

# The AME2012 atomic mass evaluation \*

## (I). Evaluation of input data, adjustment procedures

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**Abstract** This paper is the first of two articles (Part I and Part II) that presents the results of the new atomic mass evaluation, AME2012. It includes complete information on the experimental input data (including not used and rejected ones), as well as details on the evaluation procedures used to derive the tables with recommended values given in the second part. This article describes the evaluation philosophy and procedures that were implemented in the selection of specific nuclear reaction, decay and mass-spectrometer results. These input values were entered in the least-squares adjustment procedure for determining the best values for the atomic masses and their uncertainties. Calculation procedures and particularities of the AME are then described. All accepted and rejected data, including outweighed ones, are presented in a tabular format and compared with the adjusted values (obtained using the adjustment procedure). Differences with the previous AME2003 evaluation are also discussed and specific information is presented for several cases that may be of interest to various AME users. The second AME2012 article, the last one in this issue, gives a table with recommended values of atomic masses, as well as tables and graphs of derived quantities, along with the list of references used in both this AME2012 evaluation and the NUBASE2012 one (the first paper in this issue).

AMDC: <http://amdc.in2p3.fr/> and <http://amdc.impcas.ac.cn/> DOI: 10.1088/1674-1137/36/12/002

## 1 Introduction

The last complete evaluation of experimental atomic mass data AME2003 [1, 2] was published in 2003. Since then an uncommonly large amount of new, high quality, data has been published in the scientific literature. This is substantiated by the fact that as much as 53% of the data used in the present AME2012 evaluation were not available in 2003.

The large number of new data with high quality that are continuously produced render updates of the atomic mass table on a regular basis and a frequency of two or three years necessary. This also corresponds to the demand expressed by the extended nuclear research community. Actually, just after the publication of the AME1993

evaluation [3, 4, 5, 6], the intention was to produce interim updates every two years, followed by a full publication every six to eight years. As a result, the AME1995 update [7] was indeed published two years later. However, due to the necessity to create the NUBASE evaluation (see below), the planned AME updates were not completed. A certain stabilization was reached in 2003, encouraging the publication of the full AME2003 evaluation [1, 2], which was for the first time synchronized with the complementary evaluation of nuclear structure properties, NUBASE2003.

At the same time, renewal and extension of the manpower devoted to these two evaluations was clearly needed, while effective support from institutions was declining and the main authors in the AME2003 were com-

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ing close to retirement for one, stopping for the other one. In 2007, the evaluation was about to disappear. Fortunately, this work was revived in November 2008 when the Institute of Modern Physics at Lanzhou decided to ascertain the future of this long tradition, for the benefit of the physics community worldwide. From the dynamics thus created, other collaborators from all around the world joined gradually.

In order to accomodate the strong demand from the international physics community, a preliminary version of AME, the AME2011 preview, was released from the Atomic Mass Data Center website in April 2011. It was the first time for the mass tables to be disseminated through internet without an accompanying hardcopy.

In this article, general aspects of the development of AME2012 are presented and discussed. In doing this, we will mention several local analyses intended, partly, to study points elaborated further below. Other local analyses may be found on the AMDC web site [8].

The main AME2012 evaluation table (Table I) is presented in this Part I. All accepted and rejected experimental data are given and compared with the adjusted values deduced using a least-squares fit analysis.

Similarly to the previous AME evaluations, the uncertainties quoted in the present tables are one-standard deviation ( $1\sigma$ ).

There is no strict literature cut-off date for the data used in the present AME2012 evaluation: all data, available to the authors until the material was sent to the publisher (November 18, 2012), were included. Those results which could not be included for particular reasons, such as the need for a heavy revision of the evaluation at too late a development stage, were added in remarks to the relevant data. The final mass-adjustment calculations were performed on November 16, 2012.

The present publication updates and includes all the information presented in the previous atomic mass evaluations (since AME1983), including those which are not contributing to the final adjustment results presented here.

Aaldert H. Wapstra, the founder of AME, is among the co-authors of the AME2012 publication. Unfortunately, he passed away at the end of 2006, but he made enormous contributions to the AME2012 development during the two years following the publication of the previous AME2003 evaluation. And more than those two years, the present work is composed of his spirit and wisdom.

## 1.1 Isomers in the AME and the emergence of NUBASE

During the development of the previous atomic mass evaluations, a computer file (called *Mfile*) that contains the approximate mass values for nuclides in their ground and

selected excited isomeric states was maintained. It was used as an approximate input to the computer adjustment program, which essentially uses the differences between the input and these approximate values in order to improve the precision of the calculations. The other reason for the existence of this file was that, where isomers occur, one has to be careful to check which one is involved in reported experimental data, such as  $\alpha$ - and  $\beta$ -decay energies. In fact, several cases exist in the literature where the authors were not aware that complications occurred due to presence of isomers. For that reason, our *Mfile* contained known data on such isomeric pairs (half-lives, excitation energies and spin-parities). The issue of isomerism became even more important, when considering new mass-spectrometer methods that were developed to measure masses of exotic nuclides far from the valley of  $\beta$ -stability, which have, in general, relatively short lifetimes. Since the mass resolution of such spectrometers is limited, it is often experimentally impossible to separate isomers. As a consequence, only an average mass value for a particular isomeric pair can be obtained. Since the mass of the ground state is the primary aim of the present evaluation, it can be derived only in cases where one has information on the excitation energies and production rates of the isomers. When the excitation energy of a particular isomer is not experimentally known, it was estimated from trends in neighboring nuclides, as outlined below. Therefore, it was judged necessary to make the *Mfile* as complete as possible, which turned out to be a major effort. However, the resulting NUBASE evaluation, published for the first time in 1997 [9], was greeted with interest from many colleagues working in the areas of nuclear structure physics, nuclear astrophysics and applied nuclear physics, which made the effort worthwhile. In 2003, the NUBASE2003 and AME2003 were published jointly for the first time. Similarly, accompanying the present AME, the NUBASE2012 is published in the first part of this issue.

## 1.2 Highlights

**The backbone** Nowadays, the highest precision values presently measured for the atomic masses are concurrently obtained by two different experimental techniques. The first one comprises of direct mass-spectrometry measurements using Penning traps, while the second one utilizes  $\gamma$ -ray energy measurements following neutron capture reactions.

In the present work, results obtained by both methods are combined consistently (with a very few exceptions) to improve considerably the precision of the atomic masses for nuclides along the line of stability in a diagram of the

atomic number  $Z$  versus neutron number  $N$  [10], thus resulting in a reliable ‘backbone’.

The highest precision of  $7 \times 10^{-12}$  presently achieved for mass measurements has been obtained by the Penning trap method. The masses of some stable alkali-metal nuclides and noble-gas nuclides have been determined to  $10^{-10}$  or even better, providing reliable reference standards for other mass measurements.

While most stable nuclides, and some long-lived ones, could have their mass accuracy improved using Penning traps, the priority was given to cases where there is a strong motivation from the physics point of view. For example, the  $Q_{\beta\beta}$  values for some nuclides relevant to neutrino properties have been determined with very high precision, strengthening at the same time the backbone.

**The exotic species** The extent of the domain of nuclides with experimentally known masses has increased impressively over the last few years. Penning traps together with storage rings have played an important role in this extension.

Penning trap mass measurement facilities exist in many nuclear physics laboratories all around the world. They contribute not only in obtaining precise mass values for nuclides near the stability line, but together with the two storage rings facilities, one at the GSI-DARMSTADT and the other at the IMP-LANZHOU, provide valuable experimental results for a wealth of unstable, short-lived nuclides. Until recently, masses of such unstable nuclides were only known from  $Q_\beta$  end-point measurements, which have severe drawbacks owing to the pandemonium effect [11], more specially for high  $Q_\beta$ -values (see Section 6.7). In the present work, the masses for such nuclides have changed considerably compared to AME2003. It can be concluded that the shape of the atomic mass surface, and hence understanding of nuclear interactions, has changed significantly over the last 10-20 years.

It is somewhat ironical, but not unexpected, that the new results showed that several older data are not as good as thought earlier, but the reverse is also true. For example, while reactivating mass-spectrometer measurements performed by the group of Demirkhanov (laboratory labels R04-R13 in Table I), we were positively surprised to notice that their accuracy is much better than thought in the past.

**The Isobaric Analogue States - IAS** Isobaric Analogue States (IAS) have not been considered with the attention they require and included in the mass evaluation since AME1993. In this issue we have updated and included these masses since they are important states from

the nuclear interaction point of view (see Section 6.4). As for any excited state (see also the discussion about isomers in NUBASE, Section 2.2, p. 1161), the mass of an IAS can be derived either from an internal relation (amongst levels within the same nuclide) where the best evaluations are in ENSDF, or from external relations (to other nuclides). In the latter case, only the AME’s method can treat with accurateness the data to derive a mass value. It was therefore considered important and also our duty to have these data included in the main mass table, hence providing the users of our tables with the best mass values for the IAS.

**Recalibrations** Gamma-ray energies measured with bent-crystal spectrometers following neutron capture provide highly-accurate energy relations, e.g. the one-neutron separation energies. However, energies deduced in several  $(p,\gamma)$  reactions are also known with a similar precision. In fact, the accuracies achieved in both cases are so high that one of us [AHW] has re-examined all calibrations. In addition, several  $\alpha$ -particle decay energies are also known with a high precision; and here too it was found necessary to harmonize the calibrations.

**Differential reactions** Another feature near the line of stability is the increased number of measurements of reaction energy differences, which can often be measured with a much higher precision compared to the absolute reaction energies. The AME2012 computer program accepts this type of input data which are given in their original shape in the present table of input data (Table I). This may be another incentive for presenting *primary* results in published literature: in later evaluations those results could be corrected automatically if calibration values change due to new experimental results.

**Bare and highly ionized atoms** As a result of availability of high-energy accelerators that produce highly ionized atoms, the number of nuclides for which experimental mass values are now known is substantially larger compared to our previous atomic mass tables. These measurements are sometimes made on deeply ionized particles, even up to bare nuclides. The results for masses reported in the literature are converted by the authors to values for neutral (and un-excited) atoms. The needed electron binding energies are taken from tables, like those of Huang et al. [12] (see also the discussion in Part II, Section 2, p. 1604).

**At the proton drip-line** A further significant development of the presented work is the inclusion of many new data on proton disintegrations that allowed a significant extension of the knowledge of proton binding en-

ergies. In several cases such data are also useful in determining the excitation energies of isomers, as well as in gaining information about the spins and parities of the parent and daughter states. The latter two developments are reasons why it is necessary to pay even more attention to relative positions of isomers than was necessary in our early evaluations. Spatial and time-correlated studies using double-sided silicon strip detectors were especially useful in studying long chains of  $\alpha$ -decaying nuclides. The measured  $\alpha$ -decay energies often provided precise information on mass differences between the individual

chain members. It is fortunate that such new experimental data are produced regularly mainly at laboratories in Finland, Germany, Japan and USA.

*Remark:* in the following text, several data of general interest will be discussed. Mention of references that can be found in Table I will be avoided. When it is necessary to provide a specific reference, those will be given using the key-numbers (e.g. [2002Aa15]), listed at the end of Part II, under “References used in the AME2012 and the NUBASE2012 evaluations”, p. 1863.

Table A. Constants used in this work or resulting from the present evaluation.

	=	$M(^{12}\text{C})/12$	=	atomic mass unit			
1 u	=	1 660 538.921	$\pm$	0.073	$\times 10^{-33}$ kg	44	ppb
1 u	=	931 494.061	$\pm$	0.021	keV	22	ppb
1 u	=	931 494.0023	$\pm$	0.0007	keV <sub>90</sub>	0.7	ppb
1 eV <sub>90</sub>	=	1 000 000.0063	$\pm$	0.022	$\mu\text{eV}$	22	ppb
1 MeV	=	1 073 544.150	$\pm$	0.024	nu	22	ppb
1 MeV <sub>90</sub>	=	1 073 544.2174	$\pm$	0.0007	nu	0.7	ppb
$M_e$	=	548 579.90946	$\pm$	0.00022	nu	0.4	ppb
	=	510 998.928	$\pm$	0.011	eV	22	ppb
	=	510 998.89581	$\pm$	0.00041	eV <sub>90</sub>	0.8	ppb
$M_p$	=	1 007 276 466.92	$\pm$	0.09	nu	0.09	ppb
$M_\alpha$	=	4 001 506 179.127	$\pm$	0.060	nu	0.015	ppb
$M_n - M_H$	=	839 883.71	$\pm$	0.51	nu	610	ppb
	=	782 346.64	$\pm$	0.48	eV <sub>90</sub>	610	ppb

a) derived from the work of Mohr and Taylor [13].

b) for the definition of V<sub>90</sub>, see text.

c) derived from this work combined with  $M_e$  and total ionization energies for <sup>1</sup>H and <sup>4</sup>He from [13].

d) this work.

## 2 Units; recalibration of $\alpha$ - and $\gamma$ -ray energies

Atomic mass determination for a particular nuclide can be generally performed by establishing an energy relation between the mass we want to deduce and that for a well known nuclide. This energy relation is then expressed in electron-volts (eV). Mass values can also be obtained as an inertial mass from the movement characteristics of an ionized atom in an electro-magnetic field. The mass, is then derived from a ratio of masses and it is then expressed in ‘unified atomic mass’ (u). Those two units are used in the present work.

The mass unit is defined, since 1960, as one twelfth of the mass of one free atom of carbon-12 in its atomic and nuclear ground states,  $1 \text{ u} = M(^{12}\text{C})/12$ . Before 1960, two mass units were used: the physics one, defined as

<sup>16</sup>O/16, and the chemical one which considered one sixteenth of the average mass of a standard mixture of the three stable oxygen isotopes. This difference was considered as being not at all negligible, when taking into account the commercial value of all concerned chemical substances. Physicists could not convince the chemists to drop their unit off; “The change would mean millions of dollars in the sale of all chemical substances”, said the chemists, which is indeed true! Kohman, Mattauch and Wapstra [14] then calculated that, if <sup>12</sup>C/12 was chosen, the change would be ten times smaller for chemists, and in the opposite direction ... This led to an unification; ‘u’ stands therefore, officially, for ‘unified mass unit’! It is worth mentioning that the chemical mass-spectrometry community (e.g. bio-chemistry, polymer chemistry) widely use the dalton unit (symbol Da, named after John Dalton [15]). It allows to express the number

of nucleons in a molecule, at least as it is presently used in these domains. It is thus not strictly the same as ‘*u*’.

The unit for energy is the electron-volt. Until the end of last century, the relative precision of  $M - A$  expressed in keV was for several nuclides less accurate than the same quantity expressed in mass units. The choice of the volt for the energy unit (the electronvolt) is not unambiguous. For example, one may use the *international* volt V, but other can choose the volt  $V_{90}$  as *maintained* in national metrology laboratories and defined by adopting an exact value for the constant  $(2e/h)$  in the relation between frequency and voltage in the Josephson effect. Since 1990, by definition  $2e/h = 483597.9$  (exact) GHz/V<sub>90</sub> (see Table B). Already in 1983, an analysis by Cohen and Wapstra [16] showed that all precision measurements of reaction and decay energies were calibrated in such a way that they can be more accurately expressed in *maintained* volt. Also, as seen in Table A, the precision of the conversion factor between mass units and *maintained* volt ( $V_{90}$ ) is more accurate than that between the former and *international* volt. In fact, the accuracy is so high that the relative precision of  $M - A$  expressed in eV<sub>90</sub> is the same as that expressed in mass units. For example, the mass excess of <sup>4</sup>He is  $2\,603\,254.13 \pm 0.06$  nu in mass units,  $2\,424\,915.63 \pm 0.06$  eV<sub>90</sub> in *maintained* volt units and  $2\,424\,915.78 \pm 0.08$  eV in *international* volt units. Due to the increase of precision, the relative precision of  $M - A$  expressed in keV<sub>90</sub> is as good as the same quantity expressed in mass units, whereas the uncertainties expressed in *international* volts are larger than in V<sub>90</sub>. Therefore, as already adopted in our previous mass evaluations, the V<sub>90</sub> (*maintained* volt) unit is used in the present work.

In the most recent (2012) evaluation by Mohr et al. [13], the relation between *maintained* and *international* volts is given as  $V_{90} = [1 + 6.3(2.2) \times 10^{-8}]V$ , that could be expressed as a difference of 63(22) ppb.

In Table A the relations between *maintained* and *international* volts, and several constants of interest, obtained from the evaluation of Mohr et al. [13] are given. Given also are the ratio of mass units to electronvolts for the two

Volt units, and also the ratio of the two Volts. In addition, values for the masses of the proton, neutron and  $\alpha$  particle, as derived from the present evaluation, are also given, together with the mass difference between the neutron and the light hydrogen atom.

In earlier mass tables (e.g. AME1993), we used to give values for the binding energies,  $ZM_H + NM_n - M$ . The main reason for this was that the uncertainty (in keV<sub>90</sub>) of this quantity was larger than that of the mass excess,  $M - A$ . However, due to the increased precision in the neutron mass, this is no longer important. Similarly to AME2003, we now give instead the binding energy per nucleon for educational reasons, connected to the Aston curve and the maximum stability around the ‘Iron-peak’ of importance in astrophysics (see also the note in Part II, Section 2, p. 1605).

The defining values and the resulting mass-energy conversion factors are given in Table B. Since 2003 the definition has not been modified. Therefore, no recalibration has been necessary in the present AME2012 compared to AME2003, except in one case where the precision in the obtained data is better than a few hundred ppb.

This case is the <sup>1</sup>H(n,γ)<sup>2</sup>H reaction which has the highest energy precision in the input data with relative uncertainty of 180 ppb, where the wave length of the emitted  $\gamma$  ray is determined by using the ILL silicon crystal spectrometer. In AME2003, the recommended value was 2224.5660(4) keV<sub>90</sub>, based on the work of [1999Ke05] at the NBS. In a later work from the same group [2006De21], the value was corrected to be 2224.55610(44) keV with new evaluation on the lattice spacing of the crystal and fundamental constants at that time. The value of the crystal lattice spacing is used as an adjusted parameter in the new evaluation of Mohr et al., but not expressed explicitly. Using the same value of the wave length in [2006De21], and the new length-energy conversion coefficient, we derive 2224.55600(44) keV<sub>90</sub> as input to our evaluation. Note that the value expressed in eV<sub>90</sub> is 0.14 smaller than expressed in *international* eV, about one third of the uncertainty.

Table B. Definition of Volt units, and resulting mass-energy conversion constants.

	$2e/h$			$u$
1983	483594.21	(1.34)	GHz/V	931501.2 (2.6) keV
1983	483594	(exact)	GHz/V <sub>86</sub>	931501.6 (0.3) keV <sub>86</sub>
1986	483597.67	(0.14)	GHz/V	931494.32 (0.28) keV
1990	483597.9	(exact)	GHz/V <sub>90</sub>	931493.86 (0.07) keV <sub>90</sub>
1999	483597.9	(exact)	GHz/V <sub>90</sub>	931494.009 (0.007) keV <sub>90</sub>
2010	483597.9	(exact)	GHz/V <sub>90</sub>	931494.0023 (0.0007) keV <sub>90</sub>

Some more historical points are worth mentioning.

It was in 1986 that Taylor and Cohen [17] showed that the empirical ratio between the two types of volts, which had of course been selected to be nearly equal to 1, had changed by as much as 7 ppm. For this reason, in 1990 a new value was chosen [18] to define the *maintained* volt  $V_{90}$ . In their 1998 evaluation, Mohr and Taylor [19] had to revise the conversion constant to *international* eV. The result was a slightly higher (and 10 times more precise) value for  $V_{90}$ .

Since older high-precision, reaction-energy measurements were essentially expressed in keV<sub>86</sub>, we had to take into account the difference in voltage definition that causes a systematic error of 8 ppm. We were therefore obliged, for the AME2003 tables, to adjust the older precise data to the new keV<sub>90</sub> standard. For  $\alpha$ -particle energies, Rytz [20] has taken this change into account, when updating his earlier evaluation of  $\alpha$ -particle energies. We have used his values in the present input data table (Table I) and indicated this by adding in the reference field the symbol “Z”.

A considerable number of (n, $\gamma$ ) and (p, $\gamma$ ) reactions has a precision not much worse than 8 ppm. In 1990, one of us [21] has discussed the need for necessary recalibration for several  $\gamma$  rays that are often used as calibration standards. This work has been updated in AME2003 (in a special file dedicated to this study, available from the AMDC Web-site [22]) to evaluate the influence of new calibrators, as well as of the new Mohr and Taylor fundamental constants on  $\gamma$ -ray and particle energies used in (n, $\gamma$ ), (p, $\gamma$ ) and (p,n) reactions. In doing this, the calibration work of Helmer and van der Leun [23], based on the fundamental constants at that time, was used. For each of the data concerned, the changes were relatively minor. However, we judged it necessary, in AME2003, to make such recalibrations, since otherwise they add up to systematic uncertainties that are non-negligible. We also reconsidered the calibration for proton energies (see below). As in the case of Rytz’ recalibrations for  $\alpha$ -decay energies, such data are marked by “Z” behind the reference key-number. If it was not possible to do so, for example when this position was used to indicate that a remark was added, the same “Z” symbol was added to the uncertainty value mentioned in the remark.

The list of input values (Table I) for our calculations includes many excitation energies that are derived from  $\gamma$ -ray measurements that are generally evaluated in the Nuclear Data Sheets (NDS) [24]. Only in exceptional cases, it made sense to change them to recalibrated results.

For higher  $\gamma$ -ray energies, the AME1995 adjustment used several data recalibrated with results from Penning trap measurements for initial and final atoms in-

volved in (n, $\gamma$ ) reactions. The use of the newer constants and of additional, or revised, Penning trap results, made it necessary, in AME2003, to revise again the recalibrated results. One of the consequences was that the energy coming free in the  $^{14}\text{N}(\text{n},\gamma)^{15}\text{N}$  reaction, playing a crucial role in these calibrations, was changed from  $10\,833\,301.6 \pm 2.3\,\text{eV}_{90}$  to  $10\,833\,296.2 \pm 0.9\,\text{eV}_{90}$  in AME2003, and  $10\,833\,295.33 \pm 0.77\,\text{eV}_{90}$  in present AME. For more details and discussion, see [22].

Several old neutron binding energies were improved in unexpected ways. For example, a value with a somewhat large uncertainty of 650 eV was reported for the neutron binding energy of  $^{54}\text{Cr}$ . Careful examination of the original article showed that this value was essentially the sum of the energies of two capture  $\gamma$ -rays. For their small energy difference a smaller error was reported. Later work yielded a much improved value for the transition to the ground state, allowing to derive a considerably improved neutron binding energy. Also, in some cases, observed neutron resonance energies could be combined with the latest measurements of the excitation energies of the resonance states. Further discussions can be found on the AMDC web site [22].

In AME2003, we also recalibrated proton energies, more particularly those involved in resonance energies and thresholds. An unfortunate development here was that the data for the 991 keV  $^{27}\text{Al}+\text{p}$  resonance [1994Br37] (used frequently for calibration) were reported with higher precision than older ones, but they differed more than expected [22]. The value most often used in earlier work was  $991.88 \pm 0.04\,\text{keV}$  from the work of Roush *et al.* [25]. In 1990, Endt *et al.* [26] averaged it with the later result by Stoker *et al.* [27], thus obtaining a slightly modified value of  $991.858 \pm 0.025\,\text{keV}$ . By doing this, changes in the values of natural constants used in the derivation of these values were not taken into account. By correcting for this omission and by critically evaluating earlier data, one of us [28] derived in 1993 a value  $991.843 \pm 0.033\,\text{keV}$  for this standard, and, after the 2003 revision,  $991.830 \pm 0.050\,\text{keV}$  [22]. The measurement of [1994Br37] yielded  $991.724 \pm 0.021\,\text{keV}$ , which is two standard deviations from the above adopted value (labeled ‘B’ in Table 1).

### 3 Input data, representation in a connections diagram

As mentioned above, there are two methods that are used in measurements of atomic masses: the mass-spectrometry one (often called a “direct method”), where the inertial mass is determined from the trajectory of the ion in a magnetic field, or from its time-of-flight, and

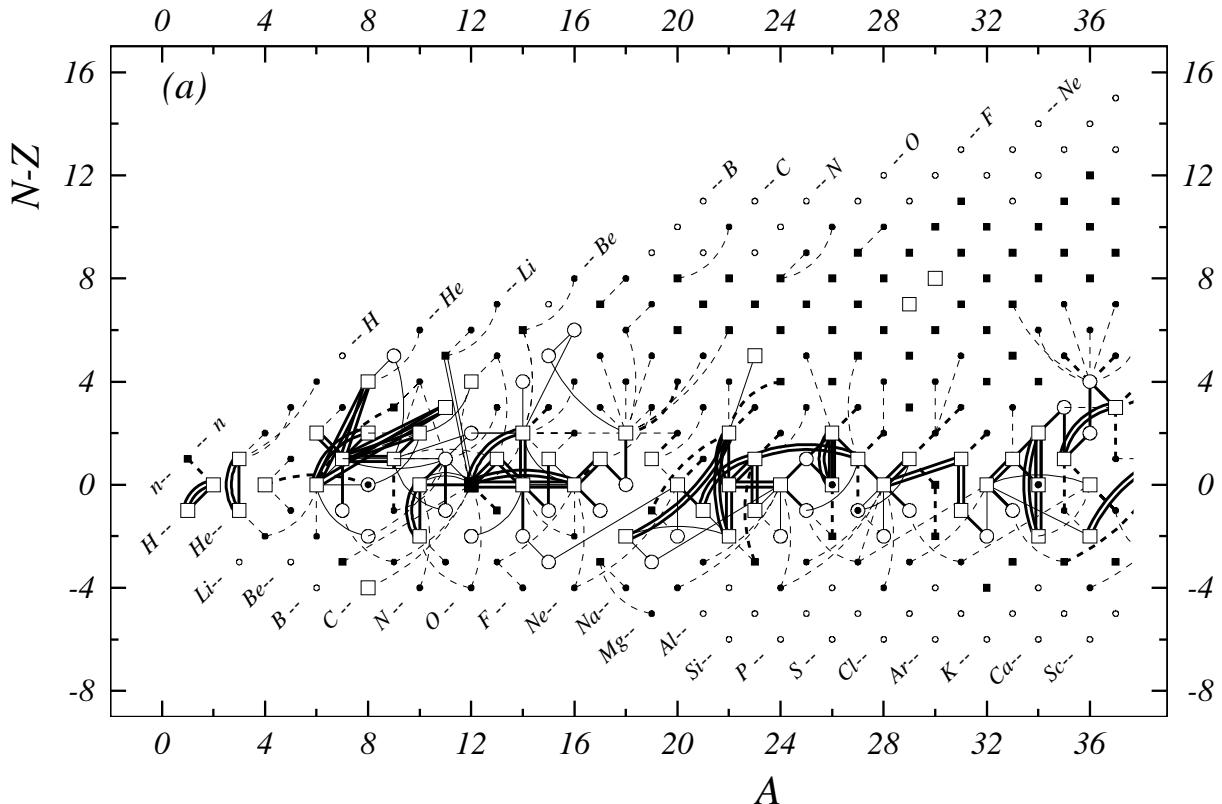


Figure 1: (a)–(j). Diagram of connections for input data.

For *primary data* (those checked by other data):



absolute mass-doublet nuclide (i.e. connected to  $^{12}\text{C}$ ,  $^{35}\text{Cl}$  or  $^{37}\text{Cl}$ );

(or nuclide connected by a unique secondary relative mass-doublet to a remote reference nuclide);



other primary nuclide;



primary nuclide with relevant isomer;



mass-spectrometer connection;



other primary reaction connection.

Primary connections are drawn with two different thicknesses. Thicker lines represent the highest precision data in the given mass region

(limits: 1 keV for  $A < 36$ ,

2 keV for  $A = 36$  to 165 and

3 keV for  $A > 165$ ).

For *secondary data* (cases where masses are known from one type of data and are therefore not checked by a different connection):



secondary experimental nuclide determined from mass-spectrometry;



secondary experimental nuclide determined by a reaction or a decay;



nuclide for which mass is estimated from trends in the Mass Surface TMS;



connection to a secondary nuclide. Note that an experimental connection may exist between two estimated TMS nuclides when neither of them is connected to the network of primaries.

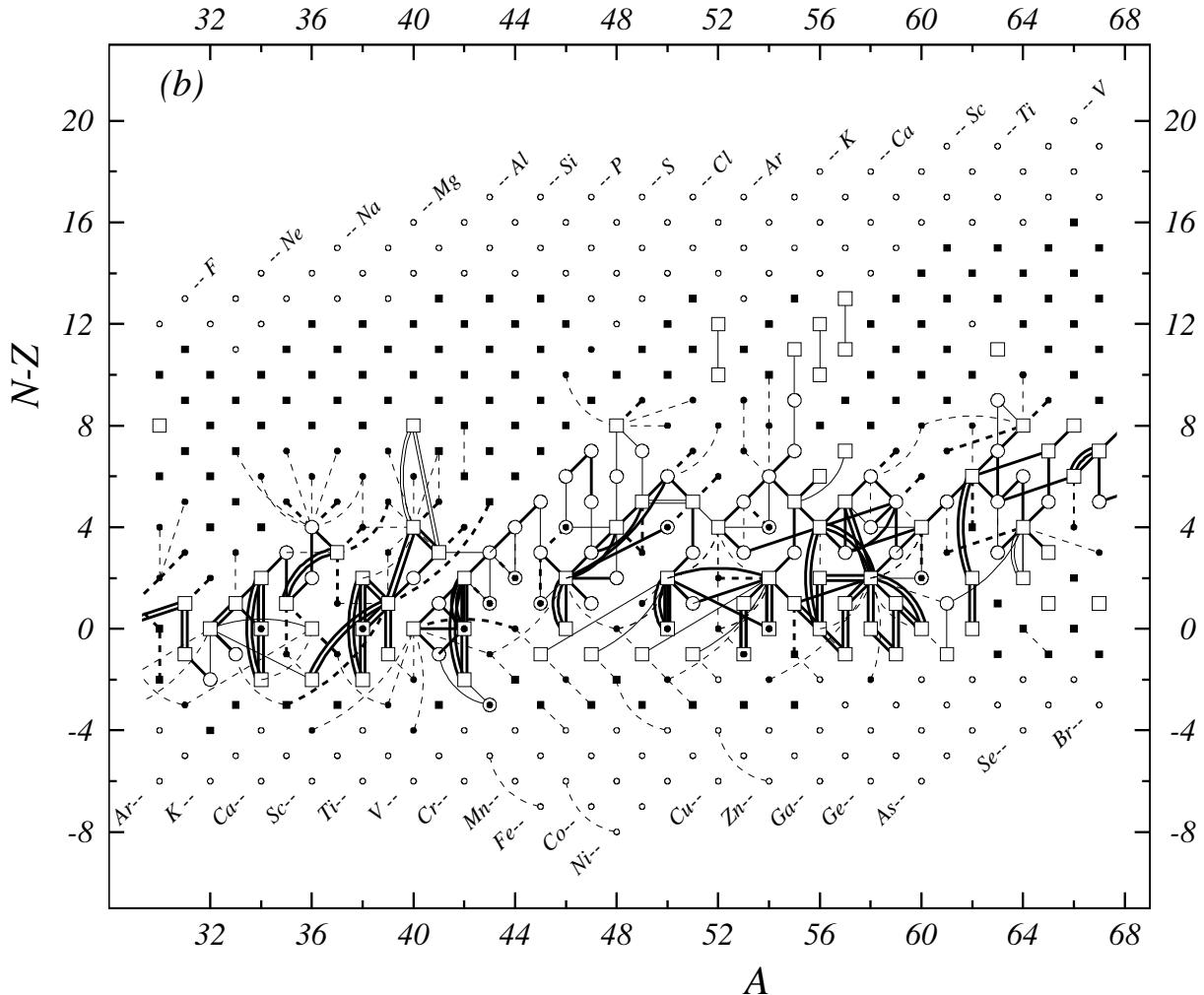


Figure 1 (b). Diagram of connections for input data — continued.

the so-called "indirect method" where the reaction energy, i.e. the difference between several masses, is determined using a specific nuclear reaction or a decay process. In the present work all available experimental data related to atomic masses (both energy and mass-spectrometry data) are considered. The input data are extracted from the available literature, compiled in an appropriate format and then carefully evaluated.

In AME data treatment, we try our best to use the primary experimental information. In this way, the masses can be recalibrated automatically for any future changes, and the original correlation information can be properly preserved.

One example that illustrates our policy of data treatment is the following. In the [1986Ma40] publication, the  $Q$  value of the  $^{148}\text{Gd}(\text{p},\text{t})^{146}\text{Gd}$  reaction was measured relative to that for the  $^{65}\text{Cu}(\text{p},\text{t})^{63}\text{Cu}$  reference reaction. The latter value was adopted from the AME1995 mass table, but it was changed by 1.8 keV in the present mass table. In AME2003, the corresponding equation was  $^{148}\text{Gd}(\text{p},\text{t})^{146}\text{Gd} = -7843 \pm 4$  keV. However, in the present

work, it is presented and used as a differential reaction equation:  $^{148}\text{Gd}(\text{p},\text{t})^{146}\text{Gd} - ^{65}\text{Cu}(\text{p},\text{t})^{63}\text{Cu} = 1500 \pm 4$  keV. Strictly speaking, those equations are not exact either. What is measured in the experiment is the energy spectra of the ejected particles. Since there are differences between the masses of the measured nuclides and the reference, the response of the ejected particles to the  $Q$  values are different for the measured nuclides and the reference, depending also on the angle where the spectra are obtained. While the exact equations are quite complex, we believe that the treatment by differential reaction equation represents the original data more reliably and that most of the primary information is preserved.

Nuclear reaction  $A(a,b)B$  and decay  $A(b)B$  energy measurements connect the initial ( $A$ ) and final ( $B$ ) nuclides with one or two reaction or decay particles. With the exception of some reactions between very light nuclides, the precision with which the masses of reaction particles  $a$  and  $b$  are known is much higher than that of the measured reaction and decay energies. Thus, these reactions and decays can each be represented as a link be-

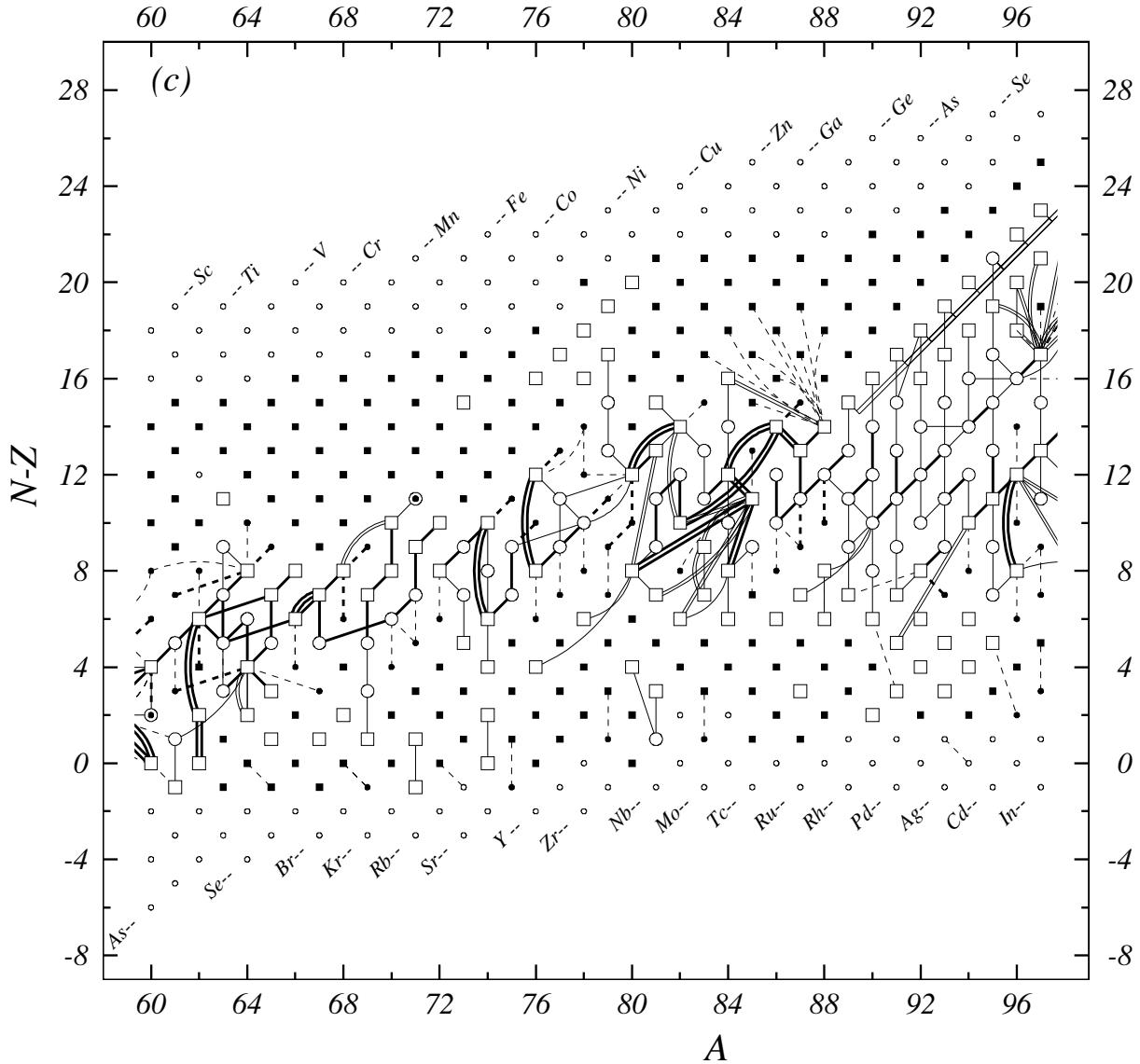


Figure 1 (c). Diagram of connections for input data — continued.

tween two nuclides  $A$  and  $B$ . Differential reaction energies  $A(a,b)B - C(a,b)D$  are in principle represented by a combination of four masses.

Direct mass-spectrometry measurements, again with exception of a few cases between very light nuclides, can be separated in a class of connections between two or three nuclides, and a class essentially determining an absolute mass value (see Section 5). Penning trap measurements, almost always give a ratio of masses between two nuclides (inversely proportional to their cyclotron frequencies in the trap). Sometimes these two nuclides can be very far apart. Thus, those measurements are in most cases best represented as a combination of two masses. Other types of direct experimental methods, such as ‘Smith-type’, ‘Schottky’, ‘Isochronous’ and ‘time-of-flight’ mass-spectrometers, are calibrated in a more complex way, and are thus published by their authors as abso-

lute mass doublets. They are then presented in Table I as a difference:  ${}^A\text{El-u}$ .

For completeness we mention that early mass-spectrometer “triplet” measurements on unstable nuclides can best be represented as linear combinations of masses of three isotopes, with non-integer coefficients [29].

This situation allows us to represent the input data graphically in a diagram of  $(N - Z)$  versus  $(N + Z)$  as shown in Fig. 1. This is straightforward for absolute mass-doublets and for two-nuclide difference cases; but not for spectrometer triplets and differential reaction energies (see Section 1.2., p. 1289). The latter are in general more important for one of the two reaction energies than for the other one; in the graphs we therefore represent them simply by the former. (For computational reasons, these data are treated as primaries even though the diagrams then show only one connection.)

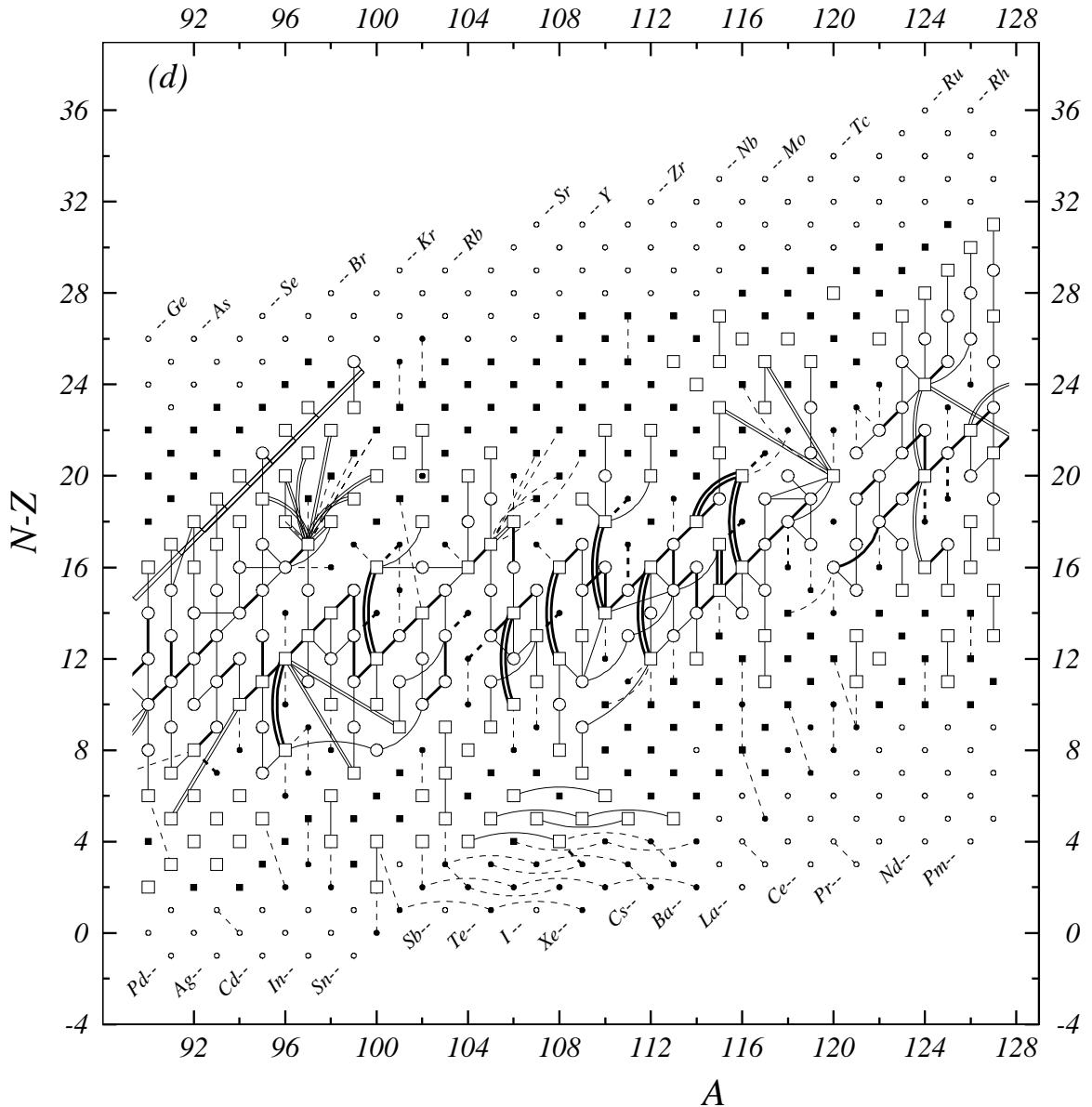


Figure 1 (d). Diagram of connections for input data — continued.

In the present work, all input data are evaluated, i.e. calibrations are checked if necessary, and the data are compared with other results and with the trends in the mass surface (TMS) in the region. As a consequence, several input data are changed or even rejected. All input data, including the rejected ones (not presented in Fig. 1), are given in Table I. As can be seen from Fig. 1, the accepted data may allow determination of the mass of a particular nuclide using several different routes; such a nuclide is called *primary*. The mass values in the table are then derived by least squares methods. In the other cases, the mass of a nuclide can be derived only from a connection to another one; it is called a *secondary* nuclide. This classification is of importance for our calculation procedure (see Section 5, p. 1305).

The diagrams in Fig. 1 also show many cases where the relation between two atomic masses is accurately known, but not the values of the masses. Since our policy is to include all available experimental results, we have produced in such cases estimated mass values that are based on the trends in the mass surface in the neighborhood (TMS). In the resulting system of data representations, vacancies occur, which were filled using the same TMS procedure. Estimates of unknown masses are further discussed in the next section.

Some care should be taken in the interpretation of Fig. 1, since excited isomeric states and data relations involving such isomers are not completely represented on these drawings. This is not considered a serious defect; those readers who want to update such values can conve-

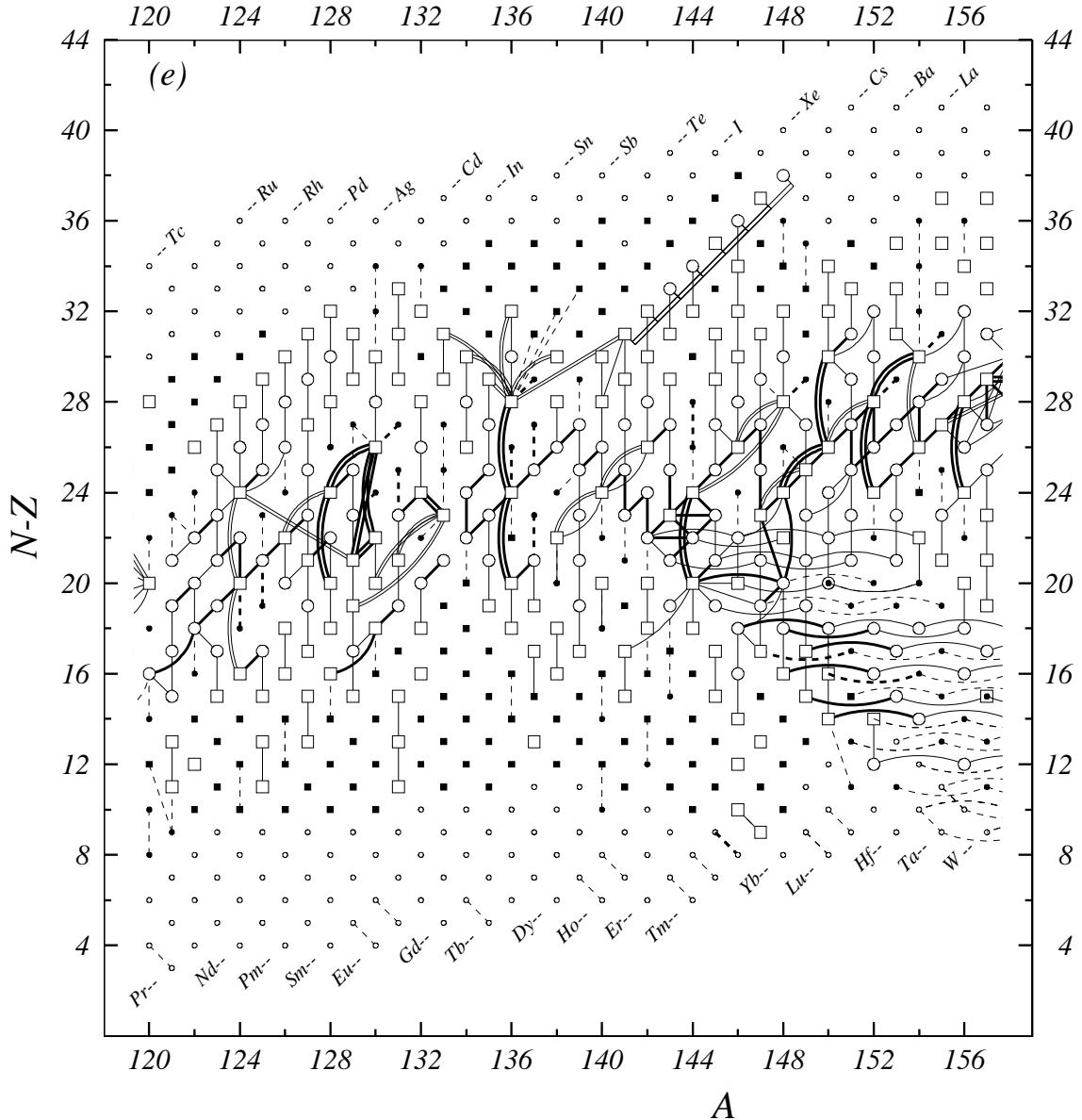


Figure 1 (e). Diagram of connections for input data — continued.

niently consult Table I, where all relevant information is given.

#### 4 Regularity of the mass-surface and use of trends in the Mass Surface (TMS)

When atomic masses are displayed as a function of  $N$  and  $Z$ , one obtains a *surface* in a 3-dimensional space. However, due to the pairing energy, this surface is divided into four *sheets*. The even-even sheet lies lowest, the odd-odd highest, the other two nearly halfway in-between, as shown in Fig. 2. The vertical distances from the even-even sheet to the odd-even and even-odd ones are the proton and neutron pairing energies  $\Delta_{pp}$  and  $\Delta_{nn}$ . They are nearly equal. The distances of the last two sheets to the odd-odd

sheet are equal to  $\Delta_{nn} - \Delta_{np}$  and  $\Delta_{pp} - \Delta_{np}$ , where  $\Delta_{np}$  is the proton-neutron pairing energy due to the interaction between the two odd nucleons, which are generally not in the same shell. These energies are represented in Fig. 2, where a hypothetical energy zero represents a nuclide with no pairing among the last nucleons.

Experimentally, it has been observed that: the four sheets run nearly parallel in all directions, which means that the quantities  $\Delta_{nn}$ ,  $\Delta_{pp}$  and  $\Delta_{np}$  vary smoothly and slowly with  $N$  and  $Z$ ; and that each of the mass sheets varies also smoothly, but rapidly with  $N$  and  $Z$  [30]. The smoothness is also observed for first order derivatives (slopes, e.g. the graphs in Part II, p. 1826) and all second order derivatives (curvatures of the mass surface). They are only interrupted in places by cusps or bumps associ-

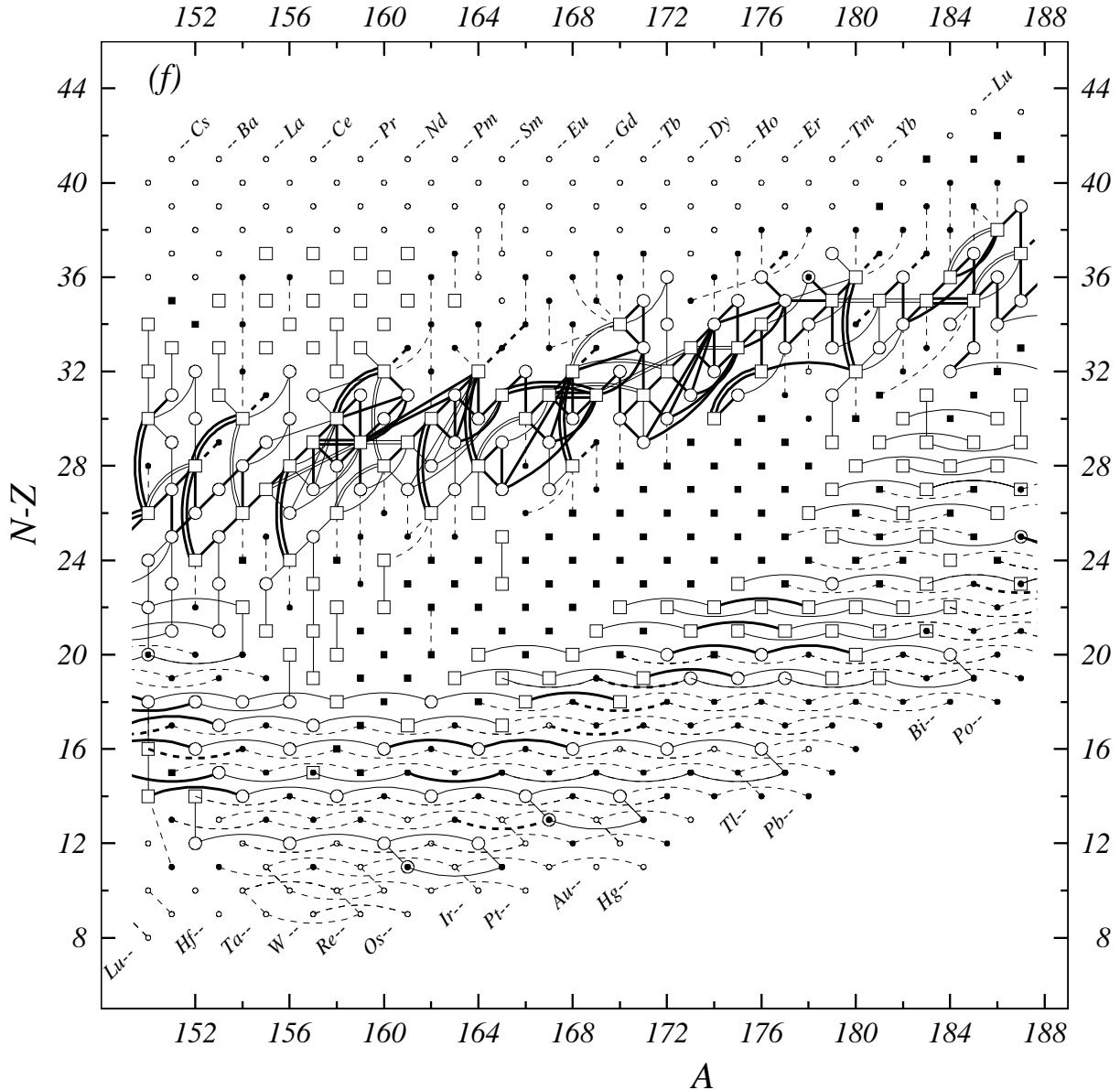


Figure 1 (f). Diagram of connections for input data — continued.

ated with important changes in nuclear structure: shell or sub-shell closures, shape transitions (spherical-deformed, prolate-oblate), and the so-called ‘Wigner’ cusp along the  $N = Z$  line.

This observed regularity of the mass sheets in all places where no change in the physics of the nucleus are known to exist, can be considered as one of the BASIC PROPERTIES of the mass surface. Thus, dependable estimates of unknown, poorly known or questionable masses can be obtained by extrapolation from well-known mass values on the same sheet. In the evaluation of masses the property of regularity and the possibility to make estimates are used for several purposes:

1. Any coherent deviation from regularity, in a region  $(N, Z)$  of some extent, could be considered as an in-

dication that some new physical property is being discovered. However, if one single mass violates the trends in the mass surface given by neighboring nuclides, then one may seriously question the correctness of the related datum. There might be, for example, some undetected systematic [31] contribution to the reported result of the experiment measuring this mass. We then reexamine with extra care the available experimental information in literature for possible errors and often ask the corresponding authors for additional information. Such a process often leads to corrections.

2. There are cases where several experimental data disagree among each other, but no particular reason can be found for rejecting one or some of them by

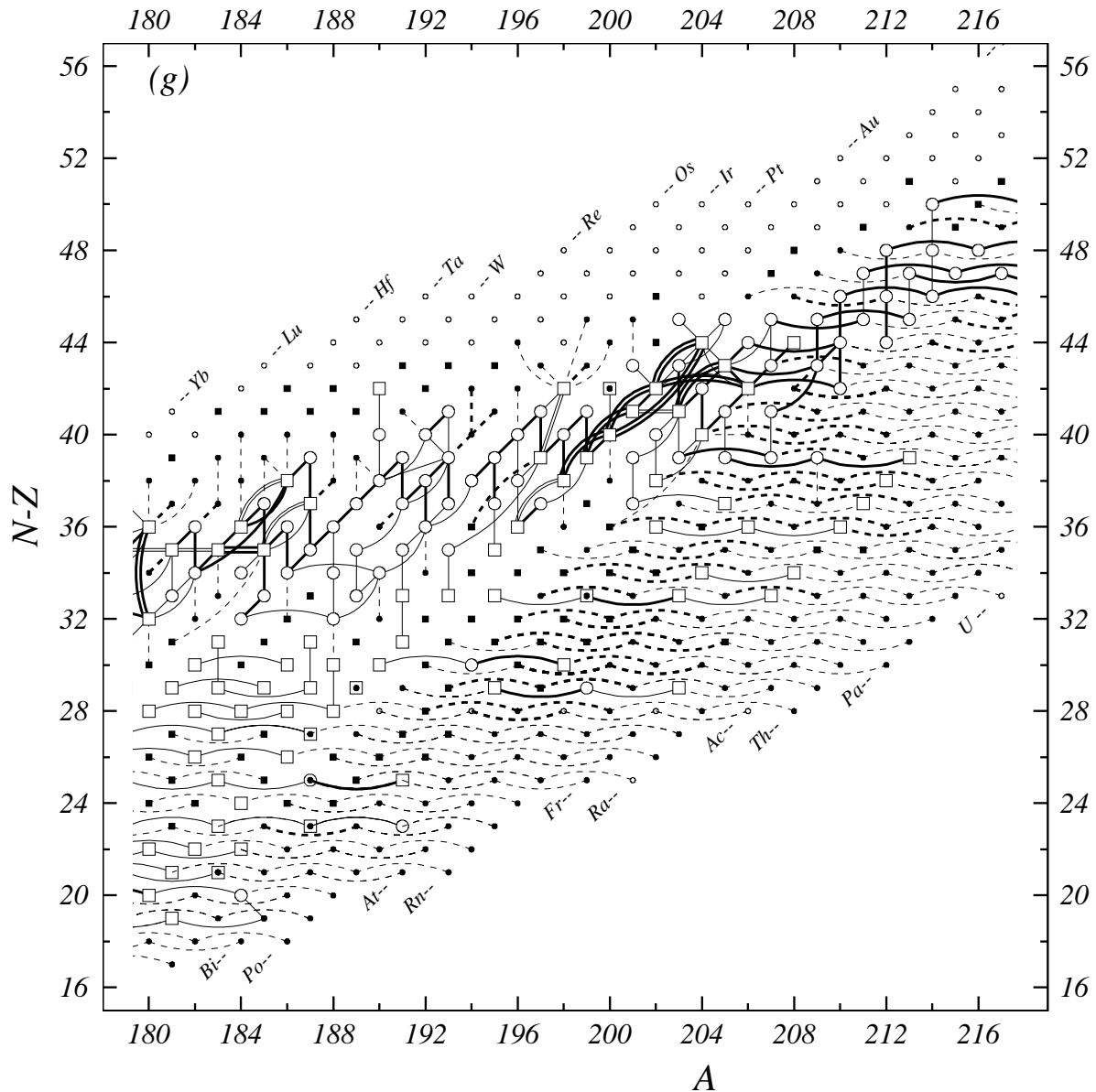


Figure 1 (g). Diagram of connections for input data — continued.

studying the corresponding papers. In such cases, the measure of agreement with the just mentioned regularity can be used by the evaluators for selecting which of the conflicting data will be accepted and used in the evaluation, thus following the same policy that was used in our earlier work.

3. There are cases where masses determined from ONLY ONE experiment (or from same experiments) deviate severely from the smooth surface. Such cases are examined closely and are discussed extensively below (Section 4.1).
4. Finally, drawing the mass surface allows to derive estimates for the still unknown masses, either from interpolations or from short extrapolations (see be-

low, Section 4.2).

#### 4.1 Scrutinizing and manipulating the surface of masses

Direct representation of the mass surface is not convenient, since the binding energy varies very rapidly with  $N$  and  $Z$ . Splitting in four sheets, as mentioned above, complicates even more such a representation. There are two ways that allow to observe with some precision the surface of masses: one of them uses the *derivatives* of this surface, the other is obtained by *subtracting a simple function of  $N$  and  $Z$  from the masses*.

**The derivatives of the mass surface** By *derivative* of the mass surface we mean a specified difference between

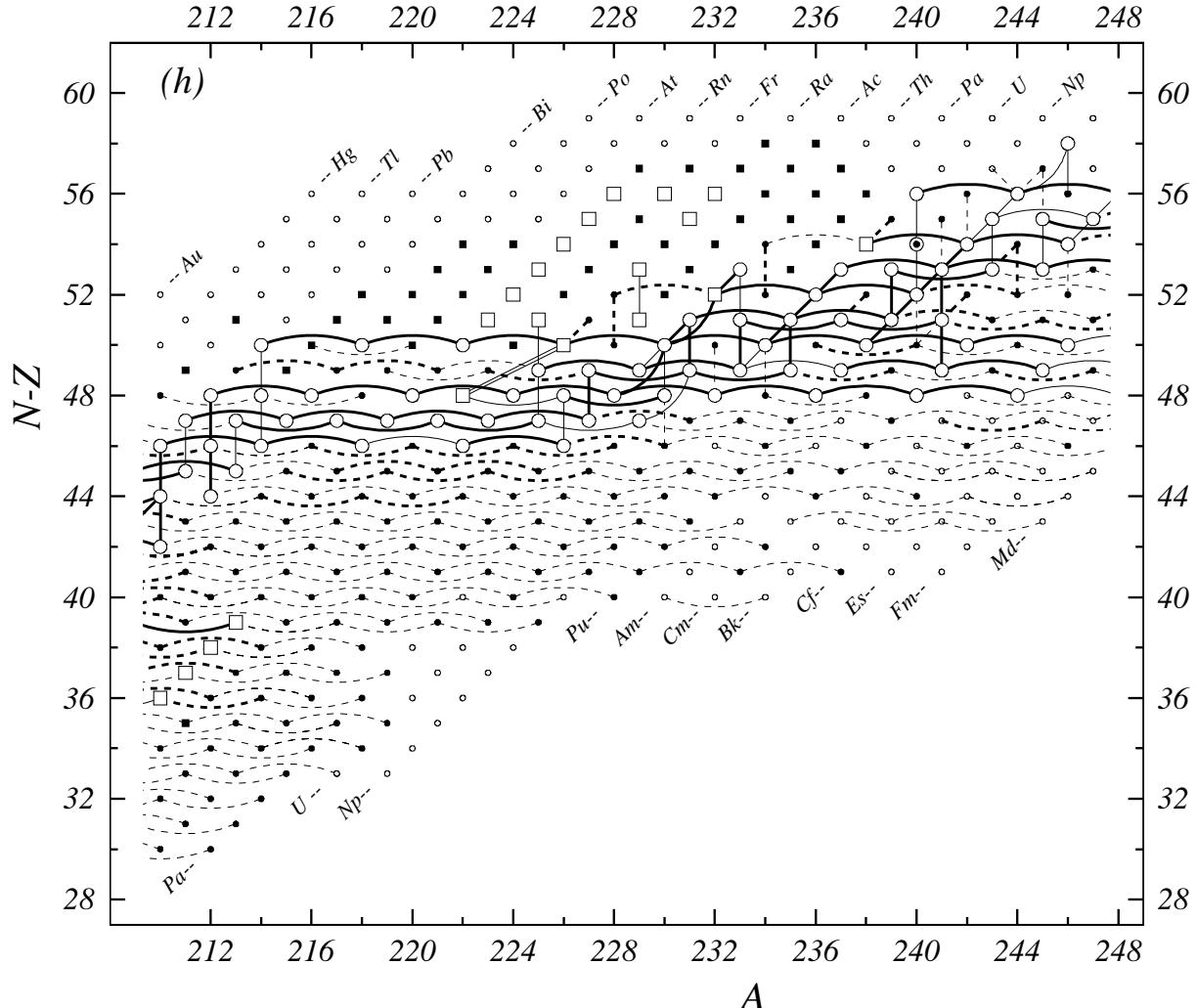


Figure 1 (h). Diagram of connections for input data — continued.

the masses of two nearby nuclides. These functions are also smooth and have the advantage of displaying much smaller variations. For a derivative specified in such a way that differences are between nuclides in the same mass sheet, the near parallelism of these leads to an (almost) unique surface for the derivative, allowing thus a single display. Therefore, in order to visualize the trends in the mass surface, we found that such estimates could be obtained best in graphs such as  $\alpha$ - and double- $\beta$ -decay energies and separation energies of two protons and two neutrons. These four derivatives are plotted against  $N$ ,  $Z$  or  $A$  in Part II, Figs. 1–36, p. 1826.

However, from the way these four derivatives are created, they give information only within one of the four sheets of the mass surface (e-e, e-o, o-e or e-e; e-o standing for even- $N$  and odd- $Z$ ). When examining the mass surface, an increased or decreased spacing of the sheets cannot be observed. Also, when estimating unknown masses,

divergences of the four sheets could be unduly created, which is unacceptable.

Fortunately, other various representations are possible (e.g. separately for odd and even nuclides: one-neutron separation energies versus  $N$ , one-proton separation energy versus  $Z$ ,  $\beta$ -decay energy versus  $A$ , ...). We have prepared such graphs that can be obtained from the AMDC web site [8].

The method of ‘derivatives’ suffers from involving two masses for each point to be drawn, which means that if one mass is moved then two points are changed in opposite direction, causing confusion in the drawings. Also, reversely, the deviation of one point from regularity could be due to either the nuclide it represents or the related one in the difference, rendering the analysis rather complex.

**Subtracting a simple function** Since the mass surface is smooth, one can try to define a function of  $N$  and  $Z$  as

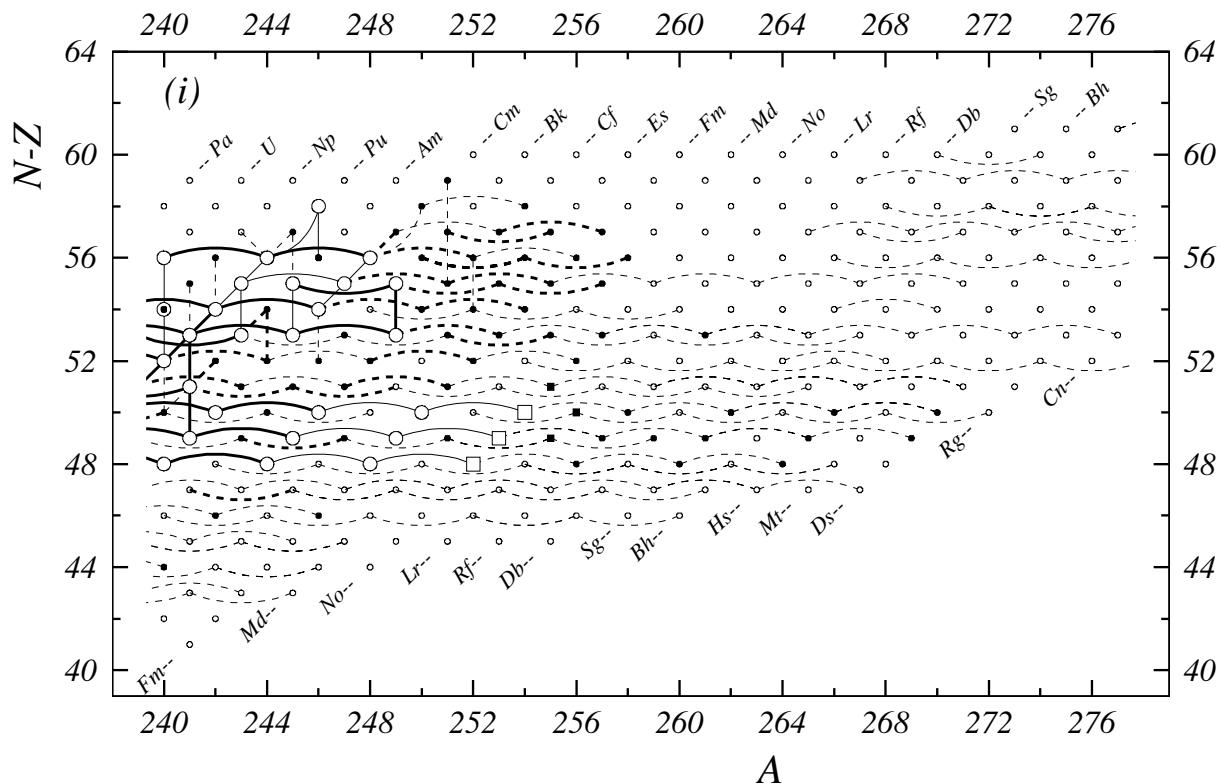


Figure 1 (i). Diagram of connections for input data — continued.

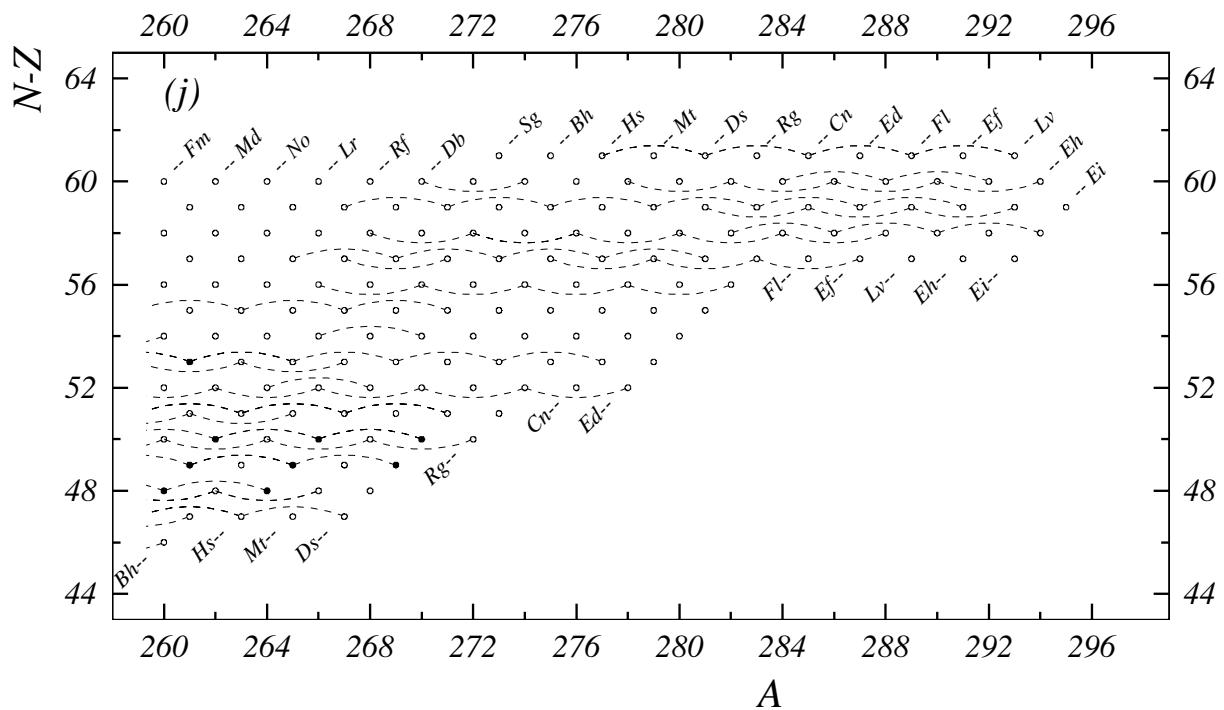


Figure 1 (j). Diagram of connections for input data — continued.

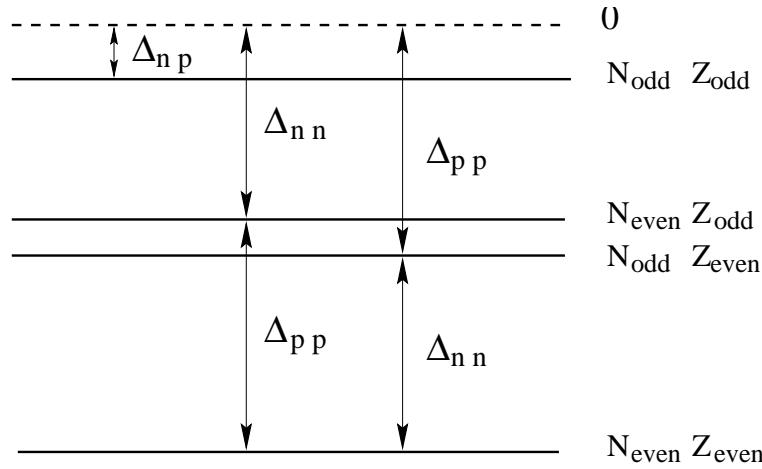


Figure 2: The surface of masses is split into four sheets. This scheme represents the pairing energies responsible for this splitting. The zero energy surface is purely hypothetical with no pairing at all among the outer nucleons.

simple as possible and not too far from the real surface of masses. The difference between the mass surface and this function, while displaying reliably the structure of the former, will vary less rapidly, thus improving its observation.

A first and simple approach is the semi-empirical *liquid drop* formula of Bethe and Weizsäcker [32] with the addition of a pairing term in order to fuse more or less the four sheets of the mass surface. Another possibility, that we prefer [30], is to use the results of the calculation of one of the modern models. However, we can use here only those models that provide masses specifically for the spherical part, forcing the nucleus to be not deformed. The reason is that the models generally describe quite well the shell and sub-shell closures, and to some extent the pairing energies, but not the locations of deformation. If the theoretical deformations were included and not located at exactly the same position as given by the experimental masses, the mass difference surface would show two dislocations for each shape transition. Interpretation of the resulting surface would then be very difficult. In the present work, we make use of such differences with models. The plots we have prepared can also be retrieved from the AMDC web site [8].

**Manipulating the mass surface** In order to make estimates of unknown masses or to test changes on measured ones, an interactive graphical program was developed [30, 33] that allows a simultaneous observation of four graphs, either from the ‘derivatives’ type or from the ‘differences’ type, as a function of any of the variables  $N$ ,  $Z$ ,  $A$ ,  $N - Z$  or  $N - 2Z$ , while drawing iso-lines (lines connecting nuclides having same value for a parameter) of any of these quantities. The mass of a nuclide can be modified or created in any view and we can determine how

much freedom is left in setting a value for this mass. At the same time, interdependence through secondary connections (Fig. 1) are taken into account. In cases where two tendencies may alternate, following the parity of the proton or of the neutron numbers, one of the parities may be deselected.

The replaced values for data yielding the ‘irregular masses’ as well as the ‘estimated unknown masses’ (see below) are thus derived by observing the continuity property in several views of the mass surface, with all the consequences due to connections to masses in the same chain. Comparisons with the predictions of 16 nuclear mass-models are presently available in this program.

With this graphical tool, the results of ‘replacement’ analyses are felt to be safer; and also the estimation of unknown masses is more reliable.

All mass values dependent on interpolation procedures, and indeed all values not derived from experimental data alone, have been clearly marked with the sharp (#) symbol in all tables, here and in Part II.

Since publication of AME1983 [34], estimates are also given for the precision of such data derived from trends in the mass surface (TMS). These precisions are not based on a formalized procedure, but on previous experience with such estimates.

In the case of extrapolation however, the uncertainty in the estimated mass will increase with the distance of extrapolation. These uncertainties are obtained by considering several graphs of TMS with a guess on how much the estimated mass may change without the extrapolated surface looking too much distorted. This recipe is unavoidably subjective, but has proven to be efficient through the agreement of these estimates with newly measured masses in a great majority of cases [35].

## 4.2 Irregular mass values

When a single mass deviates significantly from regularity with no similar pattern for nuclides with same  $N$  or with same  $Z$  values, then the correctness of the data determining this mass may be questioned.

Our policy, redefined in AME1995 [7], for those locally *irregular* masses, and only when they are derived from a unique mass relation (i.e., not confirmed by a different experimental method), is to replace them by values derived from trends in the mass surface (TMS). There are only 27 such physical quantities in the present evaluation, compared to 27 in AME2003, 59 in AME1995 and 67 in AME1993 that were selected, partly, in order to avoid too strongly oscillating plots. Although these numbers reflects a more strict use of this procedure, the user of our tables should not assume that the remaining 27 items are the same ones carried on from generation to generation. The opposite is true, most of the old ones have been replaced by new data showing that we were correct in our choice. Generally, in such unique mass relation, only one measurement is reported. But sometimes there are two measurements (2 cases) or three (in previous evaluations) that we still treat the same way, since use of the same method and the same type of relation may well lead to the same systematic uncertainty (for example a mis-assignment or ignorance of a final level). Taking into account the connecting chains for secondaries (Figs. 1a–1j) has the consequence that several more ground state masses are affected (and twice as many values in each type of plot of derivatives as given in Part II). It should be stressed that only the most striking cases have been treated this way, those necessary to avoid, as much as possible, confusions in the graphs in Part II. In particular, as happened previously, the plots of  $\alpha$ -decay energies of light nuclides (Fig. 18 and 19 in Part II, p. 1844 and 1845) exhibit many overlaps and crossings that obscure the drawings; no attempt was made to locate possible origins of such irregularities.

Replacing these few irregular experimental values by ones we recommend, in all tables and graphs in this AME2012, means also that, as explained already in AME1995, we discontinued an older policy that was introduced in AME1993, where original irregular experimental values were given in all main tables, and ‘recommended’ ones given separately in secondary tables. This policy led to confusion for many users of our tables. Since AME1995, we only give what we consider the “*best recommended values*”, using, when we felt necessary and as explained above, ‘*values derived from TMS*’. Data which are not used following this policy, can be easily located in Table I where they are flagged ‘D’ and always accompanied by a comment explaining in which direction the value

has been changed and by which amount.

Such data, as well as the other local irregularities that can be observed in the figures in Part II could be considered as incentive to remeasure the masses of the involved nuclides, preferably by different methods, in order to remove any doubt and possibly point out true irregularities due to physical properties.

The present authors insist that only the most striking irregularities have been replaced by estimates. In AME2003, p. 148, we gave as an example the case of  $^{112}\text{Te}$ , which mass was determined from the reported delayed-proton energy measurement from  $^{113}\text{Xe}$  with a precision of 150 keV. However, we felt that it was deviating 300 keV from the trends given by neighboring nuclides, but it was not been replaced by an estimated mass value. This was felt as an incentive to remeasure the mass of  $^{112}\text{Te}$ , if possible using a different method. As a matter of fact, a group using a Penning trap at SHIP-TRAP [2007Ma92], measured the mass of this nuclide and found its mass was to be moved from  $-77301 \pm 170$  keV to  $-77567.5 \pm 8.4$  keV, i.e. almost exactly where our estimate located it.

## 4.3 Estimates for unknown masses

Estimates for unknown masses are also made with use of trends in the mass surface, as explained above, by demanding that all graphs should be as smooth as possible, except where they are expected to show the effects of shell closures or nuclear deformations effects. Therefore, we warn the user of our tables that the present extrapolations, based on trends in known masses, will be wrong if unsuspected new regions of deformation or (semi-) magic numbers occur.

In addition to the rather severe constraints imposed by the requirement of simultaneous REGULARITY of all graphs, many further constraints result from knowledge of reaction or decay energies in the regions where these estimates are made. These regions and these constraints are shown in Figs. 1a–1j. Two kinds of constraints are present. In some cases the masses of  $(Z, A)$  and  $(Z, A+4)$  are known but not the mass of  $(Z, A+2)$ . Then, the values of  $S_{2n}(A+2)$  and  $S_{2n}(A+4)$  cannot both be chosen freely from the graphs; their sum is known. In other cases, the mass differences between several nuclides  $(A+4n, Z+2n)$  are known from  $\alpha$ -decays and also those of  $(A-2+4n, Z+2n)$ . Then, the differences between several successive  $S_{2n}(A+4n, Z+2n)$  are known. Similar situations exist for two or three successive  $S_{2p}$ ’s or  $Q_\alpha$ ’s.

Also, knowledge of stability or instability against particle emission, or limits on proton or  $\alpha$  emission, yield upper or lower limits on the separation energies.

For proton-rich nuclides with  $N < Z$ , mass estimates can be obtained from the charge symmetry. This feature gives a relation between masses of isobars around the one with  $N = Z$ . In several cases, we make a correction by including the Thomas-Ehrman effect [36], which makes proton-unstable nuclides more bound than follows from the above estimate. For very light nuclides, we can use the estimates for this effect found by Comay *et al.* [37]. However, since the analysis of proton-unstable nuclides (see Section 6.5) showed that this effect is much smaller for  $A = 100 - 210$ , we use a correction that decreases with increasing mass number.

Another often good estimate can be obtained from the observation that masses of nuclidic states belonging to an isobaric multiplet are represented quite accurately by a quadratic equation of the charge number  $Z$  (or of the third components of the isospin,  $T_3 = \frac{1}{2}(N - Z)$ ): the Isobaric Multiplet Mass Equation (IMME). Use of this relation is attractive since, otherwise than the relation mentioned above, it uses experimental information (i.e. excitation energies of isobaric analogues). The exactness of the IMME has regularly been a matter of discussion. At regular intervals of time, some new mass measurements question the validity of the IMME, followed soon by other works showing that another member of the same multiplet is to be questioned. For example, a measurement [2001He29] of the mass of  $^{33}\text{Ar}$  has questioned the validity of the IMME at  $A = 33$ . The measured mass, with an uncertainty of about 4 keV, was 18 keV lower than the value following from IMME, with a precision of 3 keV. One year later, another measurement [38] showed that one of the other mass values entering in this equation was wrong. With the new value, the difference is only 3 keV, thus within uncertainties.

Up to the AME1983, we indeed used the IMME for deriving mass values for nuclides for which no, or little information was available. This policy was questioned with respect to the correctness in stating as ‘experimental’ a quantity that was derived by combination with a calculation. Since AME1993, it was decided not to present any IMME-derived mass values in our evaluation, but rather use the IMME as a guideline when estimating masses of unknown nuclides. We continue this policy here, and do not replace experimental values by an estimated one from IMME, even if orders of magnitude more precise. Typical examples are  $^{28}\text{S}$  and  $^{40}\text{Ti}$ , for which the IMME predicts masses with precisions of respectively 24 keV and 22 keV, whereas the experimental masses are known both with 160 keV precision, from double-charge exchange reactions.

The extension of the IMME to higher energy isobaric analogues has been studied by one of the present authors [39]. The validity of the method, however, is made uncertain by possible effects spoiling the relation. In the first place, the strength of some isobaric analogues at high excitation energies is known to be distributed over several levels with the same spin and parity. Even in cases where this interference effect has not been observed, it remains a possibility, and as such, it introduces an uncertainty in the energy level to be attributed to the IAS. In the second place, as argued by Thomas and Ehrman [36], particle-unstable levels must be expected to be shifted somewhat.

It also happens that information on excitation energies of  $T_3 = -T + 1$  isobaric analogue states is available from measurements on proton emission following  $\beta$ -decays of their  $T_3 = -T$  parents. Their authors, in some cases, derived from their results a mass value for the parent nuclide, using a formula derived by Antony *et al.* [40] from a study of known energy differences between isobaric analogues. We observe, however, that one obtains somewhat different mass values by combining Antony differences with the mass of the mirror nuclide of the mother. Also, earlier considerations did not take into account the difference between proton-pairing and neutron-pairing energies, which one of the present authors [AHW] noticed to have a not negligible influence on the constants in the IMME.

Another possibility is to use a relation proposed by Jänecke [41], as done for example by Axelsson *et al.* [42] in the case of  $^{31}\text{Ar}$ . We have in several cases compared the results of different ways for extrapolating, in order to find a best estimate for the desired mass value.

