Vibrationally resolved ionization cross sections for the ground state and electronically excited states of the hydrogen molecule and its isotopomeres

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Abstract

An existing set of vibrationally resolved ionization cross section for the ground state and the first excited states of the hydrogen molecule, based on the Gryzinski method, is extended by cross sections for the isotopomeres of H_2 (i.e. D_2, T_2, HD, HT, and DT), both for non-dissociative and dissociative ionization. The comparison of cross sections for non-dissociative ionization of H_2 with results obtained by the Molecular Convergent Close-Coupling method gives a very good agreement. The compiled tables give non-dissociative and dissociative cross sections for the ground state and the five energetically lowest electronically excited states of H_2 and its isotopomeres, in each case for the first 9 vibrational levels. Data for all vibrational levels of the excited states is available online.

Introduction

Ionization and recombination of molecular hydrogen are highly relevant processes for the particle balance in low-temperature hydrogen plasmas. A prominent example is the divertor plasma in magnetically confined fusion experiments where ionizing and recombining processes play – for example – a crucial role in the process of Molecular Assisted Recombination (MAR) [1, 2]. MAR is a two-step process consisting of charge exchange of hydrogen molecules with positive atomic ions, followed by dissociative recombination of the molecular ions crated during the first reaction step. In the detached operational mode low electron temperatures (around a few eV) are present close to the divertor walls, reducing the proton density in the plasma and consequently the proton and energy fluxes towards the divertor [3, 4]. Relatively high molecular densities are reached in the plasma close to the divertor, resulting in a contribution of MAR to the total plasma recombination in the divertor in the order of up to several 10% [5].

In low-temperature plasmas for industrial applications or in laboratory experiments volume ionization typically is balanced by recombination at the walls. Thus, ionizing processes are an important factor defining the plasma properties. Negative ion sources for neutral beam heating system of fusion experiments [6, 7] typically are based on the tandem concept [8]: a plasma with $T_e \approx 10$ eV and $n_e \approx 10^{18}$ m^{-3} is generated in the so-called driver region by inductive RF coupling or by a filamented arc. The plasma is cooled down (to ≈1 eV) and diluted (to $\approx 10^{17}$ m^{-3}) by expansion and by a magnetic filter field (strength up to several millitesla) [9]. In this setup, molecular and atomic hydrogen are predominately ionized in the ionizing driver plasma that is separated from a region in that recombining processes are predominant [10]. Due to the existence of a multitude of excitation channels, the interpretation of experimental observations made in this recombining plasma, e.g. evaluating spectroscopically obtained densities of excited molecular or atomic states, can be a challenging task [11, 10].

The basis for any description of such phenomena by modelling, for example in population models or transport models, are cross sections for ionizing and recombining processes. As the threshold energy for excitation processes, including ionization, has a significant effect on the reaction probability [12], vibrational and electronic excitation of hydrogen molecules plays a crucial role and ionization cross sections for vibrationally and electronically excited states are an important input for modelling. Reaction probabilities for ionization of electronically excited states are additionally needed for collisional radiative models predicting population densities of excited states and being used for supporting the interpretation of experimentally determined population densities [13], in particular for levels with a high life time like v=0 in the electronically excited state c^3 of the hydrogen molecule [14].

For numerous applications, including the examples given above, isotopes of H_2, i.e. D_2 and/or T_2, are used, see for example [6, 15]. If more than one isotope of H_2 is present in a plasma simultaneously, one or more of the three isotopomeres HD, HT and DT can be formed. Changing in a plasma source the used hydrogen isotope can drastically change the behaviour of the plasma or the results achieved from the experiment [6]. Typically, the isotope effect cannot be explained in a straight-forward way only by the changed mass and energetic spacing of the vibrational and rotational Eigenvalues. Deepening the physics understanding of such isotope effects –by application of plasma models and by interpreting diagnostics results – can be crucial for the advancement of the experiment. Thus, a comprehensive set of ionization cross sections for molecular hydrogen should include all six isotopomeres (namely H_2, D_2, T_2, HD, HT and DT).

A comprehensive set of vibrationally resolved non-dissociative and dissociative ionization cross sections is available for the ground state of H_2 and some electronically excited states, calculated by the Gryzinski method [16]. The results were validated successfully by comparing non-dissociative and dissociative ionization cross sections with a set of experimental and theoretical cross sections available in the literature for the vibrational level v'=0 in the molecular ground state [16]. Due to the lack of literature data, this validation could not be performed for the excited states.

The present work adds to the cross sections from [16] data for all the isotopomeres of H_2. Additionally, the new cross sections remove a calculation error present in the previous data, affecting the cross sections mainly for electronically excited states. The recent availability of cross sections for v'=0 in the ground state H_2 [17] and some excited states of H_2 [18] based on the quantum mechanical MCCC (Molecular Convergent Close-Coupling) method [19] makes possible a validation of the Gryzinski method also for electronically excited states.

Ionization of molecular hydrogen

Processes ionizing molecular hydrogen can involve the excitation of electronic states of the formed ion. However, only the ground state $^2\Sigma_g^+$ of the ion and its first electronically excited state $^2\Sigma_u^+$ play a role for ionization of the molecule and recombination of the ion. All other electronic states lie energetically well above these two states [20], resulting in a much higher threshold energy. Thus, in the present investigation only ionization via excitation of the states $^2\Sigma_g^+$ and $^2\Sigma_u^+$ is considered. The potential curve of the state $^2\Sigma_g^+$ forms a potential well while $^2\Sigma_u^+$ is repulsive.

Figure 1 shows the potential energy curves of the molecular ground state X^1 and the two considered states in the molecular ion. Shown additionally are the potential curves of the lowest electronically states of H_2 in the singlet system, EF^1, and in the triplet system, a^3. Non-dissociative ionization occurs if a neutral molecule is excited from a vibrational level v' in an electronic state p' into the vibrational level v'' of the ionic ground state:

$$\mathrm{H}_2(p', v') + \mathrm{e}^- \rightarrow \mathrm{H}_2^+\left({}^2\Sigma_g^+, v''\right) + 2\mathrm{e}^- . \quad (1)$$

If either the vibrational continuum of the ionic ground state ${}^2\Sigma_g^+$ or the repulsive state ${}^2\Sigma_u^+$ is excited, the ion will dissociate into an atom and a proton:

$$\mathrm{H}_2(p', v') + e^- \rightarrow \mathrm{H}_2^+\left({}^2\Sigma_g^+, E''\right) + 2\mathrm{e}^- \rightarrow \mathrm{H} + \mathrm{H}^+ + 2\mathrm{e}^- , \quad (2)$$

$$\mathrm{H}_2(p', v') + e^- \rightarrow \mathrm{H}_2^+({}^2\Sigma_u^+, E'') + 2e^- \rightarrow \mathrm{H} + \mathrm{H}^+ + 2\mathrm{e}^- , \quad (3)$$

where E'' is the excitation energy.

Reactions (1) and (2) consist of removing one of the two orbital electrons (which is initially in the state $1\sigma_g$ for ionization of the molecular ground state or in an excited orbital for ionization of electronically excited states) accompanied by vibrationally exciting the ion. During reaction (3) an additional reaction step takes place: the second orbital electron is excited from the state $1\sigma_g$ into the state $1\sigma_u$ [21].

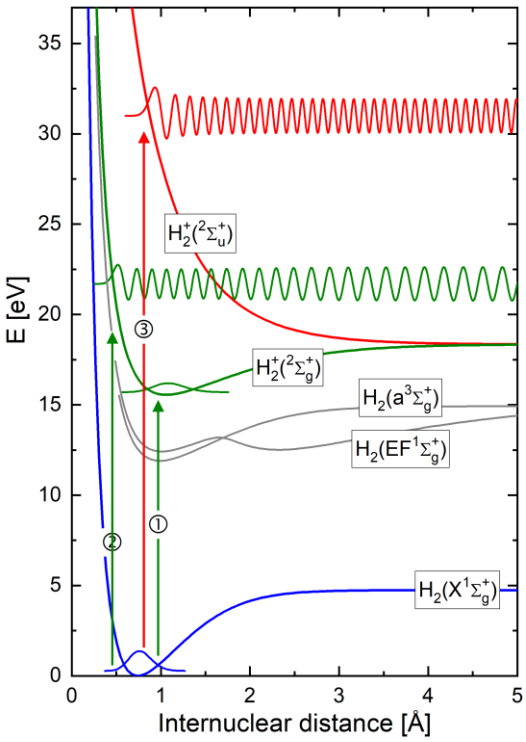

Figure 1: Potential energy curves for the ground state X^1, the excited states a^3 and EF^1 in the hydrogen molecule and the first two electronically excited states in the molecular ion. Eigenfunctions of v'=0 in the molecular ground state, v''=0 in the ionic ground state and wave functions of two free particles. Indicated by vertical arrows are for X^1 the non-dissociative ionization channel (1) and the two dissociative channels (2) and (3).

In Figure 1 the vibrational Eigenfunctions of v'=0 in the molecular ground state and v''=0 in the ionic ground state are shown as well as two wave functions of free particles connecting to the vibrational continuum of the ionic ground state and the repulsive state. The three vertical arrows represent the ionizing processes (1)–(3).

Computational method

Franck–Condon factors and Franck–Condon densities

Franck–Condon factors (FCF) and Franck–Condon densities (FCD) describe the overlap of two vibrational wave functions in a molecule [22, 23]. In the Franck–Condon approximation, the internuclear distance is considered to be fixed during an electronic transition. If the perturbing Hamiltonian of the transition does

not depend on the internuclear distance, then according to Fermi's Golden Rule the FCF or FCD quantify the transition probability from one wave function to another.

The Franck Condon factor $q_{v'v''}^{p'p''}$ for a transition between the vibrational level v' in the electronically excited state p' and the vibrational level v'' in the electronic state p'' of a diatomic molecule can be calculated by a simple convolution of the vibrational Eigenfunctions $\psi_v^p(r)$:

$$q_{v'v''}^{p'p''} = \left| \int \psi_{v'}^{p'}(r) \psi_{v''}^{p''}(\mathrm{r}) \mathrm{d}r \right|^2 \quad . \quad (4)$$

If either p'' is repulsive or the transition ends in the vibrational continuum of p'', the discrete FCF split up into the continuous FCD $Q_{v'E''}^{p'p''}$:

$$Q_{v'E''}^{p'p''} \mathrm{d}E'' = \frac{2}{\hbar} \sqrt{\frac{2\mu}{\left(E'' - E_{\mathrm{diss}}^{p''}\right)}} \left| \int \psi_{v'}^{p'}(r) \psi_{E''}^{p''}(\mathrm{r}) \mathrm{d}r \right|^2 \mathrm{d}E'' \quad . \quad (5)$$

The wave function $\psi_{\mathrm{E}''}^{\mathrm{p}''}$ of the free particle has to be normed to an amplitude of one in the outbound region. E'' is the excitation energy, $\mathrm{E}_{diss}^{\mathrm{p}''}$ the dissociation energy of the electronic state p'' and μ the reduced mass of the molecule.

In general, the following closure relation is satisfied:

$$\sum\nolimits_{v''} q_{v'v''}^{p'p''} = \int_{E''} Q_{v'E''}^{p'p''} dE'' = 1 \quad . \quad (6)$$

The relative contributions of excitation into bound vibrational states and dissociative excitation into the vibrational continuum depend on the shape of the potential curves. In case of a repulsive upper state p'' no bound excitation is possible and the first part of the left-hand side in Eq. (6) yields zero.

In order to calculate non-dissociative and dissociative ionization cross sections for the hydrogen molecule, the corresponding FCF and FCD have been calculated using the computer code TraDiMo [24]. This code determines the Eigenfunctions and wave functions by solving the Schrödinger equation:

$$\left(-\frac{\hbar}{2\mu} \frac{\partial^2}{\partial r^2} + U^p(r) \right) \psi_v^p(r) = E_v^p \psi_v^p(r) \quad , \quad (7)$$

where E_v^p is the Eigenvalue for the vibrational level v in the electronic state p and $\psi_v^p(r)$ the corresponding wave function. $U^p(r)$ is the potential energy curve of p. This second-order differential equation is transformed into two first-order ordinary differential equations which are then solved numerically using the Taylor progression.

Gryzinski method for ionization of molecular hydrogen

The framework developed by Gryzinski [25, 26] and rephrased by Bauer and Bartky [26] introduces a simple method for calculating cross sections for different kinds of energy transfer to atoms or molecules. Although fully quantum mechanical calculations are more sophisticated and can be assumed to be more accurate, the semi-classical modification of the classical Gryzinski method used for the present

calculations has the advantage of being very simple and easy to implement. In the following the most relevant equations needed for determining cross sections for non-dissociative and dissociative ionization of diatomic molecules are given and described briefly. A more comprehensive summary and derivation of the method is given in [16].

One of the most essential equations of the Gryzinski theory describes the cross section for the process in which an orbital electron (all other orbital electrons are unaffected) gains energy by electron collision. Most other equations of the Gryzinski framework can be deduced from this equation:

$$\sigma_{E_{\mathrm{thr}}}^{\mathrm{gain}}(E_{\mathrm{e}}) = \frac{N_{\mathrm{e}}\sigma_0}{E_{\mathrm{thr}}^2}\sqrt{\frac{\varepsilon^2 E_{\mathrm{e}}}{(\varepsilon+E_{\mathrm{e}})^3}}\left(1-\frac{E_{\mathrm{thr}}}{E_{\mathrm{e}}}\right)^{\frac{2\varepsilon+E_{\mathrm{thr}}}{\varepsilon+E_{\mathrm{thr}}}}\left\{\frac{E_{\mathrm{thr}}}{\varepsilon}+\frac{2}{3}\left[1-\frac{E_{\mathrm{thr}}}{2E_{\mathrm{e}}}\right]\ln\left(\exp(1)+\sqrt{\frac{E_{\mathrm{e}}-E_{\mathrm{thr}}}{\varepsilon}}\right)\right\} \quad , \quad (8)$$

where E_e is the initial energy of the impinging electron and ε the initial kinetic energy of the orbital electron to be excited. The initial kinetic energy of the orbital electron can be set to the ionization potential of the atom or molecule or – in the case of an already excited electron – to the term value of the appropriate subshell [26], i.e. the lowest threshold energy of all ionizing processes possible. N_{e} is the effective number of equivalent electrons in the initial state of the transition and is equal to two for the ground state of the hydrogen molecule and to one for electronically excited states. σ_0 is equal to 6.56×10^{-18} eV^2 m^2 [25] and E_{thr} is the lower limit of the energy gain (i.e. the threshold energy).

In Equation (8) no upper limit of the energy gain is defined. Thus, the equation can be directly applied to ionization processes (where one electron is completely removed from the molecule) but not for excitation for a specific state in the molecule where for energies above a certain limit the excitation by electron collision no longer solely populates the designated state but also one or more of the energetically higher lying states.

Non-dissociative ionization (equation (1)) consists of removing one of the orbital electrons from the molecule accompanied by vibrationally exciting the ion. In order to obtain vibrationally resolved ionization cross sections for these reactions, the Gryzinski theory is combined with the Franck–Condon theory. The cross section for a non-dissociative ionizing electron collision from the vibrational level v' within the electronic level p' of the molecule to the vibrational level v'' in the bound state p'' of the ion can be calculated as follows:

$$\sigma_{\text{non-diss}}^{\mathrm{ion}}(E_{\mathrm{e}}, p', v', p'', v'') = q_{v'v''}^{p'p''} \cdot \sigma_{E_{\mathrm{thr}}}^{\mathrm{gain}}(E_{\mathrm{e}}) \quad , \quad (9)$$

with E_{thr} equal to the threshold energy of the considered ionizing reaction. If information on the final vibrational state v'' is not required, the corresponding cross sections can be summed up in order to obtain a total ionization cross section for the vibrational state v':

$$\sigma_{\text{non-diss}}^{\mathrm{ion}}(E_{\mathrm{e}}, p', v', p'') = \sum\nolimits_{v''} q_{v'v''}^{p'p''} \cdot \sigma_{E_{\mathrm{thr}}}^{\mathrm{gain}}(E_{\mathrm{e}}) \quad . \quad (10)$$

The dissociative ionization by excitation into the vibrational continuum of the ionic ground state $^2\Sigma_g^+$ can be treated in a similar manner:

$$\sigma_{\mathrm{diss}}^{\mathrm{ion}}(E_{\mathrm{e}}, p', v', p'') = \int_{E_{\mathrm{thr}}}^{E_e} Q_{v'E''}^{p'p''} \cdot \sigma_{E''}^{\mathrm{gain}}(E_{\mathrm{e}})\, \mathrm{d}E'' \quad , \quad (11)$$

where E_{thr} is the minimum energy needed for excitation of the vibrational continuum of ${}^2\Sigma_g^+$.

If the dissociative ionization occurs via the repulsive state ${}^2\Sigma_u^+$ of the ion (Equation (3)), additionally the remaining orbital electron has to be excited from the state $1\sigma_g$ into the state $1\sigma_u$. The resulting two-step reaction can by treated by similar means as double ionization. The evaluation of cross sections for double ionization using the Gryzinski theory is described in detail in [25, 21]. Due to the energy dependence of the specific involved cross sections it is possible to reduce several nested integrals and obtain simple equations for the cross section for two different reaction channels: either the incident electron removes one orbital electron from the molecule and then excites the second orbital electron to $1\sigma_u$ (channel (a)) or the incident electron removes one orbital electron from the molecule and then this orbital electron excites the second orbital electron to $1\sigma_u$ (channel (b)). The cross sections of channel (a) and (b) can be written as:

$$\sigma_{\mathrm{diss,a}}^{\mathrm{ion}}(E_{\mathrm{e}}, E'') = \frac{N_{\mathrm{e}}}{A}(\sigma_{E''}^{\mathrm{gain}}(E_{\mathrm{e}}) - \sigma_{E_{\mathrm{e}}-E_{\mathrm{thr2}}}^{\mathrm{gain}}(E_{\mathrm{e}}))\cdot\sigma_{E_{\mathrm{thr2}}}^{\mathrm{gain}}(E_{\mathrm{e}} - \langle\Delta E_a\rangle) \quad , \quad (12)$$

$$\sigma_{\mathrm{diss,b}}^{\mathrm{ion}}(E_{\mathrm{e}}, E'') = \frac{N_{\mathrm{e}}}{A}\sigma_{E_{\mathrm{e}}+E_{\mathrm{thr2}}}^{\mathrm{gain}}(E_{\mathrm{e}})\cdot\sigma_{E_{\mathrm{thr2}}}^{\mathrm{gain}}(\langle\Delta E_b\rangle) \quad , \quad (13)$$

where A is the effective area of the cloud of orbital electrons and E_{thr2} the threshold for the excitation of the remaining orbital electron. In [21] values for A and E_{thr2} are given: for the molecular ion the area A is equal to 6.90×10^{-20} m^2. A threshold energy of 12.4 eV produces protons with an energy of 2.5 eV. In Equations. (12) and (13) the threshold for excitation of the electron into the orbital $1\sigma_u$ is needed, i.e. the production of protons with zero energy. The possible additional energy gain of the produced proton is accounted for by multiplying with the Franck–Condon density. Thus, for the calculations E_{thr2} is set to 9.9 eV. $\langle\Delta\mathrm{E_a}\rangle$ is the average energy loss of the incident electron after the first collision of reaction channel (a) and $\langle\Delta\mathrm{E}_b\rangle$ is the average energy gain of the removed orbital electron after the first collision of reaction channel (b). These average energies can be calculated as follows:

$$\langle\Delta E_a\rangle = \frac{\ln((E_{\mathrm{e}}-E_{\mathrm{thr2}})/E_{\mathrm{thr2}})}{1-E''/(E_{\mathrm{e}}-E_{\mathrm{thr2}})} \quad , \quad (14)$$

$$\langle\Delta E_b\rangle = (E'' + E_{\mathrm{thr2}}) \cdot \frac{\ln(E_{\mathrm{e}}/(E''+E_{\mathrm{thr2}}))}{1-(E''+E_{\mathrm{thr2}})/E_{\mathrm{e}}} \quad . \quad (15)$$

For electron energies close to the threshold energy E_{thr2} the value of $\langle\Delta\mathrm{E_a}\rangle$ can be negative. In order to avoid non-physical results, in this case the negative value is replaced by zero during the calculation. The two cross sections for channels (a) and (b) are added together and integrated—similar to Eq. (13):

$$\sigma_{\mathrm{diss}}^{\mathrm{ion}}(E_e, p', v', p'') = \int_{E_{\mathrm{thr}}}^{E_e} Q_{v'E''}^{p'p''} \cdot (\sigma_{\mathrm{diss,a}}^{\mathrm{ion}}(E_{\mathrm{e}}, E'')+\sigma_{\mathrm{diss,b}}^{\mathrm{ion}}(E_{\mathrm{e}}, E''))\mathrm{d}E'' \quad , \quad (16)$$

resulting in the cross section for dissociative ionization of the vibrational level v' in the electronic state p' of the hydrogen molecule via the repulsive state ${}^2\Sigma_u^+$. The value used for E_{thr} is identical to the one used

in equation (11) because for large internuclear distances the potential curves for the ionic states $^2\Sigma_g^+$ and $^2\Sigma_u^+$ converge.

Results and discussion

The set of FCF and FCD for H_2 presented in [16] is extended by data for D_2, T_2, HD, HT and DT. The closure relation (equation (6)) is checked for all considered ionizing transitions. For vibrational levels v' well inside the well formed by the potential curves the sum of FCF and FCD deviates from the expected value 1 by significantly below one percent. Larger deviations (up to some percent) are found only for some transitions and only for vibrational levels very close to the dissociation limit where the vibrational wave function forms a broad peak at the rightmost classical turning point.

The extended set of FCF and FCD is used as input for the Gryzinski method and a comprehensive and vibrationally resolved set of ionization cross sections is calculated. Cross sections for the three ionization channels defined in equations (1)–(3) are determined for the electronic ground state as well as for the five energetically lowest electronically excited states (EF^1, B^1 and C^1 in the singlet system, a^3 and c^3 in the singlet system, i.e. all bound states with principal quantum number p≤2).

As mentioned above, the results for the excited states presented in [16] included a calculation error. Inserted into equation (8) for the kinetic energy ε of all states – the ground state and the excited states – was the kinetic energy of an electron in the ground state. Using in this way a too high kinetic energy results in a stretching of the energy axis, i.e. the dependence of the cross section on the electron energy was affected in a way comparable to multiplying E_e by a factor of ≈3. This error was not detected during the validation of the Gryzinski cross sections done in [16] because at that time literature data was available only for ionization of the ground state. This emphasizes the high relevance of the availability of MCCC cross sections, making possible now to perform a validation also for electronically excited states. It is strongly recommended to replace cross sections for ionization of excited states from [16] implemented in models or evaluation routines by the corrected cross sections.

The tables give for H_2 (Table 1-Table 18), D_2 (Table 19-Table 36), T_2 (Table 37-Table 54), HD (Table 55-Table 72), HT (Table 73-Table 90) and DT (Table 91-Table 108) cross sections for the three ionization channels, the ground state and the considered electronically excited states and the initial vibrational quantum numbers v'=0…9. For non-dissociative ionization, the cross sections are summed over the vibrational states v'' in the ionic

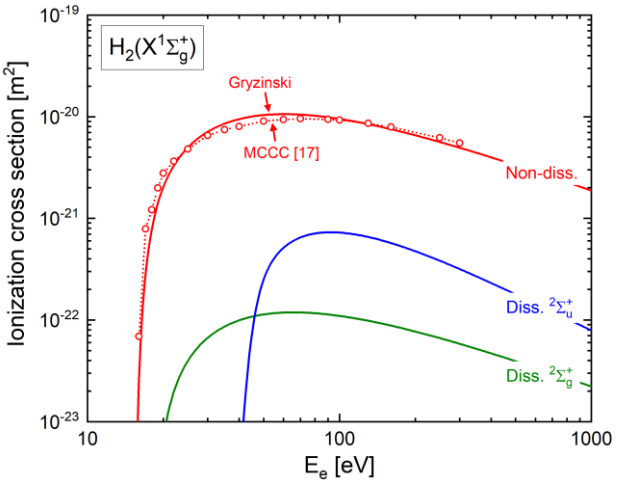

Figure 2: Cross section for non-dissociative and dissociative ionization of the lowest vibrational level v'=0 in the ground state X^1 of H_2. The open symbols show the MCCC cross section taken from [17]. The MCCC cross section is available up to E_e=300 eV only.

ground state $^2\Sigma_g^+$. A reduced number of 19 interpolation points per cross section is used.

Available online as supplementary data are cross sections for all initial vibrational states and using 250 interpolation points.

Ionization cross sections for v'=0 in H_2

Figure 2 shows the non-dissociative and dissociative ionization cross sections for the initial vibrational level v'=0 in the ground state X^1 versus a broad range of the incident electron energy, Figure 3 for the excited singlet system states and Figure 4 for the excited triplet system states. For non-dissociative ionization the cross sections are summed over all vibrational levels v'' in the ground state $^2\Sigma_g^+$ of the ion.

The cross section for dissociative ionization of the electronically excited states via the vibrational continuum of the ionic ground state $^2\Sigma_g^+$ (green curves in Figures 3-4) is significantly smaller than the cross sections for the two other ionization channels and is scaled by a factor of 10^7 in order to fit into the figures. The reason is that compared to the molecular ground state X^1, the minimum of the potential curves of the electronically excited states is shifted toward higher internuclear distances, see the potential curves for the states EF^1 and a^3 in Figure 1. The probability to find the free particle of the vibrational continuum of $^2\Sigma_g^+$ is highest close to its classical turning point. Shifting the wave function of v'=0 in the initial state of an ionizing reaction toward higher internuclear distances dramatically reduces the overlap integral and thus the ionization cross section. This observation illustrates that purely classical methods for calculating ionization cross sections are not sufficient. At least a semi-classical procedure like the Gryzinski method, considering quantum mechanical effect by means of quantum mechanical FCF or FCD, has to be applied.

Another effect that can be explained only using the FCD is the slightly steeper decrease with the electron energy of the cross sections for dissociative ionization via the repulsive state $^2\Sigma_u^+$ (blue curves in Figures 2-4). With increasing energy, the potential curve of $^2\Sigma_u^+$ and thus also the classical turning point of the free particle is shifted noticeably toward smaller internuclear distances, resulting (besides the reduction caused by the higher needed energy transfer) to an additional reduction of the dissociative ionization cross section.

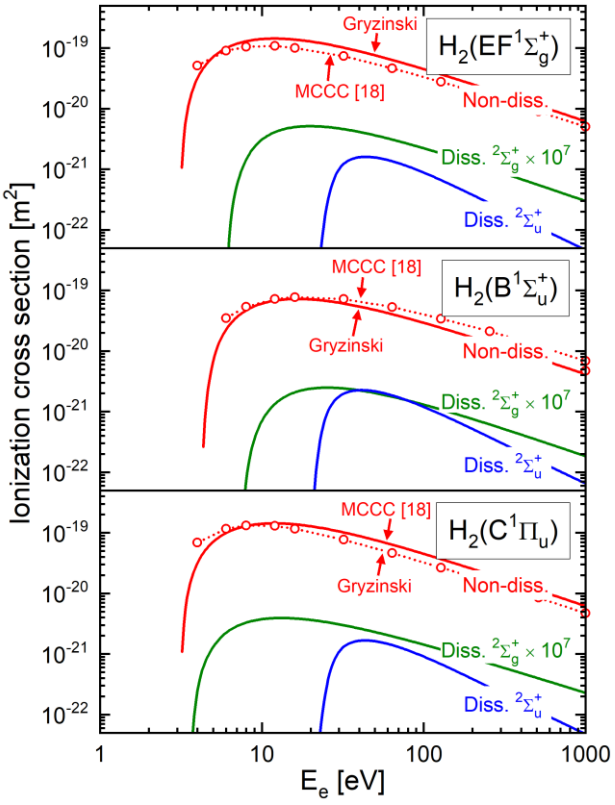

Figure 3: Cross section for non-dissociative and dissociative ionization of the lowest vibrational level v'=0 in the singlet states EF^1, B^1 and C^1 of H_2. The open symbols show the MCCC cross section taken from [18].

Shown in all figures by a dashed line are total ionization cross sections from H_2 [17, 18] determined by the MCCC method. While the MCCC cross section for the ground state is based on the fixed-nuclei approximation, the ones for the excited states are based on the adiabatic-nuclei (AN) formulation [17, 27], producing particularly accurate collision data over the entire range of incident energies, including the critical region close to the excitation threshold. Because the cross sections for dissociative ionization are smaller by one to two orders of magnitude compared to non-dissociative ionization, the total MCCC cross sections can be directly compared with the non-dissociative cross sections from Gryzinski. An acceptable agreement (deviations below 50 %, for some transitions significantly below this value) is found, indicating that for collision processes as simple as ionization of diatomic molecules the Gryzinski method yield results with acceptable accuracy. The Gryzinski method can thus replace fully quantum mechanical procedures if a set of ionization cross sections for a diatomic molecule is needed for that such more sophisticated methods have not been implemented yet.

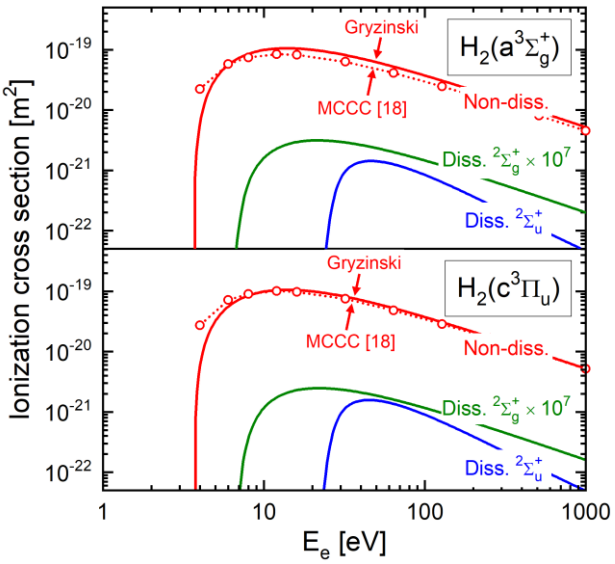

Figure 4: Cross section for non-dissociative and dissociative ionization of the lowest vibrational level v'=0 in the triplet states a^3 and c^3 of H_2. The open symbols show the MCCC cross section taken from [18].

Additionally, the MCCC method determines the total ionization cross section only, i.e. the results are not resolved for non-dissociative and dissociative ionization [28]. In order to determine the non-dissociative and dissociative cross sections with a high accuracy, total ionization cross sections from such methods can be combined with branching ratios between non-dissociative and dissociative ionization from the Gryzinski method.

Dependence on the initial vibrational quantum number

Figure 5 shows for the energetically lowest state in the singlet system, EF^1, the dependence on the initial vibrational quantum number v' of the threshold energy for the three ionization channels (top), the energy at that the cross sections show their maximum (centre) and the respective maximum cross section (bottom). For the sake of brevity results for the other states and the other isotopomeres are not shown. Results for vibrational levels up to v'=20 are shown only (although 33 vibrational levels, up to v'=32, exist in EF^1 for H_2).

The threshold energy for the three ionization channels and consequently the energy of the maximum cross section steadily decreases with v', illustrating the well-known effect that vibrational excitation can increase the probability for molecular excitation processes [12]. Due to the additional energy of 9.9 eV to be supplied, the threshold energy for dissociative ionization via $^2\Sigma_u^+$. lies noticeably above the threshold for the other two channels.

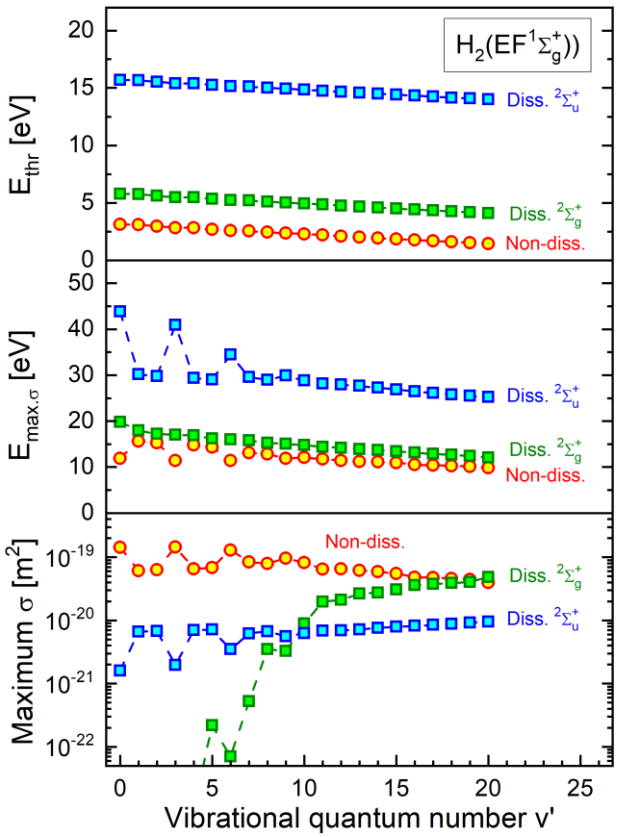

Figure 5: Dependence on the initial vibrational quantum number v' of the threshold energy, the energy of the maximum value of the cross section and of the maximum cross section for the three ionization channels of the EF[1] state in H_2.

by the already discussed shift of the minimum of the potential curve of EF[1] to higher internuclear distances with respect to ground state X[1] and its impact on the FCD: with increasing v' the leftmost classical turning point of the vibrational motion moves towards smaller internuclear distances, strongly increasing the overlap integral with the wave function of the free particle in $^2\Sigma_g^+$.

Comparison of isotopomeres

With increasing mass, the energetic spacing of the vibrational (and rotational) Eigenvalues is significantly reduced. For example, the energy difference between the first two vibrational levels v'=0 and v'=1 in the molecular ground state X[1] is

The following features demonstrate again the necessity for considering quantum mechanical effects when determining ionization cross sections for diatomic molecules: the energies of the maximum cross section show jumps for small vibrational quantum numbers (v≤7), particularly pronounced for non-dissociative ionization and dissociative ionization via repulsive state $^2\Sigma_u^+$. These jumps are caused by the fact that the state EF[1] is described by double minimum potential curve, see Figure 1. The vibrational wave functions for v'=0, 3, 5 and 6 are located in the left potential well, the ones for v'=1,2 and 4 are in the right well and the Eigenvalue of all vibrational levels with v'≥7 is higher than the energetic barrier dividing the two potential wells [24]. The location of the wave function strongly affects the FCF and FCD and thus the ionization cross sections.

A dramatic increase with v' is seen in the cross section for dissociative ionization via $^2\Sigma_g^+$, caused

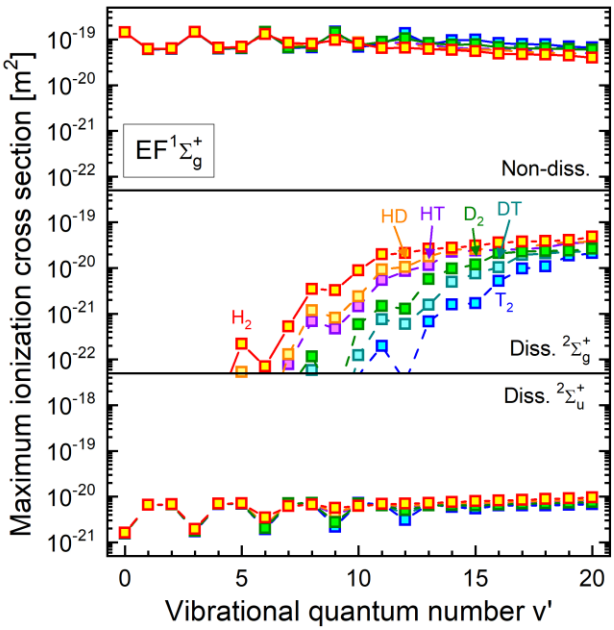

Figure 6: Dependence on the initial vibrational quantum number v' and the isotopomere of the maximum value of the cross section for the three ionization channels of the EF[1] state.

0.52 eV in H_2 and 0.31 eV in T_2 [24]. Since additionally a pronounced isotope effect exists for the FCF [24], an isotope effect regarding the ionization cross sections also appears.

Figure 6 shows the maximum cross section for ionization of the state EF^1 versus the initial vibrational quantum number v' in all six isotopomeres: the non-dissociative cross sections in the top part of the figure and the ones for the two dissociative channels in the centre and bottom part.

Again, the jumps in the maximum cross section caused by the location of the vibrational wave function in the left or the right potential well of EF^1 or above the dividing barrier can be seen. These jumps occur at the same v' for the different isotopomeres because the location of the vibrational wave functions is distributed (almost) identically between the potential wells [24]

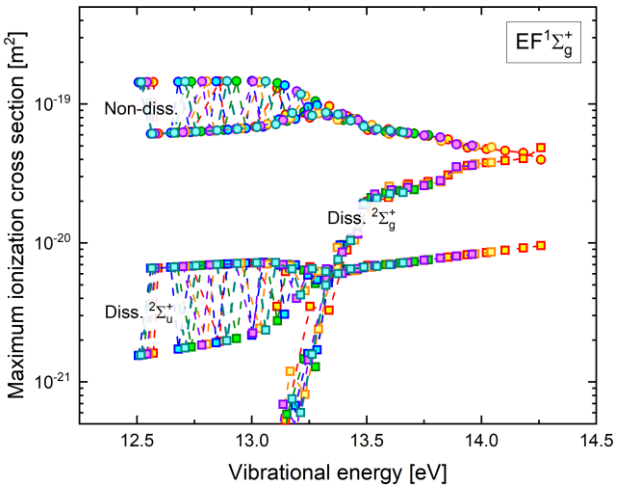

Figure 7: Dependence on the initial vibrational energy E(v') and the isotopomere of the maximum value of the cross section for the three ionization channels of the EF^1 state in H_2. The colour coding used for the isotopomeres is identical to the one in Figure 6.

For low vibrational quantum numbers (v'<10) the cross sections for non-dissociative ionization and dissociative ionization via $^2\Sigma_u^+$ show a weak isotope effect only and the factor between the cross sections for the isotopomeres increases to values below two for larger v'. In contrast, a much stronger pronounced isotope effect is seen for dissociative ionization via $^2\Sigma_g^+$.

Plotting the maximum cross sections versus the energy E(v') of the initial vibrational level, see Figure 7, removes both the isotope effect of the denser vibrational levels and the strong effect of the leftmost classical turning point of the vibrational wave functions on the FCD, the latter mostly affecting the cross section for dissociative ionization via $^2\Sigma_g^+$. The curves are almost perfectly on top of each other. However, the jumps caused by the location of the wave functions appear at slightly different vibrational energies.

Appendix A: Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:????.

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Explanation of Tables

For the sake of brevity, the number for interpolation points is reduced to 19 per cross section. In order to ensure anyway a good sampling of the data close to the threshold energy E_{thr}, the electron energy is given not as absolute values but relative to E_{thr}. The upper limit of the given electron energy range (as multiple of E_{thr}) is chosen in a way that all cross sections are defined to a maximum electron energy of at least 100 eV. The data available online via the supplementary data gives the cross sections for electron energies of up to 1000 eV.

Table 1-108

v': vibrational quantum number in the initial state of H_2. For non-dissociative ionization, the cross sections are summed over the vibrational states v'' in the ionic ground state.

E_{thr}: Threshold energy of the respective ionization process, given in eV. Base value for the definition of E_e.

Table 1: Cross sections for non-dissociative ionization of $H_2(X^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.4291	14.91309	14.42605	13.9675	13.53729	13.1354	12.76199	12.41746	12.10265	11.81901
1.128	4.79E-22	5.04E-22	5.26E-22	5.09E-22	4.75E-22	4.27E-22	3.63E-22	2.93E-22	2.14E-22	1.35E-22
1.274	1.81E-21	1.76E-21	1.71E-21	1.69E-21	1.70E-21	1.68E-21	1.61E-21	1.56E-21	1.49E-21	1.39E-21
1.438	3.40E-21	3.31E-21	3.15E-21	3.09E-21	3.19E-21	3.25E-21	3.20E-21	3.19E-21	3.23E-21	3.19E-21
1.623	4.99E-21	4.88E-21	4.60E-21	4.48E-21	4.69E-21	4.86E-21	4.80E-21	4.86E-21	5.03E-21	5.06E-21
1.833	6.46E-21	6.33E-21	5.93E-21	5.76E-21	6.08E-21	6.34E-21	6.30E-21	6.42E-21	6.72E-21	6.83E-21
2.069	7.74E-21	7.59E-21	7.09E-21	6.87E-21	7.28E-21	7.63E-21	7.60E-21	7.78E-21	8.21E-21	8.39E-21
2.335	8.78E-21	8.61E-21	8.04E-21	7.77E-21	8.26E-21	8.69E-21	8.67E-21	8.90E-21	9.44E-21	9.68E-21
2.636	9.57E-21	9.40E-21	8.76E-21	8.46E-21	9.01E-21	9.51E-21	9.49E-21	9.77E-21	1.04E-20	1.07E-20
2.976	1.01E-20	9.95E-21	9.26E-21	8.94E-21	9.53E-21	1.01E-20	1.01E-20	1.04E-20	1.11E-20	1.14E-20
3.359	1.05E-20	1.03E-20	9.56E-21	9.22E-21	9.85E-21	1.04E-20	1.04E-20	1.08E-20	1.15E-20	1.19E-20
3.792	1.06E-20	1.04E-20	9.68E-21	9.33E-21	9.98E-21	1.06E-20	1.06E-20	1.09E-20	1.17E-20	1.21E-20
4.281	1.06E-20	1.04E-20	9.65E-21	9.30E-21	9.94E-21	1.06E-20	1.06E-20	1.09E-20	1.17E-20	1.21E-20
4.832	1.04E-20	1.02E-20	9.48E-21	9.13E-21	9.78E-21	1.04E-20	1.04E-20	1.08E-20	1.15E-20	1.19E-20
5.455	1.01E-20	9.93E-21	9.21E-21	8.87E-21	9.50E-21	1.01E-20	1.01E-20	1.05E-20	1.12E-20	1.16E-20
6.158	9.70E-21	9.55E-21	8.86E-21	8.53E-21	9.14E-21	9.72E-21	9.73E-21	1.01E-20	1.08E-20	1.12E-20
6.951	9.26E-21	9.11E-21	8.45E-21	8.13E-21	8.72E-21	9.28E-21	9.29E-21	9.62E-21	1.03E-20	1.07E-20
7.847	8.76E-21	8.63E-21	8.00E-21	7.70E-21	8.25E-21	8.78E-21	8.80E-21	9.12E-21	9.80E-21	1.02E-20
8.858	8.24E-21	8.11E-21	7.52E-21	7.24E-21	7.76E-21	8.26E-21	8.28E-21	8.58E-21	9.22E-21	9.57E-21
10.00	7.71E-21	7.59E-21	7.03E-21	6.77E-21	7.26E-21	7.73E-21	7.75E-21	8.03E-21	8.63E-21	8.96E-21

Table 2: Cross sections for dissociative ionization of $H_2(X^1)$ via the continuum of the ionic ground state $H_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	18.0783	17.5623	17.0752	16.6167	16.1865	15.7846	15.4112	15.0666	14.7518	14.4682
1.128	9.18E-24	5.39E-23	1.27E-22	1.44E-22	7.88E-23	4.60E-23	8.56E-23	9.12E-23	5.85E-23	6.78E-23
1.274	2.67E-23	1.62E-22	4.06E-22	5.31E-22	4.13E-22	3.22E-22	3.94E-22	3.88E-22	2.88E-22	2.97E-22
1.438	4.57E-23	2.81E-22	7.17E-22	9.77E-22	8.34E-22	7.13E-22	8.51E-22	8.56E-22	6.91E-22	6.92E-22
1.623	6.38E-23	3.94E-22	1.02E-21	1.41E-21	1.25E-21	1.11E-21	1.32E-21	1.34E-21	1.13E-21	1.13E-21
1.833	7.98E-23	4.94E-22	1.28E-21	1.80E-21	1.63E-21	1.47E-21	1.75E-21	1.79E-21	1.54E-21	1.54E-21
2.069	9.32E-23	5.78E-22	1.50E-21	2.12E-21	1.95E-21	1.78E-21	2.11E-21	2.17E-21	1.89E-21	1.89E-21
2.335	1.04E-22	6.43E-22	1.68E-21	2.38E-21	2.20E-21	2.03E-21	2.40E-21	2.48E-21	2.17E-21	2.18E-21
2.636	1.11E-22	6.91E-22	1.80E-21	2.56E-21	2.39E-21	2.21E-21	2.62E-21	2.71E-21	2.39E-21	2.40E-21
2.976	1.16E-22	7.21E-22	1.88E-21	2.69E-21	2.51E-21	2.34E-21	2.76E-21	2.87E-21	2.53E-21	2.54E-21
3.359	1.19E-22	7.37E-22	1.92E-21	2.75E-21	2.58E-21	2.41E-21	2.85E-21	2.95E-21	2.62E-21	2.63E-21
3.792	1.19E-22	7.39E-22	1.93E-21	2.76E-21	2.60E-21	2.43E-21	2.87E-21	2.98E-21	2.65E-21	2.66E-21
4.281	1.17E-22	7.30E-22	1.91E-21	2.73E-21	2.57E-21	2.41E-21	2.85E-21	2.96E-21	2.63E-21	2.65E-21
4.832	1.14E-22	7.11E-22	1.86E-21	2.67E-21	2.52E-21	2.36E-21	2.79E-21	2.90E-21	2.58E-21	2.60E-21
5.455	1.10E-22	6.86E-22	1.80E-21	2.57E-21	2.43E-21	2.29E-21	2.70E-21	2.81E-21	2.50E-21	2.52E-21
6.158	1.05E-22	6.56E-22	1.72E-21	2.46E-21	2.33E-21	2.19E-21	2.59E-21	2.69E-21	2.40E-21	2.41E-21
6.951	1.00E-22	6.22E-22	1.63E-21	2.34E-21	2.21E-21	2.08E-21	2.46E-21	2.56E-21	2.28E-21	2.29E-21
7.847	9.42E-23	5.86E-22	1.53E-21	2.20E-21	2.09E-21	1.97E-21	2.32E-21	2.41E-21	2.16E-21	2.17E-21
8.858	8.82E-23	5.48E-22	1.44E-21	2.06E-21	1.95E-21	1.84E-21	2.17E-21	2.26E-21	2.02E-21	2.03E-21
10.00	8.21E-23	5.11E-22	1.34E-21	1.92E-21	1.82E-21	1.72E-21	2.02E-21	2.11E-21	1.88E-21	1.89E-21

Table 3: Cross sections for dissociative ionization of $H_2(X^1)$ via the repulsive ionic state $H_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	27.9783	27.4623	26.9752	26.5167	26.0865	25.6846	25.3112	24.9666	24.6518	24.3682
1.088	1.04E-40	8.50E-38	1.38E-35	1.21E-33	7.32E-32	2.78E-30	7.57E-29	1.56E-27	2.58E-26	3.30E-25
1.184	7.14E-32	8.47E-30	3.16E-28	6.67E-27	9.12E-26	8.52E-25	5.55E-24	2.48E-23	7.40E-23	1.49E-22
1.289	2.56E-27	7.95E-26	1.02E-24	7.24E-24	3.09E-23	8.24E-23	1.49E-22	2.22E-22	3.18E-22	4.32E-22
1.403	8.80E-25	1.02E-23	4.63E-23	1.10E-22	1.77E-22	2.56E-22	3.48E-22	4.53E-22	5.77E-22	7.25E-22
1.527	2.35E-23	9.67E-23	1.73E-22	2.51E-22	3.41E-22	4.40E-22	5.51E-22	6.79E-22	8.24E-22	9.94E-22
1.662	1.24E-22	2.18E-22	3.08E-22	3.99E-22	5.04E-22	6.16E-22	7.41E-22	8.83E-22	1.04E-21	1.23E-21
1.809	2.72E-22	3.48E-22	4.38E-22	5.42E-22	6.53E-22	7.73E-22	9.07E-22	1.06E-21	1.23E-21	1.42E-21
1.969	4.05E-22	4.84E-22	5.72E-22	6.70E-22	7.82E-22	9.07E-22	1.05E-21	1.20E-21	1.37E-21	1.57E-21
2.143	5.13E-22	5.96E-22	6.87E-22	7.87E-22	8.98E-22	1.02E-21	1.16E-21	1.31E-21	1.48E-21	1.68E-21
2.332	5.97E-22	6.81E-22	7.73E-22	8.74E-22	9.86E-22	1.11E-21	1.24E-21	1.39E-21	1.56E-21	1.75E-21
2.539	6.58E-22	7.42E-22	8.34E-22	9.34E-22	1.04E-21	1.16E-21	1.30E-21	1.44E-21	1.61E-21	1.79E-21
2.763	6.99E-22	7.82E-22	8.72E-22	9.70E-22	1.08E-21	1.19E-21	1.32E-21	1.46E-21	1.62E-21	1.80E-21
3.007	7.22E-22	8.03E-22	8.90E-22	9.85E-22	1.09E-21	1.20E-21	1.32E-21	1.46E-21	1.61E-21	1.78E-21
3.273	7.30E-22	8.08E-22	8.92E-22	9.83E-22	1.08E-21	1.19E-21	1.31E-21	1.43E-21	1.58E-21	1.73E-21
3.563	7.25E-22	8.00E-22	8.80E-22	9.66E-22	1.06E-21	1.16E-21	1.27E-21	1.39E-21	1.52E-21	1.67E-21
3.878	7.11E-22	7.81E-22	8.57E-22	9.38E-22	1.03E-21	1.12E-21	1.22E-21	1.34E-21	1.46E-21	1.60E-21
4.220	6.89E-22	7.55E-22	8.26E-22	9.02E-22	9.84E-22	1.07E-21	1.17E-21	1.27E-21	1.39E-21	1.52E-21
4.593	6.61E-22	7.22E-22	7.88E-22	8.59E-22	9.35E-22	1.02E-21	1.11E-21	1.20E-21	1.31E-21	1.43E-21
5.000	6.29E-22	6.86E-22	7.47E-22	8.13E-22	8.83E-22	9.59E-22	1.04E-21	1.13E-21	1.23E-21	1.34E-21

Table 4: Cross sections for non-dissociative ionization of $H_2(EF^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.13245	3.11169	2.96369	2.84402	2.82268	2.68998	2.59363	2.55648	2.45035	2.36643
1.274	3.17E-20	7.09E-25	3.98E-24	1.85E-20	6.88E-23	1.07E-22	4.72E-21	9.59E-22	5.53E-23	9.22E-23
1.623	7.41E-20	2.73E-21	2.52E-21	6.25E-20	2.96E-21	3.99E-21	3.97E-20	1.20E-20	9.04E-21	1.49E-20
2.069	1.09E-19	2.28E-20	2.08E-20	1.02E-19	1.93E-20	1.88E-20	7.69E-20	3.02E-20	2.54E-20	3.86E-20
2.636	1.32E-19	4.17E-20	4.10E-20	1.29E-19	4.07E-20	4.14E-20	1.07E-19	5.55E-20	5.01E-20	6.61E-20
3.359	1.43E-19	5.43E-20	5.48E-20	1.43E-19	5.58E-20	5.78E-20	1.24E-19	7.32E-20	6.82E-20	8.55E-20
4.281	1.43E-19	6.04E-20	6.17E-20	1.45E-19	6.36E-20	6.64E-20	1.30E-19	8.21E-20	7.76E-20	9.50E-20
5.455	1.36E-19	6.12E-20	6.30E-20	1.39E-19	6.53E-20	6.86E-20	1.27E-19	8.37E-20	7.97E-20	9.62E-20
6.951	1.24E-19	5.83E-20	6.03E-20	1.28E-19	6.29E-20	6.62E-20	1.19E-19	8.01E-20	7.67E-20	9.18E-20
8.858	1.10E-19	5.33E-20	5.53E-20	1.15E-19	5.78E-20	6.10E-20	1.07E-19	7.34E-20	7.05E-20	8.39E-20
11.28	9.58E-20	4.72E-20	4.91E-20	9.98E-20	5.14E-20	5.43E-20	9.35E-20	6.51E-20	6.27E-20	7.43E-20
14.38	8.18E-20	4.08E-20	4.25E-20	8.54E-20	4.46E-20	4.71E-20	8.04E-20	5.64E-20	5.44E-20	6.43E-20
18.32	6.89E-20	3.47E-20	3.62E-20	7.21E-20	3.80E-20	4.02E-20	6.81E-20	4.80E-20	4.63E-20	5.47E-20
23.35	5.75E-20	2.91E-20	3.04E-20	6.02E-20	3.19E-20	3.38E-20	5.69E-20	4.03E-20	3.89E-20	4.59E-20
29.76	4.76E-20	2.42E-20	2.52E-20	4.99E-20	2.65E-20	2.81E-20	4.72E-20	3.35E-20	3.24E-20	3.81E-20
37.92	3.92E-20	1.99E-20	2.08E-20	4.10E-20	2.19E-20	2.31E-20	3.88E-20	2.76E-20	2.67E-20	3.14E-20
48.32	3.21E-20	1.63E-20	1.70E-20	3.36E-20	1.79E-20	1.90E-20	3.18E-20	2.26E-20	2.19E-20	2.57E-20
61.58	2.61E-20	1.33E-20	1.39E-20	2.74E-20	1.46E-20	1.55E-20	2.59E-20	1.84E-20	1.78E-20	2.10E-20
78.47	2.12E-20	1.08E-20	1.13E-20	2.22E-20	1.18E-20	1.25E-20	2.11E-20	1.50E-20	1.45E-20	1.70E-20
100.0	1.72E-20	8.74E-21	9.12E-21	1.80E-20	9.58E-21	1.02E-20	1.71E-20	1.21E-20	1.17E-20	1.38E-20

