e+00	0
19	49	68	1.77095e+00	4.22877e-01	5.40764e+00	1.56132e+00	8.69173e+00	9.27175e+00	0
19	50	69	1.75606e+00	4.04605e-01	5.66689e+00	1.57298e+00	8.72777e+00	9.32814e+00	0
19	51	70	1.76731e+00	4.01751e-01	6.40990e+00	1.62925e+00	9.22631e+00	9.83490e+00	0
19	52	71	1.79694e+00	3.98561e-01	6.97515e+00	1.67850e+00	9.31231e+00	9.91244e+00	0
19	53	72	1.90598e+00	4.93414e-01	7.96411e+00	1.75505e+00	9.46446e+00	1.00636e+01	0
19	54	73	1.85801e+00	5.62705e-01	8.41030e+00	1.80814e+00	9.65750e+00	1.02351e+01	0
19	55	74	2.36590e+00	9.82879e-01	9.16136e+00	1.90061e+00	9.79792e+00	1.03761e+01	0
19	56	75	2.20160e+00	1.23038e+00	9.26978e+00	1.95403e+00	9.93987e+00	1.05439e+01	0
19	57	76	2.81253e+00	1.71303e+00	9.28547e+00	2.00986e+00	1.01376e+01	1.07417e+01	0
19	58	77	2.50090e+00	2.04560e+00	9.40322e+00	2.03067e+00	1.05757e+01	1.11964e+01	0
19	59	78	3.39777e+00	2.48184e+00	9.74800e+00	2.12429e+00	1.08795e+01	1.14895e+01	0
19	60	79	3.07339e+00	2.97130e+00	9.78692e+00	2.16067e+00	1.10702e+01	1.16837e+01	0
19	61	80	3.84442e+00	3.26908e+00	9.92636e+00	2.22255e+00	1.16211e+01	1.22511e+01	0
19	62	81	3.47874e+00	3.60759e+00	9.95877e+00	2.24560e+00	1.15902e+01	1.22079e+01	0
19	63	82	3.95748e+00	4.16855e+00	9.99089e+00	2.40324e+00	1.20627e+01	1.26930e+01	0
19	64	83	3.94409e+00	4.18449e+00	9.99411e+00	2.44461e+00	1.19053e+01	1.25255e+01	0
19	65	84	4.26021e+00	4.43956e+00	9.99339e+00	2.50940e+00	1.21459e+01	1.27552e+01	0
19	66	85	4.19973e+00	4.38516e+00	9.99530e+00	2.52433e+00	1.23715e+01	1.29850e+01	0
19	67	86	4.46983e+00	4.65649e+00	9.99511e+00	2.59107e+00	1.24850e+01	1.31176e+01	0
19	68	87	4.57537e+00	4.78416e+00	9.99643e+00	2.60679e+00	1.27452e+01	1.33723e+01	0
Calcium (Ca)									
20	25	45	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.51023e-02	1.89760e-01	1
20	27	47	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.91649e-01	5.29101e-01	1
20	28	48	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.36146e-02	1.21521e-01	1
20	29	49	2.07331e+00	1.91248e+00	0.00000e+00	0.00000e+00	5.21570e-01	8.17635e-01	1
20	30	50	3.21791e+00	7.89678e-01	0.00000e+00	0.00000e+00	1.01136e+00	1.41641e+00	1
20	31	51	1.96501e+00	1.64524e+00	3.07979e-05	9.73758e-02	1.63713e+00	2.06934e+00	1
20	32	52	3.02291e+00	4.16194e-01	6.35736e-04	3.65649e-01	2.26680e+00	2.76407e+00	1
20	33	53	2.57239e+00	3.59585e-01	1.37001e-02	6.78659e-01	3.93914e+00	4.47204e+00	1

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Table 1 (continued)

20	34	54	2.91780e+00	3.45442e-01	5.14013e-02	8.23216e-01	3.77899e+00	4.31313e+00	1
20	35	55	2.88715e+00	5.05358e-01	1.48951e-01	6.84332e-01	4.71465e+00	5.27333e+00	1
20	36	56	3.07993e+00	4.42313e-01	7.37953e-02	1.09310e+00	4.91346e+00	5.47862e+00	1
20	37	57	2.51158e+00	6.13740e-01	1.78121e-01	6.74130e-01	6.05531e+00	6.61388e+00	0
20	38	58	2.34863e+00	5.23707e-01	1.62608e-01	1.04273e+00	5.56272e+00	6.13658e+00	0
20	39	59	2.13079e+00	8.28079e-01	5.89496e-01	7.65811e-01	5.90851e+00	6.48760e+00	0
20	40	60	1.65466e+00	5.14806e-01	5.18616e-01	7.00990e-01	6.17450e+00	6.75702e+00	0
20	41	61	1.83341e+00	4.48795e-01	1.05803e+00	9.58399e-01	6.37958e+00	6.96457e+00	0
20	42	62	1.42432e+00	3.84698e-01	1.09002e+00	1.06045e+00	6.69452e+00	7.24397e+00	0
20	43	63	1.68863e+00	3.28709e-01	1.67117e+00	1.12844e+00	6.81034e+00	7.39033e+00	0
20	44	64	2.03303e+00	4.89935e-01	1.27870e+00	1.28006e+00	7.11853e+00	7.67626e+00	0
20	45	65	1.93301e+00	3.83019e-01	2.08488e+00	1.27186e+00	7.14386e+00	7.73776e+00	0
20	46	66	1.84371e+00	4.34391e-01	1.63517e+00	1.23815e+00	7.58287e+00	8.17213e+00	0
20	47	67	1.93730e+00	3.70317e-01	2.46051e+00	1.31214e+00	7.52008e+00	8.10680e+00	0
20	48	68	1.59411e+00	3.54193e-01	2.20643e+00	1.21525e+00	7.89814e+00	8.50056e+00	0
20	49	69	1.75858e+00	3.35378e-01	2.93937e+00	1.32565e+00	8.02863e+00	8.63245e+00	0
20	50	70	1.46463e+00	3.03266e-01	2.97195e+00	1.26928e+00	8.19072e+00	8.79362e+00	0
20	51	71	1.63855e+00	3.02897e-01	3.84966e+00	1.40199e+00	8.56511e+00	9.15830e+00	0
20	52	72	1.68416e+00	2.97649e-01	4.33517e+00	1.45736e+00	8.49877e+00	9.09072e+00	0
20	53	73	1.67348e+00	2.97669e-01	5.52255e+00	1.57260e+00	8.63093e+00	9.21562e+00	0
20	54	74	1.67133e+00	2.93351e-01	6.07911e+00	1.59495e+00	8.78803e+00	9.38221e+00	0
20	55	75	1.74491e+00	3.15689e-01	7.30970e+00	1.69098e+00	8.90089e+00	9.51399e+00	0
20	56	76	1.77539e+00	3.43208e-01	7.89737e+00	1.70378e+00	8.98363e+00	9.59762e+00	0
20	57	77	2.01426e+00	5.57079e-01	8.85879e+00	1.78148e+00	8.57251e+00	9.18081e+00	0
20	58	78	2.05879e+00	7.19029e-01	9.22398e+00	1.80943e+00	9.25617e+00	9.87299e+00	0
20	59	79	2.76521e+00	1.28544e+00	9.76898e+00	1.92184e+00	9.22813e+00	9.82064e+00	0
20	60	80	2.78252e+00	1.69271e+00	9.87259e+00	1.97796e+00	9.18307e+00	9.79622e+00	0
20	61	81	3.47122e+00	2.25603e+00	9.96442e+00	2.06889e+00	9.43879e+00	1.00341e+01	0
20	62	82	3.35376e+00	2.59057e+00	9.97956e+00	2.12301e+00	1.02087e+01	1.08137e+01	0
20	63	83	3.57670e+00	3.21486e+00	9.99143e+00	2.21986e+00	1.06087e+01	1.12288e+01	0
20	64	84	3.70310e+00	3.10859e+00	9.99280e+00	2.22250e+00	1.06903e+01	1.12893e+01	0
20	65	85	3.87782e+00	3.60285e+00	9.99482e+00	2.31732e+00	1.07324e+01	1.13307e+01	0
20	66	86	3.97881e+00	3.41279e+00	9.99545e+00	2.29480e+00	1.09919e+01	1.16164e+01	0
20	67	87	4.10258e+00	3.81697e+00	9.99539e+00	2.37058e+00	1.13181e+01	1.19224e+01	0
20	68	88	4.26155e+00	3.68901e+00	9.99633e+00	2.34355e+00	1.14988e+01	1.21377e+01	0
20	69	89	4.42031e+00	4.15466e+00	9.99724e+00	2.45352e+00	1.13251e+01	1.19624e+01	0
20	70	90	4.52736e+00	3.70560e+00	9.99688e+00	2.39769e+00	1.17238e+01	1.23648e+01	0
20	71	91	4.80590e+00	3.99605e+00	9.99758e+00	2.51288e+00	1.16315e+01	1.22702e+01	0
20	72	92	4.83292e+00	3.74752e+00	9.99760e+00	2.48037e+00	1.19661e+01	1.26090e+01	0
Scandium (Sc)									
21	25	46	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.23920e-01	8.43530e-01	1
21	26	47	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.43089e-01	3.20460e-01	1
21	27	48	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.12311e-01	6.80549e-01	1
21	28	49	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.46372e-01	3.38204e-01	1
21	29	50	2.67444e+00	1.66554e+00	0.00000e+00	0.00000e+00	1.02559e+00	1.42849e+00	1
21	30	51	1.67734e+00	1.38410e+00	3.31811e-08	4.99535e-02	1.86120e+00	2.32434e+00	1
21	31	52	2.70003e+00	1.54381e+00	1.72940e-03	3.93024e-01	2.15772e+00	2.64486e+00	1
21	32	53	2.46689e+00	4.50047e-01	3.62490e-03	5.22978e-01	3.23812e+00	3.77443e+00	1
21	33	54	2.58848e+00	6.32402e-01	1.18233e-02	5.48568e-01	4.51975e+00	5.07140e+00	1
21	34	55	2.27831e+00	3.56692e-01	1.51199e-01	5.98771e-01	4.46765e+00	5.02884e+00	1
21	35	56	3.18712e+00	9.64515e-01	1.38511e-01	9.69253e-01	4.68554e+00	5.22953e+00	1
21	36	57	1.69118e+00	3.90386e-01	3.20914e-01	1.26025e+00	5.21061e+00	5.78419e+00	1
21	37	58	2.44818e+00	9.71503e-01	3.73827e-01	1.06459e+00	5.22542e+00	5.79573e+00	1
21	38	59	1.93507e+00	5.17813e-01	4.37072e-01	1.52335e+00	6.05369e+00	6.61700e+00	0
21	39	60	2.53232e+00	9.10124e-01	5.37616e-01	1.30952e+00	6.44672e+00	7.03812e+00	0
21	40	61	2.17338e+00	6.38211e-01	5.98514e-01	1.56911e+00	6.53248e+00	7.11661e+00	0
21	41	62	2.10710e+00	8.50070e-01	9.57800e-01	1.25762e+00	6.84732e+00	7.42057e+00	0
21	42	63	1.75848e+00	7.93186e-01	1.04363e+00	1.20695e+00	7.00540e+00	7.60396e+00	0
21	43	64	1.90282e+00	6.92635e-01	1.45314e+00	1.32539e+00	7.13397e+00	7.73369e+00	0
21	44	65	1.73414e+00	6.51570e-01	1.49312e+00	1.30624e+00	7.36526e+00	7.96752e+00	0
21	45	66	1.83207e+00	6.34669e-01	1.86876e+00	1.37554e+00	7.60140e+00	8.20535e+00	0
21	46	67	1.70803e+00	5.43109e-01	1.96250e+00	1.35815e+00	7.70839e+00	8.29182e+00	0
21	47	68	1.69947e+00	5.53767e-01	2.39679e+00	1.40557e+00	7.85847e+00	8.46489e+00	0
21	48	69	1.73800e+00	5.09417e-01	2.34291e+00	1.41281e+00	8.09504e+00	8.69174e+00	0
21	49	70	1.55782e+00	4.51262e-01	2.82416e+00	1.41256e+00	8.24272e+00	8.85593e+00	0
21	50	71	1.78024e+00	5.08539e-01	2.76200e+00	1.46565e+00	8.50558e+00	9.10859e+00	0
21	51	72	1.74707e+00	4.74214e-01	3.59808e+00	1.52980e+00	8.66994e+00	9.28484e+00	0
21	52	73	1.68944e+00	4.48901e-01	4.15341e+00	1.57942e+00	8.60739e+00	9.22142e+00	0
21	53	74	1.73488e+00	4.46326e-01	5.08433e+00	1.66090e+00	8.74928e+00	9.36493e+00	0
21	54	75	1.72822e+00	4.37138e-01	5.67654e+00	1.68690e+00	8.88072e+00	9.49507e+00	0
21	55	76	1.74588e+00	4.40443e-01	6.71780e+00	1.75733e+00	8.95835e+00	9.57137e+00	0
21	56	77	1.75269e+00	4.47063e-01	7.35739e+00	1.77281e+00	9.12099e+00	9.72629e+00	0
21	57	78	1.88306e+00	5.46886e-01	8.35221e+00	1.83369e+00	8.99342e+00	9.57908e+00	0
21	58	79	1.91045e+00	6.33483e-01	8.79837e+00	1.84369e+00	9.20674e+00	9.83087e+00	0
21	59	80	2.51406e+00	1.13909e+00	9.58156e+00	1.93905e+00	9.58506e+00	1.02023e+01	0
21	60	81	2.37864e+00	1.60919e+00	9.75392e+00	2.00310e+00	9.41632e+00	1.00077e+01	0
21	61	82	3.42097e+00	2.15273e+00	9.93284e+00	2.09369e+00	9.73889e+00	1.03690e+01	0

(continued on next page)

Table 1 (continued)

21	62	83	2.98876e+00	2.52802e+00	9.96218e+00	2.10730e+00	1.00441e+01	1.06776e+01	0
21	63	84	3.67009e+00	2.92238e+00	9.98498e+00	2.19579e+00	1.00876e+01	1.07211e+01	0
21	64	85	3.42385e+00	3.08419e+00	9.99113e+00	2.20006e+00	1.02510e+01	1.08757e+01	0
21	65	86	3.81161e+00	3.47693e+00	9.99277e+00	2.27095e+00	1.03936e+01	1.10188e+01	0
21	66	87	3.76412e+00	3.37429e+00	9.99545e+00	2.26437e+00	1.04295e+01	1.10332e+01	0
21	67	88	4.06517e+00	3.69811e+00	9.99638e+00	2.34001e+00	1.06802e+01	1.13082e+01	0
21	68	89	4.05938e+00	3.69709e+00	9.99723e+00	2.35534e+00	1.09425e+01	1.15627e+01	0
21	69	90	4.35473e+00	3.88650e+00	9.99721e+00	2.42062e+00	1.09792e+01	1.16227e+01	0
21	70	91	4.33545e+00	3.59807e+00	9.99770e+00	2.40869e+00	1.13027e+01	1.19160e+01	0
21	71	92	4.78426e+00	3.76878e+00	9.99775e+00	2.49881e+00	1.13329e+01	1.19549e+01	0
21	72	93	4.74539e+00	3.59145e+00	9.99812e+00	2.50298e+00	1.15824e+01	1.22304e+01	0
21	73	94	4.95245e+00	3.75075e+00	9.99812e+00	2.58189e+00	1.15933e+01	1.22430e+01	0
21	74	95	4.86693e+00	3.53902e+00	9.99821e+00	2.56542e+00	1.12306e+01	1.18755e+01	0
Titanium (Ti)									
22	29	51	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.32737e-01	1.11879e+00	1
22	30	52	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.16350e-01	8.23309e-01	1
22	31	53	2.21845e+00	1.12890e+00	0.00000e+00	0.00000e+00	1.06132e+00	1.45991e+00	1
22	32	54	1.98468e+00	5.45202e-01	0.00000e+00	0.00000e+00	1.32929e+00	1.76983e+00	1
22	33	55	2.44146e+00	2.79788e-01	0.00000e+00	0.00000e+00	3.06297e+00	3.59030e+00	1
22	34	56	2.83519e+00	3.32910e-01	2.48150e-03	2.85772e-01	2.65756e+00	3.17358e+00	1
22	35	57	2.79385e+00	4.65752e-01	4.13028e-03	6.12397e-01	4.10170e+00	4.65147e+00	1
22	36	58	2.66020e+00	4.24239e-01	1.26692e-02	6.51448e-01	3.90205e+00	4.43476e+00	1
22	37	59	2.83500e+00	5.85327e-01	1.32649e-02	7.68186e-01	4.78931e+00	5.36208e+00	0
22	38	60	2.68163e+00	3.87463e-01	2.87457e-02	1.00351e+00	4.65422e+00	5.22571e+00	1
22	39	61	3.19514e+00	1.07304e+00	6.58079e-02	7.64722e-01	4.56459e+00	5.13398e+00	0
22	40	62	2.60127e+00	4.53866e-01	6.63638e-02	1.30370e+00	4.87712e+00	5.45184e+00	0
22	41	63	2.94890e+00	8.96606e-01	3.64367e-01	6.79467e-01	5.18336e+00	5.76281e+00	0
22	42	64	2.46917e+00	5.03837e-01	3.84340e-01	5.56978e-01	5.32123e+00	5.88474e+00	0
22	43	65	1.92050e+00	6.23129e-01	8.35868e-01	8.14026e-01	5.58147e+00	6.13942e+00	0
22	44	66	1.34156e+00	4.22199e-01	9.44558e-01	9.05654e-01	5.75696e+00	6.34541e+00	0
22	45	67	1.95401e+00	4.45397e-01	1.12043e+00	1.02165e+00	6.14145e+00	6.72646e+00	0
22	46	68	1.72102e+00	4.73776e-01	1.08010e+00	1.14963e+00	6.33256e+00	6.92911e+00	0
22	47	69	1.87171e+00	3.75049e-01	1.50892e+00	1.16922e+00	6.53058e+00	7.11931e+00	0
22	48	70	1.80458e+00	4.50882e-01	1.23494e+00	1.24732e+00	6.83000e+00	7.39558e+00	0
22	49	71	1.82123e+00	3.51044e-01	1.87786e+00	1.26852e+00	6.79300e+00	7.39565e+00	0
22	50	72	1.89191e+00	4.59486e-01	1.59449e+00	1.35254e+00	7.04423e+00	7.64999e+00	0
22	51	73	1.99566e+00	3.84234e-01	2.38942e+00	1.45189e+00	7.34394e+00	7.95370e+00	0
22	52	74	1.80686e+00	3.28049e-01	2.73949e+00	1.47712e+00	7.35611e+00	7.94478e+00	0
22	53	75	1.95277e+00	3.31201e-01	3.69766e+00	1.61300e+00	7.42904e+00	8.03987e+00	0
22	54	76	1.87621e+00	3.37271e-01	4.10278e+00	1.61673e+00	7.57150e+00	8.18348e+00	0
22	55	77	1.94958e+00	3.32456e-01	5.15844e+00	1.70566e+00	7.63545e+00	8.24806e+00	0
22	56	78	1.86218e+00	3.24424e-01	5.69429e+00	1.67594e+00	7.80360e+00	8.39606e+00	0
22	57	79	1.94451e+00	3.21324e-01	6.75583e+00	1.74833e+00	7.74082e+00	8.32876e+00	0
22	58	80	1.83304e+00	3.17225e-01	7.36567e+00	1.70431e+00	8.11361e+00	8.73333e+00	0
22	59	81	1.91838e+00	3.87753e-01	8.42128e+00	1.77897e+00	8.56860e+00	9.19387e+00	0
22	60	82	2.00411e+00	5.09273e-01	9.04042e+00	1.76628e+00	8.50835e+00	9.11873e+00	0
22	61	83	2.38489e+00	9.71476e-01	9.66340e+00	1.81960e+00	9.16640e+00	9.78145e+00	0
22	62	84	2.25186e+00	1.25501e+00	9.79910e+00	1.85390e+00	9.18974e+00	9.80719e+00	0
22	63	85	2.84828e+00	1.70778e+00	9.93559e+00	1.93034e+00	9.77216e+00	1.04028e+01	0
22	64	86	2.83597e+00	1.77205e+00	9.95887e+00	1.92724e+00	9.77841e+00	1.04146e+01	0
22	65	87	3.17799e+00	2.35417e+00	9.98429e+00	2.03813e+00	9.79857e+00	1.04164e+01	0
22	66	88	3.28955e+00	2.17454e+00	9.98827e+00	1.99833e+00	1.00622e+01	1.06901e+01	0
22	67	89	3.52761e+00	2.73688e+00	9.99436e+00	2.11745e+00	1.00849e+01	1.07185e+01	0
22	68	90	3.65334e+00	2.57435e+00	9.99453e+00	2.06866e+00	1.03292e+01	1.09541e+01	0
22	69	91	3.80011e+00	2.96587e+00	9.99635e+00	2.17548e+00	1.03093e+01	1.09453e+01	0
22	70	92	4.06095e+00	2.67969e+00	9.99635e+00	2.14146e+00	1.04747e+01	1.11139e+01	0
22	71	93	4.32571e+00	3.03376e+00	9.99659e+00	2.24232e+00	1.06212e+01	1.12374e+01	0
22	72	94	4.39362e+00	2.83549e+00	9.99705e+00	2.22638e+00	1.07598e+01	1.14016e+01	0
22	73	95	4.55749e+00	3.16058e+00	9.99741e+00	2.31795e+00	1.09500e+01	1.15811e+01	0
22	74	96	4.63683e+00	2.99215e+00	9.99755e+00	2.30356e+00	1.11381e+01	1.17832e+01	0
22	75	97	4.72971e+00	3.20003e+00	9.99627e+00	2.33077e+00	1.11436e+01	1.17988e+01	0
22	76	98	4.78143e+00	3.04497e+00	9.99755e+00	2.33923e+00	1.14647e+01	1.20912e+01	0
Vanadium (V)									
23	27	50	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.64210e-02	2.38616e-01	1
23	29	52	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.56167e-01	1.09653e+00	1
23	30	53	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	9.77228e-01	1.37092e+00	1
23	31	54	2.32468e+00	1.50134e+00	0.00000e+00	0.00000e+00	1.57076e+00	2.03228e+00	1
23	32	55	1.36341e+00	6.45947e-01	0.00000e+00	0.00000e+00	2.31506e+00	2.81188e+00	1
23	33	56	2.97582e+00	1.13801e+00	1.17502e-04	2.55899e-01	2.60790e+00	3.11279e+00	1
23	34	57	2.37115e+00	3.67160e-01	3.22984e-03	5.21381e-01	3.34641e+00	3.89503e+00	1
23	35	58	2.98866e+00	9.09562e-01	9.19278e-03	5.39599e-01	4.11656e+00	4.66973e+00	1
23	36	59	2.38151e+00	3.70548e-01	6.20110e-02	5.90590e-01	4.39213e+00	4.96343e+00	1
23	37	60	2.80024e+00	8.42736e-01	4.21927e-02	6.64890e-01	5.28730e+00	5.85956e+00	1
23	38	61	1.80090e+00	4.21886e-01	2.18403e-01	8.92220e-01	5.00197e+00	5.57173e+00	1
23	39	62	2.81507e+00	9.52488e-01	2.01642e-01	9.27001e-01	5.46536e+00	6.03315e+00	1
23	40	63	2.34129e+00	3.48593e-01	3.22895e-01	8.58913e-01	5.84054e+00	6.43487e+00	1
23	41	64	2.98427e+00	9.64663e-01	3.31087e-01	1.16221e+00	5.95622e+00	6.52897e+00	0

(continued on next page)

Table 1 (continued)

23	42	65	2.39497e+00	5.82704e-01	4.00293e-01	1.46065e+00	6.01577e+00	6.59853e+00	0
23	43	66	2.50436e+00	9.31464e-01	6.13416e-01	1.11652e+00	6.28138e+00	6.84281e+00	0
23	44	67	1.99531e+00	6.74285e-01	6.92801e-01	1.34755e+00	6.47382e+00	7.04296e+00	0
23	45	68	1.96906e+00	8.06463e-01	9.46399e-01	1.24489e+00	6.67466e+00	7.27196e+00	0
23	46	69	1.88777e+00	7.27091e-01	1.01775e+00	1.32833e+00	6.77767e+00	7.35145e+00	0
23	47	70	1.59017e+00	5.94534e-01	1.38488e+00	1.29904e+00	6.91016e+00	7.50931e+00	0
23	48	71	1.84954e+00	6.40350e-01	1.40455e+00	1.42560e+00	7.03977e+00	7.65251e+00	0
23	49	72	1.57878e+00	5.55437e-01	1.68861e+00	1.38610e+00	7.24125e+00	7.83332e+00	0
23	50	73	1.69834e+00	5.53833e-01	1.63268e+00	1.44258e+00	7.55971e+00	8.17806e+00	0
23	51	74	1.72231e+00	5.35193e-01	2.22287e+00	1.53699e+00	7.79389e+00	8.38992e+00	0
23	52	75	1.75533e+00	5.08065e-01	2.60918e+00	1.61948e+00	7.76127e+00	8.38095e+00	0
23	53	76	1.83357e+00	4.99350e-01	3.38924e+00	1.71160e+00	7.84705e+00	8.46781e+00	0
23	54	77	1.83280e+00	4.87221e-01	3.83845e+00	1.72489e+00	8.00730e+00	8.62893e+00	0
23	55	78	1.87035e+00	4.68401e-01	4.72855e+00	1.77807e+00	8.09002e+00	8.71689e+00	0
23	56	79	1.76796e+00	4.39876e-01	5.24129e+00	1.75710e+00	8.24306e+00	8.86699e+00	0
23	57	80	1.78980e+00	4.36830e-01	6.17122e+00	1.80547e+00	8.20864e+00	8.83484e+00	0
23	58	81	1.73575e+00	4.20151e-01	6.76773e+00	1.78169e+00	8.54838e+00	9.15753e+00	0
23	59	82	1.72551e+00	4.19109e-01	7.56828e+00	1.80264e+00	8.88824e+00	9.50938e+00	0
23	60	83	1.70413e+00	4.56744e-01	8.15365e+00	1.79050e+00	8.88641e+00	9.52076e+00	0
23	61	84	1.92290e+00	7.23295e-01	8.94401e+00	1.82058e+00	9.27813e+00	9.91227e+00	0
23	62	85	1.74848e+00	9.11920e-01	9.22795e+00	1.83314e+00	9.26740e+00	9.89296e+00	0
23	63	86	2.50420e+00	1.37137e+00	9.66659e+00	1.90182e+00	9.39717e+00	1.00178e+01	0
23	64	87	2.21448e+00	1.54430e+00	9.76980e+00	1.89652e+00	9.54450e+00	1.01818e+01	0
23	65	88	2.96534e+00	1.97405e+00	9.90698e+00	1.97936e+00	9.66478e+00	1.03122e+01	0
23	66	89	2.70278e+00	2.09144e+00	9.93940e+00	1.96637e+00	9.88145e+00	1.05090e+01	0
23	67	90	3.36572e+00	2.45748e+00	9.97257e+00	2.04798e+00	9.94959e+00	1.06003e+01	0
23	68	91	3.17117e+00	2.48260e+00	9.98818e+00	2.02585e+00	1.03075e+01	1.09411e+01	0
23	69	92	3.67284e+00	2.85258e+00	9.99225e+00	2.11408e+00	1.02566e+01	1.09116e+01	0
23	70	93	3.64429e+00	2.68436e+00	9.99423e+00	2.08224e+00	1.04651e+01	1.11007e+01	0
23	71	94	4.19186e+00	2.96354e+00	9.99618e+00	2.19048e+00	1.04493e+01	1.10947e+01	0
23	72	95	4.10562e+00	2.84284e+00	9.99700e+00	2.18090e+00	1.06494e+01	1.13091e+01	0
23	73	96	4.49127e+00	3.11583e+00	9.99731e+00	2.27089e+00	1.06846e+01	1.13207e+01	0
23	74	97	4.36581e+00	2.95613e+00	9.99750e+00	2.25091e+00	1.05570e+01	1.12155e+01	0
23	75	98	4.63144e+00	3.20249e+00	9.99774e+00	2.32989e+00	1.07446e+01	1.14040e+01	0
23	76	99	4.52317e+00	3.08755e+00	9.99816e+00	2.33244e+00	1.09911e+01	1.16213e+01	0
23	77	100	4.81350e+00	3.28211e+00	9.99818e+00	2.39830e+00	1.12405e+01	1.18826e+01	0
23	78	101	4.67213e+00	3.15767e+00	9.99847e+00	2.39914e+00	1.14603e+01	1.21296e+01	0
Chromium (Cr)									
24	31	55	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.26423e-01	1.21154e+00	1
24	32	56	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.82141e-01	6.60430e-01	1
24	33	57	1.44265e+00	5.37897e-01	0.00000e+00	0.00000e+00	1.87404e+00	2.35235e+00	1
24	34	58	2.43030e+00	2.95910e-01	0.00000e+00	0.00000e+00	1.34610e+00	1.79509e+00	1
24	35	59	2.55007e+00	4.02874e-01	0.00000e+00	0.00000e+00	2.94181e+00	3.46163e+00	1
24	36	60	2.81417e+00	4.57993e-01	5.35311e-04	1.46539e-01	2.14860e+00	2.65623e+00	1
24	37	61	2.70557e+00	4.40651e-01	1.32921e-03	4.30991e-01	3.76814e+00	4.30775e+00	1
24	38	62	2.91254e+00	3.55138e-01	2.84120e-03	3.48906e-01	3.05130e+00	3.57723e+00	1
24	39	63	3.48058e+00	9.49776e-01	1.84308e-02	6.98238e-01	3.37902e+00	3.92991e+00	1
24	40	64	2.78514e+00	4.12297e-01	2.87450e-02	6.36732e-01	3.77461e+00	4.33840e+00	1
24	41	65	3.23381e+00	1.12320e+00	7.47862e-02	7.08263e-01	3.98649e+00	4.53368e+00	0
24	42	66	2.83590e+00	5.74786e-01	8.93653e-02	9.76688e-01	4.05318e+00	4.60906e+00	0
24	43	67	3.25935e+00	9.75322e-01	1.80839e-01	8.02574e-01	4.65165e+00	5.21042e+00	0
24	44	68	2.68458e+00	5.46558e-01	1.82156e-01	8.78955e-01	4.84293e+00	5.40783e+00	0
24	45	69	2.74817e+00	8.90906e-01	3.82842e-01	8.14080e-01	5.13585e+00	5.70162e+00	0
24	46	70	2.58644e+00	5.74078e-01	3.92928e-01	8.38467e-01	5.27555e+00	5.85039e+00	0
24	47	71	2.08635e+00	6.42877e-01	8.19474e-01	9.75045e-01	5.56467e+00	6.12183e+00	0
24	48	72	1.62224e+00	5.49141e-01	8.24095e-01	1.01082e+00	5.63122e+00	6.21185e+00	0
24	49	73	1.96790e+00	4.69647e-01	1.10443e+00	1.13809e+00	5.68545e+00	6.28446e+00	0
24	50	74	1.81312e+00	5.04298e-01	1.13017e+00	1.30320e+00	5.82093e+00	6.39753e+00	0
24	51	75	2.10921e+00	4.71739e-01	1.61440e+00	1.44568e+00	6.26451e+00	6.86127e+00	0
24	52	76	1.98950e+00	5.00105e-01	1.89578e+00	1.55922e+00	6.19506e+00	6.77350e+00	0
24	53	77	2.11099e+00	4.90132e-01	2.65275e+00	1.69255e+00	6.31770e+00	6.92593e+00	0
24	54	78	1.88049e+00	4.42525e-01	3.02962e+00	1.63904e+00	6.47811e+00	7.06040e+00	0
24	55	79	1.66650e+00	3.81485e-01	3.47704e+00	1.58886e+00	7.48514e+00	8.09833e+00	0
24	56	80	1.60265e+00	3.33650e-01	3.94369e+00	1.58078e+00	7.24719e+00	7.87075e+00	0
24	57	81	1.57491e+00	3.12302e-01	4.56152e+00	1.59704e+00	7.84013e+00	8.45906e+00	0
24	58	82	1.46122e+00	2.88415e-01	5.06043e+00	1.58045e+00	7.59773e+00	8.22553e+00	0
24	59	83	1.46294e+00	2.75772e-01	5.74956e+00	1.61261e+00	8.16440e+00	8.79815e+00	0
24	60	84	1.40895e+00	2.50720e-01	6.08123e+00	1.56493e+00	8.14599e+00	8.76015e+00	0
24	61	85	1.43327e+00	2.58034e-01	6.94933e+00	1.59579e+00	8.53675e+00	9.15364e+00	0
24	62	86	1.44541e+00	2.64104e-01	7.38263e+00	1.55224e+00	8.52176e+00	9.13995e+00	0
24	63	87	1.58844e+00	4.14794e-01	8.39926e+00	1.61796e+00	8.78166e+00	9.41191e+00	0
24	64	88	1.56554e+00	4.45333e-01	8.70206e+00	1.59262e+00	8.90448e+00	9.54638e+00	0
24	65	89	1.99117e+00	8.08483e-01	9.24108e+00	1.69154e+00	9.05439e+00	9.70330e+00	0
24	66	90	1.83748e+00	8.42739e-01	9.54471e+00	1.66124e+00	9.26314e+00	9.89903e+00	0
24	67	91	2.60273e+00	1.28807e+00	9.85393e+00	1.78736e+00	9.38347e+00	1.00320e+01	0
24	68	92	2.39640e+00	1.28938e+00	9.88510e+00	1.74315e+00	9.66912e+00	1.03187e+01	0
24	69	93	2.98520e+00	1.77828e+00	9.96711e+00	1.85096e+00	9.79267e+00	1.04338e+01	0

(continued on next page)

Table 1 (continued)

24	70	94	3.07290e+00	1.59518e+00	9.98217e+00	1.81320e+00	9.95964e+00	1.06050e+01	0
24	71	95	3.49203e+00	2.09863e+00	9.99312e+00	1.94033e+00	9.92485e+00	1.05856e+01	0
24	72	96	3.66898e+00	1.92390e+00	9.99284e+00	1.90031e+00	1.01358e+01	1.07779e+01	0
24	73	97	3.89020e+00	2.36250e+00	9.99549e+00	2.00894e+00	1.01231e+01	1.07533e+01	0
24	74	98	3.99295e+00	2.16368e+00	9.99545e+00	1.98336e+00	1.03024e+01	1.09467e+01	0
24	75	99	4.17303e+00	2.53102e+00	9.99662e+00	2.07929e+00	1.03829e+01	1.10164e+01	0
24	76	100	4.21839e+00	2.35911e+00	9.99619e+00	2.05262e+00	1.03985e+01	1.10654e+01	0
24	77	101	4.35843e+00	2.69729e+00	9.99745e+00	2.13962e+00	1.04332e+01	1.11005e+01	0
24	78	102	4.41162e+00	2.54003e+00	9.99694e+00	2.10944e+00	1.07841e+01	1.14559e+01	0
24	79	103	4.56704e+00	2.85300e+00	9.99814e+00	2.19384e+00	1.08964e+01	1.15585e+01	0
Manganese (Mn)									
25	29	54	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
25	31	56	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.07554e-01	6.61747e-01	1
25	32	57	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	9.00034e-01	1.29898e+00	1
25	33	58	2.20266e+00	1.17398e+00	0.00000e+00	0.00000e+00	1.64380e+00	2.10488e+00	1
25	34	59	1.15009e+00	6.08150e-01	0.00000e+00	0.00000e+00	1.98724e+00	2.47999e+00	1
25	35	60	2.36781e+00	1.31316e+00	0.00000e+00	0.00000e+00	2.41837e+00	2.92412e+00	1
25	36	61	2.52771e+00	2.91957e-01	4.89743e-04	4.10267e-01	2.97631e+00	3.52478e+00	1
25	37	62	2.90252e+00	7.76640e-01	1.96737e-03	3.83415e-01	3.77072e+00	4.33801e+00	1
25	38	63	2.19409e+00	3.57467e-01	1.56135e-02	4.39761e-01	3.68234e+00	4.22426e+00	1
25	39	64	3.27040e+00	9.93520e-01	1.92347e-02	4.70645e-01	4.03278e+00	4.60666e+00	1
25	40	65	2.15422e+00	3.79181e-01	5.20967e-02	7.68321e-01	4.31812e+00	4.89851e+00	1
25	41	66	3.18288e+00	1.06615e+00	5.18900e-02	9.05977e-01	4.48015e+00	5.04977e+00	1
25	42	67	2.75642e+00	4.72828e-01	1.23744e-01	1.03998e+00	5.01571e+00	5.60876e+00	1
25	43	68	3.01083e+00	1.11116e+00	1.69387e-01	9.94266e-01	5.41400e+00	6.01512e+00	0
25	44	69	2.57261e+00	5.38461e-01	2.53624e-01	1.05863e+00	5.64190e+00	6.23155e+00	0
25	45	70	2.81191e+00	1.04318e+00	3.38688e-01	1.04783e+00	5.74670e+00	6.34763e+00	0
25	46	71	2.42715e+00	5.75617e-01	4.53300e-01	1.16211e+00	6.03322e+00	6.62299e+00	0
25	47	72	2.60033e+00	9.55584e-01	5.44199e-01	1.09170e+00	6.26794e+00	6.87544e+00	0
25	48	73	1.70360e+00	7.33381e-01	7.65910e-01	1.22399e+00	6.29780e+00	6.90937e+00	0
25	49	74	1.59713e+00	8.60108e-01	9.41115e-01	1.16560e+00	6.40135e+00	7.00880e+00	0
25	50	75	1.41709e+00	6.60608e-01	1.07914e+00	1.28778e+00	6.60597e+00	7.18803e+00	0
25	51	76	1.64475e+00	5.81097e-01	1.41219e+00	1.54989e+00	7.03082e+00	7.65833e+00	0
25	52	77	2.00981e+00	7.53569e-01	1.70061e+00	1.72940e+00	6.86975e+00	7.48305e+00	0
25	53	78	2.05619e+00	6.40493e-01	2.39614e+00	1.80765e+00	7.01431e+00	7.62916e+00	0
25	54	79	1.60802e+00	5.22426e-01	2.83881e+00	1.70339e+00	7.13203e+00	7.76076e+00	0
25	55	80	1.60685e+00	4.88001e-01	3.28290e+00	1.71587e+00	7.70512e+00	8.33105e+00	0
25	56	81	1.52174e+00	4.61154e-01	3.78948e+00	1.72524e+00	7.29410e+00	7.92516e+00	0
25	57	82	1.52965e+00	4.26164e-01	4.31040e+00	1.72308e+00	7.82399e+00	8.46435e+00	0
25	58	83	1.47667e+00	3.95101e-01	4.70518e+00	1.70532e+00	7.62393e+00	8.26009e+00	0
25	59	84	1.51521e+00	3.80198e-01	5.27306e+00	1.72294e+00	8.11087e+00	8.75539e+00	0
25	60	85	1.51644e+00	3.65372e-01	5.58820e+00	1.70730e+00	8.05165e+00	8.69532e+00	0
25	61	86	1.51488e+00	3.59569e-01	6.21702e+00	1.70485e+00	8.34521e+00	8.98867e+00	0
25	62	87	1.48465e+00	3.52782e-01	6.48662e+00	1.66197e+00	8.49446e+00	9.13016e+00	0
25	63	88	1.58303e+00	3.91979e-01	7.36975e+00	1.68803e+00	8.63404e+00	9.28024e+00	0
25	64	89	1.51214e+00	4.00280e-01	7.61584e+00	1.65259e+00	8.86412e+00	9.49606e+00	0
25	65	90	1.79929e+00	5.85558e-01	8.44523e+00	1.69441e+00	8.99248e+00	9.62684e+00	0
25	66	91	1.61624e+00	5.66448e-01	8.77397e+00	1.67252e+00	9.08020e+00	9.73531e+00	0
25	67	92	2.14624e+00	9.49468e-01	9.41124e+00	1.73534e+00	9.10626e+00	9.76542e+00	0
25	68	93	1.87569e+00	1.02907e+00	9.51797e+00	1.71335e+00	9.30730e+00	9.96935e+00	0
25	69	94	2.69777e+00	1.45081e+00	9.77933e+00	1.78571e+00	9.51575e+00	1.01578e+01	0
25	70	95	2.35029e+00	1.42742e+00	9.84492e+00	1.76623e+00	9.62041e+00	1.02644e+01	0
25	71	96	3.22513e+00	1.80358e+00	9.95589e+00	1.84834e+00	9.70794e+00	1.03757e+01	0
25	72	97	3.10238e+00	1.89409e+00	9.97465e+00	1.82385e+00	9.94512e+00	1.05944e+01	0
25	73	98	3.80345e+00	2.23202e+00	9.98835e+00	1.91647e+00	9.88186e+00	1.05522e+01	0
25	74	99	3.62208e+00	2.21817e+00	9.99005e+00	1.89730e+00	1.00826e+01	1.07223e+01	0
25	75	100	4.03539e+00	2.52549e+00	9.99182e+00	1.97462e+00	1.01364e+01	1.07759e+01	0
25	76	101	3.90451e+00	2.38616e+00	9.99298e+00	1.96313e+00	1.03827e+01	1.10600e+01	0
25	77	102	4.24656e+00	2.65438e+00	9.99558e+00	2.02831e+00	1.03996e+01	1.10654e+01	0
25	78	103	4.14797e+00	2.51293e+00	9.99588e+00	2.02853e+00	1.05992e+01	1.12682e+01	0
25	79	104	4.45426e+00	2.80603e+00	9.99762e+00	2.10334e+00	1.06334e+01	1.12797e+01	0
25	80	105	4.30890e+00	2.62823e+00	9.99782e+00	2.06598e+00	1.11811e+01	1.18696e+01	0
Iron (Fe)									
26	33	59	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.08790e-01	2.70664e-01	1
26	34	60	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.19896e-02	1.63381e-01	1
26	35	61	1.46411e+00	1.14682e+00	0.00000e+00	0.00000e+00	9.62366e-01	1.37689e+00	1
26	36	62	1.70404e+00	5.83525e-01	0.00000e+00	0.00000e+00	6.12786e-01	9.62282e-01	1
26	37	63	1.53163e+00	1.28544e+00	0.00000e+00	0.00000e+00	1.89943e+00	2.38026e+00	1
26	38	64	1.71491e+00	6.01351e-01	0.00000e+00	0.00000e+00	1.67745e+00	2.16041e+00	1
26	39	65	3.50565e+00	7.37833e-01	9.33176e-05	1.85007e-01	2.43804e+00	2.97181e+00	1
26	40	66	3.09186e+00	4.16809e-01	1.04271e-03	1.90934e-01	2.28899e+00	2.79817e+00	1
26	41	67	3.39011e+00	1.00753e+00	1.24275e-02	3.95629e-01	2.79918e+00	3.34250e+00	1
26	42	68	2.51730e+00	7.22230e-01	3.46788e-02	4.23995e-01	2.56072e+00	3.07577e+00	0
26	43	69	3.58047e+00	1.01235e+00	7.48984e-02	4.84870e-01	3.27651e+00	3.83383e+00	0
26	44	70	2.45500e+00	6.16422e-01	8.79428e-02	6.68028e-01	3.57558e+00	4.12684e+00	0
26	45	71	3.33312e+00	9.80099e-01	1.54579e-01	7.33447e-01	4.00644e+00	4.56260e+00	0
26	46	72	2.61672e+00	6.23013e-01	2.09229e-01	9.98075e-01	3.94631e+00	4.52268e+00	0

(continued on next page)

Table 1 (continued)

26	47	73	2.75990e+00	1.02393e+00	3.10332e-01	8.97923e-01	4.31815e+00	4.90250e+00	0
26	48	74	2.48522e+00	6.96182e-01	2.92252e-01	1.14229e+00	4.53720e+00	5.12489e+00	0
26	49	75	2.50403e+00	7.96335e-01	6.24057e-01	1.01103e+00	4.57745e+00	5.16694e+00	0
26	50	76	2.51601e+00	5.47990e-01	7.68140e-01	1.11892e+00	4.63471e+00	5.22573e+00	0
26	51	77	2.28566e+00	5.27346e-01	1.19080e+00	1.48446e+00	5.12656e+00	5.68510e+00	0
26	52	78	2.14949e+00	6.71842e-01	1.34571e+00	1.69521e+00	5.08890e+00	5.64864e+00	0
26	53	79	2.08470e+00	5.83306e-01	1.98362e+00	1.75373e+00	5.32699e+00	5.93122e+00	0
26	54	80	1.65271e+00	4.43599e-01	2.21924e+00	1.64166e+00	5.45559e+00	6.05301e+00	0
26	55	81	1.46146e+00	3.74230e-01	2.25253e+00	1.49148e+00	7.14573e+00	7.76037e+00	0
26	56	82	1.38355e+00	3.39087e-01	2.55290e+00	1.50274e+00	6.65255e+00	7.28198e+00	0
26	57	83	1.48402e+00	3.31677e-01	2.84335e+00	1.51691e+00	7.39735e+00	8.03940e+00	0
26	58	84	1.41249e+00	3.09935e-01	3.24982e+00	1.50660e+00	6.93883e+00	7.57314e+00	0
26	59	85	1.42186e+00	2.98980e-01	3.88602e+00	1.55523e+00	7.46240e+00	8.08144e+00	0
26	60	86	1.39690e+00	2.82650e-01	3.83863e+00	1.47640e+00	7.60063e+00	8.24458e+00	0
26	61	87	1.46095e+00	2.75178e-01	4.51869e+00	1.51111e+00	7.61357e+00	8.24479e+00	0
26	62	88	1.46059e+00	2.63394e-01	4.71691e+00	1.44725e+00	7.51958e+00	8.16367e+00	0
26	63	89	1.51130e+00	2.59159e-01	5.61589e+00	1.49016e+00	7.58940e+00	8.20902e+00	0
26	64	90	1.39650e+00	2.40574e-01	5.59990e+00	1.38020e+00	7.99474e+00	8.64405e+00	0
26	65	91	1.48005e+00	2.45848e-01	6.55423e+00	1.43260e+00	8.25257e+00	8.90508e+00	0
26	66	92	1.45235e+00	2.37498e-01	6.82664e+00	1.37676e+00	8.34528e+00	8.99940e+00	0
26	67	93	1.57025e+00	3.02348e-01	7.76655e+00	1.42805e+00	8.67445e+00	9.32244e+00	0
26	68	94	1.48186e+00	2.81634e-01	8.05102e+00	1.38252e+00	8.72741e+00	9.39069e+00	0
26	69	95	1.73895e+00	4.99202e-01	8.91660e+00	1.45880e+00	8.93260e+00	9.57516e+00	0
26	70	96	1.62975e+00	5.10431e-01	9.03644e+00	1.44200e+00	9.02664e+00	9.69452e+00	0
26	71	97	2.13047e+00	8.24651e-01	9.54521e+00	1.55351e+00	9.16766e+00	9.83045e+00	0
26	72	98	2.07653e+00	7.35768e-01	9.66973e+00	1.50231e+00	9.54696e+00	1.02057e+01	0
26	73	99	2.86215e+00	1.18304e+00	9.94652e+00	1.64412e+00	9.37796e+00	1.00431e+01	0
26	74	100	2.93201e+00	1.20609e+00	9.94869e+00	1.60911e+00	9.57931e+00	1.02330e+01	0
26	75	101	3.36390e+00	1.63875e+00	9.98395e+00	1.71687e+00	9.59525e+00	1.02672e+01	0
26	76	102	3.33566e+00	1.50370e+00	9.98302e+00	1.68090e+00	9.75198e+00	1.04310e+01	0
26	77	103	3.61384e+00	1.92987e+00	9.99234e+00	1.77137e+00	9.81122e+00	1.04690e+01	0
26	78	104	3.71869e+00	1.75292e+00	9.99046e+00	1.74409e+00	1.00765e+01	1.07447e+01	0
26	79	105	3.94000e+00	2.17194e+00	9.99477e+00	1.82429e+00	1.01015e+01	1.07858e+01	0
26	80	106	3.95420e+00	1.91150e+00	9.99337e+00	1.75688e+00	1.06860e+01	1.13580e+01	0
26	81	107	4.10013e+00	2.29810e+00	9.99666e+00	1.86101e+00	1.04320e+01	1.11211e+01	0
Cobalt (Co)									
27	31	58	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
27	33	60	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.49608e-01	8.5904e-01	1
27	34	61	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.76017e-01	3.58364e-01	1
27	35	62	2.18688e+00	1.54611e+00	0.00000e+00	0.00000e+00	7.86429e-01	1.17277e+00	1
27	36	63	1.49274e+00	3.45340e-01	0.00000e+00	0.00000e+00	1.35858e+00	1.81757e+00	1
27	37	64	2.20470e+00	1.50787e+00	0.00000e+00	0.00000e+00	1.76586e+00	2.24484e+00	1
27	38	65	1.22350e+00	3.72221e-01	0.00000e+00	0.00000e+00	2.49337e+00	3.00305e+00	1
27	39	66	2.50616e+00	1.39475e+00	2.64974e-05	2.35617e-01	2.78462e+00	3.32032e+00	1
27	40	67	2.30046e+00	2.94294e-01	1.33849e-03	6.79546e-01	3.58542e+00	4.14227e+00	1
27	41	68	3.06871e+00	1.12177e+00	6.31944e-03	5.39228e-01	3.85277e+00	4.41614e+00	1
27	42	69	2.69658e+00	4.40848e-01	1.50415e-02	1.13396e+00	3.89474e+00	4.47697e+00	1
27	43	70	3.17835e+00	1.19900e+00	1.63478e-02	9.23442e-01	4.08717e+00	4.67152e+00	1
27	44	71	2.54611e+00	6.34696e-01	3.75061e-02	1.17027e+00	4.34219e+00	4.92298e+00	1
27	45	72	3.20148e+00	1.07276e+00	6.22933e-02	9.76798e-01	4.92535e+00	5.53005e+00	0
27	46	73	2.84638e+00	5.30258e-01	8.83686e-02	1.28854e+00	5.07708e+00	5.68428e+00	0
27	47	74	3.17402e+00	1.13233e+00	1.12944e-01	1.07392e+00	5.34511e+00	5.95406e+00	0
27	48	75	2.54978e+00	9.26917e-01	1.27571e-01	1.13978e+00	5.22234e+00	5.83305e+00	0
27	49	76	3.00212e+00	1.29821e+00	2.17281e-01	1.03935e+00	5.49132e+00	6.09903e+00	0
27	50	77	1.55337e+00	9.46940e-01	5.94989e-01	9.74866e-01	5.60841e+00	6.20827e+00	0
27	51	78	1.36598e+00	8.81789e-01	9.58510e-01	1.19234e+00	6.15911e+00	6.75718e+00	0
27	52	79	2.28802e+00	8.76066e-01	1.17212e+00	1.95643e+00	5.86121e+00	6.44288e+00	0
27	53	80	1.61476e+00	5.80121e-01	1.87566e+00	1.75404e+00	6.08868e+00	6.68494e+00	0
27	54	81	1.57075e+00	6.16326e-01	1.93985e+00	1.72065e+00	6.11153e+00	6.73867e+00	0
27	55	82	1.72197e+00	5.75805e-01	2.43476e+00	1.80287e+00	6.22583e+00	6.85480e+00	0
27	56	83	1.32942e+00	4.55483e-01	2.68144e+00	1.66798e+00	6.31405e+00	6.94483e+00	0
27	57	84	1.49938e+00	4.66766e-01	3.04265e+00	1.71746e+00	6.77861e+00	7.40445e+00	0
27	58	85	1.43227e+00	4.25584e-01	3.16894e+00	1.64889e+00	6.91122e+00	7.52743e+00	0
27	59	86	1.38724e+00	4.09321e-01	3.72402e+00	1.65596e+00	7.08822e+00	7.72079e+00	0
27	60	87	1.41791e+00	4.03658e-01	3.93144e+00	1.64595e+00	7.16917e+00	7.81514e+00	0
27	61	88	1.46569e+00	3.95772e-01	4.31502e+00	1.63104e+00	7.54268e+00	8.19378e+00	0
27	62	89	1.51243e+00	3.92760e-01	4.48063e+00	1.58583e+00	7.52710e+00	8.17873e+00	0
27	63	90	1.55760e+00	3.87993e-01	5.06931e+00	1.58039e+00	7.48263e+00	8.13337e+00	0
27	64	91	1.60481e+00	3.81532e-01	5.00974e+00	1.51110e+00	7.86985e+00	8.52663e+00	0
27	65	92	1.62013e+00	3.73718e-01	5.67076e+00	1.52027e+00	8.11025e+00	8.76903e+00	0
27	66	93	1.64713e+00	3.57436e-01	5.93905e+00	1.48229e+00	8.15649e+00	8.81757e+00	0
27	67	94	1.67411e+00	3.66672e-01	6.73217e+00	1.50130e+00	8.32450e+00	8.99085e+00	0
27	68	95	1.64030e+00	3.48275e-01	7.00173e+00	1.45785e+00	8.41415e+00	9.08207e+00	0
27	69	96	1.76438e+00	4.28244e-01	7.89153e+00	1.49775e+00	8.51768e+00	9.18727e+00	0
27	70	97	1.61142e+00	3.88360e-01	8.17957e+00	1.46882e+00	8.77009e+00	9.43844e+00	0
27	71	98	1.93194e+00	6.05311e-01	8.92692e+00	1.51300e+00	8.98903e+00	9.66187e+00	0
27	72	99	1.80269e+00	6.01391e-01	9.24979e+00	1.48693e+00	9.22591e+00	9.89139e+00	0

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Table 1 (continued)

27	73	100	2.53285e+00	1.02127e+00	9.76803e+00	1.57120e+00	9.09069e+00	9.77001e+00	0
27	74	101	2.33444e+00	1.13723e+00	9.78469e+00	1.54998e+00	9.31735e+00	9.98339e+00	0
27	75	102	3.21754e+00	1.51179e+00	9.92239e+00	1.62132e+00	9.34942e+00	1.00329e+01	0
27	76	103	2.89613e+00	1.48012e+00	9.92643e+00	1.59725e+00	9.55301e+00	1.02174e+01	0
27	77	104	3.53393e+00	1.80859e+00	9.96757e+00	1.66286e+00	9.59962e+00	1.02871e+01	0
27	78	105	3.25791e+00	1.75882e+00	9.96667e+00	1.64422e+00	9.80732e+00	1.04644e+01	0
27	79	106	3.84634e+00	2.05419e+00	9.98257e+00	1.70645e+00	9.84091e+00	1.05322e+01	0
27	80	107	3.55161e+00	1.99822e+00	9.97603e+00	1.68978e+00	1.00820e+01	1.07772e+01	0
27	81	108	4.00450e+00	2.25159e+00	9.98510e+00	1.74624e+00	1.01548e+01	1.08282e+01	0
27	82	109	3.74105e+00	2.10785e+00	9.97951e+00	1.73387e+00	1.04862e+01	1.11878e+01	0
Nickel (Ni)									
28	35	63	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
28	37	65	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.20501e-01	7.45018e-01	1
28	38	66	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.90412e-02	9.52225e-02	1
28	39	67	1.08206e+00	1.12920e+00	0.00000e+00	0.00000e+00	9.73318e-01	1.40933e+00	1
28	40	68	2.44447e+00	2.34499e-01	0.00000e+00	0.00000e+00	6.00560e-01	9.86640e-01	1
28	41	69	2.56454e+00	1.10617e+00	0.00000e+00	0.00000e+00	1.24922e+00	1.70356e+00	1
28	42	70	2.06621e+00	4.39825e-01	0.00000e+00	0.00000e+00	1.19189e+00	1.64247e+00	1
28	43	71	3.22219e+00	9.45010e-01	0.00000e+00	0.00000e+00	1.89977e+00	2.40402e+00	1
28	44	72	3.07341e+00	5.56383e-01	5.49756e-04	1.40286e-01	1.69369e+00	2.19578e+00	1
28	45	73	3.49122e+00	9.57640e-01	6.46244e-03	2.63623e-01	2.50205e+00	3.01836e+00	1
28	46	74	3.02600e+00	6.65308e-01	3.40916e-02	4.20193e-01	2.04493e+00	2.56123e+00	0
28	47	75	3.31734e+00	9.47210e-01	5.78933e-02	4.51323e-01	2.84007e+00	3.39030e+00	0
28	48	76	2.68863e+00	7.16959e-01	1.67592e-01	6.19167e-01	2.48051e+00	2.98534e+00	0
28	49	77	2.70221e+00	1.00938e+00	2.31873e-01	7.90261e-01	3.20550e+00	3.75231e+00	0
28	50	78	2.18062e+00	6.84262e-01	4.15023e-01	9.36012e-01	2.99472e+00	3.55310e+00	0
28	51	79	2.38756e+00	8.10451e-01	6.46482e-01	1.19763e+00	3.87546e+00	4.45844e+00	0
28	52	80	2.17484e+00	7.58033e-01	8.46778e-01	1.66016e+00	3.86345e+00	4.42282e+00	0
28	53	81	1.96803e+00	5.09636e-01	1.38566e+00	1.55851e+00	4.24236e+00	4.83463e+00	0
28	54	82	1.84892e+00	5.41935e-01	1.34700e+00	1.53435e+00	4.33203e+00	4.92748e+00	0
28	55	83	1.86966e+00	4.83156e-01	1.85426e+00	1.59312e+00	4.54922e+00	5.14919e+00	0
28	56	84	1.61059e+00	4.01345e-01	1.75521e+00	1.45352e+00	4.85305e+00	5.46121e+00	0
28	57	85	1.41489e+00	4.28318e-01	1.28842e+00	1.09250e+00	6.93666e+00	7.55225e+00	0
28	58	86	1.72384e+00	4.11994e-01	1.88816e+00	1.41557e+00	5.64280e+00	6.26830e+00	0
28	59	87	1.64530e+00	3.52725e-01	2.27870e+00	1.37879e+00	6.58578e+00	7.21927e+00	0
28	60	88	1.62742e+00	3.54510e-01	2.13116e+00	1.30658e+00	6.73504e+00	7.34602e+00	0
28	61	89	1.69432e+00	3.45031e-01	2.55772e+00	1.30575e+00	7.10655e+00	7.75991e+00	0
28	62	90	1.68637e+00	3.28856e-01	2.64813e+00	1.23176e+00	6.95305e+00	7.60434e+00	0
28	63	91	1.62229e+00	3.12257e-01	3.22000e+00	1.24046e+00	7.06115e+00	7.70241e+00	0
28	64	92	1.65128e+00	3.06272e-01	3.06457e+00	1.18144e+00	7.22877e+00	7.88531e+00	0
28	65	93	1.65456e+00	3.03847e-01	3.78134e+00	1.22848e+00	7.52921e+00	8.16746e+00	0
28	66	94	1.71362e+00	2.88989e-01	3.95408e+00	1.18256e+00	7.54089e+00	8.19092e+00	0
28	67	95	1.72874e+00	2.85187e-01	4.74372e+00	1.23158e+00	7.78100e+00	8.44765e+00	0
28	68	96	1.72513e+00	2.57915e-01	4.87254e+00	1.17895e+00	7.85399e+00	8.50195e+00	0
28	69	97	1.75005e+00	2.61980e-01	5.87512e+00	1.24028e+00	7.94815e+00	8.61606e+00	0
28	70	98	1.74995e+00	2.42230e-01	6.02959e+00	1.20256e+00	8.08344e+00	8.75323e+00	0
28	71	99	1.77002e+00	2.54138e-01	7.03697e+00	1.26291e+00	8.31658e+00	8.96869e+00	0
28	72	100	1.75145e+00	2.35724e-01	6.83912e+00	1.17390e+00	9.05342e+00	9.73591e+00	0
28	73	101	1.90890e+00	3.14886e-01	8.22882e+00	1.26610e+00	8.82789e+00	9.50695e+00	0
28	74	102	1.87452e+00	3.04631e-01	8.17359e+00	1.22113e+00	9.11445e+00	9.78602e+00	0
28	75	103	2.20632e+00	5.21735e-01	9.13300e+00	1.30500e+00	9.07287e+00	9.76254e+00	0
28	76	104	2.02338e+00	4.77218e-01	9.13213e+00	1.26803e+00	9.28032e+00	9.96606e+00	0
28	77	105	2.56226e+00	8.05322e-01	9.69158e+00	1.35715e+00	9.25479e+00	9.93182e+00	0
28	78	106	2.29281e+00	7.59425e-01	9.69507e+00	1.32307e+00	9.44249e+00	1.01310e+01	0
28	79	107	2.97276e+00	1.08134e+00	9.91113e+00	1.40770e+00	9.45970e+00	1.01401e+01	0
28	80	108	2.57746e+00	9.94100e-01	9.88712e+00	1.35353e+00	9.74877e+00	1.04315e+01	0
28	81	109	3.14307e+00	1.33987e+00	9.95978e+00	1.46342e+00	9.68164e+00	1.03733e+01	0
28	82	110	2.89819e+00	1.17323e+00	9.91960e+00	1.42345e+00	1.00790e+01	1.07780e+01	0
28	83	111	3.23777e+00	1.63168e+00	9.87716e+00	1.54969e+00	1.05358e+01	1.12502e+01	0
Copper (Cu)									
29	35	64	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
29	37	66	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.15761e-01	1.01230e+00	1
29	38	67	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.10905e-01	2.83634e-01	1
29	39	68	1.79858e+00	1.28014e+00	0.00000e+00	0.00000e+00	9.00880e-01	1.30155e+00	1
29	40	69	1.54962e+00	6.13808e-01	0.00000e+00	0.00000e+00	6.99304e-01	1.08129e+00	1
29	41	70	3.09951e+00	1.06113e+00	0.00000e+00	0.00000e+00	1.43449e+00	1.89977e+00	1
29	42	71	1.98687e+00	4.31019e-01	0.00000e+00	0.00000e+00	1.65664e+00	2.14184e+00	1
29	43	72	3.28884e+00	1.00769e+00	0.00000e+00	0.00000e+00	2.27353e+00	2.80766e+00	1
29	44	73	2.68164e+00	5.44463e-01	1.62038e-03	2.69642e-01	2.32018e+00	2.84129e+00	1
29	45	74	2.07668e+00	1.77843e+00	2.92779e-03	3.26848e-01	2.76389e+00	3.31355e+00	1
29	46	75	2.93655e+00	5.94174e-01	4.67570e-02	5.50374e-01	2.79391e+00	3.35006e+00	1
29	47	76	3.20146e+00	1.19281e+00	4.47793e-02	4.91308e-01	3.28796e+00	3.84436e+00	1
29	48	77	2.85523e+00	6.38655e-01	1.74186e-01	8.33016e-01	3.31964e+00	3.89158e+00	1
29	49	78	2.98021e+00	1.10304e+00	2.43274e-01	8.30566e-01	3.50726e+00	4.07812e+00	1
29	50	79	2.56831e+00	6.93692e-01	3.50291e-01	1.19211e+00	3.42534e+00	3.99850e+00	1
29	51	80	2.75612e+00	9.93742e-01	5.41295e-01	1.12969e+00	4.18221e+00	4.77172e+00	0
29	52	81	2.11781e+00	8.33226e-01	9.17028e-01	1.63867e+00	4.12311e+00	4.71703e+00	0

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Table 1 (continued)

29	53	82	1.78817e+00	6.57580e-01	1.29931e+00	1.54590e+00	4.46262e+00	5.06508e+00	0
29	54	83	2.02495e+00	6.93510e-01	1.27454e+00	1.62195e+00	4.72334e+00	5.29536e+00	0
29	55	84	1.34076e+00	4.43292e-01	1.28718e+00	1.20256e+00	5.99740e+00	6.60908e+00	0
29	56	85	1.96676e+00	6.99571e-01	1.45030e+00	1.54048e+00	5.36361e+00	5.95009e+00	0
29	57	86	1.47502e+00	4.33895e-01	1.72277e+00	1.36083e+00	6.26230e+00	6.90862e+00	0
29	58	87	1.64722e+00	5.59471e-01	1.90633e+00	1.40678e+00	5.73642e+00	6.37178e+00	0
29	59	88	1.78744e+00	5.12557e-01	2.16104e+00	1.41568e+00	6.57600e+00	7.20040e+00	0
29	60	89	1.60572e+00	5.11521e-01	2.22940e+00	1.32661e+00	6.54421e+00	7.19635e+00	0
29	61	90	1.73774e+00	4.87859e-01	2.55234e+00	1.35167e+00	6.90581e+00	7.56512e+00	0
29	62	91	1.49135e+00	4.42402e-01	2.65418e+00	1.25337e+00	6.79314e+00	7.42489e+00	0
29	63	92	1.71206e+00	4.39129e-01	3.08961e+00	1.30734e+00	6.95685e+00	7.61654e+00	0
29	64	93	1.56831e+00	3.88462e-01	3.19127e+00	1.24910e+00	7.11002e+00	7.76129e+00	0
29	65	94	1.65534e+00	3.77178e-01	3.72383e+00	1.26501e+00	7.41457e+00	8.08392e+00	0
29	66	95	1.71466e+00	3.80374e-01	3.93629e+00	1.24650e+00	7.40883e+00	8.07726e+00	0
29	67	96	1.68889e+00	3.67581e-01	4.58447e+00	1.25872e+00	7.61269e+00	8.25840e+00	0
29	68	97	1.67837e+00	3.48861e-01	4.78068e+00	1.21901e+00	7.74446e+00	8.42013e+00	0
29	69	98	1.68935e+00	3.39749e-01	5.52625e+00	1.24442e+00	7.90303e+00	8.57971e+00	0
29	70	99	1.64534e+00	3.25595e-01	5.71339e+00	1.22098e+00	8.06759e+00	8.74667e+00	0
29	71	100	1.70955e+00	3.23627e-01	6.57239e+00	1.25955e+00	8.12136e+00	8.77959e+00	0
29	72	101	1.72527e+00	3.21141e-01	6.88939e+00	1.25373e+00	8.25263e+00	8.91329e+00	0
29	73	102	1.75077e+00	3.47341e-01	7.61889e+00	1.26380e+00	8.50829e+00	9.19863e+00	0
29	74	103	1.74674e+00	3.48421e-01	7.81373e+00	1.25191e+00	8.63427e+00	9.31418e+00	0
29	75	104	1.95536e+00	4.81384e-01	8.67377e+00	1.29904e+00	8.59168e+00	9.28351e+00	0
29	76	105	1.84791e+00	4.72859e-01	8.73749e+00	1.28497e+00	8.67965e+00	9.37309e+00	0
29	77	106	2.31245e+00	7.14397e-01	9.33353e+00	1.32227e+00	8.83617e+00	9.53249e+00	0
29	78	107	2.02417e+00	7.05712e-01	9.33938e+00	1.30847e+00	9.03971e+00	9.72518e+00	0
29	79	108	2.71094e+00	1.03439e+00	9.72593e+00	1.36016e+00	9.04405e+00	9.72547e+00	0
29	80	109	2.33730e+00	1.05031e+00	9.68066e+00	1.34837e+00	9.22498e+00	9.91363e+00	0
29	81	110	3.02284e+00	1.32578e+00	9.81938e+00	1.40041e+00	9.27941e+00	9.97423e+00	0
29	82	111	2.48448e+00	1.22174e+00	9.72500e+00	1.37837e+00	9.66506e+00	1.03739e+01	0
29	83	112	3.17414e+00	1.60880e+00	9.61633e+00	1.47444e+00	1.02093e+01	1.09079e+01	0
Zinc (Zn)									
30	39	69	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.58383e-01	3.54899e-01	1
30	41	71	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.91409e-01	1.04221e+00	1
30	42	72	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.52973e-02	2.07573e-01	1
30	43	73	2.28587e+00	9.08907e-01	0.00000e+00	0.00000e+00	8.29960e-01	1.23533e+00	1
30	44	74	2.86553e+00	2.85770e-01	0.00000e+00	0.00000e+00	5.80657e-01	9.28252e-01	1
30	45	75	2.47734e+00	1.00528e+00	0.00000e+00	0.00000e+00	1.49143e+00	1.95502e+00	1
30	46	76	2.34639e+00	5.46921e-01	0.00000e+00	0.00000e+00	1.15353e+00	1.60129e+00	1
30	47	77	2.37401e+00	1.10445e+00	0.00000e+00	0.00000e+00	2.05412e+00	2.56789e+00	1
30	48	78	2.81529e+00	7.13443e-01	6.42584e-04	1.57380e-01	1.87537e+00	2.38598e+00	1
30	49	79	2.30613e+00	1.29830e+00	2.59558e-02	4.79302e-01	2.71478e+00	3.26186e+00	1
30	50	80	2.87247e+00	7.30410e-01	1.07373e-01	5.72544e-01	2.22340e+00	2.73951e+00	1
30	51	81	3.02173e+00	8.11272e-01	1.74488e-01	8.07211e-01	3.58943e+00	4.16968e+00	1
30	52	82	2.52704e+00	6.01786e-01	3.32905e-01	1.05396e+00	3.53580e+00	4.12160e+00	1
30	53	83	2.76453e+00	6.81502e-01	4.33391e-01	9.65728e-01	4.25303e+00	4.83752e+00	0
30	54	84	1.90369e+00	5.89921e-01	5.06628e-01	8.56153e-01	4.21006e+00	4.80126e+00	0
30	55	85	2.28793e+00	6.56500e-01	5.75463e-01	8.86768e-01	4.88400e+00	5.50454e+00	0
30	56	86	1.73199e+00	5.44353e-01	6.33575e-01	8.73339e-01	4.86401e+00	5.48704e+00	0
30	57	87	2.43592e+00	6.01663e-01	5.92579e-01	9.40405e-01	5.89123e+00	6.53413e+00	0
30	58	88	1.82565e+00	4.03414e-01	1.06212e+00	1.02385e+00	5.36285e+00	5.97643e+00	0
30	59	89	2.10576e+00	4.44843e-01	1.06107e+00	9.96917e-01	6.10459e+00	6.75582e+00	0
30	60	90	2.03621e+00	4.20865e-01	1.24338e+00	1.07426e+00	5.71820e+00	6.36090e+00	0
30	61	91	2.00307e+00	3.86131e-01	1.42183e+00	1.03728e+00	6.15416e+00	6.79883e+00	0
30	62	92	2.04494e+00	3.98527e-01	1.42905e+00	1.04671e+00	5.95342e+00	6.56172e+00	0
30	63	93	2.05250e+00	3.51478e-01	2.00819e+00	1.10398e+00	6.06366e+00	6.71390e+00	0
30	64	94	2.03468e+00	3.53904e-01	1.85892e+00	1.05829e+00	6.29955e+00	6.91660e+00	0
30	65	95	1.99530e+00	3.22973e-01	2.30278e+00	1.06767e+00	6.77419e+00	7.41420e+00	0
30	66	96	1.95047e+00	3.07179e-01	2.37132e+00	1.03464e+00	6.67478e+00	7.33828e+00	0
30	67	97	1.96422e+00	3.06362e-01	2.92921e+00	1.09045e+00	6.91068e+00	7.57847e+00	0
30	68	98	1.81792e+00	2.91498e-01	2.84060e+00	1.01868e+00	7.08567e+00	7.75743e+00	0
30	69	99	1.87051e+00	2.81987e-01	3.60037e+00	1.08193e+00	7.11746e+00	7.78963e+00	0
30	70	100	1.77493e+00	2.75709e-01	3.53707e+00	1.04896e+00	7.32023e+00	7.97430e+00	0
30	71	101	1.80221e+00	2.64313e-01	4.30711e+00	1.10560e+00	7.60210e+00	8.27145e+00	0
30	72	102	1.72228e+00	2.47697e-01	4.48228e+00	1.07486e+00	7.64526e+00	8.30825e+00	0
30	73	103	1.74667e+00	2.47571e-01	5.38462e+00	1.12896e+00	7.92141e+00	8.59858e+00	0
30	74	104	1.74813e+00	2.32298e-01	5.38728e+00	1.07433e+00	8.15020e+00	8.83136e+00	0
30	75	105	1.74200e+00	2.38513e-01	6.42683e+00	1.12940e+00	8.13071e+00	8.82289e+00	0
30	76	106	1.75489e+00	2.27227e-01	6.50097e+00	1.08596e+00	8.18908e+00	8.86601e+00	0
30	77	107	1.78800e+00	2.59220e-01	7.45682e+00	1.13389e+00	8.23317e+00	8.91721e+00	0
30	78	108	1.80486e+00	2.58508e-01	7.45571e+00	1.10152e+00	8.42162e+00	9.10111e+00	0
30	79	109	1.96617e+00	3.57285e-01	8.25978e+00	1.14571e+00	8.53519e+00	9.23676e+00	0
30	80	110	1.84735e+00	3.44687e-01	8.09328e+00	1.11885e+00	8.70654e+00	9.40553e+00	0
30	81	111	2.09250e+00	5.05574e-01	8.74269e+00	1.16004e+00	8.82873e+00	9.53604e+00	0
30	82	112	1.77581e+00	4.59734e-01	8.28123e+00	1.12813e+00	9.21943e+00	9.92742e+00	0
30	83	113	2.42009e+00	8.01325e-01	9.08042e+00	1.25757e+00	9.61937e+00	1.03392e+01	0

(continued on next page)

Table 1 (continued)