Enough values have been estimated to ensure that every nuclide for which there is any experimental  $Q$ -value is connected to the main group of primary nuclides. In addition, the evaluators want to achieve continuity of the mass surface. Therefore an estimated value is included for any nuclide if it is between two experimentally studied nuclides on a line defined by either  $Z = \text{constant}$  (isotopes),  $N = \text{constant}$  (isotones),  $N - Z = \text{constant}$  (isodispheres), or, in a few cases  $N + Z = \text{constant}$  (isobars). It would have been desirable to give also estimates for all unknown nuclides that are within reach of the present accelerator and mass separator technologies. Unfortunately, such an ensemble is practically not easy to define. Instead, we estimate mass values for all nuclides for which at least one piece of experimental information is available (e.g. identification or half-life measurement or proof of instability towards proton or neutron emission). Then, the ensemble of experimental masses and estimated ones has the same contour as in the NUBASE2012 evaluation (see p. 1159).

## 5 Calculation Procedures

The atomic mass evaluation is unique when compared to the other evaluations of data [30], in a sense that almost all mass determinations are relative measurements, not absolute ones. Even those called ‘absolute mass doubles’ are relative to  $^{12}\text{C}$ ,  $^{35}\text{Cl}$  or  $^{37}\text{Cl}$ . Each experimental datum sets a relation in mass or in energy among two (in a few cases three or more) nuclides. It can be therefore represented by one link among these two nuclides. The ensemble of these links generates a highly entangled network. Figs. 1a–1j, in Section 3 above, show a schematic representation of such a network.

The masses of a large number of nuclides are multiply determined, entering the entangled area of the canvas, mainly along the backbone. Correlations do not allow to determine their masses straightforwardly.

To take into account these correlations we use a least-squares method weighed according to the precision with which each piece of data is known. This method allows to determine a set of adjusted masses.

### 5.1 Least-squares method

Each piece of data has a value  $q_i \pm dq_i$  with the accuracy  $dq_i$  (one standard deviation) and makes a relation between 2, 3 or 4 masses with unknown values  $m_\mu$ . An overdetermined system of  $Q$  data to  $M$  masses ( $Q > M$ ) can be represented by a system of  $Q$  linear equations with  $M$  parameters:

$$\sum_{\mu=1}^M k_i^\mu m_\mu = q_i \pm dq_i \quad (1)$$

e.g. for a nuclear reaction  $A(a,b)B$  requiring an energy  $q_i$  to occur, the energy balance writes:

$$m_A + m_a - m_b - m_B = q_i \pm dq_i \quad (2)$$

thus,  $k_i^A = +1$ ,  $k_i^a = +1$ ,  $k_i^b = -1$  and  $k_i^B = -1$ .

In matrix notation,  $\mathbf{K}$  being the  $(Q, M)$  matrix of coefficients, Eq. 1 writes:  $\mathbf{K}|m\rangle = |q\rangle$ . Elements of matrix  $\mathbf{K}$  are almost all null: e.g. for  $A(a,b)B$ , Eq. 2 yields a line of  $\mathbf{K}$  with only four non-zero elements.

We define the diagonal weight matrix  $\mathbf{W}$  by its elements  $w_i^i = 1/(dq_i dq_i)$ . The solution of the least-squares method leads to a very simple construction:

$${}^t \mathbf{K} \mathbf{W} |m\rangle = {}^t \mathbf{K} \mathbf{W} |q\rangle \quad (3)$$

the NORMAL matrix  $\mathbf{A} = {}^t \mathbf{K} \mathbf{W} \mathbf{K}$  is a square matrix of order  $M$ , positive-definite, symmetric and regular and hence invertible [43]. Thus the vector  $|\bar{m}\rangle$  for the adjusted masses is:

$$|\bar{m}\rangle = \mathbf{A}^{-1} {}^t \mathbf{K} \mathbf{W} |q\rangle \quad \text{or} \quad |\bar{m}\rangle = \mathbf{R} |q\rangle \quad (4)$$

The rectangular  $(M, Q)$  matrix  $\mathbf{R}$  is called the RESPONSE matrix.

The diagonal elements of  $\mathbf{A}^{-1}$  are the squared errors on the adjusted masses, and the non-diagonal ones  $(a^{-1})_{\mu\nu}^v$  are the coefficients for the correlations between masses  $m_\mu$  and  $m_\nu$ . Values for correlation coefficients for the most precise nuclides are given in Table B of Part II (p. 1605). Following the advice of B.N. Taylor, we now also give on the web-site of the AMDC [8] the full list of correlation coefficients, allowing thus any user to perform exact calculation of any combination of masses.

One of the most powerful tools in the least-squares calculation described above is the flow-of-information matrix, discovered in 1984 by one of us [GAu]. This matrix allows to trace back the contribution of each individual piece of data to each of the parameters (here the atomic masses). The AME uses this method since 1993.

The flow-of-information matrix  $\mathbf{F}$  is defined as follows:  $\mathbf{K}$ , the matrix of coefficients, is a rectangular  $(Q, M)$  matrix, the transpose of the response matrix  ${}^t \mathbf{R}$  is also a  $(Q, M)$  rectangular one. The  $(i, \mu)$  element of  $\mathbf{F}$  is defined as the product of the corresponding elements of  ${}^t \mathbf{R}$  and of  $\mathbf{K}$ . In reference [44] it is demonstrated that such an element represents the “*influence*” of datum  $i$  on parameter (mass)  $m_\mu$ . A column of  $\mathbf{F}$  thus represents all the contributions brought by all data to a given mass  $m_\mu$ , and a line of  $\mathbf{F}$  represents all the influences given by a single piece of data. The sum of influences along a line is the “*significance*” of that datum. It has also been proven [44] that the influences and significances have all the expected properties, namely that the sum of all the influences on a given mass (along a column) is unity, that the significance of a datum is always less than unity and that it always decreases when new data are added. The significance defined in this way is exactly the quantity obtained by squaring the ratio of the uncertainty on the adjusted value over that on the input one, which is the recipe that was used before the discovery of the  $\mathbf{F}$  matrix to calculate the relative importance of data.

A simple interpretation of influences and significances can be obtained in calculating, from the adjusted masses and Eq. 1, the adjusted data:

$$|\bar{q}\rangle = \mathbf{K} \mathbf{R} |q\rangle. \quad (5)$$

The  $i^{\text{th}}$  diagonal element of  $\mathbf{K} \mathbf{R}$  represents then the contribution of datum  $i$  to the determination of  $\bar{q}_i$  (same datum): this quantity is exactly what is called above the *significance* of datum  $i$ . This  $i^{\text{th}}$  diagonal element of  $\mathbf{K} \mathbf{R}$  is the sum of the products of line  $i$  of  $\mathbf{K}$  and column  $i$  of  $\mathbf{R}$ . The individual terms in this sum are precisely the *influences* defined above.

The flow-of-information matrix  $\mathbf{F}$ , provides thus insight on how the information from datum  $i$  flows into each of the masses  $m_\mu$ .

The flow-of-information matrix cannot be given in full in a printed table. It can be observed along lines, displaying thus, for each datum, the nuclides influenced by this datum and the values of these *influences*. It can be observed also along columns to display for each primary mass all contributing data with their *influence* on that mass.

The first display is partly given in the table of input data (Table I) in column ‘Signf.’ for the *significance* of primary data and ‘Main infl.’ for the largest *influence*. Since in the large majority of cases only two nuclides are concerned in each piece of data, the second largest *influence* could easily be deduced. It is therefore not felt necessary to give a table of all *influences* for each primary datum.

The second display is given in Part II, Table II (p. 1673) for the up to three most important data with their *influence* in the determination of each primary mass.

## 5.2 Consistency of data

The system of equations being largely over-determined ( $Q \gg M$ ) offers the evaluator several interesting possibilities to examine and judge the data. One might for example examine all data for which the adjusted values deviate significantly from the input ones. This helps to locate erroneous pieces of information. One could also examine a group of data in one experiment and check if the uncertainties assigned to them in the experimental paper were not underestimated.

If the precisions  $dq_i$  assigned to the data  $q_i$  were indeed all accurate, the normalized deviations  $v_i$  between adjusted  $\bar{q}_i$  (Eq. 5) and input  $q_i$  data,  $v_i = (\bar{q}_i - q_i)/dq_i$ , would be distributed as a Gaussian function of standard deviation  $\sigma = 1$ , and would make  $\chi^2$ :

$$\chi^2 = \sum_{i=1}^Q \left( \frac{\bar{q}_i - q_i}{dq_i} \right)^2 \quad \text{or} \quad \chi^2 = \sum_{i=1}^Q v_i^2 \quad (6)$$

equal to  $Q - M$ , the number of degrees of freedom, with a precision of  $\sqrt{2(Q - M)}$ .

One can define as above the NORMALIZED CHI,  $\chi_n$  (or ‘consistency factor’ or ‘Birge ratio’):  $\chi_n = \sqrt{\chi^2/(Q - M)}$  for which the expected value is  $1 \pm 1/\sqrt{2(Q - M)}$ .

Another quantity of interest for the evaluator is the PARTIAL CONSISTENCY FACTOR,  $\chi_n^p$ , defined for a (homogeneous) group of  $p$  data as:

$$\chi_n^p = \sqrt{\frac{Q}{Q - M} \cdot \frac{1}{p} \sum_{i=1}^p v_i^2}. \quad (7)$$

Of course the definition is such that  $\chi_n^p$  reduces to  $\chi_n$  if the sum is taken over all the input data. One can consider for example the two main classes of data: the reaction and decay energy measurements and the mass-spectrometry data (see Section 5.5). One can also consider groups of data related to a given laboratory and with a given method of measurement and examine the  $\chi_n^p$  of each of them. There are presently 269 groups of data in Table I (among which 184 have at least one measurement used in determining the masses), identified in column ‘Lab’. A high value of  $\chi_n^p$  might be a warning on the validity of the considered group of data within the reported uncertainties. We used such analyses in order to be able to locate questionable groups of data. In bad cases they are treated in such a way that, in the final adjustment, no really serious cases occur. Remarks in Table I report where such corrections have been made.

## 5.3 Separating secondary data

In Section 3, while examining the diagrams of connections (Fig. 1), we noticed that, whereas the masses of *secondary* nuclides can be determined uniquely from the chain of secondary connections going down to a *primary* nuclide, only the latter see the complex entanglement that necessitated the use of the least-squares method.

In terms of equations and parameters, we consider that if, in a collection of equations to be treated with the least-squares method, a parameter occurs in only one equation, removing this equation and this parameter will not affect the result of the fit for all other data. We can thus redefine more precisely what was called *secondary* in Section 3: the parameter above is a *secondary* parameter (or mass) and its related equation a *secondary* equation. After solving the reduced set, the *secondary* equation can be used to find the value and uncertainty for that particular *secondary* parameter. The equations and parameters remaining after taking out all secondaries are called *primary*.

Therefore, only the system of *primary* data is over-determined, and thus will be improved in the adjustment, so that each *primary* nuclide will benefit from all the available information. *Secondary* data will remain unchanged; they do not contribute to  $\chi^2$ .

The diagrams in Fig. 1 show, that many *secondary* data exist. Thus, taking them out simplifies considerably the system. More importantly, if a better value is found for a *secondary* datum, the mass of the *secondary* nuclide can easily be improved (one has only to watch since the replacement can change other *secondary* masses down the chain, see Fig. 1). The procedure is more complicated for new *primary* data.

We define DEGREES for *secondary* nuclides and *sec-*

ondary data. They reflect their distances along the chains connecting them to the network of primaries. The first secondary nuclide connected to a primary one will be a nuclide of degree 2; and the connecting datum will be a datum of degree 2 as well. Degree 1 is for primary nuclides and data. Degrees for secondary nuclides and data range from 2 to 18. In Table I, the degree of data is indicated in column ‘Dg’. In the table of atomic masses (Part II, Table I, p. 1608), each *secondary* nuclide is marked with a label in column ‘Orig.’ indicating from which other nuclide its mass value is determined.

To summarize, separating secondary nuclides and secondary data from primaries allow to significantly reduce the size of the system that will be treated by the least-squares method described above. After treatment of the primary data alone, the adjusted masses for primary nuclides can be easily combined with the secondary data to yield masses of secondary nuclides.

In the next section we will show methods for reducing further this system, but without allowing any loss of information. Methods that reduce the system of primaries for the benefit of the secondaries not only decrease computational time (which nowadays is not so important), but

allows an easier insight into the relations between data and masses, since no correlation is involved.

*Remark:* the word *primary* used for these nuclides and for the data connecting them does not mean that they are more important than the others, but only that they are subject to the special treatment below. The labels *primary* and *secondary* are not intrinsic properties of data or nuclides. They may change from primary to secondary or reversely when other information becomes available.

## 5.4 Compacting the set of data

### 5.4.1 Pre-averaging

Two or more measurements of the same physical quantities can be replaced without loss of information by their average value and precision, reducing thus the system of equations to be treated. By extending this procedure, we consider *parallel* data: reaction data occur that give essentially values for the mass-difference between the same two nuclides, except in rare cases where the precision is comparable to that in the masses of the reaction particles. Example:  $^{14}\text{C}(^7\text{Li}, ^7\text{Be})^{14}\text{B}$  and  $^{14}\text{C}(^{14}\text{C}, ^{14}\text{N})^{14}\text{B}$ ; or  $^{22}\text{Ne}(\text{t}, ^3\text{He})^{22}\text{F}$  and  $^{22}\text{Ne}(^7\text{Li}, ^7\text{Be})^{22}\text{F}$ .

Table C. Worst pre-averagings.  $n$  is the number of data in the pre-average.

Item	$n$	$\chi_n$	$\sigma_e$	Item	$n$	$\chi_n$	$\sigma_e$
$^{249}\text{Bk}(\alpha)^{245}\text{Am}$	2	2.55	2.45	$^{223}\text{Pa}(\alpha)^{219}\text{Ac}$	2	2.09	10.0
$^{133}\text{Te}-^{130}\text{Xe}_{1.023}$	2	2.54	4.4	$^{27}\text{P}^i(2\text{p})^{25}\text{Al}$	2	2.08	75
$^{144}\text{Ce}(\beta^-)^{144}\text{Pr}$	2	2.44	2.18	$^{177}\text{Pt}(\alpha)^{173}\text{Os}$	2	2.06	6
$^{97}\text{Mo}(\text{p,n})^{97}\text{Tc}$	2	2.40	12.9	$^{244}\text{Cf}(\alpha)^{240}\text{Cm}$	2	2.03	4.0
$^{220}\text{Fr}(\alpha)^{216}\text{At}$	2	2.34	4.7	$^{15}\text{N}(\text{p,n})^{15}\text{O}$	2	2.03	1.4
$^{75}\text{As}(\text{n}, \gamma)^{76}\text{As}$	2	2.32	0.17	$^{58}\text{Fe}(\text{t,p})^{60}\text{Fe}$	4	2.03	7.4
$^{176}\text{Au}(\alpha)^{172}\text{Ir}$	2	2.31	17.6	$^{204}\text{Tl}(\beta^-)^{204}\text{Pb}$	2	2.03	0.39
$^{110}\text{In}(\beta^+)^{110}\text{Cd}$	3	2.29	28.4	$^{69}\text{Co-u}$	2	2.02	413
$^{43}\text{Cl-u}$	2	2.28	233	$^{167}\text{Os}(\alpha)^{163}\text{W}$	4	1.98	3.5
$^{166}\text{Os}(\alpha)^{162}\text{W}$	2	2.24	10.5	$^{106}\text{Ag}(\varepsilon)^{106}\text{Pd}$	2	1.98	6.6
$^{146}\text{Ba}(\beta^-)^{146}\text{La}$	2	2.24	107	$^{78}\text{Se}(\text{n}, \gamma)^{79}\text{Se}$	3	1.96	0.28
$^{154}\text{Eu}(\beta^-)^{154}\text{Gd}$	2	2.22	4.0	$^{46}\text{Ca}(\text{n}, \gamma)^{47}\text{Ca}$	2	1.94	0.56
$^{40}\text{Cl}(\beta^-)^{40}\text{Ar}$	2	2.21	76	$^{145}\text{Sm}(\varepsilon)^{145}\text{Pm}$	2	1.92	7.9
$^{219}\text{U}(\alpha)^{215}\text{Th}$	2	2.18	38	$^{234}\text{Th}(\beta^-)^{234}\text{Pam}$	3	1.90	2.10
$^{153}\text{Gd}(\text{n}, \gamma)^{154}\text{Gd}$	2	2.16	0.39	$^{242}\text{Pu}(\alpha)^{238}\text{U}$	2	1.89	2.08
$^{36}\text{S}(^{11}\text{B}, ^{13}\text{N})^{34}\text{Si}$	3	2.13	32	$^{230}\text{Th}(\text{d,t})^{229}\text{Th}$	2	1.89	8.6
$^{113}\text{Cs}(\text{p})^{112}\text{Xe}$	3	2.11	5.8	$^{99}\text{Ag}-^{85}\text{Rb}_{1.165}$	2	1.87	12.6

Such data are represented together, in the main least-squares fit calculations, by one of them carrying their average value. If the  $Q$  data to be pre-averaged are strongly conflicting, i.e. if the consistency factor (or Birge ratio, or normalized  $\chi$ )  $\chi_n = \sqrt{\chi^2/(Q-1)}$  resulting in the calcu-

lation of the pre-average is greater than 2.5, the (internal) precision  $\sigma_i$  in the average is multiplied by the Birge ratio ( $\sigma_e = \sigma_i \times \chi_n$ ). There are 2 cases where  $\chi_n > 2.5$ , see Table C (they were 6 in AME2003). The quantity  $\sigma_e$  is often called the ‘external error’. However, this treatment is not

used in the very rare cases where the precisions in the values to be averaged differ too much from one another, since the assigned uncertainties lose any significance (only one case in AME2003, none here.) If such a case occurs, considering policies from the Particle Data Group [45] and some statistical-treatment methods reviewed by Rajput and MacMahon [46], we adopt an arithmetic average and the dispersion of values as an uncertainty, which is equivalent to assigning to each of these conflicting data the same uncertainty.

In the present evaluation, we have replaced 2961 data by 1182 averages. As much as 23% of those have values of  $\chi_n$  (Birge ratio) beyond unity, 2.1% beyond two, none beyond 3, giving an overall very satisfactory distribution for our treatment. With the above choice of a threshold of  $\chi_n^0=2.5$  for the Birge ratio, only 0.17% of the cases are concerned by the multiplication by  $\chi_n$ . As a matter of fact, in a complex system like the one here, many values of  $\chi_n$  beyond 1 or 2 are expected to exist, and if errors were multiplied by  $\chi_n$  in all these cases, the  $\chi^2$ -test on the total adjustment would have been invalidated. This explains the choice we made here of a rather high threshold ( $\chi_n^0 = 2.5$ ), compared e.g. to  $\chi_n^0 = 2$  recommended by Woods and Munster [47] or  $\chi_n^0 = 1$  used in a different context by the Particle Data Group [45], for departing from the rule of ‘internal error’ of the weighted average.

Besides the computer-automated pre-averaging, we found it convenient, in the case of some  $\beta^+$ -decays, to combine results stemming from various capture ratios in an average. These cases are  $^{109}\text{Cd}(\varepsilon)^{109}\text{Ag}$  (average of 3 data),  $^{139}\text{Ce}(\varepsilon)^{139}\text{La}$  (average of 10) and  $^{195}\text{Au}(\varepsilon)^{195}\text{Pt}$  (5 results), and they are detailed in Table I. Four more cases occur in our list, but they carry no weight (they are then, as usual, labeled ‘U’ in Table I).

*Used policies in treating parallel data* In averaging  $\beta$ - (or  $\alpha$ -) decay energies derived from branches observed in the same experiment, to or from different levels in the decay of a given nuclide, the uncertainty we use for the average is not the one resulting from the least-squares, but instead we use the smallest occurring one. In this way, we avoid decreasing artificially the part of the uncertainty that is not due to statistics. In some cases, however, when it is obvious that the uncertainty is dominated by weak statistics, we do not follow the above rule (e.g.  $^{23}\text{Al}(\text{p})^{22}\text{Mg}$  of [1997B104]).

Some quantities have been reported more than once by the same group. If the results are obtained by the same method in different experiments and are published in regular refereed journals, only the most recent one is used in the calculation, unless explicitly mentioned otherwise. There are two reasons for this policy. The first is that one might expect that the authors, who believe their two re-

sults are of the same quality, would have averaged them in their latest publication. The second is that if we accept and average the two results, we would have no control on the part of the uncertainty that is not due to statistics. Our policy is different if the newer result is published in a secondary reference (not refereed abstract, preprint, private communication, conference, thesis or annual report). In such cases, the older result is used in the calculations, except when the newer one is an update of the previous value. In the latter case, the original reference in our list mentions the unrefereed paper.

#### 5.4.2 Replacement procedure

Large contributions to  $\chi^2$  have been known to be caused by a nuclide  $G$  connected to two other ones  $H$  and  $K$  by reaction links with errors large compared to the error in the mass difference between  $H$  and  $K$ , in cases where the two disagreed. Evidently, contributions to  $\chi^2$  of such local discrepancies suggest an unrealistically high value of the overall consistency parameter. This is avoided by a replacement procedure: one of the two links is replaced by an equivalent value for the other. The pre-averaging procedure then takes care both of giving the most reasonable mass value for  $G$ , and of not causing undesirably large contributions to  $\chi^2$ .

#### 5.4.3 Insignificant data

Another feature to increase the meaning of the final  $\chi^2$  is to not use, in the least-squares procedure, data with weights at least a factor 10 smaller than other data, or than combinations of *all* other data giving the same result. They are given in the list of input data but labeled ‘U’; comparison with the output values allows to check our judgment. Earlier, data were labeled ‘U’ if their weight was 10 times smaller than that of a *simple* combination of other data. This concept has been extended since AME1993 to data that weigh 10 times less than the combination of *all* other accepted data. Until the AME2003 evaluation, our policy was not to print data labeled ‘U’ if they already appeared in one of our previous tables, reducing thus the size of the table of data to be printed. This policy is changed in the present publication, and we try as much as possible to give all relevant data, including insignificant ones. The reason for this is that it often happens that conflicts might appear amongst recent results, then accessibility to older ones might be of help or shed some light, when evaluating the new data.

### 5.5 Used policies - treatment of undependable data

The important interdependence of most data, as illustrated by the connection diagrams (Figs. 1a–1j) allows local and general consistency tests. These can indicate that

something may be wrong with the input values. We follow the policy of checking all significant data that differ by more than two (sometimes 1.5) standard deviations from the adjusted values. Fairly often, study of the experimental paper shows that a correction is necessary. Possible reasons could be that a particular decay has been assigned to a wrong final level or that a reported decay energy belongs to an isomer, rather than to a ground state, or even that the mass number assigned to a decay has been shown to be incorrect. In such cases, the values are corrected and remarks are added below the corresponding  $A$ -group of data in Table I, in order to explain the reasons for the corrections.

It can also happen that a careful examination of a particular paper can lead to serious doubts about the validity of the results within the reported precision, but could not permit making a specific correction. Doubts can also be expressed by the authors themselves. The results are given, however, in Table I and compared with the adjusted values. They are labeled ‘F’, and not used in the final adjustment, but always followed by a comment to explain the reason for this label. The reader might observe that in several cases the difference between the experimental and adjusted values is small compared to the experimental uncertainty: this does not disprove the correctness of the label ‘F’ assignment.

It happens quite often that two (or more) pieces of data are discrepant, leading to important contribution to the  $\chi^2$ . A detailed examination of the papers may not allow correction or rejection, indicating that at least the result of one of them could not be trusted within the given uncertainties. Then, based on past experience, we use in the calculations the value that seems to us to be the most trustable, while the other is labeled ‘B’, if published in a regular refereed journal, or ‘C’ otherwise.

Data with labels ‘F’, ‘B’ or ‘C’ are not used in the calculations. We do not assign such labels if, as a result, no experimental value published in a regular refereed journal could be given for one or more resulting masses. When necessary, the policy defined for ‘irregular masses’ with ‘D’-label assignment may apply (see Section 4.2). In some cases, detailed analysis of strongly conflicting data could not lead to reasons to assume that one of them is more dependable than the others or could not lead to a rejection of a particular data entry. Also, bad agreement with other data is not the only reason to doubt the correctness of reported data. As in previous AME, and as explained above (see Section 4), we made use of the property of regularity of the surface of masses in making a choice, as well as in further checks on the other data.

We do not accept experimental results if information on other quantities (e.g. half-lives), derived in the same

experiment and for the same nuclide, were in strong contradiction with well established values.

## 5.6 The AME computer program

Our computer program in four phases has to perform the following tasks: **i**) decode and check the data file; **ii**) build up a representation of the connections between masses, allowing thus to separate primary masses and data from secondary ones, to pre-average same and parallel data, and thus to reduce drastically the size of the system of equations to be solved (see Section 5.3 and 5.4), without any loss of information; **iii**) perform the least-squares matrix calculations (see above); and **iv**) deduce the atomic masses (Part II, Table I), the nuclear reaction and separation energies (Part II, Table III), the adjusted values for the input data (Table I), the *influences* of data on the primary nuclides (Table I), the *influences* received by each primary nuclide (Part II, Table II), and display information on the inversion errors, the correlations coefficients (Part II, Table B), the values of the  $\chi^2$ s and the distribution of the  $v_i$  (see below), ...

## 5.7 Results of the calculation

In this evaluation we have 12437 experimental data of which 5376 are labeled ‘U’ (see above), 765 are labeled ‘O’ (old result from same group) and 740 are not accepted and labeled ‘B’, ‘C’, ‘D’ or ‘F’ (respectively 416, 144, 29 and 151 items). In the calculation we have thus 5556 valid input data, compressed to 3777 in the pre-averaging procedure. Separating secondary data, leaves a system of 1947 primary data, representing 1117 primary reactions and decays, and 830 primary mass-spectrometer measurements. To these are added 821 data estimated from TMS trends (see Section 4, p. 1297), some of which are essential for linking unconnected experimental data to the network of experimentally known masses (see Figs. 1a–1j).

In the atomic mass table (Part II, Table I) there is a total of 3827 masses (including  $^{12}\text{C}$ ) of which 3353 are ground state masses (2438 experimental masses and 915 estimated ones), and 464 are excited isomers (336 experimental and 128 estimated). Among the 2438 experimental ground state masses, 87 nuclides have a precision better than 0.1 keV, 315 better than 1 keV and 1438 better than 10 keV (respectively 45, 192 and 1020 in AME2003). There are 123 nuclides known with uncertainties larger than 100 keV (231 in AME2003). Separating secondary masses in the ensemble of 3827, leaves 1176 primary masses ( $^{12}\text{C}$  not included).

Thus, we have to solve a system of 1947 equations with 1176 parameters. Theoretically, the expectation value for  $\chi^2$  should be  $771 \pm 39$  (and the theoretical  $\chi_n =$

$1 \pm 0.025$ .

The total  $\chi^2$  of the adjustment is actually 765 ( $\chi_n = 0.996$ ), thus showing that the ensemble of evaluated data was of excellent quality, and that the criteria of selection and rejection we adopted were adequate. In the past this was not always the case and in AME2003 we could observe that on average the uncertainties in the input values were underestimated by 23%. The distribution of the  $v_i$ 's (the individual contributions to  $\chi^2$ , as defined in Eq. 6, and given in Table I) is also acceptable. If we consider all the 10531 data that are used in the adjustment plus the ‘obsolete’ ones (label ‘O’) and the unweighed ones (label ‘U’), the distribution of  $v_i$ 's yields 21% of the cases beyond unity, 4% beyond two, and 6 items (0.06%) beyond 3.

Considering separately the two main classes of data, the partial consistency factors  $\chi_n^p$  are respectively 1.021 and 0.962 for energy measurements and for mass-spectrometry data, showing that both types of input data, after selection, are of excellent quality.

As in our preceding works [1, 6], we have tried to estimate the average accuracy for 269 groups of data related to a given laboratory and with a given method of measurement, by calculating their partial consistency factors  $\chi_n^p$  (see Section 5.2). In general, the experimental uncertainties appear to be correctly estimated, with as much as 37% of the groups of data having  $\chi_n^p$  larger than unity, and 2.6% beyond  $\chi_n^p = 2$ .

## 6 Discussion of the input data

In most cases, values as given by authors in the original publication are accepted, but there are also exceptions. An example is the performed recalibration due to change in the definition of the volt, as discussed in Section 2. For somewhat less simple cases, a remark is added in Table I at the end of the concerned A-group. A curious example of combinations of data that cannot be accepted without change follows from the measurements of the Edinburgh-Argonne group. They report decay energies in  $\alpha$ -decay series, where the ancestors are isomers between which the excitation energy is accurately known from their proton-decay energies. These authors give values for the excitation energies between isomeric daughter pairs with considerably smaller errors than follow from the errors quoted for the measured  $\alpha$ -decay energies. The evident reason is, that these decay energies are correlated; this means that the errors in their differences are relatively small. Unfortunately, the presented data do not allow an exact calculation of both masses and isomeric excitation energies. This would have required that, instead of the two  $E_\alpha$  values of an isomeric pair, they would have given the error in their

difference (and, perhaps, a more exact value for the most accurate  $E_\alpha$  of the pair). Instead, entering all their  $Q_\alpha$  and  $E_1$  (isomeric excitation energies) values in our input file would yield outputs with too small errors. And accepting any partial collection makes some errors rather drastically too large. We therefore do enter here a selection of input values, but sometimes slightly changed, chosen in such a way that our adjusted  $Q_\alpha$  and  $E_1$  values and errors differ as little as possible from those given by the authors. A further complication could occur if some of the  $Q_\alpha$ 's are also measured by other groups. But until now, we found no serious troubles in such cases.

Necessary corrections to recent mass-spectrometer data are mentioned in Section 6.2.

A change in errors, not values, is caused by the fact explained below that in several cases we do not necessarily accept reported  $\alpha$ -energies as belonging to transitions between ground states. This also causes uncertainties in derived proton decay energies to deviate from those reported by the authors (e.g. in the  $\alpha$ -decay chain of  $^{170}\text{Au}$ ), see also Section 7.10.

### 6.1 Improvements along the backbone

After the publication of AME2003, only a few new measurements for stable nuclides that used the classical mass-spectrometers were published.

Most of the new mass-spectrometry data were obtained from precision measurements of ratios of cyclotron frequencies of ions in Penning traps. Similarly to the classical measurements, where ratios of voltages or resistances were used, we found that the Penning trap results can be converted to a linear combination of masses of electrically neutral atoms in  $\mu\text{u}$ , without any loss of accuracy. A special mention is for the MIT-FSU group who give their original results as linear equations, including corrections for electron and molecular binding energies, which can be easily used in our computer code. Other groups give their results as ratio of cyclotron frequencies (see also next paragraph), which we convert to linear equations as described in Appendix C, and finally we add corrections for electron and molecular binding energies. In such cases, we added a remark to the equation used in the input data table (Table I), to describe the original data and our treatment. Some authors publish their results directly as masses, but this is not a recommended practice for high-precision mass measurements.

### 6.2 Mass-spectrometry away from $\beta$ -stability

For the reader interested in the history of mass measurements by mass spectrometry, the resolving powers, resolutions and the discoveries they rendered possible in nuclear

physics as well as in cosmology, one of us has prepared a document [48].

### 6.2.1 Penning trap spectrometers

In addition to ISOLTRAP, the Penning trap spectrometer located at on-line mass separator facility ISOLDE at CERN, several others Penning traps have been operating at the major accelerators facilities around the world: CPT-Argonne, JYFLTRAP-Jyväskylä, LEBIT-East-Lansing, SHIPTRAP-Darmstadt, and TITAN-Vancouver. More are presently under construction. They produce experimental atomic masses for nuclides further away from the valley of  $\beta$ -stability, by using the cyclotron frequencies of charged ions captured in the trap. Such frequencies are always compared to that of a well known calibrator in order to determine the ratio of two masses, which is converted, without loss of accuracy, to a linear relation between the two masses (see also Section 6.1 above and Appendix C). Experimental methods that utilize measurements of cyclotron frequency have an advantage compared to volt or magnetic field measurements in a sense that the parameter that is needed in the former, namely the frequency, is the physical quantity that can be measured with the highest precision. In fact, very high resolving power ( $10^6$ ) and accuracies (up to  $10^{-8}$ ) are routinely achieved for nuclides located quite far from the line of  $\beta$ -stability. Such high resolving power made it possible in 1991 [49], for the first time in the history of mass-spectrometry, to resolve nuclear isomers from their ground state ( $^{84}\text{Rb}^m$ ) and to determine their excitation energies. Another beautiful demonstration was given in 2003 in [2004Va07] for  $^{70}\text{Cu}$ ,  $^{70}\text{Cu}^m$  and  $^{70}\text{Cu}^n$ , where in the same work the masses of the three isomers were determined by mass-spectrometry, and the excitation energies by  $\beta\gamma$  spectroscopy. Typically, the precision can reach 100 eV or better (60 eV for the difference between  $^6\text{He}$  and  $^7\text{Li}$  at TITAN-Vancouver, [2012Br03]). Even the most exotic nuclides, such as  $^{11}\text{Li}$  (8.75 ms) or  $^{74}\text{Rb}$  (64.78 ms), could be measured with precisions of 600 eV and 4 keV at the TITAN-Vancouver [2008Sm03] and ISOLTRAP-Cern [2007Ke09] facilities, respectively.

In earlier evaluations we found it necessary to multiply uncertainties in values from some groups of mass-spectrometry data [50] with discrete factors ( $F = 1.5, 2.5$  or  $4.0$ ) following the partial consistency factors  $\chi_n^p$  we found for these groups (see Section 5.2). Such a treatment is not necessary in the case of most the Penning trap which all have  $F = 1$  (except for the sub-group ‘Ma8’ [2006Mu05] from ISOLTRAP for which  $F = 1.5$ ).

### 6.2.2 Double-focussing mass-spectrometry

For nuclides far away from the valley of stability, mass-triplet measurements, in which undetectable system-

atic effects could build-up in large deviations when the procedure is iterated [1986Au02], could be recalibrated with the help of the Penning trap measurements. Recalibration was automatically obtained in the evaluation, since each mass-triplet was originally converted to a linear mass relation among the three nuclides, allowing both easy application of least-squares procedures, and automatic recalibration. In the present adjustment of data, most of the 181 original data, performed in the 80’s, are now outweighed, except for the most exotic (and thus the most interesting) ones. There are still 12 of them that contribute to the present adjustment, essentially for the most exotic nuclides:  $^{91}\text{Rb}$  for 12% of the determination of its mass,  $^{95}\text{Rb}$  (48%),  $^{99}\text{Rb}$  (13%),  $^{143}\text{Cs}$  (24%),  $^{144}\text{Cs}$  (30%),  $^{146}\text{Cs}$  (18%),  $^{147}\text{Cs}$  (21%) and the most exotic  $^{148}\text{Cs}$  (100%). In Table I, the relevant equations are normalized to make the coefficient of the middle isotope unity, so that they read e.g.

$$^{97}\text{Rb} - (0.490 \times ^{99}\text{Rb} + 0.511 \times ^{95}\text{Rb}) = 350 \pm 60 \text{ keV}$$

$$^{145}\text{Cs} - (0.392 \times ^{148}\text{Cs} + 0.608 \times ^{143}\text{Cs}) = -370 \pm 90 \text{ keV}$$

(the  $^{148}\text{Cs}$  symbol representing the mass excess of nuclide  $^{148}\text{Cs}$  in keV). The other two coefficients are three-digit approximations of

$$\frac{A_2}{A_3 - A_1} \times \frac{A_2 - A_1}{A_3} \quad \text{and} \quad \frac{A_2}{A_3 - A_1} \times \frac{A_3 - A_2}{A_1}$$

We took  $A$  instead of  $M$  in order to arrive at coefficients that do not change if the  $M$ -values change slightly. The difference is unimportant.

### 6.2.3 Radio-frequency mass-spectrometry

The Orsay Smith-type mass-spectrometer MISTRAL, also connected to ISOLDE, has performed quite precise measurements of very short-lived light nuclides, before the Penning traps could cover all the possibilities that were offered by a transmission mass-spectrometer in terms of instant measurements. There are still 8 of the measurements performed with MISTRAL that are used in this evaluation for the determination of the masses of  $^{26}\text{Ne}$ ,  $^{26,27,28,29}\text{Na}$  and  $^{29}\text{Mg}$ .

### 6.2.4 Classical time-of-flight

Mass measurements by time-of-flight mass spectrometry technique at SPEG (GANIL) and TOFI (Los Alamos), also apply to very short nuclides, due to instant measurements, but the precisions are much lower than with MISTRAL. Masses of almost undecelerated fragment products, coming from thin targets bombarded with heavy ions [51] or high energy protons [52] are measured from a combination of magnetic deflection and time of flight determination. Nuclides in an extended region in  $A/Z$  and  $Z$  are

analyzed simultaneously. Each individual ion, even if very short-lived ( $1\mu s$ ), is identified and has its mass measured at the same time. In this way, mass values with accuracies of ( $3 \times 10^{-6}$  to  $5 \times 10^{-5}$ ) are obtained for a large number of neutron-rich nuclides of light elements, up to  $A = 70$ . A difficulty is that the obtained value applies to an isomeric mixture where all isomers with half-lives of the order of, or longer than the time of flight (about  $1\mu s$ ) may contribute. The resolving power, around  $10^4$ , and cross-contaminations can cause significant shifts in masses. The most critical part in these experiments is calibration, since obtained from an empirically determined function, which, in several cases, had to be extrapolated rather far from the calibrating masses. It is possible that, in the future, a few mass-measurements far from stability may provide better calibration points and allow a re-analysis of the concerned data, on a firmer basis. Such recalibrations require analysis of the raw data and cannot be done by the evaluators. With new data from other methods allowing now comparison, we observed strong discrepancies for one of the two groups, and had to increase thus the associated partial consistency factor to  $F = 1.5$ . We noted already earlier that important differences occurred between ensemble of results within this group of data. Using  $F = 1.5$  for data labeled 'TO1-TO6' in the 'Lab' column of Table I, allows to recover consistency.

### 6.2.5 Cyclotron time-of-flight

Longer time-of-flights (50 to  $100\mu s$ ), thus higher resolving powers, can be obtained with cyclotrons. The accelerating radio-frequency is taken as reference to ensure a precise time determination, but this method implies that the number of turns of the ions inside the cyclotron, should be known exactly. This was achieved successfully at SARA-Grenoble for the mass of  $^{80}\text{Y}$ . Measurements performed at GANIL with the CSS2 cyclotron, could not determine the exact number of turns. In a first experiment on  $^{100}\text{Sn}$ , a careful simulation was done instead. In a second experiment on  $^{68}\text{Se}$ ,  $^{76}\text{Sr}$ ,  $^{80}\text{Sr}$  and  $^{80}\text{Y}$ , a mean value of the number of turns was experimentally determined for the most abundant species only, thus mainly the calibrants. Penning traps measurements at the CPT-Argonne, JYFLTRAP-Jyväskylä and ISOLTRAP revealed that this last method suffered serious systematic errors. Remeasurement at GANIL with the CSS2 cyclotron with improved method confirm the Penning trap data.

### 6.2.6 Storage ring time-of-flight

Similarly, long flight path can be obtained in a storage ring. The first set-up of this type is the GSI-ESR at Darmstadt. The precision of the measurements could be as good as  $90\text{ keV}$  even for nuclides quite far from stability. The second one at the IMP-CSR at Lanzhou could achieve pre-

cision better than  $10\text{ keV}$ . The accuracy is excellent for both yielding partial consistency factors of  $F = 1.0$  for the IMP-CSR, slightly less for the GSI-ESR set-up with  $F = 1.5$ .

### 6.2.7 Cooled beam cyclotron frequency

Storage rings could also be used with cooled beams to measure the cyclotron frequency as has been demonstrated since 2003 at the GSI-ESR storage ring, with precisions sometimes as good as  $12\text{ keV}$ . Many of the measured nuclides belong to known  $\alpha$ -decay chains. Thus, the available information on masses for proton-rich nuclides is considerably extended.

It must be mentioned that in the first group of mass values as given by GSI authors [2000Ra23], several could not be accepted without changes. The reason is that in their derivation  $\alpha$ -decay energies between two or more of the occurring nuclides have been used. Evidently, they could therefore not without correction be included in our calculations, where they are again combined with these  $Q_\alpha$ 's. Remarks added to the data in Table I warn for this matter where important. This point is added here to show a kind of difficulty we meet more often in this work. Fortunately, for this group of data it is only of historical interest since all their data are outdated by more recent measurements [2005Li24] with the same instruments and with a much higher precision. Since then, a wealth of measurements of very high quality were published using this technique, see e.g. [2012Ch19] and references therein.

### 6.2.8 Isomeric mixtures

As stated above, many mass-spectrometer results yield an average mass value  $M_{exp}$  for a mixture of isomers. Here, we use a special treatment for the possible mixture of isomers (see Appendix B) and those changes are duly included in remarks accompanying these data.

The mass  $M_0$  of the ground state can be calculated if both the excitation energy  $E_1$  of the upper isomer, and the relative intensities of the isomers are known. But often this is not the case. If  $E_1$  is known but not the intensity ratio, one must assume equal probabilities for all possible relative intensities. In the case of one excited isomer, see Appendix B, the mass estimate for  $M_0$  becomes  $M_{exp} - E_1/2$ , and the part of the error due to this uncertainty  $0.29E_1$  (see Appendix B, Section B.4). This policy was defined and tested first for the GSI-ESR cooled beam cyclotron frequency data and was discussed with the authors of the measurements. In eight cases, more than two isomers contribute to the measured line. They are treated as indicated in Appendix B.

A further complication arises if  $E_1$  is not known. This, in addition to questions related to  $\alpha$ -decay chains involving isomers, was a reason for us to consider the matter of

isomers with even more attention than was done before. Part of the results of our estimates (as always, flagged with '#') are incorporated in the NUBASE evaluation. In estimating the  $E_1$  values, we first look at experimental data possibly giving lower limits: e.g. if it is known that one of two isomers decays to the other; or if  $\gamma$  rays of known energy occur in such decays. If not, we try to interpolate between  $E_1$  values for neighboring nuclides that can be expected to have the same spin and configuration assignments (for odd  $A$ : isotones if  $Z$  is even, or isotopes if  $Z$  is odd). If such a comparison does not yield useful results, indications from theory were sometimes accepted, including upper limits for transition energies following from the measured half-lives. Values estimated this way were provided with somewhat generous errors, dutifully taken into account in deriving final results.

In several of these measurements, an isomer can only contribute if its lifetime is relatively long (hundreds of milliseconds or longer). However, half-life values given in NUBASE are those for neutral atoms. For bare nuclides, where all electrons are fully stripped from the atom, the lifetimes of such isomers can be considerably longer, since the decay by conversion electrons is switched off. Examples are the reported mass measurements [2005Li24] of the 580 ms  $^{151}\text{Er}^m$  isomer at  $E_1=2586.0\text{ keV}$  excitation energy; and of the 103 ms  $^{117}\text{Te}^m$  isomer at  $E_1=296.1\text{ keV}$ .

### 6.3 Mass of unbound nuclides

In the light mass region, many nuclides beyond the driplines can be accessed in nowadays experiments. They can decay by direct proton or neutron emission. The half-lives of these unbound nuclides are too short for them to acquire their outer electrons (which takes around  $10^{-14}\text{ s}$ ), and to form atoms. However, we still convert their masses to "atomic masses" to have them treated consistently with other nuclides and be used conveniently in our tables. It's an experimental challenge to study these unbound nuclides far from stability: only very few events can be observed. Most often, theoretical calculations are required to extract their properties from the experimental data.

On the proton rich side, resonant states could be formed due to the Coulomb barrier. There are different approaches to study these states: transfer reaction with missing mass spectrum, proton scattering, and complete kinematic measurement with invariance mass spectrum. For a broad resonant state, the definition of the resonance energy and width is not unique. For example, in Ref. [2004Go15],  $^{15}\text{F}$  is studied by using the inverse kinematical measurement of proton elastic scattering on  $^{14}\text{O}$ . From the same experimental data, the proton decay energy of

$^{15}\text{F}$  is obtained to be  $1.29_{-0.06}^{+0.08}\text{ MeV}$  where the energy at which the magnitude of the internal wave function is a maximum, or  $1.45_{-0.10}^{+0.16}\text{ MeV}$  where the nuclear phase shift has the value  $\delta = \pi/2$ . Since the latter value is consistent with values obtained by transfer reactions and complete kinematic measurements, it is adopted in our evaluation.

Some single proton resonant states could be accessed through the two proton decay. Their properties can be used or extracted from the two proton decay studies. In [2008Mu13], the authors quoted the value of  $Q_p = 1560 \pm 130\text{ keV}$  from [2004Le12] as the ground state of  $^{15}\text{F}$  to study the 2p decay of  $^{16}\text{Ne}$ ; Similarly,  $Q_p = 1300 \pm 170\text{ keV}$  for  $^{18}\text{Na}$  from [2004Ze05] to study the 2p decay of  $^{19}\text{Mg}$ . In [2012Mu05], the same experimental data were reanalyzed and the resonant state of  $^{18}\text{Na}$  is reconstructed from p+ $^{17}\text{Ne}$  independently. The ambiguous interpretation of the  $^{18}\text{Na}$  states in [2004Ze05] is also clarified.

On the neutron rich side of the nuclear chart, the mass of unbound nuclides close to the stability line can be determined with missing mass method using transfer reactions, or with invariant mass method using radioactive ion (RI) beams. Recently the RI beams and detection techniques have been developed impressively and new masses of unbound nuclides in this region are obtained by using invariant mass method.

Since there is no Coulomb barrier, it is the centrifugal barrier that will play an important role to have a resonant state. For an s-wave neutron, no barrier exists, and an asymmetric peak situated at the threshold is a general feature of spectra obtained in s-wave elastic neutron-nucleus scattering. This state is usually referred to as a virtual state, which has no definite lifetime and thus differs strongly from a real resonance state. The virtual state can be characterized by the scattering length; its eigen energy is approximately  $\hbar^2/2\mu a_s^2$ , where  $\mu$  is the reduced mass and  $a_s$  is the scattering length.

In AME2003, a  $1/2^+$  s-state was assigned as the g.s. for  $^{13}\text{Be}$ , based on [2001Th01], where this virtual state is found unbound with respect to  $^{12}\text{Be}$  and a neutron by  $< 200\text{ keV}$  from the scattering length of  $a_s < -10\text{ fm}$ . Later work of [2008Ch07] seems to support this result with  $a_s = -10\text{ fm}$ . However, these results have been questioned by [2010Ko17], where the authors state: "*a mimic resonant peak may appear in a two-body relative energy spectrum obtained in an experiment with limited neutron-detection efficiency via a breakup reaction in which more than one neutron can be emitted. The sequential neutron decay spectroscopy measurements [2001Th01], [2008Ch07] where  $^{13}\text{Be}$  was produced by the breakup of  $^{18}\text{O}$  and  $^{48}\text{Ca}$  may have suffered from this*

problem.” In [2010Ko17], the reaction  ${}^1\text{H}({}^{14}\text{Be}, {}^{12}\text{Be} + \text{n})$  was studied, which is expected to be a clear way to populate the unbound  ${}^{13}\text{Be}$ . A scattering length  $a_s = -3.4(0.6)$  fm was obtained in this experiment. This result is supported by [2007Si24], where fragmentation of  ${}^{14}\text{Be}$  on a carbon target was used and  $a_s = -3.2_{-1.1}^{+0.9}$  fm was obtained. From these results, we assign now the  $1/2^-$  state to be the g.s. of  ${}^{13}\text{Be}$ , whereas it was the  ${}^{13}\text{Be}^p$  state in NUBASE2003.

## 6.4 Isobaric Analogue states IAS

**Definitions and notation** For isobars around the  $N = Z$  line, and in particular for mirror nuclides, the main difference between their masses can be attributed to the charge symmetry of the nucleon-nucleon interaction [1971Be29]. A more extensive mass relationship can be observed in isobars belonging to the same isospin multiplet around  $N = Z$ . In this case the ground state of a given nuclide may be identified as an excited state in the multiplet members. These isobaric analogue states (IAS) therefore have, by definition, the same spin-parity and isospin attributions. Their relative masses may be used to explore the charge-symmetry and charge-independence of the nuclear interaction via the isobaric mass multiplet equation (IMME) [53], and with calculations of the Coulomb Displacement Energy (CDE) (see for example [40], and references therein).

The localization of IAS multiplets on the chart of the nuclides is illustrated in Fig. 3.

### $T = 1$ and $T = 2$ multiplets

In Fig. 3, the line going from bottom left to top right designates the  $N = Z$  axis. The black line joining  ${}^{38}\text{Ca}$ ,  ${}^{38}\text{K}$ , and  ${}^{38}\text{Ar}$  are members of the same  $T=1$  isospin triplet. By convention, the IAS multiplet is defined by its lowest  $Z$  member, and in this example it is  ${}^{38}\text{Ar}$ . We therefore expect to find an excited state in  ${}^{38}\text{K}$  which is the IAS of ground state  ${}^{38}\text{Ar}$ . To differentiate between ground states (gs), isomers ( $m, n, \dots$ ), and IAS, the IAS is labeled  ${}^{38}\text{K}^i$ .

Members of the  $A = 38$ ,  $T = 2$  multiplet are shown by the red line extensions to the black line. The IAS of ground state  ${}^{38}\text{Cl}$  should exist in  ${}^{38}\text{Ar}$ ,  ${}^{38}\text{K}$ , and  ${}^{38}\text{Ca}$ . Since  ${}^{38}\text{K}$  has levels which could be part of either the  $T = 1$  or  $T = 2$  isospin multiplets for  $A = 38$ , extra notation is required to distinguish between the two expected IAS. The triplet and quintuplet IAS in  ${}^{38}\text{K}$  are written as  ${}^{38}\text{K}^i$  and  ${}^{38}\text{K}^j$ , respectively. The superscripts  $i$  and  $j$  designating successively higher multiplet members. The  $j$  levels are commonly called *double IAS*’s.

### $T = 3/2$ and $T = 5/2$ multiplets

To complete the illustration of the IAS multiplet location on the nuclide chart, a case for odd- $A$  is also shown.

The  $A = 39$  IAS quadruplet is composed of Ar, K, Ca, and Sc as shown by the blue connecting line. The Ar ground state should show up as an excited IAS in K and Ca. The green extensions connect the  $T = 5/2$  sextuplet members, Cl and Ti, and so in this IAS multiplet it is the analogue ground state of Cl that is looked for in the multiplet members. The lower  $T = 3/2$  IAS members in both K and Ca are denoted with the superscript  $i$  ( ${}^{39}\text{K}^i$  and  ${}^{39}\text{Ca}^i$ ), and the  $T = 5/2$  IAS by  $j$  ( ${}^{39}\text{K}^j$  and  ${}^{39}\text{Ca}^j$ ).

### Exceptions

In general, IAS multiplets are naturally delimited by ground state mirror nuclides. However, the relationship between ground state masses being the main subject of the AME, these configurations have always been naturally included in the evaluation. We do not label these states in any particular way, and they are not included in the IAS statistics of the following paragraphs.

In two cases,  ${}^{16}\text{N}^m$  and  ${}^{26}\text{Al}^m$ , it turns out that the IAS also happens to be an excited isomeric state. In these cases we have given preference to the isomeric notation.

**IAS updates** The most recent IAS evaluation in the AME dates back to 1993 [3]. In the present edition we re-introduce and update the IAS experimental data. The evaluation procedure is the same as for ground state masses and isomers, the global mass matrix being minimized in a single step.

Nuclides from  $A = 6$  to  $A = 74$ , and mainly for isospins  $T = 1$ ,  $3/2$ ,  $2$ , and  $5/2$  were studied. Roughly 117 nuclear excited states were retained as being experimentally identified IAS, of which around 50 are precise enough to survive through to the final evaluated mass table.

In most cases, when reaction data has been evaluated, the precision of IAS masses has been bettered. However, in the case of  ${}^{73}\text{Rb}^i$ , even though the excited IAS level is known to  $\pm 40$  keV, the ground state has not yet been measured, and can only be estimated. Hence the final estimate for the excitation energy is given with a precision of 100# keV.

Only one new IAS has been included in this evaluation,  ${}^{44}\text{V}^i$ , from recent experimental measurements of beta-delayed proton emission [2007Do17].

**Beta-delayed proton emitters** In general, when an IAS decays via internal transitions, even with a low branching ratio, the associated gamma measurements will generally provide more precise data than that obtained through external relationships with other nuclides. In the current evaluation, 33 cases of beta-delayed IAS proton emission are considered, most of which provide a more precise IAS mass evaluation as compared to previous ones.



Figure 3: Excerpt from the chart of nuclides. The ground state spin-parities are given for each nuclide. The ground state isospin  $T$  is given when it deviates from the expected value based on a charge independent nuclear force. Members of the same multiplet naturally show up through the symmetry of the  $N = Z$  axis.

The biggest change in precision comes from the recently published results on  $^{45}\text{V}^i$  [2007Do17] where a proton-gamma coincidence method provides a 9 keV precision on the Q-value, as compared to the previous, first identification of this IAS by Jackson *et al.* in 1974, with a 50 keV precision [1974Ja10].

**Fragmented states** Fragmented IAS levels have been seen to occur in eleven cases evaluated here. They are  $^{8}\text{Be}^i$ ,  $^{44}\text{Ti}^j$ ,  $^{48}\text{Cr}^j$ ,  $^{56}\text{Co}^i$ ,  $^{56}\text{Ni}^j$ ,  $^{57}\text{Ni}^i$ ,  $^{58}\text{Co}^i$ ,  $^{59}\text{Ni}^i$ ,  $^{59}\text{Cu}^i$ ,  $^{61}\text{Cu}^i$ , and  $^{64}\text{Cu}^i$ . In these cases the IAS is spread over several isospin mixed levels. The first phenomenological description of fragmented IAS was given by A.M. Lane [54] using a spectral line broadening theory; a full description of the experimental application can be found in [1971Be29] (and references therein).

In this case the simple relationship between isobaric multiplet members breaks down, since there is no longer

a single IAS level observed, but several isospin impure fragments. The sum of the individual IAS fragments, and their relative intensities, are considered in the final IAS mass evaluation. Our choice is to use the main experimentally observed mass fragment (“strongest fragment” in Table I) in the current evaluation. The excitation energies of the other fragments, along with their relative intensity when known, are provided in the associated comment. The original experimental observations are thus reported as accurately as possible.

## 6.5 Proton- and $\alpha$ -decays

In some cases, proton-decay energies can be estimated from proton-decay half-lives. Estimates for the following nuclides could thus be obtained:

Nuclide	$T_{1/2}$	$S_p$ (keV)	Adopted $S_p$
$^{64}\text{As}$	$40 \pm 30\text{ ms}$	$> -100$	$20\# \pm 300\#$
$^{68}\text{Br}$	$< 1.5\text{ }\mu\text{s}$	$< -500$	$-850\# \pm 300\#$
$^{73}\text{Rb}$	$< 30\text{ ns}$	$< -570$	$-570\# \pm 100\#$
$^{77}\text{Y}$	$63 \pm 17\text{ ms}$	$> -180$	$-180\# \pm 50\#$
$^{81}\text{Nb}$	$< 80\text{ ns}$	$< -1000$	$-1280\# \pm 1540\#$
$^{89}\text{Rh}$	$> 1.5\text{ }\mu\text{s}$	$> -860$	$-1080\# \pm 200\#$

These limits were used as a guide, but not the only one, to set our estimated  $S_p$ , thus masses, for these nuclides.

Experimental data are now available for many proton-rich nuclides, from  $^{97}\text{Ag}$  to  $^{185}\text{Bi}$ ; among them for all intermediary odd- $Z$  nuclides with the exception of  $^{49}\text{In}$  and  $^{61}\text{Pm}$ .

These results are important for two main reasons. Firstly, knowledge of proton separation energies just beyond the proton drip line is quite valuable in allowing estimate of mass values for nuclides for which no experimental data is available. Secondly, there are several cases where proton-decay energies from both members of an isomeric pair were measured, so one can determine the energy of a particular excited isomer. In addition, the lifetime of a proton-emitting nuclide is sensitive to the  $l$  value carried out by the proton and this can be used in turn to obtain reliable information about the spins and parities of the parent, and daughter states. This feature is even more valuable, since often the  $\alpha$ -decay of both members is observed. Combination of long  $\alpha$ -decay chains with proton decays offers a somewhat complete view of extended regions of the chart in the neighborhood of the proton drip-line. These studies showed that several decays earlier assigned to ground states do belong in reality to upper isomers. Also, these measurements are found to yield good values for the excitation energies of the isomers among the descendants. We here follow the judgment of the authors, including their judgment about the final levels fed in those  $\alpha$ -decays.

Often in  $\alpha$ -decay studies of odd- $N(Z)$  and odd-odd nuclides, the level fed directly by the  $\alpha$  particle is not known. A comprehensive investigation that we have performed some time ago suggested, that in most cases when the decay does not go directly to the ground state, the final level is relatively close to the ground state. In such cases, we adopted the policy of accepting the measured  $E_\alpha$  as feeding the ground state, but assigning a special label (not given in Table I) to indicate that a close-lying excited level may be also fed. This label will indicate to our computer program that the uncertainty, after possible pre-averaging of data of the same kind (also given in Table I), is to be increased to 50 keV.

The above mentioned results of proton decay analysis have been a reason to omit the mentioned label in several cases. One has to be also careful with the use of this la-

bel if mass-spectrometry results with a precision of about 50 keV or better are known for the parent and daughter nuclides. Comparison with theoretical models may also suggest to drop the mentioned above label; or just reversely to not accept a reported  $\alpha$  energy.

In some cases, TMS estimates and theoretical predictions of  $\alpha$ -decay energies indicate that the excitation energy  $E_1$  of the final level may be much higher. Then, an estimate for the excited level energy (provided with a generous error) is added as an input value.

In regions where the Nilsson model for deformed nuclides applies, it is expected that the most intense  $\alpha$  transition connects parent and daughter levels that have the same quantum numbers and configurations. (It is not rarely the only observed  $\alpha$ -ray.) In such a case, adding an estimate for  $E_1$  is attractive. Frequently, the energy difference between the excited and ground states can be estimated by comparison with the energy differences between the corresponding Nilsson levels in nearby nuclides.

Unfortunately, some authors derive a value they call  $Q_\alpha$  from the measured  $\alpha$ -particle energy by not only correcting for the recoil energy, but also for screening by atomic electrons (see Appendix A). In our calculations, the latter corrections have been removed.

Finally, some measured  $\alpha$ -particle energies are affected by the coincidence summing between the  $\alpha$  particle that feeds an excited level of the daughter nuclide and the conversion electrons that follow the decay of this level. This is sometimes apparent from the reported  $\alpha$  spectra, since the width of the observed line is larger than that of other ones. In some cases, spurious  $\alpha$  peaks can be observed. When deriving the corresponding  $Q_\alpha$  values, appropriate (small) corrections are made for the escaping X-rays. Those are mentioned in a remark added to such a case.

## 6.6 Decay energies from capture ratios and relative positron feedings

For allowed transitions, the ratio of electron capture in different shells is proportional to the ratio of the squares of the energies of the emitted neutrinos, with a proportionality constant dependent on  $Z$  and quite well known [55]. For (non-unique) first forbidden transitions, the ratio is not notably different; with few exceptions. The neutrino energy mentioned is the difference of the transition energy  $Q$  with the electron binding energy in the pertinent shell. Especially if the transition energy is not too much larger than the binding energy in, say, the  $K$  shell, it can be determined rather well from a measurement of the ratio of capture in the  $K$  and  $L$  shells.

The non-linear character of the relation between  $Q$  and

the ratio introduces two problems. In the first place, a symmetrical error for the ratio is generally transformed in an asymmetrical one for the transition energy. Since our least-squares program cannot handle them, we have symmetrized the probability distribution by considering the first and second momenta of the real probability distribution (see NUBASE2012, Appendix A, p. 1173). The other problem is related to averaging of several values that are reported for the same ratio. Our policy, since AME1993, is to average the capture ratios, and calculate the decay energy following from that average. An example is  $^{139}\text{Ce}(\varepsilon)^{139}\text{La}$  (see p. 1482), where the 10 results that are averaged are all given in the following remarks. In this procedure we used the best values [55] of the proportionality constant. We also recalculated older reported decay energies originally calculated using now obsolete values for this constant.

The ratio of positron emission and electron capture in the transition to the same final level also depends on the transition energy in a known way (anyhow for allowed and not much delayed first forbidden transitions). Thus, the transition energy can be derived from a measurement of the relative positron feeding of the level, which is often easier than a measurement of the positron spectrum endpoint (e.g.  $^{147}\text{Tb}(\beta^+)^{147}\text{Gd}$ , now labeled ‘U’, p. 1494). For several cases we made here the same kind of combinations and corrections as mentioned for capture ratios. But in this case, a special difficulty must be mentioned. Positron decay can only occur when the transition energy exceeds  $2m_ec^2 = 1022$  keV. Thus, quite often, a level fed by positrons is also fed by  $\gamma$ -rays coming from higher levels fed by electron capture. Determination of the intensity of this *side* feeding is often difficult. Cases exist where such feeding occurs by a great number of weak  $\gamma$ -rays easily overlooked (the *pandemonium* effect [11]). Then, the reported decay energy may be much lower than the real value. In judging the validity of experimental data, we kept this possibility in our mind.

## 6.7 $Q_\beta$ far from $\beta$ -stability

In the present work, the mass surface for nuclides far away from the valley of  $\beta$ -stability is observed to be located much higher than was previously believed. This is largely due to an underestimation of the  $Q_\beta$  decay energies, which were measured in the past using the end-point energy method. For nuclides far from the valley of stability, the decay energies become very large offering accessibility to many states in the daughter nuclide. The combination of many individual continuous  $\beta$ -decay spectra renders the analysis very difficult. The maximum energy analysis method is also not reliable, since there is no guarantee that the ground state is significantly fed. Also the

$\beta - \gamma$  coincidence method can suffer from the ‘pandemonium’ effect [11].

As an example, in AME2003 the mass excess of the proton-rich nuclide  $^{85}\text{Nb}$  was determined as  $M - A = 67150 \pm 220$  keV. This value was derived from the measured  $Q_\beta$  in [1988Ku14], where the authors already noticed that their experimental  $Q_\beta$  was “noticeably lower than predicted values from mass formulae”. The masses of  $^{85}\text{Nb}$  and  $^{85}\text{Zr}$  were recently measured with high precision using a Penning trap, and the  $Q_\beta$  value was thus determined to be about 900 keV higher than obtained in [1988Ku14]. The masses of  $^{85}\text{Nb}$  and  $^{85}\text{Zr}$  are now respectively 870 keV higher and 25 keV lower than in AME2003 with 2 orders of magnitude higher precisions.

The deduced higher values of atomic masses for exotic nuclides in the present work will have important consequences for nuclear astrophysics and nuclear energy applications, see the discussion in Ref. [56].

To conclude, for nuclei very far from the valley of stability, results from  $Q_\beta$  end-point measurements should be treated with caution. In such cases, data available from Penning traps and/or storage rings facilities should always be given a priority.

## 6.8 Superheavy nuclides

The search for superheavy nuclides (SHE) and elucidation of their properties is one of the prominent areas of the modern nuclear physics research. In the last several years the nuclear chart was extended impressively in the heaviest mass region up to the element with an atomic number of  $Z = 118$ . However, the exactness of the mass surface built with the available data is far from being perfect (see Part II, Fig. 9, p. 1835 and also Fig. 36, p. 1862).

**Names and symbols** At the time when AME2003 was published, SHE up to  $Z = 109$  were officially named by The Commission on Nomenclature of Inorganic Chemistry of the International Union of Pure and Applied Chemistry (IUPAC) [57]. However and to be complete, if the user is to compare AME2012 with some older versions of AME or NUBASE, he should be aware that in the past some confusion occurred in the naming of elements, due to IUPAC revising in 1997 some earlier proposals (see also NUBASE2012, Section 2, p. 1159) and changing symbols and names for  $Z = 104, 105, 106$  and 108 elements as follows:

104	rutherfordium	Rf	replacing	Db
105	dubnium	Db	"	Jl
106	seaborgium	Sg	"	Rf
108	hassium	Hs	"	Hn

Since then, the names of five additional SHE were also approved: the  $Z = 110, 111$  and 112 elements were named

Darmstadtium, Roentgenium and Copernicium, respectively, as proposed by the SHIP group at GSI; while the elements 114 and 116 were named Flerovium and Livermorium, respectively, following the proposal by the Dubna-Livermore collaboration. The provisional symbols Ed, Ef, Eh, and Ei are used in AME2012 for the yet unnamed elements 113, 115, 117, and 118, respectively.

**Experimental methods** Since  $\alpha$  decay is the dominant decay mode in the region of super-heavy nuclides, knowledge of masses of SHE is most often obtained from measured  $E_\alpha$  energy in  $\alpha$  decay chains going down to a nuclide with known mass. Spatial and time-correlated  $\alpha$ -decay (and SF) spectroscopy measurements of SHE continue to provide useful information about their properties. However, it often happens that  $\alpha$  chains end-up on a nuclide decaying only by spontaneous fission (SF), offering thus no link to known masses. For example, the SF decay of  $^{266}\text{Sg}$  does not allow to determine the mass of the doubly magic nuclide  $^{270}\text{Hs}$ .

A very important development in this mass region since AME2003 was the first direct mass measurements of several isotopes of No ( $Z = 102$ ) and Lr ( $Z = 103$ ) at the SHIPTRAP facility at GSI. Those results provided anchor points for the values of atomic masses in this remote region of the nuclear chart. In general, the newly measured masses agree reasonably well with those deduced from known  $Q_\alpha$  values of long  $\alpha$  chains, thus giving confidence not only for the reliability of masses for SHE reported in the present work, but also for the  $Q_\alpha$  obtained up to here and to the treatment and policies we used.

**Alpha decay of superheavy nuclides** For even-even nuclides, the strongest (favored) decays connect the parent and daughter ground states, and hence, those are directly related to the  $\alpha$ -decay  $Q$  values. As a result, masses determined this way are quite reliable. Unfortunately, even-even nuclides are prone to spontaneous fission decay rendering these “good” cases relatively rare.

For many odd-A nuclides, and especially for odd-odd ones, the assignments are frequently complicated. In the present region of deformed nuclides,  $\alpha$ -decays preferentially feed levels with the same Nilsson model assignments as the mother, which in the daughter are most often excited states, with unknown excitation energies  $E_1$ . Thus, in order to find the corresponding mass difference, we have to estimate these  $E_1$ ’s. For somewhat lighter nuclides, one may estimate them, as said above, from known differences in excitation energies for levels with the same Nilsson assignments in other nuclides. But such information is lacking in the region under consideration. In

its place, one might consider to use values obtained theoretically [58]. We have not done so, but used their values as a guide-line. Finally, we choose values in such a way that diagrams of  $\alpha$ -energies and the mass surface looked acceptable. Important for this purpose were the experimental  $\alpha$ -decay energies for the heaviest isotopes for  $Z = 112, 114$  and  $116$ , especially for the even- $A$  isotopes among them. The errors we assigned to values thus obtained may be somewhat optimistic; but we expect them not to be ridiculous.

This is especially true near sub-shell closures, since the favored alpha decay occurs between states that have the same quantum numbers and configurations. The presence of excited, long-lived isomers can also lead to severe complications. While many dedicated  $\alpha - \gamma$  coincidence studies have been performed for nuclides in the light actinide region, such spectroscopy information needs to be extended to the heavier nuclides. In the last several years new results were published in the No-Lr-Rf region, which resolved some of the ambiguities. However, high quality data are still in demand and such studies would be very beneficial to future determination of masses for SHE.

A weak  $\alpha$ -decay branch was recently observed in the decay of  $^{262}\text{Sg}$  [2010Ac.A], which allowed experimental determination of the mass of  $^{270}\text{Ds}$ , the heaviest nuclide that has an experimental mass value in AME2012. The new data allowed to establish unambiguously the existence of a significant deformed sub-shell gap at  $N = 162$  and  $Z = 108$ . This gap appears to be much larger than the well known one at  $N = 152$  and  $Z = 100$ .

In the AME2003 mass table, the heaviest nuclide with known mass was  $^{265}\text{Sg}$ , where the highest  $\alpha$  decay group  $E_a = 8940 \pm 30$  keV of [1998Tu01] was adopted as gs-gs transition. This is a common policy if the  $\alpha$  decay energies spread too much, because even if this group is formed due to  $\alpha$ -electron summing, it is still the closest one to the real gs-gs  $Q$  value. With more events accumulated, the status has been changed for  $^{265}\text{Sg}$  and the former  $\alpha$  decay group assigned to  $^{266}\text{Sg}$  is reassigned to  $^{265}\text{Sg}^m$  state. In present evaluation we use the strongest group, which may be the unhindered transition, assuming this transition goes to one excited state in the daughter nuclide  $^{261}\text{Rf}$  with unknown energy, which is estimated from the trends in the neighboring nuclides. Then in the present mass table, the mass of  $^{265}\text{Sg}$  is estimated rather than experimental in AME2003, although the mass value doesn’t change much.

With exception of the nuclide  $^{278}\text{113}$ , all of the nuclides with atomic number from 113 to 118 are produced by using the “hot fusion” method, decaying with  $\alpha$  emission eventually to some fissile nuclides whose masses are unknown experimentally, thus forming a floating island with none of the nuclides having known mass.

## 7 Special cases

In AME2003, some special cases have been discussed. Since new experimental information emerged in recent years, some of them have been resolved, while for others new issues were raised.

### 7.1 ${}^9\text{He}$ and ${}^{10}\text{He}$

The knockout reaction on  ${}^{11}\text{Be}$  has been used to produce  ${}^9\text{He}$  [2001Ch31] and an  $l=0$  state has been assigned as its lowest state. An upper limit of the s-wave scattering length  $a_s = -10 \text{ fm}$  has been obtained, corresponding to an energy for the virtual state below 0.2 MeV. In [2007Go24], the spectrum of  ${}^9\text{He}$  was studied by means of the  ${}^2\text{H}({}^8\text{He}, p){}^9\text{He}$  reaction. The lowest resonant state of  ${}^9\text{He}$  was found at  $2.0 \pm 0.2 \text{ MeV}$  with a width of 2 MeV and has been identified as a  $1/2^-$  state. For the virtual  $1/2^+$  state, a lower limit  $a_s > -20 \text{ fm}$  has been obtained, which is not inconsistent with the result in [2001Ch31]. This assignment has been questioned in [2010Jo06], where  ${}^9\text{He}$  was studied by using knockout reaction from  ${}^{11}\text{Li}$ . The  ${}^8\text{He} + n$  relative-energy spectrum is dominated by a strong peak-like structure at low energy, which may be interpreted within the effective-range approximation as the result of an s-wave interaction with a neutron scattering length  $a_s = -3.17 \pm 0.66 \text{ fm}$ , thus conflicting with [2001Ch31]. It is argued that the s-state might not be the g.s. of  ${}^9\text{He}$ .

This argument is supported by the structure of  ${}^{10}\text{He}$ , which is highly dependent on the structure of  ${}^9\text{He}$ . If a virtual state in  ${}^9\text{He}$  as seen in [2001Ch31] really existed, a narrow near-threshold  $0^+$  state in  ${}^{10}\text{He}$  with a  $[s1/2]^2$  structure would exist in addition to the  $[p1/2]^2$  state [59, 60], in contradiction to the available experimental data on  ${}^{10}\text{He}$ .

Based on these experimental results, we adopt the  $1/2^-$  as the ground state of  ${}^9\text{He}$ . In earlier work [1987Se05], [1988Bo20], and [1991Bo.B], transfer reactions were used, yielding values of  $E_r$  (resonance energy) of this state around 1.1 MeV. More recently, [1999Bo26] and [2010Jo06] determined  $E_r \sim 1.3 \text{ MeV}$ . In [2007Go24], the  $1/2^-$  state of  ${}^9\text{He}$  was found at  $E_r = 2.0 \pm 0.2 \text{ MeV}$  with a width  $\sim 2 \text{ MeV}$  in this work, significantly higher than in the other work. The energy resolution of this experiment was 0.8 MeV (FWHM), which is quite large compared to the energy difference of  $\sim 1.1 \text{ MeV}$  between the  $1/2^-$  and  $3/2^-$  states [1988Bo20], [1999Bo26], [2010Jo06]. Therefore, we suspect this state to be a mixture due to the poor energy resolution in this experiment.

Finally, we adopt the results of [1999Bo26] and [2010Jo06] to define the resonance energy of the g.s. of  ${}^9\text{He}$ .

Four experimental results are known concerning the mass of  ${}^{10}\text{He}$ , as listed below:

Reference	$Q_{2n}$ (in keV)	Method of production
1994Os04	$1070 \pm 70$	${}^{10}\text{Be}({}^{14}\text{C}, {}^{14}\text{O}){}^{10}\text{He}$
1994Ko16	$1200 \pm 300$	$\text{C}({}^{11}\text{Li}, {}^{10}\text{He})$
2010Jo06	$1420 \pm 100$	${}^1\text{H}({}^{11}\text{Li}, {}^{10}\text{He})$
2012Si07	$2100 \pm 200$	${}^3\text{H}({}^8\text{He}, p){}^{10}\text{He}$

The mass of  ${}^{10}\text{He}$  from [1994Os04] is significantly lower than the others. In this work the statistics are poor compared to the high background. The values obtained in two invariant mass measurements agree with each other, both using  ${}^{11}\text{Li}$  to produce  ${}^{10}\text{He}$ . In the most recent work the value is higher than the others, while the authors stated that “the results reported in Refs. [1994Ko16] and [2010Jo06] do not contradict the g.s. energy of  ${}^{10}\text{He}$  obtained in the present work”, based on the calculations of Ref. [60]. They argued that due to the strong initial state effect, the observable g.s. peak position in [1994Ko16] and [2010Jo06] is shifted towards lower energy because of the abnormal size of  ${}^{11}\text{Li}$  possessing one of the most developed known neutron halos.

The argument is based on theoretical calculations in a three-body  ${}^8\text{He} + n + n$  model from [60]. The structure of  ${}^{10}\text{He}$  is highly dependent on the structure of  ${}^9\text{He}$ . Based on the  ${}^9\text{He}$  spectrum from [2007Go24], the  ${}^{10}\text{He}$  g.s. with structure  $[p1/2]^2$  is predicted to be at about 2.0 – 2.3 MeV. However, the result of  ${}^9\text{He}$  from [2007Go24] is not adopted, as discussed earlier. The model has problems in interpreting all of the experimental data, indicating the states may have a more complex structure. In the present evaluation, we choose the result from [2010Jo06] provisionally and call for more experiments to clarify this case.

*Note added in proof:* very recently, a group from MSU has studied  ${}^{10}\text{He}$  using the fragmentation of  ${}^{14}\text{Be}$ . Their result supports our choice. The discrepancy with the result in [2012Si07] could not be explained simply by the exotic structure of  ${}^{11}\text{Li}$ , which was the argument used in the previous experiment, since, in the present case, a different reaction channel is explored.

### 7.2 The masses of ${}^{26}\text{Al}$ and ${}^{27}\text{Al}$

In AME2012, the mass excess of  ${}^{26}\text{Al}$  is  $-12210.112 \pm 0.064 \text{ keV}$ , which is more than  $3 \sigma$  away from the AME2003 value of  $-12210.31 \pm 0.06 \text{ keV}$ . The origin of this difference lies in the new  ${}^{26}\text{Al}-{}^{26}\text{Mg}$  Penning trap measurement at JYFLTRAP [2009Er02], which is in strong conflict with the older  ${}^{26}\text{Mg}(p, n){}^{26}\text{Al}$  measurement [1994Br11] as used in AME2003.

Prior to AME2003, the two results of the  ${}^{25}\text{Mg}(n, \gamma)$  reaction were not in absolute agreement, either with

one another, or when combined with the average of non-conflicting values, such as that constructed from  $^{25}\text{Mg}(\text{p},\gamma)$  and the two values for  $^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$ . The older Penning trap mass values for  $^{24}\text{Mg}$  and  $^{26}\text{Mg}$  [2003Be02], combined with the average of the very nicely agreeing values for the  $^{24}\text{Mg}(\text{n},\gamma)$  reaction, gave a value halfway between the ones just mentioned. In AME2003 we considered this compromise but concluded that the mass of  $^{26}\text{Al}$  was not reliable. This situation was thought unfortunate, especially because of the special interest of the  $^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$  reaction for problems connected with the intensity of allowed Fermi  $\beta$ -transitions. Therefore, the new result from JYFLTRAP mentioned above is mostly welcome in the present adjustment.

This result also helped solving the difficulty we had with the mass of  $^{27}\text{Al}$  (see AME2003), due to its connections with all the nuclides just mentioned and, also with  $^{28}\text{Si}$  through the  $(\text{p},\gamma)$  reaction.

The new mass for  $^{26}\text{Al}$  fix the problem by discarding definitively the  $^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$  results [1992Ba.A], [1984Ba.B], and [1994Br11], all from the same group. However, no clear explanation can be given here for these discrepancies.

### 7.3 The mass of $^{32}\text{Si}$

In AME2003, the mass excess of  $^{32}\text{Si}$  was  $-24080.91 \pm 0.05$  keV. The value was determined, by the PTB group in Braunschweig, from an extraordinarily precise  $(\text{n},\gamma)$  measurement [2001Pa52], originally given with a precision (5 eV) we judged, at that time already, to be excessively optimistic. Moreover, the publication did not provide spectra or any other detailed information. By comparison to well established  $(\text{n},\gamma)$  from other groups, we could evaluate a calibration error of 30 eV and derive the above value in AME2003.

However, recently, the MSU group [2009Kw02] measured the masses of several nuclides including  $^{32}\text{Si}$ , in a Penning trap. Their result is 3.25 keV away from the PTB result, and with a precision of 0.30 keV for  $^{32}\text{Si}$ . The MSU measurements were internally cross-checked by combining various molecules and comparing to different references.

In general, and until otherwise proven,  $(\text{n},\gamma)$  measurements have the reputation of being quite reliable. We have tried to contact the PTB group, but without success, to discuss their measurement. Until this issue is resolved, it has been decided, provisionally at least, not to use the  $(\text{n},\gamma)$  data, but rather the Penning trap values.

### 7.4 The $^{35}\text{S}(\beta^-)^{35}\text{Cl}$ decay energy

This case has been investigated several times in connection with the report that a neutrino might exist with a mass of 17 keV.

Up until AME2003, the reported decay energies were so different from each other (with a Birge ratio of  $\chi_n = 3.07$ ), that we decided at that time to use all nine datasets, irrespective of their claimed precision. We applied then the procedure described in Section 5.4.1 to establish the arithmetic average, and uncertainty, derived from the dispersion of the 9 data, at  $167.222 \pm 0.095$  keV.

A new value, that was unfortunately missed in AME2003 is now adopted, at  $167.334 \pm 0.027$  keV [2000Ho13]. It outweighs all previous  $^{35}\text{S}(\beta^-)^{35}\text{Cl}$  measurements. Moreover it agrees quite nicely with the two accepted  $^{34}\text{S}(\text{n},\gamma)^{35}\text{S}$  results in [1983Ra04] and [1985Ke08].

### 7.5 The masses of $^{35,37}\text{Cl}$ and $^{36}\text{Ar}$

The SMILETRAP  $^{36}\text{Ar}$  result [2003Fr08] was some 1.2 keV lower than the value accepted until 2003, for which an error of 0.3 keV was claimed. The latter value was essentially due to mass-spectrometry results for  $^{35}\text{Cl}$  and  $^{37}\text{Cl}$ , combined with reaction energies for five reactions. These data agreed quite well if combined in a least squares analysis:  $\chi_n = 1.13$ . Combining with the [2003Fr08] mass value for  $^{36}\text{Ar}$  increases  $\chi_n$  to 2.00. But this value could be reduced to a reasonable 1.35 if, of the two available values for the  $^{36}\text{Ar}(\text{n},\gamma)^{37}\text{Ar}$  reaction energy, the oldest, not well documented one is no longer used. Also, this removed an earlier hardness in the connection with  $^{40}\text{Ar}$ , of which the mass was already known with high precision. This problem is considered definitively settled.

### 7.6 The masses of $^{100}\text{Sn}$

Determination of the mass of  $^{100}\text{Sn}$  has been subject of discussion in AME2003. This result is particularly interesting due to the doubly magic character of  $^{100}\text{Sn}$  which is, moreover, the heaviest known nuclide with  $N = Z$ .

The adopted mass in AME2003 was  $-56780 \pm 710$  keV, due to  $\beta^+$  decay, and is 1060 keV less bound than indicated by the GANIL result [1996Ch32]. Earlier estimate from trends in the mass surface (TMS), were -56860#(430#) keV in AME1995, and -56460#(450#) keV in AME1993. The differences are not particularly large as compared to the claimed or estimated precisions. It is therefore interesting to note that the new result in [2012Hi07], also from  $\beta^+$  decay, yields -57280(300) keV, that is almost half-way between the above values.

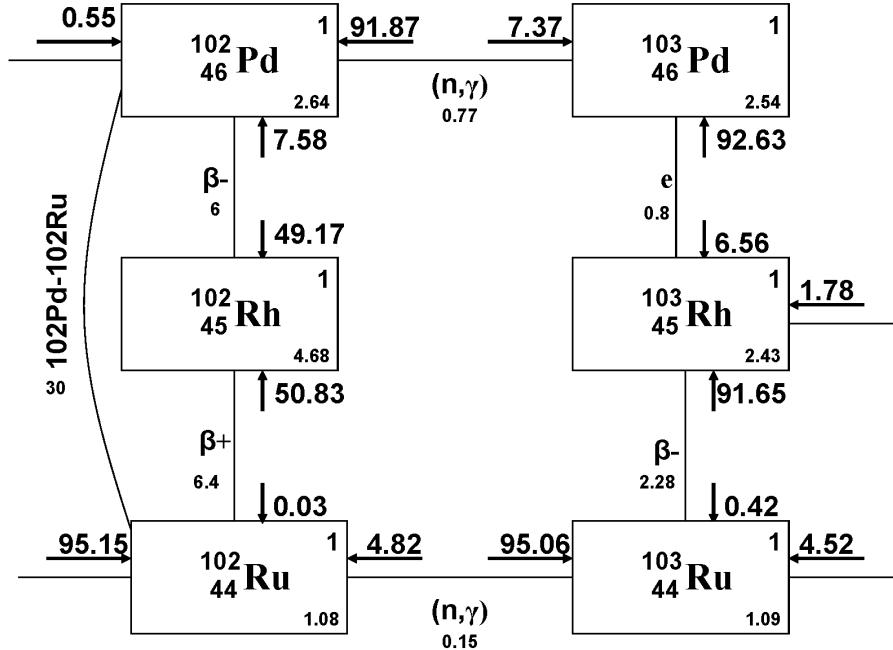


Figure 4: Flow of information diagram displaying the three “routes” between  $^{102}\text{Pd}$  and  $^{102}\text{Ru}$ . Each square box represents an individual nuclide. Its mass precision (keV) is given in the lower right corner, its degree in the upper right corner. Along each connection between two nuclides is the type of relation, its precision and on both sides are arrows indicating the flow of information to the two connected nuclides.