Table 5: Cross sections for dissociative ionization of $H_2(EF^1)$ via the continuum of the ionic ground state $H_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.78162	5.76086	5.61286	5.49318	5.47184	5.33915	5.24279	5.20565	5.09951	5.01559
1.196	4.82E-29	4.14E-27	4.88E-25	4.00E-27	2.24E-24	5.12E-23	1.52E-23	1.14E-22	8.22E-22	7.31E-22
1.430	1.70E-28	9.70E-27	1.07E-24	9.41E-27	5.21E-24	1.12E-22	3.50E-23	2.62E-22	1.80E-21	1.66E-21
1.710	3.01E-28	1.43E-26	1.54E-24	1.39E-26	7.63E-24	1.60E-22	5.09E-23	3.81E-22	2.57E-21	2.39E-21
2.046	4.03E-28	1.75E-26	1.87E-24	1.70E-26	9.31E-24	1.94E-22	6.18E-23	4.63E-22	3.09E-21	2.89E-21
2.447	4.70E-28	1.95E-26	2.06E-24	1.88E-26	1.03E-23	2.13E-22	6.80E-23	5.09E-22	3.38E-21	3.17E-21
2.927	5.05E-28	2.03E-26	2.14E-24	1.96E-26	1.07E-23	2.20E-22	7.03E-23	5.26E-22	3.48E-21	3.27E-21
3.501	5.14E-28	2.02E-26	2.12E-24	1.94E-26	1.06E-23	2.17E-22	6.96E-23	5.21E-22	3.44E-21	3.23E-21
4.187	5.03E-28	1.95E-26	2.04E-24	1.87E-26	1.02E-23	2.08E-22	6.68E-23	5.00E-22	3.29E-21	3.09E-21
5.008	4.78E-28	1.83E-26	1.91E-24	1.76E-26	9.56E-24	1.95E-22	6.25E-23	4.68E-22	3.07E-21	2.88E-21
5.990	4.44E-28	1.69E-26	1.76E-24	1.62E-26	8.80E-24	1.79E-22	5.75E-23	4.30E-22	2.82E-21	2.64E-21
7.164	4.06E-28	1.53E-26	1.60E-24	1.47E-26	7.97E-24	1.62E-22	5.20E-23	3.89E-22	2.55E-21	2.39E-21
8.568	3.66E-28	1.37E-26	1.43E-24	1.31E-26	7.14E-24	1.45E-22	4.65E-23	3.48E-22	2.28E-21	2.14E-21
10.24	3.26E-28	1.22E-26	1.27E-24	1.17E-26	6.34E-24	1.29E-22	4.12E-23	3.08E-22	2.02E-21	1.89E-21
12.25	2.88E-28	1.08E-26	1.12E-24	1.03E-26	5.58E-24	1.13E-22	3.63E-23	2.71E-22	1.77E-21	1.66E-21
14.66	2.52E-28	9.41E-27	9.77E-25	8.97E-27	4.88E-24	9.88E-23	3.17E-23	2.37E-22	1.55E-21	1.45E-21
17.53	2.20E-28	8.19E-27	8.50E-25	7.81E-27	4.24E-24	8.59E-23	2.75E-23	2.06E-22	1.34E-21	1.26E-21
20.97	1.91E-28	7.10E-27	7.36E-25	6.76E-27	3.67E-24	7.44E-23	2.38E-23	1.78E-22	1.16E-21	1.09E-21
25.08	1.65E-28	6.13E-27	6.35E-25	5.83E-27	3.17E-24	6.41E-23	2.05E-23	1.53E-22	1.00E-21	9.37E-22
30.00	1.42E-28	5.28E-27	5.47E-25	5.02E-27	2.72E-24	5.51E-23	1.77E-23	1.32E-22	8.60E-22	8.05E-22

Table 6: Cross sections for dissociative ionization of $H_2(EF^1)$ via the repulsive ionic state $H_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.6816	15.6609	15.5129	15.3932	15.3718	15.2391	15.1428	15.1056	14.9995	14.9156
1.122	8.01E-31	1.38E-21	1.41E-21	4.22E-24	1.47E-21	1.54E-21	3.41E-22	1.38E-21	1.50E-21	1.20E-21
1.260	8.78E-26	3.78E-21	3.91E-21	1.71E-23	4.02E-21	4.07E-21	9.43E-22	3.41E-21	3.67E-21	2.78E-21
1.414	1.52E-23	5.26E-21	5.45E-21	1.79E-22	5.61E-21	5.73E-21	1.84E-21	4.83E-21	5.28E-21	4.16E-21
1.588	2.13E-22	6.13E-21	6.34E-21	7.18E-22	6.53E-21	6.67E-21	2.59E-21	5.70E-21	6.22E-21	5.03E-21
1.782	7.06E-22	6.53E-21	6.75E-21	1.17E-21	6.94E-21	7.09E-21	3.10E-21	6.13E-21	6.66E-21	5.49E-21
2.001	1.16E-21	6.59E-21	6.80E-21	1.58E-21	6.98E-21	7.12E-21	3.38E-21	6.21E-21	6.72E-21	5.61E-21
2.246	1.44E-21	6.39E-21	6.59E-21	1.84E-21	6.75E-21	6.89E-21	3.49E-21	6.06E-21	6.52E-21	5.52E-21
2.522	1.57E-21	6.04E-21	6.21E-21	1.95E-21	6.36E-21	6.47E-21	3.43E-21	5.74E-21	6.15E-21	5.25E-21
2.831	1.61E-21	5.58E-21	5.73E-21	1.94E-21	5.86E-21	5.96E-21	3.27E-21	5.31E-21	5.67E-21	4.87E-21
3.178	1.57E-21	5.07E-21	5.20E-21	1.87E-21	5.31E-21	5.40E-21	3.03E-21	4.82E-21	5.13E-21	4.44E-21
3.568	1.49E-21	4.55E-21	4.66E-21	1.75E-21	4.75E-21	4.82E-21	2.76E-21	4.32E-21	4.59E-21	3.98E-21
4.005	1.38E-21	4.03E-21	4.13E-21	1.61E-21	4.21E-21	4.27E-21	2.48E-21	3.83E-21	4.06E-21	3.53E-21
4.496	1.25E-21	3.55E-21	3.63E-21	1.45E-21	3.69E-21	3.74E-21	2.21E-21	3.36E-21	3.56E-21	3.11E-21
5.048	1.13E-21	3.10E-21	3.16E-21	1.30E-21	3.22E-21	3.26E-21	1.94E-21	2.93E-21	3.10E-21	2.71E-21
5.667	1.00E-21	2.69E-21	2.74E-21	1.15E-21	2.79E-21	2.82E-21	1.70E-21	2.54E-21	2.68E-21	2.35E-21
6.361	8.84E-22	2.33E-21	2.37E-21	1.01E-21	2.41E-21	2.43E-21	1.48E-21	2.19E-21	2.31E-21	2.03E-21
7.141	7.75E-22	2.00E-21	2.04E-21	8.81E-22	2.07E-21	2.09E-21	1.28E-21	1.88E-21	1.98E-21	1.74E-21
8.017	6.76E-22	1.72E-21	1.75E-21	7.66E-22	1.77E-21	1.79E-21	1.10E-21	1.61E-21	1.70E-21	1.49E-21
9.000	5.87E-22	1.47E-21	1.50E-21	6.63E-22	1.51E-21	1.53E-21	9.47E-22	1.38E-21	1.45E-21	1.28E-21

Table 7: Cross sections for non-dissociative ionization of $H_2(B^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	4.25056	4.08667	3.92742	3.77253	3.62187	3.47532	3.33282	3.19431	3.05972	2.92901
1.274	1.33E-20	9.22E-21	6.12E-21	4.29E-21	2.93E-21	1.94E-21	1.12E-21	5.49E-22	2.28E-22	8.13E-23
1.623	3.49E-20	3.01E-20	2.57E-20	2.16E-20	1.76E-20	1.39E-20	1.04E-20	7.42E-21	5.52E-21	4.04E-21
2.069	5.34E-20	4.91E-20	4.51E-20	4.14E-20	3.79E-20	3.44E-20	3.09E-20	2.74E-20	2.38E-20	2.02E-20
2.636	6.57E-20	6.21E-20	5.90E-20	5.61E-20	5.34E-20	5.08E-20	4.82E-20	4.57E-20	4.31E-20	4.04E-20
3.359	7.16E-20	6.88E-20	6.64E-20	6.43E-20	6.24E-20	6.07E-20	5.91E-20	5.75E-20	5.60E-20	5.44E-20
4.281	7.22E-20	7.00E-20	6.82E-20	6.68E-20	6.56E-20	6.46E-20	6.37E-20	6.29E-20	6.22E-20	6.15E-20
5.455	6.88E-20	6.72E-20	6.59E-20	6.50E-20	6.43E-20	6.37E-20	6.34E-20	6.31E-20	6.30E-20	6.29E-20
6.951	6.31E-20	6.18E-20	6.10E-20	6.04E-20	6.00E-20	5.98E-20	5.97E-20	5.98E-20	6.01E-20	6.03E-20
8.858	5.62E-20	5.52E-20	5.46E-20	5.42E-20	5.40E-20	5.40E-20	5.42E-20	5.45E-20	5.49E-20	5.53E-20
11.28	4.89E-20	4.81E-20	4.77E-20	4.74E-20	4.74E-20	4.75E-20	4.77E-20	4.81E-20	4.86E-20	4.92E-20
14.38	4.18E-20	4.12E-20	4.08E-20	4.07E-20	4.07E-20	4.09E-20	4.12E-20	4.16E-20	4.21E-20	4.26E-20
18.32	3.52E-20	3.48E-20	3.45E-20	3.44E-20	3.45E-20	3.47E-20	3.49E-20	3.53E-20	3.58E-20	3.63E-20
23.35	2.94E-20	2.90E-20	2.88E-20	2.88E-20	2.89E-20	2.90E-20	2.93E-20	2.96E-20	3.00E-20	3.05E-20
29.76	2.43E-20	2.40E-20	2.39E-20	2.39E-20	2.39E-20	2.41E-20	2.43E-20	2.46E-20	2.49E-20	2.53E-20
37.92	2.00E-20	1.98E-20	1.97E-20	1.96E-20	1.97E-20	1.98E-20	2.00E-20	2.02E-20	2.05E-20	2.09E-20
48.32	1.64E-20	1.62E-20	1.61E-20	1.61E-20	1.61E-20	1.62E-20	1.64E-20	1.66E-20	1.68E-20	1.71E-20
61.58	1.34E-20	1.32E-20	1.31E-20	1.31E-20	1.31E-20	1.32E-20	1.33E-20	1.35E-20	1.37E-20	1.39E-20
78.47	1.09E-20	1.07E-20	1.07E-20	1.06E-20	1.07E-20	1.07E-20	1.08E-20	1.10E-20	1.11E-20	1.13E-20
100.0	8.80E-21	8.69E-21	8.64E-21	8.62E-21	8.64E-21	8.69E-21	8.77E-21	8.88E-21	9.00E-21	9.15E-21

Table 8: Cross sections for dissociative ionization of $H_2(B^1)$ via the continuum of the ionic ground state $H_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.89972	6.73583	6.57658	6.4217	6.27103	6.12448	5.98198	5.84347	5.70889	5.57817
1.196	1.34E-29	2.93E-29	1.54E-29	3.37E-29	3.22E-29	2.55E-28	1.89E-27	1.20E-25	2.52E-25	1.21E-23
1.430	6.58E-29	1.02E-28	4.53E-29	1.07E-28	1.08E-28	5.95E-28	4.28E-27	2.67E-25	5.91E-25	2.66E-23
1.710	1.27E-28	1.79E-28	7.49E-29	1.83E-28	1.88E-28	8.85E-28	6.26E-27	3.87E-25	8.70E-25	3.83E-23
2.046	1.80E-28	2.42E-28	9.89E-29	2.45E-28	2.54E-28	1.09E-27	7.66E-27	4.72E-25	1.07E-24	4.65E-23
2.447	2.18E-28	2.85E-28	1.15E-28	2.88E-28	2.99E-28	1.22E-27	8.50E-27	5.22E-25	1.18E-24	5.12E-23
2.927	2.40E-28	3.10E-28	1.24E-28	3.12E-28	3.23E-28	1.28E-27	8.85E-27	5.42E-25	1.23E-24	5.30E-23
3.501	2.48E-28	3.18E-28	1.27E-28	3.19E-28	3.31E-28	1.28E-27	8.82E-27	5.39E-25	1.22E-24	5.26E-23
4.187	2.46E-28	3.13E-28	1.24E-28	3.14E-28	3.25E-28	1.24E-27	8.51E-27	5.19E-25	1.18E-24	5.05E-23
5.008	2.37E-28	2.99E-28	1.18E-28	2.99E-28	3.10E-28	1.16E-27	8.00E-27	4.87E-25	1.11E-24	4.74E-23
5.990	2.22E-28	2.79E-28	1.10E-28	2.79E-28	2.89E-28	1.08E-27	7.39E-27	4.49E-25	1.02E-24	4.36E-23
7.164	2.04E-28	2.56E-28	1.01E-28	2.56E-28	2.65E-28	9.80E-28	6.71E-27	4.08E-25	9.27E-25	3.95E-23
8.568	1.85E-28	2.32E-28	9.13E-29	2.31E-28	2.39E-28	8.80E-28	6.02E-27	3.66E-25	8.32E-25	3.54E-23
10.24	1.66E-28	2.07E-28	8.16E-29	2.06E-28	2.14E-28	7.83E-28	5.35E-27	3.25E-25	7.39E-25	3.14E-23
12.25	1.47E-28	1.84E-28	7.22E-29	1.83E-28	1.89E-28	6.91E-28	4.72E-27	2.86E-25	6.51E-25	2.76E-23
14.66	1.29E-28	1.61E-28	6.34E-29	1.61E-28	1.66E-28	6.05E-28	4.13E-27	2.51E-25	5.69E-25	2.42E-23
17.53	1.13E-28	1.41E-28	5.54E-29	1.40E-28	1.45E-28	5.27E-28	3.60E-27	2.18E-25	4.95E-25	2.10E-23
20.97	9.83E-29	1.23E-28	4.81E-29	1.22E-28	1.26E-28	4.57E-28	3.12E-27	1.89E-25	4.29E-25	1.82E-23
25.08	8.51E-29	1.06E-28	4.16E-29	1.05E-28	1.09E-28	3.95E-28	2.70E-27	1.63E-25	3.71E-25	1.57E-23
30.00	7.34E-29	9.15E-29	3.59E-29	9.08E-29	9.38E-29	3.40E-28	2.32E-27	1.41E-25	3.19E-25	1.35E-23

Table 9: Cross sections for dissociative ionization of $H_2(B^1)$ via the repulsive ionic state $H_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.7997	16.6358	16.4766	16.3217	16.171	16.0245	15.882	15.7435	15.6089	15.4782
1.122	7.30E-26	1.93E-24	1.85E-23	8.71E-23	2.27E-22	3.83E-22	5.27E-22	6.88E-22	8.42E-22	1.00E-21
1.260	6.02E-23	3.27E-22	6.39E-22	9.10E-22	1.19E-21	1.46E-21	1.72E-21	1.99E-21	2.25E-21	2.51E-21
1.414	5.52E-22	9.99E-22	1.38E-21	1.71E-21	2.04E-21	2.37E-21	2.69E-21	3.00E-21	3.32E-21	3.64E-21
1.588	1.26E-21	1.62E-21	1.98E-21	2.34E-21	2.70E-21	3.04E-21	3.38E-21	3.71E-21	4.04E-21	4.38E-21
1.782	1.77E-21	2.13E-21	2.47E-21	2.81E-21	3.14E-21	3.47E-21	3.80E-21	4.13E-21	4.46E-21	4.80E-21
2.001	2.08E-21	2.43E-21	2.76E-21	3.08E-21	3.39E-21	3.70E-21	4.01E-21	4.32E-21	4.63E-21	4.94E-21
2.246	2.23E-21	2.56E-21	2.87E-21	3.17E-21	3.46E-21	3.75E-21	4.04E-21	4.32E-21	4.61E-21	4.89E-21
2.522	2.26E-21	2.56E-21	2.84E-21	3.12E-21	3.39E-21	3.65E-21	3.91E-21	4.17E-21	4.43E-21	4.69E-21
2.831	2.20E-21	2.47E-21	2.73E-21	2.98E-21	3.22E-21	3.45E-21	3.69E-21	3.92E-21	4.15E-21	4.38E-21
3.178	2.09E-21	2.33E-21	2.56E-21	2.78E-21	2.99E-21	3.20E-21	3.41E-21	3.61E-21	3.81E-21	4.01E-21
3.568	1.94E-21	2.15E-21	2.35E-21	2.55E-21	2.73E-21	2.91E-21	3.09E-21	3.27E-21	3.45E-21	3.62E-21
4.005	1.78E-21	1.96E-21	2.13E-21	2.30E-21	2.46E-21	2.62E-21	2.78E-21	2.93E-21	3.08E-21	3.23E-21
4.496	1.60E-21	1.76E-21	1.91E-21	2.06E-21	2.20E-21	2.33E-21	2.46E-21	2.59E-21	2.72E-21	2.85E-21
5.048	1.43E-21	1.57E-21	1.70E-21	1.82E-21	1.94E-21	2.06E-21	2.17E-21	2.28E-21	2.39E-21	2.50E-21
5.667	1.27E-21	1.39E-21	1.50E-21	1.60E-21	1.70E-21	1.80E-21	1.90E-21	1.99E-21	2.08E-21	2.17E-21
6.361	1.11E-21	1.22E-21	1.31E-21	1.40E-21	1.49E-21	1.57E-21	1.65E-21	1.73E-21	1.81E-21	1.88E-21
7.141	9.75E-22	1.06E-21	1.14E-21	1.22E-21	1.29E-21	1.36E-21	1.43E-21	1.49E-21	1.56E-21	1.62E-21
8.017	8.50E-22	9.23E-22	9.91E-22	1.06E-21	1.12E-21	1.18E-21	1.23E-21	1.29E-21	1.34E-21	1.40E-21
9.000	7.38E-22	8.00E-22	8.57E-22	9.11E-22	9.63E-22	1.01E-21	1.06E-21	1.11E-21	1.15E-21	1.20E-21

Table 10: Cross sections for non-dissociative ionization of $H_2(C^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.14156	2.85531	2.5857	2.33239	2.09518	1.87401	1.66896	1.48034	1.30869	1.15488
1.274	3.19E-20	1.85E-20	5.38E-21	1.26E-22	9.55E-26	3.35E-28	7.10E-29	7.99E-28	1.20E-28	7.37E-28
1.623	7.42E-20	6.24E-20	4.83E-20	3.18E-20	1.38E-20	5.02E-22	8.67E-25	6.29E-27	1.66E-27	2.25E-27
2.069	1.09E-19	1.02E-19	9.19E-20	7.95E-20	6.39E-20	4.46E-20	2.17E-20	8.40E-22	7.94E-26	5.88E-27
2.636	1.32E-19	1.29E-19	1.24E-19	1.17E-19	1.07E-19	9.43E-20	7.71E-20	5.46E-20	2.68E-20	7.24E-22
3.359	1.42E-19	1.42E-19	1.41E-19	1.39E-19	1.35E-19	1.29E-19	1.19E-19	1.06E-19	8.67E-20	6.09E-20
4.281	1.43E-19	1.45E-19	1.46E-19	1.47E-19	1.48E-19	1.46E-19	1.44E-19	1.38E-19	1.28E-19	1.14E-19
5.455	1.35E-19	1.39E-19	1.42E-19	1.45E-19	1.48E-19	1.50E-19	1.52E-19	1.52E-19	1.50E-19	1.44E-19
6.951	1.24E-19	1.28E-19	1.32E-19	1.36E-19	1.40E-19	1.45E-19	1.49E-19	1.52E-19	1.54E-19	1.55E-19
8.858	1.10E-19	1.14E-19	1.18E-19	1.23E-19	1.28E-19	1.33E-19	1.38E-19	1.43E-19	1.48E-19	1.52E-19
11.28	9.55E-20	9.93E-20	1.03E-19	1.08E-19	1.13E-19	1.18E-19	1.24E-19	1.30E-19	1.36E-19	1.41E-19
14.38	8.16E-20	8.50E-20	8.87E-20	9.29E-20	9.74E-20	1.02E-19	1.08E-19	1.14E-19	1.20E-19	1.26E-19
18.32	6.88E-20	7.17E-20	7.50E-20	7.87E-20	8.27E-20	8.72E-20	9.22E-20	9.76E-20	1.04E-19	1.10E-19
23.35	5.74E-20	5.99E-20	6.27E-20	6.58E-20	6.93E-20	7.32E-20	7.76E-20	8.24E-20	8.78E-20	9.34E-20
29.76	4.75E-20	4.96E-20	5.20E-20	5.46E-20	5.76E-20	6.09E-20	6.46E-20	6.87E-20	7.33E-20	7.83E-20
37.92	3.91E-20	4.08E-20	4.28E-20	4.49E-20	4.74E-20	5.02E-20	5.33E-20	5.68E-20	6.07E-20	6.49E-20
48.32	3.20E-20	3.34E-20	3.50E-20	3.68E-20	3.88E-20	4.11E-20	4.37E-20	4.65E-20	4.98E-20	5.33E-20
61.58	2.61E-20	2.72E-20	2.85E-20	3.00E-20	3.16E-20	3.35E-20	3.56E-20	3.79E-20	4.06E-20	4.35E-20
78.47	2.12E-20	2.21E-20	2.32E-20	2.44E-20	2.57E-20	2.72E-20	2.89E-20	3.08E-20	3.30E-20	3.53E-20
100.0	1.72E-20	1.79E-20	1.88E-20	1.97E-20	2.08E-20	2.20E-20	2.34E-20	2.49E-20	2.66E-20	2.86E-20

Table 11: Cross sections for dissociative ionization of $H_2(C^1)$ via the continuum of the ionic ground state $H_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.79073	5.50447	5.23486	4.98156	4.74434	4.52317	4.31813	4.12951	3.95786	3.80404
1.196	4.04E-29	6.66E-30	4.06E-29	1.57E-28	4.46E-28	2.57E-27	2.20E-26	1.61E-25	8.78E-25	3.90E-24
1.430	1.36E-28	5.02E-29	1.15E-28	3.73E-28	1.00E-27	5.97E-27	4.90E-26	3.49E-25	1.88E-24	8.25E-24
1.710	2.35E-28	1.15E-28	1.87E-28	5.58E-28	1.45E-27	8.65E-27	6.94E-26	4.88E-25	2.61E-24	1.13E-23
2.046	3.11E-28	1.78E-28	2.42E-28	6.95E-28	1.75E-27	1.04E-26	8.25E-26	5.75E-25	3.05E-24	1.32E-23
2.447	3.61E-28	2.25E-28	2.77E-28	7.78E-28	1.92E-27	1.14E-26	8.91E-26	6.17E-25	3.26E-24	1.40E-23
2.927	3.87E-28	2.53E-28	2.95E-28	8.14E-28	1.98E-27	1.17E-26	9.08E-26	6.25E-25	3.28E-24	1.40E-23
3.501	3.93E-28	2.65E-28	2.98E-28	8.11E-28	1.95E-27	1.15E-26	8.87E-26	6.08E-25	3.18E-24	1.35E-23
4.187	3.84E-28	2.65E-28	2.89E-28	7.82E-28	1.87E-27	1.10E-26	8.41E-26	5.75E-25	3.00E-24	1.27E-23
5.008	3.65E-28	2.55E-28	2.73E-28	7.34E-28	1.74E-27	1.02E-26	7.80E-26	5.31E-25	2.76E-24	1.17E-23
5.990	3.39E-28	2.39E-28	2.53E-28	6.76E-28	1.60E-27	9.32E-27	7.11E-26	4.83E-25	2.50E-24	1.06E-23
7.164	3.09E-28	2.20E-28	2.30E-28	6.13E-28	1.44E-27	8.40E-27	6.39E-26	4.33E-25	2.24E-24	9.43E-24
8.568	2.79E-28	1.99E-28	2.07E-28	5.49E-28	1.29E-27	7.48E-27	5.68E-26	3.84E-25	1.98E-24	8.33E-24
10.24	2.48E-28	1.78E-28	1.84E-28	4.86E-28	1.14E-27	6.60E-27	5.00E-26	3.38E-25	1.74E-24	7.30E-24
12.25	2.19E-28	1.58E-28	1.62E-28	4.28E-28	9.97E-28	5.79E-27	4.37E-26	2.95E-25	1.52E-24	6.36E-24
14.66	1.92E-28	1.38E-28	1.42E-28	3.74E-28	8.69E-28	5.04E-27	3.80E-26	2.56E-25	1.32E-24	5.51E-24
17.53	1.67E-28	1.21E-28	1.23E-28	3.25E-28	7.54E-28	4.37E-27	3.29E-26	2.22E-25	1.14E-24	4.75E-24
20.97	1.45E-28	1.05E-28	1.07E-28	2.81E-28	6.52E-28	3.77E-27	2.84E-26	1.91E-25	9.78E-25	4.08E-24
25.08	1.25E-28	9.06E-29	9.22E-29	2.42E-28	5.61E-28	3.24E-27	2.44E-26	1.64E-25	8.39E-25	3.50E-24
30.00	1.08E-28	7.80E-29	7.93E-29	2.08E-28	4.82E-28	2.78E-27	2.09E-26	1.40E-25	7.18E-25	2.99E-24

Table 12: Cross sections for dissociative ionization of $H_2(C^1)$ via the repulsive ionic state $H_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.6907	15.4045	15.1349	14.8816	14.6443	14.4232	14.2181	14.0295	13.8579	13.704
1.122	3.65E-31	5.53E-29	3.01E-27	7.27E-26	1.08E-24	1.04E-23	6.53E-23	2.65E-22	6.91E-22	1.27E-21
1.260	1.15E-25	3.03E-24	3.11E-23	1.62E-22	4.77E-22	9.06E-22	1.42E-21	2.10E-21	2.92E-21	3.94E-21
1.414	2.13E-23	1.78E-22	5.38E-22	9.49E-22	1.45E-21	2.04E-21	2.76E-21	3.60E-21	4.60E-21	5.79E-21
1.588	2.64E-22	7.30E-22	1.15E-21	1.66E-21	2.23E-21	2.89E-21	3.67E-21	4.56E-21	5.60E-21	6.83E-21
1.782	7.95E-22	1.19E-21	1.66E-21	2.18E-21	2.76E-21	3.43E-21	4.20E-21	5.08E-21	6.09E-21	7.27E-21
2.001	1.25E-21	1.61E-21	2.02E-21	2.51E-21	3.07E-21	3.71E-21	4.44E-21	5.26E-21	6.20E-21	7.29E-21
2.246	1.52E-21	1.86E-21	2.26E-21	2.70E-21	3.21E-21	3.79E-21	4.44E-21	5.19E-21	6.04E-21	7.01E-21
2.522	1.65E-21	1.97E-21	2.33E-21	2.74E-21	3.20E-21	3.72E-21	4.30E-21	4.96E-21	5.71E-21	6.55E-21
2.831	1.67E-21	1.96E-21	2.29E-21	2.66E-21	3.07E-21	3.53E-21	4.04E-21	4.62E-21	5.26E-21	6.00E-21
3.178	1.63E-21	1.89E-21	2.18E-21	2.50E-21	2.86E-21	3.26E-21	3.71E-21	4.20E-21	4.76E-21	5.39E-21
3.568	1.54E-21	1.77E-21	2.02E-21	2.30E-21	2.62E-21	2.96E-21	3.34E-21	3.77E-21	4.24E-21	4.77E-21
4.005	1.42E-21	1.62E-21	1.84E-21	2.09E-21	2.35E-21	2.65E-21	2.97E-21	3.33E-21	3.73E-21	4.18E-21
4.496	1.29E-21	1.47E-21	1.66E-21	1.86E-21	2.09E-21	2.34E-21	2.62E-21	2.92E-21	3.25E-21	3.63E-21
5.048	1.16E-21	1.31E-21	1.47E-21	1.65E-21	1.84E-21	2.05E-21	2.28E-21	2.54E-21	2.82E-21	3.13E-21
5.667	1.03E-21	1.16E-21	1.30E-21	1.45E-21	1.61E-21	1.79E-21	1.98E-21	2.19E-21	2.43E-21	2.69E-21
6.361	9.09E-22	1.02E-21	1.13E-21	1.26E-21	1.40E-21	1.55E-21	1.71E-21	1.89E-21	2.08E-21	2.30E-21
7.141	7.96E-22	8.88E-22	9.87E-22	1.09E-21	1.21E-21	1.33E-21	1.47E-21	1.61E-21	1.78E-21	1.95E-21
8.017	6.94E-22	7.72E-22	8.55E-22	9.45E-22	1.04E-21	1.15E-21	1.26E-21	1.38E-21	1.51E-21	1.66E-21
9.000	6.03E-22	6.68E-22	7.38E-22	8.14E-22	8.94E-22	9.81E-22	1.07E-21	1.18E-21	1.29E-21	1.41E-21

Table 13: Cross sections for non-dissociative ionization of $H_2(a^3)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.6389	3.32581	3.02961	2.74984	2.48612	2.23823	2.0061	1.78984	1.58982	1.40682
1.274	2.29E-20	1.50E-20	6.96E-21	1.55E-21	4.00E-23	3.72E-26	1.03E-27	7.23E-28	8.48E-28	9.02E-28
1.623	5.42E-20	4.77E-20	3.96E-20	2.98E-20	1.86E-20	7.84E-21	7.50E-22	1.62E-25	2.23E-27	2.50E-27
2.069	8.02E-20	7.68E-20	7.20E-20	6.55E-20	5.69E-20	4.57E-20	3.18E-20	1.64E-20	3.35E-21	2.90E-25
2.636	9.71E-20	9.66E-20	9.52E-20	9.26E-20	8.85E-20	8.22E-20	7.32E-20	6.08E-20	4.42E-20	2.44E-20
3.359	1.05E-19	1.07E-19	1.08E-19	1.08E-19	1.08E-19	1.06E-19	1.03E-19	9.70E-20	8.75E-20	7.35E-20
4.281	1.05E-19	1.08E-19	1.11E-19	1.14E-19	1.16E-19	1.18E-19	1.19E-19	1.18E-19	1.15E-19	1.09E-19
5.455	9.99E-20	1.04E-19	1.08E-19	1.12E-19	1.16E-19	1.19E-19	1.23E-19	1.26E-19	1.27E-19	1.26E-19
6.951	9.14E-20	9.54E-20	9.97E-20	1.04E-19	1.09E-19	1.14E-19	1.19E-19	1.24E-19	1.28E-19	1.30E-19
8.858	8.12E-20	8.51E-20	8.94E-20	9.39E-20	9.87E-20	1.04E-19	1.09E-19	1.15E-19	1.21E-19	1.25E-19
11.28	7.05E-20	7.42E-20	7.81E-20	8.23E-20	8.70E-20	9.20E-20	9.74E-20	1.03E-19	1.09E-19	1.14E-19
14.38	6.02E-20	6.35E-20	6.70E-20	7.08E-20	7.50E-20	7.96E-20	8.46E-20	9.01E-20	9.58E-20	1.01E-19
18.32	5.08E-20	5.36E-20	5.66E-20	5.99E-20	6.36E-20	6.77E-20	7.22E-20	7.71E-20	8.23E-20	8.74E-20
23.35	4.24E-20	4.47E-20	4.73E-20	5.01E-20	5.33E-20	5.68E-20	6.07E-20	6.49E-20	6.95E-20	7.41E-20
29.76	3.51E-20	3.70E-20	3.92E-20	4.16E-20	4.42E-20	4.71E-20	5.04E-20	5.41E-20	5.80E-20	6.19E-20
37.92	2.88E-20	3.05E-20	3.22E-20	3.42E-20	3.64E-20	3.88E-20	4.16E-20	4.46E-20	4.79E-20	5.12E-20
48.32	2.36E-20	2.49E-20	2.64E-20	2.80E-20	2.98E-20	3.18E-20	3.41E-20	3.66E-20	3.93E-20	4.20E-20
61.58	1.93E-20	2.03E-20	2.15E-20	2.28E-20	2.43E-20	2.59E-20	2.77E-20	2.98E-20	3.20E-20	3.43E-20
78.47	1.56E-20	1.65E-20	1.75E-20	1.85E-20	1.97E-20	2.10E-20	2.25E-20	2.42E-20	2.60E-20	2.78E-20
100.0	1.27E-20	1.34E-20	1.42E-20	1.50E-20	1.60E-20	1.70E-20	1.82E-20	1.96E-20	2.10E-20	2.25E-20

Table 14: Cross sections for dissociative ionization of $H_2(a^3)$ via the continuum of the ionic ground state $H_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.28806	5.97497	5.67877	5.399	5.13528	4.88739	4.65526	4.439	4.23898	4.05598
1.196	3.49E-29	3.57E-28	5.23E-27	4.66E-26	3.47E-25	2.13E-24	1.08E-23	4.57E-23	1.59E-22	4.60E-22
1.430	1.14E-28	9.00E-28	1.25E-26	1.11E-25	8.25E-25	5.02E-24	2.53E-23	1.06E-22	3.67E-22	1.06E-21
1.710	1.90E-28	1.40E-27	1.86E-26	1.64E-25	1.21E-24	7.32E-24	3.66E-23	1.53E-22	5.26E-22	1.50E-21
2.046	2.50E-28	1.77E-27	2.30E-26	2.02E-25	1.48E-24	8.88E-24	4.42E-23	1.83E-22	6.27E-22	1.78E-21
2.447	2.89E-28	2.01E-27	2.56E-26	2.23E-25	1.63E-24	9.75E-24	4.83E-23	1.99E-22	6.78E-22	1.92E-21
2.927	3.09E-28	2.12E-27	2.67E-26	2.32E-25	1.69E-24	1.01E-23	4.96E-23	2.04E-22	6.91E-22	1.95E-21
3.501	3.14E-28	2.14E-27	2.66E-26	2.30E-25	1.67E-24	9.92E-24	4.88E-23	2.00E-22	6.75E-22	1.90E-21
4.187	3.07E-28	2.08E-27	2.56E-26	2.22E-25	1.60E-24	9.49E-24	4.65E-23	1.90E-22	6.40E-22	1.79E-21
5.008	2.92E-28	1.96E-27	2.41E-26	2.08E-25	1.50E-24	8.86E-24	4.33E-23	1.76E-22	5.93E-22	1.66E-21
5.990	2.72E-28	1.82E-27	2.22E-26	1.91E-25	1.38E-24	8.13E-24	3.96E-23	1.61E-22	5.40E-22	1.51E-21
7.164	2.48E-28	1.66E-27	2.02E-26	1.73E-25	1.25E-24	7.34E-24	3.58E-23	1.45E-22	4.85E-22	1.35E-21
8.568	2.24E-28	1.49E-27	1.81E-26	1.55E-25	1.12E-24	6.56E-24	3.19E-23	1.29E-22	4.31E-22	1.20E-21
10.24	2.00E-28	1.33E-27	1.61E-26	1.38E-25	9.88E-25	5.80E-24	2.82E-23	1.14E-22	3.79E-22	1.05E-21
12.25	1.77E-28	1.17E-27	1.42E-26	1.21E-25	8.68E-25	5.09E-24	2.47E-23	9.96E-23	3.32E-22	9.19E-22
14.66	1.55E-28	1.03E-27	1.24E-26	1.06E-25	7.58E-25	4.44E-24	2.15E-23	8.67E-23	2.88E-22	7.98E-22
17.53	1.35E-28	8.94E-28	1.08E-26	9.22E-26	6.59E-25	3.86E-24	1.87E-23	7.51E-23	2.50E-22	6.89E-22
20.97	1.17E-28	7.75E-28	9.35E-27	7.98E-26	5.70E-25	3.33E-24	1.61E-23	6.48E-23	2.15E-22	5.94E-22
25.08	1.01E-28	6.70E-28	8.07E-27	6.89E-26	4.91E-25	2.87E-24	1.39E-23	5.57E-23	1.85E-22	5.09E-22
30.00	8.75E-29	5.77E-28	6.94E-27	5.92E-26	4.22E-25	2.46E-24	1.19E-23	4.78E-23	1.58E-22	4.36E-22

Table 15: Cross sections for dissociative ionization of $H_2(a^3)$ via the repulsive ionic state $H_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.1881	15.875	15.5788	15.299	15.0353	14.7874	14.5553	14.339	14.139	13.956
1.122	3.18E-32	4.91E-30	2.95E-28	8.88E-27	1.51E-25	1.73E-24	1.35E-23	7.23E-23	2.62E-22	6.40E-22
1.260	2.62E-26	8.37E-25	1.03E-23	6.50E-23	2.38E-22	5.46E-22	9.17E-22	1.39E-21	1.99E-21	2.73E-21
1.414	8.79E-24	8.86E-23	3.28E-22	6.52E-22	1.02E-21	1.48E-21	2.01E-21	2.65E-21	3.41E-21	4.33E-21
1.588	1.59E-22	5.19E-22	8.50E-22	1.25E-21	1.69E-21	2.22E-21	2.82E-21	3.52E-21	4.34E-21	5.30E-21
1.782	5.85E-22	9.18E-22	1.31E-21	1.72E-21	2.19E-21	2.73E-21	3.34E-21	4.04E-21	4.85E-21	5.79E-21
2.001	9.98E-22	1.29E-21	1.63E-21	2.03E-21	2.49E-21	3.02E-21	3.60E-21	4.27E-21	5.03E-21	5.91E-21
2.246	1.26E-21	1.54E-21	1.86E-21	2.23E-21	2.65E-21	3.12E-21	3.66E-21	4.28E-21	4.97E-21	5.77E-21
2.522	1.39E-21	1.66E-21	1.96E-21	2.30E-21	2.69E-21	3.11E-21	3.60E-21	4.14E-21	4.75E-21	5.45E-21
2.831	1.43E-21	1.68E-21	1.95E-21	2.26E-21	2.61E-21	2.99E-21	3.42E-21	3.90E-21	4.43E-21	5.04E-21
3.178	1.41E-21	1.63E-21	1.88E-21	2.15E-21	2.46E-21	2.79E-21	3.17E-21	3.58E-21	4.04E-21	4.57E-21
3.568	1.34E-21	1.54E-21	1.76E-21	2.00E-21	2.26E-21	2.55E-21	2.88E-21	3.23E-21	3.63E-21	4.08E-21
4.005	1.25E-21	1.42E-21	1.61E-21	1.82E-21	2.05E-21	2.30E-21	2.58E-21	2.88E-21	3.22E-21	3.60E-21
4.496	1.14E-21	1.29E-21	1.46E-21	1.64E-21	1.83E-21	2.05E-21	2.28E-21	2.54E-21	2.82E-21	3.14E-21
5.048	1.03E-21	1.16E-21	1.30E-21	1.46E-21	1.62E-21	1.81E-21	2.00E-21	2.22E-21	2.46E-21	2.72E-21
5.667	9.20E-22	1.03E-21	1.15E-21	1.28E-21	1.43E-21	1.58E-21	1.75E-21	1.93E-21	2.13E-21	2.35E-21
6.361	8.14E-22	9.10E-22	1.01E-21	1.12E-21	1.24E-21	1.37E-21	1.51E-21	1.66E-21	1.83E-21	2.02E-21
7.141	7.16E-22	7.97E-22	8.84E-22	9.78E-22	1.08E-21	1.19E-21	1.31E-21	1.43E-21	1.57E-21	1.72E-21
8.017	6.26E-22	6.95E-22	7.69E-22	8.48E-22	9.33E-22	1.02E-21	1.12E-21	1.23E-21	1.34E-21	1.47E-21
9.000	5.45E-22	6.04E-22	6.66E-22	7.33E-22	8.04E-22	8.80E-22	9.62E-22	1.05E-21	1.15E-21	1.25E-21

Table 16: Cross sections for non-dissociative ionization of $H_2(c^3)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.66238	3.37204	3.09686	2.83643	2.59041	2.35857	2.14076	1.93695	1.74722	1.57179
1.274	2.35E-20	1.51E-20	6.60E-21	2.75E-22	1.11E-24	1.42E-26	9.91E-28	4.24E-28	2.89E-29	6.94E-28
1.623	5.47E-20	4.74E-20	3.89E-20	2.92E-20	1.84E-20	7.21E-21	4.18E-22	1.43E-25	9.88E-27	2.31E-27
2.069	8.05E-20	7.59E-20	7.02E-20	6.33E-20	5.49E-20	4.47E-20	3.24E-20	1.82E-20	4.31E-21	1.12E-23
2.636	9.72E-20	9.52E-20	9.26E-20	8.90E-20	8.43E-20	7.82E-20	7.02E-20	5.99E-20	4.67E-20	3.06E-20
3.359	1.05E-19	1.05E-19	1.05E-19	1.04E-19	1.02E-19	1.00E-19	9.66E-20	9.14E-20	8.41E-20	7.40E-20
4.281	1.05E-19	1.06E-19	1.08E-19	1.09E-19	1.10E-19	1.10E-19	1.10E-19	1.09E-19	1.07E-19	1.03E-19
5.455	9.97E-20	1.02E-19	1.04E-19	1.07E-19	1.09E-19	1.11E-19	1.13E-19	1.15E-19	1.16E-19	1.17E-19
6.951	9.11E-20	9.38E-20	9.65E-20	9.95E-20	1.03E-19	1.06E-19	1.09E-19	1.12E-19	1.16E-19	1.19E-19
8.858	8.09E-20	8.36E-20	8.65E-20	8.96E-20	9.29E-20	9.65E-20	1.00E-19	1.04E-19	1.09E-19	1.13E-19
11.28	7.03E-20	7.28E-20	7.55E-20	7.85E-20	8.18E-20	8.53E-20	8.92E-20	9.34E-20	9.79E-20	1.03E-19
14.38	6.01E-20	6.23E-20	6.48E-20	6.75E-20	7.05E-20	7.38E-20	7.74E-20	8.14E-20	8.58E-20	9.05E-20
18.32	5.06E-20	5.26E-20	5.47E-20	5.71E-20	5.98E-20	6.27E-20	6.60E-20	6.96E-20	7.36E-20	7.79E-20
23.35	4.22E-20	4.39E-20	4.57E-20	4.78E-20	5.01E-20	5.26E-20	5.54E-20	5.86E-20	6.21E-20	6.59E-20
29.76	3.50E-20	3.63E-20	3.79E-20	3.96E-20	4.15E-20	4.37E-20	4.61E-20	4.87E-20	5.17E-20	5.51E-20
37.92	2.88E-20	2.99E-20	3.12E-20	3.26E-20	3.42E-20	3.60E-20	3.80E-20	4.02E-20	4.27E-20	4.55E-20
48.32	2.35E-20	2.45E-20	2.55E-20	2.67E-20	2.80E-20	2.94E-20	3.11E-20	3.29E-20	3.50E-20	3.73E-20
61.58	1.92E-20	2.00E-20	2.08E-20	2.18E-20	2.28E-20	2.40E-20	2.53E-20	2.68E-20	2.85E-20	3.04E-20
78.47	1.56E-20	1.62E-20	1.69E-20	1.77E-20	1.85E-20	1.95E-20	2.06E-20	2.18E-20	2.32E-20	2.47E-20
100.0	1.27E-20	1.31E-20	1.37E-20	1.43E-20	1.50E-20	1.58E-20	1.66E-20	1.76E-20	1.87E-20	2.00E-20

Table 17: Cross sections for dissociative ionization of $H_2(c^3)$ via the continuum of the ionic ground state $H_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.31155	6.0212	5.74602	5.4856	5.23957	5.00773	4.78992	4.58611	4.39638	4.22095
1.196	1.93E-29	5.38E-30	8.71E-30	4.15E-29	5.17E-28	3.40E-27	1.14E-26	1.70E-26	5.09E-26	1.56E-24
1.430	7.98E-29	4.82E-29	4.30E-29	1.54E-28	1.24E-27	7.94E-27	2.74E-26	4.64E-26	1.27E-25	3.27E-24
1.710	1.43E-28	1.13E-28	8.03E-29	2.72E-28	1.85E-27	1.16E-26	4.02E-26	7.01E-26	1.86E-25	4.54E-24
2.046	1.92E-28	1.75E-28	1.12E-28	3.70E-28	2.28E-27	1.41E-26	4.89E-26	8.61E-26	2.26E-25	5.33E-24
2.447	2.25E-28	2.21E-28	1.34E-28	4.37E-28	2.54E-27	1.55E-26	5.37E-26	9.50E-26	2.47E-25	5.72E-24
2.927	2.43E-28	2.50E-28	1.46E-28	4.74E-28	2.64E-27	1.60E-26	5.53E-26	9.81E-26	2.53E-25	5.80E-24
3.501	2.48E-28	2.63E-28	1.51E-28	4.85E-28	2.62E-27	1.59E-26	5.46E-26	9.69E-26	2.49E-25	5.64E-24
4.187	2.43E-28	2.63E-28	1.49E-28	4.76E-28	2.53E-27	1.52E-26	5.22E-26	9.26E-26	2.37E-25	5.34E-24
5.008	2.31E-28	2.54E-28	1.42E-28	4.54E-28	2.37E-27	1.42E-26	4.87E-26	8.64E-26	2.20E-25	4.94E-24
5.990	2.16E-28	2.39E-28	1.32E-28	4.22E-28	2.18E-27	1.30E-26	4.46E-26	7.91E-26	2.01E-25	4.49E-24
7.164	1.97E-28	2.20E-28	1.21E-28	3.86E-28	1.98E-27	1.18E-26	4.03E-26	7.14E-26	1.81E-25	4.03E-24
8.568	1.78E-28	2.00E-28	1.10E-28	3.48E-28	1.77E-27	1.05E-26	3.60E-26	6.37E-26	1.61E-25	3.57E-24
10.24	1.59E-28	1.79E-28	9.78E-29	3.10E-28	1.57E-27	9.32E-27	3.18E-26	5.63E-26	1.42E-25	3.15E-24
12.25	1.41E-28	1.59E-28	8.65E-29	2.74E-28	1.38E-27	8.19E-27	2.79E-26	4.93E-26	1.24E-25	2.75E-24
14.66	1.23E-28	1.39E-28	7.59E-29	2.40E-28	1.21E-27	7.15E-27	2.43E-26	4.30E-26	1.08E-25	2.39E-24
17.53	1.08E-28	1.22E-28	6.62E-29	2.09E-28	1.05E-27	6.21E-27	2.11E-26	3.73E-26	9.38E-26	2.07E-24
20.97	9.36E-29	1.06E-28	5.75E-29	1.81E-28	9.08E-28	5.37E-27	1.82E-26	3.22E-26	8.09E-26	1.78E-24
25.08	8.09E-29	9.16E-29	4.97E-29	1.57E-28	7.83E-28	4.62E-27	1.57E-26	2.77E-26	6.95E-26	1.53E-24
30.00	6.97E-29	7.90E-29	4.28E-29	1.35E-28	6.73E-28	3.97E-27	1.35E-26	2.38E-26	5.96E-26	1.31E-24

Table 18: Cross sections for dissociative ionization of $H_2(c^3)$ via the repulsive ionic state $H_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2115	15.9212	15.646	15.3856	15.1396	14.9077	14.6899	14.4861	14.2964	14.121
1.122	7.88E-31	5.65E-29	2.76E-27	5.76E-26	7.75E-25	6.76E-24	3.97E-23	1.57E-22	4.14E-22	7.74E-22
1.260	1.36E-25	3.35E-24	3.15E-23	1.48E-22	4.02E-22	7.27E-22	1.11E-21	1.59E-21	2.14E-21	2.82E-21
1.414	2.44E-23	1.80E-22	4.93E-22	8.24E-22	1.23E-21	1.68E-21	2.22E-21	2.83E-21	3.54E-21	4.35E-21
1.588	2.80E-22	6.83E-22	1.04E-21	1.45E-21	1.91E-21	2.43E-21	3.02E-21	3.68E-21	4.43E-21	5.29E-21
1.782	7.84E-22	1.11E-21	1.50E-21	1.93E-21	2.40E-21	2.93E-21	3.52E-21	4.19E-21	4.93E-21	5.76E-21
2.001	1.19E-21	1.50E-21	1.84E-21	2.24E-21	2.69E-21	3.21E-21	3.77E-21	4.40E-21	5.10E-21	5.88E-21
2.246	1.44E-21	1.73E-21	2.06E-21	2.43E-21	2.85E-21	3.31E-21	3.83E-21	4.40E-21	5.04E-21	5.74E-21
2.522	1.55E-21	1.83E-21	2.14E-21	2.48E-21	2.86E-21	3.28E-21	3.75E-21	4.26E-21	4.82E-21	5.44E-21
2.831	1.58E-21	1.83E-21	2.11E-21	2.42E-21	2.76E-21	3.14E-21	3.55E-21	4.00E-21	4.49E-21	5.03E-21
3.178	1.54E-21	1.76E-21	2.01E-21	2.29E-21	2.59E-21	2.92E-21	3.28E-21	3.67E-21	4.10E-21	4.57E-21
3.568	1.45E-21	1.66E-21	1.88E-21	2.12E-21	2.38E-21	2.67E-21	2.98E-21	3.31E-21	3.68E-21	4.08E-21
4.005	1.35E-21	1.52E-21	1.72E-21	1.93E-21	2.15E-21	2.40E-21	2.66E-21	2.95E-21	3.26E-21	3.60E-21
4.496	1.23E-21	1.38E-21	1.55E-21	1.73E-21	1.92E-21	2.13E-21	2.36E-21	2.60E-21	2.86E-21	3.15E-21
5.048	1.11E-21	1.24E-21	1.38E-21	1.53E-21	1.70E-21	1.88E-21	2.07E-21	2.27E-21	2.50E-21	2.73E-21
5.667	9.85E-22	1.10E-21	1.22E-21	1.35E-21	1.49E-21	1.64E-21	1.80E-21	1.98E-21	2.16E-21	2.36E-21
6.361	8.71E-22	9.67E-22	1.07E-21	1.18E-21	1.30E-21	1.43E-21	1.56E-21	1.71E-21	1.86E-21	2.03E-21
7.141	7.65E-22	8.47E-22	9.35E-22	1.03E-21	1.13E-21	1.23E-21	1.35E-21	1.47E-21	1.60E-21	1.73E-21
8.017	6.68E-22	7.38E-22	8.12E-22	8.91E-22	9.75E-22	1.06E-21	1.16E-21	1.26E-21	1.37E-21	1.48E-21
9.000	5.81E-22	6.40E-22	7.03E-22	7.69E-22	8.40E-22	9.14E-22	9.93E-22	1.08E-21	1.17E-21	1.26E-21

Table 19: Cross sections for non-dissociative ionization of $D_2(X^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.46626	15.09513	14.73866	14.39657	14.06869	13.75497	13.45543	13.1701	12.89904	12.64235
1.128	4.54E-22	4.72E-22	4.98E-22	5.05E-22	4.94E-22	4.77E-22	4.48E-22	4.14E-22	3.72E-22	3.25E-22
1.274	1.79E-21	1.75E-21	1.70E-21	1.67E-21	1.67E-21	1.68E-21	1.67E-21	1.63E-21	1.61E-21	1.57E-21
1.438	3.38E-21	3.34E-21	3.21E-21	3.07E-21	3.06E-21	3.16E-21	3.18E-21	3.14E-21	3.16E-21	3.20E-21
1.623	4.97E-21	4.94E-21	4.74E-21	4.49E-21	4.46E-21	4.65E-21	4.72E-21	4.67E-21	4.74E-21	4.87E-21
1.833	6.45E-21	6.42E-21	6.14E-21	5.79E-21	5.75E-21	6.02E-21	6.15E-21	6.08E-21	6.22E-21	6.42E-21
2.069	7.72E-21	7.71E-21	7.37E-21	6.91E-21	6.86E-21	7.22E-21	7.38E-21	7.31E-21	7.50E-21	7.78E-21
2.335	8.77E-21	8.76E-21	8.37E-21	7.83E-21	7.77E-21	8.19E-21	8.40E-21	8.32E-21	8.55E-21	8.91E-21
2.636	9.57E-21	9.57E-21	9.14E-21	8.53E-21	8.46E-21	8.94E-21	9.18E-21	9.10E-21	9.36E-21	9.77E-21
2.976	1.01E-20	1.01E-20	9.68E-21	9.03E-21	8.95E-21	9.47E-21	9.72E-21	9.64E-21	9.93E-21	1.04E-20
3.359	1.05E-20	1.05E-20	1.00E-20	9.32E-21	9.24E-21	9.78E-21	1.01E-20	9.97E-21	1.03E-20	1.08E-20
3.792	1.06E-20	1.06E-20	1.01E-20	9.44E-21	9.35E-21	9.91E-21	1.02E-20	1.01E-20	1.04E-20	1.09E-20
4.281	1.06E-20	1.06E-20	1.01E-20	9.40E-21	9.32E-21	9.88E-21	1.02E-20	1.01E-20	1.04E-20	1.09E-20
4.832	1.04E-20	1.04E-20	9.94E-21	9.24E-21	9.15E-21	9.72E-21	1.00E-20	9.92E-21	1.02E-20	1.08E-20
5.455	1.01E-20	1.01E-20	9.66E-21	8.98E-21	8.89E-21	9.44E-21	9.72E-21	9.65E-21	9.97E-21	1.05E-20
6.158	9.72E-21	9.75E-21	9.30E-21	8.64E-21	8.55E-21	9.09E-21	9.36E-21	9.29E-21	9.60E-21	1.01E-20
6.951	9.27E-21	9.31E-21	8.87E-21	8.24E-21	8.16E-21	8.67E-21	8.93E-21	8.86E-21	9.16E-21	9.63E-21
7.847	8.78E-21	8.81E-21	8.40E-21	7.80E-21	7.72E-21	8.21E-21	8.46E-21	8.39E-21	8.67E-21	9.12E-21
8.858	8.26E-21	8.29E-21	7.90E-21	7.33E-21	7.26E-21	7.72E-21	7.96E-21	7.89E-21	8.16E-21	8.58E-21
10.00	7.72E-21	7.75E-21	7.39E-21	6.86E-21	6.79E-21	7.22E-21	7.44E-21	7.38E-21	7.64E-21	8.03E-21