Gallium (Ga)									
31	39	70	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.79874e-01	4.14061e-01	1
31	41	72	2.74245e+00	9.88315e-01	0.00000e+00	0.00000e+00	5.11166e-01	8.39696e-01	1
31	42	73	2.20181e+00	3.84916e-01	0.00000e+00	0.00000e+00	2.72524e-01	5.24895e-01	1
31	43	74	2.74011e+00	1.07169e+00	0.00000e+00	0.00000e+00	1.01876e+00	1.45111e+00	1
31	44	75	1.87209e+00	3.19941e-01	0.00000e+00	0.00000e+00	1.18783e+00	1.63922e+00	1
31	45	76	2.66829e+00	1.18348e+00	0.00000e+00	0.00000e+00	1.64766e+00	2.13213e+00	1
31	46	77	1.93484e+00	4.65269e-01	0.00000e+00	0.00000e+00	1.91522e+00	2.41995e+00	1
31	47	78	2.78702e+00	1.13407e+00	0.00000e+00	0.00000e+00	2.24347e+00	2.76453e+00	1
31	48	79	1.97335e+00	8.55830e-01	2.67316e-03	3.39945e-01	2.38721e+00	2.92526e+00	1
31	49	80	2.20929e+00	1.80479e+00	1.17839e-02	4.20747e-01	2.85031e+00	3.40214e+00	1
31	50	81	2.04123e+00	1.13358e+00	6.82961e-02	6.99746e-01	2.72984e+00	3.27245e+00	1
31	51	82	3.08964e+00	1.29425e+00	1.23764e-01	5.66802e-01	3.49240e+00	4.08134e+00	1
31	52	83	1.86594e+00	6.84952e-01	6.02710e-01	1.00105e+00	3.54924e+00	4.13645e+00	1
31	53	84	2.30956e+00	9.67343e-01	5.43139e-01	9.40295e-01	3.95268e+00	4.54255e+00	1
31	54	85	1.66038e+00	5.28467e-01	8.62094e-01	1.04403e+00	4.19913e+00	4.79084e+00	1
31	55	86	2.09181e+00	8.83621e-01	6.84413e-01	9.73018e-01	4.74072e+00	5.36207e+00	0
31	56	87	2.07666e+00	5.66154e-01	9.99839e-01	1.26483e+00	4.58966e+00	5.19856e+00	0
31	57	88	2.07741e+00	6.27447e-01	9.53300e-01	1.01928e+00	5.49772e+00	6.10292e+00	0
31	58	89	2.41141e+00	7.08662e-01	1.12001e+00	1.36495e+00	5.04524e+00	5.68008e+00	0
31	59	90	1.78334e+00	4.48593e-01	1.70279e+00	1.21131e+00	5.25722e+00	5.89704e+00	0
31	60	91	1.99431e+00	5.64597e-01	1.17800e+00	1.18606e+00	6.01731e+00	6.67463e+00	0
31	61	92	1.93631e+00	5.58836e-01	1.44256e+00	1.10882e+00	6.34893e+00	7.01395e+00	0
31	62	93	1.91676e+00	5.41946e-01	1.51217e+00	1.10954e+00	6.28475e+00	6.91077e+00	0
31	63	94	1.92674e+00	4.99499e-01	1.94860e+00	1.13701e+00	6.44087e+00	7.09608e+00	0
31	64	95	1.87429e+00	4.60322e-01	1.98319e+00	1.10658e+00	6.49835e+00	7.16662e+00	0
31	65	96	2.00734e+00	4.85222e-01	2.67787e+00	1.17122e+00	6.17833e+00	6.83947e+00	0
31	66	97	1.78082e+00	4.13417e-01	2.71666e+00	1.10373e+00	6.41266e+00	7.06816e+00	0
31	67	98	1.77709e+00	4.16278e-01	3.10510e+00	1.11471e+00	6.59347e+00	7.26333e+00	0
31	68	99	1.86558e+00	4.14234e-01	3.09558e+00	1.10036e+00	6.79090e+00	7.43906e+00	0
31	69	100	1.80994e+00	3.87062e-01	3.71010e+00	1.12012e+00	6.84974e+00	7.52581e+00	0
31	70	101	1.81127e+00	3.98687e-01	3.70665e+00	1.10642e+00	7.04646e+00	7.72675e+00	0
31	71	102	1.81917e+00	3.91015e-01	4.31247e+00	1.13155e+00	7.26862e+00	7.95423e+00	0
31	72	103	1.68438e+00	3.65571e-01	4.47884e+00	1.10826e+00	7.40201e+00	8.07812e+00	0
31	73	104	1.74313e+00	3.63730e-01	5.21101e+00	1.14126e+00	7.64935e+00	8.34131e+00	0
31	74	105	1.76999e+00	3.60830e-01	5.43384e+00	1.12084e+00	7.75808e+00	8.45330e+00	0
31	75	106	1.74740e+00	3.55530e-01	6.10779e+00	1.12351e+00	8.06936e+00	8.77060e+00	0
31	76	107	1.72394e+00	3.45614e-01	6.30226e+00	1.10158e+00	8.15162e+00	8.85484e+00	0
31	77	108	1.81266e+00	3.54058e-01	7.17691e+00	1.13762e+00	8.03240e+00	8.72416e+00	0
31	78	109	1.80772e+00	3.48595e-01	7.25578e+00	1.11956e+00	8.15500e+00	8.85008e+00	0
31	79	110	1.89373e+00	4.03710e-01	7.90164e+00	1.14217e+00	8.26819e+00	8.97204e+00	0
31	80	111	1.83237e+00	3.94718e-01	7.79713e+00	1.13490e+00	8.38478e+00	9.09158e+00	0
31	81	112	2.04150e+00	5.16375e-01	8.32623e+00	1.15895e+00	8.47808e+00	9.18813e+00	0
31	82	113	1.82306e+00	4.84749e-01	7.92875e+00	1.15280e+00	8.85867e+00	9.57401e+00	0
31	83	114	2.29110e+00	7.71530e-01	8.72357e+00	1.23430e+00	9.28152e+00	1.00023e+01	0
Germanium (Ge)									
32	43	75	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.49174e-01	5.06377e-01	1
32	45	77	2.18554e+00	6.36280e-01	0.00000e+00	0.00000e+00	5.07473e-01	8.47169e-01	1
32	46	78	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.41927e-01	3.19499e-01	1
32	47	79	2.21248e+00	7.59851e-01	0.00000e+00	0.00000e+00	1.02398e+00	1.45204e+00	1
32	48	80	1.65373e+00	5.62554e-01	0.00000e+00	0.00000e+00	7.02692e-01	1.09355e+00	1
32	49	81	2.34932e+00	7.79525e-01	0.00000e+00	0.00000e+00	1.97435e+00	2.48594e+00	1
32	50	82	2.95393e+00	5.16966e-01	0.00000e+00	0.00000e+00	1.37336e+00	1.82174e+00	1
32	51	83	1.61278e+00	1.16297e+00	1.17542e-03	2.12761e-01	3.13774e+00	3.69570e+00	1
32	52	84	3.03343e+00	5.10075e-01	7.56097e-02	6.80655e-01	2.63314e+00	3.19818e+00	1
32	53	85	2.75543e+00	4.94756e-01	1.21238e-02	6.78913e-01	4.02383e+00	4.62860e+00	1
32	54	86	2.88673e+00	5.13324e-01	4.79503e-02	8.71577e-01	3.64338e+00	4.23632e+00	1
32	55	87	3.18290e+00	7.25254e-01	7.23759e-02	6.36992e-01	4.05670e+00	4.65397e+00	0
32	56	88	3.05991e+00	5.40800e-01	7.45887e-02	9.89325e-01	3.97913e+00	4.59266e+00	0
32	57	89	2.82798e+00	6.85670e-01	2.03158e-01	5.97170e-01	4.88087e+00	5.50436e+00	0
32	58	90	2.20920e+00	5.21427e-01	4.33700e-01	5.71676e-01	4.39555e+00	5.02095e+00	0
32	59	91	2.54809e+00	5.94345e-01	7.00832e-01	7.04931e-01	4.71769e+00	5.33625e+00	0
32	60	92	2.32633e+00	4.11825e-01	6.82985e-01	9.24427e-01	4.78001e+00	5.41484e+00	0
32	61	93	2.63003e+00	5.29442e-01	7.15005e-01	8.88122e-01	5.38225e+00	6.03249e+00	0
32	62	94	2.31538e+00	4.49839e-01	8.67579e-01	8.91747e-01	5.14745e+00	5.79199e+00	0
32	63	95	2.36864e+00	4.03925e-01	1.28131e+00	9.19211e-01	5.36816e+00	5.99201e+00	0
32	64	96	2.42668e+00	4.13712e-01	1.13563e+00	9.33323e-01	5.59188e+00	6.22503e+00	0
32	65	97	2.18930e+00	3.44519e-01	1.63506e+00	9.33849e-01	5.71157e+00	6.34267e+00	0
32	66	98	2.38167e+00	4.11710e-01	1.31043e+00	9.31961e-01	5.96323e+00	6.58887e+00	0
32	67	99	2.21132e+00	3.37196e-01	1.81429e+00	9.58236e-01	6.14204e+00	6.78388e+00	0
32	68	100	2.37477e+00	3.86752e-01	1.52766e+00	9.26386e-01	6.37093e+00	7.00753e+00	0
32	69	101	2.23121e+00	3.55865e-01	2.18092e+00	9.86498e-01	6.44425e+00	7.11039e+00	0
32	70	102	2.22800e+00	3.13456e-01	2.06736e+00	9.31930e-01	6.59683e+00	7.26829e+00	0
32	71	103	2.21428e+00	3.19137e-01	2.67636e+00	9.92936e-01	6.82820e+00	7.51342e+00	0
32	72	104	2.02949e+00	2.77251e-01	2.74220e+00	9.46364e-01	6.94413e+00	7.60752e+00	0
32	73	105	1.98989e+00	2.72829e-01	3.54201e+00	1.00714e+00	7.16228e+00	7.84368e+00	0
32	74	106	1.97215e+00	2.71601e-01	3.56594e+00	9.75703e-01	7.16682e+00	7.86010e+00	0

(continued on next page)

Table 1 (continued)

32	75	107	1.95024e+00	2.68351e-01	4.31718e+00	1.01347e+00	7.35152e+00	8.04896e+00	0
32	76	108	1.80889e+00	2.38576e-01	4.23618e+00	9.55730e-01	7.65030e+00	8.35497e+00	0
32	77	109	1.82632e+00	2.41830e-01	5.01988e+00	9.95916e-01	7.69826e+00	8.39217e+00	0
32	78	110	1.88848e+00	2.37785e-01	4.87808e+00	9.59908e-01	7.72242e+00	8.42817e+00	0
32	79	111	1.82902e+00	2.38837e-01	5.53466e+00	9.93535e-01	7.86109e+00	8.57049e+00	0
32	80	112	1.80182e+00	2.24120e-01	5.30459e+00	9.67076e-01	7.94579e+00	8.64465e+00	0
32	81	113	1.72372e+00	2.31249e-01	5.83992e+00	9.96087e-01	8.13596e+00	8.85023e+00	0
32	82	114	1.75290e+00	2.31356e-01	5.27242e+00	9.84429e-01	8.47890e+00	9.18573e+00	0
32	83	115	1.83382e+00	2.97119e-01	6.64044e+00	1.07811e+00	8.87176e+00	9.60342e+00	0
32	84	116	1.87264e+00	3.33121e-01	7.64691e+00	1.15020e+00	8.59820e+00	9.31944e+00	0
Arsenic (As)									
33	41	74	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.99836e-01	4.22130e-01	1
33	43	76	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.66525e-01	1.01556e+00	1
33	44	77	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.05613e-01	2.66000e-01	1
33	45	78	2.53809e+00	1.05563e+00	0.00000e+00	0.00000e+00	5.99970e-01	9.62764e-01	1
33	46	79	1.98222e+00	4.17764e-01	0.00000e+00	0.00000e+00	5.68350e-01	9.32082e-01	1
33	47	80	2.24524e+00	1.33308e+00	0.00000e+00	0.00000e+00	1.06872e+00	1.51492e+00	1
33	48	81	2.06703e+00	6.96468e-01	0.00000e+00	0.00000e+00	1.00337e+00	1.43991e+00	1
33	49	82	2.14573e+00	1.46689e+00	0.00000e+00	0.00000e+00	1.93245e+00	2.44519e+00	1
33	50	83	2.54146e+00	6.62589e-01	0.00000e+00	0.00000e+00	1.77100e+00	2.26575e+00	1
33	51	84	2.60923e+00	1.46818e+00	2.21757e-03	3.32157e-01	2.85227e+00	3.42507e+00	1
33	52	85	2.50511e+00	8.89400e-01	1.49437e-01	7.04536e-01	2.83459e+00	3.41140e+00	1
33	53	86	3.15040e+00	1.13829e+00	1.05707e-01	6.07942e-01	3.34338e+00	3.92621e+00	1
33	54	87	2.23483e+00	8.45322e-01	3.82831e-01	6.15935e-01	3.27802e+00	3.86109e+00	1
33	55	88	2.84567e+00	1.03508e+00	2.78789e-01	6.22142e-01	3.76607e+00	4.36457e+00	0
33	56	89	1.75702e+00	5.82213e-01	7.12422e-01	7.00823e-01	3.62689e+00	4.23570e+00	0
33	57	90	2.76458e+00	9.01845e-01	4.13760e-01	7.68715e-01	4.54478e+00	5.17723e+00	0
33	58	91	2.06416e+00	4.91256e-01	9.66658e-01	1.01725e+00	4.03903e+00	4.65821e+00	0
33	59	92	2.21632e+00	6.27426e-01	8.66928e-01	8.90587e-01	4.67720e+00	5.28003e+00	0
33	60	93	2.28994e+00	6.27329e-01	1.01382e+00	1.03728e+00	4.52981e+00	5.16493e+00	0
33	61	94	2.23995e+00	6.08152e-01	1.04136e+00	9.56256e-01	5.13734e+00	5.78908e+00	0
33	62	95	2.43231e+00	6.59829e-01	1.17773e+00	1.09185e+00	4.82089e+00	5.46420e+00	0
33	63	96	2.13770e+00	5.03019e-01	1.60506e+00	1.05974e+00	5.06066e+00	5.71045e+00	0
33	64	97	2.37482e+00	6.92502e-01	1.41254e+00	1.07538e+00	5.25623e+00	5.91165e+00	0
33	65	98	2.18096e+00	5.32600e-01	1.95075e+00	1.07623e+00	5.31482e+00	5.97177e+00	0
33	66	99	2.10059e+00	5.88443e-01	1.70540e+00	1.00925e+00	5.60707e+00	6.23089e+00	0
33	67	100	2.18944e+00	5.35536e-01	2.11462e+00	1.05086e+00	5.64985e+00	6.31566e+00	0
33	68	101	2.01046e+00	5.14124e-01	1.96957e+00	9.79763e-01	5.98024e+00	6.65455e+00	0
33	69	102	2.27721e+00	5.40606e-01	2.38418e+00	1.03796e+00	6.08957e+00	6.76661e+00	0
33	70	103	1.92346e+00	4.21725e-01	2.48349e+00	9.77943e-01	6.37133e+00	7.05530e+00	0
33	71	104	2.05710e+00	4.57569e-01	2.89245e+00	1.01303e+00	6.55661e+00	7.24502e+00	0
33	72	105	2.05193e+00	4.45587e-01	3.08819e+00	1.00990e+00	6.68289e+00	7.37478e+00	0
33	73	106	1.94056e+00	3.95583e-01	3.77186e+00	1.02335e+00	6.84289e+00	7.53846e+00	0
33	74	107	1.93277e+00	4.21626e-01	3.75072e+00	1.00618e+00	7.04733e+00	7.74800e+00	0
33	75	108	1.95388e+00	4.11032e-01	4.42403e+00	1.03082e+00	7.12029e+00	7.82239e+00	0
33	76	109	1.74294e+00	3.57004e-01	4.54666e+00	9.87808e-01	7.34639e+00	8.05435e+00	0
33	77	110	1.70610e+00	3.57758e-01	5.09196e+00	1.00056e+00	7.50538e+00	8.21721e+00	0
33	78	111	1.67105e+00	3.47428e-01	5.19611e+00	9.89843e-01	7.39103e+00	8.09991e+00	0
33	79	112	1.62010e+00	3.31286e-01	5.69939e+00	9.94785e-01	7.54736e+00	8.23512e+00	0
33	80	113	1.62344e+00	3.24172e-01	5.58830e+00	9.87079e-01	7.59411e+00	8.29854e+00	0
33	81	114	1.71651e+00	3.28766e-01	5.90878e+00	1.00653e+00	7.77836e+00	8.49645e+00	0
33	82	115	1.76901e+00	3.36319e-01	5.42843e+00	1.01301e+00	8.11759e+00	8.83208e+00	0
33	83	116	1.80567e+00	3.71815e-01	6.50466e+00	1.07701e+00	8.53498e+00	9.25523e+00	0
33	84	117	1.85789e+00	4.07131e-01	7.50812e+00	1.14907e+00	8.33097e+00	9.05852e+00	0
33	85	118	2.15559e+00	5.99151e-01	8.54663e+00	1.22136e+00	8.51514e+00	9.24728e+00	0
33	86	119	2.08149e+00	6.98579e-01	9.03492e+00	1.27950e+00	8.52345e+00	9.23555e+00	0
Selenium (Se)									
34	45	79	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
34	47	81	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.27570e-01	4.59071e-01	1
34	49	83	2.08840e+00	6.87136e-01	0.00000e+00	0.00000e+00	9.22235e-01	1.34769e+00	1
34	50	84	2.58167e+00	2.07490e-01	0.00000e+00	0.00000e+00	5.00491e-01	8.76539e-01	1
34	51	85	1.37006e+00	8.88231e-01	0.00000e+00	0.00000e+00	2.22098e+00	2.76381e+00	1
34	52	86	3.06715e+00	4.05183e-01	0.00000e+00	0.00000e+00	1.71632e+00	2.22413e+00	1
34	53	87	2.85638e+00	4.50789e-01	5.63352e-04	2.91820e-01	2.81112e+00	3.39659e+00	1
34	54	88	2.99546e+00	3.52501e-01	3.70904e-03	4.22973e-01	2.62420e+00	3.18292e+00	1
34	55	89	3.07365e+00	5.49362e-01	8.75281e-03	5.70683e-01	3.49701e+00	4.09697e+00	1
34	56	90	2.78102e+00	3.50487e-01	2.06878e-02	7.41815e-01	3.28874e+00	3.89274e+00	1
34	57	91	2.99821e+00	5.96026e-01	1.86481e-02	5.69940e-01	4.03791e+00	4.65534e+00	1
34	58	92	3.24590e+00	4.36479e-01	3.11118e-02	7.38361e-01	3.52252e+00	4.11753e+00	0
34	59	93	3.30077e+00	8.00138e-01	2.66841e-01	5.47278e-01	3.53410e+00	4.14540e+00	0
34	60	94	2.89832e+00	4.76758e-01	2.40792e-01	6.58109e-01	3.84260e+00	4.45292e+00	0
34	61	95	3.07645e+00	6.54883e-01	2.72048e-01	6.41323e-01	4.60650e+00	5.23598e+00	0
34	62	96	2.51837e+00	4.99988e-01	4.53257e-01	7.35791e-01	4.26174e+00	4.89636e+00	0
34	63	97	2.73362e+00	5.74808e-01	7.39151e-01	7.22136e-01	4.57235e+00	5.21601e+00	0
34	64	98	2.16171e+00	4.63232e-01	7.52657e-01	8.03867e-01	4.72898e+00	5.37754e+00	0
34	65	99	2.77713e+00	5.28438e-01	6.56932e-01	7.31131e-01	5.45338e+00	6.11942e+00	0
34	66	100	2.34827e+00	3.77800e-01	8.36135e-01	7.31562e-01	5.17290e+00	5.83444e+00	0

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Table 1 (continued)

34	67	101	2.61146e+00	4.30989e-01	1.04633e+00	7.68759e-01	5.33272e+00	5.99168e+00	0
34	68	102	2.57409e+00	4.06681e-01	9.67411e-01	8.02946e-01	5.49756e+00	6.16807e+00	0
34	69	103	2.37829e+00	3.88423e-01	1.36346e+00	7.98803e-01	5.67874e+00	6.35407e+00	0
34	70	104	2.58660e+00	4.50515e-01	1.19642e+00	8.41721e-01	5.89303e+00	6.56979e+00	0
34	71	105	2.27644e+00	3.51642e-01	1.71647e+00	8.46447e-01	6.21198e+00	6.87448e+00	0
34	72	106	2.45188e+00	4.03936e-01	1.61480e+00	8.47678e-01	6.27127e+00	6.95596e+00	0
34	73	107	2.35751e+00	3.88426e-01	2.31511e+00	9.08936e-01	6.20399e+00	6.89340e+00	0
34	74	108	2.04746e+00	2.84444e-01	2.28374e+00	8.27421e-01	6.46419e+00	7.16051e+00	0
34	75	109	2.12005e+00	2.99201e-01	2.88112e+00	8.88877e-01	6.65387e+00	7.35506e+00	0
34	76	110	2.01165e+00	2.62403e-01	2.77052e+00	8.34060e-01	6.79526e+00	7.50030e+00	0
34	77	111	1.87944e+00	2.61599e-01	3.36355e+00	8.72989e-01	7.00642e+00	7.70595e+00	0
34	78	112	1.88066e+00	2.61484e-01	3.03562e+00	8.16814e-01	7.10987e+00	7.82290e+00	0
34	79	113	1.79011e+00	2.74635e-01	3.56608e+00	8.64662e-01	7.15129e+00	7.84161e+00	0
34	80	114	1.84485e+00	2.63918e-01	3.23324e+00	8.59323e-01	7.20195e+00	7.91716e+00	0
34	81	115	1.77229e+00	2.53920e-01	3.61266e+00	8.94822e-01	7.38665e+00	8.10679e+00	0
34	82	116	1.69403e+00	2.41956e-01	3.07560e+00	8.65329e-01	7.79801e+00	8.52843e+00	0
34	83	117	1.76949e+00	2.61382e-01	4.17714e+00	9.0665e-01	8.16652e+00	8.90418e+00	0
34	84	118	1.80807e+00	2.63269e-01	5.14514e+00	1.06761e+00	7.86377e+00	8.59568e+00	0
34	85	119	1.88559e+00	2.83600e-01	6.43323e+00	1.14688e+00	8.11574e+00	8.82951e+00	0
34	86	120	1.86920e+00	2.98231e-01	7.22085e+00	1.18164e+00	8.09028e+00	8.81629e+00	0
Bromine (Br)									
35	43	78	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.93450e-02	2.36126e-01	1
35	45	80	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.44586e-01	7.70423e-01	1
35	47	82	2.20348e+00	9.70743e-01	0.00000e+00	0.00000e+00	3.69159e-01	6.46074e-01	1
35	48	83	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.33754e-01	4.70183e-01	1
35	49	84	2.70613e+00	1.16109e+00	0.00000e+00	0.00000e+00	5.97802e-01	9.63346e-01	1
35	50	85	1.43981e+00	5.75336e-01	0.00000e+00	0.00000e+00	8.43217e-01	1.24768e+00	1
35	51	86	2.75555e+00	1.37590e+00	0.00000e+00	0.00000e+00	1.68060e+00	2.19035e+00	1
35	52	87	1.65756e+00	1.54270e+00	2.84698e-03	3.56855e-01	1.87895e+00	2.40130e+00	1
35	53	88	2.51588e+00	1.46764e+00	5.85526e-03	3.26504e-01	2.37050e+00	2.90867e+00	1
35	54	89	1.51717e+00	8.67629e-01	1.08603e-02	4.38469e-01	3.17230e+00	3.75254e+00	1
35	55	90	2.20745e+00	1.37160e+00	2.53173e-02	4.29751e-01	3.58780e+00	4.19393e+00	1
35	56	91	1.55523e+00	8.32930e-01	9.59141e-02	5.45082e-01	3.77652e+00	4.38760e+00	1
35	57	92	2.13316e+00	1.31778e+00	1.12660e-01	6.68692e-01	4.19057e+00	4.81381e+00	1
35	58	93	2.18413e+00	4.79318e-01	2.75009e-01	6.21999e-01	4.24051e+00	4.88180e+00	1
35	59	94	2.61297e+00	9.02547e-01	5.48837e-01	6.53450e-01	3.39458e+00	4.00617e+00	0
35	60	95	2.06202e+00	6.29852e-01	6.74572e-01	7.35518e-01	3.61895e+00	4.23479e+00	0
35	61	96	2.76828e+00	8.18614e-01	5.13625e-01	7.11696e-01	4.33640e+00	4.97991e+00	0
35	62	97	2.17854e+00	5.89553e-01	9.22933e-01	9.26931e-01	3.99663e+00	4.62956e+00	0
35	63	98	2.38113e+00	5.20605e-01	1.08397e+00	8.81596e-01	4.26287e+00	4.87897e+00	0
35	64	99	2.53619e+00	6.53762e-01	1.04255e+00	9.62098e-01	4.55037e+00	5.19639e+00	0
35	65	100	2.36622e+00	6.08809e-01	9.29664e-01	7.92447e-01	5.50043e+00	6.17984e+00	0
35	66	101	2.33737e+00	6.08120e-01	1.03470e+00	8.90479e-01	5.27086e+00	5.94340e+00	0
35	67	102	2.11205e+00	5.19619e-01	1.25985e+00	8.48607e-01	5.55385e+00	6.23449e+00	0
35	68	103	2.46333e+00	6.31443e-01	1.14947e+00	9.08868e-01	5.62049e+00	6.30315e+00	0
35	69	104	2.20106e+00	4.92134e-01	1.53718e+00	8.91134e-01	5.78299e+00	6.45985e+00	0
35	70	105	2.31653e+00	5.97642e-01	1.43501e+00	9.01958e-01	5.92070e+00	6.61173e+00	0
35	71	106	2.25399e+00	5.35428e-01	1.86926e+00	9.09616e-01	6.14839e+00	6.84574e+00	0
35	72	107	2.09919e+00	5.10040e-01	1.94441e+00	8.79902e-01	6.27613e+00	6.97703e+00	0
35	73	108	2.17004e+00	4.93174e-01	2.48277e+00	9.16351e-01	6.26445e+00	6.93522e+00	0
35	74	109	2.00364e+00	4.33328e-01	2.57979e+00	8.86962e-01	6.44459e+00	7.12338e+00	0
35	75	110	1.91780e+00	3.94864e-01	3.10235e+00	8.96460e-01	6.58048e+00	7.28966e+00	0
35	76	111	2.05193e+00	4.37742e-01	3.23016e+00	9.02039e-01	6.36999e+00	7.07387e+00	0
35	77	112	1.81649e+00	3.71608e-01	3.74268e+00	8.93839e-01	6.45106e+00	7.14369e+00	0
35	78	113	1.88708e+00	4.03245e-01	3.26898e+00	8.82350e-01	6.87657e+00	7.56660e+00	0
35	79	114	1.71923e+00	3.67175e-01	3.69275e+00	8.86909e-01	6.93225e+00	7.65149e+00	0
35	80	115	1.89348e+00	4.23297e-01	3.48134e+00	9.25619e-01	6.87183e+00	7.58914e+00	0
35	81	116	1.74141e+00	3.46258e-01	3.82421e+00	9.32790e-01	6.98591e+00	7.70660e+00	0
35	82	117	1.83631e+00	4.12915e-01	3.55373e+00	9.59180e-01	7.15988e+00	7.88496e+00	0
35	83	118	1.81511e+00	3.90309e-01	4.32661e+00	1.01459e+00	7.80121e+00	8.54347e+00	0
35	84	119	1.82544e+00	3.91750e-01	5.24749e+00	1.09350e+00	7.50241e+00	8.21065e+00	0
35	85	120	1.79019e+00	3.92050e-01	6.33848e+00	1.16032e+00	7.71083e+00	8.44976e+00	0
35	86	121	1.83054e+00	4.00675e-01	7.10356e+00	1.19847e+00	7.78249e+00	8.52405e+00	0
35	87	122	1.98024e+00	4.71865e-01	8.19311e+00	1.25160e+00	7.91262e+00	8.63334e+00	0
35	88	123	2.10322e+00	5.65439e-01	8.85873e+00	1.27832e+00	7.99991e+00	8.74599e+00	0
Krypton (Kr)									
36	49	85	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.25496e-01	3.13162e-01	1
36	51	87	1.57548e+00	8.61949e-01	0.00000e+00	0.00000e+00	1.05541e+00	1.50169e+00	1
36	52	88	2.19356e+00	4.67616e-01	0.00000e+00	0.00000e+00	7.65800e-01	1.17526e+00	1
36	53	89	1.59651e+00	6.24960e-01	0.00000e+00	0.00000e+00	1.84065e+00	2.36157e+00	1
36	54	90	2.07132e+00	3.38218e-01	0.00000e+00	0.00000e+00	1.60853e+00	2.11495e+00	1
36	55	91	1.65379e+00	6.85568e-01	7.68045e-06	8.49293e-02	2.54727e+00	3.11380e+00	1
36	56	92	1.86683e+00	4.72624e-01	2.51209e-04	2.41920e-01	2.30098e+00	2.86029e+00	1
36	57	93	1.74397e+00	7.87373e-01	1.97979e-03	3.49706e-01	3.26201e+00	3.85176e+00	1
36	58	94	3.10932e+00	3.99846e-01	1.81347e-02	4.78622e-01	2.66778e+00	3.25757e+00	1
36	59	95	3.69297e+00	8.03138e-01	6.31639e-02	4.52808e-01	2.93029e+00	3.53038e+00	1
36	60	96	3.10808e+00	4.36183e-01	6.46394e-02	5.49745e-01	3.03820e+00	3.61301e+00	1

(continued on next page)

Table 1 (continued)

36	61	97	3.19856e+00	6.83381e-01	8.26446e-02	5.07537e-01	3.92153e+00	4.55861e+00	1
36	62	98	3.29723e+00	5.48612e-01	1.13225e-01	5.70531e-01	3.40729e+00	4.02630e+00	0
36	63	99	3.46467e+00	8.07409e-01	2.62561e-01	5.40972e-01	3.69002e+00	4.31936e+00	0
36	64	100	3.01133e+00	5.04525e-01	2.91055e-01	5.45039e-01	3.91891e+00	4.54470e+00	0
36	65	101	3.06490e+00	6.40317e-01	2.49200e-01	5.54157e-01	4.89316e+00	5.54189e+00	0
36	66	102	2.78751e+00	4.52179e-01	4.46601e-01	5.60359e-01	4.37859e+00	5.01370e+00	0
36	67	103	2.77713e+00	5.48527e-01	6.67778e-01	6.08436e-01	4.60550e+00	5.26593e+00	0
36	68	104	2.51304e+00	4.06238e-01	6.41814e-01	6.14436e-01	4.72024e+00	5.38445e+00	0
36	69	105	2.75713e+00	4.94974e-01	8.53588e-01	6.85955e-01	4.90824e+00	5.57818e+00	0
36	70	106	2.67234e+00	4.17628e-01	8.53109e-01	7.20874e-01	5.07762e+00	5.75088e+00	0
36	71	107	2.55189e+00	4.18600e-01	1.14938e+00	7.46115e-01	5.38213e+00	6.06657e+00	0
36	72	108	2.60472e+00	4.44532e-01	1.18784e+00	7.74711e-01	5.37489e+00	6.03558e+00	0
36	73	109	2.40020e+00	3.54928e-01	1.76981e+00	8.03961e-01	5.48444e+00	6.14384e+00	0
36	74	110	2.42747e+00	4.15219e-01	1.53877e+00	7.78097e-01	5.63494e+00	6.30270e+00	0
36	75	111	2.30958e+00	3.63294e-01	2.06465e+00	8.09169e-01	5.85351e+00	6.55274e+00	0
36	76	112	2.37454e+00	4.03825e-01	1.58073e+00	7.58377e-01	5.99877e+00	6.70222e+00	0
36	77	113	2.18624e+00	3.35083e-01	2.05606e+00	7.96516e-01	6.07549e+00	6.78121e+00	0
36	78	114	2.46009e+00	4.44063e-01	1.61187e+00	7.95450e-01	6.23213e+00	6.94233e+00	0
36	79	115	2.24091e+00	3.47899e-01	2.09719e+00	8.38828e-01	6.62435e+00	7.33550e+00	0
36	80	116	2.14208e+00	3.57243e-01	1.92178e+00	8.14603e-01	6.51397e+00	7.19209e+00	0
36	81	117	2.17609e+00	3.64020e-01	2.25730e+00	8.85542e-01	6.61409e+00	7.30566e+00	0
36	82	118	2.16016e+00	4.47618e-01	1.80131e+00	8.77389e-01	6.78772e+00	7.51371e+00	0
36	83	119	2.27245e+00	4.01779e-01	2.58343e+00	1.00658e+00	7.47153e+00	8.20452e+00	0
36	84	120	2.20224e+00	3.83394e-01	3.44008e+00	1.07557e+00	7.08857e+00	7.81119e+00	0
36	85	121	2.18821e+00	3.63413e-01	4.61934e+00	1.15106e+00	7.26573e+00	7.97852e+00	0
36	86	122	2.16541e+00	3.60882e-01	5.30635e+00	1.17191e+00	7.33584e+00	8.07646e+00	0
36	87	123	2.17111e+00	3.57945e-01	6.49722e+00	1.22229e+00	7.45312e+00	8.19766e+00	0
36	88	124	2.17612e+00	3.63572e-01	7.22815e+00	1.21822e+00	7.49230e+00	8.23803e+00	0
Rubidium (Rb)									
37	47	84	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.81050e-02	8.68634e-02	1
37	49	86	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.33216e-01	4.79945e-01	1
37	50	87	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
37	51	88	2.18609e+00	1.69994e+00	0.00000e+00	0.00000e+00	6.34161e-01	1.01087e+00	1
37	52	89	1.77384e+00	1.57373e+00	0.00000e+00	0.00000e+00	6.88028e-01	1.06246e+00	1
37	53	90	2.24630e+00	1.24505e+00	0.00000e+00	0.00000e+00	1.66280e+00	2.17811e+00	1
37	54	91	2.13887e+00	1.31533e+00	3.58490e-05	7.29532e-02	1.33026e+00	1.80759e+00	1
37	55	92	2.19993e+00	1.12497e+00	7.83128e-05	2.00877e-01	2.53715e+00	3.11938e+00	1
37	56	93	1.28073e+00	8.66488e-01	1.80392e-03	4.15328e-01	2.89634e+00	3.48535e+00	1
37	57	94	2.64439e+00	1.25410e+00	1.43498e-02	6.25276e-01	3.15418e+00	3.74924e+00	1
37	58	95	1.98785e+00	7.38768e-01	3.93178e-02	5.93021e-01	3.49319e+00	4.09349e+00	1
37	59	96	2.28312e+00	1.29490e+00	1.11297e-01	4.44379e-01	3.65587e+00	4.27389e+00	1
37	60	97	1.99681e+00	5.79316e-01	1.61929e-01	5.42882e-01	3.80718e+00	4.42739e+00	1
37	61	98	2.58504e+00	1.09005e+00	1.36729e-01	4.55702e-01	3.88854e+00	4.51698e+00	1
37	62	99	2.77752e+00	5.47328e-01	2.14093e-01	5.51016e-01	4.13412e+00	4.76557e+00	1
37	63	100	3.09639e+00	8.11762e-01	3.38660e-01	6.86154e-01	4.19190e+00	4.82909e+00	1
37	64	101	2.75597e+00	5.59472e-01	3.77823e-01	7.20153e-01	4.48394e+00	5.14842e+00	1
37	65	102	2.84174e+00	8.98075e-01	3.80070e-01	6.84683e-01	4.79191e+00	5.44287e+00	1
37	66	103	2.42031e+00	5.83470e-01	5.95409e-01	7.64029e-01	4.62772e+00	5.28211e+00	0
37	67	104	2.63430e+00	7.12710e-01	6.84064e-01	7.28220e-01	4.86533e+00	5.54228e+00	0
37	68	105	2.35621e+00	5.46234e-01	8.14255e-01	7.87253e-01	4.93462e+00	5.61387e+00	0
37	69	106	2.45573e+00	5.94937e-01	9.30382e-01	7.61138e-01	5.17563e+00	5.82252e+00	0
37	70	107	2.51925e+00	6.24857e-01	9.53737e-01	8.61283e-01	5.31366e+00	6.00509e+00	0
37	71	108	2.26422e+00	5.56775e-01	1.27787e+00	8.16495e-01	5.55837e+00	6.22984e+00	0
37	72	109	2.31615e+00	6.33707e-01	1.35162e+00	8.44668e-01	5.51775e+00	6.18949e+00	0
37	73	110	2.23430e+00	5.29028e-01	1.86331e+00	8.67468e-01	5.68606e+00	6.36012e+00	0
37	74	111	2.08933e+00	5.19219e-01	1.81592e+00	8.29028e-01	5.76932e+00	6.47503e+00	0
37	75	112	2.38612e+00	5.78258e-01	2.30330e+00	8.90134e-01	5.44599e+00	6.14222e+00	0
37	76	113	1.77971e+00	4.14705e-01	2.16701e+00	7.97406e-01	5.66132e+00	6.35436e+00	0
37	77	114	2.28628e+00	5.38003e-01	2.33140e+00	8.85167e-01	5.61505e+00	6.31658e+00	0
37	78	115	1.86583e+00	4.07560e-01	2.25104e+00	8.39628e-01	5.85635e+00	6.53528e+00	0
37	79	116	2.37087e+00	5.55959e-01	2.35011e+00	9.34203e-01	6.22032e+00	6.94055e+00	0
37	80	117	1.82901e+00	3.86332e-01	2.39586e+00	8.86695e-01	6.23650e+00	6.92695e+00	0
37	81	118	2.20694e+00	5.32656e-01	2.54440e+00	9.70948e-01	6.18956e+00	6.87722e+00	0
37	82	119	1.65413e+00	3.70571e-01	2.50810e+00	9.29476e-01	6.41030e+00	7.13608e+00	0
37	83	120	1.96831e+00	4.74960e-01	2.91328e+00	1.04050e+00	7.14353e+00	7.89059e+00	0
37	84	121	1.94505e+00	4.50327e-01	3.81671e+00	1.13009e+00	6.68227e+00	7.41500e+00	0
37	85	122	2.01119e+00	4.37376e-01	4.77987e+00	1.19748e+00	6.81665e+00	7.53558e+00	0
37	86	123	2.00049e+00	4.48917e-01	5.43619e+00	1.22856e+00	6.92207e+00	7.66215e+00	0
37	87	124	2.00869e+00	4.41796e-01	6.44495e+00	1.26659e+00	7.04310e+00	7.75457e+00	0
37	88	125	2.01822e+00	4.38912e-01	7.16941e+00	1.26766e+00	7.11255e+00	7.85912e+00	0
37	89	126	2.06922e+00	4.68055e-01	8.18482e+00	1.29671e+00	7.20949e+00	7.95657e+00	0
37	90	127	2.13668e+00	5.23583e-01	8.84189e+00	1.28995e+00	7.33219e+00	8.08377e+00	0
37	91	128	2.46531e+00	7.63554e-01	9.49252e+00	1.28867e+00	8.30155e+00	9.07883e+00	0
Strontium (Sr)									
38	51	89	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.91923e-01	4.21997e-01	1
38	52	90	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.02647e-01	2.62672e-01	1
38	53	91	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.30703e-01	1.13606e+00	1

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Table 1 (continued)

38	54	92	2.55586e+00	2.04153e-01	0.00000e+00	0.00000e+00	5.45577e-01	9.25813e-01	1
38	55	93	1.45159e+00	5.77667e-01	0.00000e+00	0.00000e+00	1.41936e+00	1.93127e+00	1
38	56	94	1.15553e+00	6.59233e-01	0.00000e+00	0.00000e+00	1.14609e+00	1.61616e+00	1
38	57	95	1.96390e+00	1.32036e+00	0.00000e+00	0.00000e+00	1.51846e+00	2.02761e+00	1
38	58	96	2.69709e+00	2.98514e-01	4.20320e-05	7.71667e-02	2.03685e+00	2.58682e+00	1
38	59	97	2.05046e+00	1.30661e+00	4.42356e-03	2.92085e-01	2.15481e+00	2.71876e+00	1
38	60	98	3.11073e+00	3.03503e-01	3.77637e-03	3.67261e-01	2.18143e+00	2.73854e+00	1
38	61	99	2.40349e+00	7.58633e-01	1.59720e-03	2.94693e-01	2.87588e+00	3.46228e+00	1
38	62	100	2.82553e+00	5.59567e-01	1.42646e-02	3.54293e-01	2.65053e+00	3.24058e+00	1
38	63	101	2.91928e+00	1.11646e+00	3.49016e-02	4.51186e-01	2.84810e+00	3.45489e+00	1
38	64	102	3.24297e+00	5.58972e-01	5.89064e-02	4.67476e-01	3.16936e+00	3.76300e+00	1
38	65	103	3.27020e+00	5.98687e-01	3.22245e-02	4.74468e-01	4.07271e+00	4.71485e+00	0
38	66	104	3.24977e+00	5.16293e-01	1.05751e-01	5.18612e-01	3.44778e+00	4.08184e+00	0
38	67	105	3.40863e+00	7.98391e-01	1.88213e-01	4.98367e-01	3.83349e+00	4.46671e+00	0
38	68	106	3.05244e+00	5.02929e-01	1.95593e-01	5.51890e-01	3.87930e+00	4.51415e+00	0
38	69	107	3.36711e+00	7.39019e-01	3.48351e-01	5.38665e-01	4.12608e+00	4.76492e+00	0
38	70	108	3.11067e+00	5.07177e-01	3.78123e-01	5.75989e-01	4.31947e+00	4.98444e+00	0
38	71	109	2.85966e+00	5.18132e-01	6.98414e-01	6.16814e-01	4.74380e+00	5.42500e+00	0
38	72	110	2.50677e+00	4.25971e-01	8.97700e-01	6.68839e-01	4.57784e+00	5.23284e+00	0
38	73	111	2.58605e+00	3.93051e-01	1.18345e+00	6.95075e-01	4.77144e+00	5.42843e+00	0
38	74	112	2.50111e+00	3.75504e-01	1.01201e+00	6.77663e-01	5.11077e+00	5.80545e+00	0
38	75	113	2.30835e+00	3.25261e-01	1.29447e+00	6.54968e-01	5.00680e+00	5.69059e+00	0
38	76	114	2.60496e+00	3.80224e-01	1.00808e+00	6.87957e-01	5.20250e+00	5.88278e+00	0
38	77	115	2.62040e+00	3.55645e-01	1.16005e+00	6.75473e-01	5.36098e+00	6.02367e+00	0
38	78	116	2.63262e+00	4.02842e-01	1.06701e+00	7.41671e-01	5.52992e+00	6.23836e+00	0
38	79	117	2.50728e+00	3.73456e-01	1.37975e+00	7.68425e-01	5.65554e+00	6.33927e+00	0
38	80	118	2.49759e+00	3.87278e-01	1.17015e+00	7.88153e-01	5.99392e+00	6.71749e+00	0
38	81	119	2.20464e+00	3.35834e-01	1.50307e+00	7.89696e-01	5.89510e+00	6.61547e+00	0
38	82	120	2.39854e+00	4.10280e-01	1.22029e+00	8.66693e-01	6.02755e+00	6.71169e+00	0
38	83	121	2.13634e+00	3.82605e-01	1.76313e+00	9.29060e-01	6.92332e+00	7.66514e+00	0
38	84	122	2.21529e+00	3.70919e-01	2.57221e+00	1.06715e+00	6.31124e+00	7.01510e+00	0
38	85	123	2.28865e+00	3.84018e-01	3.53390e+00	1.16020e+00	6.46074e+00	7.16811e+00	0
38	86	124	2.32181e+00	4.04436e-01	4.10177e+00	1.17311e+00	6.51781e+00	7.22783e+00	0
38	87	125	2.33625e+00	4.04333e-01	5.14808e+00	1.21884e+00	6.62334e+00	7.33556e+00	0
38	88	126	2.28676e+00	4.30855e-01	5.76112e+00	1.19453e+00	6.69679e+00	7.41284e+00	0
38	89	127	2.32406e+00	4.23221e-01	6.81270e+00	1.22680e+00	6.82719e+00	7.54610e+00	0
38	90	128	2.28054e+00	4.36169e-01	7.48698e+00	1.18541e+00	6.97366e+00	7.72712e+00	0
38	91	129	2.31128e+00	4.56099e-01	8.45093e+00	1.19328e+00	7.78225e+00	8.53749e+00	0
38	92	130	2.36412e+00	5.08208e-01	9.09197e+00	1.14263e+00	7.65175e+00	8.42569e+00	0
38	93	131	2.86481e+00	9.17450e-01	9.79181e+00	1.18432e+00	7.69104e+00	8.46752e+00	0
Yttrium (Y)									
39	51	90	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.59155e-01	3.90897e-01	1
39	52	91	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.74898e-02	2.22789e-01	1
39	53	92	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.04402e+00	1.51594e+00	1
39	54	93	1.17101e+00	4.04685e-01	0.00000e+00	0.00000e+00	9.88956e-01	1.44409e+00	1
39	55	94	2.48528e+00	1.09750e+00	0.00000e+00	0.00000e+00	8.83667e-01	1.32635e+00	1
39	56	95	7.90709e-01	5.76872e-01	0.00000e+00	0.00000e+00	1.74117e+00	2.26336e+00	1
39	57	96	2.46102e+00	1.18039e+00	0.00000e+00	0.00000e+00	1.85124e+00	2.39040e+00	1
39	58	97	1.43781e+00	1.08784e+00	4.00490e-04	3.48215e-01	2.35428e+00	2.93153e+00	1
39	59	98	2.05985e+00	1.36637e+00	6.36878e-03	4.38491e-01	2.78644e+00	3.36770e+00	1
39	60	99	2.09885e+00	4.47681e-01	3.58096e-03	4.85520e-01	2.72558e+00	3.31489e+00	1
39	61	100	2.95447e+00	1.03275e+00	3.65420e-03	2.88510e-01	2.70047e+00	3.29769e+00	1
39	62	101	2.62149e+00	5.76150e-01	9.99776e-03	3.80601e-01	2.98678e+00	3.59872e+00	1
39	63	102	2.62602e+00	1.10947e+00	2.15457e-02	3.72835e-01	3.37700e+00	3.99360e+00	1
39	64	103	2.94153e+00	5.99631e-01	6.30908e-02	4.88887e-01	3.34688e+00	3.98357e+00	1
39	65	104	3.32258e+00	9.47443e-01	4.27315e-02	5.52960e-01	3.99562e+00	4.64456e+00	0
39	66	105	2.55076e+00	6.32680e-01	1.83799e-01	5.34494e-01	3.84111e+00	4.49661e+00	0
39	67	106	3.19980e+00	9.33479e-01	2.07441e-01	5.24762e-01	4.14689e+00	4.81179e+00	0
39	68	107	2.46116e+00	4.78496e-01	3.78157e-01	4.96493e-01	4.26611e+00	4.93875e+00	0
39	69	108	2.79539e+00	7.99087e-01	4.05531e-01	5.52715e-01	4.49341e+00	5.17437e+00	0
39	70	109	2.30196e+00	4.81876e-01	5.76088e-01	6.90620e-01	4.65558e+00	5.34248e+00	0
39	71	110	2.71753e+00	6.25642e-01	7.30962e-01	7.51626e-01	4.88635e+00	5.58159e+00	0
39	72	111	2.54540e+00	6.34770e-01	7.99719e-01	8.47229e-01	4.93083e+00	5.62433e+00	0
39	73	112	2.32582e+00	6.41031e-01	1.06758e+00	7.81156e-01	5.21405e+00	5.89491e+00	0
39	74	113	2.38854e+00	6.33867e-01	1.16932e+00	8.06939e-01	5.04051e+00	5.71785e+00	0
39	75	114	2.02724e+00	4.40708e-01	1.46801e+00	7.68535e-01	5.14038e+00	5.83500e+00	0
39	76	115	2.41076e+00	6.68749e-01	1.10916e+00	8.03689e-01	5.37208e+00	6.04504e+00	0
39	77	116	2.13672e+00	4.47556e-01	1.52128e+00	8.23658e-01	5.32005e+00	5.98821e+00	0
39	78	117	2.25967e+00	6.29576e-01	1.33591e+00	8.41801e-01	5.51486e+00	6.23247e+00	0
39	79	118	2.13279e+00	4.63876e-01	1.69461e+00	8.91366e-01	5.58621e+00	6.30624e+00	0
39	80	119	2.23083e+00	7.16209e-01	1.53956e+00	9.19246e-01	5.51650e+00	6.20488e+00	0
39	81	120	2.01635e+00	4.78346e-01	1.99764e+00	9.76158e-01	5.40181e+00	6.10461e+00	0
39	82	121	1.99049e+00	6.75665e-01	1.66342e+00	9.66853e-01	5.53690e+00	6.24522e+00	0
39	83	122	2.03736e+00	5.03332e-01	2.16531e+00	1.08293e+00	6.48331e+00	7.20194e+00	0
39	84	123	2.15789e+00	5.16365e-01	2.92793e+00	1.17303e+00	5.89383e+00	6.62373e+00	0
39	85	124	2.12744e+00	4.96361e-01	3.77318e+00	1.23077e+00	6.04673e+00	6.78199e+00	0
39	86	125	2.06077e+00	4.84694e-01	4.32836e+00	1.24056e+00	6.14511e+00	6.88359e+00	0

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Table 1 (continued)

39	87	126	2.10631e+00	4.90711e-01	5.22258e+00	1.27425e+00	6.21643e+00	6.95656e+00	0
39	88	127	2.08691e+00	5.19158e-01	5.78593e+00	1.26071e+00	6.31294e+00	7.02278e+00	0
39	89	128	2.13061e+00	5.17920e-01	6.70128e+00	1.28045e+00	6.38955e+00	7.10069e+00	0
39	90	129	2.12627e+00	5.38139e-01	7.27239e+00	1.25001e+00	6.59401e+00	7.34585e+00	0
39	91	130	2.14400e+00	5.44299e-01	8.25230e+00	1.24922e+00	6.85527e+00	7.60025e+00	0
39	92	131	2.13731e+00	5.63446e-01	8.78976e+00	1.18672e+00	7.37627e+00	8.12928e+00	0
39	93	132	2.43440e+00	8.42168e-01	9.49537e+00	1.19465e+00	7.43320e+00	8.21336e+00	0
39	94	133	2.01173e+00	9.22282e-01	9.55217e+00	1.16672e+00	7.43488e+00	8.21507e+00	0
39	95	134	2.75419e+00	1.24643e+00	9.79474e+00	1.19453e+00	7.52000e+00	8.30406e+00	0
Zirconium (Zr)									
40	53	93	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.59615e-02	9.75806e-02	1
40	55	95	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.49053e-01	3.41894e-01	1
40	56	96	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.40074e-02	1.31208e-01	1
40	57	97	1.36236e+00	7.96437e-01	0.00000e+00	0.00000e+00	6.13729e-01	1.01272e+00	1
40	58	98	2.63128e+00	2.30926e-01	0.00000e+00	0.00000e+00	6.39275e-01	1.05303e+00	1
40	59	99	2.72826e+00	6.34842e-01	0.00000e+00	0.00000e+00	1.26697e+00	1.73677e+00	1
40	60	100	2.80444e+00	2.86975e-01	0.00000e+00	0.00000e+00	1.07705e+00	1.55331e+00	1
40	61	101	2.61623e+00	7.32027e-01	0.00000e+00	0.00000e+00	1.66351e+00	2.19803e+00	1
40	62	102	3.14047e+00	4.29811e-01	0.00000e+00	0.00000e+00	1.43665e+00	1.93098e+00	1
40	63	103	2.78746e+00	6.31568e-01	9.88561e-05	1.14704e-01	2.45432e+00	3.04122e+00	1
40	64	104	3.20072e+00	4.48914e-01	2.07978e-03	2.26490e-01	2.06392e+00	2.62562e+00	1
40	65	105	2.89938e+00	3.90247e-01	1.32060e-03	3.05207e-01	3.35835e+00	4.00323e+00	1
40	66	106	3.05114e+00	3.83209e-01	7.03816e-03	3.25927e-01	2.49805e+00	3.09303e+00	0
40	67	107	3.43633e+00	7.74843e-01	1.83361e-02	3.18417e-01	2.89830e+00	3.50096e+00	0
40	68	108	3.16291e+00	4.34267e-01	2.25530e-02	4.55055e-01	2.92581e+00	3.53058e+00	0
40	69	109	3.64912e+00	8.22401e-01	5.62497e-02	4.63740e-01	3.23447e+00	3.85238e+00	0
40	70	110	3.24989e+00	5.17109e-01	8.48245e-02	5.68037e-01	3.35907e+00	4.00333e+00	0
40	71	111	3.65599e+00	8.27411e-01	1.77498e-01	5.21617e-01	3.74430e+00	4.40462e+00	0
40	72	112	3.13815e+00	5.26655e-01	3.36264e-01	5.29679e-01	3.73669e+00	4.38080e+00	0
40	73	113	2.90981e+00	5.58734e-01	5.79276e-01	5.39645e-01	4.23008e+00	4.90685e+00	0
40	74	114	2.42627e+00	4.27338e-01	5.63010e-01	4.80052e-01	4.15342e+00	4.83062e+00	0
40	75	115	2.84533e+00	6.37763e-01	5.79360e-01	4.53653e-01	4.24913e+00	4.91789e+00	0
40	76	116	2.62653e+00	4.71991e-01	5.51580e-01	5.09765e-01	4.55577e+00	5.22975e+00	0
40	77	117	2.70966e+00	4.98644e-01	7.78436e-01	5.55464e-01	4.67676e+00	5.35866e+00	0
40	78	118	2.41114e+00	4.07152e-01	8.43915e-01	6.71086e-01	4.73582e+00	5.43441e+00	0
40	79	119	2.67402e+00	4.00202e-01	9.85566e-01	6.79176e-01	4.82634e+00	5.52897e+00	0
40	80	120	2.05226e+00	3.78106e-01	9.09569e-01	5.87387e-01	5.12737e+00	5.84045e+00	0
40	81	121	2.40154e+00	3.26885e-01	1.07671e+00	6.72602e-01	5.01472e+00	5.71696e+00	0
40	82	122	1.85516e+00	4.19061e-01	9.28945e-01	6.35240e-01	5.16328e+00	5.87832e+00	0
40	83	123	2.61953e+00	4.06694e-01	1.22638e+00	9.16044e-01	6.08824e+00	6.82620e+00	0
40	84	124	2.39787e+00	4.68755e-01	1.95148e+00	1.09566e+00	5.43080e+00	6.11497e+00	0
40	85	125	2.49642e+00	5.03122e-01	2.77280e+00	1.18096e+00	5.61876e+00	6.33871e+00	0
40	86	126	2.49511e+00	5.70106e-01	3.26078e+00	1.19236e+00	5.66741e+00	6.39033e+00	0
40	87	127	2.47247e+00	5.45589e-01	4.19407e+00	1.21825e+00	5.77490e+00	6.51127e+00	0
40	88	128	2.18425e+00	4.58364e-01	4.76183e+00	1.14500e+00	5.82815e+00	6.53755e+00	0
40	89	129	2.18027e+00	4.51774e-01	5.67826e+00	1.17536e+00	5.87073e+00	6.61040e+00	0
40	90	130	1.85639e+00	3.56003e-01	6.08008e+00	1.09598e+00	6.04302e+00	6.78922e+00	0
40	91	131	1.82166e+00	3.38850e-01	6.86823e+00	1.10144e+00	6.48773e+00	7.24919e+00	0
40	92	132	1.69201e+00	2.73619e-01	6.97160e+00	1.02142e+00	6.82439e+00	7.59774e+00	0
40	93	133	1.68451e+00	2.85980e-01	7.69363e+00	1.02667e+00	7.04786e+00	7.80334e+00	0
40	94	134	1.61841e+00	2.74596e-01	7.70899e+00	9.87904e-01	7.05151e+00	7.83293e+00	0
40	95	135	1.82849e+00	4.04465e-01	8.48891e+00	1.01800e+00	7.22713e+00	8.01454e+00	0
40	96	136	1.70071e+00	3.54371e-01	8.35310e+00	9.77257e-01	7.34280e+00	8.13335e+00	0
40	97	137	2.03898e+00	5.49165e-01	9.01167e+00	1.02338e+00	7.47313e+00	8.24458e+00	0
Niobium (Nb)									
41	51	92	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
41	53	94	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.11020e-01	7.58911e-01	1
41	54	95	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.79372e-01	3.86329e-01	1
41	55	96	1.87714e+00	8.47721e-01	0.00000e+00	0.00000e+00	6.48712e-01	1.02177e+00	1
41	56	97	1.42786e+00	5.43074e-01	0.00000e+00	0.00000e+00	4.28633e-01	7.80494e-01	1
41	57	98	1.38985e+00	8.37275e-01	0.00000e+00	0.00000e+00	1.47920e+00	2.00738e+00	1
41	58	99	2.47741e+00	4.22492e-01	0.00000e+00	0.00000e+00	1.08602e+00	1.54265e+00	1
41	59	100	2.54881e+00	1.03619e+00	0.00000e+00	0.00000e+00	1.63448e+00	2.15454e+00	1
41	60	101	2.65619e+00	3.66336e-01	0.00000e+00	0.00000e+00	1.58083e+00	2.10544e+00	1
41	61	102	2.77965e+00	1.02639e+00	0.00000e+00	0.00000e+00	1.94086e+00	2.51058e+00	1
41	62	103	2.67678e+00	5.91784e-01	1.13974e-04	1.36766e-01	1.91363e+00	2.47946e+00	1
41	63	104	2.66772e+00	1.12623e+00	7.54724e-04	2.06960e-01	2.48632e+00	3.07761e+00	1
41	64	105	3.03973e+00	7.31890e-01	1.41786e-02	3.38242e-01	2.28279e+00	2.85537e+00	1
41	65	106	3.65097e+00	8.38939e-01	4.36110e-03	3.63850e-01	3.12746e+00	3.76815e+00	1
41	66	107	3.15544e+00	7.74393e-01	7.46208e-02	4.55037e-01	2.70967e+00	3.31849e+00	1
41	67	108	3.58391e+00	1.11462e+00	1.18879e-01	5.31274e-01	2.89928e+00	3.52128e+00	1
41	68	109	3.15223e+00	7.19974e-01	2.60939e-01	4.80171e-01	2.96254e+00	3.59335e+00	1
41	69	110	3.24114e+00	1.07792e+00	2.90998e-01	4.73199e-01	3.13046e+00	3.77073e+00	1
41	70	111	2.47136e+00	6.00697e-01	5.72226e-01	4.72028e-01	3.11220e+00	3.75149e+00	0
41	71	112	2.62524e+00	7.19558e-01	5.86264e-01	5.45709e-01	3.64948e+00	4.28605e+00	0
41	72	113	2.29828e+00	5.41919e-01	8.80549e-01	8.10873e-01	3.45986e+00	4.11453e+00	0
41	73	114	2.82684e+00	8.00658e-01	5.94298e-01	7.51592e-01	4.23226e+00	4.92018e+00	0

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Table 1 (continued)

41	74	115	2.57364e+00	6.52750e-01	5.76968e-01	7.85417e-01	4.40112e+00	5.07419e+00	0
41	75	116	2.80023e+00	7.92745e-01	6.39421e-01	7.58607e-01	4.52105e+00	5.21613e+00	0
41	76	117	2.50430e+00	6.76335e-01	6.60447e-01	8.00999e-01	4.67140e+00	5.36076e+00	0
41	77	118	2.56214e+00	7.47979e-01	8.12536e-01	7.81250e-01	4.92057e+00	5.63587e+00	0
41	78	119	2.28838e+00	6.69961e-01	9.87170e-01	8.37647e-01	4.92034e+00	5.63244e+00	0
41	79	120	1.99993e+00	5.73548e-01	1.17377e+00	8.00760e-01	5.04315e+00	5.75415e+00	0
41	80	121	2.46844e+00	7.71354e-01	8.49913e-01	9.52379e-01	5.31911e+00	6.01013e+00	0
41	81	122	2.14722e+00	7.30645e-01	1.09853e+00	8.92704e-01	5.26738e+00	5.98721e+00	0
41	82	123	2.35810e+00	7.90760e-01	8.95857e-01	9.99349e-01	5.43103e+00	6.15968e+00	0
41	83	124	1.83087e+00	5.83808e-01	1.48351e+00	9.86696e-01	6.27020e+00	7.03590e+00	0
41	84	125	2.11409e+00	6.70167e-01	2.09126e+00	1.17301e+00	5.67209e+00	6.38488e+00	0
41	85	126	2.32544e+00	6.63573e-01	2.81319e+00	1.25598e+00	5.79925e+00	6.53151e+00	0
41	86	127	2.19915e+00	6.42978e-01	3.37806e+00	1.24837e+00	5.86596e+00	6.60319e+00	0
41	87	128	2.24048e+00	6.37376e-01	4.19867e+00	1.26471e+00	5.92434e+00	6.67616e+00	0
41	88	129	2.00437e+00	5.91027e-01	4.73570e+00	1.21921e+00	5.97480e+00	6.72939e+00	0
41	89	130	1.99473e+00	5.50011e-01	5.54147e+00	1.22818e+00	5.99980e+00	6.75410e+00	0
41	90	131	1.77904e+00	4.51875e-01	5.93396e+00	1.17346e+00	6.12377e+00	6.88321e+00	0
41	91	132	1.68498e+00	4.00270e-01	6.63692e+00	1.15308e+00	6.55574e+00	7.29834e+00	0
41	92	133	1.56816e+00	3.53855e-01	6.95199e+00	1.11404e+00	6.44316e+00	7.21551e+00	0
41	93	134	1.61035e+00	3.36035e-01	7.35850e+00	1.09769e+00	6.78896e+00	7.54258e+00	0
41	94	135	1.59829e+00	3.26179e-01	7.46533e+00	1.06899e+00	6.74528e+00	7.51473e+00	0
41	95	136	1.65061e+00	3.89363e-01	7.94728e+00	1.06715e+00	7.00309e+00	7.79563e+00	0
41	96	137	1.60445e+00	3.64139e-01	7.91954e+00	1.04465e+00	7.15434e+00	7.95143e+00	0
41	97	138	1.85301e+00	5.09232e-01	8.56582e+00	1.06971e+00	7.18472e+00	7.95323e+00	0
41	98	139	1.72234e+00	4.48408e-01	8.53989e+00	1.05202e+00	7.26185e+00	8.06363e+00	0
41	99	140	2.10409e+00	6.43735e-01	8.97795e+00	1.08066e+00	7.42452e+00	8.21753e+00	0
Molybdenum (Mo)									
42	57	99	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.74815e-01	5.45179e-01	1
42	59	101	2.47387e+00	2.51216e-01	0.00000e+00	0.00000e+00	8.96300e-01	1.34974e+00	1
42	60	102	1.40722e+00	2.91686e-01	0.00000e+00	0.00000e+00	1.98033e-01	4.33381e-01	1
42	61	103	1.99725e+00	3.70611e-01	0.00000e+00	0.00000e+00	1.23198e+00	1.72177e+00	1
42	62	104	3.76165e+00	1.50460e-01	0.00000e+00	0.00000e+00	6.11701e-01	1.00036e+00	1
42	63	105	2.69355e+00	4.26992e-01	0.00000e+00	0.00000e+00	1.65450e+00	2.20256e+00	1
42	64	106	2.74430e+00	2.56038e-01	0.00000e+00	0.00000e+00	1.24042e+00	1.74132e+00	1
42	65	107	2.98523e+00	1.97462e-01	0.00000e+00	0.00000e+00	2.51731e+00	3.11331e+00	1
42	66	108	2.78535e+00	2.78696e-01	0.00000e+00	0.00000e+00	1.92330e+00	2.48849e+00	1
42	67	109	3.44103e+00	6.61077e-01	4.52110e-04	2.09961e-01	2.39116e+00	2.97754e+00	1
42	68	110	3.05495e+00	3.55465e-01	1.61969e-03	4.88767e-01	2.42331e+00	3.02610e+00	1
42	69	111	3.86665e+00	7.62745e-01	1.25391e-02	3.59861e-01	2.74371e+00	3.37179e+00	1
42	70	112	3.22876e+00	4.65731e-01	8.50828e-03	3.33805e-01	2.51980e+00	3.11583e+00	0
42	71	113	3.40797e+00	8.40664e-01	3.28142e-02	4.20082e-01	3.06944e+00	3.70126e+00	0
42	72	114	3.36268e+00	5.69442e-01	4.54541e-02	4.87824e-01	2.99339e+00	3.63478e+00	0
42	73	115	3.30842e+00	7.87240e-01	8.36327e-02	4.02095e-01	3.61203e+00	4.27758e+00	0
42	74	116	3.22459e+00	5.70860e-01	9.11483e-02	5.52011e-01	3.40793e+00	4.05068e+00	0
42	75	117	3.42402e+00	8.66661e-01	2.01092e-01	4.37958e-01	3.50514e+00	4.16553e+00	0
42	76	118	3.08977e+00	5.67205e-01	1.71963e-01	5.14142e-01	3.63081e+00	4.29080e+00	0
42	77	119	3.27261e+00	8.41189e-01	2.84815e-01	4.73540e-01	3.96279e+00	4.62705e+00	0
42	78	120	3.00431e+00	5.92761e-01	2.94342e-01	5.72300e-01	4.17509e+00	4.86814e+00	0
42	79	121	2.60780e+00	6.06401e-01	6.42804e-01	5.34720e-01	4.14502e+00	4.82609e+00	0
42	80	122	2.84058e+00	6.40418e-01	3.39401e-01	5.85171e-01	4.27289e+00	4.97173e+00	0
42	81	123	2.76691e+00	7.73987e-01	5.38070e-01	5.34325e-01	4.25596e+00	4.95128e+00	0
42	82	124	2.83556e+00	6.91850e-01	3.67132e-01	6.43077e-01	4.41596e+00	5.11932e+00	0
42	83	125	2.30663e+00	5.40165e-01	9.35242e-01	7.18778e-01	5.41427e+00	6.15897e+00	0
42	84	126	2.53555e+00	7.82888e-01	1.42697e+00	1.16581e+00	4.71043e+00	5.39910e+00	0
42	85	127	2.76345e+00	7.12545e-01	2.17558e+00	1.27165e+00	4.85837e+00	5.58049e+00	0
42	86	128	2.12008e+00	4.69841e-01	2.78724e+00	1.15907e+00	4.92637e+00	5.65126e+00	0
42	87	129	1.95599e+00	4.19654e-01	3.54981e+00	1.16942e+00	5.04202e+00	5.77144e+00	0
42	88	130	1.69637e+00	3.47139e-01	3.67090e+00	1.11191e+00	5.11530e+00	5.84773e+00	0
42	89	131	1.76750e+00	3.25527e-01	4.40989e+00	1.14405e+00	5.15195e+00	5.87445e+00	0
42	90	132	1.59936e+00	2.76684e-01	4.47745e+00	1.06655e+00	5.31704e+00	6.02923e+00	0
42	91	133	1.54542e+00	2.60943e-01	4.80161e+00	1.04066e+00	6.00996e+00	6.74786e+00	0
42	92	134	1.50947e+00	2.41744e-01	4.64562e+00	9.65287e-01	6.10973e+00	6.85314e+00	0
42	93	135	1.60758e+00	2.30619e-01	5.07574e+00	9.72516e-01	6.38865e+00	7.17114e+00	0
42	94	136	1.53703e+00	2.15462e-01	4.89180e+00	9.20907e-01	6.39880e+00	7.15371e+00	0
42	95	137	1.58452e+00	2.15615e-01	5.57169e+00	9.54562e-01	6.55304e+00	7.31325e+00	0
42	96	138	1.65630e+00	2.11221e-01	5.40167e+00	9.25190e-01	6.64323e+00	7.42450e+00	0
42	97	139	1.65342e+00	2.21375e-01	5.99590e+00	9.50778e-01	6.86374e+00	7.66382e+00	0
42	98	140	1.71073e+00	2.18192e-01	5.93029e+00	9.30297e-01	6.87386e+00	7.67439e+00	0
42	99	141	1.74557e+00	2.35706e-01	6.64562e+00	9.66148e-01	7.02223e+00	7.82864e+00	0
42	100	142	1.72863e+00	2.22145e-01	6.57301e+00	9.42995e-01	7.13724e+00	7.94738e+00	0
42	101	143	1.79812e+00	2.59137e-01	7.50918e+00	9.92365e-01	7.19259e+00	7.99233e+00	0
42	102	144	1.83729e+00	2.43689e-01	7.48034e+00	9.76139e-01	7.32237e+00	8.13913e+00	0
Technetium (Tc)									
43	53	96	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
43	55	98	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.94701e-01	7.25825e-01	1
43	56	99	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.89017e-02	2.06678e-01	1
43	57	100	1.56289e+00	7.22370e-01	0.00000e+00	0.00000e+00	8.51619e-01	1.28127e+00	1

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Table 1 (continued)

43	58	101	1.94254e+00	3.00161e-01	0.00000e+00	0.00000e+00	3.74347e-01	7.03144e-01	1
43	59	102	1.49367e+00	6.02264e-01	0.00000e+00	0.00000e+00	1.57786e+00	2.11693e+00	1
43	60	103	1.68744e+00	3.03441e-01	0.00000e+00	0.00000e+00	8.64014e-01	1.31952e+00	1
43	61	104	2.54296e+00	8.75859e-01	0.00000e+00	0.00000e+00	1.44202e+00	1.96439e+00	1
43	62	105	1.79445e+00	3.40699e-01	0.00000e+00	0.00000e+00	1.27893e+00	1.78165e+00	1
43	63	106	2.16488e+00	8.35181e-01	0.00000e+00	0.00000e+00	2.09726e+00	2.67105e+00	1
43	64	107	2.33671e+00	7.27885e-01	0.00000e+00	0.00000e+00	1.46231e+00	1.98578e+00	1
43	65	108	2.91878e+00	9.34248e-01	0.00000e+00	0.00000e+00	2.23224e+00	2.83297e+00	1
43	66	109	3.55873e+00	6.88296e-01	3.91833e-03	2.31122e-01	1.73143e+00	2.29673e+00	1
43	67	110	3.26413e+00	1.25459e+00	6.07695e-03	2.17108e-01	2.17852e+00	2.76271e+00	1
43	68	111	3.55455e+00	7.80308e-01	4.00468e-02	3.54952e-01	2.11732e+00	2.70891e+00	1
43	69	112	3.22265e+00	1.39218e+00	8.01609e-02	3.36771e-01	2.37121e+00	2.98041e+00	1
43	70	113	2.82947e+00	5.79336e-01	7.97444e-02	4.61481e-01	3.21010e+00	3.85721e+00	1
43	71	114	3.35876e+00	1.02589e+00	9.17574e-02	4.15231e-01	3.44722e+00	4.11667e+00	1
43	72	115	2.74820e+00	6.36447e-01	1.83016e-01	5.33606e-01	3.43797e+00	4.10710e+00	0
43	73	116	3.13631e+00	9.81422e-01	1.85814e-01	5.66058e-01	3.72917e+00	4.39180e+00	0
43	74	117	2.57070e+00	6.59658e-01	2.71351e-01	6.91439e-01	3.77828e+00	4.46330e+00	0
43	75	118	3.00566e+00	9.71546e-01	2.88993e-01	6.80368e-01	3.98800e+00	4.66008e+00	0
43	76	119	2.48521e+00	6.73175e-01	3.36856e-01	7.74089e-01	4.09415e+00	4.79337e+00	0
43	77	120	2.91123e+00	9.45598e-01	3.55778e-01	7.44552e-01	4.21675e+00	4.90626e+00	0
43	78	121	2.40901e+00	6.61223e-01	5.14001e-01	8.28305e-01	4.41128e+00	5.12204e+00	0
43	79	122	2.68363e+00	9.06804e-01	5.03940e-01	8.16840e-01	4.62816e+00	5.35037e+00	0
43	80	123	2.62983e+00	7.37543e-01	4.54146e-01	1.09421e+00	4.76473e+00	5.47094e+00	0
43	81	124	2.80481e+00	9.44556e-01	5.15308e-01	1.00874e+00	4.74531e+00	5.44895e+00	0
43	82	125	2.58903e+00	8.29153e-01	4.94770e-01	1.14267e+00	4.88865e+00	5.62005e+00	0
43	83	126	2.37087e+00	9.46590e-01	8.69990e-01	1.06108e+00	5.73391e+00	6.50196e+00	0
43	84	127	2.53071e+00	8.88052e-01	1.49106e+00	1.30741e+00	5.17248e+00	5.88954e+00	0
43	85	128	2.36396e+00	7.6335e-01	2.26381e+00	1.32046e+00	5.27855e+00	6.02757e+00	0
43	86	129	1.92585e+00	6.56084e-01	2.77236e+00	1.24673e+00	5.32307e+00	6.06399e+00	0
43	87	130	1.79121e+00	5.82591e-01	3.41804e+00	1.24529e+00	5.40490e+00	6.15906e+00	0
43	88	131	1.63911e+00	4.61407e-01	3.66150e+00	1.20146e+00	5.47389e+00	6.23086e+00	0
43	89	132	1.56233e+00	4.26922e-01	4.32003e+00	1.20328e+00	5.47985e+00	6.23663e+00	0
43	90	133	1.47363e+00	3.84381e-01	4.38710e+00	1.12940e+00	5.77970e+00	6.55021e+00	0
43	91	134	1.45045e+00	3.67541e-01	4.71312e+00	1.10749e+00	6.07136e+00	6.85368e+00	0
43	92	135	1.45385e+00	3.51037e-01	4.79187e+00	1.06535e+00	5.94042e+00	6.70615e+00	0
43	93	136	1.49313e+00	3.38138e-01	5.08505e+00	1.04974e+00	6.21829e+00	6.99225e+00	0
43	94	137	1.56940e+00	3.29934e-01	5.01459e+00	1.02073e+00	6.21739e+00	7.00534e+00	0
43	95	138	1.61825e+00	3.28430e-01	5.61530e+00	1.03808e+00	6.25641e+00	7.04595e+00	0
43	96	139	1.61639e+00	3.23188e-01	5.54917e+00	1.01317e+00	6.30567e+00	7.08475e+00	0
43	97	140	1.65987e+00	3.24814e-01	5.89022e+00	1.01602e+00	6.59426e+00	7.38196e+00	0
43	98	141	1.71376e+00	3.22208e-01	5.92511e+00	1.00218e+00	6.61676e+00	7.42033e+00	0
43	99	142	1.71594e+00	3.25324e-01	6.45040e+00	1.01972e+00	6.75688e+00	7.55061e+00	0
43	100	143	1.66799e+00	3.14258e-01	6.52783e+00	1.00191e+00	6.84066e+00	7.65351e+00	0
43	101	144	1.71024e+00	3.30752e-01	7.16506e+00	1.02804e+00	6.98474e+00	7.78763e+00	0
43	102	145	1.72960e+00	3.19853e-01	7.25865e+00	1.02404e+00	7.10909e+00	7.93181e+00	0
43	103	146	1.82433e+00	3.71967e-01	7.89481e+00	1.05516e+00	7.30067e+00	8.12984e+00	0
43	104	147	1.84002e+00	3.69520e-01	8.11422e+00	1.06730e+00	7.28000e+00	8.08154e+00	0
Ruthenium (Ru)									
44	59	103	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.49567e-01	3.54232e-01	1
44	61	105	1.86546e+00	2.99776e-01	0.00000e+00	0.00000e+00	5.08930e-01	8.88932e-01	1
44	63	107	1.79002e+00	3.50147e-01	0.00000e+00	0.00000e+00	9.65373e-01	1.43341e+00	1
44	64	108	2.40153e+00	1.73320e-01	0.00000e+00	0.00000e+00	3.30935e-01	6.68821e-01	1
44	65	109	3.16844e+00	5.09176e-01	0.00000e+00	0.00000e+00	1.11075e+00	1.60180e+00	1
44	66	110	2.66875e+00	2.52688e-01	0.00000e+00	0.00000e+00	8.26531e-01	1.28841e+00	1
44	67	111	3.35220e+00	7.10589e-01	0.00000e+00	0.00000e+00	1.32858e+00	1.86068e+00	1
44	68	112	2.91661e+00	3.11491e-01	0.00000e+00	0.00000e+00	1.35220e+00	1.88962e+00	1
44	69	113	3.35181e+00	8.36653e-01	0.00000e+00	0.00000e+00	1.78472e+00	2.33355e+00	1
44	70	114	3.17692e+00	4.09063e-01	2.84536e-05	1.16387e-01	1.83506e+00	2.41646e+00	1
44	71	115	3.88531e+00	8.09319e-01	1.30198e-03	2.06656e-01	2.19412e+00	2.80168e+00	1
44	72	116	3.27364e+00	4.99045e-01	4.96965e-03	2.51268e-01	2.21697e+00	2.80650e+00	1
44	73	117	3.44781e+00	7.28271e-01	1.19918e-02	3.33237e-01	3.09863e+00	3.73741e+00	1
44	74	118	3.15986e+00	5.26595e-01	1.81615e-02	3.38429e-01	2.58419e+00	3.20919e+00	0
44	75	119	3.62147e+00	8.99622e-01	4.04232e-02	4.07310e-01	2.82216e+00	3.46681e+00	0
44	76	120	3.21455e+00	5.47464e-01	4.41659e-02	5.09286e-01	2.91565e+00	3.54593e+00	0
44	77	121	3.48234e+00	9.26805e-01	8.40950e-02	5.01597e-01	3.17380e+00	3.83401e+00	0
44	78	122	3.22348e+00	6.20249e-01	9.60769e-02	5.69507e-01	3.17460e+00	3.81922e+00	0
44	79	123	3.40787e+00	9.67016e-01	1.52996e-01	5.37863e-01	3.36396e+00	4.02195e+00	0
44	80	124	3.21193e+00	6.72584e-01	1.55781e-01	6.20713e-01	3.35636e+00	4.02864e+00	0
44	81	125	3.33243e+00	1.02313e+00	1.85926e-01	5.76967e-01	3.49500e+00	4.15277e+00	0
44	82	126	3.08873e+00	7.45885e-01	2.09970e-01	7.56911e-01	3.51885e+00	4.19806e+00	0
44	83	127	2.68249e+00	9.35959e-01	5.68568e-01	7.51066e-01	4.58733e+00	5.31040e+00	0
44	84	128	2.81271e+00	8.87338e-01	1.09984e+00	1.34637e+00	3.96118e+00	4.66219e+00	0
44	85	129	2.48850e+00	6.49793e-01	1.89211e+00	1.31294e+00	4.16148e+00	4.87149e+00	0
44	86	130	1.74550e+00	3.78689e-01	2.23338e+00	1.13860e+00	4.18314e+00	4.89393e+00	0
44	87	131	1.85933e+00	3.82876e-01	2.70353e+00	1.18247e+00	4.32575e+00	5.04311e+00	0
44	88	132	1.76203e+00	3.49348e-01	2.74020e+00	1.13311e+00	4.41603e+00	5.13780e+00	0
44	89	133	1.74069e+00	3.11533e-01	3.07315e+00	1.10821e+00	4.96543e+00	5.71243e+00	0

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Table 1 (continued)