## 7.7 The $^{102}\text{Pd}$ double-electron capture energy

The double  $\beta$  or  $\epsilon$  energy of some nuclides is an important parameter to study the neutrino properties. In recent years this measurement has attracted a lot of attention, mainly in high-precision Penning traps. The mass difference between  $^{102}\text{Pd}$  and  $^{102}\text{Rh}$ , equivalent to the double-electron capture energy of  $^{102}\text{Pd}$ , has been measured recently by SHIPTRAP yielding  $Q_{ee} = 1203.27 \pm 0.36$  keV [2011Go23]. This result differs from the AME2003 value  $1173.0 \pm 2.4$  keV by 30 keV, i.e., more than 10 standard deviations. Besides this measurement, this  $Q_{ee}$  value can be determined by local links established experimentally, as shown in Fig. 4. The two nuclides involved are not only linked via  $^{102}\text{Rh}$ , but also are connected with higher mass isotopes through  $(n,\gamma)$  with lower uncertainty. The  $Q_{ee}$  values obtained with these two different links agree with each other perfectly. All these connections, except  $^{102}\text{Rh}(\beta^-)^{102}\text{Pd}$ , are determined by two or more different groups, sometimes with different methods. Their results are in good agreement with each other, and no reason can be found to suspect any individual measurement. Details of the input data are displayed in Table I. It should be recalled that Penning trap measurements have generally been quite reliable. In the present evaluation, the new Penning trap result is provisionally not used. We call for more measurements to clarify this issue.

## 7.8 The mass of $^{105}\text{Sb}$

The nuclide  $^{105}\text{Sb}$  was reported in [1994Ti03] to be a proton emitter with  $E_p = 478 \pm 15$  keV (thus  $Q_p = 482.6 \pm 15$  keV) and a branching ratio of 1%. However, the later work of [1997Sh13] and [2005Li47], using different experimental methods, were unable to confirm the [1994Ti03] result. In fact, the production yield in the [2005Li47] work was significantly higher than in the previous studies, yielding an upper limit of 0.1% for the proton branching ratio ( $\sim 150$  decay events of  $^{105}\text{Sb}$  were expected, but none were seen), indicating that the activity observed in [1994Ti03] did not belong to  $^{105}\text{Sb}$ . In more recent work, [2007Ma35] reported a weak  $\alpha$ -decay branch for the ground state decay of  $^{109}\text{I}$  with an energy of  $E_\alpha = 3774 \pm 20$  keV. Because of the existing relationship between proton and  $\alpha$ -decay  $Q$  values,  $Q_\alpha(^{109}\text{I}) + Q_p(^{105}\text{Sb}) = Q_p(^{109}\text{I}) + Q_\alpha(^{108}\text{Te})$ , one can determine  $Q_p(^{105}\text{Sb}) = 322 \pm 22$  keV. This value is in severe disagreement with the result ( $483 \pm 15$  keV) of [1994Ti03]. It is difficult to conclude unambiguously from the trends in the mass surface alone, which value is correct. Consequently, the  $Q_p$  value deduced from the  $Q_\alpha$  measurement in [2007Ma35] was adopted in the present evaluation, and will determine the mass of  $^{105}\text{Sb}$ . Direct proton-decay studies of  $^{105}\text{Sb}$  are desirable in order to clarify this case.

## 7.9 The $^{163}\text{Ta}(\alpha)^{159}\text{Lu}(\alpha)^{155}\text{Tm}$ decay chain

This  $\alpha$ -decay chain was discussed in the previous AME2003 publication, because it presented special difficulties.

The chain starts at  $^{179}\text{Tl}$  and undergoes a series of consecutive  $\alpha$  decays from both the ground state and excited isomer, which are associated with the  $s_{1/2}$  and  $h_{11/2}$  proton orbitals. It terminates at  $^{147}\text{Tb}$ , which decays entirely by  $\beta^+$  decay and whose ground state spin is measured directly as  $J=1/2$ , with a higher spin isomeric state,  $J^\pi=11/2^-$ , located at  $50.6 \pm 0.9$  keV.

Mass-spectrometer data with precisions ranging from 28 to 68 keV are available [2005Li24] for the  $^{147}\text{Tb}$ ,  $^{151}\text{Ho}$ ,  $^{155}\text{Tm}$ ,  $^{159}\text{Lu}$  and  $^{163}\text{Ta}$  members of the chain. The first 3 ones carry no weight, but agree within their precision with values deduced from  $\alpha$  decays. The directly measured mass of  $^{159}\text{Lu}$ , with a precision of 57 keV, agrees with, and is combined with the  $Q_\alpha$  measurement within the adjustment procedure.

Only  $^{163}\text{Ta}$  (48 keV precision) strongly disagrees ( $3.6\sigma$ ) and is not accepted in our calculation. The  $\alpha$  decay of  $^{163}\text{Ta}$  yields  $Q(\alpha)=4749 \pm 6$  keV whereas combining masses from [2005Li24] one can derive  $Q(\alpha)=4656 \pm 40$  keV. In order to resolve this discrepancy, an isomeric state needs to be introduced in  $^{163}\text{Ta}$ , and

which  $\alpha$  decays to the  $^{159}\text{Lu}$  ground state.

In fact, such an isomer is now established at  $130\# \pm 20\#$  keV above the ground state from the measured  $\alpha$ -decay energies and parent-daughter correlations in decays of the  $^{179}\text{Tl}^m(\alpha)^{175}\text{Au}^m(\alpha)^{171}\text{Ir}^m(\alpha)^{167}\text{Re}^g s(\alpha)^{163}\text{Ta}^m$  chain nuclides and the estimated excitation energies  $825\# \pm 10\#$  for the  $^{179}\text{Tl}^m$  isomer. The latter estimate is derived from interpolation of similar ( $11/2^-$ ) states in Tl isotopes 177, 181 and 183. The isomer in  $^{163}\text{Ta}$  is assigned  $J^\pi = (9/2^-)$ , following the favorite  $\alpha$  decay from the  $J^\pi = (9/2^-)$   $^{167}\text{Re}$  ground state.

To summarize, by combining all available information, and by discarding only one piece of data, we were able to build up a scenario for the double (ground states and excited isomers)  $^{147}\text{Tb}-^{179}\text{Tl}$  decay chain. However most of the adopted values for excitation energies, and also for the  $^{167}\text{Re}$  ground state are still labeled with the ‘#’ flag, due to the estimated excitation energy of  $^{179}\text{Tl}^m$ . Experimental determination of any of the excitation energy in  $^{159}\text{Lu}$ ,  $^{163}\text{Ta}$ ,  $^{167}\text{Re}$ ,  $^{171}\text{Ir}$ ,  $^{175}\text{Au}$ , or  $^{179}\text{Tl}$  will allow to access all other ones. Future measurements would be beneficial not only in order to firmly establish these excitation energies, but even more importantly, to provide also useful parent-daughter correlations on  $\alpha$  decays that feed the  $^{159}\text{Lu}$  ground state and decays out of the excited isomer.

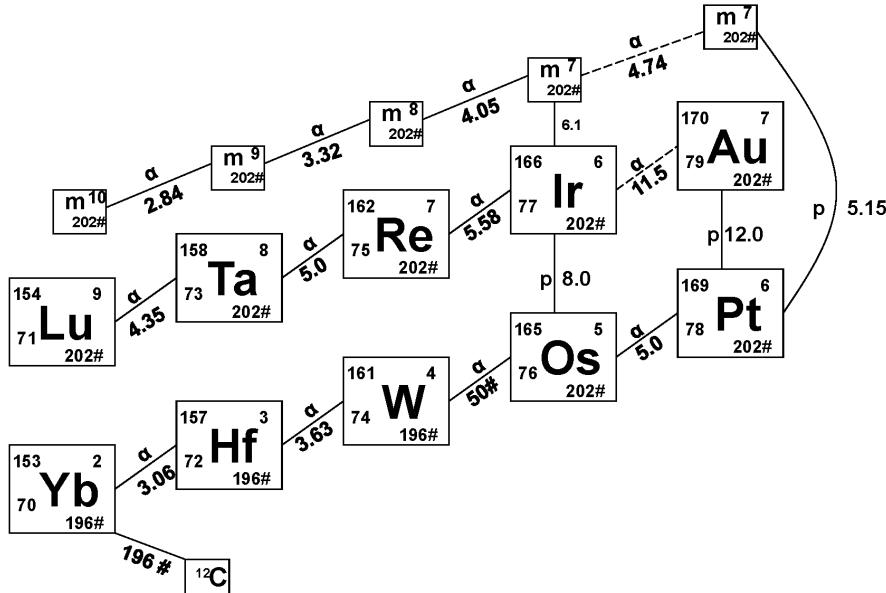


Figure 5: Loops created by two alpha decay chains interconnected by proton decays. See caption of Fig. 4. ‘m’ stands for the excited isomer of the nuclide below it.

Table D. Input data and adjusted values around the  $^{170}\text{Au}$ - $^{165}\text{Os}$  loop.

Item	Input AME2003	Output AME2003	Adjusted LSM	Input AME2012	adjusted value
$^{166}\text{Ir}(\text{p})^{165}\text{Os}$	1152(8)	1152(8)	1150.6(7.1)	1152(8)	1154(6)
$^{166}\text{Ir}^m(\text{IT})^{166}\text{Ir}$	171.5(6.1)	172(6)	170.8(5.6)	171.5(6.1)	172(6)
$^{169}\text{Pt}(\alpha)^{165}\text{Os}$	6846.233(12.869)	6846(13)	6849.8(8.9)	6857.4(5.)	6856(5)
$^{170}\text{Au}(\text{p})^{169}\text{Pt}$	1473.8(15.)	1474(15)	1475(10)	1471.7(12.)	1470(9)
$^{170}\text{Au}^m(\text{p})^{169}\text{Pt}$	1747.9(6.247)	1748(6)	1748.9(5.7)	1751.356(5.145)	1751(5)
$^{170}\text{Au}(\alpha)^{166}\text{Ir}$	7174.1(11.)	7168(21)	7173.7(9.3)	7170(12)	7172(9)
$^{170}\text{Au}^m(\alpha)^{166}\text{Ir}^m$	7277.5(6.)	7271(17)	7276.9(5.6)	7278.5(9.)	7280(7)

## 7.10 The $^{170}\text{Au}(\alpha)$ and $^{169}\text{Pt}(\alpha)$ decay chains

It has been previously mentioned that some proton-rich nuclides can decay by both  $\alpha$  and proton emission. In some cases, a loop of interconnected nuclides can be formed. Two long  $\alpha$ -decay chains illustrate this case:

$^{170}\text{Au} - ^{166}\text{Ir} - ^{162}\text{Re} - ^{158}\text{Ta} - ^{154}\text{Lu}$  and

$^{169}\text{Pt} - ^{165}\text{Os} - ^{161}\text{W} - ^{157}\text{Hf} - ^{153}\text{Yb} - ^{149}\text{Er}$ ,

which are connected by  $^{170}\text{Au}(\text{p})^{169}\text{Pt}$  and  $^{166}\text{Ir}(\text{p})^{165}\text{Os}$ , thus forming a loop as shown in Fig. 5. Unfortunately, none of the masses shown in Fig. 5 has been measured. If the mass of at least one nuclide is measured in the future, then all of the masses along the above two decay chains will be determined.

The general difficulty here, is that if all of the experimental information is used in the evaluation, then a

closed loop would be formed, and all nuclides involved would be primary. The consequence is that some estimated (non-experimental) values would then automatically become primary data. For example, to avoid this, the  $^{170}\text{Au}(\alpha)^{166}\text{Ir}$  value was not used in AME2003, despite its good precision. A local evaluation is carried out in this region, involving all the corresponding nuclides, using least-squares method. The input and adjusted values are listed in Table D. The sources of the input data can be found in main Table I. As can be seen, the adjusted value of  $^{170}\text{Au}(\alpha)^{166}\text{Ir}$  would be  $7173.7 \pm 9.3$  instead of  $7168 \pm 21$ , as listed in Table I of AME2003, if the full-scale least-squares method had been employed. Other values are also influenced by this new evaluation, as discussed in the following paragraph.

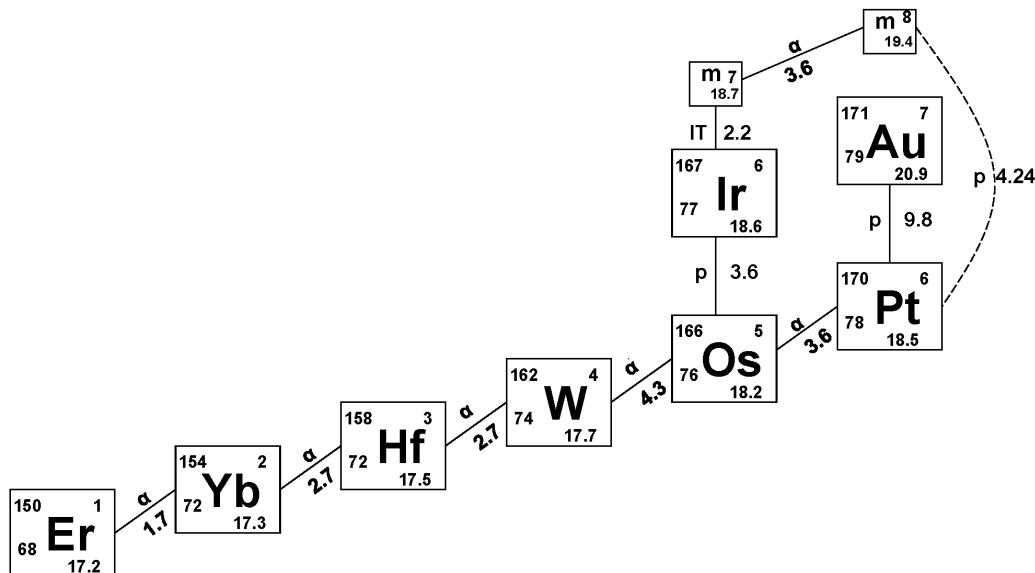


Figure 6: The loop and decay chains from  $^{171}\text{Au}^m$  down to  $^{150}\text{Er}$ , when replacing  $^{171}\text{Au}^m(\text{p})^{170}\text{Pt}$  by an equivalent  $^{167}\text{Ir}(\text{p})^{166}\text{Os}$ , as treated in AME2003. In the AME2012 treatment, the dotted connection has been restored. See caption of Fig. 4. ‘m’ stands for the excited isomer of the nuclide below it.

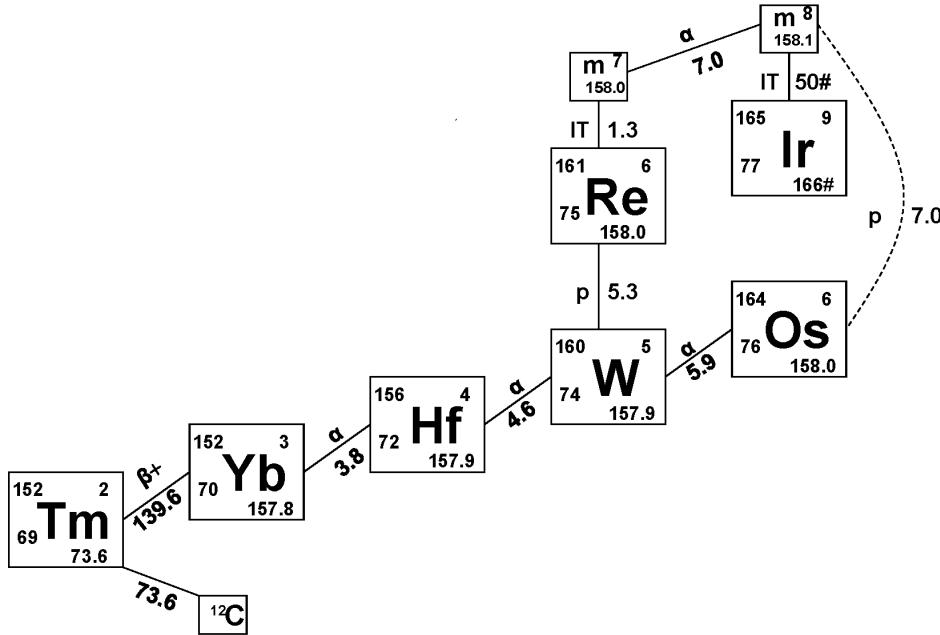


Figure 7: The loop and decay chains from  $^{165}\text{Ir}^*$  down to  $^{152}\text{Tm}$ , when replacing  $^{165}\text{Ir}^*(\text{p})^{164}\text{Os}$  by an equivalent  $^{161}\text{Re}(\text{p})^{160}\text{W}$ , as treated in AME2003. In the AME2012 treatment, the dotted connection has been restored. See caption of Fig. 4. ‘m’ stands for the excited isomer of the nuclide below it.

Table E. Input data and adjusted values around the  $^{165}\text{Ir}-^{160}\text{W}$  loop.

Item	Input Value AME2003	Output AME2003	Reference	Output AME2012
$^{161}\text{Re}(\text{p})^{160}\text{W}$	$1199.5 \pm 6.0$	$1197.2 \pm 5.3$	97Ir01	$1197.3 \pm 5.3$
$^{161}\text{Re}(\text{p})^{160}\text{W}$	$1188.9 \pm 11.5$	$1197.2 \pm 5.3$	replacement	
$^{161}\text{Re}^*(\text{IT})^{161}\text{Re}$	$123.8 \pm 1.3$	$123.8 \pm 1.3$	97Ir01	$123.4 \pm 1.3$
$^{164}\text{Os}(\alpha)^{160}\text{W}$	$6473.2 \pm 10.0$	$6477.2 \pm 5.9$	96Bi07	$6479.4 \pm 5.3$
$^{164}\text{Os}(\alpha)^{160}\text{W}$	$6479.4 \pm 7.0$	$6477.2 \pm 5.9$	96Pa01	$6479.4 \pm 5.3$
$^{165}\text{Ir}^*(\text{p})^{164}\text{Os}$	$1717.5 \pm 7.0$	$1725.9 \pm 10.8$	97Da07	$1720.5 \pm 5.9$
$^{165}\text{Ir}^*(\alpha)^{161}\text{Re}^*$	$6882.1 \pm 7.0$	$6882.1 \pm 7.0$	97Da07	$6878.9 \pm 6.0$

Here is a similar, but slightly different example. In our previous adjustments, following our policy of replacement to avoid loops, we also replaced in some rare cases a connection that did not obey the conditions defined in Section 5.4.2, by an equivalent connection, accepting a (slight) loss of precision. For example, in AME2003, the  $1717.5 \pm 7.0$  for  $^{165}\text{Ir}^*(\text{p})^{164}\text{Os}$  was replaced (see Table E) by an equivalent  $1188.9 \pm 11.5$  for  $^{161}\text{Re}(\text{p})^{160}\text{W}$ , to avoid having 7 secondary masses to become primary as illustrated in Fig. 7. The increase in the uncertainty reflects the combination with other connections in the loop which uncertainties are not negligible.

There is no new experimental data since the publication of AME2003. We however decided in AME2012, taking advantage of computer’s increased power, to restore original data, making thus all the nuclides in the chain down to  $^{152}\text{Tm}$  to become primaries. Table E displays comparison of the two treatments and the restored precision of the  $^{165}\text{Ir}^*(\text{p})^{164}\text{Os}$  datum.

The only other case of this type is illustrated in Fig. 7. The interested reader will find in the main Table I all details and rebuild easily an equivalent of Table E.

### 7.11 The problem of the stable Hg isotopes

In our earlier evaluations we did not accept the 1980 Winnipeg measurements of the atomic masses of stable Hg isotopes, reported with errors of only about 1 keV. Since AME2003 the situation is stabilized. Here we recall the reasons for this.

In [1980Ko25], mass differences were measured between stable Hg isotopes and  $^{12}\text{C}_2\text{Cl}_5$  molecules, for  $A = 199$  and  $201$ , or  $^{12}\text{C}^{13}\text{C}\text{Cl}_5$ , for  $A = 200, 202$  and  $204$ . The resulting Hg masses values were  $22 \mu\text{u}$  high (odd  $A$ ) and  $17 \mu\text{u}$  high (even- $A$ ), compared to values from mass-spectrometry results for both lighter and heavier nuclides combined with experimental reaction and decay energies, see Fig. 1 in [34]. The difference suggested an influence due to the intensities of the ion beams, since  $^{13}\text{C}$  is much less abundant than  $^{12}\text{C}$ . Therefore, both sets of results were judged questionable.

In 2003, the Winnipeg group reported a new value for  $^{199}\text{Hg}$  [2003Ba49],  $7 \mu\text{u}$  lower than their 1980 result. In addition, measurements with the Stockholm Penning trap spectrometer SMILETRAP gave results for  $^{198}\text{Hg}$  and  $^{204}\text{Hg}$ , essentially agreeing with the 1980 Winnipeg even-mass values. Thus, the latter appear to be reasonable.

We therefore accepted these data, and also included old and new nuclear reaction and decay results.

The relation with the higher- $A$  mass-spectrometry results (Th and U isotopes) is acceptable, but the differences are nearly equal to the old ones but with a change in sign. With lower- $A$ , Winnipeg provided further information through new measurements of the mass of  $^{183}\text{W}$  and its difference with  $^{199}\text{Hg}$ . These essentially confirmed the mass values around  $^{183}\text{W}$  given in earlier evaluations [3, 7]. For completeness, we observe that the new  $^{183}\text{W}$  result is  $15 \mu\text{u}$  higher than the 1977 Winnipeg result (error  $2.7 \mu\text{u}$ ), which was one of the items that helped to suggest the lower Hg masses.

Closer scrutiny, shows that nuclear reaction energies, in the region between these two nuclides, have discrepancies which, as yet, are not resolved. The upshot is, that the earlier difficulty in the connection of the stable Hg's to lower  $A$  data appears to be due to errors in the mass-spectrometer data used at the time. We therefore think that the most recent mass values for these Hg isotopes as adopted since 2003 are definitely more dependable than earlier ones.

### 7.12 Other special cases

Other special cases are presented and discussed on the AMDC web site [8].

## 8 General information and acknowledgments

The full content of the present issue is accessible online at the AMDC website [8]. In addition, on the site, there are several localized mass analyses that were carried out, but could not be given in the printed version. Also, several graphs representing the mass surface, beyond the main ones in Part II, are also available.

As before, the table of masses (Part II, Table I) and the table of nuclear reaction and separation energies (Part II, Table III) are available in plain ASCII format to simplify their input to computer programs using standard languages. The headers of these files give information on the formats. The first file, named **mass\_rmd.mas12**, contains the table of masses. The next two files correspond to the table of reaction and separation energies, in two parts of 6 entries each, as in Part II, Table III: **rct1\_rmd.mas12** for  $S_{2n}, S_{2p}, Q_\alpha, Q_{2\beta}, Q_{ep}$  and  $Q_{\beta n}$  (odd pages in this issue); and **rct2\_rmd.mas12** for  $S_n, S_p, Q_{4\beta}, Q_{d,\alpha}, Q_{p,\alpha}$  and  $Q_{n,\alpha}$  (facing even pages). As explained in Section 4.2, since AME2003, we no longer produce any more special tables for experimental data which we do not recommend.

We wish to thank our many colleagues who answered our questions about their experiments and those who sent us preprints of their papers. Continuous interest, discussions, suggestions and encouragements from K. Blaum, D. Lunney, G. Savard, Zhang Yuhu, Zhongzhou Ren, and Ch. Scheidenberger were highly appreciated.

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## Appendix A The meaning of decay energies

Conventionally, the decay energy in an  $\alpha$ -decay is defined as the difference in the atomic masses of mother and daughter nuclides:

$$Q_\alpha = M_{\text{mother}} - M_{\text{daughter}} - M_{^4\text{He}} \quad (8)$$

This value equals the sum of the observed energy of the  $\alpha$  particle and the easily calculated energy of the recoiling nuclide (with only a minor correction for the fact that the cortège of atomic electrons in the latter may be in an excited state). Very unfortunately, some authors quote as resulting  $Q_\alpha$  a value ‘corrected for screening’, which essentially means that they take for the values  $M$  in the above

equation the masses of the bare nuclides (the difference is essentially that between the total binding energies of all electrons in the corresponding neutral atoms).

This bad custom is a cause of confusion; even so much that in a certain paper this “correction” was made for some nuclides but not for others.

A similar bad habit has been observed for some proton decay energies. We very strongly object to this custom; at the very least, the symbol  $Q$  should not be used for the difference in nuclear masses!

## Appendix B Mixtures of isomers or of iso-bars in mass-spectrometry

In cases where two or more unresolved lines may combine into a single one in an observed spectrum, while one cannot decide which ones are present and in which proportion, a special procedure has to be used.

The first goal is to determine what is the most probable value  $M_{exp}$  that will be observed in the measurement, and what is the uncertainty  $\sigma$  of this prediction. We assume that all the lines may contribute and that all contributions have equal probabilities. The measured mass reflects the mixing. We call  $M_0$  the mass of the lowest line, and  $M_1, M_2, M_3, \dots$  the masses of the other lines. For a given composition of the mixture, the resulting mass  $m$  is given by

$$m = \left(1 - \sum_{i=1}^n x_i\right)M_0 + \sum_{i=1}^n x_i M_i \quad \text{with } \begin{cases} 0 \leq x_i \leq 1 \\ \sum_{i=1}^n x_i \leq 1 \end{cases} \quad (9)$$

in which the relative unknown contributions  $x_1, x_2, x_3, \dots$  have each a uniform distribution of probability within the allowed range.

If  $P(m)$  is the normalized probability of measuring the value  $m$ , then :

$$\bar{M} = \int P(m) m dm \quad (10)$$

$$\text{and } \sigma^2 = \int P(m) (m - \bar{M})^2 dm \quad (11)$$

It is thus assumed that the experimentally measured mass will be  $M_{exp} = \bar{M}$ , and that  $\sigma$ , which reflects the uncertainty on the composition of the mixture, will have to be quadratically added to the experimental uncertainties.

The difficult point is to derive the function  $P(m)$ .

### B.1 Case of 2 spectral lines

In the case of two lines, one simply gets

$$m = (1 - x_1)M_0 + x_1 M_1 \quad \text{with } 0 \leq x_1 \leq 1 \quad (12)$$

The relation between  $m$  and  $x_1$  is biunivocal so that

$$P(m) = \begin{cases} 1/(M_1 - M_0) & \text{if } M_0 \leq m \leq M_1, \\ 0 & \text{elsewhere} \end{cases} \quad (13)$$

i.e. a rectangular distribution (see Fig. 8a), and one obtains :

$$\begin{aligned} M_{exp} &= \frac{1}{2}(M_0 + M_1) \\ \sigma &= \frac{\sqrt{3}}{6}(M_1 - M_0) = 0.290(M_1 - M_0) \end{aligned} \quad (14)$$

### B.2 Case of 3 spectral lines

In the case of three spectral lines, we derive from Eq. 9:

$$m = (1 - x_1 - x_2)M_0 + x_1 M_1 + x_2 M_2 \quad (15)$$

$$\text{with } \begin{cases} 0 \leq x_1 \leq 1 \\ 0 \leq x_2 \leq 1 \\ 0 \leq x_1 + x_2 \leq 1 \end{cases} \quad (16)$$

The relations (15) and (16) may be represented on a  $x_2$  vs  $x_1$  plot (Fig. 9). The conditions (16) define a triangular authorized domain in which the density of probability is uniform. The relation (15) is represented by a straight line. The part of this line contained inside the triangle defines a segment which represents the values of  $x_1$  and  $x_2$  satisfying all relations (16). Since the density of probability is constant along this segment, the probability  $P(m)$  is proportional to its length. After normalization, one gets (Fig. 8b):

$$P(m) = \frac{2k}{M_2 - M_0} \quad (17)$$

$$\text{with } \begin{cases} k = (m - M_0)/(M_1 - M_0) & \text{if } M_0 \leq m \leq M_1 \\ k = (M_2 - m)/(M_2 - M_1) & \text{if } M_1 \leq m \leq M_2 \end{cases} \quad (18)$$

and finally:

$$M_{exp} = \frac{1}{3}(M_0 + M_1 + M_2) \quad (19)$$

$$\sigma = \frac{\sqrt{2}}{6} \sqrt{M_0^2 + M_1^2 + M_2^2 - M_0 M_1 - M_1 M_2 - M_2 M_0}$$

### B.3 Case of more than 3 spectral lines

For more than 3 lines, one may easily infer  $M_{exp} = \sum_{i=0}^n M_i / (n+1)$ , but the determination of  $\sigma$  requires the knowledge of  $P(m)$ . As the exact calculation of  $P(m)$  becomes rather difficult, it is more simple to do simulations.

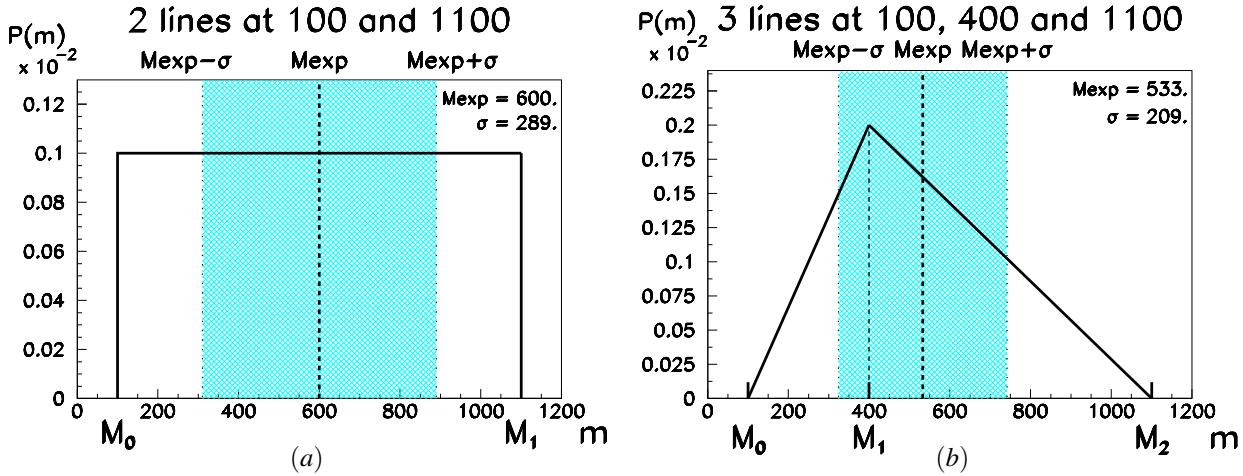


Figure 8: Examples of probabilities to measure  $m$  according to an exact calculation in cases of the mixture of two (a) and three (b) spectral lines.

However, care must be taken that the values of the  $x_i$ 's are explored with an exact equality of chance to occur. For each set of  $x_i$ 's,  $m$  is calculated, and the histogram  $N_j(m_j)$  of its distribution is built (Fig. 10). Calling  $nbin$  the number of bins of the histogram, one gets :

$$\begin{aligned} P(m_j) &= \frac{N_j}{\sum_{j=1}^{nbin} N_j} & (20) \\ M_{exp} &= \sum_{j=1}^{nbin} P(m_j)m_j \\ \sigma^2 &= \sum_{j=1}^{nbin} P(m_j)(m_j - M_{exp})^2 \end{aligned}$$

A first possibility is to explore the  $x_i$ 's step-by-step:  $x_1$

varies from 0 to 1, and for each  $x_1$  value,  $x_2$  varies from 0 to  $(1 - x_1)$ , and for each  $x_2$  value,  $x_3$  varies from 0 to  $(1 - x_1 - x_2)$ , ... using the same step value for all.

A second possibility is to choose  $x_1, x_2, x_3, \dots$  randomly in the range  $[0,1]$  in an independent way, and to keep only the sets of values which satisfy the relation  $\sum_{i=1}^n x_i \leq 1$ . An example of a Fortran program based on the CERN library is given below for the cases of two, three and four lines. The results are presented in Fig. 10.

Both methods give results in excellent agreement with each other, and as well with the exact calculation in the cases of two lines (see Fig. 8a and 10a) and three lines (see Fig. 8b and 10b).

*The Fortran program used to produce the histograms in Fig. 10.*

```

program isomers

c-----
c- October 15, 2003          C.Thibault
c- Purpose and Methods : MC simulation for isomers (2-4 levels)
c- Returned value      : mass distribution histograms
c-----

parameter (nwpawc=10000)
common/pawc/hmemor(nwpawc)
parameter (ndim=500000)
dimension xm(3,ndim)
data e0,e1,e31,e41,e42/100.,1100.,400.,200.,400./
call hlimit(nwpawc)

c histograms 2, 3, 4 levels
call hbook1(200,'',120.,0.,1200.,0.)
call hbook1(300,'',120.,0.,1200.,0.)
call hbook1(400,'',120.,0.,1200.,0.)
call hmaxim(200,6500.)

```

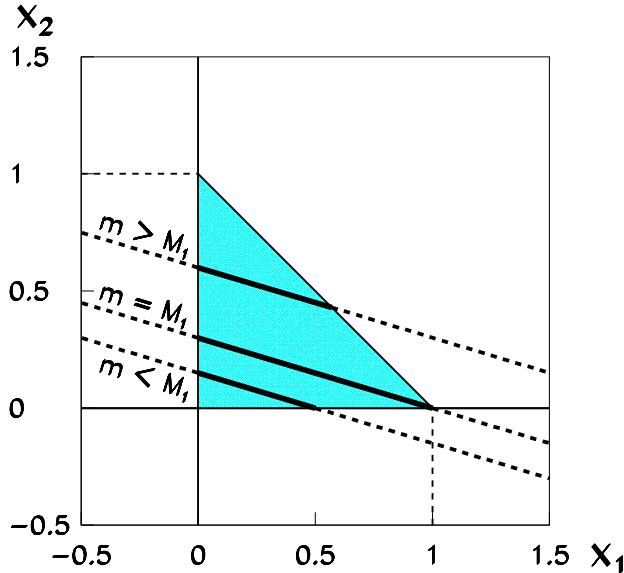


Figure 9: Graphic representation of relations 15 and 16. The length of the segments (full thick lines) inside the triangle are proportional to the probability  $P(m)$ . Three cases are shown corresponding respectively to  $m < M_1$ ,  $m = M_1$ , and to  $m > M_1$ . The maximum of probability is obtained when  $m = M_1$ .

```

call hmaxim(300,6500.)
call hmaxim(400,2500.)
w=1.
c random numbers [0,1]
ntot=3*ndim
iseq=1
call ranecq(iseed1,iseed2,iseq,' ')
call ranecu(xm,ntot,iseq)
do i=1,ndim
c 2 levels :
t=1-xm(1,i)
e = t*e0 + xm(1,i)*e1
call hfill(200,e,0.,w)
c 3 levels :
if ((xm(1,i)+xm(2,i)).le.1.) then
  t=1.-xm(1,i)-xm(2,i)
  e= t*e0 + xm(1,i)*e31 + xm(2,i)*e1
  call hfill(300,e,0.,w)
end if
c 4 levels
if ((xm(1,i)+xm(2,i)+xm(3,i)).le.1.) then
  t=1.-xm(1,i)-xm(2,i)-xm(3,i)
  e = t*e0 + xm(1,i)*e41 + xm(2,i)*e42 + xm(3,i)*e1
  call hfill(400,e,0.,w)
end if
end do
call hrput(0,'isomers.histo','N')
end

```

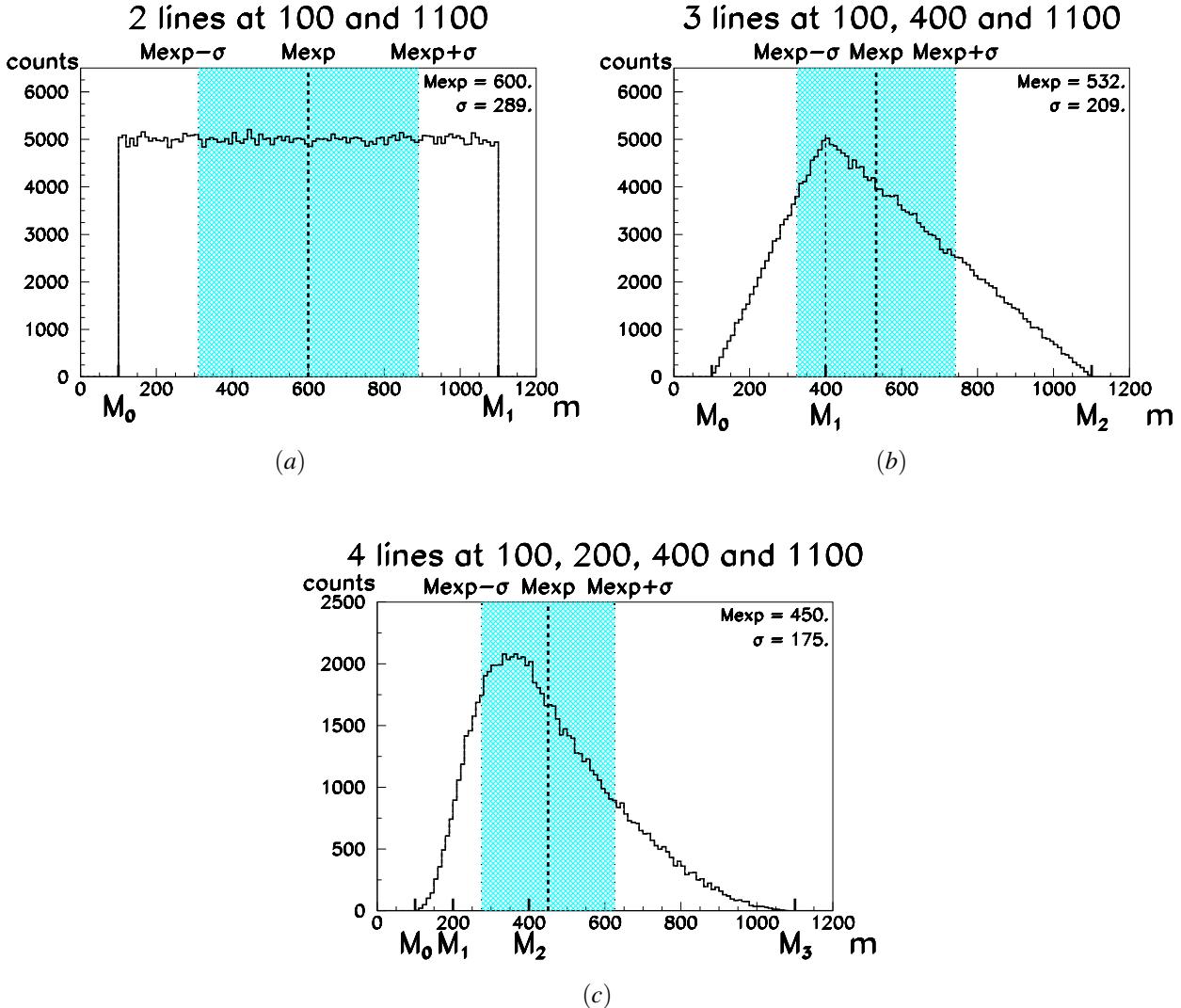


Figure 10: Examples of Monte-Carlo simulations of the probabilities to measure  $m$  in cases of two (a), three (b) and four (c) spectral lines.

#### B.4 Example of application for one, two or three excited isomers

We consider the case of a mixture implying isomeric states. We want to determine the ground state mass  $M_0 \pm \sigma_0$  from the measured mass  $M_{exp} \pm \sigma_{exp}$  and the knowledge of the excitation energies  $E_1 \pm \sigma_1, E_2 \pm \sigma_2, \dots$

With the above notation, we have

$$M_1 = M_0 + E_1,$$

$$M_2 = M_0 + E_2, \dots$$

For a single excited isomer, Equ. (14) can be written:

$$M_0 = M_{exp} - \frac{1}{2}E_1$$

$$\sigma^2 = \frac{1}{12}E_1^2 \quad \text{or} \quad \sigma = 0.29E_1$$

$$\sigma_0^2 = \sigma_{exp}^2 + (\frac{1}{2}\sigma_1)^2 + \sigma^2$$

For two excited isomers, Equ. (19) lead to :

$$\begin{aligned} M_0 &= M_{exp} - \frac{1}{3}(E_1 + E_2) \\ \sigma^2 &= \frac{1}{18}(E_1^2 + E_2^2 - E_1E_2) \\ \text{or} \quad \sigma &= 0.236 \sqrt{E_1^2 + E_2^2 - E_1E_2} \\ \sigma_0^2 &= \sigma_{exp}^2 + (\frac{1}{3}\sigma_1)^2 + (\frac{1}{3}\sigma_2)^2 + \sigma^2 \end{aligned}$$

If the levels are regularly spaced, *i.e.*  $E_2 = 2E_1$ ,

$$\sigma = \frac{\sqrt{6}}{12}E_2 = 0.204E_2$$

while for a value of  $E_1$  very near 0 or  $E_2$ ,

$$\sigma = \frac{\sqrt{2}}{6}E_2 = 0.236E_2$$

For three excited isomers , the example shown in Fig. 10c leads to:

$$\begin{aligned} M_0 &= M_{exp} - \frac{1}{4}(E_1 + E_2 + E_3) = 450. \\ \sigma &= 175. \\ \sigma_0^2 &= \sigma_{exp}^2 + \left(\frac{1}{4}\sigma_1\right)^2 + \left(\frac{1}{4}\sigma_2\right)^2 + \left(\frac{1}{4}\sigma_3\right)^2 + \sigma^2 \end{aligned}$$

## Appendix C Converting frequency ratios to linear equations

In the following, quantities with the subscript  $r$  describe the characteristics of the reference ion in the Penning Trap. Equivalent quantities, with no subscript, describe characteristics of the ion being measured. The ratio  $R$  of frequencies  $f$  between the reference and newly measured ion is written:

$$R = \frac{f_r}{f} = \frac{\mathcal{M} - m_e q + B}{\mathcal{M}_r - m_e q_r + B_r} \frac{q_r}{q} \quad (21)$$

where  $q$  is the charged state of the given ion,  $B$  is the electron binding energy,  $m_e$  is the mass of the electron and  $\mathcal{M}$  the total atomic mass. All masses and energies are in atomic mass units ( $u$ ) and so,  $u=1$ .

This expression can be written in terms of the mass excess  $M$  and atomic mass number  $A$ :

$$\begin{aligned} A + M &- R \frac{q}{q_r} A_r - R \frac{q}{q_r} M_r = \\ &= m_e q(1 - R) + B_r R \frac{q}{q_r} - B \end{aligned}$$

or, alternatively:

$$\begin{aligned} M - R \frac{q}{q_r} M_r &= m_e q(1 - R) + A_r \left( \frac{q}{q_r} R - \frac{A}{A_r} \right) \\ &\quad + B_r R \frac{q}{q_r} - B \end{aligned}$$

The general aim is to establish some quantity  $y$  and its associated precision  $dy$ . We define  $C$  to be a truncated, three-digit decimal approximation of the ratio  $A$  to  $A_r$ , and then we can write:

$$y = M - C M_r \quad (22)$$

and so

$$y = y_1 + y_2 + y_3 + y_4 \quad (23)$$

where

$$y_1 = M_r \left( R \frac{q}{q_r} - C \right) \quad (24)$$

$$y_2 = m_e q(1 - R) \quad (25)$$

$$y_3 = A_r \left( \frac{q}{q_r} R - \frac{A}{A_r} \right) \quad (26)$$

and

$$y_4 = B_r R \frac{q}{q_r} - B \quad (27)$$

To fix relative orders of magnitude,  $M_r$  is generally smaller than 0.1 u,  $R - C$  is a few  $10^{-4}$ ,  $(1 - R)$  is usually smaller than unity (and typically 0.2 for a 20% mass change),  $R - \frac{A}{A_r}$  varies from 1 to  $100 \times 10^{-6}$  and  $A_r$  is typically 100 u for atomic mass  $A = 100$ . The four terms  $y_1$ ,  $y_2$ ,  $y_3$ , and  $y_4$  take values of the order of  $10 \mu u$ ,  $100 \mu u$ ,  $10$  to  $10000 \mu u$ , and  $0.1 \mu u$ , respectively.

The associated precision  $dy$  is written:

$$dy = dy_1 + dy_2 + dy_3 + dy_4 \quad (28)$$

where

$$dy_1 = \frac{q}{q_r} M_r dR + \left( R \frac{q}{q_r} - C \right) dM_r \simeq dR \times 10^5 \mu u \quad (29)$$

$$dy_2 = m_e q dR \simeq dR \times 10^3 \mu u \quad (30)$$

$$dy_3 = \frac{q}{q_r} A_r dR \simeq dR \times 10^8 \mu u \quad (31)$$

and

$$dy_4 = \frac{q}{q_r} B_r dR + R \frac{q}{q_r} dB_r + dB \simeq dR \times 10^{-1} \mu u \quad (32)$$

Consequently, only the 3rd term contributes significantly to the precision of the measurement, and so we write:  $dy = dy_3$

If the two frequencies are measured with a typical precision of  $10^{-7}$  for ions at  $A = 100$ , then the precision on the frequency ratio  $R$  is  $1.4 \times 10^{-7}$  and the precision on the mass is approximatively  $14 \mu u$ .

### C.1 Program for frequency conversion

Primary data from Penning Trap measurement are typically given in the form of an experimental frequency ratio. An example is given here for a series of nuclides with respect to a various reference nuclides and various charge states. Below is the Fortran frequency conversion program, followed by sample input file and corresponding output file.

*The frequency conversion program*

```

c                               PTrap15publ      G.Audi   m 06 nov 2012
c
c Conversion of Frequency Ratios to Linear Equations
c
real*8 xzero,mel,mref,smref,smrefk,rap,srap,coef
real*8 prov,membre,sigmem,m118,sm118
integer q118,qref
character txref*4,tx118*4,rev*2
character*30 filea,fileb
c
c      mel : electron mass in micro-u
c      mref, smref : Mass and uncert. for reference (ref)
c      m118, sm118 : Mass and uncert. for mesured (118)
c      qref, q118 : charge states of the ions
c
filea='ptkl.equat'           ,          ! output file
fileb='ptkl.freq'            ,          ! input file
open(unit=1,file=filea,form='formatted',status='new')
open(unit=3,file=fileb,form='formatted',status='old',readonly)
c
mel = 548.5799110           ! conversion factor micro-u to keV
xzero = 9.314940090d-1       ! read reference, mass in micro-u
12 read(3,1001,err=99) iaref,txref,qref,mref,rev,smref
1001 format(i4,a4,i4,f17.6,a2,f11.6)
mrefk = mref * xzero
c
15 read(3,1001,end=90,err=99) ia118,tx118,q118,rap,rev,srap ! read frequency ratio
if(tx118.eq.'NEW') go to 12                                ! reset reference
if(rev.eq.' ') then                                         ! if reversed freq. ratio: rev=-1
  rap = rap / 1.d+6
  srap = srap / 1.d+6
else
  rap = 1.d+6 / rap
  srap = rap*rap * srap/1.d+6
endif
coef = anint(1000.*ia118/iaref) / 1000.                  ! calculate 3-digit coefficient
c
prov = (ia118*1.d+0)/iaref - rap*q118/qref
membre = mref*(rap*q118/qref-coef) + mel*q118*(1-rap)
*      - iaref*1.d+6*prov                                ! value (in micro-u) for the equation
sigmem = srap * iaref * 1.d+6 * q118/qref                ! its uncertainty
write (1,1020) ia118,tx118,iaref,txref,coef,membre,sigmem
1020 format(5x,i6,a4,'-',i4,a4,'*',f6.3,'=',f13.3,'(',
         f9.3,')')
m118 = membre + coef*mref
sm118 = sqrt(sigmem**2 + (coef*smref)**2)
write (1,1030) ia118,tx118,m118,sm118
1030 format(13x,i4,a4,'=',f14.5,' +/-',f10.5,' micro-u')
m118 = m118 * xzero
sm118 = sm118 * xzero
write (1,1032) m118,sm118
1032 format(13x,8x,'=',f14.5,' +/-',f10.5,' keV',/)
c
go to 15
c
90 write (1,1990)
1990 format(1H0,'Normal End of Freq.Ratios to Equations Conversion')
stop
99 write(1,1999)
1999 format(1H0,'Error in File Reading')
stop
end

```

*A typical frequency ratio input file*

```

6Li    +1    15122.885   ..  0.029      1st line : reference nuclide
4He    +1    665392.8420   ..  0.0077     following lines : frequency ratios
7Li    +1    1166409.2053   ..  0.0131     NEW : new set with new ref. follows
8Li    +1    1333749.8620   ..  0.0180
      NEW   ..          column 1 : nuclidic name
      7Li    +1    16003.42560   ..  0.00455  column 2 : ionic charge
10Be   +1    700635.628   -1  0.009      column 3 : mass excess for ref. (micro-u)
11Be   +1    636546.859   -1  0.036      or frequency ratio *10^6
      NEW   ..          column 5 : -1 for inverse ratio
      39K    +4    -36293.410   ..  0.085      column 4 : uncertainty
44K    +4    886306.8169   -1  0.0444
      NEW   ..
      85Rb   +9    -88210.26200 ..  0.00535
      74Rb   +8    979689.6094   ..  0.0858
      76Rb   +8    1006067.4141   ..  0.0223
      NEW   ..
      85Rb   +13   -88210.26200 ..  0.00535
      99Sr   +15   1009776.3077   ..  0.0451

```

*Corresponding output file*

```

4He  -  6Li * 0.667 = -7483.694 ( 0.046)
        4He   = 2603.27019 +/- 0.05009 micro-u
                  = 2424.93058 +/- 0.04665 keV

7Li  -  6Li * 1.167 = -1644.991 ( 0.079)
        7Li   = 16003.41533 +/- 0.08558 micro-u
                  = 14907.08550 +/- 0.07971 keV

8Li  -  6Li * 1.333 = 2327.424 ( 0.108)
        8Li   = 22486.22932 +/- 0.11471 micro-u
                  = 20945.78789 +/- 0.10685 keV

10Be - 7Li * 1.429 = -9334.156 ( 0.128)
       10Be  = 13534.73895 +/- 0.12850 micro-u
                  = 12607.52825 +/- 0.11970 keV

11Be - 7Li * 1.571 = -3479.829 ( 0.622)
       11Be  = 21661.55299 +/- 0.62197 micro-u
                  = 20177.60683 +/- 0.57936 keV

44K  - 39K * 1.128 = 2529.206 ( 2.204)
       44K   = -38409.76074 +/- 2.20643 micro-u
                  = -35778.46201 +/- 2.05527 keV

74Rb - 85Rb * 0.871 = 21096.382 ( 6.483)
       74Rb  = -55734.75669 +/- 6.48267 micro-u
                  = -51916.59195 +/- 6.03857 keV

76Rb - 85Rb * 0.894 = 13930.883 ( 1.685)
       76Rb  = -64929.09141 +/- 1.68490 micro-u
                  = -60481.05966 +/- 1.56947 keV

99Sr - 85Rb * 1.165 = 35661.650 ( 4.423)
       99Sr  = -67103.30571 +/- 4.42327 micro-u
                  = -62506.32725 +/- 4.12025 keV

```

ONormal End of Freq.Ratios to Equations Conversion

## References

- References such as 1984Sc.A, 1989Sh10 or 2003Ot.1 are listed under “References used in the AME2012 and the NUBASE2012 evaluations”, p. 1863.
- [1] A.H. Wapstra, G. Audi and C. Thibault, Nucl. Phys. **A 729** (2003) 129;  
<http://amdc.in2p3.fr/masstables/Ame2003/Ame2003a.pdf>
  - [2] G. Audi, A.H. Wapstra and C. Thibault, Nucl. Phys. **A 729** (2003) 337;  
<http://amdc.in2p3.fr/masstables/Ame2003/Ame2003b.pdf>
  - [3] G. Audi and A.H. Wapstra, Nucl. Phys. **A 565** (1993) 1;  
<http://amdc.in2p3.fr/masstables/Ame1993/>
  - [4] G. Audi and A.H. Wapstra, Nucl. Phys. **A 565** (1993) 66.
  - [5] C. Borcea, G. Audi, A.H. Wapstra and P. Favaron, Nucl. Phys. **A 565** (1993) 158.
  - [6] G. Audi, A.H. Wapstra and M. Dedieu, Nucl. Phys. **A 565** (1993) 193.
  - [7] G. Audi and A.H. Wapstra, Nucl. Phys. **A 595** (1995) 409;  
<http://amdc.in2p3.fr/masstables/Ame1995/>
  - [8] The AME2012 files in the electronic distribution and complementary documents can be retrieved from the Atomic Mass Data Center (AMDC) through the Web:  
<http://amdc.in2p3.fr/> and <http://amdc.impca.ac.cn/>
  - [9] G. Audi, O. Bersillon, J. Blachot and A.H. Wapstra, Nucl. Phys. **A 624** (1997) 1;  
<http://amdc.in2p3.fr/nubase/nubase97.pdf>
  - [10] A.H. Wapstra and K. Bos, At. Nucl. Data Tables **20** (1977) 1.
  - [11] J.C. Hardy, L.C. Carraz, B. Jonson and P.G. Hansen, Phys. Lett. **B71** (1977) 307.
  - [12] K.-N. Huang, M. Aoyagi, M.H. Chen, B. Crasemann and H. Mark, At. Nucl. Data Tables **18** (1976) 243.
  - [13] P.J. Mohr, B.N. Taylor and David B. Newell,  
<http://arxiv.org/pdf/1203.5425>
  - [14] T.P. Kohman, J.H.E. Mattauch and A.H. Wapstra, J. de Chimie Physique **55** (1958) 393.
  - [15] John Dalton, 1766-1844, who first speculated that elements combine in proportions following simple laws, and was the first to create a table of (very approximate) atomic weights.
  - [16] E.R. Cohen and A.H. Wapstra, Nucl. Instrum. Methods **211** (1983) 153.
  - [17] E.R. Cohen and B.N. Taylor, CODATA Bull. **63** (1986), Rev. Mod. Phys. **59** (1987) 1121.
  - [18] T.J. Quin, Metrologia **26** (1989) 69;  
B.N. Taylor and T.J. Witt, Metrologia **26** (1989) 47.
  - [19] P.J. Mohr and B.N. Taylor, J. Phys. Chem. Ref. Data **28** (1999) 1713.
  - [20] A. Rytz, At. Nucl. Data Tables **47** (1991) 205.
  - [21] A.H. Wapstra, Nucl. Instrum. Methods **A292** (1990) 671.
  - [22] <http://amdc.in2p3.fr/masstables/Ame2003/recalib>
  - [23] R.G. Helmer and C. van der Leun, Nucl. Instrum. Methods **422** (1999) 525.
  - [24] Nuclear Data Sheets.
  - [25] M.L. Roush, L.A. West and J.B. Marion, Nucl. Phys. **A147** (1970) 235.
  - [26] P.M. Endt, C.A. Alderliesten, F. Zijderhand, A.A. Wolters and A.G.M. van Hees, Nucl. Phys. **A510** (1990) 209.
  - [27] D.P. Stoker, P.H. Barker, H. Naylor, R.E. White and W.B. Wood, Nucl. Instrum. Methods **180** (1981) 515.
  - [28] A.H. Wapstra, unpublished.
  - [29] G. Audi, M. Epherre, C. Thibault, A.H. Wapstra and K. Bos, Nucl. Phys. **A378** (1982) 443.
  - [30] G. Audi, Hyperfine Interactions **132** (2001) 7; École Internationale Joliot-Curie 2000, Spa, p.103;  
<http://amdc.in2p3.fr/masstables/hal.pdf>
  - [31] Systematic errors are those due to instrumental drifts or instrumental fluctuations, that are beyond control and are not accounted for in the error budget. They might show up in the calibration process, or when the measurement is repeated under different experimental conditions. The experimentalist adds then quadratically a systematic error to the statistical and the calibration ones, in such a way as to have consistency of his data. If not completely accounted for or not seen in that experiment, they can still be observed by the mass evaluators when considering the mass adjustment as a whole.
  - [32] C.F. von Weizsäcker, Z. Phys. **96** (1935) 431;  
H.A. Bethe and R.F. Bacher, Rev. Mod. Phys. **8** (1936) 82.
  - [33] C. Borcea and G. Audi, Rev. Roum. Phys. **38** (1993) 455;  
*CSNSM Report 92-38*, Orsay 1992;  
<http://amdc.in2p3.fr/extrapolations/bernex.pdf>
  - [34] A.H. Wapstra, G. Audi and R. Hoekstra, Nucl. Phys. **A432** (1985) 185.
  - [35] D. Lunney, J.M. Pearson and C. Thibault, Rev. Mod. Phys. **75** (2003) 1021.
  - [36] R.G. Thomas, Phys. Rev. **80** (1950) 136, **88** (1952) 1109;  
J.B. Ehrman, Phys. Rev. **81** (1951) 412.
  - [37] E. Comay, I. Kelson and A. Zidon, Phys. Lett. **B210** (1988) 31.

- [38] M.C. Pyle, A. García, E. Tatar, J. Cox, B.K. Nayak, S. Triambak, B. Laughman, A. Komives, L.O. Lamm, J.E. Rolon, T. Finnessy, L.D. Knutson and P.A. Voytas, Phys. Rev. Lett. **B88** (2002) 122501.
- [39] A.H. Wapstra, Proc. Conf. Nucl. Far From Stability/AMCO9, Bernkastel-Kues 1992, Inst. Phys. Conf. Series 132 (1993) 125.
- [40] M.S. Antony, J. Britz, J.B. Bueb and A. Pape, At. Nucl. Data Tables **33** (1985) 447;  
M.S. Antony, J. Britz and A. Pape, At. Nucl. Data Tables **34** (1985) 279;  
A. Pape and M.S. Antony, At. Nucl. Data Tables **39** (1988) 201;  
M.S. Antony, J. Britz and A. Pape, At. Nucl. Data Tables **40** (1988) 9.
- [41] J. Jänecke, in D.H. Wilkinson, ‘Isospin in Nuclear Physics’, North Holland Publ. Cy. (1969) eq. 8.97; J. Jänecke, Nucl. Phys. **61** (1965) 326.
- [42] L. Axelsson, J. Äystö, U.C. Bergmann, M.J.G. Borge, L.M. Fraile, H.O.U. Fynbo, A. Honkanen, P. Hornshøj, A. Jonkinen, B. Jonson, I. Martel, I. Mukha, T. Nilsson, G. Nyman, B. Petersen, K. Riisager, M.H. Smedberg, O. Tengblad and ISOLDE, Nucl. Phys. **A628** (1998) 345.
- [43] Y.V. Linnik, Method of Least Squares (Pergamon, New York, 1961); Méthode des Moindres Carrés (Dunod, Paris, 1963).
- [44] G. Audi, W.G. Davies and G.E. Lee-Whiting, Nucl. Instrum. Methods **A249** (1986) 443.
- [45] Particle Data Group, ‘Review of Particle Properties’, Phys. Rev. **D66** (2002) 10001.
- [46] M.U. Rajput and T.D. Mac Mahon, Nucl. Instrum. Methods **A312** (1992) 289.
- [47] M.J. Woods and A.S. Munster, NPL Report RS(EXT)95 (1988).
- [48] G. Audi, Int. J. Mass Spectr. **251** (2006) 85-94;  
<http://dx.doi.org/10.1016/j.ijms.2006.01.048>
- [49] G. Bollen, H.-J. Kluge, M. König, T. Otto, G. Savard, H. Stolzenberg, R.B. Moore, G. Rouleau and G. Audi Phys. Rev. **C46** (1992) R2140.
- [50] Each group of mass-spectrometric data is assigned a factor  $F$  according to its partial consistency factor  $\chi_h^p$ , due to the fact that its statistical uncertainties and its internal systematic error alone do not reflect the real experimental situation. From comparison to all other data and more specially to combination of reaction and decay energy measurements, we have assigned factors  $F$  of 1.5, 2.5 or 4.0 to the different labs. Only Penning trap data have almost all been assigned a factor  $F = 1.0$ . Example: the group of data H25 has been assigned  $F = 2.5$ , this means that the total uncertainty assigned to  $^{155}\text{Gd} \rightarrow ^{153}\text{Eu} \rightarrow ^{37}\text{Cl}$  is  $2.4\mu\text{u} \times 2.5$ . The weight of this piece of data is then very low, compared to  $0.79\mu\text{u}$  derived from all other data. This is why it is labelled “U”.
- [51] A. Gillibert, L. Bianchi, A. Cunsolo, A. Foti, J. Gastebois, Ch. Grégoire, W. Mittig, A. Peghaire, Y. Schutz and C. Stéphan, Phys. Lett. **B176** (1986) 317.
- [52] D.J. Vieira, J.M. Wouters, K. Vaziri, R.H. Krauss, Jr., H. Wollnik, G.W. Butler, F.K. Wohn and A.H. Wapstra, Phys. Rev. Lett. **57** (1986) 3253.
- [53] E.P. Wigner, in Proceedings of the Robert A. Welch Foundation Conference on Chemical Research, edited by W.O. Milligan (Welch Foundation, Houston, 1958), Vol. 1, p. 88.
- [54] A.M. Lane, in D.H. Wilkinson, ‘Isospin in Nuclear Physics’, North Holland Publ. Cy. (1969), p. 509
- [55] W. Bambinek, H. Behrens, M.H. Chen, B. Crasemann, M.L. Fitzpatrick, K.W.D. Ledingham, H. Genz, M. Mutterrér and R.L. Intemann, Rev. Mod. Phys. **49** (1977) 77.
- [56] G. Audi, M. Wang, A.H. Wapstra, B. Pfeiffer and F.G. Kondev, J. Korean Phys. Soc. **59** (2011) 1318-1321.
- [57] Commission on Nomenclature of Inorganic Chemistry, Pure and Applied Chemistry **69** (1997) 2471.
- [58] S. Cwiok, S. Hofmann and W. Nazarewicz, Nucl. Phys. **A573** (1994) 356;  
S. Cwiok, W. Nazarewicz and P.H. Heenen, Phys. Rev. Lett. **63** (1999) 1108.
- [59] S. Aoyama, Phys. Rev. Lett. **89** (2002) 052501.
- [60] L.V. Grigorenko and M.V. Zhukov, Phys. Rev. **C77** (2008) 034611.

**Table I. Input data compared with adjusted values****EXPLANATION OF TABLE**

The ordering is in groups according to highest occurring relevant mass number.

Item	$K^m$ , $Cs^m$ , $Cs^n$ , $In^p$ , $Tl^q$ : higher isomers, see NUBASE.	In nuclear reactions: $\varepsilon$ = electron capture, see NUBASE.	In mass-doublet equation: $H = {}^1H$ , $N = {}^{14}N$ , $D = {}^2H$ , $O = {}^{16}O$ , $C = {}^{12}C$ , u = absolute mass-doublet.	In mass-triplet equation: $Rb^x$ , $Rb^y$ : different mixtures of isomers or contaminants.
Input value		Mass doublet: value and its standard precision in $\mu u$ . Triplet: value and its standard precision in keV. Reaction: value and its standard precision in keV. The value is the combination of mass excesses $\Delta(M - A)$ given under ‘item’. It is the author’s experimental result and the author’s stated uncertainty, except in a few cases for which comments are given and for some $\alpha$ -reactions: if the $\alpha$ -decay does not clearly feed the ground state, then the precision is increased to 50 keV. If more than one group report such energies, an average is calculated first (mentioned in the Table) and the 50 keV is added to the averaged precision in the adjustment (see Section 6.3).		
Adjusted value		Output of calculation. For secondary data ( $Dg = 2\text{--}20$ ) the adjusted value is the same as the input value and is not repeated. Also, the adjusted value is only given once for a group of results for the same reaction or doublet. Values and precisions were rounded off, but not to more than tens of keV. # Value and precision derived not from purely experimental data, but at least partly from trends of the mass surface (TMS). * No mass value has been calculated for one of the masses involved.		
$v_i$		Normalized deviation between input and adjusted value, given as their difference divided by the input precision (see Section 5.2).		
Dg	1 Primary data (see Section 3). 2–13 Secondary data of different degrees. B Well-documented data, or data from regular reviewed journals, which disagree with other well-documented values. C Data from incomplete reports, at variance with other data. o Data included in or superseded by later work of same group. D Data not checked by another method and at large variance with TMS, replaced by an estimated value (see Section 4, p. 1303). F Study of paper raises doubts about validity of data within the reported precision. R Item replaced for computational reasons by an equivalent one giving same result. U Data with much less weight than that of a combination of other data. – Data that will be averaged.			
Signf.		<i>Significance</i> ( $\times 100$ ) of primary data only (see Section 5.1); the significance of secondary data is always 100%.		
Main infl.		Largest <i>influence</i> ( $\times 100$ ) and nucleus to which the data contributes the most (see Section 5.1).		
Lab		Identifies the group which measured the corresponding item. Example of Lab key: MA8 Penning Trap data of Mainz-Isolde group. The numbers refer to different experimental conditions.		
F		Multiplying factor for mass spectrometric data (see Section 6.1). The standard precision given in the ‘Input value’ column has been multiplied by this factor before being used in the least-squares adjustment.		

Reference	Reference keys:
	(in order to reduce the width of the Table, the two digits for the centuries are omitted; at the end of this volume however, the full reference key-number is given: 2003Ba49 and not 03Ba49).
12Na15	Results derived from regular journal. These keys are copied from Nuclear Data Sheets. Where not yet available, the style 12Re.1 has been used.
12Zh.A	Result from abstract, preprint, private communication, conference, thesis or annual report.
Ens12a	References to energies of excited states, when of interest, are mentioned in remarks in the Qfile. Their reference-keys refer to the “Evaluated Nuclear Structure Data Files” (ENSDF) (the electronic version of the Nuclear Data Sheets NDS), the reference-keys are indicated Ens126 in which ‘12’ indicates the year (here 2012) and ‘6’ the month (Oct, Nov, Dec indicated a b c) of the released ENSDF file. When the excited energy is derived or estimated in NUBASE2012, it is indicated with ‘Nubase’.
AHW	(or FGK, GAU, JBL, MMC, WGM) : comment written by one of the present authors.
*	A remark on the corresponding item is given below the block of data corresponding to the same (highest) A.
Y	recalibrations of 65Ry01 for charged particle recalibrations, and recalculated triplets for isomeric mixtures.
Z	recalibrations of 91Ry01 for $\alpha$ particles, 90Wa22 for $\gamma$ in $(n,\gamma)$ and $(p,\gamma)$ reactions and 91Wa.A for protons and $\gamma$ in $(p,\gamma)$ reactions (see Section 2).

*Remarks.* For data indicated with a star in the reference column, remarks have been added. They are collected in groups at the end of each block of data in which the highest occurring relevant mass number is the same. They give:

- i) Information explaining how the values in column ‘Input value’ have been derived for papers not mentioning e.g. the mass differences as derived from measured ratios of voltages or frequencies, or the reaction energies, or values for transitions to excited states in the final nuclei (for which better values of the excitation energies are now known).
- ii) Reasons for changing values (e.g. recalibrations) or precisions as given by the authors or for rejecting them (i.e. for labelling them B, C or F).
- iii) Value suggested by TMS and recommended in this evaluation as the best estimate (see Section 4, p. 1297).
- iv) Separate values for capture ratios (see Section 6.4).

Special notation in remarks:

$E_{\beta^-}$ , $Q_{\beta^-}$	$\beta^-$ endpoint energy, $\beta^-$ decay energy
$E_{\beta^+}$ , $Q_{\beta^+}$	$\beta^+$ endpoint energy, $\beta^+$ decay energy
$E_p$ , $Q_p$	proton energy in the laboratory, proton decay energy
$a_s$	scattering length
T	threshold for given reaction
$\varepsilon$	electron capture; $\beta^+ = \varepsilon + e^+$ (see NUBASE2012, p. 1178)
$p^+$ , $pK$ , $pL$	fraction $\beta^+$ , $\varepsilon(K)$ or $\varepsilon(L)$ in transition to mentioned states
L/K, L/M	$\varepsilon(L)/\varepsilon(K)$ , $\varepsilon(L)/\varepsilon(M)$
IBE	internal bremsstrahlung endpoint
M-A, $D_M$	mass excess (in keV), mass difference (in $\mu u$ )
TMS	Trends from Mass Surface
‘Z’ (after uncertainty)	recalibrated (see above, under ‘Reference’)