Table 20: Cross sections for dissociative ionization of $D_2(X^1)$ via the continuum of the ionic ground state $D_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	18.1568	17.7857	17.4292	17.0871	16.7592	16.4455	16.146	15.8606	15.5896	15.3329
1.128	3.47E-24	2.63E-23	8.46E-23	1.45E-22	1.39E-22	7.99E-23	6.25E-23	9.01E-23	8.21E-23	5.89E-23
1.274	9.71E-24	7.53E-23	2.51E-22	4.60E-22	5.09E-22	3.99E-22	3.63E-22	4.27E-22	3.96E-22	3.18E-22
1.438	1.64E-23	1.28E-22	4.31E-22	8.06E-22	9.29E-22	7.84E-22	7.50E-22	8.78E-22	8.49E-22	7.34E-22
1.623	2.28E-23	1.79E-22	6.03E-22	1.14E-21	1.34E-21	1.16E-21	1.14E-21	1.33E-21	1.31E-21	1.17E-21
1.833	2.85E-23	2.23E-22	7.56E-22	1.43E-21	1.70E-21	1.50E-21	1.49E-21	1.74E-21	1.73E-21	1.56E-21
2.069	3.32E-23	2.60E-22	8.83E-22	1.68E-21	2.00E-21	1.79E-21	1.78E-21	2.09E-21	2.08E-21	1.90E-21
2.335	3.68E-23	2.89E-22	9.82E-22	1.87E-21	2.24E-21	2.02E-21	2.02E-21	2.36E-21	2.37E-21	2.17E-21
2.636	3.95E-23	3.10E-22	1.05E-21	2.01E-21	2.42E-21	2.19E-21	2.19E-21	2.57E-21	2.58E-21	2.38E-21
2.976	4.12E-23	3.23E-22	1.10E-21	2.10E-21	2.53E-21	2.30E-21	2.31E-21	2.70E-21	2.72E-21	2.52E-21
3.359	4.20E-23	3.30E-22	1.12E-21	2.15E-21	2.59E-21	2.36E-21	2.38E-21	2.78E-21	2.80E-21	2.60E-21
3.792	4.21E-23	3.31E-22	1.13E-21	2.16E-21	2.60E-21	2.38E-21	2.39E-21	2.80E-21	2.83E-21	2.62E-21
4.281	4.16E-23	3.27E-22	1.11E-21	2.13E-21	2.57E-21	2.35E-21	2.37E-21	2.78E-21	2.80E-21	2.61E-21
4.832	4.05E-23	3.18E-22	1.08E-21	2.08E-21	2.51E-21	2.30E-21	2.32E-21	2.72E-21	2.74E-21	2.55E-21
5.455	3.91E-23	3.07E-22	1.05E-21	2.00E-21	2.42E-21	2.22E-21	2.25E-21	2.63E-21	2.66E-21	2.47E-21
6.158	3.73E-23	2.93E-22	9.99E-22	1.92E-21	2.32E-21	2.13E-21	2.15E-21	2.52E-21	2.54E-21	2.37E-21
6.951	3.54E-23	2.78E-22	9.47E-22	1.82E-21	2.20E-21	2.02E-21	2.04E-21	2.39E-21	2.42E-21	2.25E-21
7.847	3.33E-23	2.62E-22	8.92E-22	1.71E-21	2.07E-21	1.91E-21	1.93E-21	2.25E-21	2.28E-21	2.13E-21
8.858	3.12E-23	2.45E-22	8.35E-22	1.60E-21	1.94E-21	1.78E-21	1.80E-21	2.11E-21	2.14E-21	1.99E-21
10.00	2.91E-23	2.28E-22	7.77E-22	1.49E-21	1.81E-21	1.66E-21	1.68E-21	1.97E-21	1.99E-21	1.86E-21

Table 21: Cross sections for dissociative ionization of $D_2(X^1)$ via the repulsive ionic state $D_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	28.0568	27.6857	27.3292	26.9871	26.6592	26.3455	26.046	25.7606	25.4896	25.2329
1.088	9.48E-48	6.28E-45	1.89E-42	6.21E-40	6.69E-38	5.58E-36	2.60E-34	9.81E-33	2.85E-31	7.54E-30
1.184	3.82E-35	5.46E-33	3.25E-31	1.19E-29	2.34E-28	3.22E-27	3.22E-26	2.46E-25	1.44E-24	6.45E-24
1.289	7.22E-29	2.77E-27	4.64E-26	4.50E-25	2.83E-24	1.21E-23	3.55E-23	7.35E-23	1.16E-22	1.61E-22
1.403	1.85E-25	2.60E-24	1.50E-23	4.69E-23	9.13E-23	1.34E-22	1.84E-22	2.40E-22	3.01E-22	3.70E-22
1.527	1.42E-23	6.33E-23	1.20E-22	1.69E-22	2.27E-22	2.85E-22	3.51E-22	4.19E-22	4.96E-22	5.78E-22
1.662	1.11E-22	1.79E-22	2.43E-22	3.03E-22	3.71E-22	4.39E-22	5.13E-22	5.93E-22	6.78E-22	7.71E-22
1.809	2.62E-22	3.12E-22	3.70E-22	4.37E-22	5.09E-22	5.84E-22	6.63E-22	7.49E-22	8.41E-22	9.39E-22
1.969	3.94E-22	4.49E-22	5.07E-22	5.69E-22	6.37E-22	7.12E-22	7.94E-22	8.83E-22	9.78E-22	1.08E-21
2.143	5.02E-22	5.59E-22	6.19E-22	6.84E-22	7.54E-22	8.29E-22	9.09E-22	9.95E-22	1.09E-21	1.19E-21
2.332	5.85E-22	6.43E-22	7.05E-22	7.71E-22	8.41E-22	9.17E-22	9.97E-22	1.08E-21	1.18E-21	1.27E-21
2.539	6.46E-22	7.04E-22	7.66E-22	8.32E-22	9.02E-22	9.76E-22	1.06E-21	1.14E-21	1.23E-21	1.33E-21
2.763	6.87E-22	7.45E-22	8.05E-22	8.70E-22	9.38E-22	1.01E-21	1.09E-21	1.17E-21	1.26E-21	1.35E-21
3.007	7.10E-22	7.66E-22	8.25E-22	8.88E-22	9.54E-22	1.02E-21	1.10E-21	1.18E-21	1.26E-21	1.35E-21
3.273	7.19E-22	7.73E-22	8.30E-22	8.90E-22	9.53E-22	1.02E-21	1.09E-21	1.17E-21	1.25E-21	1.33E-21
3.563	7.15E-22	7.66E-22	8.21E-22	8.78E-22	9.38E-22	1.00E-21	1.07E-21	1.14E-21	1.22E-21	1.30E-21
3.878	7.01E-22	7.50E-22	8.01E-22	8.55E-22	9.12E-22	9.72E-22	1.03E-21	1.10E-21	1.17E-21	1.25E-21
4.220	6.79E-22	7.25E-22	7.73E-22	8.24E-22	8.77E-22	9.33E-22	9.92E-22	1.05E-21	1.12E-21	1.19E-21
4.593	6.52E-22	6.95E-22	7.40E-22	7.87E-22	8.36E-22	8.88E-22	9.43E-22	1.00E-21	1.06E-21	1.13E-21
5.000	6.20E-22	6.60E-22	7.02E-22	7.46E-22	7.91E-22	8.40E-22	8.90E-22	9.44E-22	1.00E-21	1.06E-21

Table 22: Cross sections for non-dissociative ionization of $D_2(EF^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.13543	3.0924	2.98621	2.92619	2.8834	2.78409	2.72914	2.6885	2.59766	2.55073
1.274	3.12E-20	1.83E-26	1.40E-25	2.20E-20	6.11E-25	2.95E-24	1.26E-20	1.14E-23	9.43E-23	3.98E-21
1.623	7.35E-20	2.11E-21	1.99E-21	6.56E-20	2.06E-21	2.24E-21	5.65E-20	2.62E-21	4.05E-21	4.34E-20
2.069	1.09E-19	2.19E-20	2.04E-20	1.04E-19	1.89E-20	1.75E-20	9.77E-20	1.64E-20	1.74E-20	8.54E-20
2.636	1.32E-19	4.09E-20	4.03E-20	1.30E-19	3.96E-20	3.91E-20	1.27E-19	3.89E-20	4.08E-20	1.17E-19
3.359	1.42E-19	5.37E-20	5.39E-20	1.43E-19	5.42E-20	5.46E-20	1.42E-19	5.54E-20	5.83E-20	1.36E-19
4.281	1.43E-19	6.00E-20	6.08E-20	1.45E-19	6.17E-20	6.28E-20	1.46E-19	6.43E-20	6.78E-20	1.42E-19
5.455	1.36E-19	6.09E-20	6.22E-20	1.39E-19	6.34E-20	6.49E-20	1.41E-19	6.68E-20	7.05E-20	1.38E-19
6.951	1.24E-19	5.82E-20	5.96E-20	1.27E-19	6.10E-20	6.27E-20	1.30E-19	6.47E-20	6.84E-20	1.29E-19
8.858	1.10E-19	5.33E-20	5.47E-20	1.14E-19	5.61E-20	5.78E-20	1.17E-19	5.98E-20	6.32E-20	1.16E-19
11.28	9.59E-20	4.72E-20	4.85E-20	9.90E-20	4.99E-20	5.15E-20	1.02E-19	5.33E-20	5.64E-20	1.01E-19
14.38	8.20E-20	4.09E-20	4.21E-20	8.47E-20	4.33E-20	4.47E-20	8.74E-20	4.64E-20	4.90E-20	8.72E-20
18.32	6.91E-20	3.48E-20	3.58E-20	7.15E-20	3.69E-20	3.81E-20	7.39E-20	3.96E-20	4.19E-20	7.38E-20
23.35	5.77E-20	2.92E-20	3.01E-20	5.97E-20	3.10E-20	3.21E-20	6.18E-20	3.33E-20	3.52E-20	6.18E-20
29.76	4.78E-20	2.43E-20	2.50E-20	4.95E-20	2.58E-20	2.67E-20	5.12E-20	2.77E-20	2.93E-20	5.12E-20
37.92	3.93E-20	2.00E-20	2.06E-20	4.07E-20	2.13E-20	2.20E-20	4.21E-20	2.28E-20	2.42E-20	4.22E-20
48.32	3.22E-20	1.64E-20	1.69E-20	3.33E-20	1.74E-20	1.80E-20	3.45E-20	1.87E-20	1.98E-20	3.45E-20
61.58	2.62E-20	1.34E-20	1.38E-20	2.72E-20	1.42E-20	1.47E-20	2.81E-20	1.53E-20	1.61E-20	2.81E-20
78.47	2.13E-20	1.09E-20	1.12E-20	2.21E-20	1.15E-20	1.19E-20	2.29E-20	1.24E-20	1.31E-20	2.29E-20
99.99	1.73E-20	8.78E-21	9.05E-21	1.79E-20	9.33E-21	9.65E-21	1.85E-20	1.00E-20	1.06E-20	1.85E-20

Table 23: Cross sections for dissociative ionization of $D_2(EF^1)$ via the continuum of the ionic ground state $D_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.82595	5.78293	5.67674	5.61671	5.57393	5.47461	5.41967	5.37903	5.28818	5.24125
1.196	1.20E-29	3.18E-29	2.45E-27	1.33E-28	4.41E-26	5.78E-25	6.53E-28	5.43E-24	2.72E-23	2.70E-24
1.430	3.32E-29	8.96E-29	5.41E-27	3.52E-28	9.82E-26	1.26E-24	1.67E-27	1.20E-23	5.92E-23	6.08E-24
1.710	5.50E-29	1.43E-28	7.84E-27	5.43E-28	1.42E-25	1.81E-24	2.56E-27	1.72E-23	8.49E-23	8.79E-24
2.046	7.26E-29	1.84E-28	9.53E-27	6.84E-28	1.73E-25	2.19E-24	3.19E-27	2.08E-23	1.02E-22	1.06E-23
2.447	8.47E-29	2.10E-28	1.05E-26	7.70E-28	1.90E-25	2.40E-24	3.58E-27	2.29E-23	1.12E-22	1.17E-23
2.927	9.14E-29	2.23E-28	1.09E-26	8.09E-28	1.97E-25	2.48E-24	3.74E-27	2.36E-23	1.16E-22	1.21E-23
3.501	9.32E-29	2.25E-28	1.08E-26	8.10E-28	1.96E-25	2.46E-24	3.73E-27	2.34E-23	1.15E-22	1.20E-23
4.187	9.14E-29	2.19E-28	1.04E-26	7.84E-28	1.88E-25	2.36E-24	3.60E-27	2.24E-23	1.10E-22	1.15E-23
5.008	8.70E-29	2.07E-28	9.79E-27	7.39E-28	1.76E-25	2.21E-24	3.39E-27	2.10E-23	1.03E-22	1.07E-23
5.990	8.09E-29	1.92E-28	9.02E-27	6.83E-28	1.62E-25	2.04E-24	3.13E-27	1.93E-23	9.43E-23	9.86E-24
7.164	7.40E-29	1.75E-28	8.18E-27	6.21E-28	1.47E-25	1.84E-24	2.84E-27	1.75E-23	8.54E-23	8.92E-24
8.568	6.67E-29	1.57E-28	7.33E-27	5.57E-28	1.32E-25	1.65E-24	2.55E-27	1.57E-23	7.64E-23	7.98E-24
10.24	5.95E-29	1.40E-28	6.51E-27	4.95E-28	1.17E-25	1.46E-24	2.26E-27	1.39E-23	6.77E-23	7.07E-24
12.25	5.26E-29	1.23E-28	5.73E-27	4.36E-28	1.03E-25	1.29E-24	1.99E-27	1.22E-23	5.95E-23	6.22E-24
14.66	4.61E-29	1.08E-28	5.01E-27	3.82E-28	9.01E-26	1.13E-24	1.74E-27	1.07E-23	5.20E-23	5.43E-24
17.53	4.02E-29	9.41E-29	4.36E-27	3.33E-28	7.83E-26	9.79E-25	1.51E-27	9.28E-24	4.52E-23	4.72E-24
20.97	3.49E-29	8.16E-29	3.78E-27	2.88E-28	6.79E-26	8.48E-25	1.31E-27	8.03E-24	3.91E-23	4.08E-24
25.08	3.02E-29	7.05E-29	3.26E-27	2.49E-28	5.86E-26	7.31E-25	1.13E-27	6.93E-24	3.37E-23	3.52E-24
30.00	2.60E-29	6.07E-29	2.81E-27	2.14E-28	5.04E-26	6.29E-25	9.73E-28	5.96E-24	2.90E-23	3.03E-24

Table 24: Cross sections for dissociative ionization of $D_2(EF^1)$ via the repulsive ionic state $D_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.726	15.6829	15.5767	15.5167	15.4739	15.3746	15.3197	15.279	15.1882	15.1413
1.122	1.39E-35	1.38E-21	1.40E-21	1.73E-27	1.42E-21	1.48E-21	6.76E-25	1.55E-21	1.57E-21	1.10E-22
1.260	3.02E-27	3.76E-21	3.85E-21	1.63E-25	3.95E-21	4.04E-21	5.62E-24	4.11E-21	4.07E-21	3.20E-22
1.414	4.53E-24	5.23E-21	5.37E-21	5.44E-23	5.51E-21	5.64E-21	2.52E-22	5.75E-21	5.75E-21	1.00E-21
1.588	1.52E-22	6.10E-21	6.25E-21	4.88E-22	6.41E-21	6.56E-21	8.10E-22	6.68E-21	6.70E-21	1.69E-21
1.782	6.48E-22	6.50E-21	6.66E-21	9.34E-22	6.81E-21	6.97E-21	1.30E-21	7.10E-21	7.12E-21	2.20E-21
2.001	1.11E-21	6.56E-21	6.71E-21	1.37E-21	6.86E-21	7.00E-21	1.68E-21	7.13E-21	7.15E-21	2.52E-21
2.246	1.39E-21	6.37E-21	6.50E-21	1.64E-21	6.64E-21	6.78E-21	1.94E-21	6.89E-21	6.92E-21	2.71E-21
2.522	1.53E-21	6.01E-21	6.13E-21	1.76E-21	6.26E-21	6.38E-21	2.04E-21	6.48E-21	6.50E-21	2.74E-21
2.831	1.56E-21	5.56E-21	5.67E-21	1.78E-21	5.77E-21	5.88E-21	2.03E-21	5.97E-21	5.98E-21	2.65E-21
3.178	1.53E-21	5.05E-21	5.14E-21	1.72E-21	5.24E-21	5.33E-21	1.95E-21	5.40E-21	5.42E-21	2.49E-21
3.568	1.45E-21	4.53E-21	4.61E-21	1.62E-21	4.69E-21	4.77E-21	1.82E-21	4.83E-21	4.84E-21	2.30E-21
4.005	1.35E-21	4.02E-21	4.09E-21	1.49E-21	4.16E-21	4.22E-21	1.67E-21	4.27E-21	4.28E-21	2.08E-21
4.496	1.23E-21	3.54E-21	3.59E-21	1.35E-21	3.65E-21	3.70E-21	1.50E-21	3.75E-21	3.75E-21	1.86E-21
5.048	1.10E-21	3.09E-21	3.14E-21	1.21E-21	3.18E-21	3.23E-21	1.34E-21	3.26E-21	3.26E-21	1.65E-21
5.667	9.84E-22	2.68E-21	2.72E-21	1.08E-21	2.76E-21	2.80E-21	1.19E-21	2.83E-21	2.83E-21	1.45E-21
6.361	8.69E-22	2.32E-21	2.35E-21	9.48E-22	2.38E-21	2.41E-21	1.04E-21	2.44E-21	2.44E-21	1.26E-21
7.141	7.62E-22	2.00E-21	2.02E-21	8.29E-22	2.05E-21	2.07E-21	9.08E-22	2.09E-21	2.09E-21	1.10E-21
8.017	6.65E-22	1.71E-21	1.74E-21	7.22E-22	1.76E-21	1.78E-21	7.88E-22	1.79E-21	1.79E-21	9.47E-22
9.000	5.78E-22	1.47E-21	1.49E-21	6.26E-22	1.50E-21	1.52E-21	6.82E-22	1.53E-21	1.53E-21	8.16E-22

Table 25: Cross sections for non-dissociative ionization of $D_2(B^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	4.23407	4.11706	4.00248	3.89018	3.78008	3.67211	3.56623	3.46241	3.36062	3.26085
1.274	1.32E-20	1.01E-20	7.55E-21	5.61E-21	4.36E-21	3.35E-21	2.52E-21	1.84E-21	1.28E-21	7.94E-22
1.623	3.49E-20	3.13E-20	2.80E-20	2.49E-20	2.19E-20	1.90E-20	1.63E-20	1.36E-20	1.11E-20	8.74E-21
2.069	5.35E-20	5.03E-20	4.73E-20	4.45E-20	4.18E-20	3.92E-20	3.66E-20	3.41E-20	3.16E-20	2.91E-20
2.636	6.60E-20	6.33E-20	6.08E-20	5.86E-20	5.65E-20	5.45E-20	5.25E-20	5.07E-20	4.88E-20	4.69E-20
3.359	7.20E-20	6.98E-20	6.79E-20	6.63E-20	6.47E-20	6.33E-20	6.20E-20	6.07E-20	5.95E-20	5.83E-20
4.281	7.26E-20	7.09E-20	6.95E-20	6.83E-20	6.72E-20	6.63E-20	6.55E-20	6.47E-20	6.40E-20	6.34E-20
5.455	6.93E-20	6.80E-20	6.70E-20	6.61E-20	6.54E-20	6.48E-20	6.44E-20	6.40E-20	6.37E-20	6.34E-20
6.951	6.36E-20	6.26E-20	6.18E-20	6.12E-20	6.08E-20	6.04E-20	6.02E-20	6.01E-20	6.00E-20	6.00E-20
8.858	5.66E-20	5.59E-20	5.53E-20	5.49E-20	5.46E-20	5.44E-20	5.43E-20	5.43E-20	5.44E-20	5.45E-20
11.28	4.93E-20	4.87E-20	4.83E-20	4.80E-20	4.78E-20	4.77E-20	4.77E-20	4.78E-20	4.79E-20	4.81E-20
14.38	4.22E-20	4.17E-20	4.13E-20	4.11E-20	4.10E-20	4.10E-20	4.11E-20	4.12E-20	4.13E-20	4.16E-20
18.32	3.56E-20	3.52E-20	3.49E-20	3.48E-20	3.47E-20	3.47E-20	3.48E-20	3.49E-20	3.51E-20	3.53E-20
23.35	2.97E-20	2.94E-20	2.92E-20	2.91E-20	2.90E-20	2.90E-20	2.91E-20	2.92E-20	2.94E-20	2.96E-20
29.76	2.46E-20	2.43E-20	2.42E-20	2.41E-20	2.41E-20	2.41E-20	2.41E-20	2.43E-20	2.44E-20	2.46E-20
37.92	2.02E-20	2.00E-20	1.99E-20	1.98E-20	1.98E-20	1.98E-20	1.99E-20	2.00E-20	2.01E-20	2.02E-20
48.32	1.66E-20	1.64E-20	1.63E-20	1.62E-20	1.62E-20	1.62E-20	1.63E-20	1.64E-20	1.65E-20	1.66E-20
61.58	1.35E-20	1.34E-20	1.33E-20	1.32E-20	1.32E-20	1.32E-20	1.33E-20	1.33E-20	1.34E-20	1.35E-20
78.47	1.10E-20	1.09E-20	1.08E-20	1.08E-20	1.07E-20	1.08E-20	1.08E-20	1.08E-20	1.09E-20	1.10E-20
100.0	8.90E-21	8.81E-21	8.75E-21	8.72E-21	8.71E-21	8.71E-21	8.73E-21	8.77E-21	8.82E-21	8.89E-21

Table 26: Cross sections for dissociative ionization of $D_2(B^1)$ via the continuum of the ionic ground state $D_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.9246	6.80759	6.693	6.58071	6.47061	6.36263	6.25675	6.15293	6.05115	5.95137
1.196	2.00E-29	3.32E-29	1.37E-29	3.48E-29	1.37E-29	1.24E-29	5.69E-29	9.77E-30	1.00E-28	3.16E-28
1.430	6.72E-29	9.96E-29	4.79E-29	1.18E-28	4.81E-29	4.19E-29	1.77E-28	3.21E-29	2.90E-28	7.64E-28
1.710	1.16E-28	1.67E-28	8.41E-29	2.05E-28	8.38E-29	7.35E-29	2.97E-28	5.60E-29	4.72E-28	1.16E-27
2.046	1.54E-28	2.21E-28	1.14E-28	2.74E-28	1.12E-28	9.91E-29	3.93E-28	7.52E-29	6.14E-28	1.45E-27
2.447	1.81E-28	2.59E-28	1.34E-28	3.22E-28	1.32E-28	1.17E-28	4.57E-28	8.80E-29	7.06E-28	1.63E-27
2.927	1.95E-28	2.79E-28	1.46E-28	3.48E-28	1.43E-28	1.26E-28	4.91E-28	9.49E-29	7.53E-28	1.71E-27
3.501	1.99E-28	2.85E-28	1.49E-28	3.56E-28	1.46E-28	1.29E-28	5.00E-28	9.68E-29	7.63E-28	1.72E-27
4.187	1.96E-28	2.80E-28	1.47E-28	3.50E-28	1.43E-28	1.27E-28	4.89E-28	9.49E-29	7.45E-28	1.66E-27
5.008	1.87E-28	2.67E-28	1.40E-28	3.34E-28	1.37E-28	1.21E-28	4.66E-28	9.04E-29	7.07E-28	1.57E-27
5.990	1.74E-28	2.49E-28	1.31E-28	3.11E-28	1.27E-28	1.13E-28	4.33E-28	8.41E-29	6.56E-28	1.45E-27
7.164	1.60E-28	2.29E-28	1.20E-28	2.85E-28	1.17E-28	1.04E-28	3.96E-28	7.70E-29	5.99E-28	1.32E-27
8.568	1.45E-28	2.07E-28	1.09E-28	2.58E-28	1.05E-28	9.36E-29	3.58E-28	6.95E-29	5.40E-28	1.19E-27
10.24	1.29E-28	1.85E-28	9.72E-29	2.30E-28	9.42E-29	8.36E-29	3.19E-28	6.20E-29	4.81E-28	1.06E-27
12.25	1.15E-28	1.64E-28	8.61E-29	2.04E-28	8.33E-29	7.40E-29	2.82E-28	5.48E-29	4.25E-28	9.33E-28
14.66	1.01E-28	1.44E-28	7.57E-29	1.79E-28	7.32E-29	6.50E-29	2.48E-28	4.81E-29	3.73E-28	8.17E-28
17.53	8.80E-29	1.26E-28	6.61E-29	1.57E-28	6.39E-29	5.67E-29	2.16E-28	4.20E-29	3.25E-28	7.12E-28
20.97	7.65E-29	1.09E-28	5.74E-29	1.36E-28	5.55E-29	4.93E-29	1.88E-28	3.64E-29	2.82E-28	6.17E-28
25.08	6.62E-29	9.45E-29	4.97E-29	1.18E-28	4.80E-29	4.26E-29	1.62E-28	3.15E-29	2.44E-28	5.33E-28
30.00	5.71E-29	8.15E-29	4.29E-29	1.01E-28	4.14E-29	3.67E-29	1.40E-28	2.71E-29	2.10E-28	4.59E-28

Table 27: Cross sections for dissociative ionization of $D_2(B^1)$ via the repulsive ionic state $D_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.8246	16.7076	16.593	16.4807	16.3706	16.2626	16.1568	16.0529	15.9511	15.8514
1.122	3.56E-27	1.33E-25	1.85E-24	1.32E-23	5.52E-23	1.43E-22	2.49E-22	3.48E-22	4.56E-22	5.66E-22
1.260	3.05E-23	1.92E-22	4.28E-22	6.22E-22	8.29E-22	1.02E-21	1.21E-21	1.40E-21	1.59E-21	1.78E-21
1.414	4.83E-22	8.22E-22	1.11E-21	1.36E-21	1.61E-21	1.85E-21	2.08E-21	2.30E-21	2.53E-21	2.76E-21
1.588	1.20E-21	1.46E-21	1.72E-21	1.98E-21	2.24E-21	2.49E-21	2.73E-21	2.97E-21	3.21E-21	3.45E-21
1.782	1.72E-21	1.98E-21	2.22E-21	2.46E-21	2.70E-21	2.93E-21	3.17E-21	3.40E-21	3.64E-21	3.87E-21
2.001	2.03E-21	2.28E-21	2.52E-21	2.75E-21	2.98E-21	3.20E-21	3.42E-21	3.64E-21	3.86E-21	4.08E-21
2.246	2.18E-21	2.42E-21	2.64E-21	2.86E-21	3.07E-21	3.28E-21	3.49E-21	3.69E-21	3.90E-21	4.10E-21
2.522	2.22E-21	2.43E-21	2.64E-21	2.84E-21	3.03E-21	3.22E-21	3.41E-21	3.60E-21	3.78E-21	3.97E-21
2.831	2.16E-21	2.36E-21	2.54E-21	2.72E-21	2.90E-21	3.07E-21	3.24E-21	3.41E-21	3.57E-21	3.74E-21
3.178	2.05E-21	2.23E-21	2.39E-21	2.55E-21	2.71E-21	2.86E-21	3.01E-21	3.16E-21	3.31E-21	3.45E-21
3.568	1.91E-21	2.06E-21	2.21E-21	2.35E-21	2.49E-21	2.62E-21	2.75E-21	2.88E-21	3.01E-21	3.13E-21
4.005	1.75E-21	1.88E-21	2.01E-21	2.13E-21	2.25E-21	2.37E-21	2.48E-21	2.59E-21	2.70E-21	2.81E-21
4.496	1.58E-21	1.69E-21	1.80E-21	1.91E-21	2.01E-21	2.11E-21	2.21E-21	2.31E-21	2.40E-21	2.49E-21
5.048	1.41E-21	1.51E-21	1.60E-21	1.70E-21	1.78E-21	1.87E-21	1.95E-21	2.03E-21	2.11E-21	2.19E-21
5.667	1.25E-21	1.33E-21	1.42E-21	1.49E-21	1.57E-21	1.64E-21	1.71E-21	1.78E-21	1.85E-21	1.92E-21
6.361	1.10E-21	1.17E-21	1.24E-21	1.31E-21	1.37E-21	1.43E-21	1.49E-21	1.55E-21	1.61E-21	1.67E-21
7.141	9.62E-22	1.02E-21	1.08E-21	1.14E-21	1.19E-21	1.25E-21	1.30E-21	1.35E-21	1.40E-21	1.44E-21
8.017	8.39E-22	8.92E-22	9.42E-22	9.89E-22	1.04E-21	1.08E-21	1.12E-21	1.16E-21	1.21E-21	1.25E-21
9.000	7.28E-22	7.73E-22	8.16E-22	8.56E-22	8.95E-22	9.32E-22	9.68E-22	1.00E-21	1.04E-21	1.07E-21

Table 28: Cross sections for non-dissociative ionization of $D_2(C^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.14378	2.93778	2.74019	2.55088	2.36973	2.19666	2.03162	1.8746	1.72563	1.58478
1.274	3.15E-20	2.21E-20	1.24E-20	3.72E-21	1.49E-22	1.21E-26	1.42E-27	2.45E-27	1.60E-27	3.15E-27
1.623	7.37E-20	6.54E-20	5.61E-20	4.56E-20	3.39E-20	2.12E-20	8.57E-21	5.00E-22	1.21E-25	1.25E-26
2.069	1.09E-19	1.03E-19	9.71E-20	8.96E-20	8.07E-20	7.02E-20	5.80E-20	4.38E-20	2.78E-20	1.11E-20
2.636	1.32E-19	1.29E-19	1.26E-19	1.22E-19	1.17E-19	1.11E-19	1.03E-19	9.33E-20	8.14E-20	6.69E-20
3.359	1.42E-19	1.42E-19	1.41E-19	1.40E-19	1.39E-19	1.36E-19	1.33E-19	1.28E-19	1.21E-19	1.13E-19
4.281	1.42E-19	1.44E-19	1.45E-19	1.46E-19	1.47E-19	1.47E-19	1.47E-19	1.46E-19	1.44E-19	1.41E-19
5.455	1.35E-19	1.38E-19	1.40E-19	1.42E-19	1.45E-19	1.47E-19	1.49E-19	1.50E-19	1.51E-19	1.52E-19
6.951	1.24E-19	1.27E-19	1.30E-19	1.32E-19	1.35E-19	1.39E-19	1.42E-19	1.45E-19	1.47E-19	1.50E-19
8.858	1.10E-19	1.13E-19	1.16E-19	1.19E-19	1.22E-19	1.26E-19	1.29E-19	1.33E-19	1.37E-19	1.41E-19
11.28	9.58E-20	9.84E-20	1.01E-19	1.04E-19	1.08E-19	1.11E-19	1.15E-19	1.18E-19	1.22E-19	1.27E-19
14.38	8.18E-20	8.42E-20	8.68E-20	8.96E-20	9.25E-20	9.57E-20	9.91E-20	1.03E-19	1.07E-19	1.11E-19
18.32	6.90E-20	7.11E-20	7.34E-20	7.58E-20	7.84E-20	8.13E-20	8.43E-20	8.76E-20	9.11E-20	9.50E-20
23.35	5.76E-20	5.94E-20	6.13E-20	6.34E-20	6.57E-20	6.81E-20	7.08E-20	7.36E-20	7.67E-20	8.01E-20
29.76	4.77E-20	4.92E-20	5.08E-20	5.26E-20	5.45E-20	5.65E-20	5.88E-20	6.12E-20	6.39E-20	6.68E-20
37.92	3.92E-20	4.05E-20	4.18E-20	4.33E-20	4.49E-20	4.66E-20	4.84E-20	5.05E-20	5.27E-20	5.51E-20
48.32	3.21E-20	3.31E-20	3.42E-20	3.54E-20	3.67E-20	3.81E-20	3.97E-20	4.14E-20	4.32E-20	4.52E-20
61.58	2.62E-20	2.70E-20	2.79E-20	2.89E-20	2.99E-20	3.11E-20	3.23E-20	3.37E-20	3.52E-20	3.69E-20
78.47	2.13E-20	2.20E-20	2.27E-20	2.35E-20	2.43E-20	2.53E-20	2.63E-20	2.74E-20	2.86E-20	2.99E-20
99.99	1.73E-20	1.78E-20	1.84E-20	1.90E-20	1.97E-20	2.05E-20	2.13E-20	2.22E-20	2.31E-20	2.42E-20

Table 29: Cross sections for dissociative ionization of $D_2(C^1)$ via the continuum of the ionic ground state $D_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.8343	5.6283	5.43072	5.24141	5.06026	4.88719	4.72214	4.56512	4.41615	4.27531
1.196	1.03E-29	4.14E-29	4.38E-29	4.31E-29	2.41E-29	2.45E-29	8.31E-29	1.17E-28	3.61E-28	2.02E-27
1.430	2.80E-29	1.59E-28	1.43E-28	1.37E-28	8.03E-29	9.55E-29	2.67E-28	3.08E-28	8.64E-28	4.47E-27
1.710	4.84E-29	2.73E-28	2.48E-28	2.30E-28	1.45E-28	1.73E-28	4.50E-28	4.83E-28	1.28E-27	6.35E-27
2.046	6.53E-29	3.63E-28	3.30E-28	3.02E-28	1.98E-28	2.35E-28	5.94E-28	6.14E-28	1.57E-27	7.57E-27
2.447	7.73E-29	4.22E-28	3.85E-28	3.50E-28	2.33E-28	2.75E-28	6.86E-28	6.92E-28	1.74E-27	8.20E-27
2.927	8.41E-29	4.53E-28	4.13E-28	3.73E-28	2.50E-28	2.96E-28	7.32E-28	7.26E-28	1.80E-27	8.36E-27
3.501	8.63E-29	4.61E-28	4.20E-28	3.78E-28	2.55E-28	3.01E-28	7.39E-28	7.24E-28	1.77E-27	8.18E-27
4.187	8.49E-29	4.50E-28	4.10E-28	3.68E-28	2.49E-28	2.93E-28	7.18E-28	6.97E-28	1.70E-27	7.76E-27
5.008	8.10E-29	4.28E-28	3.89E-28	3.48E-28	2.36E-28	2.78E-28	6.78E-28	6.54E-28	1.58E-27	7.19E-27
5.990	7.56E-29	3.97E-28	3.61E-28	3.23E-28	2.18E-28	2.57E-28	6.27E-28	6.01E-28	1.45E-27	6.55E-27
7.164	6.92E-29	3.63E-28	3.29E-28	2.94E-28	1.99E-28	2.34E-28	5.69E-28	5.44E-28	1.30E-27	5.89E-27
8.568	6.25E-29	3.27E-28	2.96E-28	2.64E-28	1.79E-28	2.10E-28	5.10E-28	4.86E-28	1.16E-27	5.24E-27
10.24	5.58E-29	2.91E-28	2.64E-28	2.35E-28	1.59E-28	1.87E-28	4.53E-28	4.30E-28	1.03E-27	4.61E-27
12.25	4.93E-29	2.57E-28	2.33E-28	2.07E-28	1.40E-28	1.65E-28	3.98E-28	3.78E-28	9.00E-28	4.04E-27
14.66	4.33E-29	2.25E-28	2.04E-28	1.81E-28	1.23E-28	1.44E-28	3.48E-28	3.29E-28	7.84E-28	3.51E-27
17.53	3.78E-29	1.96E-28	1.78E-28	1.58E-28	1.07E-28	1.25E-28	3.02E-28	2.86E-28	6.79E-28	3.04E-27
20.97	3.28E-29	1.70E-28	1.54E-28	1.37E-28	9.25E-29	1.08E-28	2.62E-28	2.47E-28	5.86E-28	2.62E-27
25.08	2.83E-29	1.47E-28	1.33E-28	1.18E-28	7.97E-29	9.33E-29	2.25E-28	2.13E-28	5.04E-28	2.25E-27
30.00	2.44E-29	1.26E-28	1.14E-28	1.01E-28	6.86E-29	8.02E-29	1.94E-28	1.82E-28	4.32E-28	1.93E-27

Table 30: Cross sections for dissociative ionization of $D_2(C^1)$ via the repulsive ionic state $D_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7343	15.5283	15.3307	15.1414	14.9603	14.7872	14.6221	14.4651	14.3162	14.1753
1.122	2.63E-35	9.90E-33	1.40E-30	7.06E-29	2.10E-27	3.41E-26	3.93E-25	3.28E-24	1.96E-23	8.36E-23
1.260	5.60E-27	2.02E-25	2.84E-24	2.16E-23	9.72E-23	2.75E-22	5.26E-22	8.06E-22	1.16E-21	1.57E-21
1.414	7.46E-24	7.37E-23	2.70E-22	5.32E-22	8.05E-22	1.14E-21	1.50E-21	1.92E-21	2.39E-21	2.93E-21
1.588	2.01E-22	5.45E-22	8.24E-22	1.15E-21	1.49E-21	1.87E-21	2.29E-21	2.75E-21	3.27E-21	3.85E-21
1.782	7.42E-22	1.00E-21	1.32E-21	1.65E-21	2.01E-21	2.40E-21	2.83E-21	3.30E-21	3.81E-21	4.38E-21
2.001	1.20E-21	1.44E-21	1.71E-21	2.01E-21	2.35E-21	2.72E-21	3.14E-21	3.58E-21	4.07E-21	4.61E-21
2.246	1.47E-21	1.71E-21	1.97E-21	2.25E-21	2.56E-21	2.89E-21	3.26E-21	3.67E-21	4.11E-21	4.60E-21
2.522	1.60E-21	1.82E-21	2.06E-21	2.32E-21	2.61E-21	2.91E-21	3.25E-21	3.61E-21	4.01E-21	4.44E-21
2.831	1.63E-21	1.83E-21	2.05E-21	2.28E-21	2.54E-21	2.81E-21	3.11E-21	3.44E-21	3.78E-21	4.16E-21
3.178	1.59E-21	1.77E-21	1.96E-21	2.17E-21	2.40E-21	2.64E-21	2.90E-21	3.18E-21	3.48E-21	3.81E-21
3.568	1.50E-21	1.66E-21	1.83E-21	2.02E-21	2.21E-21	2.42E-21	2.65E-21	2.89E-21	3.15E-21	3.43E-21
4.005	1.39E-21	1.53E-21	1.68E-21	1.84E-21	2.01E-21	2.19E-21	2.38E-21	2.59E-21	2.81E-21	3.05E-21
4.496	1.27E-21	1.39E-21	1.51E-21	1.65E-21	1.80E-21	1.95E-21	2.12E-21	2.29E-21	2.48E-21	2.68E-21
5.048	1.14E-21	1.24E-21	1.35E-21	1.47E-21	1.59E-21	1.72E-21	1.86E-21	2.01E-21	2.17E-21	2.34E-21
5.667	1.01E-21	1.10E-21	1.19E-21	1.29E-21	1.40E-21	1.51E-21	1.63E-21	1.75E-21	1.88E-21	2.03E-21
6.361	8.94E-22	9.68E-22	1.05E-21	1.13E-21	1.22E-21	1.31E-21	1.41E-21	1.52E-21	1.63E-21	1.75E-21
7.141	7.84E-22	8.47E-22	9.14E-22	9.84E-22	1.06E-21	1.14E-21	1.22E-21	1.31E-21	1.40E-21	1.50E-21
8.017	6.83E-22	7.37E-22	7.93E-22	8.53E-22	9.16E-22	9.82E-22	1.05E-21	1.12E-21	1.20E-21	1.28E-21
9.000	5.93E-22	6.39E-22	6.86E-22	7.37E-22	7.89E-22	8.44E-22	9.03E-22	9.64E-22	1.03E-21	1.10E-21

Table 31: Cross sections for non-dissociative ionization of $D_2(a^3)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.64511	3.42005	3.20358	2.99547	2.7956	2.6038	2.41998	2.24407	2.07603	1.91588
1.274	2.26E-20	1.70E-20	1.12E-20	5.84E-21	2.08E-21	1.49E-22	1.65E-24	1.78E-28	2.32E-27	9.27E-28
1.623	5.37E-20	4.92E-20	4.39E-20	3.78E-20	3.09E-20	2.32E-20	1.51E-20	7.80E-21	2.12E-21	1.62E-23
2.069	7.96E-20	7.73E-20	7.43E-20	7.05E-20	6.59E-20	6.02E-20	5.33E-20	4.51E-20	3.54E-20	2.47E-20
2.636	9.66E-20	9.63E-20	9.55E-20	9.43E-20	9.24E-20	8.97E-20	8.61E-20	8.13E-20	7.52E-20	6.74E-20
3.359	1.04E-19	1.06E-19	1.07E-19	1.07E-19	1.08E-19	1.08E-19	1.07E-19	1.06E-19	1.03E-19	9.98E-20
4.281	1.05E-19	1.07E-19	1.09E-19	1.11E-19	1.13E-19	1.15E-19	1.16E-19	1.17E-19	1.18E-19	1.18E-19
5.455	9.97E-20	1.02E-19	1.05E-19	1.08E-19	1.11E-19	1.14E-19	1.16E-19	1.19E-19	1.21E-19	1.24E-19
6.951	9.12E-20	9.41E-20	9.71E-20	1.00E-19	1.03E-19	1.07E-19	1.10E-19	1.13E-19	1.17E-19	1.20E-19
8.858	8.11E-20	8.39E-20	8.68E-20	8.99E-20	9.31E-20	9.65E-20	1.00E-19	1.04E-19	1.08E-19	1.12E-19
11.28	7.05E-20	7.31E-20	7.58E-20	7.86E-20	8.17E-20	8.49E-20	8.83E-20	9.19E-20	9.58E-20	9.98E-20
14.38	6.03E-20	6.25E-20	6.49E-20	6.75E-20	7.02E-20	7.31E-20	7.62E-20	7.96E-20	8.32E-20	8.70E-20
18.32	5.08E-20	5.28E-20	5.49E-20	5.71E-20	5.95E-20	6.20E-20	6.48E-20	6.77E-20	7.09E-20	7.43E-20
23.35	4.24E-20	4.41E-20	4.58E-20	4.77E-20	4.98E-20	5.19E-20	5.43E-20	5.68E-20	5.96E-20	6.26E-20
29.76	3.51E-20	3.65E-20	3.80E-20	3.96E-20	4.13E-20	4.31E-20	4.51E-20	4.72E-20	4.95E-20	5.21E-20
37.92	2.89E-20	3.00E-20	3.13E-20	3.26E-20	3.40E-20	3.55E-20	3.71E-20	3.89E-20	4.09E-20	4.30E-20
48.32	2.36E-20	2.46E-20	2.56E-20	2.67E-20	2.78E-20	2.91E-20	3.04E-20	3.19E-20	3.35E-20	3.52E-20
61.58	1.93E-20	2.00E-20	2.09E-20	2.17E-20	2.27E-20	2.37E-20	2.48E-20	2.60E-20	2.73E-20	2.87E-20
78.47	1.57E-20	1.63E-20	1.70E-20	1.77E-20	1.84E-20	1.92E-20	2.01E-20	2.11E-20	2.22E-20	2.33E-20
100.0	1.27E-20	1.32E-20	1.37E-20	1.43E-20	1.49E-20	1.56E-20	1.63E-20	1.71E-20	1.79E-20	1.89E-20

Table 32: Cross sections for dissociative ionization of $D_2(a^3)$ via the continuum of the ionic ground state $D_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.33564	6.11058	5.8941	5.686	5.48612	5.29433	5.11051	4.93459	4.76655	4.60641
1.196	1.63E-29	1.44E-29	4.46E-29	7.34E-29	1.15E-27	9.07E-27	5.91E-26	3.19E-25	1.52E-24	6.28E-24
1.430	4.98E-29	5.47E-29	1.73E-28	1.84E-28	2.65E-27	2.08E-26	1.35E-25	7.28E-25	3.45E-24	1.42E-23
1.710	8.31E-29	9.50E-29	3.03E-28	2.90E-28	3.90E-27	3.04E-26	1.97E-25	1.05E-24	4.97E-24	2.03E-23
2.046	1.10E-28	1.27E-28	4.04E-28	3.70E-28	4.79E-27	3.70E-26	2.38E-25	1.27E-24	5.98E-24	2.44E-23
2.447	1.29E-28	1.48E-28	4.72E-28	4.21E-28	5.31E-27	4.08E-26	2.62E-25	1.39E-24	6.53E-24	2.65E-23
2.927	1.40E-28	1.60E-28	5.07E-28	4.45E-28	5.51E-27	4.22E-26	2.70E-25	1.44E-24	6.71E-24	2.72E-23
3.501	1.43E-28	1.63E-28	5.16E-28	4.48E-28	5.48E-27	4.19E-26	2.67E-25	1.42E-24	6.60E-24	2.67E-23
4.187	1.41E-28	1.60E-28	5.06E-28	4.35E-28	5.28E-27	4.02E-26	2.56E-25	1.35E-24	6.30E-24	2.54E-23
5.008	1.34E-28	1.52E-28	4.81E-28	4.11E-28	4.95E-27	3.76E-26	2.40E-25	1.26E-24	5.87E-24	2.37E-23
5.990	1.25E-28	1.41E-28	4.47E-28	3.80E-28	4.56E-27	3.46E-26	2.20E-25	1.16E-24	5.38E-24	2.16E-23
7.164	1.15E-28	1.29E-28	4.09E-28	3.46E-28	4.14E-27	3.13E-26	1.99E-25	1.05E-24	4.85E-24	1.95E-23
8.568	1.04E-28	1.17E-28	3.68E-28	3.11E-28	3.71E-27	2.80E-26	1.78E-25	9.35E-25	4.33E-24	1.74E-23
10.24	9.24E-29	1.04E-28	3.28E-28	2.77E-28	3.29E-27	2.49E-26	1.57E-25	8.28E-25	3.83E-24	1.53E-23
12.25	8.18E-29	9.21E-29	2.90E-28	2.44E-28	2.90E-27	2.19E-26	1.38E-25	7.27E-25	3.36E-24	1.34E-23
14.66	7.19E-29	8.08E-29	2.55E-28	2.14E-28	2.53E-27	1.91E-26	1.21E-25	6.34E-25	2.93E-24	1.17E-23
17.53	6.27E-29	7.05E-29	2.22E-28	1.86E-28	2.20E-27	1.66E-26	1.05E-25	5.50E-25	2.54E-24	1.01E-23
20.97	5.45E-29	6.12E-29	1.93E-28	1.61E-28	1.91E-27	1.44E-26	9.08E-26	4.76E-25	2.19E-24	8.76E-24
25.08	4.71E-29	5.29E-29	1.66E-28	1.39E-28	1.65E-27	1.24E-26	7.83E-26	4.10E-25	1.89E-24	7.54E-24
30.00	4.06E-29	4.56E-29	1.43E-28	1.20E-28	1.42E-27	1.07E-26	6.72E-26	3.52E-25	1.62E-24	6.47E-24

Table 33: Cross sections for dissociative ionization of $D_2(a^3)$ via the repulsive ionic state $D_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2356	16.0106	15.7941	15.586	15.3861	15.1943	15.0105	14.8346	14.6666	14.5064
1.122	5.30E-37	4.59E-34	4.84E-32	4.52E-30	1.13E-28	2.18E-27	3.15E-26	3.16E-25	2.39E-24	1.35E-23
1.260	6.65E-28	3.42E-26	5.98E-25	5.54E-24	3.12E-23	1.13E-22	2.75E-22	4.84E-22	7.19E-22	1.01E-21
1.414	2.41E-24	2.96E-23	1.38E-22	3.33E-22	5.41E-22	7.83E-22	1.06E-21	1.38E-21	1.74E-21	2.14E-21
1.588	1.12E-22	3.72E-22	5.96E-22	8.50E-22	1.11E-21	1.42E-21	1.74E-21	2.11E-21	2.52E-21	2.96E-21
1.782	5.39E-22	7.64E-22	1.03E-21	1.29E-21	1.58E-21	1.90E-21	2.24E-21	2.61E-21	3.03E-21	3.49E-21
2.001	9.59E-22	1.15E-21	1.37E-21	1.62E-21	1.90E-21	2.21E-21	2.55E-21	2.91E-21	3.30E-21	3.74E-21
2.246	1.22E-21	1.41E-21	1.62E-21	1.86E-21	2.11E-21	2.39E-21	2.69E-21	3.03E-21	3.39E-21	3.79E-21
2.522	1.35E-21	1.54E-21	1.74E-21	1.95E-21	2.19E-21	2.45E-21	2.72E-21	3.03E-21	3.35E-21	3.71E-21
2.831	1.40E-21	1.57E-21	1.75E-21	1.95E-21	2.16E-21	2.39E-21	2.64E-21	2.91E-21	3.20E-21	3.52E-21
3.178	1.38E-21	1.53E-21	1.69E-21	1.87E-21	2.06E-21	2.27E-21	2.49E-21	2.72E-21	2.98E-21	3.25E-21
3.568	1.31E-21	1.45E-21	1.59E-21	1.75E-21	1.92E-21	2.10E-21	2.29E-21	2.50E-21	2.72E-21	2.95E-21
4.005	1.22E-21	1.34E-21	1.47E-21	1.61E-21	1.75E-21	1.91E-21	2.07E-21	2.25E-21	2.44E-21	2.64E-21
4.496	1.12E-21	1.22E-21	1.33E-21	1.45E-21	1.58E-21	1.71E-21	1.85E-21	2.00E-21	2.17E-21	2.34E-21
5.048	1.01E-21	1.10E-21	1.20E-21	1.30E-21	1.41E-21	1.52E-21	1.64E-21	1.77E-21	1.90E-21	2.05E-21
5.667	9.04E-22	9.81E-22	1.06E-21	1.15E-21	1.24E-21	1.34E-21	1.44E-21	1.55E-21	1.66E-21	1.78E-21
6.361	8.01E-22	8.67E-22	9.36E-22	1.01E-21	1.09E-21	1.17E-21	1.26E-21	1.35E-21	1.44E-21	1.55E-21
7.141	7.05E-22	7.61E-22	8.20E-22	8.82E-22	9.48E-22	1.02E-21	1.09E-21	1.17E-21	1.25E-21	1.33E-21
8.017	6.17E-22	6.64E-22	7.14E-22	7.67E-22	8.22E-22	8.80E-22	9.42E-22	1.01E-21	1.07E-21	1.14E-21
9.000	5.37E-22	5.78E-22	6.20E-22	6.64E-22	7.11E-22	7.60E-22	8.11E-22	8.65E-22	9.21E-22	9.81E-22

Table 34: Cross sections for non-dissociative ionization of $D_2(c^3)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.66508	3.45649	3.25558	3.06222	2.87622	2.69749	2.52592	2.36142	2.20396	2.0535
1.274	2.33E-20	1.73E-20	1.12E-20	5.39E-21	8.28E-22	6.07E-24	4.79E-27	1.94E-27	1.88E-27	1.81E-27
1.623	5.43E-20	4.92E-20	4.36E-20	3.73E-20	3.04E-20	2.29E-20	1.50E-20	7.06E-21	1.09E-21	1.14E-23
2.069	8.01E-20	7.69E-20	7.32E-20	6.89E-20	6.39E-20	5.82E-20	5.16E-20	4.41E-20	3.56E-20	2.60E-20
2.636	9.69E-20	9.55E-20	9.38E-20	9.17E-20	8.91E-20	8.60E-20	8.22E-20	7.75E-20	7.20E-20	6.53E-20
3.359	1.05E-19	1.05E-19	1.05E-19	1.04E-19	1.04E-19	1.03E-19	1.01E-19	9.96E-20	9.71E-20	9.38E-20
4.281	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.09E-19	1.09E-19	1.10E-19	1.10E-19	1.10E-19	1.09E-19
5.455	9.97E-20	1.01E-19	1.03E-19	1.05E-19	1.06E-19	1.08E-19	1.10E-19	1.11E-19	1.13E-19	1.14E-19
6.951	9.12E-20	9.30E-20	9.50E-20	9.70E-20	9.91E-20	1.01E-19	1.03E-19	1.06E-19	1.08E-19	1.10E-19
8.858	8.11E-20	8.29E-20	8.49E-20	8.70E-20	8.92E-20	9.15E-20	9.39E-20	9.65E-20	9.92E-20	1.02E-19
11.28	7.05E-20	7.22E-20	7.41E-20	7.61E-20	7.82E-20	8.05E-20	8.29E-20	8.54E-20	8.82E-20	9.11E-20
14.38	6.02E-20	6.18E-20	6.35E-20	6.53E-20	6.72E-20	6.93E-20	7.15E-20	7.39E-20	7.65E-20	7.92E-20
18.32	5.08E-20	5.21E-20	5.36E-20	5.52E-20	5.69E-20	5.88E-20	6.07E-20	6.29E-20	6.52E-20	6.76E-20
23.35	4.24E-20	4.35E-20	4.48E-20	4.62E-20	4.76E-20	4.92E-20	5.09E-20	5.28E-20	5.47E-20	5.69E-20
29.76	3.51E-20	3.61E-20	3.71E-20	3.83E-20	3.95E-20	4.08E-20	4.23E-20	4.38E-20	4.55E-20	4.73E-20
37.92	2.89E-20	2.97E-20	3.05E-20	3.15E-20	3.25E-20	3.36E-20	3.48E-20	3.61E-20	3.75E-20	3.91E-20
48.32	2.36E-20	2.43E-20	2.50E-20	2.58E-20	2.66E-20	2.75E-20	2.85E-20	2.96E-20	3.07E-20	3.20E-20
61.58	1.93E-20	1.98E-20	2.04E-20	2.10E-20	2.17E-20	2.24E-20	2.32E-20	2.41E-20	2.51E-20	2.61E-20
78.47	1.57E-20	1.61E-20	1.66E-20	1.71E-20	1.76E-20	1.82E-20	1.89E-20	1.96E-20	2.03E-20	2.12E-20
100.0	1.27E-20	1.31E-20	1.34E-20	1.38E-20	1.43E-20	1.48E-20	1.53E-20	1.59E-20	1.65E-20	1.71E-20