44	90	134	1.70539e+00	2.92546e-01	2.94310e+00	1.03226e+00	5.13758e+00	5.88390e+00	0
44	91	135	1.67326e+00	2.81798e-01	3.42220e+00	1.04627e+00	5.31583e+00	6.04862e+00	0
44	92	136	1.66756e+00	2.89527e-01	3.17586e+00	9.61112e-01	5.40373e+00	6.12989e+00	0
44	93	137	1.62956e+00	3.00076e-01	3.44500e+00	9.43751e-01	5.75695e+00	6.52849e+00	0
44	94	138	1.71637e+00	2.99168e-01	3.27107e+00	8.98525e-01	5.70574e+00	6.44460e+00	0
44	95	139	1.74276e+00	2.88948e-01	3.64304e+00	9.18753e-01	6.07060e+00	6.86515e+00	0
44	96	140	1.80553e+00	2.68496e-01	3.42154e+00	8.94881e-01	6.01133e+00	6.77573e+00	0
44	97	141	1.84857e+00	2.56362e-01	3.91409e+00	9.29942e-01	6.22698e+00	7.02802e+00	0
44	98	142	1.77913e+00	2.53550e-01	3.88456e+00	9.02497e-01	6.24668e+00	7.02066e+00	0
44	99	143	1.80937e+00	2.51877e-01	4.47098e+00	9.39814e-01	6.39718e+00	7.19380e+00	0
44	100	144	1.72707e+00	2.37722e-01	4.43908e+00	8.97910e-01	6.50302e+00	7.28816e+00	0
44	101	145	1.75576e+00	2.35788e-01	5.16155e+00	9.43118e-01	6.52418e+00	7.33745e+00	0
44	102	146	1.68255e+00	2.22498e-01	5.10965e+00	9.15652e-01	6.71504e+00	7.50968e+00	0
44	103	147	1.66767e+00	2.23305e-01	5.84866e+00	9.58379e-01	6.90370e+00	7.73227e+00	0
44	104	148	1.65081e+00	2.13394e-01	5.96452e+00	9.47568e-01	6.95727e+00	7.78793e+00	0
44	105	149	1.70893e+00	2.26610e-01	6.85013e+00	9.95679e-01	7.15416e+00	7.98022e+00	0
44	106	150	1.68984e+00	2.20691e-01	7.08332e+00	9.92899e-01	7.14732e+00	7.98569e+00	0
Rhodium (Rh)									
45	57	102	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.78248e-01	4.36141e-01	1
45	59	104	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.97701e-01	1.12424e+00	1
45	60	105	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.67892e-02	1.71499e-01	1
45	61	106	1.62842e+00	7.24771e-01	0.00000e+00	0.00000e+00	9.63887e-01	1.42005e+00	1
45	62	107	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.68427e-01	6.90294e-01	1
45	63	108	2.34916e+00	1.00318e+00	0.00000e+00	0.00000e+00	8.63201e-01	1.33224e+00	1
45	64	109	1.64529e+00	2.55951e-01	0.00000e+00	0.00000e+00	8.79859e-01	1.34727e+00	1
45	65	110	2.09409e+00	7.60446e-01	0.00000e+00	0.00000e+00	1.68942e+00	2.24864e+00	1
45	66	111	1.89082e+00	2.96459e-01	0.00000e+00	0.00000e+00	1.31392e+00	1.84073e+00	1
45	67	112	3.37467e+00	7.54881e-01	0.00000e+00	0.00000e+00	1.75756e+00	2.32696e+00	1
45	68	113	2.20775e+00	3.50116e-01	0.00000e+00	0.00000e+00	1.76072e+00	2.33511e+00	1
45	69	114	2.84512e+00	1.00440e+00	0.00000e+00	0.00000e+00	2.19067e+00	2.79653e+00	1
45	70	115	2.49487e+00	4.83919e-01	3.28933e-04	2.31815e-01	2.21883e+00	2.83042e+00	1
45	71	116	2.73311e+00	1.20447e+00	1.24687e-03	2.31137e-01	2.60697e+00	3.24595e+00	1
45	72	117	3.06008e+00	5.37513e-01	9.00676e-03	3.40011e-01	2.63403e+00	3.26576e+00	1
45	73	118	2.67041e+00	1.22133e+00	1.46580e-02	3.91138e-01	3.25935e+00	3.93149e+00	1
45	74	119	2.65154e+00	5.96919e-01	6.20266e-02	5.55775e-01	3.05595e+00	3.72056e+00	1
45	75	120	3.30931e+00	1.00507e+00	5.21109e-02	5.13697e-01	3.38385e+00	4.06543e+00	0
45	76	121	2.56360e+00	6.22981e-01	1.16386e-01	6.49926e-01	3.58116e+00	4.27250e+00	1
45	77	122	3.23162e+00	1.03390e+00	9.90223e-02	6.20774e-01	3.81911e+00	4.52257e+00	0
45	78	123	1.92748e+00	6.61646e-01	6.92864e-01	7.89985e-01	2.87925e+00	3.51609e+00	0
45	79	124	3.07270e+00	1.08138e+00	1.90485e-01	8.79874e-01	3.95494e+00	4.66316e+00	0
45	80	125	2.48605e+00	7.57046e-01	2.22061e-01	9.44892e-01	4.06932e+00	4.76925e+00	0
45	81	126	2.93376e+00	1.11013e+00	2.47190e-01	8.46289e-01	4.24714e+00	4.96729e+00	0
45	82	127	2.46713e+00	9.04396e-01	2.61675e-01	1.18932e+00	4.26537e+00	4.99019e+00	0
45	83	128	2.49782e+00	1.17534e+00	5.83289e-01	1.02238e+00	4.98943e+00	5.73807e+00	0
45	84	129	2.45974e+00	9.21464e-01	1.17205e+00	1.42257e+00	4.60498e+00	5.33770e+00	0
45	85	130	1.93819e+00	7.07361e-01	1.90896e+00	1.34848e+00	4.75135e+00	5.46835e+00	0
45	86	131	1.55194e+00	5.51564e-01	2.09860e+00	1.24709e+00	4.77521e+00	5.52323e+00	0
45	87	132	1.80648e+00	5.63753e-01	2.52007e+00	1.29397e+00	4.86636e+00	5.60766e+00	0
45	88	133	1.44739e+00	4.37699e-01	2.71173e+00	1.20110e+00	4.91453e+00	5.62736e+00	0
45	89	134	1.53599e+00	4.28780e-01	3.13353e+00	1.20310e+00	5.10415e+00	5.86797e+00	0
45	90	135	1.58204e+00	4.32207e-01	3.10969e+00	1.16456e+00	5.10200e+00	5.86604e+00	0
45	91	136	1.50225e+00	3.78797e-01	3.61256e+00	1.14573e+00	5.26083e+00	5.99928e+00	0
45	92	137	1.61949e+00	4.12176e-01	3.55053e+00	1.11271e+00	5.20798e+00	5.96633e+00	0
45	93	138	1.56187e+00	4.06858e-01	3.67157e+00	1.05541e+00	5.62675e+00	6.40162e+00	0
45	94	139	1.59078e+00	4.19567e-01	3.74961e+00	1.02286e+00	5.37438e+00	6.15060e+00	0
45	95	140	1.58209e+00	4.02283e-01	4.03305e+00	1.00700e+00	5.67148e+00	6.46097e+00	0
45	96	141	1.63898e+00	3.95972e-01	3.92520e+00	9.74106e-01	5.75820e+00	6.52136e+00	0
45	97	142	1.58670e+00	3.94741e-01	4.19290e+00	9.70997e-01	6.05202e+00	6.85787e+00	0
45	98	143	1.62525e+00	3.94473e-01	4.20512e+00	9.54611e-01	6.06296e+00	6.86944e+00	0
45	99	144	1.67649e+00	3.91436e-01	4.60544e+00	9.76045e-01	6.20162e+00	7.01431e+00	0
45	100	145	1.60348e+00	3.49812e-01	4.59351e+00	9.54351e-01	6.35492e+00	7.14517e+00	0
45	101	146	1.61349e+00	3.32705e-01	5.18370e+00	9.83675e-01	6.40131e+00	7.20704e+00	0
45	102	147	1.58787e+00	3.23439e-01	5.23754e+00	9.75340e-01	6.48823e+00	7.30090e+00	0
45	103	148	1.60287e+00	3.15369e-01	5.79425e+00	9.98285e-01	6.69394e+00	7.52798e+00	0
45	104	149	1.52248e+00	3.09824e-01	5.98597e+00	9.95180e-01	6.72073e+00	7.55523e+00	0
45	105	150	1.53036e+00	3.09375e-01	6.66711e+00	1.02195e+00	6.92850e+00	7.74127e+00	0
45	106	151	1.55302e+00	3.05180e-01	6.93722e+00	1.02463e+00	6.92897e+00	7.77240e+00	0
45	107	152	1.56356e+00	3.31194e-01	7.64022e+00	1.05500e+00	7.04469e+00	7.89272e+00	0
45	108	153	1.63244e+00	3.20791e-01	7.85934e+00	1.05531e+00	7.07479e+00	7.92437e+00	0
Palladium (Pd)									
46	63	109	1.53255e+00	2.34696e-01	0.00000e+00	0.00000e+00	2.61764e-01	5.39302e-01	1
46	65	111	1.57768e+00	2.46549e-01	0.00000e+00	0.00000e+00	7.15693e-01	1.15062e+00	1
46	66	112	1.82381e+00	6.76748e-02	0.00000e+00	0.00000e+00	3.78775e-02	1.31144e-01	1
46	67	113	2.64320e+00	3.37797e-01	0.00000e+00	0.00000e+00	1.05616e+00	1.55192e+00	1
46	68	114	2.54132e+00	1.90818e-01	0.00000e+00	0.00000e+00	3.44215e-01	6.70791e-01	1
46	69	115	2.92984e+00	5.79582e-01	0.00000e+00	0.00000e+00	1.20188e+00	1.71335e+00	1
46	70	116	2.84666e+00	2.65662e-01	0.00000e+00	0.00000e+00	7.68921e-01	1.23479e+00	1

(continued on next page)

Table 1 (continued)

46	71	117	3.39588e+00	6.85028e-01	0.00000e+00	0.00000e+00	1.45797e+00	2.00810e+00	1
46	72	118	3.07060e+00	3.72348e-01	0.00000e+00	0.00000e+00	1.26220e+00	1.77653e+00	1
46	73	119	3.86275e+00	7.68860e-01	8.06202e-06	4.89138e-02	1.86915e+00	2.45952e+00	1
46	74	120	3.13927e+00	4.13524e-01	4.56202e-05	8.05592e-02	1.75865e+00	2.33215e+00	1
46	75	121	3.85145e+00	8.23881e-01	1.84414e-03	2.07967e-01	2.22172e+00	2.84101e+00	1
46	76	122	3.39451e+00	5.01243e-01	3.33796e-03	2.38750e-01	2.10969e+00	2.71775e+00	1
46	77	123	3.93334e+00	8.80112e-01	9.03813e-03	2.84223e-01	2.51672e+00	3.13396e+00	1
46	78	124	3.39027e+00	6.86409e-01	1.77976e-02	3.06808e-01	2.27853e+00	2.89588e+00	0
46	79	125	3.94025e+00	1.02507e+00	5.49948e-02	3.80712e-01	2.40523e+00	3.02252e+00	0
46	80	126	3.39178e+00	7.34664e-01	3.96957e-02	3.72517e-01	2.43435e+00	3.04819e+00	0
46	81	127	3.43710e+00	1.14584e+00	1.00698e-01	4.57985e-01	2.66218e+00	3.29418e+00	0
46	82	128	3.10941e+00	7.18793e-01	8.73709e-02	6.74757e-01	2.95557e+00	3.62161e+00	0
46	83	129	2.37905e+00	7.47837e-01	6.76835e-01	7.11091e-01	3.42281e+00	4.11295e+00	0
46	84	130	2.97502e+00	7.12517e-01	9.02636e-01	1.39029e+00	3.34511e+00	4.03002e+00	0
46	85	131	2.23610e+00	5.02234e-01	1.55388e+00	1.25181e+00	3.59299e+00	4.28513e+00	0
46	86	132	1.84525e+00	4.53767e-01	1.55667e+00	1.18129e+00	3.62378e+00	4.29722e+00	0
46	87	133	2.04530e+00	4.98632e-01	1.94179e+00	1.25537e+00	3.78310e+00	4.47554e+00	0
46	88	134	1.70346e+00	3.56703e-01	1.97730e+00	1.13092e+00	3.86501e+00	4.57331e+00	0
46	89	135	2.00861e+00	4.07813e-01	2.14804e+00	1.16602e+00	4.48573e+00	5.23096e+00	0
46	90	136	1.79064e+00	3.46623e-01	2.02035e+00	1.02916e+00	4.49438e+00	5.22578e+00	0
46	91	137	1.99641e+00	3.79131e-01	2.31205e+00	1.08060e+00	4.86884e+00	5.62348e+00	0
46	92	138	1.71974e+00	3.44332e-01	2.14187e+00	9.42948e-01	4.91096e+00	5.65091e+00	0
46	93	139	1.94943e+00	3.44576e-01	2.27159e+00	9.76039e-01	5.44149e+00	6.19169e+00	0
46	94	140	1.86115e+00	2.92316e-01	2.27327e+00	9.08143e-01	5.11182e+00	5.86159e+00	0
46	95	141	2.00141e+00	2.97913e-01	2.63984e+00	9.42397e-01	5.23807e+00	5.99101e+00	0
46	96	142	1.88923e+00	2.70055e-01	2.40132e+00	8.58938e-01	5.39823e+00	6.18731e+00	0
46	97	143	2.03724e+00	2.79151e-01	2.81394e+00	9.04456e-01	5.52072e+00	6.30553e+00	0
46	98	144	2.06804e+00	2.57354e-01	2.59776e+00	8.62027e-01	5.66579e+00	6.46728e+00	0
46	99	145	2.06582e+00	2.61271e-01	3.02648e+00	8.98799e-01	5.76267e+00	6.55832e+00	0
46	100	146	2.04988e+00	2.63565e-01	2.89825e+00	8.69546e-01	5.90304e+00	6.71540e+00	0
46	101	147	2.00244e+00	2.50559e-01	3.47349e+00	9.13759e-01	6.09575e+00	6.88811e+00	0
46	102	148	2.00856e+00	2.48470e-01	3.43334e+00	8.99269e-01	6.10972e+00	6.93151e+00	0
46	103	149	1.93220e+00	2.41741e-01	4.10937e+00	9.45222e-01	6.19843e+00	6.99516e+00	0
46	104	150	1.85549e+00	2.19434e-01	4.11834e+00	9.17140e-01	6.33780e+00	7.16982e+00	0
46	105	151	1.81627e+00	2.20438e-01	4.77003e+00	9.54855e-01	6.54920e+00	7.39069e+00	0
46	106	152	1.73301e+00	2.21847e-01	4.94611e+00	9.36630e-01	6.51240e+00	7.35227e+00	0
46	107	153	1.70073e+00	2.19410e-01	5.68541e+00	9.79671e-01	6.65405e+00	7.48807e+00	0
46	108	154	1.66065e+00	2.16866e-01	5.82072e+00	9.52903e-01	6.66414e+00	7.48323e+00	0
46	109	155	1.71765e+00	2.21814e-01	6.62813e+00	9.93677e-01	6.77202e+00	7.62348e+00	0
46	110	156	1.80512e+00	2.14106e-01	6.62034e+00	9.67185e-01	6.90930e+00	7.76668e+00	0
Silver (Ag)									
47	59	106	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
47	61	108	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.50007e-01	6.97959e-01	1
47	63	110	2.28184e+00	8.84961e-01	0.00000e+00	0.00000e+00	3.18919e-01	6.00432e-01	1
47	64	111	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.72577e-01	3.90255e-01	1
47	65	112	2.43611e+00	8.05484e-01	0.00000e+00	0.00000e+00	8.03565e-01	1.24613e+00	1
47	66	113	1.68548e+00	3.67577e-01	0.00000e+00	0.00000e+00	5.18013e-01	9.14098e-01	1
47	67	114	2.39656e+00	1.00829e+00	0.00000e+00	0.00000e+00	1.09941e+00	1.60396e+00	1
47	68	115	1.78516e+00	3.55519e-01	0.00000e+00	0.00000e+00	1.01211e+00	1.50294e+00	1
47	69	116	2.54371e+00	1.02218e+00	0.00000e+00	0.00000e+00	1.51963e+00	2.05757e+00	1
47	70	117	2.24799e+00	3.46241e-01	0.00000e+00	0.00000e+00	1.47906e+00	2.03198e+00	1
47	71	118	2.39445e+00	1.19254e+00	0.00000e+00	0.00000e+00	1.87481e+00	2.45102e+00	1
47	72	119	2.75840e+00	3.79713e-01	0.00000e+00	0.00000e+00	1.86939e+00	2.46063e+00	1
47	73	120	2.60659e+00	1.10257e+00	2.51788e-06	1.00350e-01	2.42040e+00	3.05173e+00	1
47	74	121	2.52458e+00	5.33308e-01	4.15071e-04	3.27935e-01	2.35933e+00	2.97798e+00	1
47	75	122	2.88833e+00	1.19909e+00	1.72362e-03	2.86369e-01	2.70811e+00	3.33462e+00	1
47	76	123	3.08273e+00	9.08194e-01	6.90631e-02	4.48401e-01	2.05804e+00	2.64771e+00	1
47	77	124	3.31910e+00	1.30190e+00	9.57362e-02	4.18085e-01	2.39206e+00	3.01986e+00	1
47	78	125	3.14497e+00	6.56189e-01	4.01736e-02	5.87642e-01	2.96847e+00	3.64325e+00	1
47	79	126	3.36767e+00	1.21959e+00	3.92104e-02	6.76239e-01	3.19412e+00	3.87615e+00	0
47	80	127	2.58552e+00	8.68217e-01	6.68161e-02	9.10385e-01	3.31932e+00	3.99426e+00	0
47	81	128	3.17547e+00	1.26766e+00	8.51935e-02	8.63960e-01	3.54944e+00	4.25132e+00	0
47	82	129	3.02787e+00	6.78000e-01	9.74064e-02	7.65965e-01	3.89584e+00	4.61051e+00	0
47	83	130	2.31658e+00	1.48254e+00	4.40629e-01	8.25060e-01	4.14993e+00	4.88790e+00	0
47	84	131	2.28617e+00	8.63539e-01	1.01797e+00	1.58730e+00	3.98606e+00	4.71534e+00	0
47	85	132	1.54657e+00	5.91649e-01	1.62809e+00	1.29119e+00	4.14753e+00	4.84683e+00	0
47	86	133	1.80495e+00	7.32385e-01	1.52343e+00	1.30238e+00	4.17078e+00	4.90528e+00	0
47	87	134	1.73119e+00	5.92344e-01	1.97304e+00	1.37122e+00	4.29388e+00	5.02824e+00	0
47	88	135	1.45498e+00	5.35051e-01	1.97406e+00	1.23302e+00	4.34517e+00	5.09276e+00	0
47	89	136	1.84213e+00	5.66568e-01	2.21646e+00	1.29827e+00	4.66456e+00	5.39942e+00	0
47	90	137	1.37449e+00	4.36277e-01	2.22236e+00	1.13915e+00	4.72683e+00	5.48604e+00	0
47	91	138	1.81457e+00	5.39050e-01	2.45566e+00	1.19989e+00	4.85210e+00	5.61582e+00	0
47	92	139	1.43719e+00	3.67233e-01	2.57013e+00	1.07737e+00	4.94807e+00	5.72723e+00	0
47	93	140	1.68055e+00	4.71406e-01	2.70690e+00	1.09496e+00	5.12422e+00	5.88117e+00	0
47	94	141	1.55437e+00	3.91059e-01	2.70768e+00	1.02336e+00	5.20464e+00	5.99624e+00	0
47	95	142	1.78691e+00	4.51325e-01	2.86771e+00	1.02077e+00	5.28834e+00	6.05341e+00	0
47	96	143	1.68396e+00	4.14062e-01	2.88605e+00	9.59338e-01	5.28774e+00	6.07344e+00	0

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Table 1 (continued)

47	97	144	1.69510e+00	4.09202e-01	3.23006e+00	9.52858e-01	5.34274e+00	6.14089e+00	0
47	98	145	1.85338e+00	3.94986e-01	3.05475e+00	9.39640e-01	5.45150e+00	6.24491e+00	0
47	99	146	1.75109e+00	3.52591e-01	3.38807e+00	9.37378e-01	5.56330e+00	6.37210e+00	0
47	100	147	1.85636e+00	3.84862e-01	3.30449e+00	9.33516e-01	5.70528e+00	6.52094e+00	0
47	101	148	1.79517e+00	3.58513e-01	3.74625e+00	9.50297e-01	5.85914e+00	6.68201e+00	0
47	102	149	1.80103e+00	3.50086e-01	3.72134e+00	9.35837e-01	5.97838e+00	6.77772e+00	0
47	103	150	1.80992e+00	3.48034e-01	4.28874e+00	9.73170e-01	6.03064e+00	6.86193e+00	0
47	104	151	1.68346e+00	3.12994e-01	4.35535e+00	9.54813e-01	6.15070e+00	6.97603e+00	0
47	105	152	1.64641e+00	3.11793e-01	4.87020e+00	9.76280e-01	6.36293e+00	7.20987e+00	0
47	106	153	1.66756e+00	3.15022e-01	5.06561e+00	9.72270e-01	6.32935e+00	7.17485e+00	0
47	107	154	1.62384e+00	3.09476e-01	5.68916e+00	9.99957e-01	6.46855e+00	7.30409e+00	0
47	108	155	1.59775e+00	3.05753e-01	5.80171e+00	9.80947e-01	6.53151e+00	7.38601e+00	0
47	109	156	1.61434e+00	3.04093e-01	6.40036e+00	1.00659e+00	6.61893e+00	7.44423e+00	0
47	110	157	1.59647e+00	2.92154e-01	6.56870e+00	9.91043e-01	6.71610e+00	7.57972e+00	0
47	111	158	1.59248e+00	2.98073e-01	7.09011e+00	1.00765e+00	6.85456e+00	7.72393e+00	0
47	112	159	1.61424e+00	2.90704e-01	7.23726e+00	1.00516e+00	6.89033e+00	7.73282e+00	0
47	113	160	1.66831e+00	3.18485e-01	7.74735e+00	1.01035e+00	7.05383e+00	7.93266e+00	0
Cadmium (Cd)									
48	65	113	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
48	67	115	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.64621e-01	5.54169e-01	1
48	69	117	1.70866e+00	4.07858e-01	0.00000e+00	0.00000e+00	7.04809e-01	1.14411e+00	1
48	70	118	2.20403e+00	1.16900e-01	0.00000e+00	0.00000e+00	9.24735e-02	2.57356e-01	1
48	71	119	2.14388e+00	5.94155e-01	0.00000e+00	0.00000e+00	1.00258e+00	1.48550e+00	1
48	72	120	2.40767e+00	1.82637e-01	0.00000e+00	0.00000e+00	4.83289e-01	8.81744e-01	1
48	73	121	2.72499e+00	7.36862e-01	0.00000e+00	0.00000e+00	1.12990e+00	1.64552e+00	1
48	74	122	2.83103e+00	3.25309e-01	0.00000e+00	0.00000e+00	8.07344e-01	1.28203e+00	1
48	75	123	2.45653e+00	1.02901e+00	0.00000e+00	0.00000e+00	1.49353e+00	2.04422e+00	1
48	76	124	3.26081e+00	4.74527e-01	0.00000e+00	0.00000e+00	1.07176e+00	1.56518e+00	1
48	77	125	2.54539e+00	1.25526e+00	0.00000e+00	0.00000e+00	1.67009e+00	2.23716e+00	1
48	78	126	3.50861e+00	5.90604e-01	4.61980e-11	5.00000e-02	1.48224e+00	2.04801e+00	1
48	79	127	3.82864e+00	1.01483e+00	2.20575e-03	2.10129e-01	1.84746e+00	2.41402e+00	1
48	80	128	3.65649e+00	6.99129e-01	5.29126e-03	2.43710e-01	1.90403e+00	2.51086e+00	1
48	81	129	3.73372e+00	1.05731e+00	1.51567e-02	3.01445e-01	2.51576e+00	3.16413e+00	1
48	82	130	3.09614e+00	8.12588e-01	5.63451e-02	4.31206e-01	2.67593e+00	3.32788e+00	1
48	83	131	2.60043e+00	9.47146e-01	4.27256e-01	6.43212e-01	3.35865e+00	4.04408e+00	1
48	84	132	2.53174e+00	5.81740e-01	6.81446e-01	1.33724e+00	3.59781e+00	4.30891e+00	1
48	85	133	2.30758e+00	5.28248e-01	1.01969e+00	1.15024e+00	3.25246e+00	3.92794e+00	0
48	86	134	2.48676e+00	5.27321e-01	9.76083e-01	1.21582e+00	3.17603e+00	3.83876e+00	0
48	87	135	2.29467e+00	4.79228e-01	1.35948e+00	1.21453e+00	3.40911e+00	4.10932e+00	0
48	88	136	2.11361e+00	5.10864e-01	1.24207e+00	1.18737e+00	3.38922e+00	4.07466e+00	0
48	89	137	2.05489e+00	4.72999e-01	1.64100e+00	1.21513e+00	3.60229e+00	4.30010e+00	0
48	90	138	2.08053e+00	5.25771e-01	1.25779e+00	1.15547e+00	4.06904e+00	4.79179e+00	0
48	91	139	1.85718e+00	3.44856e-01	1.75987e+00	1.04765e+00	4.28874e+00	5.04429e+00	0
48	92	140	2.27061e+00	5.01679e-01	1.35084e+00	1.06457e+00	4.32201e+00	5.07742e+00	0
48	93	141	2.01431e+00	3.42932e-01	1.91237e+00	1.01206e+00	4.60714e+00	5.35261e+00	0
48	94	142	2.31605e+00	4.56687e-01	1.48425e+00	9.70135e-01	4.72072e+00	5.49947e+00	0
48	95	143	2.13463e+00	3.31874e-01	1.83745e+00	9.14744e-01	5.01523e+00	5.80903e+00	0
48	96	144	2.27432e+00	3.71650e-01	1.75954e+00	8.88109e-01	4.75512e+00	5.51195e+00	0
48	97	145	2.28067e+00	3.59555e-01	2.16877e+00	9.03371e-01	4.85829e+00	5.60449e+00	0
48	98	146	2.15487e+00	3.45032e-01	1.82475e+00	7.99138e-01	5.06229e+00	5.84172e+00	0
48	99	147	2.37777e+00	3.49965e-01	2.07955e+00	8.64850e-01	5.23155e+00	6.03626e+00	0
48	100	148	2.28185e+00	2.97026e-01	2.00894e+00	8.13677e-01	5.31311e+00	6.12211e+00	0
48	101	149	2.30933e+00	3.09391e-01	2.41069e+00	8.65173e-01	5.50395e+00	6.29409e+00	0
48	102	150	2.18172e+00	2.60925e-01	2.40129e+00	8.27966e-01	5.53491e+00	6.31487e+00	0
48	103	151	2.16260e+00	2.70670e-01	2.91132e+00	8.79572e-01	5.62793e+00	6.45274e+00	0
48	104	152	2.13734e+00	2.67003e-01	2.83098e+00	8.63179e-01	5.76506e+00	6.58811e+00	0
48	105	153	2.02845e+00	2.51215e-01	3.35050e+00	8.92255e-01	5.98178e+00	6.82431e+00	0
48	106	154	2.06568e+00	2.65921e-01	3.36087e+00	8.83939e-01	5.98905e+00	6.83194e+00	0
48	107	155	1.98486e+00	2.54600e-01	4.05358e+00	9.22801e-01	6.02892e+00	6.87375e+00	0
48	108	156	1.83642e+00	2.35193e-01	3.95869e+00	8.85223e-01	6.19060e+00	7.01506e+00	0
48	109	157	1.88903e+00	2.37748e-01	4.56878e+00	9.26807e-01	6.31134e+00	7.14070e+00	0
48	110	158	1.71071e+00	2.18991e-01	4.50979e+00	8.87456e-01	6.35455e+00	7.18692e+00	0
48	111	159	1.73419e+00	2.16828e-01	5.20005e+00	9.29748e-01	6.47344e+00	7.32852e+00	0
48	112	160	1.69537e+00	2.10630e-01	5.14340e+00	8.91577e-01	6.50225e+00	7.34195e+00	0
48	113	161	1.73959e+00	2.12014e-01	5.93019e+00	9.35813e-01	6.59944e+00	7.44331e+00	0
48	114	162	1.68542e+00	2.07046e-01	5.89167e+00	9.05342e-01	6.75206e+00	7.63218e+00	0
48	115	163	1.71350e+00	2.16346e-01	6.66459e+00	9.44127e-01	6.79141e+00	7.67320e+00	0
Indium (In)									
49	63	112	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
49	65	114	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.24434e-01	4.89344e-01	1
49	66	115	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
49	67	116	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.82944e-01	5.66497e-01	1
49	68	117	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.14501e-01	6.03420e-01	1
49	69	118	2.53107e+00	1.04787e+00	0.00000e+00	0.00000e+00	6.95145e-01	1.12552e+00	1
49	70	119	1.62265e+00	5.35429e-01	0.00000e+00	0.00000e+00	5.55141e-01	9.53498e-01	1
49	71	120	2.51641e+00	1.13565e+00	0.00000e+00	0.00000e+00	1.01392e+00	1.51095e+00	1
49	72	121	1.58858e+00	6.69744e-01	0.00000e+00	0.00000e+00	9.23025e-01	1.40941e+00	1

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Table 1 (continued)

49	73	122	2.29238e+00	1.37835e+00	0.00000e+00	0.00000e+00	1.35478e+00	1.89440e+00	1
49	74	123	1.57812e+00	7.77391e-01	0.00000e+00	0.00000e+00	1.32016e+00	1.85499e+00	1
49	75	124	2.85873e+00	1.17063e+00	0.00000e+00	0.00000e+00	1.73818e+00	2.32014e+00	1
49	76	125	1.85991e+00	7.82680e-01	0.00000e+00	0.00000e+00	1.74019e+00	2.33914e+00	1
49	77	126	3.00655e+00	1.27355e+00	0.00000e+00	0.00000e+00	1.90766e+00	2.52091e+00	1
49	78	127	2.93319e+00	6.97739e-01	6.38711e-05	5.99721e-01	1.98850e+00	2.60279e+00	1
49	79	128	3.03763e+00	1.33136e+00	7.15154e-04	2.28980e-01	2.25566e+00	2.87515e+00	1
49	80	129	3.25721e+00	7.04788e-01	2.54045e-03	7.49989e-01	2.40966e+00	3.05852e+00	1
49	81	130	2.20389e+00	1.99505e+00	1.09274e-02	4.34776e-01	2.56505e+00	3.22820e+00	1
49	82	131	3.24926e+00	8.22026e-01	2.22076e-02	7.96040e-01	2.89742e+00	3.55208e+00	1
49	83	132	4.10228e+00	1.32954e+00	1.39051e-01	8.13011e-01	3.43267e+00	4.12326e+00	1
49	84	133	3.31380e-01	1.27204e+00	9.24313e-01	2.65610e+00	3.15620e+00	3.82855e+00	0
49	85	134	1.31427e+00	7.11096e-01	1.07521e+00	1.64183e+00	3.46022e+00	4.17140e+00	0
49	86	135	2.06460e+00	9.02730e-01	1.07137e+00	1.55667e+00	3.41643e+00	4.11463e+00	0
49	87	136	1.45552e+00	5.36783e-01	1.61359e+00	1.29778e+00	3.55359e+00	4.27686e+00	0
49	88	137	1.84160e+00	8.15406e-01	1.33842e+00	1.31653e+00	3.61882e+00	4.34618e+00	0
49	89	138	1.63397e+00	5.57957e-01	1.80667e+00	1.34020e+00	3.77699e+00	4.48993e+00	0
49	90	139	1.58001e+00	6.68420e-01	1.63260e+00	1.19290e+00	3.85799e+00	4.59963e+00	0
49	91	140	1.43744e+00	4.48437e-01	1.70742e+00	1.17925e+00	4.70665e+00	5.45674e+00	0
49	92	141	1.62163e+00	6.27547e-01	1.69356e+00	1.10666e+00	4.29648e+00	5.06353e+00	0
49	93	142	1.67538e+00	4.94799e-01	1.92649e+00	1.14296e+00	4.77428e+00	5.52673e+00	0
49	94	143	1.64269e+00	5.56757e-01	1.83169e+00	1.01195e+00	4.55258e+00	5.33381e+00	0
49	95	144	1.86017e+00	5.16795e-01	2.08901e+00	1.07852e+00	4.99386e+00	5.79815e+00	0
49	96	145	1.66734e+00	4.32802e-01	2.21924e+00	9.86363e-01	4.70198e+00	5.49066e+00	0
49	97	146	2.00871e+00	5.26895e-01	2.36859e+00	1.01524e+00	4.77864e+00	5.54290e+00	0
49	98	147	1.65673e+00	4.59147e-01	2.25303e+00	8.95376e-01	4.97210e+00	5.73521e+00	0
49	99	148	2.02137e+00	4.98425e-01	2.39869e+00	9.46235e-01	5.10432e+00	5.88503e+00	0
49	100	149	1.86333e+00	3.79485e-01	2.46822e+00	8.99785e-01	5.16044e+00	5.97381e+00	0
49	101	150	2.00658e+00	4.00664e-01	2.76502e+00	9.15638e-01	5.27864e+00	6.06698e+00	0
49	102	151	1.96408e+00	3.92435e-01	2.82557e+00	9.00933e-01	5.30305e+00	6.12380e+00	0
49	103	152	1.88418e+00	3.53938e-01	3.26348e+00	9.08230e-01	5.41700e+00	6.23116e+00	0
49	104	153	1.94906e+00	3.97843e-01	3.18224e+00	9.13889e-01	5.55207e+00	6.38586e+00	0
49	105	154	1.85947e+00	3.50557e-01	3.60427e+00	9.17530e-01	5.78431e+00	6.59836e+00	0
49	106	155	1.86110e+00	3.59819e-01	3.70132e+00	9.18943e-01	5.75872e+00	6.60329e+00	0
49	107	156	1.86231e+00	3.61845e-01	4.24421e+00	9.47905e-01	5.81752e+00	6.66516e+00	0
49	108	157	1.70562e+00	3.17806e-01	4.30212e+00	9.17040e-01	5.94153e+00	6.79563e+00	0
49	109	158	1.72996e+00	3.29015e-01	4.76746e+00	9.42057e-01	6.04872e+00	6.90829e+00	0
49	110	159	1.65335e+00	3.22744e-01	4.85728e+00	9.22595e-01	6.14133e+00	6.99442e+00	0
49	111	160	1.60673e+00	3.17579e-01	5.36777e+00	9.37495e-01	6.26867e+00	7.10728e+00	0
49	112	161	1.63882e+00	3.13251e-01	5.39880e+00	9.25193e-01	6.39998e+00	7.27756e+00	0
49	113	162	1.59173e+00	3.06752e-01	5.99774e+00	9.40613e-01	6.42563e+00	7.29021e+00	0
49	114	163	1.64772e+00	2.99033e-01	5.94762e+00	9.25531e-01	6.53618e+00	7.42074e+00	0
49	115	164	1.60860e+00	2.96539e-01	6.43921e+00	9.42349e-01	6.63460e+00	7.52434e+00	0
49	116	165	1.63519e+00	2.82432e-01	6.29178e+00	9.34166e-01	6.77947e+00	7.67622e+00	0
49	117	166	1.69027e+00	2.94398e-01	6.79733e+00	9.64964e-01	6.87853e+00	7.78071e+00	0
Tin (Sn)									
50	71	121	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.08012e-01	3.07427e-01	1
50	73	123	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.77970e-01	5.49515e-01	1
50	75	125	1.32054e+00	5.47361e-01	0.00000e+00	0.00000e+00	6.34340e-01	1.05339e+00	1
50	76	126	1.10211e+00	1.30404e-01	0.00000e+00	0.00000e+00	6.34863e-02	1.77358e-01	1
50	77	127	1.95862e+00	7.38359e-01	0.00000e+00	0.00000e+00	7.03161e-01	1.12219e+00	1
50	78	128	1.73870e+00	3.04857e-01	0.00000e+00	0.00000e+00	2.33074e-01	5.08877e-01	1
50	79	129	1.89458e+00	9.56202e-01	0.00000e+00	0.00000e+00	8.98745e-01	1.37014e+00	1
50	80	130	2.73021e+00	3.47655e-01	0.00000e+00	0.00000e+00	4.46213e-01	7.99936e-01	1
50	81	131	2.23364e+00	9.54374e-01	0.00000e+00	0.00000e+00	1.06871e+00	1.55326e+00	1
50	82	132	2.95350e+00	4.06221e-01	0.00000e+00	0.00000e+00	7.37817e-01	1.20346e+00	1
50	83	133	1.48318e+00	3.04176e+00	1.00171e-03	1.99320e-01	1.50138e+00	2.04386e+00	1
50	84	134	1.51129e+00	6.00634e-01	5.30070e-01	7.87569e-01	1.99979e+00	2.60299e+00	1
50	85	135	2.33790e+00	5.98497e-01	5.10102e-01	9.37978e-01	2.32290e+00	2.95027e+00	1
50	86	136	2.14081e+00	3.96244e-01	6.51630e-01	8.20036e-01	2.23080e+00	2.86225e+00	0
50	87	137	2.28348e+00	4.86530e-01	7.61727e-01	9.23589e-01	2.51803e+00	3.17814e+00	0
50	88	138	2.03424e+00	3.81054e-01	7.84663e-01	7.05919e-01	2.64342e+00	3.28415e+00	0
50	89	139	1.93899e+00	4.01619e-01	9.65776e-01	8.49739e-01	2.88110e+00	3.56283e+00	0
50	90	140	1.16744e+00	4.53296e-01	9.02796e-01	7.40706e-01	3.19004e+00	3.88919e+00	0
50	91	141	2.83266e+00	6.83237e-01	2.27129e-01	8.53114e-01	4.47075e+00	5.23975e+00	0
50	92	142	1.20836e+00	3.60442e-01	9.75596e-01	6.92404e-01	3.75466e+00	4.50033e+00	0
50	93	143	2.16747e+00	3.16378e-01	1.09766e+00	7.78366e-01	3.87045e+00	4.62075e+00	0
50	94	144	1.83880e+00	3.57553e-01	1.02901e+00	8.35952e-01	3.99288e+00	4.75326e+00	0
50	95	145	2.22723e+00	3.61069e-01	1.18671e+00	7.63506e-01	4.40398e+00	5.18748e+00	0
50	96	146	2.41020e+00	4.27464e-01	1.07737e+00	8.40426e-01	4.25824e+00	5.01884e+00	0
50	97	147	2.32878e+00	3.15996e-01	1.41876e+00	7.80910e-01	4.30450e+00	5.05790e+00	0
50	98	148	2.55114e+00	4.23676e-01	1.08238e+00	7.94988e-01	4.59153e+00	5.38563e+00	0
50	99	149	2.49000e+00	3.25077e-01	1.43464e+00	7.85185e-01	4.84137e+00	5.62411e+00	0
50	100	150	2.61157e+00	4.01747e-01	1.31698e+00	7.94268e-01	4.81348e+00	5.59694e+00	0
50	101	151	2.43991e+00	3.40009e-01	1.68975e+00	7.96289e-01	5.04131e+00	5.86041e+00	0
50	102	152	2.50714e+00	3.63206e-01	1.55766e+00	7.80164e-01	5.02075e+00	5.81417e+00	0
50	103	153	2.43609e+00	3.45519e-01	2.02856e+00	8.30137e-01	5.12374e+00	5.94745e+00	0

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Table 1 (continued)

50	104	154	2.29892e+00	3.06413e-01	1.88530e+00	7.75716e-01	5.25588e+00	6.08098e+00	0
50	105	155	2.40525e+00	3.17725e-01	2.29145e+00	8.35109e-01	5.48754e+00	6.29042e+00	0
50	106	156	2.16285e+00	2.58090e-01	2.36211e+00	7.97608e-01	5.44063e+00	6.28179e+00	0
50	107	157	2.19012e+00	2.71898e-01	2.90373e+00	8.51509e-01	5.48960e+00	6.30395e+00	0
50	108	158	2.14721e+00	2.58198e-01	2.80433e+00	8.23446e-01	5.59154e+00	6.41320e+00	0
50	109	159	2.07729e+00	2.42215e-01	3.31613e+00	8.54551e-01	5.71315e+00	6.56908e+00	0
50	110	160	1.99908e+00	2.58777e-01	3.16885e+00	8.33188e-01	5.82159e+00	6.64323e+00	0
50	111	161	1.99963e+00	2.40196e-01	3.77460e+00	8.65273e-01	5.95744e+00	6.82651e+00	0
50	112	162	1.98382e+00	2.56722e-01	3.48689e+00	8.39259e-01	6.09891e+00	6.93536e+00	0
50	113	163	1.90690e+00	2.48738e-01	4.23990e+00	8.80204e-01	6.02402e+00	6.89669e+00	0
50	114	164	1.77285e+00	2.37360e-01	3.79252e+00	8.26412e-01	6.26069e+00	7.13665e+00	0
50	115	165	1.74908e+00	2.24066e-01	4.29397e+00	8.49512e-01	6.44847e+00	7.31512e+00	0
50	116	166	1.64659e+00	1.96759e-01	4.09138e+00	8.17841e-01	6.44275e+00	7.33789e+00	0
50	117	167	1.65061e+00	2.00193e-01	4.69126e+00	8.59773e-01	6.51754e+00	7.41667e+00	0
50	118	168	1.68479e+00	2.36723e-01	4.38740e+00	8.54747e-01	6.58071e+00	7.48305e+00	0
50	119	169	1.74891e+00	2.45356e-01	4.90186e+00	9.03664e-01	6.80435e+00	7.71866e+00	0
Antimony (Sb)									
51	69	120	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.14352e-01	3.01040e-01	1
51	71	122	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.83201e-01	8.79025e-01	1
51	73	124	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.57758e-01	1.34747e+00	1
51	74	125	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.40378e-01	3.34042e-01	1
51	75	126	2.10304e+00	8.23432e-01	0.00000e+00	0.00000e+00	7.66559e-01	1.20171e+00	1
51	76	127	1.49438e+00	3.24093e-01	0.00000e+00	0.00000e+00	3.93858e-01	7.42366e-01	1
51	77	128	2.77722e+00	8.51433e-01	0.00000e+00	0.00000e+00	7.91856e-01	1.24955e+00	1
51	78	129	1.37368e+00	3.76747e-01	0.00000e+00	0.00000e+00	7.21945e-01	1.17066e+00	1
51	79	130	3.18811e+00	7.92868e-01	0.00000e+00	0.00000e+00	1.04500e+00	1.55114e+00	1
51	80	131	1.48790e+00	5.60998e-01	0.00000e+00	0.00000e+00	9.73752e-01	1.45973e+00	1
51	81	132	3.23385e+00	8.18942e-01	0.00000e+00	0.00000e+00	1.19769e+00	1.72355e+00	1
51	82	133	2.34279e+00	3.77086e-01	0.00000e+00	0.00000e+00	1.30567e+00	1.84451e+00	1
51	83	134	2.15540e+00	1.62750e+00	3.52191e-03	2.57345e-01	2.20201e+00	2.81147e+00	1
51	84	135	1.27239e+00	1.16309e+00	3.35966e-01	8.98196e-01	2.28538e+00	2.91636e+00	1
51	85	136	1.82338e+00	1.22448e+00	3.04939e-01	8.34394e-01	2.67252e+00	3.32302e+00	1
51	86	137	1.76531e+00	6.84756e-01	6.40409e-01	1.05192e+00	2.42950e+00	3.05162e+00	1
51	87	138	2.06961e+00	6.56206e-01	8.11304e-01	1.02070e+00	2.72847e+00	3.38262e+00	0
51	88	139	1.60378e+00	5.50755e-01	9.45381e-01	1.24851e+00	2.66973e+00	3.32759e+00	0
51	89	140	2.17954e+00	4.45307e-01	1.00538e+00	9.42317e-01	2.91346e+00	3.61355e+00	0
51	90	141	1.70450e+00	5.44088e-01	9.92538e-01	1.17236e+00	3.13002e+00	3.82187e+00	0
51	91	142	1.71733e+00	4.90936e-01	1.07302e+00	1.00026e+00	3.37820e+00	4.11015e+00	0
51	92	143	2.22856e+00	6.31084e-01	1.01776e+00	1.16562e+00	3.44686e+00	4.17698e+00	0
51	93	144	1.66612e+00	4.52443e-01	1.29744e+00	9.29074e-01	3.76209e+00	4.51344e+00	0
51	94	145	2.44584e+00	6.93365e-01	1.07727e+00	1.06926e+00	3.81750e+00	4.57339e+00	0
51	95	146	1.80566e+00	4.37678e-01	1.40485e+00	8.93313e-01	4.17863e+00	4.95570e+00	0
51	96	147	2.49859e+00	6.51881e-01	1.17678e+00	9.74365e-01	4.21451e+00	4.97351e+00	0
51	97	148	2.01610e+00	4.42082e-01	1.62055e+00	8.79392e-01	4.25904e+00	5.03909e+00	0
51	98	149	2.49933e+00	6.30512e-01	1.37154e+00	8.90538e-01	4.37911e+00	5.16700e+00	0
51	99	150	2.16564e+00	4.75467e-01	1.78858e+00	8.77614e-01	4.65526e+00	5.46452e+00	0
51	100	151	2.18620e+00	5.39758e-01	1.66576e+00	8.35343e-01	4.61821e+00	5.42559e+00	0
51	101	152	2.16357e+00	4.76566e-01	2.00344e+00	8.73396e-01	4.86988e+00	5.69169e+00	0
51	102	153	1.99758e+00	4.37362e-01	2.00421e+00	8.20232e-01	4.83838e+00	5.65843e+00	0
51	103	154	2.27988e+00	4.77630e-01	2.28875e+00	8.77962e-01	4.98182e+00	5.81006e+00	0
51	104	155	1.92924e+00	3.83770e-01	2.33389e+00	8.27370e-01	5.09755e+00	5.90394e+00	0
51	105	156	2.13042e+00	4.52523e-01	2.57583e+00	8.64980e-01	5.27607e+00	6.12116e+00	0
51	106	157	1.90759e+00	3.83579e-01	2.74792e+00	8.51734e-01	5.27711e+00	6.09292e+00	0
51	107	158	1.89748e+00	3.60371e-01	3.22711e+00	8.66472e-01	5.29963e+00	6.14603e+00	0
51	108	159	1.99784e+00	4.05484e-01	3.11057e+00	8.69427e-01	5.45885e+00	6.31445e+00	0
51	109	160	1.79294e+00	3.43782e-01	3.60557e+00	8.67802e-01	5.57586e+00	6.43802e+00	0
51	110	161	1.96427e+00	3.90080e-01	3.48801e+00	8.72160e-01	5.64954e+00	6.48596e+00	0
51	111	162	1.86531e+00	3.61959e-01	4.00091e+00	8.84574e-01	5.68975e+00	6.55823e+00	0
51	112	163	1.73465e+00	3.54248e-01	3.91568e+00	8.56746e-01	5.92431e+00	6.80603e+00	0
51	113	164	1.81695e+00	3.61188e-01	4.46596e+00	8.90112e-01	5.86588e+00	6.74430e+00	0
51	114	165	1.59692e+00	3.12125e-01	4.31812e+00	8.40511e-01	6.00741e+00	6.89394e+00	0
51	115	166	1.64644e+00	3.33778e-01	4.70522e+00	8.65682e-01	6.14455e+00	7.03866e+00	0
51	116	167	1.48230e+00	2.99369e-01	4.58554e+00	8.36182e-01	6.24793e+00	7.14779e+00	0
51	117	168	1.53066e+00	3.06383e-01	4.93719e+00	8.61183e-01	6.33022e+00	7.23435e+00	0
51	118	169	1.52411e+00	3.18861e-01	4.77361e+00	8.55791e-01	6.39026e+00	7.26786e+00	0
51	119	170	1.57031e+00	3.43944e-01	5.14365e+00	8.94595e-01	6.32972e+00	7.23370e+00	0
51	120	171	1.58733e+00	3.17788e-01	5.12490e+00	9.01162e-01	6.59219e+00	7.51092e+00	0
51	121	172	1.51990e+00	3.15873e-01	5.49109e+00	9.21344e-01	6.67954e+00	7.60325e+00	0
Tellurium (Te)									
52	75	127	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.24406e-01	3.05945e-01	1
52	77	129	1.54844e+00	3.36899e-01	0.00000e+00	0.00000e+00	3.53591e-01	6.89602e-01	1
52	79	131	1.45427e+00	4.80788e-01	0.00000e+00	0.00000e+00	5.80143e-01	9.86915e-01	1
52	80	132	1.89967e+00	1.14551e-01	0.00000e+00	0.00000e+00	8.33910e-02	2.50411e-01	1
52	81	133	1.67920e+00	6.42929e-01	0.00000e+00	0.00000e+00	7.18705e-01	1.15971e+00	1
52	82	134	2.56600e+00	2.70753e-01	0.00000e+00	0.00000e+00	2.79836e-01	5.78549e-01	1
52	83	135	1.75655e+00	1.20953e+00	0.00000e+00	0.00000e+00	1.69058e+00	2.26917e+00	1
52	84	136	2.71544e+00	5.56026e-01	2.45938e-02	3.42799e-01	1.48470e+00	2.04988e+00	1

(continued on next page)

Table 1 (continued)

52	85	137	2.72991e+00	6.94724e-01	7.20098e-02	3.81284e-01	2.09042e+00	2.71851e+00	1
52	86	138	3.15793e+00	5.68785e-01	1.00370e-01	4.16621e-01	1.76155e+00	2.36982e+00	1
52	87	139	2.86790e+00	5.56191e-01	1.22245e-02	4.67188e-01	2.96432e+00	3.64804e+00	1
52	88	140	3.27743e+00	5.08373e-01	4.39522e-02	5.75921e-01	2.39127e+00	3.05745e+00	1
52	89	141	3.09163e+00	6.93211e-01	3.80404e-02	3.96197e-01	3.11824e+00	3.81260e+00	0
52	90	142	3.08658e+00	5.31039e-01	9.51460e-02	5.21728e-01	2.62579e+00	3.29874e+00	0
52	91	143	3.04354e+00	6.85357e-01	1.33682e-01	4.43515e-01	3.43855e+00	4.17181e+00	0
52	92	144	2.78125e+00	5.00888e-01	2.51383e-01	5.16522e-01	3.06390e+00	3.75452e+00	0
52	93	145	3.04912e+00	6.29479e-01	2.31271e-01	5.22496e-01	3.80786e+00	4.57645e+00	0
52	94	146	2.43238e+00	4.39321e-01	4.33335e-01	5.96157e-01	3.41715e+00	4.14381e+00	0
52	95	147	3.16304e+00	6.54750e-01	3.71985e-01	5.44062e-01	3.77329e+00	4.52478e+00	0
52	96	148	2.41020e+00	4.26205e-01	6.05763e-01	6.22723e-01	3.64675e+00	4.40554e+00	0
52	97	149	2.78478e+00	4.65145e-01	7.95161e-01	6.37988e-01	3.78675e+00	4.55012e+00	0
52	98	150	2.31634e+00	3.86036e-01	8.07097e-01	6.75269e-01	3.91935e+00	4.69541e+00	0
52	99	151	2.67445e+00	3.76025e-01	9.33267e-01	6.85660e-01	4.20817e+00	5.00176e+00	0
52	100	152	2.44229e+00	3.99738e-01	9.18589e-01	7.27646e-01	4.23430e+00	5.02996e+00	0
52	101	153	2.57452e+00	3.72695e-01	1.14639e+00	7.12313e-01	4.47732e+00	5.26438e+00	0
52	102	154	2.62710e+00	4.19160e-01	1.04973e+00	7.61445e-01	4.40242e+00	5.20690e+00	0
52	103	155	2.43266e+00	3.30826e-01	1.47117e+00	7.39015e-01	4.55030e+00	5.36517e+00	0
52	104	156	2.61090e+00	4.24399e-01	1.22808e+00	7.59544e-01	4.67444e+00	5.47430e+00	0
52	105	157	2.41703e+00	3.25082e-01	1.65383e+00	7.59571e-01	4.95828e+00	5.79784e+00	0
52	106	158	2.44815e+00	3.51380e-01	1.58299e+00	7.44781e-01	4.87428e+00	5.70407e+00	0
52	107	159	2.53342e+00	3.50348e-01	2.07087e+00	8.13397e-01	4.97107e+00	5.78330e+00	0
52	108	160	2.36633e+00	2.95532e-01	1.93428e+00	7.51763e-01	5.06326e+00	5.90909e+00	0
52	109	161	2.43486e+00	3.37470e-01	2.33513e+00	8.11348e-01	5.20532e+00	6.05957e+00	0
52	110	162	2.14128e+00	2.59875e-01	2.26994e+00	7.45879e-01	5.29744e+00	6.13006e+00	0
52	111	163	2.24981e+00	3.10084e-01	2.64205e+00	8.01317e-01	5.44242e+00	6.30117e+00	0
52	112	164	2.04766e+00	2.35794e-01	2.59769e+00	7.50625e-01	5.61370e+00	6.48378e+00	0
52	113	165	2.09963e+00	2.58713e-01	3.04157e+00	7.93222e-01	5.68604e+00	6.55872e+00	0
52	114	166	2.07703e+00	2.40682e-01	2.86700e+00	7.67976e-01	5.67520e+00	6.54839e+00	0
52	115	167	1.94387e+00	2.29502e-01	3.40515e+00	7.94578e-01	5.68582e+00	6.55857e+00	0
52	116	168	1.88892e+00	2.31957e-01	2.98056e+00	7.65930e-01	5.91857e+00	6.81485e+00	0
52	117	169	1.87166e+00	2.12705e-01	3.45498e+00	7.99457e-01	5.95200e+00	6.82052e+00	0
52	118	170	1.90306e+00	2.26043e-01	3.12447e+00	8.07422e-01	5.98819e+00	6.88847e+00	0
52	119	171	1.80104e+00	2.15181e-01	3.59926e+00	8.33980e-01	6.12469e+00	7.03285e+00	0
52	120	172	1.84926e+00	2.50593e-01	3.40848e+00	8.52618e-01	6.17250e+00	7.08340e+00	0
52	121	173	1.69739e+00	2.22012e-01	3.84407e+00	8.62915e-01	6.33121e+00	7.22141e+00	0
52	122	174	1.75469e+00	2.53075e-01	3.50438e+00	8.67308e-01	6.38248e+00	7.27643e+00	0
52	123	175	1.55051e+00	2.30071e-01	4.03922e+00	8.77505e-01	6.47278e+00	7.40101e+00	0
52	124	176	1.49751e+00	2.36103e-01	3.72084e+00	8.80947e-01	6.58892e+00	7.52369e+00	0
Iodine (I)									
53	71	124	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
53	73	126	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.29790e-01	4.85732e-01	1
53	75	128	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.70776e-01	9.89213e-01	1
53	76	129	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.19190e-02	1.23503e-01	1
53	77	130	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.28743e-01	1.01166e+00	1
53	78	131	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.87610e-01	4.26739e-01	1
53	79	132	2.41350e+00	7.67963e-01	0.00000e+00	0.00000e+00	6.62575e-01	1.08124e+00	1
53	80	133	1.18060e+00	4.63307e-01	0.00000e+00	0.00000e+00	4.51942e-01	8.40485e-01	1
53	81	134	2.28838e+00	9.46748e-01	0.00000e+00	0.00000e+00	7.47668e-01	1.20296e+00	1
53	82	135	1.06993e+00	6.40175e-01	0.00000e+00	0.00000e+00	7.71302e-01	1.22845e+00	1
53	83	136	2.24603e+00	1.29120e+00	0.00000e+00	0.00000e+00	1.70878e+00	2.29396e+00	1
53	84	137	1.64725e+00	1.26641e+00	2.98583e-02	6.09939e-01	1.62484e+00	2.21109e+00	1
53	85	138	2.42784e+00	1.19356e+00	4.64235e-02	4.70182e-01	2.11763e+00	2.75416e+00	1
53	86	139	2.19348e+00	1.12140e+00	1.26502e-01	4.29941e-01	1.80599e+00	2.40457e+00	1
53	87	140	3.15355e+00	1.05351e+00	1.23980e-01	4.55362e-01	2.35890e+00	3.00846e+00	1
53	88	141	1.57037e+00	9.02921e-01	4.78695e-01	5.25149e-01	2.20057e+00	2.83141e+00	1
53	89	142	2.89362e+00	1.01392e+00	1.83802e-01	4.82249e-01	2.89208e+00	3.60533e+00	1
53	90	143	1.50005e+00	6.12966e-01	7.02688e-01	6.90511e-01	2.57193e+00	3.26497e+00	0
53	91	144	2.75530e+00	8.63207e-01	3.66873e-01	5.96359e-01	3.26635e+00	3.98687e+00	0
53	92	145	1.53026e+00	5.39292e-01	8.25257e-01	8.06686e-01	2.87506e+00	3.56629e+00	0
53	93	146	2.45590e+00	7.45549e-01	5.79898e-01	7.26595e-01	3.53029e+00	4.29044e+00	0
53	94	147	1.76352e+00	5.26276e-01	9.14074e-01	8.73831e-01	3.17238e+00	3.90866e+00	0
53	95	148	2.13934e+00	6.10595e-01	8.30639e-01	7.72606e-01	3.57264e+00	4.33618e+00	0
53	96	149	2.21894e+00	5.87155e-01	9.73959e-01	9.30784e-01	3.44362e+00	4.19843e+00	0
53	97	150	2.12562e+00	4.82387e-01	1.16664e+00	8.40352e-01	3.56225e+00	4.29947e+00	0
53	98	151	2.54380e+00	6.42492e-01	1.03099e+00	9.26604e-01	3.69347e+00	4.44136e+00	0
53	99	152	2.16128e+00	4.92843e-01	1.28072e+00	8.22837e-01	3.94703e+00	4.71121e+00	0
53	100	153	2.68327e+00	6.74064e-01	1.13778e+00	8.92017e-01	3.99951e+00	4.79116e+00	0
53	101	154	1.99829e+00	4.52238e-01	1.51863e+00	8.13508e-01	4.23600e+00	5.04267e+00	0
53	102	155	2.37749e+00	6.00229e-01	1.37093e+00	8.21838e-01	4.20753e+00	5.00832e+00	0
53	103	156	2.21947e+00	4.72248e-01	1.72046e+00	8.40610e-01	4.40109e+00	5.21824e+00	0
53	104	157	2.38445e+00	5.33098e-01	1.58685e+00	8.12945e-01	4.52017e+00	5.33013e+00	0
53	105	158	2.25937e+00	4.82563e-01	1.92227e+00	8.42704e-01	4.74658e+00	5.57566e+00	0
53	106	159	2.03537e+00	4.31119e-01	1.98755e+00	7.92723e-01	4.68518e+00	5.52071e+00	0
53	107	160	2.32358e+00	5.20759e-01	2.29490e+00	8.48909e-01	4.82015e+00	5.66410e+00	0
53	108	161	1.85727e+00	3.62700e-01	2.42772e+00	7.95152e-01	4.87358e+00	5.72080e+00	0

(continued on next page)

Table 1 (continued)

53	109	162	2.07012e+00	4.41859e-01	2.65705e+00	8.22304e-01	4.99446e+00	5.80391e+00	0
53	110	163	1.89195e+00	3.72826e-01	2.75857e+00	8.13276e-01	5.06485e+00	5.91402e+00	0
53	111	164	1.88255e+00	3.61135e-01	3.06844e+00	8.11220e-01	5.17789e+00	6.03300e+00	0
53	112	165	2.03774e+00	3.99524e-01	2.99727e+00	8.23779e-01	5.27485e+00	6.14684e+00	0
53	113	166	1.74799e+00	3.23077e-01	3.48108e+00	8.09344e-01	5.34307e+00	6.20810e+00	0
53	114	167	2.05632e+00	4.08674e-01	3.22914e+00	8.28421e-01	5.57042e+00	6.45054e+00	0
53	115	168	1.76643e+00	3.30106e-01	3.64532e+00	8.19306e-01	5.65604e+00	6.54043e+00	0
53	116	169	1.85254e+00	3.72038e-01	3.49861e+00	8.31581e-01	5.61030e+00	6.50295e+00	0
53	117	170	1.72992e+00	3.19893e-01	3.92070e+00	8.40600e-01	5.70242e+00	6.60070e+00	0
53	118	171	1.70016e+00	3.59406e-01	3.69663e+00	8.40864e-01	5.73358e+00	6.62346e+00	0
53	119	172	1.64804e+00	3.34118e-01	4.03860e+00	8.52629e-01	5.94686e+00	6.82910e+00	0
53	120	173	1.58420e+00	3.63636e-01	3.82255e+00	8.59106e-01	6.02508e+00	6.94274e+00	0
53	121	174	1.59449e+00	3.45815e-01	4.22328e+00	8.92243e-01	6.03631e+00	6.94304e+00	0
53	122	175	1.62006e+00	3.89639e-01	3.91775e+00	8.89313e-01	6.17143e+00	7.06791e+00	0
53	123	176	1.64794e+00	3.70242e-01	4.32177e+00	9.14981e-01	6.23664e+00	7.16700e+00	0
53	124	177	1.33662e+00	3.16297e-01	4.26739e+00	8.93457e-01	6.31038e+00	7.24518e+00	0
53	125	178	1.36231e+00	3.24867e-01	4.47319e+00	9.19147e-01	6.50275e+00	7.41772e+00	0
53	126	179	1.33738e+00	3.48643e-01	4.27969e+00	9.22075e-01	6.68699e+00	7.64414e+00	0
Xenon (Xe)									
54	79	133	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.92446e-02	2.51945e-01	1
54	81	135	2.21323e+00	1.74500e-01	0.00000e+00	0.00000e+00	2.57648e-01	5.46598e-01	1
54	83	137	1.51231e+00	9.59604e-01	0.00000e+00	0.00000e+00	1.10960e+00	1.63358e+00	1
54	84	138	1.79799e+00	3.61613e-01	0.00000e+00	0.00000e+00	9.03757e-01	1.39753e+00	1
54	85	139	2.40772e+00	5.75230e-01	0.00000e+00	0.00000e+00	1.55591e+00	2.15539e+00	1
54	86	140	2.51912e+00	3.82474e-01	0.00000e+00	0.00000e+00	1.28700e+00	1.85829e+00	1
54	87	141	2.57976e+00	6.20573e-01	1.94625e-04	1.80152e-01	2.03289e+00	2.67757e+00	1
54	88	142	2.41220e+00	4.35004e-01	8.17523e-04	2.96449e-01	1.82424e+00	2.45072e+00	1
54	89	143	2.28342e+00	1.21284e+00	5.85276e-03	3.81578e-01	2.03817e+00	2.69369e+00	1
54	90	144	3.14947e+00	4.30701e-01	8.71659e-03	6.19541e-01	2.19431e+00	2.84573e+00	1
54	91	145	3.10213e+00	6.37311e-01	1.63616e-02	3.72726e-01	2.90461e+00	3.61999e+00	1
54	92	146	3.17399e+00	4.58892e-01	5.09147e-02	5.32666e-01	2.52550e+00	3.20458e+00	1
54	93	147	3.13944e+00	6.52055e-01	6.02223e-02	3.88882e-01	3.05018e+00	3.76679e+00	0
54	94	148	3.18893e+00	4.93280e-01	9.51581e-02	4.69971e-01	2.71870e+00	3.42099e+00	0
54	95	149	3.41317e+00	7.00119e-01	1.26242e-01	4.16703e-01	3.18395e+00	3.93008e+00	0
54	96	150	3.01194e+00	4.99608e-01	2.16476e-01	5.05394e-01	3.03947e+00	3.76493e+00	0
54	97	151	3.07118e+00	6.56768e-01	4.09780e-01	4.84911e-01	3.16811e+00	3.91297e+00	0
54	98	152	2.75591e+00	4.81292e-01	3.51210e-01	5.14315e-01	3.34585e+00	4.10326e+00	0
54	99	153	2.83409e+00	5.08042e-01	5.79107e-01	5.55994e-01	3.58037e+00	4.34891e+00	0
54	100	154	2.38153e+00	4.06236e-01	6.07818e-01	5.97550e-01	3.59485e+00	4.35831e+00	0
54	101	155	2.83812e+00	4.57631e-01	7.51624e-01	6.18203e-01	3.70212e+00	4.46172e+00	0
54	102	156	2.50443e+00	4.02073e-01	7.10625e-01	6.60999e-01	3.89408e+00	4.67514e+00	0
54	103	157	2.89019e+00	4.36235e-01	8.25605e-01	6.74260e-01	4.15457e+00	4.96473e+00	0
54	104	158	2.55416e+00	4.21344e-01	9.00453e-01	7.17880e-01	4.08302e+00	4.89132e+00	0
54	105	159	2.59832e+00	3.76606e-01	1.07277e+00	6.50800e-01	4.46854e+00	5.28774e+00	0
54	106	160	2.75392e+00	4.58432e-01	1.04783e+00	7.50489e-01	4.30048e+00	5.11086e+00	0
54	107	161	2.41789e+00	3.15706e-01	1.56862e+00	7.10022e-01	4.43330e+00	5.25032e+00	0
54	108	162	2.68551e+00	4.45521e-01	1.24631e+00	7.30084e-01	4.55291e+00	5.39239e+00	0
54	109	163	2.36552e+00	3.14133e-01	1.76290e+00	7.33033e-01	4.71346e+00	5.56338e+00	0
54	110	164	2.52208e+00	3.77636e-01	1.52469e+00	7.03557e-01	4.72791e+00	5.57876e+00	0
54	111	165	2.50473e+00	3.56210e-01	1.94988e+00	7.58992e-01	4.88188e+00	5.71508e+00	0
54	112	166	2.38028e+00	3.23727e-01	1.75877e+00	6.92252e-01	5.00817e+00	5.87711e+00	0
54	113	167	2.52425e+00	3.63067e-01	2.17128e+00	7.67510e-01	5.07400e+00	5.94716e+00	0
54	114	168	2.22683e+00	2.76370e-01	2.01962e+00	6.93678e-01	5.20383e+00	6.08543e+00	0
54	115	169	2.31633e+00	3.32880e-01	2.30531e+00	7.60174e-01	5.47864e+00	6.36860e+00	0
54	116	170	2.00726e+00	2.41819e-01	2.40070e+00	7.20835e-01	5.29861e+00	6.14600e+00	0
54	117	171	2.22401e+00	3.25982e-01	2.58930e+00	7.83452e-01	5.45649e+00	6.35419e+00	0
54	118	172	1.86588e+00	2.31871e-01	2.39595e+00	7.10341e-01	5.49258e+00	6.39262e+00	0
54	119	173	2.13417e+00	3.27159e-01	2.60430e+00	7.98148e-01	5.63435e+00	6.53350e+00	0
54	120	174	1.75665e+00	2.42900e-01	2.52259e+00	7.51167e-01	5.74830e+00	6.65583e+00	0
54	121	175	1.95940e+00	2.99461e-01	2.94189e+00	8.21241e-01	5.72517e+00	6.63979e+00	0
54	122	176	1.65091e+00	2.18834e-01	2.71370e+00	7.74833e-01	5.89303e+00	6.81823e+00	0
54	123	177	1.70009e+00	2.63157e-01	2.93393e+00	8.23481e-01	5.97586e+00	6.89617e+00	0
54	124	178	1.58677e+00	2.30997e-01	2.75829e+00	8.03353e-01	6.01019e+00	6.94267e+00	0
54	125	179	1.78825e+00	3.25267e-01	2.87966e+00	8.62914e-01	6.25667e+00	7.20449e+00	0
54	126	180	1.43652e+00	2.24702e-01	2.84779e+00	8.18925e-01	6.42560e+00	7.38392e+00	0
54	127	181	1.66219e+00	2.47430e-01	3.86759e+00	9.02089e-01	6.90051e+00	7.87649e+00	0
54	128	182	1.72025e+00	2.72104e-01	4.95245e+00	9.60670e-01	6.50084e+00	7.46364e+00	0
Cesium (Cs)									
55	75	130	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
55	77	132	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.53072e-01	5.53282e-01	1
55	79	134	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.13255e-01	9.40707e-01	1
55	80	135	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
55	81	136	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.66079e-01	9.48402e-01	1
55	82	137	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.28732e-01	4.88986e-01	1
55	83	138	2.50737e+00	1.12696e+00	0.00000e+00	0.00000e+00	1.03314e+00	1.54885e+00	1
55	84	139	1.63098e+00	1.04138e+00	0.00000e+00	0.00000e+00	1.02239e+00	1.53148e+00	1
55	85	140	2.42183e+00	1.23030e+00	0.00000e+00	0.00000e+00	1.35132e+00	1.92816e+00	1

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Table 1 (continued)

55	86	141	2.95718e+00	8.39476e-01	5.89113e-04	2.35328e-01	1.13634e+00	1.68733e+00	1
55	87	142	2.40616e+00	1.32259e+00	1.14753e-03	2.59464e-01	1.77885e+00	2.39791e+00	1
55	88	143	2.92010e+00	8.94129e-01	3.19703e-02	2.79540e-01	1.48627e+00	2.08835e+00	1
55	89	144	3.24566e+00	1.27620e+00	5.65280e-02	2.56802e-01	1.71436e+00	2.29855e+00	1
55	90	145	2.67243e+00	8.78753e-01	1.83584e-01	3.65860e-01	1.87939e+00	2.52537e+00	1
55	91	146	2.80073e+00	1.06982e+00	1.19595e-01	3.61038e-01	2.59924e+00	3.29598e+00	1
55	92	147	2.12616e+00	7.50012e-01	4.35702e-01	5.31676e-01	2.17925e+00	2.85220e+00	1
55	93	148	2.60286e+00	1.09477e+00	2.04034e-01	4.79829e-01	2.95539e+00	3.66932e+00	1
55	94	149	1.73138e+00	7.65011e-01	5.68378e-01	7.32076e-01	2.54192e+00	3.23393e+00	0
55	95	150	2.16346e+00	7.43893e-01	6.74120e-01	6.63549e-01	2.67949e+00	3.39445e+00	0
55	96	151	2.20606e+00	5.53293e-01	4.88037e-01	7.34162e-01	3.32697e+00	4.09215e+00	0
55	97	152	2.68575e+00	8.01831e-01	4.59304e-01	6.34911e-01	3.50863e+00	4.26483e+00	0
55	98	153	2.09603e+00	5.53194e-01	8.64246e-01	8.36222e-01	3.11904e+00	3.84499e+00	0
55	99	154	2.42759e+00	5.72321e-01	8.74915e-01	7.87786e-01	3.37213e+00	4.11424e+00	0
55	100	155	2.32295e+00	6.13159e-01	9.63638e-01	8.57162e-01	3.37828e+00	4.13121e+00	0
55	101	156	2.28474e+00	4.97597e-01	1.12583e+00	7.73894e-01	3.46412e+00	4.21377e+00	0
55	102	157	2.61266e+00	6.60490e-01	1.02272e+00	8.59540e-01	3.58443e+00	4.36871e+00	0
55	103	158	2.07495e+00	4.95008e-01	1.28609e+00	7.55023e-01	3.89793e+00	4.70418e+00	0
55	104	159	2.65777e+00	6.63732e-01	1.17590e+00	8.18228e-01	3.86267e+00	4.65185e+00	0
55	105	160	2.08542e+00	4.45160e-01	1.51802e+00	7.74531e-01	4.21568e+00	5.03981e+00	0
55	106	161	2.30970e+00	5.66541e-01	1.47576e+00	7.64389e-01	4.09014e+00	4.91026e+00	0
55	107	162	2.30960e+00	5.02359e-01	1.88583e+00	8.18115e-01	4.16027e+00	4.97891e+00	0
55	108	163	2.18653e+00	4.72817e-01	1.74180e+00	7.53166e-01	4.30457e+00	5.13978e+00	0
55	109	164	2.36666e+00	5.47008e-01	2.04756e+00	8.06206e-01	4.39356e+00	5.23470e+00	0
55	110	165	1.94915e+00	4.01836e-01	2.08407e+00	7.39825e-01	4.46257e+00	5.30342e+00	0
55	111	166	2.30689e+00	5.00653e-01	2.29708e+00	7.80461e-01	4.59818e+00	5.44283e+00	0
55	112	167	1.85055e+00	3.53174e-01	2.38725e+00	7.37127e-01	4.67205e+00	5.53216e+00	0
55	113	168	2.14322e+00	4.40714e-01	2.60134e+00	7.64875e-01	4.78706e+00	5.65487e+00	0
55	114	169	1.89782e+00	3.57158e-01	2.67513e+00	7.58389e-01	4.84030e+00	5.68314e+00	0
55	115	170	1.94918e+00	3.88606e-01	2.87147e+00	7.63102e-01	5.04417e+00	5.91850e+00	0
55	116	171	1.97019e+00	3.88305e-01	2.90669e+00	7.86964e-01	4.97686e+00	5.84772e+00	0
55	117	172	1.74968e+00	3.48922e-01	3.09054e+00	7.67564e-01	5.21224e+00	6.10853e+00	0
55	118	173	1.73746e+00	3.60953e-01	2.91490e+00	7.82475e-01	5.31153e+00	6.21446e+00	0
55	119	174	1.62475e+00	3.75578e-01	3.18042e+00	7.79293e-01	5.36847e+00	6.24439e+00	0
55	120	175	1.83801e+00	4.07045e-01	3.07591e+00	8.31953e-01	5.46902e+00	6.38221e+00	0
55	121	176	1.54194e+00	3.30437e-01	3.46388e+00	8.23824e-01	5.49375e+00	6.40857e+00	0
55	122	177	1.73662e+00	4.03790e-01	3.14027e+00	8.56787e-01	5.63204e+00	6.51532e+00	0
55	123	178	1.38334e+00	3.09249e-01	3.53432e+00	8.37536e-01	5.64794e+00	6.57285e+00	0
55	124	179	1.55460e+00	3.65701e-01	3.21196e+00	8.70148e-01	5.77407e+00	6.70720e+00	0
55	125	180	1.36415e+00	3.33070e-01	3.37758e+00	8.54929e-01	6.00321e+00	6.95124e+00	0
55	126	181	1.51770e+00	3.73045e-01	3.24780e+00	8.92688e-01	6.14860e+00	7.09561e+00	0
55	127	182	1.53403e+00	3.58642e-01	4.11484e+00	9.19223e-01	6.63083e+00	7.61933e+00	0
55	128	183	1.59218e+00	3.59444e-01	5.15044e+00	9.64376e-01	6.30046e+00	7.26742e+00	0
55	129	184	1.60992e+00	3.46676e-01	6.24265e+00	1.00180e+00	6.61935e+00	7.58763e+00	0
55	130	185	1.67672e+00	3.58698e-01	7.13328e+00	1.01875e+00	6.60005e+00	7.58452e+00	0
Barium (Ba)									
56	83	139	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.67512e-01	9.48411e-01	1
56	84	140	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.36250e-01	5.08254e-01	1
56	85	141	1.99468e+00	4.40344e-01	0.00000e+00	0.00000e+00	9.29171e-01	1.43828e+00	1
56	86	142	2.23957e+00	2.58694e-01	0.00000e+00	0.00000e+00	6.08729e-01	1.05358e+00	1
56	87	143	1.85638e+00	5.00942e-01	0.00000e+00	0.00000e+00	1.38312e+00	1.96402e+00	1
56	88	144	2.73861e+00	2.46784e-01	0.00000e+00	0.00000e+00	9.62543e-01	1.48302e+00	1
56	89	145	2.99667e+00	7.72401e-01	0.00000e+00	0.00000e+00	1.23433e+00	1.80943e+00	1
56	90	146	2.36271e+00	4.07412e-01	0.00000e+00	0.00000e+00	1.42248e+00	2.01213e+00	1
56	91	147	2.73587e+00	5.16918e-01	1.63707e-04	1.62312e-01	2.18095e+00	2.83392e+00	1
56	92	148	2.91564e+00	3.86544e-01	1.13010e-03	2.20698e-01	1.71943e+00	2.33637e+00	1
56	93	149	3.19777e+00	5.59290e-01	3.19848e-03	2.34672e-01	2.46941e+00	3.15304e+00	1
56	94	150	3.32940e+00	4.76365e-01	1.06441e-02	3.04899e-01	2.07294e+00	2.72313e+00	1
56	95	151	3.73669e+00	7.86748e-01	4.42485e-02	3.51441e-01	2.30608e+00	2.99800e+00	0
56	96	152	3.35727e+00	5.05600e-01	4.36334e-02	4.59706e-01	2.41060e+00	3.09569e+00	0
56	97	153	3.38501e+00	6.71469e-01	5.23257e-02	3.85455e-01	3.01876e+00	3.75935e+00	0
56	98	154	3.28311e+00	5.04325e-01	1.03808e-01	4.71279e-01	2.76987e+00	3.49207e+00	0
56	99	155	3.32670e+00	7.02865e-01	2.42157e-01	4.15592e-01	3.00083e+00	3.75053e+00	0
56	100	156	2.95551e+00	4.86878e-01	2.64320e-01	4.74958e-01	3.00714e+00	3.75820e+00	0
56	101	157	3.19981e+00	6.38123e-01	3.97668e-01	4.51180e-01	3.18915e+00	3.93931e+00	0
56	102	158	2.62892e+00	4.38060e-01	4.47409e-01	5.47733e-01	3.27579e+00	4.04654e+00	0
56	103	159	3.05174e+00	5.16998e-01	5.11787e-01	5.41433e-01	3.60437e+00	4.40036e+00	0
56	104	160	2.59317e+00	4.13163e-01	5.86240e-01	6.20409e-01	3.58321e+00	4.35949e+00	0
56	105	161	2.95092e+00	4.90490e-01	6.43332e-01	5.75843e-01	3.91495e+00	4.71353e+00	0
56	106	162	2.59071e+00	4.01044e-01	7.80141e-01	6.61696e-01	3.79324e+00	4.60099e+00	0
56	107	163	2.78579e+00	4.07888e-01	9.96363e-01	6.48953e-01	3.89115e+00	4.70510e+00	0
56	108	164	2.67203e+00	4.32401e-01	9.14621e-01	6.91785e-01	4.00319e+00	4.80963e+00	0
56	109	165	2.48123e+00	3.38256e-01	1.27382e+00	6.36446e-01	4.10774e+00	4.94105e+00	0
56	110	166	2.69377e+00	4.50273e-01	1.05672e+00	6.87033e-01	4.15661e+00	4.99200e+00	0
56	111	167	2.30525e+00	3.03368e-01	1.50832e+00	6.43693e-01	4.30346e+00	5.13714e+00	0
56	112	168	2.76106e+00	4.46759e-01	1.21985e+00	6.77475e-01	4.36274e+00	5.21351e+00	0
56	113	169	2.45964e+00	3.22981e-01	1.71067e+00	6.81028e-01	4.48194e+00	5.33761e+00	0