**Table I. Comparison of input data and adjusted values (Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$\pi^+$	140081.18	0.35	140081.2	0.4	0.0	1	100	100	$\pi^+$		06PaDG *	
$\pi^+(2\beta^+)\pi^-$	1021.998	0.001	1021.9980	0.0010	0.0	1	100	100	$\pi^-$		88CoTa	
* $\pi^+$	By convention! This is M=139570.18(0.35) keV + m(e <sup>-</sup> )										GAu **	
H <sub>12</sub> -C	93902.7	0.4	93900.3868	0.0011	-2.3	U			M17	2.5	66Be10	
	93900.66	0.48			-0.2	U			A2	2.5	70St25	
	93900.32	0.12			0.4	U			B07	1.5	71Sm01	
	93900.391	0.012			-0.4	U			WA1	1.0	95Va38	
	93900.3804	0.0084			0.8	U			MI1	1.0	95Di08	
	93900.3865	0.0017			0.2	1	43	43	<sup>1</sup> H	WA1	1.0	01Va33
	93900.3860	0.0042			0.2	U			ST2	1.0	02Be64	
n( $\beta^-$ ) <sup>1</sup> H	782	13	782.3466	0.0005	0.0	U					51Ro50	
D <sub>6</sub> -C	84610.56	0.12	84610.6687	0.0007	0.4	U			A2	2.5	70St25	
	84610.62	0.09			0.4	U			B07	1.5	71Sm01	
	84611.60	0.34			-1.1	U			J5	2.5	72Ka57 *	
	84611.47	0.40			-0.8	U			J6	2.5	76Ka50	
	84610.644	0.005			4.9	C			WA1	1.0	92Va.A	
	84610.584	0.078			0.4	U			OH1	2.5	93Ma.A	
	84610.662	0.007			1.0	o			WA1	1.0	93Va.C	
	84610.6616	0.0067			1.1	o			WA1	1.0	95Va38	
	84610.6710	0.0054			-0.4	-			MI1	1.0	95Di08	
	84610.6656	0.0036			0.9	-			MI1	1.0	95Di08	
	84610.66897	0.00086			-0.3	-			WA1	1.0	06Va22	
	ave.	84610.6688	0.0008		-0.1	1	78	78	<sup>2</sup> H		average	
H <sub>2</sub> -D	1547.77	0.28	1548.28634	0.00020	0.7	U			C1	2.5	64Mo.A	
	1548.22	0.05			0.5	o			M19	2.5	67Jo18	
	1548.08	0.08			1.0	o			J2	2.5	69Na21	
	1548.286	0.004			0.1	o			B07	1.5	71Sm01	
	1548.222	0.063			0.4	o			J5	2.5	72Ka57	
	1548.176	0.133			0.3	o			J5	2.5	72Ka57	
	1548.298	0.008			-1.0	U			B08	1.5	75Sm02	
	1548.301	0.005			-2.0	U			B08	1.5	75Sm02	
	1548.190	0.023			1.7	U			J6	2.5	76Ka50	
	1548.28	0.05			0.1	U			M25	2.5	78Ha14	
	1548.302	0.012			-0.5	U			OH1	2.5	93Go37	
	1548.2836	0.0018			1.5	U			MI1	1.0	95Di08	
	1548.28649	0.00035			-0.4	1	32	24	<sup>1</sup> H	ST2	1.0	08So20
<sup>1</sup> H(n, $\gamma$ ) <sup>2</sup> H	2224.564	0.017	2224.5660	0.0004	0.1	U			BNL		80Gr02	
	2224.5	0.12			0.5	U			MMn		80Is02	
	2224.561	0.009			0.6	U			Utr		82Va13 Z	
	2224.549	0.009			1.9	U					82Vy10 Z	
	2224.560	0.009			0.7	U					83Ad05 Z	
	2224.5756	0.008			-1.2	U			NBS		86Gr01 *	
	2224.5727	0.0500			-0.1	U			PTc		97Ro26 *	
	2224.5660	0.0004			0.0	o			NBS		99Ke05 *	
	2224.58	0.05			-0.3	U			Bdn		06Fi.A *	
	2224.56600	0.00044			0.0	1	100	100	1 n	NBS	06De21 *	
*D <sub>6</sub> -C	For all 72Ka57 doublets, see also reference										72Og03 **	
* <sup>1</sup> H(n, $\gamma$ ) <sup>2</sup> H	Original 2224.5890(0.0022) revised in reference; error increased by evaluator										90Wa22 **	
* <sup>1</sup> H(n, $\gamma$ ) <sup>2</sup> H	Original error 0.0005 increased for calibration										GAu **	
* <sup>1</sup> H(n, $\gamma$ ) <sup>2</sup> H	More precisely, H+n-D=2388170.07(0.42) nu										99Ke05 **	
*	corrected to 2388169.95(0.42) nu										99Mo39 **	
* <sup>1</sup> H(n, $\gamma$ ) <sup>2</sup> H	All errors in reference increased by 20 ppm for calibration										06Fi.A **	
* <sup>1</sup> H(n, $\gamma$ ) <sup>2</sup> H	Original 2224.56610(0.00044) recalibrated with 2010 Codata (see text)										WgM129**	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$*^4\text{He}(\text{p},\gamma)^5\text{Li}$	Average of many reactions leading to ${}^5\text{Li}$								AHW		**
${}^6\text{Li}_2-\text{C}$	30246.126	0.120	30245.775	0.003	-0.7	F			BL1	4.0	98He.B *
	30245.548	0.034			1.7	U			BL1	4.0	01He36
	30245.7748	0.0031			0.0	1	100	100 ${}^6\text{Li}$	FS1	1.0	10Mo30
${}^6\text{Li}-\text{H}_6$	-31827.302	0.040	-31827.3060	0.0016	-0.1	U			ST2	1.0	06Na13
${}^6\text{Li}-\text{D}_3$	-27182.498	0.040	-27182.4469	0.0016	0.3	U			BL1	4.0	01He36
${}^4\text{He}-{}^6\text{Li}_{.667}$	-7483.694	0.046	-7483.7117	0.0010	-0.4	U			TT1	1.0	09Br10
${}^6\text{He}-{}^7\text{Li}_{.857}$	5170.947	0.057	5170.95	0.06	0.0	1	100	100 ${}^6\text{He}$	TT1	1.0	12Br03
${}^6\text{H}(\gamma,3\text{n})^3\text{H}$	2700	400	2710	250	0.0	2				84Al08	*
	2600	500			0.2	2				86Be35	*
	2800	500			-0.2	2				92Al.A	*
	2850	900			-0.2	2				08Ca22	*
${}^6\text{Li}(\text{n},\alpha)^3\text{H}$	4794	6	4783.4744	0.0027	-1.8	U			Win	67De15	
${}^6\text{Li}(\text{p},\alpha)^3\text{He}$	4017	12	4019.7184	0.0027	0.2	U			CIT	49To16	Y
	4021	5			-0.3	U			Wis	51Wi26	Y
	4023	2			-1.6	U			Bir	53Co02	Y
	4025	6			-0.9	o			MIT	64Sp12	
	4018.2	1.1			1.4	U			MIT	81Ro02	
${}^6\text{Li}(\text{d},\alpha)^4\text{He}$	22396	12	22372.7695	0.0015	-1.9	U			Bir	53Co02	Y
	22376	14			-0.2	U			Ric	53Ph28	Y
	22403	12			-2.5	U			Mex	64Ma.B	
${}^6\text{Li}(\text{p,t})^4\text{Li}$	-18700	300	-18900	210	-0.7	R			Brk	65Ce02	
${}^6\text{He}(\beta^-){}^6\text{Li}$	3509.8	3.8	3505.22	0.05	-1.2	U				63Jo04	
${}^6\text{Li}(\text{p,n})^6\text{Be}$	-5074	13	-5071	5	0.3	2			CIT	67Ho01	
${}^6\text{Li}({}^3\text{He,t})^6\text{Be}$	-4306	6	-4307	5	-0.1	2			CIT	66Wh01	
$*{}^6\text{Li}_2-\text{C}$	F : leak during the measurement									98He.B	**
$*{}^6\text{H}(\gamma,3\text{n})^3\text{H}$	From ${}^7\text{Li}({}^7\text{Li},{}^8\text{B})^6\text{H}$									84Al08	**
$*{}^6\text{H}(\gamma,3\text{n})^3\text{H}$	From ${}^9\text{Be}({}^{11}\text{B},{}^{14}\text{O})^6\text{H}$									86Be35	**
*	${}^6\text{H}$ not observed in ${}^6\text{Li}(\pi^-,\pi^+)$									87Se.A	**
$*{}^6\text{H}(\gamma,3\text{n})^3\text{H}$	From ${}^7\text{Li}({}^7\text{Li},{}^8\text{B})^6\text{H}$									92Al.A	**
$*{}^6\text{H}(\gamma,3\text{n})^3\text{H}$	Symmetrized from 2910(+850-950) keV									08Ca22	**
${}^7\text{Li}-\text{H}_7$	-38771.7889	0.0045	-38771.789	0.004	0.0	1	100	100 ${}^7\text{Li}$	ST2	1.0	06Na13 *
${}^7\text{B}-\text{u}$	29712	27			2					1.0	1.0 11Ch32 *
${}^7\text{Li}-{}^6\text{Li}_{.167}$	-1644.991	0.079	-1644.974	0.005	0.2	o			TT1	1.0	09Br10
${}^6\text{Li}-{}^7\text{Li}_{.857}$	1407.954	0.013	1407.942	0.004	-0.9	U			TT1	1.0	09Br.A
${}^3\text{He}(\alpha,\gamma){}^7\text{Be}$	1586.3	0.6	1587.13	0.07	1.4	U					82Kr05
${}^7\text{Li}(\text{p},\alpha)^4\text{He}$	17364	11	17346.245	0.004	-1.6	U			CIT	51Wh05	Y
	17352	9			-0.6	U			Bir	53Co02	Y
	17345	13			0.1	U			Ric	53Fa18	Y
	17373	6			-4.5	C			Mex	64Ma.B	
	17357	14			-0.8	U			MIT	64Sp12	
${}^7\text{H}(\gamma,2\text{n})^5\text{H}$	-1100	340	100#	1000#	3.5	F				08Ca22	*
${}^7\text{He}(\gamma,\text{n})^6\text{He}$	450	20	410	8	-2.0	3			MSU	01Ch31	
	430	20			-1.0	3				02Me07	
	360	50			1.0	U				06Sk03	
	400	10			1.0	3				08De29	
	388	20			1.1	3				09Ak03	
${}^7\text{Li}(\text{t},\alpha){}^6\text{He}$	9788	30	9839.90	0.05	1.7	U			ChR	54Al35	Y
${}^7\text{Li}(\text{d},{}^3\text{He}){}^6\text{He}-{}^{19}\text{F}({}^{18}\text{O})$	-1981.09	0.42	-1980.36	0.05	1.7	U			MSU	78R001	*
${}^6\text{Li}(\text{n},\gamma){}^7\text{Li}$	7250.0	0.5	7251.091	0.005	2.2	U			Utr	68Sp01	
	7250.3	0.9			0.9	U				72Op01	
	7250.98	0.09			1.2	U			Ptn	85Ko47	*
	7249.94	0.15			7.7	C			Bdn	06Fi.A	
${}^6\text{Li}(\text{d,p}){}^7\text{Li}$	5028	2	5026.525	0.004	-0.7	U			Bir	53Co02	Y
	5035	5			-1.7	U			Mex	61Ja23	
	5024	7			0.4	U			MIT	64Sp12	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^6\text{Li}(\text{t},\text{d})^7\text{Li}$	986	7	993.858	0.005	1.1	U			ChR	54Al35			
$^7\text{Li}(\text{He},\alpha)^6\text{Li}$	13322	10	13326.526	0.005	0.5	U			Mex	64Ma.B			
$^6\text{Li}(\text{n},\gamma)^7\text{Li}^i$	-3947	50	-4000	30	-1.0	1	39	39	$^7\text{Li}^i$	69Pr04	*		
$^6\text{Li}(\text{d},\text{He},\text{d})^7\text{Be}$	136	3	113.37	0.07	-7.5	C			Mex	64Ma.B			
$^7\text{Li}(\text{t},^3\text{He})^7\text{He}$	-11184	30	-11147	8	1.2	U			LAI	69St02			
$^7\text{Be}(\varepsilon)^7\text{Li}$	866	7	861.89	0.07	-0.6	U				72Pe05			
$^7\text{Li}(\text{p},\text{n})^7\text{Be}$	-1644.04	0.22	-1644.24	0.07	-0.9	U			Zur	61Ry05	Z		
	-1643.68	0.26			-2.2	U			Wis	63Ga09	Y		
	-1644.30	0.10			0.6	-			Mar	70Ro07	*		
	-1644.18	0.10			-0.6	-			Auc	85Wh03	*		
ave.	-1644.24	0.07			0.0	1	100	100	$^7\text{Be}$	average			
$^7\text{Li}(\pi^+, \pi^-)^7\text{B}$	-11870	100	-11747	25	1.2	U				81Se.A			
$^7\text{Be}^j(\text{IT})^7\text{Be}$	11000	50	10980	30	-0.4	3				67Ha08			
	10970	40			0.3	3				67Mc14			
$^{*7}\text{Li}-\text{H}_7$	$D_M=7016003.4256(45)-7x1007825.03207(10)$ using Ame2003												
$^{*7}\text{B}-\text{u}$	Represents $^7\text{B} \rightarrow 3\text{p} + ^4\text{He}$ , yielding ME=27677(25) keV												
$^{*7}\text{H}(\gamma, 2\text{n})^5\text{H}$	From $^7\text{H}(\gamma, 4\text{n})^3\text{H} = 704(323)$ , and $^5\text{H}(\gamma, 2\text{n})^3\text{H} = 1800(100)$ keV												
$^{*7}\text{H}(\gamma, 2\text{n})^5\text{H}$	F : not confirmed in later work of reference with higher statistics												
$^{*7}\text{Li}(\text{d}, ^3\text{He})^6\text{He}-^{19}\text{F}()^{18}\text{O}$	$Q-Q=0.98(0.41)$ to $2^+$ level at 1982.07(0.09) keV in $^{18}\text{O}$												
$^{*6}\text{Li}(\text{n},\gamma)^7\text{Li}$	Original 7251.02 recalibrated using $^{35}\text{Cl}(\text{n},\gamma)$ of reference												
$^{*6}\text{Li}(\text{n},\gamma)^7\text{Li}$	Typo 7250.02 in Ame1986 recalib. 7249.97 in Ame1993, 7249.98 Ame2003												
$^{*6}\text{Li}(\text{n},\gamma)^7\text{Li}^i$	IT=11200(50); Q rebuilt with Ame1965												
$^{*7}\text{Li}(\text{p},\text{n})^7\text{Be}$	T=1880.64(0.09,Z); error in Q increased												
$^{*7}\text{Li}(\text{p},\text{n})^7\text{Be}$	T=1880.43(0.02,Z); error in Q increased												
$^8\text{C}-\text{u}$	37606	32	37643	20	1.2	1	37	37	$^8\text{C}$	1.0	1.0	11Ch32	*
$^8\text{He}-^6\text{Li}_{1.333}$	13776.88	0.72	13775.58	0.10	-1.8	o			TT1	1.0	08Ry03		
	13775.50	0.19			0.4	1	25	25	$^8\text{He}$	TT1	1.0	08Br.D	
$^8\text{Li}-^6\text{Li}_{1.333}$	2327.426	0.034	2327.44	0.05	0.4	o			TT1	1.0	08Sm.A		
	2327.42	0.11			0.2	o			TT1	1.0	08Sm03		
	2327.42	0.11			0.2	1	21	21	$^8\text{Li}$	TT1	1.0	09Br10	
$^8\text{He}-^7\text{Li}_{1.143}$	15642.49	0.11	15642.46	0.10	-0.2	1	75	75	$^8\text{He}$	TT1	1.0	12Br03	
$^4\text{He}(^{18}\text{O}, ^{14}\text{O})^8\text{He}$	-37967	25	-37975.04	0.14	-0.3	U				MIT	75Ja10		
$^4\text{He}(^{26}\text{Mg}, ^{22}\text{Mg})^8\text{He}$	-44962	30	-44999.4	0.3	-1.2	U				Brk	74Ce05		
$^4\text{He}(^{64}\text{Ni}, ^{60}\text{Ni})^8\text{He}$	-31818	15	-31810.7	0.4	0.5	U				Pri	75Ko18		
	-31796	8			-1.8	U				Tex	77Tr07		
$^8\text{Be}(\alpha)^4\text{He}$	91.88	0.05	91.84	0.04	-0.8	3				Zur	68Be02	*	
	91.80	0.05			0.8	3					92Wu09	*	
$^{*6}\text{Li}(\text{t},\text{p})^8\text{Li}$	790	11	801.91	0.05	1.1	U				ChR	54Al35		
$^{*6}\text{Li}(\text{He},\text{p})^8\text{Be}$	16824	12	16787.45	0.04	-3.0	U				Mex	64Ma.B		
$^{*6}\text{Li}(\text{d},\gamma)^8\text{Be}^j$	-5216.5	3.0	-5213.4	2.0	1.0	1	43	43	$^{*8}\text{Be}^j$	76No07	*		
$^{*6}\text{Li}(\text{d},\text{He},\text{n})^8\text{B}$	-1974.8	1.0	-1974.8	1.0	0.0	1	100	100	$^8\text{B}$	Nvl	58Du78	Y	
$^7\text{Li}(\text{n},\gamma)^8\text{Li}$	2032.78	0.15	2032.62	0.05	-1.1	-					74Ju.A	*	
	2032.77	0.18			-0.8	-					ORn	91Ly01	Z
	2032.57	0.06			0.8	-					Bdn	06Fi.A	
$^7\text{Li}(\text{d},\text{p})^8\text{Li}$	-192	1	-191.95	0.05	0.1	U				Wis	51Wi26	Y	
	-188	7			-0.6	U				MIT	64Sp12		
$^7\text{Li}(\text{n},\gamma)^8\text{Li}$	ave.	2032.61	0.05	2032.62	0.05	0.1	1	79	79	$^8\text{Li}$	average		
$^7\text{Li}(\text{d},\text{He},\text{d})^8\text{Be}$	11795	13	11760.93	0.04	-2.6	U				Mex	64Ma.B		
$^{*8}\text{C}-\text{u}$	Represents $^8\text{C} \rightarrow 4\text{p} + ^4\text{He}$ , yielding ME=35030(30) keV												
$^{*8}\text{Be}(\alpha)^4\text{He}$	For atomic binding energy correction see reference												
$^{*6}\text{Li}(\text{d},\gamma)^8\text{Be}^j$	$E_d=6962.8(3.0)$ keV												
$^{*7}\text{Li}(\text{n},\gamma)^8\text{Li}$	PrvCom to reference												
$^9\text{Li}-^6\text{Li}_{1.500}$	4105.867	0.092	4105.86	0.20	-0.1	o			TT1	1.0	08Sm.A		
	4105.86	0.20			2				TT1	1.0	08Sm03		
$^9\text{Be}-^7\text{Li}_{1.286}$	-8397.39	0.10	-8397.35	0.08	0.4	1	67	67	$^9\text{Be}$	TT1	1.0	09Ri03	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^9\text{Be}(\text{p},\alpha)^6\text{Li}$	2117	7	2125.63	0.08	1.2	U		CIT	49To16	Y	
	2130	10		-0.4	U			Chi	51Ca37	Y	
	2125	4		0.2	U			Wis	51Wi26	Y	
	2126	2		-0.2	U			Bir	53Co02	Y	
	2144	6		-3.1	B			MIT	64Sp12		
	2125.4	1.8		0.1	U			NDm	67Od01		
$^6\text{Li}(\alpha,\text{p})^9\text{Be}$	-2125.6	1.2	-2125.63	0.08	0.0	U		NDm	65Br28		
$^6\text{Li}(\alpha,\text{n})^9\text{B}$	-3974	12	-3976.0	0.9	-0.2	U		Tal	63Me08		
$^7\text{Li}(\text{t},\text{p})^9\text{Li}$	-2397	20	-2386.96	0.19	0.5	U			64Mi04		
	-2385.7	3.0		-0.4	U			MSU	75Ka18		
$^9\text{Be}(\text{d},\alpha)^7\text{Li}$	7162	10	7152.15	0.08	-1.0	U		CIT	51Wh05	Y	
	7153	3		-0.3	U			Bir	53Co02	Y	
	7162	4		-2.5	U			Mex	64Ma.B		
	7157	8		-0.6	U			MIT	64Sp12		
$^7\text{Li}({}^3\text{He},\text{p})^9\text{Be}$	11215	15	11200.90	0.08	-0.9	U		Mex	64Ma.B		
$^9\text{Be}(\text{p},{}^3\text{He})^7\text{Li}^i$	-22499	50	-22450	30	1.0	o		Brk	65De08		
	-22479	40		0.8	1	61	61	$^7\text{Li}^i$	Brk	67Mc14	
$^7\text{Be}({}^3\text{He},\text{n})^9\text{C}$	-6287	5	-6282.1	2.1	1.0	3		CIT	67Ba.A	Z	
	-6275.2	3.5		-2.0	3			CIT	71Mo01	Z	
$^9\text{He}(\gamma,\text{n})^8\text{He}$	100	60	1250	50	19.2	B		MSU	01Ch31	*	
	1270	100		-0.2	-			Ber	99Bo26		
	2000	200		-3.7	B				07Go24		
	1330	80		-0.9	-				10Jo06	*	
	ave.	1310	60	-0.8	1	56	56	$^9\text{He}$	average		
$^9\text{Be}(\gamma,\text{n})^8\text{Be}$	-1665	1	-1664.54	0.08	0.5	U		Wis	50Mo56	Y	
$^9\text{Be}(\text{p},\text{d})^8\text{Be}$	557	3	560.03	0.08	1.0	U		CIT	49To16	Y	
	558	5		0.4	U			Chi	51Ca37	Y	
	557.5	1.		2.5	U			Wis	51Wi26	Y	
	560	2		0.0	U			Bir	53Co02	Y	
	562	4		-0.5	U			MIT	64Sp12		
	559.0	1.1		0.9	U			Zur	66Re02		
	559.6	0.6		0.7	U			NDm	67Od01	Z	
$^9\text{Be}(\text{d},\text{t})^8\text{Be}$	4602	13	4592.70	0.08	-0.7	U		MIT	64Sp12		
	4591.7	3.1		0.3	U			NDm	67Od01		
$^9\text{Be}({}^3\text{He},\alpha)^8\text{Be}$	18931	13	18913.08	0.08	-1.4	U		Mex	64Ma.B		
$^9\text{Be}(\pi^-, \pi^+) {}^9\text{He}$	-30472	100	-30610	50	-1.4	-			87Se05		
$^9\text{Be}({}^{13}\text{C}, {}^{13}\text{O}) {}^9\text{He}$	-50200	600	-49580	50	1.0	o		Ber	88Bo20		
	-49470	80		-1.3	o			Ber	91Bo.B		
$^9\text{Be}({}^{14}\text{C}, {}^{14}\text{O}) {}^9\text{He}$	-34580	100	-34580	50	0.0	-		Ber	95Bo.B		
$^9\text{Be}(\pi^-, \pi^+) {}^9\text{He}$	ave.	-30540	70	-30610	50	-0.9	1	44	44	$^9\text{He}$	average
$^9\text{Be}(\text{p},\text{n})^9\text{B}$	-1850.4	1.0			2			Wis	50Ri59	Z	
	-1852	3	-1850.4	0.9	0.5	U		Ric	55Ma84	Z	
$^9\text{He}(\gamma,\text{n})^8\text{He}$	From scattering length $a_s = -10$ fm; questioned in reference										
$^9\text{He}(\gamma,\text{n})^8\text{He}$	Scattering length $a_s = -3.17(66)$ fm										
$^{10}\text{B} {}^{37}\text{Cl} - {}^C {}^{35}\text{Cl}$	9987.21	0.56	9986.9	0.4	-0.2	U		H38	2.5	84El05	
$^{10}\text{Be} {}^{-7}\text{Li}_{1,429}$	-9334.16	0.13	-9334.22	0.09	-0.4	1	44	$^{44} {}^{10}\text{Be}$	TT1	1.0	09Ri03
$^{10}\text{C} {}^{-10}\text{B}$	3916.416	0.090	3916.36	0.07	-0.6	1	67	$^{67} {}^{10}\text{C}$	JY1	1.0	11Er02
$^7\text{Li}(\text{t},\gamma) {}^{10}\text{Be}^i$	-3930	20			2				73Ab10		
$^{10}\text{B}(\text{n},\alpha) {}^7\text{Li}$	2801	4	2790.0	0.4	-2.8	U			67De15		
$^7\text{Li}(\alpha,\text{n}) {}^{10}\text{B}$	-2787	4	-2790.0	0.4	-0.7	U		Ric	57Bi84	Y	
$^{10}\text{B}(\text{p},\alpha) {}^7\text{Be}$	1147	5	1145.7	0.4	-0.3	U		CIT	49Ch35	Y	
	1146	6		0.0	U			CIT	51Br10	Y	
	1146	2		-0.1	U			Wis	52Cr30	Y	
	1153	4		-1.8	U			MIT	64Sp12		
$^{10}\text{B}({}^3\text{He}, {}^6\text{He}) {}^7\text{B}$	-18550	100	-18287	25	2.6	U		Brk	67Mc14		
$^{10}\text{He}(\gamma,2\text{n}) {}^8\text{He}$	1200	300	1420	100	0.7	U			94Ko16		
	1420	100			2				10Jo06		
	2100	200		-3.4	B				12Si07		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{10}\text{Be}(\text{p},^3\text{He})^8\text{Li}^i$	-26802.3	5.4				2			MSU	75Ro01	*
$^{10}\text{Be}(\text{p},\text{t})^8\text{Be}^j$	-27487.0	2.6	-27489.3	2.0	-0.9	1	57	$^{57}\text{Be}^j$	MSU	75Ro01	*
$^{10}\text{B}(\text{d},\alpha)^8\text{Be}$	17829	10	17819.8	0.4	-0.9	U			Bir	54El10	Y
	17830	6			-1.7	U			Mex	64Ma.B	
	17818.6	4.1			0.3	U			NDm	67Od01	
$^{10}\text{B}(\text{p},^3\text{He})^8\text{Be}$	-535.5	2.5	-533.2	0.4	0.9	U			Wis	52Cr30	Y
$^{10}\text{Li}(\gamma,\text{n})^9\text{Li}$	150	150	26	13	-0.8	U				90Am05	*
	25	15			0.1	3				95Zi03	*
	30	24			-0.1	3				08Ak03	*
$^{10}\text{Li}^m(\gamma,\text{n})^9\text{Li}$	240	60	220	40	-0.3	3				97Bo10	*
	210	50			0.2	3				97Zi04	*
$^9\text{Be}(\text{p},^3\text{He})^{10}\text{Li}^n$	-33770	260	-33750	40	0.1	U			Brk	75Wi26	*
$^9\text{Be}(\text{p},^3\text{He})^{10}\text{Li}^n$	-36370	50	-36390	40	-0.4	2			Ber	93Bo03	*
$^{10}\text{Be}(\text{d},^3\text{He})^9\text{Li}$	-14142.8	2.5	-14142.91	0.20	0.0	U			MSU	75Ka18	
$^9\text{Be}(\text{n},\gamma)^{10}\text{Be}$	6812.33	0.06	6812.28	0.05	-0.8	-			MMn	86Ke14	Z
	6812.10	0.14			1.3	-			Bdn	06Fi.A	
$^9\text{Be}(\text{d},\text{p})^{10}\text{Be}$	4583	8	4587.72	0.05	0.6	U			Ric	51KI55	Y
	4595	4			-1.8	U			Mex	64Ma.B	
	4590	8			-0.3	U			MIT	64Sp12	
$^9\text{Be}(\text{n},\gamma)^{10}\text{Be}$	ave.	6812.29	0.06	6812.28	0.05	-0.2	1	88	$^{56}\text{Be}$	average	
$^9\text{Be}(\text{p},^3\text{He},\text{d})^{10}\text{B}$	1123	5	1093.3	0.4	-5.9	C			Mex	64Ma.B	
$^{10}\text{B}(\text{d},\text{t})^9\text{B}$	-2189	10	-2179.9	1.0	0.9	U			MIT	64Sp12	
$^{10}\text{B}(\text{p},^3\text{He},\alpha)^9\text{B}$	12130	15	12140.5	1.0	0.7	U			Ric	60Sp08	
	12171	15			-2.0	U			Mex	64Ma.B	
$^{10}\text{Be}(\text{C},\text{O})^{14}\text{O}^{10}\text{Be}$	-41190	70	-41550	100	-5.2	B			Ber	94Os04	
$^{10}\text{Be}(\beta^-)^{10}\text{B}$	560	5	556.8	0.4	-0.6	U				50Hu27	
	555	5			0.4	U				52Fe16	
$^{10}\text{C}(\beta^+)^{10}\text{B}$	3604	16	3648.06	0.07	2.8	U				63Ba52	
$^{10}\text{B}(\text{p},\text{n})^{10}\text{C}$	-4433.7	1.5	-4430.41	0.07	2.2	U			Har	75Fr.A	
	-4430.17	0.34			-0.7	o			Auc	84Ba12	*
	-4430.17	0.09			-2.7	o			Auc	89Ba28	*
	-4430.30	0.12			-0.9	1	33	$^{33}\text{C}$	Auc	98Ba83	*
$^{10}\text{B}(\text{p},^3\text{He},\text{t})^{10}\text{C}$	-3667	10	-3666.65	0.07	0.0	U			Brk	68Br23	
$^{10}\text{B}(\text{p},^3\text{He},\text{t})^{10}\text{N}$	-47550	400			2					02Le16	
$*^{10}\text{Be}(\text{p},^3\text{He})^8\text{Li}^i$	Original value -26804.1(5.4) recalibrated										
$*^{10}\text{Be}(\text{p},\text{t})^8\text{Be}^j$	Original value -27487.6(2.6) recalibrated										
$*^{10}\text{Li}(\gamma,\text{n})^9\text{Li}$	From $^{11}\text{B}(\pi^-, \text{p})^{10}\text{Li}$										
$*^{10}\text{Li}(\gamma,\text{n})^9\text{Li}$	Resonance less than 50 above the one neutron threshold, but could also be final state interaction; then $^{10}\text{Li}$ would be 200 higher										
$*^{10}\text{Li}(\gamma,\text{n})^9\text{Li}$	Deduced from s-state scattering length of -22.4(4.8) fm										
$*^{10}\text{Li}^m(\gamma,\text{n})^9\text{Li}$	From $^{10}\text{Be}(\text{C},\text{O})^{14}\text{O}^{10}\text{Be}$ ( $1^+$ level)										
$*^{10}\text{Li}^m(\gamma,\text{n})^9\text{Li}$	Theoretical work: $1^+$ level above $1^-$ ground state										
$*^{9}\text{Be}(\text{p},^3\text{He})^{10}\text{Li}^n$	Q=-34060(250) to $2^+$ level 290(80) above $1^+$ level										
$*^{9}\text{Be}(\text{p},^3\text{He})^{10}\text{Li}^n$	revised with Breit-Wigner line shape. Probably $2^+$ level										
$*^{9}\text{Be}(\text{p},^3\text{He})^{10}\text{Li}^n$	Revised with Breit-Wigner line shape (probably $2^+$ level)										
$*^{10}\text{B}(\text{p},\text{n})^{10}\text{C}$	T=4876.90(0.37); withdrawn by author										
$*^{10}\text{B}(\text{p},\text{n})^{10}\text{C}$	T=4876.88(0.10,Z); original T=4876.95(0.10) keV										
$*^{10}\text{B}(\text{p},\text{n})^{10}\text{C}$	Average of two datasets; withdrawn by author										
$*^{10}\text{B}(\text{p},\text{n})^{10}\text{C}$	T=4877.03(0.13); this is the second 89Ba28 dataset, recalibrated by author										
$^{11}\text{B}^{37}\text{Cl}-^{13}\text{C}^{35}\text{Cl}$	2998.15	1.30	3000.4	0.5	0.7	U			H38	2.5	84El05
$^{11}\text{Li}-^6\text{Li}_{1.833}$	16003.5	1.2	16003.3	0.7	-0.1	o			TT1	1.0	08Sm.A
	16003.33	0.66			2				TT1	1.0	08Sm03
$^{11}\text{Be}-^6\text{Li}_{1.833}$	-6059.27	0.28	-6059.17	0.26	0.4	1	83	$^{83}\text{Be}$	TT1	1.0	08Br.C
$^{11}\text{Be}-^7\text{Li}_{1.571}$	-3479.83	0.62	-3480.32	0.26	-0.8	1	17	$^{17}\text{Be}$	TT1	1.0	09Ri03
$^{11}\text{Li-u}$	43780	130	43723.6	0.7	-0.3	U			TO2	1.5	88Wo09
	43805	28			-2.9	U			P40	1.0	03Ba.A
	43715.4	5.0			1.6	o			P40	1.0	04Ba.A
	43714.5	5.1			1.8	U			P40	1.0	09Ga24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference			
* $^9\text{Be}(\text{He},\text{n})^{11}\text{C}^i$	IT=12170(40); Q rebuilt; possibly not pure T=3/2								MMC121**				
* $^{11}\text{B}(\text{Li},\text{B})^{10}\text{Li}$	Original (>-32471) re-evaluated						GAu **						
*	existence of this level not completely certain						94Yo01 **						
* $^{10}\text{Be}(\text{p},\gamma)^{11}\text{B}^i$	IT=12550(30); Q rebuilt with Ame1964						MMC121**						
* $^{11}\text{N}(\text{p})^{10}\text{C}$	From $^{14}\text{N}(\text{He},\text{He})^{11}\text{N}$ Q=-25010(100) to 250(150) level						90Aj01 **						
* $^{11}\text{N}(\text{p})^{10}\text{C}$	From $^9\text{Be}(\text{N},\text{Be})^{11}\text{N}$						98Az01 **						
* $^{11}\text{N}(\text{p})^{10}\text{C}$	From $^{10}\text{B}(\text{N},\text{B})^{11}\text{N}$						00Oj01 **						
* $^{11}\text{N}(\text{p})^{10}\text{C}$	From scattering $^{10}\text{C}$ on H. precisely, 1270(+180-50) keV						00Ma62 **						
* $^{11}\text{B}^i(\text{IT})^{11}\text{B}$	From $^{11}\text{B}(\text{He},\text{He})^*$						AHW **						
* $^{11}\text{B}(\text{He},\text{t})^{11}\text{C}^i$	IT=12150(50); Q rebuilt; possibly not pure T=3/2						MMC121**						
$^{12}\text{Be-u}$	26911.3	14.2	26922.1	2.0	0.8	U	79	$^{79}\text{Be}$	P40	1.0	09Ga24		
$^{12}\text{Be-C}$	26922.4	2.3		-0.1	1				TT1	1.0	10Et01		
$\text{C}_{14}-^{12}\text{C}_{12}$	1.2	4.9	0.00000	0.00013	-0.2	U			TG1	1.5	09Ke.A		
$\text{C}_{14}-^{12}\text{C}_{15}$	2.1	2.7		-0.5	U				TG1	1.5	11Ke03		
$\text{C}_{15}-^{12}\text{C}_{14}$	-4.0	4.7		0.6	U				TG1	1.5	11Ke03		
	-0.5	6.2		0.1	U				TG1	1.5	11Ke03		
$\text{C}_{15}-^{12}\text{C}_{16}$	-1.6	2.1		0.5	U				TG1	1.5	10Ke09		
	4.7	4.2		-0.7	U				TG1	1.5	11Ke03		
	3.7	4.1		-0.6	U				TG1	1.5	11Ke03		
$\text{C}_{16}-^{12}\text{C}_{12}$	-0.3	6.1		0.0	U				TG1	1.5	09Ke.A		
	2.6	5.0		-0.3	U				TG1	1.5	09Ke.A		
$\text{C}_{16}-^{12}\text{C}_{15}$	-1.3	3.9		0.2	U				TG1	1.5	11Ke03		
$^7\text{Li}(\text{Li},\text{p})^{12}\text{Be}$	-9710	100	-9841.5	1.9	-1.3	U			LAl		71Ho26		
$^{12}\text{C}(\alpha,\text{He})^{8}\text{C}$	-64520	200	-64249	18	1.4	U			74Ro17				
	-64278	26		1.1	-				Tex		76Tr01		
	ave.	64270	23		0.9	1			63	$^{63}\text{C}$	average		
$^9\text{Be}(\text{Li},\alpha)^{12}\text{B}^i$	-2308.4	50.	-2258	19	1.0	1	14		14		75Aj03 *		
$^{12}\text{C}(\text{He},\text{He})^{9}\text{C}$	-31578	8	-31571.8	2.1	0.8	U			MSU		71Tr03		
	-31575.6	3.2		1.2	R				MSU		79Ka.A		
$^{10}\text{Be}(\text{t},\text{p})^{12}\text{Be}$	-4809	15	-4809.4	1.9	0.0	U			Brk		78Al29		
	-4808.3	4.2		-0.3	1	21			21		94Fo08		
$^{10}\text{B}(\text{t},\text{p})^{12}\text{B}$	6346	6	6342.1	1.4	-0.6	U			Man		60Ja17		
$^{10}\text{B}(\alpha,\text{d})^{12}\text{C}$	1340.3	0.8	1339.9	0.4	-0.5	-			Wis		56Do41 Z		
	1340.6	1.5		-0.5	U				NDm		65Br28		
$^{12}\text{C}(\text{d},\alpha)^{10}\text{B}$	-1340.1	1.2	-1339.9	0.4	0.2	U			NDm		65Br28		
$^{10}\text{B}(\text{He},\text{p})^{12}\text{C}$	19694.5	3.6	19692.9	0.4	-0.4	U			NDm		67Od01		
	19692.86	0.44		0.2	-				Mun		83Ch08 *		
$^{10}\text{B}(\alpha,\text{d})^{12}\text{C}$	ave.	1339.9	0.4	1339.9	0.4	-0.1	1	99	99	$^{10}\text{B}$	average		
$^{10}\text{B}(\text{He},\text{p})^{12}\text{C}^i$	4585	6	4585	3	-0.1	1	31	31	62Br10				
$^{10}\text{B}(\text{He},\text{n})^{12}\text{N}$	1570	25	1572.5	1.1	0.1	U			CIT		64Fi02		
	1561	9		1.3	U				CIT		64Ka08		
	1568	20		0.2	U				LAl		66Za01		
	1574	7		-0.2	U				Har		68Ad03		
$^{12}\text{O}(2\text{p})^{10}\text{C}$	1770	20	1638	24	-6.6	B			95Kr03		12Ja11		
	1638	24		2					12Ja11				
$^{12}\text{Li}(\gamma,\text{n})^{11}\text{Li}$	120	15		3					08Ak03		*		
$^{11}\text{B}(\text{d},\text{p})^{12}\text{B}$	1141	4	1145.2	1.4	1.1	1	12	11	$^{12}\text{B}$	Mex	61Ja23		
	1137	5		1.6	U		MIT	64Sp12					
$^{11}\text{B}(\text{He},\text{d})^{12}\text{C}$	10436	17	10463.4	0.4	1.6	U			Man		60Fo01		
	10469.7	5.7		-1.1	U				NDm		67Od01		
$^{11}\text{B}(\text{d},\text{n})^{12}\text{C}^i$	-1376.2	4.0	-1376	3	0.0	1	69	69	$^{12}\text{C}^i$	55Ma76 *	55Ma76 *		
$^{12}\text{N}(\beta^+,1^2\text{C})$	17406	15	17338.1	1.0	-4.5	B	63Gi04						
$^{12}\text{C}(\text{p},\text{n})^{12}\text{N}$	-18119.9	4.4	-18120.4	1.0	-0.1	U			Yal		69Ov01 Z		
$^{12}\text{C}(\pi^+,\pi^-)^{12}\text{O}$	-31034	48	-30893	24	2.9	B			80Bu15				
$^9\text{Be}(\text{Li},\alpha)^{12}\text{B}^i$	IT=12770(50) using $Q_{gs}=10461.6(1.6)$ keV						75Aj03 **						
*	energy and resolution arguments for T=1, not an IAS						08Ch28 **						
$^{10}\text{B}(\text{He},\text{p})^{12}\text{C}$	Original Q=15305.45(0.3) revised by authors to 15253.95(31) keV						83Vo.A **						
*	to $2^+$ level at 4438.91(0.31) keV						Ens006 **						
$^{12}\text{Li}(\gamma,\text{n})^{11}\text{Li}$	Er derived in reference from scattering length $a_s = -13.7(1.6)$ fm						10Ha04 **						
$^{11}\text{B}(\text{d},\text{n})^{12}\text{C}^i$	Er=1627(4) Q=-1376(4); recalibrated Q=-1376.16(4.00) keV						MMC121**						

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{14}\text{Be-u}$	42660	150	42890	140	1.0	2			TO2	1.5	88Wo09		
$\text{C D}_2\text{-}^{14}\text{C H}_2$	9311.498	0.006	9311.503	0.004	0.6	1	20	20	$^{14}\text{C}$	B08	1.5	75Sm02	
$\text{C H}_2\text{-N}$	12576.22	0.10	12576.06004	0.00026	-0.6	U			J2	2.5	69Na21		
	12576.086	0.009		-1.9	U				B07	1.5	71Sm01		
	12576.0598	0.0008		0.3	U				M11	1.0	95Di08		
$\text{C D-N}$	11027.815	0.018	11027.77369	0.00023	-1.5	o			B07	1.5	71Sm01		
	11027.773	0.007		0.1	U				B08	1.5	75Sm02		
$\text{C H}_4\text{-N D}$	14124.17	0.14	14124.3464	0.0004	0.5	U			J6	2.5	76Ka50		
$\text{C D}_2\text{-N H}_2$	9479.68	0.13	9479.4874	0.0003	-0.6	U			J6	2.5	76Ka50		
$^{14}\text{N-u}$	3074.014	0.019	3074.00443	0.00020	-0.2	U			OH1	2.5	93Ma.A		
	3074.0056	0.0018		-0.7	U				WA1	1.0	95Va38		
$^{13}\text{C H}-^{14}\text{N}$	8105.86288	0.00010	8105.86288	0.00010	0.0	1	96	75	$^{13}\text{C}$	MI3	1.0	04Ra33	
$^{14}\text{C H}_2\text{-N D}$	1716.269	0.003	1716.270	0.004	0.3	1	80	80	$^{14}\text{C}$	B08	1.5	75Sm02	
$^{14}\text{N}({^3\text{He}}, {^9\text{Li}}){^8\text{C}}$	-42214	50	-42225	18	-0.2	R			MSU	76Ro04			
$^{11}\text{B}(\alpha, p){^{14}\text{C}}$	789	17	783.9	0.4	-0.3	U			MIT	64Sp12			
$^{14}\text{C}({^{18}\text{O}}, {^{20}\text{Ne}}){^{12}\text{Be}}$	-15770	50	-15798.8	1.9	-0.6	U			ChR	74Ba15			
$^{14}\text{C}(\text{d}, \alpha){^{12}\text{B}}$	361.8	1.4	361.3	1.3	-0.4	1	89	89	$^{12}\text{B}$	Wis	56Do41	Z	
$^{14}\text{C}(\text{p}, {^3\text{He}}){^{12}\text{B}^i}$	-30702.73	19.96	-30711	19	-0.4	1	86	86	$^{12}\text{B}^i$	71Ne.A	*		
$^{14}\text{C}(\text{p}, \text{t}){^{12}\text{C}^j}$	-32235.9	2.4				2			MSU	78Ro08	*		
$^{14}\text{N}(\text{d}, \alpha){^{12}\text{C}}$	13579	6	13574.22282	0.00023	-0.8	U			Mex	64Ma.B			
	13588	6		-2.3	U				MIT	64Sp12			
$^{12}\text{C}({^3\text{He}}, \text{p}){^{14}\text{N}}$	4779.0	1.4	4778.8282	0.0023	-0.1	U			CIT	62Ba26	Y		
	4806	9		-3.0	U				Mex	64Ma.B			
	4776.3	1.5		1.7	U				NDm	67Od01			
$^{14}\text{N}(\text{p}, \text{t}){^{12}\text{N}}$	-22135.5	1.0	-22135.5	1.0	0.0	1	100	100	$^{12}\text{N}$	MSU	75No.A		
$^{12}\text{C}({^3\text{He}}, \text{n}){^{14}\text{O}}$	-1146.86	0.72	-1147.56	0.11	-1.0	U			Nvl	61Bu04	*		
	-1148.61	0.56		1.9	U				CIT	62Ba26	*		
	-1149.01	0.48		3.0	B				Mar	70Ro07	*		
$^{14}\text{C}({^7\text{Li}}, {^8\text{B}}){^{13}\text{Be}}$	-39990	500	-38654	10	2.7	U			Dbn	83Al20			
$^{14}\text{C}({^{11}\text{B}}, {^{12}\text{N}}){^{13}\text{Be}}$	-39600	90	-39309	10	3.2	B			Dbn	98Be28			
$^{13}\text{C}(\text{n}, \gamma){^{14}\text{C}}$	8177	2	8176.433	0.004	-0.3	U				67Th05			
	8176.61	0.24		-0.7	U				Bdn	06Fi.A			
$^{13}\text{C}(\text{d}, \text{p}){^{14}\text{C}}$	5946	4	5951.867	0.004	1.5	U			CIT	51Li29	Y		
	5952	10		0.0	U				Nob	54Ah47	Y		
	5951	10		0.1	U				Mex	64Ma.B			
	5951	8		0.1	U				MIT	64Sp12			
	5951.85	0.54		0.0	U				Rez	90Pi05	*		
$^{13}\text{C}(\text{p}, \gamma){^{14}\text{N}}$	7551.0	0.8	7550.56265	0.00009	-0.5	U				56Ma87	Z		
	7551.1	0.5		-1.1	U					63Bo07	*		
$^{13}\text{C}({^3\text{He}}, \text{d}){^{14}\text{N}}$	2048	14	2057.0858	0.0023	0.6	U			MIT	64Sp12			
$^{14}\text{N}({^3\text{He}}, \alpha){^{13}\text{N}}$	10015	10	10024.24	0.27	0.9	U			Ric	59Yo25			
$^{14}\text{F}(\text{p}){^{13}\text{O}}$	1560	40			3					10Go16			
$^{14}\text{C}(\pi^-, \pi^+){^{14}\text{Be}}$	-38100	170	-37960	130	0.8	R				84Gi09	*		
$^{14}\text{C}({^{14}\text{C}}, {^{14}\text{O}}){^{14}\text{Be}^p}$	-43440	60			2				Ber	95Bo10			
$^{14}\text{C}({^7\text{Li}}, {^7\text{Be}}){^{14}\text{B}}$	-21499	30	-21506	21	-0.2	-			ChR	73Ba34			
$^{14}\text{C}({^{14}\text{C}}, {^{14}\text{N}}){^{14}\text{B}}$	-20494	30	-20487	21	0.2	-			Ors	81Na.A			
$^{14}\text{C}({^7\text{Li}}, {^7\text{Be}}){^{14}\text{B}}$	ave.	-21506	21	-21506	21	0.0	1	100	100	$^{14}\text{B}$	average		
$^{14}\text{C}(\beta^-){^{14}\text{N}}$	155.2	0.5	156.476	0.004	2.6	U				54Ki23			
	155.74	0.08			9.2	F				91Su09	*		
	155.95	0.22			2.4	U				95Wi20			
	156.27	0.14			1.5	U				00Ku25			
$^{14}\text{C}(\text{p}, \text{n}){^{14}\text{N}}$	-626.15	0.3	-625.870	0.004	0.9	U			Wis	56Sa06			
	-625.88	0.09			0.1	U			Zur	73Hi.A			
$^{14}\text{N}(\text{p}, \text{n}){^{14}\text{O}}$	-5930.7	2.8	-5926.39	0.11	1.5	U			Ric	65Ku02			
	-5927.6	1.5			0.8	U			Har	73Cl12			
	-5925.6	0.4			-2.0	F			Auc	77Wh01	*		
	-5925.41	0.08			-12.2	F			Auc	81Wh03	*		
	-5925.41	0.11			-8.9	F			Auc	98Ba83	*		
	-5926.68	0.17			1.8	1	43	43	$^{14}\text{O}$	Auc	03To03		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
C H <sub>2</sub> D-O	34837.406	0.033	34837.22302	0.00028	-3.7	B			B07	1.5	71Sm01
	34837.202	0.020			0.7	U			B08	1.5	75Sm02
C D <sub>2</sub> -O	33289.129	0.033	33288.93667	0.00029	-3.9	B			B07	1.5	71Sm01
	33289.061	0.038			-2.2	B			B07	1.5	71Sm01
	33288.940	0.019			-0.1	U			B08	1.5	75Sm02
C <sub>4</sub> -O <sub>3</sub>	15256.131	0.018	15256.1413	0.0005	0.6	o			WA1	1.0	92Va.A
	15256.086	0.081			0.3	U			OH1	2.5	93Ma.A
	15256.121	0.009			2.3	o			WA1	1.0	95Va38
	15256.1425	0.0008			-1.5	o			WA1	1.0	01Va33
	15256.1415	0.0005			-0.4	o			WA1	1.0	03Va.A
	15256.14129	0.00054			0.0	1	91	91 <sup>16</sup> O	WA1	1.0	06Va22
C H <sub>4</sub> -O	36387.55	0.8	36385.5094	0.0004	-1.0	U			J1	2.5	68Ma45
	36386.01	0.24			-0.8	U			J2	2.5	69Na21
	36385.644	0.036			-2.5	U			B07	1.5	71Sm01
	36385.5062	0.0013			2.4	U			MI1	1.0	95Di08
	36385.5073	0.0019			1.1	U			MI1	1.0	95Di08
	36385.5060	0.0022			1.5	U			MI1	1.0	95Di08
<sup>16</sup> O-u	-5085.362	0.027	-5085.38043	0.00017	-0.3	U			OH1	2.5	93Ma.A
<sup>14</sup> C H <sub>2</sub> -O	23977.413	0.014	23977.433	0.004	1.0	U			B08	1.5	75Sm02
N D-O	22261.160	0.013	22261.16298	0.00024	0.2	U			B08	1.5	75Sm02
N <sub>2</sub> -C O	11233.57	0.20	11233.3893	0.0004	-0.4	U			J2	2.5	69Na21
	11233.543	0.025			-4.1	B			B07	1.5	71Sm01
	11233.43	0.21			-0.1	U			J6	2.5	76Ka50
	11259	27			-0.4	U			CR1	2.5	89Sh10
	11233.3909	0.0022			-0.7	U			MI1	1.0	95Di08
	11233.38932	0.00042			-0.1	1	80	78 <sup>14</sup> N	MI1	1.0	04Th17
<sup>16</sup> O( $\alpha$ , <sup>8</sup> He) <sup>12</sup> O	-66020	120	-65836	24	1.5	U			Brk	78Ke06	
<sup>16</sup> O(p, $\alpha$ ) <sup>13</sup> N	-5211	10	-5218.43	0.27	-0.7	U			MIT	64Sp12	
<sup>16</sup> O( <sup>3</sup> He, <sup>6</sup> He) <sup>13</sup> O	-30516	14	-30513	10	0.2	2			Brk	70Me11	*
	-30511	13			-0.2	2			MSU	71Tr03	*
<sup>16</sup> Be( $\gamma$ ,2n) <sup>14</sup> Be	1350	100			3					12Sp02	
<sup>14</sup> C( <sup>14</sup> C, <sup>12</sup> N) <sup>16</sup> B	-48380	60	-48411	25	-0.5	o			Ber	95Bo10	
	-48378	60			-0.5	1	17	17 <sup>16</sup> B	Ber	00Ka21	
<sup>14</sup> C(t,p) <sup>16</sup> C	-3015	8	-3013	4	0.2	2			MSU	77Fo09	
	-3013	4			-0.1	2			LAI	78Se04	
<sup>14</sup> C( <sup>3</sup> He,p) <sup>16</sup> N	4983	4	4978.2	2.3	-1.2	R			BNL	66Ga08	
<sup>14</sup> C( <sup>3</sup> He,p) <sup>16</sup> N <sup>j</sup>	-4951	7			2					68He03	*
<sup>14</sup> N(t,p) <sup>16</sup> N	4853	10	4840.3	2.3	-1.3	U			Ald	66He10	
<sup>14</sup> C( <sup>3</sup> He,n) <sup>16</sup> O <sup>j</sup>	-8100	8	-8104	4	-0.5	1	23	23 <sup>16</sup> O <sup>j</sup>	70Ad01	*	
<sup>16</sup> O(d, $\alpha$ ) <sup>14</sup> N	3110.	3.5	3110.38807	0.00024	0.1	U			Wis	52Cr30	Y
	3119	5			-1.7	U			Ric	53Fa18	Y
	3110	6			0.1	U			Mex	64Ma.B	
	3113	6			-0.4	U			MIT	64Sp12	
<sup>14</sup> N( <sup>3</sup> He,p) <sup>16</sup> O <sup>i</sup>	2444	6	2447	4	0.5	1	54	54 <sup>16</sup> O <sup>i</sup>	64Br08	*	
<sup>14</sup> N(d, $\gamma$ ) <sup>16</sup> O <sup>j</sup>	-1986.3	4.4	-1985	4	0.3	1	77	77 <sup>16</sup> O <sup>j</sup>	72Ne10		
<sup>14</sup> N( <sup>3</sup> He,n) <sup>16</sup> F	-963	40	-957	8	0.2	U			LAI	65Za01	
	-970	15			0.9	R			Har	68Ad03	
<sup>16</sup> Ne(2p) <sup>14</sup> O	1350	80	1401	20	0.6	U				08Mu13	
<sup>16</sup> B( $\gamma$ ,n) <sup>15</sup> B	85	15	83	15	-0.1	1	95	83 <sup>16</sup> B		09Le02	
<sup>15</sup> N(d,p) <sup>16</sup> N	286	12	264.3	2.3	-1.8	U			CIT	55Pa50	Y
	269	10			-0.5	U			Pit	57Wa01	Y
	259	6			0.9	2			Mex	64Ma.B	
	267	8			-0.3	2			MIT	64Sp12	
	270	10			-0.6	U			Pen	66He10	
<sup>15</sup> N(p, $\gamma$ ) <sup>16</sup> O <sup>i</sup>	-665.3	6.6	-669	4	-0.5	1	46	46 <sup>16</sup> O <sup>i</sup>		57Ha99	
<sup>16</sup> O( <sup>3</sup> He, $\alpha$ ) <sup>15</sup> O	4920	10	4913.7	0.5	-0.6	U			Ald	59Hi68	Y
	4907	7			1.0	U			Ric	59Yo25	Y
<sup>16</sup> N( $\beta^-$ ) <sup>16</sup> O	10400	20	10420.9	2.3	1.0	U				59Al06	
<sup>16</sup> O( <sup>3</sup> He,t) <sup>16</sup> F	-15430	10	-15436	8	-0.6	2			KVI	80Ja.A	
<sup>16</sup> O( $\pi^+$ , $\pi^-$ ) <sup>16</sup> Ne	-27763	45	-27701	20	1.4	2				80Bu15	
* <sup>16</sup> O( <sup>3</sup> He, <sup>6</sup> He) <sup>13</sup> O	M increased by 7 for more recent calibrator M( <sup>9</sup> C)=28913(2)									AHW	**
* <sup>16</sup> O( <sup>3</sup> He, <sup>6</sup> He) <sup>13</sup> O	Recalibrated using their <sup>12</sup> C( <sup>3</sup> He, <sup>6</sup> He) result									AHW	**
* <sup>14</sup> C( <sup>3</sup> He,p) <sup>16</sup> N <sup>j</sup>	IT=9928(7), Q rebuilt with Ame1965									MMC121**	
* <sup>14</sup> C( <sup>3</sup> He,n) <sup>16</sup> O <sup>j</sup>	IT=22717(8), Q rebuilt with Ame1964									MMC121**	
* <sup>14</sup> N( <sup>3</sup> He,p) <sup>16</sup> O <sup>i</sup>	IT=12798(6), Q rebuilt									MMC121**	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{17}\text{O}_2 - ^{28}\text{Si D}_3$	-20968.3557	0.0014	-20968.3560	0.0013	-0.2	1	84	82	$^{17}\text{O}$	FS1	1.0	10Mo29
$^{17}\text{B}-\text{u}$	45970	860	46990	180	1.2	U				GA1	1.0	87Gi05
	46830	180			0.6	2				TO2	1.5	88Wo09
	47127	250			-0.5	2				GA3	1.0	91Or01
$^{17}\text{Ne} - ^{22}\text{Ne}_{773}$	24373.27	0.38				2				MA8	1.0	08Ge07
$^{17}\text{O}-^{16}\text{O H}$	-3607.8961	0.0016	-3607.8953	0.0007	0.5	1	19	18	$^{17}\text{O}$	FS1	1.0	10Mo29
$^{17}\text{O}(\text{n},\alpha)^{14}\text{C}$	1817.2	3.5	1817.745	0.004	0.2	U						01Wa50
$^{14}\text{C}(\alpha,\text{n})^{17}\text{O}$	-1819.07	2.0	-1817.745	0.004	0.7	U				Wis	56Sa06	Y
$^{17}\text{O}(\text{p},\alpha)^{14}\text{N}$	1200	17	1191.8747	0.0007	-0.5	U				MIT	64Sp12	
$^{17}\text{O}(\text{d},\alpha)^{15}\text{N}$	9818	12	9800.6039	0.0009	-1.4	U				Nob	54Pa39	Y
$^{16}\text{O}(\text{n},\gamma)^{17}\text{O}$	4143.24	0.23	4143.0794	0.0008	-0.7	U					77Mc05	Z
	4143.06	0.13			0.1	U				Bdn	06Fi.A	
$^{16}\text{O}(\text{d,p})^{17}\text{O}$	1915	8	1918.5134	0.0006	0.4	U				Ric	51Kl5	Y
	1918	4			0.1	U				MIT	57Br82	
	1918	3			0.2	U				Mex	61Ja23	
	1920	3			-0.5	U				MIT	64Sp12	
	1918.74	0.5			-0.5	U				Rez	90Pi05	*
$^{16}\text{O}(\text{n},\gamma)^{17}\text{O}^i$	-6935.70	0.17			2						81Hi01	*
$^{16}\text{O}(\text{p},\gamma)^{17}\text{F}$	600.35	0.28	600.27	0.25	-0.3	-				CIT	75Ro05	
$^{16}\text{O}(\text{d,n})^{17}\text{F}$	-1626	4	-1624.30	0.25	0.4	U				Ric	51Bo49	Y
	-1624.6	0.5			0.6	-				Nvl	60Bo21	Z
$^{16}\text{O}(\text{p},\gamma)^{17}\text{F}$	ave.	600.27	0.25	600.27	0.25	0.0	1	100	100	$^{17}\text{F}$		average
$^{16}\text{O}(\text{p},\gamma)^{17}\text{F}^i$	-10592.8	1.9				2						76Hi09
$^{16}\text{O}(\text{p}^3\text{He},2\text{n})^{17}\text{Ne}$	-22420	190	-22448.9	0.4	-0.2	U				BNL	67Es02	
$^{17}\text{F}(\beta^+)^{17}\text{O}$	2770	6	2760.47	0.25	-1.6	U					54Wo23	
* $^{16}\text{O}(\text{d,p})^{17}\text{O}$	Estimated systematic error 0.5 added to statistical error 0.062 keV											AHW **
* $^{16}\text{O}(\text{n},\gamma)^{17}\text{O}^i$	Original Q=-6934.41(0.17) does not match original T=7373.31(0.18)											MMC129**
$\text{C D}_3 - ^{18}\text{O}$	43145.72216	0.00088	43145.7215	0.0007	-0.7	-				FS1	1.0	09Re15
	43145.72116	0.00136			0.3	-				FS1	1.0	09Re15
	ave.	43145.7219	0.0007		-0.5	1	87	84	$^{18}\text{O}$			average
$\text{C}_3 - ^{18}\text{O}_2$	1680.7695	0.0038	1680.7743	0.0015	1.3	1	16	16	$^{18}\text{O}$	FS1	1.0	09Re15
$^{18}\text{F}-\text{u}$	943	85	937.3	0.5	0.0	U					2.5	92Ge08
$^{18}\text{Na-u}$	25969	54	26880	120	16.8	C					1.0	01Ze.A
$^{18}\text{Ne} - ^{22}\text{Ne}_{818}$	12755.68	0.39	12755.7	0.4	0.0	1	100	100	$^{18}\text{Ne}$	MA8	1.0	04Bi20
$^{14}\text{C}({}^7\text{Li},{}^3\text{He})^{18}\text{N}$	-10170	60	-10117	19	0.9	U				Str		80Kr.A
$^{18}\text{O}({}^{48}\text{Ca},{}^{51}\text{V})^{15}\text{B}$	-21760	50	-21762	21	0.0	-				Hei		78Bh02
	-21768	25			0.2	-				Can		83Ho08
	ave.	-21766	22		0.2	1	88	88	$^{15}\text{B}$			average
$^{18}\text{O}(\text{p},\alpha)^{15}\text{N}$	3954	9	3979.8007	0.0009	2.9	U				Nob	54Mi60	Y
	3964	10			1.6	U				Mex	64Ma.B	
$^{18}\text{O}(\text{d},\alpha)^{16}\text{N}$	4235	7	4244.1	2.3	1.3	R				CIT	55Pa50	Z
	4219	20			1.3	U				Mex	64Ma.B	
	4249	15			-0.3	U				Phi	66He10	
	4244	4			0.0	R				MIT	67Sp09	Z
$^{16}\text{O}({}^3\text{He},\text{p})^{18}\text{F}$	2033	5	2032.1	0.5	-0.2	U				Ric	59Yo25	
	2055	5			-4.6	C				Mex	64Ma.B	
$^{16}\text{O}({}^3\text{He},\text{n})^{18}\text{Ne}$	-3205	13	-3194.7	0.4	0.8	U				Nvl	61Du02	Y
	-3198	6			0.5	U				Ald	61To03	Y
	-3194.0	1.5			-0.5	U					94Ma14	
$^{18}\text{B}(\gamma,\text{n})^{17}\text{B}$	5	5				3					10Sp02	*
$^{18}\text{O}({}^{48}\text{Ca},{}^{49}\text{Ti})^{17}\text{C}$	-17465	35	-17476	17	-0.3	2				Hei	77No08	
	-17479	20			0.2	2				Can	82Fi10	
$^{18}\text{O}({}^{207}\text{Pb},{}^{208}\text{Po})^{17}\text{C}$	-26870	220	-26796	17	0.3	U				Chr	79Ba31	
$^{18}\text{O}(\text{t},\alpha)^{17}\text{N}$	3872	15				2				LAI	60Ja13	
$^{17}\text{O}(\text{n},\gamma)^{18}\text{O}$	8043.5	1.0	8045.3691	0.0010	1.9	U				Bdn	06Fi.A	
$^{17}\text{O}(\text{d,p})^{18}\text{O}$	5820	10	5820.8031	0.0009	0.1	U				Nob	54Ah37	Y
	5820	10			0.1	U				Man	65Mo16	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{21}\text{N-u}$	26580	200	27110	100	1.8	U			TO1	1.5	86Vi09
	27060	190			0.3	2			GA1	1.0	87Gi05
	26930	210			0.6	2			TO2	1.5	88Wo09
	27162	131			-0.4	2			GA3	1.0	91Or01
$^{21}\text{Na}-^{39}\text{K}_{.538}$	17180.51	0.29	17180.61	0.30	0.3	o			MA8	1.0	04Mu26
	17180.51	0.29			0.2	1	46	46 $^{21}\text{Na}$	Ma8	1.5	08Mu05 *
$\text{H}_3^{18}\text{O}-^{21}\text{Ne}$	28787.76	0.25	28788.02	0.04	1.1	U			CP1	1.0	04Sa53 *
$^{21}\text{Na}-^{23}\text{Na}_{.913}$	6995.25	0.32	6995.34	0.30	0.3	o			MA8	1.0	04Mu26
	6995.25	0.32			0.2	1	38	38 $^{21}\text{Na}$	Ma8	1.5	08Mu05
$^{21}\text{Ne}-^{22}\text{Ne}_{.955}$	2073.82	0.40	2073.90	0.05	0.2	U			MA8	1.0	04Bi20
	2074.04	0.26			-0.5	U			MA8	1.0	08Ge07
$^{21}\text{Na}-^{20}\text{Na}$	-9732	50	-9699.7	1.2	0.3	U			CR1	2.5	89Sh10
$^{18}\text{O}(\text{O}^{18}\text{O},\text{O}^{15})^{21}\text{O}$	-12574	70	-12483	12	1.3	U			Ors		78Na02
	-12499	20			0.8	2			Can		89Ca25
$^{18}\text{O}(\text{Ni}^{64},\text{Ni}^{61})^{21}\text{O}$	-11713	15	-11722	12	-0.6	2			Dar		85Wo01
$^{18}\text{O}(\text{Pb}^{208},\text{Pb}^{205})^{21}\text{O}$	-6860	75	-6823	12	0.5	U			ChR		79Ba31
$^{19}\text{F}(\text{t,p})^{21}\text{F}$	6221.0	1.8				2			Str		84An17
$^{19}\text{F}(\text{He},\text{p})^{21}\text{Ne}$	11911	15	11886.58	0.04	-1.6	U			Ald		59Hi75 Y
$^{20}\text{Ne}(\text{n},\gamma)^{21}\text{Ne}$	6760.8	1.5	6761.16	0.04	0.2	U			MMn		86Pr05 Z
	6761.16	0.04			0.1	2			Bdn		06Fi.A
	6761.19	0.14			-0.2	2			MIT		64Sp12
$^{20}\text{Ne}(\text{d,p})^{21}\text{Ne}$	4531	9	4536.60	0.04	0.6	U			Nob		55Ah41 Y
	4532	6			0.8	U			Mex		64Ma.B
	4534	7			0.4	U			MIT		64Sp12
$^{20}\text{Ne}(\text{p},\gamma)^{21}\text{Na}$	2431.2	0.7	2431.68	0.28	0.7	1	16	16 $^{21}\text{Na}$			69Bi03 Z
$^{20}\text{Ne}(\text{p},\gamma)^{21}\text{Na}^i$	-6547.9	14.3	-6543	4	0.3	U					81Fe05
$^{21}\text{Na}^i(\text{p})^{20}\text{Ne}$	6543	4				2					73Se08 *
$^{21}\text{O}(\beta^-)^{21}\text{F}$	8150	175	8110	12	-0.2	U					81Al07
$^{21}\text{Na}(\beta^+)^{21}\text{Ne}$	3522	30	3547.14	0.28	0.8	U					52Sc15
	3532	20			0.8	U					60Wa04
$*^{21}\text{Na}-^{39}\text{K}_{.538}$	CF=1.5 for prelim. results; not trusted within given uncertainties										
$*\text{H}_3^{18}\text{O}-^{21}\text{Ne}$	$D_M=28787.78(0.25)$ corrected -0.02 keV for molecular and ionization										
$^{21}\text{Na}^i(\text{p})^{20}\text{Ne}$	$Q_p=6548(4), 4904(4)$ to ground state and $2^+$ level at 1633.674 keV										
$^{22}\text{N-u}$	32990	790	34390	210	1.8	U			GA1	1.0	87Gi05
	34340	250			0.1	2			TO2	1.5	88Wo09
	34683	389			-0.7	2			GA3	1.0	91Or01
	34240	320			0.5	2			GA5	1.0	99Sa.A
$^{22}\text{O-u}$	9842	81	9970	60	1.5	R			GA3	1.0	91Or01
$^{22}\text{Ne-u}$	-8614.885	0.019	-8614.885	0.019	0.0	1	100	100 $^{22}\text{Ne}$	ST2	1.0	02Bf02
$^{22}\text{Na}-^{39}\text{K}_{.564}$	14907.33	0.30	14906.95	0.18	-1.3	o			MA8	1.0	04Mu26
	14907.33	0.30			-0.8	1	17	17 $^{22}\text{Na}$	Ma8	1.5	08Mu05
$^{22}\text{Mg}-^{39}\text{K}_{.564}$	20040.33	0.35	20040.2	0.3	-0.4	o			MA8	1.0	04Mu26
	20040.33	0.35			-0.3	1	41	41 $^{22}\text{Mg}$	Ma8	1.5	08Mu05
$\text{O H}-^{22}\text{Ne}_{.773}$	9398.87	0.19	9398.958	0.015	0.5	U			MA8	1.0	08Ge07
$^{22}\text{Na}-^{24}\text{Mg}_{.917}$	8153.64	0.31	8154.17	0.18	1.7	o			MA8	1.0	04Mu26
	8153.64	0.31			1.1	1	16	16 $^{22}\text{Na}$	Ma8	1.5	08Mu05
$^{22}\text{Na}-^{23}\text{Na}_{.957}$	4228.11	0.29	4228.21	0.18	0.3	o			MA8	1.0	04Mu26
	4228.11	0.29			0.2	1	18	18 $^{22}\text{Na}$	Ma8	1.5	08Mu05
$^{22}\text{Na}-^{22}\text{Ne}$	3052.72	0.33	3052.30	0.18	-1.3	1	31	31 $^{22}\text{Na}$	CP1	1.0	04Sa53 *
$^{22}\text{Mg}-^{22}\text{Ne}$	8185.77	0.73	8185.5	0.3	-0.3	1	21	21 $^{22}\text{Mg}$	CP1	1.0	04Sa53 *
$^{22}\text{Mg}-^{22}\text{Na}$	5132.99	0.34	5133.2	0.3	0.7	o			MA8	1.0	04Mu26
	5132.99	0.34			0.5	1	46	38 $^{22}\text{Mg}$	Ma8	1.5	08Mu05
$^{22}\text{Ne}-^{20}\text{Ne}$	-1056.415	0.290	-1055.062	0.019	1.9	U			OH1	2.5	93Go38
$^{18}\text{O}(\text{O}^{18},\text{O}^{14})^{22}\text{O}$	-19060	100	-18860	60	2.0	2			Can		76Hi10
$^{18}\text{O}(\text{Pb}^{208},\text{Pb}^{204})^{22}\text{O}$	-6710	180	-6700	60	0.0	2			ChR		79Ba31
$^{22}\text{Mg}^i(\alpha)^{18}\text{Ne}$	5885	40	5906	14	0.5	1	12	12 $^{22}\text{Mg}^i$	Bor	97Bi03	*
$^{19}\text{F}(\alpha,\text{p})^{22}\text{Ne}$	1674	11	1673.215	0.018	-0.1	U			MIT		64Sp12

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{19}\text{F}(\alpha, \text{n})^{22}\text{Na}$	-1958	10	-1952.33	0.17	0.6	U			Duk	60Wi07	Y	
$^{22}\text{C}(\gamma, 2\text{n})^{20}\text{C}$	-200	120	-110	60	0.7	o				11Ya25	*	
	-110	60				3				12Fo04	*	
$^{20}\text{Ne}({^3\text{He}, \text{n}})^{22}\text{Mg}$	197	25	217.9	0.3	0.8	U			Har	68Ad03		
	209	11			0.8	U			CIT	70Mc06		
$^{22}\text{Ne}(\text{t}, \alpha)^{21}\text{F}$	4545	10	4547.8	1.8	0.3	U			LAI	61Si03	Y	
$^{21}\text{Ne}(\text{n}, \gamma)^{22}\text{Ne}$	10364.4	0.3	10364.26	0.04	-0.5	U			MMn	86Pr05	Z	
	10363.9	0.5			0.7	U			Bdn	06Fi.A		
$^{21}\text{Ne}(\text{d}, \text{p})^{22}\text{Ne}$	8152	11	8139.69	0.04	-1.1	U			CIT	52Mi54	Y	
$^{21}\text{Ne}(\text{p}, \gamma)^{22}\text{Na}$	6738.3	1.1	6738.71	0.18	0.4	U				70An06	*	
$^{22}\text{Mg}^i(\text{p})^{21}\text{Na}$	8547	15	8544	14	-0.2	1	88	88	$^{22}\text{Mg}^i$	Brk	82Ca16	*
$^{22}\text{F}(\beta^-)^{22}\text{Ne}$	11000	150	10818	12	-1.2	U				73Gu05		
	10950	120			-1.1	U			ANB	74Da02		
$^{22}\text{Ne}(\text{t}, {^3\text{He}})^{22}\text{F}$	-10788	33	-10800	12	-0.3	2				69St07	*	
	-10794	18			-0.3	2			Dar	88Cl04	*	
$^{22}\text{Ne}({^7\text{Li}, {^7\text{Be}}})^{22}\text{F}$	-11691	20	-11680	12	0.6	2			Can	89Or04	*	
$^{22}\text{Na}(\beta^+)^{22}\text{Ne}$	2842.2	0.5	2843.20	0.17	2.0	1	12	12	$^{22}\text{Na}$	68Be35	*	
	2840.4	1.5			1.9	U				68We02	*	
	2841.5	1.0			1.7	U				72Gi17	*	
* $^{22}\text{Na} - ^{22}\text{Ne}$	$D_M = 3052.77(0.33)$ corrected -0.04 keV for ion-ion interaction and -0.01 keV for ionization									04Sa53	**	
*	$D_M = 8185.83(0.73)$ corrected -0.05 keV for ion-ion interaction and -0.01 keV for ionization									04Sa53	**	
* $^{22}\text{Mg} - ^{22}\text{Ne}$	$D_M = 8185.83(0.73)$ corrected -0.05 keV for ion-ion interaction and -0.01 keV for ionization									04Sa53	**	
* $^{22}\text{Mg}^i(\alpha)^{18}\text{Ne}$	$E_\alpha = 3270(40)$ to $2^+$ level at 1887.3 keV									Ens967	**	
* $^{22}\text{C}(\gamma, 2\text{n})^{20}\text{C}$	From upper limit $S_{2\text{n}} < 400$									GAu	**	
* $^{22}\text{C}(\gamma, 2\text{n})^{20}\text{C}$	From upper limit $S_{2\text{n}} < 220$									GAu	**	
* $^{22}\text{C}(\gamma, 2\text{n})^{20}\text{C}$	The two items are estimates derived from the experimental result of reference									10Ta04	**	
* $^{21}\text{Ne}(\text{p}, \gamma)^{22}\text{Na}$	$T=701.8(0.5)$ to $(1^+, 2^+)$ level at 7407.9(1.6) keV									Ens05c	**	
* $^{21}\text{Ne}(\text{p}, \gamma)^{22}\text{Na}$	Reanalysis using $E(\text{exc})$ for lower levels of reference									90En08	**	
* $^{22}\text{Mg}^i(\text{p})^{21}\text{Na}$	$E_p = 8149(21), 7839(15)$ to $3/2^+$ ground state, $5/2^+$ level at 331.90 keV									Ens04c	**	
* $^{22}\text{Ne}({^3\text{He}})^{22}\text{F}$	Original value -10834(30) re-calculated from Q to $(3^+)$ level at 709.0, $1^+$ at 1627.0 and $1^+$ at 2572.2 keV									Ens05b	**	
* $^{22}\text{Ne}({^3\text{He}})^{22}\text{F}$	Original value -10836(12) re-calculated									GAu	**	
* $^{22}\text{Ne}({^7\text{Li}, {^7\text{Be}}})^{22}\text{F}$	$Q = -12400(20)$ to $(3^+)$ level at 709.0 keV									Ens05c	**	
* $^{22}\text{Na}(\beta^+)^{22}\text{Ne}$	$E_{\beta^+} = 545.7(0.5)$ 543.9(1.5) 545(1) respectively, to $2^+$ level at 1274.577 keV									Ens05c	**	
$^{23}\text{N}-\text{u}$	37110	2000	41140#	320#	2.0	o			GA5	1.0	99Sa.A	
	39378	923			1.9	D			GA7	1.0	07Ju03	
$^{23}\text{O}-\text{u}$	15700	320	15700	100	0.0	o			TO1	1.5	86Vi09	
	15860	320			-0.5	o			GA1	1.0	87Gi05	
	15700	150			0.0	2			TO2	1.5	88Wo09	
	15621	186			0.4	o			GA3	1.0	91Or01	
	15695	107			0.0	2			GA7	1.0	07Ju03	
$^{23}\text{F}-\text{u}$	3530	210	3560	50	0.1	U			TO1	1.5	86Vi09	
	3553	43			0.1	1	69	69	$^{23}\text{F}$	GT1	1.5	
$^{23}\text{Na}-\text{u}$	-10230.721	0.0037	-10230.7180	0.0019	0.8	-				MI2	1.0	
	-10230.716	0.0048			-0.4	-				MI2	1.0	
	-10230.7172	0.0026			-0.3	-			FS1	1.0	10Mo30	
ave.	-10230.7181	0.0019			0.0	1	100	100	$^{23}\text{Na}$		average	
$^{23}\text{Ne} - ^{22}\text{Ne}_{1.045}$	3469.59	0.37	3469.46	0.11	-0.4	U			MA8	1.0	04Bl20	
$^{23}\text{Mg} - ^{23}\text{Na}$	4354.80	0.83	4354.9	0.7	0.2	1	79	79	$^{23}\text{Mg}$	JY1	1.0	
$^{23}\text{Al} - ^{23}\text{Na}$	17475.07	0.37				2			JY1	1.0	09Sa38	
$^{23}\text{Na}(\text{p}, \alpha)^{20}\text{Ne}$	2377	3	2376.1330	0.0024	-0.3	U			Wis		53Do04	
	2373	8			0.4	U			MIT		64Sp12	
$^{23}\text{Na}(\text{d}, \alpha)^{21}\text{Ne}$	6911	9	6912.73	0.04	0.2	U			Mex		64Ma.B	
	6909	10			0.4	U			MIT		64Sp12	
$^{22}\text{Ne}({^{18}\text{O}, {^{17}\text{F}}})^{23}\text{F}$	-14080	90	-14070	50	0.1	1	31	31	$^{23}\text{F}$	Can	89Or04	
$^{22}\text{Ne}(\text{n}, \gamma)^{23}\text{Ne}$	5200.2	2.0	5200.65	0.10	0.2	U			MMn		70Se14	
	5200.65	0.12			0.0	2			Bdn		86Pr05	
	5200.64	0.20			0.0	2					06Fi.A	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{22}\text{Ne}(\text{d},\text{p})^{23}\text{Ne}$	2967	8	2976.08	0.10	1.1	U		Nob	54Ah20	Y	
	2971	9			0.6	o		MIT	60Fr04		
	2974	6			0.3	U		Mex	64Ma.B		
	2968	7			1.2	U		MIT	64Sp12		
$^{22}\text{Ne}(\text{p},\gamma)^{23}\text{Na}$	8794.0	1.5	8794.109	0.018	0.1	U			71Pi08	Z	
	8794.26	0.17			-0.9	U			89Ba42	Z	
$^{23}\text{Al}^i(\text{p})^{22}\text{Mg}$	11644	57				2		Bor	97Bl04	*	
$^{23}\text{F}(\beta^-)^{23}\text{Ne}$	8510	170	8470	50	-0.3	U			74Go17		
$^{23}\text{Ne}(\beta^-)^{23}\text{Na}$	4383	8	4375.81	0.10	-0.9	U			63Ca06		
$^{23}\text{Mg}(\beta^+)^{23}\text{Na}$	4121	12	4056.6	0.7	-5.4	B			63Fr10		
$^{23}\text{Na}(\text{p},\text{n})^{22}\text{Mg}$	-4832	10	-4838.9	0.7	-0.7	U		Oak	55Ki28	Z	
	-4836.5	6.			-0.4	U		Ric	58Bi41	Y	
	-4848.0	7.			1.3	U		ChR	58Go77	Y	
	-4835.8	2.5			-1.3	U		Har	62Fr09	Z	
	-4843.2	5.1			0.8	U		Tkm	63Ok01	Z	
* $^{23}\text{N}-\text{u}$	Trends from Mass Surface TMS suggest $^{23}\text{N}$ 1640 less bound										
* $^{23}\text{Al}^i(\text{p})^{22}\text{Mg}$	$Q_p=11620(100), 10410(70)$ to ground state and $2^+$ level at 1247.02 keV										
*	also $Q_{2p}=6180(100), 5860(100)$ to ground state and 331.90 level in $^{21}\text{Na}$										
$^{24}\text{O}-\text{u}$	20080	1070	19860	120	-0.2	o		GA1	1.0	87Gi05	
	20000	500			-0.2	U		TO2	1.5	88Wo09	
	20659	442			-1.8	o		GA3	1.0	91Or01	
	20460	340			-1.8	o		GA5	1.0	99Sa.A	
	19861	118				2		GA7	1.0	07Ju03	
$^{24}\text{F}-\text{u}$	8070	170	8120	80	0.2	U		TO1	1.5	86Vi09	
	8450	240			-1.4	U		GA1	1.0	87Gi05	
	8135	86			-0.2	2		GA3	1.0	91Or01	
	8030	120			0.5	2		TO4	1.5	91Zh24	
$^{24}\text{Mg}-\text{H}_{24}$	-202759.080	0.014	-202759.076	0.014	0.3	1	98	$^{98}\text{Mg}$	ST2	1.0	03Be02
$^{24}\text{Ne}-^{22}\text{Ne}_{1,091}$	3009.49	0.55				2			MA8	1.0	04Bl20
$^{24}\text{Mg}-^{23}\text{Na}_{1,043}$	-4287.23	0.32	-4287.664	0.014	-0.9	U			Ma8	1.5	08Mu05
$^{24}\text{Mg}(\text{p},^6\text{He})^{19}\text{Na}$	-37213	70	-37166	11	0.7	U			Brk		69Ce01
$^{24}\text{Mg}(^3\text{He},^8\text{Li})^{19}\text{Na}$	-32876	12	-32878	11	-0.1	1	77	$^{77}\text{Na}$	MSU		75Be38
$^{24}\text{Mg}(\alpha,^8\text{He})^{20}\text{Mg}$	-60900	210	-60677	27	1.1	U					74Ro17
	-60677	27				2			Tex		76Tr03
$^{24}\text{Mg}(^3\text{He},^6\text{He})^{21}\text{Mg}$	-27488	40	-27508	16	-0.5	2			Brk		70Me11
	-27512	18			0.2	2			MSU		71Tr03
$^{22}\text{Ne}(\text{t},\text{p})^{24}\text{Ne}$	5587	10	5587.8	0.5	0.1	U			LAI	61Si03	Z
$^{24}\text{Mg}(\text{d},\alpha)^{22}\text{Na}$	1955	12	1958.76	0.17	0.3	U			MIT		64Sp12
$^{24}\text{Mg}(\text{p},\text{t})^{22}\text{Mg}$	-21194	3	-21194.5	0.3	-0.2	U			MSU		74Ha02
	-21198.3	1.5			2.6	U			MSU		74No07
	-21193.9	1.0			-0.6	U			Yal		05Pa31
$^{23}\text{Na}(\text{n},\gamma)^{24}\text{Na}$	6959.50	0.12	6959.42	0.04	-0.6	o			BNn		74Gr37
	6959.42	0.07			0.0	2			BNn		80Gr12
	6959.67	0.14			-1.8	U			ILn		83Hu11
	6959.38	0.08			0.5	2			Ptn		83Ti02
	6959.44	0.05			-0.4	2			ORn		04To03
	6959.59	0.14			-1.2	U			Bdn		06Fi.A
$^{23}\text{Na}(\text{d},\text{p})^{24}\text{Na}$	4735	7	4734.86	0.04	0.0	U			CIT	52Mi54	Y
	4736	5			-0.2	U			Mex		64Ma.B
	4736	7			-0.2	U			MIT		64Sp12
$^{23}\text{Na}(\text{p},\gamma)^{24}\text{Mg}$	11692.95	0.17	11692.687	0.013	-1.5	U			Wis		67Mo17
	11691.2	1.1			1.4	U					72Me09
	11692.43	0.31			0.8	U					85Uh01
$^{24}\text{Mg}(\text{p},\text{d})^{23}\text{Mg}$	-14307.5	1.5	-14307.1	0.7	0.3	1	21	$^{21}\text{Mg}$	MSU		74No07
$^{24}\text{Mg}(^3\text{He},\alpha)^{23}\text{Mg}$	4051	15	4046.0	0.7	-0.3	U			Man		59Ba13
$^{24}\text{Mg}(^7\text{Li},^8\text{He})^{23}\text{Al}$	-37397	27	-37384.2	0.4	0.5	U					01Ca37
$^{24}\text{Al}^i(\text{p})^{23}\text{Mg}$	4086	9	4085	3	-0.1	2			Brk		79Ay01
	4084.5	3.5			0.1	2			MSU		80Le18
	4093	20			-0.4	U			Bor		98Cz01

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{24}\text{Ne}(\beta^-)^{24}\text{Na}$	2449	50	2466.3	0.5	0.3	U					56Dr11
$^{24}\text{Na}(\beta^-)^{24}\text{Mg}$	5511.8	2.	5515.61	0.04	1.9	U					61De25 *
	5515.8	2.			-0.1	U					64Le09 *
	5516.8	2.			-0.6	U					65Be24 *
	5511.5	1.0			4.1	B					69Bo48 *
	5511.8	2.			1.9	U					72Gi17 *
	5512.5	1.2			2.6	U					76Ge06 *
$^{24}\text{Al}(\beta^+)^{24}\text{Mg}$	13880	50	13886.0	1.1	0.1	U					68Ar03
$^{24}\text{Mg(p,n)}^{24}\text{Al}$	-14659.0	2.8	-14668.3	1.1	-3.3	B					69Ov01 Z
$^{24}\text{Mg}({}^3\text{He,t})^{24}\text{Al}$	-13880	60	-13904.5	1.1	-0.4	U					66Ma18
$^{24}\text{Mg}({}^3\text{He,t})^{24}\text{Al}-{}^{36}\text{Ar}({}^{36}\text{K})$	-1071.48	1.05	-1071.5	1.0	0.0	1	100	100 $^{24}\text{Al}$	Mun		10Wr01
$^{24}\text{Mg}(\pi^+, \pi^-)^{24}\text{Si}$	-23588	52	-23656	19	-1.3	2					80Bu15
* $^{23}\text{Na(n,}\gamma^{24}\text{Na}$	Original value ( $Z$ ) increased by 0.037 for better recoil correction										
* $^{24}\text{Na}(\beta^-)^{24}\text{Mg}$	$E_{\beta^-}=1389(2) \text{ } 1393(2) \text{ } 1394(2) \text{ } 1388.7(1.0) \text{ } 1389(2) \text{ } 1389.7(1.2) \text{ respectively,}$										
*	to $4^+$ level at 4122.889 keV										
$^{25}\text{F-u}$	12010	220	12200	80	0.6	o					86Vi09
	12010	290			0.7	o					87Gi05
	12210	150			0.0	2					88Wo09
	12120	151			0.5	o					91Or01
	11990	130			1.1	2					91Zh24
	12249	97			-0.5	2					07Ju03
$^{25}\text{Ne-u}$	-2293	32	-2210	50	2.6	F					P40 1.0 01Lu20 *
$^{25}\text{Mg(p,}\alpha^{22}\text{Na}$	-3151	8	-3147.20	0.18	0.5	U					59Br74 Y
$^{23}\text{Na(t,p)}^{25}\text{Na}$	7488.8	1.2				2					84An17
$^{25}\text{Mg(d,}\alpha^{23}\text{Na}$	7026	13	7047.89	0.05	1.7	U					64Sp12
	7048	10			0.0	U					67Ha17
$^{25}\text{O}(\gamma,\text{n})^{24}\text{O}$	776	15				3					08Ho03 *
$^{24}\text{Mg(n,}\gamma^{25}\text{Mg}$	7330.5	9.99	7330.52	0.05	0.0	U					69Ha.A
	7330.5	0.3			0.1	U					80Is02 Z
	7330.78	0.14			-1.9	U					82Hu02 Z
	7330.4	0.2			0.6	U					85Ke.A
	7330.64	0.08			-1.5	-					90Pr02 Z
	7330.69	0.05			-3.4	B					92Wa06
	7330.53	0.15			-0.1	-					06Fi.A
$^{24}\text{Mg(d,p)}^{25}\text{Mg}$	5098	12	5105.95	0.05	0.7	U					61Hi11 Y
	5112	12			-0.5	U					61Ja23
	5102	7			0.6	U					64Sp12
$^{24}\text{Mg(n,}\gamma^{25}\text{Mg}$	ave.	7330.62	0.07	7330.52	0.05	-1.4	1	44	42 $^{25}\text{Mg}$		average
$^{24}\text{Mg(p,}\gamma^{25}\text{Al}$		2271.6	1.1	2271.6	0.5	0.0	-				71Ev01 Z
		2271.7	0.7			-0.2	-				72Pi07 Z
		2271.4	0.8			0.2	-				85Uh01 Z
$^{24}\text{Mg}({}^3\text{He,d})^{25}\text{Al}$		-3218.0	4.5	-3221.9	0.5	-0.9	U				73Br27
$^{24}\text{Mg(p,}\gamma^{25}\text{Al}$	ave.	2271.6	0.5	2271.6	0.5	0.0	1	99	99 $^{25}\text{Al}$		average
$^{24}\text{Mg(p,}\gamma^{25}\text{Al}^i$		-5629.3	5.8	-5629.6	1.9	0.0	U				68Te01 *
$^{25}\text{Ne}(\beta^-)^{25}\text{Na}$		7380	300	7300	40	-0.3	U				73Go11
$^{25}\text{Na}(\beta^-)^{25}\text{Mg}$		3650	250	3835.0	1.2	0.7	U				54Na18
		4000	200			-0.8	U				55Ma63
$^{25}\text{Al}(\beta^+)^{25}\text{Mg}$		4292	30	4276.6	0.5	-0.5	U				60Wa04
$^{25}\text{Mg(p,n)}^{25}\text{Al}$		-5058	6	-5059.0	0.5	-0.2	U				69Fr08
$^{25}\text{Al}^i(\text{IT})^{25}\text{Al}$		7901	2	7901.2	1.8	0.1	1	85	84 $^{25}\text{Al}^i$		77Ro03
* $^{25}\text{Ne-u}$	F : rejected by authors: “unreliable double peak”										
* $^{25}\text{O}(\gamma,\text{n})^{24}\text{O}$	Symmetrized from 770(+20-10)										
* $^{24}\text{Mg(p,}\gamma^{25}\text{Al}^i$	IT=7916(6), Q rebuilt with Ame1964, error estimated by evaluator										
$^{26}\text{F-u}$	19800	1000	20040	80	0.2	o					86Vi09
	20940	640			-1.4	o					87Gi05
	19820	210			0.7	2					88Wo09
	19544	300			1.6	o					91Or01
	19490	210			1.7	U					91Zh24
	20054	86			-0.2	2					07Ju03
$^{26}\text{Ne-u}$	448	90	515	20	0.7	2					GA3 1.0 91Or01
	461	33			1.6	o					P40 1.0 01Lu20