Table 35: Cross sections for dissociative ionization of $D_2(c^3)$ via the continuum of the ionic ground state $D_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.35561	6.14702	5.94611	5.75275	5.56675	5.38802	5.21644	5.05195	4.89448	4.74402
1.196	5.16E-30	3.88E-29	2.20E-29	3.78E-29	1.99E-29	2.73E-29	6.57E-29	1.36E-28	8.90E-28	3.36E-27
1.430	1.60E-29	1.32E-28	8.25E-29	1.26E-28	7.71E-29	1.07E-28	2.14E-28	3.63E-28	2.11E-27	7.66E-27
1.710	2.79E-29	2.23E-28	1.46E-28	2.18E-28	1.44E-28	1.95E-28	3.64E-28	5.64E-28	3.13E-27	1.10E-26
2.046	3.76E-29	2.94E-28	1.96E-28	2.90E-28	2.00E-28	2.67E-28	4.83E-28	7.10E-28	3.83E-27	1.33E-26
2.447	4.44E-29	3.40E-28	2.28E-28	3.39E-28	2.38E-28	3.16E-28	5.62E-28	7.98E-28	4.24E-27	1.46E-26
2.927	4.82E-29	3.65E-28	2.46E-28	3.66E-28	2.59E-28	3.42E-28	6.02E-28	8.36E-28	4.39E-27	1.50E-26
3.501	4.95E-29	3.70E-28	2.50E-28	3.72E-28	2.65E-28	3.50E-28	6.10E-28	8.34E-28	4.35E-27	1.48E-26
4.187	4.87E-29	3.62E-28	2.45E-28	3.65E-28	2.61E-28	3.43E-28	5.95E-28	8.04E-28	4.17E-27	1.41E-26
5.008	4.65E-29	3.44E-28	2.33E-28	3.47E-28	2.48E-28	3.27E-28	5.64E-28	7.56E-28	3.90E-27	1.31E-26
5.990	4.34E-29	3.20E-28	2.16E-28	3.23E-28	2.31E-28	3.04E-28	5.23E-28	6.96E-28	3.58E-27	1.20E-26
7.164	3.98E-29	2.92E-28	1.98E-28	2.95E-28	2.12E-28	2.77E-28	4.77E-28	6.31E-28	3.24E-27	1.08E-26
8.568	3.60E-29	2.64E-28	1.78E-28	2.66E-28	1.91E-28	2.50E-28	4.29E-28	5.65E-28	2.90E-27	9.67E-27
10.24	3.21E-29	2.35E-28	1.59E-28	2.37E-28	1.70E-28	2.23E-28	3.81E-28	5.01E-28	2.56E-27	8.55E-27
12.25	2.84E-29	2.08E-28	1.40E-28	2.09E-28	1.50E-28	1.97E-28	3.36E-28	4.41E-28	2.25E-27	7.50E-27
14.66	2.50E-29	1.82E-28	1.23E-28	1.83E-28	1.32E-28	1.72E-28	2.94E-28	3.85E-28	1.97E-27	6.54E-27
17.53	2.18E-29	1.59E-28	1.07E-28	1.60E-28	1.15E-28	1.50E-28	2.56E-28	3.35E-28	1.71E-27	5.67E-27
20.97	1.90E-29	1.38E-28	9.32E-29	1.39E-28	9.96E-29	1.30E-28	2.22E-28	2.90E-28	1.48E-27	4.90E-27
25.08	1.64E-29	1.19E-28	8.06E-29	1.20E-28	8.61E-29	1.12E-28	1.91E-28	2.50E-28	1.27E-27	4.22E-27
30.00	1.41E-29	1.03E-28	6.94E-29	1.03E-28	7.41E-29	9.67E-29	1.65E-28	2.15E-28	1.09E-27	3.62E-27

Table 36: Cross sections for dissociative ionization of $D_2(c^3)$ via the repulsive ionic state $D_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2556	16.047	15.8461	15.6527	15.4668	15.288	15.1164	14.9519	14.7945	14.644
1.122	6.93E-35	1.76E-32	3.00E-30	6.81E-29	1.75E-27	2.60E-26	2.75E-25	2.10E-24	1.18E-23	4.85E-23
1.260	7.80E-27	2.57E-25	3.36E-24	2.32E-23	9.41E-23	2.43E-22	4.38E-22	6.51E-22	9.13E-22	1.21E-21
1.414	9.48E-24	8.22E-23	2.68E-22	4.85E-22	7.10E-22	9.77E-22	1.26E-21	1.59E-21	1.95E-21	2.34E-21
1.588	2.24E-22	5.25E-22	7.65E-22	1.04E-21	1.32E-21	1.62E-21	1.96E-21	2.32E-21	2.72E-21	3.16E-21
1.782	7.40E-22	9.54E-22	1.21E-21	1.49E-21	1.79E-21	2.10E-21	2.45E-21	2.82E-21	3.23E-21	3.66E-21
2.001	1.15E-21	1.36E-21	1.58E-21	1.83E-21	2.11E-21	2.41E-21	2.75E-21	3.11E-21	3.49E-21	3.91E-21
2.246	1.40E-21	1.60E-21	1.82E-21	2.06E-21	2.31E-21	2.59E-21	2.89E-21	3.22E-21	3.57E-21	3.95E-21
2.522	1.51E-21	1.70E-21	1.91E-21	2.13E-21	2.37E-21	2.63E-21	2.90E-21	3.20E-21	3.51E-21	3.85E-21
2.831	1.54E-21	1.72E-21	1.90E-21	2.10E-21	2.32E-21	2.55E-21	2.80E-21	3.06E-21	3.34E-21	3.64E-21
3.178	1.50E-21	1.66E-21	1.83E-21	2.01E-21	2.20E-21	2.40E-21	2.62E-21	2.85E-21	3.10E-21	3.36E-21
3.568	1.43E-21	1.57E-21	1.71E-21	1.87E-21	2.04E-21	2.22E-21	2.41E-21	2.61E-21	2.82E-21	3.05E-21
4.005	1.32E-21	1.44E-21	1.57E-21	1.71E-21	1.86E-21	2.01E-21	2.18E-21	2.35E-21	2.53E-21	2.73E-21
4.496	1.21E-21	1.31E-21	1.43E-21	1.54E-21	1.67E-21	1.80E-21	1.94E-21	2.09E-21	2.25E-21	2.41E-21
5.048	1.09E-21	1.18E-21	1.28E-21	1.38E-21	1.48E-21	1.60E-21	1.72E-21	1.84E-21	1.97E-21	2.11E-21
5.667	9.69E-22	1.05E-21	1.13E-21	1.22E-21	1.31E-21	1.40E-21	1.51E-21	1.61E-21	1.72E-21	1.84E-21
6.361	8.57E-22	9.24E-22	9.95E-22	1.07E-21	1.15E-21	1.23E-21	1.31E-21	1.40E-21	1.50E-21	1.59E-21
7.141	7.53E-22	8.10E-22	8.70E-22	9.32E-22	9.98E-22	1.07E-21	1.14E-21	1.21E-21	1.29E-21	1.37E-21
8.017	6.58E-22	7.06E-22	7.57E-22	8.10E-22	8.65E-22	9.23E-22	9.83E-22	1.05E-21	1.11E-21	1.18E-21
9.000	5.73E-22	6.14E-22	6.57E-22	7.01E-22	7.48E-22	7.96E-22	8.47E-22	9.00E-22	9.54E-22	1.01E-21

Table 37: Cross sections for non-dissociative ionization of $T_2(X^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.48274	15.17723	14.88159	14.59562	14.31917	14.0522	13.79467	13.54658	13.30799	13.07895
1.128	4.43E-22	4.57E-22	4.81E-22	4.95E-22	4.93E-22	4.86E-22	4.71E-22	4.50E-22	4.24E-22	3.93E-22
1.274	1.77E-21	1.75E-21	1.71E-21	1.67E-21	1.65E-21	1.66E-21	1.67E-21	1.65E-21	1.63E-21	1.62E-21
1.438	3.36E-21	3.34E-21	3.26E-21	3.12E-21	3.04E-21	3.08E-21	3.16E-21	3.14E-21	3.12E-21	3.16E-21
1.623	4.96E-21	4.96E-21	4.83E-21	4.58E-21	4.42E-21	4.51E-21	4.66E-21	4.64E-21	4.62E-21	4.73E-21
1.833	6.43E-21	6.45E-21	6.28E-21	5.93E-21	5.70E-21	5.83E-21	6.04E-21	6.03E-21	6.01E-21	6.19E-21
2.069	7.71E-21	7.75E-21	7.54E-21	7.10E-21	6.81E-21	6.97E-21	7.25E-21	7.24E-21	7.22E-21	7.46E-21
2.335	8.76E-21	8.81E-21	8.58E-21	8.06E-21	7.71E-21	7.90E-21	8.23E-21	8.23E-21	8.21E-21	8.50E-21
2.636	9.56E-21	9.63E-21	9.37E-21	8.79E-21	8.40E-21	8.61E-21	8.99E-21	8.99E-21	8.97E-21	9.30E-21
2.976	1.01E-20	1.02E-20	9.93E-21	9.31E-21	8.88E-21	9.11E-21	9.52E-21	9.52E-21	9.50E-21	9.87E-21
3.359	1.05E-20	1.06E-20	1.03E-20	9.62E-21	9.17E-21	9.41E-21	9.84E-21	9.85E-21	9.83E-21	1.02E-20
3.792	1.06E-20	1.07E-20	1.04E-20	9.75E-21	9.28E-21	9.53E-21	9.98E-21	9.98E-21	9.96E-21	1.04E-20
4.281	1.06E-20	1.07E-20	1.04E-20	9.72E-21	9.25E-21	9.49E-21	9.95E-21	9.96E-21	9.94E-21	1.03E-20
4.832	1.04E-20	1.05E-20	1.02E-20	9.55E-21	9.09E-21	9.33E-21	9.78E-21	9.79E-21	9.77E-21	1.02E-20
5.455	1.01E-20	1.02E-20	9.93E-21	9.28E-21	8.83E-21	9.07E-21	9.51E-21	9.52E-21	9.50E-21	9.90E-21
6.158	9.72E-21	9.82E-21	9.56E-21	8.93E-21	8.50E-21	8.72E-21	9.15E-21	9.16E-21	9.15E-21	9.53E-21
6.951	9.27E-21	9.37E-21	9.12E-21	8.52E-21	8.10E-21	8.32E-21	8.73E-21	8.74E-21	8.73E-21	9.10E-21
7.847	8.78E-21	8.87E-21	8.64E-21	8.07E-21	7.67E-21	7.88E-21	8.27E-21	8.28E-21	8.26E-21	8.62E-21
8.858	8.26E-21	8.35E-21	8.13E-21	7.59E-21	7.21E-21	7.41E-21	7.78E-21	7.79E-21	7.77E-21	8.11E-21
10.00	7.72E-21	7.81E-21	7.60E-21	7.10E-21	6.75E-21	6.93E-21	7.27E-21	7.28E-21	7.27E-21	7.58E-21

Table 38: Cross sections for dissociative ionization of $T_2(X^1)$ via the continuum of the ionic ground state $T_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	18.1916	17.8861	17.5905	17.3045	17.0281	16.7611	16.5036	16.2555	16.0169	15.7878
1.128	1.66E-24	1.47E-23	5.66E-23	1.22E-22	1.55E-22	1.20E-22	7.37E-23	8.00E-23	9.45E-23	7.14E-23
1.274	4.55E-24	4.10E-23	1.62E-22	3.62E-22	5.02E-22	4.64E-22	3.76E-22	4.02E-22	4.43E-22	3.78E-22
1.438	7.66E-24	6.93E-23	2.76E-22	6.24E-22	8.85E-22	8.58E-22	7.40E-22	8.05E-22	8.93E-22	8.07E-22
1.623	1.06E-23	9.62E-23	3.84E-22	8.75E-22	1.25E-21	1.24E-21	1.10E-21	1.20E-21	1.34E-21	1.24E-21
1.833	1.32E-23	1.20E-22	4.80E-22	1.10E-21	1.58E-21	1.58E-21	1.42E-21	1.56E-21	1.74E-21	1.63E-21
2.069	1.54E-23	1.40E-22	5.59E-22	1.28E-21	1.85E-21	1.87E-21	1.69E-21	1.86E-21	2.09E-21	1.97E-21
2.335	1.71E-23	1.55E-22	6.21E-22	1.42E-21	2.07E-21	2.09E-21	1.91E-21	2.11E-21	2.36E-21	2.23E-21
2.636	1.83E-23	1.66E-22	6.66E-22	1.53E-21	2.22E-21	2.26E-21	2.07E-21	2.28E-21	2.56E-21	2.43E-21
2.976	1.91E-23	1.73E-22	6.95E-22	1.60E-21	2.32E-21	2.37E-21	2.17E-21	2.40E-21	2.69E-21	2.56E-21
3.359	1.94E-23	1.77E-22	7.09E-22	1.63E-21	2.37E-21	2.42E-21	2.23E-21	2.47E-21	2.77E-21	2.64E-21
3.792	1.95E-23	1.77E-22	7.10E-22	1.63E-21	2.38E-21	2.43E-21	2.24E-21	2.48E-21	2.78E-21	2.66E-21
4.281	1.92E-23	1.75E-22	7.01E-22	1.61E-21	2.35E-21	2.41E-21	2.22E-21	2.46E-21	2.76E-21	2.64E-21
4.832	1.87E-23	1.71E-22	6.84E-22	1.57E-21	2.30E-21	2.35E-21	2.17E-21	2.41E-21	2.70E-21	2.58E-21
5.455	1.81E-23	1.64E-22	6.59E-22	1.52E-21	2.21E-21	2.27E-21	2.10E-21	2.33E-21	2.61E-21	2.50E-21
6.158	1.73E-23	1.57E-22	6.30E-22	1.45E-21	2.12E-21	2.17E-21	2.01E-21	2.23E-21	2.50E-21	2.39E-21
6.951	1.64E-23	1.49E-22	5.97E-22	1.37E-21	2.01E-21	2.06E-21	1.91E-21	2.11E-21	2.37E-21	2.27E-21
7.847	1.54E-23	1.40E-22	5.62E-22	1.29E-21	1.89E-21	1.94E-21	1.80E-21	1.99E-21	2.24E-21	2.15E-21
8.858	1.44E-23	1.31E-22	5.26E-22	1.21E-21	1.77E-21	1.82E-21	1.68E-21	1.87E-21	2.10E-21	2.01E-21
10.00	1.34E-23	1.22E-22	4.90E-22	1.13E-21	1.65E-21	1.69E-21	1.57E-21	1.74E-21	1.95E-21	1.87E-21

Table 39: Cross sections for dissociative ionization of $T_2(X^1)$ via the repulsive ionic state $T_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	28.0916	27.7861	27.4905	27.2045	26.9281	26.6611	26.4036	26.1555	25.9169	25.6878
1.088	7.18E-55	3.73E-51	7.40E-48	2.18E-45	5.90E-43	5.44E-41	9.31E-39	4.17E-37	3.53E-35	8.65E-34
1.184	1.66E-38	9.28E-36	1.56E-33	7.47E-32	2.32E-30	4.15E-29	5.76E-28	5.58E-27	4.29E-26	2.60E-25
1.289	3.92E-30	2.29E-28	4.81E-27	5.53E-26	4.22E-25	2.26E-24	8.79E-24	2.50E-23	5.25E-23	8.50E-23
1.403	6.22E-26	9.78E-25	6.52E-24	2.41E-23	5.59E-23	9.10E-23	1.25E-22	1.66E-22	2.09E-22	2.55E-22
1.527	1.02E-23	4.84E-23	9.60E-23	1.35E-22	1.81E-22	2.25E-22	2.75E-22	3.25E-22	3.81E-22	4.39E-22
1.662	1.05E-22	1.62E-22	2.15E-22	2.63E-22	3.16E-22	3.69E-22	4.26E-22	4.86E-22	5.48E-22	6.15E-22
1.809	2.58E-22	2.98E-22	3.42E-22	3.94E-22	4.51E-22	5.09E-22	5.69E-22	6.33E-22	7.01E-22	7.72E-22
1.969	3.90E-22	4.34E-22	4.80E-22	5.29E-22	5.81E-22	6.37E-22	6.98E-22	7.63E-22	8.34E-22	9.07E-22
2.143	4.97E-22	5.43E-22	5.91E-22	6.42E-22	6.96E-22	7.54E-22	8.14E-22	8.79E-22	9.47E-22	1.02E-21
2.332	5.80E-22	6.27E-22	6.76E-22	7.28E-22	7.83E-22	8.41E-22	9.02E-22	9.67E-22	1.04E-21	1.11E-21
2.539	6.41E-22	6.88E-22	7.37E-22	7.89E-22	8.44E-22	9.01E-22	9.62E-22	1.03E-21	1.09E-21	1.16E-21
2.763	6.82E-22	7.28E-22	7.77E-22	8.28E-22	8.82E-22	9.38E-22	9.97E-22	1.06E-21	1.12E-21	1.19E-21
3.007	7.05E-22	7.51E-22	7.98E-22	8.47E-22	8.99E-22	9.54E-22	1.01E-21	1.07E-21	1.13E-21	1.20E-21
3.273	7.14E-22	7.58E-22	8.03E-22	8.51E-22	9.01E-22	9.53E-22	1.01E-21	1.06E-21	1.12E-21	1.19E-21
3.563	7.10E-22	7.52E-22	7.95E-22	8.41E-22	8.88E-22	9.38E-22	9.89E-22	1.04E-21	1.10E-21	1.16E-21
3.878	6.97E-22	7.36E-22	7.77E-22	8.20E-22	8.65E-22	9.11E-22	9.60E-22	1.01E-21	1.06E-21	1.12E-21
4.220	6.75E-22	7.13E-22	7.51E-22	7.91E-22	8.33E-22	8.77E-22	9.22E-22	9.70E-22	1.02E-21	1.07E-21
4.593	6.48E-22	6.83E-22	7.19E-22	7.56E-22	7.95E-22	8.36E-22	8.78E-22	9.23E-22	9.69E-22	1.02E-21
5.000	6.17E-22	6.49E-22	6.83E-22	7.17E-22	7.53E-22	7.91E-22	8.30E-22	8.71E-22	9.14E-22	9.58E-22

Table 40: Cross sections for non-dissociative ionization of $T_2(EF^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.1368	3.08386	2.99657	2.96411	2.91151	2.82872	2.79905	2.74827	2.67035	2.64329
1.274	3.11E-20	1.42E-27	1.24E-26	2.36E-20	5.69E-26	2.09E-25	1.59E-20	6.94E-25	8.11E-24	8.43E-21
1.623	7.32E-20	1.84E-21	1.77E-21	6.68E-20	1.82E-21	1.92E-21	5.96E-20	2.07E-21	2.37E-21	5.15E-20
2.069	1.08E-19	2.15E-20	2.03E-20	1.04E-19	1.90E-20	1.77E-20	9.97E-20	1.65E-20	1.57E-20	9.41E-20
2.636	1.31E-19	4.06E-20	4.00E-20	1.30E-19	3.94E-20	3.89E-20	1.28E-19	3.84E-20	3.82E-20	1.25E-19
3.359	1.42E-19	5.34E-20	5.36E-20	1.42E-19	5.37E-20	5.39E-20	1.42E-19	5.43E-20	5.49E-20	1.42E-19
4.281	1.42E-19	5.98E-20	6.05E-20	1.44E-19	6.11E-20	6.19E-20	1.46E-19	6.28E-20	6.40E-20	1.47E-19
5.455	1.36E-19	6.09E-20	6.18E-20	1.38E-19	6.28E-20	6.39E-20	1.40E-19	6.52E-20	6.67E-20	1.42E-19
6.951	1.24E-19	5.82E-20	5.93E-20	1.27E-19	6.04E-20	6.17E-20	1.29E-19	6.31E-20	6.47E-20	1.32E-19
8.858	1.10E-19	5.33E-20	5.44E-20	1.13E-19	5.56E-20	5.68E-20	1.16E-19	5.82E-20	5.98E-20	1.18E-19
11.28	9.60E-20	4.73E-20	4.83E-20	9.85E-20	4.94E-20	5.06E-20	1.01E-19	5.19E-20	5.34E-20	1.03E-19
14.38	8.20E-20	4.10E-20	4.19E-20	8.43E-20	4.29E-20	4.40E-20	8.66E-20	4.51E-20	4.65E-20	8.88E-20
18.32	6.92E-20	3.49E-20	3.57E-20	7.12E-20	3.66E-20	3.75E-20	7.32E-20	3.85E-20	3.97E-20	7.51E-20
23.35	5.78E-20	2.93E-20	3.00E-20	5.94E-20	3.07E-20	3.15E-20	6.11E-20	3.24E-20	3.34E-20	6.28E-20
29.76	4.78E-20	2.43E-20	2.49E-20	4.92E-20	2.55E-20	2.62E-20	5.07E-20	2.70E-20	2.78E-20	5.21E-20
37.92	3.94E-20	2.01E-20	2.06E-20	4.05E-20	2.11E-20	2.16E-20	4.17E-20	2.22E-20	2.29E-20	4.29E-20
48.32	3.22E-20	1.64E-20	1.68E-20	3.32E-20	1.73E-20	1.77E-20	3.41E-20	1.82E-20	1.88E-20	3.51E-20
61.58	2.63E-20	1.34E-20	1.37E-20	2.71E-20	1.41E-20	1.44E-20	2.78E-20	1.49E-20	1.53E-20	2.86E-20
78.47	2.14E-20	1.09E-20	1.11E-20	2.20E-20	1.14E-20	1.17E-20	2.26E-20	1.21E-20	1.24E-20	2.33E-20
100.0	1.73E-20	8.81E-21	9.02E-21	1.78E-20	9.25E-21	9.49E-21	1.84E-20	9.76E-21	1.01E-20	1.89E-20

Table 41: Cross sections for dissociative ionization of $T_2(EF^1)$ via the continuum of the ionic ground state $T_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.84569	5.79275	5.70546	5.673	5.6204	5.53761	5.50795	5.45717	5.37924	5.35218
1.196	4.33E-30	1.19E-29	8.87E-29	1.27E-27	8.62E-28	2.47E-26	2.87E-28	2.08E-25	1.93E-24	4.06E-27
1.430	1.54E-29	3.48E-29	2.31E-28	3.56E-27	1.98E-27	5.37E-26	7.47E-28	4.59E-25	4.17E-24	8.99E-27
1.710	2.81E-29	5.64E-29	3.59E-28	5.68E-27	2.91E-27	7.71E-26	1.15E-27	6.61E-25	5.97E-24	1.30E-26
2.046	3.90E-29	7.29E-29	4.53E-28	7.27E-27	3.57E-27	9.32E-26	1.45E-27	8.01E-25	7.20E-24	1.57E-26
2.447	4.69E-29	8.35E-29	5.11E-28	8.27E-27	3.96E-27	1.03E-25	1.63E-27	8.81E-25	7.91E-24	1.73E-26
2.927	5.15E-29	8.87E-29	5.38E-28	8.76E-27	4.11E-27	1.06E-25	1.71E-27	9.11E-25	8.16E-24	1.79E-26
3.501	5.32E-29	8.96E-29	5.40E-28	8.82E-27	4.09E-27	1.05E-25	1.71E-27	9.03E-25	8.08E-24	1.77E-26
4.187	5.26E-29	8.72E-29	5.24E-28	8.57E-27	3.94E-27	1.01E-25	1.65E-27	8.67E-25	7.74E-24	1.70E-26
5.008	5.04E-29	8.26E-29	4.94E-28	8.10E-27	3.70E-27	9.46E-26	1.55E-27	8.12E-25	7.25E-24	1.59E-26
5.990	4.71E-29	7.65E-29	4.57E-28	7.50E-27	3.41E-27	8.70E-26	1.43E-27	7.47E-25	6.66E-24	1.46E-26
7.164	4.32E-29	6.98E-29	4.16E-28	6.83E-27	3.09E-27	7.89E-26	1.30E-27	6.77E-25	6.03E-24	1.33E-26
8.568	3.91E-29	6.28E-29	3.73E-28	6.14E-27	2.77E-27	7.07E-26	1.17E-27	6.06E-25	5.40E-24	1.19E-26
10.24	3.49E-29	5.59E-29	3.32E-28	5.46E-27	2.46E-27	6.27E-26	1.04E-27	5.37E-25	4.78E-24	1.05E-26
12.25	3.09E-29	4.93E-29	2.93E-28	4.82E-27	2.17E-27	5.51E-26	9.15E-28	4.73E-25	4.21E-24	9.25E-27
14.66	2.71E-29	4.32E-29	2.56E-28	4.22E-27	1.90E-27	4.82E-26	8.01E-28	4.13E-25	3.68E-24	8.08E-27
17.53	2.37E-29	3.77E-29	2.23E-28	3.67E-27	1.65E-27	4.19E-26	6.97E-28	3.59E-25	3.20E-24	7.02E-27
20.97	2.05E-29	3.27E-29	1.94E-28	3.18E-27	1.43E-27	3.63E-26	6.04E-28	3.11E-25	2.77E-24	6.08E-27
25.08	1.78E-29	2.82E-29	1.67E-28	2.75E-27	1.23E-27	3.13E-26	5.21E-28	2.68E-25	2.39E-24	5.24E-27
30.00	1.53E-29	2.43E-29	1.44E-28	2.37E-27	1.06E-27	2.70E-26	4.48E-28	2.31E-25	2.05E-24	4.51E-27

Table 42: Cross sections for dissociative ionization of $T_2(EF^1)$ via the repulsive ionic state $T_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7457	15.6928	15.6055	15.573	15.5204	15.4376	15.4079	15.3572	15.2792	15.2522
1.122	2.99E-39	1.38E-21	1.39E-21	9.91E-26	1.41E-21	1.44E-21	1.24E-26	1.49E-21	1.55E-21	2.11E-24
1.260	2.26E-28	3.75E-21	3.83E-21	3.67E-25	3.91E-21	3.98E-21	4.31E-25	4.05E-21	4.11E-21	1.16E-23
1.414	1.95E-24	5.22E-21	5.33E-21	2.68E-23	5.45E-21	5.56E-21	1.36E-22	5.66E-21	5.76E-21	3.75E-22
1.588	1.24E-22	6.09E-21	6.21E-21	4.03E-22	6.34E-21	6.46E-21	6.45E-22	6.58E-21	6.69E-21	9.64E-22
1.782	6.23E-22	6.49E-21	6.62E-21	8.48E-22	6.74E-21	6.87E-21	1.12E-21	6.99E-21	7.10E-21	1.46E-21
2.001	1.09E-21	6.54E-21	6.67E-21	1.29E-21	6.79E-21	6.91E-21	1.52E-21	7.03E-21	7.13E-21	1.82E-21
2.246	1.37E-21	6.35E-21	6.47E-21	1.57E-21	6.58E-21	6.69E-21	1.79E-21	6.80E-21	6.90E-21	2.07E-21
2.522	1.51E-21	6.00E-21	6.10E-21	1.69E-21	6.20E-21	6.30E-21	1.90E-21	6.40E-21	6.49E-21	2.16E-21
2.831	1.55E-21	5.55E-21	5.64E-21	1.71E-21	5.72E-21	5.81E-21	1.90E-21	5.90E-21	5.97E-21	2.14E-21
3.178	1.52E-21	5.04E-21	5.12E-21	1.67E-21	5.20E-21	5.27E-21	1.83E-21	5.34E-21	5.41E-21	2.04E-21
3.568	1.44E-21	4.52E-21	4.59E-21	1.57E-21	4.65E-21	4.72E-21	1.72E-21	4.78E-21	4.83E-21	1.90E-21
4.005	1.33E-21	4.02E-21	4.07E-21	1.45E-21	4.13E-21	4.18E-21	1.58E-21	4.23E-21	4.28E-21	1.74E-21
4.496	1.22E-21	3.53E-21	3.58E-21	1.32E-21	3.62E-21	3.67E-21	1.43E-21	3.71E-21	3.75E-21	1.57E-21
5.048	1.10E-21	3.09E-21	3.12E-21	1.18E-21	3.16E-21	3.20E-21	1.28E-21	3.23E-21	3.27E-21	1.40E-21
5.667	9.76E-22	2.68E-21	2.71E-21	1.05E-21	2.74E-21	2.77E-21	1.13E-21	2.80E-21	2.83E-21	1.23E-21
6.361	8.62E-22	2.32E-21	2.34E-21	9.25E-22	2.37E-21	2.39E-21	9.94E-22	2.42E-21	2.44E-21	1.08E-21
7.141	7.56E-22	2.00E-21	2.02E-21	8.10E-22	2.04E-21	2.06E-21	8.69E-22	2.08E-21	2.09E-21	9.41E-22
8.017	6.60E-22	1.71E-21	1.73E-21	7.05E-22	1.75E-21	1.76E-21	7.55E-22	1.78E-21	1.79E-21	8.16E-22
9.000	5.73E-22	1.47E-21	1.48E-21	6.12E-22	1.50E-21	1.51E-21	6.54E-22	1.52E-21	1.53E-21	7.06E-22

Table 43: Cross sections for non-dissociative ionization of $T_2(B^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	4.22669	4.13067	4.03631	3.94353	3.85224	3.76241	3.674	3.587	3.50138	3.41713
1.274	1.31E-20	1.06E-20	8.33E-21	6.48E-21	5.15E-21	4.18E-21	3.36E-21	2.67E-21	2.07E-21	1.56E-21
1.623	3.49E-20	3.19E-20	2.91E-20	2.65E-20	2.39E-20	2.15E-20	1.91E-20	1.68E-20	1.46E-20	1.25E-20
2.069	5.36E-20	5.09E-20	4.83E-20	4.60E-20	4.37E-20	4.15E-20	3.93E-20	3.72E-20	3.51E-20	3.30E-20
2.636	6.61E-20	6.38E-20	6.17E-20	5.98E-20	5.80E-20	5.63E-20	5.46E-20	5.30E-20	5.14E-20	4.99E-20
3.359	7.22E-20	7.03E-20	6.87E-20	6.72E-20	6.59E-20	6.46E-20	6.35E-20	6.23E-20	6.13E-20	6.02E-20
4.281	7.28E-20	7.14E-20	7.01E-20	6.91E-20	6.81E-20	6.72E-20	6.65E-20	6.57E-20	6.51E-20	6.45E-20
5.455	6.96E-20	6.85E-20	6.75E-20	6.67E-20	6.61E-20	6.55E-20	6.50E-20	6.46E-20	6.42E-20	6.39E-20
6.951	6.38E-20	6.30E-20	6.23E-20	6.17E-20	6.13E-20	6.09E-20	6.06E-20	6.04E-20	6.02E-20	6.01E-20
8.858	5.69E-20	5.62E-20	5.57E-20	5.53E-20	5.49E-20	5.47E-20	5.46E-20	5.45E-20	5.44E-20	5.45E-20
11.28	4.95E-20	4.90E-20	4.86E-20	4.83E-20	4.81E-20	4.79E-20	4.79E-20	4.78E-20	4.79E-20	4.80E-20
14.38	4.23E-20	4.19E-20	4.16E-20	4.14E-20	4.12E-20	4.12E-20	4.11E-20	4.12E-20	4.12E-20	4.14E-20
18.32	3.57E-20	3.54E-20	3.51E-20	3.50E-20	3.49E-20	3.48E-20	3.48E-20	3.49E-20	3.50E-20	3.51E-20
23.35	2.98E-20	2.96E-20	2.94E-20	2.92E-20	2.92E-20	2.91E-20	2.91E-20	2.92E-20	2.93E-20	2.94E-20
29.76	2.47E-20	2.45E-20	2.43E-20	2.42E-20	2.42E-20	2.42E-20	2.42E-20	2.42E-20	2.43E-20	2.44E-20
37.92	2.03E-20	2.02E-20	2.00E-20	1.99E-20	1.99E-20	1.99E-20	1.99E-20	1.99E-20	2.00E-20	2.01E-20
48.32	1.66E-20	1.65E-20	1.64E-20	1.63E-20	1.63E-20	1.63E-20	1.63E-20	1.63E-20	1.64E-20	1.65E-20
61.58	1.36E-20	1.35E-20	1.34E-20	1.33E-20	1.33E-20	1.33E-20	1.33E-20	1.33E-20	1.34E-20	1.34E-20
78.47	1.10E-20	1.09E-20	1.09E-20	1.08E-20	1.08E-20	1.08E-20	1.08E-20	1.08E-20	1.08E-20	1.09E-20
100.0	8.95E-21	8.87E-21	8.81E-21	8.77E-21	8.75E-21	8.74E-21	8.75E-21	8.76E-21	8.79E-21	8.83E-21

Table 44: Cross sections for dissociative ionization of $T_2(B^1)$ via the continuum of the ionic ground state $T_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.93558	6.83957	6.7452	6.65242	6.56113	6.4713	6.38289	6.29589	6.21027	6.12602
1.196	1.68E-29	2.30E-29	2.57E-29	3.43E-29	2.34E-29	3.95E-29	6.84E-29	3.85E-29	1.15E-29	8.43E-29
1.430	6.23E-29	7.37E-29	7.38E-29	9.75E-29	7.33E-29	1.19E-28	1.99E-28	1.16E-28	3.89E-29	2.55E-28
1.710	1.11E-28	1.26E-28	1.21E-28	1.59E-28	1.24E-28	1.97E-28	3.26E-28	1.92E-28	6.69E-29	4.23E-28
2.046	1.51E-28	1.68E-28	1.59E-28	2.07E-28	1.64E-28	2.59E-28	4.25E-28	2.52E-28	8.91E-29	5.54E-28
2.447	1.79E-28	1.98E-28	1.84E-28	2.39E-28	1.92E-28	3.01E-28	4.91E-28	2.92E-28	1.04E-28	6.41E-28
2.927	1.95E-28	2.14E-28	1.97E-28	2.56E-28	2.06E-28	3.23E-28	5.25E-28	3.12E-28	1.12E-28	6.85E-28
3.501	2.00E-28	2.20E-28	2.01E-28	2.60E-28	2.11E-28	3.28E-28	5.33E-28	3.17E-28	1.14E-28	6.96E-28
4.187	1.98E-28	2.16E-28	1.97E-28	2.54E-28	2.07E-28	3.22E-28	5.21E-28	3.10E-28	1.11E-28	6.80E-28
5.008	1.89E-28	2.07E-28	1.87E-28	2.42E-28	1.97E-28	3.06E-28	4.95E-28	2.95E-28	1.06E-28	6.46E-28
5.990	1.77E-28	1.93E-28	1.74E-28	2.25E-28	1.84E-28	2.85E-28	4.61E-28	2.74E-28	9.87E-29	6.00E-28
7.164	1.62E-28	1.77E-28	1.60E-28	2.06E-28	1.68E-28	2.61E-28	4.21E-28	2.51E-28	9.03E-29	5.48E-28
8.568	1.47E-28	1.60E-28	1.44E-28	1.86E-28	1.52E-28	2.35E-28	3.80E-28	2.26E-28	8.15E-29	4.94E-28
10.24	1.32E-28	1.43E-28	1.29E-28	1.66E-28	1.36E-28	2.10E-28	3.39E-28	2.02E-28	7.27E-29	4.41E-28
12.25	1.17E-28	1.27E-28	1.14E-28	1.47E-28	1.20E-28	1.86E-28	3.00E-28	1.78E-28	6.43E-29	3.90E-28
14.66	1.03E-28	1.11E-28	1.00E-28	1.29E-28	1.05E-28	1.63E-28	2.63E-28	1.56E-28	5.64E-29	3.42E-28
17.53	8.96E-29	9.74E-29	8.74E-29	1.13E-28	9.21E-29	1.42E-28	2.30E-28	1.37E-28	4.92E-29	2.98E-28
20.97	7.79E-29	8.46E-29	7.60E-29	9.78E-29	8.00E-29	1.24E-28	1.99E-28	1.19E-28	4.27E-29	2.59E-28
25.08	6.75E-29	7.32E-29	6.57E-29	8.46E-29	6.92E-29	1.07E-28	1.72E-28	1.03E-28	3.70E-29	2.24E-28
30.00	5.82E-29	6.32E-29	5.67E-29	7.29E-29	5.97E-29	9.23E-29	1.49E-28	8.83E-29	3.18E-29	1.93E-28

Table 45: Cross sections for dissociative ionization of $T_2(B^1)$ via the repulsive ionic state $T_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.8356	16.7396	16.6452	16.5524	16.4611	16.3713	16.2829	16.1959	16.1103	16.026
1.122	2.83E-28	1.70E-26	3.08E-25	2.83E-24	1.56E-23	5.47E-23	1.27E-22	2.12E-22	2.91E-22	3.77E-22
1.260	1.93E-23	1.34E-22	3.30E-22	4.93E-22	6.64E-22	8.23E-22	9.86E-22	1.14E-21	1.30E-21	1.45E-21
1.414	4.51E-22	7.39E-22	9.88E-22	1.20E-21	1.41E-21	1.61E-21	1.80E-21	1.99E-21	2.18E-21	2.36E-21
1.588	1.18E-21	1.39E-21	1.60E-21	1.81E-21	2.03E-21	2.24E-21	2.44E-21	2.64E-21	2.84E-21	3.03E-21
1.782	1.70E-21	1.91E-21	2.11E-21	2.31E-21	2.51E-21	2.70E-21	2.89E-21	3.08E-21	3.27E-21	3.46E-21
2.001	2.01E-21	2.21E-21	2.41E-21	2.60E-21	2.79E-21	2.98E-21	3.16E-21	3.34E-21	3.52E-21	3.70E-21
2.246	2.16E-21	2.35E-21	2.54E-21	2.72E-21	2.90E-21	3.07E-21	3.24E-21	3.41E-21	3.58E-21	3.75E-21
2.522	2.20E-21	2.37E-21	2.54E-21	2.71E-21	2.87E-21	3.03E-21	3.19E-21	3.34E-21	3.50E-21	3.65E-21
2.831	2.15E-21	2.31E-21	2.46E-21	2.61E-21	2.75E-21	2.90E-21	3.04E-21	3.18E-21	3.32E-21	3.45E-21
3.178	2.04E-21	2.18E-21	2.32E-21	2.45E-21	2.58E-21	2.71E-21	2.83E-21	2.96E-21	3.08E-21	3.20E-21
3.568	1.90E-21	2.02E-21	2.14E-21	2.26E-21	2.37E-21	2.49E-21	2.59E-21	2.70E-21	2.81E-21	2.91E-21
4.005	1.73E-21	1.84E-21	1.95E-21	2.05E-21	2.15E-21	2.25E-21	2.34E-21	2.44E-21	2.53E-21	2.62E-21
4.496	1.57E-21	1.66E-21	1.75E-21	1.84E-21	1.93E-21	2.01E-21	2.09E-21	2.17E-21	2.25E-21	2.33E-21
5.048	1.40E-21	1.48E-21	1.56E-21	1.64E-21	1.71E-21	1.78E-21	1.85E-21	1.92E-21	1.99E-21	2.06E-21
5.667	1.24E-21	1.31E-21	1.38E-21	1.44E-21	1.51E-21	1.57E-21	1.63E-21	1.69E-21	1.74E-21	1.80E-21
6.361	1.09E-21	1.15E-21	1.21E-21	1.27E-21	1.32E-21	1.37E-21	1.42E-21	1.47E-21	1.52E-21	1.57E-21
7.141	9.56E-22	1.01E-21	1.06E-21	1.10E-21	1.15E-21	1.19E-21	1.24E-21	1.28E-21	1.32E-21	1.36E-21
8.017	8.34E-22	8.77E-22	9.19E-22	9.59E-22	9.98E-22	1.03E-21	1.07E-21	1.11E-21	1.14E-21	1.18E-21
9.000	7.24E-22	7.61E-22	7.97E-22	8.30E-22	8.63E-22	8.94E-22	9.25E-22	9.55E-22	9.84E-22	1.01E-21

Table 46: Cross sections for non-dissociative ionization of $T_2(C^1)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.14476	2.97514	2.81118	2.65278	2.49987	2.3524	2.21033	2.07362	1.94227	1.81628
1.274	3.14E-20	2.37E-20	1.58E-20	8.11E-21	1.82E-21	5.62E-23	1.56E-26	6.31E-28	2.80E-27	1.41E-27
1.623	7.34E-20	6.67E-20	5.93E-20	5.11E-20	4.22E-20	3.24E-20	2.21E-20	1.16E-20	2.65E-21	7.26E-25
2.069	1.08E-19	1.04E-19	9.92E-20	9.35E-20	8.69E-20	7.94E-20	7.08E-20	6.10E-20	4.99E-20	3.75E-20
2.636	1.31E-19	1.29E-19	1.27E-19	1.24E-19	1.20E-19	1.16E-19	1.11E-19	1.05E-19	9.73E-20	8.85E-20
3.359	1.42E-19	1.42E-19	1.42E-19	1.41E-19	1.40E-19	1.38E-19	1.36E-19	1.33E-19	1.30E-19	1.25E-19
4.281	1.42E-19	1.44E-19	1.45E-19	1.46E-19	1.46E-19	1.47E-19	1.47E-19	1.47E-19	1.46E-19	1.45E-19
5.455	1.35E-19	1.37E-19	1.39E-19	1.41E-19	1.43E-19	1.45E-19	1.47E-19	1.48E-19	1.49E-19	1.51E-19
6.951	1.24E-19	1.26E-19	1.29E-19	1.31E-19	1.33E-19	1.36E-19	1.38E-19	1.41E-19	1.43E-19	1.46E-19
8.858	1.10E-19	1.13E-19	1.15E-19	1.17E-19	1.20E-19	1.23E-19	1.26E-19	1.28E-19	1.31E-19	1.35E-19
11.28	9.59E-20	9.81E-20	1.00E-19	1.03E-19	1.05E-19	1.08E-19	1.11E-19	1.14E-19	1.17E-19	1.20E-19
14.38	8.19E-20	8.39E-20	8.60E-20	8.82E-20	9.05E-20	9.30E-20	9.56E-20	9.84E-20	1.01E-19	1.04E-19
18.32	6.91E-20	7.08E-20	7.27E-20	7.46E-20	7.67E-20	7.88E-20	8.12E-20	8.37E-20	8.63E-20	8.91E-20
23.35	5.77E-20	5.92E-20	6.07E-20	6.24E-20	6.42E-20	6.60E-20	6.81E-20	7.02E-20	7.25E-20	7.50E-20
29.76	4.78E-20	4.90E-20	5.03E-20	5.17E-20	5.32E-20	5.48E-20	5.65E-20	5.83E-20	6.03E-20	6.24E-20
37.92	3.93E-20	4.03E-20	4.14E-20	4.26E-20	4.38E-20	4.51E-20	4.66E-20	4.81E-20	4.97E-20	5.15E-20
48.32	3.22E-20	3.30E-20	3.39E-20	3.49E-20	3.59E-20	3.70E-20	3.81E-20	3.94E-20	4.07E-20	4.22E-20
61.58	2.63E-20	2.69E-20	2.77E-20	2.84E-20	2.93E-20	3.01E-20	3.11E-20	3.21E-20	3.32E-20	3.44E-20
78.47	2.13E-20	2.19E-20	2.25E-20	2.31E-20	2.38E-20	2.45E-20	2.53E-20	2.61E-20	2.70E-20	2.79E-20
100.0	1.73E-20	1.78E-20	1.82E-20	1.87E-20	1.93E-20	1.98E-20	2.05E-20	2.11E-20	2.18E-20	2.26E-20

Table 47: Cross sections for dissociative ionization of $T_2(C^1)$ via the continuum of the ionic ground state $T_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.85365	5.68404	5.52007	5.36167	5.20877	5.0613	4.91922	4.78251	4.65116	4.52517
1.196	9.82E-30	2.41E-29	3.83E-29	2.15E-29	4.86E-29	3.23E-29	4.40E-29	6.69E-29	9.89E-29	6.56E-29
1.430	2.98E-29	6.92E-29	1.13E-28	7.18E-29	1.41E-28	1.13E-28	1.67E-28	2.23E-28	3.03E-28	2.29E-28
1.710	5.26E-29	1.12E-28	1.83E-28	1.21E-28	2.25E-28	1.94E-28	2.95E-28	3.85E-28	5.10E-28	3.97E-28
2.046	7.23E-29	1.44E-28	2.34E-28	1.58E-28	2.87E-28	2.57E-28	3.94E-28	5.11E-28	6.69E-28	5.25E-28
2.447	8.65E-29	1.65E-28	2.67E-28	1.81E-28	3.24E-28	2.97E-28	4.58E-28	5.94E-28	7.69E-28	6.05E-28
2.927	9.49E-29	1.76E-28	2.82E-28	1.93E-28	3.41E-28	3.17E-28	4.90E-28	6.34E-28	8.16E-28	6.44E-28
3.501	9.79E-29	1.78E-28	2.83E-28	1.95E-28	3.42E-28	3.20E-28	4.96E-28	6.42E-28	8.22E-28	6.48E-28
4.187	9.67E-29	1.73E-28	2.75E-28	1.89E-28	3.30E-28	3.11E-28	4.83E-28	6.24E-28	7.97E-28	6.28E-28
5.008	9.26E-29	1.64E-28	2.60E-28	1.79E-28	3.11E-28	2.94E-28	4.57E-28	5.90E-28	7.51E-28	5.91E-28
5.990	8.65E-29	1.52E-28	2.40E-28	1.66E-28	2.87E-28	2.72E-28	4.23E-28	5.46E-28	6.93E-28	5.45E-28
7.164	7.94E-29	1.38E-28	2.19E-28	1.51E-28	2.61E-28	2.48E-28	3.85E-28	4.96E-28	6.29E-28	4.95E-28
8.568	7.17E-29	1.24E-28	1.96E-28	1.36E-28	2.34E-28	2.23E-28	3.46E-28	4.45E-28	5.63E-28	4.43E-28
10.24	6.41E-29	1.11E-28	1.75E-28	1.20E-28	2.08E-28	1.98E-28	3.07E-28	3.95E-28	4.99E-28	3.92E-28
12.25	5.67E-29	9.78E-29	1.54E-28	1.06E-28	1.83E-28	1.74E-28	2.71E-28	3.48E-28	4.39E-28	3.45E-28
14.66	4.98E-29	8.57E-29	1.35E-28	9.30E-29	1.60E-28	1.52E-28	2.37E-28	3.04E-28	3.83E-28	3.01E-28
17.53	4.35E-29	7.46E-29	1.17E-28	8.09E-29	1.39E-28	1.33E-28	2.06E-28	2.64E-28	3.33E-28	2.61E-28
20.97	3.77E-29	6.47E-29	1.02E-28	7.01E-29	1.20E-28	1.15E-28	1.78E-28	2.29E-28	2.88E-28	2.26E-28
25.08	3.26E-29	5.59E-29	8.77E-29	6.05E-29	1.04E-28	9.90E-29	1.53E-28	1.97E-28	2.48E-28	1.94E-28
30.00	2.81E-29	4.81E-29	7.55E-29	5.20E-29	8.92E-29	8.51E-29	1.32E-28	1.69E-28	2.13E-28	1.67E-28

Table 48: Cross sections for dissociative ionization of $T_2(C^1)$ via the repulsive ionic state $T_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7536	15.584	15.4201	15.2617	15.1088	14.9613	14.8192	14.6825	14.5512	14.4252
1.122	7.37E-39	1.27E-35	4.06E-33	3.32E-31	1.22E-29	2.83E-28	4.65E-27	5.80E-26	5.31E-25	3.61E-24
1.260	5.12E-28	2.67E-26	4.58E-25	4.34E-24	2.53E-23	9.53E-23	2.40E-22	4.31E-22	6.40E-22	8.95E-22
1.414	3.60E-24	3.99E-23	1.68E-22	3.69E-22	5.71E-22	8.08E-22	1.07E-21	1.36E-21	1.68E-21	2.04E-21
1.588	1.72E-22	4.63E-22	6.87E-22	9.45E-22	1.20E-21	1.49E-21	1.80E-21	2.13E-21	2.49E-21	2.89E-21
1.782	7.19E-22	9.24E-22	1.17E-21	1.44E-21	1.71E-21	2.00E-21	2.32E-21	2.67E-21	3.03E-21	3.43E-21
2.001	1.18E-21	1.37E-21	1.58E-21	1.81E-21	2.07E-21	2.35E-21	2.65E-21	2.98E-21	3.33E-21	3.71E-21
2.246	1.45E-21	1.64E-21	1.84E-21	2.06E-21	2.30E-21	2.55E-21	2.83E-21	3.12E-21	3.44E-21	3.78E-21
2.522	1.58E-21	1.76E-21	1.95E-21	2.15E-21	2.37E-21	2.60E-21	2.85E-21	3.12E-21	3.41E-21	3.72E-21
2.831	1.61E-21	1.77E-21	1.95E-21	2.13E-21	2.33E-21	2.54E-21	2.76E-21	3.00E-21	3.25E-21	3.52E-21
3.178	1.57E-21	1.72E-21	1.87E-21	2.04E-21	2.21E-21	2.40E-21	2.59E-21	2.80E-21	3.02E-21	3.26E-21
3.568	1.49E-21	1.62E-21	1.75E-21	1.90E-21	2.05E-21	2.21E-21	2.38E-21	2.56E-21	2.75E-21	2.96E-21
4.005	1.38E-21	1.49E-21	1.61E-21	1.73E-21	1.87E-21	2.00E-21	2.15E-21	2.31E-21	2.47E-21	2.65E-21
4.496	1.26E-21	1.35E-21	1.46E-21	1.56E-21	1.68E-21	1.79E-21	1.92E-21	2.05E-21	2.19E-21	2.34E-21
5.048	1.13E-21	1.21E-21	1.30E-21	1.39E-21	1.49E-21	1.59E-21	1.70E-21	1.81E-21	1.93E-21	2.05E-21
5.667	1.01E-21	1.08E-21	1.15E-21	1.23E-21	1.31E-21	1.40E-21	1.49E-21	1.58E-21	1.68E-21	1.79E-21
6.361	8.87E-22	9.48E-22	1.01E-21	1.08E-21	1.15E-21	1.22E-21	1.30E-21	1.37E-21	1.46E-21	1.55E-21
7.141	7.78E-22	8.29E-22	8.83E-22	9.39E-22	9.97E-22	1.06E-21	1.12E-21	1.19E-21	1.26E-21	1.33E-21
8.017	6.79E-22	7.22E-22	7.67E-22	8.15E-22	8.64E-22	9.15E-22	9.69E-22	1.02E-21	1.08E-21	1.14E-21
9.000	5.89E-22	6.26E-22	6.64E-22	7.04E-22	7.46E-22	7.89E-22	8.34E-22	8.81E-22	9.29E-22	9.80E-22

Table 49: Cross sections for non-dissociative ionization of $T_2(a^3)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.64786	3.46264	3.28319	3.10939	2.94116	2.77838	2.62101	2.46898	2.32224	2.18076
1.274	2.25E-20	1.79E-20	1.32E-20	8.54E-21	4.53E-21	1.80E-21	2.06E-22	4.51E-24	7.55E-27	2.43E-27
1.623	5.35E-20	4.98E-20	4.57E-20	4.10E-20	3.58E-20	3.00E-20	2.36E-20	1.70E-20	1.07E-20	5.42E-21
2.069	7.93E-20	7.75E-20	7.51E-20	7.24E-20	6.90E-20	6.50E-20	6.03E-20	5.49E-20	4.85E-20	4.12E-20
2.636	9.63E-20	9.61E-20	9.56E-20	9.47E-20	9.35E-20	9.18E-20	8.96E-20	8.68E-20	8.32E-20	7.88E-20
3.359	1.04E-19	1.05E-19	1.06E-19	1.07E-19	1.07E-19	1.07E-19	1.07E-19	1.07E-19	1.06E-19	1.04E-19
4.281	1.05E-19	1.06E-19	1.08E-19	1.10E-19	1.12E-19	1.13E-19	1.14E-19	1.16E-19	1.17E-19	1.17E-19
5.455	9.96E-20	1.02E-19	1.04E-19	1.06E-19	1.09E-19	1.11E-19	1.13E-19	1.15E-19	1.18E-19	1.20E-19
6.951	9.12E-20	9.35E-20	9.59E-20	9.84E-20	1.01E-19	1.04E-19	1.06E-19	1.09E-19	1.12E-19	1.15E-19
8.858	8.11E-20	8.33E-20	8.57E-20	8.82E-20	9.07E-20	9.34E-20	9.61E-20	9.90E-20	1.02E-19	1.05E-19
11.28	7.05E-20	7.26E-20	7.48E-20	7.71E-20	7.94E-20	8.20E-20	8.46E-20	8.74E-20	9.03E-20	9.33E-20
14.38	6.03E-20	6.21E-20	6.40E-20	6.61E-20	6.82E-20	7.05E-20	7.29E-20	7.54E-20	7.81E-20	8.09E-20
18.32	5.08E-20	5.24E-20	5.41E-20	5.59E-20	5.77E-20	5.97E-20	6.18E-20	6.40E-20	6.64E-20	6.89E-20
23.35	4.24E-20	4.38E-20	4.52E-20	4.67E-20	4.83E-20	5.00E-20	5.18E-20	5.37E-20	5.57E-20	5.79E-20
29.76	3.51E-20	3.63E-20	3.75E-20	3.87E-20	4.00E-20	4.15E-20	4.30E-20	4.46E-20	4.63E-20	4.81E-20
37.92	2.89E-20	2.98E-20	3.08E-20	3.19E-20	3.30E-20	3.41E-20	3.54E-20	3.67E-20	3.82E-20	3.97E-20
48.32	2.37E-20	2.44E-20	2.52E-20	2.61E-20	2.70E-20	2.80E-20	2.90E-20	3.01E-20	3.13E-20	3.25E-20
61.58	1.93E-20	1.99E-20	2.06E-20	2.13E-20	2.20E-20	2.28E-20	2.36E-20	2.45E-20	2.55E-20	2.65E-20
78.47	1.57E-20	1.62E-20	1.67E-20	1.73E-20	1.79E-20	1.85E-20	1.92E-20	1.99E-20	2.07E-20	2.15E-20
100.0	1.27E-20	1.31E-20	1.36E-20	1.40E-20	1.45E-20	1.50E-20	1.56E-20	1.61E-20	1.68E-20	1.74E-20