(continued on next page)

Table 1 (continued)

56	114	170	2.62017e+00	4.09542e-01	1.37626e+00	6.64650e-01	4.59873e+00	5.46331e+00	0
56	115	171	2.46171e+00	3.47723e-01	1.92693e+00	7.18366e-01	4.71313e+00	5.58933e+00	0
56	116	172	2.36277e+00	3.34354e-01	1.67057e+00	6.57280e-01	4.74920e+00	5.62796e+00	0
56	117	173	2.38702e+00	3.48276e-01	1.93720e+00	7.18235e-01	4.94267e+00	5.83487e+00	0
56	118	174	2.32694e+00	3.71133e-01	1.63963e+00	6.67885e-01	4.98013e+00	5.86860e+00	0
56	119	175	2.37156e+00	3.44188e-01	2.05648e+00	7.55211e-01	5.10681e+00	5.97004e+00	0
56	120	176	2.18295e+00	3.08338e-01	1.93941e+00	7.10644e-01	5.14550e+00	6.02433e+00	0
56	121	177	2.26987e+00	3.73132e-01	2.19070e+00	7.94569e-01	5.30235e+00	6.21934e+00	0
56	122	178	1.87809e+00	3.29481e-01	1.89966e+00	7.16526e-01	5.45448e+00	6.38191e+00	0
56	123	179	2.03514e+00	3.62838e-01	2.23645e+00	8.12319e-01	5.36550e+00	6.24626e+00	0
56	124	180	1.81450e+00	3.23689e-01	1.94465e+00	7.39589e-01	5.49205e+00	6.39480e+00	0
56	125	181	1.73920e+00	3.27120e-01	2.19489e+00	8.13909e-01	5.76625e+00	6.71475e+00	0
56	126	182	1.80059e+00	3.19006e-01	2.03407e+00	7.71705e-01	5.88880e+00	6.81946e+00	0
56	127	183	1.90146e+00	3.16018e-01	2.97420e+00	8.52694e-01	6.25751e+00	7.22825e+00	0
56	128	184	1.96634e+00	3.17212e-01	3.90560e+00	9.05401e-01	5.93885e+00	6.89855e+00	0
56	129	185	1.89681e+00	3.04649e-01	5.07002e+00	9.51345e-01	6.17191e+00	7.14736e+00	0
56	130	186	1.93376e+00	3.11813e-01	5.90058e+00	9.62621e-01	6.10029e+00	7.04154e+00	0
56	131	187	1.96137e+00	3.19355e-01	7.04870e+00	9.82413e-01	6.20014e+00	7.14750e+00	0
56	132	188	1.98847e+00	3.29621e-01	7.76744e+00	9.67810e-01	6.15807e+00	7.13258e+00	0
56	133	189	2.10172e+00	3.97776e-01	8.77097e+00	9.79526e-01	6.28147e+00	7.26411e+00	0
Lanthanum (La)									
57	79	136	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
57	81	138	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.50674e-02	2.40615e-01	1
57	83	140	2.43686e+00	1.05418e+00	0.00000e+00	0.00000e+00	4.34250e-01	8.08224e-01	1
57	84	141	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.33274e-01	9.29827e-01	1
57	85	142	2.42609e+00	1.06979e+00	0.00000e+00	0.00000e+00	7.45527e-01	1.21737e+00	1
57	86	143	1.00922e+00	3.17883e-01	0.00000e+00	0.00000e+00	1.28478e+00	1.85023e+00	1
57	87	144	2.63958e+00	8.20124e-01	0.00000e+00	0.00000e+00	1.43632e+00	2.02368e+00	1
57	88	145	1.59783e+00	3.78357e-01	0.00000e+00	0.00000e+00	1.52613e+00	2.12938e+00	1
57	89	146	2.59473e+00	9.03948e-01	0.00000e+00	0.00000e+00	1.73170e+00	2.34774e+00	1
57	90	147	2.18322e+00	4.42704e-01	3.63239e-04	1.73032e-01	1.87879e+00	2.51897e+00	1
57	91	148	3.48123e+00	1.10487e+00	4.97082e-03	3.14522e-01	1.62476e+00	2.24850e+00	1
57	92	149	3.32004e+00	7.73402e-01	2.45261e-02	2.90040e-01	1.59713e+00	2.22127e+00	1
57	93	150	3.58729e+00	9.24432e-01	1.23763e-02	3.09940e-01	2.25141e+00	2.93281e+00	1
57	94	151	3.23138e+00	8.23760e-01	1.13616e-01	3.80335e-01	2.02223e+00	2.67106e+00	1
57	95	152	3.19437e+00	1.06111e+00	2.40189e-01	4.13771e-01	2.11127e+00	2.77583e+00	0
57	96	153	2.28056e+00	6.99136e-01	4.43467e-01	6.00376e-01	2.24696e+00	2.94006e+00	0
57	97	154	3.16549e+00	9.65765e-01	2.00637e-01	5.59038e-01	2.86290e+00	3.60655e+00	0
57	98	155	2.21408e+00	6.40707e-01	5.60866e-01	7.18938e-01	2.60521e+00	3.33097e+00	0
57	99	156	2.55945e+00	7.52035e-01	6.04866e-01	6.92445e-01	2.79821e+00	3.53272e+00	0
57	100	157	2.20877e+00	5.97719e-01	5.57860e-01	7.08924e-01	3.15811e+00	3.92988e+00	0
57	101	158	2.50616e+00	7.32965e-01	5.90665e-01	6.40661e-01	3.34400e+00	4.13028e+00	0
57	102	159	2.01569e+00	5.39210e-01	7.48617e-01	7.23953e-01	3.41539e+00	4.20336e+00	0
57	103	160	2.40937e+00	6.25197e-01	7.26528e-01	6.67931e-01	3.67186e+00	4.48356e+00	0
57	104	161	2.19798e+00	5.59311e-01	8.59883e-01	7.74226e-01	3.70050e+00	4.49268e+00	0
57	105	162	2.27828e+00	5.23290e-01	9.77523e-01	7.13244e-01	3.86061e+00	4.68713e+00	0
57	106	163	2.46193e+00	6.04553e-01	9.85855e-01	7.85253e-01	3.85870e+00	4.66217e+00	0
57	107	164	2.15748e+00	4.67004e-01	1.32051e+00	7.31004e-01	3.93249e+00	4.75943e+00	0
57	108	165	2.47586e+00	6.05742e-01	1.17732e+00	7.48796e-01	4.02563e+00	4.84084e+00	0
57	109	166	2.21117e+00	4.66194e-01	1.53935e+00	7.41503e-01	4.15560e+00	5.00411e+00	0
57	110	167	2.37325e+00	5.53568e-01	1.52438e+00	7.04350e-01	3.94388e+00	4.76258e+00	0
57	111	168	2.38860e+00	5.28122e-01	1.85502e+00	7.54877e-01	4.06031e+00	4.90197e+00	0
57	112	169	2.16930e+00	4.64370e-01	1.75082e+00	6.91769e-01	4.15388e+00	5.00266e+00	0
57	113	170	2.38818e+00	5.39788e-01	1.99473e+00	7.45500e-01	4.20919e+00	5.06195e+00	0
57	114	171	2.07980e+00	4.09641e-01	1.97657e+00	6.96563e-01	4.35327e+00	5.19267e+00	0
57	115	172	2.37804e+00	5.41099e-01	2.20301e+00	7.45339e-01	4.46896e+00	5.31402e+00	0
57	116	173	1.93431e+00	3.70401e-01	2.18485e+00	7.01924e-01	4.60036e+00	5.47487e+00	0
57	117	174	2.14430e+00	4.90787e-01	2.32407e+00	7.37146e-01	4.71369e+00	5.57527e+00	0
57	118	175	1.68850e+00	3.46221e-01	2.40840e+00	7.10358e-01	4.69241e+00	5.54130e+00	0
57	119	176	2.08181e+00	5.05687e-01	2.43982e+00	7.61318e-01	4.86197e+00	5.76267e+00	0
57	120	177	1.63803e+00	3.46608e-01	2.63589e+00	7.59932e-01	4.79346e+00	5.68915e+00	0
57	121	178	1.84378e+00	4.54890e-01	2.74307e+00	7.88560e-01	4.88560e+00	5.74298e+00	0
57	122	179	1.34938e+00	3.20221e-01	2.66235e+00	7.72356e-01	5.16960e+00	6.09228e+00	0
57	123	180	1.76707e+00	5.01936e-01	2.63590e+00	8.10998e-01	5.10000e+00	5.98733e+00	0
57	124	181	1.27949e+00	3.22187e-01	2.62093e+00	7.93445e-01	5.22882e+00	6.14573e+00	0
57	125	182	1.78167e+00	5.32311e-01	2.50147e+00	8.52712e-01	5.48480e+00	6.42973e+00	0
57	126	183	1.35070e+00	3.52635e-01	2.61610e+00	8.30806e-01	5.63162e+00	6.58697e+00	0
57	127	184	1.48999e+00	3.70094e-01	3.37212e+00	8.68468e-01	5.99093e+00	6.97132e+00	0
57	128	185	1.61452e+00	3.74068e-01	4.24515e+00	9.19415e-01	5.73588e+00	6.69786e+00	0
57	129	186	1.69355e+00	3.80705e-01	5.22721e+00	9.57150e-01	5.97423e+00	6.93483e+00	0
57	130	187	1.72945e+00	3.82873e-01	5.98713e+00	9.68472e-01	5.99186e+00	6.97085e+00	0
57	131	188	1.80290e+00	3.94552e-01	7.07441e+00	9.79854e-01	5.95141e+00	6.91262e+00	0
57	132	189	1.84050e+00	4.06488e-01	7.75329e+00	9.67738e-01	5.93950e+00	6.88494e+00	0
57	133	190	1.91528e+00	4.61057e-01	8.68023e+00	9.70654e-01	6.05054e+00	7.03472e+00	0
57	134	191	2.11628e+00	5.54872e-01	9.25461e+00	9.51399e-01	6.17017e+00	7.14957e+00	0
57	135	192	2.91596e+00	9.43435e-01	9.80073e+00	9.72191e-01	6.17459e+00	7.13255e+00	0

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Table 1 (continued)

Cerium (Ce)										
58	83	141	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.31333e-01	3.33940e-01	1	
58	85	143	1.61762e+00	2.25000e-01	0.00000e+00	0.00000e+00	3.85688e-01	7.59103e-01	1	
58	86	144	1.76034e+00	7.86594e-02	0.00000e+00	0.00000e+00	4.61281e-02	1.75424e-01	1	
58	87	145	1.83383e+00	2.90886e-01	0.00000e+00	0.00000e+00	7.85564e-01	1.27817e+00	1	
58	88	146	2.41637e+00	1.52348e-01	0.00000e+00	0.00000e+00	2.26714e-01	5.23974e-01	1	
58	89	147	3.11336e+00	5.06999e-01	0.00000e+00	0.00000e+00	7.32764e-01	1.19165e+00	1	
58	90	148	2.77889e+00	2.27440e-01	0.00000e+00	0.00000e+00	5.64916e-01	9.94381e-01	1	
58	91	149	2.46578e+00	7.98941e-01	0.00000e+00	0.00000e+00	9.55196e-01	1.47723e+00	1	
58	92	150	2.99292e+00	2.96609e-01	0.00000e+00	0.00000e+00	1.03186e+00	1.58744e+00	1	
58	93	151	2.90166e+00	4.01069e-01	0.00000e+00	0.00000e+00	1.88880e+00	2.54707e+00	1	
58	94	152	3.08448e+00	4.24908e-01	0.00000e+00	0.00000e+00	1.34061e+00	1.94089e+00	0	
58	95	153	3.79030e+00	7.36544e-01	4.15796e-04	1.24323e-01	1.63502e+00	2.24122e+00	0	
58	96	154	3.33933e+00	4.35540e-01	1.37025e-03	2.49095e-01	1.79323e+00	2.42429e+00	0	
58	97	155	3.29035e+00	5.71978e-01	2.39862e-03	2.67025e-01	2.48959e+00	3.20479e+00	0	
58	98	156	3.26290e+00	4.62880e-01	9.20375e-03	4.19939e-01	2.15440e+00	2.84174e+00	0	
58	99	157	3.67053e+00	7.74050e-01	3.28402e-02	3.33700e-01	2.38149e+00	3.09480e+00	0	
58	100	158	3.41945e+00	4.95785e-01	4.15217e-02	4.40991e-01	2.47861e+00	3.19578e+00	0	
58	101	159	3.64622e+00	7.54575e-01	1.22006e-01	3.53138e-01	2.62783e+00	3.36430e+00	0	
58	102	160	3.24135e+00	5.16205e-01	1.40799e-01	4.41495e-01	2.73069e+00	3.45619e+00	0	
58	103	161	3.28975e+00	6.39854e-01	2.43248e-01	4.06288e-01	3.09606e+00	3.87210e+00	0	
58	104	162	2.78093e+00	4.74114e-01	3.43208e-01	4.72255e-01	3.03003e+00	3.80151e+00	0	
58	105	163	3.30111e+00	6.04716e-01	3.20633e-01	5.02133e-01	3.44908e+00	4.25488e+00	0	
58	106	164	2.59863e+00	4.18002e-01	5.54713e-01	5.68489e-01	3.21537e+00	3.99062e+00	0	
58	107	165	2.96520e+00	4.63862e-01	7.19597e-01	5.62128e-01	3.33643e+00	4.13326e+00	0	
58	108	166	2.49470e+00	3.91584e-01	7.05449e-01	5.93863e-01	3.43534e+00	4.24027e+00	0	
58	109	167	2.94226e+00	4.24687e-01	8.41828e-01	5.97545e-01	3.58765e+00	4.38907e+00	0	
58	110	168	2.67770e+00	3.94952e-01	8.22819e-01	6.33955e-01	3.68706e+00	4.51232e+00	0	
58	111	169	2.72648e+00	3.84294e-01	1.03974e+00	5.99399e-01	3.73513e+00	4.54917e+00	0	
58	112	170	2.72867e+00	4.34345e-01	9.33469e-01	6.40537e-01	3.79581e+00	4.62946e+00	0	
58	113	171	2.54042e+00	3.60344e-01	1.21653e+00	5.92701e-01	3.92407e+00	4.76386e+00	0	
58	114	172	2.76286e+00	4.58091e-01	1.01972e+00	6.53004e-01	3.98242e+00	4.83058e+00	0	
58	115	173	2.35804e+00	3.22694e-01	1.50029e+00	6.10639e-01	4.03789e+00	4.87706e+00	0	
58	116	174	2.85260e+00	4.44735e-01	1.05722e+00	6.78168e-01	4.33507e+00	5.21046e+00	0	
58	117	175	2.31471e+00	3.09331e-01	1.50325e+00	6.12341e-01	4.42747e+00	5.30980e+00	0	
58	118	176	2.65502e+00	4.49310e-01	1.14637e+00	6.70543e-01	4.47448e+00	5.35862e+00	0	
58	119	177	2.10981e+00	3.07601e-01	1.70689e+00	6.41573e-01	4.58703e+00	5.47427e+00	0	
58	120	178	2.48688e+00	4.40603e-01	1.46522e+00	6.66068e-01	4.53052e+00	5.39649e+00	0	
58	121	179	2.18869e+00	3.31991e-01	1.93550e+00	7.16187e-01	4.64740e+00	5.54637e+00	0	
58	122	180	2.40877e+00	4.92491e-01	1.33722e+00	7.21642e-01	4.85539e+00	5.75363e+00	0	
58	123	181	1.75353e+00	2.86460e-01	1.85999e+00	6.90797e-01	4.81346e+00	5.71595e+00	0	
58	124	182	2.28176e+00	5.17389e-01	1.24926e+00	7.71704e-01	4.95170e+00	5.85800e+00	0	
58	125	183	1.96044e+00	3.58425e-01	1.60365e+00	7.09391e-01	5.27031e+00	6.18648e+00	0	
58	126	184	2.24161e+00	5.33584e-01	1.35357e+00	7.90572e-01	5.39066e+00	6.34472e+00	0	
58	127	185	2.23797e+00	4.57998e-01	2.25852e+00	8.43742e-01	5.75494e+00	6.70595e+00	0	
58	128	186	2.16324e+00	4.19235e-01	3.12646e+00	8.76369e-01	5.38701e+00	6.30038e+00	0	
58	129	187	2.16532e+00	4.09591e-01	4.16610e+00	9.11559e-01	5.56361e+00	6.52954e+00	0	
58	130	188	2.07650e+00	3.79321e-01	4.90801e+00	9.05914e-01	5.56132e+00	6.48762e+00	0	
58	131	189	2.08001e+00	3.67210e-01	5.87871e+00	9.11680e-01	5.69007e+00	6.63565e+00	0	
58	132	190	2.01847e+00	3.42810e-01	6.52669e+00	8.85092e-01	5.65909e+00	6.63254e+00	0	
58	133	191	2.00424e+00	3.47387e-01	7.46901e+00	8.86793e-01	5.79916e+00	6.78282e+00	0	
58	134	192	1.99682e+00	3.45814e-01	8.07851e+00	8.53850e-01	5.81580e+00	6.80063e+00	0	
58	135	193	2.15654e+00	4.31825e-01	9.10965e+00	8.69933e-01	5.83369e+00	6.81978e+00	0	
58	136	194	2.39227e+00	5.46196e-01	9.42846e+00	8.35822e-01	5.98009e+00	6.97700e+00	0	
58	137	195	3.05155e+00	9.33467e-01	9.75546e+00	8.36998e-01	6.21021e+00	7.22353e+00	0	
Praseodymium (Pr)										
59	83	142	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.81690e-01	4.24702e-01	1	
59	84	143	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.40302e-02	1.61608e-01	1	
59	85	144	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.85714e-01	1.13153e+00	1	
59	86	145	1.37229e+00	4.55295e-01	0.00000e+00	0.00000e+00	4.19219e-01	7.83498e-01	1	
59	87	146	2.29704e+00	7.21421e-01	0.00000e+00	0.00000e+00	1.04702e+00	1.58231e+00	1	
59	88	147	2.35260e+00	1.99247e-01	0.00000e+00	0.00000e+00	8.86385e-01	1.39635e+00	1	
59	89	148	2.53233e+00	8.25240e-01	0.00000e+00	0.00000e+00	1.12481e+00	1.68639e+00	1	
59	90	149	1.98007e+00	2.32555e-01	0.00000e+00	0.00000e+00	1.17065e+00	1.73136e+00	1	
59	91	150	2.79809e+00	7.78166e-01	0.00000e+00	0.00000e+00	1.33635e+00	1.91235e+00	1	
59	92	151	2.47021e+00	2.59522e-01	0.00000e+00	0.00000e+00	1.47084e+00	2.07180e+00	1	
59	93	152	3.38751e+00	6.66472e-01	0.00000e+00	0.00000e+00	1.74704e+00	2.37460e+00	1	
59	94	153	2.92451e+00	4.53824e-01	9.61912e-05	1.51046e-01	1.90159e+00	2.57175e+00	1	
59	95	154	3.36221e+00	8.26237e-01	1.60781e-03	1.71512e-01	2.13384e+00	2.83096e+00	1	
59	96	155	3.00075e+00	5.87789e-01	9.39811e-03	3.13688e-01	2.19265e+00	2.87827e+00	1	
59	97	156	3.45311e+00	8.98521e-01	2.07036e-02	3.24278e-01	2.41459e+00	3.10704e+00	1	
59	98	157	2.94180e+00	6.52105e-01	6.58169e-02	4.03545e-01	2.56233e+00	3.29144e+00	1	
59	99	158	3.30162e+00	9.23342e-01	1.17452e-01	4.44302e-01	2.70457e+00	3.43063e+00	0	
59	100	159	2.59917e+00	6.39586e-01	2.24199e-01	5.54318e-01	2.77182e+00	3.50951e+00	0	
59	101	160	2.98649e+00	9.00068e-01	2.48940e-01	5.23796e-01	2.91271e+00	3.67795e+00	0	
59	102	161	2.29881e+00	5.76304e-01	4.10449e-01	6.09953e-01	3.00578e+00	3.77152e+00	0	
59	103	162	2.69712e+00	7.86633e-01	4.04734e-01	5.70922e-01	3.25433e+00	4.03016e+00	0	

(continued on next page)

Table 1 (continued)

59	104	163	2.10519e+00	5.34654e-01	6.19804e-01	6.84050e-01	3.25490e+00	4.05428e+00	0
59	105	164	2.37426e+00	6.46212e-01	6.64824e-01	6.13130e-01	3.43843e+00	4.23720e+00	0
59	106	165	2.29690e+00	5.66216e-01	7.72081e-01	7.47236e-01	3.38923e+00	4.20023e+00	0
59	107	166	2.33159e+00	5.68813e-01	9.14182e-01	6.65602e-01	3.45000e+00	4.26604e+00	0
59	108	167	2.32177e+00	6.05347e-01	9.07734e-01	7.23413e-01	3.52535e+00	4.34248e+00	0
59	109	168	2.24513e+00	5.02397e-01	1.13013e+00	6.65315e-01	3.63879e+00	4.45559e+00	0
59	110	169	2.47722e+00	6.32415e-01	1.04663e+00	7.08626e-01	3.70483e+00	4.54234e+00	0
59	111	170	2.15969e+00	4.67847e-01	1.35788e+00	6.73578e-01	3.80714e+00	4.64814e+00	0
59	112	171	2.51239e+00	5.93343e-01	1.21461e+00	6.78674e-01	3.81848e+00	4.66517e+00	0
59	113	172	2.23114e+00	4.77859e-01	1.50947e+00	6.76603e-01	3.95221e+00	4.79473e+00	0
59	114	173	2.26269e+00	5.61602e-01	1.52275e+00	6.47675e-01	3.75655e+00	4.59840e+00	0
59	115	174	2.29729e+00	5.00536e-01	1.86765e+00	7.01940e-01	3.77897e+00	4.62272e+00	0
59	116	175	2.10614e+00	5.08246e-01	1.65843e+00	6.38344e-01	4.08712e+00	4.94300e+00	0
59	117	176	2.25159e+00	5.06999e-01	1.86272e+00	7.00694e-01	4.18041e+00	5.05662e+00	0
59	118	177	2.03047e+00	4.37376e-01	1.79979e+00	6.54893e-01	4.19691e+00	5.05155e+00	0
59	119	178	2.40379e+00	5.32245e-01	2.03784e+00	7.31977e-01	4.31157e+00	5.17263e+00	0
59	120	179	2.02311e+00	4.13978e-01	2.07323e+00	6.98210e-01	4.27367e+00	5.15735e+00	0
59	121	180	2.31351e+00	5.70570e-01	2.15839e+00	7.52323e-01	4.53171e+00	5.43565e+00	0
59	122	181	1.50822e+00	4.03293e-01	2.08543e+00	6.91369e-01	4.60134e+00	5.51088e+00	0
59	123	182	2.15858e+00	5.64606e-01	2.12079e+00	7.92198e-01	4.50937e+00	5.37180e+00	0
59	124	183	1.53703e+00	4.41973e-01	1.97555e+00	7.27218e-01	4.65009e+00	5.53449e+00	0
59	125	184	1.80171e+00	4.85157e-01	2.08876e+00	8.16609e-01	4.93183e+00	5.86681e+00	0
59	126	185	1.57572e+00	4.47435e-01	2.03029e+00	7.76954e-01	5.06784e+00	6.01334e+00	0
59	127	186	1.84899e+00	5.47454e-01	2.67493e+00	8.18335e-01	5.46646e+00	6.44223e+00	0
59	128	187	1.95027e+00	5.27389e-01	3.51243e+00	8.75729e-01	5.09725e+00	6.04449e+00	0
59	129	188	2.00852e+00	5.10425e-01	4.42953e+00	9.12164e-01	5.27310e+00	6.19833e+00	0
59	130	189	2.03840e+00	5.03459e-01	5.10710e+00	9.15689e-01	5.24927e+00	6.20781e+00	0
59	131	190	2.01990e+00	4.72791e-01	5.99141e+00	9.12125e-01	5.38971e+00	6.32514e+00	0
59	132	191	1.89212e+00	4.36721e-01	6.64429e+00	8.89818e-01	5.36039e+00	6.32776e+00	0
59	133	192	1.86441e+00	4.23767e-01	7.46895e+00	8.78592e-01	5.56381e+00	6.54654e+00	0
59	134	193	1.81185e+00	4.17200e-01	8.05347e+00	8.55478e-01	5.57143e+00	6.55477e+00	0
59	135	194	1.93882e+00	4.76081e-01	8.96907e+00	8.61033e-01	5.56747e+00	6.53415e+00	0
59	136	195	2.11142e+00	5.73796e-01	9.19630e+00	8.19673e-01	5.83697e+00	6.82900e+00	0
59	137	196	2.77784e+00	9.08414e-01	9.59591e+00	8.18287e-01	6.02539e+00	7.04330e+00	0
59	138	197	2.14454e+00	8.95018e-01	9.52337e+00	7.88000e-01	5.98625e+00	7.00100e+00	0
59	139	198	2.81750e+00	1.08984e+00	9.67155e+00	7.97976e-01	6.11802e+00	7.14268e+00	0
Neodymium (Nd)									
60	87	147	1.58519e+00	2.65318e-01	0.00000e+00	0.00000e+00	1.53225e-01	3.74663e-01	1
60	89	149	2.15278e+00	2.09434e-01	0.00000e+00	0.00000e+00	4.37169e-01	8.27671e-01	1
60	91	151	2.38077e+00	2.34751e-01	0.00000e+00	0.00000e+00	7.28075e-01	1.20019e+00	1
60	92	152	2.57924e+00	1.82050e-01	0.00000e+00	0.00000e+00	2.09830e-01	4.49402e-01	1
60	93	153	2.32050e+00	1.75835e-01	0.00000e+00	0.00000e+00	1.18890e+00	1.76182e+00	1
60	94	154	2.91526e+00	2.96966e-01	0.00000e+00	0.00000e+00	7.04226e-01	1.18955e+00	1
60	95	155	2.74281e+00	7.39336e-01	0.00000e+00	0.00000e+00	1.06672e+00	1.59822e+00	1
60	96	156	2.62351e+00	3.61804e-01	0.00000e+00	0.00000e+00	1.22462e+00	1.81548e+00	1
60	97	157	3.10632e+00	4.19172e-01	0.00000e+00	0.00000e+00	1.93395e+00	2.61492e+00	1
60	98	158	3.01914e+00	3.69660e-01	2.69572e-06	8.31106e-02	1.76136e+00	2.42334e+00	1
60	99	159	3.64784e+00	6.82638e-01	1.03115e-03	1.96507e-01	1.86431e+00	2.52498e+00	1
60	100	160	3.21425e+00	4.21649e-01	1.29220e-03	2.60811e-01	2.07080e+00	2.75185e+00	1
60	101	161	3.69515e+00	7.51586e-01	8.52724e-03	2.58146e-01	2.03798e+00	2.72697e+00	0
60	102	162	3.50827e+00	5.00343e-01	1.68217e-02	3.42791e-01	2.13146e+00	2.83157e+00	0
60	103	163	3.55150e+00	6.89258e-01	5.11144e-02	3.20351e-01	2.58454e+00	3.33319e+00	0
60	104	164	3.40904e+00	5.27933e-01	9.44074e-02	4.19524e-01	2.44269e+00	3.17290e+00	0
60	105	165	3.38579e+00	6.59335e-01	9.90507e-02	3.68476e-01	3.05943e+00	3.85306e+00	0
60	106	166	2.94350e+00	4.81868e-01	2.80104e-01	4.47197e-01	2.71890e+00	3.47182e+00	0
60	107	167	3.13041e+00	6.02498e-01	4.43598e-01	4.10695e-01	2.80255e+00	3.57290e+00	0
60	108	168	2.70013e+00	4.47654e-01	4.19884e-01	4.61540e-01	2.92177e+00	3.70288e+00	0
60	109	169	2.89601e+00	5.23880e-01	5.79491e-01	4.41023e-01	3.06227e+00	3.85628e+00	0
60	110	170	2.48239e+00	4.01357e-01	6.17706e-01	5.15036e-01	3.12488e+00	3.92337e+00	0
60	111	171	2.91767e+00	4.34039e-01	7.56012e-01	5.32431e-01	3.23320e+00	4.01783e+00	0
60	112	172	2.56053e+00	3.97957e-01	7.23332e-01	5.58852e-01	3.25472e+00	4.06608e+00	0
60	113	173	2.99251e+00	4.26736e-01	8.13015e-01	5.58199e-01	3.42316e+00	4.24205e+00	0
60	114	174	2.65698e+00	4.16216e-01	8.17331e-01	5.90406e-01	3.43342e+00	4.25664e+00	0
60	115	175	2.90631e+00	3.98707e-01	9.75143e-01	5.75641e-01	3.55196e+00	4.38881e+00	0
60	116	176	2.84275e+00	4.24173e-01	9.13197e-01	6.32250e-01	3.69199e+00	4.53683e+00	0
60	117	177	2.91340e+00	4.16054e-01	9.01543e-01	5.68598e-01	4.02698e+00	4.88174e+00	0
60	118	178	2.91941e+00	4.51976e-01	9.64694e-01	6.54637e-01	3.83074e+00	4.69144e+00	0
60	119	179	2.47680e+00	3.48357e-01	1.33017e+00	5.82525e-01	4.03242e+00	4.90987e+00	0
60	120	180	2.94970e+00	5.25321e-01	1.07567e+00	6.82948e-01	3.97502e+00	4.84776e+00	0
60	121	181	2.14278e+00	3.05686e-01	1.52739e+00	6.03026e-01	4.15690e+00	5.04461e+00	0
60	122	182	2.43852e+00	4.15532e-01	1.05555e+00	7.00348e-01	4.34306e+00	5.22721e+00	0
60	123	183	2.63257e+00	3.70593e-01	1.21756e+00	6.57821e-01	4.28269e+00	5.17655e+00	0
60	124	184	2.23886e+00	4.16677e-01	1.05956e+00	7.32945e-01	4.40015e+00	5.30775e+00	0
60	125	185	2.66917e+00	3.80089e-01	1.14762e+00	6.95358e-01	4.70303e+00	5.60652e+00	0
60	126	186	2.30918e+00	4.91724e-01	1.09852e+00	7.88329e-01	4.80824e+00	5.74868e+00	0
60	127	187	1.98857e+00	3.59259e-01	1.96161e+00	7.68913e-01	5.21962e+00	6.16315e+00	0
60	128	188	1.99671e+00	3.47906e-01	2.69675e+00	8.02667e-01	4.81374e+00	5.75417e+00	0

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Table 1 (continued)

60	129	189	2.09829e+00	3.62261e-01	3.58311e+00	8.51238e-01	4.99897e+00	5.95396e+00	0
60	130	190	2.12267e+00	3.61123e-01	4.11426e+00	8.34966e-01	4.91810e+00	5.86680e+00	0
60	131	191	2.18572e+00	3.84109e-01	4.89068e+00	8.36431e-01	5.15215e+00	6.07695e+00	0
60	132	192	2.19086e+00	4.14328e-01	5.36630e+00	8.11341e-01	5.11969e+00	6.05570e+00	0
60	133	193	2.16455e+00	4.04891e-01	6.23260e+00	8.05007e-01	5.28121e+00	6.25892e+00	0
60	134	194	2.01270e+00	3.68578e-01	6.72480e+00	7.61621e-01	5.29049e+00	6.26895e+00	0
60	135	195	1.97616e+00	3.63289e-01	7.66285e+00	7.69646e-01	5.30976e+00	6.28967e+00	0
60	136	196	1.75194e+00	2.82406e-01	7.59710e+00	7.05986e-01	5.45740e+00	6.42021e+00	0
60	137	197	1.82028e+00	3.35385e-01	8.00764e+00	7.02905e-01	5.73078e+00	6.71415e+00	0
60	138	198	1.68575e+00	2.84254e-01	7.61335e+00	6.75474e-01	5.71724e+00	6.70033e+00	0
60	139	199	1.88798e+00	3.89822e-01	8.21910e+00	6.91735e-01	5.78943e+00	6.79602e+00	0
60	140	200	1.69403e+00	2.85597e-01	7.94480e+00	6.64589e-01	5.80719e+00	6.82625e+00	0
60	141	201	1.95473e+00	3.95594e-01	8.53891e+00	6.81759e-01	5.99774e+00	7.03152e+00	0
Promethium (Pm)									
61	83	144	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
61	85	146	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.55743e-01	5.43829e-01	1
61	86	147	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.88901e-02	1.36050e-01	1
61	87	148	1.82705e+00	6.98295e-01	0.00000e+00	0.00000e+00	4.63649e-01	7.92148e-01	1
61	88	149	1.42422e+00	3.17962e-01	0.00000e+00	0.00000e+00	2.04708e-01	4.55205e-01	1
61	89	150	2.54633e+00	7.81584e-01	0.00000e+00	0.00000e+00	5.44070e-01	9.79217e-01	1
61	90	151	2.13633e+00	1.69365e-01	0.00000e+00	0.00000e+00	2.78407e-01	5.87209e-01	1
61	91	152	2.62706e+00	7.65783e-01	0.00000e+00	0.00000e+00	5.48025e-01	9.76849e-01	1
61	92	153	2.35706e+00	2.08150e-01	0.00000e+00	0.00000e+00	5.21560e-01	9.43203e-01	1
61	93	154	1.99438e+00	3.43961e-01	0.00000e+00	0.00000e+00	1.47937e+00	2.08557e+00	1
61	94	155	2.75963e+00	3.17253e-01	0.00000e+00	0.00000e+00	9.38329e-01	1.46887e+00	1
61	95	156	3.61364e+00	6.32190e-01	0.00000e+00	0.00000e+00	1.19057e+00	1.78070e+00	1
61	96	157	2.70267e+00	3.71473e-01	0.00000e+00	0.00000e+00	1.41294e+00	2.01677e+00	1
61	97	158	2.92388e+00	6.39305e-01	0.00000e+00	0.00000e+00	1.82653e+00	2.47565e+00	1
61	98	159	2.80996e+00	4.29906e-01	1.64555e-04	1.79897e-01	1.90556e+00	2.56591e+00	1
61	99	160	3.36523e+00	7.99196e-01	2.77179e-03	1.94130e-01	1.99692e+00	2.67428e+00	1
61	100	161	2.79923e+00	4.92852e-01	6.32748e-03	3.72066e-01	2.25823e+00	2.96301e+00	1
61	101	162	3.34014e+00	8.61822e-01	1.09141e-02	3.75346e-01	2.45088e+00	3.18394e+00	0
61	102	163	2.87775e+00	5.65021e-01	5.93035e-02	3.86571e-01	2.56865e+00	3.31733e+00	0
61	103	164	3.19216e+00	8.84356e-01	8.92764e-02	3.92534e-01	2.80171e+00	3.57897e+00	0
61	104	165	2.40068e+00	5.79541e-01	2.68410e-01	5.42986e-01	2.76898e+00	3.53401e+00	0
61	105	166	2.93330e+00	8.90456e-01	2.48306e-01	4.74296e-01	2.99387e+00	3.79138e+00	0
61	106	167	2.34365e+00	5.73021e-01	4.55618e-01	6.91108e-01	2.96041e+00	3.74168e+00	0
61	107	168	2.49920e+00	6.32405e-01	7.67225e-01	6.53352e-01	2.61068e+00	3.36877e+00	0
61	108	169	2.27094e+00	5.73660e-01	8.53827e-01	7.16206e-01	2.72931e+00	3.50185e+00	0
61	109	170	2.45498e+00	5.55591e-01	9.26894e-01	6.50903e-01	2.84396e+00	3.61881e+00	0
61	110	171	2.49625e+00	6.23742e-01	9.57710e-01	7.17243e-01	2.95832e+00	3.75261e+00	0
61	111	172	2.38053e+00	5.20251e-01	9.88765e-01	6.31279e-01	3.33420e+00	4.15575e+00	0
61	112	173	2.51693e+00	6.04491e-01	9.52785e-01	6.91632e-01	3.37052e+00	4.20229e+00	0
61	113	174	2.26243e+00	4.97255e-01	1.13680e+00	6.20666e-01	3.50148e+00	4.34454e+00	0
61	114	175	2.67649e+00	6.86531e-01	1.13553e+00	6.59280e-01	3.17762e+00	3.96543e+00	0
61	115	176	2.18316e+00	4.68941e-01	1.31888e+00	6.33608e-01	3.62101e+00	4.47462e+00	0
61	116	177	2.53779e+00	6.15550e-01	1.15549e+00	6.49205e-01	3.65427e+00	4.49619e+00	0
61	117	178	2.01962e+00	4.25297e-01	1.38381e+00	6.23753e-01	4.04760e+00	4.92382e+00	0
61	118	179	2.28059e+00	5.92428e-01	1.29612e+00	6.34788e-01	3.86860e+00	4.74445e+00	0
61	119	180	2.20433e+00	4.51070e-01	1.66228e+00	6.72191e-01	4.05373e+00	4.94551e+00	0
61	120	181	2.20469e+00	5.52003e-01	1.60316e+00	6.47632e-01	3.93048e+00	4.78819e+00	0
61	121	182	2.12828e+00	4.79686e-01	1.79826e+00	7.01200e-01	4.10617e+00	5.00271e+00	0
61	122	183	1.91117e+00	6.07731e-01	1.60794e+00	6.51543e-01	4.01291e+00	4.88946e+00	0
61	123	184	1.72208e+00	4.28991e-01	1.90249e+00	7.19871e-01	4.00635e+00	4.89474e+00	0
61	124	185	2.15797e+00	7.33536e-01	1.43926e+00	6.96854e-01	4.09685e+00	4.98989e+00	0
61	125	186	1.44809e+00	4.40216e-01	1.85304e+00	7.21652e-01	4.38766e+00	5.26936e+00	0
61	126	187	1.86779e+00	7.01192e-01	1.59989e+00	7.12002e-01	4.49109e+00	5.41229e+00	0
61	127	188	2.38225e+00	6.73962e-01	2.14947e+00	8.31951e-01	4.91366e+00	5.87782e+00	0
61	128	189	2.22053e+00	5.81446e-01	2.97927e+00	8.66393e-01	4.52495e+00	5.44581e+00	0
61	129	190	2.12842e+00	5.20630e-01	3.85757e+00	8.81844e-01	4.69019e+00	5.63534e+00	0
61	130	191	1.87188e+00	4.33154e-01	4.46828e+00	8.57611e-01	4.59817e+00	5.49076e+00	0
61	131	192	1.91844e+00	4.48666e-01	5.05992e+00	8.42029e-01	4.92166e+00	5.88627e+00	0
61	132	193	1.95806e+00	4.97894e-01	5.51578e+00	8.19922e-01	4.94852e+00	5.88560e+00	0
61	133	194	2.02378e+00	5.04049e-01	6.29851e+00	8.16073e-01	5.04467e+00	6.01939e+00	0
61	134	195	1.97431e+00	4.86085e-01	6.81298e+00	7.88469e-01	5.02211e+00	5.99493e+00	0
61	135	196	1.89640e+00	4.53703e-01	7.59138e+00	7.81106e-01	5.11913e+00	6.09983e+00	0
61	136	197	1.62466e+00	3.49298e-01	7.52758e+00	7.25071e-01	5.26660e+00	6.25958e+00	0
61	137	198	1.63992e+00	3.68220e-01	7.77582e+00	7.13051e-01	5.52721e+00	6.54150e+00	0
61	138	199	1.57788e+00	3.25979e-01	7.56375e+00	6.94431e-01	5.49304e+00	6.50447e+00	0
61	139	200	1.72360e+00	4.04266e-01	8.11471e+00	7.03872e-01	5.56193e+00	6.54609e+00	0
61	140	201	1.56461e+00	3.22468e-01	7.85165e+00	6.83042e-01	5.63961e+00	6.66304e+00	0
61	141	202	1.73940e+00	3.99538e-01	8.25713e+00	6.89903e-01	5.79428e+00	6.81577e+00	0
61	142	203	1.69004e+00	3.54961e-01	8.03740e+00	6.80748e-01	5.87723e+00	6.88971e+00	0
61	143	204	1.91139e+00	4.47723e-01	8.46819e+00	6.91211e-01	5.99097e+00	7.01024e+00	0
61	144	205	1.82063e+00	4.02741e-01	8.47386e+00	6.90676e-01	6.04608e+00	7.10232e+00	0
Samarium (Sm)									
62	89	151	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.36590e-02	9.92152e-02	1

(continued on next page)

Table 1 (continued)

62	91	153	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.48414e-01	3.68665e-01	1
62	93	155	2.31172e+00	1.52779e-01	0.00000e+00	0.00000e+00	4.59579e-01	8.58507e-01	1
62	94	156	2.64092e+00	1.04868e-01	0.00000e+00	0.00000e+00	1.40804e-01	3.51335e-01	1
62	95	157	2.45151e+00	2.67060e-01	0.00000e+00	0.00000e+00	8.37979e-01	1.33634e+00	1
62	96	158	2.69197e+00	2.22722e-01	0.00000e+00	0.00000e+00	5.12511e-01	9.41695e-01	1
62	97	159	2.55235e+00	2.69435e-01	0.00000e+00	0.00000e+00	1.29765e+00	1.89005e+00	1
62	98	160	2.87475e+00	2.67687e-01	0.00000e+00	0.00000e+00	9.87038e-01	1.53744e+00	1
62	99	161	3.45330e+00	6.17758e-01	0.00000e+00	0.00000e+00	1.21120e+00	1.79842e+00	1
62	100	162	3.11485e+00	3.31196e-01	0.00000e+00	0.00000e+00	1.37229e+00	1.99412e+00	1
62	101	163	3.57273e+00	6.90483e-01	7.49700e-07	1.25000e-02	1.44853e+00	2.08594e+00	1
62	102	164	3.36166e+00	4.29547e-01	1.31641e-05	1.45348e-01	1.62385e+00	2.28559e+00	1
62	103	165	3.21000e+00	6.07379e-01	8.93404e-04	1.80244e-01	2.04479e+00	2.75152e+00	0
62	104	166	3.44123e+00	4.98944e-01	5.74043e-03	2.62912e-01	1.76604e+00	2.42001e+00	0
62	105	167	3.28670e+00	6.24163e-01	9.75808e-03	2.93734e-01	2.49348e+00	3.24310e+00	0
62	106	168	3.45082e+00	5.10467e-01	3.20380e-02	3.95873e-01	2.09689e+00	2.80851e+00	0
62	107	169	3.78993e+00	7.80318e-01	8.21192e-02	3.17278e-01	2.30375e+00	3.04236e+00	0
62	108	170	3.34260e+00	5.08137e-01	9.98678e-02	4.01481e-01	2.41360e+00	3.14773e+00	0
62	109	171	3.53698e+00	7.17742e-01	2.22216e-01	3.40206e-01	2.55385e+00	3.31683e+00	0
62	110	172	3.04313e+00	4.98424e-01	2.79730e-01	4.16128e-01	2.61323e+00	3.38432e+00	0
62	111	173	3.08593e+00	5.83114e-01	4.59880e-01	3.90398e-01	2.75156e+00	3.53212e+00	0
62	112	174	2.70286e+00	4.46604e-01	4.93079e-01	4.69481e-01	2.75712e+00	3.54241e+00	0
62	113	175	2.97293e+00	4.89674e-01	5.83481e-01	4.50726e-01	2.96691e+00	3.77190e+00	0
62	114	176	2.60793e+00	4.15415e-01	6.38724e-01	5.16833e-01	2.86835e+00	3.64289e+00	0
62	115	177	3.00174e+00	4.52619e-01	7.41978e-01	5.04705e-01	2.99501e+00	3.78662e+00	0
62	116	178	2.57556e+00	3.78969e-01	7.55672e-01	5.48010e-01	3.09708e+00	3.90254e+00	0
62	117	179	3.05315e+00	4.46151e-01	6.43394e-01	5.01512e-01	3.61880e+00	4.46848e+00	0
62	118	180	2.49809e+00	3.58872e-01	8.46761e-01	5.66567e-01	3.31990e+00	4.15754e+00	0
62	119	181	2.90276e+00	3.99931e-01	9.67710e-01	5.72474e-01	3.42098e+00	4.24361e+00	0
62	120	182	2.69565e+00	4.04635e-01	8.50779e-01	6.20441e-01	3.64088e+00	4.50955e+00	0
62	121	183	2.82705e+00	3.87257e-01	9.92735e-01	5.94956e-01	3.73465e+00	4.61172e+00	0
62	122	184	2.55460e+00	4.32847e-01	9.33741e-01	6.67854e-01	3.62227e+00	4.48944e+00	0
62	123	185	2.49172e+00	3.08651e-01	1.01161e+00	5.59433e-01	3.79190e+00	4.67457e+00	0
62	124	186	1.90222e+00	3.46533e-01	9.85706e-01	6.40410e-01	3.83344e+00	4.71981e+00	0
62	125	187	2.38614e+00	2.98606e-01	1.04572e+00	5.84449e-01	4.12457e+00	5.01483e+00	0
62	126	188	1.88377e+00	3.66951e-01	1.03820e+00	7.11583e-01	4.22139e+00	5.14183e+00	0
62	127	189	2.13111e+00	4.10056e-01	1.54876e+00	6.98028e-01	4.68578e+00	5.63709e+00	0
62	128	190	2.47281e+00	4.02917e-01	2.14554e+00	7.84285e-01	4.23866e+00	5.16017e+00	0
62	129	191	2.43809e+00	3.96371e-01	2.95237e+00	8.17333e-01	4.40124e+00	5.29836e+00	0
62	130	192	2.40833e+00	4.93575e-01	3.34051e+00	8.00515e-01	4.37108e+00	5.30390e+00	0
62	131	193	2.31262e+00	4.67257e-01	4.09177e+00	7.84989e-01	4.59656e+00	5.54920e+00	0
62	132	194	1.76389e+00	3.50225e-01	4.57656e+00	7.17566e-01	4.56973e+00	5.49285e+00	0
62	133	195	1.67947e+00	3.16649e-01	5.25020e+00	7.15771e-01	4.68879e+00	5.62092e+00	0
62	134	196	1.52993e+00	2.57289e-01	5.14888e+00	6.63594e-01	4.78126e+00	5.71015e+00	0
62	135	197	1.54679e+00	2.44088e-01	5.54494e+00	6.62072e-01	5.01025e+00	5.98835e+00	0
62	136	198	1.53630e+00	2.10965e-01	5.05241e+00	6.30528e-01	4.97260e+00	5.95756e+00	0
62	137	199	1.53042e+00	2.05396e-01	5.31967e+00	6.33037e-01	5.22931e+00	6.23609e+00	0
62	138	200	1.55507e+00	2.04711e-01	5.10470e+00	6.12897e-01	5.17382e+00	6.17589e+00	0
62	139	201	1.61883e+00	2.07949e-01	5.67408e+00	6.31302e-01	5.24814e+00	6.21403e+00	0
62	140	202	1.63113e+00	2.18679e-01	5.28687e+00	6.12943e-01	5.27279e+00	6.27379e+00	0
62	141	203	1.61588e+00	2.38588e-01	5.79849e+00	6.34294e-01	5.44951e+00	6.47498e+00	0
62	142	204	1.70569e+00	2.44702e-01	5.50829e+00	6.24675e-01	5.46948e+00	6.49665e+00	0
62	143	205	1.69173e+00	2.57711e-01	6.16411e+00	6.44982e-01	5.65715e+00	6.70004e+00	0
62	144	206	1.72651e+00	2.33378e-01	6.07871e+00	6.34007e-01	5.66698e+00	6.70100e+00	0
62	145	207	1.70187e+00	2.59198e-01	6.94667e+00	6.59526e-01	5.75885e+00	6.78024e+00	0
62	146	208	1.70664e+00	2.33920e-01	6.88544e+00	6.47481e-01	5.77877e+00	6.83184e+00	0
Europium (Eu)									
63	87	150	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	9.65884e-02	2.69053e-01	1
63	89	152	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.36911e-01	8.38111e-01	1
63	91	154	1.73335e+00	2.42601e-01	0.00000e+00	0.00000e+00	5.62200e-01	9.89657e-01	1
63	92	155	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.41149e-02	1.47062e-01	1
63	93	156	1.94626e+00	2.06584e-01	0.00000e+00	0.00000e+00	7.98089e-01	1.30945e+00	1
63	94	157	3.10805e+00	1.27399e-01	0.00000e+00	0.00000e+00	3.29078e-01	6.66724e-01	1
63	95	158	2.12909e+00	3.43755e-01	0.00000e+00	0.00000e+00	1.10404e+00	1.65299e+00	1
63	96	159	2.60780e+00	2.10278e-01	0.00000e+00	0.00000e+00	7.53391e-01	1.23979e+00	1
63	97	160	2.57228e+00	9.04122e-01	0.00000e+00	0.00000e+00	8.27121e-01	1.31814e+00	1
63	98	161	2.73442e+00	6.28344e-01	0.00000e+00	0.00000e+00	7.76353e-01	1.26687e+00	1
63	99	162	2.96354e+00	9.56082e-01	0.00000e+00	0.00000e+00	1.10562e+00	1.66245e+00	1
63	100	163	3.40099e+00	6.46856e-01	0.00000e+00	0.00000e+00	1.04542e+00	1.61396e+00	1
63	101	164	3.63831e+00	1.00338e+00	4.48660e-05	3.08375e-02	1.13721e+00	1.71232e+00	1
63	102	165	3.51538e+00	7.66582e-01	2.34125e-03	2.20933e-01	1.26840e+00	1.87611e+00	1
63	103	166	3.48620e+00	9.27211e-01	7.76033e-03	2.62629e-01	1.93101e+00	2.61819e+00	0
63	104	167	3.06159e+00	7.86679e-01	1.52809e-01	3.36253e-01	1.59967e+00	2.25819e+00	0
63	105	168	3.44674e+00	9.72831e-01	4.90693e-02	3.64738e-01	2.29644e+00	3.04236e+00	0
63	106	169	2.24655e+00	7.03725e-01	4.17205e-01	4.91058e-01	1.93223e+00	2.63516e+00	0
63	107	170	2.61056e+00	8.73152e-01	4.73541e-01	4.91807e-01	2.10220e+00	2.82266e+00	0
63	108	171	2.37465e+00	6.31379e-01	3.56291e-01	5.75256e-01	2.61470e+00	3.39396e+00	0
63	109	172	2.81453e+00	8.11601e-01	4.21962e-01	5.35369e-01	2.72633e+00	3.51687e+00	0

(continued on next page)

Table 1 (continued)

63	110	173	2.17045e+00	5.76676e-01	5.72039e-01	6.17840e-01	2.82459e+00	3.60281e+00	0
63	111	174	2.59212e+00	6.61103e-01	6.22920e-01	5.72113e-01	2.97882e+00	3.78784e+00	0
63	112	175	2.41375e+00	5.81558e-01	9.24233e-01	7.10095e-01	2.57456e+00	3.34991e+00	0
63	113	176	2.64892e+00	5.56101e-01	9.07730e-01	6.36580e-01	2.83114e+00	3.60486e+00	0
63	114	177	2.72622e+00	6.59607e-01	9.53980e-01	6.92222e-01	2.70113e+00	3.46207e+00	0
63	115	178	2.35987e+00	5.07052e-01	9.79360e-01	6.01721e-01	3.15544e+00	3.98877e+00	0
63	116	179	2.51459e+00	6.03969e-01	9.16946e-01	6.68514e-01	3.26068e+00	4.09857e+00	0
63	117	180	2.26100e+00	4.73624e-01	1.06799e+00	5.93270e-01	3.54808e+00	4.41976e+00	0
63	118	181	2.41008e+00	6.24552e-01	9.98762e-01	6.57985e-01	3.50644e+00	4.35910e+00	0
63	119	182	2.14040e+00	4.58965e-01	1.35638e+00	6.29390e-01	3.45045e+00	4.31291e+00	0
63	120	183	2.54260e+00	6.92548e-01	1.20661e+00	6.60531e-01	3.31798e+00	4.14206e+00	0
63	121	184	1.80167e+00	4.61091e-01	1.58110e+00	6.39205e-01	3.45439e+00	4.31761e+00	0
63	122	185	2.56729e+00	7.70246e-01	1.22367e+00	6.80667e-01	3.34827e+00	4.20157e+00	0
63	123	186	1.61815e+00	4.48406e-01	1.45857e+00	6.47464e-01	3.72056e+00	4.60246e+00	0
63	124	187	2.72209e+00	8.02005e-01	1.10088e+00	7.52761e-01	3.54567e+00	4.40283e+00	0
63	125	188	1.90929e+00	5.79363e-01	1.46182e+00	6.87911e-01	3.79054e+00	4.66377e+00	0
63	126	189	2.60012e+00	8.47980e-01	1.18477e+00	7.65821e-01	3.86778e+00	4.76816e+00	0
63	127	190	2.13768e+00	5.48957e-01	1.98460e+00	8.20878e-01	4.33374e+00	5.25084e+00	0
63	128	191	1.85727e+00	4.84485e-01	2.68706e+00	8.25134e-01	3.96376e+00	4.87408e+00	0
63	129	192	1.87009e+00	4.64599e-01	3.35616e+00	8.37564e-01	4.05560e+00	4.93175e+00	0
63	130	193	2.06676e+00	5.45356e-01	3.60049e+00	8.2398e-01	4.23423e+00	5.12911e+00	0
63	131	194	2.17017e+00	5.94123e-01	4.21625e+00	8.12751e-01	4.36534e+00	5.30195e+00	0
63	132	195	1.99164e+00	5.45447e-01	4.76788e+00	7.86711e-01	4.22273e+00	5.11508e+00	0
63	133	196	1.54910e+00	4.21359e-01	5.28479e+00	7.37876e-01	4.62087e+00	5.56109e+00	0
63	134	197	1.38165e+00	3.58014e-01	5.40097e+00	7.02383e-01	4.60015e+00	5.52558e+00	0
63	135	198	1.44306e+00	3.32241e-01	5.70431e+00	6.87392e-01	4.82355e+00	5.81167e+00	0
63	136	199	1.43029e+00	3.09168e-01	5.45799e+00	6.62379e-01	4.73342e+00	5.71351e+00	0
63	137	200	1.46360e+00	2.93561e-01	5.44970e+00	6.53892e-01	5.13174e+00	6.14713e+00	0
63	138	201	1.48576e+00	2.96890e-01	5.21978e+00	6.38361e-01	5.11866e+00	6.13291e+00	0
63	139	202	1.48718e+00	2.97275e-01	5.68746e+00	6.47870e-01	5.18182e+00	6.17008e+00	0
63	140	203	1.45516e+00	3.07971e-01	5.41695e+00	6.37625e-01	5.23328e+00	6.25764e+00	0
63	141	204	1.56580e+00	3.19211e-01	5.77688e+00	6.51782e-01	5.33807e+00	6.37167e+00	0
63	142	205	1.59022e+00	3.37172e-01	5.57255e+00	6.51761e-01	5.38033e+00	6.41758e+00	0
63	143	206	1.64675e+00	3.27174e-01	6.08033e+00	6.68248e-01	5.48987e+00	6.53667e+00	0
63	144	207	1.58103e+00	3.04453e-01	6.12712e+00	6.65912e-01	5.49837e+00	6.54589e+00	0
63	145	208	1.60901e+00	3.12395e-01	6.73046e+00	6.82602e-01	5.59907e+00	6.65498e+00	0
63	146	209	1.56256e+00	3.04702e-01	6.74961e+00	6.76172e-01	5.64448e+00	6.67441e+00	0
63	147	210	1.62222e+00	3.27823e-01	7.36523e+00	6.94771e-01	5.81941e+00	6.86171e+00	0
63	148	211	1.62013e+00	3.27287e-01	7.64957e+00	6.98779e-01	5.85029e+00	6.92807e+00	0
Gadolinium (Gd)									
64	95	159	2.24140e+00	1.64535e-01	0.00000e+00	0.00000e+00	1.95023e-01	4.53179e-01	1
64	97	161	2.20216e+00	2.06378e-01	0.00000e+00	0.00000e+00	5.46885e-01	9.84897e-01	1
64	98	162	2.60373e+00	1.96372e-01	0.00000e+00	0.00000e+00	3.79908e-01	7.73151e-01	1
64	99	163	3.36866e+00	3.93039e-01	0.00000e+00	0.00000e+00	7.28422e-01	1.20056e+00	1
64	100	164	2.30464e+00	3.28892e-01	0.00000e+00	0.00000e+00	5.95237e-01	1.04916e+00	1
64	101	165	3.29247e+00	6.02568e-01	0.00000e+00	0.00000e+00	8.04494e-01	1.32282e+00	1
64	102	166	3.14129e+00	3.47939e-01	0.00000e+00	0.00000e+00	9.27590e-01	1.48728e+00	1
64	103	167	2.66394e+00	4.57833e-01	0.00000e+00	0.00000e+00	1.63553e+00	2.28742e+00	1
64	104	168	2.92847e+00	4.30319e-01	0.00000e+00	0.00000e+00	1.12159e+00	1.71086e+00	0
64	105	169	3.07306e+00	5.25992e-01	4.91292e-06	4.54958e-02	1.88918e+00	2.59288e+00	0
64	106	170	3.24785e+00	4.34228e-01	3.76501e-04	1.74105e-01	1.54167e+00	2.18977e+00	0
64	107	171	3.80101e+00	7.35833e-01	4.10211e-03	2.29372e-01	1.72324e+00	2.37855e+00	0
64	108	172	3.42836e+00	4.70082e-01	5.07911e-03	3.05059e-01	1.88122e+00	2.58343e+00	0
64	109	173	3.81959e+00	7.74982e-01	2.64409e-02	2.65523e-01	2.03289e+00	2.74056e+00	0
64	110	174	3.56030e+00	5.25342e-01	4.64377e-02	3.38720e-01	2.07819e+00	2.78501e+00	0
64	111	175	3.73308e+00	7.50135e-01	1.31031e-01	2.98157e-01	2.25612e+00	3.00590e+00	0
64	112	176	3.37931e+00	5.37078e-01	1.57025e-01	3.85952e-01	2.23782e+00	2.97019e+00	0
64	113	177	3.33552e+00	6.58662e-01	2.64726e-01	3.51471e-01	2.55990e+00	3.34253e+00	0
64	114	178	2.92556e+00	4.97929e-01	3.43454e-01	4.16865e-01	2.41173e+00	3.14754e+00	0
64	115	179	3.10129e+00	5.81338e-01	4.85157e-01	3.98876e-01	2.49394e+00	3.25653e+00	0
64	116	180	2.61804e+00	4.49749e-01	4.92015e-01	4.38194e-01	2.64114e+00	3.43352e+00	0
64	117	181	3.18871e+00	5.49814e-01	3.85684e-01	4.16704e-01	3.11124e+00	3.95213e+00	0
64	118	182	2.48025e+00	4.30913e-01	5.49448e-01	4.40587e-01	2.96860e+00	3.79596e+00	0
64	119	183	2.84407e+00	4.16812e-01	7.44221e-01	4.71787e-01	3.08432e+00	3.92332e+00	0
64	120	184	2.25188e+00	3.62947e-01	7.04489e-01	5.07874e-01	3.06383e+00	3.88149e+00	0
64	121	185	2.63296e+00	4.03702e-01	7.66261e-01	4.70877e-01	3.23870e+00	4.08612e+00	0
64	122	186	2.22294e+00	3.61887e-01	8.43152e-01	5.86614e-01	3.12025e+00	3.96315e+00	0
64	123	187	2.38837e+00	3.56542e-01	8.74334e-01	4.68259e-01	3.23007e+00	4.08426e+00	0
64	124	188	1.74401e+00	4.37193e-01	7.96784e-01	5.01361e-01	3.32000e+00	4.16360e+00	0
64	125	189	2.07146e+00	3.78149e-01	8.97393e-01	4.38901e-01	3.61203e+00	4.49302e+00	0
64	126	190	1.44177e+00	3.26227e-01	9.79743e-01	6.08541e-01	3.62203e+00	4.51454e+00	0
64	127	191	2.76911e+00	4.52406e-01	1.14710e+00	7.20630e-01	4.06472e+00	4.97682e+00	0
64	128	192	2.35259e+00	3.91559e-01	1.82887e+00	7.38013e-01	3.68030e+00	4.56360e+00	0
64	129	193	2.46737e+00	5.29403e-01	2.44329e+00	7.88550e-01	3.78625e+00	4.68993e+00	0
64	130	194	2.39087e+00	4.99258e-01	2.86071e+00	7.85779e-01	3.72573e+00	4.62262e+00	0
64	131	195	2.01907e+00	3.61815e-01	3.56103e+00	7.46692e-01	3.83109e+00	4.71916e+00	0
64	132	196	1.77838e+00	2.90601e-01	3.77440e+00	6.80217e-01	3.95133e+00	4.87446e+00	0

(continued on next page)

Table 1 (continued)

64	133	197	1.71225e+00	2.71890e-01	3.64308e+00	6.63423e-01	4.28022e+00	5.23449e+00	0
64	134	198	1.93504e+00	2.77716e-01	3.39722e+00	6.43387e-01	4.28135e+00	5.22116e+00	0
64	135	199	1.81468e+00	2.39379e-01	3.79928e+00	6.42037e-01	4.47667e+00	5.44924e+00	0
64	136	200	1.90503e+00	2.47073e-01	3.31165e+00	6.08603e-01	4.52566e+00	5.48701e+00	0
64	137	201	1.87538e+00	2.27819e-01	3.54999e+00	6.10813e-01	4.74586e+00	5.70332e+00	0
64	138	202	1.92409e+00	2.31853e-01	3.27228e+00	6.00528e-01	4.68369e+00	5.67539e+00	0
64	139	203	1.99993e+00	2.29116e-01	3.75539e+00	6.24764e-01	4.79117e+00	5.76394e+00	0
64	140	204	2.12068e+00	2.60862e-01	3.42225e+00	6.14454e-01	4.87980e+00	5.88957e+00	0
64	141	205	2.01271e+00	2.50480e-01	3.88699e+00	6.31149e-01	5.01879e+00	5.99987e+00	0
64	142	206	1.98066e+00	2.41310e-01	3.72475e+00	6.20040e-01	5.04028e+00	6.03654e+00	0
64	143	207	1.94614e+00	2.41718e-01	4.19528e+00	6.46532e-01	5.18394e+00	6.17984e+00	0
64	144	208	1.95294e+00	2.32138e-01	4.05422e+00	6.32368e-01	5.21579e+00	6.22790e+00	0
64	145	209	1.88354e+00	2.36374e-01	4.73967e+00	6.64035e-01	5.25217e+00	6.25332e+00	0
64	146	210	1.83742e+00	2.22865e-01	4.61370e+00	6.50264e-01	5.41591e+00	6.44596e+00	0
64	147	211	1.84031e+00	2.16233e-01	5.30970e+00	6.81482e-01	5.57380e+00	6.63593e+00	0
64	148	212	1.76480e+00	2.11036e-01	5.39809e+00	6.74101e-01	5.61824e+00	6.65457e+00	0
64	149	213	1.77260e+00	2.12838e-01	6.19953e+00	7.04235e-01	5.77036e+00	6.83131e+00	0
64	150	214	1.73561e+00	2.06992e-01	6.46336e+00	7.01523e-01	5.78133e+00	6.87282e+00	0
Terbium (Tb)									
65	89	154	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
65	91	156	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.60264e-02	2.79671e-01	1
65	93	158	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.15747e-01	4.86716e-01	1
65	95	160	1.89697e+00	1.87190e-01	0.00000e+00	0.00000e+00	5.47017e-01	9.89383e-01	1
65	96	161	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.11449e-01	2.92208e-01	1
65	97	162	2.51715e+00	4.02426e-01	0.00000e+00	0.00000e+00	5.07722e-01	8.67502e-01	1
65	98	163	1.98513e+00	2.38076e-01	0.00000e+00	0.00000e+00	4.64436e-01	8.71335e-01	1
65	99	164	3.12539e+00	4.37126e-01	0.00000e+00	0.00000e+00	9.87820e-01	1.51751e+00	1
65	100	165	2.73057e+00	3.51294e-01	0.00000e+00	0.00000e+00	8.09897e-01	1.29794e+00	1
65	101	166	2.59161e+00	7.14927e-01	0.00000e+00	0.00000e+00	1.21095e+00	1.78554e+00	1
65	102	167	3.11570e+00	5.51516e-01	0.00000e+00	0.00000e+00	9.25870e-01	1.46368e+00	1
65	103	168	3.28239e+00	7.40210e-01	0.00000e+00	0.00000e+00	1.38174e+00	2.01206e+00	1
65	104	169	3.37541e+00	6.83256e-01	2.24995e-04	8.13239e-02	1.13220e+00	1.70947e+00	0
65	105	170	3.47049e+00	8.78455e-01	2.48476e-04	1.23945e-01	1.70251e+00	2.37723e+00	0
65	106	171	3.39722e+00	7.84437e-01	2.88599e-02	2.88357e-01	1.37973e+00	1.98756e+00	0
65	107	172	3.83159e+00	1.07339e+00	3.58505e-02	2.74187e-01	1.56228e+00	2.22764e+00	0
65	108	173	3.23637e+00	8.15733e-01	1.18250e-01	3.76012e-01	1.68121e+00	2.36731e+00	0
65	109	174	3.37027e+00	1.07088e+00	2.00895e-01	3.80806e-01	1.83222e+00	2.50809e+00	0
65	110	175	2.06219e+00	7.23635e-01	5.18055e-01	4.85618e-01	1.92765e+00	2.61017e+00	0
65	111	176	2.23761e+00	7.83021e-01	6.14057e-01	4.70790e-01	2.05215e+00	2.77039e+00	0
65	112	177	2.05037e+00	5.71034e-01	5.50181e-01	5.80655e-01	2.47670e+00	3.25946e+00	0
65	113	178	2.48682e+00	6.80677e-01	5.82214e-01	5.32665e-01	2.59459e+00	3.38993e+00	0
65	114	179	2.09762e+00	5.51252e-01	6.48766e-01	6.17261e-01	2.68237e+00	3.47512e+00	0
65	115	180	2.48982e+00	6.38743e-01	6.57416e-01	5.43306e-01	2.80199e+00	3.59352e+00	0
65	116	181	2.26914e+00	5.55720e-01	7.47825e-01	6.54586e-01	2.82014e+00	3.64052e+00	0
65	117	182	2.32797e+00	6.53676e-01	6.99137e-01	5.01812e-01	3.11231e+00	3.96468e+00	0
65	118	183	2.18682e+00	5.73398e-01	8.58578e-01	6.43725e-01	3.09764e+00	3.92537e+00	0
65	119	184	2.41025e+00	5.36398e-01	1.09931e+00	6.16129e-01	2.82403e+00	3.63802e+00	0
65	120	185	2.08665e+00	6.39142e-01	9.04341e-01	6.32190e-01	3.12108e+00	3.95220e+00	0
65	121	186	2.28193e+00	6.12346e-01	9.50861e-01	5.95101e-01	3.25027e+00	4.11109e+00	0
65	122	187	2.22448e+00	6.95555e-01	9.73025e-01	6.85538e-01	3.23642e+00	4.08540e+00	0
65	123	188	2.35305e+00	5.64541e-01	1.17353e+00	6.83768e-01	2.94786e+00	3.76484e+00	0
65	124	189	2.04241e+00	6.88837e-01	9.63693e-01	7.14228e-01	3.34144e+00	4.21164e+00	0
65	125	190	2.54999e+00	7.32376e-01	8.74076e-01	7.05083e-01	3.68441e+00	4.58824e+00	0
65	126	191	2.19538e+00	8.06711e-01	9.60268e-01	7.33189e-01	3.70969e+00	4.59737e+00	0
65	127	192	1.75779e+00	4.76060e-01	1.62226e+00	7.81466e-01	4.09006e+00	5.04090e+00	0
65	128	193	1.92972e+00	6.14796e-01	2.04815e+00	7.92579e-01	3.77652e+00	4.66965e+00	0
65	129	194	2.22455e+00	6.14897e-01	2.64306e+00	8.33238e-01	3.83349e+00	4.71500e+00	0
65	130	195	2.27697e+00	6.67151e-01	3.01968e+00	8.17282e-01	3.80332e+00	4.72118e+00	0
65	131	196	1.83865e+00	5.03706e-01	3.68117e+00	7.73386e-01	3.94363e+00	4.83883e+00	0
65	132	197	1.49696e+00	3.86873e-01	3.82871e+00	7.24196e-01	3.88623e+00	4.77895e+00	0
65	133	198	1.56604e+00	3.82919e-01	4.06951e+00	7.10747e-01	4.07526e+00	4.98209e+00	0
65	134	199	1.46909e+00	3.68454e-01	3.96355e+00	6.71462e-01	4.11529e+00	5.04440e+00	0
65	135	200	1.69032e+00	3.53696e-01	3.98578e+00	6.73215e-01	4.33610e+00	5.31075e+00	0
65	136	201	1.64858e+00	3.32987e-01	3.71374e+00	6.42679e-01	4.37133e+00	5.31176e+00	0
65	137	202	1.71973e+00	3.38325e-01	3.88296e+00	6.46456e-01	4.57561e+00	5.54489e+00	0
65	138	203	1.68876e+00	3.35190e-01	3.74317e+00	6.34619e-01	4.52417e+00	5.51693e+00	0
65	139	204	1.72109e+00	3.27875e-01	4.07520e+00	6.49425e-01	4.58964e+00	5.54368e+00	0
65	140	205	1.81345e+00	3.78154e-01	3.78587e+00	6.39670e-01	4.69404e+00	5.70305e+00	0
65	141	206	1.93320e+00	3.76236e-01	4.14467e+00	6.60109e-01	4.79173e+00	5.79967e+00	0
65	142	207	1.74209e+00	3.24704e-01	4.15929e+00	6.47395e-01	4.85165e+00	5.83295e+00	0
65	143	208	1.77927e+00	3.42207e-01	4.43273e+00	6.68988e-01	4.98677e+00	6.02351e+00	0
65	144	209	1.68517e+00	3.13678e-01	4.47793e+00	6.65739e-01	5.03625e+00	6.06742e+00	0
65	145	210	1.67578e+00	3.12183e-01	4.94590e+00	6.88052e-01	5.02863e+00	6.05724e+00	0
65	146	211	1.73957e+00	3.11162e-01	4.97206e+00	6.92991e-01	5.14481e+00	6.19653e+00	0
65	147	212	1.67914e+00	2.98362e-01	5.43080e+00	7.07275e-01	5.32255e+00	6.39080e+00	0
65	148	213	1.66564e+00	2.96739e-01	5.57022e+00	7.08933e-01	5.39231e+00	6.45622e+00	0
65	149	214	1.64746e+00	2.97475e-01	6.16605e+00	7.30887e-01	5.54478e+00	6.63386e+00	0

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Table 1 (continued)