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{26}\text{Ne-u}$	518	20	515	20	-0.2	2			P40	1.0	06Ga04
$^{26}\text{Na-u}$	-7367	7	-7365	4	0.2	o			P40	1.0	01Lu17
	-7365	4			-0.1	2			P40	1.0	06Ga04
	-7368	11			0.2	2			P40	1.0	06Ga04
$^{26}\text{Mg-H}_{26}$	-220857.848	0.034	-220857.87	0.03	-0.6	1	88	88 $^{26}\text{Mg}$	ST2	1.0	03Be02
$^{26}\text{Al-}^{23}\text{Na}_{1.130}$	-1547.46	0.24	-1547.38	0.07	0.3	U			MA8	1.0	08Ge08
$^{26}\text{Si-}^{23}\text{Na}_{1.13}$	3895.1	2.1	3894.56	0.11	-0.3	U			MS1	1.0	10Kw02
$^{26}\text{Al-}^{25}\text{Mg}_{1.040}$	1621.46	0.48	1621.45	0.06	0.0	U			JY1	1.0	06Er08
$^{26}\text{Al}^m-^{25}\text{Mg}_{1.040}$	1867.09	0.53	1866.54	0.06	-1.0	U			JY1	1.0	06Er08
$^{26}\text{Al-}^{26}\text{Mg}$	4299.14	0.17	4298.94	0.07	-1.2	1	15	14 $^{26}\text{Al}$	JY1	1.0	06Er08
$^{26}\text{Al}^m-^{26}\text{Mg}$	4544.09	0.17	4544.03	0.07	-0.3	1	15	14 $^{26}\text{Al}^m$	JY1	1.0	06Er08
$^{26}\text{Al}^m-^{26}\text{Al}$	245.09	0.17	245.096	0.014	0.0	U			JY1	1.0	06Er08
	244.91	0.14			1.3	U			JY1	1.0	09Er02
	245.114	0.049			-0.4	U			JY1	1.0	09Er07
$^{26}\text{Si-}^{26}\text{Al}$	5441.97	0.14	5441.94	0.09	-0.2	2			JY1	1.0	09Er02
	5441.92	0.12			0.2	2			JY1	1.0	09Er02
$^{25}\text{Na-}^{26}\text{Na}_{.721} \ ^{22}\text{Na}_{.284}$	-2881	33	-2939.6	2.8	-1.8	U			P13	1.0	75Th08
	-2921	22			-0.8	U			P13	1.0	75Th08
$^{26}\text{Al(n,}\alpha\text{)}^{23}\text{Na}$	2966.5	2.5	2966.14	0.06	-0.1	U					01Wa50
$^{23}\text{Na}(\alpha,\text{n})^{26}\text{Al}$	-2968	4	-2966.14	0.06	0.5	U			Duk	60Wi07	Y
$^{26}\text{O}(\gamma,2\text{n})^{24}\text{O}$	90	110			3						12Lu07
$^{24}\text{Mg(t,p)}^{26}\text{Mg}$	9940	12	9941.81	0.03	0.2	U			Har	61Hi11	Y
$^{24}\text{Mg}({}^3\text{He,p})^{26}\text{Al}$	5932	15	5918.79	0.06	-0.9	U			Ald	59Hi66	Y
	5922	8			-0.4	U			Phi	72Be51	
$^{24}\text{Mg}({}^3\text{He,n})^{26}\text{Si}$	85	18	67.31	0.11	-1.0	U			CIT	67Mi02	
	75	30			-0.3	U				67Mc03	
	95	15			-1.8	U			Har	68Ad03	
	65	30			0.1	U			Ber	68Ha09	
$^{26}\text{Mg}({}^7\text{Li,}^8\text{B})^{25}\text{Ne}$	-22050	100	-22170	40	-1.2	2			Brk	73Wi06	
$^{26}\text{Mg}({}^{13}\text{C,}^{14}\text{O})^{25}\text{Ne}$	-19067	50	-19040	40	0.6	2			Can	85Wo04	
$^{26}\text{Mg(d,}{}^3\text{He})^{25}\text{Na}$	-8653	10	-8652.2	1.2	0.1	U			MSU	73Be14	
$^{26}\text{Mg(t,}\alpha\text{)}^{25}\text{Na}$	5664	12	5668.2	1.2	0.3	U			Ald	62Hi01	
$^{25}\text{Mg(n,}\gamma\text{)}^{26}\text{Mg}$	11092.9	0.3	11093.09	0.04	0.6	U			MMn	80Is02	
	11091.84	0.44			2.8	U			ILn	82Hu02	Z
	11093.10	0.06			-0.1	1	54	45 $^{25}\text{Mg}$	MMn	90Pr02	Z
	11093.17	0.06			-1.3	o			ORn	91Ki04	Z
	11093.23	0.05			-2.8	B			ORn	92Wa06	Z
	11093.16	0.22			-0.3	U			Bdn	06Fi.A	
$^{25}\text{Mg(d,p)}^{26}\text{Mg}$	8865	12	8868.53	0.04	0.3	U			Ald	61Hi11	Y
	8876	12			-0.6	U			Mex	61Ja23	
	8889	12			-1.7	U			MIT	64Sp12	
$^{25}\text{Mg(p,}\gamma\text{)}^{26}\text{Al}$	6305.0	1.2	6306.31	0.05	1.1	U				74De37	
	6304.9	1.1			1.3	U				79El11	
	6306.39	0.11			-0.7	-				85Be17	Z
	6306.38	0.08			-0.9	-			Utr	91Ki04	Z
ave.	6306.38	0.06			-1.1	1	72	59 $^{26}\text{Al}$		average	
$^{26}\text{Si}^i(\text{p})^{25}\text{Al}$	7563	15	7553	11	-0.6	2			Brk	83Ca06	
	7544	15			0.6	2			Brk	83Ho23	*
$^{26}\text{Mg}(\pi^-, \pi^+)^{26}\text{Ne}$	-17676	72	-17716	18	-0.6	U				80Na12	
$^{26}\text{Na}(\beta^-)^{26}\text{Mg}$	9210	200	9354	4	0.7	U				73Al13	
$^{26}\text{Mg(t,}{}^3\text{He})^{26}\text{Na}$	-9292	20	-9335	4	-2.2	U			LAl	74Fl01	
$^{26}\text{Mg}({}^7\text{Li,}{}^7\text{Be})^{26}\text{Na}$	-10182	40	-10216	4	-0.8	U			ChR	72Ba35	*
$^{26}\text{Al}(\beta^+)^{26}\text{Mg}$	3991	8	4004.43	0.06	1.7	U				58Fe16	*
$^{26}\text{Mg(p,n)}^{26}\text{Al}$	-4786.7	10.	-4786.78	0.06	0.0	U			Oak	55Ki28	*
	-4787.04	0.48			0.5	U			Utr	69De27	
	-4786.1	1.6			-0.4	U			Har	69Fr08	*
	-4785.66	0.22			-5.1	C			Auc	84Ba.B	*
	-4786.57	0.05			-4.2	C			Auc	92Ba.A	*
	-4786.25	0.12			-4.4	B			Auc	94Br11	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value			Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{26}\text{Mg}(\text{He},\text{t})^{26}\text{Al}$	-4023.0	0.6	-4023.02	0.06	0.0	F				Mun	77Vo02	*	
$^{26}\text{Mg}(\text{He},\text{t})^{26}\text{Al}-^{27}\text{Al}(\text{He},\text{t})^{27}\text{Si}$	808.2	2.0	807.93	0.11	-0.1	U				ChR	74Ha35		
$^{26}\text{Mg}(\text{He},\text{t})^{26}\text{Al}-^{14}\text{N}(\text{He},\text{t})^{14}\text{O}$	1139.43	0.13	1139.61	0.11	1.4	1	66	57	$^{14}\text{O}$	ChR	87Ko34	*	
$^{26}\text{Al}^m(\text{IT})^{26}\text{Al}$	228.305	0.013	228.305	0.013	0.0	1	99	86	$^{26}\text{Al}^m$	Ens004			
$^{26}\text{Si}(\beta^+)^{26}\text{Al}$	5079	13	5069.14	0.08	-0.8	U					63Fr10		
$*^{26}\text{Na-u}$	Result from the "Thermo" experiment. Next item from "Rilis"										06Ga04	**	
$*^{26}\text{Si}-^{26}\text{Al}$	$D_M=5196.82(0.12) \mu\text{u}$ for $^{26}\text{Al}^m$ at 228.305(0.013); $M-A=-7141.05(0.13) \text{ keV}$										Nub127	**	
$*^{26}\text{O}(\gamma,\text{n})^{24}\text{O}$	Symmetrized from 150(+50–150) keV										12Lu07	**	
$*^{26}\text{Si}^i(\text{p})^{25}\text{Al}$	$E_p=3699(15)$ to 3695.5 level; different from preceding data										Ens098	**	
$*^{26}\text{Mg}(\text{Li},\text{t})^{26}\text{Na}$	$Q=-10222(30)$ corrected for contribution of unresolved 82.5 level										Ens90	**	
$*^{26}\text{Al}(\beta^+)^{26}\text{Mg}$	$E_{\beta^+}=1160(8)$ to $2^+$ level at 1808.70 keV										Ens004	**	
$*^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$	$T=5191(10,Z)$ to $^{26}\text{Al}^m$ at 228.305 keV										Nub127	**	
$*^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$	$T=5209.3(1.6,Z)$ to $^{26}\text{Al}^m$ at 228.305 keV										Nub127	**	
$*^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$	$T=5208.86(0.23)$ to $^{26}\text{Al}^m$ at 228.305 keV										Nub127	**	
$*^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$	$T=5209.71(0.05)$ to $^{26}\text{Al}^m$ at 228.305 keV										Nub127	**	
$*^{26}\text{Mg}(\text{p},\text{n})^{26}\text{Al}$	$T=5209.46(0.12)$ to $^{26}\text{Al}^m$ at 228.305 keV										Nub127	**	
$*^{26}\text{Mg}(\text{He},\text{t})^{26}\text{Al}$	$Q=4251.3(0.6,Z)$ to $^{26}\text{Al}^m$ at 228.305 keV										Nub127	**	
$*^{26}\text{Mg}(\text{He},\text{t})^{26}\text{Al}$	F : rejected in reference of same group										09Fa15	**	
$*^{26}\text{Mg}(\text{He},\text{t})^{26}\text{Al}-^{14}\text{N}(\text{He},\text{t})^{14}\text{O}$	$Q$ (to 1057.740(0.023) level)- $^{14}\text{N}(\text{He},\text{t})^{14}\text{O}$ =81.69(0.13)										82Al19	**	
$^{27}\text{F-u}$	27500	700	26440	200	-1.0	U				TO2	1.5	88Wo09	
	26005	770			0.6	U				GA3	1.0	91Or01	
	27100	900			-0.5	U				TO4	1.5	91Zh24	
	26900	580			-0.8	o				GA5	1.0	99Sa.A	
	26441	204			2					GA7	1.0	07Ju03	
$^{27}\text{Ne-u}$	6010	640	7550	70	1.6	F				TO1	1.5	86Vi09	
	7470	300			0.3	U				GA1	1.0	87Gi05	
	7567	172			-0.1	o				GA3	1.0	91Or01	
	7670	130			-0.6	2				TO4	1.5	91Zh24	
	7536	75			0.2	2				GA7	1.0	07Ju03	
$^{27}\text{Na-u}$	-5922	11	-5923	4	-0.1	o				P40	1.0	01Lu17	
	-5922	4			-0.4	o				P40	1.0	06Ga04	
$^{27}\text{Al}-^{23}\text{Na}_{1,174}$	-6450.79	0.25	-6450.61	0.11	0.7	1	20		20 $^{27}\text{Al}$	MA8	1.0	08Ge08	
$^{27}\text{Na}-^{27}\text{Al}$	12538	4			2					P40	1.0	01Lu17	
$^{24}\text{Na}-^{27}\text{Na}_{.356}$ $^{22}\text{Na}_{.655}$	-3006	38	-3059.8	1.3	-0.9	U				P10	1.5	75Th08	
$^{26}\text{Na}-^{27}\text{Na}_{.770}$ $^{22}\text{Na}_{.236}$	-1437	86	-1389	5	0.6	U				P13	1.0	75Th08	
$^{26}\text{Na}-^{27}\text{Na}_{.481}$ $^{25}\text{Na}_{.520}$	676	66	659	4	-0.2	U				P10	1.5	75Th08	
	734	86			-0.6	U				P11	1.5	75Th08	
$^{23}\text{Na}(\alpha,\gamma)^{27}\text{Al}$	10090.0	1.3	10091.81	0.10	1.4	U				Utr		78Ma23	
$^{27}\text{Al}(\text{p},\alpha)^{24}\text{Mg}$	1601.7	0.7	1600.88	0.10	-1.2	o				Zur		63Ry04	
	1598.4	1.0			2.5	U				NDm		65Br28	
	1601.3	0.5			-0.8	U				Zur		67St30	
	1600.06	0.21			3.9	B				Utr		78Ma23	
$^{24}\text{Mg}(\alpha,\text{p})^{27}\text{Al}$	-1598.9	1.0	-1600.88	0.10	-2.0	U				NDm		65Br28	
$^{25}\text{Mg}(\text{t},\text{p})^{27}\text{Mg}$	9055	11	9054.68	0.06	0.0	U				Tal		61Hi11	
$^{27}\text{Al}(\text{d},\alpha)^{25}\text{Mg}$	6699	12	6706.83	0.11	0.7	U				Ald		61Hi11	
	6691	11			1.4	U				Tal		62Sh01	
	6700	10			0.7	U				MIT		64Sp12	
$^{27}\text{Al}(\text{p},\text{t})^{25}\text{Al}^i$	-23843.4	4.7	-23842.6	1.9	0.2	1	16		16 $^{25}\text{Al}^i$	MSU		73Be14	
$^{27}\text{P}^i(\text{2p})^{25}\text{Al}$	6410	45	6350	30	-1.4	2				Lis		91Bo32	
	6270	50			1.5	2						01Ca60	
$^{26}\text{Mg}({}^{18}\text{O},{}^{17}\text{F})^{27}\text{Na}$	-13295	55	-13431	4	-2.5	F				Mun		78Pa12	
	-13433	60			0.0	U				Can		85Fi08	
$^{26}\text{Mg}(\text{n},\gamma)^{27}\text{Mg}$	6443.35	0.55	6443.39	0.04	0.1	U				ILn		82Hu02	
	6443.56	0.25			-0.7	o				MMn		85Ke.A	
	6443.26	0.08			1.6	2				MMn		90Pr02	
	6443.44	0.05			-1.1	2				ORN		92Wa06	
	6443.35	0.13			0.3	2				Bdn		06Fi.A	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{26}\text{Mg}(\text{d},\text{p})^{27}\text{Mg}$	4214	12	4218.82	0.04	0.4	U			Ald	61Hi11	Y
	4215	10			0.4	U			Mex	61Ja23	
	4211	6			1.3	U			MIT	64Sp12	
$^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$	8270.8	0.5	8271.17	0.11	0.7	–			Utr	59An33	*
	8271.2	0.5			–0.1	–				63Va24	Z
	8271.3	0.5			–0.3	–			Utr	78Ma24	*
$^{27}\text{Al}(\text{t},\alpha)^{26}\text{Mg}$	11541	12	11542.69	0.11	0.1	U			Ald	61Hi11	
$^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$	ave.	8271.10	0.29	8271.17	0.11	0.3	1	14	13 $^{27}\text{Al}$	average	
$^{27}\text{Al}(\text{He},\alpha)^{26}\text{Al}$	7523	15	7519.66	0.12	–0.2	U			Ald	59Hi66	
	7519	15			0.0	U			Man	60Ta12	
$^{26}\text{Al}(\text{p},\gamma)^{27}\text{Si}$	7464.9	0.9	7463.25	0.16	–1.8	U				84Bu09	Z
$^{27}\text{Na}(\beta^-)^{27}\text{Mg}$	8930	150	9069	4	0.9	U				73Al13	
$^{27}\text{Mg}(\beta^-)^{27}\text{Al}$	2600	11	2610.13	0.11	0.9	U				54Da22	
$^{27}\text{Si}(\beta^+)^{27}\text{Al}$	4872	20	4812.36	0.10	–3.0	U				60Wa04	
$^{27}\text{Al}(\text{p},\text{n})^{27}\text{Si}$	–5573	10	–5594.71	0.10	–2.2	U			Oak	55Ki28	Z
	–5597.5	6.0			0.5	U			Tkm	63Ok01	
	–5593.6	4.3			–0.3	U			Ric	65Ku02	
	–5585.1	2.3			–4.2	B			Ric	66Bo20	Z
	–5592.0	1.0			–2.7	U			Yal	69Ov01	Z
	–5594.1	3.2			–0.2	U			Har	76Fr13	
	–5593.8	0.26			–3.5	F			Auc	77Na24	*
	–5594.27	0.11			–4.0	F			Auc	85Wh03	*
	–5594.72	0.10				2			Auc	94Br37	
* $^{27}\text{Ne-u}$	F : contaminated by $^{27}\text{Na}$										
* $^{27}\text{Na-u}$	Not independent of $^{27}\text{Na}-^{27}\text{Al}$ from isobaric method, do not use										
* $^{27}\text{Al}(\text{p},\text{t})^{25}\text{Al}^i$	IT=7904(5), rebuilt Q=–23847.9(4.7); recalib +4.5keV										
* $^{27}\text{p}^i(2\text{p})^{25}\text{Al}$	And $E_{2p}=5315(60)$ to $3/2^+$ level at 944.9 keV										
* $^{26}\text{Mg}({}^{18}\text{O},{}^{17}\text{F})^{27}\text{Na}$	F : shape of peak raises doubt on centroid determination										
* $^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$	$E_p=338.65(0.12)$ to 8596.8(0.5) level										
* $^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$	$E_p=338.21(0.30)$ to 8596.8(0.5) level										
* $^{26}\text{Mg}(\text{p},\gamma)^{27}\text{Al}$	$E_p=809.90(0.05,\text{Z})$ to 9050.7(0.5,Z) level										
* $^{27}\text{Al}(\text{p},\text{n})^{27}\text{Si}$	F : rejected by same group “measurement contains error”										
$^{28}\text{Ne-u}$	11490	430	12120	100	1.0	o			TO1	1.5	86Vi09
	12270	560			–0.3	o			GA1	1.0	87Gi05
	11958	238			0.7	o			GA3	1.0	91Or01
	12160	140			–0.2	2			TO4	1.5	91Zh24
	12110	118			0.1	2			GA7	1.0	07Ju03
$^{28}\text{Na-u}$	–1220	190	–1061	11	0.6	o			TO1	1.5	86Vi09
	–1097	96			0.4	U			GA3	1.0	91Or01
	–1062	14			0.1	o			P40	1.0	01Lu17
	–1061	11				2			P40	1.0	06Ga04
$^{28}\text{Si-u}$	–23073.43	0.30	–23073.4654	0.0004	–0.1	U			ST1	1.0	93Je06
	–23073.4676	0.0020			1.1	U			MII	1.0	95Di08
	–23073.00	0.27			–0.7	U			OH1	2.5	94Go.A
	–23073.4661	0.0008			0.9	1	30	$^{28}\text{Si}$	ST2	1.0	02Be64
C <sub>2</sub> D <sub>2</sub> – $^{28}\text{Si}$	51277.0224	0.0024	51277.0216	0.0005	–0.3	U			MII	1.0	95Di08
$^{15}\text{N}_2$ – $^{28}\text{Si H}_2$	7641.2007	0.0024	7641.1987	0.0013	–0.9	1	29	$^{27}\text{N}$	MII	1.0	95Di08
C <sub>2</sub> H <sub>4</sub> – $^{28}\text{Si}$	54373.59360	0.00079	54373.5943	0.0005	0.9	1	45	$^{27}\text{Si}$	FS1	1.0	08Re16
$^{13}\text{C}_2 \text{H}_2$ – $^{28}\text{Si}$	45433.19986	0.00071	45433.2000	0.0005	0.1	1	47	$^{24}\text{Si}$	FS1	1.0	08Re16
$^{28}\text{Si}_2$ – $^{16}\text{O}$ – $^{35}\text{Cl}$ – $^{37}\text{Cl}$	14013.07	0.70	14012.40	0.07	–0.6	U			H46	1.5	93Nx02
$^{25}\text{Na}$ – $^{28}\text{Na}_{446}$ – $^{22}\text{Na}_{568}$	–5869	75	–5974	5	–0.9	U			P10	1.5	75Th08 *
$^{26}\text{Na}$ – $^{28}\text{Na}_{619}$ – $^{22}\text{Na}_{394}$	–4229	613	–4207	7	0.0	U			P11	1.5	75Th08
	–4205	128			0.0	U			P12	2.5	75Th08
	–4203	87			–0.1	U			P13	1.0	75Th08
$^{28}\text{Si}(\text{p},{}^6\text{He})^{23}\text{Al}$	–38569	80	–38544.0	0.3	0.3	U			Brk	69Ce01	
$^{28}\text{Si}({}^3\text{He},{}^8\text{Li})^{23}\text{Al}$	–34274	25	–34255.5	0.3	0.7	U			MSU	75Be38	
$^{28}\text{Si}(\alpha,{}^8\text{He})^{24}\text{Si}$	–61433	21	–61422	19	0.5	R			Tex	80Tr04	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{28}\text{Si}(\text{p},\alpha)^{25}\text{Al}$	-7709.3	2.6	-7712.6	0.5	-1.3	U			NDm	73Br27	
$^{28}\text{Si}({}^3\text{He},{}^6\text{He})^{25}\text{Si}$	-27976	50	-27981	10	-0.1	U			Brk	70Me11	
	-27981	10				2			MSU	72Be12	
$^{26}\text{Mg}(\text{t},\text{p})^{28}\text{Mg}$	6474	12	6465.0	2.0	-0.7	U			Har	61Hi11	Y
$^{26}\text{Mg}({}^3\text{He},\text{p})^{28}\text{Al}$	8285	5	8278.23	0.12	-1.4	U			Phi	74Be07	
$^{28}\text{Si}(\text{d},\alpha)^{26}\text{Al}$	1429	4	1428.12	0.06	-0.2	U			MIT	64Sp12	
$^{28}\text{Si}(\text{p},\text{t})^{26}\text{Si}$	-22009	3	-22012.65	0.11	-1.2	U			MSU	74Ha02	
	-22014.1	1.0			1.4	U			Yal	05Pa31	
$^{28}\text{F}(\gamma,\text{n})^{27}\text{F}$	220	50			3				MSU	12Ch02	
$^{27}\text{Al}(\text{n},\gamma)^{28}\text{Al}$	7725.02	0.20	7725.10	0.06	0.4	U			BNn	78St25	Z
	7725.07	0.30			0.1	U			ILn	79Br25	Z
	7725.13	0.3			-0.1	U			MMn	80Is02	Z
	7725.02	0.10			0.8	2				81Su.A	Z
	7725.14	0.09			-0.4	2			ILn	82Sc14	Z
	7725.17	0.15			-0.5	2			Bdn	06Fi.A	
$^{27}\text{Al}(\text{d},\text{p})^{28}\text{Al}$	5511	5	5500.53	0.06	-2.1	U			Mex	61Ja23	
	5503	10			-0.2	U			MIT	64Sp12	
$^{27}\text{Al}(\text{p},\gamma)^{28}\text{Si}$	11584.89	0.30	11585.02	0.10	0.4	-			Utr	78Ma23	Z
$^{27}\text{Al}({}^3\text{He},\text{d})^{28}\text{Si}$	6049	18	6091.54	0.10	2.4	U				60Fo01	
$^{27}\text{Al}(\text{p},\gamma)^{28}\text{Si}$	ave.	11585.05	0.13	11585.02	0.10	-0.3	1	67	67 $^{27}\text{Al}$	average	
$^{27}\text{Al}(\text{p},\gamma)^{28}\text{Si}^r$	-956.15	0.03	-956.139	0.025	0.3	2			Utr	78Ma23	Z
	-956.025	0.020			-5.7	B			Auc	94Br37	Z
	-956.13	0.05			-0.4	2				98Wa.A	Z
$^{28}\text{Si}({}^3\text{He},\alpha)^{27}\text{Si}$	3407	15	3397.89	0.14	-0.6	U			Ald	59Hi68	Y
$^{28}\text{Si}({}^3\text{He},\alpha)^{27}\text{Si}^i$	-3225.5	2.6	-3227.0	2.3	-0.6	1	79	79 $^{27}\text{Si}^i$		86Sc21	*
$^{28}\text{Si}({}^7\text{Li},{}^8\text{He})^{27}\text{P}$	-37513	40	-37473	26	1.0	R				01Ca37	
$^{28}\text{Si}(\text{p})^{27}\text{Si}$	3835	20			3				Lis	89Po10	
$^{28}\text{Mg}(\beta^-)^{28}\text{Al}$	1791	10	1831.8	2.0	4.1	B				53Ma23	*
	1831.8	2.0			3					54Ol03	*
$^{28}\text{Al}(\beta^-)^{28}\text{Si}$	4644	10	4642.26	0.12	-0.2	U				52Mo22	*
	4657	14			-1.1	U				54Ol03	*
$^{28}\text{Si}^r(\text{IT})^{28}\text{Si}$	12541.23	0.14	12541.16	0.11	-0.5	R			Utr	90En02	Z
$^{28}\text{P}(\beta^+)^{28}\text{Si}$	14290	40	14345.1	1.2	1.4	U				68Ar03	*
$^{28}\text{Si}(\text{p},\text{n})^{28}\text{P}$	-15118.3	4.1	-15127.4	1.2	-2.2	U			Yal	69Ov01	Z
	-15112.5	5.8			-2.6	U			BNL	71Go18	Z
$^{28}\text{Si}({}^3\text{He},\text{t})^{28}\text{P}$	-14380	60	-14363.6	1.2	0.3	U			Brk	66Ma18	
$^{28}\text{Si}({}^3\text{He},\text{t})^{28}\text{P}-{}^{36}\text{Ar}({}^{36}\text{K})$	-1530.58	1.10	-1530.6	1.1	0.0	1	100	100 $^{28}\text{P}$	Mun	10Wr01	
$^{28}\text{Si}(\pi^+,\pi^-)^{28}\text{S}$	-24544	160			2					82Mo12	*
* $^{25}\text{Na}-{}^{28}\text{Na}_{,446}{}^{22}\text{Na}_{,568}$	Symmetric double-doublet 22–24 26–28 included IT=6626(3), Q rebuilt with Ame1977										
* $^{28}\text{Si}({}^3\text{He},\alpha)^{27}\text{Si}^i$	E $_{\beta^-}$ =418(10) 459(2) respectively, to 1 <sup>+</sup> level at 1372.95 keV										
* $^{28}\text{Mg}(\beta^-)^{28}\text{Al}$	E $_{\beta^-}$ =418(10) 459(2) respectively, to 1 <sup>+</sup> level at 1372.95 keV										
* $^{28}\text{Al}(\beta^-)^{28}\text{Si}$	E $_{\beta^-}$ =2865(10) 2878(14) respectively, to 2 <sup>+</sup> level at 1779.030 keV										
* $^{28}\text{P}(\beta^+)^{28}\text{Si}$	E $_{\beta^+}$ =11490(40) to 2 <sup>+</sup> level at 1779.030 keV										
* $^{28}\text{Si}(\pi^+,\pi^-)^{28}\text{S}$	Original -24603(160) recalibrated to $^{16}\text{O}(\pi^+,\pi^-)^{16}\text{Ne}$ Q=-27704(20) keV										
$^{29}\text{Ne-u}$	19433	551	19750	110	0.6	o			GA3	1.0	91Or01
	19300	400			0.8	U			TO4	1.5	91Zh24
	19400	410			0.9	o			GA5	1.0	00Sa21
	19753	107			2				GA7	1.0	07Ju03
$^{29}\text{Na-u}$	2820	230	2877	8	0.2	U			TO1	1.5	86Vi09
	2838	143			0.3	U			GA3	1.0	91Or01
	2861	14			1.1	o			P40	1.0	01Lu17
	2866	13			0.9	1	37	37 $^{29}\text{Na}$	P40	1.0	06Ga04
$^{29}\text{Na}-{}^{39}\text{K}_{,744}$	29886	10	29879	8	-0.7	1	63	63 $^{29}\text{Na}$	TT1	1.0	12Ch.A
$^{29}\text{Mg-u}$	-11375	19	-11383	12	-0.4	2			P40	1.0	06Ga04
	-11388	16			0.3	2			P40	1.0	06Ga04
$^{29}\text{Al-O}_{1.812}$	-10328.8	1.0			2				TT1	1.0	12Ch.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{29}\text{Si}-^{28}\text{Si}$ H	-8256.90198	0.00024	-8256.90198	0.00024	0.0	1	100	100	$^{29}\text{Si}$	MI3	1.0	05Ra34
$^{26}\text{Na}-^{29}\text{Na}_{.512}$ $^{22}\text{Na}_{.506}$	-5763	91	-5611	5	1.1	U				P10	1.5	75Th08
	-6379	293			1.7	U				P11	1.5	75Th08
	-5252	277			-0.5	U				P12	2.5	75Th08
	-5576	66			-0.5	U				P13	1.0	75Th08
$^{27}\text{Na}-^{29}\text{Na}_{.466}$ $^{25}\text{Na}_{.540}$	-1708	124	-1713	5	0.0	U				P10	1.5	75Th08
$^{18}\text{O}(\text{C},\text{p})^{29}\text{Mg}$	-1456	50	-1633	11	-3.5	B						81Pa17
$^{26}\text{Mg}(\text{B},\text{B})^{29}\text{Mg}$	-19720	50	-19865	11	-2.9	U				Brk		74Sc26
$^{26}\text{Mg}(\text{O},\text{O})^{29}\text{Mg}$	-9207	55	-9250	11	-0.8	U				Mun		78Pa12
	-9250	45			0.0	U				Can		85Fi08
$^{26}\text{Mg}(\alpha,\text{p})^{29}\text{Al}$	-2880	40	-2873.9	0.9	0.2	U				Yal		57Gr47 Y
	-2874	10			0.0	U				ANL		68Be13
$^{29}\text{Si}(\text{n},\alpha)^{26}\text{Mg}$	-21	21	-34.131	0.030	-0.6	U				Ham		62An05
$^{27}\text{Al}(\text{t},\text{p})^{29}\text{Al}$	8679.5	1.2	8668.8	0.9	-9.0	B				Str		84An17
$^{29}\text{Si}(\text{d},\alpha)^{27}\text{Al}$	6000	11	6012.47	0.10	1.1	U				MIT		64Sp12
$^{29}\text{Si}(\text{p},\text{t})^{27}\text{Si}^i$	-23802	5	-23796.4	2.3	1.1	1	21	21	$^{27}\text{Si}^i$	MSU		77Be13
$^{27}\text{Al}(\text{He},\text{n})^{29}\text{P}$	6616	30	6615.6	0.6	0.0	U				Oak		72Gr39
$^{28}\text{Si}(\text{n},\gamma)^{29}\text{Si}$	8473.6	0.3	8473.6012	0.0005	0.0	o				MMn	80Is02	Z
	8473.61	0.04			-0.2	U				MMn	90Is02	Z
	8473.55	0.04			1.3	U				ORn	92Ra19	Z
	8473.5509	0.0500			1.0	o				PTc	97Ro26	*
	8473.54	0.17			0.4	U				Bdn	06Fi.A	
	8473.551	0.030			1.7	U				PTc	01Pa52	*
	8473.5957	0.0050			1.1	U				NBS	06De21	
$^{28}\text{Si}(\text{d},\text{p})^{29}\text{Si}$	6252	10	6249.03523	0.00029	-0.3	U				Mex		64Ma.B
	6252	10			-0.3	U				MIT		64Sp12
	6249.35	0.5			-0.6	U				Rez	90Pi05	*
$^{28}\text{Si}(\text{p},\gamma)^{29}\text{P}$	2747.1	1.7	2748.6	0.6	0.9	-					73Ba35	Z
	2748.8	0.6			-0.3	-					74By01	Z
$^{28}\text{Si}(\text{d},\text{n})^{29}\text{P}$	560	30	524.1	0.6	-1.2	U				Ald		60Ma21
$^{28}\text{Si}(\text{He},\text{d})^{29}\text{P}$	-2733	12	-2744.8	0.6	-1.0	U				Ald		60Hi03 Y
$^{28}\text{Si}(\text{p},\gamma)^{29}\text{P}^i$	ave.	2748.6	0.6	2748.6	0.6	0.0	1	99	99	$^{29}\text{P}^i$		average
$^{28}\text{Si}(\text{p},\gamma)^{29}\text{P}^i$	-5630	10	-5633.1	2.5	-0.3	U				ANL		66Yo01
	-5631.9	5.0			-0.2	1	25	25	$^{29}\text{P}^i$		68Te01	*
$^{29}\text{Mg}(\beta^-)^{29}\text{Al}$	7624	400	7602	11	-0.1	U						73Go34
$^{29}\text{Al}(\beta^-)^{29}\text{Si}$	3850	100	3690.4	0.9	-1.6	U						54Na14 *
$^{29}\text{P}(\beta^+)^{29}\text{Si}$	4967	20	4942.6	0.6	-1.2	U						55Ro05
$^{29}\text{P}^i(\text{IT})^{29}\text{P}^i$		8382.1	2.8	8381.7	2.4	-0.1	1	76	75	$^{29}\text{P}^i$		72Ba26
* $^{29}\text{Mg-u}$	Result from the "Plasma" experiment. Next item from "Rilis"											06Ga04 **
* $^{28}\text{Si}(\text{n},\gamma)^{29}\text{Si}$	Original error 0.0005 increased for calibration											GAu **
* $^{28}\text{Si}(\text{n},\gamma)^{29}\text{Si}$	Original error 0.005 increased for calibration											GAu **
* $^{28}\text{Si}(\text{d},\text{p})^{29}\text{Si}$	Estimated systematic error 0.5 added to statistical error 0.037 keV											AHW **
* $^{28}\text{Si}(\text{p},\gamma)^{29}\text{P}^i$	IT=8376(6), Q rebuilt with Ame1964, error estimated by evaluator											GAu **
* $^{29}\text{Al}(\beta^-)^{29}\text{Si}$	$E_{\beta^-}=1550(100)$ to $5/2^+$ level at 2028.15 and $3/2^+$ at 2426.016 keV											Ens013 **
$^{30}\text{Ne-u}$	23872	884	24730	300	1.0	o				GA3	1.0	91Or01
	25660	850			-1.1	o				GA5	1.0	00Sa21
	24734	301			2					GA7	1.0	07Ju03
$^{30}\text{Na-u}$	7620	540	9098	5	1.8	F				TO1	1.5	86Vi09 *
	9200	370			-0.3	U				GA1	1.0	87Gi05
	9126	218			-0.1	U				GA3	1.0	91Or01
	9330	130			-1.2	U				TO4	1.5	91Zh24
	8976	27			4.5	B				P40	1.0	01Lu17
	8990	25			4.3	B				P40	1.0	06Ga04
$^{30}\text{Na-O}_{1.876}$	18638.9	5.6	18638	5	-0.1	1	82	82	$^{30}\text{Na}$	TT1	1.0	12Ch.A
$^{30}\text{Na-}^{39}\text{K}_{.769}$	37004	12	37008	5	0.3	1	18	18	$^{30}\text{Na}$	TT1	1.0	12Ch.A
$^{30}\text{Mg-O}_{1.876}$	3.1	3.7			2					TT1	1.0	12Ch.A
$^{30}\text{Mg-u}$	-9700	230	-9537	4	0.5	o				TO1	1.5	86Vi09
	-9597	98			0.6	U				GA3	1.0	91Or01
	-9490	110			-0.3	U				TO4	1.5	91Zh24
	-9546	14			0.6	U				P40	1.0	06Ga04

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{30}\text{S}-^{30}\text{P}$	6593.28	0.21				3			JY1	1.0	11So11
$^{26}\text{Na}-^{30}\text{Na}_{.433} \text{--} ^{22}\text{Na}_{.591}$	-7454	287	-7468	4	0.0	U		P10	1.5	75Th08	
	-8060	641			0.6	U		P11	1.5	75Th08	
	-7045	225			-0.8	U		P12	2.5	75Th08	
	-7515	117			0.4	U		P13	1.0	75Th08	
$^{27}\text{Na}-^{30}\text{Na}_{.360} \text{--} ^{25}\text{Na}_{.648}$	-2750	213	-2505	4	0.8	U		P10	1.5	75Th08	
$^{26}\text{Mg}^{(18}\text{O},^{14}\text{O})^{30}\text{Mg}$	-16234	55	-16121	3	2.1	U		Mun	78Pa12	*	
$^{30}\text{Si}(\text{n},\alpha)^{27}\text{Mg}$	-4193	21	-4199.94	0.05	-0.3	U		Ham	62An05		
$^{30}\text{Si}(\text{p},\alpha)^{27}\text{Al}$	-2368	10	-2372.16	0.11	-0.4	U		MIT	64Sp12		
$^{27}\text{Al}(\alpha,\text{p})^{30}\text{Si}$	2375	8	2372.16	0.11	-0.4	U		Man	59Ba13	Y	
$^{30}\text{Si}(\text{d},\alpha)^{28}\text{Al}$	3123	10	3128.38	0.12	0.5	U		MIT	64Sp12		
$^{28}\text{Si}^{(3}\text{He},\text{n})^{30}\text{S}$	-573	15	-573.9	0.4	-0.1	U		CIT	67Mi02		
$^{29}\text{Si}(\text{n},\gamma)^{30}\text{Si}$	10609.6	0.3	10609.199	0.022	-1.3	o		MMn	80Is02	Z	
	10609.21	0.04			-0.3	2		MMn	90Is02	Z	
	10609.24	0.05			-0.8	2		ORn	92Ra19	Z	
	10609.1776	0.0500			0.4	o		PTc	97Ro26	*	
	10609.178	0.030			0.7	2		PTc	01Pa52	*	
	10609.23	0.21			-0.1	U		Bdn	06Fi.A		
$^{29}\text{Si}(\text{d},\text{p})^{30}\text{Si}$	8413	10	8384.633	0.022	-2.8	U		Mex	61Ja23		
	8396	13			-0.9	U		MIT	64Sp12		
	8384.92	0.53			-0.5	U		Rez	90Pi05	*	
$^{29}\text{Si}(\text{p},\gamma)^{30}\text{P}$	5594.5	0.4	5594.5	0.3	0.0	2			85Re02		
	5594.5	0.5			0.0	2			96Wa33		
$^{30}\text{Na}(\beta^-)^{30}\text{Mg}$	17167	330	17358	6	0.6	U			83De04	*	
$^{30}\text{Mg}(\beta^-)^{30}\text{Al}$	6690	240	6989	14	1.2	U			83De04	*	
$^{30}\text{Al}(\beta^-)^{30}\text{Si}$	8550	250	8561	14	0.0	U			61Ro12	*	
$^{30}\text{Si}(\text{t},^3\text{He})^{30}\text{Al}$	-8520	40	-8542	14	-0.5	3			69Aj03		
	-8545	15			0.2	3			87Pe06		
$^{30}\text{P}(\beta^+)^{30}\text{Si}$	4262	40	4232.4	0.3	-0.7	U			56Gr07		
	4267	25			-1.4	U			63Fr10		
$^{30}\text{Si}(\text{p},\text{n})^{30}\text{P}$	-5012.1	5.	-5014.7	0.3	-0.5	U		Har	75Fr.A	Z	
$^{30}\text{S}(\beta^+)^{30}\text{P}$	6118	22	6141.60	0.20	1.1	U			63Fr10	*	
* $^{30}\text{Na-u}$	F : contaminated by $^{30}\text{Mg}$										
* $^{26}\text{Mg}^{(18}\text{O},^{14}\text{O})^{30}\text{Mg}$	Tentative, say authors; four counts only										
* $^{29}\text{Si}(\text{n},\gamma)^{30}\text{Si}$	Original error 0.0005 increased for calibration										
* $^{29}\text{Si}(\text{n},\gamma)^{30}\text{Si}$	Original error 0.005 increased for calibration										
* $^{29}\text{Si}(\text{d},\text{p})^{30}\text{Si}$	Estimated systematic error 0.5 added to statistical error 0.16 keV										
* $^{30}\text{Na}(\beta^-)^{30}\text{Mg}$	Calculated from 3 values used for calibration										
* $^{30}\text{Mg}(\beta^-)^{30}\text{Al}$	Calculated from value used for calibration										
* $^{30}\text{Al}(\beta^-)^{30}\text{Si}$	$E_{\beta^-} = 5050(250)$ to $2^+$ level at 3498.49 keV										
* $^{30}\text{S}(\beta^+)^{30}\text{P}$	$E_{\beta^+} = 4422(22)$ to $0^+$ level at 677.01 keV										
$^{31}\text{Ne-u}$	33087	1739			2			GA7	1.0	07Ju03	
$^{31}\text{Na-u}$	13440	1000	13163	25	-0.3	o		GA1	1.0	87Gi05	
	13559	327			-1.2	o		GA3	1.0	91Or01	
	13610	210			-1.4	U		TO4	1.5	91Zh24	
	13441	118			-2.4	U		GA7	1.0	07Ju03	
$^{31}\text{Mg-O}_{1.938}$	6503.5	3.3			2			TT1	1.0	12Ch.A	
$^{31}\text{Mg-u}$	-3830	220	-3352	3	1.4	o		TO1	1.5	86Vi09	
	-3520	180			0.9	o		GA1	1.0	87Gi05	
	-3458	149			0.7	U		GA3	1.0	91Or01	
	-3370	120			0.1	U		TO4	1.5	91Zh24	
	-3425	18			4.1	B		P40	1.0	06Ga04	
$\text{O}_2-^{31}\text{P H}$	8242.20819	0.00086	8242.2085	0.0007	0.3	1	64	58 $^{31}\text{P}$	FS1	1.0	08Re16
$^{31}\text{Na}-^{39}\text{K}_{.795}$	42016	25				2			TT1	1.0	12Ch.A
$^{31}\text{P}-^{28}\text{Si H}_3$	-26639.6290	0.0056	-26639.6329	0.0007	-0.7	U			FS1	1.0	06Re19
	-26639.63324	0.00089			0.4	1	62	42 $^{31}\text{P}$	FS1	1.0	08Re16
$^{31}\text{S}-^{31}\text{P}$	5794.98	0.25	5795.01	0.25	0.1	1	97	97 $^{31}\text{S}$	JY1	1.0	10Ka30

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$O_2 - {}^{31}P$	16067.228	0.096	16067.2407	0.0007	0.1	U		MS1	1.0	09Kw02	*
${}^{26}Na - {}^{31}Na_{.373}$ ${}^{22}Na_{.657}$	-7457	286	-8030	9	-0.8	U		P12	2.5	75Th08	
${}^{18}O({}^{15}N, 2p) {}^{31}Al$	-170	90	-304	20	-1.5	U				81Pa11	
${}^{27}Al(\alpha, \gamma) {}^{31}P$	9667.4	1.3	9668.71	0.10	1.0	U		Utr		78Ma23	
${}^{31}P(p, \alpha) {}^{28}Si$	1912	5	1916.3085	0.0006	0.9	U		Bar		56Va14	Y
	1919	4			-0.7	U		VUn		64Sm03	
	1911	10			0.5	U		MIT		64Sp12	
	1915.8	0.2			2.5	U		Zur		67St30	
${}^{28}Si(\alpha, n) {}^{31}S$	-8135	44	-8096.67	0.23	0.9	U		Tal		63Ne05	
${}^{31}P(d, \alpha) {}^{29}Si$	8166	11	8165.3437	0.0007	-0.1	U		MIT		64Sp12	
${}^{31}Cl^i(2p) {}^{29}P$	7700	100	7631	3	-0.7	U				90Bo24	*
	7610	60			0.3	U		Lis		91Bo32	
	7643	50			-0.2	U		Lis		92Ba01	*
	7627	15			0.3	o				98Ax02	
	7631	3				2				00Fy01	*
${}^{30}Si({}^{18}O, {}^{17}F) {}^{31}Al$	-12200	25	-12213	20	-0.5	3				88Wo02	
	-12237	35			0.7	3		Ber		89Bo.A	
${}^{30}Si(n, \gamma) {}^{31}Si$	6589.1	0.7	6587.39	0.04	-2.4	U				70Be48	
	6587.5	0.8			-0.1	U				70Sp02	
	6588.4	0.3			-3.4	B				72Dz13	
	6587.32	0.20			0.4	U		MMn		90Is02	Z
	6587.39	0.05			0.1	3		ORN		92Ra19	Z
	6587.3970	0.0500			-0.1	o		PTc		97Ro26	*
	6587.39	0.14			0.0	U		Bdn		06Fi.A	
	6587.397	0.057			-0.1	3		PTc		01Pa52	
${}^{30}Si(d, p) {}^{31}Si$	4368	7	4362.83	0.04	-0.7	U		MIT		64Sp12	
	4364.18	0.55			-2.5	U		Rez		90Pi05	*
${}^{30}Si(p, \gamma) {}^{31}P$	7297.4	1.2	7296.551	0.022	-0.7	U				68Wo01	
${}^{31}Cl^i(p) {}^{30}S$	12033	10	12027	3	-0.6	o				98Ax02	*
	12033	14			-0.5	U				00Fy01	*
${}^{31}Mg(\beta^-) {}^{31}Al$	10150	700	11833	21	2.4	U				83De04	
${}^{31}Al(\beta^-) {}^{31}Si$	7940	100	7994	20	0.5	U				73Go22	
${}^{31}Si(\beta^-) {}^{31}P$	1471	8	1491.50	0.04	2.6	U				52Mo12	
	1486	12			0.5	U				52Wa12	
${}^{31}S(\beta^+) {}^{31}P$	5412	30	5398.02	0.23	-0.5	U				60Wa04	
${}^{31}P(p, n) {}^{31}S$	-6212.3	20.	-6180.36	0.23	1.6	o		ChR		58Go77	Y
	-6250	20			3.5	B		ChR		59Br06	Y
$*{}^{32}O_2 - {}^{31}P$								GAu		**	
$*{}^{31}Cl^i(2p) {}^{29}P$								MMC122		**	
$*{}^{31}Cl^i(2p) {}^{29}P$								92Ba01		**	
$*{}^{31}Cl^i(2p) {}^{29}P$								00Fy01		**	
*								Ens013		**	
$*{}^{30}Si(n, \gamma) {}^{31}Si$								GAu		**	
$*{}^{30}Si(d, p) {}^{31}Si$								AHW		**	
$*{}^{31}Cl^i(p) {}^{30}S$								AHW		**	
$*{}^{31}Cl^i(p) {}^{30}S$										00Fy01	**
${}^{32}Na-u$	19720	636	20190	130	0.7	o		GA3	1.0	91Or01	
	19900	1100			0.2	U		TO4	1.5	91Zh24	
	20980	500			-1.6	o		GA5	1.0	00Sa21	
	20193	129			2			GA7	1.0	07Ju03	
${}^{32}Mg-O_2$	9281.0	3.4			2			TT1	1.0	12Ch.A	
${}^{32}Mg-u$	-800	260	-890	3	-0.2	o		TO1	1.5	86Vi09	
	-890	270			0.0	U		GA1	1.0	87Gi05	
	-924	214			0.2	U		GA3	1.0	91Or01	
	-820	130			-0.4	U		TO4	1.5	91Zh24	
	-1142	113			2.2	o		P40	1.0	01Lu20	
	-966	38			2.0	U		P40	1.0	06Ga04	*
	-983	22			4.2	B		P40	1.0	06Ga04	

For original doublet  ${}^{31}P - O_{1.938}$ ,  $D_M = -16382.522(0.096) \mu\mu$   
 Large error in Ecm due to sequential decay kinematics  
 reference also finds 3p emission at 4870  
 $Q_{2p} = 7620(5), 6245(2), 5679(3), 5223(5) \text{ keV}$   
 to ground state and levels  $3/2^+$  at 1383.55,  $5/2^+$  at 1953.91,  $3/2^+$  at 2422.7 keV

Original error 0.0005 increased for calibration

Estimated systematic error 0.5 added to statistical error 0.23 keV

Average of 3 branches

$E_p = 11654(28), 9493(20), 8347(15), 8092(14) \text{ keV}$

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{33}\text{Na-u}$	27386	1601	25730#	640#	-1.0	o			GA3	1.0	91Or01
	26370	1160			-0.6	o			GA5	1.0	00Sa21
	25142	376			1.6	D			GA7	1.0	07Ju03 *
$^{33}\text{Mg-O}_{2.062}$	15813.2	3.1					2		TT1	1.0	12Ch.A
$^{33}\text{Mg-u}$	5460	900	5327	3	-0.1	o			GA1	1.0	87Gi05
	5203	318			0.4	U			GA3	1.0	91Or01
	5710	180			-1.4	U			TO4	1.5	91Zh24
	5311	24			0.7	U			P40	1.0	06Ga04
$^{33}\text{Al-u}$	-9490	250	-9090	80	1.1	o			TO1	1.5	86Vi09
	-9250	160			1.0	o			GA1	1.0	87Gi05
	-9167	142			0.5	2			GA3	1.0	91Or01
	-9020	120			-0.4	2			TO4	1.5	91Zh24
	-9125	64			0.4	o			GT1	1.5	04Ma.A
	-8957	100			-0.9	o			GT2	1.5	08Kn.A
	-8915	128			-0.9	2			GT2	1.5	08Su19
$^{33}\text{Si O}_2 - ^{13}\text{C C}_4 \text{H}_4$	-66848.76	0.75				2			MS1	1.0	09Kw02 *
$^{33}\text{Cl-u}$	-22536.9	7.5	-22548.0	0.4	-1.5	U			LZ1	1.0	11Tu09
$^{33}\text{Ar} - ^{39}\text{K}_{.846}$	20629.86	0.43				2			MA8	1.0	03Bl17
$^{33}\text{Ar} - ^{36}\text{Ar}_{.917}$	19689.2	4.5	19686.7	0.4	-0.6	U			MA6	1.0	01He29
$^{33}\text{S} - ^{32}\text{S H}$	-8437.29682	0.00030	-8437.2968	0.0003	0.0	1	100	100 $^{33}\text{S}$	MI3	1.0	05Ra34
$^{30}\text{Si}(\alpha, p)^{33}\text{P}$	-2965	10	-2959.7	1.1	0.5	U			ANL		68Be13
$^{33}\text{S}(\text{n}, \alpha)^{30}\text{Si}$	3497.6	5.	3493.508	0.022	-0.8	U			ILL		81Wa31
	3496.9	5.0			-0.7	U					01Wa50
$^{31}\text{P}(^3\text{He}, p)^{33}\text{S}$	9787	15	9787.5581	0.0028	0.0	U					71Gr04
$^{32}\text{S}(\text{n}, \gamma)^{33}\text{S}$	8641.5	0.3	8641.6379	0.0006	0.5	o			MMn		80Is02 Z
	8641.82	0.10			-1.8	U			ORn		83Ra04 Z
	8641.60	0.03			1.3	U			MMn		85Ke08 Z
	8641.81	0.17			-1.0	U			Bdn		06Fi.A
	8641.6398	0.0033			-0.6	U			NBS		06De21
$^{32}\text{S}(\text{d}, \text{p})^{33}\text{S}$	6420	6	6417.0719	0.0003	-0.5	U			MIT		64Sp12
$^{32}\text{S}(\text{p}, \gamma)^{33}\text{Cl}$	2276.4	0.9	2276.8	0.4	0.4	-					59Ku79
	2276.8	0.5			-0.1	-					76Al01
$^{32}\text{S}(\text{d}, \text{n})^{33}\text{Cl}$	62	9	52.2	0.4	-1.1	U					72El03
$^{32}\text{S}(^3\text{He}, \text{d})^{33}\text{Cl}$	-3218	15	-3216.7	0.4	0.1	U					66Gr26
	-3217	5			0.1	U			CIT		70Mo08
$^{32}\text{S}(\text{p}, \gamma)^{33}\text{Cl}$	ave.	2276.7	0.4	2276.8	0.4	0.2	1	80	80 $^{33}\text{Cl}$		average
$^{32}\text{S}(\text{p}, \gamma)^{33}\text{Cl}^i$		-3267.0	1.0	-3271.7	0.5	-4.7	B				70Ab15
		-3271.4	2.0			-0.1	U				82Wi.A
		-3271.6	0.8			-0.3	1	37	37 $^{33}\text{Cl}^i$		02Py01
$^{33}\text{Si}(\beta^-)^{33}\text{P}$	5768	50	5823.0	1.3	1.1	U					73Go33
$^{33}\text{P}(\beta^-)^{33}\text{S}$	249	2	248.5	1.1	-0.2	2					54Ni06
	248.3	1.3			0.2	2					84Po09
$^{33}\text{Cl}(\beta^+)^{33}\text{S}$	5532	50	5582.5	0.4	1.0	U					60Wa04
$^{33}\text{Cl}^i(\text{IT})^{33}\text{Cl}$	5548.5	0.4	5548.4	0.4	-0.1	1	83	63	63 $^{33}\text{Cl}^i$		06Tr10
* $^{33}\text{Na-u}$	Trends from Mass Surface TMS suggest $^{33}\text{Na}$ 550 less bound										
* $^{33}\text{Si O}_2 - ^{13}\text{C C}_4 \text{H}_4$	For original doublet $^{33}\text{Si O}_2 \text{H}_3 - ^{13}\text{C C}_4 \text{H}_7$										
$^{34}\text{Mg-O}_{2.126}$	19747	31				2			TT1	1.0	12Ch.A
$^{34}\text{Mg-u}$	8855	476	8940	30	0.2	o			GA3	1.0	91Or01
	9190	350			-0.5	U			TO4	1.5	91Zh24
	9900	350			-2.8	U			GA5	1.0	00Sa21
	9190	97			-2.6	U			GA7	1.0	07Ju03
$^{34}\text{Al-u}$	-3760	430	-3290	70	0.7	o			TO1	1.5	86Vi09 *
	-3400	250			0.4	o			GA1	1.0	87Gi05 *
	-3262	218			-0.1	o			GA3	1.0	91Or01 *
	-2940	120			-2.0	U			TO4	1.5	91Zh24 *
	-3199	97			-0.7	2			GT1	1.5	04Ma.A *
	-3328	86			0.4	2			GA7	1.0	07Ju03 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{34}\text{Ar}-^{39}\text{K}_{872}$	11919.02	0.36	11918.03	0.08	-2.7	U			MA8	1.0	02He23
$^{34}\text{Ar}-^{36}\text{Ar}_{944}$	10907.4	3.8	10907.51	0.09	0.0	U			MA6	1.0	01He29
$^{34}\text{Cl}-^{34}\text{S}$	5895.548	0.058	5895.48	0.04	-1.2	1	49	31 $^{34}\text{Cl}$	JY1	1.0	09Er07
$^{34}\text{Cl}^m-^{34}\text{S}$	6052.575	0.068	6052.60	0.04	0.4	1	41	31 $^{34}\text{Cl}^m$	JY1	1.0	09Er07
$^{34}\text{S}-^{34}\text{Ar}$	-12403.20	0.20	-12403.09	0.08	0.6	1	14	13 $^{34}\text{Ar}$	JY1	1.0	11Er02
$^{34}\text{Cl}^m-^{34}\text{Cl}$	157.05	0.11	157.123	0.029	0.7	U			JY1	1.0	09Er07
	157.30	0.27			-0.7	U			JY1	1.0	11Er02
$^{34}\text{Ar}-^{34}\text{Cl}$	6507.630	0.092	6507.60	0.07	-0.3	1	54	52 $^{34}\text{Ar}$	JY1	1.0	11Er02
$^{34}\text{Cl}^m-^{34}\text{Ar}$	-6350.41	0.11	-6350.48	0.07	-0.6	1	39	35 $^{34}\text{Ar}$	JY1	1.0	11Er02
$\text{C}_4\text{H}_3-^{34}\text{P O}$	54914.59	0.87			2				MS1	1.0	09Kw02 *
$^{30}\text{Si}(^{7}\text{Li},^{3}\text{He})^{34}\text{P}$	100	40	91.6	0.8	-0.2	U					77Pe17
$^{31}\text{P}(\alpha,\text{p})^{34}\text{S}$	629.9	2.9	627.10	0.04	-1.0	U			Har		73Ry01
$^{31}\text{P}(\alpha,\text{n})^{34}\text{Cl}$	-5632	10	-5646.86	0.05	-1.5	U			Tal		70Um01
	-5641.5	3.7			-1.4	U			Har		73Ry01
$^{34}\text{S}(\text{d},\alpha)^{32}\text{P}$	5096	10	5083.99	0.06	-1.2	U					78Ba30
$^{32}\text{S}(^{3}\text{He},\text{n})^{34}\text{Ar}$	-759	15	-777.34	0.08	-1.2	U			CIT		67Mi02
$^{34}\text{S}(^{13}\text{C},^{14}\text{O})^{33}\text{Si}$	-14243	75	-14299.8	0.7	-0.8	U			Can		86Fi06
$^{33}\text{S}(\text{n},\gamma)^{34}\text{S}$	11417.12	0.10	11417.16	0.04	0.4	-			ORn		83Ra04 Z
	11417.22	0.23			-0.3	-			Bdn		06Fi.A
$^{33}\text{S}(\text{d},\text{p})^{34}\text{S}$	9202	10	9192.59	0.04	-0.9	U			MIT		64Sp12
	9195	6			-0.4	U			Utr		71Va21
$^{33}\text{S}(\text{n},\gamma)^{34}\text{S}$	ave.	11417.14	0.09	11417.16	0.04	0.2	1	24	24 $^{34}\text{S}$		average
$^{33}\text{S}(\text{p},\gamma)^{34}\text{Cl}$		5142.42	0.20	5143.20	0.05	3.9	B		Oak		83Ra04 *
		5142.4	0.3			2.7	U		Utr		83Wa27 Z
		5143.29	0.07			-1.2	1	48	48 $^{34}\text{Cl}$	Auc	94Li20
$^{34}\text{Si}(\beta^-)^{34}\text{P}$	4700	300	4592	14	-0.4	U					77Na05
$^{34}\text{P}(\beta^-)^{34}\text{S}$	5383	45	5383.0	0.8	0.0	U			ANB		73Go33
$^{34}\text{S}(\text{t},^{3}\text{He})^{34}\text{P}$	-5368	20	-5364.4	0.8	0.2	U			LAl		77Aj01
$^{34}\text{S}(^{7}\text{Li},^{7}\text{Be})^{34}\text{P}$	-6224	40	-6244.9	0.8	-0.5	U			Can		85Dr06
$^{34}\text{Cl}(\beta^+)^{34}\text{S}$	5522	30	5491.61	0.04	-1.0	U					56Gr07
$^{34}\text{S}(\text{p},\text{n})^{34}\text{Cl}$	-6252	10	-6273.95	0.04	-2.2	U			Tal		70Um01
	-6271.9	1.9			-1.1	U			Har		75Fr.A
	-6274.27	0.56			0.6	U			Auc		77Ba16
	-6273.11	0.25			-3.4	F			Auc		92Ba.A *
$^{34}\text{S}(\text{t},^{3}\text{He})^{34}\text{Cl}$	-5510.8	0.4	-5510.20	0.04	1.5	F			Mun		77Vo02 *
$^{34}\text{S}(\text{t},^{3}\text{He})^{34}\text{Cl}-^{27}\text{Al}(\text{t})^{27}\text{Si}$	-678.7	2.3	-679.25	0.10	-0.2	U			ChR		74Ha35
$^{34}\text{Cl}^m(\text{t})^{34}\text{Cl}$	146.36	0.03	146.360	0.027	0.0	1	84	65 $^{34}\text{Cl}^m$		Ens013	
* $^{34}\text{Al-u}$	Note added in proof : possible isomeric mixture 26(1) ms, E=550# keV										
* $\text{C}_4\text{H}_3-^{34}\text{P O}$	For original doublet $^{34}\text{P H}_2\text{O-C}_4\text{H}_5$										
* $^{33}\text{S}(\text{p},\gamma)^{34}\text{Cl}$	$E_p=974.76(0.15,Z)$ to $6088.20(0.10,Z)$ level										
* $^{34}\text{S}(\text{p},\text{n})^{34}\text{Cl}$	F : disturbed by resonance; at least 0.5 keV uncertain										
* $^{34}\text{S}(\text{t},^{3}\text{He})^{34}\text{Cl}$	F : rejected in reference of same group										

$^{35}\text{Mg-u}$	18669	1721	16790	190	-1.1	o			GA3	1.0	91Or01
	18830	1070			-1.9	o			GA5	1.0	00Sa21
	16790	193				2			GA7	1.0	07Ju03
$^{35}\text{Al-u}$	-340	460	-240	80	0.2	o			GA1	1.0	87Gi05
	-296	298			0.2	o			GA3	1.0	91Or01
	80	190			-1.1	U			TO4	1.5	91Zh24
	-236	75				2			GA7	1.0	07Ju03
$\text{C}_3-^{35}\text{Cl H}$	23320.8	0.3	23322.29	0.04	2.0	U			M17	2.5	66Be10
	23322.239	0.034			0.9	1	55	55 $^{35}\text{Cl}$	B07	1.5	71Sm01
	23321.83	0.63			0.3	U			J5	2.5	72Ka57
	23322.328	0.325			-0.1	U			J5	2.5	72Ka57
$\text{C}_5\text{H}_{10}-^{35}\text{Cl}_2$	140549.37	2.98	140544.96	0.08	-0.6	U			C2	2.5	65De09
	140545.01	0.13			-0.3	1	15	15 $^{35}\text{Cl}$	B07	1.5	71Sm01
$\text{C}_4\text{H}_6\text{O}-^{35}\text{Cl}_2$	104153.75	3.45	104159.45	0.08	0.7	U			C2	2.5	65De09
$\text{C}_2\text{D}_6-^{35}\text{Cl H}$	107934.90	0.54	107932.95	0.04	-1.4	U			J5	2.5	72Ka57
	107933.422	0.538			-0.3	U			J5	2.5	72Ka57

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$C_3 H-D^{35}Cl$	24871.92	0.75	24870.57	0.04	-0.7	U		C2	2.5	65De09		
$C_8 H_9-^{35}Cl_3$	163867.25	0.90	163867.24	0.11	0.0	U		A2	2.5	70St25		
$^{35}Ar-u$	-24747.3	4.3	-24742.4	0.8	1.1	U		LZ1	1.0	11Tu09		
$^{35}K-^{39}K_{.897}$	20560.69	0.55				2		MA8	1.0	07Ya08		
$^{35}Cl(p,\alpha)^{32}S$	1862	5	1866.05	0.04	0.8	U		Bar	57Va03	Y		
	1865	8			0.1	U		MIT	64Sp12			
$^{32}S(\alpha,p)^{35}Cl$	-1862	17	-1866.05	0.04	-0.2	U		MIT	64Sp12			
$^{32}S(\alpha,n)^{35}Ar$	-8751	18	-8614.5	0.7	7.6	B		Tal	63Ne05			
$^{35}Cl(d,\alpha)^{33}S$	8285	10	8283.12	0.04	-0.2	U		MIT	64Sp12			
$^{33}S(^3He,n)^{35}Ar$	3335	16	3321.5	0.7	-0.8	U			75Da14			
$^{35}K'(2p)^{33}Cl$	4311	40				2			85Ay01			
$^{34}S(^{18}O,^{17}F)^{35}P$	-7796	40	-7808.4	1.9	-0.3	U		Can	88Or01			
$^{34}S(n,\gamma)^{35}S$	6986.00	0.10	6985.84	0.04	-1.6	-		ORn	83Ra04	Z		
	6985.84	0.05			0.0	-		MMn	85Ke08	Z		
	6986.09	0.14			-1.8	U		Bdn	06Fi.A			
$^{34}S(d,p)^{35}S$	4762	10	4761.28	0.04	-0.1	U		MIT	64Sp12			
	4757	5			0.9	U		Utr	71Va18			
$^{34}S(n,\gamma)^{35}S$	ave.	6985.87	0.04	6985.84	0.04	-0.7	1	75	46 $^{34}S$	average		
$^{34}S(p,\gamma)^{35}Cl$		6367.4	1.6	6370.82	0.04	2.1	U			72Hu10		
		6370.7	0.4			0.3	U			76Sp08	Z	
		6370.70	0.20			0.6	U		Oak	83Ra04	*	
$^{35}Cl(\gamma,n)^{34}Cl$	-12660	40	-12644.77	0.05	0.4	U				61Sa11		
$^{35}P(\beta^-)^{35}S$	3909	75	3988.4	1.9	1.1	U				72Go31		
$^{35}S(\beta^-)^{35}Cl$	167.4	0.2	167.323	0.026	-0.4	U				57Co62		
	166.80	0.15			3.5	B				85Al11		
	167.288	0.100			0.3	U				85Ap01	*	
	166.93	0.2			2.0	o				85Ma59		
	167.4	0.1			-0.8	U				85Oh06	*	
	166.7	0.2			3.1	B				89Si04	*	
	167.56	0.03			-7.9	B				92Ch27	*	
	167.35	0.10			-0.3	U				93Ab11	*	
	167.23	0.10			0.9	U				93Be21	*	
	167.27	0.10			0.5	U				93Mo01	*	
	167.334	0.027			-0.4	1	91	71 $^{35}S$		00Ho13		
$^{35}Cl(n,p)^{35}S$	612	4	615.024	0.026	0.8	U			BNL	68Sc01		
$^{35}Ar(\beta^+)^{35}Cl$	5980	40	5966.1	0.7	-0.3	U				56Ki29		
	5950	50			0.3	U				60Wa04		
$^{35}Cl(p,n)^{35}Ar$	-6747.2	1.6	-6748.5	0.7	-0.8	2		Har	75Fr.A	Z		
	-6747.9	1.0			-0.6	2		Auc	77Wh03	Z		
	-6751.9	1.8			1.9	2		Mtr	78Az01	Z		
$*^{34}S(p,\gamma)^{35}Cl$	$E_p=1264.97(0.13,Z)$ to $7598.91(0.15,Z)$ level									83Ra04	**	
$*^{35}S(\beta^-)^{35}Cl$	Original error (0.030) increased to 0.100									AHW	**	
$^{36}Mg-u$	24930	1610	21880	490	-1.9	o		GA5	1.0	00Sa21		
	21879	494			2			GA7	1.0	07Ju03		
$^{36}Al-u$	6187	421	6390	110	0.5	o		GA3	1.0	91Or01		
	6500	400			-0.2	U		TO4	1.5	91Zh24		
	6140	310			0.8	o		GA5	1.0	00Sa21		
	6388	107			2			GA7	1.0	07Ju03		
$^{36}Si-u$	-13850	640	-13300	80	0.6	U		TO1	1.5	86Vi09		
	-13490	320			0.6	o		GA1	1.0	87Gi05		
	-13578	191			1.4	o		GA3	1.0	91Or01		
	-13110	150			-0.9	2		TO4	1.5	91Zh24		
	-13376	75			0.6	2		GT1	1.5	04Ma.A		
	-13280	118			-0.2	2		GA7	1.0	07Ju03		
$^{36}Ar-u$	-32454.895	0.015	-32454.895	0.029	0.0	o		ST2	1.0	02Bf02		
	-32454.895	0.029			0.0	1	100	100 $^{36}Ar$	ST2	1.0	03Fr08	
$^{36}K-^{39}K_{.923}$	14800.99	0.38	14800.9	0.4	-0.2	1	93	93 $^{36}K$	MA8	1.0	07Ya08	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{36}\text{Ar}(^3\text{He}, ^8\text{Li})^{31}\text{Cl}$	-29180	50			2		MSU	77Be13	
$^{36}\text{S}(^{48}\text{Ca}, ^{52}\text{V})^{32}\text{Al}$	-12651	370	-12347	12	0.8	o	Dar	87Ch.A	
$^{36}\text{S}(^{48}\text{Ca}, ^{51}\text{V})^{33}\text{Al}$	-14150	140	-14220	80	-0.5	R	Dar	86Wo07	
$^{36}\text{S}(^{14}\text{C}, ^{17}\text{O})^{33}\text{Si}$	-6380	20	-6321.1	0.7	2.9	U	Mun	84Ma49	
$^{36}\text{S}(^{11}\text{B}, ^{14}\text{N})^{33}\text{Si}$	-4311	30	-4345.3	0.8	-1.1	U	Can	85Fi03	
$^{36}\text{Ar}(^3\text{He}, ^6\text{He})^{33}\text{Ar}$	-23512	30	-23508.1	0.4	0.1	U	MSU	74Na07	
$^{36}\text{S}(^{11}\text{B}, ^{13}\text{N})^{34}\text{Si}$	-7327	25	-7385	14	-2.3	2	Can	85Fi03	
$^{36}\text{S}(^{14}\text{C}, ^{16}\text{O})^{34}\text{Si}$	-2989	20	-2951	14	1.9	2	Mun	84Ma49	
$^{36}\text{S}(^{64}\text{Ni}, ^{66}\text{Zn})^{34}\text{Si}$	-8890	41	-8907	14	-0.4	o	Dar	85Wo07	*
		33			-0.1	2	Dar	86Sm05	*
		33			-0.1	2	Dar	86Sm05	*
$^{36}\text{S}(\text{d}, \alpha)^{34}\text{P}$	4604.4	5.	4595.4	0.8	-1.8	U		82So.A	*
$^{36}\text{Ar}(\text{p}, \text{t})^{34}\text{Ar}$	-19513	3	-19514.08	0.08	-0.4	U	MSU	74Ha02	
$^{36}\text{Ar}(\text{p}, \text{t})^{34}\text{Ar}^i$	-27473	50	-27448	5	0.5	U		69Br21	*
		5			2			72Pa02	*
$^{36}\text{S}(^{14}\text{C}, ^{15}\text{O})^{35}\text{Si}$	-16184	50	-16140	40	0.9	2	Mun	84Ma49	
$^{36}\text{S}(^{13}\text{C}, ^{14}\text{O})^{35}\text{Si}$	-21122	60	-21190	40	-1.1	2	Can	86Fi06	
$^{36}\text{S}(^{64}\text{Ni}, ^{65}\text{Zn})^{35}\text{Si}$	-17250	100	-17490	40	-2.4	U	Dar	86Sm05	*
$^{36}\text{S}(\text{d}, ^3\text{He})^{35}\text{P}$	-7607	5	-7601.8	1.9	1.0	2	BNL	84Th08	
		2			-0.4	2	Hei	85Kh04	
$^{36}\text{S}(^{14}\text{C}, ^{15}\text{N})^{35}\text{P}$	-2927	10	-2887.9	1.9	3.9	B	Mun	84Ma49	*
$^{36}\text{S}(^6\text{Li}, ^7\text{Be})^{35}\text{P}$	-7521	17	-7488.5	1.9	1.9	U	Can	85Dr06	
$^{36}\text{S}(^{64}\text{Ni}, ^{65}\text{Cu})^{35}\text{P}$	-5659	34	-5641.4	2.0	0.5	U	Dar	85Wo.A	
$^{35}\text{Cl}(\text{n}, \gamma)^{36}\text{Cl}$	8579.73	0.20	8579.794	0.005	0.3	U	BNn	78St25	Z
	8579.7	0.3			0.3	o	MMn	80Is02	Z
	8579.81	0.20			-0.1	U	MMn	81Ke02	Z
	8579.66	0.10			1.3	U		81Su.A	Z
	8579.61	0.09			2.0	U	ILn	82Kr12	Z
	8579.67	0.17			0.7	U	Bdn	06Fi.A	
	8579.7945	0.0048			0.0	1	100	99 $^{36}\text{Cl}$	NBS
$^{35}\text{Cl}(\text{d}, \text{p})^{36}\text{Cl}$	6360	8	6355.228	0.005	-0.6	U	MIT	64Sp12	
$^{35}\text{Cl}(\text{p}, \gamma)^{36}\text{Ar}$	8506.1	0.5	8506.97	0.04	1.7	U		72Ho40	Z
$^{35}\text{Cl}(\text{p}, \gamma)^{36}\text{Ar}^i$	-2346.8	1.5	-2345.2	1.2	1.1	2		76Hu01	
	-2342.5	1.9			-1.4	2		76Ma40	
$^{36}\text{Ar}(\text{d}, \text{t})^{35}\text{Ar}$	-9007	10	-8998.2	0.7	0.9	U	Yal	70Wh04	
$^{36}\text{K}^i(\text{p})^{35}\text{Ar}$	2592	21	2623.8	2.3	1.5	U	Brk	81Ay01	
	2623.8	2.3			3			95Ga16	
$^{36}\text{S}(^7\text{Li}, ^7\text{Be})^{36}\text{P}$	-11277	27	-11275	13	0.1	2	Can	85Dr06	
$^{36}\text{S}(^{14}\text{C}, ^{14}\text{N})^{36}\text{P}$	-10256	15	-10257	13	0.0	2	Mun	84Ma49	
$^{36}\text{Cl}(\beta^+)^{36}\text{S}$	1137	18	1142.11	0.19	0.3	U		68Pi03	
$^{36}\text{Cl}(\varepsilon)^{36}\text{S}$	1180	15			-2.5	U		64Li10	
	1160	18			-1.0	U		65Be19	
$^{36}\text{S}(\text{p}, \text{n})^{36}\text{Cl}$	-1924.64	0.31	-1924.45	0.19	0.6	1	37	36 $^{36}\text{S}$	01Wa50
$^{36}\text{Cl}(\beta^-)^{36}\text{Ar}$	708.7	0.6	709.52	0.04	1.4	U		67Sp06	
$^{36}\text{Ar}(\text{p}, \text{n})^{36}\text{K}$	-13588.3	8.	-13596.8	0.3	-1.1	U	BNL	71Go18	Z
	-13618	23			0.9	U		71Ja09	
$^{36}\text{Ar}(\text{d}, \text{t})^{36}\text{K}$	-12930	40	-12833.1	0.3	2.4	U	Duk	70Dz04	
$*^{36}\text{S}(^{64}\text{Ni}, ^{66}\text{Zn})^{34}\text{Si}$	Calibrated with $^{36}\text{S}(^{64}\text{Ni}, ^{62}\text{Ni})M=-26862(12)$ now -26861(7)						AHW	**	
$*^{36}\text{S}(\text{d}, \alpha)^{34}\text{P}$	Original error 1.2 judged too small						GAu	**	
$*^{36}\text{Ar}(\text{p}, \text{t})^{34}\text{Ar}^i$	IT=7950(50); Q rebuilt, estimated with 72Pa02 Q=-19523 for ground state						MMC12a**		
$*^{36}\text{Ar}(\text{p}, \text{t})^{34}\text{Ar}^i$	IT=7925(5); Q rebuilt with author's Q=-19523 for ground state						MMC128**		
$*^{36}\text{S}(^{64}\text{Ni}, ^{65}\text{Zn})^{35}\text{Si}$	M-A=-14482(59) for average of ground state and 54, 114, 207 levels						86Sm05	**	
$*^{36}\text{S}(^{14}\text{C}, ^{15}\text{N})^{35}\text{P}$	Original report -2693 is a typo						GAu	**	
$^{37}\text{Al-u}$	10310	579	10530	130	0.4	o	GA3	1.0	91Or01
	10900	450			-0.8	o	GA5	1.0	00Sa21
	10531	129			2		GA7	1.0	07Ju03
$^{37}\text{Si-u}$	-7550	1410	-7080	90	0.3	o	GA1	1.0	87Gi05
	-7310	305			0.8	o	GA3	1.0	91Or01
	-6930	150			-0.7	2	TO4	1.5	91Zh24
	-7107	97			0.3	2	GA7	1.0	07Ju03