Table 50: Cross sections for dissociative ionization of $T_2(a^3)$ via the continuum of the ionic ground state $T_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.35675	6.17153	5.99209	5.81828	5.65005	5.48728	5.3299	5.17787	5.03113	4.88965
1.196	5.51E-32	1.26E-30	5.08E-29	3.47E-29	2.66E-29	7.71E-29	6.58E-28	5.51E-27	3.43E-26	1.68E-25
1.430	2.56E-31	9.54E-30	1.41E-28	1.12E-28	1.01E-28	2.18E-28	1.52E-27	1.24E-26	7.68E-26	3.77E-25
1.710	5.10E-31	2.01E-29	2.24E-28	1.86E-28	1.79E-28	3.47E-28	2.24E-27	1.79E-26	1.11E-25	5.42E-25
2.046	7.31E-31	2.95E-29	2.87E-28	2.42E-28	2.41E-28	4.42E-28	2.75E-27	2.17E-26	1.34E-25	6.52E-25
2.447	8.94E-31	3.65E-29	3.28E-28	2.77E-28	2.83E-28	5.02E-28	3.05E-27	2.39E-26	1.46E-25	7.13E-25
2.927	9.93E-31	4.09E-29	3.49E-28	2.95E-28	3.06E-28	5.29E-28	3.17E-27	2.47E-26	1.51E-25	7.33E-25
3.501	1.03E-30	4.28E-29	3.52E-28	2.98E-28	3.12E-28	5.31E-28	3.15E-27	2.44E-26	1.49E-25	7.22E-25
4.187	1.03E-30	4.26E-29	3.43E-28	2.90E-28	3.06E-28	5.14E-28	3.03E-27	2.34E-26	1.42E-25	6.90E-25
5.008	9.88E-31	4.11E-29	3.25E-28	2.75E-28	2.91E-28	4.85E-28	2.84E-27	2.19E-26	1.33E-25	6.44E-25
5.990	9.27E-31	3.86E-29	3.01E-28	2.55E-28	2.71E-28	4.48E-28	2.62E-27	2.01E-26	1.22E-25	5.90E-25
7.164	8.53E-31	3.55E-29	2.75E-28	2.32E-28	2.47E-28	4.08E-28	2.37E-27	1.82E-26	1.10E-25	5.33E-25
8.568	7.73E-31	3.22E-29	2.47E-28	2.09E-28	2.23E-28	3.66E-28	2.12E-27	1.63E-26	9.85E-26	4.75E-25
10.24	6.92E-31	2.89E-29	2.20E-28	1.86E-28	1.99E-28	3.25E-28	1.88E-27	1.44E-26	8.72E-26	4.20E-25
12.25	6.14E-31	2.56E-29	1.94E-28	1.64E-28	1.75E-28	2.87E-28	1.66E-27	1.27E-26	7.66E-26	3.69E-25
14.66	5.40E-31	2.25E-29	1.70E-28	1.44E-28	1.54E-28	2.51E-28	1.45E-27	1.11E-26	6.69E-26	3.22E-25
17.53	4.72E-31	1.97E-29	1.49E-28	1.26E-28	1.34E-28	2.19E-28	1.26E-27	9.60E-27	5.80E-26	2.79E-25
20.97	4.10E-31	1.71E-29	1.29E-28	1.09E-28	1.16E-28	1.89E-28	1.09E-27	8.31E-27	5.02E-26	2.41E-25
25.08	3.55E-31	1.48E-29	1.11E-28	9.40E-29	1.00E-28	1.63E-28	9.40E-28	7.16E-27	4.33E-26	2.08E-25
30.00	3.06E-31	1.27E-29	9.59E-29	8.10E-29	8.65E-29	1.41E-28	8.09E-28	6.16E-27	3.72E-26	1.79E-25

Table 51: Cross sections for dissociative ionization of $T_2(a^3)$ via the repulsive ionic state $T_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2567	16.0715	15.8921	15.7183	15.55	15.3873	15.2299	15.0779	14.9311	14.7896
1.122	1.54E-39	1.67E-37	3.55E-35	6.03E-33	2.07E-31	9.15E-30	1.64E-28	2.65E-27	2.99E-26	2.55E-25
1.260	6.03E-29	2.94E-27	6.64E-26	7.93E-25	5.74E-24	2.77E-23	9.16E-23	2.12E-22	3.67E-22	5.37E-22
1.414	9.72E-25	1.35E-23	7.35E-23	2.08E-22	3.70E-22	5.36E-22	7.38E-22	9.53E-22	1.20E-21	1.47E-21
1.588	9.04E-23	3.07E-22	4.90E-22	6.88E-22	8.92E-22	1.12E-21	1.36E-21	1.62E-21	1.90E-21	2.21E-21
1.782	5.20E-22	6.97E-22	9.09E-22	1.12E-21	1.34E-21	1.58E-21	1.83E-21	2.11E-21	2.40E-21	2.72E-21
2.001	9.43E-22	1.10E-21	1.27E-21	1.46E-21	1.67E-21	1.90E-21	2.15E-21	2.42E-21	2.70E-21	3.01E-21
2.246	1.20E-21	1.36E-21	1.53E-21	1.71E-21	1.90E-21	2.11E-21	2.33E-21	2.58E-21	2.84E-21	3.12E-21
2.522	1.34E-21	1.49E-21	1.64E-21	1.81E-21	1.99E-21	2.19E-21	2.40E-21	2.62E-21	2.86E-21	3.11E-21
2.831	1.38E-21	1.52E-21	1.66E-21	1.82E-21	1.98E-21	2.16E-21	2.35E-21	2.55E-21	2.76E-21	2.99E-21
3.178	1.36E-21	1.49E-21	1.62E-21	1.76E-21	1.90E-21	2.06E-21	2.23E-21	2.40E-21	2.59E-21	2.79E-21
3.568	1.30E-21	1.41E-21	1.53E-21	1.65E-21	1.78E-21	1.92E-21	2.06E-21	2.22E-21	2.38E-21	2.55E-21
4.005	1.21E-21	1.31E-21	1.41E-21	1.52E-21	1.63E-21	1.75E-21	1.88E-21	2.01E-21	2.15E-21	2.30E-21
4.496	1.11E-21	1.20E-21	1.28E-21	1.38E-21	1.47E-21	1.58E-21	1.69E-21	1.80E-21	1.92E-21	2.05E-21
5.048	1.00E-21	1.08E-21	1.15E-21	1.23E-21	1.32E-21	1.40E-21	1.50E-21	1.59E-21	1.70E-21	1.80E-21
5.667	8.98E-22	9.60E-22	1.02E-21	1.09E-21	1.16E-21	1.24E-21	1.32E-21	1.40E-21	1.49E-21	1.58E-21
6.361	7.95E-22	8.49E-22	9.04E-22	9.62E-22	1.02E-21	1.09E-21	1.15E-21	1.22E-21	1.30E-21	1.37E-21
7.141	7.00E-22	7.45E-22	7.92E-22	8.42E-22	8.93E-22	9.47E-22	1.00E-21	1.06E-21	1.12E-21	1.19E-21
8.017	6.12E-22	6.51E-22	6.91E-22	7.33E-22	7.77E-22	8.22E-22	8.69E-22	9.19E-22	9.70E-22	1.02E-21
9.000	5.34E-22	5.66E-22	6.00E-22	6.36E-22	6.72E-22	7.11E-22	7.50E-22	7.92E-22	8.35E-22	8.80E-22

Table 52: Cross sections for non-dissociative ionization of $T_2(c^3)$

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.66627	3.49465	3.32818	3.1668	3.01041	2.85894	2.7123	2.57046	2.43336	2.30098
1.274	2.32E-20	1.83E-20	1.34E-20	8.43E-21	3.85E-21	5.50E-22	5.90E-24	1.80E-27	2.37E-27	1.01E-27
1.623	5.41E-20	5.00E-20	4.55E-20	4.06E-20	3.52E-20	2.95E-20	2.34E-20	1.69E-20	1.03E-20	4.27E-21
2.069	7.99E-20	7.73E-20	7.44E-20	7.10E-20	6.73E-20	6.31E-20	5.84E-20	5.32E-20	4.73E-20	4.07E-20
2.636	9.68E-20	9.56E-20	9.43E-20	9.27E-20	9.08E-20	8.86E-20	8.60E-20	8.29E-20	7.94E-20	7.52E-20
3.359	1.05E-19	1.05E-19	1.05E-19	1.04E-19	1.04E-19	1.03E-19	1.03E-19	1.02E-19	1.00E-19	9.84E-20
4.281	1.05E-19	1.06E-19	1.06E-19	1.07E-19	1.08E-19	1.09E-19	1.09E-19	1.10E-19	1.10E-19	1.10E-19
5.455	9.97E-20	1.01E-19	1.02E-19	1.04E-19	1.05E-19	1.06E-19	1.08E-19	1.09E-19	1.10E-19	1.12E-19
6.951	9.13E-20	9.27E-20	9.43E-20	9.59E-20	9.76E-20	9.93E-20	1.01E-19	1.03E-19	1.05E-19	1.07E-19
8.858	8.11E-20	8.26E-20	8.42E-20	8.59E-20	8.76E-20	8.94E-20	9.13E-20	9.33E-20	9.54E-20	9.76E-20
11.28	7.05E-20	7.19E-20	7.35E-20	7.50E-20	7.67E-20	7.85E-20	8.03E-20	8.23E-20	8.44E-20	8.65E-20
14.38	6.03E-20	6.16E-20	6.29E-20	6.44E-20	6.59E-20	6.75E-20	6.92E-20	7.10E-20	7.29E-20	7.50E-20
18.32	5.08E-20	5.19E-20	5.31E-20	5.44E-20	5.57E-20	5.72E-20	5.87E-20	6.03E-20	6.20E-20	6.38E-20
23.35	4.24E-20	4.34E-20	4.44E-20	4.55E-20	4.66E-20	4.78E-20	4.91E-20	5.05E-20	5.20E-20	5.36E-20
29.76	3.51E-20	3.59E-20	3.68E-20	3.77E-20	3.87E-20	3.97E-20	4.08E-20	4.19E-20	4.32E-20	4.45E-20
37.92	2.89E-20	2.96E-20	3.03E-20	3.10E-20	3.18E-20	3.27E-20	3.36E-20	3.46E-20	3.56E-20	3.67E-20
48.32	2.37E-20	2.42E-20	2.48E-20	2.54E-20	2.61E-20	2.68E-20	2.75E-20	2.83E-20	2.92E-20	3.01E-20
61.58	1.93E-20	1.97E-20	2.02E-20	2.07E-20	2.12E-20	2.18E-20	2.24E-20	2.31E-20	2.38E-20	2.45E-20
78.47	1.57E-20	1.60E-20	1.64E-20	1.68E-20	1.73E-20	1.77E-20	1.82E-20	1.87E-20	1.93E-20	1.99E-20
100.0	1.27E-20	1.30E-20	1.33E-20	1.36E-20	1.40E-20	1.44E-20	1.48E-20	1.52E-20	1.56E-20	1.61E-20

Table 53: Cross sections for dissociative ionization of $T_2(c^3)$ via the continuum of the ionic ground state $T_2^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.37516	6.20354	6.03707	5.8757	5.7193	5.56783	5.42119	5.27935	5.14226	5.00987
1.196	5.24E-30	1.86E-29	7.13E-29	1.63E-29	3.06E-29	2.29E-29	4.18E-29	5.81E-29	5.80E-29	1.25E-28
1.430	1.67E-29	5.04E-29	1.87E-28	6.19E-29	1.04E-28	8.32E-29	1.52E-28	1.73E-28	1.63E-28	3.46E-28
1.710	3.03E-29	8.00E-29	2.97E-28	1.09E-28	1.75E-28	1.45E-28	2.67E-28	2.90E-28	2.68E-28	5.52E-28
2.046	4.22E-29	1.02E-28	3.82E-28	1.46E-28	2.30E-28	1.93E-28	3.58E-28	3.81E-28	3.47E-28	7.06E-28
2.447	5.09E-29	1.17E-28	4.38E-28	1.70E-28	2.65E-28	2.25E-28	4.19E-28	4.40E-28	3.95E-28	8.01E-28
2.927	5.62E-29	1.24E-28	4.66E-28	1.83E-28	2.83E-28	2.41E-28	4.50E-28	4.70E-28	4.18E-28	8.45E-28
3.501	5.82E-29	1.25E-28	4.71E-28	1.87E-28	2.87E-28	2.44E-28	4.58E-28	4.75E-28	4.20E-28	8.47E-28
4.187	5.77E-29	1.22E-28	4.59E-28	1.83E-28	2.80E-28	2.38E-28	4.48E-28	4.63E-28	4.07E-28	8.19E-28
5.008	5.54E-29	1.15E-28	4.35E-28	1.74E-28	2.65E-28	2.26E-28	4.25E-28	4.38E-28	3.83E-28	7.71E-28
5.990	5.19E-29	1.07E-28	4.04E-28	1.62E-28	2.46E-28	2.10E-28	3.95E-28	4.06E-28	3.54E-28	7.12E-28
7.164	4.77E-29	9.75E-29	3.69E-28	1.48E-28	2.25E-28	1.91E-28	3.60E-28	3.69E-28	3.22E-28	6.46E-28
8.568	4.32E-29	8.78E-29	3.32E-28	1.33E-28	2.02E-28	1.72E-28	3.24E-28	3.32E-28	2.89E-28	5.79E-28
10.24	3.87E-29	7.83E-29	2.96E-28	1.19E-28	1.80E-28	1.53E-28	2.89E-28	2.95E-28	2.56E-28	5.14E-28
12.25	3.43E-29	6.91E-29	2.61E-28	1.05E-28	1.59E-28	1.35E-28	2.55E-28	2.60E-28	2.26E-28	4.52E-28
14.66	3.02E-29	6.06E-29	2.29E-28	9.20E-29	1.39E-28	1.18E-28	2.23E-28	2.28E-28	1.97E-28	3.95E-28
17.53	2.63E-29	5.29E-29	2.00E-28	8.02E-29	1.21E-28	1.03E-28	1.95E-28	1.98E-28	1.72E-28	3.43E-28
20.97	2.29E-29	4.59E-29	1.73E-28	6.96E-29	1.05E-28	8.94E-29	1.69E-28	1.72E-28	1.49E-28	2.97E-28
25.08	1.98E-29	3.97E-29	1.50E-28	6.01E-29	9.09E-29	7.72E-29	1.46E-28	1.48E-28	1.28E-28	2.56E-28
30.00	1.71E-29	3.42E-29	1.29E-28	5.18E-29	7.82E-29	6.65E-29	1.25E-28	1.27E-28	1.10E-28	2.20E-28

Table 54: Cross sections for dissociative ionization of $T_2(c^3)$ via the repulsive ionic state $T_2^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2752	16.1035	15.9371	15.7757	15.6193	15.4678	15.3212	15.1794	15.0423	14.9099
1.122	2.36E-38	3.49E-35	2.87E-33	3.17E-31	1.10E-29	2.70E-28	3.70E-27	4.23E-26	3.52E-25	2.21E-24
1.260	8.31E-28	3.78E-26	6.01E-25	5.25E-24	2.76E-23	9.36E-23	2.15E-22	3.65E-22	5.25E-22	7.19E-22
1.414	4.94E-24	4.78E-23	1.76E-22	3.50E-22	5.16E-22	7.14E-22	9.22E-22	1.15E-21	1.40E-21	1.68E-21
1.588	1.97E-22	4.55E-22	6.49E-22	8.65E-22	1.08E-21	1.31E-21	1.57E-21	1.83E-21	2.12E-21	2.43E-21
1.782	7.21E-22	8.90E-22	1.09E-21	1.31E-21	1.55E-21	1.78E-21	2.04E-21	2.32E-21	2.61E-21	2.92E-21
2.001	1.13E-21	1.30E-21	1.48E-21	1.67E-21	1.88E-21	2.11E-21	2.35E-21	2.62E-21	2.90E-21	3.20E-21
2.246	1.38E-21	1.54E-21	1.72E-21	1.90E-21	2.10E-21	2.31E-21	2.54E-21	2.78E-21	3.03E-21	3.31E-21
2.522	1.50E-21	1.65E-21	1.81E-21	1.99E-21	2.17E-21	2.37E-21	2.58E-21	2.80E-21	3.03E-21	3.28E-21
2.831	1.53E-21	1.67E-21	1.82E-21	1.97E-21	2.14E-21	2.32E-21	2.51E-21	2.70E-21	2.91E-21	3.13E-21
3.178	1.49E-21	1.62E-21	1.75E-21	1.89E-21	2.04E-21	2.20E-21	2.36E-21	2.54E-21	2.72E-21	2.92E-21
3.568	1.41E-21	1.53E-21	1.64E-21	1.77E-21	1.90E-21	2.04E-21	2.18E-21	2.34E-21	2.50E-21	2.66E-21
4.005	1.31E-21	1.41E-21	1.51E-21	1.62E-21	1.74E-21	1.86E-21	1.98E-21	2.11E-21	2.25E-21	2.40E-21
4.496	1.20E-21	1.28E-21	1.37E-21	1.47E-21	1.57E-21	1.67E-21	1.78E-21	1.89E-21	2.01E-21	2.13E-21
5.048	1.08E-21	1.15E-21	1.23E-21	1.31E-21	1.40E-21	1.48E-21	1.58E-21	1.67E-21	1.77E-21	1.88E-21
5.667	9.62E-22	1.03E-21	1.09E-21	1.16E-21	1.23E-21	1.31E-21	1.39E-21	1.47E-21	1.55E-21	1.64E-21
6.361	8.51E-22	9.05E-22	9.62E-22	1.02E-21	1.08E-21	1.15E-21	1.21E-21	1.28E-21	1.35E-21	1.43E-21
7.141	7.48E-22	7.94E-22	8.42E-22	8.92E-22	9.44E-22	9.98E-22	1.05E-21	1.11E-21	1.17E-21	1.23E-21
8.017	6.54E-22	6.93E-22	7.34E-22	7.76E-22	8.20E-22	8.65E-22	9.12E-22	9.61E-22	1.01E-21	1.06E-21
9.000	5.69E-22	6.02E-22	6.37E-22	6.72E-22	7.09E-22	7.48E-22	7.87E-22	8.28E-22	8.70E-22	9.14E-22

Table 55: Cross sections for non-dissociative ionization of HD(X^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.44607	14.99572	14.5672	14.16011	13.77429	13.40972	13.06644	12.74456	12.44436	12.16634
1.128	4.68E-22	4.90E-22	5.15E-22	5.10E-22	4.87E-22	4.55E-22	4.07E-22	3.54E-22	2.91E-22	2.26E-22
1.274	1.80E-21	1.76E-21	1.70E-21	1.68E-21	1.69E-21	1.69E-21	1.64E-21	1.60E-21	1.55E-21	1.49E-21
1.438	3.39E-21	3.32E-21	3.17E-21	3.06E-21	3.13E-21	3.22E-21	3.19E-21	3.16E-21	3.21E-21	3.20E-21
1.623	4.98E-21	4.90E-21	4.64E-21	4.45E-21	4.58E-21	4.78E-21	4.76E-21	4.76E-21	4.91E-21	4.97E-21
1.833	6.46E-21	6.36E-21	6.00E-21	5.73E-21	5.91E-21	6.22E-21	6.21E-21	6.24E-21	6.50E-21	6.63E-21
2.069	7.73E-21	7.63E-21	7.18E-21	6.83E-21	7.07E-21	7.47E-21	7.48E-21	7.52E-21	7.89E-21	8.09E-21
2.335	8.77E-21	8.67E-21	8.14E-21	7.73E-21	8.01E-21	8.49E-21	8.51E-21	8.58E-21	9.04E-21	9.30E-21
2.636	9.57E-21	9.47E-21	8.88E-21	8.41E-21	8.73E-21	9.28E-21	9.31E-21	9.40E-21	9.92E-21	1.02E-20
2.976	1.01E-20	1.00E-20	9.40E-21	8.89E-21	9.24E-21	9.83E-21	9.88E-21	9.98E-21	1.06E-20	1.09E-20
3.359	1.05E-20	1.04E-20	9.71E-21	9.17E-21	9.54E-21	1.02E-20	1.02E-20	1.03E-20	1.09E-20	1.13E-20
3.792	1.06E-20	1.05E-20	9.83E-21	9.29E-21	9.66E-21	1.03E-20	1.04E-20	1.05E-20	1.11E-20	1.15E-20
4.281	1.06E-20	1.05E-20	9.80E-21	9.25E-21	9.62E-21	1.03E-20	1.03E-20	1.05E-20	1.11E-20	1.15E-20
4.832	1.04E-20	1.03E-20	9.63E-21	9.09E-21	9.46E-21	1.01E-20	1.02E-20	1.03E-20	1.09E-20	1.14E-20
5.455	1.01E-20	1.00E-20	9.36E-21	8.83E-21	9.19E-21	9.83E-21	9.89E-21	1.00E-20	1.07E-20	1.11E-20
6.158	9.71E-21	9.63E-21	9.01E-21	8.49E-21	8.84E-21	9.46E-21	9.52E-21	9.64E-21	1.03E-20	1.07E-20
6.951	9.26E-21	9.19E-21	8.59E-21	8.09E-21	8.43E-21	9.02E-21	9.08E-21	9.20E-21	9.80E-21	1.02E-20
7.847	8.77E-21	8.70E-21	8.13E-21	7.66E-21	7.98E-21	8.55E-21	8.60E-21	8.72E-21	9.28E-21	9.64E-21
8.858	8.25E-21	8.19E-21	7.65E-21	7.20E-21	7.51E-21	8.04E-21	8.09E-21	8.20E-21	8.74E-21	9.08E-21
10.00	7.72E-21	7.66E-21	7.15E-21	6.74E-21	7.02E-21	7.52E-21	7.57E-21	7.67E-21	8.18E-21	8.50E-21

Table 56: Cross sections for dissociative ionization of HD(X^1) via the continuum of the ionic ground state $HD^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	18.1141	17.6638	17.2353	16.8282	16.4423	16.0778	15.7345	15.4126	15.1124	14.8344
1.128	6.38E-24	4.16E-23	1.11E-22	1.51E-22	1.06E-22	5.22E-23	7.27E-23	9.45E-23	6.64E-23	6.26E-23
1.274	1.82E-23	1.22E-22	3.44E-22	5.18E-22	4.63E-22	3.43E-22	3.80E-22	4.17E-22	3.27E-22	2.98E-22
1.438	3.10E-23	2.10E-22	6.00E-22	9.31E-22	8.90E-22	7.26E-22	8.09E-22	8.91E-22	7.56E-22	7.08E-22
1.623	4.33E-23	2.94E-22	8.45E-22	1.33E-21	1.31E-21	1.11E-21	1.24E-21	1.37E-21	1.21E-21	1.15E-21
1.833	5.41E-23	3.68E-22	1.06E-21	1.69E-21	1.68E-21	1.46E-21	1.64E-21	1.82E-21	1.62E-21	1.56E-21
2.069	6.31E-23	4.30E-22	1.24E-21	1.98E-21	2.00E-21	1.75E-21	1.97E-21	2.19E-21	1.98E-21	1.91E-21
2.335	7.01E-23	4.78E-22	1.39E-21	2.22E-21	2.25E-21	1.99E-21	2.24E-21	2.49E-21	2.26E-21	2.20E-21
2.636	7.52E-23	5.13E-22	1.49E-21	2.39E-21	2.43E-21	2.17E-21	2.44E-21	2.71E-21	2.48E-21	2.41E-21
2.976	7.84E-23	5.36E-22	1.56E-21	2.50E-21	2.56E-21	2.28E-21	2.57E-21	2.86E-21	2.62E-21	2.55E-21
3.359	8.01E-23	5.47E-22	1.59E-21	2.55E-21	2.62E-21	2.35E-21	2.65E-21	2.95E-21	2.71E-21	2.64E-21
3.792	8.02E-23	5.48E-22	1.59E-21	2.56E-21	2.64E-21	2.37E-21	2.67E-21	2.97E-21	2.74E-21	2.67E-21
4.281	7.92E-23	5.41E-22	1.57E-21	2.53E-21	2.61E-21	2.35E-21	2.65E-21	2.95E-21	2.72E-21	2.66E-21
4.832	7.72E-23	5.28E-22	1.54E-21	2.47E-21	2.55E-21	2.30E-21	2.59E-21	2.89E-21	2.67E-21	2.60E-21
5.455	7.45E-23	5.09E-22	1.48E-21	2.39E-21	2.46E-21	2.22E-21	2.51E-21	2.80E-21	2.58E-21	2.52E-21
6.158	7.12E-23	4.87E-22	1.42E-21	2.28E-21	2.36E-21	2.13E-21	2.40E-21	2.68E-21	2.47E-21	2.42E-21
6.951	6.75E-23	4.61E-22	1.34E-21	2.16E-21	2.24E-21	2.02E-21	2.28E-21	2.54E-21	2.35E-21	2.30E-21
7.847	6.36E-23	4.35E-22	1.26E-21	2.04E-21	2.11E-21	1.91E-21	2.15E-21	2.40E-21	2.22E-21	2.17E-21
8.858	5.95E-23	4.07E-22	1.18E-21	1.91E-21	1.97E-21	1.79E-21	2.02E-21	2.25E-21	2.08E-21	2.04E-21
10.00	5.54E-23	3.79E-22	1.10E-21	1.78E-21	1.84E-21	1.67E-21	1.88E-21	2.10E-21	1.94E-21	1.90E-21

Table 57: Cross sections for dissociative ionization of HD(X^1) via the repulsive ionic state $HD^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	28.0141	27.5638	27.1353	26.7282	26.3423	25.9778	25.6345	25.3126	25.0124	24.7344
1.088	1.97E-43	2.22E-40	5.21E-38	6.40E-36	4.40E-34	2.25E-32	8.14E-31	1.99E-29	4.04E-28	6.17E-27
1.184	3.78E-33	5.63E-31	2.53E-29	6.19E-28	9.68E-27	1.06E-25	8.44E-25	4.87E-24	2.02E-23	5.83E-23
1.289	6.41E-28	2.21E-26	3.16E-25	2.57E-24	1.30E-23	4.23E-23	9.20E-23	1.47E-22	2.11E-22	2.91E-22
1.403	4.81E-25	6.03E-24	3.02E-23	8.01E-23	1.37E-22	1.96E-22	2.68E-22	3.46E-22	4.38E-22	5.41E-22
1.527	1.92E-23	8.14E-23	1.49E-22	2.13E-22	2.87E-22	3.65E-22	4.54E-22	5.51E-22	6.59E-22	7.82E-22
1.662	1.18E-22	2.00E-22	2.78E-22	3.54E-22	4.41E-22	5.31E-22	6.31E-22	7.41E-22	8.62E-22	9.96E-22
1.809	2.67E-22	3.31E-22	4.06E-22	4.93E-22	5.85E-22	6.82E-22	7.90E-22	9.07E-22	1.04E-21	1.18E-21
1.969	4.00E-22	4.68E-22	5.41E-22	6.22E-22	7.13E-22	8.14E-22	9.25E-22	1.05E-21	1.18E-21	1.32E-21
2.143	5.08E-22	5.79E-22	6.55E-22	7.39E-22	8.29E-22	9.29E-22	1.04E-21	1.16E-21	1.29E-21	1.43E-21
2.332	5.91E-22	6.64E-22	7.41E-22	8.26E-22	9.17E-22	1.02E-21	1.12E-21	1.24E-21	1.37E-21	1.51E-21
2.539	6.52E-22	7.25E-22	8.02E-22	8.86E-22	9.77E-22	1.08E-21	1.18E-21	1.30E-21	1.42E-21	1.56E-21
2.763	6.93E-22	7.65E-22	8.41E-22	9.23E-22	1.01E-21	1.11E-21	1.21E-21	1.32E-21	1.44E-21	1.58E-21
3.007	7.16E-22	7.86E-22	8.60E-22	9.40E-22	1.03E-21	1.12E-21	1.22E-21	1.32E-21	1.44E-21	1.57E-21
3.273	7.25E-22	7.92E-22	8.63E-22	9.39E-22	1.02E-21	1.11E-21	1.20E-21	1.30E-21	1.41E-21	1.53E-21
3.563	7.21E-22	7.84E-22	8.52E-22	9.25E-22	1.00E-21	1.09E-21	1.17E-21	1.27E-21	1.37E-21	1.49E-21
3.878	7.06E-22	7.67E-22	8.31E-22	8.99E-22	9.72E-22	1.05E-21	1.13E-21	1.22E-21	1.32E-21	1.43E-21
4.220	6.84E-22	7.41E-22	8.01E-22	8.65E-22	9.34E-22	1.01E-21	1.08E-21	1.17E-21	1.26E-21	1.36E-21
4.593	6.57E-22	7.10E-22	7.66E-22	8.25E-22	8.89E-22	9.57E-22	1.03E-21	1.11E-21	1.19E-21	1.28E-21
5.000	6.25E-22	6.74E-22	7.26E-22	7.81E-22	8.40E-22	9.03E-22	9.69E-22	1.04E-21	1.12E-21	1.20E-21

Table 58: Cross sections for non-dissociative ionization of HD(EF^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.13379	3.10287	2.97383	2.88089	2.84995	2.73166	2.64974	2.61842	2.51744	2.45221
1.274	3.15E-20	1.39E-25	1.08E-24	2.02E-20	6.54E-24	3.32E-23	8.60E-21	2.42E-22	4.79E-23	3.18E-22
1.623	7.38E-20	2.45E-21	2.27E-21	6.40E-20	2.42E-21	2.90E-21	5.08E-20	5.06E-21	8.34E-21	2.51E-20
2.069	1.09E-19	2.24E-20	2.06E-20	1.03E-19	1.89E-20	1.77E-20	9.24E-20	1.93E-20	2.43E-20	5.64E-20
2.636	1.32E-19	4.14E-20	4.06E-20	1.30E-19	4.00E-20	3.98E-20	1.23E-19	4.28E-20	4.89E-20	8.62E-20
3.359	1.42E-19	5.40E-20	5.44E-20	1.43E-19	5.48E-20	5.58E-20	1.39E-19	5.99E-20	6.69E-20	1.05E-19
4.281	1.43E-19	6.02E-20	6.13E-20	1.45E-19	6.25E-20	6.43E-20	1.44E-19	6.91E-20	7.64E-20	1.14E-19
5.455	1.36E-19	6.11E-20	6.26E-20	1.39E-19	6.43E-20	6.65E-20	1.40E-19	7.16E-20	7.86E-20	1.13E-19
6.951	1.24E-19	5.83E-20	6.00E-20	1.28E-19	6.19E-20	6.43E-20	1.29E-19	6.92E-20	7.57E-20	1.07E-19
8.858	1.10E-19	5.33E-20	5.50E-20	1.14E-19	5.69E-20	5.92E-20	1.16E-19	6.37E-20	6.97E-20	9.68E-20
11.28	9.58E-20	4.72E-20	4.88E-20	9.95E-20	5.06E-20	5.27E-20	1.01E-19	5.68E-20	6.20E-20	8.53E-20
14.38	8.19E-20	4.09E-20	4.23E-20	8.52E-20	4.39E-20	4.58E-20	8.70E-20	4.94E-20	5.38E-20	7.36E-20
18.32	6.90E-20	3.48E-20	3.60E-20	7.19E-20	3.74E-20	3.91E-20	7.35E-20	4.21E-20	4.59E-20	6.25E-20
23.35	5.76E-20	2.92E-20	3.02E-20	6.00E-20	3.14E-20	3.29E-20	6.15E-20	3.54E-20	3.85E-20	5.24E-20
29.76	4.77E-20	2.42E-20	2.51E-20	4.97E-20	2.61E-20	2.73E-20	5.09E-20	2.94E-20	3.20E-20	4.35E-20
37.92	3.92E-20	2.00E-20	2.07E-20	4.09E-20	2.15E-20	2.25E-20	4.19E-20	2.43E-20	2.64E-20	3.58E-20
48.32	3.21E-20	1.64E-20	1.70E-20	3.35E-20	1.76E-20	1.85E-20	3.43E-20	1.99E-20	2.16E-20	2.93E-20
61.58	2.62E-20	1.33E-20	1.38E-20	2.73E-20	1.44E-20	1.50E-20	2.80E-20	1.62E-20	1.76E-20	2.39E-20
78.47	2.13E-20	1.08E-20	1.12E-20	2.22E-20	1.17E-20	1.22E-20	2.27E-20	1.32E-20	1.43E-20	1.94E-20
100.0	1.73E-20	8.76E-21	9.09E-21	1.80E-20	9.45E-21	9.88E-21	1.84E-20	1.06E-20	1.16E-20	1.57E-20

Table 59: Cross sections for dissociative ionization of HD(EF^1) via the continuum of the ionic ground state $HD^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.80184	5.77092	5.64188	5.54894	5.518	5.39972	5.31779	5.28647	5.18549	5.12027
1.196	9.06E-29	6.95E-28	8.02E-26	1.17E-28	3.71E-25	1.23E-23	6.94E-25	2.77E-23	2.81E-22	1.88E-22
1.430	2.29E-28	1.65E-27	1.76E-25	3.97E-28	8.52E-25	2.69E-23	1.55E-24	6.36E-23	6.12E-22	4.15E-22
1.710	3.56E-28	2.46E-27	2.54E-25	6.80E-28	1.24E-24	3.86E-23	2.24E-24	9.24E-23	8.75E-22	5.96E-22
2.046	4.50E-28	3.04E-27	3.08E-25	8.98E-28	1.52E-24	4.67E-23	2.72E-24	1.12E-22	1.05E-21	7.19E-22
2.447	5.10E-28	3.39E-27	3.40E-25	1.04E-27	1.68E-24	5.13E-23	2.99E-24	1.24E-22	1.15E-21	7.87E-22
2.927	5.37E-28	3.55E-27	3.52E-25	1.11E-27	1.74E-24	5.30E-23	3.09E-24	1.28E-22	1.19E-21	8.11E-22
3.501	5.40E-28	3.54E-27	3.49E-25	1.12E-27	1.73E-24	5.25E-23	3.06E-24	1.27E-22	1.17E-21	8.01E-22
4.187	5.24E-28	3.42E-27	3.36E-25	1.10E-27	1.66E-24	5.03E-23	2.93E-24	1.22E-22	1.12E-21	7.67E-22
5.008	4.95E-28	3.22E-27	3.15E-25	1.04E-27	1.56E-24	4.71E-23	2.75E-24	1.14E-22	1.05E-21	7.17E-22
5.990	4.58E-28	2.97E-27	2.90E-25	9.63E-28	1.43E-24	4.33E-23	2.52E-24	1.05E-22	9.65E-22	6.58E-22
7.164	4.17E-28	2.70E-27	2.63E-25	8.78E-28	1.30E-24	3.92E-23	2.28E-24	9.48E-23	8.73E-22	5.95E-22
8.568	3.75E-28	2.42E-27	2.36E-25	7.90E-28	1.16E-24	3.51E-23	2.04E-24	8.48E-23	7.80E-22	5.31E-22
10.24	3.33E-28	2.15E-27	2.09E-25	7.03E-28	1.03E-24	3.11E-23	1.81E-24	7.52E-23	6.91E-22	4.71E-22
12.25	2.94E-28	1.90E-27	1.84E-25	6.20E-28	9.09E-25	2.74E-23	1.59E-24	6.61E-23	6.07E-22	4.13E-22
14.66	2.58E-28	1.66E-27	1.61E-25	5.43E-28	7.95E-25	2.39E-23	1.39E-24	5.77E-23	5.30E-22	3.61E-22
17.53	2.24E-28	1.45E-27	1.40E-25	4.73E-28	6.91E-25	2.08E-23	1.21E-24	5.02E-23	4.61E-22	3.14E-22
20.97	1.95E-28	1.25E-27	1.21E-25	4.10E-28	5.99E-25	1.80E-23	1.05E-24	4.34E-23	3.99E-22	2.71E-22
25.08	1.68E-28	1.08E-27	1.05E-25	3.54E-28	5.17E-25	1.55E-23	9.03E-25	3.75E-23	3.44E-22	2.34E-22
30.00	1.45E-28	9.32E-28	9.01E-26	3.05E-28	4.44E-25	1.34E-23	7.77E-25	3.22E-23	2.95E-22	2.01E-22

Table 60: Cross sections for dissociative ionization of HD(EF^1) via the repulsive ionic state $HD^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7018	15.6709	15.5419	15.4489	15.418	15.2997	15.2178	15.1865	15.0855	15.0203
1.122	1.10E-32	1.38E-21	1.40E-21	1.02E-25	1.45E-21	1.52E-21	5.29E-23	1.56E-21	1.48E-21	7.35E-22
1.260	2.44E-26	3.77E-21	3.89E-21	1.49E-24	3.99E-21	4.08E-21	1.69E-22	4.00E-21	3.74E-21	1.81E-21
1.414	9.47E-24	5.25E-21	5.41E-21	1.04E-22	5.58E-21	5.71E-21	6.54E-22	5.63E-21	5.40E-21	2.99E-21
1.588	1.85E-22	6.12E-21	6.30E-21	5.98E-22	6.49E-21	6.65E-21	1.29E-21	6.56E-21	6.36E-21	3.82E-21
1.782	6.79E-22	6.52E-21	6.71E-21	1.05E-21	6.90E-21	7.06E-21	1.80E-21	6.98E-21	6.79E-21	4.30E-21
2.001	1.14E-21	6.57E-21	6.76E-21	1.47E-21	6.94E-21	7.09E-21	2.15E-21	7.02E-21	6.85E-21	4.51E-21
2.246	1.42E-21	6.38E-21	6.55E-21	1.73E-21	6.71E-21	6.86E-21	2.37E-21	6.79E-21	6.64E-21	4.51E-21
2.522	1.55E-21	6.02E-21	6.18E-21	1.85E-21	6.32E-21	6.45E-21	2.43E-21	6.39E-21	6.26E-21	4.35E-21
2.831	1.59E-21	5.57E-21	5.70E-21	1.86E-21	5.83E-21	5.94E-21	2.37E-21	5.89E-21	5.77E-21	4.08E-21
3.178	1.55E-21	5.06E-21	5.18E-21	1.79E-21	5.29E-21	5.38E-21	2.25E-21	5.33E-21	5.22E-21	3.75E-21
3.568	1.47E-21	4.54E-21	4.64E-21	1.68E-21	4.73E-21	4.81E-21	2.08E-21	4.76E-21	4.67E-21	3.38E-21
4.005	1.36E-21	4.03E-21	4.11E-21	1.55E-21	4.19E-21	4.26E-21	1.90E-21	4.21E-21	4.13E-21	3.02E-21
4.496	1.24E-21	3.54E-21	3.61E-21	1.40E-21	3.68E-21	3.73E-21	1.70E-21	3.69E-21	3.62E-21	2.67E-21
5.048	1.12E-21	3.10E-21	3.15E-21	1.25E-21	3.21E-21	3.25E-21	1.51E-21	3.22E-21	3.15E-21	2.33E-21
5.667	9.94E-22	2.69E-21	2.73E-21	1.11E-21	2.78E-21	2.82E-21	1.33E-21	2.78E-21	2.73E-21	2.03E-21
6.361	8.77E-22	2.32E-21	2.36E-21	9.77E-22	2.40E-21	2.43E-21	1.16E-21	2.40E-21	2.35E-21	1.76E-21
7.141	7.69E-22	2.00E-21	2.03E-21	8.54E-22	2.06E-21	2.09E-21	1.01E-21	2.06E-21	2.02E-21	1.52E-21
8.017	6.71E-22	1.72E-21	1.74E-21	7.43E-22	1.77E-21	1.79E-21	8.76E-22	1.76E-21	1.73E-21	1.30E-21
9.000	5.83E-22	1.47E-21	1.49E-21	6.44E-22	1.51E-21	1.53E-21	7.57E-22	1.51E-21	1.48E-21	1.12E-21

Table 61: Cross sections for non-dissociative ionization of HD(B^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	4.24305	4.1005	3.9615	3.82583	3.69338	3.56406	3.43781	3.3146	3.19438	3.07712
1.274	1.32E-20	9.62E-21	6.72E-21	4.82E-21	3.54E-21	2.52E-21	1.71E-21	1.03E-21	5.30E-22	2.43E-22
1.623	3.49E-20	3.07E-20	2.67E-20	2.31E-20	1.95E-20	1.62E-20	1.29E-20	9.95E-21	7.41E-21	5.73E-21
2.069	5.35E-20	4.96E-20	4.61E-20	4.28E-20	3.96E-20	3.65E-20	3.35E-20	3.04E-20	2.74E-20	2.43E-20
2.636	6.58E-20	6.26E-20	5.98E-20	5.72E-20	5.48E-20	5.24E-20	5.02E-20	4.79E-20	4.57E-20	4.34E-20
3.359	7.18E-20	6.92E-20	6.71E-20	6.52E-20	6.34E-20	6.18E-20	6.04E-20	5.89E-20	5.75E-20	5.62E-20
4.281	7.24E-20	7.04E-20	6.88E-20	6.74E-20	6.63E-20	6.53E-20	6.44E-20	6.36E-20	6.29E-20	6.23E-20
5.455	6.91E-20	6.76E-20	6.64E-20	6.55E-20	6.47E-20	6.42E-20	6.38E-20	6.34E-20	6.32E-20	6.31E-20
6.951	6.33E-20	6.22E-20	6.13E-20	6.07E-20	6.03E-20	6.00E-20	5.99E-20	5.99E-20	5.99E-20	6.01E-20
8.858	5.64E-20	5.55E-20	5.49E-20	5.45E-20	5.42E-20	5.41E-20	5.42E-20	5.43E-20	5.46E-20	5.49E-20
11.28	4.91E-20	4.84E-20	4.79E-20	4.76E-20	4.75E-20	4.75E-20	4.77E-20	4.79E-20	4.82E-20	4.86E-20
14.38	4.19E-20	4.14E-20	4.11E-20	4.09E-20	4.08E-20	4.09E-20	4.11E-20	4.13E-20	4.17E-20	4.21E-20
18.32	3.54E-20	3.49E-20	3.47E-20	3.46E-20	3.46E-20	3.46E-20	3.48E-20	3.51E-20	3.54E-20	3.58E-20
23.35	2.95E-20	2.92E-20	2.90E-20	2.89E-20	2.89E-20	2.90E-20	2.92E-20	2.94E-20	2.97E-20	3.00E-20
29.76	2.44E-20	2.42E-20	2.40E-20	2.40E-20	2.40E-20	2.40E-20	2.42E-20	2.44E-20	2.46E-20	2.49E-20
37.92	2.01E-20	1.99E-20	1.98E-20	1.97E-20	1.97E-20	1.98E-20	1.99E-20	2.01E-20	2.03E-20	2.05E-20
48.32	1.65E-20	1.63E-20	1.62E-20	1.61E-20	1.61E-20	1.62E-20	1.63E-20	1.64E-20	1.66E-20	1.68E-20
61.58	1.34E-20	1.33E-20	1.32E-20	1.32E-20	1.32E-20	1.32E-20	1.33E-20	1.34E-20	1.35E-20	1.37E-20
78.47	1.09E-20	1.08E-20	1.07E-20	1.07E-20	1.07E-20	1.07E-20	1.08E-20	1.09E-20	1.10E-20	1.11E-20
100.0	8.85E-21	8.75E-21	8.69E-21	8.66E-21	8.66E-21	8.69E-21	8.74E-21	8.81E-21	8.90E-21	9.02E-21

Table 62: Cross sections for dissociative ionization of HD(B^1) via the continuum of the ionic ground state $HD^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.91111	6.76855	6.62955	6.49389	6.36143	6.23211	6.10587	5.98265	5.86243	5.74517
1.196	3.34E-29	1.96E-29	4.51E-30	2.31E-29	5.69E-29	6.66E-29	4.77E-29	9.94E-28	1.09E-26	1.38E-25
1.430	1.17E-28	6.52E-29	1.65E-29	7.86E-29	1.76E-28	2.03E-28	1.17E-28	2.29E-27	2.48E-26	3.03E-25
1.710	2.06E-28	1.12E-28	3.07E-29	1.39E-28	2.96E-28	3.37E-28	1.78E-28	3.38E-27	3.62E-26	4.38E-25
2.046	2.78E-28	1.49E-28	4.29E-29	1.88E-28	3.92E-28	4.43E-28	2.25E-28	4.17E-27	4.43E-26	5.32E-25
2.447	3.28E-28	1.74E-28	5.16E-29	2.22E-28	4.56E-28	5.14E-28	2.54E-28	4.65E-27	4.91E-26	5.87E-25
2.927	3.55E-28	1.88E-28	5.67E-29	2.41E-28	4.91E-28	5.51E-28	2.68E-28	4.86E-27	5.11E-26	6.08E-25
3.501	3.64E-28	1.92E-28	5.86E-29	2.47E-28	5.00E-28	5.60E-28	2.69E-28	4.85E-27	5.08E-26	6.04E-25
4.187	3.59E-28	1.89E-28	5.80E-29	2.43E-28	4.90E-28	5.48E-28	2.62E-28	4.68E-27	4.90E-26	5.81E-25
5.008	3.43E-28	1.80E-28	5.56E-29	2.32E-28	4.66E-28	5.21E-28	2.47E-28	4.41E-27	4.61E-26	5.45E-25
5.990	3.21E-28	1.68E-28	5.21E-29	2.17E-28	4.34E-28	4.85E-28	2.29E-28	4.07E-27	4.25E-26	5.02E-25
7.164	2.94E-28	1.54E-28	4.79E-29	1.99E-28	3.97E-28	4.43E-28	2.09E-28	3.70E-27	3.86E-26	4.56E-25
8.568	2.66E-28	1.39E-28	4.34E-29	1.80E-28	3.59E-28	4.00E-28	1.88E-28	3.33E-27	3.46E-26	4.09E-25
10.24	2.38E-28	1.25E-28	3.88E-29	1.61E-28	3.20E-28	3.57E-28	1.67E-28	2.96E-27	3.07E-26	3.63E-25
12.25	2.11E-28	1.10E-28	3.44E-29	1.42E-28	2.83E-28	3.15E-28	1.48E-28	2.61E-27	2.71E-26	3.19E-25
14.66	1.85E-28	9.69E-29	3.03E-29	1.25E-28	2.49E-28	2.77E-28	1.29E-28	2.28E-27	2.37E-26	2.80E-25
17.53	1.62E-28	8.46E-29	2.64E-29	1.09E-28	2.17E-28	2.42E-28	1.13E-28	1.99E-27	2.06E-26	2.43E-25
20.97	1.41E-28	7.36E-29	2.30E-29	9.48E-29	1.88E-28	2.10E-28	9.78E-29	1.72E-27	1.79E-26	2.11E-25
25.08	1.22E-28	6.37E-29	1.99E-29	8.20E-29	1.63E-28	1.81E-28	8.45E-29	1.49E-27	1.55E-26	1.82E-25
30.00	1.05E-28	5.49E-29	1.72E-29	7.07E-29	1.40E-28	1.56E-28	7.28E-29	1.28E-27	1.33E-26	1.57E-25

Table 63: Cross sections for dissociative ionization of HD(B^1) via the repulsive ionic state $HD^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.8111	16.6686	16.5296	16.3939	16.2614	16.1321	16.0059	15.8827	15.7624	15.6452
1.122	2.31E-26	7.06E-25	7.88E-24	4.41E-23	1.39E-22	2.73E-22	3.98E-22	5.29E-22	6.67E-22	7.99E-22
1.260	4.60E-23	2.65E-22	5.44E-22	7.79E-22	1.02E-21	1.26E-21	1.49E-21	1.72E-21	1.95E-21	2.18E-21
1.414	5.21E-22	9.20E-22	1.26E-21	1.55E-21	1.85E-21	2.13E-21	2.41E-21	2.68E-21	2.96E-21	3.23E-21
1.588	1.23E-21	1.55E-21	1.86E-21	2.18E-21	2.49E-21	2.79E-21	3.08E-21	3.37E-21	3.66E-21	3.95E-21
1.782	1.75E-21	2.06E-21	2.36E-21	2.65E-21	2.94E-21	3.22E-21	3.51E-21	3.80E-21	4.08E-21	4.37E-21
2.001	2.06E-21	2.36E-21	2.65E-21	2.93E-21	3.20E-21	3.48E-21	3.74E-21	4.01E-21	4.28E-21	4.55E-21
2.246	2.21E-21	2.49E-21	2.76E-21	3.03E-21	3.28E-21	3.54E-21	3.79E-21	4.04E-21	4.28E-21	4.53E-21
2.522	2.24E-21	2.50E-21	2.75E-21	2.99E-21	3.22E-21	3.46E-21	3.68E-21	3.91E-21	4.14E-21	4.36E-21
2.831	2.19E-21	2.42E-21	2.65E-21	2.86E-21	3.07E-21	3.28E-21	3.48E-21	3.69E-21	3.89E-21	4.09E-21
3.178	2.07E-21	2.28E-21	2.48E-21	2.68E-21	2.86E-21	3.05E-21	3.23E-21	3.40E-21	3.58E-21	3.76E-21
3.568	1.93E-21	2.11E-21	2.29E-21	2.46E-21	2.62E-21	2.78E-21	2.94E-21	3.09E-21	3.25E-21	3.40E-21
4.005	1.76E-21	1.92E-21	2.08E-21	2.22E-21	2.37E-21	2.50E-21	2.64E-21	2.77E-21	2.91E-21	3.04E-21
4.496	1.59E-21	1.73E-21	1.86E-21	1.99E-21	2.11E-21	2.23E-21	2.35E-21	2.46E-21	2.58E-21	2.69E-21
5.048	1.42E-21	1.54E-21	1.66E-21	1.76E-21	1.87E-21	1.97E-21	2.07E-21	2.17E-21	2.26E-21	2.36E-21
5.667	1.26E-21	1.36E-21	1.46E-21	1.55E-21	1.64E-21	1.73E-21	1.81E-21	1.90E-21	1.98E-21	2.06E-21
6.361	1.11E-21	1.20E-21	1.28E-21	1.36E-21	1.43E-21	1.51E-21	1.58E-21	1.65E-21	1.72E-21	1.79E-21
7.141	9.69E-22	1.04E-21	1.12E-21	1.18E-21	1.25E-21	1.31E-21	1.37E-21	1.43E-21	1.49E-21	1.54E-21
8.017	8.45E-22	9.09E-22	9.69E-22	1.03E-21	1.08E-21	1.13E-21	1.18E-21	1.23E-21	1.28E-21	1.33E-21
9.000	7.33E-22	7.88E-22	8.38E-22	8.86E-22	9.32E-22	9.76E-22	1.02E-21	1.06E-21	1.10E-21	1.14E-21