65	150	215	1.59134e+00	2.88617e-01	6.46194e+00	7.32911e-01	5.57370e+00	6.63525e+00	0
65	151	216	1.63013e+00	2.97454e-01	7.28718e+00	7.62707e-01	5.56795e+00	6.65904e+00	0
65	152	217	1.61242e+00	3.02482e-01	7.55125e+00	7.60382e-01	5.78337e+00	6.86410e+00	0
65	153	218	1.71156e+00	3.56960e-01	8.21572e+00	7.84968e-01	5.97424e+00	7.08671e+00	0
Dysprosium (Dy)									
66	99	165	2.59703e+00	2.11049e-01	0.00000e+00	0.00000e+00	2.42574e-01	5.25169e-01	1
66	100	166	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.63812e-02	2.39533e-01	1
66	101	167	1.91447e+00	2.77285e-01	0.00000e+00	0.00000e+00	6.91246e-01	1.17287e+00	1
66	102	168	2.48344e+00	1.85747e-01	0.00000e+00	0.00000e+00	3.63197e-01	7.35515e-01	1
66	103	169	1.49824e+00	3.04858e-01	0.00000e+00	0.00000e+00	1.09893e+00	1.67025e+00	1
66	104	170	1.71386e+00	3.28505e-01	0.00000e+00	0.00000e+00	6.39451e-01	1.08683e+00	0
66	105	171	3.08156e+00	3.69840e-01	0.00000e+00	0.00000e+00	1.33427e+00	1.95183e+00	0
66	106	172	2.92559e+00	3.28629e-01	0.00000e+00	0.00000e+00	9.41015e-01	1.50467e+00	0
66	107	173	3.52093e+00	6.46069e-01	0.00000e+00	0.00000e+00	1.20645e+00	1.82227e+00	0
66	108	174	3.14116e+00	3.78634e-01	0.00000e+00	0.00000e+00	1.26810e+00	1.89885e+00	0
66	109	175	3.78737e+00	7.15952e-01	1.44791e-04	1.41677e-01	1.48698e+00	2.15100e+00	0
66	110	176	3.49171e+00	4.77910e-01	1.46351e-03	2.43219e-01	1.50535e+00	2.17377e+00	0
66	111	177	3.91405e+00	7.68131e-01	8.51438e-03	2.27559e-01	1.72228e+00	2.39220e+00	0
66	112	178	3.67342e+00	5.41941e-01	2.20782e-02	3.18545e-01	1.73452e+00	2.43616e+00	0
66	113	179	3.97791e+00	7.94521e-01	6.49844e-02	2.97843e-01	1.84150e+00	2.53916e+00	0
66	114	180	3.55986e+00	5.58152e-01	8.95457e-02	3.76167e-01	1.91531e+00	2.62562e+00	0
66	115	181	3.79693e+00	7.48800e-01	1.66405e-01	3.23426e-01	2.11500e+00	2.84143e+00	0
66	116	182	3.20777e+00	5.25798e-01	2.09878e-01	3.92663e-01	2.13830e+00	2.89022e+00	0
66	117	183	3.50421e+00	6.53686e-01	1.30956e-01	3.42807e-01	2.75012e+00	3.57382e+00	0
66	118	184	3.12427e+00	5.07488e-01	2.35936e-01	4.06001e-01	2.54254e+00	3.31340e+00	0
66	119	185	2.84640e+00	5.75823e-01	4.77231e-01	3.36538e-01	2.55381e+00	3.33213e+00	0
66	120	186	2.78054e+00	4.97227e-01	3.33067e-01	3.70328e-01	2.57747e+00	3.38313e+00	0
66	121	187	2.84653e+00	6.13888e-01	4.61491e-01	3.36291e-01	2.76369e+00	3.57443e+00	0
66	122	188	2.08325e+00	4.22998e-01	6.50836e-01	4.67943e-01	2.63068e+00	3.44263e+00	0
66	123	189	2.66380e+00	5.98599e-01	5.75428e-01	3.67410e-01	2.70257e+00	3.52293e+00	0
66	124	190	2.64570e+00	6.24534e-01	4.17291e-01	3.86366e-01	2.78863e+00	3.60832e+00	0
66	125	191	2.57319e+00	7.18489e-01	5.48361e-01	3.42626e-01	3.07295e+00	3.93421e+00	0
66	126	192	1.53180e+00	4.99188e-01	7.54750e-01	4.63494e-01	3.08813e+00	3.93070e+00	0
66	127	193	2.80090e+00	3.89476e-01	1.01149e+00	7.00513e-01	3.49902e+00	4.40490e+00	0
66	128	194	2.49144e+00	6.49986e-01	1.39936e+00	7.42700e-01	3.16051e+00	4.00143e+00	0
66	129	195	2.95579e+00	6.44526e-01	1.98382e+00	8.38233e-01	3.27940e+00	4.15281e+00	0
66	130	196	1.87156e+00	3.29804e-01	2.54412e+00	7.31182e-01	3.22363e+00	4.08104e+00	0
66	131	197	1.98638e+00	3.33120e-01	2.59385e+00	7.02412e-01	3.58701e+00	4.49587e+00	0
66	132	198	1.88735e+00	2.79400e-01	2.67294e+00	6.62697e-01	3.41581e+00	4.30495e+00	0
66	133	199	1.94009e+00	2.95656e-01	2.59350e+00	6.36896e-01	3.83762e+00	4.76324e+00	0
66	134	200	2.00424e+00	2.40452e-01	2.54506e+00	6.13572e-01	3.75435e+00	4.68597e+00	0
66	135	201	2.27038e+00	3.05911e-01	2.67638e+00	6.34535e-01	3.92934e+00	4.87515e+00	0
66	136	202	2.04423e+00	2.42224e-01	2.37414e+00	5.80324e-01	3.99338e+00	4.92721e+00	0
66	137	203	2.19405e+00	2.81364e-01	2.43165e+00	6.01639e-01	4.28403e+00	5.26903e+00	0
66	138	204	2.19996e+00	2.57700e-01	2.27382e+00	5.74526e-01	4.26471e+00	5.22439e+00	0
66	139	205	2.42371e+00	3.13535e-01	2.59317e+00	6.18645e-01	4.35948e+00	5.31526e+00	0
66	140	206	2.17863e+00	2.51710e-01	2.48599e+00	5.87885e-01	4.47161e+00	5.45063e+00	0
66	141	207	2.25133e+00	2.64955e-01	2.83589e+00	6.17890e-01	4.53977e+00	5.55040e+00	0
66	142	208	2.23151e+00	2.53893e-01	2.72765e+00	6.09549e-01	4.55798e+00	5.57038e+00	0
66	143	209	2.14198e+00	2.44851e-01	3.05122e+00	6.29874e-01	4.72314e+00	5.71210e+00	0
66	144	210	2.21656e+00	2.64397e-01	2.93767e+00	6.35041e-01	4.77187e+00	5.80541e+00	0
66	145	211	2.09141e+00	2.43454e-01	3.50822e+00	6.64194e-01	4.83712e+00	5.87707e+00	0
66	146	212	2.14968e+00	2.65360e-01	3.33441e+00	6.62557e-01	4.85548e+00	5.86966e+00	0
66	147	213	2.09414e+00	2.55361e-01	3.87739e+00	6.91619e-01	4.98214e+00	6.00723e+00	0
66	148	214	1.94328e+00	2.25159e-01	3.89781e+00	6.75300e-01	5.03578e+00	6.09514e+00	0
66	149	215	1.90064e+00	2.33056e-01	4.44967e+00	7.06320e-01	5.20089e+00	6.23392e+00	0
66	150	216	1.80081e+00	2.25928e-01	4.58509e+00	7.01339e-01	5.27699e+00	6.35042e+00	0
66	151	217	1.84140e+00	2.19874e-01	5.32471e+00	7.36880e-01	5.34466e+00	6.42341e+00	0
66	152	218	1.73922e+00	2.16341e-01	5.33518e+00	7.24418e-01	5.48162e+00	6.55557e+00	0
66	153	219	1.76510e+00	2.16927e-01	6.05437e+00	7.61136e-01	5.66037e+00	6.78003e+00	0
66	154	220	1.72297e+00	2.09643e-01	6.34400e+00	7.50554e-01	5.67247e+00	6.76459e+00	0
66	155	221	1.69743e+00	2.29523e-01	7.15887e+00	7.84681e-01	5.83056e+00	6.93718e+00	0
Holmium (Ho)									
67	95	162	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.37260e-02	1.61927e-01	1
67	97	164	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.18940e-01	4.96433e-01	1
67	99	166	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.29360e-01	9.64380e-01	1
67	100	167	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.48388e-01	3.57202e-01	1
67	101	168	3.42421e+00	5.79189e-01	0.00000e+00	0.00000e+00	3.48026e-01	6.79562e-01	1
67	102	169	3.42786e+00	2.46712e-01	0.00000e+00	0.00000e+00	4.52912e-01	8.49249e-01	1
67	103	170	3.21968e+00	4.41180e-01	0.00000e+00	0.00000e+00	9.93674e-01	1.53860e+00	1
67	104	171	2.40874e+00	3.80705e-01	0.00000e+00	0.00000e+00	9.03091e-01	1.44270e+00	1
67	105	172	2.33559e+00	8.18086e-01	0.00000e+00	0.00000e+00	1.37524e+00	2.01254e+00	0
67	106	173	2.64314e+00	3.73700e-01	0.00000e+00	0.00000e+00	1.33713e+00	1.97726e+00	0
67	107	174	3.19137e+00	7.35100e-01	0.00000e+00	0.00000e+00	1.63131e+00	2.31884e+00	0
67	108	175	2.73896e+00	4.45852e-01	7.18148e-05	1.72534e-01	1.73060e+00	2.41801e+00	0
67	109	176	3.42403e+00	8.59490e-01	7.11539e-04	1.84783e-01	1.88620e+00	2.58659e+00	0
67	110	177	2.94811e+00	5.89523e-01	9.79320e-03	2.80688e-01	1.98795e+00	2.72727e+00	0

(continued on next page)

Table 1 (continued)

67	111	178	3.51035e+00	9.32043e-01	2.66918e-02	2.96617e-01	2.07928e+00	2.81971e+00	0
67	112	179	2.91494e+00	6.39047e-01	1.15884e-01	3.77965e-01	2.15681e+00	2.89430e+00	0
67	113	180	3.19390e+00	9.16525e-01	1.65897e-01	3.76076e-01	2.24230e+00	3.01481e+00	0
67	114	181	2.62128e+00	6.35330e-01	2.84142e-01	5.24347e-01	2.25138e+00	3.02573e+00	0
67	115	182	3.05788e+00	8.56223e-01	2.61074e-01	4.51780e-01	2.51010e+00	3.29006e+00	0
67	116	183	2.48329e+00	6.21440e-01	4.20876e-01	6.06731e-01	2.41857e+00	3.21347e+00	0
67	117	184	3.11590e+00	8.87804e-01	2.89844e-01	4.76521e-01	2.74393e+00	3.55306e+00	0
67	118	185	2.20510e+00	5.93796e-01	5.81237e-01	6.18362e-01	2.72476e+00	3.55673e+00	0
67	119	186	2.62427e+00	6.20602e-01	7.86068e-01	6.20955e-01	2.38252e+00	3.16790e+00	0
67	120	187	2.28628e+00	6.06924e-01	7.96795e-01	6.84321e-01	2.38945e+00	3.15444e+00	0
67	121	188	2.63423e+00	6.22420e-01	7.82281e-01	6.57892e-01	2.57214e+00	3.38518e+00	0
67	122	189	2.51804e+00	6.77863e-01	8.97081e-01	7.40785e-01	2.45272e+00	3.22441e+00	0
67	123	190	2.46293e+00	5.65676e-01	9.32498e-01	7.20341e-01	2.44637e+00	3.21701e+00	0
67	124	191	2.10379e+00	6.95279e-01	7.32018e-01	7.02973e-01	2.94100e+00	3.79786e+00	0
67	125	192	2.77292e+00	8.13074e-01	6.10298e-01	7.45794e-01	3.30603e+00	4.17991e+00	0
67	126	193	2.11850e+00	7.60281e-01	7.68797e-01	7.24366e-01	3.34057e+00	4.24118e+00	0
67	127	194	1.54148e+00	5.35237e-01	1.33145e+00	7.29534e-01	3.67310e+00	4.58361e+00	0
67	128	195	2.41874e+00	7.53228e-01	1.55342e+00	8.46787e-01	3.38197e+00	4.28599e+00	0
67	129	196	2.30209e+00	7.13252e-01	2.21430e+00	8.49445e-01	3.48102e+00	4.37258e+00	0
67	130	197	2.18836e+00	6.08348e-01	2.73451e+00	8.45996e-01	3.17405e+00	4.04907e+00	0
67	131	198	1.63891e+00	4.28951e-01	3.05826e+00	7.61891e-01	3.47417e+00	4.38888e+00	0
67	132	199	1.74265e+00	4.42721e-01	2.88342e+00	7.30099e-01	3.55526e+00	4.45375e+00	0
67	133	200	1.62526e+00	4.07979e-01	3.01757e+00	6.89093e-01	3.75538e+00	4.70108e+00	0
67	134	201	1.74621e+00	3.91699e-01	2.84834e+00	6.81045e-01	3.77698e+00	4.72504e+00	0
67	135	202	1.76421e+00	3.63779e-01	3.03085e+00	6.63191e-01	3.86604e+00	4.82339e+00	0
67	136	203	1.88680e+00	3.93761e-01	2.87117e+00	6.61593e-01	3.80395e+00	4.75033e+00	0
67	137	204	1.77262e+00	3.58747e-01	2.91661e+00	6.37765e-01	4.07480e+00	5.02906e+00	0
67	138	205	1.87167e+00	3.67082e-01	2.83130e+00	6.42172e-01	4.05111e+00	5.02399e+00	0
67	139	206	1.88033e+00	3.85677e-01	2.99618e+00	6.36465e-01	4.17878e+00	5.12826e+00	0
67	140	207	2.13954e+00	4.14303e-01	2.94799e+00	6.54612e-01	4.22669e+00	5.18484e+00	0
67	141	208	1.86125e+00	3.29293e-01	3.34605e+00	6.46499e-01	4.27977e+00	5.28029e+00	0
67	142	209	2.01743e+00	3.92536e-01	3.11831e+00	6.55662e-01	4.38448e+00	5.39580e+00	0
67	143	210	1.86456e+00	3.22261e-01	3.47954e+00	6.60961e-01	4.51739e+00	5.54222e+00	0
67	144	211	1.97335e+00	3.80916e-01	3.28650e+00	6.69642e-01	4.63076e+00	5.62723e+00	0
67	145	212	1.92156e+00	3.45609e-01	3.72470e+00	6.88771e-01	4.73962e+00	5.77691e+00	0
67	146	213	1.85797e+00	3.53628e-01	3.65839e+00	6.87735e-01	4.82338e+00	5.87956e+00	0
67	147	214	1.89962e+00	3.63031e-01	4.07814e+00	7.16437e-01	4.90223e+00	5.95554e+00	0
67	148	215	1.69443e+00	3.18234e-01	4.19018e+00	7.09419e-01	4.94776e+00	6.01655e+00	0
67	149	216	1.75572e+00	3.29653e-01	4.57645e+00	7.33199e-01	5.12324e+00	6.17831e+00	0
67	150	217	1.70731e+00	3.22804e-01	4.71281e+00	7.38875e-01	5.13263e+00	6.22012e+00	0
67	151	218	1.67543e+00	3.03737e-01	5.29005e+00	7.60867e-01	5.20184e+00	6.29633e+00	0
67	152	219	1.58475e+00	3.05184e-01	5.34628e+00	7.57846e-01	5.34042e+00	6.44879e+00	0
67	153	220	1.59482e+00	3.02470e-01	5.94128e+00	7.84637e-01	5.47061e+00	6.59167e+00	0
67	154	221	1.55412e+00	2.96137e-01	6.25460e+00	7.85234e-01	5.49522e+00	6.60775e+00	0
67	155	222	1.56524e+00	2.97516e-01	6.96617e+00	8.12514e-01	5.67549e+00	6.81714e+00	0
67	156	223	1.54804e+00	3.04859e-01	7.35513e+00	8.12347e-01	5.67348e+00	6.81500e+00	0
67	157	224	1.62110e+00	3.41271e-01	8.07561e+00	8.33767e-01	5.77304e+00	6.92406e+00	0
Erbium (Er)									
68	101	169	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.24956e-02	2.34589e-01	1
68	103	171	2.13451e+00	1.46458e-01	0.00000e+00	0.00000e+00	4.06030e-01	7.95795e-01	1
68	104	172	2.25571e+00	1.39119e-01	0.00000e+00	0.00000e+00	1.88306e-01	4.42497e-01	1
68	105	173	2.66560e+00	2.31595e-01	0.00000e+00	0.00000e+00	6.96026e-01	1.19472e+00	0
68	106	174	2.40719e+00	2.37439e-01	0.00000e+00	0.00000e+00	2.93581e-01	6.20287e-01	0
68	107	175	3.61728e+00	5.00416e-01	0.00000e+00	0.00000e+00	6.10909e-01	1.05038e+00	0
68	108	176	2.79904e+00	2.97180e-01	0.00000e+00	0.00000e+00	6.11954e-01	1.09067e+00	0
68	109	177	3.76304e+00	6.14168e-01	0.00000e+00	0.00000e+00	8.68937e-01	1.42574e+00	0
68	110	178	3.37611e+00	4.19672e-01	0.00000e+00	0.00000e+00	8.65124e-01	1.40282e+00	0
68	111	179	3.62038e+00	7.18623e-01	0.00000e+00	0.00000e+00	1.14296e+00	1.75863e+00	0
68	112	180	3.54882e+00	4.91552e-01	1.31394e-05	4.99160e-02	1.07797e+00	1.64518e+00	0
68	113	181	3.96327e+00	7.73658e-01	9.10407e-04	1.59779e-01	1.31640e+00	1.96261e+00	0
68	114	182	3.66489e+00	5.36136e-01	3.34394e-03	2.05805e-01	1.38290e+00	2.02863e+00	0
68	115	183	3.51080e+00	7.11328e-01	1.70167e-02	2.23292e-01	1.88855e+00	2.61304e+00	0
68	116	184	3.51897e+00	5.41695e-01	2.87744e-02	3.28929e-01	1.64106e+00	2.33855e+00	0
68	117	185	3.61460e+00	6.47829e-01	1.70630e-02	2.88115e-01	2.31047e+00	3.09411e+00	0
68	118	186	3.46560e+00	5.09421e-01	5.00649e-02	3.79887e-01	2.04121e+00	2.79434e+00	0
68	119	187	3.59770e+00	7.34220e-01	1.47020e-01	2.69277e-01	2.06976e+00	2.83046e+00	0
68	120	188	3.42061e+00	5.19849e-01	6.72099e-02	2.96888e-01	2.09242e+00	2.85605e+00	0
68	121	189	3.61124e+00	7.86307e-01	1.30738e-01	2.66672e-01	2.32380e+00	3.11631e+00	0
68	122	190	2.71368e+00	5.38069e-01	3.35151e-01	3.90416e-01	2.14962e+00	2.92106e+00	0
68	123	191	3.43792e+00	8.35691e-01	1.82333e-01	2.87707e-01	2.20543e+00	2.98518e+00	0
68	124	192	3.46592e+00	6.69132e-01	1.36888e-01	3.60800e-01	2.24849e+00	3.03467e+00	0
68	125	193	3.24892e+00	9.11487e-01	2.45443e-01	2.92958e-01	2.45298e+00	3.23910e+00	0
68	126	194	2.41058e+00	6.49924e-01	4.33545e-01	3.83887e-01	2.51591e+00	3.31532e+00	0
68	127	195	2.33988e+00	3.32144e-01	9.59860e-01	6.05677e-01	2.97705e+00	3.85064e+00	0
68	128	196	3.01616e+00	7.76734e-01	1.04318e+00	8.67922e-01	2.66335e+00	3.48000e+00	0
68	129	197	2.68407e+00	5.45685e-01	1.79593e+00	8.50840e-01	2.85616e+00	3.71305e+00	0
68	130	198	1.92665e+00	3.09791e-01	1.92388e+00	7.02287e-01	2.89276e+00	3.75483e+00	0

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Table 1 (continued)

68	131	199	2.01154e+00	3.55268e-01	2.02913e+00	7.00351e-01	3.26544e+00	4.17076e+00	0
68	132	200	2.00933e+00	3.05399e-01	1.82184e+00	6.23226e-01	3.14587e+00	4.03060e+00	0
68	133	201	2.29740e+00	3.29444e-01	1.87878e+00	6.55075e-01	3.45586e+00	4.38300e+00	0
68	134	202	2.37590e+00	3.15926e-01	1.80286e+00	6.08227e-01	3.30911e+00	4.21262e+00	0
68	135	203	2.48464e+00	3.66425e-01	2.01761e+00	6.57056e-01	3.50826e+00	4.44124e+00	0
68	136	204	2.47526e+00	3.27596e-01	1.67818e+00	5.84964e-01	3.50780e+00	4.44099e+00	0
68	137	205	2.40913e+00	3.31411e-01	1.84606e+00	6.08903e-01	3.76294e+00	4.72381e+00	0
68	138	206	2.59240e+00	3.46329e-01	1.58956e+00	5.77096e-01	3.79507e+00	4.75640e+00	0
68	139	207	2.54478e+00	3.40699e-01	1.94431e+00	6.19516e-01	3.93423e+00	4.90975e+00	0
68	140	208	2.56928e+00	3.11790e-01	1.80105e+00	5.86358e-01	3.95932e+00	4.93960e+00	0
68	141	209	2.62651e+00	3.47924e-01	2.17603e+00	6.33883e-01	4.01090e+00	4.99886e+00	0
68	142	210	2.44770e+00	2.87269e-01	1.98502e+00	5.90514e-01	4.11040e+00	5.10903e+00	0
68	143	211	2.55835e+00	3.47978e-01	2.27004e+00	6.40589e-01	4.27012e+00	5.28572e+00	0
68	144	212	2.24670e+00	2.57347e-01	2.26238e+00	6.05619e-01	4.27168e+00	5.28762e+00	0
68	145	213	2.39958e+00	3.13599e-01	2.57117e+00	6.57385e-01	4.38166e+00	5.37167e+00	0
68	146	214	2.23409e+00	2.59323e-01	2.53939e+00	6.43960e-01	4.47290e+00	5.48505e+00	0
68	147	215	2.23824e+00	2.66309e-01	2.90451e+00	6.76790e-01	4.62127e+00	5.64712e+00	0
68	148	216	2.25425e+00	2.82340e-01	2.84330e+00	6.80892e-01	4.62797e+00	5.65526e+00	0
68	149	217	2.10359e+00	2.45776e-01	3.29004e+00	6.99624e-01	4.79841e+00	5.86099e+00	0
68	150	218	2.09732e+00	2.68272e-01	3.19161e+00	7.02305e-01	4.79635e+00	5.86784e+00	0
68	151	219	2.01909e+00	2.50436e-01	3.78400e+00	7.34370e-01	4.87735e+00	5.91584e+00	0
68	152	220	1.93104e+00	2.34776e-01	3.71486e+00	7.21749e-01	4.99866e+00	6.05104e+00	0
68	153	221	1.93322e+00	2.41500e-01	4.26686e+00	7.61947e-01	5.15551e+00	6.23502e+00	0
68	154	222	1.80997e+00	2.26304e-01	4.43510e+00	7.51781e-01	5.19355e+00	6.26609e+00	0
68	155	223	1.81293e+00	2.23964e-01	5.14935e+00	7.90433e-01	5.33929e+00	6.46728e+00	0
68	156	224	1.79577e+00	2.21053e-01	5.31732e+00	7.76554e-01	5.35427e+00	6.45529e+00	0
68	157	225	1.78162e+00	2.20625e-01	6.13052e+00	8.12059e-01	5.47517e+00	6.61725e+00	0
68	158	226	1.67270e+00	2.11732e-01	6.32689e+00	7.87751e-01	5.50846e+00	6.64406e+00	0
68	159	227	1.68489e+00	2.18671e-01	7.20090e+00	8.16817e-01	5.58884e+00	6.73151e+00	0
Thulium (Tm)									
69	99	168	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.03200e-02	1.65298e-01	1
69	101	170	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.32636e-01	5.14328e-01	1
69	102	171	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
69	103	172	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.65611e-01	1.02625e+00	1
69	104	173	2.13949e+00	1.98810e-01	0.00000e+00	0.00000e+00	2.94073e-01	6.25004e-01	1
69	105	174	3.28029e+00	6.50282e-01	0.00000e+00	0.00000e+00	3.41553e-01	6.90307e-01	1
69	106	175	2.15453e+00	2.66967e-01	0.00000e+00	0.00000e+00	6.79151e-01	1.16877e+00	1
69	107	176	2.84227e+00	5.37153e-01	0.00000e+00	0.00000e+00	1.05682e+00	1.61098e+00	1
69	108	177	2.96150e+00	5.40661e-01	0.00000e+00	0.00000e+00	7.00164e-01	1.15240e+00	0
69	109	178	2.75450e+00	1.12134e+00	0.00000e+00	0.00000e+00	9.60171e-01	1.51131e+00	0
69	110	179	3.20164e+00	7.18960e-01	0.00000e+00	0.00000e+00	9.03472e-01	1.44465e+00	0
69	111	180	3.61520e+00	1.03294e+00	1.79687e-04	8.64806e-02	1.10946e+00	1.70350e+00	0
69	112	181	3.49791e+00	7.83590e-01	1.06621e-02	1.95141e-01	1.12717e+00	1.71748e+00	0
69	113	182	3.64143e+00	1.04498e+00	3.18311e-02	2.41331e-01	1.35210e+00	1.98265e+00	0
69	114	183	2.86503e+00	7.61393e-01	1.85866e-01	3.51719e-01	1.39107e+00	2.04485e+00	0
69	115	184	3.01897e+00	8.92024e-01	1.67464e-01	3.37225e-01	1.93538e+00	2.66162e+00	0
69	116	185	2.06364e+00	6.50668e-01	4.48981e-01	5.15353e-01	1.63063e+00	2.32675e+00	0
69	117	186	3.34340e+00	9.71667e-01	1.19073e-01	4.18838e-01	2.18080e+00	2.95335e+00	0
69	118	187	2.01391e+00	7.19622e-01	5.10142e-01	5.02758e-01	1.93783e+00	2.66632e+00	0
69	119	188	3.01107e+00	9.10691e-01	2.49128e-01	5.23761e-01	2.39376e+00	3.20156e+00	0
69	120	189	2.55587e+00	6.68504e-01	2.52705e-01	6.41216e-01	2.37370e+00	3.14824e+00	0
69	121	190	3.21491e+00	9.34081e-01	2.55056e-01	5.89774e-01	2.54047e+00	3.34287e+00	0
69	122	191	2.25171e+00	7.17411e-01	4.68424e-01	6.11904e-01	2.44415e+00	3.23849e+00	0
69	123	192	2.99534e+00	9.41018e-01	3.23518e-01	6.44758e-01	2.55036e+00	3.36611e+00	0
69	124	193	2.57947e+00	7.91017e-01	3.72434e-01	7.63012e-01	2.60864e+00	3.44760e+00	0
69	125	194	2.98134e+00	9.59131e-01	3.54081e-01	7.81205e-01	2.91485e+00	3.77594e+00	0
69	126	195	2.17274e+00	8.19751e-01	4.95519e-01	7.12747e-01	2.93086e+00	3.80729e+00	0
69	127	196	1.65817e+00	7.36166e-01	9.65019e-01	6.87143e-01	3.31981e+00	4.24374e+00	0
69	128	197	2.45713e+00	8.46510e-01	1.23764e+00	9.01531e-01	3.05999e+00	3.94495e+00	0
69	129	198	2.16445e+00	7.02203e-01	1.88866e+00	8.99166e-01	3.12119e+00	4.02007e+00	0
69	130	199	1.53262e+00	4.40707e-01	2.17697e+00	7.99047e-01	3.11853e+00	3.99163e+00	0
69	131	200	1.85263e+00	5.37204e-01	2.41477e+00	7.90147e-01	2.99334e+00	3.87911e+00	0
69	132	201	1.52577e+00	3.58691e-01	2.47199e+00	7.35565e-01	3.00204e+00	3.88912e+00	0
69	133	202	1.81863e+00	4.53374e-01	2.32447e+00	7.23334e-01	3.31817e+00	4.23864e+00	0
69	134	203	1.64369e+00	3.49195e-01	2.31654e+00	6.76691e-01	3.25443e+00	4.17180e+00	0
69	135	204	2.13629e+00	5.16079e-01	2.34392e+00	7.00508e-01	3.33118e+00	4.24293e+00	0
69	136	205	1.78365e+00	3.75069e-01	2.21029e+00	6.41761e-01	3.53116e+00	4.48063e+00	0
69	137	206	2.12471e+00	4.62246e-01	2.19560e+00	6.59985e-01	3.67911e+00	4.64512e+00	0
69	138	207	1.89218e+00	3.92403e-01	2.08483e+00	6.14178e-01	3.74116e+00	4.69994e+00	0
69	139	208	2.32381e+00	4.85027e-01	2.22853e+00	6.61598e-01	3.81084e+00	4.79205e+00	0
69	140	209	2.02188e+00	3.53994e-01	2.27755e+00	6.29731e-01	3.81568e+00	4.79734e+00	0
69	141	210	2.25846e+00	4.35437e-01	2.48281e+00	6.57578e-01	3.90892e+00	4.90112e+00	0
69	142	211	1.92293e+00	3.48735e-01	2.44318e+00	6.35149e-01	4.03484e+00	5.04103e+00	0
69	143	212	2.05270e+00	4.03708e-01	2.59657e+00	6.55409e-01	4.14008e+00	5.13312e+00	0
69	144	213	1.93905e+00	3.59996e-01	2.64876e+00	6.58289e-01	4.13643e+00	5.13003e+00	0
69	145	214	1.97368e+00	3.56118e-01	3.01368e+00	6.75874e-01	4.12626e+00	5.11741e+00	0
69	146	215	2.03132e+00	3.94064e-01	2.87884e+00	6.91563e-01	4.30608e+00	5.34228e+00	0

(continued on next page)

Table 1 (continued)

69	147	216	1.85793e+00	3.31710e-01	3.26185e+00	6.99211e-01	4.40986e+00	5.45738e+00	0
69	148	217	2.01327e+00	3.97285e-01	3.16728e+00	7.18033e-01	4.44384e+00	5.45625e+00	0
69	149	218	1.87822e+00	3.36026e-01	3.55094e+00	7.28490e-01	4.61094e+00	5.63673e+00	0
69	150	219	1.86795e+00	3.54186e-01	3.52014e+00	7.33720e-01	4.62935e+00	5.67289e+00	0
69	151	220	1.84348e+00	3.53218e-01	3.94902e+00	7.61141e-01	4.70384e+00	5.77329e+00	0
69	152	221	1.66385e+00	3.15093e-01	4.00735e+00	7.52772e-01	4.78462e+00	5.86265e+00	0
69	153	222	1.71465e+00	3.31676e-01	4.40877e+00	7.84918e-01	4.95779e+00	6.06488e+00	0
69	154	223	1.70915e+00	3.21818e-01	4.62930e+00	7.87132e-01	5.04066e+00	6.11244e+00	0
69	155	224	1.61094e+00	3.09767e-01	5.13725e+00	8.05346e-01	5.17788e+00	6.30845e+00	0
69	156	225	1.60195e+00	3.16667e-01	5.38535e+00	8.06454e-01	5.23361e+00	6.35958e+00	0
69	157	226	1.57219e+00	3.11021e-01	5.94761e+00	8.24653e-01	5.33446e+00	6.48162e+00	0
69	158	227	1.52374e+00	2.96314e-01	6.19701e+00	8.11050e-01	5.38873e+00	6.53099e+00	0
69	159	228	1.51532e+00	2.95841e-01	6.82977e+00	8.30494e-01	5.44186e+00	6.60035e+00	0
69	160	229	1.46949e+00	2.85891e-01	6.91335e+00	8.13022e-01	5.58246e+00	6.75623e+00	0
69	161	230	1.49775e+00	3.02975e-01	7.45610e+00	8.21416e-01	5.72148e+00	6.89469e+00	0
Ytterbium (Yb)									
70	105	175	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.70276e-02	2.05876e-01	1
70	107	177	1.98851e+00	2.21757e-01	0.00000e+00	0.00000e+00	3.18548e-01	6.60763e-01	1
70	108	178	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.15495e-01	3.05519e-01	1
70	109	179	2.67295e+00	4.43930e-01	0.00000e+00	0.00000e+00	5.56068e-01	9.61752e-01	0
70	110	180	2.40259e+00	3.60802e-01	0.00000e+00	0.00000e+00	2.90873e-01	6.18344e-01	0
70	111	181	3.46044e+00	5.37063e-01	0.00000e+00	0.00000e+00	6.81186e-01	1.14687e+00	0
70	112	182	3.08357e+00	3.84750e-01	0.00000e+00	0.00000e+00	5.14044e-01	9.55321e-01	0
70	113	183	3.59211e+00	6.08055e-01	0.00000e+00	0.00000e+00	8.87445e-01	1.39525e+00	0
70	114	184	3.27189e+00	4.39746e-01	0.00000e+00	0.00000e+00	8.61398e-01	1.38889e+00	0
70	115	185	3.02099e+00	5.56989e-01	0.00000e+00	0.00000e+00	1.56851e+00	2.25518e+00	0
70	116	186	3.34046e+00	4.84673e-01	1.91092e-05	4.99084e-02	1.15849e+00	1.78070e+00	0
70	117	187	3.27894e+00	5.70698e-01	3.11039e-04	1.78354e-01	1.86414e+00	2.61155e+00	0
70	118	188	3.37003e+00	4.56763e-01	1.82282e-03	2.26811e-01	1.57527e+00	2.27004e+00	0
70	119	189	3.73092e+00	7.64640e-01	1.11002e-02	2.26897e-01	1.68451e+00	2.40442e+00	0
70	120	190	3.23095e+00	4.48700e-01	6.60709e-03	2.33983e-01	1.61009e+00	2.30314e+00	0
70	121	191	3.61132e+00	7.97638e-01	1.27903e-02	2.35607e-01	1.87621e+00	2.59423e+00	0
70	122	192	3.52711e+00	5.95628e-01	4.12906e-02	2.99751e-01	1.63621e+00	2.34815e+00	0
70	123	193	3.71556e+00	8.81424e-01	3.44492e-02	2.45945e-01	1.68029e+00	2.39681e+00	0
70	124	194	3.77993e+00	6.87755e-01	3.12944e-02	3.42166e-01	1.66727e+00	2.38470e+00	0
70	125	195	3.72086e+00	9.83781e-01	7.17598e-02	3.55765e-01	1.88818e+00	2.63392e+00	0
70	126	196	3.23868e+00	7.10325e-01	1.59683e-01	2.98641e-01	1.89297e+00	2.64809e+00	0
70	127	197	1.98179e+00	3.96331e-01	8.55720e-01	5.23675e-01	2.37097e+00	3.19087e+00	0
70	128	198	2.86151e+00	6.91375e-01	8.55226e-01	9.29774e-01	2.28886e+00	3.09199e+00	0
70	129	199	2.14944e+00	4.53029e-01	1.46452e+00	8.26552e-01	2.50250e+00	3.30523e+00	0
70	130	200	2.24547e+00	4.69355e-01	1.39429e+00	7.33851e-01	2.49749e+00	3.32605e+00	0
70	131	201	2.04393e+00	3.21667e-01	1.50267e+00	6.36500e-01	2.98150e+00	3.87850e+00	0
70	132	202	2.43266e+00	4.54290e-01	1.27519e+00	6.83314e-01	2.69493e+00	3.55683e+00	0
70	133	203	2.24127e+00	3.02091e-01	1.45256e+00	6.30332e-01	3.09230e+00	4.00337e+00	0
70	134	204	2.81438e+00	4.74796e-01	1.23850e+00	6.65704e-01	2.88595e+00	3.77207e+00	0
70	135	205	2.26617e+00	3.11270e-01	1.51598e+00	6.07845e-01	3.31221e+00	4.24985e+00	0
70	136	206	2.77688e+00	4.33123e-01	1.27933e+00	6.23185e-01	3.09751e+00	4.00966e+00	0
70	137	207	2.51951e+00	3.29351e-01	1.49530e+00	5.99079e-01	3.30467e+00	4.21576e+00	0
70	138	208	2.87147e+00	4.30762e-01	1.16141e+00	6.10923e-01	3.33713e+00	4.27215e+00	0
70	139	209	2.57373e+00	3.20037e-01	1.53873e+00	5.93820e-01	3.51765e+00	4.45491e+00	0
70	140	210	2.78350e+00	4.05202e-01	1.34032e+00	5.93011e-01	3.49673e+00	4.45666e+00	0
70	141	211	2.59023e+00	3.27955e-01	1.82754e+00	6.25602e-01	3.52741e+00	4.49077e+00	0
70	142	212	2.69237e+00	3.74566e-01	1.45077e+00	5.87846e-01	3.68178e+00	4.66339e+00	0
70	143	213	2.62909e+00	3.45031e-01	1.77710e+00	6.35827e-01	3.83405e+00	4.83300e+00	0
70	144	214	2.61832e+00	3.31435e-01	1.63395e+00	6.01115e-01	3.84587e+00	4.84643e+00	0
70	145	215	2.65726e+00	3.49947e-01	2.00924e+00	6.61813e-01	3.88235e+00	4.88712e+00	0
70	146	216	2.49561e+00	3.02136e-01	1.83399e+00	6.18750e-01	4.01568e+00	5.01377e+00	0
70	147	217	2.58743e+00	3.52166e-01	2.12498e+00	6.74837e-01	4.17805e+00	5.21673e+00	0
70	148	218	2.25498e+00	2.68171e-01	2.12164e+00	6.36819e-01	4.18757e+00	5.21417e+00	0
70	149	219	2.47004e+00	3.24953e-01	2.38364e+00	6.91232e-01	4.36212e+00	5.42192e+00	0
70	150	220	2.12793e+00	2.53407e-01	2.44305e+00	6.65765e-01	4.33693e+00	5.39381e+00	0
70	151	221	2.19797e+00	2.69704e-01	2.85753e+00	7.12690e-01	4.43472e+00	5.47643e+00	0
70	152	222	2.16276e+00	2.72606e-01	2.77057e+00	7.07590e-01	4.53915e+00	5.60255e+00	0
70	153	223	2.04526e+00	2.40270e-01	3.26680e+00	7.35875e-01	4.68320e+00	5.73915e+00	0
70	154	224	2.10484e+00	2.64314e-01	3.27042e+00	7.40014e-01	4.68769e+00	5.77681e+00	0
70	155	225	2.00310e+00	2.53543e-01	3.79991e+00	7.69692e-01	4.89299e+00	5.97087e+00	0
70	156	226	1.89350e+00	2.27768e-01	3.93987e+00	7.53957e-01	4.87949e+00	5.96928e+00	0
70	157	227	1.89629e+00	2.36631e-01	4.49319e+00	7.85712e-01	4.95032e+00	6.06600e+00	0
70	158	228	1.77914e+00	2.28334e-01	4.54980e+00	7.58186e-01	5.05911e+00	6.19713e+00	0
70	159	229	1.73036e+00	2.21470e-01	5.17209e+00	7.86700e-01	5.04330e+00	6.14986e+00	0
70	160	230	1.69319e+00	2.15820e-01	5.03482e+00	7.52666e-01	5.15806e+00	6.30711e+00	0
70	161	231	1.56340e+00	2.17074e-01	5.62150e+00	7.75375e-01	5.27277e+00	6.43460e+00	0
70	162	232	1.49050e+00	1.99880e-01	5.49144e+00	7.54386e-01	5.38316e+00	6.55724e+00	0
70	163	233	1.54753e+00	2.02177e-01	6.24439e+00	7.97675e-01	5.51687e+00	6.70565e+00	0
70	164	234	1.46647e+00	1.95371e-01	6.41950e+00	7.97074e-01	5.57566e+00	6.77087e+00	0
Lutetium (Lu)									
71	103	174	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.13154e-02	1.64324e-01	1

(continued on next page)

Table 1 (continued)

71	105	176	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.27733e-01	7.03376e-01	1
71	106	177	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.93116e-02	1.96215e-01	1
71	107	178	3.08943e+00	4.72094e-01	0.00000e+00	0.00000e+00	2.29677e-01	4.73938e-01	1
71	108	179	2.52698e+00	1.76644e-01	0.00000e+00	0.00000e+00	3.13198e-01	6.57639e-01	1
71	109	180	3.76251e+00	5.54941e-01	0.00000e+00	0.00000e+00	3.50612e-01	7.13793e-01	1
71	110	181	4.15414e+00	2.47835e-01	0.00000e+00	0.00000e+00	5.74351e-01	1.04331e+00	1
71	111	182	2.65915e+00	9.20519e-01	0.00000e+00	0.00000e+00	7.80407e-01	1.32928e+00	0
71	112	183	2.76449e+00	5.25904e-01	0.00000e+00	0.00000e+00	7.94842e-01	1.35060e+00	1
71	113	184	3.31804e+00	8.50232e-01	0.00000e+00	0.00000e+00	9.66544e-01	1.56146e+00	0
71	114	185	2.97899e+00	6.19116e-01	0.00000e+00	0.00000e+00	1.02592e+00	1.59607e+00	0
71	115	186	3.20543e+00	8.32862e-01	0.00000e+00	0.00000e+00	1.51626e+00	2.19397e+00	0
71	116	187	3.05183e+00	6.38919e-01	2.09006e-03	2.49708e-01	1.45311e+00	2.13747e+00	0
71	117	188	3.33316e+00	8.83672e-01	1.47198e-03	2.57307e-01	1.79809e+00	2.54078e+00	0
71	118	189	3.36919e+00	8.24438e-01	3.28857e-02	3.29379e-01	1.46006e+00	2.15171e+00	0
71	119	190	3.28153e+00	9.58089e-01	5.25530e-02	3.60273e-01	2.09200e+00	2.85779e+00	0
71	120	191	2.63653e+00	6.61445e-01	7.23944e-02	5.51319e-01	1.96333e+00	2.73302e+00	0
71	121	192	3.27118e+00	1.01197e+00	6.81445e-02	4.39937e-01	2.10629e+00	2.89657e+00	0
71	122	193	2.84663e+00	7.82145e-01	1.16084e-01	6.43137e-01	2.04723e+00	2.81421e+00	0
71	123	194	3.11305e+00	1.05511e+00	1.06814e-01	5.01200e-01	2.17248e+00	2.96092e+00	0
71	124	195	2.81894e+00	8.66886e-01	1.30009e-01	7.58240e-01	2.20586e+00	2.97936e+00	0
71	125	196	3.19060e+00	1.12686e+00	1.47141e-01	7.63338e-01	2.44224e+00	3.27610e+00	0
71	126	197	2.48901e+00	9.26264e-01	2.31748e-01	7.31901e-01	2.50166e+00	3.34869e+00	0
71	127	198	1.42226e+00	7.77644e-01	8.56551e-01	6.72090e-01	2.74491e+00	3.62263e+00	0
71	128	199	2.29410e+00	8.51014e-01	1.00936e+00	9.88706e-01	2.68674e+00	3.53779e+00	0
71	129	200	1.51630e+00	5.61224e-01	1.64112e+00	8.72785e-01	2.86422e+00	3.75547e+00	0
71	130	201	1.83608e+00	6.83851e-01	1.51650e+00	8.23435e-01	2.84683e+00	3.73749e+00	0
71	131	202	1.61176e+00	5.07430e-01	1.86329e+00	8.15913e-01	3.01972e+00	3.93446e+00	0
71	132	203	1.62644e+00	5.07665e-01	1.77364e+00	7.42600e-01	2.75117e+00	3.63116e+00	0
71	133	204	1.72434e+00	4.75809e-01	1.86279e+00	7.55344e-01	3.01765e+00	3.93209e+00	0
71	134	205	1.91954e+00	5.36303e-01	1.68518e+00	6.94657e-01	2.85518e+00	3.72050e+00	0
71	135	206	2.05394e+00	4.87041e-01	1.80035e+00	7.33532e-01	3.20144e+00	4.13860e+00	0
71	136	207	2.00007e+00	4.81337e-01	1.76377e+00	6.66008e-01	2.99054e+00	3.90191e+00	0
71	137	208	2.20981e+00	4.90285e-01	1.83455e+00	7.01644e-01	3.14775e+00	4.05194e+00	0
71	138	209	2.08668e+00	4.84534e-01	1.71081e+00	6.35604e-01	3.06795e+00	3.98893e+00	0
71	139	210	2.23143e+00	4.69974e-01	1.87785e+00	6.78059e-01	3.29976e+00	4.24944e+00	0
71	140	211	2.29012e+00	4.78906e-01	1.70517e+00	6.29520e-01	3.35135e+00	4.29160e+00	0
71	141	212	2.53954e+00	5.24051e-01	1.99418e+00	6.92416e-01	3.37497e+00	4.31919e+00	0
71	142	213	2.09910e+00	4.11602e-01	1.90172e+00	6.29586e-01	3.53522e+00	4.49875e+00	0
71	143	214	2.38412e+00	5.09683e-01	2.03199e+00	6.81512e-01	3.69783e+00	4.68164e+00	0
71	144	215	2.03115e+00	3.66524e-01	2.11597e+00	6.44210e-01	3.65971e+00	4.65366e+00	0
71	145	216	2.40164e+00	4.87317e-01	2.29012e+00	6.92528e-01	3.72530e+00	4.72709e+00	0
71	146	217	1.93325e+00	3.44932e-01	2.32812e+00	6.62500e-01	3.80982e+00	4.82179e+00	0
71	147	218	2.13342e+00	4.37078e-01	2.47132e+00	6.95969e-01	3.93393e+00	4.96055e+00	0
71	148	219	1.93543e+00	3.47280e-01	2.55280e+00	6.93198e-01	3.99764e+00	5.00825e+00	0
71	149	220	1.99923e+00	3.93973e-01	2.69765e+00	7.11117e-01	4.15489e+00	5.20788e+00	0
71	150	221	1.96252e+00	3.81959e-01	2.79447e+00	7.26851e-01	4.15542e+00	5.20441e+00	0
71	151	222	1.81270e+00	3.30037e-01	3.14733e+00	7.30484e-01	4.24564e+00	5.30939e+00	0
71	152	223	2.01076e+00	3.91519e-01	3.04556e+00	7.51705e-01	4.37000e+00	5.42247e+00	0
71	153	224	1.80792e+00	3.31452e-01	3.52067e+00	7.65142e-01	4.49854e+00	5.58162e+00	0
71	154	225	1.88547e+00	3.72486e-01	3.51928e+00	7.69704e-01	4.52252e+00	5.61862e+00	0
71	155	226	1.89200e+00	3.67424e-01	3.96416e+00	7.96417e-01	4.71485e+00	5.80362e+00	0
71	156	227	1.66239e+00	3.04909e-01	4.20251e+00	7.83816e-01	4.69660e+00	5.77055e+00	0
71	157	228	1.70385e+00	3.20187e-01	4.57664e+00	8.04051e-01	4.80614e+00	5.93504e+00	0
71	158	229	1.61193e+00	3.12141e-01	4.71268e+00	7.94523e-01	4.86607e+00	5.99154e+00	0
71	159	230	1.58135e+00	2.94803e-01	5.19123e+00	8.08537e-01	4.87080e+00	5.97616e+00	0
71	160	231	1.54418e+00	3.09692e-01	5.12557e+00	7.91882e-01	5.00165e+00	6.12349e+00	0
71	161	232	1.52011e+00	3.00378e-01	5.53892e+00	7.97572e-01	5.13157e+00	6.29832e+00	0
71	162	233	1.40188e+00	2.99380e-01	5.47250e+00	7.89949e-01	5.17743e+00	6.34940e+00	0
71	163	234	1.45736e+00	2.91835e-01	6.07880e+00	8.20194e-01	5.33442e+00	6.52429e+00	0
71	164	235	1.39879e+00	2.87332e-01	6.35385e+00	8.30666e-01	5.39549e+00	6.59230e+00	0
71	165	236	1.43409e+00	2.93170e-01	7.10071e+00	8.66131e-01	5.50714e+00	6.71671e+00	0
71	166	237	1.45166e+00	2.86492e-01	7.42863e+00	8.74041e-01	5.51667e+00	6.72742e+00	0
Hafnium (Hf)									
72	109	181	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.18499e-01	4.91177e-01	1
72	110	182	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.73121e-02	2.03117e-01	1
72	111	183	1.89685e+00	2.97661e-01	0.00000e+00	0.00000e+00	5.22720e-01	9.61758e-01	1
72	112	184	1.76963e+00	2.08741e-01	0.00000e+00	0.00000e+00	3.18380e-01	6.90656e-01	1
72	113	185	2.39253e+00	3.03265e-01	0.00000e+00	0.00000e+00	9.22214e-01	1.47974e+00	1
72	114	186	2.58094e+00	1.91005e-01	0.00000e+00	0.00000e+00	6.30557e-01	1.13826e+00	1
72	115	187	2.17345e+00	2.71816e-01	0.00000e+00	0.00000e+00	1.20869e+00	1.85661e+00	0
72	116	188	2.86650e+00	3.35759e-01	0.00000e+00	0.00000e+00	7.16087e-01	1.23197e+00	0
72	117	189	3.28783e+00	4.39418e-01	0.00000e+00	0.00000e+00	1.24753e+00	1.91000e+00	0
72	118	190	3.09250e+00	3.66437e-01	0.00000e+00	0.00000e+00	9.17627e-01	1.49513e+00	0
72	119	191	3.61529e+00	7.66761e-01	0.00000e+00	0.00000e+00	1.19187e+00	1.83865e+00	0
72	120	192	2.93401e+00	3.82826e-01	0.00000e+00	0.00000e+00	1.21932e+00	1.84473e+00	0
72	121	193	3.20654e+00	6.76263e-01	7.32283e-05	8.32333e-02	1.52073e+00	2.20057e+00	0
72	122	194	3.32030e+00	5.00833e-01	7.88186e-05	8.91974e-02	1.20296e+00	1.81991e+00	0

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Table 1 (continued)

72	123	195	3.48339e+00	7.96736e-01	3.34969e-04	1.36590e-01	1.40175e+00	2.07568e+00	0
72	124	196	3.56750e+00	6.13623e-01	1.27556e-03	1.78857e-01	1.27762e+00	1.92042e+00	0
72	125	197	3.75991e+00	9.9954e-01	2.42185e-02	2.96087e-01	1.38756e+00	2.05784e+00	0
72	126	198	3.05983e+00	7.05292e-01	1.22117e-01	3.22595e-01	1.40209e+00	2.06296e+00	0
72	127	199	2.13279e+00	5.93366e-01	6.02650e-01	5.27935e-01	1.95038e+00	2.70342e+00	0
72	128	200	2.37157e+00	5.49394e-01	5.92994e-01	9.36816e-01	2.12640e+00	2.87854e+00	0
72	129	201	2.20451e+00	5.36667e-01	8.52183e-01	7.75655e-01	2.48235e+00	3.32246e+00	0
72	130	202	2.30051e+00	5.45014e-01	8.44679e-01	7.90328e-01	2.33818e+00	3.16109e+00	0
72	131	203	1.90104e+00	3.29138e-01	1.09266e+00	5.86770e-01	2.79675e+00	3.69463e+00	0
72	132	204	2.64031e+00	5.08936e-01	1.00785e+00	7.98256e-01	2.32245e+00	3.15582e+00	0
72	133	205	2.23813e+00	3.51064e-01	1.10525e+00	5.85088e-01	2.75436e+00	3.64220e+00	0
72	134	206	2.67361e+00	4.67355e-01	9.84980e-01	7.39027e-01	2.49106e+00	3.34862e+00	0
72	135	207	2.53287e+00	3.98821e-01	1.05353e+00	5.96322e-01	2.95620e+00	3.85900e+00	0
72	136	208	2.84466e+00	4.64313e-01	1.01163e+00	7.01817e-01	2.73773e+00	3.61496e+00	0
72	137	209	2.54708e+00	3.61648e-01	1.16072e+00	5.86188e-01	3.02316e+00	3.94466e+00	0
72	138	210	2.78309e+00	4.39212e-01	1.01775e+00	6.51832e-01	2.77745e+00	3.67417e+00	0
72	139	211	2.60819e+00	3.30463e-01	1.22677e+00	5.77084e-01	2.99684e+00	3.89579e+00	0
72	140	212	2.88691e+00	4.23481e-01	9.92036e-01	6.26152e-01	3.06341e+00	3.99757e+00	0
72	141	213	2.66399e+00	3.41284e-01	1.33621e+00	5.94693e-01	3.13594e+00	4.06235e+00	0
72	142	214	3.00078e+00	4.52863e-01	1.08382e+00	6.37064e-01	3.22564e+00	4.18079e+00	0
72	143	215	2.53882e+00	3.24040e-01	1.44539e+00	6.01458e-01	3.42266e+00	4.40204e+00	0
72	144	216	2.96976e+00	4.43667e-01	1.18474e+00	6.29860e-01	3.40947e+00	4.38217e+00	0
72	145	217	2.50843e+00	3.07284e-01	1.69403e+00	6.29762e-01	3.44146e+00	4.41750e+00	0
72	146	218	2.71026e+00	4.05483e-01	1.33071e+00	6.15742e-01	3.57133e+00	4.55526e+00	0
72	147	219	2.53964e+00	3.26307e-01	1.72793e+00	6.53207e-01	3.66824e+00	4.67361e+00	0
72	148	220	2.60043e+00	3.45395e-01	1.57123e+00	6.28907e-01	3.70890e+00	4.72450e+00	0
72	149	221	2.55528e+00	3.33497e-01	1.84948e+00	6.76518e-01	3.93209e+00	4.95133e+00	0
72	150	222	2.52860e+00	3.17715e-01	1.73381e+00	6.45875e-01	3.89683e+00	4.91365e+00	0
72	151	223	2.57811e+00	3.66358e-01	2.07432e+00	7.14363e-01	4.00933e+00	5.06210e+00	0
72	152	224	2.31703e+00	2.79961e-01	2.03701e+00	6.66348e-01	4.12162e+00	5.18559e+00	0
72	153	225	2.38659e+00	3.31178e-01	2.41524e+00	7.26023e-01	4.23646e+00	5.31680e+00	0
72	154	226	2.18470e+00	2.55440e-01	2.53107e+00	7.02427e-01	4.25956e+00	5.32876e+00	0
72	155	227	2.16370e+00	2.54302e-01	2.98921e+00	7.43267e-01	4.38116e+00	5.45347e+00	0
72	156	228	2.19097e+00	2.78349e-01	2.93873e+00	7.38384e-01	4.40685e+00	5.50782e+00	0
72	157	229	1.98881e+00	2.37178e-01	3.42043e+00	7.54484e-01	4.52236e+00	5.59808e+00	0
72	158	230	2.07171e+00	2.52374e-01	3.27718e+00	7.46413e-01	4.55647e+00	5.64884e+00	0
72	159	231	1.90691e+00	2.40523e-01	3.78110e+00	7.71065e-01	4.55823e+00	5.64953e+00	0
72	160	232	1.88518e+00	2.34023e-01	3.54289e+00	7.46419e-01	4.62623e+00	5.72644e+00	0
72	161	233	1.86308e+00	2.32748e-01	3.90224e+00	7.71928e-01	4.81453e+00	5.95463e+00	0
72	162	234	1.83370e+00	2.15800e-01	3.68882e+00	7.47710e-01	4.88392e+00	6.04221e+00	0
72	163	235	1.78431e+00	2.19858e-01	4.41434e+00	8.01981e-01	4.95135e+00	6.10708e+00	0
72	164	236	1.73088e+00	2.16449e-01	4.49516e+00	7.99957e-01	5.03840e+00	6.17458e+00	0
72	165	237	1.79684e+00	2.19665e-01	5.18998e+00	8.44029e-01	5.20511e+00	6.39066e+00	0
72	166	238	1.80168e+00	2.24043e-01	5.50181e+00	8.45931e-01	5.17137e+00	6.33503e+00	0
72	167	239	1.72436e+00	2.26408e-01	6.29918e+00	8.78930e-01	5.14915e+00	6.30945e+00	0
72	168	240	1.74477e+00	2.18873e-01	6.57239e+00	8.56129e-01	5.33253e+00	6.53372e+00	0
Tantalum (Ta)									
73	107	180	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.51129e-01	3.77804e-01	1
73	109	182	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.45749e-01	1.00449e+00	1
73	110	183	2.76627e+00	1.31052e-01	0.00000e+00	0.00000e+00	2.29030e-01	5.23802e-01	1
73	111	184	2.08812e+00	3.10476e-01	0.00000e+00	0.00000e+00	8.54104e-01	1.40858e+00	1
73	112	185	2.31335e+00	1.99648e-01	0.00000e+00	0.00000e+00	5.53062e-01	1.01206e+00	1
73	113	186	2.33300e+00	5.42298e-01	0.00000e+00	0.00000e+00	1.03365e+00	1.61788e+00	1
73	114	187	2.04309e+00	3.63070e-01	0.00000e+00	0.00000e+00	8.78569e-01	1.43718e+00	1
73	115	188	2.57202e+00	7.50136e-01	0.00000e+00	0.00000e+00	1.00270e+00	1.55872e+00	0
73	116	189	3.08571e+00	5.42962e-01	0.00000e+00	0.00000e+00	7.98171e-01	1.31496e+00	0
73	117	190	2.94144e+00	7.97217e-01	0.00000e+00	0.00000e+00	1.26948e+00	1.93478e+00	0
73	118	191	2.58638e+00	5.50637e-01	0.00000e+00	0.00000e+00	1.26236e+00	1.92012e+00	0
73	119	192	3.28338e+00	9.70108e-01	2.87662e-05	1.06577e-01	1.50321e+00	2.19582e+00	0
73	120	193	2.68213e+00	6.26998e-01	4.07069e-03	2.67582e-01	1.61026e+00	2.32754e+00	0
73	121	194	3.22473e+00	9.63763e-01	3.45252e-03	2.76757e-01	1.66461e+00	2.37326e+00	0
73	122	195	2.91183e+00	7.49809e-01	6.78873e-03	3.29064e-01	1.57966e+00	2.30387e+00	0
73	123	196	3.20360e+00	1.03763e+00	6.97818e-03	3.03051e-01	1.76098e+00	2.49961e+00	0
73	124	197	2.91691e+00	8.46709e-01	1.80297e-02	4.60897e-01	1.76547e+00	2.52151e+00	0
73	125	198	3.27711e+00	1.23810e+00	2.43265e-02	6.51497e-01	1.92148e+00	2.69580e+00	0
73	126	199	2.61108e+00	1.08294e+00	9.64946e-02	4.21153e-01	1.87483e+00	2.65000e+00	0
73	127	200	1.61795e+00	1.22268e+00	5.91996e-01	4.89668e-01	2.31156e+00	3.14600e+00	0
73	128	201	1.95450e+00	7.64815e-01	9.07546e-01	1.12008e+00	2.22899e+00	3.05740e+00	0
73	129	202	1.64260e+00	6.47913e-01	1.14819e+00	8.84987e-01	2.42653e+00	3.28300e+00	0
73	130	203	2.20293e+00	8.58555e-01	1.03457e+00	9.39213e-01	2.42846e+00	3.27897e+00	0
73	131	204	1.55950e+00	4.95644e-01	1.38727e+00	8.22063e-01	2.75146e+00	3.62709e+00	0
73	132	205	2.12411e+00	7.49257e-01	1.25645e+00	8.34033e-01	2.42401e+00	3.28201e+00	0
73	133	206	1.60526e+00	4.39148e-01	1.50036e+00	7.81807e-01	2.68860e+00	3.58400e+00	0
73	134	207	2.28586e+00	7.17400e-01	1.24740e+00	7.72102e-01	2.41096e+00	3.24985e+00	0
73	135	208	1.75820e+00	4.50206e-01	1.64273e+00	7.49722e-01	2.58911e+00	3.45199e+00	0
73	136	209	2.55715e+00	7.00811e-01	1.23556e+00	7.40968e-01	2.67914e+00	3.54529e+00	0
73	137	210	1.84923e+00	4.37699e-01	1.73901e+00	7.22056e-01	2.71627e+00	3.61599e+00	0

(continued on next page)

Table 1 (continued)

73	138	211	2.43699e+00	6.26007e-01	1.32765e+00	6.91893e-01	2.78009e+00	3.68903e+00	0
73	139	212	2.01148e+00	4.08450e-01	1.63326e+00	6.82498e-01	2.88500e+00	3.80781e+00	0
73	140	213	2.50380e+00	6.09385e-01	1.35323e+00	6.60726e-01	2.80868e+00	3.72176e+00	0
73	141	214	2.02143e+00	4.11713e-01	1.75757e+00	6.71896e-01	2.94747e+00	3.87931e+00	0
73	142	215	2.56268e+00	6.06981e-01	1.38200e+00	6.49910e-01	3.05131e+00	3.99711e+00	0
73	143	216	2.34138e+00	4.69792e-01	1.74944e+00	6.90258e-01	3.25991e+00	4.23248e+00	0
73	144	217	2.32077e+00	4.93728e-01	1.58413e+00	6.48843e-01	3.29478e+00	4.26556e+00	0
73	145	218	2.38319e+00	4.92109e-01	1.90494e+00	7.10563e-01	3.29140e+00	4.24287e+00	0
73	146	219	2.18735e+00	4.32052e-01	1.75752e+00	6.57573e-01	3.42365e+00	4.41197e+00	0
73	147	220	2.37402e+00	4.86737e-01	1.93683e+00	7.16915e-01	3.60252e+00	4.62043e+00	0
73	148	221	2.08590e+00	4.04171e-01	1.90086e+00	6.70793e-01	3.61943e+00	4.63434e+00	0
73	149	222	2.28893e+00	4.92182e-01	2.06500e+00	7.22930e-01	3.79401e+00	4.83669e+00	0
73	150	223	1.97039e+00	3.69626e-01	2.14025e+00	6.86837e-01	3.75214e+00	4.78461e+00	0
73	151	224	2.28114e+00	4.85046e-01	2.30013e+00	7.34332e-01	3.86239e+00	4.91384e+00	0
73	152	225	1.79869e+00	3.49200e-01	2.44386e+00	7.08006e-01	3.94819e+00	5.00666e+00	0
73	153	226	2.01810e+00	4.03185e-01	2.66963e+00	7.39368e-01	4.07801e+00	5.15654e+00	0
73	154	227	2.03519e+00	3.96240e-01	2.82397e+00	7.58735e-01	4.10238e+00	5.18412e+00	0
73	155	228	1.81279e+00	3.24819e-01	3.24376e+00	7.56244e-01	4.21868e+00	5.27364e+00	0
73	156	229	1.98453e+00	4.03794e-01	3.16978e+00	7.71807e-01	4.24452e+00	5.34405e+00	0
73	157	230	1.79601e+00	3.42559e-01	3.63055e+00	7.79933e-01	4.33061e+00	5.44082e+00	0
73	158	231	1.75804e+00	3.54019e-01	3.55958e+00	7.70624e-01	4.37616e+00	5.49217e+00	0
73	159	232	1.78859e+00	3.49803e-01	3.92143e+00	7.94677e-01	4.44023e+00	5.56420e+00	0
73	160	233	1.56293e+00	3.13634e-01	3.78584e+00	7.68537e-01	4.52541e+00	5.66002e+00	0
73	161	234	1.70362e+00	3.29899e-01	3.98085e+00	7.96375e-01	4.67513e+00	5.82834e+00	0
73	162	235	1.59461e+00	3.10279e-01	3.96007e+00	7.85207e-01	4.70711e+00	5.82168e+00	0
73	163	236	1.66056e+00	3.34262e-01	4.39438e+00	8.26333e-01	4.84384e+00	6.01789e+00	0
73	164	237	1.61044e+00	3.07485e-01	4.51609e+00	8.31175e-01	4.95266e+00	6.09468e+00	0
73	165	238	1.64304e+00	3.04294e-01	5.25853e+00	8.67651e-01	5.01841e+00	6.18089e+00	0
73	166	239	1.66944e+00	3.16191e-01	5.54931e+00	8.71590e-01	5.09956e+00	6.29418e+00	0
73	167	240	1.67757e+00	3.17451e-01	6.21068e+00	8.94762e-01	5.10198e+00	6.30749e+00	0
73	168	241	1.60868e+00	3.04813e-01	6.52738e+00	8.77316e-01	5.24125e+00	6.45283e+00	0
73	169	242	1.62677e+00	3.09539e-01	7.35977e+00	9.09250e-01	5.29464e+00	6.50761e+00	0
73	170	243	1.58007e+00	3.04438e-01	7.63923e+00	8.87727e-01	5.37810e+00	6.60578e+00	0
Tungsten (W)									
74	111	185	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.86124e-02	1.80699e-01	1
74	113	187	1.81198e+00	2.44218e-01	0.00000e+00	0.00000e+00	2.89162e-01	6.28142e-01	1
74	114	188	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.22502e-02	1.88100e-01	1
74	115	189	1.91315e+00	2.12041e-01	0.00000e+00	0.00000e+00	5.29577e-01	9.84541e-01	0
74	116	190	2.56875e+00	1.98952e-01	0.00000e+00	0.00000e+00	2.30861e-01	5.21957e-01	1
74	117	191	2.71215e+00	2.61289e-01	0.00000e+00	0.00000e+00	9.61691e-01	1.54824e+00	1
74	118	192	2.83528e+00	2.62295e-01	0.00000e+00	0.00000e+00	4.00432e-01	7.95670e-01	0
74	119	193	3.26485e+00	6.85357e-01	0.00000e+00	0.00000e+00	7.00288e-01	1.21544e+00	0
74	120	194	2.53163e+00	2.63309e-01	0.00000e+00	0.00000e+00	8.82489e-01	1.46279e+00	0
74	121	195	2.39854e+00	4.30431e-01	0.00000e+00	0.00000e+00	1.30335e+00	1.97302e+00	0
74	122	196	2.63036e+00	2.98315e-01	0.00000e+00	0.00000e+00	9.64690e-01	1.54733e+00	0
74	123	197	2.63603e+00	6.14217e-01	0.00000e+00	0.00000e+00	1.29365e+00	1.94832e+00	0
74	124	198	2.82254e+00	4.31298e-01	0.00000e+00	0.00000e+00	1.08758e+00	1.70668e+00	0
74	125	199	2.94176e+00	8.32361e-01	0.00000e+00	0.00000e+00	1.41699e+00	2.06769e+00	0
74	126	200	2.79740e+00	4.64375e-01	1.67804e-03	1.11840e-01	1.36231e+00	2.01915e+00	0
74	127	201	2.58980e+00	8.43810e-01	1.45406e-01	3.79732e-01	2.04188e+00	2.81107e+00	0
74	128	202	2.23320e+00	4.52339e-01	2.16768e-01	8.11763e-01	2.12105e+00	2.92524e+00	0
74	129	203	2.46122e+00	6.88824e-01	2.78128e-01	6.62195e-01	2.50420e+00	3.34256e+00	0
74	130	204	2.32066e+00	4.54932e-01	4.06975e-01	8.13771e-01	2.25861e+00	3.06630e+00	0
74	131	205	2.37297e+00	5.71146e-01	5.77726e-01	6.97982e-01	2.51009e+00	3.34393e+00	0
74	132	206	2.18698e+00	4.46747e-01	8.34727e-01	8.33464e-01	1.98583e+00	2.78514e+00	0
74	133	207	2.59775e+00	5.39766e-01	6.66885e-01	5.43403e-01	2.45440e+00	3.31550e+00	0
74	134	208	1.99880e+00	3.82788e-01	9.13663e-01	6.99246e-01	2.12902e+00	2.92109e+00	0
74	135	209	2.66394e+00	3.72717e-01	9.20278e-01	6.04388e-01	2.31991e+00	3.16949e+00	0
74	136	210	2.29014e+00	3.89735e-01	9.38741e-01	6.87179e-01	2.29163e+00	3.13135e+00	0
74	137	211	2.66823e+00	3.38646e-01	1.00864e+00	6.06716e-01	2.45123e+00	3.32542e+00	0
74	138	212	2.46515e+00	3.81686e-01	9.46722e-01	6.46211e-01	2.48077e+00	3.36005e+00	0
74	139	213	2.71383e+00	3.84661e-01	9.04249e-01	5.44611e-01	2.72925e+00	3.61774e+00	0
74	140	214	2.49008e+00	3.84293e-01	9.22781e-01	6.07772e-01	2.56554e+00	3.42419e+00	0
74	141	215	2.79932e+00	3.46679e-01	1.04052e+00	5.85057e-01	2.65026e+00	3.55374e+00	0
74	142	216	2.67732e+00	3.91404e-01	9.10186e-01	6.10021e-01	2.80322e+00	3.72538e+00	0
74	143	217	2.87940e+00	3.87235e-01	1.01221e+00	5.93312e-01	2.99905e+00	3.93346e+00	0
74	144	218	2.84726e+00	4.31574e-01	9.71550e-01	6.49275e-01	2.99287e+00	3.94076e+00	0
74	145	219	2.58042e+00	3.34590e-01	1.26390e+00	5.99081e-01	3.04849e+00	3.99962e+00	0
74	146	220	2.98080e+00	4.49304e-01	1.00163e+00	6.68398e-01	3.13595e+00	4.08399e+00	0
74	147	221	2.54574e+00	3.34742e-01	1.34902e+00	6.14747e-01	3.27814e+00	4.24248e+00	0
74	148	222	2.91588e+00	4.56124e-01	1.07416e+00	6.66803e-01	3.29768e+00	4.28524e+00	0
74	149	223	2.45437e+00	3.13547e-01	1.44483e+00	6.25441e-01	3.51181e+00	4.53385e+00	0
74	150	224	2.71725e+00	4.37673e-01	1.26877e+00	6.49964e-01	3.42295e+00	4.40924e+00	0
74	151	225	2.45700e+00	3.12153e-01	1.75136e+00	6.81111e-01	3.51099e+00	4.53302e+00	0
74	152	226	2.50656e+00	3.73977e-01	1.48010e+00	6.46043e-01	3.64501e+00	4.68011e+00	0
74	153	227	2.61063e+00	3.52131e-01	1.87391e+00	7.24847e-01	3.83093e+00	4.89506e+00	0
74	154	228	2.42913e+00	2.98708e-01	1.84948e+00	6.78028e-01	3.80875e+00	4.85748e+00	0

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Table 1 (continued)

74	155	229	2.44992e+00	3.61542e-01	2.20758e+00	7.37578e-01	3.92015e+00	4.98229e+00	0
74	156	230	2.15562e+00	2.45567e-01	2.25468e+00	6.83670e-01	3.97497e+00	5.05800e+00	0
74	157	231	2.31084e+00	2.99081e-01	2.50787e+00	7.36215e-01	4.09083e+00	5.18885e+00	0
74	158	232	2.03263e+00	2.36380e-01	2.42036e+00	6.95498e-01	4.13417e+00	5.23797e+00	0
74	159	233	2.15754e+00	2.76270e-01	2.62583e+00	7.36405e-01	4.24332e+00	5.35743e+00	0
74	160	234	2.03454e+00	2.34162e-01	2.51183e+00	7.09248e-01	4.26170e+00	5.38218e+00	0
74	161	235	2.04678e+00	2.55656e-01	2.84023e+00	7.50674e-01	4.32254e+00	5.45085e+00	0
74	162	236	2.05322e+00	2.49015e-01	2.64939e+00	7.36875e-01	4.41895e+00	5.55967e+00	0
74	163	237	2.00044e+00	2.38772e-01	3.20282e+00	7.82402e-01	4.52107e+00	5.63485e+00	0
74	164	238	2.16488e+00	2.79767e-01	3.22233e+00	8.00935e-01	4.63704e+00	5.77793e+00	0
74	165	239	1.99963e+00	2.64652e-01	3.85399e+00	8.36339e-01	4.75877e+00	5.90093e+00	0
74	166	240	1.94275e+00	2.32014e-01	4.10028e+00	8.20294e-01	4.79684e+00	5.94559e+00	0
74	167	241	1.92776e+00	2.41135e-01	4.71537e+00	8.55331e-01	4.81219e+00	5.99262e+00	0
74	168	242	1.82586e+00	2.44344e-01	5.01683e+00	8.41168e-01	4.92313e+00	6.12809e+00	0
74	169	243	1.73025e+00	2.36101e-01	5.67179e+00	8.62934e-01	4.92254e+00	6.08306e+00	0
74	170	244	1.65217e+00	2.05902e-01	5.92629e+00	8.37224e-01	4.96551e+00	6.17573e+00	0
74	171	245	1.61474e+00	2.02959e-01	6.65962e+00	8.64885e-01	5.09945e+00	6.32679e+00	0
74	172	246	1.54312e+00	1.92319e-01	6.74463e+00	8.41197e-01	5.11567e+00	6.31635e+00	0
74	173	247	1.50495e+00	2.03062e-01	7.35356e+00	8.65312e-01	5.28251e+00	6.53313e+00	0
Rhenium (Re)									
75	111	186	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.31741e-01	5.13125e-01	1
75	113	188	1.55736e+00	2.85200e-01	0.00000e+00	0.00000e+00	6.09746e-01	1.09331e+00	1
75	114	189	2.06085e+00	1.76932e-01	0.00000e+00	0.00000e+00	2.08138e-01	4.86330e-01	1
75	115	190	1.94591e+00	4.85842e-01	0.00000e+00	0.00000e+00	8.38651e-01	1.38243e+00	1
75	116	191	2.40699e+00	1.84687e-01	0.00000e+00	0.00000e+00	5.73763e-01	1.04751e+00	1
75	117	192	2.42259e+00	8.89357e-01	0.00000e+00	0.00000e+00	8.12811e-01	1.38316e+00	1
75	118	193	2.91189e+00	5.85450e-01	0.00000e+00	0.00000e+00	5.42076e-01	9.55914e-01	1
75	119	194	2.84830e+00	8.68483e-01	0.00000e+00	0.00000e+00	9.85785e-01	1.55444e+00	0
75	120	195	2.66705e+00	6.88655e-01	0.00000e+00	0.00000e+00	8.65155e-01	1.41405e+00	0
75	121	196	2.78699e+00	8.89272e-01	0.00000e+00	0.00000e+00	1.18683e+00	1.83762e+00	0
75	122	197	2.54319e+00	6.91979e-01	0.00000e+00	0.00000e+00	1.08176e+00	1.71526e+00	0
75	123	198	3.01978e+00	1.01867e+00	0.00000e+00	0.00000e+00	1.25069e+00	1.92332e+00	0
75	124	199	2.56035e+00	8.24078e-01	2.62638e-05	9.08962e-02	1.26009e+00	1.93370e+00	0
75	125	200	3.16577e+00	1.26947e+00	7.08374e-04	2.73360e-01	1.40635e+00	2.11677e+00	0
75	126	201	2.66188e+00	1.14589e+00	7.63278e-03	3.02418e-01	1.35765e+00	2.05870e+00	0
75	127	202	2.46592e+00	1.50955e+00	2.34850e-01	3.16558e-01	1.82055e+00	2.57112e+00	0
75	128	203	1.34124e+00	6.57466e-01	8.32948e-01	1.23931e+00	1.80894e+00	2.58828e+00	0
75	129	204	1.75191e+00	6.97989e-01	8.50593e-01	1.03797e+00	2.02217e+00	2.83670e+00	0
75	130	205	1.99154e+00	7.97596e-01	8.89933e-01	1.06987e+00	2.01385e+00	2.79727e+00	0
75	131	206	1.66071e+00	5.39948e-01	1.04100e+00	9.20520e-01	2.24493e+00	3.09994e+00	0
75	132	207	2.15777e+00	8.20617e-01	9.42719e-01	9.36380e-01	2.08525e+00	2.87793e+00	0
75	133	208	1.59178e+00	4.56120e-01	1.12902e+00	7.99345e-01	2.37522e+00	3.24163e+00	0
75	134	209	2.43151e+00	7.35346e-01	9.78621e-01	9.15932e-01	2.08112e+00	2.89329e+00	0
75	135	210	1.89031e+00	5.01073e-01	1.19843e+00	7.61286e-01	2.25588e+00	3.11178e+00	0
75	136	211	2.61616e+00	7.21887e-01	9.99947e-01	8.69630e-01	2.21264e+00	3.06225e+00	0
75	137	212	1.95142e+00	4.65103e-01	1.24670e+00	7.13065e-01	2.49173e+00	3.37526e+00	0
75	138	213	2.69959e+00	6.86734e-01	1.02441e+00	8.10122e-01	2.42236e+00	3.27576e+00	0
75	139	214	1.97379e+00	4.31968e-01	1.30285e+00	6.76693e-01	2.61693e+00	3.49858e+00	0
75	140	215	2.75217e+00	6.65576e-01	1.05038e+00	7.69808e-01	2.53558e+00	3.40631e+00	0
75	141	216	2.06227e+00	4.26247e-01	1.42159e+00	6.77509e-01	2.52424e+00	3.40255e+00	0
75	142	217	2.71095e+00	6.44017e-01	1.05297e+00	7.48428e-01	2.70388e+00	3.62771e+00	0
75	143	218	2.08105e+00	4.31436e-01	1.38420e+00	6.63453e-01	2.89124e+00	3.83348e+00	0
75	144	219	2.75227e+00	6.52551e-01	1.17188e+00	7.17172e-01	2.84880e+00	3.79372e+00	0
75	145	220	2.08405e+00	4.33205e-01	1.56339e+00	6.87930e-01	3.03576e+00	3.97915e+00	0
75	146	221	2.46598e+00	6.07354e-01	1.30342e+00	6.88702e-01	3.04386e+00	4.01637e+00	0
75	147	222	2.03336e+00	4.15980e-01	1.67369e+00	7.00136e-01	3.14528e+00	4.11522e+00	0
75	148	223	2.25438e+00	5.37606e-01	1.46702e+00	6.78251e-01	3.13792e+00	4.10645e+00	0
75	149	224	2.14180e+00	4.33110e-01	1.75085e+00	7.26000e-01	3.35289e+00	4.36866e+00	0
75	150	225	2.15782e+00	4.65113e-01	1.65681e+00	6.88613e-01	3.30421e+00	4.31339e+00	0
75	151	226	2.38645e+00	4.93808e-01	1.93156e+00	7.65505e-01	3.35040e+00	4.36597e+00	0
75	152	227	2.14073e+00	4.16134e-01	1.86493e+00	7.10492e-01	3.45736e+00	4.48126e+00	0
75	153	228	2.37225e+00	5.23413e-01	2.10207e+00	7.68339e-01	3.62943e+00	4.68335e+00	0
75	154	229	1.83766e+00	3.54351e-01	2.31255e+00	7.25496e-01	3.62280e+00	4.67585e+00	0
75	155	230	2.06135e+00	4.28626e-01	2.49803e+00	7.56291e-01	3.75808e+00	4.80617e+00	0
75	156	231	1.79576e+00	3.40988e-01	2.62967e+00	7.45961e-01	3.77790e+00	4.83822e+00	0
75	157	232	1.88255e+00	3.60463e-01	2.80245e+00	7.54956e-01	3.86738e+00	4.94924e+00	0
75	158	233	1.87838e+00	3.67716e-01	2.76774e+00	7.65715e-01	3.90743e+00	4.99608e+00	0
75	159	234	1.72874e+00	3.49914e-01	2.88236e+00	7.53625e-01	4.07576e+00	5.15207e+00	0
75	160	235	1.87525e+00	3.70509e-01	2.82016e+00	7.78260e-01	4.04714e+00	5.15789e+00	0
75	161	236	1.69730e+00	3.27717e-01	3.09717e+00	7.70208e-01	4.12237e+00	5.20335e+00	0
75	162	237	1.93892e+00	3.93775e-01	2.92591e+00	7.99215e-01	4.23642e+00	5.36785e+00	0
75	163	238	1.68249e+00	3.16831e-01	3.43527e+00	8.03351e-01	4.32868e+00	5.43392e+00	0
75	164	239	1.85561e+00	3.85231e-01	3.44772e+00	8.25302e-01	4.38540e+00	5.54125e+00	0
75	165	240	1.87507e+00	3.76973e-01	3.99132e+00	8.60378e-01	4.49040e+00	5.65003e+00	0
75	166	241	1.64732e+00	3.01965e-01	4.28968e+00	8.41362e-01	4.55798e+00	5.73667e+00	0
75	167	242	1.64981e+00	3.10007e-01	4.83930e+00	8.72686e-01	4.64487e+00	5.83493e+00	0
75	168	243	1.66842e+00	3.24602e-01	5.05244e+00	8.67222e-01	4.71933e+00	5.91924e+00	0

(continued on next page)