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{38}\text{Al-u}$	15240	1500	17400	270	1.4	o		GA4	1.0	00Sa21		
	17980	920		-0.6	o			GA5	1.0	00Sa21		
	17402	268		2				GA7	1.0	07Ju03		
$^{38}\text{Si-u}$	-4510	180	-4480	80	0.2	o		GA4	1.0	00Sa21		
	-4020	290		-1.1	U			TO4	1.5	91Zh24		
	-4100	320		-1.2	o			GA5	1.0	00Sa21		
	-4477	75		2				GA7	1.0	07Ju03		
$^{38}\text{P-u}$	-14420	620	-15750	90	-2.1	U		GA1	1.0	87Gi05		
	-15910	140		1.2	2			GA4	1.0	00Sa21		
	-15530	150		-1.0	2			TO4	1.5	91Zh24		
	-16110	310		1.2	U			GA5	1.0	00Sa21		
	-15717	75		-0.3	o			GT1	1.5	04Ma.A		
	-15660	100		-0.6	2			GT2	1.5	08Kn.A		
$^{38}\text{Ca-H}_2\text{O}_2$	-60460.24	0.30	-60460.21	0.21	0.1	o		MS1	1.0	06Bo11		
	-60460.24	0.30		0.1	1	48	48 $^{38}\text{Ca}$	MS1	1.0	07Ri08		
$^{38}\text{Ar}-^{39}\text{K}_{974}$	-1917.88	0.37	-1918.01	0.21	-0.4	1	32	32 $^{38}\text{Ar}$	MA8	1.0	02He23	
$^{38}\text{K}-^{39}\text{K}_{974}$	4430.88	0.44	4431.00	0.21	0.3	1	23	23 $^{38}\text{K}$	MA8	1.0	07Ya08	
$^{38}\text{Ca}^{19}\text{F}-^{39}\text{K}_{1,462}$	27783.80	0.63	27783.50	0.21	-0.5	U		MA8	1.0	07Ge07		
$^{38}\text{K}-^{38}\text{Ar}$	6348.974	0.068	6349.01	0.05	0.5	1	50	27 $^{38}\text{K}$	JY1	1.0	09Er07	
$^{38}\text{K}^m-^{38}\text{Ar}$	6488.743	0.049	6488.73	0.04	-0.3	1	72	45 $^{38}\text{K}^m$	JY1	1.0	09Er07	
$^{38}\text{Ar}-^{38}\text{Ca}$	-13587.17	0.12	-13587.12	0.07	0.4	1	32	17 $^{38}\text{Ar}$	JY1	1.0	11Er02	
$^{38}\text{K}^m-^{38}\text{K}$	139.698	0.065	139.72	0.05	0.3	-		JY1	1.0	09Er07		
	139.78	0.14		-0.4	-			JY1	1.0	11Er02		
ave.	139.71	0.06		0.1	1	60	34 $^{38}\text{K}^m$			average		
$^{38}\text{Ca}-^{38}\text{K}$	7238.04	0.10	7238.11	0.07	0.7	1	45	25 $^{38}\text{K}$	JY1	1.0	11Er02	
$^{38}\text{K}^m-^{38}\text{Ca}$	-7098.43	0.11	-7098.39	0.07	0.4	1	37	21 $^{38}\text{K}^m$	JY1	1.0	11Er02	
$^{24}\text{Mg}({}^{16}\text{O},2\text{n})^{38}\text{Ca}$	-12727	30	-12754.70	0.19	-0.9	U				72Zi02	*	
$^{35}\text{Cl}(\alpha,\text{p})^{38}\text{Ar}$	837.2	2.4	837.22	0.20	0.0	U		Har		75Sq01		
$^{35}\text{Cl}(\alpha,\text{n})^{38}\text{K}$	-5862.1	1.5	-5859.19	0.20	1.9	U		Mun		76Sh24	Z	
	-5858.7	2.9		-0.2	U			Har		75Sq01	*	
$^{36}\text{S}(\text{t,p})^{38}\text{S}$	3838	30	3858	7	0.7	U				85Da15		
$^{36}\text{S}({}^{14}\text{C},{}^{12}\text{C})^{38}\text{S}$	-781	10	-783	7	-0.2	R		Mun		84Ma49		
$^{36}\text{Ar}({}^3\text{He},\text{n})^{38}\text{Ca}$	-1365	21	-1313.14	0.20	2.5	U		CIT		69Sh04		
$^{37}\text{Cl}(\text{n},\gamma)^{38}\text{Cl}$	6107.84	0.30	6107.88	0.08	0.1	U				73Sp06	Z	
	6107.95	0.10		-0.7	2			MMn		81Ke02	Z	
	6107.73	0.15		1.0	2			Bdn		06Fi.A		
$^{37}\text{Cl}(\text{d,p})^{38}\text{Cl}$	3885	8	3883.32	0.08	-0.2	U		MIT		64Sp12		
	3883.28	0.50		0.1	U			Rez		90Pi05	*	
$^{37}\text{Cl}(\text{p},\gamma)^{38}\text{Ar}$	10243.0	1.0	10242.27	0.20	-0.7	U				68En01	Z	
$^{38}\text{S}(\beta^-)^{38}\text{Cl}$	2947	20	2937	7	-0.5	3				71En01		
	2936	12		0.1	3					72Vi11		
$^{38}\text{Cl}(\beta^-)^{38}\text{Ar}$	4913	5	4916.73	0.22	0.7	U				68Va06		
$^{38}\text{K}(\beta^+)^{38}\text{Ar}$	5870	30	5914.07	0.04	1.5	U				56Gr07	*	
	5790	50		2.5	U					67Va27	*	
$^{38}\text{Ar}(\text{p,n})^{38}\text{K}$	-6695.5	4.	-6696.41	0.04	-0.2	U		Har		75Sq01		
	-6695.65	0.70		-1.1	U					78Ja06	Z	
$^{38}\text{Ar}(\text{p,n})^{38}\text{K}^m$	-6826.73	0.12	-6826.56	0.04	1.4	U		Auc		98Ha36	Z	
$*^{24}\text{Mg}({}^{16}\text{O},2\text{n})^{38}\text{Ca}$	E( ${}^{16}\text{O}$ )=24880(30) to 2 <sup>+</sup> level at 2213.13(0.10) keV									Ens082	**	
$*^{35}\text{Cl}(\alpha,\text{n})^{38}\text{K}$	Q=-5989.1(2.9,Z) to $^{38}\text{K}^m$ at 130.15(0.04) keV									Nub127	**	
$*^{37}\text{Cl}(\text{d,p})^{38}\text{Cl}$	Estimated systematic error 0.5 added to statistical error 0.064 keV									AHW	**	
$*^{38}\text{K}(\beta^+)^{38}\text{Ar}$	$E_{\beta^+}=2680(30)$ 2600(50) respectively, to 2 <sup>+</sup> level at 2167.64 keV									Ens082	**	
$^{39}\text{Al-u}$	22970	1580	22540#	540#	-0.3	o		GA5	1.0	00Sa21		
	21653	676		1.3	D			GA7	1.0	07Ju03	*	
$^{39}\text{Si-u}$	1900	540	2490	100	1.1	o		GA4	1.0	00Sa21		
	2210	490		0.6	o			GA5	1.0	00Sa21		
	2491	97		2				GA7	1.0	07Ju03		
$^{39}\text{P-u}$	-13890	140	-13770	100	0.8	2		GA4	1.0	00Sa21		
	-13580	160		-0.8	2			TO4	1.5	91Zh24		
	-13870	280		0.3	2			GA5	1.0	00Sa21		
	-13602	140		-0.8	2			GT1	1.5	04Ma.A		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{39}\text{K}-^{23}\text{Na}_{1.696}$	-18942.88	0.58	-18942.216	0.006	0.8	U		Ma8	1.5	08Mu05	
$^{39}\text{Ca-u}$	-29278.8	6.4	-29289.2	0.6	-1.6	U		LZ1	1.0	11Tu09	
$^{39}\text{K}-^{36}\text{Ar}_{1.083}$	-1144.65	0.44	-1144.86	0.03	-0.5	U		MA8	1.0	02He23	
	-1144.83	0.40			-0.1	U		MA8	1.0	03B117	
$^{39}\text{K}-^{37}\text{K}_{1.054}$	-8231.29	0.53	-8231.70	0.11	-0.5	U		Ma8	1.5	08Mu05	
$^{39}\text{Ca}^{19}\text{F}-^{39}\text{K}_{1.487}$	23082.43	0.64	23082.4	0.6	0.0	1	100	100 $^{39}\text{Ca}$	MA8	1.0	08Ge08
$^{39}\text{K}-^{40}\text{Ar}$	1323.3631	0.0043	1323.363	0.004	-0.1	1	100	100 $^{39}\text{K}$	FS1	1.0	10Mo30
$^{39}\text{K(p,}\alpha^{36}\text{Ar}$	1287	7	1288.404	0.027	0.2	U		MIT	64Sp12		
$^{37}\text{Cl(t,p)}^{39}\text{Cl}$	5701.9	2.5	5699.5	1.7	-1.0	2		Str	84An03		
$^{39}\text{K(p,}^3\text{He)}^{37}\text{Ar}^i$	-15493.4	6.				2		MSU	73Be23	*	
$^{39}\text{K(p,t)}^{37}\text{K}^i$	-21713.1	3.	-21718.1	0.8	-1.7	U		MSU	73Be23	*	
$^{39}\text{Sc}^i(2p)^{37}\text{K}$	4969	120	4878	28	-0.8	U		Lis	90De43	*	
	4877	40			0.0	3		Brk	92Mo15	*	
	4880	40			0.0	3		Bor	01Gi01		
$^{38}\text{Ar(p,}\gamma^{39}\text{K}$	6380.9	1.1	6381.34	0.19	0.4	U			70Ma31	Z	
	6382.2	0.8			-1.1	U			84Ha27	Z	
$^{39}\text{K(p,d)}^{38}\text{K}$	-10851	2	-10853.19	0.20	-1.1	U		MSU	74Wi17		
$^{39}\text{K}({}^3\text{He},\alpha)^{38}\text{K}$	7498	15	7499.86	0.20	0.1	U		Roc	66Bl04		
	7483	10			1.7	U		Roc	72Fe06		
$^{39}\text{Cl}(\beta^-)^{39}\text{Ar}$	3440	20	3442	5	0.1	U			56Pe38		
$^{39}\text{Ar}(\beta^-)^{39}\text{K}$	565	5				2			50Br66		
$^{39}\text{Ca}(\beta^+)^{39}\text{K}$	6512	25	6524.5	0.6	0.5	U			58Ki40		
$^{39}\text{K(p,n)}^{39}\text{Ca}$	-7302.5	6.	-7306.8	0.6	-0.7	U		Tal	70Ke08		
	-7314.9	1.8			4.5	B			78Ra15	Z	
* $^{39}\text{Al-u}$	Trends from Mass Surface TMS suggest $^{39}\text{Al}$ 830 less bound										
* $^{39}\text{K(p,}^3\text{He)}^{37}\text{Ar}^i$	M-A=-25954(6); rebuilt Q=-15493.8(6.) with Ame1971; recalibration +0.35										
* $^{39}\text{K(p,t)}^{37}\text{K}^i$	M-A=-19753(3); Q rebuilt with Ame1971										
* $^{39}\text{Sc}^i(2p)^{37}\text{K}$	$E_{2p}=3600(120)$ to $1/2^+$ level at 1370.85 keV										
* $^{39}\text{Sc}^i(2p)^{37}\text{K}$	Other possibl. $^{39}\text{Sc}^i(\alpha)^{35}\text{K}=3600(120)$ keV										
* $^{39}\text{Sc}^i(2p)^{37}\text{K}$	$E_{2p}=4750(40)$ p+p at 90 degrees; deduced $Q=E_{2p}[1+Mp/M(^{37}\text{K})]$										
$^{40}\text{Si-u}$	5290	1010	5830	250	0.5	o		GA4	1.0	00Sa21	
	6180	740			-0.5	o		GA5	1.0	00Sa21	
	5829	247				2		GA7	1.0	07Ju03	
$^{40}\text{P-u}$	-8800	200	-8670	120	0.7	o		GA4	1.0	00Sa21	
	-8950	210			0.9	2		TO4	1.5	91Zh24	
	-8200	320			-1.5	o		GA5	1.0	00Sa21	
	-8621	129			-0.4	2		GA7	1.0	07Ju03	
$^{40}\text{S-u}$	-24440	190	-24517	4	-0.4	o		GA4	1.0	00Sa21	
	-24530	250			0.0	U		TO4	1.5	91Zh24	
	-24910	340			1.2	o		GA5	1.0	00Sa21	
	-24627	129			0.8	U		GA7	1.0	07Ju03	
$\text{C}_3\text{H}_4-^{40}\text{Ar}$	68917.0053	0.0035	68917.0052	0.0024	0.0	1	46	46 $^{40}\text{Ar}$	MI1	1.0	95Di08
$\text{C}_2\text{D}_8-^{40}\text{Ar}$	150431.1045	0.0040	150431.1012	0.0024	-0.8	1	36	33 $^{40}\text{Ar}$	MI1	1.0	95Di08
$^{20}\text{Ne}_2-^{40}\text{Ar}$	22497.2245	0.0042	22497.228	0.003	1.0	-			MI1	1.0	95Di08
	22497.2280	0.0060			0.1	-			MI1	1.0	95Di08
ave.	22497.226	0.003			0.9	1	74	60 $^{20}\text{Ne}$			average
$^{40}\text{Ar-u}$	-37616.878	0.040	-37616.8763	0.0024	0.0	U		ST2	1.0	02Bf02	
$^{40}\text{Ca-H}_4$	-350410.425	0.022	-350410.426	0.022	0.0	1	99	99 $^{40}\text{Ca}$	ST2	1.0	06Na18
$^{40}\text{S O-}^{41}\text{K}_{1.366}$	22541	16	22544	4	0.2	U		MS1	1.0	09Ri12	
$^{40}\text{S-}^{41}\text{K}_{.976}$	12752.0	9.4	12741	4	-1.2	1	21	21 $^{40}\text{S}$	MS1	1.0	09Ri12
$^{40}\text{S-}^{40}\text{Ar}$	13096.6	4.8	13099	4	0.6	1	79	79 $^{40}\text{S}$	MS1	1.0	09Ri12
$^{40}\text{Ca-}^{40}\text{Ar}$	208.2	0.5	207.740	0.022	-0.4	U		J3	2.5	68Fu11	
$^{40}\text{Ca}({}^3\text{He,}^8\text{Li)}^{35}\text{K}$	-29693	20	-29688.1	0.5	0.2	U		MSU	76Be08		
$^{40}\text{Ca}(\alpha,{}^8\text{He)}^{36}\text{Ca}$	-57580	40				2		Tex	77Tr03		
$^{40}\text{Ar(n,}\alpha^{37}\text{S}$	-2500	50	-2497.08	0.20	0.1	U			55Be78		
	-2490	50			-0.1	U		Ric	64Da11		
$^{40}\text{K(n,}\alpha^{37}\text{Cl}$	3866	7	3872.43	0.08	0.9	U		BNL	68Sc01		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{40}\text{Ca}(\text{p},\alpha)^{37}\text{K}$	-5179	9	-5182.13	0.10	-0.3	U			CIT	66Mc13	
$^{40}\text{Ca}({}^3\text{He},{}^6\text{He})^{37}\text{Ca}$	-24270	50	-24371.2	0.6	-2.0	U			Brk	68Bu02	
	-24368	25			-0.1	U			MSU	73Be23	*
$^{40}\text{Ar}(\text{p},{}^3\text{He})^{38}\text{Cl}^i$	-21092	24				2			Brk	70Ha10	*
$^{40}\text{Ar}(\text{p},\text{t})^{38}\text{Ar}^j$	-26765	31				2				70Ha10	*
$^{40}\text{Ca}(\text{d},\alpha)^{38}\text{K}$	4655	10	4665.17	0.20	1.0	U			MIT	64Sp12	
$^{40}\text{Ca}(\text{p},\text{t})^{38}\text{Ca}$	-20459	25	-20448.72	0.20	0.4	U				66Ha32	
	-20428	11			-1.9	U			MSU	72Pa02	
	-20452	5			0.7	U			MSU	74Se05	
$^{40}\text{Ar}({}^{18}\text{O},{}^{19}\text{Ne})^{39}\text{S}$	-14504	200	-14410	50	0.5	U			Can	84Ho.B	
$^{40}\text{Ar}({}^{13}\text{C},{}^{14}\text{O})^{39}\text{S}$	-16760	50				2			Can	89Dr03	
$^{40}\text{Ar}(\text{t},\alpha)^{39}\text{Cl}$	7256	40	7285.2	1.7	0.7	U			LAI	61Ja07	
$^{40}\text{Ar}(\text{d},{}^3\text{He})^{39}\text{Cl}-{}^{36}\text{Ar}({}^{35}\text{Cl})$	-4024.13	2.42	-4021.7	1.7	1.0	R			Hei	93Ma50	
$^{40}\text{Ar}({}^3\text{He},\alpha)^{39}\text{Ar}^i$	1604	19	1627	7	1.2	2				67Gr01	*
	1631.3	8.0			-0.5	2				72Wi07	*
$^{39}\text{K}(\text{n},\gamma)^{40}\text{K}$	7799.50	0.08	7799.62	0.06	1.5	-			ILn	84Vo01	Z
	7799.56	0.16			0.4	-			Bdn	06Fi.A	
$^{39}\text{K}(\text{d},\text{p})^{40}\text{K}$	5579	10	5575.05	0.06	-0.4	U			MIT	64Sp12	
$^{39}\text{K}(\text{n},\gamma)^{40}\text{K}$	ave.	7799.51	0.07	7799.62	0.06	1.5	1	61	61- $^{40}\text{K}$	average	
$^{39}\text{K}(\text{p},\gamma)^{40}\text{Ca}$	8329.5	0.9	8328.166	0.021	-1.5	U				68Do12	
	8329.6	0.9			-1.6	U				68Li12	*
	8328.24	0.09			-0.8	U				90Ki07	Z
$^{39}\text{K}({}^3\text{He},\text{d})^{40}\text{Ca}$	2845	8	2834.690	0.021	-1.3	U			Oak	67Se10	
$^{40}\text{Ca}({}^3\text{He},\alpha)^{39}\text{Ca}$	4950	20	4942.6	0.6	-0.4	U			Ald	66Hi06	
	4919	15			1.6	U			MIT	71Ra35	
$^{40}\text{Ca}({}^7\text{Li},{}^8\text{He})^{39}\text{Sc}$	-37400	40	-37376	24	0.6	2			MSU	88Mo18	
$^{40}\text{Ca}({}^{14}\text{N},{}^{15}\text{C})^{39}\text{Sc}$	-27670	30	-27683	24	-0.4	2			Can	88Wo07	
$^{40}\text{Sc}^i(\text{p})^{39}\text{Ca}$	3840	120	3830	6	-0.1	o			Lis	90De43	
	3820	30			0.3	U				90Zh.A	*
	3827.7	10.			0.2	2			GSI	97Li25	*
	3830.8	7.			-0.1	2			Lis	98Bh12	
	3841	20			-0.6	U			Bor	07Do17	
$^{40}\text{Cl}(\beta^-)^{40}\text{Ar}$	7320	80	7480	30	2.0	2				89Mi03	
$^{40}\text{Ar}({}^7\text{Li},{}^7\text{Be})^{40}\text{Cl}$	-8375	35	-8340	30	0.9	2				84Fi02	
$^{40}\text{K}(\varepsilon)^{40}\text{Ar}$	1504	7	1504.40	0.06	0.1	U				67Mc10	*
	1497	8			0.9	U				68Az01	*
$^{40}\text{K}(\text{n},\text{p})^{40}\text{Ar}$	2270	5	2286.75	0.06	3.3	B			BNL	68Sc01	
	2286.7	1.0			0.0	U			ILL	81We12	
$^{40}\text{Ar}(\text{p},\text{n})^{40}\text{K}$	-2286.3	1.0	-2286.75	0.06	-0.4	U			Duk	66Pa18	Z
	-2286.3	1.0			-0.4	U				01Wa50	
$^{40}\text{K}(\beta^-)^{40}\text{Ca}$	1325	15	1310.89	0.06	-0.9	U				52Fe16	
	1350	20			-2.0	U				59Ke26	
$^{40}\text{Sc}(\beta^+)^{40}\text{Ca}$	14330	40	14323.0	2.8	-0.2	U				68Ar03	*
$^{40}\text{Ca}(\text{p},\text{n})^{40}\text{Sc}$	-15105.4	2.9				2			Yal	69Ov01	Z
$^{40}\text{Ca}({}^3\text{He},\text{t})^{40}\text{Sc}$	-14490	60	-14341.6	2.8	2.5	U			Bld	65Ri06	
$^{40}\text{Ca}(\pi^+, \pi^-)^{40}\text{Ti}$	-24974	160				2				82Mo12	*
$^{40}\text{Ca}({}^3\text{He},{}^6\text{He})^{37}\text{Ca}$	Average of 2 values with small calibration correction										
$^{40}\text{Ar}(\text{p},{}^3\text{He})^{38}\text{Cl}^i$	IT=8216(25); rebuilt Q=-21093.65(23.68); recalibrated for ${}^{10}\text{B} + 1.5 \text{ keV}$										
$^{40}\text{Ar}(\text{p},\text{t})^{38}\text{Ar}^j$	IT=18784(30); Q rebuilt with ${}^{10}\text{C}=15702.5(1.8)$ from reference										
$^{40}\text{Ar}({}^3\text{He},\alpha)^{39}\text{Ar}^i$	IT=9089(20); Q rebuilt with Ame1961										
$^{40}\text{Ar}({}^3\text{He},\alpha)^{39}\text{Ar}^i$	IT=9075(10); Q rebuilt with Ame1964										
$^{39}\text{K}(\text{p},\gamma)^{40}\text{Ca}$	E(res)=1345.4(0.5) to $2^-$ level at 9641.1(0.8) keV										
$^{40}\text{Sc}^i(\text{p})^{39}\text{Ca}$	Uncertainty not given, estimated from graph: stat(9keV), calib(11)										
$^{40}\text{Sc}^i(\text{p})^{39}\text{Ca}$	$E_p=3731(10)$ ; also $E_p=1330(20)$ , $Q_p=1364.4(20)$ keV to 2468.5 level										
$^{40}\text{Sc}^i(\text{p})^{39}\text{Ca}$	IT=4370(10) in original paper										
$^{40}\text{K}(\varepsilon)^{40}\text{Ar}$	LMK=0.34(0.08) 0.47(0.16) respectively, to $2^+$ level at 1460.851, recalculated Q										
$^{40}\text{Sc}(\beta^+)^{40}\text{Ca}$	$E_{\beta^+}=9580(40)$ to $3^-$ level at 3736.69 keV, and other $E_{\beta^+}$										
$^{40}\text{Ca}(\pi^+, \pi^-)^{40}\text{Ti}$	Recalibrated to ${}^{16}\text{O}(\pi^+, \pi^-)$ Q=-27704(20) keV										
									GAu	**	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{42}\text{Si-u}$	20860	3990	17780#	540#	-0.8	o			GA5	1.0	99Sa.A
	16275	623			2.4	D			GA7	1.0	07Ju03 *
$^{42}\text{P-u}$	260	740	1080	230	1.1	o			GA4	1.0	00Sa21
	1550	630			-0.7	o			GA5	1.0	00Sa21
$^{42}\text{S-u}$	1084	225			2				GA7	1.0	07Ju03
	-18940	150	-18935	3	0.0	U			GA4	1.0	00Sa21
$^{42}\text{Cl-u}$	-18510	350			-0.8	U			TO4	1.5	91Zh24
	-19390	350			1.3	U			GA5	1.0	00Sa21
$^{42}\text{Ar}-^{36}\text{Ar}_{1.167}$	-18934.9	3.0			2				MS1	1.0	09Ri12 *
	920.6	6.2			2				MA6	1.0	01He29
$^{42}\text{S}-^{41}\text{K}_{1.024}$	20151.8	9.5	20156	3	0.4	U			MS1	1.0	09Ri12
$^{42}\text{Sc}-^{42}\text{Ca}$	6898.74	0.22	6898.70	0.10	-0.2	1	22	19 $^{42}\text{Sc}$	JY1	1.0	06Er08
$^{42}\text{Sc}^m-^{42}\text{Ca}$	7560.68	0.23	7560.35	0.11	-1.4	1	25	22 $^{42}\text{Sc}^m$	JY1	1.0	06Er08
$^{42}\text{Ti}-^{42}\text{Ca}$	14431.69	0.71	14431.20	0.26	-0.7	1	13	13 $^{42}\text{Ti}$	JY1	1.0	09Ku19
$^{42}\text{Sc}^m-^{42}\text{Sc}$	661.97	0.24	661.65	0.06	-1.3	U			JY1	1.0	06Er08
	662.50	0.42			-2.0	U			JY1	1.0	09Ku19
$^{42}\text{Ti}-^{42}\text{Sc}$	7532.92	0.34	7532.50	0.24	-1.2	1	50	49 $^{42}\text{Ti}$	JY1	1.0	09Ku19
$^{42}\text{Ti}-^{42}\text{Sc}^m$	6870.19	0.38	6870.85	0.24	1.7	1	40	38 $^{42}\text{Ti}$	JY1	1.0	09Ku19
$^{28}\text{Si}(^{16}\text{O},2\text{n})^{42}\text{Ti}$	-17250	13	-17267.77	0.28	-1.4	U					72Zi02
$^{42}\text{Ca(p,}\alpha)^{39}\text{K}$	118	7	124.00	0.15	0.9	U			MIT	64Sp12	
$^{39}\text{K}(\alpha,\text{n})^{42}\text{Sc}$	-7160	60	-7332.45	0.17	-2.9	U			Yal	61Sm05	
	-7455	30			4.1	B			Tal	65Ne02	
$^{40}\text{Ar(t,p)}^{42}\text{Ar}$	7043	40	7044	6	0.0	U			LA1	61Ja07	
$^{40}\text{Ca}({}^3\text{He,p})^{42}\text{Sc}$	4966	20	4917.00	0.17	-2.4	U			MIT	64Sp12	
	4905	5			2.4	U			ANL	74Ha55	
$^{40}\text{Ca}({}^3\text{He,n})^{42}\text{Ti}$	-2865	6	-2881.82	0.28	-2.8	U			CIT	67Mi02	
$^{41}\text{K(n,}\gamma)^{42}\text{K}$	7533.78	0.15	7533.80	0.11	0.1	2			ILn	85Kr06	Z
	7533.82	0.15			-0.1	2			Bdn	06Fi.A	
$^{41}\text{K(d,p)}^{42}\text{K}$	5314	12	5309.23	0.11	-0.4	U			MIT	64Sp12	
$^{41}\text{K(p,}\gamma)^{42}\text{Ca}$	10275.5	3.4	10276.67	0.15	0.3	U				71Vi14	
$^{41}\text{Ca(n,}\gamma)^{42}\text{Ca}$	11480.63	0.06	11480.67	0.06	0.7	1	91	90 $^{42}\text{Ca}$	ORn	89Ki11	Z
$^{42}\text{Ca}({}^3\text{He,}\alpha)^{41}\text{Ca}$	9102	15	9096.94	0.06	-0.3	U			MIT	71Ra35	
$^{41}\text{Ca(p,}\gamma)^{42}\text{Sc}^r-^{40}\text{Ca}(\alpha)^{41}\text{Sc}^r$	-6.67	0.05	-6.70	0.05	-0.6	1	94	66 $^{42}\text{Sc}^r$	Utr	89Ki11	*
$^{42}\text{Cl}(\beta^-)^{42}\text{Ar}$	9760	220	9510	140	-1.1	R				89Mi03	
$^{42}\text{K}(\beta^-)^{42}\text{Ca}$	3519.	3.5	3525.22	0.18	1.8	U				68Va06	
	3524	6			0.2	U				75Ra09	
$^{42}\text{Sc}(\beta^+)^{42}\text{Ca}$	6342	100	6426.10	0.10	0.8	U				61Ja22	
	6486	100			-0.6	U				63Ro10	*
$^{42}\text{Ca(p,n)}^{42}\text{Sc}$	-7213.7	2.3	-7208.45	0.10	2.3	U			Har	75Fr.A	
$^{42}\text{Ca}({}^3\text{He,t})^{42}\text{Sc}$	-6442.3	0.4	-6444.69	0.10	-6.0	F			Mun	77Vo02	
$^{42}\text{Ca}({}^3\text{He,t})^{42}\text{Sc}-^{27}\text{Al}({}^{27}\text{Si})$	-1611.7	2.6	-1613.74	0.14	-0.8	U			ChR	74Ha35	
$^{42}\text{Ca}({}^3\text{He,t})^{42}\text{Sc}-^{26}\text{Mg}({}^{26}\text{Al})$	-2417.8	3.5	-2421.67	0.11	-1.1	U			ChR	74Ha35	
	-2421.83	0.23			0.7	1	22	14 $^{42}\text{Sc}$	ChR	87Ko34	
$^{42}\text{Sc}^m(\text{IT})^{42}\text{Sc}$	616.28	0.06	616.32	0.06	0.7	1	93	76 $^{42}\text{Sc}^m$		Ens013	
$^{42}\text{Sc}^r(\text{IT})^{42}\text{Sc}$	6076.33	0.08	6076.26	0.07	-0.9	1	84	50 $^{42}\text{Sc}$	Utr	89Ki11	Z
$^{42}\text{Si-u}$	Trends from Mass Surface TMS suggest $^{42}\text{Si}$ 1400 less bound										
$^{42}\text{S-u}$	For original doublet $^{42}\text{S}-(\text{C}_2 \text{ H O}) 1.024$ , $D_M=-21740.2(3.1) \mu\text{eV}$										
$^{41}\text{Ca(p,}\gamma)^{42}\text{Sc}^r-^{40}\text{Ca}(\alpha)^{41}\text{Sc}^r$	Calculated from resonance energy difference = 5.73(0.05) keV										
$^{42}\text{Sc}(\beta^+)^{42}\text{Ca}$	$E_{\beta^+}=2870(100)$ from $^{42}\text{Sc}^m$ at 616.32 to 6 <sup>+</sup> level at 3189.44 keV										
$^{42}\text{Ca}({}^3\text{He,t})^{42}\text{Sc}$	F : rejected in reference of same group										
$^{42}\text{Ca}({}^3\text{He,t})^{42}\text{Sc}-^{26}\text{Mg}({}^{26}\text{Al})$	Q=-2193.52(0.23) to $^{26}\text{Al}^m$ at 228.305 keV										
$^{43}\text{P-u}$	4220	1620	5020	400	0.5	U			GA4	1.0	00Sa21
	6190	1040			-1.1	o			GA5	1.0	00Sa21
$^{43}\text{S-u}$	5024	397			2				GA7	1.0	07Ju03
	-12810	250	-13092	5	-1.1	o			GA4	1.0	00Sa21
$^{43}\text{P-u}$	-13400	900			0.2	U			TO4	1.5	91Zh24
	-12900	460			-0.4	o			GA5	1.0	00Sa21
$^{43}\text{S-u}$	-12958	107			-1.3	U			GA7	1.0	07Ju03
	-13087	22			-0.2	2			MS1	1.0	09Ri12
$^{43}\text{P-u}$	-13092.7	5.5			0.1	2			MS1	1.0	09Ri12

$^{43}\text{P-u}$	4220	1620	5020	400	0.5	U			GA4	1.0	00Sa21
	6190	1040			-1.1	o			GA5	1.0	00Sa21
	5024	397			2				GA7	1.0	07Ju03
$^{43}\text{S-u}$	-12810	250	-13092	5	-1.1	o			GA4	1.0	00Sa21
	-13400	900			0.2	U			TO4	1.5	91Zh24
	-12900	460			-0.4	o			GA5	1.0	00Sa21
	-12958	107			-1.3	U			GA7	1.0	07Ju03
	-13087	22			-0.2	2			MS1	1.0	09Ri12
	-13092.7	5.5			0.1	2			MS1	1.0	09Ri12

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{43}\text{Cl-u}$	-26090	300	-26110	100	-0.1	o		GA4	1.0	00Sa21	
	-25740	200			-1.2	o		TO3	1.5	90Tu01	
	-25970	350			-0.3	U		TO4	1.5	91Zh24	
	-26010	330			-0.3	o		GA5	1.0	00Sa21	
	-25905	86			-1.6	o		GT1	1.5	04Ma.A	
	-25894	140			-1.6	2		GA7	1.0	07Ju03	
	-26361	100			1.7	2		GT2	1.5	08Kn.A	
$^{43}\text{V-u}$	-19234	46				2		LZ1	1.0	12Ya.A	
$^{43}\text{Ar}-^{36}\text{Ar}_{1.194}$	4387.2	5.7				2		MA6	1.0	01He29	
$^{43}\text{K}-^{39}\text{K}_{1.103}$	766.45	0.44				2		MA8	1.0	07Ya08	
$^{43}\text{Ca}(\text{p},\alpha)^{40}\text{K}$	-14	8	-9.27	0.23	0.6	U		MIT		64Sp12	
$^{40}\text{Ca}(\alpha,\text{p})^{43}\text{Sc}$	-3470	30	-3522.3	1.9	-1.7	U				61Ma03	
$^{40}\text{Ca}(\alpha,\text{n})^{43}\text{Ti}$	-11169.9	10.	-11172	7	-0.2	2		Tal		67Al08	
$^{41}\text{K}({}^3\text{He,p})^{43}\text{Ca}^i$	2452	30	2497	14	1.5	1	23	23 $^{43}\text{Ca}^i$	MIT	68Do02	
$^{43}\text{V}^i(2\text{p})^{41}\text{Sc}$	4320	50	4346	15	0.5	U		Lis		92Bo37	
	4292	22			2.5	o		Bor		01Gi01	
	4348	16			-0.1	1	89	89 $^{43}\text{V}^i$	Bor	07Do17	
$^{42}\text{Ca}(\text{n},\gamma)^{43}\text{Ca}$	7933.1	0.5	7932.89	0.17	-0.4	-				69Ar.A	Z
	7933.1	0.5			-0.4	-		Ptn		69Gr08	Z
	7933.1	0.4			-0.5	-				71Bi.A	
	7932.73	0.23			0.7	-		Bdn		06Fi.A	
$^{42}\text{Ca}(\text{d},\text{p})^{43}\text{Ca}$	5716	10	5708.32	0.17	-0.8	U		MIT		64Sp12	
	5707	12			0.1	U		MIT		66Do02	
$^{43}\text{Ca}(\text{d,t})^{42}\text{Ca}$	-1672	10	-1675.66	0.17	-0.4	U		Ald		64Bj02	
$^{42}\text{Ca}(\text{n},\gamma)^{43}\text{Ca}$	ave.	7932.89	0.17	7932.89	0.17	0.0	1	99	99 $^{43}\text{Ca}$	average	
$^{42}\text{Ca}(\text{p},\gamma)^{43}\text{Sc}$	4935	5	4929.8	1.9	-1.0	2				65Br31	
	4929	2			0.4	2				69Wa19	
$^{42}\text{Ca}({}^3\text{He,d})^{43}\text{Sc}^i$	-4808	8	-4795	3	1.6	1	17	17 $^{43}\text{Sc}^i$		66Sc17	*
$^{43}\text{V}^i(\text{p})^{42}\text{Ti}$	8082	45	8097	15	0.3	1	11	11 $^{43}\text{V}^i$	Bor	01Gi01	*
$^{43}\text{K}(\beta^-)^{43}\text{Ca}$	1817	20	1833.4	0.5	0.8	U				54Li24	*
	1815	10			1.8	U				59Be72	*
$^{43}\text{Sc}(\beta^+)^{43}\text{Ca}$	2200	20	2220.7	1.9	1.0	U				52Ha44	
	2220	10			0.1	U				54Li42	
$^{43}\text{Ca}(\text{p,n})^{43}\text{Sc}$	-3005	10	-3003.1	1.9	0.2	U		Har		60Mc12	Y
	-2998	10			-0.5	U				67Mc07	
$^{43}\text{Ca}({}^3\text{He,t})^{43}\text{Sc}^i$	-6467	8	-6471	3	-0.5	-				71Al19	*
	-6469	4			-0.5	-				71Be29	*
	ave.	6469	4		-0.7	1	83	83 $^{43}\text{Sc}^i$		average	
* $^{43}\text{S-u}$	For original doublet $^{43}\text{S}-(\text{C}_3 \text{H}_5 \text{O})0.754$ , $D_M=-38753(22) \mu\text{u}$										
* $^{43}\text{S-u}$	For original doublet $^{43}\text{S C H}-(\text{C}_3 \text{H}_5 \text{O})0.982$ , $D_M=-38694.8(5.5) \mu\text{u}$										
* $^{42}\text{Ca}({}^3\text{He,d})^{43}\text{Sc}^i$	IT=4238(8); Q rebuilt with Ame1961										
* $^{43}\text{V}^i(\text{p})^{42}\text{Ti}$	$Q_p=4590(45)$ followed by $\gamma$ 's 1938+1554 keV										
* $^{43}\text{K}(\beta^-)^{43}\text{Ca}$	$E_{\beta^-}=827(20)$ 825(10) respectively, to $3/2^+$ level at 990.257 keV										
* $^{43}\text{Ca}({}^3\text{He,t})^{43}\text{Sc}^i$	E $_{\beta^-}=827(20)$ 825(10) respectively, to $3/2^+$ level at 990.257 keV										
* $^{43}\text{Ca}({}^3\text{He,t})^{43}\text{Sc}^i$	IT=4226(8); Q rebuilt with Ame1965										
* $^{43}\text{Ca}({}^3\text{He,t})^{43}\text{Sc}^i$	CDE=7238(4) Q=-6474(4); recalibration +6 keV for $^{42}\text{Ca}(\text{p,n})^{42}\text{Sc}$ from Ame1961										
$^{44}\text{P-u}$	10070	966	11210#	540#	1.2	D		GA7	1.0	07Ju03	*
$^{44}\text{S-u}$	-10510	580	-9881	6	1.1	o		GA4	1.0	00Sa21	
	-8960	620			-1.5	o		GA5	1.0	00Sa21	
	-9769	150			-0.7	o		GA7	1.0	07Ju03	
$^{44}\text{S-C}_2\text{H}_4\text{O}$	-36095.9	5.6				2		MS1	1.0	09Ri12	*
$^{44}\text{Cl-u}$	-21700	130	-22130	200	-3.3	B		GA4	1.0	00Sa21	
	-21500	500			-0.8	U		TO3	1.5	90Tu01	
	-21450	270			-1.7	U		TO4	1.5	91Zh24	
	-22150	370			0.1	2		GA5	1.0	00Sa21	
	-22115	161			0.0	2		GT1	1.5	04Ma.A	
$^{44}\text{Sc-u}$	-40480	410	-40597.1	1.9	-0.2	U		TO6	1.5	98Ba.A	*
$^{44}\text{V-u}$	-25890	130				2		GT1	1.5	04St05	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{44}\text{Ar}-^{39}\text{K}_{1.128}$	5862.9	1.7				2			MA8	1.0	03Bi17	
$^{44}\text{K}-^{39}\text{K}_{1.128}$	2526.07	0.45				2			MA8	1.0	07Ya08	
	2529.2	2.2	2526.1	0.5	-1.4	o			TT1	1.0	10La.A	
	2529.1	1.7			-1.8	U			TT1	1.0	12La05	
$^{40}\text{Ca}(\alpha,\gamma)^{44}\text{Ti}$	5127.1	0.7				2					82Di05	
$^{44}\text{Ca}(\text{p},\alpha)^{41}\text{K}$	-1058	10	-1045.1	0.3	1.3	U			MIT		64Sp12	
$^{41}\text{K}(\alpha,\text{n})^{44}\text{Sc}$	-3420	60	-3390.0	1.8	0.5	U			Yal		61Sm05	
$^{44}\text{Ca}(\text{d},\alpha)^{42}\text{K}$	4273	20	4264.2	0.3	-0.4	U					77Pa24	
$^{42}\text{Ca}(\text{t,p})^{44}\text{Ca}$	10593	15	10582.25	0.29	-0.7	U			Ald		67Bj06	
$^{42}\text{Ca}({}^3\text{He,p})^{44}\text{Sc}$	6920	20	6911.0	1.7	-0.5	U			Hei		70Sc22	
$^{43}\text{Ca}(\text{n},\gamma)^{44}\text{Ca}$	11130.6	0.5	11131.16	0.23	1.1	-					69Ar.A Z	
	11130.1	0.7			1.5	-					72Wh02 Z	
	11131.54	0.29			-1.3	-			Bdn		06Fi.A	
$^{43}\text{Ca}(\text{d,p})^{44}\text{Ca}$	8922	14	8906.59	0.23	-1.1	U			MIT		64Sp12	
	8920	10			-1.3	U			Kop		67Bj02	
$^{44}\text{Ca}({}^3\text{He},\alpha)^{43}\text{Ca}$	9452	15	9446.46	0.23	-0.4	U			MIT		71Ra35	
$^{43}\text{Ca}(\text{n},\gamma)^{44}\text{Ca}$	ave.	11131.17	0.24	11131.16	0.23	0.0	1	99	98 $^{44}\text{Ca}$		average	
$^{44}\text{Ca}(\text{p,d})^{43}\text{Ca}^i$	-16880	30	-16901	14	-0.7	-					72Ma23 *	
$^{44}\text{Ca}(\text{d,t})^{43}\text{Ca}^i$	-12858.7	19.7	-12869	14	-0.5	-					76Do05 *	
$^{44}\text{Ca}(\text{p,d})^{43}\text{Ca}^i$	ave.	-16888	16	-16901	14	-0.8	1	77	77 $^{43}\text{Ca}^i$		average	
$^{43}\text{Ca}(\text{p},\gamma)^{44}\text{Sc}$	6694	2	6696.1	1.7	1.1	2					71Po.A	
$^{43}\text{Ca}({}^3\text{He,d})^{44}\text{Sc}^i$	-1583	5	-1575.1	2.5	1.6	1	24		24 $^{44}\text{Sc}^i$		68Sc15	
$^{44}\text{V}(\text{p})^{43}\text{Ti}$	950	50	908	11	-0.8	U			Lis		92Bo37	
	908	11			3				Bor		07Do17	
$^{44}\text{K}(\beta^-)^{44}\text{Ca}$	5580	80	5687.2	0.5	1.3	U					70Le05	
$^{44}\text{Ca}(\text{t},{}^3\text{He})^{44}\text{K}$	-5660	40	-5668.6	0.5	-0.2	U			LAI		70Aj01	
$^{44}\text{Sc}(\beta^+)^{44}\text{Ca}$	3642	5	3652.7	1.8	2.1	R					50Br52 *	
	3650	5			0.5	R					55Bl23 *	
$^{44}\text{Ca}(\text{p,n})^{44}\text{Sc}$	-4410	15	-4435.0	1.8	-1.7	U			Har		60Mc12 Y	
	-4447	10			1.2	U					67Mc07	
$^{44}\text{Ca}({}^3\text{He,t})^{44}\text{Sc}^i$	-6444	4	-6449.0	2.5	-1.3	-					71Be29 *	
	-6449	4			0.0	-					72Ma50 *	
	ave.	-6446.5	2.8		-0.9	1	76		76 $^{44}\text{Sc}^i$		average	
* $^{44}\text{P}-\text{u}$	Trends from Mass Surface TMS suggest $^{44}\text{P}$ 1060 less bound											
* $^{44}\text{S}-\text{C}_2\text{H}_4\text{O}$	For original doublet $^{44}\text{S}$ C H-C <sub>3</sub> H <sub>5</sub> O											
* $^{44}\text{Sc}-\text{u}$	M-A=-37570(370) keV for mixture gs+m at 270.95 keV											
* $^{44}\text{V}-\text{u}$	M-A=-23980(80) keV for mixture gs+m at 270#100 keV											
* $^{44}\text{V}-\text{u}$	Authors have unduely increased the lower error to 380 keV											
* $^{44}\text{Ca}(\text{p,d})^{43}\text{Ca}^i$	IT=7970(30); Q rebuilt with Ame1965											
* $^{44}\text{Ca}(\text{d,t})^{43}\text{Ca}^i$	IT=7980(20); Q rebuilt with Ame1971											
* $^{43}\text{Ca}({}^3\text{He,d})^{44}\text{Sc}^i$	IT=2796(5); Q rebuilt with Ame1965											
* $^{44}\text{Sc}(\beta^+)^{44}\text{Ca}$	$E_{\beta^+}=1463(5)$ 1471(5) respectively, to 2 <sup>+</sup> level at 1157.019 keV											
* $^{44}\text{Ca}({}^3\text{He,t})^{44}\text{Sc}^i$	EDE=7214(4) Q=-6450(4); recalibration +6 keV for $^{42}\text{Ca}(\text{p,n})^{42}\text{Sc}$ from Ame1961											
* $^{44}\text{Ca}({}^3\text{He,t})^{44}\text{Sc}^i$	IT=2781(5); Q rebuilt with Ame1971											
$^{45}\text{S}-\text{u}$	-3610	2460	-4280	740	-0.3	o			GA4	1.0	00Sa21	
	-3330	2880			-0.3	o			GA5	1.0	00Sa21	
	-4283	741			2				GA7	1.0	07Ju03	
$^{45}\text{Cl}-\text{u}$	-19690	140	-19710	110	-0.1	o			GA4	1.0	00Sa21	
	-20300	700			0.6	U			TO3	1.5	90Tu01	
	-19850	460			0.3	o			GA5	1.0	00Sa21	
	-19710	107			2				GA7	1.0	07Ju03	
$^{45}\text{V}-\text{u}$	-34225.7	9.7	-34225	9	0.1	1	78		78 $^{45}\text{V}$	LZ1	1.0	11Tu09
$^{45}\text{Cr}-\text{u}$	-20390	540	-20950	40	-0.7	U			GT1	1.5	04St05 *	
	-20950	38			2				LZ1	1.0	12Zh34 *	
$^{45}\text{Ar}-^{39}\text{K}_{1.154}$	9922.45	0.55			2				MA8	1.0	03Bi17	
$^{45}\text{K}-^{39}\text{K}_{1.154}$	2574.21	0.56			2				MA8	1.0	07Ya08	
$^{45}\text{Sc}(\text{p},\alpha)^{42}\text{Ca}$	2343	8	2340.1	0.7	-0.4	U			MIT		64Sp12	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{45}\text{Sc}(\text{d},\alpha)^{43}\text{Ca}$	8028	12	8048.4	0.7	1.7	U			MIT	64Sp12	
	8059	12		-0.9	U				Kop	67Ha.A	
$^{43}\text{Ca}({}^3\text{He},\text{p})^{45}\text{Sc}$	10310	20	10304.6	0.7	-0.3	U			Hei	70Sc22	
$^{45}\text{Fe}(2\text{p})^{45}\text{Cr}$	1140	40	1154	16	0.3	o				02Gi09	
	1100	100		0.5	U					02Pf02	
	1154	16		3						05Do20	
$^{44}\text{Ca}(\text{n},\gamma)^{45}\text{Ca}$	7414.8	1.0	7414.81	0.17	0.0	U				69Ar.A	Z
	7414.83	0.3		-0.1	-				MMn	80Is02	Z
	7414.79	0.21		0.1	-				Bdn	06Fi.A	
$^{44}\text{Ca}(\text{d},\text{p})^{45}\text{Ca}$	5184	4	5190.24	0.17	1.6	U			MIT	68Be36	
$^{44}\text{Ca}(\text{n},\gamma)^{45}\text{Ca}$	ave.	7414.80	0.17	7414.81	0.17	0.0	1	99	$^{97}\text{Ca}$	average	
$^{44}\text{Ca}(\text{p},\gamma)^{45}\text{Sc}$		6887.8	1.2	6891.5	0.8	3.1	B			74Sc02	Z
$^{45}\text{Sc}({}^3\text{He},\alpha)^{44}\text{Sc}$	9249	15	9251.1	1.9	0.1	U			MIT	71Ra09	
$^{45}\text{Sc}(\text{d},\text{t})^{44}\text{Sc}^i$	-7846	10	-7847.0	2.6	-0.1	U				71Oh01	*
$^{45}\text{V}(\text{p})^{44}\text{Ti}$	3190	50	3170	9	-0.4	U				74Ja10	*
	3170	9		3					Bor	07Do17	*
$^{45}\text{K}(\beta^-)^{45}\text{Ca}$	4180	200	4196.5	0.6	0.1	U				64Mo18	
$^{45}\text{Ca}(\beta^-)^{45}\text{Sc}$	258	2	259.0	0.8	0.5	1	15	$^{13}\text{Sc}$		65Fr12	
$^{45}\text{Ti}(\beta^+)^{45}\text{Sc}$	2066	5	2062.1	0.5	-0.8	U				66Po04	
$^{45}\text{Sc}(\text{p},\text{n})^{45}\text{Ti}$	-2844.2	4.	-2844.4	0.5	-0.1	U			Ric	55Br16	Y
	-2843.6	4.0		-0.2	U				Can	70Kn03	
	-2844.4	0.5		2					PTB	85Sc16	Z
$^{45}\text{Sc}({}^3\text{He},\text{t})^{45}\text{Ti}^i$	-6801	4	-6800	3	0.3	1	61	$^{60}\text{Ti}^i$		71Be29	*
* $^{45}\text{Cr-u}$	M-A=-18940(500) keV for mixture gs+m at 107(1) keV										
* $^{45}\text{Cr-u}$	Original error 19 increased for possible isomeric contamination (<10%)										
* $^{45}\text{Sc}(\text{d},\text{t})^{44}\text{Sc}^i$	IT=2784(10) combined with Q=-5062; Q rebuilt										
* $^{45}\text{V}(\text{p})^{44}\text{Ti}$	$Q_p$ =2060(50) 2087(9) respectively, to $2^+$ level at 1083.06 keV										
* $^{45}\text{Sc}({}^3\text{He},\text{t})^{45}\text{Ti}^i$	CDE=7571(4) Q=-6807(4); recalibration +6 keV for $^{42}\text{Ca}(\text{p},\text{n})^{42}\text{Sc}$ from Ame1961										
$^{46}\text{Cl-u}$	-16000	860	-14830	170	1.4	o			GA4	1.0	00Sa21
	-14940	1730		0.1	o				GA5	1.0	00Sa21
	-14826	172		2					GA7	1.0	07Ju03
$^{46}\text{Ar-u}$	-32013	107	-31920	40	0.6	U			GT1	1.5	04Ma.A
$^{46}\text{Sc-u}$	-44650	230	-44831.7	0.8	-0.5	U			TO6	1.5	98Ba.A
$\text{C}_2\text{H}_8\text{N}-{}^{46}\text{Ti}$	113071	7	113046.5	0.4	-0.9	U			R09	4.0	72De11
$\text{C}^{13}\text{C}\text{H}_5\text{O}-{}^{46}\text{Ti}$	84799	13	84766.9	0.4	-0.6	U			R09	4.0	72De11
$\text{C}\text{H}_4\text{N}-{}^{46}\text{Ti}$	76672	8	76661.0	0.4	-0.3	U			R09	4.0	72De11
$\text{C}_5\text{H}_2\text{O}-{}^{46}\text{Ti}$	68145	15	68107.7	0.4	-0.6	U			R09	4.0	72De11
$\text{C}\text{H}_2\text{O}_2-{}^{46}\text{Ti}$	52881	14	52851.6	0.4	-0.5	U			R09	4.0	72De11
$^{13}\text{C}\text{H}\text{O}_2-{}^{46}\text{Ti}$	48423	9	48381.4	0.4	-1.2	U			R09	4.0	72De11
$^{46}\text{Ti}-{}^{22}\text{Ne}_{2,091}$	-29358.77	0.48	-29358.6	0.3	0.4	1	53	$^{53}\text{Ti}$	CP1	1.0	05Sa44
$^{46}\text{V}-{}^{22}\text{Ne}_{2,091}$	-21787.12	0.58	-21787.5	0.4	-0.7	1	37	$^{37}\text{V}$	CP1	1.0	05Sa44
$^{46}\text{K}-{}^{39}\text{K}_{1,179}$	4771.64	0.78			2				MA8	1.0	07Ya08
$^{46}\text{V}-{}^{46}\text{Ti}$	7571.67	0.41	7571.06	0.10	-1.5	U			CP1	1.0	05Sa44
	7571.41	0.33			-1.1	o			JY1	1.0	06Er08
	7571.10	0.11			-0.4	1	86	$^{59}\text{V}$	JY1	1.0	11Er02
$^{32}\text{S}({}^{16}\text{O},2\text{n})^{46}\text{Cr}$	-17421.6	20.			2					72Zi02	
$^{46}\text{Ti}(\text{p},\alpha)^{43}\text{Sc}$	-3065	14	-3074.8	1.9	-0.7	U			MIT	64Sp12	*
	-3083	10		0.8	U				Tal	65Pi01	
$^{46}\text{Ti}({}^3\text{He},{}^6\text{He})^{43}\text{Ti}$	-17470	12	-17467	7	0.3	R			MSU	77Mu03	*
$^{44}\text{Ca}(\text{t},\text{p})^{46}\text{Ca}$	9339	20	9330.6	2.3	-0.4	U			Kop	67Bj06	
$^{44}\text{Ca}({}^3\text{He},\text{p})^{46}\text{Sc}$	7940	20	7934.1	0.8	-0.3	U			Hei	70Sc22	
$^{46}\text{Ti}(\text{d},\alpha)^{44}\text{Sc}$	4400	12	4399.8	1.8	0.0	U			Kop	67Ha.A	
$^{46}\text{Ti}(\text{p},\text{t})^{44}\text{Ti}$	-14235	10	-14239.3	0.8	-0.4	U			Oak	72Ra05	
$^{46}\text{Ca}(\text{t},\alpha)^{45}\text{K}$	5998	10	6002.1	2.3	0.4	U			Ald	68Sa09	
$^{46}\text{Ca}(\text{d},\text{t})^{45}\text{Ca}$	-4144	10	-4140.3	2.3	0.4	U			Ald	67Bj05	
$^{46}\text{Ca}({}^3\text{He},\alpha)^{45}\text{Ca}$	10194	10	10180.1	2.3	-1.4	U			MIT	71Ra35	
$^{45}\text{Sc}(\text{n},\gamma)^{46}\text{Sc}$	8760.61	0.3	8760.64	0.10	0.1	2			BNn	80Li07	Z
	8760.58	0.14		0.4	2				Utr	82Ti02	Z
	8760.75	0.18		-0.6	2				Bdn	06Fi.A	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{45}\text{Sc}(\text{d,p})^{46}\text{Sc}$	6541	8	6536.07	0.10	-0.6	U			MIT	64Sp12		
	6543	8			-0.9	U			Kop	67Ha.A		
$^{45}\text{Sc}(\text{p},\gamma)^{46}\text{Ti}$	10344.7	0.7	10344.8	0.7	0.1	1	89	86	$^{45}\text{Sc}$	71Gu.A		
$^{46}\text{Ti}(\text{p,d})^{45}\text{Ti}^i$	-15682	5	-15684	3	-0.4	1	40	40	$^{45}\text{Ti}^i$	78Ko27		
$^{46}\text{Cr}^i(\text{p})^{45}\text{V}$	4350	50	4269	13	-1.6	U			Lis	92Bo37		
	4269	13				2			Bor	07Do17	*	
$^{46}\text{Mn}^i(\text{p})^{45}\text{Cr}$	3520	100	4750	40	12.3	B			Lis	92Bo37		
	4753	35				3			Bor	07Do17	*	
$^{46}\text{K}(\beta^-)^{46}\text{Ca}$	7650	300	7724.5	2.4	0.2	U				66Pa20		
$^{46}\text{Ca}(\beta^-)^{46}\text{Sc}^i$	-6407	4	-6410	3	-0.8	1	72	63	$^{46}\text{Sc}^i$	71Be29	*	
$^{46}\text{Sc}(\beta^-)^{46}\text{Ti}$	2367	3	2366.5	0.7	-0.2	U				53Yo03	*	
	2364	6			0.4	U				56Wo09	*	
$^{46}\text{Ti}(\text{p,n})^{46}\text{V}$	-7844	9	-7834.74	0.09	1.0	U			Tal	63Ja12		
	-7835.8	1.8			0.6	U			Har	76Sq01	Z	
$^{46}\text{Ti}(\beta^-)^{46}\text{V}$	-7069.0	0.6	-7070.98	0.10	-3.3	F			Mun	77Vo02	*	
$^{46}\text{Ti}(\beta^-)^{46}\text{V}-^{27}\text{Al}(\beta^-)^{27}\text{Si}$	-2230.8	2.7	-2240.04	0.14	-3.4	B			ChR	74Ha35		
$^{46}\text{Ti}(\beta^-)^{46}\text{V}-^{47}\text{Ti}(\beta^-)^{47}\text{V}$	-4121.62	0.19	-4121.80	0.15	-0.9	1	59	33	$^{47}\text{Ti}$	Mun	09Fa15	*
$^{46}\text{Ti}(\beta^-)^{46}\text{V}-^{48}\text{Ti}(\beta^-)^{48}\text{V}^i$	-18.57	0.20	-18.58	0.20	0.0	1	100	100	$^{48}\text{V}^i$	Mun	09Fa15	
$^{46}\text{Ti}(\beta^-)^{46}\text{V}-^{50}\text{Ti}(\beta^-)^{50}\text{V}^i$	-31.21	0.25	-31.21	0.25	0.0	1	100	100	$^{50}\text{V}^i$	Mun	09Fa.A	
* $^{46}\text{Sc-u}$	M-A=-41520(210) keV for mixture gs+m at 142.528 keV										Ens00 **	
* $^{46}\text{Ti}(\text{p},\alpha)^{43}\text{Sc}$	Q=-3217 probably to $^{43}\text{Sc}^m$ at 151.4 keV										Nub127 **	
* $^{46}\text{Ti}(\beta^-)^{43}\text{He},^{6}\text{He})^{43}\text{Ti}$	Averaged with reference Q reduced by 3 for recalibration $^{27}\text{Al}(\beta^-)^{27}\text{He}$										75Mu09 **	
* $^{46}\text{Cr}^i(\text{p})^{45}\text{V}$	$Q_p=4254(15)$ 3494(25) 3003(13) to ground state, $(5/2^+)$ level at 797.2, $(7/2^+)$ at 1272.2 keV										MMC128**	
*											Ens082 **	
* $^{46}\text{Mn}^i(\text{p})^{45}\text{Cr}$	$Q_p=4239(33)$ to $(5/2^+)$ at 493.6 + x keV; x estimated $<40\#$										GAu **	
* $^{46}\text{Ca}(\beta^-)^{46}\text{Sc}^i$	CDE=7177(4) Q=-6413(4); recalibration +6 keV for $^{42}\text{Ca}(\text{p,n})^{42}\text{Sc}$ from Ame1961										MMC123**	
* $^{46}\text{Sc}(\beta^-)^{46}\text{Ti}$	$E_{\beta^-}=357(3)$ to $4^+$ level at 2009.846 keV										Ens00b **	
* $^{46}\text{Sc}(\beta^-)^{46}\text{Ti}$	$E_{\beta^-}=1475(6)$ to $2^+$ level at 889.286 keV										Ens00b **	
* $^{46}\text{Ti}(\beta^-)^{46}\text{V}$	F : rejected in reference of same group										09Fa15 **	
* $^{46}\text{Ti}(\beta^-)^{46}\text{V}-^{47}\text{Ti}(\beta^-)^{47}\text{V}$	Q-Q=28.73(0.16) keV to $^{47}\text{V}^i$ IAS at 4150.35(0.11) keV										Ens075 **	
$^{47}\text{Cl-u}$	-9576	1074	-10840#	430#	-1.2	D			GA7	1.0	07Ju03	*
$^{47}\text{Ar-u}$	-25400	600	-27070	100	-1.9	U			TO3	1.5	90Tu01	
	-26570	1360			-0.4	U			GA5	1.0	00Sa21	
$^{47}\text{Sc-u}$	-47630	230	-47596.3	2.1	0.1	U			TO6	1.5	98Ba.A	*
C $^{35}\text{Cl}-^{47}\text{Ti}$	17085.94	0.82	17093.9	0.4	3.9	B			H32	2.5	79Ko10	
C $^{13}\text{C H}_8 \text{N}-^{47}\text{Ti}$	117329	14	117270.3	0.4	-1.0	U			R09	4.0	72De11	
C <sub>2</sub> H <sub>7</sub> O- $^{47}\text{Ti}$	98012	7	97931.1	0.4	-2.9	B			R09	4.0	72De11	
C <sub>5</sub> H <sub>3</sub> - $^{47}\text{Ti}$ O	76869	10	76801.7	0.4	-1.7	U			R09	4.0	72De11	
C H <sub>3</sub> O <sub>2</sub> - $^{47}\text{Ti}$	61608	10	61545.5	0.4	-1.6	U			R09	4.0	72De11	
$^{47}\text{Cr-u}$	-37103.8	8.6	-37103	7	0.1	1	75	75	$^{47}\text{Cr}$	LZ1	1.0	11Tu09
$^{47}\text{Mn-u}$	-24225	34				2			LZ1	1.0	12Ya.A	
$^{47}\text{K}^{39}\text{K}_{1.205}$	5398.5	2.7	5395.3	1.5	-1.2	o			TT1	1.0	10La.A	
	5395.3	1.5				2			TT1	1.0	12La05	
$^{46}\text{Ti}^{13}\text{C}-^{47}\text{Ti}$ C	4218.03	0.94	4223.77	0.16	2.4	U			H32	2.5	79Ko10	
$^{47}\text{Ti}-^{46}\text{Ti}$	-929	41	-868.93	0.16	0.4	U			R09	4.0	72De11	
$^{47}\text{Ti}(\text{d},\alpha)^{45}\text{Sc}$	6830	12	6845.6	0.7	1.3	U			Kop		67Ha.A	
$^{46}\text{Ar}(\text{d,p})^{47}\text{Ar}$	1327	80				3					06Ga28	
$^{46}\text{Ca}(\text{n},\gamma)^{47}\text{Ca}$	7277.4	0.6	7276.37	0.27	-1.7	-					70Cr04	Z
	7276.1	0.3			0.9	-			Bdn		06Fi.A	
$^{46}\text{Ca}(\text{d,p})^{47}\text{Ca}$	5055	8	5051.81	0.27	-0.4	U			Kop		67Ha.A	
	5044	4			2.0	U			MIT		68Be36	
$^{46}\text{Ca}(\text{n},\gamma)^{47}\text{Ca}$	ave.	7276.36	0.27	7276.37	0.27	0.1	1	100	90	$^{46}\text{Ca}$	average	
$^{46}\text{Ti}(\text{n},\gamma)^{47}\text{Ti}$	8875.1	3.0	8880.72	0.15	1.9	U					69Te01	Z
	8880.5	0.3			0.7	1	23	23	$^{47}\text{Ti}$	Bdn	06Fi.A	
$^{46}\text{Ti}(\text{d,p})^{47}\text{Ti}$	6658	6	6656.16	0.15	-0.3	U			MIT		67Ba32	*
	6659	8			-0.4	U			Kop		67Ba32	*
	6654.3	1.7			1.1	U			NDm		76Jo01	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{46}\text{Ti}(\text{d},\text{p})^{47}\text{Ti}-^{48}\text{Ti}(\text{p})^{49}\text{Ti}$	738.15	0.25	738.33	0.15	0.7	1	34	33 $^{47}\text{Ti}$	Mun	09Fa15	
$^{46}\text{Ti}(\text{p},\gamma)^{47}\text{V}$	5167.80	0.07	5167.78	0.07	-0.3	1	94	86 $^{47}\text{V}$	Utr	86De13	*
$^{46}\text{Ti}(\text{He},\text{d})^{47}\text{V}$	-317	15	-325.70	0.07	-0.6	U			MIT	67Do03	
$^{47}\text{Mn}^i(\text{p})^{46}\text{Cr}$	6867	20	6992	13	6.2	B			Bor	01Gi01	*
		6992	13			3			Bor	07Do17	*
$^{47}\text{K}(\beta^-)^{47}\text{Ca}$	6700	300	6631.5	2.6	-0.2	U				64Ku02	*
$^{47}\text{Ca}(\beta^-)^{47}\text{Sc}$	1984.6	5.	1992.2	1.2	1.5	U				67Hs03	*
	1992.3	5.		0.0	U					68Fi04	*
	1991.9	1.2		0.2	1	97	91 $^{47}\text{Ca}$			87Ju04	
$^{47}\text{Sc}(\beta^-)^{47}\text{Ti}$	600	2	600.8	1.9	0.4	1	93	93 $^{47}\text{Sc}$		56Gr12	
$^{47}\text{V}(\beta^+)^{47}\text{Ti}$	2912	10	2930.60	0.15	1.9	U				54Da31	
$^{47}\text{Ti}(\text{p},\text{n})^{47}\text{V}$	-3706	13	-3712.95	0.15	-0.5	U			Har	60Mc12	Y
$^{47}\text{Cl-u}$	Trends from Mass Surface TMS suggest $^{47}\text{Cl}$ 1180 more bound M-A=-44320(210) keV for mixture gs+m at 766.83 keV and assuming ratio R=0.07(3), from half-life=272 ns and TOF=1 $\mu\text{s}$										
$^{47}\text{Sc-u}$	All 67Ba32 results decreased 0.2% for recalibration $E_p=985.94(0.05,\text{Z})$ to 1/2 $^+$ level at 6132.60(0.09) keV $Q_p=5975(25)$ 4880(20) to 2 $^+$ level at 892.16 and (4 $^+$ ) at 1987.1 keV $Q_p=6104(24)$ 5000(15) to 2 $^+$ level at 892.16 and (4 $^+$ ) at 1987.1 keV also tentatively $Q_p=3973(20)$ to (3 $^-$ ) at 3196.5 keV, not used $E_{\beta^-}=4100(300)$ to 2578.33 3/2 $^+$ and 2599.53 1/2 $^+$ levels										
*	$*^{46}\text{Ti}(\text{d},\text{p})^{47}\text{Ti}$ $*^{46}\text{Ti}(\text{p},\gamma)^{47}\text{V}$ $*^{47}\text{Mn}^i(\text{p})^{46}\text{Cr}$ $*^{47}\text{Mn}^i(\text{p})^{46}\text{Cr}$ * $*^{47}\text{K}(\beta^-)^{47}\text{Ca}$ $*^{47}\text{Ca}(\beta^-)^{47}\text{Sc}$										
	Original values increased by 4(4) for shape factor										
$^{48}\text{K}-^{39}\text{K}_{1.231}$	10017.7	2.5	10018.5	0.8	0.3	o			TT1	1.0	10La.A
	10018.50	0.83			2				TT1	1.0	12La05
$^{48}\text{Ca}-^{39}\text{K}_{1.231}$	-2799.93	0.22	-2799.92	0.13	0.0	1	34	34 $^{48}\text{Ca}$	MS1	1.0	12Re17
$^{13}\text{C}-^{35}\text{Cl}-^{48}\text{Ti}$	24261.73	0.75	24265.5	0.4	2.0	U			H32	2.5	79Ko10
$\text{C}_5\text{H}_4-\text{Ti O}$	88492	24	88443.5	0.4	-0.5	U			R09	4.0	72De11
	88494	27		-0.5	U				R09	4.0	72De11
$\text{C}_4\text{H}_2\text{N}-^{48}\text{Ti O}$	75935	17	75867.5	0.4	-1.0	U			R09	4.0	72De11
$\text{C}_4-\text{Ti}$	52109	19	52058.0	0.4	-0.7	U			R09	4.0	72De11
$^{48}\text{Ti O}-^{85}\text{Rb}_{.753}$	9277.7	1.2	9278.9	0.4	1.0	U			MA8	1.0	12Na15
$^{48}\text{Mn-u}$	-31480	120			2				GT1	1.5	04St05
$^{48}\text{Ca}-^{40}\text{Ca}_{1.200}$	-2586.23	0.23	-2586.27	0.13	-0.2	1	32	31 $^{48}\text{Ca}$	MS1	1.0	12Re17
$^{48}\text{Ca}-^{41}\text{K}_{1.171}$	-2774.65	0.22	-2774.61	0.13	0.2	1	34	34 $^{48}\text{Ca}$	MS1	1.0	12Re17
$^{48}\text{Ti O}-^{55}\text{Mn}_{1.164}$	14972.6	1.2	14973.5	0.6	0.7	1	26	18 $^{55}\text{Mn}$	MA8	1.0	12Na15
$^{46}\text{Ti}-^{37}\text{Cl}-^{48}\text{Ti}-^{35}\text{Cl}$	1726.8	1.1	1735.66	0.18	2.0	U			H18	4.0	64Ba03
	1730.29	0.87		2.5	U				H32	2.5	79Ko10
$^{48}\text{Ti}-^{47}\text{Ti}$	-3791	48	-3816.81	0.04	-0.1	U			R09	4.0	72De11
$^{48}\text{Ca}(\text{He},^{11}\text{C})^{40}\text{S}$	-17416	35	-17106	4	8.9	F			Pri	79Ko.B	*
$^{48}\text{Ca}(\text{He},^8\text{B})^{43}\text{Cl}$	-29070	60	-27890	100	19.6	F			MSU	76Ka24	*
$^{48}\text{Ca}(\alpha,^9\text{Be})^{43}\text{Ar}$	-21160	70	-21138	5	0.3	U			Brk	74Je01	
$^{48}\text{Ca}(\text{He},^7\text{Be})^{44}\text{Ar}$	-12362	20	-12389.3	1.6	-1.4	U			MSU	76Cr03	*
$^{48}\text{Ca}(\alpha,^7\text{Be})^{45}\text{Ar}$	-27840	60	-27798.0	0.5	0.7	U			Brk	74Je01	
$^{48}\text{Ti}(\text{p},\alpha)^{45}\text{Sc}$	-2560	5	-2556.5	0.7	0.7	U			ANL	64Yn03	
	-2545	15		-0.8	U				Tal	65Pl01	
$^{48}\text{Ca}(\text{Li},^8\text{B})^{46}\text{Ar}$	-23325	70	-23330	40	-0.1	2			Brk	74Je01	
$^{48}\text{Ca}(\text{C},^{16}\text{O})^{46}\text{Ar}$	-6739	50	-6740	40	0.0	2			Mun	80Ma40	
$^{48}\text{Ca}(\text{d},\alpha)^{46}\text{K}$	1915	15	1900.0	0.7	-1.0	U			ANL	65Ma07	
$^{46}\text{Ca}(\text{t},\text{p})^{48}\text{Ca}$	8752	20	8747.2	2.3	-0.2	U			Ald	67Bj06	
$^{48}\text{Ti}(\text{d},\alpha)^{46}\text{Sc}$	3967	12	3979.6	0.7	1.0	U			Kop	67Ha.A	
$^{48}\text{Ti}(\text{p},^3\text{He})^{46}\text{Sc}^i$	-19394	6	-19387	4	1.2	1	37	37 $^{46}\text{Sc}^i$		78Ko27	
$^{48}\text{Ti}(\text{p},\text{t})^{46}\text{Ti}^i$	-21192	7			2					78Ko27	
$^{48}\text{Ti}(\text{p},\text{t})^{46}\text{Ti}^j$	-26177	6			2					78Ko27	
$^{46}\text{Ti}(\text{He},\text{n})^{48}\text{Cr}$	5550	18	5555	7	0.3	R			CIT	67Mi02	
$^{48}\text{Ni}(2\text{p})^{46}\text{Fe}$	1400	100	1310	50	-0.9	3				05Gi15	*
	1280	120		0.3	o					11Po09	
	1280	60		0.5	3					12Po03	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{48}\text{Ca}({^{14}\text{C}, {^{15}\text{O}}})^{47}\text{Ar}$	-18142	100	-18850	90	-7.1	B			MSU		85Be50
$^{48}\text{Ca}(\text{d}, {^3\text{He}})^{47}\text{K}$	-10304	12	-10308.3	1.4	-0.4	U			ANL		66Ne01
$^{48}\text{Ca}(\text{t}, \alpha)^{47}\text{K}$	4006	15	4012.1	1.4	0.4	U			LAI		66Wi11
	4001	10			1.1	U			Ald		68Sa09
$^{48}\text{Ca}(\text{d,t})^{47}\text{Ca}$	-3699	10	-3695.4	2.3	0.4	U			ANL		66Er02
$^{48}\text{Ca}({^3\text{He}, \alpha})^{47}\text{Ca}$	10630	12	10625.0	2.3	-0.4	U			ANL		66Er02
	10642	10			-1.7	U			MIT		71Ra35
$^{47}\text{Ti}(\text{n}, \gamma)^{48}\text{Ti}$	11626.39	0.3	11626.65	0.04	0.9	U			MMn		80Is02
	11626.65	0.04			0.0	1	100	89 $^{48}\text{Ti}$	Ptn		84Ru06
	11626.66	0.23			0.0	U			Bdn		Z
$^{47}\text{Ti}(\text{d,p})^{48}\text{Ti}$	9401	8	9402.09	0.04	0.1	U			Kop		67Ba32
	9403	6			-0.2	U			MIT		67Ba32
$^{47}\text{Ti}({^3\text{He}, \text{d}})^{48}\text{V}$	1337	15	1335.9	1.0	-0.1	U			MIT		68Do06
$^{47}\text{Ti}({^3\text{He}, \text{d}})^{48}\text{V}^i$	-1706	20	-1682.99	0.22	1.2	U					68Do06
$^{48}\text{Mn}^i(\text{p})^{47}\text{Cr}$	979.6	32.	1013	12	1.0	o			Bor		95Bi05
	979.6	33.			1.0	o			Bor		96Fa09
	1013	12				2			Bor		* 07Do17 *
$^{48}\text{K}(\beta^-)^{48}\text{Ca}$	12000	500	11940.3	0.8	-0.1	U					75Mu08
$^{48}\text{Ca}({^7\text{Li}, {^7\text{Be}}})^{48}\text{K}$	-12959	27	-12802.2	0.8	5.8	B			Can		78We14
$^{48}\text{Ca}({^{14}\text{C}, {^{14}\text{N}}})^{48}\text{K}$	-11910	50	-11783.8	0.8	2.5	U			Mun		80Ma40
$^{48}\text{Ca}(\text{p,n})^{48}\text{Sc}$	-534	15	-504	5	2.0	U					67Mc07 Z
	-506	7			0.3	1	50	50 $^{48}\text{Sc}$			68Mc10
$^{48}\text{Sc}(\beta^-)^{48}\text{Ti}$	3986	7	3988	5	0.3	1	50	50 $^{48}\text{Sc}$			57Va08 *
$^{48}\text{V}(\beta^+)^{48}\text{Ti}$	4008	5	4015.0	1.0	1.4	U					53Ma64 *
	4013.6	3.			0.5	1	10	10 $^{48}\text{V}$			67Ko01 *
	4014	7			0.1	U					74Me15 *
$^{48}\text{Ti}(\text{p,n})^{48}\text{V}$	-4803	10	-4797.3	1.0	0.6	U			Tal		62Ne08 Y
$^{48}\text{Ti}({^3\text{He}, \text{t}})^{48}\text{V}^i$	-7048	4	-7052.41	0.22	-1.1	U					71Be29 *
$^{48}\text{V}^i(\text{IT})^{48}\text{V}$	3018.7	1.0	3018.9	0.9	0.2	1	90	90 $^{48}\text{V}$			Ens067
$^{*48}\text{Ca}({^3\text{He}, {^{11}\text{C}}})^{40}\text{S}$	F : possible $^{40}\text{Ca}$ contamination; mismatch in cross-sections										
$^{*48}\text{Ca}({^3\text{He}, {^8\text{B}}})^{43}\text{Cl}$	F : poor spectrum. Authors say: possibly not to ground state										
$^{*48}\text{Ca}({^3\text{He}, {^7\text{Be}}})^{44}\text{Ar}$	M-A=-32270(20) Q=-12791(20) for $^7\text{Be}$ 429 keV level										
$^{*48}\text{Ni}(\text{2p})^{46}\text{Fe}$	From only 1 event, Si detector										
$^{*48}\text{Ni}(\text{2p})^{46}\text{Fe}$	From 4 events, gaseous detector										
$^{*48}\text{Mn}^i(\text{p})^{47}\text{Cr}$	Unexpectedly low intensity 3.6(1.1)%										
$^{*48}\text{Mn}^i(\text{p})^{47}\text{Cr}$	Measured intensity 1.8(0.3)%										
$^{*48}\text{Sc}(\beta^-)^{48}\text{Ti}$	$E_{\beta^-}=654(7)$ to $4^+$ level at 3333.196 keV										
$^{*48}\text{V}(\beta^+)^{48}\text{Ti}$	$E_{\beta^+}=692(5)$ 698(3) 698(7) respectively, to $4^+$ level at 2295.654 keV										
$^{*48}\text{Ti}({^3\text{He}, \text{t}})^{48}\text{V}^i$	CDE=7818(4) Q=-7054(4); recalibration +6 keV for $^{42}\text{Ca}(\text{p,n})^{42}\text{Sc}$ from Ame1961										
$^{49}\text{K}-\text{u}$	-31981	225	-31789.2	0.9	0.6	U			GT1	1.5	04Ma.A
$^{49}\text{K}-^{39}\text{K}_{1.256}$	13794.9	2.8	13795.4	0.9	0.2	o			TT1	1.0	10La.A
	13795.41	0.86				2			TT1	1.0	12La05
$^{49}\text{Ca}-^{39}\text{K}_{1.256}$	1247.1	2.9	1247.39	0.23	0.1	o			TT1	1.0	10La.A
	1247.1	1.2			0.2	U			TT1	1.0	12La05
$\text{C H}_2 {^{35}\text{Cl}}-{^{49}\text{Ti}}$	36637	13	36637.1	0.4	0.0	U			R09	4.0	72De11
$\text{C}_4 \text{H}-{^{49}\text{Ti}}$	59967	10	59959.4	0.4	-0.2	U			R09	4.0	72De11
$\text{C}_5 \text{H}_5-{^{49}\text{Ti}}$	96348	19	96344.9	0.4	0.0	U			R09	4.0	72De11
$\text{C H}_5 {^{32}\text{S}}-{^{49}\text{Ti}}$	63365	14	63330.7	0.4	-0.6	U			R09	4.0	72De11
$^{49}\text{Mn-u}$	-40410	12	-40405	11	0.4	1	82	82 $^{49}\text{Mn}$	LZ1	1.0	11Tu09
$^{49}\text{Fe-u}$	-26571	26			2				LZ1	1.0	12Zh34
$^{47}\text{Ti} {^{37}\text{Cl}}-{^{49}\text{Ti}} {^{35}\text{Cl}}$	946.4	1.1	943.03	0.09	-0.8	U			H18	4.0	64Ba03
	944.46	0.35			-1.6	U			H32	2.5	79Ko10
$^{48}\text{Ti} {^{13}\text{C}}-{^{49}\text{Ti}}$	3432.64	0.80	3431.14	0.03	-0.8	U			H32	2.5	79Ko10
$^{48}\text{Ti} \text{H}-{^{49}\text{Ti}}$	7876	7	7901.33	0.03	0.9	U			R09	4.0	72De11
	7874	27			0.3	U			R09	4.0	72De11
$^{49}\text{Ti}-{^{48}\text{Ti}}$	-43	36	-76.30	0.03	-0.2	U			R09	4.0	72De11
$^{49}\text{Ti}(\text{d}, \alpha)^{47}\text{Sc}$	6476	12	6483.6	1.9	0.6	U			Kop		67Ha.A
$^{48}\text{Ca}(\text{n}, \gamma)^{49}\text{Ca}$	5146.6	0.7	5146.45	0.18	-0.2	2					69Ar.A
	5146.38	0.30			0.2	2					70Cr04
	5146.48	0.23			-0.1	2			Bdn		06Fi.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{48}\text{Ca}(\text{d,p})^{49}\text{Ca}$	2917	7	2921.89	0.18	0.7	U			ANL	66Er02		
	2917	4			1.2	U			MIT	68Be36		
$^{48}\text{Ca}(\text{p},\gamma)^{49}\text{Sc}$	9628.7	3.6	9625.3	2.7	-0.9	-				68Vi01	Z	
$^{48}\text{Ca}(\text{d,n})^{49}\text{Sc}$	7404	7	7400.7	2.7	-0.5	-				68Gr09		
$^{48}\text{Ca}({}^3\text{He,d})^{49}\text{Sc}$	4150	12	4131.8	2.7	-1.5	U			ANL	66Er02		
$^{48}\text{Ca}(\text{p},\gamma)^{49}\text{Sc}$	ave.	9629	3	9625.3	2.7	-1.1	1	71	71 $^{49}\text{Sc}$		average	
$^{48}\text{Ti}(\text{n},\gamma)^{49}\text{Ti}$		8142.22	0.3	8142.392	0.030	0.6	U		MMn	80Is02	Z	
		8142.39	0.03			0.1	1	99	100 $^{49}\text{Ti}$	Ptn	83Ru08	Z
		8142.35	0.16			0.3	U		Bdn	06Fi.A		
$^{48}\text{Ti}(\text{d,p})^{49}\text{Ti}$	5907	8	5917.826	0.030	1.4	U			Kop	67Ba32		
	5918	6			0.0	U			MIT	67Ba32		
	5918.6	1.7			-0.5	U			NDm	76Jo01		
$^{48}\text{Ti}(\text{p},\gamma)^{49}\text{V}$	6756.8	1.5	6758.2	0.8	0.9	R				72Ki06		
$^{49}\text{Mn}^i(\text{p})^{48}\text{Cr}$	2712.2	50.	2729	16	0.3	U				70Ce02	*	
	2730	29			0.0	o			Bor	96Fa09	*	
	2729	16				3			Bor	07Do17	*	
$^{49}\text{K}(\beta^-)^{49}\text{Ca}$	10970	70	11688.4	0.8	10.3	B				86Mi08		
$^{49}\text{Ca}(\beta^-)^{49}\text{Sc}$	5200	100	5261.2	2.7	0.6	U				56Ma27		
	4970	50			5.8	B				56Ok02		
$^{49}\text{Sc}(\beta^-)^{49}\text{Ti}$	2010	5	2001.7	2.7	-1.7	1	29	29 $^{49}\text{Sc}$		61Re06		
	1983	7			2.7	U				69Fl02		
$^{49}\text{V}(\varepsilon)^{49}\text{Ti}$	626	10	601.9	0.8	-2.4	U				56Ha59		
$^{49}\text{Ti}(\text{p,n})^{49}\text{V}$	-1383	9	-1384.2	0.8	-0.1	U			Har	60Mc12	Z	
	-1383.6	1.0			-0.6	2			Oak	64Jo11	Z	
$^{49}\text{Ti}({}^3\text{He,t})^{49}\text{V}^i$	-7052	4			2					71Be29	*	
$^{49}\text{Cr}(\beta^+)^{49}\text{V}$	2590	20	2628.3	2.5	1.9	U				53Cr18	*	
$*^{49}\text{Mn}^i(\text{p})^{48}\text{Cr}$	$Q_p=1960(50)$ 1978(29) 1977(16) respectively, to $2^+$ level at 752.19(0.11) keV											
$*^{49}\text{Ti}({}^3\text{He,t})^{49}\text{V}^i$	CDE=7822(4) $Q=-7058(4)$ ; recalibration +6 keV for $^{42}\text{Ca}(\text{p,n})^{42}\text{Sc}$ from Ame1961											
$*^{49}\text{Cr}(\beta^+)^{49}\text{V}$	$E_{\beta^+}=1540(10)$ 1390(20) to $(7/2^-)$ ground state + $(5/2^-)$ 90.6392 and $3/2^-$ at 152.9282											
$^{50}\text{K}-\text{u}$	-26100	800	-27620	8	-1.3	U			TO3	1.5	90Tu01	
$^{50}\text{K}-{}^{39}\text{K}_{1.282}$	18899	11	18908	8	0.8	o			TT1	1.0	10La.A	
	18908.3	8.3				2			TT1	1.0	12La05	
$^{50}\text{Ca}-{}^{39}\text{K}_{1.282}$	4027.0	4.0	4027.5	1.7	0.1	o			TT1	1.0	10La.A	
	4027.5	1.7				2			TT1	1.0	12La05	
$^{50}\text{Sc}-\text{u}$	-47940	250	-47824	16	0.3	U			TO6	1.5	98Ba.A	
$\text{C H}_3 {}^{35}\text{Cl}-{}^{50}\text{Ti}$	47550	23	47540.9	0.4	-0.1	U			R09	4.0	72De11	
$\text{C}_4 \text{H}_2-{}^{50}\text{Ti}$	70860	8	70863.2	0.4	0.1	U			R09	4.0	72De11	
$\text{C}_5 \text{H}_6-{}^{50}\text{Ti O}$	107253	18	107248.7	0.4	-0.1	U			R09	4.0	72De11	
$\text{C}_3 {}^{13}\text{C H}-{}^{50}\text{Ti}$	66401	21	66393.0	0.4	-0.1	U			R09	4.0	72De11	
$\text{C}_3 \text{N}-{}^{50}\text{Ti}$	58279	43	58287.1	0.4	0.0	U			R09	4.0	72De11	
$\text{C}_4 \text{H}_2-{}^{50}\text{V}$	68485	14	68494.1	0.9	0.2	U			R09	4.0	72De11	
$\text{C}_3 \text{N}-{}^{50}\text{V}$	55903	23	55918.0	0.9	0.2	U			R09	4.0	72De11	
$\text{C H}_3 {}^{35}\text{Cl}-{}^{50}\text{V}$	45158	17	45171.8	0.9	0.2	U			R09	4.0	72De11	
$\text{C}_4 \text{H}_2-{}^{50}\text{Cr}$	69608	8	69608.2	0.9	0.0	U			R09	4.0	72De11	
$\text{C}_3 \text{N}-{}^{50}\text{Cr}$	57051	7	57032.2	0.9	-0.7	U			R09	4.0	72De11	
$\text{C H}_3 {}^{35}\text{Cl}-{}^{50}\text{Cr}$	46290	14	46285.9	0.9	-0.1	U			R09	4.0	72De11	
$^{49}\text{Ti} {}^{13}\text{C}-{}^{50}\text{Ti C}$	6440.47	0.88	6433.62	0.04	-3.1	B			H32	2.5	79Ko10	
$^{50}\text{Mn}-{}^{50}\text{Cr}$	8195.91	0.10	8195.95	0.07	0.4	1	52	52 $^{50}\text{Mn}$	JY1	1.0	08Er04	
$^{50}\text{Mn}^m-{}^{50}\text{Cr}$	8437.852	0.065	8437.83	0.06	-0.3	1	81	81 $^{50}\text{Mn}^m$	JY1	1.0	08Er04	
$^{50}\text{Mn}^m-{}^{50}\text{Mn}$	241.840	0.100	241.88	0.07	0.4	1	55	37 $^{50}\text{Mn}$	JY1	1.0	08Er04	
$^{50}\text{Ti}-{}^{49}\text{Ti}$	-3075	38	-3078.79	0.04	0.0	U			R09	4.0	72De11	
$^{50}\text{Cr}(\text{p},{}^6\text{He})^{45}\text{V}$	-28686	17	-28684	8	0.1	1	22	22 $^{45}\text{V}$	MSU	75Mu09	*	
$^{50}\text{Ti}(\text{p},\alpha)^{47}\text{Sc}$	-2231	15	-2231.0	1.9	0.0	U			Tal	65Pl01		
$^{50}\text{V}(\text{p},\alpha)^{47}\text{Ti}$	572	23	576.6	0.9	0.2	U			MIT	67Sp09		
$^{50}\text{Cr}(\text{p},\alpha)^{47}\text{V}$	-3387	10	-3391.9	0.9	-0.5	U			Ald	66Br06		
$^{50}\text{Cr}({}^3\text{He},{}^6\text{He})^{47}\text{Cr}$	-18365	14	-18362	7	0.2	1	25	25 $^{47}\text{Cr}$	MSU	77Mu03	*	
$^{48}\text{Ca}(\text{t,p})^{50}\text{Ca}$	3012	15	3025.3	1.6	0.9	U			Ald	66Hi01		
	3020	10			0.5	U			LAl	66Wi11		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{48}\text{Ca}(\text{He},\text{p})^{50}\text{Sc}$	7965	15				2			ANL	69Oh01	
$^{50}\text{V}(\text{d},\alpha)^{48}\text{Ti}$	9982	15	9978.7	0.9	-0.2	U			MIT	66Do06	
	9988	20			-0.5	U			Kop	67Ha.A	
$^{50}\text{Cr}(\text{d},\alpha)^{48}\text{V}$	4928	12	4925.9	1.3	-0.2	U			Kop	67Ha.A	
	4923	15			0.2	U			MIT	68Do03	
$^{50}\text{Cr}(\text{d},\alpha)^{48}\text{V}^i$	1880	11	1907.0	0.9	2.5	U			MIT	68Do03	*
$^{50}\text{Cr}(\text{p},\text{t})^{48}\text{Cr}$	-15100	8	-15101	7	-0.1	2			Oak	71Do18	
	-15100	30			0.0	U			Bld	72Sh27	
$^{50}\text{Cr}(\text{p},\text{t})^{48}\text{Cr}^j$	-23861	15			2				MSU	75Mo26	*
$^{50}\text{Co}^i(\text{p},\text{p})^{48}\text{Mn}$	1972	13			3				Bor	07Do17	
$^{50}\text{Ti}(\text{t},\alpha)^{49}\text{Sc}$	7644	25	7655.3	2.7	0.5	U			LAI	66Wi11	
$^{49}\text{Ti}(\text{n},\gamma)^{50}\text{Ti}$	10939.6	0.3	10939.19	0.04	-1.4	U			MMn	80Is02	Z
	10939.19	0.04			0.0	1	100	97 $^{50}\text{Ti}$	Ptn	84Ru06	Z
	10939.20	0.22			-0.1	U			Bdn	06Fi.A	
$^{49}\text{Ti}(\text{d},\text{p})^{50}\text{Ti}$	8723	8	8714.62	0.04	-1.0	U			Kop	67Ba32	
	8721	6			-1.1	U			MIT	67Ba32	
$^{50}\text{Cr}(\text{p},\text{d})^{49}\text{Cr}$	-10790	30	-10775.8	2.2	0.5	U			Pri	67Wh03	
$^{50}\text{Cr}(\text{d},\text{t})^{49}\text{Cr}$	-6743.1	2.2			2				NDm	76Jo01	
$^{50}\text{Fe}^i(\text{p})^{49}\text{Mn}$	4389	41	4332	10	-1.4	o			Bor	96Fa09	*
	4332	10			2				Bor	07Do17	*
$^{50}\text{K}(\beta^-)^{50}\text{Ca}$	14050	300	13861	8	-0.6	U				86Mi08	
$^{50}\text{Sc}(\beta^-)^{50}\text{Ti}$	6500	200	6883	15	1.9	U				63Ch03	
	6260	100			6.2	B				69Wa24	
$^{50}\text{V}(\text{n},\text{p})^{50}\text{Ti}$	2979	15	2989.2	0.9	0.7	U			ILL	81Wa31	
	2984	10			0.5	U			ILL	94Wa17	
$^{50}\text{Ti}(\text{p},\text{n})^{50}\text{V}$	-2991	10	-2989.2	0.9	0.2	U			Har	60Mc12	Y
$^{50}\text{Ti}(\text{He},\text{t})^{50}\text{V}^i$	-7032	4	-7039.77	0.27	-1.9	U				71Be29	*
$^{50}\text{Cr}(\text{p},\text{n})^{50}\text{Mn}$	-8416.1	1.9	-8416.82	0.07	-0.4	U			Har	75Fr.A	
$^{50}\text{Cr}(\text{He},\text{t})^{50}\text{Mn}$	-7650.5	0.4	-7653.07	0.07	-6.4	F			Mun	77Vo02	*
$^{50}\text{Cr}(\text{He},\text{t})^{50}\text{Mn}-^{27}\text{Al}(\text{He},\text{t})^{27}\text{Si}$	-2820.0	2.8	-2822.12	0.12	-0.8	U			ChR	74Ha35	
$^{50}\text{Cr}(\text{He},\text{t})^{50}\text{Mn}-^{42}\text{Ca}(\text{He},\text{t})^{42}\text{Sc}$	-1207.6	2.3	-1208.38	0.12	-0.3	U			ChR	74Ha35	
$^{50}\text{Cr}(\text{He},\text{t})^{50}\text{Mn}-^{54}\text{Fe}(\text{He},\text{t})^{54}\text{Co}$	610.09	0.17	610.07	0.10	-0.1	1	35	23 $^{54}\text{Co}$	ChR	87Ko34	*
* $^{50}\text{Sc-u}$	M-A=-44530(220) keV for mixture gs+m at 256.895 keV								Nub127	**	
* $^{50}\text{Cr}(\text{p},\text{He})^{45}\text{V}$	Original Q increase by 1 for recalibration								AHW	**	
* $^{50}\text{Cr}(\text{He},\text{t})^{47}\text{Cr}$	Original Q reduced by 3, see $^{46}\text{Ti}(\text{He},\text{t})^{47}\text{Cr}$								AHW	**	
* $^{50}\text{Cr}(\text{d},\alpha)^{48}\text{V}^i$	IT=3043(9); rebuilt from their $Q_{gs}=4923(15)$ keV								MMC124**		
* $^{50}\text{Cr}(\text{p},\text{t})^{48}\text{Cr}^j$	Strongest of two fragments given as IT = 8760(15); Q rebuilt with Ame197								75Mo26	**	
* $^{50}\text{Fe}^i(\text{p})^{49}\text{Mn}$	$E_p=2790(41)$ to $11/2^-$ level at 1541.3125 keV								Ens089	**	
* $^{50}\text{Fe}^i(\text{p})^{49}\text{Mn}$	$Q_p=2770(12)$ 41.1%, 1874(16) 1.0% to $11/2^-$ level at 1541.3125, and $13/2^-$ at 2481.3 keV								Ens089	**	
* $^{50}\text{Ti}(\text{He},\text{t})^{50}\text{V}^i$	CDE=7802(4) Q=-7038(4); recalibration +6 keV for $^{42}\text{Ca}(\text{p},\text{n})^{42}\text{Sc}$ from Ame1961								MMC123**		
* $^{50}\text{Cr}(\text{He},\text{t})^{50}\text{Mn}$	F : rejected in reference of same group								09Fa15	**	
* $^{50}\text{Cr}(\text{He},\text{t})^{50}\text{Mn}-^{54}\text{Fe}(\text{He},\text{t})^{54}\text{Co}$	Q-Q=40.90(0.16) to 650.99(0.06) level in $^{50}\text{Mn}$								92Ha.B	**	
$^{51}\text{Ca-u}$	-38800	350	-39011	24	-0.4	U			TO3	1.5	90Tu01
	-38900	400			-0.2	U			TO5	1.5	94Se12
	-39249	183			0.9	U			GT1	1.5	04Ma.A
$\text{C}_4\text{H}_3-^{51}\text{V}$	79526	9	79518.1	0.9	-0.2	U			R09	4.0	72De11
$\text{C}_5\text{H}_7-^{51}\text{V O}$	115921	13	115903.6	0.9	-0.3	U			R09	4.0	72De11
$\text{C}_4\text{H}_5\text{N}-^{51}\text{V O}$	103334	13	103327.5	0.9	-0.1	U			R09	4.0	72De11
$\text{C}_3\text{H}\text{N}-^{51}\text{V}$	66943	7	66942.0	0.9	0.0	U			R09	4.0	72De11
$^{51}\text{Fe-u}$	-43148	12	-43159	10	-0.9	1	64	64 $^{51}\text{Fe}$	LZ1	1.0	11Tu09
$^{51}\text{Co-u}$	-29353	52			2				LZ1	1.0	12Ya.A
$^{51}\text{Ca}-^{58}\text{Ni}_{879}$	17823	24			2				TT1	1.0	12Ga29
$^{47}\text{Ti}^{37}\text{Cl}_2-^{51}\text{V}^{35}\text{Cl}_2$	1906.	1.8	1901.6	0.9	-0.6	U			H18	4.0	64Ba03
$^{49}\text{Ti}^{37}\text{Cl}-^{51}\text{V}^{35}\text{Cl}$	956.7	0.7	958.6	0.9	0.7	1	11	10 $^{51}\text{V}$	H18	4.0	64Ba03
$^{51}\text{K}-^{51}\text{V}$	31871	14			2				TT1	1.0	12Ga29
$^{48}\text{Ca}^{(14}\text{C},^{11}\text{C})^{51}\text{Ca}$	-15900	150	-15517	22	2.6	U			Mun	80Ma40	*
	-16886	100			13.7	B			MSU	85Be50	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{48}\text{Ca}(\text{He},\gamma)^{51}\text{Ca}$	-12040	120	-11525	22	4.3	B		Hei	85Br03	*	
	-13900	40		59.4	B			Can	88Ca21		
$^{48}\text{Ca}(\alpha,\text{p})^{51}\text{Sc}$	-5860	20			2			ANL	66Er02		
$^{51}\text{V}(\text{p},\alpha)^{48}\text{Ti}$	1162	10	1152.1	0.9	-1.0	U		MIT	64Sp12		
$^{51}\text{V}(\text{d},\alpha)^{49}\text{Ti}$	7066	12	7069.9	0.9	0.3	U		Kop	67Ha.A		
$^{50}\text{Ti}(\text{n},\gamma)^{51}\text{Ti}$	6372.3	1.2	6372.5	0.5	0.2	2			71Ar39	Z	
	6372.6	0.6		-0.2	2			Bdn	06Fi.A		
$^{50}\text{Ti}(\text{d},\text{p})^{51}\text{Ti}$	4143	6	4147.9	0.5	0.8	U		MIT	67Ba32		
	4148	8		0.0	U			Kop	67Ba32		
	4147.7	1.2		0.2	2			NDm	76Jo01		
$^{50}\text{Ti}(\text{p},\gamma)^{51}\text{V}$	8063.3	2.0	8062.0	0.9	-0.7	-			70Kl05	Z	
	8063.6	2.0		-0.8	-				70Ma36	Z	
$^{50}\text{Ti}(\text{d},\text{He},\text{d})^{51}\text{V}$	2555	15	2568.5	0.9	0.9	U		MIT	67Ob04		
$^{50}\text{Ti}(\text{p},\gamma)^{51}\text{V}$	ave.	8063.5	1.4	8062.0	0.9	-1.0	1	38	$^{35}\text{V}$	average	
$^{50}\text{V}(\text{n},\gamma)^{51}\text{V}$	11051.18	0.10	11051.15	0.08	-0.3	2		MMn	78Ro03	Z	
	11051.05	0.17		0.6	2			ILn	91Mi08	Z	
	11051.14	0.22		0.0	2			Bdn	06Fi.A		
$^{51}\text{V}(\gamma,\text{n})^{50}\text{V}$	-11040	60	-11051.15	0.08	-0.2	U		Phi	60Ge01		
$^{50}\text{V}(\text{d},\text{p})^{51}\text{V}$	8840	15	8826.58	0.08	-0.9	U		MIT	67De02		
	8828	20		-0.1	U			Kop	67Ha.A		
$^{51}\text{V}(\text{p},\text{d})^{50}\text{V}$	-8815	20	-8826.58	0.08	-0.6	U		Oak	65Ba29		
$^{50}\text{V}(\text{d},\text{He},\text{d})^{51}\text{Cr}$	4031	12	4022.69	0.25	-0.7	U		MIT	69Do01		
$^{50}\text{Cr}(\text{n},\gamma)^{51}\text{Cr}$	9261.71	0.30	9260.66	0.20	-3.5	B		MMn	80Is02	Z	
	9260.63	0.20		0.2	1	99	$^{50}\text{Cr}$	Bdn	06Fi.A		
$^{50}\text{Cr}(\text{d},\text{p})^{51}\text{Cr}$	7049	8	7036.10	0.20	-1.6	U		Kop	67Ha.A		
	7041	6		-0.8	U			MIT	68Ro09		
$^{50}\text{Cr}(\text{p},\gamma)^{51}\text{Mn}$	5270.8	0.3	5270.76	0.30	-0.1	1	97	$^{49}\text{Mn}$	72Fo25	Z	
$^{50}\text{Cr}(\text{d},\text{He},\text{d})^{51}\text{Mn}$	-206	15	-222.72	0.30	-1.1	U		MIT	67Sp09		
$^{50}\text{Cr}(\text{p},\gamma)^{51}\text{Mn}^i$	819	2	819.4	1.4	0.2	-			72Fo25		
$^{50}\text{Cr}(\text{d},\text{He},\text{d})^{51}\text{Mn}^i$	-4652	20	-4674.1	1.4	-1.1	U		MIT	67Ra14		
	-4671.7	2.3		-1.0	-				79Pa14	*	
$^{50}\text{Cr}(\text{p},\gamma)^{51}\text{Mn}^i$	ave.	820.2	1.5	819.4	1.4	-0.5	1	92	$^{90}\text{Mn}^i$	average	
$^{51}\text{Co}^i(\text{p})^{50}\text{Fe}$	6153	16			3			Bor	07Do17	*	
$^{51}\text{Ti}(\beta^-)^{51}\text{V}$	2440	30	2471.8	1.0	1.1	U			55Bu01		
	2450	30		0.7	U				55Ma01		
$^{51}\text{Cr}(\epsilon)^{51}\text{V}$	756	5	752.63	0.24	-0.7	U			55Bi29		
$^{51}\text{V}(\text{p},\text{n})^{51}\text{Cr}$	-1533.5	2.0	-1534.98	0.24	-0.7	U		Nvl	59Go68	Z	
	-1533.3	1.8		-0.9	U			Oak	64Jo11	Z	
	-1533.7	1.5		-0.9	U			Can	70Kn03	Z	
	-1534.93	0.24		-0.2	1	98	$^{51}\text{Cr}$	PTB	89Sc24	Z	
$^{51}\text{V}(\text{He},\text{t})^{51}\text{Cr}^i$	-7384	5			2				71Be29		
$^{51}\text{Mn}(\beta^+)^{51}\text{Cr}$	3232	20	3207.6	0.4	-1.2	U			66Gl02		
$*^{48}\text{Ca}(\text{He},\text{t})^{51}\text{Ca}$	May be a $^{40}\text{Ca}$ contamination. There is a -16900(150) peak								85Be50	**	
$*^{48}\text{Ca}(\text{He},\text{t})^{51}\text{Ca}$	Proposed 970(90) level reinterpreted as ground state in reference								85Be50	**	
$*^{48}\text{Ca}(\text{He},\text{t})^{51}\text{Ca}$	Weak M-A=-36120(120) level disregarded								AHW	**	
$*^{50}\text{Cr}(\text{d},\text{He},\text{d})^{51}\text{Mn}^i$	IT=4449(3); Q rebuilt with Ame1977								MMC124**		
$*^{51}\text{Co}^i(\text{p})^{50}\text{Fe}$	Q <sub>p</sub> =4662(16) to (4 <sup>+</sup> ) level at 1851.5 keV								Ens10c	**	
$*^{51}\text{V}(\text{He},\text{t})^{51}\text{Cr}^i$	CDE=8145(5) Q=-7881(5); recalibration -3 keV for $^{50}\text{Cr}(\text{p},\text{n})^{50}\text{Mn}$ from Ame1961								MMC123**		
$^{52}\text{Ca-u}$	-34900	500	-36780	60	-2.5	U		TO3	1.5	90Tu01	
$^{52}\text{Sc-u}$	-43500	230	-43120	150	1.1	-		TO3	1.5	90Tu01	
	-43350	250			0.6	-		TO5	1.5	94Se12	
	-43110	240			0.0	-		TO6	1.5	98Ba.A	
ave.	-43320	210			1.0	1	54	$^{54}\text{Sc}$	average		
$\text{C}_4\text{H}_4-^{52}\text{Cr}$	90826	9	90793.9	0.6	-0.9	U		R09	4.0	72De11	
$\text{C}_3\text{H}_3-^{52}\text{Cr}$	86373	18	86323.7	0.6	-0.7	U		R09	4.0	72De11	
$\text{C}_3\text{H}_2\text{N}-^{52}\text{Cr}$	78253	6	78217.8	0.6	-1.5	U		R09	4.0	72De11	
$^{52}\text{Ca}-^{58}\text{Ni}_{.897}$	21220	110	21220	60	0.0	1	34	$^{34}\text{Ca}$	TT1	1.0	12Ga29