Table 64: Cross sections for non-dissociative ionization of HD(C^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.14257	2.89268	2.65532	2.43027	2.21736	2.01648	1.82764	1.65092	1.48651	1.33476
1.274	3.17E-20	2.01E-20	8.48E-21	3.01E-22	1.15E-25	1.57E-27	3.64E-28	1.80E-27	1.95E-28	2.17E-27
1.623	7.40E-20	6.38E-20	5.20E-20	3.83E-20	2.31E-20	7.61E-21	2.02E-22	1.25E-26	3.07E-27	6.18E-27
2.069	1.09E-19	1.02E-19	9.44E-20	8.43E-20	7.21E-20	5.72E-20	3.94E-20	1.93E-20	1.13E-21	3.90E-25
2.636	1.32E-19	1.29E-19	1.25E-19	1.19E-19	1.12E-19	1.03E-19	9.04E-20	7.48E-20	5.50E-20	3.11E-20
3.359	1.42E-19	1.42E-19	1.41E-19	1.40E-19	1.37E-19	1.33E-19	1.27E-19	1.18E-19	1.06E-19	8.97E-20
4.281	1.43E-19	1.44E-19	1.46E-19	1.47E-19	1.47E-19	1.47E-19	1.46E-19	1.43E-19	1.38E-19	1.30E-19
5.455	1.35E-19	1.38E-19	1.41E-19	1.44E-19	1.47E-19	1.49E-19	1.51E-19	1.52E-19	1.52E-19	1.50E-19
6.951	1.24E-19	1.27E-19	1.31E-19	1.34E-19	1.38E-19	1.42E-19	1.45E-19	1.49E-19	1.52E-19	1.54E-19
8.858	1.10E-19	1.14E-19	1.17E-19	1.21E-19	1.25E-19	1.30E-19	1.34E-19	1.39E-19	1.43E-19	1.48E-19
11.28	9.56E-20	9.89E-20	1.02E-19	1.06E-19	1.10E-19	1.15E-19	1.19E-19	1.24E-19	1.30E-19	1.35E-19
14.38	8.17E-20	8.47E-20	8.79E-20	9.13E-20	9.51E-20	9.92E-20	1.04E-19	1.09E-19	1.14E-19	1.19E-19
18.32	6.89E-20	7.15E-20	7.43E-20	7.73E-20	8.07E-20	8.44E-20	8.84E-20	9.29E-20	9.77E-20	1.03E-19
23.35	5.75E-20	5.97E-20	6.21E-20	6.47E-20	6.76E-20	7.08E-20	7.43E-20	7.82E-20	8.25E-20	8.71E-20
29.76	4.76E-20	4.94E-20	5.14E-20	5.37E-20	5.61E-20	5.88E-20	6.18E-20	6.51E-20	6.88E-20	7.28E-20
37.92	3.91E-20	4.07E-20	4.23E-20	4.42E-20	4.62E-20	4.85E-20	5.10E-20	5.38E-20	5.68E-20	6.02E-20
48.32	3.20E-20	3.33E-20	3.47E-20	3.62E-20	3.78E-20	3.97E-20	4.18E-20	4.41E-20	4.66E-20	4.94E-20
61.58	2.61E-20	2.71E-20	2.83E-20	2.95E-20	3.08E-20	3.23E-20	3.40E-20	3.59E-20	3.80E-20	4.03E-20
78.47	2.12E-20	2.21E-20	2.30E-20	2.39E-20	2.50E-20	2.63E-20	2.76E-20	2.92E-20	3.09E-20	3.27E-20
100.0	1.72E-20	1.79E-20	1.86E-20	1.94E-20	2.03E-20	2.13E-20	2.24E-20	2.36E-20	2.50E-20	2.65E-20

Table 65: Cross sections for dissociative ionization of HD(C^1) via the continuum of the ionic ground state $HD^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.81063	5.56073	5.32337	5.09833	4.88541	4.68454	4.4957	4.31897	4.15456	4.00281
1.196	9.28E-29	1.38E-29	4.32E-29	3.58E-29	4.95E-29	2.78E-28	1.26E-27	8.24E-27	4.68E-26	2.59E-25
1.430	2.34E-28	1.09E-28	1.26E-28	1.27E-28	1.70E-28	6.51E-28	2.77E-27	1.81E-26	1.01E-25	5.52E-25
1.710	3.64E-28	2.18E-28	2.15E-28	2.35E-28	2.93E-28	9.61E-28	3.94E-27	2.56E-26	1.42E-25	7.65E-25
2.046	4.63E-28	3.11E-28	2.90E-28	3.26E-28	3.92E-28	1.18E-27	4.71E-27	3.04E-26	1.67E-25	8.96E-25
2.447	5.26E-28	3.75E-28	3.41E-28	3.89E-28	4.58E-28	1.31E-27	5.12E-27	3.29E-26	1.80E-25	9.57E-25
2.927	5.56E-28	4.11E-28	3.69E-28	4.25E-28	4.93E-28	1.36E-27	5.24E-27	3.35E-26	1.82E-25	9.66E-25
3.501	5.60E-28	4.24E-28	3.77E-28	4.35E-28	5.00E-28	1.34E-27	5.14E-27	3.27E-26	1.77E-25	9.37E-25
4.187	5.45E-28	4.18E-28	3.70E-28	4.28E-28	4.88E-28	1.29E-27	4.89E-27	3.10E-26	1.68E-25	8.83E-25
5.008	5.15E-28	3.99E-28	3.52E-28	4.07E-28	4.63E-28	1.20E-27	4.54E-27	2.88E-26	1.55E-25	8.14E-25
5.990	4.77E-28	3.72E-28	3.27E-28	3.79E-28	4.29E-28	1.10E-27	4.15E-27	2.62E-26	1.41E-25	7.38E-25
7.164	4.35E-28	3.41E-28	2.98E-28	3.46E-28	3.90E-28	9.98E-28	3.73E-27	2.36E-26	1.26E-25	6.61E-25
8.568	3.91E-28	3.08E-28	2.69E-28	3.12E-28	3.51E-28	8.91E-28	3.32E-27	2.09E-26	1.12E-25	5.85E-25
10.24	3.48E-28	2.75E-28	2.39E-28	2.78E-28	3.12E-28	7.88E-28	2.93E-27	1.84E-26	9.86E-26	5.14E-25
12.25	3.07E-28	2.43E-28	2.11E-28	2.45E-28	2.75E-28	6.92E-28	2.57E-27	1.61E-26	8.62E-26	4.49E-25
14.66	2.69E-28	2.13E-28	1.85E-28	2.15E-28	2.40E-28	6.03E-28	2.24E-27	1.40E-26	7.48E-26	3.89E-25
17.53	2.34E-28	1.86E-28	1.61E-28	1.87E-28	2.09E-28	5.24E-28	1.94E-27	1.21E-26	6.47E-26	3.36E-25
20.97	2.03E-28	1.61E-28	1.40E-28	1.62E-28	1.81E-28	4.52E-28	1.67E-27	1.05E-26	5.57E-26	2.89E-25
25.08	1.76E-28	1.39E-28	1.21E-28	1.40E-28	1.56E-28	3.89E-28	1.44E-27	9.00E-27	4.79E-26	2.48E-25
30.00	1.51E-28	1.20E-28	1.04E-28	1.20E-28	1.34E-28	3.34E-28	1.23E-27	7.71E-27	4.10E-26	2.12E-25

Table 66: Cross sections for dissociative ionization of HD(C^1) via the repulsive ionic state $HD^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7106	15.4607	15.2234	14.9983	14.7854	14.5845	14.3957	14.219	14.0546	13.9028
1.122	8.62E-33	2.48E-30	1.72E-28	5.65E-27	1.09E-25	1.32E-24	1.08E-23	6.02E-23	2.26E-22	5.64E-22
1.260	3.65E-26	1.09E-24	1.27E-23	7.73E-23	2.70E-22	5.89E-22	9.59E-22	1.43E-21	2.00E-21	2.68E-21
1.414	1.42E-23	1.26E-22	4.11E-22	7.49E-22	1.13E-21	1.60E-21	2.13E-21	2.75E-21	3.47E-21	4.31E-21
1.588	2.36E-22	6.45E-22	9.98E-22	1.42E-21	1.87E-21	2.39E-21	2.99E-21	3.66E-21	4.42E-21	5.30E-21
1.782	7.70E-22	1.10E-21	1.50E-21	1.93E-21	2.40E-21	2.93E-21	3.53E-21	4.20E-21	4.95E-21	5.80E-21
2.001	1.23E-21	1.53E-21	1.88E-21	2.27E-21	2.73E-21	3.24E-21	3.80E-21	4.44E-21	5.14E-21	5.93E-21
2.246	1.50E-21	1.79E-21	2.12E-21	2.49E-21	2.90E-21	3.36E-21	3.87E-21	4.44E-21	5.08E-21	5.80E-21
2.522	1.63E-21	1.90E-21	2.21E-21	2.54E-21	2.92E-21	3.33E-21	3.79E-21	4.30E-21	4.87E-21	5.49E-21
2.831	1.65E-21	1.90E-21	2.18E-21	2.48E-21	2.82E-21	3.19E-21	3.59E-21	4.04E-21	4.53E-21	5.08E-21
3.178	1.61E-21	1.83E-21	2.08E-21	2.35E-21	2.64E-21	2.96E-21	3.32E-21	3.71E-21	4.13E-21	4.60E-21
3.568	1.52E-21	1.72E-21	1.93E-21	2.17E-21	2.42E-21	2.70E-21	3.01E-21	3.34E-21	3.70E-21	4.10E-21
4.005	1.41E-21	1.58E-21	1.77E-21	1.97E-21	2.19E-21	2.43E-21	2.69E-21	2.97E-21	3.28E-21	3.62E-21
4.496	1.28E-21	1.43E-21	1.59E-21	1.76E-21	1.95E-21	2.16E-21	2.38E-21	2.62E-21	2.87E-21	3.16E-21
5.048	1.15E-21	1.28E-21	1.42E-21	1.56E-21	1.72E-21	1.90E-21	2.08E-21	2.28E-21	2.50E-21	2.74E-21
5.667	1.02E-21	1.13E-21	1.25E-21	1.37E-21	1.51E-21	1.65E-21	1.81E-21	1.98E-21	2.16E-21	2.36E-21
6.361	9.02E-22	9.95E-22	1.09E-21	1.20E-21	1.31E-21	1.44E-21	1.57E-21	1.71E-21	1.86E-21	2.02E-21
7.141	7.90E-22	8.69E-22	9.53E-22	1.04E-21	1.14E-21	1.24E-21	1.35E-21	1.47E-21	1.59E-21	1.73E-21
8.017	6.89E-22	7.56E-22	8.27E-22	9.02E-22	9.82E-22	1.07E-21	1.16E-21	1.26E-21	1.36E-21	1.47E-21
9.000	5.98E-22	6.55E-22	7.14E-22	7.78E-22	8.45E-22	9.17E-22	9.93E-22	1.07E-21	1.16E-21	1.25E-21

Table 67: Cross sections for non-dissociative ionization of HD(a^3)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.64174	3.36856	3.10813	2.86013	2.62429	2.40042	2.18838	1.98816	1.79984	1.62365
1.274	2.28E-20	1.59E-20	8.86E-21	3.18E-21	3.19E-22	4.63E-25	2.63E-27	5.41E-28	1.66E-27	5.07E-28
1.623	5.40E-20	4.84E-20	4.16E-20	3.36E-20	2.44E-20	1.45E-20	5.97E-21	3.53E-22	6.22E-25	2.90E-27
2.069	7.99E-20	7.70E-20	7.31E-20	6.79E-20	6.13E-20	5.30E-20	4.26E-20	3.02E-20	1.68E-20	5.17E-21
2.636	9.69E-20	9.65E-20	9.54E-20	9.35E-20	9.05E-20	8.62E-20	8.01E-20	7.19E-20	6.09E-20	4.69E-20
3.359	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.08E-19	1.07E-19	1.05E-19	1.02E-19	9.68E-20	8.89E-20
4.281	1.05E-19	1.08E-19	1.10E-19	1.13E-19	1.15E-19	1.17E-19	1.18E-19	1.18E-19	1.18E-19	1.15E-19
5.455	9.98E-20	1.03E-19	1.07E-19	1.10E-19	1.13E-19	1.17E-19	1.20E-19	1.23E-19	1.25E-19	1.27E-19
6.951	9.13E-20	9.48E-20	9.85E-20	1.02E-19	1.06E-19	1.10E-19	1.15E-19	1.19E-19	1.23E-19	1.27E-19
8.858	8.11E-20	8.46E-20	8.82E-20	9.20E-20	9.61E-20	1.00E-19	1.05E-19	1.10E-19	1.15E-19	1.20E-19
11.28	7.05E-20	7.37E-20	7.70E-20	8.06E-20	8.45E-20	8.86E-20	9.31E-20	9.79E-20	1.03E-19	1.08E-19
14.38	6.02E-20	6.30E-20	6.60E-20	6.93E-20	7.28E-20	7.65E-20	8.07E-20	8.51E-20	8.99E-20	9.49E-20
18.32	5.08E-20	5.32E-20	5.58E-20	5.86E-20	6.17E-20	6.50E-20	6.86E-20	7.26E-20	7.69E-20	8.15E-20
23.35	4.24E-20	4.44E-20	4.66E-20	4.90E-20	5.16E-20	5.45E-20	5.76E-20	6.11E-20	6.48E-20	6.88E-20
29.76	3.51E-20	3.68E-20	3.86E-20	4.06E-20	4.28E-20	4.52E-20	4.79E-20	5.08E-20	5.40E-20	5.74E-20
37.92	2.89E-20	3.03E-20	3.18E-20	3.34E-20	3.53E-20	3.73E-20	3.95E-20	4.19E-20	4.46E-20	4.74E-20
48.32	2.36E-20	2.48E-20	2.60E-20	2.74E-20	2.89E-20	3.05E-20	3.23E-20	3.43E-20	3.65E-20	3.89E-20
61.58	1.93E-20	2.02E-20	2.12E-20	2.23E-20	2.35E-20	2.49E-20	2.63E-20	2.80E-20	2.98E-20	3.17E-20
78.47	1.57E-20	1.64E-20	1.72E-20	1.81E-20	1.91E-20	2.02E-20	2.14E-20	2.27E-20	2.42E-20	2.57E-20
100.0	1.27E-20	1.33E-20	1.40E-20	1.47E-20	1.55E-20	1.63E-20	1.73E-20	1.84E-20	1.96E-20	2.08E-20

Table 68: Cross sections for dissociative ionization of HD(a^3) via the continuum of the ionic ground state $HD^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.30979	6.03661	5.77619	5.52819	5.29234	5.06847	4.85643	4.65621	4.4679	4.2917
1.196	3.32E-29	9.76E-29	3.76E-28	5.62E-27	4.50E-26	2.88E-25	1.56E-24	7.36E-24	2.98E-23	1.02E-22
1.430	1.00E-28	2.62E-28	8.85E-28	1.32E-26	1.05E-25	6.72E-25	3.64E-24	1.70E-23	6.83E-23	2.32E-22
1.710	1.62E-28	4.30E-28	1.33E-27	1.94E-26	1.54E-25	9.80E-25	5.28E-24	2.45E-23	9.79E-23	3.31E-22
2.046	2.10E-28	5.60E-28	1.67E-27	2.38E-26	1.88E-25	1.19E-24	6.38E-24	2.95E-23	1.17E-22	3.94E-22
2.447	2.41E-28	6.46E-28	1.87E-27	2.63E-26	2.08E-25	1.31E-24	7.00E-24	3.22E-23	1.27E-22	4.27E-22
2.927	2.57E-28	6.90E-28	1.96E-27	2.74E-26	2.15E-25	1.35E-24	7.20E-24	3.30E-23	1.30E-22	4.35E-22
3.501	2.61E-28	7.00E-28	1.97E-27	2.72E-26	2.14E-25	1.34E-24	7.10E-24	3.25E-23	1.28E-22	4.25E-22
4.187	2.55E-28	6.83E-28	1.90E-27	2.62E-26	2.05E-25	1.28E-24	6.79E-24	3.10E-23	1.22E-22	4.03E-22
5.008	2.42E-28	6.49E-28	1.79E-27	2.46E-26	1.92E-25	1.20E-24	6.34E-24	2.89E-23	1.13E-22	3.74E-22
5.990	2.25E-28	6.03E-28	1.66E-27	2.27E-26	1.77E-25	1.10E-24	5.81E-24	2.64E-23	1.03E-22	3.41E-22
7.164	2.06E-28	5.50E-28	1.51E-27	2.06E-26	1.60E-25	9.96E-25	5.24E-24	2.38E-23	9.28E-23	3.06E-22
8.568	1.85E-28	4.96E-28	1.35E-27	1.84E-26	1.43E-25	8.90E-25	4.68E-24	2.12E-23	8.26E-23	2.72E-22
10.24	1.65E-28	4.42E-28	1.20E-27	1.63E-26	1.27E-25	7.88E-25	4.14E-24	1.87E-23	7.29E-23	2.40E-22
12.25	1.46E-28	3.91E-28	1.06E-27	1.44E-26	1.12E-25	6.93E-25	3.63E-24	1.64E-23	6.38E-23	2.10E-22
14.66	1.28E-28	3.43E-28	9.30E-28	1.26E-26	9.76E-26	6.05E-25	3.17E-24	1.43E-23	5.56E-23	1.82E-22
17.53	1.12E-28	2.99E-28	8.10E-28	1.10E-26	8.48E-26	5.25E-25	2.75E-24	1.24E-23	4.81E-23	1.58E-22
20.97	9.72E-29	2.59E-28	7.02E-28	9.48E-27	7.34E-26	4.54E-25	2.38E-24	1.07E-23	4.15E-23	1.36E-22
25.08	8.40E-29	2.24E-28	6.06E-28	8.18E-27	6.33E-26	3.92E-25	2.05E-24	9.22E-24	3.57E-23	1.17E-22
30.00	7.24E-29	1.93E-28	5.22E-28	7.04E-27	5.44E-26	3.36E-25	1.76E-24	7.92E-24	3.06E-23	1.00E-22

Table 69: Cross sections for dissociative ionization of HD(a^3) via the repulsive ionic state $HD^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2098	15.9366	15.6762	15.4282	15.1923	14.9685	14.7564	14.5562	14.3679	14.1917
1.122	5.64E-34	1.43E-31	1.39E-29	4.97E-28	1.12E-26	1.55E-25	1.55E-24	1.09E-23	5.47E-23	1.93E-22
1.260	6.72E-27	2.51E-25	3.56E-24	2.62E-23	1.15E-22	3.15E-22	5.91E-22	9.11E-22	1.32E-21	1.81E-21
1.414	5.33E-24	5.80E-23	2.35E-22	5.00E-22	7.82E-22	1.14E-21	1.53E-21	2.01E-21	2.55E-21	3.19E-21
1.588	1.38E-22	4.52E-22	7.31E-22	1.06E-21	1.42E-21	1.83E-21	2.29E-21	2.82E-21	3.42E-21	4.10E-21
1.782	5.64E-22	8.47E-22	1.18E-21	1.52E-21	1.90E-21	2.32E-21	2.80E-21	3.33E-21	3.94E-21	4.62E-21
2.001	9.80E-22	1.23E-21	1.51E-21	1.84E-21	2.21E-21	2.63E-21	3.09E-21	3.60E-21	4.17E-21	4.81E-21
2.246	1.24E-21	1.48E-21	1.75E-21	2.05E-21	2.39E-21	2.77E-21	3.19E-21	3.66E-21	4.19E-21	4.77E-21
2.522	1.37E-21	1.60E-21	1.86E-21	2.14E-21	2.45E-21	2.79E-21	3.17E-21	3.59E-21	4.06E-21	4.58E-21
2.831	1.42E-21	1.63E-21	1.86E-21	2.11E-21	2.39E-21	2.70E-21	3.04E-21	3.42E-21	3.83E-21	4.28E-21
3.178	1.39E-21	1.58E-21	1.79E-21	2.02E-21	2.27E-21	2.54E-21	2.84E-21	3.16E-21	3.52E-21	3.91E-21
3.568	1.33E-21	1.50E-21	1.68E-21	1.88E-21	2.10E-21	2.34E-21	2.60E-21	2.88E-21	3.18E-21	3.52E-21
4.005	1.24E-21	1.38E-21	1.55E-21	1.72E-21	1.91E-21	2.11E-21	2.34E-21	2.58E-21	2.84E-21	3.12E-21
4.496	1.13E-21	1.26E-21	1.40E-21	1.55E-21	1.71E-21	1.89E-21	2.08E-21	2.28E-21	2.50E-21	2.74E-21
5.048	1.02E-21	1.13E-21	1.25E-21	1.38E-21	1.52E-21	1.67E-21	1.83E-21	2.00E-21	2.19E-21	2.39E-21
5.667	9.13E-22	1.01E-21	1.11E-21	1.22E-21	1.34E-21	1.46E-21	1.60E-21	1.75E-21	1.90E-21	2.07E-21
6.361	8.08E-22	8.90E-22	9.77E-22	1.07E-21	1.17E-21	1.28E-21	1.39E-21	1.51E-21	1.64E-21	1.78E-21
7.141	7.11E-22	7.80E-22	8.54E-22	9.33E-22	1.02E-21	1.11E-21	1.20E-21	1.30E-21	1.41E-21	1.53E-21
8.017	6.22E-22	6.81E-22	7.43E-22	8.10E-22	8.81E-22	9.56E-22	1.04E-21	1.12E-21	1.21E-21	1.31E-21
9.000	5.42E-22	5.92E-22	6.45E-22	7.01E-22	7.60E-22	8.24E-22	8.90E-22	9.62E-22	1.04E-21	1.12E-21

Table 70: Cross sections for non-dissociative ionization of HD(c^3)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.66362	3.41035	3.16852	2.93787	2.71812	2.5091	2.31069	2.12279	1.94539	1.77854
1.274	2.34E-20	1.61E-20	8.69E-21	2.15E-21	6.62E-23	7.96E-26	1.04E-27	1.31E-27	2.63E-28	1.62E-27
1.623	5.45E-20	4.82E-20	4.11E-20	3.30E-20	2.40E-20	1.44E-20	4.90E-21	2.61E-22	4.93E-26	8.34E-27
2.069	8.03E-20	7.63E-20	7.16E-20	6.60E-20	5.93E-20	5.13E-20	4.19E-20	3.09E-20	1.86E-20	6.14E-21
2.636	9.71E-20	9.54E-20	9.32E-20	9.03E-20	8.67E-20	8.21E-20	7.63E-20	6.90E-20	5.99E-20	4.88E-20
3.359	1.05E-19	1.05E-19	1.05E-19	1.04E-19	1.03E-19	1.02E-19	9.92E-20	9.59E-20	9.13E-20	8.50E-20
4.281	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.09E-19	1.10E-19	1.10E-19	1.10E-19	1.09E-19	1.07E-19
5.455	9.97E-20	1.02E-19	1.04E-19	1.06E-19	1.08E-19	1.10E-19	1.12E-19	1.13E-19	1.15E-19	1.16E-19
6.951	9.12E-20	9.34E-20	9.58E-20	9.83E-20	1.01E-19	1.04E-19	1.07E-19	1.09E-19	1.12E-19	1.15E-19
8.858	8.10E-20	8.33E-20	8.57E-20	8.84E-20	9.12E-20	9.41E-20	9.73E-20	1.01E-19	1.04E-19	1.08E-19
11.28	7.04E-20	7.25E-20	7.49E-20	7.74E-20	8.01E-20	8.30E-20	8.62E-20	8.96E-20	9.33E-20	9.72E-20
14.38	6.01E-20	6.21E-20	6.42E-20	6.65E-20	6.90E-20	7.17E-20	7.46E-20	7.78E-20	8.13E-20	8.51E-20
18.32	5.07E-20	5.24E-20	5.42E-20	5.62E-20	5.84E-20	6.08E-20	6.35E-20	6.64E-20	6.95E-20	7.29E-20
23.35	4.23E-20	4.37E-20	4.53E-20	4.70E-20	4.89E-20	5.10E-20	5.33E-20	5.58E-20	5.85E-20	6.15E-20
29.76	3.50E-20	3.62E-20	3.75E-20	3.90E-20	4.06E-20	4.23E-20	4.42E-20	4.64E-20	4.87E-20	5.13E-20
37.92	2.88E-20	2.98E-20	3.09E-20	3.21E-20	3.34E-20	3.49E-20	3.65E-20	3.82E-20	4.02E-20	4.24E-20
48.32	2.36E-20	2.44E-20	2.53E-20	2.63E-20	2.73E-20	2.85E-20	2.99E-20	3.13E-20	3.29E-20	3.47E-20
61.58	1.92E-20	1.99E-20	2.06E-20	2.14E-20	2.23E-20	2.33E-20	2.43E-20	2.55E-20	2.68E-20	2.83E-20
78.47	1.56E-20	1.62E-20	1.68E-20	1.74E-20	1.81E-20	1.89E-20	1.98E-20	2.07E-20	2.18E-20	2.30E-20
100.0	1.27E-20	1.31E-20	1.36E-20	1.41E-20	1.47E-20	1.53E-20	1.60E-20	1.68E-20	1.76E-20	1.86E-20

Table 71: Cross sections for dissociative ionization of HD(c^3) via the continuum of the ionic ground state $HD^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.33167	6.0784	5.83657	5.60592	5.38617	5.17715	4.97874	4.79084	4.61344	4.44659
1.196	5.43E-29	1.52E-29	2.10E-29	4.57E-29	2.78E-29	1.21E-28	1.28E-27	7.40E-27	2.02E-26	2.38E-26
1.430	1.38E-28	8.92E-29	6.16E-29	1.44E-28	1.13E-28	3.74E-28	3.08E-27	1.71E-26	4.81E-26	6.44E-26
1.710	2.16E-28	1.74E-28	1.06E-28	2.51E-28	2.00E-28	6.08E-28	4.55E-27	2.49E-26	7.00E-26	9.67E-26
2.046	2.75E-28	2.45E-28	1.43E-28	3.40E-28	2.72E-28	7.86E-28	5.57E-27	3.00E-26	8.46E-26	1.18E-25
2.447	3.13E-28	2.93E-28	1.69E-28	4.00E-28	3.21E-28	9.00E-28	6.15E-27	3.29E-26	9.25E-26	1.30E-25
2.927	3.32E-28	3.20E-28	1.83E-28	4.33E-28	3.47E-28	9.54E-28	6.37E-27	3.39E-26	9.50E-26	1.34E-25
3.501	3.35E-28	3.29E-28	1.87E-28	4.42E-28	3.54E-28	9.61E-28	6.31E-27	3.34E-26	9.35E-26	1.32E-25
4.187	3.26E-28	3.24E-28	1.84E-28	4.34E-28	3.47E-28	9.33E-28	6.05E-27	3.19E-26	8.91E-26	1.26E-25
5.008	3.09E-28	3.10E-28	1.75E-28	4.13E-28	3.30E-28	8.81E-28	5.66E-27	2.98E-26	8.30E-26	1.17E-25
5.990	2.86E-28	2.89E-28	1.63E-28	3.84E-28	3.07E-28	8.15E-28	5.20E-27	2.73E-26	7.59E-26	1.07E-25
7.164	2.61E-28	2.65E-28	1.49E-28	3.51E-28	2.81E-28	7.41E-28	4.70E-27	2.46E-26	6.85E-26	9.64E-26
8.568	2.35E-28	2.40E-28	1.35E-28	3.17E-28	2.53E-28	6.65E-28	4.20E-27	2.20E-26	6.10E-26	8.59E-26
10.24	2.10E-28	2.14E-28	1.20E-28	2.82E-28	2.25E-28	5.91E-28	3.72E-27	1.94E-26	5.39E-26	7.58E-26
12.25	1.85E-28	1.90E-28	1.06E-28	2.49E-28	1.99E-28	5.21E-28	3.27E-27	1.70E-26	4.72E-26	6.64E-26
14.66	1.63E-28	1.66E-28	9.31E-29	2.19E-28	1.74E-28	4.55E-28	2.85E-27	1.49E-26	4.12E-26	5.78E-26
17.53	1.42E-28	1.45E-28	8.12E-29	1.91E-28	1.52E-28	3.96E-28	2.48E-27	1.29E-26	3.57E-26	5.01E-26
20.97	1.23E-28	1.26E-28	7.05E-29	1.65E-28	1.32E-28	3.43E-28	2.14E-27	1.11E-26	3.08E-26	4.32E-26
25.08	1.06E-28	1.09E-28	6.09E-29	1.43E-28	1.14E-28	2.96E-28	1.85E-27	9.59E-27	2.65E-26	3.72E-26
30.00	9.17E-29	9.40E-29	5.24E-29	1.23E-28	9.77E-29	2.54E-28	1.59E-27	8.23E-27	2.28E-26	3.19E-26

Table 72: Cross sections for dissociative ionization of HD(c^3) via the repulsive ionic state $HD^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2317	15.9784	15.7366	15.5059	15.2862	15.0772	14.8787	14.6908	14.5134	14.3466
1.122	1.78E-32	3.53E-30	1.99E-28	4.97E-27	8.42E-26	9.13E-25	6.86E-24	3.61E-23	1.32E-22	3.37E-22
1.260	4.59E-26	1.27E-24	1.37E-23	7.49E-23	2.39E-22	4.88E-22	7.66E-22	1.11E-21	1.51E-21	1.98E-21
1.414	1.69E-23	1.33E-22	3.87E-22	6.62E-22	9.77E-22	1.34E-21	1.75E-21	2.21E-21	2.74E-21	3.33E-21
1.588	2.55E-22	6.11E-22	9.12E-22	1.26E-21	1.63E-21	2.04E-21	2.50E-21	3.02E-21	3.59E-21	4.22E-21
1.782	7.63E-22	1.04E-21	1.36E-21	1.73E-21	2.11E-21	2.53E-21	3.00E-21	3.52E-21	4.09E-21	4.72E-21
2.001	1.17E-21	1.43E-21	1.72E-21	2.05E-21	2.41E-21	2.83E-21	3.28E-21	3.77E-21	4.31E-21	4.90E-21
2.246	1.42E-21	1.67E-21	1.95E-21	2.26E-21	2.59E-21	2.97E-21	3.37E-21	3.82E-21	4.32E-21	4.86E-21
2.522	1.54E-21	1.77E-21	2.03E-21	2.32E-21	2.63E-21	2.97E-21	3.34E-21	3.74E-21	4.18E-21	4.66E-21
2.831	1.56E-21	1.78E-21	2.01E-21	2.27E-21	2.55E-21	2.86E-21	3.19E-21	3.55E-21	3.93E-21	4.35E-21
3.178	1.52E-21	1.72E-21	1.93E-21	2.16E-21	2.41E-21	2.67E-21	2.96E-21	3.28E-21	3.62E-21	3.98E-21
3.568	1.44E-21	1.61E-21	1.80E-21	2.00E-21	2.22E-21	2.45E-21	2.71E-21	2.98E-21	3.27E-21	3.58E-21
4.005	1.34E-21	1.49E-21	1.65E-21	1.83E-21	2.01E-21	2.22E-21	2.43E-21	2.66E-21	2.91E-21	3.18E-21
4.496	1.22E-21	1.35E-21	1.49E-21	1.64E-21	1.80E-21	1.98E-21	2.16E-21	2.36E-21	2.57E-21	2.79E-21
5.048	1.10E-21	1.21E-21	1.33E-21	1.46E-21	1.60E-21	1.75E-21	1.90E-21	2.07E-21	2.25E-21	2.43E-21
5.667	9.78E-22	1.08E-21	1.18E-21	1.29E-21	1.41E-21	1.53E-21	1.66E-21	1.80E-21	1.95E-21	2.11E-21
6.361	8.64E-22	9.47E-22	1.04E-21	1.13E-21	1.23E-21	1.33E-21	1.44E-21	1.56E-21	1.69E-21	1.82E-21
7.141	7.59E-22	8.30E-22	9.05E-22	9.84E-22	1.07E-21	1.16E-21	1.25E-21	1.35E-21	1.45E-21	1.56E-21
8.017	6.63E-22	7.23E-22	7.87E-22	8.53E-22	9.24E-22	9.98E-22	1.08E-21	1.16E-21	1.24E-21	1.34E-21
9.000	5.77E-22	6.28E-22	6.81E-22	7.38E-22	7.97E-22	8.59E-22	9.24E-22	9.93E-22	1.07E-21	1.14E-21

Table 73: Cross sections for non-dissociative ionization of HT(X^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.45234	15.02648	14.62006	14.23273	13.86433	13.51481	13.18421	12.87261	12.58016	12.30719
1.128	4.63E-22	4.85E-22	5.10E-22	5.09E-22	4.90E-22	4.63E-22	4.21E-22	3.74E-22	3.18E-22	2.58E-22
1.274	1.80E-21	1.76E-21	1.70E-21	1.67E-21	1.68E-21	1.69E-21	1.65E-21	1.61E-21	1.57E-21	1.52E-21
1.438	3.39E-21	3.33E-21	3.18E-21	3.07E-21	3.11E-21	3.21E-21	3.19E-21	3.16E-21	3.20E-21	3.20E-21
1.623	4.98E-21	4.92E-21	4.67E-21	4.46E-21	4.54E-21	4.74E-21	4.75E-21	4.73E-21	4.86E-21	4.95E-21
1.833	6.45E-21	6.39E-21	6.05E-21	5.74E-21	5.86E-21	6.17E-21	6.20E-21	6.18E-21	6.41E-21	6.58E-21
2.069	7.73E-21	7.66E-21	7.25E-21	6.85E-21	7.00E-21	7.40E-21	7.46E-21	7.45E-21	7.77E-21	8.01E-21
2.335	8.77E-21	8.71E-21	8.22E-21	7.75E-21	7.93E-21	8.41E-21	8.49E-21	8.49E-21	8.89E-21	9.19E-21
2.636	9.57E-21	9.51E-21	8.97E-21	8.44E-21	8.64E-21	9.19E-21	9.29E-21	9.29E-21	9.75E-21	1.01E-20
2.976	1.01E-20	1.01E-20	9.50E-21	8.92E-21	9.13E-21	9.73E-21	9.84E-21	9.86E-21	1.04E-20	1.08E-20
3.359	1.05E-20	1.04E-20	9.81E-21	9.21E-21	9.43E-21	1.01E-20	1.02E-20	1.02E-20	1.07E-20	1.12E-20
3.792	1.06E-20	1.06E-20	9.94E-21	9.32E-21	9.55E-21	1.02E-20	1.03E-20	1.04E-20	1.09E-20	1.14E-20
4.281	1.06E-20	1.05E-20	9.91E-21	9.29E-21	9.52E-21	1.02E-20	1.03E-20	1.03E-20	1.09E-20	1.13E-20
4.832	1.04E-20	1.04E-20	9.74E-21	9.13E-21	9.35E-21	1.00E-20	1.01E-20	1.02E-20	1.07E-20	1.12E-20
5.455	1.01E-20	1.01E-20	9.47E-21	8.87E-21	9.09E-21	9.73E-21	9.86E-21	9.89E-21	1.04E-20	1.09E-20
6.158	9.72E-21	9.68E-21	9.11E-21	8.53E-21	8.74E-21	9.36E-21	9.49E-21	9.52E-21	1.01E-20	1.05E-20
6.951	9.27E-21	9.24E-21	8.69E-21	8.13E-21	8.33E-21	8.93E-21	9.05E-21	9.08E-21	9.60E-21	1.00E-20
7.847	8.78E-21	8.75E-21	8.23E-21	7.70E-21	7.89E-21	8.46E-21	8.57E-21	8.60E-21	9.09E-21	9.50E-21
8.858	8.25E-21	8.23E-21	7.74E-21	7.24E-21	7.42E-21	7.95E-21	8.06E-21	8.09E-21	8.56E-21	8.94E-21
10.00	7.72E-21	7.70E-21	7.24E-21	6.77E-21	6.94E-21	7.44E-21	7.54E-21	7.57E-21	8.01E-21	8.37E-21

Table 74: Cross sections for dissociative ionization of HT(X^1) via the continuum of the ionic ground state $HT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	18.1274	17.7015	17.2951	16.9078	16.5394	16.1898	15.8592	15.5476	15.2552	14.9822
1.128	5.43E-24	3.70E-23	1.04E-22	1.52E-22	1.16E-22	5.82E-23	6.84E-23	9.44E-23	7.06E-23	6.07E-23
1.274	1.54E-23	1.08E-22	3.18E-22	5.06E-22	4.81E-22	3.57E-22	3.74E-22	4.24E-22	3.47E-22	3.01E-22
1.438	2.62E-23	1.84E-22	5.52E-22	9.03E-22	9.08E-22	7.39E-22	7.91E-22	8.95E-22	7.84E-22	7.13E-22
1.623	3.64E-23	2.58E-22	7.75E-22	1.28E-21	1.32E-21	1.12E-21	1.21E-21	1.37E-21	1.24E-21	1.15E-21
1.833	4.55E-23	3.22E-22	9.74E-22	1.62E-21	1.70E-21	1.46E-21	1.59E-21	1.81E-21	1.66E-21	1.56E-21
2.069	5.31E-23	3.76E-22	1.14E-21	1.91E-21	2.01E-21	1.76E-21	1.91E-21	2.18E-21	2.01E-21	1.91E-21
2.335	5.90E-23	4.19E-22	1.27E-21	2.13E-21	2.26E-21	1.99E-21	2.17E-21	2.47E-21	2.30E-21	2.19E-21
2.636	6.33E-23	4.49E-22	1.36E-21	2.29E-21	2.44E-21	2.16E-21	2.37E-21	2.69E-21	2.51E-21	2.40E-21
2.976	6.60E-23	4.69E-22	1.42E-21	2.40E-21	2.56E-21	2.28E-21	2.49E-21	2.84E-21	2.66E-21	2.54E-21
3.359	6.73E-23	4.78E-22	1.45E-21	2.45E-21	2.63E-21	2.34E-21	2.57E-21	2.92E-21	2.74E-21	2.63E-21
3.792	6.75E-23	4.80E-22	1.46E-21	2.46E-21	2.64E-21	2.36E-21	2.59E-21	2.95E-21	2.77E-21	2.66E-21
4.281	6.66E-23	4.74E-22	1.44E-21	2.43E-21	2.61E-21	2.34E-21	2.57E-21	2.92E-21	2.75E-21	2.64E-21
4.832	6.50E-23	4.62E-22	1.40E-21	2.37E-21	2.55E-21	2.29E-21	2.51E-21	2.86E-21	2.69E-21	2.59E-21
5.455	6.27E-23	4.45E-22	1.35E-21	2.29E-21	2.46E-21	2.21E-21	2.43E-21	2.77E-21	2.61E-21	2.51E-21
6.158	5.99E-23	4.26E-22	1.29E-21	2.19E-21	2.36E-21	2.12E-21	2.33E-21	2.65E-21	2.50E-21	2.41E-21
6.951	5.68E-23	4.04E-22	1.23E-21	2.08E-21	2.24E-21	2.01E-21	2.21E-21	2.52E-21	2.38E-21	2.29E-21
7.847	5.35E-23	3.80E-22	1.16E-21	1.96E-21	2.11E-21	1.90E-21	2.08E-21	2.37E-21	2.24E-21	2.16E-21
8.858	5.01E-23	3.56E-22	1.08E-21	1.83E-21	1.98E-21	1.78E-21	1.95E-21	2.22E-21	2.10E-21	2.02E-21
10.00	4.66E-23	3.31E-22	1.01E-21	1.71E-21	1.84E-21	1.66E-21	1.82E-21	2.07E-21	1.96E-21	1.89E-21

Table 75: Cross sections for dissociative ionization of HT(X^1) via the repulsive ionic state $HT^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	28.0274	27.6015	27.1951	26.8078	26.4394	26.0898	25.7592	25.4476	25.1552	24.8822
1.088	1.77E-44	1.33E-41	4.63E-39	8.16E-37	3.69E-35	2.44E-33	1.01E-31	3.08E-30	6.08E-29	1.03E-27
1.184	1.22E-33	1.62E-31	8.36E-30	2.21E-28	3.50E-27	4.14E-26	3.53E-25	2.23E-24	1.03E-23	3.44E-23
1.289	3.56E-28	1.25E-26	1.87E-25	1.61E-24	8.67E-24	3.06E-23	7.26E-23	1.23E-22	1.78E-22	2.47E-22
1.403	3.69E-25	4.78E-24	2.50E-23	6.93E-23	1.22E-22	1.76E-22	2.41E-22	3.11E-22	3.93E-22	4.83E-22
1.527	1.76E-23	7.58E-23	1.39E-22	1.99E-22	2.68E-22	3.40E-22	4.21E-22	5.08E-22	6.05E-22	7.14E-22
1.662	1.16E-22	1.94E-22	2.67E-22	3.38E-22	4.18E-22	5.02E-22	5.93E-22	6.93E-22	8.01E-22	9.21E-22
1.809	2.66E-22	3.25E-22	3.95E-22	4.75E-22	5.61E-22	6.51E-22	7.49E-22	8.56E-22	9.72E-22	1.10E-21
1.969	3.98E-22	4.62E-22	5.30E-22	6.06E-22	6.89E-22	7.81E-22	8.83E-22	9.93E-22	1.11E-21	1.24E-21
2.143	5.06E-22	5.72E-22	6.44E-22	7.21E-22	8.05E-22	8.97E-22	9.96E-22	1.10E-21	1.22E-21	1.35E-21
2.332	5.89E-22	6.57E-22	7.30E-22	8.08E-22	8.93E-22	9.85E-22	1.08E-21	1.19E-21	1.31E-21	1.43E-21
2.539	6.50E-22	7.18E-22	7.91E-22	8.69E-22	9.53E-22	1.04E-21	1.14E-21	1.25E-21	1.36E-21	1.48E-21
2.763	6.91E-22	7.58E-22	8.30E-22	9.06E-22	9.88E-22	1.08E-21	1.17E-21	1.27E-21	1.38E-21	1.50E-21
3.007	7.15E-22	7.80E-22	8.49E-22	9.23E-22	1.00E-21	1.09E-21	1.18E-21	1.28E-21	1.38E-21	1.50E-21
3.273	7.23E-22	7.86E-22	8.52E-22	9.23E-22	9.99E-22	1.08E-21	1.17E-21	1.26E-21	1.36E-21	1.47E-21
3.563	7.19E-22	7.79E-22	8.42E-22	9.10E-22	9.82E-22	1.06E-21	1.14E-21	1.23E-21	1.32E-21	1.42E-21
3.878	7.05E-22	7.62E-22	8.21E-22	8.85E-22	9.53E-22	1.03E-21	1.10E-21	1.18E-21	1.27E-21	1.37E-21
4.220	6.83E-22	7.36E-22	7.93E-22	8.52E-22	9.16E-22	9.83E-22	1.05E-21	1.13E-21	1.21E-21	1.30E-21
4.593	6.55E-22	7.05E-22	7.58E-22	8.13E-22	8.72E-22	9.35E-22	1.00E-21	1.07E-21	1.15E-21	1.23E-21
5.000	6.23E-22	6.70E-22	7.19E-22	7.70E-22	8.25E-22	8.83E-22	9.44E-22	1.01E-21	1.08E-21	1.15E-21

Table 76: Cross sections for non-dissociative ionization of HT(EF^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.13429	3.09961	2.97764	2.89482	2.86023	2.74766	2.67332	2.64008	2.54161	2.4825
1.274	3.14E-20	7.11E-26	5.11E-25	2.07E-20	2.97E-24	1.80E-23	9.93E-21	1.01E-22	1.23E-22	9.24E-22
1.623	7.37E-20	2.33E-21	2.18E-21	6.45E-20	2.29E-21	2.65E-21	5.32E-20	3.76E-21	7.17E-21	3.05E-20
2.069	1.09E-19	2.22E-20	2.05E-20	1.03E-19	1.89E-20	1.75E-20	9.50E-20	1.75E-20	2.23E-20	6.55E-20
2.636	1.32E-19	4.12E-20	4.05E-20	1.30E-19	3.99E-20	3.95E-20	1.25E-19	4.06E-20	4.67E-20	9.63E-20
3.359	1.42E-19	5.39E-20	5.42E-20	1.43E-19	5.46E-20	5.54E-20	1.41E-19	5.76E-20	6.47E-20	1.15E-19
4.281	1.43E-19	6.01E-20	6.11E-20	1.45E-19	6.22E-20	6.38E-20	1.46E-19	6.67E-20	7.42E-20	1.23E-19
5.455	1.36E-19	6.10E-20	6.24E-20	1.39E-19	6.40E-20	6.60E-20	1.41E-19	6.93E-20	7.66E-20	1.22E-19
6.951	1.24E-19	5.83E-20	5.99E-20	1.28E-19	6.16E-20	6.37E-20	1.31E-19	6.70E-20	7.39E-20	1.14E-19
8.858	1.10E-19	5.33E-20	5.49E-20	1.14E-19	5.66E-20	5.87E-20	1.17E-19	6.19E-20	6.81E-20	1.03E-19
11.28	9.59E-20	4.72E-20	4.87E-20	9.94E-20	5.04E-20	5.23E-20	1.02E-19	5.52E-20	6.06E-20	9.09E-20
14.38	8.19E-20	4.09E-20	4.22E-20	8.50E-20	4.37E-20	4.55E-20	8.77E-20	4.80E-20	5.27E-20	7.83E-20
18.32	6.91E-20	3.48E-20	3.60E-20	7.18E-20	3.72E-20	3.88E-20	7.41E-20	4.09E-20	4.49E-20	6.64E-20
23.35	5.76E-20	2.92E-20	3.02E-20	5.99E-20	3.13E-20	3.26E-20	6.19E-20	3.44E-20	3.78E-20	5.56E-20
29.76	4.77E-20	2.43E-20	2.51E-20	4.96E-20	2.60E-20	2.71E-20	5.13E-20	2.86E-20	3.14E-20	4.61E-20
37.92	3.92E-20	2.00E-20	2.07E-20	4.09E-20	2.14E-20	2.23E-20	4.22E-20	2.36E-20	2.59E-20	3.80E-20
48.32	3.21E-20	1.64E-20	1.69E-20	3.34E-20	1.76E-20	1.83E-20	3.46E-20	1.93E-20	2.12E-20	3.11E-20
61.58	2.62E-20	1.33E-20	1.38E-20	2.73E-20	1.43E-20	1.49E-20	2.82E-20	1.58E-20	1.73E-20	2.54E-20
78.47	2.13E-20	1.08E-20	1.12E-20	2.22E-20	1.16E-20	1.21E-20	2.29E-20	1.28E-20	1.40E-20	2.06E-20
100.0	1.73E-20	8.77E-21	9.07E-21	1.80E-20	9.41E-21	9.80E-21	1.86E-20	1.04E-20	1.14E-20	1.67E-20

Table 77: Cross sections for dissociative ionization of HT(EF^1) via the continuum of the ionic ground state $HT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.80933	5.77465	5.65267	5.56986	5.53526	5.42269	5.34836	5.31512	5.21665	5.15753
1.196	2.51E-29	4.02E-28	3.00E-26	1.01E-28	2.40E-25	5.83E-24	1.87E-25	1.76E-23	1.61E-22	1.12E-22
1.430	7.40E-29	8.99E-28	6.63E-26	3.26E-28	5.34E-25	1.28E-23	4.08E-25	3.94E-23	3.53E-22	2.44E-22
1.710	1.22E-28	1.31E-27	9.59E-26	5.43E-28	7.72E-25	1.84E-23	5.86E-25	5.69E-23	5.05E-22	3.48E-22
2.046	1.58E-28	1.60E-27	1.17E-25	7.06E-28	9.37E-25	2.22E-23	7.08E-25	6.90E-23	6.10E-22	4.19E-22
2.447	1.82E-28	1.77E-27	1.29E-25	8.10E-28	1.03E-24	2.44E-23	7.77E-25	7.58E-23	6.68E-22	4.59E-22
2.927	1.95E-28	1.84E-27	1.33E-25	8.60E-28	1.07E-24	2.53E-23	8.03E-25	7.84E-23	6.89E-22	4.73E-22
3.501	1.97E-28	1.83E-27	1.32E-25	8.68E-28	1.06E-24	2.50E-23	7.94E-25	7.76E-23	6.81E-22	4.67E-22
4.187	1.92E-28	1.77E-27	1.27E-25	8.44E-28	1.02E-24	2.40E-23	7.62E-25	7.44E-23	6.52E-22	4.47E-22
5.008	1.82E-28	1.66E-27	1.19E-25	7.98E-28	9.55E-25	2.25E-23	7.13E-25	6.97E-23	6.10E-22	4.18E-22
5.990	1.69E-28	1.53E-27	1.10E-25	7.40E-28	8.79E-25	2.07E-23	6.55E-25	6.40E-23	5.60E-22	3.83E-22
7.164	1.54E-28	1.39E-27	9.97E-26	6.74E-28	7.97E-25	1.87E-23	5.93E-25	5.80E-23	5.07E-22	3.47E-22
8.568	1.39E-28	1.25E-27	8.93E-26	6.06E-28	7.14E-25	1.68E-23	5.31E-25	5.19E-23	4.53E-22	3.10E-22
10.24	1.24E-28	1.11E-27	7.93E-26	5.39E-28	6.33E-25	1.49E-23	4.70E-25	4.60E-23	4.01E-22	2.74E-22
12.25	1.09E-28	9.74E-28	6.98E-26	4.75E-28	5.57E-25	1.31E-23	4.14E-25	4.04E-23	3.53E-22	2.41E-22
14.66	9.59E-29	8.53E-28	6.10E-26	4.16E-28	4.87E-25	1.14E-23	3.61E-25	3.53E-23	3.08E-22	2.11E-22
17.53	8.36E-29	7.42E-28	5.31E-26	3.62E-28	4.24E-25	9.93E-24	3.14E-25	3.07E-23	2.68E-22	1.83E-22
20.97	7.25E-29	6.43E-28	4.60E-26	3.14E-28	3.67E-25	8.60E-24	2.72E-25	2.66E-23	2.32E-22	1.58E-22
25.08	6.26E-29	5.55E-28	3.97E-26	2.71E-28	3.17E-25	7.41E-24	2.35E-25	2.29E-23	2.00E-22	1.36E-22
30.00	5.39E-29	4.78E-28	3.42E-26	2.33E-28	2.72E-25	6.38E-24	2.02E-25	1.97E-23	1.72E-22	1.17E-22

Table 78: Cross sections for dissociative ionization of HT(EF^1) via the repulsive ionic state $HT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7093	15.6746	15.5527	15.4699	15.4353	15.3227	15.2484	15.2151	15.1166	15.0575
1.122	2.19E-33	1.38E-21	1.40E-21	1.92E-26	1.44E-21	1.51E-21	1.71E-23	1.57E-21	1.51E-21	5.22E-22
1.260	1.40E-26	3.77E-21	3.88E-21	7.27E-25	3.98E-21	4.07E-21	6.27E-23	4.08E-21	3.84E-21	1.32E-21
1.414	7.72E-24	5.24E-21	5.40E-21	8.67E-23	5.56E-21	5.69E-21	4.48E-22	5.74E-21	5.52E-21	2.39E-21
1.588	1.75E-22	6.11E-21	6.29E-21	5.62E-22	6.46E-21	6.62E-21	1.05E-21	6.68E-21	6.47E-21	3.18E-21
1.782	6.69E-22	6.51E-21	6.69E-21	1.01E-21	6.87E-21	7.03E-21	1.56E-21	7.09E-21	6.91E-21	3.68E-21
2.001	1.13E-21	6.57E-21	6.74E-21	1.43E-21	6.91E-21	7.07E-21	1.92E-21	7.13E-21	6.96E-21	3.92E-21
2.246	1.41E-21	6.38E-21	6.54E-21	1.70E-21	6.69E-21	6.84E-21	2.16E-21	6.89E-21	6.74E-21	3.98E-21
2.522	1.55E-21	6.02E-21	6.16E-21	1.82E-21	6.30E-21	6.43E-21	2.24E-21	6.48E-21	6.34E-21	3.88E-21
2.831	1.58E-21	5.56E-21	5.69E-21	1.83E-21	5.81E-21	5.92E-21	2.21E-21	5.96E-21	5.84E-21	3.66E-21
3.178	1.55E-21	5.06E-21	5.17E-21	1.77E-21	5.27E-21	5.37E-21	2.10E-21	5.40E-21	5.29E-21	3.38E-21
3.568	1.47E-21	4.54E-21	4.63E-21	1.66E-21	4.72E-21	4.80E-21	1.95E-21	4.83E-21	4.73E-21	3.07E-21
4.005	1.36E-21	4.03E-21	4.10E-21	1.53E-21	4.18E-21	4.25E-21	1.78E-21	4.27E-21	4.18E-21	2.74E-21
4.496	1.24E-21	3.54E-21	3.61E-21	1.39E-21	3.67E-21	3.73E-21	1.61E-21	3.74E-21	3.67E-21	2.43E-21
5.048	1.11E-21	3.09E-21	3.15E-21	1.24E-21	3.20E-21	3.25E-21	1.43E-21	3.26E-21	3.19E-21	2.13E-21
5.667	9.91E-22	2.69E-21	2.73E-21	1.10E-21	2.77E-21	2.81E-21	1.26E-21	2.82E-21	2.76E-21	1.86E-21
6.361	8.74E-22	2.32E-21	2.36E-21	9.68E-22	2.39E-21	2.42E-21	1.10E-21	2.43E-21	2.38E-21	1.61E-21
7.141	7.67E-22	2.00E-21	2.03E-21	8.46E-22	2.06E-21	2.08E-21	9.61E-22	2.09E-21	2.04E-21	1.39E-21
8.017	6.69E-22	1.72E-21	1.74E-21	7.36E-22	1.76E-21	1.78E-21	8.34E-22	1.79E-21	1.75E-21	1.20E-21
9.000	5.81E-22	1.47E-21	1.49E-21	6.38E-22	1.51E-21	1.53E-21	7.20E-22	1.53E-21	1.49E-21	1.03E-21