Table 1 (continued)

75	169	244	1.57697e+00	3.06293e-01	5.70590e+00	8.88724e-01	4.73319e+00	5.93484e+00	0
75	170	245	1.44324e+00	2.73613e-01	5.91222e+00	8.73045e-01	4.76988e+00	5.94711e+00	0
75	171	246	1.38244e+00	2.67332e-01	6.31726e+00	8.86360e-01	4.92982e+00	6.12520e+00	0
75	172	247	1.28797e+00	2.50044e-01	6.37937e+00	8.77156e-01	4.97974e+00	6.21389e+00	0
75	173	248	1.23484e+00	2.47530e-01	6.89076e+00	8.99577e-01	5.01713e+00	6.25609e+00	0
75	174	249	1.22350e+00	2.36906e-01	6.84426e+00	9.02462e-01	5.10687e+00	6.35755e+00	0
75	175	250	1.30854e+00	2.51563e-01	7.29890e+00	9.34439e-01	5.26009e+00	6.53080e+00	0
Osmium (Os)									
76	115	191	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.27325e-02	1.65077e-01	1
76	117	193	1.62399e+00	1.64531e-01	0.00000e+00	0.00000e+00	2.86397e-01	6.31432e-01	1
76	118	194	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.30931e-02	9.96015e-02	1
76	119	195	1.57126e+00	2.83935e-01	0.00000e+00	0.00000e+00	6.36541e-01	1.13462e+00	1
76	120	196	2.27345e+00	1.59706e-01	0.00000e+00	0.00000e+00	2.55726e-01	5.69967e-01	1
76	121	197	1.57685e+00	2.77172e-01	0.00000e+00	0.00000e+00	9.28063e-01	1.50624e+00	0
76	122	198	2.30136e+00	1.90935e-01	0.00000e+00	0.00000e+00	4.80874e-01	9.36561e-01	0
76	123	199	2.22575e+00	3.44445e-01	0.00000e+00	0.00000e+00	1.12040e+00	1.76939e+00	0
76	124	200	2.43991e+00	2.42584e-01	0.00000e+00	0.00000e+00	7.54319e-01	1.31311e+00	0
76	125	201	2.23277e+00	5.52503e-01	0.00000e+00	0.00000e+00	1.33871e+00	2.03445e+00	0
76	126	202	2.41405e+00	3.18901e-01	0.00000e+00	0.00000e+00	1.09472e+00	1.74387e+00	0
76	127	203	2.53057e+00	8.26469e-01	2.70972e-03	2.28320e-01	1.96643e+00	2.77386e+00	0
76	128	204	2.29381e+00	4.54396e-01	4.94485e-02	5.30427e-01	1.82126e+00	2.59737e+00	0
76	129	205	2.45867e+00	7.99150e-01	8.49976e-02	4.79118e-01	2.25051e+00	3.11148e+00	0
76	130	206	2.19802e+00	4.49330e-01	2.16279e-01	7.82995e-01	2.02269e+00	2.83531e+00	0
76	131	207	2.53595e+00	6.78122e-01	2.78345e-01	6.70397e-01	2.30093e+00	3.14089e+00	0
76	132	208	1.80466e+00	3.90426e-01	6.56351e-01	8.07176e-01	1.74194e+00	2.50892e+00	0
76	133	209	3.02554e+00	7.71983e-01	2.95593e-01	4.73141e-01	2.21587e+00	3.05406e+00	0
76	134	210	1.44326e+00	3.60087e-01	8.41795e-01	6.19997e-01	1.79970e+00	2.56448e+00	0
76	135	211	2.42817e+00	4.86490e-01	6.95288e-01	4.83369e-01	2.01125e+00	2.83746e+00	0
76	136	212	1.65125e+00	3.87696e-01	7.99870e-01	5.32356e-01	1.92125e+00	2.73051e+00	0
76	137	213	2.43028e+00	3.22094e-01	8.84645e-01	5.23011e-01	2.00372e+00	2.80109e+00	0
76	138	214	1.77313e+00	3.61212e-01	8.25583e-01	5.14219e-01	2.12529e+00	2.97205e+00	0
76	139	215	2.64592e+00	3.46493e-01	8.69454e-01	5.12709e-01	2.20801e+00	3.05262e+00	0
76	140	216	2.08430e+00	3.64820e-01	8.06680e-01	5.24612e-01	2.26871e+00	3.10645e+00	0
76	141	217	2.76259e+00	3.68034e-01	8.48965e-01	5.15398e-01	2.26874e+00	3.11039e+00	0
76	142	218	2.30253e+00	3.72765e-01	7.80118e-01	5.39041e-01	2.34740e+00	3.22927e+00	0
76	143	219	3.03294e+00	4.40653e-01	7.08230e-01	5.25489e-01	2.63628e+00	3.56192e+00	0
76	144	220	2.57909e+00	3.80055e-01	8.16757e-01	5.95626e-01	2.56919e+00	3.46335e+00	0
76	145	221	2.91872e+00	3.78198e-01	8.46863e-01	5.95333e-01	2.80215e+00	3.74629e+00	0
76	146	222	2.70354e+00	3.92977e-01	8.45748e-01	6.33041e-01	2.76373e+00	3.68678e+00	0
76	147	223	2.87938e+00	3.95487e-01	9.27985e-01	6.10724e-01	2.87824e+00	3.82341e+00	0
76	148	224	2.74654e+00	4.15422e-01	8.90410e-01	6.56439e-01	2.88035e+00	3.84318e+00	0
76	149	225	2.77880e+00	3.83626e-01	1.00650e+00	6.03994e-01	3.10034e+00	4.09551e+00	0
76	150	226	2.86561e+00	4.51404e-01	9.41667e-01	6.88372e-01	3.03982e+00	4.00298e+00	0
76	151	227	2.57797e+00	3.45136e-01	1.30103e+00	6.35208e-01	3.13418e+00	4.12672e+00	0
76	152	228	2.97554e+00	4.76440e-01	1.05754e+00	6.99598e-01	3.24453e+00	4.26093e+00	0
76	153	229	2.38599e+00	3.04798e-01	1.57918e+00	6.68521e-01	3.38394e+00	4.41337e+00	0
76	154	230	2.51467e+00	3.86689e-01	1.40188e+00	6.55870e-01	3.38620e+00	4.41610e+00	0
76	155	231	2.46642e+00	3.44654e-01	1.80559e+00	7.26390e-01	3.49457e+00	4.54025e+00	0
76	156	232	2.39425e+00	3.17605e-01	1.65762e+00	6.64364e-01	3.49264e+00	4.52970e+00	0
76	157	233	2.42353e+00	3.40494e-01	1.92808e+00	7.25804e-01	3.63890e+00	4.71160e+00	0
76	158	234	2.34374e+00	2.96972e-01	1.75005e+00	6.65372e-01	3.60281e+00	4.66554e+00	0
76	159	235	2.43791e+00	3.60823e-01	2.01349e+00	7.50984e-01	3.66021e+00	4.72073e+00	0
76	160	236	2.28464e+00	2.73933e-01	1.85390e+00	6.79364e-01	3.69563e+00	4.77225e+00	0
76	161	237	2.42787e+00	3.51542e-01	2.12210e+00	7.55764e-01	3.74685e+00	4.81097e+00	0
76	162	238	2.18392e+00	2.62891e-01	2.01105e+00	6.95228e-01	3.86894e+00	4.96154e+00	0
76	163	239	2.39038e+00	3.29254e-01	2.40465e+00	7.71664e-01	3.96220e+00	5.08003e+00	0
76	164	240	2.06841e+00	2.55168e-01	2.51884e+00	7.53582e-01	4.08059e+00	5.20181e+00	0
76	165	241	2.10484e+00	2.59382e-01	2.93470e+00	8.01860e-01	4.19480e+00	5.34464e+00	0
76	166	242	2.13217e+00	3.00867e-01	3.08847e+00	8.21844e-01	4.18342e+00	5.31801e+00	0
76	167	243	1.95956e+00	2.61479e-01	3.63557e+00	8.37678e-01	4.30690e+00	5.46643e+00	0
76	168	244	1.85806e+00	2.40229e-01	3.68309e+00	8.15337e-01	4.40970e+00	5.58906e+00	0
76	169	245	1.78966e+00	2.46524e-01	4.20470e+00	8.53070e-01	4.48950e+00	5.67061e+00	0
76	170	246	1.51912e+00	2.37558e-01	4.19167e+00	8.12315e-01	4.45679e+00	5.64259e+00	0
76	171	247	1.57484e+00	2.39356e-01	4.61937e+00	8.60337e-01	4.49776e+00	5.68905e+00	0
76	172	248	1.52917e+00	2.04771e-01	4.34229e+00	8.43772e-01	4.71481e+00	5.89606e+00	0
76	173	249	1.49239e+00	2.05130e-01	4.73309e+00	8.83038e-01	4.80976e+00	6.04364e+00	0
76	174	250	1.38609e+00	2.03261e-01	4.57387e+00	8.70980e-01	4.79739e+00	6.02956e+00	0
76	175	251	1.31499e+00	2.02250e-01	5.23843e+00	9.29076e-01	5.03072e+00	6.29439e+00	0
76	176	252	1.31660e+00	1.92671e-01	4.98371e+00	9.26469e-01	5.10109e+00	6.36432e+00	0
76	177	253	1.32413e+00	1.93483e-01	5.42782e+00	9.56872e-01	5.17440e+00	6.42821e+00	0
Iridium (Ir)									
77	113	190	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.21917e-02	2.43565e-01	1
77	115	192	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.19296e-01	6.68385e-01	1
77	117	194	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.55683e-01	9.89859e-01	1
77	118	195	2.13300e+00	1.74036e-01	0.00000e+00	0.00000e+00	2.36264e-01	5.41121e-01	1
77	119	196	2.96349e+00	7.37049e-01	0.00000e+00	0.00000e+00	3.46569e-01	7.19925e-01	1
77	120	197	1.95422e+00	2.26352e-01	0.00000e+00	0.00000e+00	6.23044e-01	1.12194e+00	1

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Table 1 (continued)

77	121	198	2.65743e+00	6.60829e-01	0.00000e+00	0.00000e+00	8.50117e-01	1.41918e+00	0
77	122	199	2.66591e+00	2.41676e-01	0.00000e+00	0.00000e+00	9.09812e-01	1.49571e+00	1
77	123	200	2.67123e+00	7.36580e-01	0.00000e+00	0.00000e+00	1.09940e+00	1.73764e+00	0
77	124	201	2.28225e+00	3.82663e-01	0.00000e+00	0.00000e+00	1.13870e+00	1.78224e+00	0
77	125	202	2.37410e+00	8.10846e-01	0.00000e+00	0.00000e+00	1.56435e+00	2.30989e+00	0
77	126	203	2.13625e+00	5.77683e-01	0.00000e+00	0.00000e+00	1.40324e+00	2.08474e+00	0
77	127	204	2.51792e+00	1.12215e+00	7.32892e-03	3.40555e-01	2.15961e+00	3.00994e+00	0
77	128	205	1.52382e+00	8.53024e-01	1.81235e-01	6.54476e-01	2.00635e+00	2.83186e+00	0
77	129	206	2.18378e+00	1.03805e+00	1.81582e-01	6.59298e-01	2.39776e+00	3.27039e+00	0
77	130	207	1.36220e+00	7.65481e-01	3.91605e-01	7.98423e-01	2.20701e+00	3.04419e+00	0
77	131	208	1.95826e+00	9.11631e-01	3.74485e-01	7.14087e-01	2.50822e+00	3.40373e+00	0
77	132	209	1.70027e+00	7.25084e-01	6.39731e-01	9.56581e-01	1.91697e+00	2.71473e+00	0
77	133	210	2.05884e+00	6.89474e-01	7.59996e-01	8.90040e-01	1.93226e+00	2.74450e+00	0
77	134	211	1.93550e+00	5.96734e-01	9.51564e-01	1.02184e+00	1.76954e+00	2.52287e+00	0
77	135	212	1.87584e+00	5.13234e-01	9.55812e-01	7.96393e-01	1.93347e+00	2.75672e+00	0
77	136	213	2.12761e+00	5.96241e-01	9.67502e-01	9.33510e-01	1.84200e+00	2.62522e+00	0
77	137	214	2.24456e+00	4.92541e-01	1.00425e+00	7.92003e-01	1.90621e+00	2.71106e+00	0
77	138	215	2.39338e+00	5.94011e-01	9.69428e-01	8.72182e-01	1.93328e+00	2.71818e+00	0
77	139	216	2.43796e+00	4.68784e-01	1.03007e+00	7.49349e-01	2.08147e+00	2.92594e+00	0
77	140	217	2.45725e+00	5.75756e-01	9.80431e-01	8.15888e-01	2.14961e+00	2.98310e+00	0
77	141	218	2.26664e+00	4.36009e-01	1.08173e+00	6.93455e-01	2.26770e+00	3.14101e+00	0
77	142	219	2.55266e+00	5.81497e-01	9.83663e-01	7.93453e-01	2.21287e+00	3.08436e+00	0
77	143	220	2.34847e+00	5.00801e-01	9.98387e-01	6.50401e-01	2.51478e+00	3.43334e+00	0
77	144	221	2.65512e+00	6.35286e-01	9.72958e-01	7.70011e-01	2.43665e+00	3.34340e+00	0
77	145	222	2.33553e+00	4.95427e-01	1.15420e+00	6.80670e-01	2.64417e+00	3.56514e+00	0
77	146	223	2.79687e+00	6.52626e-01	1.01847e+00	7.68424e-01	2.60836e+00	3.52586e+00	0
77	147	224	2.03117e+00	4.42727e-01	1.35903e+00	6.73479e-01	2.72970e+00	3.68207e+00	0
77	148	225	2.57326e+00	6.58333e-01	1.12078e+00	7.25021e-01	2.71788e+00	3.66925e+00	0
77	149	226	2.06882e+00	4.08400e-01	1.42990e+00	6.87207e-01	2.94216e+00	3.91129e+00	0
77	150	227	2.41546e+00	6.26393e-01	1.26985e+00	7.03210e-01	2.85802e+00	3.83119e+00	0
77	151	228	2.00031e+00	3.98286e-01	1.70683e+00	7.25187e-01	2.94396e+00	3.91335e+00	0
77	152	229	2.29576e+00	5.27031e-01	1.49294e+00	7.03463e-01	3.04454e+00	4.03825e+00	0
77	153	230	2.23387e+00	4.70987e-01	1.80628e+00	7.64285e-01	3.20227e+00	4.22748e+00	0
77	154	231	2.15628e+00	4.30216e-01	1.80209e+00	7.24885e-01	3.19741e+00	4.20475e+00	0
77	155	232	2.32192e+00	5.29641e-01	2.01419e+00	7.75409e-01	3.35838e+00	4.40640e+00	0
77	156	233	1.84888e+00	3.61757e-01	2.09915e+00	7.16481e-01	3.36752e+00	4.41766e+00	0
77	157	234	2.19887e+00	4.90510e-01	2.21029e+00	7.68912e-01	3.43380e+00	4.49320e+00	0
77	158	235	1.72656e+00	3.29335e-01	2.28093e+00	7.21505e-01	3.47128e+00	4.53659e+00	0
77	159	236	2.08257e+00	4.69155e-01	2.30839e+00	7.68033e-01	3.56620e+00	4.63088e+00	0
77	160	237	1.71085e+00	3.29419e-01	2.29886e+00	7.25748e-01	3.65234e+00	4.72962e+00	0
77	161	238	2.10422e+00	4.50129e-01	2.39871e+00	7.75495e-01	3.72038e+00	4.81905e+00	0
77	162	239	1.69987e+00	3.27439e-01	2.46592e+00	7.49215e-01	3.80362e+00	4.90371e+00	0
77	163	240	1.92321e+00	4.01849e-01	2.67280e+00	7.89796e-01	3.88761e+00	4.98966e+00	0
77	164	241	1.89810e+00	3.81639e-01	2.81772e+00	8.16018e-01	3.93362e+00	5.06608e+00	0
77	165	242	1.71642e+00	3.17251e-01	3.28141e+00	8.25047e-01	4.14117e+00	5.30318e+00	0
77	166	243	1.92659e+00	4.08024e-01	3.34634e+00	8.57352e-01	4.05486e+00	5.20463e+00	0
77	167	244	1.80472e+00	3.65105e-01	3.85315e+00	8.73360e-01	4.14571e+00	5.30845e+00	0
77	168	245	1.56651e+00	3.14095e-01	3.88977e+00	8.54088e-01	4.23736e+00	5.40658e+00	0
77	169	246	1.63354e+00	3.33973e-01	4.30978e+00	8.96457e-01	4.27496e+00	5.44567e+00	0
77	170	247	1.38055e+00	3.08851e-01	4.30682e+00	8.68613e-01	4.39699e+00	5.58632e+00	0
77	171	248	1.44228e+00	3.09408e-01	4.52479e+00	9.05605e-01	4.38852e+00	5.58582e+00	0
77	172	249	1.32866e+00	2.64803e-01	4.39931e+00	9.03114e-01	4.43953e+00	5.64393e+00	0
77	173	250	1.28284e+00	2.56792e-01	4.62636e+00	9.29741e-01	4.57820e+00	5.80210e+00	0
77	174	251	1.21329e+00	2.55039e-01	4.33175e+00	9.35423e-01	4.96524e+00	6.24296e+00	0
77	175	252	1.26115e+00	2.74785e-01	4.58590e+00	9.68478e-01	5.05746e+00	6.34796e+00	0
77	176	253	1.21768e+00	2.70454e-01	4.49297e+00	9.69947e-01	5.16631e+00	6.47178e+00	0
77	177	254	1.21621e+00	2.87536e-01	4.76695e+00	9.90329e-01	5.31845e+00	6.61374e+00	0
77	178	255	1.27099e+00	2.88087e-01	4.78055e+00	1.00120e+00	5.40037e+00	6.72718e+00	0
77	179	256	1.17689e+00	2.73877e-01	5.25104e+00	1.01953e+00	5.66141e+00	7.03459e+00	0
Platinum (Pt)									
78	119	197	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.19824e-01	3.15973e-01	1
78	121	199	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	4.28422e-01	8.48334e-01	1
78	122	200	2.20939e+00	1.25350e-01	0.00000e+00	0.00000e+00	1.15052e-01	3.03106e-01	1
78	123	201	1.47262e+00	4.03160e-01	0.00000e+00	0.00000e+00	7.75335e-01	1.33986e+00	1
78	124	202	2.32563e+00	1.89810e-01	0.00000e+00	0.00000e+00	4.18173e-01	8.30817e-01	1
78	125	203	2.21852e+00	3.11478e-01	0.00000e+00	0.00000e+00	9.50201e-01	1.54913e+00	0
78	126	204	2.48952e+00	2.12109e-01	0.00000e+00	0.00000e+00	6.08153e-01	1.12605e+00	0
78	127	205	2.09740e+00	7.65156e-01	0.00000e+00	0.00000e+00	1.57192e+00	2.33059e+00	0
78	128	206	2.23700e+00	4.03890e-01	1.18657e-03	1.85748e-01	1.34127e+00	2.05764e+00	0
78	129	207	2.34285e+00	8.00477e-01	9.38907e-03	3.13054e-01	1.83520e+00	2.62934e+00	0
78	130	208	2.39877e+00	4.03532e-01	4.92094e-02	5.49232e-01	1.59671e+00	2.35976e+00	0
78	131	209	2.50804e+00	7.60009e-01	6.59930e-02	5.05854e-01	1.98957e+00	2.81923e+00	0
78	132	210	1.96856e+00	4.25949e-01	3.39312e-01	5.30892e-01	1.41900e+00	2.13460e+00	0
78	133	211	2.34619e+00	6.23348e-01	4.10451e-01	4.54445e-01	1.61613e+00	2.35408e+00	0
78	134	212	2.09719e+00	5.54186e-01	4.41132e-01	4.29983e-01	1.38924e+00	2.09515e+00	0
78	135	213	2.81402e+00	7.42863e-01	3.73219e-01	3.42176e-01	1.73287e+00	2.52501e+00	0
78	136	214	1.85745e+00	4.92677e-01	5.96102e-01	4.20258e-01	1.52545e+00	2.28191e+00	0

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Table 1 (continued)

78	137	215	2.64782e+00	6.73755e-01	4.86667e-01	3.03754e-01	1.71630e+00	2.50998e+00	0
78	138	216	2.30339e+00	5.14238e-01	4.92443e-01	3.71906e-01	1.70589e+00	2.48578e+00	0
78	139	217	2.61414e+00	4.92548e-01	6.70881e-01	3.63197e-01	1.79161e+00	2.59954e+00	0
78	140	218	2.38007e+00	4.68603e-01	5.26585e-01	3.91381e-01	1.90241e+00	2.72783e+00	0
78	141	219	2.92670e+00	5.57206e-01	5.34285e-01	3.78584e-01	2.05090e+00	2.88202e+00	0
78	142	220	2.48631e+00	4.24709e-01	5.22067e-01	4.46801e-01	1.96787e+00	2.78344e+00	0
78	143	221	3.23052e+00	5.41577e-01	4.46610e-01	4.40628e-01	2.23555e+00	3.08441e+00	0
78	144	222	2.65081e+00	4.37080e-01	5.05873e-01	4.58611e-01	2.18281e+00	3.05233e+00	0
78	145	223	2.86878e+00	4.32544e-01	6.08883e-01	4.74370e-01	2.42996e+00	3.34629e+00	0
78	146	224	2.54425e+00	3.84747e-01	6.47052e-01	5.25195e-01	2.36918e+00	3.27757e+00	0
78	147	225	2.98081e+00	4.37655e-01	6.44874e-01	5.33947e-01	2.56233e+00	3.50121e+00	0
78	148	226	2.59145e+00	3.72234e-01	7.13678e-01	5.83559e-01	2.46370e+00	3.36727e+00	0
78	149	227	2.95642e+00	4.45193e-01	6.78851e-01	5.34741e-01	2.73885e+00	3.70716e+00	0
78	150	228	2.56694e+00	3.70419e-01	7.96286e-01	6.08666e-01	2.65762e+00	3.60125e+00	0
78	151	229	3.01477e+00	3.96288e-01	9.04361e-01	6.26856e-01	2.74285e+00	3.68607e+00	0
78	152	230	2.80698e+00	4.15802e-01	8.71011e-01	6.73271e-01	2.85658e+00	3.83013e+00	0
78	153	231	2.63648e+00	3.66770e-01	1.15651e+00	6.32767e-01	2.99074e+00	3.99000e+00	0
78	154	232	2.75382e+00	4.64519e-01	1.03894e+00	6.86351e-01	2.96868e+00	3.97380e+00	0
78	155	233	2.36381e+00	3.00807e-01	1.47604e+00	6.63157e-01	3.12340e+00	4.12555e+00	0
78	156	234	2.71254e+00	4.52425e-01	1.16742e+00	6.90218e-01	3.13487e+00	4.16630e+00	0
78	157	235	2.33361e+00	2.98821e-01	1.60197e+00	6.76526e-01	3.23721e+00	4.25822e+00	0
78	158	236	2.57091e+00	4.06614e-01	1.28369e+00	6.68115e-01	3.21738e+00	4.23680e+00	0
78	159	237	2.25895e+00	2.99360e-01	1.67062e+00	6.89761e-01	3.31570e+00	4.35733e+00	0
78	160	238	2.57477e+00	4.14944e-01	1.31523e+00	6.73057e-01	3.35911e+00	4.40726e+00	0
78	161	239	2.28253e+00	3.07666e-01	1.75729e+00	7.12689e-01	3.42997e+00	4.50629e+00	0
78	162	240	2.41880e+00	3.63634e-01	1.52113e+00	6.80461e-01	3.48098e+00	4.56505e+00	0
78	163	241	2.49669e+00	3.62565e-01	1.94080e+00	7.84095e-01	3.57709e+00	4.67563e+00	0
78	164	242	2.22951e+00	2.87110e-01	1.91653e+00	7.29406e-01	3.64910e+00	4.75828e+00	0
78	165	243	2.33326e+00	3.74154e-01	2.28389e+00	8.16903e-01	3.83258e+00	4.95594e+00	0
78	166	244	1.99464e+00	2.51913e-01	2.53141e+00	7.89871e-01	3.73859e+00	4.86112e+00	0
78	167	245	1.92287e+00	2.57472e-01	2.92539e+00	8.30590e-01	3.73239e+00	4.85401e+00	0
78	168	246	1.84376e+00	2.62987e-01	2.80849e+00	8.18699e-01	3.93341e+00	5.08310e+00	0
78	169	247	1.65319e+00	2.40041e-01	2.98587e+00	8.26440e-01	4.10215e+00	5.27875e+00	0
78	170	248	1.69415e+00	2.33009e-01	2.68288e+00	8.32943e-01	4.21117e+00	5.40375e+00	0
78	171	249	1.81792e+00	2.78560e-01	2.88143e+00	8.82735e-01	4.30321e+00	5.48292e+00	0
78	172	250	1.72247e+00	2.68124e-01	2.76177e+00	8.86015e-01	4.36342e+00	5.57184e+00	0
78	173	251	1.71247e+00	2.64937e-01	3.05652e+00	9.14729e-01	4.47096e+00	5.67359e+00	0
78	174	252	1.78734e+00	3.03946e-01	3.00725e+00	9.37317e-01	4.47769e+00	5.70902e+00	0
78	175	253	1.62611e+00	2.53939e-01	3.50447e+00	9.51162e-01	4.55012e+00	5.75047e+00	0
78	176	254	1.70240e+00	2.93431e-01	3.30968e+00	9.53982e-01	4.62506e+00	5.87777e+00	0
78	177	255	1.59096e+00	2.62054e-01	3.80986e+00	9.71913e-01	4.70439e+00	5.96859e+00	0
78	178	256	1.43281e+00	2.37453e-01	3.77490e+00	9.49210e-01	4.78957e+00	6.02606e+00	0
78	179	257	1.45810e+00	2.44485e-01	4.22632e+00	9.94678e-01	5.02357e+00	6.30466e+00	0
78	180	258	1.39493e+00	2.19375e-01	4.46176e+00	9.87253e-01	4.96510e+00	6.25667e+00	0
78	181	259	1.41499e+00	2.19137e-01	5.10023e+00	1.01495e+00	5.06216e+00	6.37775e+00	0
78	182	260	1.39629e+00	2.20803e-01	5.07932e+00	1.00268e+00	5.32974e+00	6.67358e+00	0
Gold (Au)									
79	117	196	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.33416e-02	2.42427e-01	1
79	119	198	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.03909e-01	6.72011e-01	1
79	120	199	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.62831e-02	2.15539e-01	1
79	121	200	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.70217e-01	1.01083e+00	1
79	122	201	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.89888e-01	6.22258e-01	1
79	123	202	2.40098e+00	6.11048e-01	0.00000e+00	0.00000e+00	5.54072e-01	1.01793e+00	1
79	124	203	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.28017e-01	1.13880e+00	1
79	125	204	2.13673e+00	9.40871e-01	0.00000e+00	0.00000e+00	7.55308e-01	1.29781e+00	0
79	126	205	1.31628e+00	6.04660e-01	0.00000e+00	0.00000e+00	9.27206e-01	1.52151e+00	0
79	127	206	2.23873e+00	9.98386e-01	0.00000e+00	0.00000e+00	1.73463e+00	2.53267e+00	0
79	128	207	2.70920e+00	4.93058e-01	2.63669e-02	3.52830e-01	1.54168e+00	2.29992e+00	0
79	129	208	2.37813e+00	1.05254e+00	3.41393e-02	3.25308e-01	2.02345e+00	2.86806e+00	0
79	130	209	1.54887e+00	7.90100e-01	1.64062e-01	6.55125e-01	1.76473e+00	2.55087e+00	0
79	131	210	2.32243e+00	1.01150e+00	1.21956e-01	6.28339e-01	2.12951e+00	2.99760e+00	0
79	132	211	1.57482e+00	7.13092e-01	3.72569e-01	9.23798e-01	1.71049e+00	2.48826e+00	0
79	133	212	2.26324e+00	1.20404e+00	3.46075e-01	3.73902e-01	1.61444e+00	2.39736e+00	0
79	134	213	1.39567e+00	5.40361e-01	7.79800e-01	9.71950e-01	1.33985e+00	2.05060e+00	0
79	135	214	1.91246e+00	7.49964e-01	6.84431e-01	6.98878e-01	1.61089e+00	2.37220e+00	0
79	136	215	1.50123e+00	4.59669e-01	9.27544e-01	9.11563e-01	1.42862e+00	2.17069e+00	0
79	137	216	1.74183e+00	4.36158e-01	8.97959e-01	7.00504e-01	1.55124e+00	2.30179e+00	0
79	138	217	1.50982e+00	4.22785e-01	9.46937e-01	8.02275e-01	1.60484e+00	2.38637e+00	0
79	139	218	2.04278e+00	4.11599e-01	9.24663e-01	6.79200e-01	1.70340e+00	2.50224e+00	0
79	140	219	1.98282e+00	4.64328e-01	9.55641e-01	8.02297e-01	1.70848e+00	2.50156e+00	0
79	141	220	2.23319e+00	4.62909e-01	8.88922e-01	6.51064e-01	1.91640e+00	2.75498e+00	0
79	142	221	2.07572e+00	4.93693e-01	9.18632e-01	7.56297e-01	1.89678e+00	2.70729e+00	0
79	143	222	2.43576e+00	5.49666e-01	7.84296e-01	6.12043e-01	2.08933e+00	2.94447e+00	0
79	144	223	2.23846e+00	5.06525e-01	9.39637e-01	7.54059e-01	2.02354e+00	2.88205e+00	0
79	145	224	2.45980e+00	4.89427e-01	8.68298e-01	6.62394e-01	2.27286e+00	3.16996e+00	0
79	146	225	2.40400e+00	5.47663e-01	9.45173e-01	7.59617e-01	2.19864e+00	3.08647e+00	0
79	147	226	2.42003e+00	4.86059e-01	9.65113e-01	6.71030e-01	2.40183e+00	3.32651e+00	0

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Table 1 (continued)

79	148	227	2.59926e+00	6.14675e-01	9.32008e-01	7.53576e-01	2.33436e+00	3.22012e+00	0
79	149	228	2.33299e+00	4.98626e-01	1.03721e+00	6.48152e-01	2.56427e+00	3.48899e+00	0
79	150	229	2.68506e+00	6.42713e-01	9.84251e-01	7.52635e-01	2.47919e+00	3.41282e+00	0
79	151	230	2.09044e+00	4.40502e-01	1.32266e+00	6.74181e-01	2.55698e+00	3.50889e+00	0
79	152	231	2.64489e+00	6.63271e-01	1.10146e+00	7.41407e-01	2.68926e+00	3.65641e+00	0
79	153	232	2.04090e+00	4.06907e-01	1.55100e+00	7.18510e-01	2.83218e+00	3.82950e+00	0
79	154	233	2.28865e+00	5.44395e-01	1.44260e+00	7.09073e-01	2.79609e+00	3.78785e+00	0
79	155	234	2.27425e+00	4.89324e-01	1.73550e+00	7.72711e-01	2.92717e+00	3.93951e+00	0
79	156	235	2.10250e+00	4.89104e-01	1.61106e+00	7.01496e-01	2.99573e+00	4.00257e+00	0
79	157	236	2.14906e+00	4.55864e-01	1.86083e+00	7.69046e-01	3.10571e+00	4.14806e+00	0
79	158	237	1.97008e+00	4.15366e-01	1.76117e+00	7.06381e-01	3.05694e+00	4.07383e+00	0
79	159	238	2.20115e+00	4.79199e-01	1.94844e+00	7.83575e-01	3.10728e+00	4.14253e+00	0
79	160	239	2.02945e+00	4.24437e-01	1.76825e+00	7.14107e-01	3.21808e+00	4.27086e+00	0
79	161	240	2.29778e+00	5.14874e-01	1.97895e+00	8.01939e-01	3.26026e+00	4.29999e+00	0
79	162	241	1.90665e+00	3.89021e-01	1.93363e+00	7.48919e-01	3.35452e+00	4.40942e+00	0
79	163	242	2.14575e+00	5.18478e-01	2.17988e+00	8.23231e-01	3.39979e+00	4.47293e+00	0
79	164	243	1.68558e+00	3.44420e-01	2.35664e+00	7.93356e-01	3.49646e+00	4.60023e+00	0
79	165	244	1.90843e+00	4.31433e-01	2.56736e+00	8.46598e-01	3.70297e+00	4.81531e+00	0
79	166	245	1.72351e+00	3.64763e-01	2.75815e+00	8.69770e-01	3.78629e+00	4.93222e+00	0
79	167	246	1.59150e+00	3.34163e-01	2.99066e+00	8.69858e-01	3.86441e+00	5.01932e+00	0
79	168	247	1.55673e+00	3.59178e-01	2.83258e+00	8.89208e-01	3.94191e+00	5.10223e+00	0
79	169	248	1.44158e+00	3.72770e-01	2.97095e+00	8.78626e-01	4.00765e+00	5.19015e+00	0
79	170	249	1.54138e+00	3.56885e-01	2.77553e+00	9.22306e-01	4.06935e+00	5.26127e+00	0
79	171	250	1.50869e+00	3.59763e-01	2.97720e+00	9.25104e-01	4.18290e+00	5.39187e+00	0
79	172	251	1.66330e+00	4.05106e-01	2.88897e+00	9.72760e-01	4.21335e+00	5.42694e+00	0
79	173	252	1.41424e+00	3.32423e-01	3.21478e+00	9.57524e-01	4.37194e+00	5.60916e+00	0
79	174	253	1.64432e+00	4.16148e-01	3.11381e+00	1.00223e+00	4.41399e+00	5.63147e+00	0
79	175	254	1.46663e+00	3.61641e-01	3.49336e+00	1.00522e+00	4.50828e+00	5.75565e+00	0
79	176	255	1.43372e+00	3.63137e-01	3.39423e+00	9.94534e-01	4.60880e+00	5.85416e+00	0
79	177	256	1.43525e+00	3.73883e-01	3.71693e+00	1.01900e+00	4.72973e+00	6.02028e+00	0
79	178	257	1.21907e+00	2.99661e-01	3.81377e+00	9.87915e-01	4.83607e+00	6.09865e+00	0
79	179	258	1.28188e+00	3.23215e-01	4.13104e+00	1.01960e+00	5.10073e+00	6.41704e+00	0
79	180	259	1.26734e+00	2.95414e-01	4.38209e+00	1.02554e+00	5.04695e+00	6.35675e+00	0
79	181	260	1.18165e+00	2.80797e-01	4.91242e+00	1.02914e+00	5.15678e+00	6.51066e+00	0
79	182	261	1.27026e+00	2.94247e-01	5.00609e+00	1.03594e+00	5.29088e+00	6.66462e+00	0
79	183	262	1.21730e+00	2.87356e-01	5.51906e+00	1.03859e+00	5.34900e+00	6.71705e+00	0
79	184	263	1.18070e+00	2.64380e-01	5.59109e+00	1.01553e+00	5.54519e+00	6.95696e+00	0
Mercury (Hg)									
80	123	203	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.92072e-02	2.06494e-01	1
80	125	205	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.77179e-01	7.69271e-01	1
80	126	206	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.46001e-01	5.52811e-01	1
80	127	207	1.97585e+00	9.00302e-01	0.00000e+00	0.00000e+00	1.09180e+00	1.71043e+00	1
80	128	208	2.82497e+00	3.00503e-01	0.00000e+00	0.00000e+00	1.02314e+00	1.65100e+00	1
80	129	209	2.12259e+00	6.83105e-01	0.00000e+00	0.00000e+00	1.45324e+00	2.20183e+00	0
80	130	210	2.15537e+00	3.37165e-01	1.12204e-04	7.18337e-02	1.08741e+00	1.75778e+00	0
80	131	211	2.32818e+00	7.05582e-01	1.31099e-03	1.44787e-01	1.58826e+00	2.36377e+00	0
80	132	212	2.39008e+00	3.74424e-01	2.30586e-02	2.61011e-01	1.26224e+00	1.94369e+00	0
80	133	213	2.65611e+00	6.72955e-01	4.01326e-02	3.59475e-01	1.70920e+00	2.47931e+00	0
80	134	214	2.96753e+00	5.58045e-01	1.03575e-01	2.67721e-01	1.01749e+00	1.63028e+00	0
80	135	215	3.26891e+00	7.96763e-01	3.57086e-02	2.75511e-01	1.54881e+00	2.31191e+00	0
80	136	216	3.05144e+00	5.95958e-01	1.71431e-01	2.61727e-01	1.06136e+00	1.69364e+00	0
80	137	217	3.48979e+00	7.66228e-01	7.76931e-02	2.26980e-01	1.55597e+00	2.30542e+00	0
80	138	218	3.41058e+00	5.83880e-01	1.25588e-01	2.42578e-01	1.23135e+00	1.93964e+00	0
80	139	219	3.50418e+00	7.17309e-01	1.43795e-01	2.26876e-01	1.69049e+00	2.47903e+00	0
80	140	220	3.17426e+00	5.57445e-01	2.08228e-01	2.68937e-01	1.43634e+00	2.19138e+00	0
80	141	221	3.48688e+00	7.22782e-01	2.11092e-01	2.61787e-01	1.71237e+00	2.52279e+00	0
80	142	222	3.04672e+00	4.74020e-01	2.32498e-01	3.46823e-01	1.56272e+00	2.34091e+00	0
80	143	223	3.56221e+00	6.56242e-01	1.66850e-01	2.84085e-01	1.87977e+00	2.69546e+00	0
80	144	224	3.26666e+00	5.10471e-01	1.82990e-01	3.18704e-01	1.79549e+00	2.62223e+00	0
80	145	225	3.18900e+00	5.72232e-01	3.06577e-01	3.53193e-01	2.11292e+00	2.98611e+00	0
80	146	226	2.83803e+00	4.43819e-01	3.93735e-01	4.21312e-01	1.92623e+00	2.77778e+00	0
80	147	227	3.15135e+00	5.25447e-01	4.33942e-01	4.21695e-01	2.13632e+00	3.00141e+00	0
80	148	228	2.77828e+00	4.10232e-01	4.61692e-01	4.76164e-01	2.07349e+00	2.92831e+00	0
80	149	229	3.19423e+00	5.38359e-01	4.24155e-01	4.52817e-01	2.32523e+00	3.24913e+00	0
80	150	230	2.73763e+00	3.88736e-01	5.57797e-01	5.25822e-01	2.22576e+00	3.13242e+00	0
80	151	231	3.00201e+00	4.32280e-01	6.92089e-01	5.30835e-01	2.31374e+00	3.23669e+00	0
80	152	232	2.62460e+00	3.83280e-01	7.03193e-01	5.86890e-01	2.40756e+00	3.32655e+00	0
80	153	233	3.05675e+00	4.22222e-01	8.01376e-01	6.21586e-01	2.60376e+00	3.56214e+00	0
80	154	234	2.86469e+00	4.25187e-01	8.58931e-01	6.80076e-01	2.54772e+00	3.49932e+00	0
80	155	235	2.62746e+00	3.53471e-01	1.08611e+00	6.30152e-01	2.70869e+00	3.68326e+00	0
80	156	236	2.80523e+00	4.37623e-01	9.42856e-01	6.97401e-01	2.71288e+00	3.69226e+00	0
80	157	237	2.48258e+00	3.40492e-01	1.16950e+00	6.19286e-01	2.88833e+00	3.90410e+00	0
80	158	238	2.82674e+00	4.50540e-01	9.78601e-01	7.07132e-01	2.80057e+00	3.78472e+00	0
80	159	239	2.34516e+00	3.22494e-01	1.38757e+00	6.46796e-01	2.82058e+00	3.83193e+00	0
80	160	240	2.90645e+00	4.51263e-01	1.01163e+00	7.16564e-01	2.93998e+00	3.97141e+00	0
80	161	241	2.31103e+00	3.28521e-01	1.39513e+00	6.68552e-01	3.06056e+00	4.11134e+00	0
80	162	242	2.74222e+00	4.95401e-01	1.10953e+00	7.47741e-01	3.07834e+00	4.11605e+00	0

(continued on next page)

Table 1 (continued)

80	163	243	2.13117e+00	2.99684e-01	1.66613e+00	7.32221e-01	3.19141e+00	4.25609e+00	0
80	164	244	2.30649e+00	4.39757e-01	1.42629e+00	7.43391e-01	3.25902e+00	4.34277e+00	0
80	165	245	2.36981e+00	3.88684e-01	1.90855e+00	8.55394e-01	3.36553e+00	4.46632e+00	0
80	166	246	2.04851e+00	3.27116e-01	1.68996e+00	7.67136e-01	3.44687e+00	4.54877e+00	0
80	167	247	1.93525e+00	3.44138e-01	1.94975e+00	8.58774e-01	3.49789e+00	4.61547e+00	0
80	168	248	2.16521e+00	4.39013e-01	1.56530e+00	8.10666e-01	3.58551e+00	4.72218e+00	0
80	169	249	2.08411e+00	4.01467e-01	1.95671e+00	9.10742e-01	3.65673e+00	4.78161e+00	0
80	170	250	1.98313e+00	3.57197e-01	1.77044e+00	8.26701e-01	3.72866e+00	4.86605e+00	0
80	171	251	2.10996e+00	4.27562e-01	2.06230e+00	9.45114e-01	3.82127e+00	4.99301e+00	0
80	172	252	1.81085e+00	3.02346e-01	2.00542e+00	8.52983e-01	3.88673e+00	5.06924e+00	0
80	173	253	2.00274e+00	4.10889e-01	2.27531e+00	9.54888e-01	3.95506e+00	5.13749e+00	0
80	174	254	1.56934e+00	2.58088e-01	2.31066e+00	8.73484e-01	4.05187e+00	5.25900e+00	0
80	175	255	1.77892e+00	3.43119e-01	2.56430e+00	9.45469e-01	4.06616e+00	5.25501e+00	0
80	176	256	1.53691e+00	2.52218e-01	2.58076e+00	9.03451e-01	4.12219e+00	5.32946e+00	0
80	177	257	1.60280e+00	2.83753e-01	2.83728e+00	9.31507e-01	4.22011e+00	5.41940e+00	0
80	178	258	1.55781e+00	2.71579e-01	2.83954e+00	9.29963e-01	4.28670e+00	5.50700e+00	0
80	179	259	1.50269e+00	2.38225e-01	3.34869e+00	9.53382e-01	4.42943e+00	5.68958e+00	0
80	180	260	1.61948e+00	2.89191e-01	3.38285e+00	9.64635e-01	4.39098e+00	5.62625e+00	0
80	181	261	1.52032e+00	2.73990e-01	4.00652e+00	9.95119e-01	4.52715e+00	5.78171e+00	0
80	182	262	1.39877e+00	2.20098e-01	3.97704e+00	9.53032e-01	4.58708e+00	5.84029e+00	0
80	183	263	1.37682e+00	2.30027e-01	4.42319e+00	9.77391e-01	4.68113e+00	5.98835e+00	0
80	184	264	1.23692e+00	2.03766e-01	4.36435e+00	9.32980e-01	4.91195e+00	6.21544e+00	0
80	185	265	1.15812e+00	2.06457e-01	5.01015e+00	9.80253e-01	5.51842e+00	6.92649e+00	0
80	186	266	1.25791e+00	2.03797e-01	5.86925e+00	1.01764e+00	5.16806e+00	6.54969e+00	0
Thallium (Tl)									
81	123	204	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
81	125	206	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.19570e-01	5.17345e-01	1
81	126	207	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.47862e-01	5.53338e-01	1
81	127	208	1.92977e+00	1.67333e+00	0.00000e+00	0.00000e+00	6.47678e-01	1.15370e+00	1
81	128	209	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	7.11956e-01	1.23577e+00	1
81	129	210	3.79626e+00	6.30981e-01	2.59421e-04	1.22614e-01	1.22076e+00	1.90861e+00	1
81	130	211	1.90258e+00	6.51866e-01	1.87490e-03	2.08303e-01	1.25745e+00	1.94806e+00	1
81	131	212	2.41303e+00	8.76451e-01	1.10783e-03	2.69377e-01	1.64153e+00	2.41464e+00	0
81	132	213	2.69712e+00	4.70506e-01	4.84526e-02	4.31387e-01	1.41433e+00	2.15219e+00	1
81	133	214	2.54367e+00	8.96129e-01	2.55774e-02	3.64292e-01	1.77816e+00	2.59597e+00	0
81	134	215	1.65976e+00	6.23127e-01	2.71802e-01	7.59937e-01	1.30383e+00	1.98197e+00	0
81	135	216	2.25389e+00	8.27654e-01	2.82141e-01	6.21691e-01	1.57613e+00	2.31967e+00	0
81	136	217	1.13585e+00	5.11914e-01	7.26042e-01	6.67103e-01	1.01422e+00	1.65182e+00	0
81	137	218	1.97154e+00	7.86967e-01	5.80755e-01	5.30838e-01	1.23692e+00	1.91412e+00	0
81	138	219	1.07321e+00	4.42369e-01	8.56401e-01	6.19909e-01	1.12116e+00	1.80509e+00	0
81	139	220	2.29626e+00	7.84886e-01	5.63444e-01	5.04396e-01	1.40141e+00	2.13688e+00	0
81	140	221	1.29993e+00	3.60874e-01	9.22112e-01	6.74303e-01	1.25472e+00	1.93962e+00	0
81	141	222	2.17324e+00	6.94703e-01	6.50580e-01	4.90148e-01	1.55944e+00	2.30038e+00	0
81	142	223	1.71961e+00	4.79951e-01	8.03759e-01	6.50683e-01	1.48432e+00	2.25261e+00	0
81	143	224	2.76188e+00	7.48613e-01	4.77176e-01	5.05050e-01	1.72187e+00	2.49793e+00	0
81	144	225	1.90792e+00	5.01989e-01	7.58803e-01	6.35263e-01	1.57234e+00	2.33186e+00	0
81	145	226	2.43321e+00	5.67135e-01	7.47529e-01	5.66153e-01	1.69789e+00	2.51127e+00	0
81	146	227	2.09843e+00	4.87606e-01	8.38571e-01	6.92282e-01	1.80579e+00	2.61603e+00	0
81	147	228	2.62178e+00	6.06412e-01	6.81909e-01	6.09263e-01	2.04183e+00	2.89264e+00	0
81	148	229	2.25911e+00	5.28016e-01	8.35932e-01	7.09450e-01	1.95055e+00	2.78916e+00	0
81	149	230	2.49934e+00	5.37782e-01	7.90736e-01	5.91071e-01	2.18404e+00	3.09448e+00	0
81	150	231	2.26082e+00	5.32564e-01	9.00411e-01	7.10855e-01	2.10807e+00	2.97764e+00	0
81	151	232	2.48619e+00	4.76343e-01	9.80528e-01	6.59104e-01	2.18094e+00	3.08579e+00	0
81	152	233	2.53646e+00	5.90389e-01	9.59815e-01	7.43586e-01	2.29091e+00	3.19408e+00	0
81	153	234	2.25569e+00	4.58873e-01	1.17626e+00	6.71199e-01	2.48007e+00	3.42783e+00	0
81	154	235	2.66700e+00	6.36285e-01	1.10209e+00	7.42612e-01	2.44157e+00	3.38413e+00	0
81	155	236	2.03454e+00	4.29997e-01	1.47072e+00	7.09318e-01	2.57216e+00	3.55317e+00	0
81	156	237	2.35229e+00	5.93030e-01	1.32152e+00	6.99805e-01	2.50186e+00	3.44386e+00	0
81	157	238	1.98534e+00	4.26243e-01	1.66190e+00	7.35662e-01	2.58185e+00	3.56510e+00	0
81	158	239	2.25071e+00	5.88918e-01	1.37066e+00	6.89662e-01	2.63607e+00	3.61190e+00	0
81	159	240	2.02367e+00	4.14862e-01	1.75496e+00	7.51493e-01	2.62085e+00	3.61182e+00	0
81	160	241	2.12529e+00	5.61553e-01	1.43498e+00	7.01142e-01	2.72396e+00	3.73336e+00	0
81	161	242	1.95202e+00	4.38050e-01	1.76044e+00	7.85898e-01	2.83659e+00	3.83721e+00	0
81	162	243	1.97160e+00	5.14202e-01	1.57440e+00	7.48347e-01	2.88632e+00	3.89621e+00	0
81	163	244	2.06233e+00	4.96032e-01	1.88281e+00	8.59869e-01	2.97938e+00	4.03282e+00	0
81	164	245	1.84406e+00	4.35978e-01	1.85176e+00	8.18742e-01	3.12978e+00	4.20883e+00	0
81	165	246	2.15937e+00	5.68133e-01	2.03237e+00	9.31342e-01	3.22907e+00	4.32569e+00	0
81	166	247	1.52751e+00	4.14574e-01	1.90867e+00	8.34873e-01	3.33030e+00	4.44375e+00	0
81	167	248	1.88470e+00	5.40418e-01	2.06918e+00	9.60664e-01	3.33779e+00	4.42629e+00	0
81	168	249	1.43642e+00	3.99979e-01	2.03091e+00	8.71003e-01	3.35043e+00	4.46713e+00	0
81	169	250	1.94738e+00	5.79690e-01	2.16711e+00	9.64870e-01	3.38521e+00	4.49313e+00	0
81	170	251	1.28324e+00	3.61146e-01	2.18219e+00	8.77729e-01	3.49412e+00	4.60953e+00	0
81	171	252	1.84532e+00	5.54347e-01	2.23981e+00	9.73509e-01	3.58837e+00	4.72180e+00	0
81	172	253	1.33335e+00	3.53811e-01	2.37030e+00	9.23031e-01	3.66453e+00	4.81953e+00	0
81	173	254	1.69276e+00	4.89681e-01	2.53145e+00	9.63838e-01	3.73133e+00	4.88785e+00	0
81	174	255	1.44106e+00	3.57854e-01	2.71971e+00	9.70699e-01	3.75694e+00	4.94036e+00	0
81	175	256	1.43006e+00	3.55428e-01	2.96908e+00	9.60295e-01	3.78436e+00	4.97228e+00	0

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Table 1 (continued)

81	176	257	1.49800e+00	3.85961e-01	2.90556e+00	9.90551e-01	3.87400e+00	5.05455e+00	0
81	177	258	1.27056e+00	2.98615e-01	3.26239e+00	9.60412e-01	3.95039e+00	5.16521e+00	0
81	178	259	1.53802e+00	3.89096e-01	3.12114e+00	9.97295e-01	4.05225e+00	5.27992e+00	0
81	179	260	1.31162e+00	3.05904e-01	3.54370e+00	9.88851e-01	4.19960e+00	5.41242e+00	0
81	180	261	1.39351e+00	3.51934e-01	3.51307e+00	9.87965e-01	4.30615e+00	5.53921e+00	0
81	181	262	1.39773e+00	3.63536e-01	3.83217e+00	1.01024e+00	4.41287e+00	5.65676e+00	0
81	182	263	1.18741e+00	2.89049e-01	3.86680e+00	9.69665e-01	4.47485e+00	5.73142e+00	0
81	183	264	1.27449e+00	3.28073e-01	4.15885e+00	9.97767e-01	4.60062e+00	5.90889e+00	0
81	184	265	1.12530e+00	2.71696e-01	4.23991e+00	9.65758e-01	4.80581e+00	6.15712e+00	0
81	185	266	1.12305e+00	2.75675e-01	4.79694e+00	1.00535e+00	5.41765e+00	6.86478e+00	0
81	186	267	1.24570e+00	2.82580e-01	5.64025e+00	1.03752e+00	5.08504e+00	6.46899e+00	0
81	187	268	1.22710e+00	2.83633e-01	6.43779e+00	1.06029e+00	5.62609e+00	7.10454e+00	0
81	188	269	1.30806e+00	3.00861e-01	7.35524e+00	1.07787e+00	5.38589e+00	6.79972e+00	0
Lead (Pb)									
82	127	209	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
82	128	210	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
82	129	211	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.36931e-01	5.42004e-01	1
82	130	212	2.02124e+00	1.17666e-01	0.00000e+00	0.00000e+00	9.47641e-02	2.77881e-01	1
82	131	213	2.29446e+00	1.96268e-01	0.00000e+00	0.00000e+00	5.71784e-01	1.05978e+00	1
82	132	214	2.20650e+00	1.52329e-01	0.00000e+00	0.00000e+00	2.11303e-01	5.20947e-01	1
82	133	215	2.29297e+00	2.91313e-01	0.00000e+00	0.00000e+00	7.51780e-01	1.32223e+00	1
82	134	216	1.64681e+00	2.47340e-01	0.00000e+00	0.00000e+00	4.69073e-01	9.37109e-01	0
82	135	217	2.53482e+00	4.61638e-01	0.00000e+00	0.00000e+00	1.00605e+00	1.62208e+00	0
82	136	218	3.16281e+00	4.10367e-01	0.00000e+00	0.00000e+00	4.54663e-01	8.72453e-01	0
82	137	219	3.41013e+00	6.78430e-01	0.00000e+00	0.00000e+00	8.34929e-01	1.41407e+00	0
82	138	220	3.53857e+00	4.93050e-01	0.00000e+00	0.00000e+00	5.55913e-01	1.06139e+00	0
82	139	221	3.17858e+00	5.57232e-01	2.39085e-04	9.63141e-02	1.38728e+00	2.14383e+00	0
82	140	222	3.74323e+00	5.09846e-01	6.52927e-05	1.53870e-01	7.77157e-01	1.36206e+00	0
82	141	223	3.79506e+00	7.32831e-01	1.04545e-02	1.46457e-01	1.18149e+00	1.86957e+00	0
82	142	224	3.50315e+00	4.77997e-01	7.75127e-03	1.83169e-01	1.21747e+00	1.93189e+00	0
82	143	225	3.75019e+00	6.60992e-01	2.14323e-02	1.89892e-01	1.54049e+00	2.29900e+00	0
82	144	226	3.58848e+00	4.87548e-01	3.36698e-02	2.21490e-01	1.27445e+00	1.99199e+00	0
82	145	227	4.05078e+00	7.38757e-01	5.23356e-02	1.90900e-01	1.47761e+00	2.25349e+00	0
82	146	228	3.39437e+00	4.91041e-01	1.06065e-01	2.90791e-01	1.53658e+00	2.31195e+00	0
82	147	229	3.52404e+00	6.30268e-01	1.52110e-01	2.69032e-01	1.82533e+00	2.64730e+00	0
82	148	230	3.17541e+00	4.58804e-01	2.08723e-01	3.58732e-01	1.69593e+00	2.50419e+00	0
82	149	231	3.56938e+00	6.15252e-01	1.80940e-01	3.29978e-01	1.99328e+00	2.86014e+00	0
82	150	232	2.97934e+00	4.41179e-01	3.11416e-01	3.96554e-01	1.85423e+00	2.68463e+00	0
82	151	233	3.21064e+00	5.34280e-01	4.51282e-01	4.06832e-01	1.92167e+00	2.76684e+00	0
82	152	234	2.74026e+00	4.03928e-01	4.77017e-01	4.50548e-01	2.01864e+00	2.89306e+00	0
82	153	235	3.09528e+00	4.74761e-01	5.72117e-01	5.15063e-01	2.20845e+00	3.13457e+00	0
82	154	236	2.69542e+00	3.70065e-01	6.97799e-01	5.79299e-01	2.16832e+00	3.05465e+00	0
82	155	237	2.97918e+00	4.03345e-01	7.81709e-01	5.98368e-01	2.34273e+00	3.29463e+00	0
82	156	238	2.68833e+00	3.66005e-01	8.41683e-01	6.27565e-01	2.28453e+00	3.19538e+00	0
82	157	239	2.86866e+00	3.64173e-01	9.18983e-01	6.24987e-01	2.37334e+00	3.30534e+00	0
82	158	240	2.64126e+00	3.69643e-01	8.69918e-01	6.34649e-01	2.38826e+00	3.33036e+00	0
82	159	241	2.89233e+00	3.77788e-01	9.56104e-01	6.33065e-01	2.44494e+00	3.40232e+00	0
82	160	242	2.81734e+00	4.04115e-01	8.90690e-01	6.84307e-01	2.48893e+00	3.43736e+00	0
82	161	243	2.81679e+00	3.74683e-01	1.01164e+00	6.66128e-01	2.63229e+00	3.62248e+00	0
82	162	244	2.71028e+00	4.47849e-01	9.16775e-01	7.32662e-01	2.66684e+00	3.66689e+00	0
82	163	245	2.39200e+00	3.70719e-01	1.26624e+00	6.99970e-01	2.74632e+00	3.74760e+00	0
82	164	246	2.45806e+00	3.56723e-01	1.00398e+00	7.48012e-01	3.16896e+00	4.27341e+00	0
82	165	247	2.00208e+00	3.21702e-01	1.44145e+00	7.25570e-01	2.92326e+00	3.96544e+00	0
82	166	248	2.40001e+00	4.62409e-01	1.01135e+00	8.38471e-01	3.00949e+00	4.08517e+00	0
82	167	249	2.01109e+00	3.30087e-01	1.40007e+00	7.51969e-01	3.10130e+00	4.19411e+00	0
82	168	250	2.69084e+00	5.71527e-01	1.02839e+00	9.13073e-01	3.13497e+00	4.23361e+00	0
82	169	251	1.77762e+00	3.14330e-01	1.69446e+00	8.04972e-01	3.06794e+00	4.15417e+00	0
82	170	252	2.37583e+00	5.69783e-01	1.20683e+00	8.57283e-01	3.15502e+00	4.25644e+00	0
82	171	253	1.79341e+00	3.36059e-01	1.78448e+00	8.48247e-01	3.23595e+00	4.35117e+00	0
82	172	254	1.98643e+00	4.60778e-01	1.50605e+00	8.15392e-01	3.31594e+00	4.44498e+00	0
82	173	255	1.89390e+00	3.95792e-01	1.91145e+00	9.08502e-01	3.42168e+00	4.56871e+00	0
82	174	256	1.79252e+00	4.13201e-01	1.64354e+00	8.13291e-01	3.65928e+00	4.84518e+00	0
82	175	257	1.99339e+00	4.31388e-01	2.08392e+00	9.34001e-01	3.52053e+00	4.67909e+00	0
82	176	258	1.68612e+00	3.06602e-01	1.93099e+00	8.23874e-01	3.74058e+00	4.94170e+00	0
82	177	259	1.93953e+00	4.03581e-01	2.28670e+00	9.27066e-01	3.71981e+00	4.91747e+00	0
82	178	260	1.57018e+00	2.58021e-01	2.23281e+00	8.32981e-01	3.92344e+00	5.15378e+00	0
82	179	261	1.86840e+00	3.50087e-01	2.55051e+00	9.04935e-01	3.90108e+00	5.10752e+00	0
82	180	262	1.52594e+00	2.49719e-01	2.69614e+00	8.64607e-01	3.83529e+00	5.05199e+00	0
82	181	263	1.59375e+00	2.52964e-01	3.04556e+00	8.83503e-01	3.83898e+00	5.04464e+00	0
82	182	264	1.64809e+00	2.78298e-01	2.93821e+00	8.86692e-01	3.88638e+00	5.11033e+00	0
82	183	265	1.45076e+00	2.24790e-01	3.42536e+00	8.84105e-01	3.95866e+00	5.19593e+00	0
82	184	266	1.63372e+00	2.77865e-01	3.12966e+00	8.88910e-01	4.22664e+00	5.50247e+00	0
82	185	267	1.51712e+00	2.75335e-01	3.63975e+00	9.53680e-01	4.85295e+00	6.23659e+00	0
82	186	268	1.52580e+00	2.43939e-01	4.54721e+00	9.56259e-01	4.47458e+00	5.77145e+00	0
82	187	269	1.41316e+00	2.48020e-01	5.20062e+00	9.82167e-01	5.08306e+00	6.46283e+00	0
82	188	270	1.45833e+00	2.36849e-01	6.18586e+00	9.91920e-01	4.75954e+00	6.12788e+00	0
82	189	271	1.41759e+00	2.43818e-01	6.90651e+00	9.90498e-01	5.17881e+00	6.61459e+00	0

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Table 1 (continued)

82	190	272	1.46779e+00	2.53336e-01	7.72950e+00	9.85008e-01	4.91423e+00	6.29862e+00	0
82	191	273	1.56350e+00	3.51704e-01	8.27124e+00	9.74281e-01	5.40195e+00	6.85198e+00	0
Bismuth (Bi)									
83	127	210	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
83	128	211	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
83	129	212	1.96962e+00	5.82719e-01	0.00000e+00	0.00000e+00	3.84006e-01	7.77092e-01	1
83	130	213	2.08862e+00	1.76034e-01	0.00000e+00	0.00000e+00	3.44622e-01	7.28935e-01	1
83	131	214	1.82849e+00	9.92906e-01	0.00000e+00	0.00000e+00	5.15420e-01	9.79422e-01	1
83	132	215	2.10336e+00	2.12570e-01	0.00000e+00	0.00000e+00	6.13290e-01	1.13400e+00	1
83	133	216	2.81303e+00	6.98395e-01	0.00000e+00	0.00000e+00	7.88336e-01	1.35819e+00	1
83	134	217	2.14962e+00	3.78827e-01	0.00000e+00	0.00000e+00	7.54971e-01	1.30977e+00	1
83	135	218	2.90512e+00	8.64573e-01	0.00000e+00	0.00000e+00	8.79647e-01	1.50171e+00	1
83	136	219	2.90683e+00	7.43967e-01	0.00000e+00	0.00000e+00	5.78417e-01	1.05503e+00	0
83	137	220	3.35734e+00	9.86374e-01	5.42880e-04	3.59893e-02	8.59369e-01	1.42963e+00	0
83	138	221	3.28071e+00	7.71877e-01	1.48672e-02	1.79320e-01	7.03143e-01	1.26381e+00	0
83	139	222	3.50745e+00	1.04474e+00	6.07957e-02	1.91805e-01	8.66742e-01	1.46242e+00	0
83	140	223	2.86440e+00	7.38768e-01	1.64759e-01	3.12411e-01	9.26314e-01	1.55883e+00	0
83	141	224	3.47401e+00	9.95290e-01	1.14436e-01	2.85179e-01	1.07032e+00	1.72061e+00	0
83	142	225	2.71793e+00	7.30363e-01	2.47994e-01	3.62895e-01	1.09068e+00	1.77228e+00	0
83	143	226	3.28190e+00	9.03482e-01	1.52771e-01	3.65355e-01	1.46672e+00	2.24288e+00	0
83	144	227	2.42999e+00	6.42589e-01	3.88852e-01	4.70811e-01	1.20995e+00	1.89080e+00	0
83	145	228	3.26704e+00	8.68926e-01	2.12862e-01	3.97850e-01	1.60034e+00	2.40227e+00	0
83	146	229	2.22949e+00	5.81394e-01	5.38314e-01	5.30333e-01	1.44620e+00	2.21438e+00	0
83	147	230	2.89761e+00	7.35182e-01	4.21960e-01	5.03115e-01	1.73961e+00	2.57639e+00	0
83	148	231	2.40827e+00	5.60536e-01	4.33414e-01	5.35300e-01	1.91688e+00	2.79319e+00	0
83	149	232	2.79563e+00	7.32491e-01	4.27464e-01	4.53396e-01	2.04849e+00	2.92770e+00	0
83	150	233	2.22205e+00	5.08840e-01	5.99660e-01	5.90839e-01	2.04802e+00	2.94200e+00	0
83	151	234	2.63770e+00	5.40661e-01	7.88615e-01	6.13454e-01	1.81371e+00	2.66844e+00	0
83	152	235	2.35372e+00	5.30869e-01	8.39541e-01	6.78174e-01	1.92741e+00	2.80856e+00	0
83	153	236	2.55220e+00	5.26133e-01	9.01979e-01	6.34573e-01	2.09708e+00	2.99636e+00	0
83	154	237	2.63068e+00	6.07552e-01	9.61677e-01	7.32082e-01	2.04372e+00	2.94899e+00	0
83	155	238	2.22291e+00	4.62208e-01	1.16730e+00	6.59813e-01	2.23957e+00	3.17824e+00	0
83	156	239	2.80275e+00	6.71652e-01	1.02891e+00	7.42955e-01	2.15190e+00	3.06737e+00	0
83	157	240	2.00054e+00	4.13247e-01	1.41144e+00	6.72922e-01	2.24446e+00	3.18632e+00	0
83	158	241	2.78268e+00	6.63762e-01	1.05022e+00	7.31326e-01	2.22536e+00	3.15541e+00	0
83	159	242	1.92160e+00	4.14889e-01	1.47777e+00	6.75727e-01	2.30724e+00	3.26683e+00	0
83	160	243	2.70232e+00	6.73794e-01	1.08488e+00	7.24759e-01	2.32662e+00	3.28570e+00	0
83	161	244	1.85314e+00	4.21938e-01	1.47644e+00	6.85272e-01	2.49822e+00	3.49463e+00	0
83	162	245	2.53510e+00	6.98240e-01	1.18139e+00	7.38641e-01	2.51058e+00	3.51014e+00	0
83	163	246	1.83048e+00	4.09857e-01	1.70661e+00	7.70610e-01	2.60217e+00	3.59052e+00	0
83	164	247	1.99567e+00	5.63917e-01	1.53962e+00	7.47241e-01	2.66635e+00	3.67647e+00	0
83	165	248	1.60498e+00	3.71571e-01	1.89718e+00	8.16316e-01	2.88732e+00	3.94918e+00	0
83	166	249	1.90217e+00	6.56933e-01	1.41962e+00	7.60244e-01	2.87844e+00	3.93878e+00	0
83	167	250	1.44304e+00	3.81892e-01	1.88733e+00	8.46281e-01	2.92055e+00	3.99806e+00	0
83	168	251	1.80267e+00	6.64718e-01	1.50232e+00	7.84044e-01	2.92450e+00	4.00240e+00	0
83	169	252	1.76343e+00	4.76014e-01	1.91946e+00	9.17916e-01	2.91397e+00	3.96058e+00	0
83	170	253	1.57028e+00	5.20166e-01	1.71530e+00	8.12278e-01	3.03159e+00	4.11943e+00	0
83	171	254	1.85357e+00	5.30761e-01	1.94633e+00	9.40656e-01	3.10144e+00	4.20229e+00	0
83	172	255	1.51619e+00	4.39333e-01	1.89797e+00	8.49937e-01	3.18108e+00	4.30456e+00	0
83	173	256	2.04307e+00	5.93420e-01	2.06630e+00	9.46804e-01	3.23248e+00	4.36500e+00	0
83	174	257	1.37208e+00	3.59614e-01	2.14334e+00	8.60871e-01	3.37987e+00	4.52252e+00	0
83	175	258	1.81117e+00	5.27326e-01	2.33848e+00	9.06465e-01	3.36424e+00	4.51984e+00	0
83	176	259	1.36008e+00	3.20636e-01	2.50640e+00	8.72361e-01	3.40705e+00	4.56398e+00	0
83	177	260	1.63981e+00	4.35675e-01	2.65167e+00	8.88768e-01	3.48822e+00	4.64338e+00	0
83	178	261	1.40950e+00	3.22292e-01	2.74725e+00	8.89061e-01	3.60932e+00	4.79563e+00	0
83	179	262	1.47585e+00	3.37517e-01	3.02213e+00	8.85260e-01	3.66361e+00	4.86790e+00	0
83	180	263	1.76240e+00	4.14933e-01	3.03413e+00	9.32130e-01	3.63699e+00	4.84048e+00	0
83	181	264	1.29712e+00	2.81107e-01	3.49783e+00	8.95255e-01	3.67700e+00	4.88146e+00	0
83	182	265	1.62823e+00	3.96663e-01	3.28593e+00	9.17606e-01	3.76488e+00	4.99055e+00	0
83	183	266	1.28290e+00	3.08250e-01	3.78102e+00	9.07972e-01	3.83604e+00	5.07407e+00	0
83	184	267	1.47421e+00	3.67266e-01	3.60152e+00	9.06708e-01	4.04332e+00	5.31697e+00	0
83	185	268	1.46398e+00	3.41919e-01	3.98847e+00	9.56844e-01	4.70386e+00	6.08832e+00	0
83	186	269	1.50458e+00	3.38520e-01	4.91974e+00	9.74038e-01	4.29067e+00	5.56379e+00	0
83	187	270	1.40990e+00	3.24080e-01	5.44548e+00	9.95042e-01	4.90112e+00	6.31854e+00	0
83	188	271	1.43255e+00	3.11635e-01	6.44374e+00	9.96884e-01	4.61340e+00	5.98286e+00	0
83	189	272	1.39694e+00	3.15809e-01	7.02413e+00	9.93225e-01	5.03630e+00	6.47617e+00	0
83	190	273	1.40542e+00	3.11806e-01	7.71120e+00	9.82167e-01	4.84693e+00	6.25560e+00	0
83	191	274	1.53709e+00	3.87651e-01	8.61607e+00	9.87109e-01	4.88300e+00	6.29790e+00	0
83	192	275	1.71970e+00	4.84078e-01	8.74041e+00	9.67473e-01	5.06646e+00	6.51212e+00	0
83	193	276	2.35238e+00	8.00746e-01	8.95632e+00	9.67494e-01	5.45340e+00	6.94945e+00	0
Polonium (Po)									
84	131	215	2.03986e+00	1.36101e-01	0.00000e+00	0.00000e+00	1.29662e-01	3.58509e-01	1
84	133	217	2.48758e+00	2.57221e-01	0.00000e+00	0.00000e+00	2.89905e-01	6.34924e-01	1
84	134	218	1.57727e+00	7.75738e-02	0.00000e+00	0.00000e+00	3.76129e-02	1.32629e-01	1
84	135	219	2.61867e+00	4.07793e-01	0.00000e+00	0.00000e+00	4.25439e-01	8.31885e-01	1
84	136	220	2.29836e+00	1.60204e-01	0.00000e+00	0.00000e+00	1.67811e-01	4.08976e-01	1
84	137	221	2.73849e+00	4.77276e-01	0.00000e+00	0.00000e+00	6.35954e-01	1.11361e+00	1

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Table 1 (continued)

84	138	222	2.77067e+00	2.49211e-01	0.00000e+00	0.00000e+00	2.86947e-01	6.40642e-01	1
84	139	223	2.95609e+00	5.00453e-01	0.00000e+00	0.00000e+00	9.19907e-01	1.53451e+00	0
84	140	224	2.98633e+00	3.23589e-01	0.00000e+00	0.00000e+00	6.29326e-01	1.16764e+00	0
84	141	225	3.51123e+00	6.25910e-01	0.00000e+00	0.00000e+00	8.05651e-01	1.39589e+00	0
84	142	226	3.19780e+00	3.70309e-01	0.00000e+00	0.00000e+00	8.10857e-01	1.41332e+00	0
84	143	227	3.27830e+00	5.54140e-01	0.00000e+00	0.00000e+00	1.25289e+00	1.98547e+00	0
84	144	228	3.36337e+00	4.00834e-01	0.00000e+00	0.00000e+00	9.76620e-01	1.61119e+00	0
84	145	229	3.37198e+00	6.08441e-01	8.39844e-04	1.20865e-01	1.39321e+00	2.15260e+00	0
84	146	230	3.51530e+00	4.49346e-01	3.23190e-03	1.51494e-01	1.17469e+00	1.88094e+00	0
84	147	231	3.53901e+00	6.03726e-01	8.28501e-03	1.75609e-01	1.55912e+00	2.36280e+00	0
84	148	232	3.53358e+00	4.62539e-01	2.04184e-02	2.29678e-01	1.36491e+00	2.10336e+00	0
84	149	233	3.65158e+00	6.22674e-01	3.39861e-02	2.24628e-01	1.68712e+00	2.50990e+00	0
84	150	234	3.45097e+00	4.79132e-01	7.48973e-02	2.59827e-01	1.52823e+00	2.32978e+00	0
84	151	235	3.68043e+00	6.54671e-01	1.67851e-01	2.82333e-01	1.61744e+00	2.44094e+00	0
84	152	236	3.23656e+00	4.68067e-01	2.03238e-01	3.26820e-01	1.69841e+00	2.54187e+00	0
84	153	237	3.28224e+00	5.50784e-01	3.59343e-01	3.97664e-01	1.89468e+00	2.77553e+00	0
84	154	238	2.85744e+00	4.01350e-01	4.60447e-01	4.65134e-01	1.80395e+00	2.66617e+00	0
84	155	239	3.01739e+00	4.55588e-01	5.78858e-01	4.90633e-01	2.00723e+00	2.91635e+00	0
84	156	240	2.61957e+00	3.49005e-01	6.87248e-01	5.27705e-01	1.89284e+00	2.77532e+00	0
84	157	241	2.88701e+00	3.90428e-01	7.25376e-01	5.45938e-01	1.97754e+00	2.88137e+00	0
84	158	242	2.62013e+00	3.47591e-01	7.08265e-01	5.29108e-01	1.99830e+00	2.90934e+00	0
84	159	243	2.97162e+00	3.83089e-01	7.89802e-01	5.59737e-01	2.03957e+00	2.95912e+00	0
84	160	244	2.72205e+00	3.44803e-01	7.57560e-01	5.86609e-01	2.05587e+00	2.95701e+00	0
84	161	245	2.91963e+00	3.78832e-01	7.79457e-01	5.71504e-01	2.26679e+00	3.23228e+00	0
84	162	246	2.70699e+00	3.71109e-01	8.12585e-01	6.47446e-01	2.26028e+00	3.21543e+00	0
84	163	247	2.92695e+00	3.99078e-01	9.43505e-01	6.78870e-01	2.33962e+00	3.31516e+00	0
84	164	248	2.71910e+00	4.56183e-01	9.16882e-01	7.36673e-01	2.44149e+00	3.41850e+00	0
84	165	249	2.67799e+00	3.72596e-01	1.14188e+00	7.27424e-01	2.47233e+00	3.48107e+00	0
84	166	250	2.45424e+00	3.93672e-01	9.86681e-01	7.51159e-01	2.54139e+00	3.54250e+00	0
84	167	251	2.58393e+00	3.55915e-01	1.09534e+00	7.29163e-01	2.57873e+00	3.57891e+00	0
84	168	252	2.51642e+00	4.30530e-01	9.80294e-01	7.87327e-01	2.68239e+00	3.72870e+00	0
84	169	253	2.51362e+00	3.86457e-01	1.18866e+00	7.62680e-01	2.70000e+00	3.72339e+00	0
84	170	254	2.61378e+00	5.07866e-01	9.92097e-01	8.39518e-01	2.79901e+00	3.86540e+00	0
84	171	255	1.99633e+00	3.75567e-01	1.43975e+00	7.53548e-01	2.82103e+00	3.87677e+00	0
84	172	256	2.55325e+00	5.63802e-01	1.09258e+00	8.34955e-01	2.93524e+00	4.03197e+00	0
84	173	257	1.73259e+00	3.34309e-01	1.68285e+00	7.74665e-01	2.97204e+00	4.07533e+00	0
84	174	258	2.13673e+00	5.10571e-01	1.36644e+00	7.70296e-01	3.02993e+00	4.14399e+00	0
84	175	259	1.82698e+00	3.56638e-01	1.84402e+00	8.26602e-01	3.10485e+00	4.23250e+00	0
84	176	260	1.94357e+00	4.47683e-01	1.53851e+00	7.57840e-01	3.23210e+00	4.38359e+00	0
84	177	261	1.98631e+00	4.05501e-01	1.96192e+00	8.68945e-01	3.23883e+00	4.36323e+00	0
84	178	262	1.87930e+00	3.44466e-01	1.79342e+00	7.68211e-01	3.40444e+00	4.57598e+00	0
84	179	263	2.02794e+00	4.23917e-01	2.08853e+00	8.82572e-01	3.56895e+00	4.76887e+00	0
84	180	264	1.70541e+00	2.62766e-01	2.17777e+00	7.82344e-01	3.49070e+00	4.68883e+00	0
84	181	265	1.97112e+00	3.85649e-01	2.39353e+00	8.49309e-01	3.50627e+00	4.68415e+00	0
84	182	266	1.50561e+00	2.15514e-01	2.45767e+00	7.64481e-01	3.56296e+00	4.75196e+00	0
84	183	267	1.71362e+00	3.11089e-01	2.66263e+00	8.20617e-01	3.60447e+00	4.80116e+00	0
84	184	268	1.58049e+00	2.31460e-01	2.62844e+00	7.93758e-01	3.79174e+00	5.04388e+00	0
84	185	269	1.52474e+00	2.38244e-01	3.28039e+00	8.64640e-01	4.21612e+00	5.54224e+00	0
84	186	270	1.61904e+00	2.56929e-01	3.87421e+00	8.83846e-01	3.92322e+00	5.17654e+00	0
84	187	271	1.57291e+00	2.51283e-01	4.49135e+00	9.29846e-01	4.38955e+00	5.72376e+00	0
84	188	272	1.66845e+00	2.67681e-01	5.32558e+00	9.20192e-01	4.13242e+00	5.44348e+00	0
84	189	273	1.54506e+00	2.62144e-01	5.79142e+00	9.24170e-01	4.48548e+00	5.85042e+00	0
84	190	274	1.55844e+00	2.64785e-01	6.43317e+00	8.95106e-01	4.32137e+00	5.63124e+00	0
84	191	275	1.55589e+00	2.69625e-01	7.42768e+00	8.94831e-01	4.42263e+00	5.77633e+00	0
84	192	276	1.49600e+00	2.53899e-01	7.50408e+00	8.68305e-01	4.50588e+00	5.86045e+00	0
84	193	277	1.56887e+00	3.63022e-01	7.64568e+00	8.65132e-01	4.99249e+00	6.41647e+00	0
84	194	278	1.95069e+00	4.30920e-01	8.43005e+00	8.58108e-01	4.75219e+00	6.17178e+00	0
84	195	279	2.58430e+00	7.60698e-01	8.94950e+00	8.70886e-01	4.98763e+00	6.40855e+00	0
Astatine (At)									
85	129	214	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.87141e-02	1.97086e-01	1
85	131	216	1.30277e+00	4.38573e-01	0.00000e+00	0.00000e+00	4.98746e-01	9.55049e-01	1
85	132	217	2.11729e+00	1.39544e-01	0.00000e+00	0.00000e+00	1.40125e-01	3.84354e-01	1
85	133	218	1.97746e+00	9.53936e-01	0.00000e+00	0.00000e+00	3.41476e-01	6.82789e-01	1
85	134	219	1.85520e+00	2.21537e-01	0.00000e+00	0.00000e+00	3.86582e-01	7.98805e-01	1
85	135	220	2.29410e+00	5.70379e-01	0.00000e+00	0.00000e+00	9.35239e-01	1.55169e+00	1
85	136	221	2.29589e+00	2.15646e-01	0.00000e+00	0.00000e+00	6.54320e-01	1.18257e+00	1
85	137	222	3.05856e+00	8.28543e-01	0.00000e+00	0.00000e+00	7.63698e-01	1.34725e+00	1
85	138	223	2.55254e+00	5.49010e-01	0.00000e+00	0.00000e+00	6.13463e-01	1.10731e+00	1
85	139	224	3.18957e+00	8.67817e-01	0.00000e+00	0.00000e+00	9.41797e-01	1.59254e+00	1
85	140	225	3.01799e+00	4.00575e-01	0.00000e+00	0.00000e+00	9.89274e-01	1.65808e+00	0
85	141	226	3.18287e+00	8.40544e-01	0.00000e+00	0.00000e+00	1.08238e+00	1.74925e+00	0
85	142	227	3.26036e+00	6.71085e-01	3.22910e-03	1.42105e-01	8.68756e-01	1.48843e+00	0
85	143	228	3.45533e+00	8.81254e-01	1.08677e-03	1.46673e-01	1.23263e+00	1.96584e+00	0
85	144	229	2.98688e+00	6.54943e-01	2.78071e-02	2.67832e-01	1.16152e+00	1.87277e+00	0
85	145	230	3.19532e+00	8.06898e-01	1.67687e-02	2.55846e-01	1.64761e+00	2.47413e+00	0
85	146	231	3.12558e+00	6.67639e-01	1.18604e-01	3.73032e-01	1.26356e+00	1.99930e+00	0
85	147	232	3.44456e+00	8.87387e-01	8.33299e-02	3.35450e-01	1.50757e+00	2.30343e+00	0