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{52}\text{Ca}-^{52}\text{Cr}$	22740	82	22710	60	-0.4	1	61	61 $^{52}\text{Ca}$	TT1	1.0	12Ga29
$^{52}\text{Cr}-^{50}\text{Cr}$	-5566	41	-5535.6	1.0	0.2	U		R09	4.0	72De11	
$^{52}\text{Cr}(\text{p},\alpha)^{49}\text{V}$	-2596	10	-2593.1	1.0	0.3	U		Ald		66Br06	
$^{50}\text{Ti}(\text{t,p})^{52}\text{Ti}$	5698	10	5699	7	0.1	2		LAl		66Wi11	
	5700	10			-0.1	2		LAl		71Ca19	
$^{50}\text{Ti}(\text{He},\text{p})^{52}\text{V}$	7653	15	7655.2	0.9	0.1	U		Phi		75Ca07	
$^{52}\text{Cr}(\text{d},\alpha)^{50}\text{V}$	4517	12	4516.6	0.9	0.0	U		Kop		67Ha.A	
$^{52}\text{Cr}(\text{p},^3\text{He})^{50}\text{V}^i$	-18645	6	-18650.8	0.7	-1.0	U				78Ko27	
$^{52}\text{Cr}(\text{p,t})^{50}\text{Cr}^i$	-21244	7				2				78Ko27	
$^{52}\text{Cr}(\text{p,t})^{50}\text{Cr}^j$	-26041	6				2				78Ko27	
$^{51}\text{V}(\text{n},\gamma)^{52}\text{V}$	7311.2	0.5	7311.24	0.13	0.1	2				84De15	
	7311.18	0.26			0.2	2		ILn		91Mi08	
	7311.27	0.15			-0.2	2		Bdn		06Fi.A	
$^{51}\text{V}(\text{d,p})^{52}\text{V}$	5098	9	5086.68	0.13	-1.3	U		MIT		64Sp12	
	5086	8			0.1	U		Kop		67Ha.A	
$^{51}\text{V}(\text{p},\gamma)^{52}\text{Cr}$	10500.7	2.8	10503.4	0.9	1.0	1	11	8 $^{51}\text{V}$		74Ro44	
$^{52}\text{Co}'(\text{p})^{51}\text{Fe}$	1367	60	1349	10	-0.3	o		Bor		94Fa06	
	1349	10				2		Bor		07Do17	
$^{52}\text{Ca}(\beta^-)^{52}\text{Sc}$	5700	200	5900	140	1.0	1	51	46 $^{52}\text{Sc}$		85Hu03	
$^{52}\text{Sc}(\beta^-)^{52}\text{Ti}$	8020	250	9300	140	5.1	B				85Hu03	
$^{52}\text{Ti}(\beta^-)^{52}\text{V}$	1940	200	1975	7	0.2	U				67Mo11 *	
$^{52}\text{V}(\beta^-)^{52}\text{Cr}$	3904	30	3974.5	0.9	2.3	U				65Ko09 *	
	3854	30			4.0	B				67Va27 *	
$^{52}\text{Mn}(\beta^+)^{52}\text{Cr}$	4710.9	4.	4711.2	1.9	0.1	R				58Ko57 *	
	4707.9	6.			0.6	R				60Ka20 *	
$^{52}\text{Cr}(\text{p,n})^{52}\text{Mn}$	-5479	10	-5493.6	1.9	-1.5	U		Ric		66Ri09	
$^{52}\text{Cr}(\text{He,t})^{52}\text{Mn}^i$	-7653	5				2				71Be29 *	
$^{52}\text{Fe}(\beta^+)^{52}\text{Mn}$	2372	10	2375	6	0.3	3				56Ar33 *	
	2229	130			1.1	U				79Ge02 *	
	2510	100			-1.4	U				95Ir01	
$*^{52}\text{Ti}(\beta^-)^{52}\text{V}$			$E_{\beta^-}=1800(200)$ to 1 <sup>+</sup> level at 141.6 keV								
$*^{52}\text{V}(\beta^-)^{52}\text{Cr}$			$E_{\beta^-}=2470(30)$ 2420(30) respectively, to 2 <sup>+</sup> level at 1434.094 keV								
$*^{52}\text{Mn}(\beta^+)^{52}\text{Cr}$			$E_{\beta^+}=575(4)$ and 572(6) respectively, to 6 <sup>+</sup> level at 3113.865 keV								
$*^{52}\text{Cr}(\text{He,t})^{52}\text{Mn}^i$			CDE=8414(5) Q=-7650(5); recalibration -3 keV for $^{50}\text{Cr}(\text{p,n})^{50}\text{Mn}$ from Ame1961								
$*^{52}\text{Fe}(\beta^+)^{52}\text{Mn}$			$E_{\beta^+}=804(10)$ to 1 <sup>+</sup> level at 546.438 keV								
$*^{52}\text{Fe}(\beta^+)^{52}\text{Mn}$			$E_{\beta^+}=5350(130)$ from $^{52}\text{Fe}^m$ 12 <sup>+</sup> at 6958.0 to 11 <sup>+</sup> level at 3837.2 keV								
$^{53}\text{Sc-u}$	-41440	260	-40910	290	1.4	o			TO3	1.5	90Tu01
	-41830	280			2.2	U		TO5	1.5	94Se12	
	-41100	400			0.3	U		TO6	1.5	98Ba.A	
	-41694	118			4.4	C		GT1	1.5	04Ma.A	
	-40910	290			2			MT1	1.0	11Es06	
$\text{C}_4\text{H}_5-^{53}\text{Cr}$	98529	8	98477.0	0.6	-1.6	U		R09	4.0	72De11	
$\text{C}_3\text{H}_3\text{N}-^{53}\text{Cr}$	85958	10	85901.0	0.6	-1.4	U		R09	4.0	72De11	
$\text{C}_2\text{H}_2\text{N}-^{53}\text{Cr}$	81507	27	81430.8	0.6	-0.7	U		R09	4.0	72De11	
$\text{C}_3\text{H}\text{O}-^{53}\text{Cr}$	62152	14	62091.5	0.6	-1.1	U		R09	4.0	72De11	
$^{53}\text{Co-u}$	-45783	18	-45795.9	1.9	-0.7	U		LZ1	1.0	11Tu09	
$^{53}\text{Ni-u}$	-31810	27			2			LZ1	1.0	12Zh34	
$^{53}\text{Co}-^{53}\text{Fe}$	8897.67	0.49	8897.6	0.5	0.0	1	94	94 $^{53}\text{Co}$	JY1	1.0	10Ka26
$^{53}\text{Co}^m-^{53}\text{Fe}$	12305.2	1.3	12305.3	1.0	0.1	1	60	60 $^{53}\text{Co}^m$	JY1	1.0	10Ka26
$^{53}\text{Co}^m-^{53}\text{Co}$	3407.9	1.5	3407.7	1.0	-0.1	1	46	40 $^{53}\text{Co}^m$	JY1	1.0	10Ka26
$^{53}\text{Cr}-^{52}\text{Cr}$	115	46	141.92	0.15	0.1	U		R09	4.0	72De11	
$^{51}\text{V}(\text{t,p})^{53}\text{V}$	7325	25	7307	3	-0.7	U		Ald		67Hi02	
$^{53}\text{Cr}(\text{d},\alpha)^{51}\text{V}$	7635	12	7628.6	0.9	-0.5	U		Kop		67Ha.A	
$^{52}\text{Cr}(\text{n},\gamma)^{53}\text{Cr}$	7939.52	0.3	7939.12	0.14	-1.3	-		MMn		80Is02	
	7939.01	0.2			0.6	-		BNn		80Ko01	
	7939.10	0.28			0.1	-		Bdn		06Fi.A	
$^{52}\text{Cr}(\text{d,p})^{53}\text{Cr}$	5725	6	5714.56	0.14	-1.7	U		MIT		64Sp12	
	5719	8			-0.6	U		Kop		67Ha.A	
$^{52}\text{Cr}(\text{n},\gamma)^{53}\text{Cr}$	ave.	7939.15	0.14	7939.12	0.14	-0.2	1	98	77 $^{52}\text{Cr}$	average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{52}\text{Cr}(\text{p},\gamma)^{53}\text{Mn}$	6559.1	1.1	6559.9	0.3	0.8	U				70Ma25	Z	
	6559.72	0.36			0.6	1	87	67 $^{53}\text{Mn}$		79Sw01	Z	
$^{52}\text{Cr}(\text{He},\text{d})^{53}\text{Mn}$	1070	15	1066.5	0.3	-0.2	U			MIT	67Ob04		
$^{53}\text{Co}^m(\text{p})^{52}\text{Fe}$	1600.5	30.	1559	7	-1.4	U				70Ce04		
	1590	30			-1.0	U				76Vi02		
$^{53}\text{Co}^i(\text{p})^{52}\text{Fe}$	2789.5	50.	2780	17	-0.2	4				76Vi02	*	
	2778.5	18.			0.1	4			Bor	07Do17	*	
$^{53}\text{Ti}(\beta^-)^{53}\text{V}$	5020	100				3			ANB	77Pa01		
$^{53}\text{V}(\beta^-)^{53}\text{Cr}$	3536	50	3436	3	-2.0	U				56Sc.A	*	
$^{53}\text{Cr}(\text{p},\text{n})^{53}\text{Mn}$	-1379	8	-1379.2	0.4	0.0	U			MIT	52Lo06	Y	
	-1381.1	1.6			1.2	U			Oak	64Jo11	Z	
$^{53}\text{Cr}(\text{He},\text{t})^{53}\text{Mn}^i$	-7589	4				2				71Be29	*	
$^{53}\text{Fe}(\beta^+)^{53}\text{Mn}$	3860	100	3742.3	1.7	-1.2	U				59Ju40		
	3820	100			-0.8	U				75Bl01		
* $^{53}\text{Co}^i(\text{p})^{52}\text{Fe}$	$Q_p=1940(50)$ 1929(18) respectively, to $2^+$ level at 849.45 keV									Ens075	**	
* $^{53}\text{V}(\beta^-)^{53}\text{Cr}$	$E_{\beta^-}=2530(50)$ to $5/2^-$ level at 1006.27 keV									Ens09a	**	
* $^{53}\text{Cr}(\text{He},\text{t})^{53}\text{Mn}^i$	CDE=8350(4) $Q=-7586(4)$ ; recalibration -3 keV for $^{50}\text{Cr}(\text{p},\text{n})^{50}\text{Mn}$ from Ame1961									MMC123**		
$^{54}\text{Sc-u}$	-36060	500	-36070	390	0.0	o			TO3	1.5	90Tu01	*
	-37060	500			1.3	o			TO5	1.5	94Se12	*
	-36960	400			1.5	U			TO6	1.5	98Ba.A	*
	-37059	225			2.9	U			GT1	1.5	04Ma.A	
	-36070	390				2			MT1	1.0	11Es06	*
$^{54}\text{Ti-u}$	-48820	230	-48950	130	-0.4	2			TO3	1.5	90Tu01	
	-49130	250			0.5	2			TO5	1.5	94Se12	
	-48820	280			-0.3	2			TO6	1.5	98Ba.A	
$\text{C}_4\text{H}_6-^{54}\text{Cr}$	108018	17	108071.0	0.6	0.8	U			R09	4.0	72De11	
$\text{C}_3\text{C}_5-^{54}\text{Cr}$	103569	15	103600.8	0.6	0.5	U			R09	4.0	72De11	
$\text{C}_3\text{H}_4\text{N}-^{54}\text{Cr}$	95445	13	95495.0	0.6	1.0	U			R09	4.0	72De11	
$\text{C}_2\text{C}_2\text{H}_3\text{N}-^{54}\text{Cr}$	90960	24	91024.8	0.6	0.7	U			R09	4.0	72De11	
$\text{C}_2\text{N O}-^{54}\text{Cr}$	59057	26	59109.5	0.6	0.5	U			R09	4.0	72De11	
$^{13}\text{C}^{37}\text{Cl}_3-^{54}\text{Fe}^{35}\text{Cl}_2$	23744.46	1.26	23748.3	0.6	1.2	U			H39	2.5	84Ha20	
$\text{C}_4\text{H}_6-^{54}\text{Fe}$	107368	11	107341.2	0.5	-0.6	U			R09	4.0	72De11	
$\text{C}_3\text{H}_4\text{N}-^{54}\text{Fe}$	94791	8	94765.1	0.5	-0.8	U			R09	4.0	72De11	
$\text{C}_2\text{N O}-^{54}\text{Fe}$	58411	8	58379.6	0.5	-1.0	U			R09	4.0	72De11	
$\text{C}_3\text{C}_5-^{54}\text{Fe}$	102908	48	102871.0	0.5	-0.2	U			R09	4.0	72De11	
$^{54}\text{Co}-^{54}\text{Fe}$	8850.94	0.14	8850.89	0.10	-0.4	1	47	47 $^{54}\text{Co}$	JY1	1.0	08Er04	
$^{54}\text{Co}^m-^{54}\text{Fe}$	9062.960	0.092	9062.99	0.08	0.3	1	81	81 $^{54}\text{Co}^m$	JY1	1.0	08Er04	
$^{54}\text{Co}^m-^{54}\text{Co}$	212.18	0.15	212.10	0.10	-0.5	1	49	30 $^{54}\text{Co}$	JY1	1.0	08Er04	
$^{54}\text{Cr}-^{53}\text{Cr}$	-1662	48	-1768.99	0.13	-0.6	U			R09	4.0	72De11	
$^{54}\text{Fe}(\text{p},\text{He})^{49}\text{Mn}$	-28943	24	-28920	10	0.9	1	18	18 $^{49}\text{Mn}$	MSU	75Mu09	*	
$^{54}\text{Fe}(\alpha,\text{He})^{50}\text{Fe}$	-50950	60				2			Tex	77Tr05		
$^{54}\text{Cr}(\text{p},\alpha)^{51}\text{V}$	130	30	134.0	0.9	0.1	U			Kop	64Ve02		
$^{54}\text{Fe}(\text{p},\alpha)^{51}\text{Mn}$	-3145	9	-3146.3	0.8	-0.1	U			Ald	66Br05		
	-3146.9	1.1			0.5	1	57	51 $^{51}\text{Mn}$	NDm	74Jo14		
$^{54}\text{Fe}(\text{p},\alpha)^{51}\text{Mn}^i$	-7606.6	5.0	-7597.7	1.6	1.8	1	11	10 $^{51}\text{Mn}^i$	79Ta22	*		
$^{54}\text{Fe}(\text{He},\text{He})^{51}\text{Fe}$	-18694	15	-18712	9	-1.2	1	36	36 $^{51}\text{Fe}$	MSU	77Mu03	*	
$^{54}\text{Cr}(\text{d},\alpha)^{52}\text{V}$	5225	12	5220.7	0.9	-0.4	U			Kop	67Ha.A		
$^{52}\text{Cr}(\text{t},\text{p})^{54}\text{Cr}$	9171	10	9176.44	0.19	0.5	U			LAI	71Ca19		
$^{52}\text{Cr}(\text{He},\text{p})^{54}\text{Mn}$	7785	15	7780.7	1.0	-0.3	U			MIT	69Ly06		
	7788	9			-0.8	U			Phi	72Be07		
$^{52}\text{Cr}(\text{He},\text{p})^{54}\text{Mn}^i$	1633.6	3.9	1634.5	2.8	0.2	1	51	51 $^{54}\text{Mn}^i$		72Be07	*	
$^{52}\text{Cr}(\text{He},\text{n})^{54}\text{Fe}^j$	-7173	20				2				75Bo14		
$^{54}\text{Fe}(\text{d},\alpha)^{52}\text{Mn}$	5169	12	5163.8	1.8	-0.4	U			Kop	67Ha.A		
	5159	15			0.3	U			MIT	67Sp09		
	5163.3	2.2			0.2	2			NDm	76Jo01		
$^{54}\text{Fe}(\text{p},\text{t})^{52}\text{Fe}$	-15584	8	-15582	7	0.2	R				78Ko27	*	
$^{54}\text{Fe}(\text{p},\text{t})^{52}\text{Fe}^j$	-24139	7	-24140	6	-0.1	2				78Ko27		
	-24141.3	11.0			0.1	2				78De18	*	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{54}\text{Zn}(2\text{p})^{52}\text{Ni}$	1480	20	1480	20	0.0	o					05Gi15
	1480	20				3					05Bl15
	1280	210			1.0	U					11As08
$^{54}\text{Cr}(\text{d},^3\text{He})^{53}\text{V}$	-6879.2	3.1				2					79Br.B
$^{53}\text{Cr}(\text{n},\gamma)^{54}\text{Cr}$	9719.30	0.16	9719.12	0.12	-1.1	-					68Wh03 Z
	9718.3	0.4			2.1	-					72Lo26 Z
	9718.91	0.27			0.8	-					80Is02 Z
	9718.0	0.2			5.6	B					87Mh.A
	9719.7	0.5			-1.2	-					89Ho15 Z
	9720.00	0.20			-4.4	C					06Fi.A
$^{53}\text{Cr}(\text{d,p})^{54}\text{Cr}$	7480	12	7494.55	0.12	1.2	U					64Sp12
	7514	10			-1.9	U					Kop
$^{53}\text{Cr}(\text{n},\gamma)^{54}\text{Cr}$	ave.	9719.14	0.13	9719.12	0.12	-0.2	1	98	79 $^{53}\text{Cr}$		average
$^{53}\text{Cr}(\text{p},\gamma)^{54}\text{Mn}$	7559.6	1.0				2					75We10 Z
$^{53}\text{Cr}(\text{He,d})^{54}\text{Mn}$	2080	12	2066.1	1.0	-1.2	U					69Ly06
$^{54}\text{Fe}(\text{d,t})^{53}\text{Fe}$	-7121.5	2.1	-7121.2	1.6	0.1	-					74Jo14
$^{54}\text{Fe}(\text{t}^3\text{He},\alpha)^{53}\text{Fe}$	7197	20	7199.2	1.6	0.1	U					68Tr01
	7199.6	2.6			-0.2	-					NDm
$^{54}\text{Fe}(\text{d,t})^{53}\text{Fe}$	ave.	-7121.2	1.6	-7121.2	1.6	0.0	1	100	100 $^{53}\text{Fe}$		average
$^{54}\text{Ti}(\beta^-)^{54}\text{V}$	4280	160	4300	130	0.1	R					96Do23
$^{54}\text{V}(\beta^-)^{54}\text{Cr}$	7000	100	7042	15	0.4	U					70Wa14
$^{54}\text{Cr}(\text{t},^3\text{He})^{54}\text{V}$	-7023	15				2					LAl
$^{54}\text{Mn}(\varepsilon)^{54}\text{Cr}$	1359	8	1377.2	1.0	2.3	U					72Ko47 *
	1379	8			-0.2	U					00Hi08 *
$^{54}\text{Cr}(\text{p,n})^{54}\text{Mn}$	-2160	5	-2159.5	1.0	0.1	U					MIT
$^{54}\text{Cr}(\text{t}^3\text{He,t})^{54}\text{Mn}^i$	-7541	4	-7541.9	2.8	-0.2	1	49	49 $^{54}\text{Mn}^i$			52Lo06 Z
$^{54}\text{Co}(\beta^+)^{54}\text{Fe}$	8023	110	8244.55	0.09	2.0	U					71Be29 *
	8459	41			-5.2	C					59Su.A *
$^{54}\text{Fe}(\text{p,n})^{54}\text{Co}$	-9031.1	2.5	-9026.89	0.09	1.7	U					69Ov01 *
	-9023.7	1.8			-1.8	U					74Ho21 Z
$^{54}\text{Fe}(\text{t}^3\text{He,t})^{54}\text{Co}$	-8261.2	1.0	-8263.14	0.09	-1.9	F					Mun
$^{54}\text{Fe}(\text{t}^3\text{He,t})^{54}\text{Co}-^{27}\text{Al}(-^{27}\text{Si})$	-3432.5	3.0	-3432.19	0.13	0.1	U					ChR
$^{54}\text{Fe}(\text{t}^3\text{He,t})^{54}\text{Co}-^{42}\text{Ca}(-^{42}\text{Sc})$	-1817.24	0.18	-1818.45	0.13	-6.7	B					ChR
* $^{54}\text{Sc-u}$	Original -36000(500) $\mu\text{u}$ or M=-33500(470) keV										
* $^{54}\text{Sc-u}$	Original -37000(500) $\mu\text{u}$ or M=-34470(470) keV										
* $^{54}\text{Sc-u}$	M-A=-34370(370) keV for mixture gs+m at 110(3) keV										
* $^{54}\text{Sc-u}$	M-A=-33540(360) keV for mixture gs+m at 110(3) keV										
* $^{54}\text{Fe}(\text{p},^6\text{He})^{49}\text{Mn}$	Q increased 1 for recalibration										
* $^{54}\text{Fe}(\text{p},\alpha)^{51}\text{Mn}^i$	IT=4459(5); Q rebuilt with Ame1977										
* $^{54}\text{Fe}(\text{t}^3\text{He},^6\text{He})^{51}\text{Fe}$	Averaged with reference See $^{46}\text{Ti}(\text{t}^3\text{He},^6\text{He})$										
* $^{52}\text{Cr}(\text{t}^3\text{He,p})^{54}\text{Mn}^i$	IT=6151(5); Q rebuilt with Ame1971										
* $^{54}\text{Fe}(\text{p,t})^{52}\text{Fe}$	Q=-21239(8) to 5655.4 level										
* $^{54}\text{Fe}(\text{p,t})^{52}\text{Fe}^j$	IT=8561(5); Q rebuilt with Ame1977										
* $^{54}\text{Mn}(\varepsilon)^{54}\text{Cr}$	IBE=518(8) to 2 <sup>+</sup> level at 834.855 keV, B(K)=5.99										
* $^{54}\text{Mn}(\varepsilon)^{54}\text{Cr}$	IBE=544(8) to 2 <sup>+</sup> level at 834.855 keV										
* $^{54}\text{Cr}(\text{t}^3\text{He,t})^{54}\text{Mn}^i$	CDE=8302(4) Q=-7538(4); recalibration -3 keV for $^{50}\text{Cr}(\text{p,n})^{50}\text{Mn}$ from Ame1961										
* $^{54}\text{Co}(\beta^+)^{54}\text{Fe}$	$E_{\beta^+}=4250(110)$ from $^{54}\text{Co}^m$ at 197.57 to 2949.2 6 <sup>+</sup> level										
* $^{54}\text{Fe}(\text{p,n})^{54}\text{Co}$	Uncorrected for resonance. Orig T=9204.1(1.8) corrected in reference										
* $^{54}\text{Fe}(\text{t}^3\text{He,t})^{54}\text{Co}$	F : rejected in reference of same group										
$^{55}\text{Sc-u}$	-30600	1100	-32180	500	-1.0	2					TO3 1.5 90Tu01
	-32100	600			-0.1	2					TO6 1.5 98Ba.A
	-32460	640			0.4	2					MT1 1.0 11Es06
$^{55}\text{Ti-u}$	-44650	280	-44730	170	-0.2	-					TO3 1.5 90Tu01
	-44880	260			0.4	-					TO5 1.5 94Se12
	-44360	350			-0.7	-					TO6 1.5 98Ba.A
ave.	-44680	250			-0.2	1	48	48 $^{55}\text{Ti}$			average
$\text{C}_4\text{H}_7-^{55}\text{Mn}$	116757	8	116731.3	0.5	-0.8	U					R09 4.0 72De11

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$C_3^{13}C H_6 - ^{55}Mn$	112281	25	112261.1	0.5	-0.2	U		R09	4.0	72De11		
$C_3 H_5 N - ^{55}Mn$	104202	10	104155.3	0.5	-1.2	U		R09	4.0	72De11		
$C_2 H_3 N_2 - ^{55}Mn$	91618	28	91579.2	0.5	-0.3	U		R09	4.0	72De11		
$C_3 H_3 O - ^{55}Mn$	80372	10	80345.8	0.5	-0.7	U		R09	4.0	72De11		
$^{55}Mn - ^{85}Rb_{647}$	-4884.41	0.84	-4884.0	0.5	0.4	1	32	32 $^{55}Mn$	MA8	1.0	12Na15	
$^{55}Ni-u$	-48678	18	-48669.4	0.8	0.5	U		LZ1	1.0	11Tu09		
$^{55}Cu-u$	-33962	167			2			LZ1	1.0	12Ya.A		
$^{55}Ni - ^{55}Co$	9333.43	0.62			2			JY1	1.0	10Ka26		
$^{55}Mn(p,\alpha) ^{52}Cr$	2570	8	2570.4	0.4	0.1	U		MIT	64Sp12			
	2600	10			-3.0	U		ANL	67Ka11			
$^{55}Mn(d,\alpha) ^{53}Cr$	8283	8	8285.0	0.4	0.2	U		MIT	64Sp12			
	8277	15			0.5	U		Kop	67Ha.A			
$^{54}Cr(n,\gamma) ^{55}Cr$	6246.2	0.4	6246.26	0.19	0.2	-			72Wh05	Z		
	6246.28	0.21			-0.1	-		Bdn	06Fi.A			
$^{54}Cr(d,p) ^{55}Cr$	4027	8	4021.70	0.19	-0.7	U		MIT	64Sp12			
	4035	8			-1.7	U		Kop	67Ha.A			
	4022.1	1.2			-0.3	U		NDm	74Jo14			
$^{54}Cr(n,\gamma) ^{55}Cr$	ave.	6246.26	0.19	6246.26	0.19	0.0	1	100	100 $^{55}Cr$		average	
$^{54}Cr(p,\gamma) ^{55}Mn$		8067.2	0.4	8067.0	0.4	-0.5	1	83	81 $^{54}Cr$		78We12	
$^{54}Cr(^3He,d) ^{55}Mn$		2568	18	2573.5	0.4	0.3	U		MIT	69Ra02		
$^{55}Mn(\gamma,n) ^{54}Mn$		-10192	20	-10226.5	1.1	-1.7	U		Phi	60Ge01		
$^{54}Fe(n,\gamma) ^{55}Fe$		9297.91	0.3	9298.09	0.19	0.6	-		MMn	80Is02	Z	
	9298.53	0.27			-1.6	-		Bdn	06Fi.A			
$^{54}Fe(d,p) ^{55}Fe$		7084	8	7073.52	0.19	-1.3	U		MIT	64Sp12		
	7083	10			-0.9	U		Kop	67Ha.A			
	7072.3	1.7			0.7	U		NDm	74Jo14			
$^{54}Fe(n,\gamma) ^{55}Fe$	ave.	9298.25	0.20	9298.09	0.19	-0.8	1	90	72 $^{54}Fe$		average	
$^{54}Fe(p,\gamma) ^{55}Co$		5064.0	0.7	5064.36	0.30	0.5	-			77Er02	Z	
	5063.9	0.4			1.2	-				80Ha36	Z	
$^{54}Fe(^3He,d) ^{55}Co$		-428	15	-429.11	0.30	-0.1	U		MIT	67Ob04		
	-426.9	2.2			-1.0	U		NDm	74Jo14			
$^{54}Fe(p,\gamma) ^{55}Co$	ave.	5063.9	0.3	5064.36	0.30	1.3	1	74	54 $^{55}Co$		average	
$^{55}Ti(\beta^-) ^{55}V$		7440	200	7480	160	0.2	1	62	52 $^{55}Ti$		96Do23	
$^{55}V(\beta^-) ^{55}Cr$		5956	100	5970	100	0.1	1	90	90 $^{55}V$	ANB	77Na17	
$^{55}Cr(\beta^-) ^{55}Mn$		2500	40	2603.1	0.4	2.6	U			63Me06		
	2494	25			4.4	B				65Ko09		
$^{55}Fe(\varepsilon) ^{55}Mn$		224.5	4.	231.09	0.18	1.6	U			65Be19		
	224.5	3.			2.2	U				69Ka13		
	231.4	0.4			-0.8	-				89Zl.A		
	230.7	1.9			0.2	U				90Is06		
	231.0	1.0			0.1	U				93Wi05	*	
	231.37	0.30			-0.9	-				95Da14	*	
	231.0	0.3			0.3	-				95Sy01	*	
	232.36	0.64			-2.0	U				01Ke14		
$^{55}Mn(p,n) ^{55}Fe$		-1015.7	2.	-1013.43	0.18	1.1	U		Nvl	59Go68	Z	
	-1014.6	0.8			1.5	U		Oak	64Jo11	Z		
$^{55}Fe(\varepsilon) ^{55}Mn$	ave.	231.23	0.19	231.09	0.18	-0.8	1	92	81 $^{55}Fe$		average	
$^{55}Mn(^3He,t) ^{55}Fe^i$		-7883	6			2				71Be29	*	
$^{55}Co(\beta^+) ^{55}Fe$		3466	2	3451.4	0.3	-7.3	B			66Fi06	*	
$*^{55}Fe(\varepsilon) ^{55}Mn$	Error estimated by evaluator											AHW **
$*^{55}Fe(\varepsilon) ^{55}Mn$	Original error 0.10 increased by evaluator											GAu **
$*^{55}Fe(\varepsilon) ^{55}Mn$	Original statistical error 0.10 increased by evaluator											GAu **
$*^{55}Mn(^3He,t) ^{55}Fe^i$	CDE=8654(6) Q=-7890(6); recalibration +7 keV for $^{54}Fe(p,n) ^{54}Co$ from Ame1961											MMC123**
$*^{55}Co(\beta^+) ^{55}Fe$	$E_{\beta^+}=1513(2)$ to $5/2^-$ level at 931.29 keV											Ens097 **
$^{56}Ti-u$		-41300	350	-42090	150	-1.5	-		TO3	1.5	90Tu01	
		-42010	300			-0.2	-		TO5	1.5	94Se12	
		-41770	270			-0.8	-		TO6	1.5	98Ba.A	
		-42319	129			1.2	-		GT1	1.5	04Ma.A	
	ave.	-42110	160			0.1	1	88	88 $^{56}Ti$		average	
$^{56}V-u$		-49470	250	-49520	190	-0.1	-		TO3	1.5	90Tu01	
		-49640	260			0.3	-		TO5	1.5	94Se12	
		-49310	250			-0.5	-		TO6	1.5	98Ba.A	
	ave.	-49470	220			-0.2	1	76	76 $^{56}V$		average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{56}\text{Cr}-^{85}\text{Rb}_{,659}$	-1216.3	2.0		2			MA8	1.0	05Gu27
$^{56}\text{Mn}-^{85}\text{Rb}_{,659}$	-2965.1	1.5	-2965.7	0.5	-0.4	1	11		05Gu37
$^{56}\text{Mn}-^{39}\text{K}_{1,436}$	-8979.0	2.7	-8978.8	0.5	0.1	U			09Na.A
$\text{C}_4\text{H}_8-\text{Fe}^{56}$	127754	10	127663.9	0.5	-2.3	U			R09 4.0 72De11
$\text{C}_3\text{H}_7-\text{Fe}^{56}$	123300	47	123193.7	0.5	-0.6	U			R09 4.0 72De11
$\text{C}_3\text{H}_6\text{N}-\text{Fe}^{56}$	115171	13	115087.9	0.5	-1.6	U			R09 4.0 72De11
$\text{C}_3\text{H}_4\text{O}-\text{Fe}^{56}$	91381	15	91278.4	0.5	-1.7	U			R09 4.0 72De11
$\text{C}_2\text{H}_2\text{NO}-\text{Fe}^{56}$	78790	24	78702.4	0.5	-0.9	U			R09 4.0 72De11
$\text{C}_2\text{O}_2-\text{Fe}^{56}$	54990	9	54892.9	0.5	-2.7	B			R09 4.0 72De11
$^{56}\text{Fe}-^{58}\text{Ni}_{,966}$	-2604.70	0.47	-2604.44	0.26	0.5	1	32	18 $^{58}\text{Ni}$	JY1 1.0 10Ka26
$^{56}\text{Co}-^{58}\text{Ni}_{,966}$	2297.85	0.55	2298.0	0.4	0.3	1	58	53 $^{56}\text{Co}$	JY1 1.0 10Ka26
$^{56}\text{Ni}-^{55}\text{Co}_{1,018}$	1176.23	0.48	1175.4	0.4	-1.7	1	60	33 $^{55}\text{Co}$	JY1 1.0 10Ka26
$^{56}\text{Ni}-\text{Fe}^{56}$	7192.00	0.52	7192.2	0.3	0.4	1	43	37 $^{56}\text{Ni}$	JY1 1.0 10Ka26
$^{56}\text{Ni}-^{56}\text{Co}$	2289.61	0.49	2289.8	0.4	0.3	1	67	47 $^{56}\text{Co}$	JY1 1.0 10Ka26
$^{56}\text{Fe}-\text{Fe}^{54}$	-4755	47	-4672.7	0.3	0.4	U			R09 4.0 72De11
$^{56}\text{Fe}(\text{p},\alpha)^{53}\text{Mn}$	-1060	9	-1053.3	0.5	0.7	U			MIT 64Sp12
	-1056	9			0.3	U			Ald 66Br05
	-1052.3	0.8			-1.3	1	35	33 $^{53}\text{Mn}$	NDm 74Jo14
$^{54}\text{Cr}(\text{t,p})^{56}\text{Cr}$	5995	30	6008.4	1.9	0.4	U			Ald 68Ch20
	6024	10			-1.6	U			LAl 71Ca19
$^{56}\text{Fe}(\text{d},\alpha)^{54}\text{Mn}$	5662	12	5660.9	1.1	-0.1	U			Kop 67Ha.A
	5673	30			-0.4	U			67Hj01
$^{54}\text{Fe}(\text{He},\text{p})^{56}\text{Co}$	7410	10	7428.2	0.5	1.8	U			CIT 67Mi02
	7408	15			1.3	U			MIT 68Be10
$^{54}\text{Fe}(\text{He},\text{n})^{56}\text{Ni}$	4513	14	4512.9	0.4	0.0	U			CIT 67Mi02
$^{55}\text{Mn}(\text{n},\gamma)^{56}\text{Mn}$	7270.53	0.3	7270.44	0.13	-0.3	-			MMn 80Is02 Z
	7270.42	0.15			0.1	-			Bdn 06Fi.A
$^{55}\text{Mn}(\text{d,p})^{56}\text{Mn}$	5052	5	5045.87	0.13	-1.2	U			MIT 64Sp12
	5053	8			-0.9	U			Kop 67Ha.A
$^{55}\text{Mn}(\text{n},\gamma)^{56}\text{Mn}$	ave.	7270.44	0.13	7270.44	0.13	0.0	1	99	89 $^{56}\text{Mn}$
$^{55}\text{Mn}(\text{p},\gamma)^{56}\text{Fe}$	10189	7	10183.67	0.16	-0.8	U			average
	10193.7	4.5			-2.2	U			69Fr22
	10195.7	3.6			-3.3	B			70Sa19 *
	10183.80	0.17			-0.8	1	89	63 $^{56}\text{Fe}$	74Pe15 *
$^{56}\text{Fe}(\text{d,t})^{55}\text{Fe}$	-4938.3	1.3	-4939.87	0.23	-1.2	U			Utr 92Gu03 Z
$^{56}\text{Ni}(\text{p})^{55}\text{Co}$	-7148.5	30.	-7166.6	0.3	-0.6	U			NDm 74Jo14
$^{56}\text{Cu}^i(\text{p})^{55}\text{Ni}$	2929	31			3				08Jo04 *
$^{56}\text{Ti}(\beta^-)^{56}\text{V}$	7030	330	6920	200	-0.3	1	37	24 $^{56}\text{V}$	Bor 07Do17
$^{56}\text{Cr}(\beta^-)^{56}\text{Mn}$	1610	150	1629.6	1.9	0.1	U			96Do23
$^{56}\text{Mn}(\beta^-)^{56}\text{Fe}$	3685	5	3695.58	0.21	2.1	U			60Dr03
$^{56}\text{Co}(\beta^+)^{56}\text{Fe}$	4566.0	2.0	4566.6	0.4	0.3	U			62Ho14 *
$^{56}\text{Fe}(\text{p,n})^{56}\text{Co}$	-5351	10	-5349.0	0.4	0.2	U			65Pe18 *
$^{56}\text{Fe}(\text{He,t})^{56}\text{Co}^i$	-8178	9			2				Tal 62Ne08 Y
$^{55}\text{Mn}(\text{p},\gamma)^{56}\text{Fe}$	E <sub>p</sub> =1537(2) to 11703(4) level								71Be29 *
$^{55}\text{Mn}(\text{p},\gamma)^{56}\text{Fe}$	E <sub>p</sub> =1537(2) to 11705(3) level								70Sa19 **
$^{56}\text{Ni}(\text{p})^{55}\text{Co}$	E <sub>p</sub> =2540(30) from 9735 level								74Pe15 **
$^{56}\text{Mn}(\beta^-)^{56}\text{Fe}$	E <sub>p</sub> =-2838(5) to 2 <sup>+</sup> level at 846.7778 keV								08Jo04 **
$^{56}\text{Co}(\beta^+)^{56}\text{Fe}$	E <sub>p</sub> =-1459(3) to 4 <sup>+</sup> level at 2085.1045 keV								Ens115 **
$^{56}\text{Fe}(\text{He,t})^{56}\text{Co}^i$	Strongest fragment given as CDE=8950(6); Q=-8186(6) rebuilt with Ame1965 recalibration +7 keV for $^{54}\text{Fe}(\text{p,n})^{54}\text{Co}$ from Ame1961								Ens115 **
*									71Be29 **
									MMC123**
$^{57}\text{Ti-u}$	-35700	1000	-36360	270	-0.4	-			TO3 1.5 90Tu01
	-36200	400			-0.3	-			TO6 1.5 98Ba.A
	-37102	408			1.2	-			GT1 1.5 04Ma.A
	-36280	370			-0.2	-			MT1 1.0 11Es06
	ave.	-36410	280		0.2	1	94	94 $^{57}\text{Ti}$	average
$^{57}\text{V-u}$	-47300	400	-47480	240	-0.3	-			TO3 1.5 90Tu01
	-47640	270			0.4	-			TO5 1.5 94Se12
	-47320	250			-0.4	-			TO6 1.5 98Ba.A
	ave.	-47440	250		-0.2	1	95	95 $^{57}\text{V}$	average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{57}\text{Cr-u}$	-56240	250	-56387.0	2.0	-0.4	U			TO3	1.5	90Tu01
	-56300	260			-0.2	U			TO5	1.5	94Se12
	-56170	270			-0.5	U			TO6	1.5	98Ba.A
$^{57}\text{Cr}-^{85}\text{Rb}_{.671}$	2802.1	2.0				2			MA8	1.0	05Gu27
$^{57}\text{Mn}-^{85}\text{Rb}_{.671}$	-2525.1	2.3	-2524.8	1.6	0.1	1	49	49 $^{57}\text{Mn}$	MA8	1.0	05Gu37
$^{57}\text{Mn}-^{39}\text{K}_{1.462}$	-8650.7	2.8	-8652.8	1.6	-0.7	1	33	33 $^{57}\text{Mn}$	MA8	1.0	12Na15
$\text{C}_7\text{H}_8-\text{Fe}^{35}\text{Cl}$	158378.5	3.5	158354.7	0.5	-2.7	U			M18	2.5	68Hu05
$\text{C}_4\text{H}_9-\text{Fe}$	135085	11	135032.4	0.5	-1.2	U			R09	4.0	72De11
$\text{C}_3\text{H}_7\text{N}-\text{Fe}$	122500	10	122456.4	0.5	-1.1	U			R09	4.0	72De11
$\text{C}_3\text{H}_5\text{O}-\text{Fe}$	98684	8	98646.9	0.5	-1.2	U			R09	4.0	72De11
$\text{C}_2\text{H}_3\text{N O}-\text{Fe}$	86104	17	86070.9	0.5	-0.5	U			R09	4.0	72De11
$^{57}\text{Ni}-^{85}\text{Rb}_{.671}$	-1019.8	2.7	-1018.7	0.7	0.4	U			MA8	1.0	07Gu09
$^{57}\text{Cu-u}$	-50772	43	-50787.5	0.7	-0.4	U			LZ1	1.0	11Tu09
$^{56}\text{Fe}^{13}\text{C}-\text{Fe C}$	2897.67	0.47	2898.32	0.04	0.6	U			H30	2.5	77Ba10
	2897.68	0.40			0.6	U			H30	2.5	77Ba10
$^{56}\text{Fe H}-\text{Fe}$	7325	7	7368.52	0.04	1.6	U			R09	4.0	72De11
$^{57}\text{Fe}-^{56}\text{Fe}_{1.018}$	1627.95	0.46	1627.66	0.04	-0.6	U			JY1	1.0	10Ka26
$^{57}\text{Fe}-^{58}\text{Ni}_{.983}$	-1048.75	0.46	-1048.75	0.27	0.0	1	34	21 $^{58}\text{Ni}$	JY1	1.0	10Ka26
$^{57}\text{Ni}-^{58}\text{Ni}_{.983}$	3350.77	0.72	3350.6	0.5	-0.3	1	55	51 $^{57}\text{Ni}$	JY1	1.0	10Ka26
$^{57}\text{Cu}-^{56}\text{Ni}_{.018}$	8126.29	0.55	8125.6	0.4	-1.2	1	63	48 $^{57}\text{Cu}$	JY1	1.0	10Ka26
$^{57}\text{Cu}-\text{Fe}$	13817.80	0.86	13819.7	0.5	2.2	1	29	28 $^{57}\text{Cu}$	JY1	1.0	10Ka26
$^{57}\text{Cu}-^{57}\text{Ni}$	9420.42	0.55	9420.3	0.5	-0.2	1	74	49 $^{57}\text{Ni}$	JY1	1.0	10Ka26
$^{56}\text{Fe}^{37}\text{Cl}-\text{Fe}^{35}\text{Cl}$	-3413.7	4.3	-3406.60	0.08	0.7	U			M18	2.5	68Hu05
$^{57}\text{Fe}-^{56}\text{Fe}$	456.6	1.4	456.52	0.04	0.0	U			M18	2.5	68Hu05
	453.2	2.1			0.6	U			M18	2.5	68Hu05
	491	39			-0.2	U			R09	4.0	72De11
$^{54}\text{Cr}(\alpha, p)^{57}\text{Mn}$	-4308	8	-4311.6	1.6	-0.5	U			NDm		76Ma03
	-4302	8			-1.2	U			Can		78An10
$^{57}\text{Fe}(p, \alpha)^{54}\text{Mn}$	237	9	239.4	1.1	0.3	U			MIT		64Sp12
$^{54}\text{Fe}(\alpha, p)^{57}\text{Co}$	-1770.3	1.8	-1773.0	0.5	-1.5	U			NDm		74Jo14
$^{55}\text{Mn}(t, p)^{57}\text{Mn}$	7438.2	3.6	7435.2	1.5	-0.8	1	18	17 $^{57}\text{Mn}$	NDm		77Ma12
$^{57}\text{Fe}(d, \alpha)^{55}\text{Mn}$	8246	15	8241.35	0.17	-0.3	U			Kop		67Ha.A
$^{56}\text{Fe}(n, \gamma)^{57}\text{Fe}$	7645.9	0.5	7646.08	0.04	0.4	U			Utr		68Sp01
	7646.10	0.17			-0.1	o			BNn		76Al16 Z
	7645.96	0.20			0.6	U			BNn		78St25 Z
	7646.13	0.21			-0.3	U			MMn		80Is02 Z
	7645.93	0.15			1.0	-			Ptn		80Ve05 Z
	7646.0956	0.0500			-0.4	-			PTc		97Ro26 *
	7646.08	0.09			0.0	-					02Bo11
	7646.10	0.15			-0.2	-			Bdn		06Fi.A
$^{56}\text{Fe}(d, p)^{57}\text{Fe}$	5425	8	5421.51	0.04	-0.4	U			MIT		64Sp12
	5425	8			-0.4	U			Kop		67Ha.A
	5419.8	1.3			1.3	U			NDm		74Jo14
$^{56}\text{Fe}(n, \gamma)^{57}\text{Fe}$	ave.	7646.08	0.04	7646.08	0.04	-0.1	1	99	84 $^{57}\text{Fe}$		average
$^{56}\text{Fe}(p, \gamma)^{57}\text{Co}$	6027.7	1.0	6027.5	0.4	-0.2	-					70Ob02 Z
	6029.3	1.5			-1.2	-					71Le21 Z
$^{56}\text{Fe}(^3\text{He}, d)^{57}\text{Co}$	538	20	534.0	0.4	-0.2	U			LAl		65Bl13
$^{56}\text{Fe}(p, \gamma)^{57}\text{Co}$	ave.	6028.2	0.8	6027.5	0.4	-0.8	1	29	27 $^{57}\text{Co}$		average
$^{56}\text{Fe}(p, \gamma)^{57}\text{Co}^i$	-1226.4	0.5	-1225.9	0.3	0.9	2					70Ob02 *
	-1225.6	0.4			-0.6	2					71Le21 *
$^{57}\text{Cu}^i(p)^{56}\text{Ni}$	4650	50	4609	25	-0.8	2					76Vi02
	4568	10			4.1	C					98Jo.A
	4595	29			0.5	2					02Jo09
$^{57}\text{Ti}(\beta^-)^{57}\text{V}$	11020	950	10360	330	-0.7	1	12	6 $^{57}\text{Ti}$			96Do23
$^{57}\text{Cr}(\beta^-)^{57}\text{Mn}$	5100	100	4962.0	2.4	-1.4	U			ANB		78Da04
$^{57}\text{Mn}(\beta^-)^{57}\text{Fe}$	2690	50	2695.0	1.6	0.1	U					63Va37
$^{57}\text{Co}(\epsilon)^{57}\text{Fe}$	810	30	836.2	0.5	0.9	U					71La02 *
$^{57}\text{Fe}(p, n)^{57}\text{Co}$	-1619.4	2.0	-1618.6	0.5	0.4	-			Oak		64Jo11 Z
	-1618.2	2.0			-0.2	-			Can		70Kn03
	ave.	-1618.8	1.4		0.1	1	10	10 $^{57}\text{Co}$			average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{57}\text{Fe}({}^3\text{He}, \text{t})^{57}\text{Co}^i$	-8122	7	-8108.2	0.3	2.0	U				71Be29	*
$^{57}\text{Ni}(\beta^+)^{57}\text{Co}$	3245	10	3261.7	0.6	1.7	U				50Fr10	*
	3235	10			2.7	U				51Ca28	*
	3246	10			1.6	U				58Ko60	*
$^{57}\text{Cu}(\beta^+)^{57}\text{Ni}$	8742	130	8775.0	0.4	0.3	U				84Sh28	
$*^{56}\text{Fe}(\text{n}, \gamma)^{57}\text{Fe}$	Original error 0.0005 increased for calibration									GAu	**
$*^{56}\text{Fe}(\text{p}, \gamma)^{57}\text{Co}^i$	T=1247.9 recalibrated to T=1248.5(0.6) keV									AHW	**
$*^{56}\text{Fe}(\text{p}, \gamma)^{57}\text{Co}^i$	T=1247.1 recalibrated to T=1247.7(0.4) keV									AHW	**
$*^{57}\text{Co}(\varepsilon)^{57}\text{Fe}$	IBE=674(30) to 5/2 <sup>-</sup> level at 136.4743 keV									Ens98c	**
$*^{57}\text{Fe}({}^3\text{He}, \text{t})^{57}\text{Co}^i$	CDE=8893(7) Q=-8129(7); recalibration +7 keV for ${}^{54}\text{Fe}(\text{p}, \text{n})^{54}\text{Co}$ from Ame1961									MMC123**	
$*^{57}\text{Ni}(\beta^+)^{57}\text{Co}$	$E_{\beta^+}=845(10)$ 835(10) 849(10) respectively, to 13/2 <sup>-</sup> level at 1377.663 keV									Ens98c	**
$^{58}\text{V}-\text{u}$	-43210	280	-43280	140	-0.2	2			TO3	1.5	90Tu01
	-43350	280			0.2	2			TO5	1.5	94Se12
	-42700	400			-1.0	2			TO6	1.5	98Ba.A
	-43328	107			0.3	2			GT1	1.5	04Ma.A
$^{58}\text{Cr-u}$	-55680	230	-55650	220	0.1	2			TO3	1.5	90Tu01
	-55750	260			0.3	2			TO5	1.5	94Se12
	-55490	270			-0.4	2			TO6	1.5	98Ba.A
$^{58}\text{Mn}-{}^{39}\text{K}_{1.487}$	-5964.9	2.9				2			MA8	1.0	12Na15
$\text{C}_3\text{H}_8\text{N}-{}^{58}\text{Fe}$	132382	12	132399.8	0.5	0.4	U			R09	4.0	72De11
$\text{C}_3\text{H}_6\text{O}-{}^{58}\text{Fe}$	108576	13	108590.4	0.5	0.3	U			R09	4.0	72De11
$\text{C}_2\text{H}_4\text{N O}-{}^{58}\text{Fe}$	95999	13	96014.3	0.5	0.3	U			R09	4.0	72De11
$\text{C}_3\text{H}_6\text{O}-{}^{58}\text{Ni}$	106491	8	106522.4	0.5	1.0	U			R10	4.0	74De22
$\text{C}_3\text{C}-{}^{58}\text{Ni}$	138424	14	138437.7	0.5	0.2	U			R10	4.0	74De22
$\text{C}_3\text{H}_8\text{N}-{}^{58}\text{Ni}$	130302	25	130331.8	0.5	0.3	U			R10	4.0	74De22
$\text{C}_2\text{H}_4\text{O N}-{}^{58}\text{Ni}$	93926	10	93946.3	0.5	0.5	U			R10	4.0	74De22
	93928	15			0.3	U			R10	4.0	74De22
$\text{C}_3\text{H}_6\text{O}-{}^{58}\text{Ni}$	106504	14	106522.4	0.5	0.3	U			R10	4.0	74De22
${}^{58}\text{Ni}-{}^{58}\text{Fe}$	2059	32	2068.0	0.3	0.1	U			R09	4.0	72De11
${}^{58}\text{Cu}-{}^{58}\text{Ni}$	9190.61	0.50	9190.6	0.5	0.0	1	90	90 ${}^{58}\text{Cu}$	JY1	1.0	10Ka26
${}^{58}\text{Ni}(\text{p}, {}^6\text{He})^{53}\text{Co}$	-27889	18	-27872.7	1.7	0.9	U			MSU	75Mu09	*
${}^{58}\text{Ni}(\alpha, {}^8\text{He})^{54}\text{Ni}$	-50190	50				2			Tex	77Tr05	
${}^{58}\text{Fe}(\text{p}, \alpha)^{55}\text{Mn}$	420	9	421.31	0.25	0.1	U			MIT	64Sp12	
${}^{58}\text{Ni}(\text{p}, \alpha)^{55}\text{Co}$	-1341.0	2.9	-1334.8	0.4	2.1	U			BNL	73Go19	
	-1335.1	0.9			0.3	1	18	12 ${}^{55}\text{Co}$	NDm	74Jo14	
${}^{58}\text{Ni}({}^3\text{He}, {}^6\text{He})^{55}\text{Ni}$	-17556	11	-17553.8	0.7	0.2	U			MSU	77Mu03	*
${}^{58}\text{Fe}(\text{d}, \alpha)^{56}\text{Mn}$	5470	12	5467.18	0.28	-0.2	U			Kop	67Ha.A	
${}^{56}\text{Fe}({}^3\text{He}, \text{p})^{58}\text{Co}$	6853	15	6882.4	1.1	2.0	U			MIT	72Ly01	
${}^{58}\text{Ni}(\text{d}, \alpha)^{56}\text{Co}$	6522	12	6522.5	0.4	0.0	U			Kop	67Ha.A	
	6506	10			1.6	U			MIT	68Be10	
${}^{58}\text{Ni}(\text{p}, \text{t})^{56}\text{Ni}$	-13987	18	-13982.1	0.3	0.3	U			Bld	65Ho07	
${}^{58}\text{Ni}(\text{p}, \text{t})^{56}\text{Ni}^j$	-23926	4				2				84Ka07	*
${}^{57}\text{Fe}(\text{n}, \gamma)^{58}\text{Fe}$	10044.60	0.3	10044.60	0.18	0.0	-			MMn	80Is02	Z
	10044.65	0.24			-0.2	-			Bdn	06Fi.A	
${}^{57}\text{Fe}(\text{d}, \text{p})^{58}\text{Fe}$	7815	8	7820.04	0.18	0.6	U			MIT	64Sp12	
	7824	12			-0.3	U			Kop	67Ha.A	
${}^{57}\text{Fe}(\text{n}, \gamma)^{58}\text{Fe}$	ave.	10044.63	0.19	10044.60	0.18	-0.1	1	96	94 ${}^{58}\text{Fe}$	average	
${}^{57}\text{Fe}(\text{p}, \gamma)^{58}\text{Co}$	6952	3	6954.3	1.1	0.8	1	14	14 ${}^{58}\text{Co}$	MSU	70Er03	
${}^{58}\text{Ni}(\text{p}, \text{d})^{57}\text{Ni}$	-9971.2	7.	-9991.7	0.5	-2.9	U				79Ik04	*
${}^{58}\text{Ni}({}^3\text{He}, \alpha)^{57}\text{Ni}$	8360.3	4.	8361.4	0.5	0.3	U			MSU	76Na23	
	8384.8	15.			-1.6	U				79Fo09	*
${}^{58}\text{Ni}({}^7\text{Li}, {}^8\text{He})^{57}\text{Cu}$	-29564	50	-29622.5	0.5	-1.2	U			MSU	85Sh03	
	-29613	17			-0.6	U			Tex	86Ga19	
${}^{58}\text{Ni}({}^{14}\text{N}, {}^{15}\text{C})^{57}\text{Cu}$	-19900	40	-19929.6	0.9	-0.7	U			Ber	87St04	
${}^{58}\text{Mn}(\beta^-)^{58}\text{Fe}$	5890	100	6326.9	2.7	4.4	B				69Wa10	*
	5958	100			3.7	B				71Dy01	*
${}^{58}\text{Fe}(\text{t}, {}^3\text{He})^{58}\text{Mn}$	-6318	15	-6308.3	2.7	0.6	U			LAI	77Fl03	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{58}\text{Co}(\beta^+)^{58}\text{Fe}$	2305	6	2307.9	1.1	0.5	U			52Ch31	*	
	2307	4			0.2	U			63Rh02	*	
$^{58}\text{Fe}(^3\text{He},t)^{58}\text{Co}^i$	-8079	8				2			71Be29	*	
$^{58}\text{Ni}(\text{p},\text{n})^{58}\text{Cu}$	-9351	5	-9343.4	0.4	1.5	U		Mar	64Ma.A		
	-9352.6	3.4			2.7	U		Ric	66Bo20	Z	
	-9346	10			0.3	U		Ric	66Ri09		
	-9346.6	1.7			1.9	U		Yal	69Ov01	Z	
	-9347.8	4.0			1.1	U		Har	76Fr13		
$^{58}\text{Ni}(\pi^+, \pi^-)^{58}\text{Zn}$	-16908	50				2			86Se04		
$^{58}\text{Mn}-^{39}\text{K}_{1,487}$	$D_M = -5887.8(2.9) \mu\text{u}$ for $^{58}\text{Mn}^m$ at 71.77(0.05) keV; $M-A = -55755.6(2.7)$ keV								Nub126	**	
$^{58}\text{Ni}(\text{p},^6\text{He})^{53}\text{Co}$	Q increased 1 for recalibration								AHW	**	
$^{58}\text{Ni}(^3\text{He},^6\text{He})^{55}\text{Ni}$	Averaged with reference See $^{46}\text{Ti}(^3\text{He},^6\text{He})$								75Mu09	**	
$^{58}\text{Ni}(\text{p},\text{t})^{56}\text{Ni}^j$	Strongest of three fragments IT=9943(4); Q rebuilt with Ame1977								MMC129**		
$^{58}\text{Ni}(\text{p},\text{d})^{57}\text{Ni}$	Q=15210(7) for $^{57}\text{Ni}^i$ at 5238.8(0.7) keV, strongest fragment IT=5230(7); rebuilt with $Q_{gs}=-9975$ keV, average of 73Ed01 and 65Sh06								Nub129	**	
*	IT=5235(15); Q=3146(15) for $^{57}\text{Ni}^i$ at 5238.8(0.7) rebuilt with Ame1977								73Ed01	**	
$^{58}\text{Mn}(\beta^-)^{58}\text{Fe}$	$Q_{\beta^-}=6100(300)$ ; and 5930(100) from $^{58}\text{Mn}^m$ at 71.77(0.05) keV								Nub127	**	
$^{58}\text{Mn}(\beta^-)^{58}\text{Fe}$	$Q_{\beta^-}=6030(100)$ from $^{58}\text{Mn}^m$ at 71.77(0.05) keV								Nub127	**	
$^{58}\text{Fe}(\text{t},^3\text{He})^{58}\text{Mn}$	And Q=6318(15)-77(8) to $^{58}\text{Mn}^m$ at 71.77(0.05) keV								Nub127	**	
$^{58}\text{Co}(\beta^+)^{58}\text{Fe}$	E $_{\beta^+}=472(6)$ 474(4) respectively, to 2 $^+$ level at 810.7662 keV								Ens104	**	
$^{58}\text{Fe}(^3\text{He},t)^{58}\text{Co}^i$	Strongest of two fragments IT=5759(8); Q rebuilt with Ame1964								71Be29	**	
*	recalibration +7 keV for $^{54}\text{Fe}(\text{p},\text{n})^{54}\text{Co}$ from Ame1961								MMC123**		
$^{59}\text{V-u}$	-38500	400	-40610	170	-3.5	B		TO3	1.5	90Tu01	
	-40700	350			0.2	2		TO5	1.5	94Se12	
	-39900	400			-1.2	2		TO6	1.5	98Ba.A	
	-40677	129			0.3	2		GT1	1.5	04Ma.A	
$^{59}\text{Cr-u}$	-51490	290	-51410	260	0.2	2		TO3	1.5	90Tu01	
	-51640	310			0.5	2		TO5	1.5	94Se12	
	-51100	310			-0.7	2		TO6	1.5	98Ba.A	
$^{59}\text{Mn}-^{39}\text{K}_{1,513}$	-4696.8	2.5				2		MA8	1.0	12Na15	
$\text{C}_3\text{H}_7\text{O}-^{59}\text{Co}$	116467	12	116495.6	0.6	0.6	U		R10	4.0	74De22	
$\text{C}_2\text{H}_6\text{O}-^{59}\text{Co}$	112011	25	112025.4	0.6	0.1	U		R10	4.0	74De22	
$\text{C}_2\text{H}_5\text{O}-^{59}\text{Co}$	103901	6	103919.5	0.6	0.8	U		R10	4.0	74De22	
$^{59}\text{Zn-u}$	-50698	29	-50687.3	0.9	0.4	U		LZ1	1.0	11Tu09	
$^{58}\text{Ni H}-^{59}\text{Co}$	9970	15	9973.16	0.22	0.1	U		R10	4.0	74De22	
$^{59}\text{Zn}-^{58}\text{Cu}_{1,017}$	5722.4	1.3	5722.5	0.8	0.1	1	36	27 $^{59}\text{Zn}$	JY1	1.0	10Ka26
$^{59}\text{Zn}-^{59}\text{Cu}$	9815.22	0.72	9815.2	0.6	-0.1	1	81	73 $^{59}\text{Zn}$	JY1	1.0	10Ka26
$^{59}\text{Co}-^{58}\text{Ni}$	-2182	35	-2148.13	0.22	0.2	U		R10	4.0	74De22	
$^{59}\text{Co}(\text{p},\alpha)^{56}\text{Fe}$	3245	8	3241.4	0.3	-0.5	U		MIT	64Sp12		
	3243	9			-0.2	U		Ald	66Br05		
	3240.4	1.4			0.7	U		NDm	74Jo14		
$^{59}\text{Co}(\text{d},\alpha)^{57}\text{Fe}$	8667	15	8662.9	0.3	-0.3	U		Kop	67Ha.A		
	8659.3	3.2			1.1	U		NDm	74Jo14		
$^{59}\text{Ni}(\text{p},\text{t})^{57}\text{Ni}$	-12738.2	3.3	-12733.7	0.5	1.4	U		MSU	76Na23		
	-12738.4	5.0			0.9	U			78Na11	*	
$^{58}\text{Fe}(\text{n},\gamma)^{59}\text{Fe}$	6581.15	0.30	6581.01	0.11	-0.5	2		Ptn	73Sp06	Z	
	6580.94	0.20			0.4	2		Ptn	80Ve05	Z	
	6581.02	0.14			0.0	2		Bdn	06Fi.A		
$^{58}\text{Fe}(\text{d,p})^{59}\text{Fe}$	4357	8	4356.45	0.11	-0.1	U		MIT	64Sp12		
	4369	8			-1.6	U		Kop	67Ha.A		
$^{58}\text{Fe}(\text{p},\gamma)^{59}\text{Co}$	7359.7	2.0	7363.6	0.4	2.0	U			74Ke14	Z	
$^{58}\text{Fe}(^3\text{He},\text{d})^{59}\text{Co}$	1871	20	1870.1	0.4	0.0	U		LAl	65Bl13		
$^{58}\text{Fe}(\text{p},\gamma)^{59}\text{Co}-^{56}\text{Fe}(\text{p},\gamma)^{57}\text{Co}$	1336.5	0.7	1336.1	0.4	-0.5	1	41	29 $^{57}\text{Co}$	75Br29		
$^{59}\text{Co}(\gamma,\text{n})^{58}\text{Co}$	-10441	26	-10453.9	1.1	-0.5	U		Phi	60Ge01		
$^{59}\text{Co}(\text{d,t})^{58}\text{Co}$	-4196.0	1.4	-4196.6	1.1	-0.5	1	62	61 $^{58}\text{Co}$	74Jo14		
$^{58}\text{Ni}(\text{n},\gamma)^{59}\text{Ni}$	8999.37	0.30	8999.28	0.05	-0.3	U			75Wi06	Z	
	8999.38	0.20			-0.5	U		MMn	77Is01	Z	
	8999.10	0.23			0.8	U		ILn	93Ha05	Z	
	8999.28	0.05			0.1	1	99	54 $^{59}\text{Ni}$	ORn	04Ra23	
	8999.15	0.18			0.7	U		Bdn	06Fi.A		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{58}\text{Ni}(\text{d},\text{p})^{59}\text{Ni}$	6797	10	6774.72	0.05	-2.2	U			Kop		67Ha.A
	6785	5			-2.1	U			MIT		70An25
	6773.5	1.7			0.7	U			NDm		74Jo14
$^{58}\text{Ni}(\text{p},\gamma)^{59}\text{Cu}$	3418.5	0.5	3418.5	0.4	0.1	1	62	63 $^{59}\text{Cu}$			63Bo07 Z
	3419	2			-0.2	U					70Fo09
	3416.7	2.0			0.9	U					75Kl06 Z
$^{58}\text{Ni}(\text{p},\pi^-)^{59}\text{Zn}$	-144735	40	-144783.4	0.8	-1.2	U					83Sh31
$^{59}\text{Mn}(\beta^-)^{59}\text{Fe}$	5200	100	5138.8	2.4	-0.6	U			ANB		77Pa18
$^{59}\text{Fe}(\beta^-)^{59}\text{Co}$	1570	4	1565.0	0.4	-1.3	U					52Me53 *
	1563	3			0.7	U					63Wo01 *
$^{59}\text{Ni}(\varepsilon)^{59}\text{Co}$	1074.5	1.3	1073.00	0.19	-1.2	U					76Be02 *
$^{59}\text{Co}(\text{p},\text{n})^{59}\text{Ni}$	-1855.8	2.0	-1855.35	0.19	0.2	U			MIT		51Mc48 Z
	-1854.3	4.0			-0.3	U					57Bu37 Z
	-1861	5			1.1	U			Ric		57Ch30 Z
	-1855.8	1.6			0.3	U			Oak		64Jo11 Z
	-1855.33	0.20			-0.1	1	95	92 $^{59}\text{Co}$	PTB		98Bo30
$^{59}\text{Co}({}^3\text{He},\text{t})^{59}\text{Ni}^i$	-8436	8	-8433.5	2.1	0.3	U					71Be29 *
$^{59}\text{Zn}(\beta^+)^{59}\text{Cu}$	9120	100	9142.8	0.6	0.2	U					81Ar13
* $^{59}\text{Cr-u}$	Original -51220(240) $\mu\text{eV}$ or $M=-47710(230)$ keV										
* $^{59}\text{Cr-u}$	Original -51370(270) $\mu\text{eV}$ or $M=-47850(250)$ keV										
* $^{59}\text{Cr-u}$	$M-A=-47350(250)$ keV for mixture gs+m at 503.0(1.7) keV										
* $^{59}\text{Ni}(\text{p},\text{t})^{57}\text{Ni}$	Strongest of three IAS fragments, $Q=-17977.2(5.0)$ for $^{57}\text{Ni}^i$ at 5238.8(0.7)										
* $^{59}\text{Fe}(\beta^-)^{59}\text{Co}$	$E_{\beta^-}=475(3)$ to $3/2^-$ level at 1099.256 keV										
* $^{59}\text{Fe}(\beta^-)^{59}\text{Co}$	$E_{\beta^-}=462(3)$ , 273(3) to $3/2^-$ levels at 1099.256, 1291.605 keV										
* $^{59}\text{Ni}(\varepsilon)^{59}\text{Co}$	Authors add B(K)=8.3 of Ni, changed in 7.7 of Co										
* $^{59}\text{Co}({}^3\text{He},\text{t})^{59}\text{Ni}^i$	Strongest fragment $Q=-8441(8)$ ; recalibration +5 keV for $^{58}\text{Ni}(\text{p},\text{n})^{58}\text{Cu}^i$ from Ame1961										
$^{60}\text{V-u}$	-33860	700	-35690	240	-1.7	U			TO3	1.5	90Tu01 *
	-35560	600			-0.1	2			TO5	1.5	94Se12 *
	-35180	520			-0.6	2			TO6	1.5	98Ba.A *
	-35889	215			0.6	2			GT1	1.5	04Ma.A
	-35510	430			-0.4	2			MT1	1.0	11Es06 *
$^{60}\text{Cr-u}$	-49680	240	-49920	230	-0.7	2			TO3	1.5	90Tu01
	-50270	280			0.8	2			TO5	1.5	94Se12
	-49910	280			0.0	2			TO6	1.5	98Ba.A
$^{60}\text{Mn-u}$	-56550	240	-56863.4	2.5	-0.9	U			TO3	1.5	90Tu01 *
	-56810	290			-0.1	U			TO5	1.5	94Se12 *
	-56530	280			-0.8	U			TO6	1.5	98Ba.A *
$^{60}\text{Mn}-^{39}\text{K}_{1.538}$	-1044.0	2.5				2			MA8	1.0	12Na15 *
$^{60}\text{Co-u}$	-66380	280	-66183.7	0.6	0.5	U			TO6	1.5	98Ba.A *
$\text{C}_3\text{H}_8\text{O}-^{60}\text{Ni}$	126796	14	126729.0	0.5	-1.2	U			R10	4.0	74De22
$\text{C}_2\text{H}_6\text{O}-^{60}\text{Ni}$	114231	10	114152.9	0.5	-2.0	U			R10	4.0	74De22
$\text{C}_2\text{H}_7\text{O}-^{60}\text{Ni}$	122315	10	122258.8	0.5	-1.4	U			R10	4.0	74De22
$\text{C}_2\text{H}_2\text{N}-^{60}\text{Ni}$	77843	16	77767.4	0.5	-1.2	U			R10	4.0	74De22
$\text{C}_5-^{60}\text{Ni}$	69275	14	69214.1	0.5	-1.1	U			R10	4.0	74De22
$^{60}\text{Ni}-^{85}\text{Rb}_{.706}$	-6937.8	1.6	-6937.7	0.5	0.1	1	11	11 $^{60}\text{Ni}$	MA8	1.0	07Gu09
$^{60}\text{Zn}-^{58}\text{Ni}_{1.034}$	8698.02	0.55	8698.0	0.4	0.1	1	65	65 $^{60}\text{Zn}$	JY1	1.0	10Ka26
$^{60}\text{Zn}-^{59}\text{Cu}_{1.017}$	3373.19	0.55	3373.2	0.4	-0.1	1	65	35 $^{60}\text{Zn}$	JY1	1.0	10Ka26
$^{60}\text{Ni}-^{58}\text{Ni H}$	-12513	30	-12381.56	0.08	1.1	U			R10	4.0	74De22
$^{60}\text{Ni}-^{59}\text{Co}$	-2503	40	-2408.40	0.22	0.6	U			R10	4.0	74De22
$^{60}\text{Ni}-^{58}\text{Ni}$	-4624	25	-4556.53	0.08	0.7	U			R10	4.0	74De22
	-4627	45			0.4	U			R10	4.0	74De22
$^{60}\text{Ni H}-^{59}\text{Co}$	5310	40	5416.63	0.22	0.7	U			R10	4.0	74De22
$^{60}\text{Ni}(\text{p},\alpha)^{57}\text{Co}$	-263.6	0.7	-263.5	0.4	0.1	1	37	34 $^{57}\text{Co}$	NDm		74Jo14
$^{58}\text{Fe}(\text{t},\text{p})^{60}\text{Fe}$	6907	15	6919	3	0.8	2			LAI		71Ca19
	6947	10			-2.8	2			MSU		76St11
	6913	4			1.4	2			LAI		78No05
$^{60}\text{Ni}(\text{d},\alpha)^{58}\text{Co}$	6084.5	2.2	6084.8	1.1	0.2	1	25	25 $^{58}\text{Co}$	NDm		74Jo14

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{58}\text{Ni}(\text{t},\text{p})^{60}\text{Ni}$	11905	10	11905.22	0.07	0.0	U			Ald		71Da16
$^{60}\text{Ni}(\text{p},\text{t})^{58}\text{Ni}^i$	-20735	40				2					74Ko08 *
$^{60}\text{Ni}(\text{p},\text{t})^{58}\text{Ni}^j$	-26444	7				2					84Ka07 *
$^{58}\text{Ni}(\beta^-, \text{He},\text{p})^{60}\text{Cu}$	5770	12	5758.6	1.6	-0.9	U			CIT		67Mi02
	5746	20			0.6	U			MIT		68Yo01
$^{58}\text{Ni}(\beta^-, \text{He},\text{p})^{60}\text{Cu}^i$	3210	10	3218	5	0.8	1	26	$^{26}\text{Cu}^i$	MIT		68Yo01
$^{58}\text{Ni}(\beta^-, \text{He},\text{n})^{60}\text{Zn}$	818	18	805.5	0.4	-0.7	U			CIT		67Mi02
	821	13			-1.2	U			Oak		72Gr39
$^{58}\text{Ni}(\beta^-, \text{He},\text{n})^{60}\text{Zn}^j$	-6562	24				2					74Ev02 *
$^{59}\text{Co}(\text{n},\gamma)^{60}\text{Co}$	7491.88	0.08	7491.92	0.07	0.5	2			BNn		84Ko29 Z
	7492.05	0.15			-0.9	2			Bdn		06Fi.A
$^{59}\text{Co}(\text{d},\text{p})^{60}\text{Co}$	5267	11	5267.35	0.07	0.0	U			MIT		64Sp12
	5272	8			-0.6	U			Kop		67Ha.A
$^{59}\text{Co}(\text{p},\gamma)^{60}\text{Ni}^i$	-1594	4				2					67Ar01
$^{59}\text{Ni}(\text{n},\gamma)^{60}\text{Ni}$	11387.6	0.4	11387.73	0.05	0.3	U					75Wi06 Z
	11387.73	0.05			0.0	1	99	$^{56}\text{Ni}$	ORn		04Ra23
$^{60}\text{Ni}(\text{p},\text{d})^{59}\text{Ni}$	-9180	50	-9163.17	0.05	0.3	U			Pri		64Le10
$^{60}\text{Ni}(\text{d},\text{t})^{59}\text{Ni}$	-5130.2	2.1	-5130.50	0.05	-0.1	U			NDm		74Jo14
$^{60}\text{Ni}(\text{p},\text{d})^{59}\text{Ni}^i$	-16505.1	2.1				2					78Ik02 *
$^{60}\text{Mn}(\beta^-)^{60}\text{Fe}$	8234	86	8444	4	2.4	U			ANB		78No03 *
$^{60}\text{Co}(\beta^-)^{60}\text{Ni}$	2823.6	1.0	2822.81	0.21	-0.8	U					68Wo02 *
$^{60}\text{Cu}(\beta^+)^{60}\text{Ni}$	6250	40	6128.0	1.6	-3.1	B					54Nu26
$^{60}\text{Ni}(\text{p},\text{n})^{60}\text{Cu}$	-6912	20	-6910.3	1.6	0.1	U			ChR		58Go77
	-6909	10			-0.1	U			Ric		66Ri09
	-6910.3	1.6				2			Yal		69Ov01 Z
$^{60}\text{Ni}(\beta^-, \text{He},\text{t})^{60}\text{Cu}^i$	-8685	6	-8688	5	-0.5	1	74	$^{74}\text{Cu}^i$			71Be29 *
$^{60}\text{Zn}(\beta^+)^{60}\text{Cu}$	4166	64	4170.8	1.6	0.1	U					86Ka38
* $^{60}\text{V}-\text{u}$	Original -33800(700) $\mu\text{u}$ or $M=-31500(650)$ keV										
* $^{60}\text{V}-\text{u}$	Original -35500(600) $\mu\text{u}$ or $M=-33070(560)$ keV										
* $^{60}\text{V}-\text{u}$	$M-A=32700(470)$ keV for mixture gs+m+n at 0#150 and 202.1(1.0) keV										
* $^{60}\text{V}-\text{u}$	$M-A=33010(390)$ keV for mixture gs+m+n at 0#150 and 202.1(1.0) keV										
* $^{60}\text{Mn-u}$	$M-A=52540(230)$ keV for mixture gs+m at 271.90 keV										
* $^{60}\text{Mn-u}$	$M-A=52780(260)$ keV for mixture gs+m at 271.90 keV										
* $^{60}\text{Mn-u}$	$M-A=52520(250)$ keV for mixture gs+m at 271.90 keV										
* $^{60}\text{Mn}-^{39}\text{K}_{1.538}$	$D_M=-752.1(2.5)$ $\mu\text{u}$ for $^{60}\text{Mn}^m$ at 271.90 keV; $M-A=-52695.9(2.4)$ keV										
* $^{60}\text{Co-u}$	$M-A=-61800(260)$ keV for mixture gs+m at 58.59 keV										
* $^{60}\text{Ni}(\text{p},\text{t})^{58}\text{Ni}^i$	IT=8830(40); Q rebuilt with Ame1971										
* $^{60}\text{Ni}(\text{p},\text{t})^{58}\text{Ni}^j$	IT=14537(7); Q rebuilt with Ame1977										
* $^{58}\text{Ni}(\beta^-, \text{He},\text{n})^{60}\text{Zn}^j$	IT=7380(30); Q rebuilt with Ame1971										
* $^{60}\text{Ni}(\text{p},\text{d})^{59}\text{Ni}^i$	Strongest fragment IT=7341; Q rebuilt with Ame1977										
* $^{60}\text{Mn}(\beta^-)^{60}\text{Fe}$	$E_{\beta^-}=5714(86)$ from $^{60}\text{Mn}^m$ at 271.9(0.1) to 2792.4 level										
* $^{60}\text{Co}(\beta^-)^{60}\text{Ni}$	$E_{\beta^-}=317.88(0.10)$ to 4 <sup>+</sup> level at 2505.766 keV										
* $^{60}\text{Ni}(\beta^-, \text{He},\text{t})^{60}\text{Cu}^i$	CDE=9454(6) Q=-8690(6); recalibration +5 keV for $^{58}\text{Ni}(\text{p},\text{n})^{58}\text{Cu}^i$ from Ame1961										
$^{61}\text{V}-\text{u}$	-32750	960				2			MT1	1.0	11Es06
$^{61}\text{Cr}-\text{u}$	-44500	400	-45580	140	-1.8	2			TO3	1.5	90Tu01
	-45910	300			0.7	2			TO5	1.5	94Se12
	-45120	280			-1.1	2			TO6	1.5	98Ba.A
	-45679	107			0.6	2			GT1	1.5	04Ma.A
$^{61}\text{Mn}-\text{u}$	-55160	300	-55547.5	2.5	-0.9	U			TO3	1.5	90Tu01
	-55540	280			0.0	U			TO5	1.5	94Se12
	-55320	270			-0.6	U			TO6	1.5	98Ba.A
$^{61}\text{Mn}-^{39}\text{K}_{1.564}$	1215.6	2.5				2			MA8	1.0	12Na15
$^{61}\text{Fe}-^{39}\text{K}_{1.564}$	-6490.7	2.8				2			MA8	1.0	12Na15
$\text{C H}_3\text{N O}_2-^{61}\text{Ni}$	85373	14	85322.8	0.5	-0.9	U			R10	4.0	74De22
$\text{C}_5\text{H}-^{61}\text{Ni}$	76810	10	76769.5	0.5	-1.0	U			R10	4.0	74De22
$^{61}\text{Ga}-\text{u}$	-50654	59	-50600	40	0.9	1	48	$^{61}\text{Ga}$	LZ1	1.0	11Tu09
$^{60}\text{Ni H}-^{61}\text{Ni}$	7539	14	7555.35	0.05	0.3	U			R10	4.0	74De22