Table 79: Cross sections for non-dissociative ionization of HT(B^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	4.24027	4.10563	3.97418	3.84572	3.72013	3.59734	3.47731	3.35998	3.24533	3.13333
1.274	1.32E-20	9.77E-21	6.96E-21	5.04E-21	3.79E-21	2.76E-21	1.95E-21	1.27E-21	7.20E-22	3.48E-22
1.623	3.49E-20	3.09E-20	2.71E-20	2.36E-20	2.03E-20	1.70E-20	1.40E-20	1.10E-20	8.41E-21	6.49E-21
2.069	5.35E-20	4.98E-20	4.65E-20	4.33E-20	4.03E-20	3.74E-20	3.45E-20	3.16E-20	2.87E-20	2.58E-20
2.636	6.59E-20	6.28E-20	6.01E-20	5.76E-20	5.53E-20	5.31E-20	5.09E-20	4.87E-20	4.66E-20	4.45E-20
3.359	7.19E-20	6.94E-20	6.73E-20	6.55E-20	6.38E-20	6.23E-20	6.08E-20	5.95E-20	5.81E-20	5.68E-20
4.281	7.24E-20	7.06E-20	6.90E-20	6.77E-20	6.66E-20	6.56E-20	6.47E-20	6.40E-20	6.32E-20	6.26E-20
5.455	6.92E-20	6.77E-20	6.66E-20	6.57E-20	6.49E-20	6.44E-20	6.39E-20	6.36E-20	6.33E-20	6.31E-20
6.951	6.34E-20	6.23E-20	6.15E-20	6.09E-20	6.04E-20	6.01E-20	6.00E-20	5.99E-20	5.99E-20	6.00E-20
8.858	5.65E-20	5.56E-20	5.50E-20	5.46E-20	5.43E-20	5.42E-20	5.42E-20	5.43E-20	5.45E-20	5.48E-20
11.28	4.91E-20	4.85E-20	4.80E-20	4.77E-20	4.76E-20	4.76E-20	4.77E-20	4.78E-20	4.81E-20	4.84E-20
14.38	4.20E-20	4.15E-20	4.11E-20	4.10E-20	4.09E-20	4.09E-20	4.10E-20	4.13E-20	4.15E-20	4.19E-20
18.32	3.54E-20	3.50E-20	3.48E-20	3.46E-20	3.46E-20	3.47E-20	3.48E-20	3.50E-20	3.53E-20	3.56E-20
23.35	2.96E-20	2.92E-20	2.90E-20	2.90E-20	2.89E-20	2.90E-20	2.91E-20	2.93E-20	2.96E-20	2.99E-20
29.76	2.45E-20	2.42E-20	2.41E-20	2.40E-20	2.40E-20	2.41E-20	2.42E-20	2.43E-20	2.45E-20	2.48E-20
37.92	2.01E-20	1.99E-20	1.98E-20	1.97E-20	1.97E-20	1.98E-20	1.99E-20	2.00E-20	2.02E-20	2.04E-20
48.32	1.65E-20	1.63E-20	1.62E-20	1.62E-20	1.62E-20	1.62E-20	1.63E-20	1.64E-20	1.66E-20	1.67E-20
61.58	1.34E-20	1.33E-20	1.32E-20	1.32E-20	1.32E-20	1.32E-20	1.33E-20	1.34E-20	1.35E-20	1.36E-20
78.47	1.09E-20	1.08E-20	1.07E-20	1.07E-20	1.07E-20	1.07E-20	1.08E-20	1.09E-20	1.10E-20	1.11E-20
100.0	8.86E-21	8.77E-21	8.71E-21	8.68E-21	8.68E-21	8.70E-21	8.74E-21	8.80E-21	8.87E-21	8.97E-21

Table 80: Cross sections for dissociative ionization of HT(B^1) via the continuum of the ionic ground state $HT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.9153	6.78067	6.64922	6.52075	6.39517	6.27238	6.15234	6.03501	5.92037	5.80836
1.196	4.46E-29	3.75E-29	2.05E-29	4.71E-29	2.89E-29	2.94E-29	2.76E-29	1.51E-28	1.66E-27	3.39E-26
1.430	1.46E-28	1.19E-28	6.84E-29	1.47E-28	9.44E-29	8.86E-29	6.56E-29	3.71E-28	3.75E-27	7.56E-26
1.710	2.50E-28	2.02E-28	1.19E-28	2.49E-28	1.62E-28	1.48E-28	1.01E-28	5.67E-28	5.50E-27	1.10E-25
2.046	3.34E-28	2.69E-28	1.61E-28	3.32E-28	2.15E-28	1.95E-28	1.29E-28	7.11E-28	6.75E-27	1.34E-25
2.447	3.91E-28	3.15E-28	1.91E-28	3.88E-28	2.52E-28	2.27E-28	1.47E-28	8.02E-28	7.49E-27	1.48E-25
2.927	4.23E-28	3.40E-28	2.07E-28	4.18E-28	2.71E-28	2.44E-28	1.56E-28	8.44E-28	7.81E-27	1.54E-25
3.501	4.33E-28	3.47E-28	2.12E-28	4.27E-28	2.77E-28	2.49E-28	1.58E-28	8.47E-28	7.78E-27	1.53E-25
4.187	4.25E-28	3.41E-28	2.09E-28	4.19E-28	2.72E-28	2.43E-28	1.53E-28	8.21E-28	7.50E-27	1.47E-25
5.008	4.06E-28	3.25E-28	2.00E-28	3.99E-28	2.59E-28	2.32E-28	1.45E-28	7.75E-28	7.06E-27	1.38E-25
5.990	3.79E-28	3.04E-28	1.87E-28	3.72E-28	2.41E-28	2.16E-28	1.35E-28	7.17E-28	6.51E-27	1.27E-25
7.164	3.48E-28	2.78E-28	1.71E-28	3.41E-28	2.21E-28	1.97E-28	1.23E-28	6.53E-28	5.92E-27	1.16E-25
8.568	3.14E-28	2.52E-28	1.55E-28	3.08E-28	1.99E-28	1.78E-28	1.11E-28	5.87E-28	5.31E-27	1.04E-25
10.24	2.81E-28	2.25E-28	1.38E-28	2.75E-28	1.78E-28	1.59E-28	9.87E-29	5.23E-28	4.72E-27	9.20E-26
12.25	2.49E-28	1.99E-28	1.23E-28	2.43E-28	1.57E-28	1.41E-28	8.72E-29	4.61E-28	4.16E-27	8.10E-26
14.66	2.19E-28	1.75E-28	1.08E-28	2.14E-28	1.38E-28	1.23E-28	7.64E-29	4.04E-28	3.64E-27	7.09E-26
17.53	1.91E-28	1.53E-28	9.41E-29	1.87E-28	1.21E-28	1.08E-28	6.66E-29	3.52E-28	3.17E-27	6.17E-26
20.97	1.66E-28	1.33E-28	8.18E-29	1.62E-28	1.05E-28	9.35E-29	5.78E-29	3.06E-28	2.75E-27	5.35E-26
25.08	1.44E-28	1.15E-28	7.08E-29	1.40E-28	9.07E-29	8.08E-29	5.00E-29	2.64E-28	2.38E-27	4.62E-26
30.00	1.24E-28	9.92E-29	6.10E-29	1.21E-28	7.82E-29	6.96E-29	4.31E-29	2.27E-28	2.05E-27	3.98E-26

Table 81: Cross sections for dissociative ionization of HT(B^1) via the repulsive ionic state $HT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.8153	16.6807	16.5492	16.4208	16.2952	16.1724	16.0523	15.935	15.8204	15.7084
1.122	1.36E-26	4.49E-25	5.34E-24	3.21E-23	1.10E-22	2.32E-22	3.51E-22	4.71E-22	6.01E-22	7.25E-22
1.260	4.10E-23	2.42E-22	5.09E-22	7.30E-22	9.65E-22	1.18E-21	1.40E-21	1.62E-21	1.84E-21	2.06E-21
1.414	5.10E-22	8.90E-22	1.21E-21	1.49E-21	1.77E-21	2.04E-21	2.31E-21	2.57E-21	2.83E-21	3.09E-21
1.588	1.22E-21	1.52E-21	1.82E-21	2.12E-21	2.41E-21	2.70E-21	2.97E-21	3.25E-21	3.52E-21	3.80E-21
1.782	1.74E-21	2.03E-21	2.32E-21	2.59E-21	2.86E-21	3.13E-21	3.40E-21	3.67E-21	3.94E-21	4.22E-21
2.001	2.05E-21	2.34E-21	2.61E-21	2.87E-21	3.13E-21	3.39E-21	3.64E-21	3.90E-21	4.15E-21	4.40E-21
2.246	2.20E-21	2.47E-21	2.73E-21	2.97E-21	3.22E-21	3.46E-21	3.69E-21	3.93E-21	4.16E-21	4.40E-21
2.522	2.23E-21	2.48E-21	2.71E-21	2.94E-21	3.16E-21	3.38E-21	3.60E-21	3.81E-21	4.03E-21	4.24E-21
2.831	2.18E-21	2.40E-21	2.61E-21	2.82E-21	3.02E-21	3.22E-21	3.41E-21	3.60E-21	3.79E-21	3.98E-21
3.178	2.07E-21	2.27E-21	2.46E-21	2.64E-21	2.82E-21	2.99E-21	3.16E-21	3.33E-21	3.50E-21	3.66E-21
3.568	1.92E-21	2.10E-21	2.26E-21	2.42E-21	2.58E-21	2.73E-21	2.88E-21	3.03E-21	3.17E-21	3.32E-21
4.005	1.76E-21	1.91E-21	2.06E-21	2.19E-21	2.33E-21	2.46E-21	2.59E-21	2.72E-21	2.84E-21	2.97E-21
4.496	1.59E-21	1.72E-21	1.85E-21	1.97E-21	2.08E-21	2.20E-21	2.31E-21	2.41E-21	2.52E-21	2.63E-21
5.048	1.42E-21	1.53E-21	1.64E-21	1.74E-21	1.84E-21	1.94E-21	2.03E-21	2.13E-21	2.22E-21	2.31E-21
5.667	1.26E-21	1.35E-21	1.45E-21	1.53E-21	1.62E-21	1.70E-21	1.78E-21	1.86E-21	1.94E-21	2.01E-21
6.361	1.11E-21	1.19E-21	1.27E-21	1.34E-21	1.42E-21	1.49E-21	1.55E-21	1.62E-21	1.69E-21	1.75E-21
7.141	9.67E-22	1.04E-21	1.11E-21	1.17E-21	1.23E-21	1.29E-21	1.35E-21	1.40E-21	1.46E-21	1.51E-21
8.017	8.43E-22	9.04E-22	9.60E-22	1.01E-21	1.07E-21	1.12E-21	1.16E-21	1.21E-21	1.26E-21	1.30E-21
9.000	7.32E-22	7.83E-22	8.31E-22	8.77E-22	9.21E-22	9.63E-22	1.00E-21	1.04E-21	1.08E-21	1.12E-21

Table 82: Cross sections for non-dissociative ionization of HT(C^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.14295	2.90662	2.68146	2.46727	2.26389	2.07123	1.88927	1.71804	1.55768	1.4084
1.274	3.17E-20	2.07E-20	9.69E-21	8.75E-22	6.04E-26	2.09E-27	8.48E-28	8.16E-28	7.51E-28	2.55E-27
1.623	7.39E-20	6.43E-20	5.33E-20	4.06E-20	2.65E-20	1.17E-20	6.15E-22	5.02E-25	3.14E-27	8.39E-27
2.069	1.09E-19	1.03E-19	9.52E-20	8.60E-20	7.49E-20	6.15E-20	4.55E-20	2.72E-20	8.02E-21	1.41E-23
2.636	1.32E-19	1.29E-19	1.25E-19	1.20E-19	1.14E-19	1.05E-19	9.47E-20	8.11E-20	6.41E-20	4.33E-20
3.359	1.42E-19	1.42E-19	1.41E-19	1.40E-19	1.38E-19	1.34E-19	1.29E-19	1.21E-19	1.11E-19	9.81E-20
4.281	1.42E-19	1.44E-19	1.46E-19	1.47E-19	1.47E-19	1.47E-19	1.46E-19	1.44E-19	1.40E-19	1.34E-19
5.455	1.35E-19	1.38E-19	1.41E-19	1.43E-19	1.46E-19	1.48E-19	1.50E-19	1.51E-19	1.52E-19	1.51E-19
6.951	1.24E-19	1.27E-19	1.30E-19	1.34E-19	1.37E-19	1.41E-19	1.44E-19	1.48E-19	1.51E-19	1.53E-19
8.858	1.10E-19	1.13E-19	1.17E-19	1.20E-19	1.24E-19	1.28E-19	1.33E-19	1.37E-19	1.41E-19	1.45E-19
11.28	9.57E-20	9.88E-20	1.02E-19	1.06E-19	1.09E-19	1.13E-19	1.18E-19	1.22E-19	1.27E-19	1.32E-19
14.38	8.17E-20	8.45E-20	8.75E-20	9.08E-20	9.43E-20	9.81E-20	1.02E-19	1.07E-19	1.11E-19	1.17E-19
18.32	6.89E-20	7.14E-20	7.40E-20	7.69E-20	8.00E-20	8.34E-20	8.71E-20	9.12E-20	9.56E-20	1.00E-19
23.35	5.75E-20	5.96E-20	6.18E-20	6.43E-20	6.70E-20	7.00E-20	7.32E-20	7.68E-20	8.06E-20	8.49E-20
29.76	4.76E-20	4.93E-20	5.12E-20	5.33E-20	5.56E-20	5.81E-20	6.08E-20	6.39E-20	6.72E-20	7.09E-20
37.92	3.92E-20	4.06E-20	4.22E-20	4.39E-20	4.58E-20	4.79E-20	5.02E-20	5.27E-20	5.55E-20	5.86E-20
48.32	3.21E-20	3.32E-20	3.45E-20	3.59E-20	3.75E-20	3.92E-20	4.11E-20	4.32E-20	4.55E-20	4.81E-20
61.58	2.61E-20	2.71E-20	2.81E-20	2.93E-20	3.06E-20	3.19E-20	3.35E-20	3.52E-20	3.71E-20	3.92E-20
78.47	2.13E-20	2.20E-20	2.29E-20	2.38E-20	2.48E-20	2.59E-20	2.72E-20	2.86E-20	3.01E-20	3.18E-20
100.0	1.72E-20	1.79E-20	1.85E-20	1.93E-20	2.01E-20	2.10E-20	2.20E-20	2.31E-20	2.44E-20	2.57E-20

Table 83: Cross sections for dissociative ionization of HT(C^1) via the continuum of the ionic ground state $HT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.81798	5.58165	5.35649	5.1423	4.93893	4.74627	4.56431	4.39308	4.23271	4.08343
1.196	1.16E-29	3.39E-29	2.90E-29	1.50E-29	2.54E-29	4.44E-29	2.98E-28	2.51E-27	1.46E-26	7.71E-26
1.430	3.80E-29	1.53E-28	9.06E-29	6.89E-29	1.27E-28	1.55E-28	6.91E-28	5.50E-27	3.17E-26	1.64E-25
1.710	6.48E-29	2.76E-28	1.66E-28	1.36E-28	2.40E-28	2.75E-28	1.02E-27	7.81E-27	4.44E-26	2.28E-25
2.046	8.55E-29	3.73E-28	2.30E-28	1.92E-28	3.35E-28	3.75E-28	1.25E-27	9.32E-27	5.25E-26	2.68E-25
2.447	9.91E-29	4.37E-28	2.75E-28	2.30E-28	4.02E-28	4.42E-28	1.39E-27	1.01E-26	5.66E-26	2.87E-25
2.927	1.06E-28	4.71E-28	3.01E-28	2.52E-28	4.39E-28	4.76E-28	1.44E-27	1.03E-26	5.74E-26	2.90E-25
3.501	1.08E-28	4.80E-28	3.09E-28	2.58E-28	4.50E-28	4.85E-28	1.42E-27	1.01E-26	5.60E-26	2.81E-25
4.187	1.05E-28	4.69E-28	3.04E-28	2.54E-28	4.43E-28	4.74E-28	1.36E-27	9.61E-27	5.30E-26	2.66E-25
5.008	9.98E-29	4.46E-28	2.90E-28	2.42E-28	4.22E-28	4.49E-28	1.27E-27	8.93E-27	4.91E-26	2.45E-25
5.990	9.27E-29	4.15E-28	2.70E-28	2.25E-28	3.92E-28	4.16E-28	1.16E-27	8.14E-27	4.46E-26	2.23E-25
7.164	8.46E-29	3.79E-28	2.47E-28	2.06E-28	3.58E-28	3.79E-28	1.05E-27	7.32E-27	4.01E-26	1.99E-25
8.568	7.62E-29	3.41E-28	2.23E-28	1.86E-28	3.22E-28	3.40E-28	9.38E-28	6.52E-27	3.56E-26	1.77E-25
10.24	6.79E-29	3.04E-28	1.99E-28	1.65E-28	2.87E-28	3.02E-28	8.29E-28	5.75E-27	3.13E-26	1.55E-25
12.25	6.00E-29	2.68E-28	1.76E-28	1.46E-28	2.53E-28	2.66E-28	7.27E-28	5.03E-27	2.74E-26	1.36E-25
14.66	5.26E-29	2.35E-28	1.54E-28	1.28E-28	2.22E-28	2.33E-28	6.34E-28	4.38E-27	2.38E-26	1.18E-25
17.53	4.58E-29	2.05E-28	1.34E-28	1.11E-28	1.93E-28	2.02E-28	5.50E-28	3.79E-27	2.06E-26	1.02E-25
20.97	3.98E-29	1.78E-28	1.16E-28	9.65E-29	1.67E-28	1.75E-28	4.75E-28	3.27E-27	1.77E-26	8.77E-26
25.08	3.44E-29	1.53E-28	1.00E-28	8.32E-29	1.44E-28	1.51E-28	4.08E-28	2.81E-27	1.52E-26	7.53E-26
30.00	2.96E-29	1.32E-28	8.65E-29	7.16E-29	1.24E-28	1.30E-28	3.50E-28	2.41E-27	1.31E-26	6.44E-26

Table 84: Cross sections for dissociative ionization of HT(C^1) via the repulsive ionic state $HT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.718	15.4817	15.2565	15.0423	14.8389	14.6463	14.4643	14.2931	14.1327	13.9834
1.122	3.66E-33	6.77E-31	4.80E-29	1.85E-27	3.72E-26	5.02E-25	4.56E-24	2.87E-23	1.24E-22	3.63E-22
1.260	2.27E-26	6.89E-25	8.47E-24	5.50E-23	2.07E-22	4.83E-22	8.13E-22	1.21E-21	1.71E-21	2.29E-21
1.414	1.19E-23	1.09E-22	3.66E-22	6.79E-22	1.03E-21	1.45E-21	1.92E-21	2.47E-21	3.11E-21	3.84E-21
1.588	2.25E-22	6.14E-22	9.43E-22	1.33E-21	1.75E-21	2.22E-21	2.76E-21	3.36E-21	4.04E-21	4.81E-21
1.782	7.61E-22	1.07E-21	1.44E-21	1.84E-21	2.28E-21	2.76E-21	3.30E-21	3.90E-21	4.58E-21	5.33E-21
2.001	1.22E-21	1.50E-21	1.82E-21	2.19E-21	2.60E-21	3.07E-21	3.59E-21	4.16E-21	4.79E-21	5.49E-21
2.246	1.49E-21	1.77E-21	2.07E-21	2.41E-21	2.79E-21	3.21E-21	3.67E-21	4.19E-21	4.76E-21	5.40E-21
2.522	1.62E-21	1.88E-21	2.16E-21	2.47E-21	2.82E-21	3.20E-21	3.62E-21	4.08E-21	4.58E-21	5.14E-21
2.831	1.65E-21	1.88E-21	2.14E-21	2.42E-21	2.73E-21	3.07E-21	3.44E-21	3.84E-21	4.29E-21	4.78E-21
3.178	1.60E-21	1.81E-21	2.04E-21	2.29E-21	2.56E-21	2.86E-21	3.18E-21	3.54E-21	3.92E-21	4.34E-21
3.568	1.52E-21	1.70E-21	1.90E-21	2.12E-21	2.36E-21	2.61E-21	2.89E-21	3.19E-21	3.52E-21	3.88E-21
4.005	1.40E-21	1.56E-21	1.74E-21	1.93E-21	2.13E-21	2.35E-21	2.59E-21	2.85E-21	3.13E-21	3.43E-21
4.496	1.28E-21	1.42E-21	1.57E-21	1.73E-21	1.90E-21	2.09E-21	2.29E-21	2.51E-21	2.75E-21	3.00E-21
5.048	1.15E-21	1.27E-21	1.39E-21	1.53E-21	1.68E-21	1.84E-21	2.01E-21	2.19E-21	2.39E-21	2.61E-21
5.667	1.02E-21	1.12E-21	1.23E-21	1.35E-21	1.47E-21	1.61E-21	1.75E-21	1.91E-21	2.07E-21	2.25E-21
6.361	8.99E-22	9.86E-22	1.08E-21	1.18E-21	1.28E-21	1.40E-21	1.52E-21	1.65E-21	1.78E-21	1.93E-21
7.141	7.88E-22	8.62E-22	9.41E-22	1.02E-21	1.11E-21	1.21E-21	1.31E-21	1.42E-21	1.53E-21	1.65E-21
8.017	6.87E-22	7.50E-22	8.16E-22	8.87E-22	9.61E-22	1.04E-21	1.12E-21	1.21E-21	1.31E-21	1.41E-21
9.000	5.97E-22	6.50E-22	7.06E-22	7.65E-22	8.27E-22	8.94E-22	9.64E-22	1.04E-21	1.12E-21	1.20E-21

Table 85: Cross sections for non-dissociative ionization of HT(a^3)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.64279	3.38448	3.13755	2.90171	2.67672	2.4624	2.25864	2.06538	1.88266	1.7106
1.274	2.27E-20	1.63E-20	9.58E-21	3.93E-21	7.49E-22	1.50E-23	2.31E-27	1.99E-28	1.36E-27	9.34E-29
1.623	5.39E-20	4.86E-20	4.24E-20	3.50E-20	2.65E-20	1.72E-20	8.45E-21	1.96E-21	4.40E-24	9.86E-27
2.069	7.98E-20	7.71E-20	7.35E-20	6.88E-20	6.28E-20	5.54E-20	4.62E-20	3.51E-20	2.26E-20	1.07E-20
2.636	9.68E-20	9.64E-20	9.54E-20	9.37E-20	9.11E-20	8.74E-20	8.22E-20	7.52E-20	6.60E-20	5.41E-20
3.359	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.08E-19	1.08E-19	1.06E-19	1.03E-19	9.93E-20	9.30E-20
4.281	1.05E-19	1.07E-19	1.10E-19	1.12E-19	1.14E-19	1.16E-19	1.18E-19	1.18E-19	1.18E-19	1.17E-19
5.455	9.98E-20	1.03E-19	1.06E-19	1.09E-19	1.13E-19	1.16E-19	1.19E-19	1.22E-19	1.24E-19	1.26E-19
6.951	9.13E-20	9.46E-20	9.81E-20	1.02E-19	1.05E-19	1.09E-19	1.13E-19	1.17E-19	1.21E-19	1.25E-19
8.858	8.11E-20	8.44E-20	8.77E-20	9.13E-20	9.52E-20	9.92E-20	1.03E-19	1.08E-19	1.13E-19	1.17E-19
11.28	7.05E-20	7.35E-20	7.66E-20	8.00E-20	8.36E-20	8.74E-20	9.16E-20	9.60E-20	1.01E-19	1.06E-19
14.38	6.02E-20	6.29E-20	6.57E-20	6.87E-20	7.20E-20	7.55E-20	7.93E-20	8.34E-20	8.78E-20	9.25E-20
18.32	5.08E-20	5.31E-20	5.55E-20	5.81E-20	6.10E-20	6.40E-20	6.74E-20	7.10E-20	7.50E-20	7.93E-20
23.35	4.24E-20	4.43E-20	4.64E-20	4.86E-20	5.10E-20	5.37E-20	5.66E-20	5.97E-20	6.32E-20	6.69E-20
29.76	3.51E-20	3.67E-20	3.84E-20	4.03E-20	4.23E-20	4.45E-20	4.70E-20	4.96E-20	5.26E-20	5.57E-20
37.92	2.89E-20	3.02E-20	3.16E-20	3.32E-20	3.49E-20	3.67E-20	3.87E-20	4.09E-20	4.34E-20	4.60E-20
48.32	2.36E-20	2.47E-20	2.59E-20	2.72E-20	2.85E-20	3.00E-20	3.17E-20	3.35E-20	3.55E-20	3.77E-20
61.58	1.93E-20	2.02E-20	2.11E-20	2.21E-20	2.33E-20	2.45E-20	2.58E-20	2.73E-20	2.90E-20	3.08E-20
78.47	1.57E-20	1.64E-20	1.72E-20	1.80E-20	1.89E-20	1.99E-20	2.10E-20	2.22E-20	2.35E-20	2.50E-20
100.0	1.27E-20	1.33E-20	1.39E-20	1.46E-20	1.53E-20	1.61E-20	1.70E-20	1.80E-20	1.90E-20	2.02E-20

Table 86: Cross sections for dissociative ionization of HT(a^3) via the continuum of the ionic ground state $HT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.31782	6.05952	5.81259	5.57674	5.35175	5.13744	4.93367	4.74041	4.55769	4.38563
1.196	2.79E-29	2.78E-29	1.06E-28	1.94E-27	1.71E-26	1.15E-25	6.59E-25	3.23E-24	1.36E-23	4.92E-23
1.430	7.82E-29	1.09E-28	2.95E-28	4.51E-27	3.96E-26	2.68E-25	1.52E-24	7.43E-24	3.11E-23	1.12E-22
1.710	1.24E-28	1.96E-28	4.86E-28	6.64E-27	5.80E-26	3.91E-25	2.21E-24	1.07E-23	4.47E-23	1.60E-22
2.046	1.60E-28	2.66E-28	6.36E-28	8.15E-27	7.08E-26	4.75E-25	2.68E-24	1.29E-23	5.36E-23	1.91E-22
2.447	1.84E-28	3.14E-28	7.36E-28	9.04E-27	7.81E-26	5.23E-25	2.94E-24	1.41E-23	5.84E-23	2.07E-22
2.927	1.96E-28	3.40E-28	7.87E-28	9.41E-27	8.10E-26	5.40E-25	3.03E-24	1.45E-23	5.98E-23	2.11E-22
3.501	1.99E-28	3.47E-28	7.98E-28	9.36E-27	8.03E-26	5.35E-25	2.99E-24	1.43E-23	5.87E-23	2.07E-22
4.187	1.94E-28	3.41E-28	7.79E-28	9.01E-27	7.72E-26	5.13E-25	2.86E-24	1.36E-23	5.59E-23	1.97E-22
5.008	1.84E-28	3.25E-28	7.40E-28	8.47E-27	7.23E-26	4.80E-25	2.67E-24	1.27E-23	5.20E-23	1.82E-22
5.990	1.71E-28	3.03E-28	6.87E-28	7.80E-27	6.65E-26	4.41E-25	2.45E-24	1.16E-23	4.75E-23	1.66E-22
7.164	1.56E-28	2.77E-28	6.27E-28	7.08E-27	6.03E-26	3.99E-25	2.21E-24	1.05E-23	4.28E-23	1.50E-22
8.568	1.41E-28	2.50E-28	5.65E-28	6.35E-27	5.40E-26	3.56E-25	1.98E-24	9.36E-24	3.81E-23	1.33E-22
10.24	1.26E-28	2.23E-28	5.03E-28	5.63E-27	4.79E-26	3.16E-25	1.75E-24	8.27E-24	3.36E-23	1.17E-22
12.25	1.11E-28	1.98E-28	4.44E-28	4.96E-27	4.21E-26	2.77E-25	1.53E-24	7.25E-24	2.95E-23	1.03E-22
14.66	9.75E-29	1.73E-28	3.90E-28	4.34E-27	3.68E-26	2.42E-25	1.34E-24	6.32E-24	2.57E-23	8.94E-23
17.53	8.50E-29	1.51E-28	3.40E-28	3.77E-27	3.20E-26	2.11E-25	1.16E-24	5.49E-24	2.22E-23	7.74E-23
20.97	7.38E-29	1.31E-28	2.95E-28	3.27E-27	2.77E-26	1.82E-25	1.00E-24	4.74E-24	1.92E-23	6.67E-23
25.08	6.38E-29	1.14E-28	2.55E-28	2.82E-27	2.39E-26	1.57E-25	8.65E-25	4.08E-24	1.65E-23	5.74E-23
30.00	5.50E-29	9.78E-29	2.19E-28	2.43E-27	2.05E-26	1.35E-25	7.43E-25	3.50E-24	1.42E-23	4.92E-23

Table 87: Cross sections for dissociative ionization of HT(a^3) via the repulsive ionic state $HT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2178	15.9595	15.7126	15.4767	15.2518	15.0374	14.8337	14.6404	14.4577	14.2856
1.122	1.00E-34	3.24E-32	2.81E-30	1.38E-28	3.29E-27	5.20E-26	5.59E-25	4.37E-24	2.48E-23	1.01E-22
1.260	3.68E-27	1.46E-25	2.21E-24	1.73E-23	8.15E-23	2.42E-22	4.85E-22	7.64E-22	1.11E-21	1.54E-21
1.414	4.29E-24	4.82E-23	2.03E-22	4.46E-22	7.03E-22	1.02E-21	1.38E-21	1.80E-21	2.28E-21	2.84E-21
1.588	1.30E-22	4.27E-22	6.89E-22	9.94E-22	1.32E-21	1.70E-21	2.11E-21	2.58E-21	3.12E-21	3.72E-21
1.782	5.56E-22	8.21E-22	1.13E-21	1.45E-21	1.79E-21	2.19E-21	2.62E-21	3.10E-21	3.64E-21	4.24E-21
2.001	9.74E-22	1.20E-21	1.47E-21	1.77E-21	2.11E-21	2.49E-21	2.91E-21	3.37E-21	3.88E-21	4.46E-21
2.246	1.23E-21	1.46E-21	1.71E-21	1.99E-21	2.30E-21	2.65E-21	3.03E-21	3.45E-21	3.93E-21	4.45E-21
2.522	1.37E-21	1.58E-21	1.82E-21	2.08E-21	2.37E-21	2.68E-21	3.03E-21	3.41E-21	3.83E-21	4.29E-21
2.831	1.41E-21	1.61E-21	1.82E-21	2.06E-21	2.32E-21	2.60E-21	2.91E-21	3.25E-21	3.62E-21	4.03E-21
3.178	1.39E-21	1.57E-21	1.76E-21	1.97E-21	2.20E-21	2.45E-21	2.73E-21	3.02E-21	3.34E-21	3.70E-21
3.568	1.32E-21	1.48E-21	1.65E-21	1.84E-21	2.04E-21	2.26E-21	2.50E-21	2.75E-21	3.03E-21	3.33E-21
4.005	1.23E-21	1.37E-21	1.52E-21	1.68E-21	1.86E-21	2.05E-21	2.25E-21	2.47E-21	2.71E-21	2.97E-21
4.496	1.13E-21	1.25E-21	1.38E-21	1.52E-21	1.67E-21	1.83E-21	2.01E-21	2.19E-21	2.39E-21	2.61E-21
5.048	1.02E-21	1.12E-21	1.24E-21	1.36E-21	1.48E-21	1.62E-21	1.77E-21	1.93E-21	2.10E-21	2.28E-21
5.667	9.10E-22	1.00E-21	1.10E-21	1.20E-21	1.31E-21	1.42E-21	1.55E-21	1.68E-21	1.82E-21	1.98E-21
6.361	8.06E-22	8.83E-22	9.64E-22	1.05E-21	1.14E-21	1.24E-21	1.35E-21	1.46E-21	1.58E-21	1.71E-21
7.141	7.09E-22	7.74E-22	8.43E-22	9.17E-22	9.95E-22	1.08E-21	1.17E-21	1.26E-21	1.36E-21	1.47E-21
8.017	6.20E-22	6.76E-22	7.34E-22	7.97E-22	8.62E-22	9.32E-22	1.01E-21	1.08E-21	1.17E-21	1.26E-21
9.000	5.40E-22	5.87E-22	6.37E-22	6.89E-22	7.45E-22	8.03E-22	8.65E-22	9.31E-22	1.00E-21	1.07E-21

Table 88: Cross sections for non-dissociative ionization of HT(c^3)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.66408	3.42462	3.19536	2.97608	2.76653	2.56656	2.37605	2.19491	2.0231	1.86065
1.274	2.34E-20	1.65E-20	9.48E-21	3.07E-21	1.35E-22	7.45E-25	1.54E-27	6.73E-28	6.30E-28	1.58E-27
1.623	5.44E-20	4.85E-20	4.19E-20	3.44E-20	2.61E-20	1.70E-20	7.86E-21	8.69E-22	5.82E-24	1.11E-26
2.069	8.02E-20	7.65E-20	7.21E-20	6.69E-20	6.08E-20	5.36E-20	4.51E-20	3.53E-20	2.41E-20	1.21E-20
2.636	9.70E-20	9.54E-20	9.34E-20	9.08E-20	8.75E-20	8.34E-20	7.83E-20	7.19E-20	6.41E-20	5.45E-20
3.359	1.05E-19	1.05E-19	1.05E-19	1.04E-19	1.03E-19	1.02E-19	1.00E-19	9.72E-20	9.34E-20	8.82E-20
4.281	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.09E-19	1.10E-19	1.10E-19	1.10E-19	1.09E-19	1.08E-19
5.455	9.97E-20	1.02E-19	1.03E-19	1.05E-19	1.07E-19	1.09E-19	1.11E-19	1.13E-19	1.14E-19	1.15E-19
6.951	9.12E-20	9.33E-20	9.56E-20	9.79E-20	1.00E-19	1.03E-19	1.06E-19	1.08E-19	1.11E-19	1.14E-19
8.858	8.10E-20	8.32E-20	8.55E-20	8.79E-20	9.05E-20	9.33E-20	9.63E-20	9.94E-20	1.03E-19	1.06E-19
11.28	7.04E-20	7.24E-20	7.46E-20	7.70E-20	7.95E-20	8.22E-20	8.51E-20	8.83E-20	9.16E-20	9.52E-20
14.38	6.01E-20	6.20E-20	6.40E-20	6.61E-20	6.84E-20	7.09E-20	7.36E-20	7.66E-20	7.98E-20	8.32E-20
18.32	5.07E-20	5.23E-20	5.40E-20	5.59E-20	5.80E-20	6.02E-20	6.26E-20	6.52E-20	6.81E-20	7.12E-20
23.35	4.23E-20	4.37E-20	4.52E-20	4.68E-20	4.85E-20	5.04E-20	5.25E-20	5.48E-20	5.73E-20	6.00E-20
29.76	3.50E-20	3.62E-20	3.74E-20	3.88E-20	4.02E-20	4.18E-20	4.36E-20	4.55E-20	4.77E-20	5.00E-20
37.92	2.88E-20	2.98E-20	3.08E-20	3.19E-20	3.31E-20	3.45E-20	3.59E-20	3.75E-20	3.93E-20	4.13E-20
48.32	2.36E-20	2.44E-20	2.52E-20	2.61E-20	2.71E-20	2.82E-20	2.94E-20	3.08E-20	3.22E-20	3.38E-20
61.58	1.92E-20	1.99E-20	2.05E-20	2.13E-20	2.21E-20	2.30E-20	2.40E-20	2.51E-20	2.63E-20	2.76E-20
78.47	1.56E-20	1.61E-20	1.67E-20	1.73E-20	1.80E-20	1.87E-20	1.95E-20	2.03E-20	2.13E-20	2.24E-20
100.0	1.27E-20	1.31E-20	1.35E-20	1.40E-20	1.45E-20	1.51E-20	1.58E-20	1.65E-20	1.73E-20	1.81E-20

Table 89: Cross sections for dissociative ionization of HT(c^3) via the continuum of the ionic ground state $HT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.33911	6.09966	5.8704	5.65111	5.44156	5.24159	5.05108	4.86994	4.69814	4.53569
1.196	3.83E-29	3.41E-29	1.03E-29	1.59E-29	2.11E-29	1.07E-28	4.14E-28	2.33E-27	1.02E-26	2.35E-26
1.430	1.03E-28	1.32E-28	3.72E-29	6.15E-29	7.92E-29	3.16E-28	1.05E-27	5.47E-27	2.35E-26	5.66E-26
1.710	1.67E-28	2.32E-28	7.22E-29	1.16E-28	1.39E-28	5.14E-28	1.60E-27	8.00E-27	3.40E-26	8.25E-26
2.046	2.18E-28	3.11E-28	1.03E-28	1.61E-28	1.88E-28	6.67E-28	1.99E-27	9.72E-27	4.10E-26	9.96E-26
2.447	2.52E-28	3.63E-28	1.24E-28	1.92E-28	2.21E-28	7.66E-28	2.22E-27	1.07E-26	4.48E-26	1.09E-25
2.927	2.70E-28	3.90E-28	1.37E-28	2.09E-28	2.39E-28	8.14E-28	2.32E-27	1.10E-26	4.60E-26	1.12E-25
3.501	2.75E-28	3.97E-28	1.41E-28	2.14E-28	2.43E-28	8.21E-28	2.31E-27	1.09E-26	4.53E-26	1.10E-25
4.187	2.69E-28	3.89E-28	1.40E-28	2.11E-28	2.38E-28	7.98E-28	2.22E-27	1.04E-26	4.32E-26	1.05E-25
5.008	2.56E-28	3.70E-28	1.34E-28	2.01E-28	2.26E-28	7.54E-28	2.09E-27	9.75E-27	4.03E-26	9.73E-26
5.990	2.38E-28	3.44E-28	1.25E-28	1.87E-28	2.10E-28	6.98E-28	1.92E-27	8.94E-27	3.69E-26	8.89E-26
7.164	2.18E-28	3.15E-28	1.15E-28	1.71E-28	1.92E-28	6.35E-28	1.74E-27	8.08E-27	3.33E-26	8.02E-26
8.568	1.96E-28	2.84E-28	1.04E-28	1.54E-28	1.73E-28	5.70E-28	1.56E-27	7.21E-27	2.97E-26	7.14E-26
10.24	1.75E-28	2.53E-28	9.25E-29	1.38E-28	1.54E-28	5.07E-28	1.38E-27	6.38E-27	2.62E-26	6.30E-26
12.25	1.55E-28	2.24E-28	8.19E-29	1.22E-28	1.36E-28	4.47E-28	1.21E-27	5.60E-27	2.30E-26	5.52E-26
14.66	1.36E-28	1.97E-28	7.19E-29	1.07E-28	1.19E-28	3.91E-28	1.06E-27	4.89E-27	2.00E-26	4.81E-26
17.53	1.19E-28	1.71E-28	6.27E-29	9.31E-29	1.04E-28	3.40E-28	9.22E-28	4.24E-27	1.74E-26	4.17E-26
20.97	1.03E-28	1.49E-28	5.45E-29	8.08E-29	9.00E-29	2.95E-28	7.97E-28	3.67E-27	1.50E-26	3.60E-26
25.08	8.92E-29	1.29E-28	4.71E-29	6.98E-29	7.77E-29	2.54E-28	6.87E-28	3.16E-27	1.29E-26	3.10E-26
30.00	7.69E-29	1.11E-28	4.06E-29	6.01E-29	6.69E-29	2.19E-28	5.91E-28	2.71E-27	1.11E-26	2.66E-26

Table 90: Cross sections for dissociative ionization of HT(c^3) via the repulsive ionic state $HT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2391	15.9997	15.7704	15.5511	15.3416	15.1416	14.9511	14.7699	14.5981	14.4357
1.122	2.77E-33	1.06E-30	6.14E-29	1.71E-27	3.08E-26	3.58E-25	2.97E-24	1.75E-23	7.28E-23	2.14E-22
1.260	2.78E-26	8.22E-25	9.36E-24	5.48E-23	1.87E-22	4.07E-22	6.56E-22	9.54E-22	1.31E-21	1.72E-21
1.414	1.44E-23	1.16E-22	3.49E-22	6.05E-22	8.90E-22	1.22E-21	1.59E-21	2.01E-21	2.48E-21	3.00E-21
1.588	2.45E-22	5.85E-22	8.66E-22	1.19E-21	1.53E-21	1.91E-21	2.33E-21	2.79E-21	3.30E-21	3.87E-21
1.782	7.56E-22	1.01E-21	1.32E-21	1.65E-21	2.01E-21	2.39E-21	2.82E-21	3.29E-21	3.81E-21	4.37E-21
2.001	1.17E-21	1.41E-21	1.68E-21	1.98E-21	2.32E-21	2.69E-21	3.11E-21	3.56E-21	4.04E-21	4.58E-21
2.246	1.41E-21	1.65E-21	1.91E-21	2.19E-21	2.50E-21	2.85E-21	3.22E-21	3.63E-21	4.07E-21	4.56E-21
2.522	1.53E-21	1.75E-21	1.99E-21	2.26E-21	2.55E-21	2.86E-21	3.20E-21	3.57E-21	3.97E-21	4.40E-21
2.831	1.55E-21	1.76E-21	1.98E-21	2.22E-21	2.48E-21	2.76E-21	3.06E-21	3.39E-21	3.74E-21	4.12E-21
3.178	1.52E-21	1.70E-21	1.90E-21	2.11E-21	2.34E-21	2.59E-21	2.85E-21	3.14E-21	3.45E-21	3.78E-21
3.568	1.44E-21	1.60E-21	1.77E-21	1.96E-21	2.16E-21	2.38E-21	2.61E-21	2.86E-21	3.12E-21	3.41E-21
4.005	1.33E-21	1.47E-21	1.63E-21	1.79E-21	1.96E-21	2.15E-21	2.35E-21	2.56E-21	2.79E-21	3.03E-21
4.496	1.22E-21	1.34E-21	1.47E-21	1.61E-21	1.76E-21	1.92E-21	2.09E-21	2.27E-21	2.46E-21	2.67E-21
5.048	1.09E-21	1.20E-21	1.31E-21	1.43E-21	1.56E-21	1.70E-21	1.84E-21	2.00E-21	2.16E-21	2.33E-21
5.667	9.75E-22	1.07E-21	1.16E-21	1.27E-21	1.38E-21	1.49E-21	1.61E-21	1.74E-21	1.88E-21	2.02E-21
6.361	8.62E-22	9.40E-22	1.02E-21	1.11E-21	1.20E-21	1.30E-21	1.40E-21	1.51E-21	1.62E-21	1.75E-21
7.141	7.57E-22	8.24E-22	8.94E-22	9.68E-22	1.05E-21	1.13E-21	1.21E-21	1.30E-21	1.40E-21	1.50E-21
8.017	6.62E-22	7.18E-22	7.77E-22	8.40E-22	9.05E-22	9.74E-22	1.05E-21	1.12E-21	1.20E-21	1.29E-21
9.000	5.76E-22	6.23E-22	6.74E-22	7.26E-22	7.81E-22	8.39E-22	9.00E-22	9.63E-22	1.03E-21	1.10E-21

Table 91: Cross sections for non-dissociative ionization of DT(X^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.47408	15.13399	14.80617	14.49038	14.18645	13.89434	13.61404	13.34556	13.08896	12.84431
1.128	4.49E-22	4.65E-22	4.91E-22	5.01E-22	4.94E-22	4.83E-22	4.60E-22	4.33E-22	3.99E-22	3.59E-22
1.274	1.78E-21	1.75E-21	1.71E-21	1.67E-21	1.66E-21	1.67E-21	1.67E-21	1.64E-21	1.62E-21	1.60E-21
1.438	3.37E-21	3.34E-21	3.23E-21	3.09E-21	3.04E-21	3.13E-21	3.17E-21	3.14E-21	3.14E-21	3.19E-21
1.623	4.97E-21	4.95E-21	4.77E-21	4.52E-21	4.43E-21	4.59E-21	4.69E-21	4.65E-21	4.68E-21	4.81E-21
1.833	6.44E-21	6.43E-21	6.20E-21	5.83E-21	5.71E-21	5.93E-21	6.10E-21	6.04E-21	6.11E-21	6.32E-21
2.069	7.72E-21	7.73E-21	7.44E-21	6.98E-21	6.81E-21	7.10E-21	7.32E-21	7.26E-21	7.35E-21	7.64E-21
2.335	8.76E-21	8.79E-21	8.46E-21	7.91E-21	7.71E-21	8.05E-21	8.33E-21	8.25E-21	8.37E-21	8.72E-21
2.636	9.57E-21	9.60E-21	9.24E-21	8.62E-21	8.40E-21	8.79E-21	9.10E-21	9.02E-21	9.15E-21	9.56E-21
2.976	1.01E-20	1.02E-20	9.79E-21	9.12E-21	8.88E-21	9.30E-21	9.64E-21	9.56E-21	9.70E-21	1.02E-20
3.359	1.05E-20	1.05E-20	1.01E-20	9.42E-21	9.17E-21	9.61E-21	9.96E-21	9.88E-21	1.00E-20	1.05E-20
3.792	1.06E-20	1.07E-20	1.03E-20	9.54E-21	9.28E-21	9.73E-21	1.01E-20	1.00E-20	1.02E-20	1.07E-20
4.281	1.06E-20	1.06E-20	1.02E-20	9.51E-21	9.24E-21	9.70E-21	1.01E-20	9.99E-21	1.02E-20	1.07E-20
4.832	1.04E-20	1.05E-20	1.01E-20	9.35E-21	9.09E-21	9.54E-21	9.91E-21	9.83E-21	1.00E-20	1.05E-20
5.455	1.01E-20	1.02E-20	9.78E-21	9.09E-21	8.83E-21	9.27E-21	9.63E-21	9.56E-21	9.72E-21	1.02E-20
6.158	9.72E-21	9.79E-21	9.41E-21	8.74E-21	8.49E-21	8.92E-21	9.27E-21	9.20E-21	9.36E-21	9.83E-21
6.951	9.27E-21	9.34E-21	8.98E-21	8.34E-21	8.10E-21	8.50E-21	8.84E-21	8.77E-21	8.93E-21	9.39E-21
7.847	8.78E-21	8.84E-21	8.50E-21	7.89E-21	7.66E-21	8.05E-21	8.37E-21	8.31E-21	8.46E-21	8.89E-21
8.858	8.26E-21	8.32E-21	8.00E-21	7.42E-21	7.21E-21	7.57E-21	7.88E-21	7.82E-21	7.96E-21	8.37E-21
10.00	7.72E-21	7.78E-21	7.48E-21	6.94E-21	6.74E-21	7.08E-21	7.37E-21	7.31E-21	7.44E-21	7.83E-21

Table 92: Cross sections for dissociative ionization of DT(X^1) via the continuum of the ionic ground state $DT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	18.1733	17.8332	17.5054	17.1896	16.8857	16.5936	16.3133	16.0448	15.7882	15.5436
1.128	2.53E-24	2.06E-23	7.20E-23	1.37E-22	1.50E-22	9.75E-23	6.44E-23	8.56E-23	8.89E-23	6.22E-23
1.274	7.04E-24	5.83E-23	2.10E-22	4.20E-22	5.14E-22	4.29E-22	3.64E-22	4.19E-22	4.23E-22	3.41E-22
1.438	1.19E-23	9.90E-23	3.59E-22	7.30E-22	9.22E-22	8.19E-22	7.37E-22	8.50E-22	8.79E-22	7.61E-22
1.623	1.65E-23	1.38E-22	5.01E-22	1.03E-21	1.32E-21	1.20E-21	1.11E-21	1.28E-21	1.34E-21	1.19E-21
1.833	2.05E-23	1.72E-22	6.26E-22	1.29E-21	1.67E-21	1.54E-21	1.44E-21	1.67E-21	1.75E-21	1.59E-21
2.069	2.39E-23	2.00E-22	7.31E-22	1.51E-21	1.96E-21	1.83E-21	1.73E-21	2.00E-21	2.10E-21	1.92E-21
2.335	2.65E-23	2.22E-22	8.13E-22	1.68E-21	2.19E-21	2.06E-21	1.95E-21	2.26E-21	2.39E-21	2.19E-21
2.636	2.85E-23	2.38E-22	8.72E-22	1.81E-21	2.36E-21	2.22E-21	2.12E-21	2.45E-21	2.59E-21	2.39E-21
2.976	2.97E-23	2.49E-22	9.10E-22	1.89E-21	2.47E-21	2.33E-21	2.23E-21	2.58E-21	2.73E-21	2.53E-21
3.359	3.03E-23	2.54E-22	9.28E-22	1.93E-21	2.52E-21	2.39E-21	2.29E-21	2.65E-21	2.81E-21	2.60E-21
3.792	3.03E-23	2.54E-22	9.30E-22	1.93E-21	2.53E-21	2.40E-21	2.30E-21	2.67E-21	2.83E-21	2.63E-21
4.281	2.99E-23	2.51E-22	9.19E-22	1.91E-21	2.50E-21	2.38E-21	2.28E-21	2.64E-21	2.81E-21	2.61E-21
4.832	2.92E-23	2.45E-22	8.96E-22	1.86E-21	2.44E-21	2.33E-21	2.23E-21	2.59E-21	2.75E-21	2.56E-21
5.455	2.81E-23	2.36E-22	8.64E-22	1.79E-21	2.36E-21	2.25E-21	2.16E-21	2.50E-21	2.66E-21	2.47E-21
6.158	2.69E-23	2.25E-22	8.25E-22	1.72E-21	2.25E-21	2.15E-21	2.07E-21	2.39E-21	2.55E-21	2.37E-21
6.951	2.55E-23	2.14E-22	7.83E-22	1.63E-21	2.14E-21	2.04E-21	1.96E-21	2.27E-21	2.42E-21	2.25E-21
7.847	2.40E-23	2.01E-22	7.37E-22	1.53E-21	2.01E-21	1.92E-21	1.85E-21	2.14E-21	2.28E-21	2.13E-21
8.858	2.25E-23	1.88E-22	6.90E-22	1.43E-21	1.88E-21	1.80E-21	1.73E-21	2.01E-21	2.14E-21	1.99E-21
10.00	2.09E-23	1.75E-22	6.42E-22	1.34E-21	1.75E-21	1.68E-21	1.62E-21	1.87E-21	1.99E-21	1.86E-21

Table 93: Cross sections for dissociative ionization of DT(X^1) via the repulsive ionic state $DT^+(^2\Sigma_u^+)$.