(continued on next page)

Table 1 (continued)

85	148	233	2.84492e+00	6.66734e-01	2.81334e-01	4.35708e-01	1.33211e+00	2.09093e+00	0
85	149	234	3.29972e+00	8.72917e-01	2.05989e-01	3.58482e-01	1.56599e+00	2.35892e+00	0
85	150	235	2.52642e+00	6.02268e-01	4.59671e-01	5.16187e-01	1.45472e+00	2.24410e+00	0
85	151	236	2.94707e+00	7.51624e-01	3.51111e-01	4.41988e-01	1.82208e+00	2.65834e+00	0
85	152	237	2.17996e+00	4.98274e-01	5.55366e-01	5.29327e-01	1.86854e+00	2.75256e+00	0
85	153	238	2.60043e+00	6.15860e-01	5.86289e-01	5.09319e-01	1.98783e+00	2.90256e+00	0
85	154	239	2.19646e+00	4.72801e-01	7.76227e-01	6.52461e-01	1.94347e+00	2.84852e+00	0
85	155	240	2.45737e+00	4.89132e-01	7.92923e-01	6.06939e-01	2.12476e+00	3.06457e+00	0
85	156	241	2.61818e+00	5.82702e-01	9.36390e-01	7.24003e-01	1.80543e+00	2.68405e+00	0
85	157	242	2.41995e+00	4.83269e-01	1.04983e+00	6.45688e-01	1.87614e+00	2.76462e+00	0
85	158	243	2.64087e+00	5.91045e-01	9.35559e-01	7.22381e-01	1.85875e+00	2.74950e+00	0
85	159	244	2.55429e+00	4.95212e-01	1.05753e+00	6.52097e-01	1.99621e+00	2.91322e+00	0
85	160	245	2.79672e+00	6.32893e-01	9.41106e-01	7.23282e-01	1.92927e+00	2.83437e+00	0
85	161	246	2.24743e+00	4.88332e-01	1.16468e+00	6.39046e-01	2.07193e+00	3.00470e+00	0
85	162	247	2.74564e+00	6.67495e-01	9.56777e-01	7.33606e-01	2.15393e+00	3.10808e+00	0
85	163	248	1.94796e+00	4.46918e-01	1.39910e+00	6.74948e-01	2.21342e+00	3.15115e+00	0
85	164	249	2.55226e+00	7.09826e-01	1.14908e+00	7.29623e-01	2.30851e+00	3.29592e+00	0
85	165	250	1.78128e+00	3.96406e-01	1.60549e+00	7.38333e-01	2.44123e+00	3.44908e+00	0
85	166	251	2.46087e+00	7.44572e-01	1.17054e+00	7.74776e-01	2.38852e+00	3.37660e+00	0
85	167	252	1.54054e+00	4.15231e-01	1.68703e+00	7.63182e-01	2.40195e+00	3.38095e+00	0
85	168	253	2.44986e+00	7.55892e-01	1.12839e+00	7.98687e-01	2.47141e+00	3.48561e+00	0
85	169	254	1.46297e+00	4.19133e-01	1.68140e+00	7.62835e-01	2.50883e+00	3.53887e+00	0
85	170	255	2.24637e+00	7.61043e-01	1.26397e+00	7.78366e-01	2.63069e+00	3.68550e+00	0
85	171	256	1.58218e+00	4.21672e-01	1.80945e+00	8.30892e-01	2.68352e+00	3.71924e+00	0
85	172	257	1.67178e+00	5.57888e-01	1.61940e+00	7.66369e-01	2.73650e+00	3.80239e+00	0
85	173	258	1.85995e+00	5.16888e-01	1.91829e+00	8.88601e-01	2.75269e+00	3.83097e+00	0
85	174	259	1.54324e+00	4.40065e-01	1.82730e+00	7.96455e-01	2.85859e+00	3.93805e+00	0
85	175	260	2.00401e+00	5.64053e-01	1.97895e+00	8.99617e-01	2.91422e+00	4.02341e+00	0
85	176	261	1.56330e+00	4.01261e-01	2.02082e+00	8.22811e-01	2.97463e+00	4.09569e+00	0
85	177	262	1.98716e+00	5.74408e-01	2.16149e+00	8.72362e-01	3.07922e+00	4.19201e+00	0
85	178	263	1.44087e+00	3.41822e-01	2.37117e+00	8.15910e-01	3.10564e+00	4.23234e+00	0
85	179	264	1.82833e+00	4.86089e-01	2.52491e+00	8.38320e-01	3.26155e+00	4.42195e+00	0
85	180	265	1.54158e+00	3.26764e-01	2.73861e+00	8.34754e-01	3.31660e+00	4.47518e+00	0
85	181	266	1.52097e+00	3.28872e-01	3.01322e+00	8.27588e-01	3.25359e+00	4.40127e+00	0
85	182	267	1.79573e+00	4.03440e-01	2.96103e+00	8.62408e-01	3.32212e+00	4.49132e+00	0
85	183	268	1.35990e+00	2.70341e-01	3.40946e+00	8.30865e-01	3.35805e+00	4.52864e+00	0
85	184	269	1.68439e+00	3.80389e-01	3.10491e+00	8.52298e-01	3.59262e+00	4.82994e+00	0
85	185	270	1.42556e+00	3.40480e-01	3.60534e+00	8.73796e-01	4.15860e+00	5.49801e+00	0
85	186	271	1.41158e+00	2.99587e-01	4.32196e+00	8.88414e-01	3.81335e+00	5.05243e+00	0
85	187	272	1.40478e+00	2.99462e-01	4.73291e+00	9.16263e-01	4.40330e+00	5.76006e+00	0
85	188	273	1.47367e+00	3.23263e-01	5.55331e+00	9.10430e-01	4.09605e+00	5.42369e+00	0
85	189	274	1.44418e+00	3.16490e-01	5.87506e+00	9.10010e-01	4.44398e+00	5.80794e+00	0
85	190	275	1.53372e+00	3.37860e-01	6.51669e+00	8.87231e-01	4.25173e+00	5.60733e+00	0
85	191	276	1.48724e+00	3.33300e-01	7.31775e+00	8.81446e-01	4.30731e+00	5.67320e+00	0
85	192	277	1.45332e+00	3.07584e-01	7.44970e+00	8.51313e-01	4.46366e+00	5.85788e+00	0
85	193	278	1.52540e+00	3.75212e-01	8.15426e+00	8.51365e-01	4.64837e+00	6.04875e+00	0
85	194	279	1.73921e+00	4.46475e-01	8.13065e+00	8.38961e-01	4.73068e+00	6.15083e+00	0
85	195	280	2.58329e+00	7.80853e-01	9.11896e+00	8.68477e-01	4.65063e+00	6.07963e+00	0
85	196	281	2.06322e+00	6.87607e-01	9.11666e+00	8.44622e-01	4.72694e+00	6.16994e+00	0
85	197	282	2.82493e+00	8.98285e-01	9.18918e+00	8.58597e-01	4.88782e+00	6.34450e+00	0
Radon (Rn)									
86	133	219	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	3.72748e-02	1.30260e-01	1
86	135	221	2.11440e+00	1.52186e-01	0.00000e+00	0.00000e+00	2.85502e-01	6.31842e-01	1
86	137	223	2.18451e+00	1.89884e-01	0.00000e+00	0.00000e+00	5.59745e-01	1.06990e+00	1
86	138	224	2.26526e+00	1.25463e-01	0.00000e+00	0.00000e+00	1.27529e-01	3.56721e-01	1
86	139	225	3.15925e+00	2.66104e-01	0.00000e+00	0.00000e+00	6.89849e-01	1.25645e+00	1
86	140	226	2.50747e+00	1.59215e-01	0.00000e+00	0.00000e+00	2.75921e-01	6.41274e-01	1
86	141	227	3.54555e+00	4.35635e-01	0.00000e+00	0.00000e+00	6.04072e-01	1.12060e+00	1
86	142	228	2.68239e+00	2.10663e-01	0.00000e+00	0.00000e+00	4.42813e-01	9.07161e-01	1
86	143	229	3.31543e+00	5.56817e-01	0.00000e+00	0.00000e+00	6.78120e-01	1.23539e+00	1
86	144	230	2.98200e+00	2.92385e-01	0.00000e+00	0.00000e+00	6.63068e-01	1.22745e+00	0
86	145	231	2.88215e+00	5.16915e-01	0.00000e+00	0.00000e+00	1.04490e+00	1.68614e+00	0
86	146	232	3.18546e+00	3.52579e-01	0.00000e+00	0.00000e+00	8.32215e-01	1.45285e+00	0
86	147	233	3.13090e+00	4.96228e-01	0.00000e+00	0.00000e+00	1.27486e+00	2.02747e+00	0
86	148	234	3.23762e+00	3.90851e-01	0.00000e+00	0.00000e+00	1.00754e+00	1.66370e+00	0
86	149	235	3.43481e+00	5.76080e-01	3.72946e-04	9.61478e-02	1.34832e+00	2.09842e+00	0
86	150	236	3.45304e+00	4.21052e-01	2.19340e-03	1.64135e-01	1.18277e+00	1.91313e+00	0
86	151	237	3.87372e+00	6.79887e-01	1.55738e-02	1.73612e-01	1.29148e+00	2.05065e+00	0
86	152	238	3.59038e+00	4.62769e-01	3.03914e-02	2.16607e-01	1.34808e+00	2.12397e+00	0
86	153	239	3.63934e+00	6.43939e-01	1.09385e-01	2.49865e-01	1.61770e+00	2.43309e+00	0
86	154	240	3.11684e+00	4.44959e-01	2.37273e-01	3.34197e-01	1.47364e+00	2.25686e+00	0
86	155	241	3.28326e+00	5.71716e-01	3.36608e-01	3.68273e-01	1.64971e+00	2.49845e+00	0
86	156	242	2.84129e+00	4.03870e-01	4.18333e-01	4.11168e-01	1.56619e+00	2.37044e+00	0
86	157	243	3.10649e+00	4.98891e-01	4.79082e-01	4.12012e-01	1.65209e+00	2.49853e+00	0
86	158	244	2.72296e+00	4.04918e-01	4.76068e-01	3.78549e-01	1.63298e+00	2.48065e+00	0
86	159	245	2.98010e+00	4.40942e-01	5.86188e-01	4.31013e-01	1.76106e+00	2.63913e+00	0
86	160	246	2.70323e+00	3.60202e-01	5.84448e-01	4.49032e-01	1.74126e+00	2.58853e+00	0

(continued on next page)

Table 1 (continued)

86	161	247	2.92873e+00	4.22489e-01	6.25863e-01	4.77227e-01	1.87095e+00	2.73498e+00	0
86	162	248	2.56258e+00	3.41710e-01	6.47540e-01	4.92102e-01	1.89243e+00	2.78532e+00	0
86	163	249	3.02742e+00	3.97658e-01	7.71422e-01	5.79545e-01	1.94838e+00	2.87139e+00	0
86	164	250	2.60051e+00	3.66589e-01	8.22608e-01	6.18877e-01	2.00673e+00	2.94379e+00	0
86	165	251	2.96756e+00	4.13623e-01	8.86346e-01	6.67429e-01	2.13035e+00	3.09398e+00	0
86	166	252	2.52433e+00	3.78620e-01	9.28076e-01	6.81725e-01	2.07290e+00	2.99392e+00	0
86	167	253	2.74907e+00	3.64102e-01	9.90262e-01	6.68516e-01	2.02391e+00	2.95261e+00	0
86	168	254	2.24619e+00	3.36331e-01	9.11429e-01	6.27654e-01	2.21618e+00	3.19123e+00	0
86	169	255	2.81631e+00	3.65605e-01	9.35280e-01	6.82221e-01	2.25969e+00	3.24705e+00	0
86	170	256	2.42812e+00	4.00776e-01	9.12224e-01	7.04538e-01	2.37516e+00	3.37070e+00	0
86	171	257	2.79272e+00	4.12666e-01	1.00909e+00	7.34972e-01	2.47461e+00	3.51285e+00	0
86	172	258	2.62635e+00	5.00429e-01	9.51895e-01	7.78619e-01	2.52950e+00	3.57941e+00	0
86	173	259	2.31423e+00	3.95135e-01	1.24118e+00	7.19383e-01	2.56799e+00	3.62582e+00	0
86	174	260	2.73288e+00	5.75415e-01	1.01561e+00	8.09135e-01	2.59431e+00	3.63172e+00	0
86	175	261	1.79291e+00	3.49915e-01	1.58557e+00	7.23781e-01	2.64607e+00	3.71933e+00	0
86	176	262	2.45448e+00	5.63348e-01	1.17653e+00	7.64010e-01	2.70981e+00	3.79638e+00	0
86	177	263	1.76241e+00	3.35762e-01	1.75853e+00	7.58399e-01	2.78069e+00	3.88127e+00	0
86	178	264	2.01040e+00	4.71359e-01	1.48394e+00	7.13744e-01	2.85878e+00	3.97507e+00	0
86	179	265	1.98646e+00	3.92520e-01	1.91670e+00	8.11648e-01	2.95827e+00	4.06504e+00	0
86	180	266	1.86294e+00	3.26710e-01	1.81302e+00	7.18577e-01	3.08790e+00	4.22084e+00	0
86	181	267	2.09023e+00	4.31987e-01	2.06885e+00	8.22704e-01	3.17756e+00	4.33819e+00	0
86	182	268	1.83714e+00	2.58636e-01	2.11225e+00	7.29287e-01	3.13216e+00	4.30254e+00	0
86	183	269	1.91861e+00	3.70976e-01	2.31416e+00	7.82793e-01	3.20469e+00	4.38900e+00	0
86	184	270	1.61154e+00	2.38576e-01	2.23341e+00	7.10726e-01	3.39050e+00	4.61084e+00	0
86	185	271	1.73938e+00	2.71299e-01	2.78237e+00	7.83588e-01	3.82048e+00	5.12149e+00	0
86	186	272	1.99172e+00	3.49794e-01	3.26806e+00	8.28918e-01	3.51167e+00	4.73839e+00	0
86	187	273	1.80469e+00	3.31602e-01	3.87797e+00	8.63938e-01	3.91678e+00	5.23449e+00	0
86	188	274	1.88260e+00	3.10014e-01	4.55296e+00	8.45899e-01	3.67874e+00	4.93628e+00	0
86	189	275	1.72527e+00	3.00573e-01	4.96790e+00	8.48828e-01	3.91867e+00	5.23263e+00	0
86	190	276	1.63429e+00	2.47849e-01	5.45598e+00	7.97969e-01	3.80192e+00	5.07357e+00	0
86	191	277	1.61034e+00	2.61893e-01	6.20283e+00	7.92964e-01	3.89025e+00	5.20100e+00	0
86	192	278	1.67483e+00	2.61251e-01	6.15928e+00	7.51869e-01	3.98947e+00	5.31899e+00	0
86	193	279	1.59156e+00	2.64235e-01	6.86169e+00	7.55957e-01	4.17580e+00	5.53665e+00	0
86	194	280	1.68539e+00	2.43512e-01	6.99556e+00	7.26107e-01	4.21940e+00	5.56158e+00	0
86	195	281	1.73847e+00	3.30797e-01	8.29569e+00	7.48646e-01	4.15632e+00	5.52117e+00	0
86	196	282	1.54691e+00	2.45324e-01	7.82402e+00	7.17063e-01	4.29446e+00	5.67950e+00	0
86	197	283	1.79988e+00	3.96669e-01	8.43444e+00	7.44762e-01	4.51799e+00	5.90774e+00	0
86	198	284	1.47006e+00	2.71570e-01	8.50065e+00	7.20593e-01	4.44964e+00	5.84332e+00	0
86	199	285	1.87103e+00	4.44243e-01	9.13602e+00	7.49073e-01	4.41935e+00	5.83322e+00	0
86	200	286	1.89165e+00	4.12893e-01	9.05926e+00	7.37413e-01	4.54243e+00	5.94059e+00	0
Francium (Fr)									
87	131	218	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1
87	133	220	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	2.55147e-01	5.84756e-01	1
87	134	221	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	5.47100e-02	1.87260e-01	1
87	135	222	1.63602e+00	1.64647e-01	0.00000e+00	0.00000e+00	6.38818e-01	1.17575e+00	1
87	136	223	2.88271e+00	1.45133e-01	0.00000e+00	0.00000e+00	2.37989e-01	5.48654e-01	1
87	137	224	2.64299e+00	6.95401e-01	0.00000e+00	0.00000e+00	3.71613e-01	7.57519e-01	1
87	138	225	3.10017e+00	2.04280e-01	0.00000e+00	0.00000e+00	4.14088e-01	8.55428e-01	1
87	139	226	3.08732e+00	6.89497e-01	0.00000e+00	0.00000e+00	6.18997e-01	1.16053e+00	1
87	140	227	2.49993e+00	3.32285e-01	0.00000e+00	0.00000e+00	5.97324e-01	1.11605e+00	1
87	141	228	2.84018e+00	5.93496e-01	0.00000e+00	0.00000e+00	1.06804e+00	1.70969e+00	1
87	142	229	2.70706e+00	4.80266e-01	0.00000e+00	0.00000e+00	6.66639e-01	1.19813e+00	1
87	143	230	3.01690e+00	8.22453e-01	0.00000e+00	0.00000e+00	9.53195e-01	1.59150e+00	1
87	144	231	2.81280e+00	6.15448e-01	0.00000e+00	0.00000e+00	7.94962e-01	1.38414e+00	1
87	145	232	3.27396e+00	7.97212e-01	0.00000e+00	0.00000e+00	1.15998e+00	1.87041e+00	1
87	146	233	3.27452e+00	6.59260e-01	1.75824e-03	1.21139e-01	9.22115e-01	1.56034e+00	1
87	147	234	3.16891e+00	7.94829e-01	9.18171e-04	1.59131e-01	1.39125e+00	2.18288e+00	0
87	148	235	2.83253e+00	5.88230e-01	1.21625e-02	2.38932e-01	1.35258e+00	2.10747e+00	0
87	149	236	3.51271e+00	8.61803e-01	1.23166e-02	2.37665e-01	1.42350e+00	2.22516e+00	0
87	150	237	2.98607e+00	6.16659e-01	7.74203e-02	3.34638e-01	1.43918e+00	2.23935e+00	0
87	151	238	3.37130e+00	8.49029e-01	9.41247e-02	3.26044e-01	1.57060e+00	2.40055e+00	0
87	152	239	2.81636e+00	6.07782e-01	2.25124e-01	4.31514e-01	1.54460e+00	2.37280e+00	0
87	153	240	3.11427e+00	7.98342e-01	2.90613e-01	4.20783e-01	1.70473e+00	2.53712e+00	0
87	154	241	2.22493e+00	4.96106e-01	5.75792e-01	5.31129e-01	1.65553e+00	2.50936e+00	0
87	155	242	2.58764e+00	5.98836e-01	5.90573e-01	5.04028e-01	1.80730e+00	2.67401e+00	0
87	156	243	2.21214e+00	4.36915e-01	7.35662e-01	6.12641e-01	1.75948e+00	2.63631e+00	0
87	157	244	2.65489e+00	5.10244e-01	7.79502e-01	5.96588e-01	1.60864e+00	2.43777e+00	0
87	158	245	2.22921e+00	4.58370e-01	7.76082e-01	6.02393e-01	1.77586e+00	2.66553e+00	0
87	159	246	2.74411e+00	5.08743e-01	8.35351e-01	6.19592e-01	1.65940e+00	2.47556e+00	0
87	160	247	2.58304e+00	5.39727e-01	8.74549e-01	6.64117e-01	1.64732e+00	2.50739e+00	0
87	161	248	2.78673e+00	5.27126e-01	8.50946e-01	6.17947e-01	1.79060e+00	2.65096e+00	0
87	162	249	2.63573e+00	5.82428e-01	8.64942e-01	6.77128e-01	1.83420e+00	2.73886e+00	0
87	163	250	2.50513e+00	5.23192e-01	1.05968e+00	6.36954e-01	1.82968e+00	2.73541e+00	0
87	164	251	2.83561e+00	6.89470e-01	9.60011e-01	7.25233e-01	1.88639e+00	2.80579e+00	0
87	165	252	1.90668e+00	4.61261e-01	1.37557e+00	6.60253e-01	2.01367e+00	2.93118e+00	0
87	166	253	2.72696e+00	7.37148e-01	1.03141e+00	7.64930e-01	1.98792e+00	2.93449e+00	0
87	167	254	1.64772e+00	4.19341e-01	1.55724e+00	7.00519e-01	1.90552e+00	2.81704e+00	0

(continued on next page)

Table 1 (continued)

87	168	255	2.56072e+00	6.93446e-01	1.00622e+00	7.64097e-01	2.10168e+00	3.05833e+00	0
87	169	256	1.89316e+00	5.09224e-01	1.31280e+00	6.83329e-01	2.16241e+00	3.11717e+00	0
87	170	257	2.50830e+00	7.05681e-01	1.02102e+00	7.75786e-01	2.32559e+00	3.34697e+00	0
87	171	258	1.75503e+00	4.70367e-01	1.44247e+00	7.10475e-01	2.41058e+00	3.43179e+00	0
87	172	259	2.29505e+00	7.19918e-01	1.21023e+00	7.43666e-01	2.40835e+00	3.43049e+00	0
87	173	260	1.64829e+00	4.32644e-01	1.69279e+00	7.71811e-01	2.48303e+00	3.53776e+00	0
87	174	261	1.84077e+00	6.24096e-01	1.48727e+00	7.21289e-01	2.50534e+00	3.56528e+00	0
87	175	262	1.79992e+00	4.96428e-01	1.81556e+00	8.11252e-01	2.56344e+00	3.60658e+00	0
87	176	263	1.68033e+00	5.13470e-01	1.67599e+00	7.46392e-01	2.62968e+00	3.71549e+00	0
87	177	264	2.03498e+00	5.56747e-01	1.92570e+00	8.47577e-01	2.63963e+00	3.71924e+00	0
87	178	265	1.61884e+00	4.11304e-01	1.97140e+00	7.74351e-01	2.68803e+00	3.75742e+00	0
87	179	266	2.16986e+00	6.15197e-01	2.10813e+00	8.21688e-01	2.78290e+00	3.88397e+00	0
87	180	267	1.53769e+00	3.43512e-01	2.37971e+00	7.59282e-01	2.88619e+00	4.00599e+00	0
87	181	268	1.86882e+00	4.66236e-01	2.57503e+00	7.69663e-01	2.91970e+00	4.03735e+00	0
87	182	269	1.63991e+00	3.34729e-01	2.74878e+00	7.71036e-01	2.92034e+00	4.05740e+00	0
87	183	270	1.55842e+00	3.28240e-01	2.88463e+00	7.50359e-01	2.98724e+00	4.12968e+00	0
87	184	271	1.64288e+00	3.35878e-01	2.78875e+00	7.68173e-01	3.18267e+00	4.35316e+00	0
87	185	272	1.40169e+00	3.14566e-01	3.22417e+00	7.81453e-01	3.69739e+00	4.97484e+00	0
87	186	273	1.53444e+00	3.61633e-01	3.70480e+00	8.10957e-01	3.39625e+00	4.62989e+00	0
87	187	274	1.52239e+00	3.63152e-01	4.19837e+00	8.28677e-01	3.91109e+00	5.24398e+00	0
87	188	275	1.80040e+00	4.07183e-01	4.79632e+00	8.35773e-01	3.62066e+00	4.89171e+00	0
87	189	276	1.68619e+00	3.80981e-01	5.61481e+00	8.29700e-01	3.53386e+00	4.75771e+00	0
87	190	277	1.49876e+00	3.06682e-01	5.68591e+00	7.83681e-01	3.70032e+00	4.99952e+00	0
87	191	278	1.44725e+00	3.08906e-01	5.94076e+00	7.69958e-01	3.91338e+00	5.20847e+00	0
87	192	279	1.57190e+00	3.38006e-01	6.27429e+00	7.41964e-01	3.89549e+00	5.19360e+00	0
87	193	280	1.50707e+00	3.31437e-01	6.94579e+00	7.39848e-01	4.03048e+00	5.39470e+00	0
87	194	281	1.57696e+00	3.02274e-01	6.96176e+00	7.17568e-01	4.19489e+00	5.59098e+00	0
87	195	282	1.61883e+00	3.50592e-01	8.01562e+00	7.24370e-01	4.01805e+00	5.37137e+00	0
87	196	283	1.49888e+00	2.93672e-01	7.83461e+00	7.02304e-01	4.07948e+00	5.41369e+00	0
87	197	284	1.67874e+00	3.98729e-01	8.47089e+00	7.16278e-01	4.23116e+00	5.59253e+00	0
87	198	285	1.41961e+00	3.11628e-01	8.49560e+00	6.96506e-01	4.26400e+00	5.64927e+00	0
87	199	286	1.75270e+00	4.64741e-01	9.15993e+00	7.14895e-01	4.36490e+00	5.78360e+00	0
87	200	287	1.85723e+00	4.58360e-01	9.15482e+00	7.15684e-01	4.26478e+00	5.63373e+00	0
87	201	288	2.52126e+00	6.63712e-01	9.36596e+00	7.20121e-01	4.52712e+00	5.98849e+00	0
87	202	289	2.36801e+00	6.57587e-01	9.34782e+00	7.08721e-01	4.50165e+00	5.93078e+00	0
Radium (Ra)									
88	137	225	1.96798e+00	8.29103e-02	0.00000e+00	0.00000e+00	5.54351e-02	1.68418e-01	1
88	139	227	2.64495e+00	1.76244e-01	0.00000e+00	0.00000e+00	2.87661e-01	6.45525e-01	1
88	141	229	2.11457e+00	2.37639e-01	0.00000e+00	0.00000e+00	4.66727e-01	9.45775e-01	1
88	142	230	2.23186e+00	1.28127e-01	0.00000e+00	0.00000e+00	1.26718e-01	3.55863e-01	1
88	143	231	2.76915e+00	2.60326e-01	0.00000e+00	0.00000e+00	6.33288e-01	1.15704e+00	1
88	144	232	2.65327e+00	2.14822e-01	0.00000e+00	0.00000e+00	2.55627e-01	5.95238e-01	1
88	145	233	2.46311e+00	3.25040e-01	0.00000e+00	0.00000e+00	8.46261e-01	1.46773e+00	1
88	146	234	2.81717e+00	2.66089e-01	0.00000e+00	0.00000e+00	4.70618e-01	9.46136e-01	1
88	147	235	2.54859e+00	3.90172e-01	0.00000e+00	0.00000e+00	9.90252e-01	1.67173e+00	0
88	148	236	2.88978e+00	3.02226e-01	0.00000e+00	0.00000e+00	6.61936e-01	1.22809e+00	0
88	149	237	3.04373e+00	4.82222e-01	0.00000e+00	0.00000e+00	1.04300e+00	1.70604e+00	0
88	150	238	3.04786e+00	3.24390e-01	0.00000e+00	0.00000e+00	8.63785e-01	1.50881e+00	0
88	151	239	3.56558e+00	6.14585e-01	0.00000e+00	0.00000e+00	9.89702e-01	1.67501e+00	0
88	152	240	3.33692e+00	3.84118e-01	0.00000e+00	0.00000e+00	1.03792e+00	1.72420e+00	0
88	153	241	3.72653e+00	6.19872e-01	5.88800e-03	1.39051e-01	1.33728e+00	2.12333e+00	0
88	154	242	3.58693e+00	4.59849e-01	2.96374e-02	2.23277e-01	1.17814e+00	1.92302e+00	0
88	155	243	3.73696e+00	6.52881e-01	9.96962e-02	2.42144e-01	1.37762e+00	2.14296e+00	0
88	156	244	3.31329e+00	4.54586e-01	1.50546e-01	2.75350e-01	1.27595e+00	2.04776e+00	0
88	157	245	3.53032e+00	6.26620e-01	1.95331e-01	2.87083e-01	1.36377e+00	2.15252e+00	0
88	158	246	3.33894e+00	4.78807e-01	1.78676e-01	2.70416e-01	1.33343e+00	2.09488e+00	0
88	159	247	3.39984e+00	5.92312e-01	3.16233e-01	3.00288e-01	1.45205e+00	2.25270e+00	0
88	160	248	3.00197e+00	4.22914e-01	3.14625e-01	3.24206e-01	1.42635e+00	2.24003e+00	0
88	161	249	3.20167e+00	5.33435e-01	3.90213e-01	3.35935e-01	1.56382e+00	2.39259e+00	0
88	162	250	2.92101e+00	4.09755e-01	3.73372e-01	3.57824e-01	1.61104e+00	2.47022e+00	0
88	163	251	3.02310e+00	4.63952e-01	5.76247e-01	4.35210e-01	1.65062e+00	2.51262e+00	0
88	164	252	2.62895e+00	3.52867e-01	6.48675e-01	4.96560e-01	1.65614e+00	2.50270e+00	0
88	165	253	2.92149e+00	4.19460e-01	7.19104e-01	5.58030e-01	1.79755e+00	2.67917e+00	0
88	166	254	2.24210e+00	3.26583e-01	8.09473e-01	5.17625e-01	1.78965e+00	2.69894e+00	0
88	167	255	2.80187e+00	3.57741e-01	8.69913e-01	5.84072e-01	1.67184e+00	2.55430e+00	0
88	168	256	2.33757e+00	3.41832e-01	7.83936e-01	5.25969e-01	1.77621e+00	2.68510e+00	0
88	169	257	2.64725e+00	3.25576e-01	8.54957e-01	5.19995e-01	1.86431e+00	2.79443e+00	0
88	170	258	2.05690e+00	3.13037e-01	8.29226e-01	4.92287e-01	2.01465e+00	2.94829e+00	0
88	171	259	2.77963e+00	3.62864e-01	8.71193e-01	6.10439e-01	2.13081e+00	3.12324e+00	0
88	172	260	2.56187e+00	3.85872e-01	8.08258e-01	6.41232e-01	2.25431e+00	3.27441e+00	0
88	173	261	2.89397e+00	4.26193e-01	9.66389e-01	7.02303e-01	2.19544e+00	3.19727e+00	0
88	174	262	2.66063e+00	4.67812e-01	9.37337e-01	7.26803e-01	2.21277e+00	3.19071e+00	0
88	175	263	2.41252e+00	4.11685e-01	1.19412e+00	6.78863e-01	2.23605e+00	3.24606e+00	0
88	176	264	2.75842e+00	5.11116e-01	9.43035e-01	7.45629e-01	2.31817e+00	3.34895e+00	0
88	177	265	2.24632e+00	4.27720e-01	1.28908e+00	6.75457e-01	2.43550e+00	3.49639e+00	0
88	178	266	2.67211e+00	5.78949e-01	1.06425e+00	7.32995e-01	2.47487e+00	3.52758e+00	0
88	179	267	1.76994e+00	3.34283e-01	1.72718e+00	6.94428e-01	2.57259e+00	3.66390e+00	0

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Table 1 (continued)

88	180	268	2.13481e+00	4.86203e-01	1.46973e+00	6.64209e-01	2.70628e+00	3.80816e+00	0
88	181	269	2.03050e+00	3.86845e-01	1.94211e+00	7.54162e-01	2.71177e+00	3.81373e+00	0
88	182	270	1.86639e+00	3.02044e-01	1.78938e+00	6.52261e-01	2.70123e+00	3.82051e+00	0
88	183	271	1.96902e+00	3.86501e-01	1.98535e+00	7.41322e-01	2.77714e+00	3.90298e+00	0
88	184	272	1.84582e+00	3.24661e-01	1.79450e+00	6.50481e-01	2.95559e+00	4.12848e+00	0
88	185	273	2.10986e+00	3.89765e-01	2.31633e+00	7.33421e-01	3.35508e+00	4.59076e+00	0
88	186	274	2.12175e+00	3.65113e-01	2.84685e+00	7.58643e-01	3.07902e+00	4.27619e+00	0
88	187	275	1.88597e+00	3.52228e-01	3.44823e+00	7.84563e-01	3.43688e+00	4.68819e+00	0
88	188	276	1.84568e+00	2.70196e-01	3.97712e+00	7.45772e-01	3.20417e+00	4.40748e+00	0
88	189	277	1.80414e+00	2.97774e-01	4.59030e+00	7.38179e-01	3.24346e+00	4.47390e+00	0
88	190	278	1.90013e+00	3.06737e-01	4.52938e+00	6.91399e-01	3.29938e+00	4.51340e+00	0
88	191	279	1.74615e+00	2.83018e-01	4.86086e+00	6.85779e-01	3.49162e+00	4.77125e+00	0
88	192	280	1.70653e+00	2.32747e-01	4.76439e+00	6.27385e-01	3.51893e+00	4.78875e+00	0
88	193	281	1.63635e+00	2.40986e-01	5.27678e+00	6.43473e-01	3.65676e+00	4.96838e+00	0
88	194	282	1.73214e+00	2.16724e-01	5.01265e+00	6.27517e-01	3.68354e+00	5.00512e+00	0
88	195	283	1.63058e+00	2.21220e-01	5.64681e+00	6.43176e-01	3.78200e+00	5.10037e+00	0
88	196	284	1.71524e+00	2.09076e-01	5.65770e+00	6.26794e-01	3.81762e+00	5.15343e+00	0
88	197	285	1.63166e+00	2.20679e-01	6.49649e+00	6.47412e-01	3.86036e+00	5.21334e+00	0
88	198	286	1.61791e+00	2.05981e-01	6.57528e+00	6.21445e-01	3.92548e+00	5.29571e+00	0
88	199	287	1.52839e+00	2.20269e-01	7.05964e+00	6.27304e-01	4.43943e+00	5.91178e+00	0
88	200	288	1.56792e+00	2.06615e-01	7.45518e+00	6.15812e-01	4.06623e+00	5.46447e+00	0
88	201	289	1.58300e+00	2.69259e-01	8.08174e+00	6.27338e-01	4.20102e+00	5.58564e+00	0
88	202	290	1.71784e+00	2.47026e-01	8.00270e+00	6.08295e-01	4.21115e+00	5.63341e+00	0
88	203	291	1.83886e+00	3.56081e-01	8.53458e+00	6.07246e-01	4.35746e+00	5.81370e+00	0
88	204	292	1.77982e+00	2.86203e-01	8.23013e+00	5.88134e-01	4.50209e+00	5.94843e+00	0
Actinium (Ac)									
89	135	224	1.59804e+00	7.14896e-02	0.00000e+00	0.00000e+00	3.74064e-02	1.32237e-01	1
89	137	226	1.55668e+00	2.18267e-01	0.00000e+00	0.00000e+00	2.41344e-01	5.54239e-01	1
89	139	228	2.34577e+00	1.98791e-01	0.00000e+00	0.00000e+00	5.94498e-01	1.11188e+00	1
89	140	229	2.49541e+00	1.35641e-01	0.00000e+00	0.00000e+00	2.46849e-01	5.63025e-01	1
89	141	230	2.70712e+00	6.46003e-01	0.00000e+00	0.00000e+00	4.25157e-01	8.41457e-01	1
89	142	231	2.23140e+00	2.12155e-01	0.00000e+00	0.00000e+00	5.11295e-01	1.00066e+00	1
89	143	232	2.58905e+00	7.13496e-01	0.00000e+00	0.00000e+00	6.69090e-01	1.24719e+00	1
89	144	233	2.28139e+00	2.30323e-01	0.00000e+00	0.00000e+00	7.48130e-01	1.34332e+00	1
89	145	234	2.35798e+00	6.54849e-01	0.00000e+00	0.00000e+00	1.02689e+00	1.72228e+00	1
89	146	235	2.43544e+00	4.03365e-01	0.00000e+00	0.00000e+00	8.87965e-01	1.53900e+00	1
89	147	236	2.98106e+00	7.50979e-01	0.00000e+00	0.00000e+00	1.02896e+00	1.73474e+00	1
89	148	237	2.93919e+00	4.76801e-01	0.00000e+00	0.00000e+00	9.68349e-01	1.64319e+00	0
89	149	238	3.27460e+00	8.32203e-01	0.00000e+00	0.00000e+00	1.01412e+00	1.68115e+00	0
89	150	239	3.19218e+00	6.40853e-01	1.80607e-03	1.31332e-01	9.42471e-01	1.61220e+00	0
89	151	240	3.57963e+00	8.96530e-01	6.63990e-03	1.66586e-01	1.07349e+00	1.77859e+00	0
89	152	241	3.27052e+00	6.85557e-01	5.32044e-02	2.90590e-01	1.06371e+00	1.77347e+00	0
89	153	242	3.52229e+00	8.77842e-01	8.36122e-02	3.03663e-01	1.34720e+00	2.14058e+00	0
89	154	243	2.56255e+00	6.10564e-01	3.30928e-01	4.11267e-01	1.24706e+00	2.00844e+00	0
89	155	244	2.82096e+00	7.36667e-01	3.68273e-01	4.01913e-01	1.46913e+00	2.29164e+00	0
89	156	245	2.08214e+00	4.80634e-01	6.33436e-01	4.84277e-01	1.31418e+00	2.06639e+00	0
89	157	246	2.58069e+00	6.06047e-01	5.44458e-01	4.49211e-01	1.42694e+00	2.20615e+00	0
89	158	247	2.25293e+00	4.86497e-01	6.71974e-01	5.21670e-01	1.29610e+00	2.04493e+00	0
89	159	248	2.62424e+00	5.88051e-01	5.63840e-01	4.51236e-01	1.62070e+00	2.48720e+00	0
89	160	249	2.37963e+00	4.93764e-01	7.29705e-01	5.65174e-01	1.42493e+00	2.21435e+00	0
89	161	250	2.82893e+00	5.65129e-01	6.52974e-01	5.34473e-01	1.54601e+00	2.36298e+00	0
89	162	251	2.45642e+00	5.15053e-01	7.37649e-01	5.68046e-01	1.55487e+00	2.38129e+00	0
89	163	252	2.85437e+00	5.36229e-01	8.19701e-01	5.87575e-01	1.59425e+00	2.41553e+00	0
89	164	253	2.66445e+00	6.03921e-01	8.92858e-01	6.62698e-01	1.59621e+00	2.42069e+00	0
89	165	254	2.33418e+00	5.31200e-01	1.04021e+00	6.04627e-01	1.71464e+00	2.61130e+00	0
89	166	255	2.36094e+00	5.76395e-01	9.26493e-01	6.84919e-01	1.93526e+00	2.86553e+00	0
89	167	256	2.24058e+00	4.97927e-01	1.11468e+00	6.46577e-01	1.77791e+00	2.69154e+00	0
89	168	257	2.37143e+00	6.18956e-01	9.18689e-01	6.98792e-01	1.79799e+00	2.72160e+00	0
89	169	258	2.43918e+00	6.05157e-01	8.57748e-01	6.07291e-01	1.98584e+00	2.95455e+00	0
89	170	259	2.51936e+00	6.52153e-01	9.30510e-01	7.09916e-01	1.90274e+00	2.82285e+00	0
89	171	260	2.33423e+00	5.77201e-01	1.06706e+00	6.50935e-01	2.03310e+00	3.01355e+00	0
89	172	261	2.56078e+00	7.20376e-01	9.93709e-01	7.12894e-01	2.10077e+00	3.08468e+00	0
89	173	262	1.58821e+00	4.67758e-01	1.54499e+00	6.68446e-01	2.03382e+00	2.98533e+00	0
89	174	263	2.18337e+00	7.17963e-01	1.26159e+00	6.71781e-01	2.10145e+00	3.09949e+00	0
89	175	264	1.56463e+00	4.44486e-01	1.71654e+00	7.17825e-01	2.10083e+00	3.09385e+00	0
89	176	265	1.81416e+00	6.51506e-01	1.44166e+00	6.52649e-01	2.16269e+00	3.17109e+00	0
89	177	266	1.75321e+00	4.59980e-01	1.69340e+00	7.33707e-01	2.37937e+00	3.44229e+00	0
89	178	267	1.81677e+00	5.53058e-01	1.58980e+00	6.87758e-01	2.42021e+00	3.47524e+00	0
89	179	268	2.07694e+00	5.79068e-01	1.88021e+00	7.60376e-01	2.48019e+00	3.56627e+00	0
89	180	269	1.73554e+00	4.19365e-01	2.01435e+00	7.17210e-01	2.51596e+00	3.61113e+00	0
89	181	270	2.23492e+00	6.11985e-01	2.20210e+00	7.35127e-01	2.50505e+00	3.56925e+00	0
89	182	271	1.51868e+00	3.17393e-01	2.47525e+00	6.86875e-01	2.48019e+00	3.53785e+00	0
89	183	272	1.86433e+00	4.54580e-01	2.47185e+00	6.99458e-01	2.55135e+00	3.65425e+00	0
89	184	273	1.51846e+00	3.13100e-01	2.48019e+00	6.82751e-01	2.76948e+00	3.92045e+00	0
89	185	274	1.67187e+00	3.84245e-01	2.75863e+00	7.09575e-01	3.24560e+00	4.48468e+00	0
89	186	275	1.91073e+00	5.11297e-01	3.13671e+00	7.52232e-01	2.99871e+00	4.19666e+00	0
89	187	276	1.76610e+00	4.79686e-01	3.65900e+00	7.58096e-01	3.46055e+00	4.75401e+00	0

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Table 1 (continued)

89	188	277	1.71261e+00	3.63695e-01	4.29868e+00	7.42631e-01	3.09815e+00	4.30164e+00	0
89	189	278	1.63575e+00	3.44247e-01	4.87147e+00	7.23560e-01	3.02943e+00	4.23452e+00	0
89	190	279	1.77851e+00	4.02187e-01	4.74644e+00	6.92884e-01	3.15587e+00	4.37368e+00	0
89	191	280	1.67149e+00	3.75636e-01	5.04129e+00	6.82591e-01	3.36057e+00	4.60842e+00	0
89	192	281	1.61024e+00	3.22494e-01	5.09595e+00	6.36101e-01	3.40453e+00	4.68931e+00	0
89	193	282	1.53534e+00	3.19279e-01	5.59727e+00	6.38459e-01	3.49640e+00	4.79383e+00	0
89	194	283	1.65919e+00	2.95387e-01	5.44534e+00	6.16154e-01	3.52321e+00	4.81226e+00	0
89	195	284	1.55766e+00	2.97405e-01	6.21421e+00	6.33903e-01	3.44952e+00	4.74494e+00	0
89	196	285	1.55287e+00	2.71694e-01	5.78860e+00	6.02709e-01	3.95121e+00	5.35165e+00	0
89	197	286	1.49793e+00	2.75312e-01	6.27972e+00	6.06791e-01	4.09537e+00	5.52538e+00	0
89	198	287	1.53185e+00	2.73558e-01	6.41996e+00	5.92773e-01	4.08960e+00	5.51863e+00	0
89	199	288	1.46674e+00	2.80933e-01	7.01429e+00	5.99905e-01	4.30675e+00	5.73780e+00	0
89	200	289	1.51166e+00	2.65276e-01	7.19143e+00	5.86832e-01	4.25740e+00	5.72095e+00	0
89	201	290	1.48703e+00	3.07642e-01	7.95883e+00	5.97845e-01	4.20155e+00	5.65340e+00	0
89	202	291	1.55782e+00	2.82644e-01	7.96115e+00	5.84111e-01	4.04678e+00	5.45815e+00	0
89	203	292	1.63546e+00	3.72023e-01	8.42720e+00	5.84156e-01	4.17298e+00	5.61900e+00	0
89	204	293	1.57441e+00	3.24735e-01	8.22710e+00	5.76343e-01	4.32827e+00	5.80630e+00	0
89	205	294	1.85696e+00	4.48984e-01	8.58405e+00	5.85035e-01	4.45367e+00	5.94643e+00	0
89	206	295	1.89736e+00	4.04389e-01	8.56199e+00	5.80056e-01	4.49550e+00	5.99774e+00	0
Thorium (Th)									
90	141	231	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	6.82628e-02	2.05446e-01	1
90	143	233	2.36848e+00	1.50597e-01	0.00000e+00	0.00000e+00	2.85518e-01	6.42931e-01	1
90	144	234	1.47394e+00	7.04710e-02	0.00000e+00	0.00000e+00	3.77588e-02	1.33545e-01	1
90	145	235	2.00011e+00	1.42438e-01	0.00000e+00	0.00000e+00	4.95662e-01	9.86708e-01	1
90	146	236	2.22607e+00	1.26919e-01	0.00000e+00	0.00000e+00	1.91536e-01	4.70252e-01	1
90	147	237	2.19649e+00	2.56969e-01	0.00000e+00	0.00000e+00	6.71527e-01	1.24330e+00	1
90	148	238	2.52150e+00	1.80772e-01	0.00000e+00	0.00000e+00	3.47937e-01	7.57344e-01	0
90	149	239	2.67547e+00	3.50103e-01	0.00000e+00	0.00000e+00	7.54536e-01	1.35478e+00	0
90	150	240	2.73637e+00	2.40184e-01	0.00000e+00	0.00000e+00	4.99909e-01	1.00669e+00	0
90	151	241	3.23975e+00	5.39684e-01	0.00000e+00	0.00000e+00	6.67354e-01	1.24030e+00	0
90	152	242	2.95435e+00	2.77893e-01	0.00000e+00	0.00000e+00	7.17943e-01	1.32315e+00	0
90	153	243	3.26457e+00	5.25807e-01	0.00000e+00	0.00000e+00	1.08216e+00	1.80832e+00	0
90	154	244	3.38109e+00	3.86472e-01	0.00000e+00	0.00000e+00	8.51085e-01	1.49999e+00	0
90	155	245	3.70122e+00	6.51323e-01	2.27740e-03	9.87891e-02	1.10146e+00	1.82961e+00	0
90	156	246	3.51959e+00	4.33513e-01	1.07708e-02	1.67669e-01	9.76004e-01	1.64591e+00	0
90	157	247	3.73495e+00	6.12052e-01	7.23531e-03	1.53304e-01	1.25070e+00	2.03178e+00	0
90	158	248	3.62245e+00	4.57855e-01	1.71542e-02	1.80553e-01	1.03769e+00	1.71087e+00	0
90	159	249	3.97854e+00	6.73111e-01	4.72641e-02	1.73894e-01	1.16760e+00	1.91989e+00	0
90	160	250	3.52535e+00	4.67285e-01	5.95928e-02	2.08424e-01	1.18841e+00	1.94975e+00	0
90	161	251	3.66791e+00	6.35725e-01	1.01601e-01	2.10201e-01	1.31996e+00	2.11534e+00	0
90	162	252	3.54988e+00	4.72066e-01	9.35774e-02	2.42995e-01	1.29828e+00	2.07961e+00	0
90	163	253	3.41127e+00	6.05271e-01	2.99263e-01	2.91540e-01	1.40781e+00	2.22741e+00	0
90	164	254	2.85493e+00	3.97667e-01	4.10362e-01	3.83450e-01	1.40854e+00	2.23209e+00	0
90	165	255	3.04510e+00	5.03934e-01	4.83046e-01	4.15853e-01	1.50140e+00	2.32321e+00	0
90	166	256	2.48241e+00	4.13509e-01	5.48326e-01	3.59973e-01	1.55640e+00	2.42903e+00	0
90	167	257	2.76328e+00	4.02917e-01	7.30826e-01	4.40486e-01	1.49407e+00	2.32108e+00	0
90	168	258	2.41718e+00	3.64539e-01	6.55415e-01	4.31081e-01	1.42427e+00	2.25990e+00	0
90	169	259	2.71641e+00	5.02984e-01	5.58847e-01	3.39115e-01	1.63404e+00	2.50632e+00	0
90	170	260	2.29200e+00	3.62631e-01	5.88945e-01	3.79774e-01	1.67058e+00	2.57310e+00	0
90	171	261	2.60924e+00	4.22595e-01	6.47618e-01	4.17319e-01	1.84930e+00	2.79717e+00	0
90	172	262	2.26759e+00	3.09903e-01	7.91171e-01	4.93388e-01	1.82751e+00	2.77279e+00	0
90	173	263	2.95904e+00	3.92413e-01	8.31867e-01	6.15766e-01	1.82460e+00	2.72649e+00	0
90	174	264	2.67476e+00	4.01920e-01	8.26077e-01	6.35397e-01	1.84832e+00	2.79824e+00	0
90	175	265	2.89833e+00	3.98832e-01	9.05691e-01	6.40765e-01	1.89414e+00	2.85530e+00	0
90	176	266	2.66200e+00	4.17159e-01	8.82669e-01	6.45209e-01	1.93364e+00	2.89739e+00	0
90	177	267	2.90159e+00	4.43919e-01	9.69250e-01	6.57680e-01	2.03706e+00	3.00519e+00	0
90	178	268	2.77637e+00	5.07495e-01	9.16805e-01	6.82536e-01	2.10517e+00	3.11848e+00	0
90	179	269	2.16669e+00	4.19148e-01	1.37510e+00	6.19387e-01	2.18020e+00	3.20716e+00	0
90	180	270	2.57776e+00	6.02236e-01	1.14786e+00	6.55990e-01	2.25148e+00	3.30273e+00	0
90	181	271	1.75059e+00	3.11208e-01	1.81860e+00	6.44245e-01	2.29746e+00	3.33070e+00	0
90	182	272	2.15595e+00	4.95679e-01	1.34701e+00	6.01595e-01	2.31485e+00	3.36370e+00	0
90	183	273	1.67649e+00	3.29938e-01	1.81097e+00	6.41216e-01	2.36140e+00	3.41937e+00	0
90	184	274	1.97011e+00	4.78847e-01	1.46764e+00	5.92781e-01	2.53006e+00	3.63761e+00	0
90	185	275	2.33057e+00	4.87203e-01	1.93309e+00	7.05438e-01	2.92988e+00	4.10526e+00	0
90	186	276	1.96195e+00	2.99671e-01	2.56030e+00	6.58943e-01	2.65746e+00	3.77216e+00	0
90	187	277	1.76430e+00	3.10600e-01	3.06163e+00	6.84958e-01	2.94571e+00	4.14299e+00	0
90	188	278	1.99056e+00	3.48527e-01	3.25190e+00	6.57602e-01	2.78443e+00	3.92676e+00	0
90	189	279	1.82745e+00	3.67151e-01	3.77256e+00	6.37564e-01	2.80462e+00	3.95224e+00	0
90	190	280	1.62365e+00	2.75718e-01	3.51494e+00	5.58837e-01	2.89573e+00	4.09171e+00	0
90	191	281	1.61245e+00	2.87103e-01	3.65648e+00	5.77812e-01	3.06165e+00	4.29218e+00	0
90	192	282	1.78228e+00	2.76694e-01	3.27189e+00	5.47291e-01	3.10757e+00	4.35074e+00	0
90	193	283	1.79458e+00	2.61573e-01	3.76238e+00	5.67835e-01	3.26446e+00	4.54204e+00	0
90	194	284	1.93938e+00	2.37362e-01	3.64910e+00	5.45883e-01	3.51488e+00	4.84806e+00	0
90	195	285	1.88429e+00	2.53831e-01	4.15550e+00	5.55254e-01	3.60569e+00	4.93338e+00	0
90	196	286	1.90394e+00	2.38451e-01	4.02662e+00	5.29050e-01	3.67812e+00	5.04655e+00	0
90	197	287	1.73024e+00	2.36752e-01	4.52343e+00	5.39375e-01	3.84924e+00	5.24997e+00	0
90	198	288	1.78805e+00	2.37846e-01	4.49237e+00	5.22950e-01	3.82631e+00	5.22647e+00	0

(continued on next page)

Table 1 (continued)

90	199	289	1.68426e+00	2.45928e-01	5.06579e+00	5.38854e-01	3.97134e+00	5.40219e+00	0
90	200	290	1.69696e+00	2.35563e-01	5.08288e+00	5.20524e-01	4.02977e+00	5.47330e+00	0
90	201	291	1.58923e+00	2.47506e-01	5.72437e+00	5.34086e-01	4.01038e+00	5.44979e+00	0
90	202	292	1.66847e+00	2.22593e-01	5.83142e+00	5.27479e-01	3.73068e+00	5.11022e+00	0
90	203	293	1.61942e+00	2.39388e-01	6.67053e+00	5.32945e-01	3.78265e+00	5.13494e+00	0
90	204	294	1.59206e+00	2.12020e-01	6.32296e+00	5.01362e-01	4.02153e+00	5.44028e+00	0
90	205	295	1.61973e+00	2.24179e-01	6.93222e+00	5.08692e-01	4.15304e+00	5.59862e+00	0
90	206	296	1.53983e+00	2.09112e-01	6.93690e+00	4.86146e-01	4.15897e+00	5.63006e+00	0
90	207	297	1.58022e+00	2.63685e-01	7.65799e+00	4.94733e-01	4.32933e+00	5.82667e+00	0
90	208	298	1.71686e+00	2.43332e-01	7.60460e+00	4.86360e-01	4.31099e+00	5.81428e+00	0
90	209	299	1.87539e+00	3.52641e-01	8.44938e+00	4.99238e-01	4.39584e+00	5.87613e+00	0
Protactinium (Pa)									
91	139	230	1.78293e+00	1.24409e-01	0.00000e+00	0.00000e+00	9.43908e-02	2.79996e-01	1
91	141	232	1.96470e+00	1.13851e-01	0.00000e+00	0.00000e+00	3.65224e-01	7.75562e-01	1
91	142	233	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.02189e-01	2.83188e-01	1
91	143	234	2.56093e+00	1.72284e-01	0.00000e+00	0.00000e+00	6.26824e-01	1.17588e+00	1
91	144	235	3.10606e+00	1.12938e-01	0.00000e+00	0.00000e+00	3.34957e-01	7.27805e-01	1
91	145	236	2.85385e+00	3.09613e-01	0.00000e+00	0.00000e+00	7.35327e-01	1.30467e+00	1
91	146	237	3.09586e+00	1.40979e-01	0.00000e+00	0.00000e+00	5.97015e-01	1.13389e+00	1
91	147	238	3.40339e+00	5.54125e-01	0.00000e+00	0.00000e+00	6.08589e-01	1.15418e+00	1
91	148	239	2.30354e+00	3.15422e-01	0.00000e+00	0.00000e+00	7.21763e-01	1.30424e+00	0
91	149	240	3.02674e+00	7.48141e-01	0.00000e+00	0.00000e+00	6.97559e-01	1.25169e+00	0
91	150	241	2.61554e+00	5.38218e-01	0.00000e+00	0.00000e+00	6.94054e-01	1.26400e+00	0
91	151	242	2.99049e+00	7.06139e-01	0.00000e+00	0.00000e+00	1.01473e+00	1.72648e+00	0
91	152	243	2.51478e+00	4.75685e-01	0.00000e+00	0.00000e+00	1.06771e+00	1.78038e+00	0
91	153	244	3.37396e+00	8.66080e-01	4.78512e-04	9.91658e-02	1.07427e+00	1.80224e+00	0
91	154	245	3.11823e+00	6.75887e-01	3.19661e-02	2.40339e-01	9.46930e-01	1.62582e+00	0
91	155	246	3.39168e+00	8.75750e-01	6.68223e-02	2.54942e-01	1.24461e+00	2.00883e+00	0
91	156	247	2.71837e+00	6.36369e-01	2.30326e-01	3.09574e-01	1.08085e+00	1.80685e+00	0
91	157	248	3.47736e+00	8.74105e-01	1.24474e-01	2.53537e-01	1.23095e+00	1.98010e+00	0
91	158	249	2.59876e+00	6.03505e-01	3.27921e-01	3.74269e-01	1.12039e+00	1.85693e+00	0
91	159	250	3.14581e+00	7.74595e-01	3.00625e-01	3.51865e-01	1.24839e+00	2.02052e+00	0
91	160	251	2.57688e+00	5.53473e-01	3.54699e-01	4.02421e-01	1.36254e+00	2.17648e+00	0
91	161	252	3.18914e+00	7.42046e-01	2.64067e-01	3.49846e-01	1.57381e+00	2.44309e+00	0
91	162	253	2.51930e+00	4.95595e-01	4.70688e-01	4.39622e-01	1.49167e+00	2.34142e+00	0
91	163	254	2.71435e+00	5.71684e-01	5.70730e-01	4.23065e-01	1.60854e+00	2.45148e+00	0
91	164	255	2.26681e+00	4.36157e-01	7.13319e-01	5.41720e-01	1.62928e+00	2.51476e+00	0
91	165	256	2.64201e+00	5.70310e-01	7.58206e-01	5.52734e-01	1.48103e+00	2.31623e+00	0
91	166	257	2.40498e+00	5.69978e-01	8.33087e-01	6.32186e-01	1.45563e+00	2.27156e+00	0
91	167	258	2.60389e+00	5.19728e-01	9.32695e-01	6.18906e-01	1.43715e+00	2.26615e+00	0
91	168	259	2.23808e+00	5.25098e-01	8.64872e-01	6.19063e-01	1.60007e+00	2.48115e+00	0
91	169	260	2.63197e+00	5.94112e-01	7.93292e-01	6.10468e-01	1.58398e+00	2.45435e+00	0
91	170	261	2.39910e+00	5.91780e-01	8.46930e-01	6.33948e-01	1.56166e+00	2.40014e+00	0
91	171	262	2.60769e+00	6.21359e-01	8.02646e-01	6.09109e-01	1.71810e+00	2.64013e+00	0
91	172	263	2.21352e+00	6.22359e-01	9.08271e-01	5.98323e-01	1.86750e+00	2.79306e+00	0
91	173	264	2.18265e+00	5.27065e-01	1.07812e+00	5.76158e-01	1.91218e+00	2.85605e+00	0
91	174	265	2.44816e+00	6.93008e-01	9.92221e-01	6.41866e-01	1.91999e+00	2.85851e+00	0
91	175	266	1.71736e+00	5.18994e-01	1.43903e+00	6.13427e-01	1.79398e+00	2.73756e+00	0
91	176	267	2.46328e+00	7.72652e-01	1.09703e+00	6.28920e-01	1.83822e+00	2.76432e+00	0
91	177	268	1.54291e+00	4.86076e-01	1.56156e+00	6.24464e-01	1.92923e+00	2.91049e+00	0
91	178	269	2.06354e+00	7.25613e-01	1.32087e+00	6.03656e-01	1.99051e+00	2.98861e+00	0
91	179	270	1.86595e+00	5.02150e-01	1.80315e+00	6.95592e-01	2.06291e+00	3.06540e+00	0
91	180	271	1.73741e+00	4.31418e-01	1.81638e+00	6.48673e-01	2.13590e+00	3.15720e+00	0
91	181	272	2.43720e+00	6.56587e-01	1.94570e+00	7.07117e-01	2.06477e+00	3.08408e+00	0
91	182	273	1.63482e+00	3.94619e-01	2.06450e+00	6.38672e-01	2.11253e+00	3.11374e+00	0
91	183	274	2.17299e+00	6.05612e-01	2.05042e+00	6.80686e-01	2.17618e+00	3.22264e+00	0
91	184	275	1.62622e+00	4.13494e-01	2.04575e+00	6.41975e-01	2.38471e+00	3.48198e+00	0
91	185	276	1.93067e+00	5.06121e-01	2.35970e+00	6.50455e-01	2.84255e+00	4.03276e+00	0
91	186	277	2.23957e+00	5.58108e-01	2.73254e+00	7.03293e-01	2.63301e+00	3.78535e+00	0
91	187	278	1.70338e+00	4.66855e-01	3.33567e+00	6.90879e-01	2.89223e+00	4.09873e+00	0
91	188	279	1.65094e+00	3.84575e-01	3.61686e+00	6.56373e-01	2.68749e+00	3.82714e+00	0
91	189	280	1.78969e+00	4.52801e-01	3.97724e+00	6.40883e-01	2.73754e+00	3.91608e+00	0
91	190	281	1.63987e+00	3.74472e-01	3.98198e+00	5.89137e-01	2.77546e+00	3.95650e+00	0
91	191	282	1.43886e+00	3.67432e-01	4.10452e+00	5.71571e-01	2.95246e+00	4.17664e+00	0
91	192	283	1.57352e+00	3.31640e-01	3.88907e+00	5.51492e-01	2.98165e+00	4.20041e+00	0
91	193	284	1.68661e+00	3.57310e-01	3.94600e+00	5.49023e-01	3.40335e+00	4.73178e+00	0
91	194	285	1.75323e+00	3.16006e-01	3.86066e+00	5.28931e-01	3.45646e+00	4.78588e+00	0
91	195	286	1.71652e+00	3.11273e-01	4.30291e+00	5.35689e-01	3.50903e+00	4.82474e+00	0
91	196	287	1.75648e+00	3.14177e-01	4.18138e+00	5.20500e-01	3.60532e+00	4.96747e+00	0
91	197	288	1.65102e+00	2.93368e-01	4.61148e+00	5.28782e-01	3.75460e+00	5.15888e+00	0
91	198	289	1.60742e+00	2.77926e-01	4.78704e+00	5.18812e-01	3.71110e+00	5.10767e+00	0
91	199	290	1.57914e+00	2.91349e-01	5.12859e+00	5.23744e-01	3.90520e+00	5.32245e+00	0
91	200	291	1.63685e+00	2.83606e-01	5.17368e+00	5.10919e-01	3.88269e+00	5.31720e+00	0
91	201	292	1.61243e+00	2.91630e-01	6.21464e+00	5.30959e-01	3.69515e+00	5.04896e+00	0
91	202	293	1.65572e+00	2.88473e-01	6.17130e+00	5.15282e-01	3.82398e+00	5.25040e+00	0
91	203	294	1.57182e+00	2.88492e-01	6.82492e+00	5.18973e-01	3.67840e+00	5.04574e+00	0
91	204	295	1.65252e+00	2.89557e-01	6.63527e+00	4.98679e-01	3.87356e+00	5.31059e+00	0

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Table 1 (continued)

91	205	296	1.62833e+00	3.06331e-01	7.13827e+00	5.01647e-01	4.00001e+00	5.42166e+00	0
91	206	297	1.65223e+00	2.90024e-01	7.18303e+00	4.90757e-01	4.00899e+00	5.46715e+00	0
91	207	298	1.65082e+00	3.18623e-01	7.42398e+00	4.92137e-01	4.35403e+00	5.86805e+00	0
91	208	299	1.65882e+00	2.86527e-01	7.43980e+00	4.87406e-01	4.36182e+00	5.90495e+00	0
91	209	300	1.77084e+00	3.66473e-01	8.24180e+00	4.98166e-01	4.39575e+00	5.94642e+00	0
91	210	301	1.78746e+00	3.25268e-01	8.03711e+00	4.84458e-01	4.49385e+00	6.05608e+00	0
91	211	302	2.18176e+00	4.65700e-01	8.48276e+00	4.98626e-01	4.72429e+00	6.31756e+00	0
Uranium (U)									
92	145	237	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	8.94993e-02	2.55128e-01	1
92	147	239	2.16332e+00	1.78021e-01	0.00000e+00	0.00000e+00	2.81134e-01	6.31658e-01	1
92	148	240	1.25069e+00	1.12606e-01	0.00000e+00	0.00000e+00	6.48467e-02	1.89542e-01	1
92	149	241	2.37740e+00	2.22439e-01	0.00000e+00	0.00000e+00	4.08967e-01	8.69928e-01	0
92	150	242	2.39759e+00	1.61652e-01	0.00000e+00	0.00000e+00	1.76483e-01	4.51214e-01	0
92	151	243	1.98240e+00	5.24812e-01	0.00000e+00	0.00000e+00	4.89547e-01	9.25242e-01	0
92	152	244	1.88588e+00	2.95850e-01	0.00000e+00	0.00000e+00	3.42811e-01	7.37070e-01	0
92	153	245	2.63206e+00	4.18881e-01	0.00000e+00	0.00000e+00	8.30196e-01	1.47491e+00	0
92	154	246	2.98139e+00	3.04112e-01	0.00000e+00	0.00000e+00	4.98586e-01	1.00639e+00	0
92	155	247	3.17136e+00	5.72165e-01	0.00000e+00	0.00000e+00	8.27220e-01	1.46850e+00	0
92	156	248	3.17866e+00	3.54787e-01	0.00000e+00	0.00000e+00	6.72868e-01	1.24540e+00	0
92	157	249	3.62893e+00	6.12100e-01	0.00000e+00	0.00000e+00	8.41975e-01	1.49484e+00	0
92	158	250	3.25490e+00	3.74461e-01	0.00000e+00	0.00000e+00	7.80270e-01	1.40963e+00	0
92	159	251	3.61293e+00	6.00987e-01	0.00000e+00	0.00000e+00	9.91272e-01	1.69520e+00	0
92	160	252	3.33832e+00	3.73684e-01	0.00000e+00	0.00000e+00	8.73481e-01	1.53773e+00	0
92	161	253	3.64146e+00	6.10234e-01	6.01816e-04	8.18085e-02	1.09523e+00	1.82458e+00	0
92	162	254	3.50305e+00	4.19918e-01	2.56442e-03	1.25082e-01	1.04912e+00	1.77956e+00	0
92	163	255	4.00965e+00	6.61021e-01	4.03079e-02	1.80210e-01	1.17072e+00	1.90983e+00	0
92	164	256	3.45490e+00	4.63430e-01	1.17713e-01	2.39629e-01	1.18561e+00	1.95008e+00	0
92	165	257	3.37741e+00	5.97357e-01	2.36634e-01	2.80209e-01	1.29887e+00	2.07638e+00	0
92	166	258	3.04083e+00	4.48233e-01	2.63919e-01	2.86800e-01	1.22022e+00	2.00584e+00	0
92	167	259	3.46223e+00	6.48339e-01	2.15793e-01	3.13035e-01	1.43942e+00	2.26510e+00	0
92	168	260	2.85528e+00	4.64404e-01	3.61383e-01	2.85810e-01	1.22506e+00	2.01936e+00	0
92	169	261	2.97974e+00	5.95624e-01	4.50464e-01	2.88682e-01	1.22516e+00	2.01796e+00	0
92	170	262	2.82088e+00	4.60233e-01	3.08278e-01	2.56029e-01	1.38092e+00	2.19158e+00	0
92	171	263	2.83333e+00	5.36937e-01	4.31259e-01	2.92715e-01	1.53137e+00	2.41129e+00	0
92	172	264	2.58917e+00	3.92536e-01	4.67151e-01	3.25509e-01	1.55741e+00	2.44680e+00	0
92	173	265	2.61132e+00	3.60896e-01	7.27274e-01	4.19772e-01	1.53901e+00	2.39585e+00	0
92	174	266	2.44351e+00	3.22491e-01	7.45758e-01	4.82336e-01	1.54269e+00	2.42729e+00	0
92	175	267	2.80502e+00	3.40509e-01	8.09485e-01	5.06510e-01	1.60407e+00	2.49603e+00	0
92	176	268	2.45224e+00	3.27795e-01	8.23056e-01	5.09919e-01	1.59017e+00	2.46313e+00	0
92	177	269	2.88911e+00	3.70800e-01	8.40140e-01	5.39502e-01	1.72711e+00	2.66834e+00	0
92	178	270	2.67008e+00	4.09556e-01	8.65640e-01	5.76896e-01	1.76119e+00	2.71359e+00	0
92	179	271	2.86766e+00	4.48208e-01	1.01775e+00	5.93165e-01	1.85030e+00	2.79605e+00	0
92	180	272	3.03581e+00	5.68194e-01	9.65451e-01	6.34447e-01	1.90419e+00	2.89803e+00	0
92	181	273	2.01864e+00	3.73381e-01	1.43213e+00	5.43557e-01	1.97425e+00	2.98273e+00	0
92	182	274	2.74149e+00	5.86316e-01	1.01439e+00	6.11358e-01	1.91078e+00	2.88522e+00	0
92	183	275	1.71286e+00	3.46570e-01	1.61385e+00	5.48534e-01	1.93504e+00	2.93713e+00	0
92	184	276	2.59956e+00	5.99106e-01	1.07279e+00	5.93412e-01	2.09664e+00	3.13619e+00	0
92	185	277	2.20471e+00	4.21933e-01	1.77105e+00	6.26063e-01	2.50492e+00	3.63907e+00	0
92	186	278	2.34851e+00	3.49250e-01	2.02728e+00	5.94122e-01	2.27715e+00	3.36407e+00	0
92	187	279	2.21120e+00	3.31796e-01	2.43236e+00	6.07241e-01	2.52399e+00	3.65004e+00	0
92	188	280	2.28402e+00	3.87624e-01	2.58139e+00	5.83729e-01	2.34200e+00	3.42736e+00	0
92	189	281	1.81758e+00	3.11919e-01	2.80661e+00	5.37332e-01	2.50154e+00	3.61408e+00	0
92	190	282	2.07873e+00	2.64719e-01	2.46279e+00	5.09794e-01	2.52489e+00	3.64319e+00	0
92	191	283	1.89254e+00	2.62254e-01	2.73604e+00	5.12461e-01	2.64093e+00	3.79496e+00	0
92	192	284	2.28017e+00	2.94896e-01	2.29188e+00	4.77545e-01	3.04253e+00	4.31458e+00	0
92	193	285	2.11469e+00	2.66878e-01	2.74041e+00	4.85290e-01	3.08805e+00	4.34487e+00	0
92	194	286	2.27906e+00	2.89620e-01	2.48710e+00	4.68179e-01	3.19226e+00	4.49953e+00	0
92	195	287	2.08568e+00	2.80700e-01	2.97286e+00	4.84079e-01	3.21539e+00	4.51220e+00	0
92	196	288	2.22843e+00	2.92144e-01	2.78908e+00	4.67224e-01	3.30340e+00	4.62003e+00	0
92	197	289	2.09688e+00	2.87580e-01	3.32763e+00	4.87906e-01	3.48837e+00	4.86389e+00	0
92	198	290	2.04872e+00	2.41848e-01	3.32781e+00	4.64336e-01	3.43583e+00	4.79412e+00	0
92	199	291	1.97037e+00	2.59381e-01	3.67784e+00	4.75484e-01	3.62704e+00	5.00950e+00	0
92	200	292	1.95512e+00	2.28236e-01	3.95775e+00	4.64632e-01	3.48162e+00	4.85678e+00	0
92	201	293	1.81416e+00	2.34521e-01	4.47698e+00	4.75398e-01	3.54945e+00	4.91549e+00	0
92	202	294	1.90066e+00	2.39416e-01	4.28540e+00	4.59811e-01	3.61429e+00	5.01438e+00	0
92	203	295	1.78893e+00	2.45962e-01	4.96130e+00	4.63697e-01	3.53805e+00	4.92551e+00	0
92	204	296	1.91351e+00	2.52151e-01	4.69957e+00	4.40472e-01	3.62189e+00	5.02380e+00	0
92	205	297	1.85286e+00	2.54651e-01	5.22821e+00	4.44086e-01	3.78719e+00	5.19420e+00	0
92	206	298	1.89960e+00	2.39006e-01	5.19627e+00	4.25983e-01	3.74241e+00	5.17667e+00	0
92	207	299	1.78962e+00	2.44297e-01	5.79128e+00	4.32701e-01	3.89746e+00	5.36728e+00	0
92	208	300	1.84547e+00	2.18310e-01	5.79991e+00	4.21212e-01	3.93248e+00	5.41030e+00	0
92	209	301	1.77407e+00	2.27922e-01	6.56074e+00	4.31257e-01	3.93298e+00	5.41076e+00	0
92	210	302	1.88415e+00	2.12534e-01	6.39410e+00	4.19821e-01	4.08506e+00	5.57390e+00	0
92	211	303	1.86842e+00	2.36953e-01	7.13348e+00	4.34210e-01	4.31113e+00	5.83404e+00	0
92	212	304	1.90740e+00	2.35578e-01	7.49753e+00	4.31960e-01	4.24680e+00	5.79552e+00	0
92	213	305	2.10928e+00	3.22497e-01	8.49809e+00	4.52119e-01	4.31180e+00	5.87522e+00	0

(continued on next page)

Table 1 (continued)

Neptunium (Np)									
93	143	236	2.10774e+00	1.45001e-01	0.00000e+00	0.00000e+00	8.25121e-02	2.53102e-01	1
93	145	238	2.27923e+00	1.32694e-01	0.00000e+00	0.00000e+00	3.21071e-01	6.92684e-01	1
93	146	239	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.48906e-01	3.85879e-01	1
93	147	240	2.17177e+00	1.52610e-01	0.00000e+00	0.00000e+00	6.66182e-01	1.21933e+00	1
93	148	241	2.34957e+00	1.06770e-01	0.00000e+00	0.00000e+00	3.61989e-01	7.83304e-01	1
93	149	242	2.15254e+00	4.45917e-01	0.00000e+00	0.00000e+00	6.26887e-01	1.17360e+00	1
93	150	243	1.78249e+00	1.80925e-01	0.00000e+00	0.00000e+00	5.82978e-01	1.11967e+00	0
93	151	244	3.79581e+00	3.16681e-01	0.00000e+00	0.00000e+00	8.40398e-01	1.46686e+00	0
93	152	245	1.96554e+00	4.36045e-01	0.00000e+00	0.00000e+00	7.01575e-01	1.27692e+00	0
93	153	246	2.92815e+00	7.56462e-01	0.00000e+00	0.00000e+00	8.41919e-01	1.49894e+00	0
93	154	247	2.45765e+00	4.28434e-01	0.00000e+00	0.00000e+00	9.30924e-01	1.62651e+00	0
93	155	248	2.93385e+00	7.37941e-01	0.00000e+00	0.00000e+00	1.19008e+00	1.95040e+00	0
93	156	249	2.83669e+00	6.15039e-01	2.65210e-03	1.20673e-01	9.17013e-01	1.54894e+00	0
93	157	250	3.27464e+00	8.24117e-01	1.95463e-03	1.38502e-01	1.16095e+00	1.93166e+00	0
93	158	251	3.02753e+00	6.50738e-01	3.60616e-02	2.03300e-01	9.70619e-01	1.62852e+00	0
93	159	252	3.44492e+00	8.52448e-01	3.75368e-02	2.14319e-01	1.15437e+00	1.88487e+00	0
93	160	253	3.20651e+00	6.51883e-01	7.46943e-02	2.76076e-01	1.04143e+00	1.74172e+00	0
93	161	254	3.56856e+00	8.34446e-01	7.88149e-02	2.51842e-01	1.22536e+00	1.99521e+00	0
93	162	255	3.12977e+00	6.22465e-01	1.90352e-01	3.44307e-01	1.11566e+00	1.83967e+00	0
93	163	256	3.26488e+00	7.47387e-01	2.26083e-01	3.20891e-01	1.43746e+00	2.28070e+00	0
93	164	257	2.33774e+00	4.48302e-01	4.70455e-01	4.07224e-01	1.45446e+00	2.31098e+00	0
93	165	258	2.77557e+00	6.02238e-01	4.80504e-01	3.95576e-01	1.51895e+00	2.37745e+00	0
93	166	259	2.25257e+00	4.19435e-01	6.15349e-01	4.82008e-01	1.44220e+00	2.29444e+00	0
93	167	260	2.59666e+00	5.64200e-01	6.13860e-01	4.04521e-01	1.49080e+00	2.36829e+00	0
93	168	261	2.29394e+00	4.75553e-01	8.20934e-01	5.30703e-01	1.22326e+00	1.98734e+00	0
93	169	262	2.63925e+00	4.79292e-01	8.27046e-01	5.18758e-01	1.20188e+00	1.98755e+00	0
93	170	263	2.48232e+00	5.64698e-01	6.72718e-01	5.45003e-01	1.37792e+00	2.20354e+00	0
93	171	264	2.87568e+00	6.41252e-01	6.21522e-01	5.27940e-01	1.49249e+00	2.36892e+00	0
93	172	265	2.41163e+00	5.93316e-01	7.29704e-01	5.31807e-01	1.48892e+00	2.35680e+00	0
93	173	266	2.83626e+00	6.24442e-01	7.84937e-01	5.52798e-01	1.52067e+00	2.36131e+00	0
93	174	267	2.62071e+00	6.71908e-01	8.61487e-01	5.65753e-01	1.50904e+00	2.39153e+00	0
93	175	268	2.46401e+00	6.34533e-01	9.49946e-01	5.37282e-01	1.61049e+00	2.48750e+00	0
93	176	269	2.60326e+00	6.81044e-01	8.97948e-01	5.74882e-01	1.61555e+00	2.53227e+00	0
93	177	270	2.24074e+00	5.39834e-01	1.08178e+00	5.25616e-01	1.77784e+00	2.74009e+00	0
93	178	271	2.66038e+00	7.86786e-01	9.65557e-01	5.67082e-01	1.73613e+00	2.68802e+00	0
93	179	272	1.66514e+00	4.71575e-01	1.61807e+00	5.85105e-01	1.78935e+00	2.75797e+00	0
93	180	273	1.77319e+00	5.32762e-01	1.55825e+00	5.45545e-01	1.80019e+00	2.73870e+00	0
93	181	274	2.15705e+00	5.52698e-01	1.70392e+00	5.97784e-01	1.98089e+00	2.98596e+00	0
93	182	275	1.91548e+00	4.56067e-01	1.61261e+00	5.76079e-01	2.00659e+00	3.03474e+00	0
93	183	276	2.27932e+00	5.65881e-01	1.69450e+00	6.11293e-01	2.04127e+00	3.06305e+00	0
93	184	277	1.92990e+00	4.84622e-01	1.65337e+00	5.77295e-01	2.18598e+00	3.23480e+00	0
93	185	278	2.05557e+00	6.00561e-01	1.96508e+00	5.80422e-01	2.61849e+00	3.80125e+00	0
93	186	279	2.06426e+00	4.56678e-01	2.41167e+00	6.00524e-01	2.41162e+00	3.53013e+00	0
93	187	280	1.78880e+00	4.05557e-01	2.85848e+00	5.80243e-01	2.51452e+00	3.6943e+00	0
93	188	281	1.99894e+00	4.93452e-01	2.88397e+00	5.61356e-01	2.36798e+00	3.48871e+00	0
93	189	282	1.60078e+00	4.08332e-01	3.28039e+00	5.29983e-01	2.40940e+00	3.51661e+00	0
93	190	283	1.87542e+00	4.19856e-01	2.51063e+00	4.94297e-01	2.85628e+00	4.10480e+00	0
93	191	284	1.75630e+00	3.79966e-01	2.86503e+00	4.96833e-01	2.85491e+00	4.09835e+00	0
93	192	285	2.06821e+00	4.16130e-01	2.64495e+00	4.80533e-01	2.89157e+00	4.14872e+00	0
93	193	286	1.88308e+00	3.67357e-01	3.04268e+00	4.84069e-01	2.94414e+00	4.21357e+00	0
93	194	287	1.96709e+00	3.79899e-01	2.89898e+00	4.67194e-01	3.04455e+00	4.32322e+00	0
93	195	288	1.93760e+00	3.74158e-01	3.27507e+00	4.79415e-01	3.08740e+00	4.37887e+00	0
93	196	289	1.88586e+00	3.50655e-01	3.32640e+00	4.65324e-01	3.14553e+00	4.45916e+00	0
93	197	290	1.94122e+00	3.83571e-01	3.59167e+00	4.77235e-01	3.34281e+00	4.70528e+00	0
93	198	291	1.78669e+00	3.30513e-01	3.62116e+00	4.56811e-01	3.32763e+00	4.69030e+00	0
93	199	292	1.80683e+00	3.54553e-01	4.06862e+00	4.70864e-01	3.43624e+00	4.78583e+00	0
93	200	293	1.84359e+00	3.37994e-01	4.10656e+00	4.62329e-01	3.40209e+00	4.78286e+00	0
93	201	294	1.73149e+00	3.39924e-01	4.55648e+00	4.70722e-01	3.45984e+00	4.85031e+00	0
93	202	295	1.87708e+00	3.40459e-01	4.44139e+00	4.64433e-01	3.53268e+00	4.94447e+00	0
93	203	296	1.73515e+00	3.09265e-01	5.10310e+00	4.66065e-01	3.47400e+00	4.83047e+00	0
93	204	297	1.82473e+00	3.13219e-01	5.00952e+00	4.56443e-01	3.51135e+00	4.91857e+00	0
93	205	298	1.76979e+00	3.13052e-01	5.59494e+00	4.60978e-01	3.55521e+00	4.94723e+00	0
93	206	299	1.76665e+00	2.88139e-01	5.39402e+00	4.43662e-01	3.73132e+00	5.18965e+00	0
93	207	300	1.79460e+00	2.99417e-01	5.81775e+00	4.49596e-01	3.85134e+00	5.32885e+00	0
93	208	301	1.83132e+00	2.81732e-01	5.93462e+00	4.37299e-01	3.88591e+00	5.35762e+00	0
93	209	302	1.83658e+00	2.89204e-01	6.46519e+00	4.44341e-01	3.93864e+00	5.41901e+00	0
93	210	303	1.92563e+00	2.77494e-01	6.41597e+00	4.34147e-01	4.09697e+00	5.64080e+00	0
93	211	304	1.94565e+00	2.89252e-01	6.93624e+00	4.46116e-01	4.32445e+00	5.89384e+00	0
93	212	305	1.96665e+00	2.85577e-01	7.29635e+00	4.47336e-01	4.29859e+00	5.84849e+00	0
93	213	306	2.11790e+00	3.44462e-01	8.09833e+00	4.62036e-01	4.40220e+00	5.98903e+00	0
93	214	307	2.09627e+00	3.36411e-01	8.14348e+00	4.65314e-01	4.48524e+00	6.07886e+00	0
93	215	308	2.69953e+00	4.97499e-01	8.85494e+00	4.84265e-01	4.49937e+00	6.13653e+00	0
Plutonium (Pu)									
94	149	243	2.36095e+00	1.08012e-01	0.00000e+00	0.00000e+00	9.89300e-02	2.71606e-01	1
94	151	245	2.31003e+00	1.07846e-01	0.00000e+00	0.00000e+00	3.39762e-01	7.46522e-01	1
94	152	246	1.08523e+00	1.25425e-01	0.00000e+00	0.00000e+00	6.35392e-02	1.85599e-01	0

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Table 1 (continued)

94	153	247	2.18146e+00	2.43951e-01	0.00000e+00	0.00000e+00	5.86166e-01	1.14494e+00	0
94	154	248	2.35144e+00	1.57898e-01	0.00000e+00	0.00000e+00	2.48051e-01	5.76613e-01	0
94	155	249	2.37042e+00	3.51165e-01	0.00000e+00	0.00000e+00	7.17764e-01	1.31737e+00	0
94	156	250	2.56289e+00	2.28226e-01	0.00000e+00	0.00000e+00	3.97093e-01	8.29352e-01	0
94	157	251	2.79919e+00	4.26252e-01	0.00000e+00	0.00000e+00	7.52979e-01	1.35179e+00	0
94	158	252	2.85764e+00	2.64332e-01	0.00000e+00	0.00000e+00	5.38225e-01	1.03947e+00	0
94	159	253	3.00974e+00	5.02792e-01	0.00000e+00	0.00000e+00	7.40761e-01	1.35779e+00	0
94	160	254	2.83490e+00	2.59232e-01	0.00000e+00	0.00000e+00	6.43935e-01	1.23431e+00	0
94	161	255	3.32167e+00	5.16068e-01	0.00000e+00	0.00000e+00	8.82195e-01	1.55766e+00	0
94	162	256	3.15116e+00	3.16350e-01	0.00000e+00	0.00000e+00	7.84325e-01	1.40990e+00	0
94	163	257	3.75429e+00	6.09939e-01	0.00000e+00	0.00000e+00	9.33008e-01	1.63422e+00	0
94	164	258	3.51414e+00	4.14239e-01	1.74651e-03	9.00484e-02	9.24237e-01	1.62360e+00	0
94	165	259	3.75128e+00	6.15063e-01	2.22321e-02	1.37972e-01	1.15519e+00	1.93238e+00	0
94	166	260	3.49310e+00	4.44126e-01	4.20090e-02	1.56204e-01	9.70441e-01	1.68549e+00	0
94	167	261	3.86994e+00	6.44845e-01	3.85238e-02	1.79310e-01	1.17022e+00	1.95998e+00	0
94	168	262	3.72081e+00	5.06504e-01	6.50603e-02	1.91472e-01	1.00724e+00	1.73967e+00	0
94	169	263	3.80100e+00	7.04421e-01	1.32807e-01	1.79969e-01	1.00848e+00	1.73959e+00	0
94	170	264	3.55115e+00	5.22623e-01	1.20631e-01	2.11635e-01	1.02340e+00	1.76109e+00	0
94	171	265	3.33835e+00	6.40948e-01	1.55515e-01	1.96288e-01	1.34121e+00	2.17800e+00	0
94	172	266	3.11107e+00	4.45060e-01	1.94209e-01	2.23278e-01	1.29426e+00	2.09908e+00	0
94	173	267	2.78477e+00	5.10850e-01	4.33689e-01	2.57350e-01	1.35025e+00	2.17481e+00	0
94	174	268	2.54720e+00	3.26134e-01	5.43013e-01	3.23877e-01	1.28649e+00	2.11070e+00	0
94	175	269	2.63949e+00	3.71122e-01	6.10271e-01	3.47285e-01	1.42263e+00	2.28590e+00	0
94	176	270	2.39535e+00	2.99794e-01	6.58468e-01	3.50930e-01	1.30670e+00	2.13669e+00	0
94	177	271	2.70545e+00	3.52617e-01	7.07524e-01	3.85235e-01	1.45971e+00	2.33945e+00	0
94	178	272	2.55861e+00	3.08285e-01	7.49312e-01	4.42811e-01	1.48399e+00	2.37459e+00	0
94	179	273	3.08373e+00	4.07801e-01	8.52252e-01	5.20079e-01	1.54920e+00	2.46225e+00	0
94	180	274	3.02383e+00	4.89193e-01	9.18619e-01	5.48451e-01	1.53289e+00	2.43914e+00	0
94	181	275	2.68147e+00	4.16907e-01	1.11018e+00	5.06657e-01	1.55525e+00	2.44234e+00	0
94	182	276	2.85920e+00	5.01502e-01	9.28930e-01	5.40424e-01	1.56447e+00	2.47039e+00	0
94	183	277	2.55745e+00	4.19669e-01	1.18112e+00	4.95112e-01	1.58352e+00	2.46785e+00	0
94	184	278	2.93632e+00	5.20701e-01	9.31825e-01	5.39625e-01	1.73796e+00	2.68900e+00	0
94	185	279	1.97757e+00	3.48658e-01	1.59027e+00	5.12984e-01	2.14627e+00	3.22846e+00	0
94	186	280	2.41616e+00	3.17834e-01	1.71562e+00	4.95545e-01	1.97866e+00	3.00500e+00	0
94	187	281	2.33473e+00	4.10568e-01	1.88467e+00	5.12220e-01	2.23936e+00	3.33683e+00	0
94	188	282	2.04207e+00	2.40619e-01	2.09728e+00	4.52802e-01	2.04147e+00	3.07916e+00	0
94	189	283	2.19478e+00	3.50044e-01	2.03342e+00	4.61877e-01	2.18244e+00	3.27451e+00	0
94	190	284	2.51756e+00	3.09836e-01	1.54826e+00	4.14322e-01	2.54167e+00	3.73088e+00	0
94	191	285	2.53512e+00	3.61797e-01	1.79579e+00	4.34543e-01	2.60480e+00	3.81002e+00	0
94	192	286	2.48293e+00	3.14182e-01	1.66063e+00	4.08426e-01	2.65665e+00	3.87171e+00	0
94	193	287	2.46634e+00	3.55839e-01	1.97342e+00	4.29414e-01	2.72953e+00	3.96710e+00	0
94	194	288	2.43485e+00	3.06893e-01	1.90706e+00	4.10349e-01	2.78136e+00	4.02747e+00	0
94	195	289	2.31250e+00	3.21682e-01	2.27902e+00	4.29265e-01	2.93060e+00	4.21954e+00	0
94	196	290	2.38080e+00	3.02749e-01	2.19074e+00	4.15879e-01	2.93595e+00	4.22645e+00	0
94	197	291	2.19232e+00	2.96159e-01	2.44890e+00	4.23895e-01	3.06766e+00	4.39020e+00	0
94	198	292	2.36397e+00	3.00757e-01	2.55219e+00	4.24618e-01	2.90430e+00	4.18752e+00	0
94	199	293	2.18921e+00	2.93204e-01	2.88200e+00	4.32451e-01	3.11006e+00	4.42848e+00	0
94	200	294	2.34063e+00	3.17779e-01	2.76344e+00	4.27394e-01	3.10405e+00	4.43760e+00	0
94	201	295	2.18276e+00	2.97198e-01	3.31516e+00	4.42739e-01	3.16643e+00	4.50907e+00	0
94	202	296	2.21372e+00	2.86569e-01	3.14660e+00	4.25628e-01	3.16272e+00	4.51071e+00	0
94	203	297	2.19840e+00	3.02571e-01	3.56147e+00	4.29738e-01	3.35987e+00	4.75041e+00	0
94	204	298	2.15251e+00	2.54894e-01	3.57943e+00	4.03280e-01	3.31284e+00	4.69805e+00	0
94	205	299	2.09912e+00	2.74708e-01	4.16840e+00	4.15870e-01	3.32007e+00	4.68164e+00	0
94	206	300	2.12193e+00	2.45275e-01	4.12449e+00	3.97373e-01	3.35646e+00	4.74609e+00	0
94	207	301	2.06950e+00	2.53566e-01	4.67816e+00	4.06232e-01	3.42649e+00	4.82564e+00	0
94	208	302	2.21406e+00	2.48068e-01	4.51162e+00	3.97576e-01	3.49144e+00	4.89461e+00	0
94	209	303	2.16086e+00	2.37833e-01	5.10783e+00	4.05315e-01	3.55357e+00	4.99766e+00	0
94	210	304	2.06828e+00	2.16763e-01	4.96375e+00	3.97945e-01	3.66206e+00	5.12768e+00	0
94	211	305	2.01800e+00	2.17866e-01	5.50904e+00	4.14160e-01	3.86785e+00	5.34909e+00	0
94	212	306	2.01375e+00	2.18517e-01	5.73266e+00	4.13212e-01	3.82474e+00	5.32055e+00	0
94	213	307	2.01052e+00	2.29181e-01	6.68387e+00	4.31119e-01	3.86144e+00	5.38019e+00	0
94	214	308	2.02029e+00	2.27661e-01	6.71292e+00	4.26992e-01	3.96108e+00	5.50052e+00	0
94	215	309	2.02544e+00	2.54241e-01	7.49439e+00	4.40419e-01	4.09631e+00	5.64755e+00	0
94	216	310	2.03778e+00	2.48565e-01	7.69896e+00	4.35327e-01	4.10005e+00	5.67615e+00	0
94	217	311	2.27078e+00	3.30112e-01	8.46075e+00	4.50488e-01	4.18810e+00	5.77655e+00	0
94	218	312	2.25889e+00	3.20141e-01	8.46332e+00	4.43899e-01	4.20834e+00	5.81032e+00	0
Americium (Am)									
95	147	242	1.84033e+00	1.36670e-01	0.00000e+00	0.00000e+00	1.17598e-01	3.18595e-01	1
95	149	244	1.46858e+00	2.03716e-01	0.00000e+00	0.00000e+00	3.60441e-01	7.90354e-01	1
95	150	245	2.22502e+00	1.41392e-01	0.00000e+00	0.00000e+00	1.78954e-01	4.39139e-01	1
95	151	246	2.49183e+00	1.74895e-01	0.00000e+00	0.00000e+00	6.25307e-01	1.19540e+00	0
95	152	247	2.09099e+00	1.84496e-01	0.00000e+00	0.00000e+00	3.42322e-01	7.49614e-01	0
95	153	248	2.62709e+00	6.40614e-01	0.00000e+00	0.00000e+00	5.88236e-01	1.12752e+00	0
95	154	249	2.65537e+00	1.62047e-01	0.00000e+00	0.00000e+00	6.53695e-01	1.23667e+00	0
95	155	250	2.23984e+00	5.08006e-01	0.00000e+00	0.00000e+00	1.05626e+00	1.81160e+00	0
95	156	251	2.12243e+00	3.82987e-01	0.00000e+00	0.00000e+00	8.01002e-01	1.43522e+00	0
95	157	252	2.50473e+00	5.99934e-01	0.00000e+00	0.00000e+00	1.11623e+00	1.85009e+00	0

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Table 1 (continued)

95	158	253	2.54100e+00	5.01017e-01	0.00000e+00	0.00000e+00	8.35364e-01	1.50293e+00	0
95	159	254	3.00529e+00	7.43380e-01	0.00000e+00	0.00000e+00	1.01711e+00	1.75354e+00	0
95	160	255	2.66674e+00	5.02876e-01	0.00000e+00	0.00000e+00	9.53811e-01	1.64372e+00	0
95	161	256	3.13526e+00	7.25378e-01	0.00000e+00	0.00000e+00	1.21388e+00	2.01554e+00	0
95	162	257	2.89255e+00	5.59075e-01	3.81178e-03	1.36788e-01	1.08358e+00	1.84159e+00	0
95	163	258	3.55560e+00	7.95039e-01	1.62499e-02	1.67422e-01	1.25782e+00	2.07367e+00	0
95	164	259	2.80097e+00	5.54423e-01	1.19458e-01	2.70748e-01	1.26391e+00	2.07930e+00	0
95	165	260	3.29554e+00	7.68311e-01	1.63867e-01	2.57927e-01	1.31833e+00	2.15022e+00	0
95	166	261	2.55744e+00	5.15726e-01	3.29430e-01	3.07461e-01	1.21944e+00	2.02393e+00	0
95	167	262	3.22727e+00	7.58243e-01	2.82573e-01	2.55917e-01	1.22897e+00	2.03533e+00	0
95	168	263	2.58909e+00	5.10077e-01	4.14361e-01	3.44971e-01	1.29723e+00	2.12508e+00	0
95	169	264	2.78407e+00	6.39289e-01	4.92586e-01	3.35189e-01	1.23424e+00	2.01352e+00	0
95	170	265	2.35870e+00	5.00630e-01	5.45050e-01	3.74340e-01	1.23165e+00	2.01150e+00	0
95	171	266	2.69452e+00	6.35920e-01	5.22653e-01	3.46839e-01	1.32550e+00	2.16199e+00	0
95	172	267	2.67111e+00	5.99118e-01	4.87327e-01	4.70917e-01	1.32771e+00	2.15446e+00	0
95	173	268	2.96436e+00	6.75102e-01	5.38072e-01	4.80901e-01	1.41766e+00	2.28118e+00	0
95	174	269	2.58280e+00	6.16833e-01	6.40391e-01	4.82871e-01	1.36461e+00	2.18535e+00	0
95	175	270	2.96315e+00	6.69593e-01	6.03717e-01	4.94526e-01	1.50248e+00	2.39072e+00	0
95	176	271	2.69870e+00	6.47080e-01	6.81913e-01	5.10435e-01	1.38458e+00	2.20946e+00	0
95	177	272	2.92888e+00	6.88512e-01	6.85545e-01	5.05353e-01	1.51453e+00	2.41134e+00	0
95	178	273	2.71136e+00	7.15866e-01	7.56643e-01	5.04553e-01	1.53555e+00	2.44294e+00	0
95	179	274	2.29779e+00	5.18204e-01	1.13453e+00	4.86571e-01	1.67799e+00	2.62208e+00	0
95	180	275	2.51203e+00	6.87362e-01	1.09054e+00	5.04455e-01	1.69338e+00	2.65789e+00	0
95	181	276	2.22617e+00	4.57289e-01	1.38867e+00	5.28299e-01	1.81605e+00	2.81372e+00	0
95	182	277	2.09326e+00	5.27917e-01	1.25995e+00	4.97548e-01	1.89268e+00	2.89964e+00	0
95	183	278	2.28868e+00	5.05748e-01	1.39681e+00	5.23787e-01	1.89329e+00	2.91633e+00	0
95	184	279	2.06604e+00	5.13623e-01	1.35184e+00	4.96412e-01	2.02616e+00	3.05886e+00	0
95	185	280	2.23095e+00	6.39519e-01	1.60229e+00	5.14526e-01	2.33170e+00	3.47759e+00	0
95	186	281	1.90660e+00	4.53538e-01	1.99903e+00	4.97051e-01	2.17398e+00	3.27129e+00	0
95	187	282	2.21835e+00	5.33632e-01	2.07489e+00	4.99994e-01	2.33845e+00	3.47820e+00	0
95	188	283	2.08303e+00	4.53779e-01	2.30792e+00	4.78165e-01	2.14391e+00	3.23484e+00	0
95	189	284	1.91720e+00	4.30359e-01	2.15665e+00	4.42587e-01	2.48141e+00	3.64531e+00	0
95	190	285	2.06707e+00	4.25746e-01	1.93671e+00	4.21661e-01	2.51980e+00	3.69529e+00	0
95	191	286	2.16612e+00	4.47025e-01	2.16114e+00	4.33031e-01	2.54788e+00	3.73045e+00	0
95	192	287	2.07456e+00	4.05566e-01	2.06894e+00	4.17469e-01	2.60450e+00	3.82931e+00	0
95	193	288	2.04080e+00	4.10360e-01	2.33479e+00	4.32393e-01	2.63955e+00	3.85803e+00	0
95	194	289	2.08607e+00	4.04758e-01	2.27880e+00	4.26613e-01	2.69149e+00	3.91317e+00	0
95	195	290	2.02282e+00	4.03415e-01	2.51508e+00	4.34210e-01	2.81443e+00	4.09007e+00	0
95	196	291	2.15281e+00	4.06460e-01	2.58936e+00	4.34908e-01	2.69107e+00	3.92206e+00	0
95	197	292	1.94242e+00	3.83296e-01	2.84864e+00	4.38189e-01	2.83470e+00	4.10609e+00	0
95	198	293	2.20787e+00	4.32487e-01	2.74308e+00	4.40920e-01	2.84151e+00	4.11284e+00	0
95	199	294	1.92927e+00	3.78651e-01	3.14588e+00	4.45159e-01	2.96460e+00	4.28557e+00	0
95	200	295	2.06051e+00	4.16463e-01	3.08244e+00	4.39677e-01	2.98988e+00	4.31779e+00	0
95	201	296	2.02308e+00	4.00023e-01	3.55099e+00	4.56152e-01	3.04825e+00	4.39145e+00	0
95	202	297	1.93046e+00	3.59637e-01	3.49136e+00	4.40607e-01	3.05826e+00	4.37831e+00	0
95	203	298	2.06787e+00	3.92329e-01	3.77447e+00	4.50683e-01	3.21142e+00	4.59260e+00	0
95	204	299	1.90227e+00	3.16640e-01	3.86492e+00	4.35050e-01	3.27422e+00	4.65023e+00	0
95	205	300	1.91597e+00	3.30022e-01	4.33212e+00	4.45182e-01	3.32403e+00	4.73330e+00	0
95	206	301	2.11112e+00	3.19370e-01	4.42309e+00	4.34041e-01	3.26637e+00	4.64122e+00	0
95	207	302	1.99904e+00	3.00899e-01	4.90490e+00	4.36904e-01	3.32491e+00	4.73890e+00	0
95	208	303	2.32753e+00	3.15899e-01	4.77672e+00	4.30649e-01	3.36223e+00	4.77186e+00	0
95	209	304	2.20967e+00	2.95036e-01	5.36305e+00	4.38268e-01	3.41023e+00	4.80320e+00	0
95	210	305	2.06096e+00	2.61469e-01	5.37625e+00	4.31152e-01	3.50761e+00	4.96780e+00	0
95	211	306	2.06138e+00	2.66462e-01	5.80917e+00	4.42276e-01	3.70304e+00	5.20295e+00	0
95	212	307	2.03170e+00	2.68239e-01	6.10082e+00	4.44251e-01	3.67842e+00	5.17638e+00	0
95	213	308	1.99990e+00	2.75170e-01	6.85804e+00	4.57880e-01	3.71303e+00	5.21468e+00	0
95	214	309	2.04229e+00	2.83735e-01	6.96696e+00	4.56648e-01	3.82594e+00	5.34166e+00	0
95	215	310	2.04454e+00	2.95818e-01	7.62279e+00	4.66070e-01	3.93825e+00	5.46203e+00	0
95	216	311	2.02044e+00	2.85595e-01	7.92822e+00	4.62635e-01	3.94551e+00	5.51499e+00	0
95	217	312	2.14397e+00	3.35403e-01	8.57444e+00	4.72316e-01	4.03167e+00	5.61252e+00	0
95	218	313	2.19290e+00	3.27763e-01	8.21943e+00	4.66299e-01	4.25663e+00	5.90206e+00	0
95	219	314	2.71622e+00	4.73998e-01	8.73584e+00	4.79059e-01	4.34329e+00	5.96856e+00	0
95	220	315	2.55875e+00	4.60303e-01	8.67641e+00	4.77288e-01	4.41463e+00	6.09911e+00	0
Curium (Cm)									
96	153	249	2.91236e+00	7.87862e-02	0.00000e+00	0.00000e+00	2.08857e-01	5.08625e-01	1
96	155	251	2.13481e+00	1.65705e-01	0.00000e+00	0.00000e+00	3.39988e-01	7.48308e-01	1
96	156	252	2.10431e+00	1.17150e-01	0.00000e+00	0.00000e+00	1.20888e-01	3.28396e-01	0
96	157	253	2.08229e+00	2.59319e-01	0.00000e+00	0.00000e+00	5.39400e-01	1.08409e+00	0
96	158	254	2.30677e+00	1.57443e-01	0.00000e+00	0.00000e+00	2.33756e-01	5.35695e-01	0
96	159	255	2.54597e+00	3.92447e-01	0.00000e+00	0.00000e+00	5.66397e-01	1.10000e+00	0
96	160	256	2.61718e+00	2.01939e-01	0.00000e+00	0.00000e+00	2.97260e-01	6.76677e-01	0
96	161	257	2.80910e+00	4.38756e-01	0.00000e+00	0.00000e+00	6.28477e-01	1.18691e+00	0
96	162	258	2.79033e+00	2.30484e-01	0.00000e+00	0.00000e+00	4.76183e-01	9.61534e-01	0
96	163	259	3.41259e+00	5.39981e-01	0.00000e+00	0.00000e+00	6.79972e-01	1.27277e+00	0
96	164	260	3.19881e+00	3.34917e-01	0.00000e+00	0.00000e+00	6.46505e-01	1.22098e+00	0
96	165	261	3.34461e+00	5.30419e-01	0.00000e+00	0.00000e+00	9.76846e-01	1.68329e+00	0
96	166	262	3.34565e+00	3.75197e-01	0.00000e+00	0.00000e+00	7.36183e-01	1.37166e+00	0

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Table 1 (continued)

96	167	263	3.66772e+00	5.62599e-01	0.00000e+00	0.00000e+00	9.15362e-01	1.62783e+00	0
96	168	264	3.60612e+00	4.28057e-01	2.57345e-04	3.49837e-02	8.24069e-01	1.49383e+00	0
96	169	265	4.02372e+00	6.75998e-01	7.56707e-03	1.07260e-01	8.39416e-01	1.51127e+00	0
96	170	266	3.70661e+00	4.77316e-01	5.93602e-03	1.16154e-01	7.84703e-01	1.43695e+00	0
96	171	267	3.97110e+00	7.01127e-01	1.37054e-02	1.07432e-01	9.02312e-01	1.59751e+00	0
96	172	268	3.74726e+00	5.22407e-01	3.14449e-02	1.36248e-01	8.90681e-01	1.58819e+00	0
96	173	269	3.61058e+00	6.86096e-01	1.16145e-01	1.61044e-01	1.03768e+00	1.78319e+00	0
96	174	270	3.48751e+00	4.99980e-01	1.44336e-01	2.03139e-01	1.04754e+00	1.80434e+00	0
96	175	271	2.77026e+00	5.16176e-01	3.04376e-01	2.07177e-01	1.32823e+00	2.16749e+00	0
96	176	272	2.63126e+00	3.51635e-01	3.82849e-01	2.40701e-01	1.11107e+00	1.87064e+00	0
96	177	273	2.88823e+00	4.96898e-01	3.83787e-01	2.34432e-01	1.32836e+00	2.15663e+00	0
96	178	274	2.55096e+00	3.17396e-01	5.08965e-01	2.81591e-01	1.29245e+00	2.10474e+00	0
96	179	275	2.89323e+00	3.66025e-01	7.29734e-01	3.98312e-01	1.32989e+00	2.17382e+00	0
96	180	276	2.82085e+00	3.88271e-01	7.61456e-01	4.55835e-01	1.27128e+00	2.09165e+00	0
96	181	277	3.11924e+00	4.08373e-01	8.75527e-01	4.66696e-01	1.23186e+00	2.03890e+00	0
96	182	278	2.78611e+00	4.14236e-01	8.52717e-01	4.62005e-01	1.25640e+00	2.06577e+00	0
96	183	279	3.18969e+00	4.40432e-01	9.00417e-01	4.77632e-01	1.25449e+00	2.08770e+00	0
96	184	280	2.93648e+00	4.47553e-01	8.58341e-01	4.71324e-01	1.39113e+00	2.24756e+00	0
96	185	281	2.21165e+00	4.02811e-01	1.21780e+00	4.36720e-01	1.88258e+00	2.91261e+00	0
96	186	282	2.37718e+00	4.12802e-01	1.31588e+00	4.14386e-01	1.67972e+00	2.65269e+00	0
96	187	283	2.71020e+00	4.82812e-01	1.24368e+00	4.78053e-01	2.12102e+00	3.20947e+00	0
96	188	284	2.48415e+00	2.96099e-01	1.41039e+00	3.95848e-01	1.78633e+00	2.75587e+00	0
96	189	285	2.40710e+00	3.91792e-01	1.56067e+00	4.03853e-01	1.91605e+00	2.96280e+00	0
96	190	286	2.61795e+00	3.55072e-01	1.14787e+00	3.50318e-01	2.22259e+00	3.34991e+00	0
96	191	287	2.60986e+00	3.52818e-01	1.39290e+00	3.85245e-01	2.28546e+00	3.41478e+00	0
96	192	288	2.60673e+00	3.56403e-01	1.24169e+00	3.60146e-01	2.34266e+00	3.51665e+00	0
96	193	289	2.65193e+00	3.85780e-01	1.75377e+00	4.17329e-01	2.20596e+00	3.34338e+00	0
96	194	290	2.76697e+00	3.76554e-01	1.50350e+00	3.89085e-01	2.27102e+00	3.42706e+00	0
96	195	291	2.65130e+00	4.24115e-01	1.71719e+00	4.22551e-01	2.44546e+00	3.63180e+00	0
96	196	292	2.61006e+00	3.52401e-01	1.65379e+00	3.93319e-01	2.39571e+00	3.57120e+00	0
96	197	293	2.69643e+00	4.14580e-01	1.99154e+00	4.32397e-01	2.46262e+00	3.67149e+00	0
96	198	294	2.43782e+00	3.02747e-01	1.92001e+00	3.97557e-01	2.54671e+00	3.77922e+00	0
96	199	295	2.51818e+00	3.61217e-01	2.19723e+00	4.27457e-01	2.68045e+00	3.94152e+00	0
96	200	296	2.36288e+00	2.87493e-01	2.18728e+00	4.07083e-01	2.71158e+00	3.98905e+00	0
96	201	297	2.31891e+00	3.18090e-01	2.54546e+00	4.31116e-01	2.75624e+00	4.03806e+00	0
96	202	298	2.41537e+00	2.94826e-01	2.40734e+00	4.20933e-01	2.79285e+00	4.09243e+00	0
96	203	299	2.23514e+00	2.88426e-01	2.77291e+00	4.12340e-01	2.92141e+00	4.25518e+00	0
96	204	300	2.42862e+00	3.07651e-01	2.67104e+00	4.00211e-01	2.97869e+00	4.30147e+00	0
96	205	301	2.25814e+00	2.79172e-01	3.26908e+00	4.05357e-01	3.02428e+00	4.38583e+00	0
96	206	302	2.61952e+00	2.96708e-01	3.02800e+00	3.93450e-01	3.07799e+00	4.45389e+00	0
96	207	303	2.53306e+00	2.87516e-01	3.60828e+00	4.05523e-01	3.10566e+00	4.48883e+00	0
96	208	304	2.31966e+00	2.32700e-01	3.48821e+00	3.90588e-01	3.15342e+00	4.53196e+00	0
96	209	305	2.33968e+00	2.52259e-01	4.01811e+00	4.06004e-01	3.20226e+00	4.61058e+00	0
96	210	306	2.24239e+00	2.19461e-01	3.89714e+00	3.94629e-01	3.28911e+00	4.72046e+00	0
96	211	307	2.21563e+00	2.25594e-01	4.36029e+00	4.09992e-01	3.47590e+00	4.95489e+00	0
96	212	308	2.25409e+00	2.38869e-01	4.48972e+00	4.08752e-01	3.43791e+00	4.90771e+00	0
96	213	309	2.16490e+00	2.32693e-01	5.26711e+00	4.22339e-01	3.49220e+00	4.95284e+00	0
96	214	310	2.07061e+00	2.20131e-01	5.21354e+00	4.15101e-01	3.58547e+00	5.07795e+00	0
96	215	311	2.05693e+00	2.22463e-01	5.83901e+00	4.27402e-01	3.72514e+00	5.26878e+00	0
96	216	312	2.04672e+00	2.16433e-01	5.96926e+00	4.20823e-01	3.70819e+00	5.22338e+00	0
96	217	313	1.99682e+00	2.19816e-01	6.64872e+00	4.30968e-01	3.81329e+00	5.34090e+00	0
96	218	314	1.93473e+00	2.04155e-01	6.59555e+00	4.21693e-01	3.85827e+00	5.42290e+00	0
96	219	315	1.96124e+00	2.25973e-01	7.37557e+00	4.33637e-01	3.94873e+00	5.55006e+00	0
96	220	316	1.90118e+00	2.21302e-01	7.32126e+00	4.26668e-01	4.02016e+00	5.63985e+00	0
96	221	317	2.05129e+00	3.02478e-01	8.26426e+00	4.45563e-01	4.07306e+00	5.66557e+00	0
96	222	318	2.11621e+00	2.99753e-01	8.25568e+00	4.49825e-01	4.18518e+00	5.80987e+00	0
Berkelium (Bk)									
97	151	248	1.70793e+00	1.73345e-01	0.00000e+00	0.00000e+00	1.83604e-01	4.60255e-01	1
97	152	249	0.00000e+00	0.00000e+00	0.00000e+00	0.00000e+00	1.63621e-02	9.72855e-02	1
97	153	250	2.00338e+00	9.00521e-02	0.00000e+00	0.00000e+00	5.50732e-01	1.08114e+00	1
97	154	251	2.22904e+00	1.52218e-01	0.00000e+00	0.00000e+00	2.40282e-01	5.45475e-01	1
97	155	252	2.33938e+00	5.43038e-01	0.00000e+00	0.00000e+00	4.67570e-01	9.29455e-01	0
97	156	253	2.27528e+00	1.67732e-01	0.00000e+00	0.00000e+00	4.01127e-01	8.76452e-01	0
97	157	254	2.14835e+00	4.47411e-01	0.00000e+00	0.00000e+00	7.72828e-01	1.42130e+00	0
97	158	255	2.32266e+00	1.92674e-01	0.00000e+00	0.00000e+00	5.70191e-01	1.14072e+00	0
97	159	256	2.46690e+00	5.59186e-01	0.00000e+00	0.00000e+00	8.51189e-01	1.52853e+00	0
97	160	257	2.19033e+00	3.42938e-01	0.00000e+00	0.00000e+00	6.82570e-01	1.26555e+00	0
97	161	258	2.87817e+00	6.70593e-01	0.00000e+00	0.00000e+00	8.53561e-01	1.52597e+00	0
97	162	259	2.62984e+00	5.12813e-01	0.00000e+00	0.00000e+00	6.86496e-01	1.26437e+00	0
97	163	260	3.22193e+00	7.43625e-01	0.00000e+00	0.00000e+00	9.71592e-01	1.68948e+00	0
97	164	261	3.09280e+00	5.74636e-01	8.36568e-04	9.26359e-02	8.92957e-01	1.54583e+00	0
97	165	262	3.51453e+00	7.90245e-01	7.12129e-03	1.45713e-01	1.10256e+00	1.88406e+00	0
97	166	263	3.00377e+00	5.90399e-01	5.95008e-02	1.85685e-01	9.65752e-01	1.68078e+00	0
97	167	264	3.81262e+00	8.47374e-01	1.92291e-02	1.51861e-01	9.28266e-01	1.62763e+00	0
97	168	265	3.23757e+00	6.08115e-01	1.13277e-01	2.40694e-01	9.82957e-01	1.71249e+00	0
97	169	266	3.28805e+00	7.57140e-01	2.09152e-01	2.37358e-01	1.06803e+00	1.79082e+00	0
97	170	267	2.75552e+00	5.46045e-01	3.00779e-01	2.96653e-01	1.00214e+00	1.73136e+00	0

(continued on next page)

Table 1 (continued)

97	171	268	3.07946e+00	7.38648e-01	2.81432e-01	2.52801e-01	1.10268e+00	1.83636e+00	0
97	172	269	2.63537e+00	5.32147e-01	4.15762e-01	3.47125e-01	1.09179e+00	1.82844e+00	0
97	173	270	2.82268e+00	6.74720e-01	3.75650e-01	2.81403e-01	1.32020e+00	2.16766e+00	0
97	174	271	2.28722e+00	4.71440e-01	5.26371e-01	3.52233e-01	1.30381e+00	2.15412e+00	0
97	175	272	2.58760e+00	5.62019e-01	5.77540e-01	3.45974e-01	1.38601e+00	2.24216e+00	0
97	176	273	2.61060e+00	6.04713e-01	4.13584e-01	4.16135e-01	1.39868e+00	2.25491e+00	0
97	177	274	3.06853e+00	7.37706e-01	3.61207e-01	4.43363e-01	1.53827e+00	2.45229e+00	0
97	178	275	2.74065e+00	6.46642e-01	4.80211e-01	4.48121e-01	1.49412e+00	2.39287e+00	0
97	179	276	2.96518e+00	6.89872e-01	6.72584e-01	4.42275e-01	1.55242e+00	2.46305e+00	0
97	180	277	2.63043e+00	6.94428e-01	7.58886e-01	4.40377e-01	1.58838e+00	2.51284e+00	0
97	181	278	2.30453e+00	4.39991e-01	1.08989e+00	4.41144e-01	1.60209e+00	2.56271e+00	0
97	182	279	2.33640e+00	5.42730e-01	9.75071e-01	4.49505e-01	1.71220e+00	2.67127e+00	0
97	183	280	2.35737e+00	4.43497e-01	1.10963e+00	4.51893e-01	1.73398e+00	2.73625e+00	0
97	184	281	2.22792e+00	5.58658e-01	1.05826e+00	4.43672e-01	1.82387e+00	2.84300e+00	0
97	185	282	2.38908e+00	5.95851e-01	1.27817e+00	4.58085e-01	2.05191e+00	3.13318e+00	0
97	186	283	2.22734e+00	6.15514e-01	1.41513e+00	4.46242e-01	1.96565e+00	3.03707e+00	0
97	187	284	2.29295e+00	5.51968e-01	1.56859e+00	4.56713e-01	2.19303e+00	3.31289e+00	0
97	188	285	1.89191e+00	4.06554e-01	1.74782e+00	4.09761e-01	1.99706e+00	3.06139e+00	0
97	189	286	2.48846e+00	5.27073e-01	1.84751e+00	4.39253e-01	1.91786e+00	2.97834e+00	0
97	190	287	2.20199e+00	4.64821e-01	1.65867e+00	3.96289e-01	1.99206e+00	3.08306e+00	0
97	191	288	2.30118e+00	5.11772e-01	1.86329e+00	4.29888e-01	2.02660e+00	3.12721e+00	0
97	192	289	2.17426e+00	4.80848e-01	1.67225e+00	4.01322e-01	2.07895e+00	3.16631e+00	0
97	193	290	2.43473e+00	5.43290e-01	1.92689e+00	4.38170e-01	2.13176e+00	3.26437e+00	0
97	194	291	2.10636e+00	4.53817e-01	1.82127e+00	4.06965e-01	2.19775e+00	3.35008e+00	0
97	195	292	2.41806e+00	5.26080e-01	1.96253e+00	4.34827e-01	2.34903e+00	3.54349e+00	0
97	196	293	2.00361e+00	3.93797e-01	2.09476e+00	4.13135e-01	2.31163e+00	3.48050e+00	0
97	197	294	2.24950e+00	4.73633e-01	2.21390e+00	4.35107e-01	2.44368e+00	3.66662e+00	0
97	198	295	1.98740e+00	3.83324e-01	2.29378e+00	4.24701e-01	2.47398e+00	3.70642e+00	0
97	199	296	2.18060e+00	4.54513e-01	2.42700e+00	4.43103e-01	2.58720e+00	3.85176e+00	0
97	200	297	2.10810e+00	4.08589e-01	2.50326e+00	4.43513e-01	2.61499e+00	3.88686e+00	0
97	201	298	1.97107e+00	3.87915e-01	2.78638e+00	4.46724e-01	2.66430e+00	3.94564e+00	0
97	202	299	2.15698e+00	4.21979e-01	2.61300e+00	4.48646e-01	2.74647e+00	4.05515e+00	0
97	203	300	1.91633e+00	3.61723e-01	3.04770e+00	4.42826e-01	2.82259e+00	4.13985e+00	0
97	204	301	2.23308e+00	4.15578e-01	2.96187e+00	4.36158e-01	2.86151e+00	4.17640e+00	0
97	205	302	2.11945e+00	3.62046e-01	3.50382e+00	4.43027e-01	2.84626e+00	4.17035e+00	0
97	206	303	2.47371e+00	3.17396e-01	3.43166e+00	4.19274e-01	2.95425e+00	4.32152e+00	0
97	207	304	2.52005e+00	3.40616e-01	3.90092e+00	4.32219e-01	2.98186e+00	4.34383e+00	0
97	208	305	2.24522e+00	2.68710e-01	3.94819e+00	4.18265e-01	3.04581e+00	4.41250e+00	0
97	209	306	2.25330e+00	2.83748e-01	4.36048e+00	4.30811e-01	3.05826e+00	4.45397e+00	0
97	210	307	2.27814e+00	2.79771e-01	4.29534e+00	4.28458e-01	3.16439e+00	4.57476e+00	0
97	211	308	2.16885e+00	2.63183e-01	4.71793e+00	4.35526e-01	3.31004e+00	4.74987e+00	0
97	212	309	2.22216e+00	2.89563e-01	4.81685e+00	4.39236e-01	3.29096e+00	4.74950e+00	0
97	213	310	2.21614e+00	2.85848e-01	5.47564e+00	4.52139e-01	3.32669e+00	4.77060e+00	0
97	214	311	2.05620e+00	2.58115e-01	5.52943e+00	4.44837e-01	3.43064e+00	4.91337e+00	0
97	215	312	2.03260e+00	2.64861e-01	5.99957e+00	4.56147e-01	3.54984e+00	5.07734e+00	0
97	216	313	1.99656e+00	2.62221e-01	6.15801e+00	4.51928e-01	3.55611e+00	5.08313e+00	0
97	217	314	1.98587e+00	2.57995e-01	6.69348e+00	4.61040e-01	3.63476e+00	5.14088e+00	0
97	218	315	1.90247e+00	2.52980e-01	6.73596e+00	4.54917e-01	3.69193e+00	5.21759e+00	0
97	219	316	1.93807e+00	2.64323e-01	7.31234e+00	4.65496e-01	3.78088e+00	5.34290e+00	0
97	220	317	1.86695e+00	2.56489e-01	7.37832e+00	4.62102e-01	3.85600e+00	5.42403e+00	0
97	221	318	1.92361e+00	2.95245e-01	8.19198e+00	4.80180e-01	3.95499e+00	5.56210e+00	0
97	222	319	1.95764e+00	2.94496e-01	8.17483e+00	4.83093e-01	4.08518e+00	5.73010e+00	0
97	223	320	2.40818e+00	4.19663e-01	8.58865e+00	5.04155e-01	4.25480e+00	5.95883e+00	0
97	224	321	2.28572e+00	4.16902e-01	8.89648e+00	5.15864e-01	4.23633e+00	5.90486e+00	0
Californium (Cf)									
98	155	253	1.62399e+00	8.89420e-02	0.00000e+00	0.00000e+00	4.57023e-02	1.77542e-01	1
98	157	255	1.94080e+00	1.51380e-01	0.00000e+00	0.00000e+00	1.53358e-01	4.04056e-01	0
98	159	257	1.84433e+00	1.91474e-01	0.00000e+00	0.00000e+00	2.84923e-01	6.77236e-01	0
98	160	258	1.53824e+00	6.41611e-02	0.00000e+00	0.00000e+00	2.94037e-02	1.37916e-01	0
98	161	259	2.07014e+00	2.03727e-01	0.00000e+00	0.00000e+00	4.82323e-01	1.00886e+00	0
98	162	260	2.39569e+00	1.64509e-01	0.00000e+00	0.00000e+00	1.40525e-01	3.85178e-01	0
98	163	261	2.67763e+00	3.65917e-01	0.00000e+00	0.00000e+00	5.78715e-01	1.11216e+00	0
98	164	262	2.88531e+00	2.59000e-01	0.00000e+00	0.00000e+00	3.49631e-01	7.67513e-01	0
98	165	263	2.79798e+00	4.11557e-01	0.00000e+00	0.00000e+00	7.95163e-01	1.46190e+00	0
98	166	264	2.92285e+00	2.86896e-01	0.00000e+00	0.00000e+00	5.03511e-01	9.91111e-01	0
98	167	265	3.22778e+00	4.60165e-01	0.00000e+00	0.00000e+00	7.41521e-01	1.38448e+00	0
98	168	266	3.20014e+00	3.23274e-01	0.00000e+00	0.00000e+00	5.79971e-01	1.15017e+00	0
98	169	267	3.59211e+00	5.73121e-01	0.00000e+00	0.00000e+00	7.75546e-01	1.38610e+00	0
98	170	268	3.28261e+00	3.54098e-01	0.00000e+00	0.00000e+00	6.11952e-01	1.16724e+00	0
98	171	269	3.56309e+00	5.94884e-01	0.00000e+00	0.00000e+00	7.53219e-01	1.34753e+00	0
98	172	270	3.41165e+00	4.01124e-01	0.00000e+00	0.00000e+00	7.09782e-01	1.33283e+00	0
98	173	271	3.59548e+00	6.37358e-01	0.00000e+00	0.00000e+00	8.86542e-01	1.54088e+00	0
98	174	272	3.58457e+00	4.45033e-01	1.47795e-03	6.41711e-02	8.58286e-01	1.55244e+00	0
98	175	273	3.87844e+00	7.12038e-01	2.97998e-02	1.24348e-01	9.34325e-01	1.66046e+00	0
98	176	274	3.04376e+00	4.08925e-01	6.09806e-02	1.26875e-01	1.06269e+00	1.82720e+00	0
98	177	275	2.95488e+00	5.14583e-01	9.64374e-02	1.46538e-01	1.35588e+00	2.22410e+00	0
98	178	276	2.98232e+00	3.86469e-01	1.17169e-01	1.55025e-01	1.21882e+00	2.04402e+00	0

(continued on next page)

Table 1 (continued)

98	179	277	2.73561e+00	4.29675e-01	4.53457e-01	2.57353e-01	1.26841e+00	2.10199e+00	0
98	180	278	2.73454e+00	3.09192e-01	5.00527e-01	3.60430e-01	1.20462e+00	2.01951e+00	0
98	181	279	2.96317e+00	3.93482e-01	6.81784e-01	3.80713e-01	1.08023e+00	1.84351e+00	0
98	182	280	2.76293e+00	3.48922e-01	6.21322e-01	4.02865e-01	1.10570e+00	1.88221e+00	0
98	183	281	3.12106e+00	4.26144e-01	6.82220e-01	4.19193e-01	1.12049e+00	1.89790e+00	0
98	184	282	2.87936e+00	3.77409e-01	6.96940e-01	4.23130e-01	1.20566e+00	2.03389e+00	0
98	185	283	2.82056e+00	4.81139e-01	6.66405e-01	4.27483e-01	1.82109e+00	2.84594e+00	0
98	186	284	2.93319e+00	4.96916e-01	7.62407e-01	4.23792e-01	1.56576e+00	2.50196e+00	0
98	187	285	2.73686e+00	4.13681e-01	7.22113e-01	4.17885e-01	2.15987e+00	3.26647e+00	0
98	188	286	2.79809e+00	3.88240e-01	8.83401e-01	3.67246e-01	1.70782e+00	2.70159e+00	0
98	189	287	2.93249e+00	3.88998e-01	1.09299e+00	3.94614e-01	1.71053e+00	2.72281e+00	0
98	190	288	2.94893e+00	4.28128e-01	9.52029e-01	3.76676e-01	1.66309e+00	2.64068e+00	0
98	191	289	2.70855e+00	3.53049e-01	1.22489e+00	3.75451e-01	1.73854e+00	2.73520e+00	0
98	192	290	3.04674e+00	4.68453e-01	9.56734e-01	3.93613e-01	1.80996e+00	2.86168e+00	0
98	193	291	2.62540e+00	3.49072e-01	1.37961e+00	3.91317e-01	1.84765e+00	2.87967e+00	0
98	194	292	2.97572e+00	4.67850e-01	1.09012e+00	3.94015e-01	1.93021e+00	3.01976e+00	0
98	195	293	2.57026e+00	3.77921e-01	1.40506e+00	4.08667e-01	2.13563e+00	3.28544e+00	0
98	196	294	2.76694e+00	4.30979e-01	1.24939e+00	3.88835e-01	2.03808e+00	3.16095e+00	0
98	197	295	2.57279e+00	3.76048e-01	1.56929e+00	4.18368e-01	2.19454e+00	3.34882e+00	0
98	198	296	2.72897e+00	3.88059e-01	1.40581e+00	3.96211e-01	2.19427e+00	3.36482e+00	0
98	199	297	2.61465e+00	4.03488e-01	1.71533e+00	4.34434e-01	2.31361e+00	3.51470e+00	0
98	200	298	2.61025e+00	3.44867e-01	1.57211e+00	4.07974e-01	2.33412e+00	3.54685e+00	0
98	201	299	2.58771e+00	4.15409e-01	1.83109e+00	4.41000e-01	2.37276e+00	3.59063e+00	0
98	202	300	2.61785e+00	3.44422e-01	1.68067e+00	4.16211e-01	2.45748e+00	3.70673e+00	0
98	203	301	2.59701e+00	4.05522e-01	2.07338e+00	4.13746e-01	2.55787e+00	3.81854e+00	0
98	204	302	2.53791e+00	2.73949e-01	2.17135e+00	3.81013e-01	2.63021e+00	3.92986e+00	0
98	205	303	2.67062e+00	3.02182e-01	2.58949e+00	3.96165e-01	2.59640e+00	3.85847e+00	0
98	206	304	2.68832e+00	2.81829e-01	2.49488e+00	3.90432e-01	2.69847e+00	4.01802e+00	0
98	207	305	2.45928e+00	2.47947e-01	2.97850e+00	3.93386e-01	2.74573e+00	4.05138e+00	0
98	208	306	2.63092e+00	2.83468e-01	2.72567e+00	3.97256e-01	2.82340e+00	4.17898e+00	0
98	209	307	2.44086e+00	2.52761e-01	3.29871e+00	4.06509e-01	2.82683e+00	4.17575e+00	0
98	210	308	2.48941e+00	2.68546e-01	3.06697e+00	4.01843e-01	2.91630e+00	4.29792e+00	0
98	211	309	2.50314e+00	2.70259e-01	3.50011e+00	4.18295e-01	3.06961e+00	4.48728e+00	0
98	212	310	2.21661e+00	2.23723e-01	3.54402e+00	4.07005e-01	3.05113e+00	4.44388e+00	0
98	213	311	2.29428e+00	2.46620e-01	4.10737e+00	4.26404e-01	3.09493e+00	4.50082e+00	0
98	214	312	2.18373e+00	2.19892e-01	4.01405e+00	4.19570e-01	3.19432e+00	4.65387e+00	0
98	215	313	2.15383e+00	2.21509e-01	4.54261e+00	4.31531e-01	3.27879e+00	4.74656e+00	0
98	216	314	2.21772e+00	2.28829e-01	4.40493e+00	4.29554e-01	3.32671e+00	4.82308e+00	0
98	217	315	2.11173e+00	2.19862e-01	4.89674e+00	4.39710e-01	3.43571e+00	4.95757e+00	0
98	218	316	2.06338e+00	2.04598e-01	4.77904e+00	4.32319e-01	3.45027e+00	4.98062e+00	0
98	219	317	2.01174e+00	2.08494e-01	5.32511e+00	4.45225e-01	3.56918e+00	5.10910e+00	0
98	220	318	1.91368e+00	1.91207e-01	5.22796e+00	4.40683e-01	3.62857e+00	5.20795e+00	0
98	221	319	1.90991e+00	1.98340e-01	6.02036e+00	4.57509e-01	3.69007e+00	5.28371e+00	0
98	222	320	1.93908e+00	1.98801e-01	6.02925e+00	4.60223e-01	3.82791e+00	5.43898e+00	0
98	223	321	1.86176e+00	2.07920e-01	6.70539e+00	4.79252e-01	3.98582e+00	5.65732e+00	0
98	224	322	1.86590e+00	2.09753e-01	7.15287e+00	4.78152e-01	3.94515e+00	5.61163e+00	0
98	225	323	1.94278e+00	2.56045e-01	8.12956e+00	4.96986e-01	4.02801e+00	5.70988e+00	0
98	226	324	2.00025e+00	2.59183e-01	8.21954e+00	4.95289e-01	4.05108e+00	5.72382e+00	0
98	227	325	2.48084e+00	4.07984e-01	8.77668e+00	5.18483e-01	4.16734e+00	5.88539e+00	0
Einsteinium (Es)									
99	153	252	1.23454e+00	1.41655e-01	0.00000e+00	0.00000e+00	8.24760e-02	2.54992e-01	1
99	155	254	1.40378e+00	1.95036e-01	0.00000e+00	0.00000e+00	2.41904e-01	5.64621e-01	1
99	156	255	1.52796e+00	9.46435e-02	0.00000e+00	0.00000e+00	4.56363e-02	1.77466e-01	1
99	157	256	2.11460e+00	3.06043e-01	0.00000e+00	0.00000e+00	3.90282e-01	8.26893e-01	0
99	158	257	1.72160e+00	1.24457e-01	0.00000e+00	0.00000e+00	1.69374e-01	4.42700e-01	0
99	159	258	2.36487e+00	4.79232e-01	0.00000e+00	0.00000e+00	4.06666e-01	8.70870e-01	0
99	160	259	1.58235e+00	1.69832e-01	0.00000e+00	0.00000e+00	3.30093e-01	7.65017e-01	0
99	161	260	2.47170e+00	5.50040e-01	0.00000e+00	0.00000e+00	5.43467e-01	1.10444e+00	0
99	162	261	1.76837e+00	2.10573e-01	0.00000e+00	0.00000e+00	5.55421e-01	1.12385e+00	0
99	163	262	2.75623e+00	6.46555e-01	0.00000e+00	0.00000e+00	7.13736e-01	1.36019e+00	0
99	164	263	2.38378e+00	3.96509e-01	0.00000e+00	0.00000e+00	7.29815e-01	1.37130e+00	0
99	165	264	3.02376e+00	7.33957e-01	0.00000e+00	0.00000e+00	8.42860e-01	1.54303e+00	0
99	166	265	2.68082e+00	4.95943e-01	0.00000e+00	0.00000e+00	8.01046e-01	1.48106e+00	0
99	167	266	3.37935e+00	7.70508e-01	0.00000e+00	0.00000e+00	7.91360e-01	1.46031e+00	0
99	168	267	3.06683e+00	5.15743e-01	0.00000e+00	0.00000e+00	8.01699e-01	1.47785e+00	0
99	169	268	3.61506e+00	7.93784e-01	8.75370e-04	7.86840e-02	9.67976e-01	1.71085e+00	0
99	170	269	3.21147e+00	5.97432e-01	1.69057e-02	1.48378e-01	8.21318e-01	1.50598e+00	0
99	171	270	3.73216e+00	8.17971e-01	4.95918e-03	9.71637e-02	9.23984e-01	1.63468e+00	0
99	172	271	3.34772e+00	6.18247e-01	3.20208e-02	1.56885e-01	9.37348e-01	1.66697e+00	0
99	173	272	3.44697e+00	8.13367e-01	3.95480e-02	1.50688e-01	1.16100e+00	1.95504e+00	0
99	174	273	2.89629e+00	6.14327e-01	1.53660e-01	2.22341e-01	1.09283e+00	1.88078e+00	0
99	175	274	3.18187e+00	7.75533e-01	2.03390e-01	2.21641e-01	1.23103e+00	2.06713e+00	0
99	176	275	2.70216e+00	5.98008e-01	2.81612e-01	2.44011e-01	1.21571e+00	2.03640e+00	0
99	177	276	2.91673e+00	7.60112e-01	2.90053e-01	2.18376e-01	1.25350e+00	2.11481e+00	0
99	178	277	2.60816e+00	5.89749e-01	3.67053e-01	2.70343e-01	1.25238e+00	2.11406e+00	0
99	179	278	2.59302e+00	5.67166e-01	6.11271e-01	2.99877e-01	1.36929e+00	2.26719e+00	0
99	180	279	2.42703e+00	5.73951e-01	4.37010e-01	3.59554e-01	1.68183e+00	2.67527e+00	0

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Table 1 (continued)

99	181	280	2.63054e+00	6.72511e-01	5.30866e-01	3.71477e-01	1.72300e+00	2.69731e+00	0
99	182	281	2.22044e+00	4.45503e-01	8.23018e-01	4.08537e-01	1.49243e+00	2.44772e+00	0
99	183	282	2.41437e+00	4.17065e-01	8.71599e-01	3.74235e-01	1.52308e+00	2.48763e+00	0
99	184	283	2.36015e+00	5.03320e-01	8.48061e-01	4.34770e-01	1.61721e+00	2.60591e+00	0
99	185	284	2.79846e+00	6.00991e-01	8.74044e-01	4.47492e-01	1.87173e+00	2.94669e+00	0
99	186	285	2.66264e+00	6.85830e-01	9.81449e-01	4.47894e-01	1.79387e+00	2.84548e+00	0
99	187	286	2.17987e+00	5.17687e-01	1.21824e+00	4.42263e-01	2.00346e+00	3.11794e+00	0
99	188	287	2.32288e+00	5.68735e-01	1.12219e+00	3.87382e-01	1.87816e+00	2.91372e+00	0
99	189	288	2.02479e+00	4.55438e-01	1.66118e+00	4.25863e-01	1.58199e+00	2.53568e+00	0
99	190	289	2.39441e+00	5.88871e-01	1.26173e+00	3.99198e-01	1.58795e+00	2.54820e+00	0
99	191	290	2.08306e+00	4.44223e-01	1.57595e+00	4.24883e-01	1.64781e+00	2.62419e+00	0
99	192	291	2.66348e+00	6.44474e-01	1.19570e+00	4.11297e-01	1.71881e+00	2.71199e+00	0
99	193	292	2.08731e+00	4.72171e-01	1.68103e+00	4.37526e-01	1.76111e+00	2.80668e+00	0
99	194	293	2.34150e+00	5.76245e-01	1.42577e+00	4.11771e-01	1.83625e+00	2.91099e+00	0
99	195	294	2.32740e+00	5.31402e-01	1.64443e+00	4.45045e-01	2.05728e+00	3.19888e+00	0
99	196	295	2.21059e+00	4.99692e-01	1.60799e+00	4.22551e-01	1.93982e+00	3.03184e+00	0
99	197	296	2.39122e+00	5.47151e-01	1.79957e+00	4.54419e-01	2.06443e+00	3.21045e+00	0
99	198	297	2.06741e+00	4.61176e-01	1.77284e+00	4.25604e-01	2.08947e+00	3.21552e+00	0
99	199	298	2.28550e+00	5.46163e-01	1.90689e+00	4.56014e-01	2.22662e+00	3.42492e+00	0
99	200	299	1.97778e+00	4.28346e-01	1.94075e+00	4.28839e-01	2.18710e+00	3.37312e+00	0
99	201	300	2.29542e+00	5.33083e-01	2.06707e+00	4.57116e-01	2.28594e+00	3.50291e+00	0
99	202	301	1.97849e+00	4.07845e-01	2.08686e+00	4.36814e-01	2.39748e+00	3.64892e+00	0
99	203	302	2.34718e+00	4.78084e-01	2.31401e+00	4.48421e-01	2.46189e+00	3.70790e+00	0
99	204	303	2.35087e+00	3.48780e-01	2.48802e+00	4.31279e-01	2.56654e+00	3.84219e+00	0
99	205	304	2.45697e+00	3.31206e-01	2.84213e+00	4.32302e-01	2.55984e+00	3.86110e+00	0
99	206	305	2.81339e+00	3.74255e-01	2.79881e+00	4.35942e-01	2.59145e+00	3.90201e+00	0
99	207	306	2.44589e+00	2.97899e-01	3.29639e+00	4.33690e-01	2.65501e+00	3.98503e+00	0
99	208	307	2.53793e+00	3.28833e-01	3.16241e+00	4.35321e-01	2.71341e+00	4.04331e+00	0
99	209	308	2.54187e+00	3.30045e-01	3.61040e+00	4.48548e-01	2.73016e+00	4.06924e+00	0
99	210	309	2.34415e+00	2.94427e-01	3.54393e+00	4.38933e-01	2.79159e+00	4.16162e+00	0
99	211	310	2.45186e+00	3.27327e-01	3.79261e+00	4.53690e-01	2.94040e+00	4.35004e+00	0
99	212	311	2.21608e+00	2.68014e-01	3.96382e+00	4.48290e-01	2.92225e+00	4.33050e+00	0
99	213	312	2.21603e+00	2.83697e-01	4.37161e+00	4.61100e-01	2.95380e+00	4.37132e+00	0
99	214	313	2.29577e+00	2.90081e-01	4.27535e+00	4.62622e-01	3.07531e+00	4.52792e+00	0
99	215	314	2.10777e+00	2.66458e-01	4.71939e+00	4.66625e-01	3.14411e+00	4.60316e+00	0
99	216	315	2.23283e+00	2.89289e-01	4.57771e+00	4.69786e-01	3.19849e+00	4.68275e+00	0
99	217	316	2.11864e+00	2.67039e-01	4.99981e+00	4.77043e-01	3.30636e+00	4.82119e+00	0
99	218	317	2.07918e+00	2.63156e-01	4.91490e+00	4.73385e-01	3.33754e+00	4.84267e+00	0
99	219	318	2.07369e+00	2.61917e-01	5.33990e+00	4.85923e-01	3.45443e+00	5.01044e+00	0
99	220	319	1.93835e+00	2.43208e-01	5.40370e+00	4.83409e-01	3.47198e+00	5.01623e+00	0
99	221	320	1.96107e+00	2.53092e-01	5.96822e+00	5.00123e-01	3.54720e+00	5.13533e+00	0
99	222	321	1.92835e+00	2.48309e-01	6.13471e+00	5.05139e-01	3.68282e+00	5.30915e+00	0
99	223	322	1.92716e+00	2.46047e-01	6.59837e+00	5.16516e-01	3.90572e+00	5.55075e+00	0
99	224	323	1.88799e+00	2.51118e-01	7.01618e+00	5.22021e-01	3.86707e+00	5.53857e+00	0
99	225	324	1.91976e+00	2.68176e-01	7.85447e+00	5.39100e-01	3.85966e+00	5.52664e+00	0
99	226	325	1.99018e+00	2.67704e-01	7.61499e+00	5.37095e-01	4.18438e+00	5.95104e+00	0
99	227	326	2.22426e+00	3.50963e-01	8.13912e+00	5.49889e-01	4.33576e+00	6.11752e+00	0
99	228	327	2.31101e+00	3.83848e-01	8.97168e+00	5.64536e-01	3.99106e+00	5.69573e+00	0
99	229	328	3.15210e+00	5.74271e-01	9.44542e+00	5.92097e-01	3.98752e+00	5.70055e+00	0
Fermium (Fm)									
100	161	261	1.89534e+00	1.39167e-01	0.00000e+00	0.00000e+00	1.15219e-01	3.15507e-01	0
100	163	263	2.05332e+00	1.81854e-01	0.00000e+00	0.00000e+00	3.65444e-01	8.20253e-01	0
100	164	264	2.15068e+00	1.26035e-01	0.00000e+00	0.00000e+00	1.28629e-01	3.66300e-01	0
100	165	265	2.30246e+00	2.86830e-01	0.00000e+00	0.00000e+00	5.43465e-01	1.09654e+00	0
100	166	266	2.27347e+00	1.53897e-01	0.00000e+00	0.00000e+00	2.85957e-01	6.81155e-01	0
100	167	267	2.66709e+00	3.13950e-01	0.00000e+00	0.00000e+00	5.71680e-01	1.14011e+00	0
100	168	268	2.54754e+00	1.94872e-01	0.00000e+00	0.00000e+00	2.91144e-01	6.54747e-01	0
100	169	269	2.91834e+00	4.03464e-01	0.00000e+00	0.00000e+00	6.84856e-01	1.29795e+00	0
100	170	270	2.90387e+00	2.45408e-01	0.00000e+00	0.00000e+00	3.91467e-01	8.36765e-01	0
100	171	271	3.10092e+00	4.47004e-01	0.00000e+00	0.00000e+00	6.21796e-01	1.18205e+00	0
100	172	272	2.96351e+00	2.74239e-01	0.00000e+00	0.00000e+00	4.85741e-01	1.00342e+00	0
100	173	273	2.97631e+00	4.79086e-01	0.00000e+00	0.00000e+00	7.85649e-01	1.44832e+00	0
100	174	274	3.08596e+00	3.16239e-01	0.00000e+00	0.00000e+00	6.37283e-01	1.25077e+00	0
100	175	275	3.31588e+00	5.71102e-01	0.00000e+00	0.00000e+00	8.55238e-01	1.56174e+00	0
100	176	276	2.78403e+00	2.81390e-01	0.00000e+00	0.00000e+00	1.00343e+00	1.76154e+00	0
100	177	277	2.67100e+00	4.19001e-01	1.49127e-04	3.09523e-02	1.27527e+00	2.16318e+00	0
100	178	278	2.63388e+00	2.64846e-01	1.20488e-04	1.25000e-02	1.11918e+00	1.94453e+00	0
100	179	279	2.99529e+00	5.37368e-01	6.00190e-02	1.33779e-01	1.35295e+00	2.24885e+00	0
100	180	280	2.83366e+00	2.99879e-01	1.18927e-01	2.21688e-01	1.22909e+00	2.08647e+00	0
100	181	281	2.93183e+00	4.96184e-01	2.42511e-01	2.66826e-01	1.24230e+00	2.08201e+00	0
100	182	282	2.91463e+00	3.21349e-01	1.65509e-01	3.21877e-01	1.28007e+00	2.13672e+00	0
100	183	283	3.06744e+00	5.15382e-01	2.23695e-01	3.48550e-01	1.34722e+00	2.22385e+00	0
100	184	284	2.85711e+00	3.39687e-01	3.02310e-01	3.69734e-01	1.30232e+00	2.14810e+00	0
100	185	285	2.94990e+00	4.89434e-01	2.52295e-01	4.15948e-01	1.93442e+00	3.00362e+00	0
100	186	286	2.83642e+00	3.82470e-01	3.77999e-01	3.95283e-01	1.63805e+00	2.62772e+00	0
100	187	287	2.88946e+00	4.44571e-01	2.97316e-01	3.38989e-01	2.08684e+00	3.22865e+00	0
100	188	288	3.04869e+00	3.76833e-01	3.79576e-01	3.69120e-01	1.77753e+00	2.82367e+00	0

(continued on next page)

Table 1 (continued)

100	189	289	2.93253e+00	3.64046e-01	9.23150e-01	3.56309e-01	1.37066e+00	2.26749e+00	0
100	190	290	2.73092e+00	3.69307e-01	7.81297e-01	3.38132e-01	1.34538e+00	2.23387e+00	0
100	191	291	3.02483e+00	4.03856e-01	8.01594e-01	3.44581e-01	1.43165e+00	2.35098e+00	0
100	192	292	2.84283e+00	3.84978e-01	8.12059e-01	3.59084e-01	1.48372e+00	2.45313e+00	0
100	193	293	2.99478e+00	3.87213e-01	9.65699e-01	3.78479e-01	1.53080e+00	2.51676e+00	0
100	194	294	2.94163e+00	4.33650e-01	8.81577e-01	3.93360e-01	1.62477e+00	2.63733e+00	0
100	195	295	2.76667e+00	3.89057e-01	1.00544e+00	3.89019e-01	1.87343e+00	2.93298e+00	0
100	196	296	3.08031e+00	4.71613e-01	9.24457e-01	4.15282e-01	1.74852e+00	2.81071e+00	0
100	197	297	2.51386e+00	3.68191e-01	1.23614e+00	3.96701e-01	1.86926e+00	2.95600e+00	0
100	198	298	2.93397e+00	4.76679e-01	9.55780e-01	4.13935e-01	1.89388e+00	3.00553e+00	0
100	199	299	2.59024e+00	3.54175e-01	1.31288e+00	4.11306e-01	2.02550e+00	3.16509e+00	0
100	200	300	2.70334e+00	4.59234e-01	1.07220e+00	4.03046e-01	2.00118e+00	3.13605e+00	0
100	201	301	2.39688e+00	3.44308e-01	1.48125e+00	4.28388e-01	2.03220e+00	3.18948e+00	0
100	202	302	2.62690e+00	4.01444e-01	1.27833e+00	4.09894e-01	2.12158e+00	3.29529e+00	0
100	203	303	2.59634e+00	3.79609e-01	1.66234e+00	4.20170e-01	2.20503e+00	3.41844e+00	0
100	204	304	2.96107e+00	3.26158e-01	1.55168e+00	3.90151e-01	2.26323e+00	3.49528e+00	0
100	205	305	3.13837e+00	3.90796e-01	1.95233e+00	4.13677e-01	2.32234e+00	3.54510e+00	0
100	206	306	2.66495e+00	2.70699e-01	1.95746e+00	3.91372e-01	2.37238e+00	3.61272e+00	0
100	207	307	2.71737e+00	3.07908e-01	2.36281e+00	4.11465e-01	2.38379e+00	3.64720e+00	0
100	208	308	2.52201e+00	2.48789e-01	2.28300e+00	4.01767e-01	2.45712e+00	3.73411e+00	0
100	209	309	2.51750e+00	2.67265e-01	2.62272e+00	4.13890e-01	2.52783e+00	3.83565e+00	0
100	210	310	2.58947e+00	2.64659e-01	2.46866e+00	4.17772e-01	2.58164e+00	3.91387e+00	0
100	211	311	2.40447e+00	2.49069e-01	2.82667e+00	4.23429e-01	2.71498e+00	4.06969e+00	0
100	212	312	2.60209e+00	2.87270e-01	2.73230e+00	4.30971e-01	2.68583e+00	4.04193e+00	0
100	213	313	2.41726e+00	2.52601e-01	3.25677e+00	4.39204e-01	2.73053e+00	4.10014e+00	0
100	214	314	2.48590e+00	2.64246e-01	3.01222e+00	4.35698e-01	2.80620e+00	4.17944e+00	0
100	215	315	2.44706e+00	2.62184e-01	3.40242e+00	4.46878e-01	2.90809e+00	4.33909e+00	0
100	216	316	2.26433e+00	2.35238e-01	3.23139e+00	4.37894e-01	2.94344e+00	4.36764e+00	0
100	217	317	2.35436e+00	2.57648e-01	3.56851e+00	4.56049e-01	3.04241e+00	4.51299e+00	0
100	218	318	2.21390e+00	2.16688e-01	3.47093e+00	4.44752e-01	3.07564e+00	4.54971e+00	0
100	219	319	2.25968e+00	2.41048e-01	3.85313e+00	4.63722e-01	3.21305e+00	4.71948e+00	0
100	220	320	2.11997e+00	2.09764e-01	3.83275e+00	4.57577e-01	3.22524e+00	4.75087e+00	0
100	221	321	2.11763e+00	2.15467e-01	4.47138e+00	4.77810e-01	3.35883e+00	4.92433e+00	0
100	222	322	2.18339e+00	2.26539e-01	4.47267e+00	4.82437e-01	3.39331e+00	4.96849e+00	0
100	223	323	2.06472e+00	2.20611e-01	5.02541e+00	4.96128e-01	3.57270e+00	5.18690e+00	0
100	224	324	2.01335e+00	2.10796e-01	5.28613e+00	4.93300e-01	3.58801e+00	5.22075e+00	0
100	225	325	1.98935e+00	2.15097e-01	6.12795e+00	5.12143e-01	3.61145e+00	5.24847e+00	0
100	226	326	1.97145e+00	2.09958e-01	6.24791e+00	5.05268e-01	3.68156e+00	5.32685e+00	0
100	227	327	1.90140e+00	2.13167e-01	6.93980e+00	5.22284e-01	3.78812e+00	5.47850e+00	0
100	228	328	1.88017e+00	2.04792e-01	7.25441e+00	5.14787e-01	3.78389e+00	5.45042e+00	0
100	229	329	1.90338e+00	2.47865e-01	8.19242e+00	5.33487e-01	3.78562e+00	5.47077e+00	0
100	230	330	1.98798e+00	2.53736e-01	8.13890e+00	5.27703e-01	3.91959e+00	5.64866e+00	0
100	231	331	2.47877e+00	4.11919e-01	8.85761e+00	5.55571e-01	3.94654e+00	5.68332e+00	0