Z	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	28.0733	27.7332	27.4054	27.0896	26.7857	26.4936	26.2133	25.9448	25.6882	25.4436
1.088	7.17E-50	6.34E-47	7.08E-45	2.96E-42	3.58E-40	5.00E-38	3.03E-36	2.44E-34	5.73E-33	1.52E-31
1.184	4.08E-36	6.71E-34	3.06E-32	1.41E-30	3.19E-29	5.20E-28	5.82E-27	4.99E-26	3.30E-25	1.71E-24
1.289	2.46E-29	9.93E-28	1.74E-26	1.84E-25	1.26E-24	6.00E-24	2.01E-23	4.81E-23	8.49E-23	1.23E-22
1.403	1.15E-25	1.70E-24	1.05E-23	3.54E-23	7.43E-23	1.13E-22	1.55E-22	2.04E-22	2.55E-22	3.13E-22
1.527	1.23E-23	5.62E-23	1.08E-22	1.53E-22	2.05E-22	2.56E-22	3.14E-22	3.73E-22	4.39E-22	5.09E-22
1.662	1.08E-22	1.71E-22	2.29E-22	2.84E-22	3.45E-22	4.06E-22	4.71E-22	5.41E-22	6.14E-22	6.94E-22
1.809	2.60E-22	3.05E-22	3.57E-22	4.16E-22	4.81E-22	5.47E-22	6.17E-22	6.93E-22	7.72E-22	8.57E-22
1.969	3.92E-22	4.42E-22	4.94E-22	5.50E-22	6.10E-22	6.75E-22	7.47E-22	8.25E-22	9.07E-22	9.95E-22
2.143	4.99E-22	5.51E-22	6.06E-22	6.64E-22	7.26E-22	7.92E-22	8.63E-22	9.38E-22	1.02E-21	1.11E-21
2.332	5.82E-22	6.35E-22	6.91E-22	7.50E-22	8.13E-22	8.80E-22	9.51E-22	1.03E-21	1.11E-21	1.19E-21
2.539	6.43E-22	6.97E-22	7.52E-22	8.11E-22	8.74E-22	9.40E-22	1.01E-21	1.08E-21	1.16E-21	1.25E-21
2.763	6.84E-22	7.37E-22	7.92E-22	8.50E-22	9.11E-22	9.76E-22	1.04E-21	1.12E-21	1.19E-21	1.27E-21
3.007	7.08E-22	7.59E-22	8.12E-22	8.69E-22	9.28E-22	9.90E-22	1.06E-21	1.13E-21	1.20E-21	1.28E-21
3.273	7.16E-22	7.66E-22	8.17E-22	8.71E-22	9.28E-22	9.88E-22	1.05E-21	1.12E-21	1.19E-21	1.26E-21
3.563	7.13E-22	7.60E-22	8.09E-22	8.60E-22	9.14E-22	9.71E-22	1.03E-21	1.09E-21	1.16E-21	1.23E-21
3.878	6.99E-22	7.43E-22	7.90E-22	8.38E-22	8.89E-22	9.43E-22	9.99E-22	1.06E-21	1.12E-21	1.19E-21
4.220	6.77E-22	7.19E-22	7.63E-22	8.08E-22	8.56E-22	9.06E-22	9.58E-22	1.01E-21	1.07E-21	1.13E-21
4.593	6.50E-22	6.89E-22	7.30E-22	7.72E-22	8.17E-22	8.63E-22	9.12E-22	9.63E-22	1.02E-21	1.07E-21
5.000	6.19E-22	6.55E-22	6.93E-22	7.32E-22	7.73E-22	8.16E-22	8.62E-22	9.09E-22	9.58E-22	1.01E-21

Table 94: Cross sections for non-dissociative ionization of DT(EF^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.13607	3.08835	2.9911	2.94409	2.89666	2.80509	2.76192	2.71653	2.6314	2.59295
1.274	3.12E-20	5.27E-27	3.69E-26	2.28E-20	2.02E-25	9.98E-25	1.42E-20	3.74E-24	3.82E-23	6.08E-21
1.623	7.33E-20	1.98E-21	1.89E-21	6.62E-20	1.94E-21	2.07E-21	5.80E-20	2.31E-21	2.97E-21	4.81E-20
2.069	1.08E-19	2.17E-20	2.03E-20	1.04E-19	1.89E-20	1.76E-20	9.87E-20	1.64E-20	1.60E-20	9.11E-20
2.636	1.31E-19	4.08E-20	4.02E-20	1.30E-19	3.95E-20	3.90E-20	1.27E-19	3.86E-20	3.90E-20	1.23E-19
3.359	1.42E-19	5.36E-20	5.38E-20	1.43E-19	5.40E-20	5.42E-20	1.42E-19	5.48E-20	5.61E-20	1.40E-19
4.281	1.43E-19	5.99E-20	6.07E-20	1.44E-19	6.14E-20	6.23E-20	1.46E-19	6.35E-20	6.55E-20	1.46E-19
5.455	1.36E-19	6.09E-20	6.20E-20	1.38E-19	6.31E-20	6.44E-20	1.41E-19	6.60E-20	6.82E-20	1.42E-19
6.951	1.24E-19	5.82E-20	5.95E-20	1.27E-19	6.08E-20	6.22E-20	1.30E-19	6.39E-20	6.62E-20	1.32E-19
8.858	1.10E-19	5.33E-20	5.46E-20	1.13E-19	5.58E-20	5.73E-20	1.16E-19	5.90E-20	6.12E-20	1.18E-19
11.28	9.60E-20	4.73E-20	4.85E-20	9.87E-20	4.97E-20	5.10E-20	1.02E-19	5.26E-20	5.47E-20	1.04E-19
14.38	8.20E-20	4.09E-20	4.20E-20	8.45E-20	4.31E-20	4.43E-20	8.71E-20	4.57E-20	4.76E-20	8.89E-20
18.32	6.92E-20	3.48E-20	3.58E-20	7.13E-20	3.67E-20	3.78E-20	7.36E-20	3.90E-20	4.06E-20	7.52E-20
23.35	5.77E-20	2.93E-20	3.01E-20	5.96E-20	3.09E-20	3.18E-20	6.15E-20	3.28E-20	3.42E-20	6.29E-20
29.76	4.78E-20	2.43E-20	2.50E-20	4.94E-20	2.57E-20	2.64E-20	5.09E-20	2.73E-20	2.84E-20	5.21E-20
37.92	3.93E-20	2.00E-20	2.06E-20	4.06E-20	2.12E-20	2.18E-20	4.19E-20	2.25E-20	2.35E-20	4.29E-20
48.32	3.22E-20	1.64E-20	1.69E-20	3.33E-20	1.73E-20	1.79E-20	3.43E-20	1.85E-20	1.92E-20	3.52E-20
61.58	2.63E-20	1.34E-20	1.38E-20	2.71E-20	1.41E-20	1.46E-20	2.80E-20	1.50E-20	1.57E-20	2.87E-20
78.47	2.14E-20	1.09E-20	1.12E-20	2.20E-20	1.15E-20	1.18E-20	2.28E-20	1.22E-20	1.27E-20	2.33E-20
100.0	1.73E-20	8.79E-21	9.04E-21	1.79E-20	9.29E-21	9.57E-21	1.84E-20	9.89E-21	1.03E-20	1.89E-20

Table 95: Cross sections for dissociative ionization of DT(EF^1) via the continuum of the ionic ground state $DT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.83531	5.78759	5.69034	5.64333	5.5959	5.50433	5.46116	5.41577	5.33065	5.2922
1.196	3.08E-30	9.93E-29	5.81E-28	2.46E-27	5.59E-27	2.17E-25	1.93E-28	7.34E-25	1.38E-23	3.47E-25
1.430	8.89E-30	2.95E-28	1.30E-27	6.87E-27	1.25E-26	4.72E-25	5.76E-28	1.64E-24	2.99E-23	7.51E-25
1.710	1.48E-29	4.82E-28	1.89E-27	1.09E-26	1.81E-26	6.78E-25	9.26E-28	2.37E-24	4.28E-23	1.07E-24
2.046	1.96E-29	6.25E-28	2.30E-27	1.40E-26	2.21E-26	8.20E-25	1.18E-27	2.87E-24	5.16E-23	1.29E-24
2.447	2.28E-29	7.17E-28	2.55E-27	1.59E-26	2.43E-26	9.02E-25	1.35E-27	3.16E-24	5.66E-23	1.42E-24
2.927	2.45E-29	7.64E-28	2.64E-27	1.68E-26	2.52E-26	9.33E-25	1.42E-27	3.27E-24	5.85E-23	1.46E-24
3.501	2.49E-29	7.72E-28	2.63E-27	1.69E-26	2.50E-26	9.24E-25	1.43E-27	3.24E-24	5.78E-23	1.44E-24
4.187	2.44E-29	7.52E-28	2.53E-27	1.64E-26	2.41E-26	8.87E-25	1.38E-27	3.11E-24	5.54E-23	1.38E-24
5.008	2.32E-29	7.12E-28	2.37E-27	1.55E-26	2.26E-26	8.31E-25	1.31E-27	2.91E-24	5.18E-23	1.29E-24
5.990	2.16E-29	6.60E-28	2.19E-27	1.44E-26	2.08E-26	7.65E-25	1.21E-27	2.68E-24	4.76E-23	1.19E-24
7.164	1.97E-29	6.02E-28	1.99E-27	1.31E-26	1.89E-26	6.93E-25	1.10E-27	2.43E-24	4.31E-23	1.08E-24
8.568	1.78E-29	5.42E-28	1.78E-27	1.18E-26	1.69E-26	6.20E-25	9.86E-28	2.17E-24	3.86E-23	9.63E-25
10.24	1.58E-29	4.83E-28	1.58E-27	1.05E-26	1.50E-26	5.50E-25	8.76E-28	1.93E-24	3.42E-23	8.53E-25
12.25	1.40E-29	4.26E-28	1.39E-27	9.23E-27	1.32E-26	4.84E-25	7.72E-28	1.69E-24	3.01E-23	7.50E-25
14.66	1.23E-29	3.73E-28	1.22E-27	8.08E-27	1.15E-26	4.23E-25	6.76E-28	1.48E-24	2.63E-23	6.55E-25
17.53	1.07E-29	3.25E-28	1.06E-27	7.04E-27	1.00E-26	3.68E-25	5.88E-28	1.29E-24	2.28E-23	5.69E-25
20.97	9.27E-30	2.82E-28	9.18E-28	6.10E-27	8.70E-27	3.19E-25	5.10E-28	1.11E-24	1.98E-23	4.93E-25
25.08	8.01E-30	2.44E-28	7.92E-28	5.27E-27	7.51E-27	2.75E-25	4.40E-28	9.61E-25	1.70E-23	4.25E-25
30.00	6.90E-30	2.10E-28	6.82E-28	4.53E-27	6.46E-27	2.37E-25	3.78E-28	8.27E-25	1.46E-23	3.65E-25

Table 96: Cross sections for dissociative ionization of DT(EF^1) via the repulsive ionic state $DT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7353	15.6876	15.5903	15.5433	15.4959	15.4043	15.3612	15.3158	15.2306	15.1922
1.122	1.35E-36	1.38E-21	1.39E-21	1.15E-25	1.42E-21	1.46E-21	6.64E-26	1.52E-21	1.58E-21	2.22E-23
1.260	1.15E-27	3.76E-21	3.84E-21	5.01E-25	3.93E-21	4.01E-21	1.58E-24	4.09E-21	4.12E-21	7.72E-23
1.414	3.15E-24	5.23E-21	5.35E-21	4.04E-23	5.48E-21	5.60E-21	1.91E-22	5.71E-21	5.78E-21	5.76E-22
1.588	1.39E-22	6.09E-21	6.23E-21	4.48E-22	6.37E-21	6.51E-21	7.27E-22	6.64E-21	6.73E-21	1.21E-21
1.782	6.36E-22	6.49E-21	6.64E-21	8.93E-22	6.78E-21	6.92E-21	1.21E-21	7.05E-21	7.14E-21	1.71E-21
2.001	1.10E-21	6.55E-21	6.69E-21	1.33E-21	6.83E-21	6.96E-21	1.60E-21	7.09E-21	7.17E-21	2.06E-21
2.246	1.38E-21	6.36E-21	6.49E-21	1.60E-21	6.61E-21	6.74E-21	1.86E-21	6.85E-21	6.93E-21	2.29E-21
2.522	1.52E-21	6.01E-21	6.12E-21	1.73E-21	6.23E-21	6.34E-21	1.97E-21	6.45E-21	6.52E-21	2.36E-21
2.831	1.56E-21	5.55E-21	5.65E-21	1.75E-21	5.75E-21	5.85E-21	1.97E-21	5.94E-21	6.00E-21	2.32E-21
3.178	1.52E-21	5.05E-21	5.13E-21	1.69E-21	5.22E-21	5.30E-21	1.89E-21	5.38E-21	5.43E-21	2.20E-21
3.568	1.45E-21	4.53E-21	4.60E-21	1.60E-21	4.67E-21	4.74E-21	1.77E-21	4.81E-21	4.85E-21	2.04E-21
4.005	1.34E-21	4.02E-21	4.08E-21	1.47E-21	4.14E-21	4.20E-21	1.62E-21	4.25E-21	4.29E-21	1.86E-21
4.496	1.22E-21	3.54E-21	3.59E-21	1.34E-21	3.64E-21	3.69E-21	1.47E-21	3.73E-21	3.76E-21	1.67E-21
5.048	1.10E-21	3.09E-21	3.13E-21	1.20E-21	3.17E-21	3.21E-21	1.31E-21	3.25E-21	3.27E-21	1.48E-21
5.667	9.80E-22	2.68E-21	2.72E-21	1.06E-21	2.75E-21	2.79E-21	1.16E-21	2.82E-21	2.83E-21	1.31E-21
6.361	8.65E-22	2.32E-21	2.35E-21	9.37E-22	2.38E-21	2.40E-21	1.02E-21	2.43E-21	2.44E-21	1.14E-21
7.141	7.59E-22	2.00E-21	2.02E-21	8.20E-22	2.04E-21	2.07E-21	8.88E-22	2.09E-21	2.10E-21	9.94E-22
8.017	6.62E-22	1.71E-21	1.73E-21	7.14E-22	1.75E-21	1.77E-21	7.72E-22	1.79E-21	1.80E-21	8.62E-22
9.000	5.76E-22	1.47E-21	1.48E-21	6.19E-22	1.50E-21	1.51E-21	6.68E-22	1.53E-21	1.53E-21	7.44E-22

Table 97: Cross sections for non-dissociative ionization of DT(B^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	4.23057	4.12351	4.01849	3.91541	3.81417	3.71473	3.61705	3.5211	3.42686	3.33432
1.274	1.31E-20	1.03E-20	7.91E-21	6.00E-21	4.72E-21	3.72E-21	2.91E-21	2.20E-21	1.63E-21	1.14E-21
1.623	3.49E-20	3.16E-20	2.85E-20	2.56E-20	2.29E-20	2.02E-20	1.76E-20	1.51E-20	1.27E-20	1.04E-20
2.069	5.35E-20	5.06E-20	4.78E-20	4.52E-20	4.27E-20	4.03E-20	3.79E-20	3.56E-20	3.32E-20	3.09E-20
2.636	6.60E-20	6.35E-20	6.13E-20	5.92E-20	5.72E-20	5.53E-20	5.35E-20	5.17E-20	5.00E-20	4.83E-20
3.359	7.21E-20	7.01E-20	6.83E-20	6.67E-20	6.53E-20	6.39E-20	6.27E-20	6.15E-20	6.03E-20	5.92E-20
4.281	7.27E-20	7.11E-20	6.98E-20	6.86E-20	6.76E-20	6.67E-20	6.59E-20	6.52E-20	6.45E-20	6.39E-20
5.455	6.94E-20	6.82E-20	6.72E-20	6.64E-20	6.57E-20	6.51E-20	6.47E-20	6.42E-20	6.39E-20	6.36E-20
6.951	6.37E-20	6.28E-20	6.20E-20	6.15E-20	6.10E-20	6.06E-20	6.04E-20	6.02E-20	6.01E-20	6.00E-20
8.858	5.67E-20	5.60E-20	5.55E-20	5.50E-20	5.47E-20	5.45E-20	5.44E-20	5.44E-20	5.44E-20	5.45E-20
11.28	4.94E-20	4.88E-20	4.84E-20	4.81E-20	4.79E-20	4.78E-20	4.78E-20	4.78E-20	4.79E-20	4.80E-20
14.38	4.22E-20	4.18E-20	4.15E-20	4.13E-20	4.11E-20	4.11E-20	4.11E-20	4.12E-20	4.13E-20	4.15E-20
18.32	3.56E-20	3.53E-20	3.50E-20	3.49E-20	3.48E-20	3.48E-20	3.48E-20	3.49E-20	3.50E-20	3.52E-20
23.35	2.98E-20	2.95E-20	2.93E-20	2.92E-20	2.91E-20	2.91E-20	2.91E-20	2.92E-20	2.93E-20	2.95E-20
29.76	2.46E-20	2.44E-20	2.43E-20	2.42E-20	2.41E-20	2.41E-20	2.42E-20	2.42E-20	2.43E-20	2.45E-20
37.92	2.03E-20	2.01E-20	2.00E-20	1.99E-20	1.98E-20	1.99E-20	1.99E-20	2.00E-20	2.00E-20	2.02E-20
48.32	1.66E-20	1.64E-20	1.63E-20	1.63E-20	1.62E-20	1.63E-20	1.63E-20	1.63E-20	1.64E-20	1.65E-20
61.58	1.35E-20	1.34E-20	1.33E-20	1.33E-20	1.32E-20	1.33E-20	1.33E-20	1.33E-20	1.34E-20	1.35E-20
78.47	1.10E-20	1.09E-20	1.08E-20	1.08E-20	1.08E-20	1.08E-20	1.08E-20	1.08E-20	1.09E-20	1.09E-20
100.0	8.92E-21	8.84E-21	8.78E-21	8.74E-21	8.72E-21	8.72E-21	8.74E-21	8.76E-21	8.80E-21	8.85E-21

Table 98: Cross sections for dissociative ionization of DT(B^1) via the continuum of the ionic ground state $DT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.92982	6.82275	6.71773	6.61465	6.51342	6.41398	6.31629	6.22034	6.12611	6.03356
1.196	2.16E-29	9.83E-30	9.21E-30	1.93E-29	3.39E-29	1.80E-29	2.69E-29	5.38E-29	6.51E-29	3.69E-29
1.430	6.89E-29	3.48E-29	2.84E-29	5.61E-29	1.11E-28	6.06E-29	8.87E-29	1.71E-28	1.84E-28	1.09E-28
1.710	1.17E-28	6.10E-29	4.78E-29	9.15E-29	1.89E-28	1.04E-28	1.51E-28	2.89E-28	3.00E-28	1.82E-28
2.046	1.55E-28	8.24E-29	6.31E-29	1.19E-28	2.52E-28	1.40E-28	2.01E-28	3.81E-28	3.90E-28	2.38E-28
2.447	1.81E-28	9.72E-29	7.33E-29	1.37E-28	2.95E-28	1.63E-28	2.34E-28	4.43E-28	4.48E-28	2.76E-28
2.927	1.96E-28	1.06E-28	7.87E-29	1.46E-28	3.18E-28	1.76E-28	2.52E-28	4.76E-28	4.78E-28	2.95E-28
3.501	2.00E-28	1.08E-28	8.01E-29	1.48E-28	3.25E-28	1.80E-28	2.57E-28	4.85E-28	4.85E-28	2.99E-28
4.187	1.96E-28	1.07E-28	7.85E-29	1.44E-28	3.19E-28	1.77E-28	2.51E-28	4.75E-28	4.73E-28	2.93E-28
5.008	1.87E-28	1.02E-28	7.48E-29	1.37E-28	3.04E-28	1.68E-28	2.39E-28	4.52E-28	4.49E-28	2.78E-28
5.990	1.75E-28	9.53E-29	6.97E-29	1.28E-28	2.84E-28	1.57E-28	2.23E-28	4.20E-28	4.17E-28	2.58E-28
7.164	1.60E-28	8.75E-29	6.38E-29	1.17E-28	2.60E-28	1.44E-28	2.04E-28	3.84E-28	3.81E-28	2.36E-28
8.568	1.45E-28	7.91E-29	5.76E-29	1.05E-28	2.35E-28	1.30E-28	1.84E-28	3.47E-28	3.43E-28	2.13E-28
10.24	1.29E-28	7.08E-29	5.14E-29	9.40E-29	2.10E-28	1.16E-28	1.64E-28	3.09E-28	3.06E-28	1.90E-28
12.25	1.15E-28	6.27E-29	4.55E-29	8.31E-29	1.86E-28	1.03E-28	1.45E-28	2.73E-28	2.70E-28	1.67E-28
14.66	1.01E-28	5.51E-29	4.00E-29	7.30E-29	1.63E-28	9.01E-29	1.28E-28	2.40E-28	2.37E-28	1.47E-28
17.53	8.80E-29	4.82E-29	3.49E-29	6.37E-29	1.42E-28	7.87E-29	1.11E-28	2.09E-28	2.07E-28	1.28E-28
20.97	7.65E-29	4.19E-29	3.03E-29	5.53E-29	1.24E-28	6.83E-29	9.67E-29	1.82E-28	1.79E-28	1.11E-28
25.08	6.62E-29	3.62E-29	2.62E-29	4.79E-29	1.07E-28	5.91E-29	8.36E-29	1.57E-28	1.55E-28	9.61E-29
30.00	5.71E-29	3.13E-29	2.26E-29	4.13E-29	9.23E-29	5.09E-29	7.20E-29	1.35E-28	1.34E-28	8.28E-29

Table 99: Cross sections for dissociative ionization of DT(B^1) via the repulsive ionic state $DT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.8298	16.7228	16.6177	16.5147	16.4134	16.314	16.2163	16.1203	16.0261	15.9336
1.122	1.28E-27	5.65E-26	8.66E-25	6.94E-24	3.28E-23	9.70E-23	1.91E-22	2.83E-22	3.75E-22	4.77E-22
1.260	2.50E-23	1.64E-22	3.82E-22	5.61E-22	7.51E-22	9.26E-22	1.11E-21	1.28E-21	1.45E-21	1.63E-21
1.414	4.68E-22	7.83E-22	1.05E-21	1.28E-21	1.51E-21	1.73E-21	1.95E-21	2.16E-21	2.37E-21	2.57E-21
1.588	1.19E-21	1.43E-21	1.66E-21	1.90E-21	2.14E-21	2.37E-21	2.60E-21	2.82E-21	3.03E-21	3.25E-21
1.782	1.71E-21	1.94E-21	2.17E-21	2.39E-21	2.61E-21	2.82E-21	3.04E-21	3.25E-21	3.46E-21	3.68E-21
2.001	2.02E-21	2.25E-21	2.47E-21	2.68E-21	2.89E-21	3.10E-21	3.30E-21	3.50E-21	3.70E-21	3.90E-21
2.246	2.17E-21	2.39E-21	2.59E-21	2.79E-21	2.99E-21	3.18E-21	3.37E-21	3.56E-21	3.75E-21	3.93E-21
2.522	2.21E-21	2.40E-21	2.59E-21	2.78E-21	2.96E-21	3.13E-21	3.31E-21	3.48E-21	3.65E-21	3.82E-21
2.831	2.16E-21	2.33E-21	2.50E-21	2.67E-21	2.83E-21	2.99E-21	3.15E-21	3.30E-21	3.45E-21	3.60E-21
3.178	2.05E-21	2.21E-21	2.36E-21	2.50E-21	2.65E-21	2.79E-21	2.93E-21	3.06E-21	3.20E-21	3.33E-21
3.568	1.90E-21	2.04E-21	2.18E-21	2.31E-21	2.43E-21	2.56E-21	2.68E-21	2.80E-21	2.91E-21	3.03E-21
4.005	1.74E-21	1.86E-21	1.98E-21	2.09E-21	2.20E-21	2.31E-21	2.41E-21	2.52E-21	2.62E-21	2.72E-21
4.496	1.57E-21	1.68E-21	1.78E-21	1.88E-21	1.97E-21	2.06E-21	2.15E-21	2.24E-21	2.33E-21	2.42E-21
5.048	1.41E-21	1.50E-21	1.58E-21	1.67E-21	1.75E-21	1.83E-21	1.91E-21	1.98E-21	2.06E-21	2.13E-21
5.667	1.25E-21	1.32E-21	1.40E-21	1.47E-21	1.54E-21	1.61E-21	1.67E-21	1.74E-21	1.80E-21	1.86E-21
6.361	1.10E-21	1.16E-21	1.23E-21	1.29E-21	1.35E-21	1.40E-21	1.46E-21	1.52E-21	1.57E-21	1.62E-21
7.141	9.60E-22	1.02E-21	1.07E-21	1.12E-21	1.17E-21	1.22E-21	1.27E-21	1.32E-21	1.36E-21	1.40E-21
8.017	8.36E-22	8.85E-22	9.31E-22	9.75E-22	1.02E-21	1.06E-21	1.10E-21	1.14E-21	1.18E-21	1.21E-21
9.000	7.26E-22	7.67E-22	8.07E-22	8.44E-22	8.80E-22	9.14E-22	9.48E-22	9.80E-22	1.01E-21	1.04E-21

Table 100: Cross sections for non-dissociative ionization of DT(C^1)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.14424	2.95545	2.77369	2.59886	2.43086	2.26962	2.11508	1.96724	1.82609	1.69167
1.274	3.14E-20	2.28E-20	1.40E-20	5.69E-21	3.26E-22	1.22E-25	4.72E-27	2.08E-27	4.23E-27	7.45E-28
1.623	7.35E-20	6.61E-20	5.77E-20	4.82E-20	3.79E-20	2.66E-20	1.48E-20	4.12E-21	6.21E-23	6.25E-26
2.069	1.09E-19	1.04E-19	9.81E-20	9.15E-20	8.38E-20	7.47E-20	6.43E-20	5.23E-20	3.87E-20	2.37E-20
2.636	1.31E-19	1.29E-19	1.27E-19	1.23E-19	1.19E-19	1.13E-19	1.07E-19	9.91E-20	8.95E-20	7.80E-20
3.359	1.42E-19	1.42E-19	1.42E-19	1.41E-19	1.39E-19	1.37E-19	1.35E-19	1.31E-19	1.26E-19	1.19E-19
4.281	1.42E-19	1.44E-19	1.45E-19	1.46E-19	1.47E-19	1.47E-19	1.47E-19	1.47E-19	1.45E-19	1.43E-19
5.455	1.35E-19	1.38E-19	1.40E-19	1.42E-19	1.44E-19	1.46E-19	1.48E-19	1.49E-19	1.51E-19	1.51E-19
6.951	1.24E-19	1.26E-19	1.29E-19	1.32E-19	1.34E-19	1.37E-19	1.40E-19	1.43E-19	1.46E-19	1.48E-19
8.858	1.10E-19	1.13E-19	1.15E-19	1.18E-19	1.21E-19	1.24E-19	1.28E-19	1.31E-19	1.34E-19	1.38E-19
11.28	9.58E-20	9.83E-20	1.01E-19	1.04E-19	1.06E-19	1.09E-19	1.13E-19	1.16E-19	1.20E-19	1.23E-19
14.38	8.19E-20	8.41E-20	8.64E-20	8.89E-20	9.16E-20	9.44E-20	9.74E-20	1.01E-19	1.04E-19	1.08E-19
18.32	6.91E-20	7.10E-20	7.30E-20	7.52E-20	7.76E-20	8.01E-20	8.28E-20	8.57E-20	8.88E-20	9.21E-20
23.35	5.76E-20	5.93E-20	6.10E-20	6.29E-20	6.49E-20	6.71E-20	6.95E-20	7.20E-20	7.47E-20	7.76E-20
29.76	4.77E-20	4.91E-20	5.06E-20	5.22E-20	5.39E-20	5.57E-20	5.77E-20	5.98E-20	6.21E-20	6.46E-20
37.92	3.93E-20	4.04E-20	4.16E-20	4.29E-20	4.44E-20	4.59E-20	4.75E-20	4.93E-20	5.12E-20	5.33E-20
48.32	3.22E-20	3.31E-20	3.41E-20	3.52E-20	3.63E-20	3.76E-20	3.89E-20	4.04E-20	4.20E-20	4.37E-20
61.58	2.62E-20	2.70E-20	2.78E-20	2.87E-20	2.96E-20	3.06E-20	3.17E-20	3.29E-20	3.42E-20	3.57E-20
78.47	2.13E-20	2.19E-20	2.26E-20	2.33E-20	2.41E-20	2.49E-20	2.58E-20	2.67E-20	2.78E-20	2.90E-20
100.0	1.73E-20	1.78E-20	1.83E-20	1.89E-20	1.95E-20	2.02E-20	2.09E-20	2.17E-20	2.25E-20	2.34E-20

Table 101: Cross sections for dissociative ionization of DT(C^1) via the continuum of the ionic ground state $DT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	5.84348	5.65469	5.47294	5.29811	5.1301	4.96886	4.81433	4.66648	4.52533	4.39091
1.196	1.66E-29	5.32E-29	3.25E-29	3.36E-29	4.28E-29	6.38E-29	4.66E-29	1.83E-29	4.71E-29	3.41E-28
1.430	4.65E-29	1.43E-28	1.14E-28	1.04E-28	1.54E-28	1.90E-28	1.40E-28	8.08E-29	1.55E-28	7.86E-28
1.710	7.95E-29	2.24E-28	1.94E-28	1.74E-28	2.70E-28	3.16E-28	2.38E-28	1.50E-28	2.62E-28	1.15E-27
2.046	1.07E-28	2.84E-28	2.55E-28	2.28E-28	3.62E-28	4.14E-28	3.14E-28	2.05E-28	3.44E-28	1.41E-27
2.447	1.27E-28	3.22E-28	2.95E-28	2.64E-28	4.21E-28	4.77E-28	3.62E-28	2.40E-28	3.95E-28	1.55E-27
2.927	1.38E-28	3.39E-28	3.15E-28	2.82E-28	4.52E-28	5.07E-28	3.85E-28	2.57E-28	4.18E-28	1.59E-27
3.501	1.42E-28	3.41E-28	3.18E-28	2.85E-28	4.59E-28	5.12E-28	3.88E-28	2.60E-28	4.20E-28	1.57E-27
4.187	1.40E-28	3.30E-28	3.10E-28	2.78E-28	4.47E-28	4.98E-28	3.76E-28	2.52E-28	4.06E-28	1.50E-27
5.008	1.34E-28	3.12E-28	2.93E-28	2.63E-28	4.24E-28	4.70E-28	3.55E-28	2.38E-28	3.82E-28	1.40E-27
5.990	1.25E-28	2.88E-28	2.72E-28	2.44E-28	3.93E-28	4.35E-28	3.28E-28	2.20E-28	3.52E-28	1.28E-27
7.164	1.14E-28	2.62E-28	2.48E-28	2.22E-28	3.58E-28	3.96E-28	2.98E-28	2.00E-28	3.19E-28	1.15E-27
8.568	1.03E-28	2.36E-28	2.23E-28	2.00E-28	3.22E-28	3.55E-28	2.67E-28	1.79E-28	2.85E-28	1.02E-27
10.24	9.21E-29	2.10E-28	1.98E-28	1.78E-28	2.86E-28	3.15E-28	2.37E-28	1.59E-28	2.53E-28	9.04E-28
12.25	8.15E-29	1.85E-28	1.75E-28	1.57E-28	2.52E-28	2.78E-28	2.08E-28	1.40E-28	2.22E-28	7.92E-28
14.66	7.15E-29	1.62E-28	1.53E-28	1.37E-28	2.21E-28	2.43E-28	1.82E-28	1.22E-28	1.94E-28	6.90E-28
17.53	6.24E-29	1.41E-28	1.33E-28	1.19E-28	1.92E-28	2.11E-28	1.58E-28	1.06E-28	1.68E-28	5.98E-28
20.97	5.42E-29	1.22E-28	1.16E-28	1.03E-28	1.66E-28	1.83E-28	1.37E-28	9.19E-29	1.45E-28	5.16E-28
25.08	4.68E-29	1.05E-28	9.98E-29	8.92E-29	1.43E-28	1.57E-28	1.18E-28	7.92E-29	1.25E-28	4.43E-28
30.00	4.03E-29	9.08E-29	8.58E-29	7.67E-29	1.23E-28	1.35E-28	1.01E-28	6.80E-29	1.07E-28	3.80E-28

Table 102: Cross sections for dissociative ionization of DT(C^1) via the repulsive ionic state $DT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	15.7435	15.5547	15.3729	15.1981	15.0301	14.8689	14.7143	14.5665	14.4253	14.2909
1.122	6.51E-37	8.65E-34	1.38E-31	6.64E-30	2.12E-28	4.48E-27	6.42E-26	6.28E-25	4.52E-24	2.40E-23
1.260	1.98E-27	8.56E-26	1.31E-24	1.10E-23	5.55E-23	1.78E-22	3.82E-22	6.16E-22	8.91E-22	1.23E-21
1.414	5.44E-24	5.65E-23	2.20E-22	4.54E-22	6.90E-22	9.76E-22	1.29E-21	1.64E-21	2.04E-21	2.48E-21
1.588	1.87E-22	5.06E-22	7.59E-22	1.05E-21	1.35E-21	1.68E-21	2.05E-21	2.45E-21	2.89E-21	3.37E-21
1.782	7.31E-22	9.65E-22	1.25E-21	1.55E-21	1.87E-21	2.21E-21	2.58E-21	2.99E-21	3.43E-21	3.91E-21
2.001	1.19E-21	1.41E-21	1.65E-21	1.92E-21	2.21E-21	2.54E-21	2.90E-21	3.29E-21	3.71E-21	4.16E-21
2.246	1.46E-21	1.68E-21	1.91E-21	2.16E-21	2.43E-21	2.73E-21	3.05E-21	3.40E-21	3.78E-21	4.20E-21
2.522	1.59E-21	1.79E-21	2.01E-21	2.24E-21	2.49E-21	2.76E-21	3.06E-21	3.37E-21	3.72E-21	4.08E-21
2.831	1.62E-21	1.80E-21	2.00E-21	2.21E-21	2.44E-21	2.68E-21	2.94E-21	3.22E-21	3.52E-21	3.85E-21
3.178	1.58E-21	1.75E-21	1.92E-21	2.11E-21	2.31E-21	2.52E-21	2.75E-21	3.00E-21	3.26E-21	3.54E-21
3.568	1.50E-21	1.64E-21	1.79E-21	1.96E-21	2.13E-21	2.32E-21	2.52E-21	2.73E-21	2.96E-21	3.20E-21
4.005	1.39E-21	1.51E-21	1.65E-21	1.79E-21	1.94E-21	2.10E-21	2.27E-21	2.45E-21	2.64E-21	2.85E-21
4.496	1.26E-21	1.37E-21	1.49E-21	1.61E-21	1.74E-21	1.88E-21	2.02E-21	2.18E-21	2.34E-21	2.51E-21
5.048	1.13E-21	1.23E-21	1.33E-21	1.43E-21	1.54E-21	1.66E-21	1.78E-21	1.91E-21	2.05E-21	2.20E-21
5.667	1.01E-21	1.09E-21	1.17E-21	1.26E-21	1.36E-21	1.45E-21	1.56E-21	1.67E-21	1.79E-21	1.91E-21
6.361	8.91E-22	9.58E-22	1.03E-21	1.11E-21	1.18E-21	1.27E-21	1.36E-21	1.45E-21	1.55E-21	1.65E-21
7.141	7.81E-22	8.38E-22	8.99E-22	9.63E-22	1.03E-21	1.10E-21	1.17E-21	1.25E-21	1.33E-21	1.42E-21
8.017	6.81E-22	7.30E-22	7.81E-22	8.35E-22	8.91E-22	9.50E-22	1.01E-21	1.08E-21	1.14E-21	1.22E-21
9.000	5.92E-22	6.33E-22	6.76E-22	7.21E-22	7.68E-22	8.18E-22	8.69E-22	9.23E-22	9.80E-22	1.04E-21

Table 103: Cross sections for non-dissociative ionization of DT(a^3)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.64641	3.4402	3.24118	3.04916	2.86405	2.68571	2.51406	2.34904	2.19059	2.03871
1.274	2.26E-20	1.75E-20	1.22E-20	7.07E-21	3.16E-21	6.55E-22	1.33E-23	6.28E-27	9.98E-28	2.94E-27
1.623	5.36E-20	4.95E-20	4.48E-20	3.94E-20	3.33E-20	2.65E-20	1.91E-20	1.19E-20	5.83E-21	1.02E-21
2.069	7.95E-20	7.74E-20	7.47E-20	7.14E-20	6.74E-20	6.26E-20	5.68E-20	5.00E-20	4.20E-20	3.29E-20
2.636	9.64E-20	9.62E-20	9.55E-20	9.45E-20	9.29E-20	9.08E-20	8.79E-20	8.41E-20	7.94E-20	7.34E-20
3.359	1.04E-19	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.08E-19	1.07E-19	1.06E-19	1.05E-19	1.02E-19
4.281	1.05E-19	1.07E-19	1.09E-19	1.11E-19	1.12E-19	1.14E-19	1.15E-19	1.17E-19	1.17E-19	1.18E-19
5.455	9.96E-20	1.02E-19	1.05E-19	1.07E-19	1.10E-19	1.12E-19	1.15E-19	1.17E-19	1.20E-19	1.22E-19
6.951	9.12E-20	9.38E-20	9.65E-20	9.93E-20	1.02E-19	1.05E-19	1.08E-19	1.11E-19	1.15E-19	1.18E-19
8.858	8.11E-20	8.36E-20	8.63E-20	8.91E-20	9.19E-20	9.50E-20	9.81E-20	1.01E-19	1.05E-19	1.08E-19
11.28	7.05E-20	7.28E-20	7.53E-20	7.79E-20	8.06E-20	8.35E-20	8.65E-20	8.97E-20	9.31E-20	9.67E-20
14.38	6.03E-20	6.23E-20	6.45E-20	6.68E-20	6.93E-20	7.19E-20	7.46E-20	7.76E-20	8.07E-20	8.40E-20
18.32	5.08E-20	5.26E-20	5.45E-20	5.65E-20	5.86E-20	6.09E-20	6.33E-20	6.59E-20	6.87E-20	7.17E-20
23.35	4.24E-20	4.39E-20	4.55E-20	4.72E-20	4.91E-20	5.10E-20	5.31E-20	5.53E-20	5.77E-20	6.03E-20
29.76	3.51E-20	3.64E-20	3.77E-20	3.92E-20	4.07E-20	4.23E-20	4.41E-20	4.59E-20	4.80E-20	5.01E-20
37.92	2.89E-20	2.99E-20	3.10E-20	3.22E-20	3.35E-20	3.48E-20	3.63E-20	3.79E-20	3.95E-20	4.14E-20
48.32	2.37E-20	2.45E-20	2.54E-20	2.64E-20	2.74E-20	2.85E-20	2.97E-20	3.10E-20	3.24E-20	3.39E-20
61.58	1.93E-20	2.00E-20	2.07E-20	2.15E-20	2.24E-20	2.33E-20	2.42E-20	2.53E-20	2.64E-20	2.76E-20
78.47	1.57E-20	1.63E-20	1.68E-20	1.75E-20	1.82E-20	1.89E-20	1.97E-20	2.05E-20	2.14E-20	2.24E-20
100.0	1.27E-20	1.32E-20	1.37E-20	1.42E-20	1.47E-20	1.53E-20	1.59E-20	1.66E-20	1.74E-20	1.82E-20

Table 104: Cross sections for dissociative ionization of DT(a^3) via the continuum of the ionic ground state $DT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.34566	6.13944	5.94042	5.7484	5.56329	5.38495	5.2133	5.04828	4.88983	4.73795
1.196	3.74E-30	1.15E-29	7.50E-29	2.39E-29	2.10E-28	1.36E-27	1.05E-26	6.18E-26	3.06E-25	1.37E-24
1.430	1.21E-29	3.81E-29	2.08E-28	9.36E-29	5.07E-28	3.09E-27	2.39E-26	1.40E-25	6.93E-25	3.08E-24
1.710	2.08E-29	6.70E-29	3.31E-28	1.67E-28	7.72E-28	4.52E-27	3.46E-26	2.03E-25	9.99E-25	4.42E-24
2.046	2.83E-29	9.10E-29	4.23E-28	2.25E-28	9.67E-28	5.52E-27	4.20E-26	2.45E-25	1.20E-24	5.31E-24
2.447	3.37E-29	1.08E-28	4.81E-28	2.65E-28	1.09E-27	6.10E-27	4.62E-26	2.69E-25	1.32E-24	5.80E-24
2.927	3.67E-29	1.17E-28	5.09E-28	2.85E-28	1.14E-27	6.33E-27	4.77E-26	2.77E-25	1.36E-24	5.95E-24
3.501	3.78E-29	1.20E-28	5.12E-28	2.91E-28	1.14E-27	6.28E-27	4.72E-26	2.74E-25	1.34E-24	5.85E-24
4.187	3.73E-29	1.19E-28	4.98E-28	2.85E-28	1.11E-27	6.03E-27	4.53E-26	2.62E-25	1.28E-24	5.58E-24
5.008	3.57E-29	1.13E-28	4.71E-28	2.71E-28	1.04E-27	5.66E-27	4.24E-26	2.45E-25	1.19E-24	5.20E-24
5.990	3.34E-29	1.06E-28	4.36E-28	2.52E-28	9.63E-28	5.21E-27	3.89E-26	2.25E-25	1.09E-24	4.76E-24
7.164	3.07E-29	9.69E-29	3.97E-28	2.31E-28	8.76E-28	4.72E-27	3.52E-26	2.03E-25	9.86E-25	4.29E-24
8.568	2.77E-29	8.76E-29	3.57E-28	2.08E-28	7.86E-28	4.22E-27	3.15E-26	1.82E-25	8.80E-25	3.83E-24
10.24	2.48E-29	7.82E-29	3.18E-28	1.85E-28	6.98E-28	3.75E-27	2.79E-26	1.61E-25	7.78E-25	3.38E-24
12.25	2.20E-29	6.92E-29	2.81E-28	1.64E-28	6.16E-28	3.30E-27	2.46E-26	1.41E-25	6.83E-25	2.97E-24
14.66	1.93E-29	6.08E-29	2.46E-28	1.44E-28	5.39E-28	2.88E-27	2.14E-26	1.23E-25	5.96E-25	2.58E-24
17.53	1.69E-29	5.31E-29	2.14E-28	1.25E-28	4.69E-28	2.51E-27	1.86E-26	1.07E-25	5.17E-25	2.24E-24
20.97	1.46E-29	4.61E-29	1.86E-28	1.09E-28	4.06E-28	2.17E-27	1.61E-26	9.25E-26	4.47E-25	1.94E-24
25.08	1.27E-29	3.99E-29	1.61E-28	9.38E-29	3.51E-28	1.87E-27	1.39E-26	7.97E-26	3.85E-25	1.67E-24
30.00	1.09E-29	3.43E-29	1.38E-28	8.07E-29	3.02E-28	1.61E-27	1.20E-26	6.85E-26	3.31E-25	1.43E-24

Table 105: Cross sections for dissociative ionization of DT(a^3) via the repulsive ionic state $DT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2457	16.0394	15.8404	15.6484	15.4633	15.285	15.1133	14.9483	14.7898	14.638
1.122	2.63E-38	1.32E-35	3.12E-33	2.22E-31	7.62E-30	2.21E-28	3.67E-27	4.36E-26	3.95E-25	2.70E-24
1.260	2.24E-28	1.20E-26	2.36E-25	2.44E-24	1.54E-23	6.36E-23	1.77E-22	3.47E-22	5.39E-22	7.67E-22
1.414	1.63E-24	2.11E-23	1.05E-22	2.72E-22	4.57E-22	6.61E-22	9.03E-22	1.17E-21	1.47E-21	1.80E-21
1.588	1.02E-22	3.41E-22	5.46E-22	7.72E-22	1.01E-21	1.27E-21	1.55E-21	1.87E-21	2.21E-21	2.59E-21
1.782	5.30E-22	7.32E-22	9.70E-22	1.21E-21	1.46E-21	1.74E-21	2.04E-21	2.36E-21	2.72E-21	3.11E-21
2.001	9.51E-22	1.13E-21	1.32E-21	1.54E-21	1.79E-21	2.06E-21	2.35E-21	2.67E-21	3.01E-21	3.38E-21
2.246	1.21E-21	1.39E-21	1.58E-21	1.78E-21	2.01E-21	2.25E-21	2.52E-21	2.81E-21	3.12E-21	3.46E-21
2.522	1.35E-21	1.51E-21	1.69E-21	1.89E-21	2.10E-21	2.32E-21	2.56E-21	2.83E-21	3.11E-21	3.41E-21
2.831	1.39E-21	1.54E-21	1.71E-21	1.89E-21	2.08E-21	2.28E-21	2.50E-21	2.73E-21	2.99E-21	3.26E-21
3.178	1.37E-21	1.51E-21	1.66E-21	1.82E-21	1.98E-21	2.17E-21	2.36E-21	2.57E-21	2.79E-21	3.03E-21
3.568	1.31E-21	1.43E-21	1.56E-21	1.70E-21	1.85E-21	2.01E-21	2.18E-21	2.36E-21	2.55E-21	2.76E-21
4.005	1.22E-21	1.33E-21	1.44E-21	1.56E-21	1.69E-21	1.83E-21	1.98E-21	2.13E-21	2.30E-21	2.47E-21
4.496	1.12E-21	1.21E-21	1.31E-21	1.42E-21	1.53E-21	1.65E-21	1.77E-21	1.91E-21	2.05E-21	2.19E-21
5.048	1.01E-21	1.09E-21	1.18E-21	1.27E-21	1.36E-21	1.46E-21	1.57E-21	1.68E-21	1.80E-21	1.93E-21
5.667	9.01E-22	9.71E-22	1.04E-21	1.12E-21	1.20E-21	1.29E-21	1.38E-21	1.48E-21	1.58E-21	1.68E-21
6.361	7.98E-22	8.58E-22	9.21E-22	9.87E-22	1.06E-21	1.13E-21	1.21E-21	1.29E-21	1.37E-21	1.46E-21
7.141	7.02E-22	7.53E-22	8.07E-22	8.63E-22	9.22E-22	9.83E-22	1.05E-21	1.12E-21	1.19E-21	1.26E-21
8.017	6.15E-22	6.58E-22	7.03E-22	7.51E-22	8.00E-22	8.52E-22	9.07E-22	9.64E-22	1.02E-21	1.09E-21
9.000	5.35E-22	5.72E-22	6.10E-22	6.51E-22	6.92E-22	7.36E-22	7.82E-22	8.30E-22	8.79E-22	9.32E-22

Table 106: Cross sections for non-dissociative ionization of DT(c^3)

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	3.66565	3.47455	3.28987	3.11152	2.93934	2.77326	2.61319	2.45905	2.3108	2.1684
1.274	2.32E-20	1.78E-20	1.23E-20	6.80E-21	2.10E-21	1.25E-22	9.63E-25	1.75E-27	3.28E-27	3.87E-28
1.623	5.42E-20	4.96E-20	4.45E-20	3.89E-20	3.27E-20	2.61E-20	1.90E-20	1.17E-20	4.74E-21	5.67E-22
2.069	8.00E-20	7.71E-20	7.37E-20	6.99E-20	6.56E-20	6.06E-20	5.50E-20	4.86E-20	4.14E-20	3.33E-20
2.636	9.68E-20	9.56E-20	9.40E-20	9.22E-20	9.00E-20	8.73E-20	8.41E-20	8.03E-20	7.57E-20	7.04E-20
3.359	1.05E-19	1.05E-19	1.05E-19	1.04E-19	1.04E-19	1.03E-19	1.02E-19	1.01E-19	9.87E-20	9.63E-20
4.281	1.05E-19	1.06E-19	1.07E-19	1.08E-19	1.08E-19	1.09E-19	1.09E-19	1.10E-19	1.10E-19	1.10E-19
5.455	9.97E-20	1.01E-19	1.03E-19	1.04E-19	1.06E-19	1.07E-19	1.09E-19	1.10E-19	1.12E-19	1.13E-19
6.951	9.12E-20	9.29E-20	9.47E-20	9.65E-20	9.83E-20	1.00E-19	1.02E-19	1.04E-19	1.06E-19	1.09E-19
8.858	8.11E-20	8.28E-20	8.46E-20	8.64E-20	8.84E-20	9.05E-20	9.27E-20	9.50E-20	9.74E-20	9.99E-20
11.28	7.05E-20	7.21E-20	7.38E-20	7.56E-20	7.75E-20	7.95E-20	8.17E-20	8.39E-20	8.63E-20	8.89E-20
14.38	6.02E-20	6.17E-20	6.32E-20	6.48E-20	6.66E-20	6.84E-20	7.04E-20	7.25E-20	7.48E-20	7.72E-20
18.32	5.08E-20	5.20E-20	5.34E-20	5.48E-20	5.64E-20	5.80E-20	5.97E-20	6.16E-20	6.36E-20	6.58E-20
23.35	4.24E-20	4.35E-20	4.46E-20	4.58E-20	4.71E-20	4.85E-20	5.01E-20	5.17E-20	5.34E-20	5.53E-20
29.76	3.51E-20	3.60E-20	3.70E-20	3.80E-20	3.91E-20	4.03E-20	4.15E-20	4.29E-20	4.44E-20	4.60E-20
37.92	2.89E-20	2.96E-20	3.04E-20	3.13E-20	3.22E-20	3.32E-20	3.42E-20	3.54E-20	3.66E-20	3.79E-20
48.32	2.36E-20	2.43E-20	2.49E-20	2.56E-20	2.63E-20	2.72E-20	2.80E-20	2.90E-20	3.00E-20	3.11E-20
61.58	1.93E-20	1.98E-20	2.03E-20	2.09E-20	2.15E-20	2.21E-20	2.28E-20	2.36E-20	2.44E-20	2.53E-20
78.47	1.57E-20	1.61E-20	1.65E-20	1.70E-20	1.75E-20	1.80E-20	1.86E-20	1.92E-20	1.98E-20	2.06E-20
100.0	1.27E-20	1.30E-20	1.34E-20	1.37E-20	1.41E-20	1.46E-20	1.50E-20	1.55E-20	1.61E-20	1.66E-20

Table 107: Cross sections for dissociative ionization of DT(c^3) via the continuum of the ionic ground state $DT^+(^2\Sigma_g^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	6.36489	6.17379	5.98911	5.81076	5.63858	5.47251	5.31243	5.15829	5.01004	4.86764
1.196	1.22E-29	4.15E-29	6.50E-29	4.83E-29	1.81E-29	3.85E-29	5.50E-29	6.53E-29	1.01E-28	3.95E-28
1.430	3.42E-29	1.22E-28	1.83E-28	1.40E-28	7.51E-29	1.13E-28	1.56E-28	2.22E-28	3.18E-28	9.80E-28
1.710	5.85E-29	1.96E-28	2.99E-28	2.32E-28	1.35E-28	1.89E-28	2.60E-28	3.84E-28	5.28E-28	1.47E-27
2.046	7.90E-29	2.54E-28	3.89E-28	3.03E-28	1.81E-28	2.48E-28	3.40E-28	5.12E-28	6.89E-28	1.82E-27
2.447	9.36E-29	2.91E-28	4.48E-28	3.51E-28	2.12E-28	2.87E-28	3.92E-28	5.96E-28	7.92E-28	2.02E-27
2.927	1.02E-28	3.10E-28	4.78E-28	3.75E-28	2.27E-28	3.06E-28	4.17E-28	6.40E-28	8.42E-28	2.10E-27
3.501	1.05E-28	3.13E-28	4.85E-28	3.81E-28	2.31E-28	3.09E-28	4.21E-28	6.49E-28	8.48E-28	2.08E-27
4.187	1.03E-28	3.06E-28	4.73E-28	3.72E-28	2.25E-28	3.01E-28	4.09E-28	6.33E-28	8.24E-28	2.00E-27
5.008	9.90E-29	2.90E-28	4.49E-28	3.53E-28	2.14E-28	2.85E-28	3.87E-28	6.00E-28	7.78E-28	1.87E-27
5.990	9.25E-29	2.69E-28	4.17E-28	3.28E-28	1.98E-28	2.64E-28	3.58E-28	5.57E-28	7.19E-28	1.72E-27
7.164	8.48E-29	2.46E-28	3.80E-28	3.00E-28	1.81E-28	2.41E-28	3.26E-28	5.07E-28	6.54E-28	1.55E-27
8.568	7.67E-29	2.21E-28	3.43E-28	2.70E-28	1.63E-28	2.17E-28	2.93E-28	4.56E-28	5.87E-28	1.39E-27
10.24	6.86E-29	1.97E-28	3.05E-28	2.40E-28	1.45E-28	1.93E-28	2.61E-28	4.06E-28	5.21E-28	1.23E-27
12.25	6.07E-29	1.74E-28	2.70E-28	2.12E-28	1.28E-28	1.70E-28	2.30E-28	3.57E-28	4.59E-28	1.08E-27
14.66	5.34E-29	1.53E-28	2.37E-28	1.86E-28	1.12E-28	1.49E-28	2.01E-28	3.13E-28	4.01E-28	9.43E-28
17.53	4.66E-29	1.33E-28	2.06E-28	1.62E-28	9.79E-29	1.30E-28	1.75E-28	2.72E-28	3.49E-28	8.19E-28
20.97	4.05E-29	1.16E-28	1.79E-28	1.41E-28	8.49E-29	1.12E-28	1.52E-28	2.36E-28	3.02E-28	7.08E-28
25.08	3.50E-29	1.00E-28	1.55E-28	1.22E-28	7.33E-29	9.70E-29	1.31E-28	2.03E-28	2.60E-28	6.10E-28
30.00	3.02E-29	8.62E-29	1.33E-28	1.05E-28	6.31E-29	8.35E-29	1.13E-28	1.75E-28	2.24E-28	5.24E-28

Table 108: Cross sections for dissociative ionization of DT(c^3) via the repulsive ionic state $DT^+(^2\Sigma_u^+)$.

	v'=0	v'=1	v'=2	v'=3	v'=4	v'=5	v'=6	v'=7	v'=8	v'=9
$E_{thr.}$	16.2649	16.0738	15.8891	15.7108	15.5386	15.3725	15.2124	15.0583	14.91	14.7676
1.122	1.59E-36	1.11E-33	1.19E-31	6.56E-30	2.50E-28	3.88E-27	4.72E-26	4.19E-25	2.81E-24	1.41E-23
1.260	2.92E-27	1.13E-25	1.62E-24	1.24E-23	5.65E-23	1.65E-22	3.28E-22	5.07E-22	7.16E-22	9.64E-22
1.414	7.14E-24	6.50E-23	2.23E-22	4.20E-22	6.15E-22	8.49E-22	1.10E-21	1.38E-21	1.68E-21	2.01E-21
1.588	2.11E-22	4.92E-22	7.10E-22	9.53E-22	1.20E-21	1.47E-21	1.77E-21	2.08E-21	2.43E-21	2.80E-21
1.782	7.31E-22	9.23E-22	1.15E-21	1.41E-21	1.67E-21	1.95E-21	2.25E-21	2.58E-21	2.92E-21	3.30E-21
2.001	1.14E-21	1.33E-21	1.53E-21	1.75E-21	2.00E-21	2.26E-21	2.55E-21	2.87E-21	3.20E-21	3.56E-21
2.246	1.39E-21	1.57E-21	1.77E-21	1.98E-21	2.21E-21	2.46E-21	2.72E-21	3.00E-21	3.31E-21	3.63E-21
2.522	1.51E-21	1.68E-21	1.86E-21	2.06E-21	2.27E-21	2.50E-21	2.74E-21	3.00E-21	3.28E-21	3.57E-21
2.831	1.53E-21	1.69E-21	1.86E-21	2.04E-21	2.23E-21	2.44E-21	2.66E-21	2.89E-21	3.13E-21	3.39E-21
3.178	1.50E-21	1.64E-21	1.79E-21	1.95E-21	2.12E-21	2.30E-21	2.50E-21	2.70E-21	2.92E-21	3.15E-21
3.568	1.42E-21	1.55E-21	1.68E-21	1.82E-21	1.97E-21	2.13E-21	2.30E-21	2.48E-21	2.66E-21	2.86E-21
4.005	1.32E-21	1.43E-21	1.55E-21	1.67E-21	1.80E-21	1.94E-21	2.08E-21	2.24E-21	2.40E-21	2.57E-21
4.496	1.20E-21	1.30E-21	1.40E-21	1.51E-21	1.62E-21	1.74E-21	1.86E-21	1.99E-21	2.13E-21	2.27E-21
5.048	1.08E-21	1.17E-21	1.25E-21	1.35E-21	1.44E-21	1.54E-21	1.65E-21	1.76E-21	1.88E-21	2.00E-21
5.667	9.66E-22	1.04E-21	1.11E-21	1.19E-21	1.27E-21	1.36E-21	1.45E-21	1.54E-21	1.64E-21	1.74E-21
6.361	8.54E-22	9.15E-22	9.79E-22	1.05E-21	1.12E-21	1.19E-21	1.26E-21	1.34E-21	1.43E-21	1.51E-21
7.141	7.51E-22	8.02E-22	8.57E-22	9.13E-22	9.72E-22	1.03E-21	1.10E-21	1.16E-21	1.23E-21	1.31E-21
8.017	6.56E-22	7.00E-22	7.46E-22	7.94E-22	8.43E-22	8.95E-22	9.49E-22	1.00E-21	1.06E-21	1.12E-21
9.000	5.71E-22	6.08E-22	6.47E-22	6.87E-22	7.29E-22	7.73E-22	8.18E-22	8.65E-22	9.14E-22	9.64E-22