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{61}\text{Ni}-^{60}\text{Ni}$	339	60	269.69	0.05	-0.3	U			R10	4.0	74De22	
$^{61}\text{Ni}-^{58}\text{Ni}$	H	-12187	30	-12111.88	0.09	0.6	U		R10	4.0	74De22	
$^{61}\text{Ni}-^{59}\text{Co}$		-2220	30	-2138.72	0.22	0.7	U		R10	4.0	74De22	
$^{58}\text{Ni}(\alpha, n)^{61}\text{Zn}$		-9810	30	-9526	16	9.5	B		Oak		64St01	
$^{58}\text{Ni}(^3\text{Li}, t)^{61}\text{Zn}$		-4736	23	-4742	16	-0.3	R		LAl		78W001	
$^{59}\text{Co}(^3\text{He}, p)^{61}\text{Ni}$		9635	10	9634.45	0.21	-0.1	U		MIT		67Sp09	
$^{60}\text{Ni}(n, \gamma)^{61}\text{Ni}$		7820.22	0.40	7820.11	0.05	-0.3	U				75Wi06 Z	
		7819.96	0.20			0.7	U		MMn		77Is01 Z	
		7820.02	0.20			0.4	U		ILn		93Ha05 Z	
		7820.11	0.05			-0.1	-		ORn		04Ra23	
		7820.06	0.16			0.3	-		Bdn		06Fi.A	
$^{60}\text{Ni}(d, p)^{61}\text{Ni}$		5604	8	5595.54	0.05	-1.1	U		MIT		70An25	
		5596.1	1.3			-0.4	U		NDm		74Jo14	
$^{60}\text{Ni}(n, \gamma)^{61}\text{Ni}$	ave.	7820.11	0.05	7820.11	0.05	0.0	1	100	$^{70}\text{Ni}$		average	
$^{61}\text{Ga}^i(p)^{60}\text{Zn}$		3110	30				2				87Ho.A	
$^{61}\text{Fe}(\beta^-)^{61}\text{Co}$		3827	100	3977.1	2.8	1.5	U				67Eh02 *	
		3887	100			0.9	U				67Gu06 *	
$^{61}\text{Co}(\beta^-)^{61}\text{Ni}$		1290	40	1323.7	0.8	0.8	U				56Nu02	
$^{61}\text{Cu}(\beta^+)^{61}\text{Ni}$		2227	5	2237.5	1.0	2.1	U				50Ow03	
$^{61}\text{Ni}(p, n)^{61}\text{Cu}$		-3024.0	4.	-3019.8	1.0	1.0	U				Oak	
$^{61}\text{Ni}(^3\text{He}, t)^{61}\text{Cu}^i$		-8630	7				2				64Jo11 Z	
$^{61}\text{Zn}(\beta^+)^{61}\text{Cu}$		5400	200	5635	16	1.2	U				71Be29 *	
$^{61}\text{Ga}(\beta^+)^{61}\text{Zn}$		9255	50	9210	40	-0.8	1	57	$^{52}\text{Ga}$		59Cu86	
$*^{61}\text{Fe}(\beta^-)^{61}\text{Co}$											02We07	
$*^{61}\text{Ni}(^3\text{He}, t)^{61}\text{Cu}^i$											Ens99b **	
*											MMC129**	
											MMC123**	
$E_\beta = 2800(100) \text{ keV}$												
$E_\beta = 2860(100) \text{ respectively, to } 3/2^- \text{ level at } 1027.48 \text{ keV}$												
Strongest fragment IT=6380(7); Q rebuilt with Ame1964												
recalibration +5 keV for $^{58}\text{Ni}(p, n)^{58}\text{Cu}^i$ from Ame1961												
$^{62}\text{Cr-u}$		-42400	600	-43900	160	-1.7	2		TO3	1.5	90Tu01	
		-44200	400			0.5	2		TO5	1.5	94Se12	
		-43100	350			-1.5	2		TO6	1.5	98Ba.A	
		-44026	118			0.7	2		GT1	1.5	04Ma.A	
$^{62}\text{Mn-u}$		-51510	270	-52050#	160#	-1.3	U		TO3	1.5	90Tu01	
		-52030	280			0.0	U		TO5	1.5	94Se12	
		-51180	280			-2.1	U		TO6	1.5	98Ba.A	
$^{62}\text{Mn}^m-^{39}\text{K}_{1.590}$		5982.3	2.8				2		MA8	1.0	12Na15	
$^{62}\text{Fe}-^{39}\text{K}_{1.590}$		-5501.5	3.0				2		MA8	1.0	12Na15	
$C_5 \text{ H}_2 - ^{62}\text{Ni}$		87299	10	87304.7	0.6	0.1	U		R10	4.0	74De22	
$C \text{ H}_4 \text{ N O}_2 - ^{62}\text{Ni}$		95859	12	95858.0	0.6	0.0	U		R10	4.0	74De22	
$^{62}\text{Cu}-^{62}\text{Ni}$		4250.05	0.51				2		JY1	1.0	06Er03	
$^{62}\text{Zn}-^{62}\text{Ni}$		5988.49	0.58	5988.6	0.5	0.2	1	68	$^{68}\text{Zn}$	JY1	1.0	06Er03
$^{62}\text{Ga}-^{62}\text{Ni}$		15845.06	0.71	15844.9	0.5	-0.2	1	52	$^{52}\text{Ga}$	JY1	1.0	06Er03
$^{62}\text{Ga}-^{62}\text{Zn}$		9856.21	0.45	9856.3	0.4	0.2	1	81	$^{48}\text{Ga}$	JY1	1.0	06Er03
$^{62}\text{Ni}-^{61}\text{Ni}$		-2669	15	-2710.2	0.3	-0.7	U		R10	4.0	74De22	
$^{62}\text{Ni}-^{60}\text{Ni}$		-2333	30	-2440.5	0.3	-0.9	U		R10	4.0	74De22	
$^{62}\text{Ni}(p, \alpha)^{59}\text{Co}$		342	10	347.3	0.4	0.5	U		MIT		64Sp12	
		343.3	0.7			5.7	B		NDm		74Jo14	
$^{59}\text{Co}(\alpha, p)^{62}\text{Ni}$		-346.5	2.3	-347.3	0.4	-0.4	U		NDm		74Jo14	
$^{62}\text{Ni}(^{18}\text{O}, ^{20}\text{Ne})^{60}\text{Fe}$		911	20	926	3	0.7	U		Hei		84Ha31	
$^{62}\text{Ni}(d, \alpha)^{60}\text{Co}$		5611.2	2.4	5614.7	0.4	1.4	U		NDm		74Jo14	
$^{60}\text{Ni}(t, p)^{62}\text{Ni}$		9937	10	9934.2	0.3	-0.3	U		Ald		71Da16	
$^{60}\text{Ni}(^3\text{He}, p)^{62}\text{Cu}$		5938	25	5956.7	0.6	0.7	U		MIT		67Sp09	
$^{60}\text{Ni}(^3\text{He}, n)^{62}\text{Zn}$		3580	30	3554.9	0.5	-0.8	U		Oak		72Gr39	
$^{62}\text{Ni}(^{14}\text{C}, ^{15}\text{O})^{61}\text{Fe}$		-7921	100	-7661.1	2.7	2.6	F		Ors		84De33 *	
$^{62}\text{Ni}(t, \alpha)^{61}\text{Co}$		8689	20	8676.7	0.7	-0.6	U		LAl		66Bl15	
$^{61}\text{Ni}(n, \gamma)^{62}\text{Ni}$		10596.2	1.5	10595.9	0.3	-0.2	-				70Fa06	
		10595.8	0.7			0.1	-				75Wi06 Z	
		10595.6	0.4			0.6	-					
$^{61}\text{Ni}(d, p)^{62}\text{Ni}$		8379	8	8371.3	0.3	-1.0	U		MIT		64Sp12	
		8369	15			0.2	U		Ald		67Te02	
$^{62}\text{Ni}(d, t)^{61}\text{Ni}$		-4340.6	1.3	-4338.6	0.3	1.5	-		NDm		74Jo14	
$^{61}\text{Ni}(n, \gamma)^{62}\text{Ni}$	ave.	10595.8	0.3	10595.9	0.3	0.1	1	90	$^{60}\text{Ni}$		average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference											
$^{62}\text{Fe}(\beta^-)^{62}\text{Co}$	3000	200	2546	19	-2.3	U					75Fr16											
$^{62}\text{Co}(\beta^-)^{62}\text{Ni}$	5195	30	5322	19	4.2	C					57Ga15 *											
$^{62}\text{Ni}(\text{t},^3\text{He})^{62}\text{Co}$	-5350	50	-5303	19	0.9	2					72Ba31											
	-5296	20			-0.4	2					76Aj03											
$^{62}\text{Cu}(\beta^+)^{62}\text{Ni}$	3932	10	3958.9	0.5	2.7	U					54Nu27											
	3942	10			1.7	U					64Sa32											
	3956	7			0.4	U					67An01											
$^{62}\text{Ni}(\text{p},\text{n})^{62}\text{Cu}$	-4733	10	-4741.2	0.5	-0.8	U					61Ri02											
	-4734.8	10.			-0.6	U					66Ri09											
$^{62}\text{Ni}(^3\text{He},\text{t})^{62}\text{Cu}^i$	-8591	6				2					71Be29 *											
$^{62}\text{Zn}(\beta^+)^{62}\text{Cu}$	1682	10	1619.5	0.7	-6.3	B					50Ha65											
	1697	10			-7.8	B					54Nu27											
$^{62}\text{Ga}(\beta^+)^{62}\text{Zn}$	9171	26	9181.1	0.4	0.4	U					79Da04											
$*^{62}\text{Ni}(^{14}\text{C},^{15}\text{O})^{61}\text{Fe}$	F : not unambiguously ground state transition																					
$^{*62}\text{Co}(\beta^-)^{62}\text{Ni}$	$E_{\beta^-}=5217(30)$ from $^{62}\text{Co}^m$ at 22(5) keV																					
$^{*62}\text{Ni}(^3\text{He},\text{t})^{62}\text{Cu}^i$	CDE=9360(6) Q=-8596(6); recalibration +5 keV for $^{58}\text{Ni}(\text{p},\text{n})^{58}\text{Cu}^i$ from Ame1961																					
84De33 **																						
Nub126 **																						
MMC124**																						
$^{63}\text{Cr-u}$	-38819	462	-38350	490	0.7	2					GT1 1.5 04Ma.A											
	-37870	700			-0.7	2					MT1 1.0 11Es06											
$^{63}\text{Mn-u}$	-49300	400	-50335	4	-1.7	U					TO3 1.5 90Tu01											
	-50190	300			-0.3	U					TO5 1.5 94Se12											
	-49600	290			-1.7	U					TO6 1.5 98Ba.A											
	-50500	107			1.0	o					GT1 1.5 04Ma.A											
	-50829	102			3.2	C					GT2 1.5 08Kn.A											
$^{63}\text{Mn}-^{39}\text{K}_{1.615}$	8278.7	4.0				2					MA8 1.0 12Na15											
$^{63}\text{Fe-u}$	-59190	240	-59727	5	-1.5	U					TO3 1.5 90Tu01											
	-59570	290			-0.4	U					TO5 1.5 94Se12											
	-58990	300			-1.6	U					TO6 1.5 98Ba.A											
$^{63}\text{Fe}-^{39}\text{K}_{1.615}$	-1114.5	6.1	-1113	5	0.2	1	57	57 $^{63}\text{Fe}$	MA8	1.0	12Na15											
$^{63}\text{Fe}-\text{H C}_2\text{F}_2$	-64354	10	-64359	5	-0.5	o			MS1	1.0	08Bl05											
	-64353	10			-0.6	1	21	21 $^{63}\text{Fe}$	MS1	1.0	10Fe01											
	-30204	10	-30202	5	0.2	1	21	21 $^{63}\text{Fe}$	MS1	1.0	10Fe01											
$\text{C}_5\text{H}_3-^{63}\text{Cu}$	93930	4	93877.4	0.6	-3.3	B			R10	4.0	74De22											
$\text{C}_4\text{H}\text{N}-^{63}\text{Cu}$	81347	10	81301.3	0.6	-1.1	U			R10	4.0	74De22											
$\text{C}_4\text{C}_2\text{H}_2-^{63}\text{Cu}$	89466	14	89407.2	0.6	-1.1	U			R10	4.0	74De22											
$\text{C}_2\text{H}_7\text{O}_2-^{63}\text{Cu}$	115064	16	115006.7	0.6	-0.9	U			R10	4.0	74De22											
$^{13}\text{C}\text{C}_8\text{H}_8\text{O}\text{N}-^{63}\text{Cu}$	134404	18	134346.0	0.6	-0.8	U			R10	4.0	74De22											
$^{47}\text{Ti}\text{O}-^{63}\text{Cu}$	17036	23	17075.7	0.6	0.4	U			R09	4.0	72De11											
$^{63}\text{Ga}-^{85}\text{Rb}_{.741}$	4658.0	1.4				2			MA8	1.0	07Gu09											
$\text{C}_5\text{H}_2-^{63}\text{Ga}_{.984}$	75382.6	6.7	75384.6	1.4	0.3	U			MS1	1.0	07Sc24											
$^{63}\text{Ge-u}$	-50372	40				2			LZ1	1.0	11Tu02											
$^{63}\text{Cu}-^{62}\text{Ni}$	1193	35	1252.36	0.07	0.4	U			R10	4.0	74De22											
$^{63}\text{Cu}-^{61}\text{Ni}$	-1449	30	-1457.8	0.3	-0.1	U			R10	4.0	74De22											
$^{63}\text{Cu}(\text{p},\alpha)^{60}\text{Ni}$	3757	8	3757.3	0.3	0.0	U			MIT		64Sp12											
	3780	10			-2.3	U			Min		67Jo03											
	3754.9	1.5			1.6	U			NDm		76Jo01											
$^{60}\text{Ni}(\alpha,\text{n})^{63}\text{Zn}$	-7970	40	-7905.8	1.6	1.6	U			Oak		64St01											
	-7910	20			0.2	U					67Bi04											
$^{63}\text{Cu}(\text{d},\alpha)^{61}\text{Ni}$	9376	30	9352.8	0.3	-0.8	U					67Hj01											
$^{62}\text{Ni}(\text{n},\gamma)^{63}\text{Ni}$	6838.04	0.20	6837.78	0.06	-1.3	-			MMn	77Is01	Z											
	6837.88	0.18			-0.6	-			ILn	92Ha21	Z											
	6837.89	0.14			-0.8	-			Bdn	06Fi.A												
$^{62}\text{Ni}(\text{d},\text{p})^{63}\text{Ni}$	4620	6	4613.21	0.06	-1.1	U			MIT	70An25												
	4614.0	1.1			-0.7	U			NDm	74Jo14												
$^{62}\text{Ni}(\text{n},\gamma)^{63}\text{Ni}$	ave.	6837.92	0.10	6837.78	0.06	-1.5	1	41	27 $^{63}\text{Ni}$	average												
$^{62}\text{Ni}(\text{p},\gamma)^{63}\text{Cu}$	6119.2	1.5	6122.41	0.06	2.1	U				72Ki15												
	6122.30	0.08			1.3	1	60		39 $^{63}\text{Cu}$	Utr	86De14											
$^{63}\text{Cu}(\gamma,\text{n})^{62}\text{Cu}$	-10833	17	-10863.6	0.5	-1.8	U			Phi		60Ge01											

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{63}\text{Co}(\beta^-)^{63}\text{Ni}$	3590	50	3661	19	1.4	1	14	$^{14}\text{Co}$		69Ki.A		
$^{63}\text{Ni}(\beta^-)^{63}\text{Cu}$	65.87	0.15	66.977	0.015	7.4	B		66Hs01				
	66.946	0.020			1.5	o		87He14				
	66.945	0.004			7.9	F		92Ka29		*		
	66.9459	0.0054			5.7	F		93Oh02		*		
	66.980	0.015			-0.2	1	99	58	$^{63}\text{Ni}$	99Ho09		
$^{63}\text{Zn}(\beta^+)^{63}\text{Cu}$	3352	20	3366.2	1.5	0.7	U		61Cu02				
	3390	30			-0.8	U		61Va08				
$^{63}\text{Cu}(\text{p},\text{n})^{63}\text{Zn}$	-4146.5	4.	-4148.5	1.5	-0.5	-		Ric	55Br16			
	-4139.5	8.			-1.1	U		Oak	55Ki28	Z		
	-4150.1	4.4			0.4	-		Tkm	63Ok01			
ave.	-4148.1	2.9			-0.1	1	28	27	$^{63}\text{Zn}$	average		
$^{63}\text{Cu}(\text{He},\text{t})^{63}\text{Zn}^i$	-8875	6			2					71Be29	*	
$^{63}\text{Ga}(\beta^+)^{63}\text{Zn}$	5520	100	5666.0	2.0	1.5	U				72Fi.A		
$^{*63}\text{Ni}(\beta^-)^{63}\text{Cu}$										99Ho09	**	
$^{*63}\text{Cu}(\text{He},\text{t})^{63}\text{Zn}^i$										MMC124**		
F : excitation of atomic electron not taken into account												
CDE=9644(6) Q=-8880(6); recalibration +5 keV for $^{58}\text{Ni}(\text{p},\text{n})^{58}\text{Cu}^i$ from Ame1961												
$^{64}\text{Mn-u}$	-45340	350	-46151	4	-1.5	U		TO3	1.5	90Tu01	*	
	-46340	350			0.4	U		TO5	1.5	94Se12	*	
	-45664	306			-1.1	U		TO6	1.5	98Ba.A	*	
	-46280	129			0.7	U		GT1	1.5	04Ma.A		
$^{64}\text{Mn}-^{85}\text{Rb}_{.753}$	20271.7	3.8			2			MA8	1.0	12Na15		
$^{64}\text{Fe-u}$	-58600	400	-59012	5	-0.7	U		TO3	1.5	90Tu01		
	-59130	300			0.3	U		TO5	1.5	94Se12		
	-58500	350			-1.0	U		TO6	1.5	98Ba.A		
	-59012.2	5.3			0.0	o		MS1	1.0	08Bl05		
$\text{H C}_2 \text{F}_2-^{64}\text{Fe}_{.984}$	62699.4	5.3			2			MS1	1.0	10Fe01		
$^{64}\text{Co}^m\text{-u}$	-64075.5	4.5	-64075	4	0.1	o		MS1	1.0	08Bl05		
$\text{H C}_2 \text{F}_2-^{64}\text{Co}^m_{.984}$	67681.6	4.6	67681	4	-0.1	1	87	87	$^{64}\text{Co}^m$	MS1	1.0	10Fe01
$^{64}\text{Co}^m-^{32}\text{S O}_2$	-25974	12	-25976	4	-0.1	1	13	13	$^{64}\text{Co}^m$	MS1	1.0	10Fe01
$\text{C}_5 \text{H}_4-^{64}\text{Ni}$	103278	10	103333.3	0.6	1.4	U		R10	4.0	74De22		
$\text{C}_4 ^{13}\text{C H}_3-^{64}\text{Ni}$	98809	12	98863.1	0.6	1.1	U		R10	4.0	74De22		
$\text{C}_4 \text{H}_2 \text{N}-^{64}\text{Ni}$	90703	16	90757.3	0.6	0.8	U		R10	4.0	74De22		
$^{64}\text{Ni}-^{85}\text{Rb}_{.753}$	-5609.2	1.4	-5610.9	0.6	-1.2	1	17	17	$^{64}\text{Ni}$	MA8	1.0	07Gu09
$^{64}\text{Zn}-^{85}\text{Rb}_{.753}$	-4430.1	8.4	-4435.7	0.7	-0.7	U		MA8	1.0	07Ke09		
$^{64}\text{Ga}-^{85}\text{Rb}_{.753}$	3261.3	2.5	3262.8	1.5	0.6	1	38	38	$^{64}\text{Ga}$	MA8	1.0	07Gu09
$\text{C}_5 \text{H}_2-^{64}\text{Ga}_{.969}$	76851.5	2.6	76851.7	1.5	0.1	1	33	33	$^{64}\text{Ga}$	MS1	1.0	07Sc24
$^{64}\text{Ge-u}$	-57090	690	-58310	4	-1.8	U		GA6	1.0	02Li24		
$\text{H} ^{32}\text{S O}_2-^{64}\text{Ge H}$	20210.5	4.0			2			MS1	1.0	07Sc24		
$^{64}\text{Ge}-^{85}\text{Rb}_{.753}$	8070	43	8112	4	1.0	U		MS1	1.0	12Sc.A		
$^{64}\text{Ga}-^{64}\text{Zn}$	7698.5	4.1	7698.4	1.6	0.0	1	15	13	$^{64}\text{Ga}$	CP1	1.0	07Cl01
$^{64}\text{Ge}-^{64}\text{Zn}$	12517	33	12548	4	0.9	U		CP1	1.0	07Cl01		
$^{64}\text{Ni}-^{63}\text{Cu}$	-1523	30	-1630.91	0.22	-0.9	U		R10	4.0	74De22		
$^{64}\text{Ga}-^{63}\text{Ga}$	-2730	150	-2453.8	2.1	0.7	U		CR1	2.5	89Sh10		
$^{64}\text{Ni}-^{62}\text{Ni}$	-352	25	-378.55	0.23	-0.3	U		R10	4.0	74De22		
$^{64}\text{Ni}(\text{He},\text{B})^{59}\text{Mn}$	-19610	30	-19563.5	2.6	1.5	U		MSU		76Ka24		
$^{64}\text{Ni}(\text{He},\text{B})^{60}\text{Fe}$	-6511	10	-6524	3	-1.3	R		MSU		76St11		
$^{64}\text{Ni}(\alpha,\text{Be})^{61}\text{Fe}$	-21523	20	-21522.1	2.7	0.0	U		Tex		77Co08		
$^{64}\text{Ni}(\text{C},\text{O})^{61}\text{Fe}$	-4609	100	-4349.3	2.7	2.6	U		Ors		84Be.A	*	
$^{64}\text{Ni}(\text{p},\alpha)^{61}\text{Co}$	663.2	0.7			2			NDm		74Jo14		
$^{64}\text{Zn}(\text{p},\alpha)^{61}\text{Cu}$	830	15	844.1	0.7	0.9	U				67Br10		
	830	10			1.4	U				67Jo03		
	844.1	0.7			2					76Jo01		
$^{64}\text{Zn}(\text{He},\text{He})^{61}\text{Zn}$	-12331	23	-12316	16	0.7	-		MSU		79We02		
ave.	-12320	16			0.3	1	95	95	$^{61}\text{Zn}$	average		
$^{64}\text{Ni}(\text{B},\text{N})^{62}\text{Fe}$	-4930	70	-4898.0	2.9	0.5	U		Tex		77Co08		
$^{64}\text{Ni}(\text{C},\text{O})^{62}\text{Fe}$	-501	40	-463.5	2.8	0.9	U		Ors		81Be40		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{64}\text{Ni}({}^{18}\text{O}, {}^{20}\text{Ne})^{62}\text{Fe}$	-1915	50	-1961.3	2.8	-0.9	U		Can	76Hi14		
	-1920	21			-2.0	U		Hei	77Bh03	*	
	-1947	26			-0.6	U		Hei	84Ha31		
$^{64}\text{Ni}(\text{d},\alpha)^{62}\text{Co}$	5190	20	5036	19	-7.7	B			72Ba31		
$^{62}\text{Ni}(\text{t},\text{p})^{64}\text{Ni}$	7999	20	8013.45	0.21	0.7	U		Ald	71Da16		
$^{62}\text{Ni}({}^3\text{He},\text{p})^{64}\text{Cu}$	6299	25	6320.48	0.11	0.9	U		MIT	67Sp09		
$^{62}\text{Ni}({}^3\text{He},\text{n})^{64}\text{Zn}$	6118	12	6117.8	0.7	0.0	U		Oak	72Gr39		
$^{64}\text{Zn}(\text{d},\alpha)^{62}\text{Cu}$	7508	15	7494.0	0.8	-0.9	U		MIT	67Sp09		
$^{64}\text{Zn}(\text{p},\text{t})^{62}\text{Zn}$	-12493	10	-12497.1	0.8	-0.4	U		Bld	72Fa08		
$^{64}\text{Ni}({}^{14}\text{C}, {}^{15}\text{O})^{63}\text{Fe}$	-11387	60	-11299	4	1.5	U		Ors	82De.A	*	
$^{64}\text{Ni}({}^{34}\text{S}, {}^{35}\text{Ar})^{63}\text{Fe}$	-17931	260	-18347	4	-1.6	U		Hei	83Wi.B		
$^{64}\text{Ni}(\text{t},\alpha)^{63}\text{Co}$	7266	20	7277	19	0.6	1	86	86 $^{63}\text{Co}$	LAl	66B115	
$^{63}\text{Ni}(\text{n},\gamma)^{64}\text{Ni}$	9657.32	0.4	9657.47	0.20	0.4	-			75Wi06	Z	
	9657.58	0.24			-0.4	-		ILn	92Ha21		
ave.	9657.51	0.21			-0.2	1	98	83 $^{64}\text{Ni}$	average		
$^{63}\text{Cu}(\text{n},\gamma)^{64}\text{Cu}$	7916.07	0.12	7916.11	0.10	0.4	-		BNn	83De28	Z	
	7915.52	0.08			7.4	B			02Bo11		
	7916.14	0.16			-0.2	-		Bdn	06Fi.A		
$^{63}\text{Cu}(\text{d},\text{p})^{64}\text{Cu}$	5697	8	5691.55	0.10	-0.7	U		MIT	64Sp12		
$^{63}\text{Cu}(\text{n},\gamma)^{64}\text{Cu}$	ave.	7916.10	0.10	7916.11	0.10	0.2	1	99	86 $^{64}\text{Cu}$	average	
$^{64}\text{Zn}(\text{n},\text{d})^{63}\text{Cu}$	-5520	50	-5488.9	0.7	0.6	U			65Wa14		
$^{64}\text{Zn}(\text{d},\text{t})^{63}\text{Zn}$	-5604.9	1.7	-5604.8	1.5	0.1	1	76	73 $^{63}\text{Zn}$	NDm	76Jo01	
$^{64}\text{Co}(\beta^-)^{64}\text{Ni}$	7000	500	7307	20	0.6	U			69Wa15		
	7000	400			0.8	U			74Ra31		
$^{64}\text{Ni}(\text{t},{}^3\text{He})^{64}\text{Co}$	-7288	20			2			LAl	72Fl17		
$^{64}\text{Cu}(\beta^+)^{64}\text{Ni}$	1673.4	1.0	1674.38	0.23	1.0	U			83Ch47		
$^{64}\text{Ni}(\text{p},\text{n})^{64}\text{Cu}$	-2458	6	-2456.73	0.23	0.2	U			61Va19		
	-2458.22	0.31			4.8	B		PTB	92Bo02	Z	
$^{64}\text{Cu}(\beta^-)^{64}\text{Zn}$	577.8	1.0	579.7	0.7	1.9	1	44	30 $^{64}\text{Zn}$		83Ch47	
$^{64}\text{Ga}(\beta^+)^{64}\text{Zn}$	7072	30	7171.0	1.5	3.3	B			60Ja07		
$^{64}\text{Zn}(\text{p},\text{n})^{64}\text{Ga}$	-7951	4	-7953.4	1.5	-0.6	1	14	12 $^{64}\text{Ga}$	Tex	72Da.A	
$^{64}\text{Zn}({}^3\text{He},\text{t})^{64}\text{Ga}$	-7206	8	-7189.6	1.5	2.0	U		MSU	74Ro16	*	
$^{64}\text{Zn}({}^3\text{He},\text{t})^{64}\text{Ga}^i$	-9141	17	-9096.7	2.5	2.6	U		MIT	70Hi06		
	-9110	6			2.2	1	17	17 $^{64}\text{Ga}^i$	71Be29	*	
$^{64}\text{Ga}^i(\text{IT})^{64}\text{Ga}$	1905.1	2.3	1907.1	2.2	0.9	1	88	83 $^{64}\text{Ga}^i$	74Ro16		
$^{64}\text{Ge}(\beta^+)^{64}\text{Ga}$	4410	250	4517	4	0.4	U			73Da01	*	
* $^{64}\text{Mn-u}$	Original -45270(350) $\mu\text{u}$ or M=-42170(330) keV										
* $^{64}\text{Mn-u}$	Original -46270(350) $\mu\text{u}$ or M=-43100(330) keV										
* $^{64}\text{Mn-u}$	M-A=-42430(280) keV for mixture gs+m at 175(10) ( $4^+$ ) keV										
* $^{64}\text{Ni}({}^{14}\text{C}, {}^{17}\text{O})^{61}\text{Fe}$	Cited in reference and confirmed in PrvCom sep 88										
* $^{64}\text{Ni}({}^{18}\text{O}, {}^{20}\text{Ne})^{62}\text{Fe}$	Q-Q( $^{62}\text{Ni}({}^{18}\text{O}, {}^{20}\text{Ne})$ )=-2843(20), Q(62)=923(4) keV										
* $^{64}\text{Ni}({}^{14}\text{C}, {}^{15}\text{O})^{63}\text{Fe}$	Original -11743(60) reinterpreted as ( $3/2^-$ ) 356.2 level in $^{63}\text{Fe}$										
* $^{64}\text{Zn}({}^3\text{He},\text{t})^{64}\text{Ga}$	M-A=-58819(8); Q rebuilt with Ame1971										
* $^{64}\text{Zn}({}^3\text{He},\text{t})^{64}\text{Ga}^i$	CDE=9879(6) Q=-9115(6); recalibration +5 keV for $^{58}\text{Ni}(\text{p},\text{n})^{58}\text{Cu}^i$ from Ame1961										
* $^{64}\text{Ge}(\beta^+)^{64}\text{Ga}$	$E_{\beta^+}=2960(250)$ to ( $1^+$ ) level at 427.03 keV										
$^{65}\text{Mn-u}$	-43900	600	-43980	4	-0.1	U		TO5	1.5	94Se12	
	-43500	500			-0.6	U		TO6	1.5	98Ba.A	
	-43790	330			-0.6	U		MT1	1.0	11Es06	
$^{65}\text{Mn}-{}^{85}\text{Rb}_{.765}$	23500.6	4.0			2			MA8	1.0	12Na15	
$^{65}\text{Fe-u}$	-54680	300	-54989	7	-0.7	U		TO3	1.5	90Tu01	*
	-55280	320			0.6	U		TO5	1.5	94Se12	*
	-54290	380			-1.2	U		TO6	1.5	98Ba.A	*
	-54988.9	7.1			0.1	o		MS1	1.0	08Bl05	
O <sub>2</sub> - $^{65}\text{Fe}_{.492}$	16883.6	3.6			2			MS1	1.0	10Fe01	
$^{65}\text{Fe}^n\text{-u}$	-54557.0	8.4	-54557	9	0.0	o		MS1	1.0	08Bl05	
O <sub>2</sub> - $^{65}\text{Fe}_{.492}$	16671.2	4.2			2			MS1	1.0	10Fe01	
$^{65}\text{Co-u}$	-63537.9	2.3	-63537.9	2.2	0.0	o		MS1	1.0	08Bl05	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{65}\text{As}^i(\text{p})^{64}\text{Ge}$	And $E_p=2620(30)$ to 901.7 level									11Ro47	**
$^{66}\text{Mn-u}$	-39860	860	-39453	12	0.5	U		MT1	1.0	11Es06	*
$^{66}\text{Mn}-^{85}\text{Rb}_{.776}$	28998	12			2			MA8	1.0	12Na15	
$^{66}\text{Fe-u}$	-52300	700	-53750	4	-1.4	U		TO3	1.5	90Tu01	
	-54020	350			0.5	U		TO5	1.5	94Se12	
	-52800	300			-2.1	U		TO6	1.5	98Ba.A	
	-53935	150			0.8	U		GT1	1.5	04Ma.A	
$^{66}\text{Fe}-^{28}\text{Si F}_2$	-27482.9	4.4			2			MS1	1.0	10Fe01	
$^{66}\text{Co-u}$	-60470	300	-60557	15	-0.2	U		TO5	1.5	94Se12	*
	-59870	290			-1.6	U		TO6	1.5	98Ba.A	*
$^{66}\text{Co-O C F}_2$	-52278	15	-52278	15	0.0	o		MS1	1.0	08Bl05	
	-52278	15			2			MS1	1.0	10Fe01	
$^{66}\text{Ni}-^{85}\text{Rb}_{.776}$	-2409.5	1.5			2			MA8	1.0	07Gu09	
$^{66}\text{Cu}-^{85}\text{Rb}_{.776}$	-2680.6	2.2	-2679.8	0.7	0.4	1	11	11 $^{66}\text{Cu}$	MA8	1.0	07Gu09
$\text{C}_5\text{H}_5-^{66}\text{Ge}_{.970}$	103278.9	2.5			2			MS1	1.0	07Sc24	*
$^{66}\text{As-u}$	-55290	730	-55851	6	-0.8	U		GA6	1.0	02Li24	
$^{66}\text{As}-^{85}\text{Rb}_{.776}$	12607	32	12600	6	-0.2	U		MS1	1.0	07Sc24	
$^{66}\text{As O}-^{85}\text{Rb}_{.965}$	24186.3	6.1			2			MS1	1.0	12Sc.A	
$^{66}\text{Zn(p,}\alpha^{63}\text{Cu}$	1544.3	0.8	1544.3	0.8	0.0	1	88	83 $^{66}\text{Zn}$	NDm	76Jo01	
$^{63}\text{Cu}(\alpha,\text{n})^{66}\text{Ga}$	-7670	30	-7502	3	5.6	B		Oak	64St01		
$^{64}\text{Ni(t,p)}^{66}\text{Ni}$	6559	25	6568.6	1.5	0.4	U		Ald	71Da16		
$^{64}\text{Zn(t,p)}^{66}\text{Zn}$	10582	15	10556.1	1.0	-1.7	U		Ald	72Hu06		
$^{65}\text{Cu(n,}\gamma^{66}\text{Cu}$	7065.80	0.12	7065.93	0.09	1.1	-		BNn	83De29	Z	
	7066.13	0.15			-1.3	-		Bdn	06Fi.A		
$^{65}\text{Cu(d,p)}^{66}\text{Cu}$	4837	8	4841.36	0.09	0.5	U		MIT	64Sp12		
$^{65}\text{Cu(n,}\gamma^{66}\text{Cu}$	ave.	7065.93	0.09	7065.93	0.09	0.0	1	100	89 $^{66}\text{Cu}$	average	
$^{66}\text{Zn(d,t)}^{65}\text{Zn}$	-4770	60	-4801.3	1.0	-0.5	U		ANL	60Ze02		
$^{66}\text{Co}(\beta^-)^{66}\text{Ni}$	9700	500	9598	14	-0.2	U			88Bo06		
$^{66}\text{Ni}(\beta^-)^{66}\text{Cu}$	200	30	251.8	1.5	1.7	U			56Jo20		
$^{66}\text{Cu}(\beta^-)^{66}\text{Zn}$	2650	30	2641.0	1.0	-0.3	U			51Fr19	*	
	2650	30			-0.3	U			56Jo20		
$^{66}\text{Ga}(\beta^+)^{66}\text{Zn}$	5175.0	3.0			2				63Ca03		
$^{66}\text{Zn}({}^3\text{He,t})^{66}\text{Ga}^i$	-9044	6			2				71Be29	*	
$^{66}\text{Ge}(\beta^+)^{66}\text{Ga}$	2490	50	2117	4	-7.5	F			69Ba31	*	
	2420	30			-10.1	F			69Sa08	*	
	2100	30			0.6	U			70De39	*	
$^{66}\text{As}(\beta^+)^{66}\text{Ge}$	9550	50	9582	6	0.6	U		ANB	79Da.A		
* $^{66}\text{Mn-u}$	M-A=-36900(790) keV for mixture gs+m at 464.5(0.4) keV (5-)										
* $^{66}\text{Co-u}$	Original -60160(300) $\mu$ u or M=-56040(280) keV										
* $^{66}\text{Co-u}$	M-A=-55480(270) keV for mixture gs+m+n at 175.1(0.3) and 642(5) keV and assuming for first isomer a ratio R=0.5(0.2) to ground state, from half-life=1.21 $\mu$ s and TOF=1 $\mu$ s										
*	For original doublet $\text{C}_5\text{H}_5-^{66}\text{Ge H}$ 0.970, $D_M=95688.6(2.5)$ $\mu$ u										
* $^{66}\text{Cu}(\beta^-)^{66}\text{Zn}$	$E_{\beta^-}=2630(30)$ 1640(30) to ground state and $2^+$ level at 1039.2279 keV										
* $^{66}\text{Zn}({}^3\text{He,t})^{66}\text{Ga}^i$	CDE=9813(6) Q=-9049(6); recalibration +5 keV for $^{58}\text{Ni}(\text{p,n})^{58}\text{Cu}^i$ from Ame1961										
* $^{66}\text{Ge}(\beta^+)^{66}\text{Ga}$	$E_{\beta^+}=1440(50)$ to 43.9 level; F : probably distorted by annihilation pile up										
* $^{66}\text{Ge}(\beta^+)^{66}\text{Ga}$	$E_{\beta^+}=1370(30)$ to 43.9 level; F : probably distorted by annihilation pile up										
* $^{66}\text{Ge}(\beta^+)^{66}\text{Ga}$	$E_{\beta^+}=1028(30)$ , 668(30), 558(50) to 43.812 $1^+$ , 381.859 $1^+$ , 536.618 $1^+$ level										
$^{67}\text{Fe-u}$	-50190	500	-49460	230	1.0	2		TO5	1.5	94Se12	*
	-48450	380			-1.8	2		TO6	1.5	98Ba.A	*
	-49641	440			0.3	2		GT1	1.5	04Ma.A	
	-49580	300			0.4	2		MT1	1.0	11Es06	*
$^{67}\text{Co-u}$	-59390	300	-59390	7	0.0	U		TO5	1.5	94Se12	
	-58730	350			-1.3	U		TO6	1.5	98Ba.A	
$^{28}\text{Si F}_2-^{67}\text{Co}_{.985}$	32232.9	8.0	32232	7	-0.1	2		MS1	1.0	10Fe01	
	32231	13			0.1	2		MS1	1.0	10Fe01	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{67}\text{Ni-u}$	-68370	430	-68431	3	-0.1	U		TO5	1.5	94Se12	*	
	-68090	470		-0.5	U			TO6	1.5	98Ba.A	*	
$^{67}\text{Ni}-^{85}\text{Rb}_{.788}$	1079.1	3.1		2				MA8	1.0	07Gu09		
$^{67}\text{Cu}-^{85}\text{Rb}_{.788}$	-2760.0	1.3		2				MA8	1.0	07Gu09		
$^{67}\text{As-u}$	-60500	260	-60748.9	0.5	-1.0	U		GA6	1.0	02Li24		
$^{67}\text{As}-^{86}\text{Kr}_{.779}$	8885.7	2.9	8885.4	0.5	-0.1	U		MS1	1.0	07Sc24		
	8808	30		2.6	U			MS1	1.0	07Sc24		
$^{67}\text{As}-^{85}\text{Rb}_{.788}$	8762.5	1.7	8760.8	0.5	-1.0	U		MS1	1.0	07Sc24		
	8760.87	0.54		-0.1	1	77	77 $^{67}\text{As}$	MS1	1.0	12Sc.A		
$^{67}\text{As O}-^{85}\text{Rb}_{.976}$	20258.7	1.0	20258.9	0.5	0.2	1	23	23 $^{67}\text{As}$	MS1	1.0	12Sc.A	
$^{67}\text{Se-u}$	-50006	72		2				LZ1	1.0	11Tu02		
$^{67}\text{Zn N}-^{66}\text{Zn}^{15}\text{N}$	4060.21	0.25	4059.04	0.23	-1.9	1	14	12 $^{67}\text{Zn}$	H30	2.5	77Ba10	
$^{64}\text{Zn}(\alpha, n)^{67}\text{Ge}$	-9240	60	-8992	5	4.1	B		Oak		64St01		
	-8987.5	12.		-0.4	2			ANL		78Mu05		
	-8993	5		0.2	2					79Al04		
$^{65}\text{Cu(t,p)}^{67}\text{Cu}$	7716	25	7716.2	1.4	0.0	U		Ald		66Bj02		
$^{65}\text{Cu}(\beta^-, p)^{67}\text{Zn}$	8185	40	8258.9	1.0	1.8	U		MIT		74Is01		
$^{66}\text{Zn}(n, \gamma)^{67}\text{Zn}$	7052.5	0.6	7052.32	0.22	-0.3	-				71Ot01	Z	
	7052.5	0.5		-0.4	-					75De.A	Z	
	7052.5	0.3		-0.6	-					Bdn	06Fi.A	
$^{66}\text{Zn(d,p)}^{67}\text{Zn}$	4827	10	4827.76	0.22	0.1	U		ANL		67Vo05		
	4820	5		1.6	U			MIT		74Is01		
$^{67}\text{Zn(d,t)}^{66}\text{Zn}$	-800	60	-795.09	0.22	0.1	U		ANL		60Ze02		
$^{66}\text{Zn(n,} \gamma^{67}\text{Zn}$	ave.	7052.50	0.24	7052.32	0.22	-0.8	1	85	71 $^{67}\text{Zn}$		average	
$^{67}\text{Ni}(\beta^-)^{67}\text{Cu}$	3830	90	3576	3	-2.8	U				75Re09		
$^{67}\text{Cu}(\beta^-)^{67}\text{Zn}$	577	8	561.3	1.5	-2.0	U				53Ea11		
$^{67}\text{Zn(p,n)}^{67}\text{Ga}$	-1776	5	-1783.5	1.1	-1.5	U		Ric		57Ch30	Y	
	-1783.3	1.4		-0.1	1	68	52 $^{67}\text{Ga}$	Oak		64Jo11	Z	
$^{67}\text{Ge}(\beta^+)^{67}\text{Ga}$	4330	100	4221	5	-1.1	U				59Ri35	*	
	4370	150		-1.0	U					69Ba07	*	
$^{67}\text{As}(\beta^+)^{67}\text{Ge}$	6010	100	6071	5	0.6	U		ANB		80Mu12		
* $^{67}\text{Fe-u}$	Original -50000(500) $\mu\text{eV}$ or $M=-46570(470)$ keV											
* $^{67}\text{Fe-u}$	$M-A=-44930(330)$ keV for mixture gs+m at 402(9) keV											
* $^{67}\text{Fe-u}$	$M-A=-45980(250)$ keV for mixture gs+m at 402(9) keV											
* $^{28}\text{Si F}_2-^{67}\text{Co}_{.985}$	$M-A=-54829(12)$ for $^{67}\text{Co}^m$ at 491.55(0.11) keV											
* $^{67}\text{Ni-u}$	Original -67840(300) $\mu\text{eV}$ or $M=-63190(280)$ keV											
* $^{67}\text{Ni-u}$	$M-A=-62930(330)$ keV for mixture gs+m at 1007.2(1.0) keV											
* $^{67}\text{Ge}(\beta^+)^{67}\text{Ga}$	$E_{\beta^+}=3140(100)$ , $3180(100)$ respectively, to $1/2^-$ level at 166.98 keV											
$^{68}\text{Fe-u}$	-46300	500	-47050	390	-1.0	2		TO6	1.5	98Ba.A		
	-47330	460		0.6	2			MT1	1.0	11Es06		
$^{68}\text{Co-u}$	-55640	350	-55740	160	-0.2	o		TO5	1.5	94Se12		
	-54750	300		-2.2	U			TO6	1.5	98Ba.A		
	-55730	140		-0.1	2			GT2	1.5	08Kn.A	*	
	-55760	250		0.1	2			MT1	1.0	11Es06	*	
$^{68}\text{Ni-u}$	-68030	930	-68131	3	-0.1	U		TO5	1.5	94Se12	*	
	-67530	930		-0.4	U			TO6	1.5	98Ba.A	*	
$^{68}\text{Ni}-^{85}\text{Rb}_{.800}$	2437.0	3.2		2				MA8	1.0	07Gu09		
$^{68}\text{Cu-u}$	-70570	440	-70389.1	1.7	0.3	U		TO6	1.5	98Ba.A	*	
$^{68}\text{Cu}-^{85}\text{Rb}_{.800}$	179.1	1.7		2				MA8	1.0	07Gu09	*	
$^{68}\text{Ga}-^{85}\text{Rb}_{.800}$	-1484	37	-1451.3	1.6	0.9	U		MA8	1.0	07Gu09		
$^{68}\text{Ge-C}_5\text{H}_8$	-134496.7	8.6	-134504.9	2.0	-1.0	U		CP1	1.0	04Cl03		
	-134506.3	2.8		0.5	2			CP1	1.0	04Cl03		
	-134503.5	2.9		-0.5	2			CP1	1.0	04Cl03		
$^{68}\text{As-u}$	-63221	107	-63225.9	2.0	0.0	U		GT1	1.5	01Ha66		
$^{68}\text{As-C}_5\text{H}_8$	-125839	13	-125826.1	2.0	1.0	U		CP1	1.0	04Cl03		
	-125827.7	9.9		0.2	U			CP1	1.0	04Cl03		
	-125827.1	2.9		0.3	-			CP1	1.0	04Cl03		
	-125824.4	3.1		-0.6	-			CP1	1.0	04Cl03		
ave.	-125825.8	2.1		-0.1	1	88	88 $^{68}\text{As}$			average		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$\text{C F}_3 - {}^{68}\text{As}_{1.015}$	59385.8	5.7	59383.7	2.0	-0.4	1	12	12	${}^{68}\text{As}$	MS1	1.0
${}^{68}\text{Se-u}$	-56197	86	-58174.8	0.5	-9.2	F					2.5
	-57560	1070			-0.6	U				GA6	1.0
	-57900	300			-0.9	U				CS1	1.0
${}^{68}\text{Se-C}_5\text{H}_8$	-120801	31	-120775.0	0.5	0.8	U				CP1	1.0
$\text{C F}_3 - {}^{68}\text{Se}_{1.015}$	54256.87	0.54				2				MS1	1.0
${}^{68}\text{Zn} {}^{35}\text{Cl} - {}^{66}\text{Zn} {}^{37}\text{Cl}$	1757.9	1.0	1760.8	0.3	0.7	U				H18	4.0
${}^{68}\text{As} - {}^{68}\text{Ge}$	8698.8	9.9	8678.8	2.8	-2.0	U				CP1	1.0
${}^{68}\text{Se} - {}^{68}\text{Ge}$	13669	27	13729.9	2.1	2.3	U				CP1	1.0
${}^{65}\text{Cu}(\alpha, n){}^{68}\text{Ga}$	-5800	40	-5824.1	1.6	-0.6	U				Oak	64St01
${}^{66}\text{Ni(t,p)}{}^{68}\text{Ni} - {}^{68}\text{Zn}({}^{70}\text{Zn})$	-2110	21	-2100	4	0.5	U				Hei	77Bh03
${}^{66}\text{Zn(t,p)}{}^{68}\text{Zn}$	8758	15	8768.62	0.29	0.7	U				Ald	72Hu06
${}^{68}\text{Zn}({}^{14}\text{C}, {}^{15}\text{O}){}^{67}\text{Ni}$	-6052	150	-6100	3	-0.3	U				Ors	84De33
${}^{67}\text{Zn(n,}\gamma{}^{68}\text{Zn}$	10198.2	0.4	10198.10	0.19	-0.3	-				71Ot01	Z
	10198.06	0.22			0.2	-				Bdn	06Fi.A
${}^{68}\text{Zn(d,t)}{}^{67}\text{Zn}$	-3930	60	-3940.86	0.19	-0.2	U				ANL	60Ze02
${}^{67}\text{Zn(n,}\gamma{}^{68}\text{Zn}$	ave.	10198.09	0.19	10198.10	0.19	0.0	1	100	${}^{68}\text{Zn}$		average
${}^{68}\text{Cu}(\beta^-){}^{68}\text{Zn}$	4580	60	4439.8	1.8	-2.3	U					64Ba13
	4590	50			-3.0	U					72Sw01
${}^{68}\text{Zn(t,}{}^3\text{He}){}^{68}\text{Cu}$	-4410	20	-4421.2	1.8	-0.6	U				LAI	77Sh08
${}^{68}\text{Ga}(\beta^+){}^{68}\text{Zn}$	2921.1	1.2				2					72Si03
	2915	10	2921.1	1.2	0.6	U					85Bo58
${}^{68}\text{Zn(p,n)}{}^{68}\text{Ga}$	-3693	6	-3703.4	1.2	-1.7	U				Ric	55Br16
	-3703	5			-0.1	U				Ric	57Ch30
	-3707	5			0.7	U				Oak	64Jo11
${}^{68}\text{As}(\beta^+){}^{68}\text{Ge}$	8100	100	8084.3	2.6	-0.2	U				ANB	77Pa13
	8073	54			0.2	U					02Cl.A *
${}^{68}\text{Se}(\beta^+){}^{68}\text{As}$	4710	200	4705.1	1.9	0.0	U					04Wo16
$*{}^{68}\text{Co-u}$	M-A=-51838(96) keV for mixture gs+m at 150#(150#) keV										
$*{}^{68}\text{Co-u}$	M-A=-51860(210) keV for mixture gs+m at 150#(150#) keV										
$*{}^{68}\text{Ni-u}$	M-A=61950(280) keV for mixture gs+p at 2849.1(0.3) keV										
$*{}^{68}\text{Ni-u}$	M-A=61480(280) keV for mixture gs+p at 2849.1(0.3) keV										
$*{}^{68}\text{Cu-u}$	M-A=65380(350) keV for mixture gs+m at 721.26 keV										
$*{}^{68}\text{Cu-}{}^{85}\text{Rb}_{.800}$	This result was first published in reference										
$*{}^{68}\text{Cu-}{}^{85}\text{Rb}_{.800}$	Also 948.6(1.6) $\mu\text{u}$ for ${}^{68}\text{Cu}^m - {}^{85}\text{Rb}_{.800}$ , yielding excit. of 716.7(2.2) keV										
$*{}^{68}\text{Se-u}$	F : other results in same paper not trusted, see ${}^{80}\text{Y}$ and ${}^{80}\text{Zr}$										
$*{}^{68}\text{As}(\beta^+){}^{68}\text{Ge}$	From mass difference 8667(64) $\mu\text{u}$										
${}^{69}\text{Co-u}$	-54800	400	-53860	200	1.6	o				TO5	1.5
	-53050	300			-1.8	2				TO6	1.5
	-54070	230			0.9	2				MT1	1.0
${}^{69}\text{Ni-u}$	-64600	400	-64390	4	0.4	U				TO5	1.5
	-64250	450			-0.2	U				TO6	1.5
${}^{69}\text{Ni-}{}^{85}\text{Rb}_{.812}$	7237.0	4.0				2				MA8	1.0
${}^{69}\text{Cu-}{}^{85}\text{Rb}_{.812}$	1056.0	1.5				2				MA8	1.0
${}^{69}\text{Zn-u}$	-73580	400	-73449.3	1.0	0.2	U				TO6	1.5
$\text{C}_5\text{H}_9 - {}^{69}\text{Ga}$	144852.7	2.4	144851.7	1.3	-0.2	U				M15	2.5
${}^{69}\text{Ga-}{}^{85}\text{Rb}_{.812}$	-2799.8	1.6	-2799.7	1.3	0.0	1	65	65	${}^{69}\text{Ga}$	MA8	1.0
$\text{C F}_3 - {}^{69}\text{Se}$	55794.7	1.6	55794.6	1.6	0.0	1	100	100	${}^{69}\text{Se}$	MS1	1.0
${}^{69}\text{Ga}(\rho, \alpha){}^{66}\text{Zn}$	4440	10	4435.3	1.5	-0.5	U				ANL	67Ka11
${}^{66}\text{Zn}(\alpha, n){}^{69}\text{Ge}$	-7520	30	-7444.8	1.6	2.5	U				Oak	64St01
${}^{67}\text{Zn(t,p)}{}^{69}\text{Zn}$	8168	20	8198.37	0.25	1.5	U				Ald	72Hu06
${}^{68}\text{Zn(n,}\gamma{}^{69}\text{Zn}$	6482.3	0.8	6482.07	0.16	-0.3	U					71Ot01
	6481.8	0.5			0.5	U					Z
	6482.07	0.16				2				Bdn	06Fi.A
${}^{68}\text{Zn(d,p)}{}^{69}\text{Zn}$	4259	10	4257.50	0.16	-0.1	U				ANL	67Vo05
	4243	10			1.5	U				MIT	75Is04
${}^{68}\text{Zn}({}^3\text{He,d}){}^{69}\text{Ga}$	1126	20	1116.4	1.5	-0.5	U					74Ri08

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{69}\text{Se}(\text{ep})^{68}\text{Ge}$	3390	50	3255.1	2.4	-2.7	U		ChR	76Ha29			
	3370	70			-1.6	U		ChR	77Ma24			
$^{69}\text{Br}(\text{p})^{68}\text{Se}$	789	37				3		MSU	11Ro18 *			
$^{69}\text{Br}^{\text{i}}(\text{p})^{68}\text{Se}$	4131	50				3			97Xu01			
	3867.6	50.	4130	50	5.3	B		MSU	11Ro47 *			
$^{69}\text{Cu}(\beta^-)^{69}\text{Zn}$	2480	70	2681.4	1.7	2.9	U			66Va12			
$^{69}\text{Zn}(\beta^-)^{69}\text{Ga}$	897	5	910.2	1.5	2.6	U			53Du03			
$^{69}\text{Ge}(\beta^+)^{69}\text{Ga}$	2225	15	2227.1	0.5	0.1	U			51Hu38 *			
$^{69}\text{Ga}(\text{p},\text{n})^{69}\text{Ge}$	-3008.8	3.2	-3009.5	0.5	-0.2	U		Tkm	63Ok01			
	-3006.0	4.			-0.9	U		Oak	64Jo11 Z			
	-3009.50	0.55			0.0	1	100	100 $^{69}\text{Ge}$	PTB	92Bo.B	Z	
$^{69}\text{As}(\beta^+)^{69}\text{Ge}$	3972	50	3990	30	0.3	-			70Bo19			
	4067	50			-1.6	-		ChR	77Ma24 *			
	ave.	4020	40		-0.9	1	82	82 $^{69}\text{As}$	average			
		6817	75	6680	30	-1.9	1	18	18 $^{69}\text{As}$	ChR	77Ma24 *	
$^{69}\text{Se}(\beta^+)^{69}\text{As}$												
* $^{69}\text{Ni-u}$	M-A=-59940(330) keV for mixture gs+m+n at 321(2) and 2701.0(1.0) keV											
* $^{69}\text{Ni-u}$	M-A=-59620(380) keV for mixture gs+m+n at 321(2) and 2701.0(1.0) keV											
*	and assuming for second isomer a ratio R=0.13(0.06) to ground state,											
*	from half-life=439 ns and TOF=1 $\mu$ s											
* $^{69}\text{Zn-u}$	M-A=-68320(350) keV for mixture gs+m at 438.636(0.018) keV											
* $^{69}\text{Br}(\text{p})^{68}\text{Se}$	Symmetrized from $Q_p=785(+40-34)$ keV											
* $^{69}\text{Br}^{\text{i}}(\text{p})^{68}\text{Se}$	$E_p=2970(50)$ to (2 $^+$ ) level at 854.2 keV											
* $^{69}\text{Ge}(\beta^+)^{69}\text{Ga}$	$E_{\beta^+}=1215, 610$ to ground state 3/2 $^-$ , 574.21 5/2 $^-$ levels											
* $^{69}\text{As}(\beta^+)^{69}\text{Ge}$	$E_{\beta^+}=2812(50)$ to 3/2 $^-$ level at 232.694 keV											
* $^{69}\text{Se}(\beta^+)^{69}\text{As}$	$E_{\beta^+}=5006(75)$ to 789.47 5/2 $^-$ level, and others											
$^{70}\text{Co-u}$	-49000	600	-50370	320	-1.5	U		TO6	1.5	98Ba.A		
	-50370	320			2			MT1	1.0	11Es06	*	
$^{70}\text{Ni-u}$	-63980	350	-63568.7	2.3	0.8	U		TO5	1.5	94Se12	*	
	-63020	350			-1.0	U		TO6	1.5	98Ba.A	*	
$^{70}\text{Cu}-^{85}\text{Rb}_{.824}$	5077.6	1.7	5077.3	1.2	-0.2	2		MA8	1.0	07Gu09	*	
	5077.2	2.2			0.1	2		MA8	1.0	07Gu09	*	
	5077.0	2.3			0.1	2		MA8	1.0	07Gu09	*	
$^{70}\text{Ga}-^{85}\text{Rb}_{.824}$	-1293.0	2.3	-1292.8	1.3	0.1	1	31	31 $^{70}\text{Ga}$	MA8	1.0	07Gu09	
C <sub>5</sub> H <sub>10</sub> - $^{70}\text{Ge}$	154001.3	2.2	154001.6	0.9	0.0	U			M15	2.5	63Ri07	
C <sub>4</sub> H <sub>6</sub> O- $^{70}\text{Ge}$	117616.1	1.8	117616.1	0.9	0.0	U			M15	2.5	63Ri07	
$^{70}\text{Se-u}$	-66890	490	-66484.5	1.7	0.8	o			GA6	1.0	98Ch20	
	-66635	75			1.3	U			GT1	1.5	01Ha66	
	-66520	140			0.3	U			GA6	1.0	02Li24	
$^{70}\text{Se}-^{13}\text{C F}_3$	-65048.8	1.7			2				MS1	1.0	09Sa12	
$^{70}\text{Se}-^{85}\text{Rb}_{.824}$	6209	18	6200.8	1.7	-0.5	U			MA8	1.0	11He10	
$^{70}\text{Br}-^{13}\text{C F}_3$	-53772	16			2				MS1	1.0	09Sa12	
$^{70}\text{Ni}-^{72}\text{Ge}_{.972}$	12173.6	2.3			2				JY1	1.0	07Ra27	
$^{70}\text{Zn}^{35}\text{Cl}-^{68}\text{Zn}^{37}\text{Cl}$	3429.5	1.7	3424.7	2.2	-0.7	1	11	9 $^{70}\text{Zn}$	H18	4.0	64Ba03	
$^{70}\text{Zn}(^3\text{He},^8\text{B})^{65}\text{Co}$	-18385	13	-18370	3	1.2	U			Pri		78Ko24	
$^{70}\text{Zn}(\alpha,^7\text{Be})^{67}\text{Ni}$	-19155	36	-19166	3	-0.3	U			Tex		78Co.A	
	-19164	22			-0.1	U			Pri		78Ko28	
$^{70}\text{Zn}(^{14}\text{C},^{17}\text{O})^{67}\text{Ni}$	-1661	100	-1993	3	-3.3	B			Ors		88Gi04	
$^{70}\text{Ge}(\text{p},\alpha)^{67}\text{Ga}$	1180.9	1.5	1181.1	1.2	0.1	1	62	48 $^{67}\text{Ga}$	NDm		76Jo01	
$^{70}\text{Ge}(^3\text{He},^6\text{He})^{67}\text{Ge}$	-10572	30	-10565	5	0.2	U			MSU		78Pa11	
$^{70}\text{Zn}(^{14}\text{C},^{16}\text{O})^{68}\text{Ni}$	1727	30	1656	4	-2.4	U			Ors		88Gi04	
$^{70}\text{Zn}(^{18}\text{O},^{20}\text{Ne})^{68}\text{Ni}$	172	26	158	4	-0.5	U			Hei		84Ha31	
$^{68}\text{Zn}(\text{t},\text{p})^{70}\text{Zn}$	7196	15	7218.7	2.1	1.5	U			Ald		72Hu06	
$^{70}\text{Ge}(\text{p,t})^{68}\text{Ge}$	-11251	13	-11243.9	2.1	0.5	U			ChR		72Hs01	
	-11242	7			-0.3	U			Ors		77Gu02	
$^{70}\text{Zn}(^{14}\text{C},^{15}\text{O})^{69}\text{Ni}$	-8936	150	-9422	4	-3.2	B			Ors		84De33	
$^{70}\text{Zn}(\text{d},^3\text{He})^{69}\text{Cu}$	-5605	10	-5624.0	2.4	-1.9	U			ANL		78Ze04	
	-5622	13			-0.2	U			Hei		84Ha31	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{70}\text{Zn}(\text{t},\alpha)^{69}\text{Cu}$	8682	20	8696.4	2.4	0.7	U			LAI	81Aj02	
$^{69}\text{Ga}(\text{n},\gamma)^{70}\text{Ga}$	7654.0	1.0	7653.65	0.17	-0.4	U				71Ar12	Z
	7651.6	1.0			2.0	F				71Ve03	*
	7653.65	0.17			0.0	1	100	64	$^{70}\text{Ga}$	Bdn	06Fi.A
$^{69}\text{Ga}(\text{d,p})^{70}\text{Ga}$	5430	10	5429.08	0.17	-0.1	U			Kop	71Ar12	
$^{70}\text{Ge}(\text{d},^3\text{He})^{69}\text{Ga}$	-3030	7	-3029.5	1.5	0.1	U			Ors	78Ro14	
$^{70}\text{Cu}(\beta^-)^{70}\text{Zn}$	6310	110	6588.3	2.2	2.5	U				75Re09	*
	5928	110			6.0	B				75Re09	*
$^{70}\text{Zn}(\text{t},^3\text{He})^{70}\text{Cu}$	-6559	20	-6569.7	2.2	-0.5	U			LAI	77Sh08	
	-6602	20			1.6	U			LAI	87Aj.A	
$^{70}\text{Zn}(\text{p,n})^{70}\text{Ga}$	-1436.3	2.0	-1436.9	1.6	-0.3	-			Nvl	59Go68	Z
	-1439.1	3.0			0.8	-			Oak	64Jo11	Z
ave.	-1437.2	1.6			0.2	1	92	88	$^{70}\text{Zn}$		average
$^{70}\text{Ga}(\beta^-)^{70}\text{Ge}$	1650	10	1651.7	1.5	0.2	U				57Bu41	
$^{70}\text{As}(\beta^+)^{70}\text{Ge}$	6220	50				2				63Bo14	*
$^{70}\text{Se}(\beta^+)^{70}\text{As}$	2780	200	2410	50	-1.8	F				75La02	*
	2736	85			-3.8	B				01To06	
$^{70}\text{Br}(\beta^+)^{70}\text{Se}$	9970	170	10504	15	3.1	C				79Da.A	
	9898	80			7.6	B				04Ka38	*
* $^{70}\text{Co-u}$	M-A=-46820(280) keV for mixture gs+m at 200#200 keV										
* $^{70}\text{Ni-u}$	Original -63860(350) $\mu\text{u}$ or M=-59490(330) keV										
* $^{70}\text{Ni-u}$	M-A=-58590(330) keV for mixture gs+m at 2860(2) keV and assuming ratio R=0.04(2), from half-life=210 ns and TOF=1 $\mu\text{s}$										
*	The three results for $^{70}\text{Cu}$ were first published in reference										
* $^{70}\text{Cu}-^{85}\text{Rb}_{.824}$	$D_M=5185.7(2.2) \mu\text{u}$ for $^{70}\text{Cu}^m$ at 101.1 keV; M-A=-62875.4(2.0) keV										
* $^{70}\text{Cu}-^{85}\text{Rb}_{.824}$	$D_M=5337.4(2.3) \mu\text{u}$ for $^{70}\text{Cu}^n$ at 242.6 keV; M-A=-62734.1(2.2) keV										
* $^{70}\text{Br}-^{13}\text{C F}_3$	$D_M=-51311(16) \mu\text{u}$ for $^{70}\text{Br}^m$ at 2292.3(0.8) keV										
* $^{69}\text{Ga}(\text{n},\gamma)^{70}\text{Ga}$	F : E( $\gamma$ ) systematically lower than for other authors; Z recalibrated										
* $^{70}\text{Cu}(\beta^-)^{70}\text{Zn}$	$E_{\beta^-}=4550(120)$ , 3370(170) to 4 <sup>+</sup> level at 1786.33, 5 <sup>-</sup> at 3037.61 keV										
* $^{70}\text{Cu}(\beta^-)^{70}\text{Zn}$	$E_{\beta^-}=6170(110)$ from $^{70}\text{Cu}^n$ 1 <sup>+</sup> at 242.6 keV										
* $^{70}\text{As}(\beta^+)^{70}\text{Ge}$	$E_{\beta^+}=2144(50)$ to 3 <sup>+</sup> level at 3046.427, 4 <sup>+</sup> at 3058.707 keV										
* $^{70}\text{Se}(\beta^+)^{70}\text{As}$	$E_{\beta^+}=1500(200)$ to 1 <sup>+</sup> level at 81.49, 1 <sup>+</sup> at 234.70, 1 <sup>+</sup> at 458.12 keV										
* $^{70}\text{Se}(\beta^+)^{70}\text{As}$	F : author's half-life 20(2)m disagrees with Nubase 41.1(0.3)m										
* $^{70}\text{Br}(\beta^+)^{70}\text{Se}$	$Q_{\beta^+}=12190(80)$ from 2292.3 $^{70}\text{Br}^m$										
$^{71}\text{Co-u}$	-47100	600	-47630	500	-0.6	2			TO6	1.5	98Ba.A
	-47870	600			0.4	2			MT1	1.0	11Es06
$^{71}\text{Ni-u}$	-60000	400	-59481.0	2.4	0.9	U			TO5	1.5	94Se12
	-58700	350			-1.5	U			TO6	1.5	98Ba.A
$^{71}\text{Cu}-^{85}\text{Rb}_{.835}$	6332.4	1.6			2				MA8	1.0	07Gu09
$^{71}\text{Zn-u}$	-72080	380	-72280.4	2.8	-0.4	U			TO6	1.5	98Ba.A
$^{71}\text{Zn}^m-^{85}\text{Rb}_{.835}$	1544.3	2.6	1544.4	2.5	0.0	1	95	95	$^{71}\text{Zn}^m$	MA8	1.0
$\text{C}_5\text{H}_{11}-^{71}\text{Ga}$	161370.2	3.2	161372.8	0.9	0.3	U			M15	2.5	63Ri07
$^{71}\text{Ga}-^{85}\text{Rb}_{.835}$	-1641.6	3.0	-1641.9	0.9	-0.1	-			MA8	1.0	07Gu09
	-1640.2	1.3			-1.3	-			MA8	1.0	07Ke09
ave.	-1640.4	1.2			-1.2	1	54	54	$^{71}\text{Ga}$		average
$^{71}\text{Se-u}$	-68160	340	-67791	3	1.1	o			GA6	1.0	98Ch20
	-67687	75			-0.9	U			GT1	1.5	01Ha66
	-67830	120			0.3	U			GA6	1.0	02Li24
$^{71}\text{Se}-^{85}\text{Rb}_{.835}$	5865.0	3.0			2				MA8	1.0	11He10
$^{71}\text{Br-u}$	-61260	610	-60658	6	1.0	U			GA6	1.0	02Li24
$^{71}\text{Br H}_2-\text{C}_4\text{H}_9\text{O}$	-110347.7	5.8	-110348	6	0.0	1	100	100	$^{71}\text{Br}$	MS1	1.0
$^{71}\text{Kr-u}$	-49727	151	-49730	140	0.0	1	84	84	$^{71}\text{Kr}$	LZ1	1.0
$^{71}\text{Ni}-^{72}\text{Ge}_{.986}$	17352.2	2.4			2				JY1	1.0	07Ra27
$^{68}\text{Zn}(\alpha,\text{n})^{71}\text{Ge}$	-5630	40	-5746.8	1.1	-2.9	U			Oak		64St01
$^{70}\text{Zn}(^{18}\text{O},^{17}\text{F})^{71}\text{Cu}$	-9529	35	-9588.1	2.4	-1.7	U			Ber		89Bo.A
$^{70}\text{Zn}(\text{d,p})^{71}\text{Zn}$	3609	10	3611	3	0.2	1	10	7	$^{71}\text{Zn}$	ANL	67Vo05
$^{70}\text{Zn}(^3\text{He,d})^{71}\text{Ga}$	2380	20	2369.9	2.1	-0.5	U					74Ri08

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
${}^{71}\text{Ga}(\gamma, \text{n}) {}^{70}\text{Ga}$	-9240	60	-9300.3	1.4	-1.0	U			Phi	60Ge01	
${}^{71}\text{Ga}(\text{d}, \text{t}) {}^{70}\text{Ga}$	-3054	10	-3043.1	1.4	1.1	U			Kop	71Ar12	
${}^{70}\text{Ge}(\text{n}, \gamma) {}^{71}\text{Ge}$	7415.3	1.5	7415.94	0.11	0.4	U				70Or.A	
	7415.1	2.			0.4	U				72Gr34	
	7415.95	0.15			-0.1	-				MMn	91Ils01
	7415.93	0.15			0.1	-				Bdn	06Fi.A
${}^{70}\text{Ge}(\text{d}, \text{p}) {}^{71}\text{Ge}$	5182	10	5191.37	0.11	0.9	U			Kyu	73Ka03	
${}^{70}\text{Ge}(\text{n}, \gamma) {}^{71}\text{Ge}$	ave.	7415.94	0.11	7415.94	0.11	0.0	1	100	86 ${}^{70}\text{Ge}$	average	
${}^{70}\text{Ge}(\text{p}, \gamma) {}^{71}\text{As}$		4619	5	4620	4	0.2	R			75Li14	
${}^{71}\text{Zn}^m(\text{IT}) {}^{71}\text{Zn}$		157.7	1.3	157.7	1.3	0.0	1	98	93 ${}^{71}\text{Zn}$	Ens10c	
${}^{71}\text{Zn}(\beta^-) {}^{71}\text{Ga}$		2610	50	2810.3	2.8	4.0	B			61Th01	
		2786	50			0.5	U			61Th01	*
		2796	50			0.3	U			64So01	*
${}^{71}\text{Ge}(\epsilon) {}^{71}\text{Ga}$		233.0	0.5	232.64	0.22	-0.7	-		Hei	84Ha.A	
		229.3	1.0			3.3	F			91Zl01	*
		232.1	0.5			1.1	-			93Di03	*
		232.71	0.29			-0.2	-			95Le19	
${}^{71}\text{Ga}(\text{p}, \text{n}) {}^{71}\text{Ge}$		-1018.4	2.0	-1014.99	0.22	1.7	U		Oak	64Jo11	Z
${}^{71}\text{Ge}(\epsilon) {}^{71}\text{Ga}$	ave.	232.65	0.22	232.64	0.22	0.0	1	99	86 ${}^{71}\text{Ge}$	average	
${}^{71}\text{Ga}({}^3\text{He}, \text{t}) {}^{71}\text{Ge} - {}^{65}\text{Cu} - {}^{65}\text{Zn}$		1122.0	0.9	1119.0	0.4	-3.3	B		Pri	84Ko10	
${}^{71}\text{As}(\beta^+) {}^{71}\text{Ge}$		1997	20	2013	4	0.8	U			53St31	*
		2010	10			0.3	2			54Th36	*
		2012	10			0.1	2			55Gr08	*
${}^{71}\text{Se}(\beta^+) {}^{71}\text{As}$		4428	125	4747	5	2.5	U			73Sc17	
		4762	35			-0.4	U			01To06	
${}^{71}\text{Kr}(\epsilon) {}^{71}\text{Br}$		10140	320	10180	130	0.1	1	16	16 ${}^{71}\text{Kr}$	97Oj01	
${}^{*71}\text{Zn-u}$		M-A=-67060(350) keV for mixture gs+m at 157.7 keV									Ens93 **
${}^{*71}\text{Zn}(\beta^-) {}^{71}\text{Ga}$		$E_{\beta^-}=1450(50)$ 1460(50) respectively, from ${}^{71}\text{Zn}^m$ at 157.7(1.3) to 9/2 <sup>+</sup> at 1493.74									Ens10c **
${}^{*71}\text{Ge}(\epsilon) {}^{71}\text{Ga}$		F : sees 17 keV neutrino									AHW **
${}^{*71}\text{Ge}(\epsilon) {}^{71}\text{Ga}$		Original error 0.1 increased for calibration uncertainty									GAu **
${}^{*71}\text{As}(\beta^+) {}^{71}\text{Ge}$		$E_{\beta^+}=800(20)$ 813(10) 815(10) respectively, to 5/2 <sup>-</sup> level at 174.943 keV									Ens10c **
${}^{72}\text{Ni-u}$		-58700	500	-58214.1	2.4	0.6	U		TO5	1.5	94Se12
		-57400	400			-1.4	U		TO6	1.5	98Ba.A
${}^{72}\text{Cu-u}$		-64250	510	-64179.7	1.5	0.1	U		TO6	1.5	98Ba.A
${}^{72}\text{Cu}-{}^{85}\text{Rb}_{.847}$		10534.4	1.5			2			MA8	1.0	07Gu09
${}^{72}\text{Zn}-{}^{85}\text{Rb}_{.847}$		1556.9	2.3			2			MA8	1.0	08Ba54
${}^{72}\text{Ga}-{}^{85}\text{Rb}_{.847}$		1079.5	1.5	1081.6	0.9	1.4	1	35	35 ${}^{72}\text{Ga}$	MA8	1.0
$\text{C}_4\text{H}_8\text{O}-{}^{72}\text{Ge}$		135438.4	2.1	135439.05	0.08	0.1	U		M15	2.5	63Ri07
${}^{72}\text{Se}-{}^{85}\text{Rb}_{.847}$		1854.6	2.1			2			MA8	1.0	11He10
${}^{72}\text{Br}-{}^{27}\text{Al}-{}^{85}\text{Rb}_{1.165}$		20892.1	7.2			2			MA8	1.0	11He10
${}^{72}\text{Kr}-{}^{85}\text{Rb}_{.847}$		16806.5	8.6			2			MA8	1.0	06Ro11
${}^{70}\text{Ge H}_2-{}^{72}\text{Ge}$		17821.3	1.7	17823.0	0.9	0.4	U		M15	2.5	63Ri07
${}^{72}\text{Ge} {}^{35}\text{Cl}-{}^{70}\text{Ge} {}^{37}\text{Cl}$		779.8	5.9	777.2	0.9	-0.2	U		H40	2.5	85El01
${}^{72}\text{Ni}-{}^{72}\text{Ge}$		19710.1	2.4			2			JY1	1.0	07Ra27
${}^{70}\text{Zn}(\text{t}, \text{p}) {}^{72}\text{Zn}$		6231	20	6241.6	2.9	0.5	U		Ald	72Hu06	
${}^{71}\text{Ga}(\text{n}, \gamma) {}^{72}\text{Ga}$		6521.1	1.0	6520.48	0.19	-0.6	U			70Li04	Z
		6519.8	1.0			0.7	F			71Ve03	*
		6520.44	0.19			0.2	1	99	65 ${}^{72}\text{Ga}$	Bdn	06Fi.A
${}^{72}\text{Ge}(\text{d}, {}^3\text{He}) {}^{71}\text{Ga}$		-4241	7	-4242.3	0.8	-0.2	U		Ors	78Ro14	
${}^{72}\text{Zn}(\beta^-) {}^{72}\text{Ga}$		422	20	442.8	2.3	1.0	U			63De11	*
		458	6			-2.5	U			63Th03	*
${}^{72}\text{Ga}(\beta^-) {}^{72}\text{Ge}$		4000	20	3997.6	0.8	-0.1	U			55Jo09	*
		3984	10			1.4	U			60La04	*
${}^{72}\text{As}(\beta^+) {}^{72}\text{Ge}$		4361	10	4356	4	-0.5	2			50Me55	
		4345	10			1.1	2			68Vi05	
${}^{72}\text{Ge}(\text{p}, \text{n}) {}^{72}\text{As}$		-5140	5	-5138	4	0.3	2		Kyu	76Ki12	
${}^{72}\text{Br}(\beta^+) {}^{72}\text{Se}$		8869	95	8801	7	-0.7	U			01To06	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{74}\text{Ni-u}$	-52830	1060	-52020#	430#	0.8	D		MT1	1.0	11Es06	*	
$^{74}\text{Cu-u}$	-59400	400	-60125	7	-1.2	U		TO6	1.5	98Ba.A		
$^{74}\text{Cu}-^{85}\text{Rb}_{.871}$	16706.0	6.6				2		MA8	1.0	07Gu09		
$^{74}\text{Zn}-^{85}\text{Rb}_{.871}$	6238.4	2.7				2		MA8	1.0	08Ba54		
$^{74}\text{Ga}-^{85}\text{Rb}_{.871}$	3776.9	22.6	3777	3	0.0	U		MA8	1.0	07Ke09	*	
	3776.9	4.0			0.0	2		MA8	1.0	07Gu09		
	3806.5	34.6			-0.9	U		MA8	1.0	07Ke09	*	
	3776.8	5.4			0.0	2		TT1	1.0	11Et.A	*	
$\text{C } ^{32}\text{S}_2-^{74}\text{Ge H}_2$	7314.0	1.4	7314.522	0.014	0.1	U		M15	2.5	63Ri07		
$^{74}\text{Ge}-^{84}\text{Kr}$	9680.0337	0.0128	9680.034	0.013	0.0	1	100	100 $^{74}\text{Ge}$	FS1	1.0	10Mo03	
$\text{C}_6 \text{H}_2-^{74}\text{Se}$	93173.8	3.8	93174.130	0.016	0.0	U		M15	2.5	63Ri07		
$^{74}\text{Se}-^{84}\text{Kr}$	10978.2066	0.0128	10978.207	0.015	0.0	o		FS1	1.0	10Mo03	*	
$^{74}\text{Se}-^{85}\text{Rb}_{.871}$	-691.4	7.3	-692.928	0.016	-0.2	U		MA8	1.0	11He10		
$^{74}\text{Br}-^{27}\text{Al}-^{85}\text{Rb}_{1.188}$	16246.0	6.8	16242	6	-0.5	1	85	85 $^{74}\text{Br}$	MA8	1.0	11He10	*
$^{74}\text{Kr}-^{85}\text{Rb}_{.871}$	9915.0	2.2	9915.2	2.2	0.1	o		MA8	1.0	04Ro32	*	
	9916.8	2.6			-0.6	-		MA8	1.0	06Ro11		
	9909.7	4.4			1.2	-		MA8	1.0	06Ro11		
	ave.	9915.0	2.2		0.1	1	93	93 $^{74}\text{Kr}$		average		
$^{74}\text{Rb}-^{85}\text{Rb}_{.871}$	21109	19	21097	3	-0.6	U		MA8	1.0	07Ke09		
	21097.9	4.3			-0.2	o		MA8	1.0	04Ke10	*	
	21095.7	5.2			0.3	-		MA8	1.0	07Ke09		
	21102.7	7.5			-0.8	-		MA8	1.0	07Ke09		
	21096.5	6.5			0.1	-		TT1	1.0	11Et.A	*	
	ave.	21098	4		-0.1	1	83	83 $^{74}\text{Rb}$		average		
$^{74}\text{Rb-u}$	-55765	125	-55734	3	0.2	U		P40	1.0	06Lu19		
$^{74}\text{Ge } ^{35}\text{Cl}-^{72}\text{Ge } ^{37}\text{Cl}$	2047.5	1.1	2052.02	0.11	1.0	U		H18	4.0	64Ba03		
	2047.74	0.71			2.4	U		H40	2.5	85El01		
	2052.01	0.26			0.0	U		H44	1.5	91Hy01		
$^{74}\text{Se } ^{35}\text{Cl}-^{72}\text{Ge } ^{37}\text{Cl}$	3347.9	4.7	3350.19	0.11	0.2	U		H40	2.5	85El01		
$^{73}\text{Ge H}-^{74}\text{Ge}$	10105.1	1.7	10106.23	0.06	0.3	U		M15	2.5	63Ri07		
$^{74}\text{Se}-^{74}\text{Ge}$	1298.5	8.5	1298.173	0.008	0.0	U		H40	2.5	85El01		
	1298.7	3.7			-0.1	U		H40	2.5	85El01		
	1298.096	0.053			1.5	U		JY1	1.0	10Ko15		
	1298.1729	0.0080			0.0	1	100	100 $^{74}\text{Se}$	FS1	1.0	10Mo03	
$^{74}\text{Br}-^{73}\text{Br}$	-1244	410	-1761	10	-0.5	U		CR1	2.5	89Sh10	*	
$^{74}\text{Se(p,t)}^{72}\text{Se}$	-11979	24	-12005.9	2.0	-1.1	U		Win	74De31	*		
$^{74}\text{Ge}({}^{14}\text{C}, {}^{15}\text{O})^{73}\text{Zn}$	-8018	150	-7664.8	1.9	2.4	U		Ors	84De33			
$^{74}\text{Ge(d,} {}^3\text{He)}^{73}\text{Ga}$	-5515	7	-5518.6	1.7	-0.5	U		Ors	78Ro14			
	-5509	13			-0.7	U		Hei	84Ha31			
$^{73}\text{Ge(n,}\gamma)^{74}\text{Ge}$	10200.2	0.6	10196.24	0.06	-6.6	B			70Ha60			
	10198	2			-0.9	U			74Ch18			
	10195.90	0.15			2.2	-		ILn	85Ho.A	Z		
	10196.32	0.14			-0.6	-			89Bu.A			
	10196.31	0.07			-1.1	-		MMn	91Is01	Z		
	10196.06	0.20			0.9	-		Bdn	06Fi.A			
	ave.	10196.24	0.06		0.0	1	100	100 $^{73}\text{Ge}$		average		
$^{74}\text{Se(d,} {}^3\text{He)}^{73}\text{As}$	-3027	8	-3056	4	-3.6	B		Ors	83Ro08	*		
$^{74}\text{Zn}(\beta^-)^{74}\text{Ga}$	2350	100	2293	4	-0.6	U			72Er05	*		
$^{74}\text{Ga}(\beta^-)^{74}\text{Ge}$	5400	100	5372.8	3.0	-0.3	U			62Ei02	*		
$^{74}\text{As}(\beta^+)^{74}\text{Ge}$	2558	4	2562.4	1.7	1.1	-			71Bo01	*		
$^{74}\text{Ge(p,n)}^{74}\text{As}$	-3343.5	5.6	-3344.7	1.7	-0.2	-		Tkm	63Ok01			
	-3348.3	5.			0.7	-		Oak	64Jol1	Z		
	-3346	5			0.3	-			70Fi03	Z		
	-3347	3			0.8	-		Kyu	73Ki11			
$^{74}\text{As}(\beta^+)^{74}\text{Ge}$	ave.	2562.9	1.9	2562.4	1.7	-0.3	1	82	82 $^{74}\text{As}$	average		
$^{74}\text{As}(\beta^-)^{74}\text{Se}$	1351	4	1353.1	1.7	0.5	1	18	18 $^{74}\text{As}$	71Bo01	*		
$^{74}\text{Br}(\beta^+)^{74}\text{Se}$	6857	100	6925	6	0.7	U			69La15	*		
$^{74}\text{Se(p,n)}^{74}\text{Br}$	-7689	15	-7707	6	-1.2	1	15	15 $^{74}\text{Br}$	75Lu02	*		
$^{74}\text{Kr}(\beta^+)^{74}\text{Br}$	3000	200	2956	6	-0.2	U			74Ro11			
	3327	125			-3.0	U			75Sc07			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{74}\text{Rb}(\beta^+)^{74}\text{Kr}$	10000 10413.8	1500 7.0	10416	3	0.3	U					76Da.D 03Pi08 *
* $^{74}\text{Ni-u}$											GAu **
* $^{74}\text{Ga}-^{85}\text{Rb}_{.871}$											Nub129 **
* $^{74}\text{Ga}-^{85}\text{Rb}_{.871}$											Nub129 **
* $^{74}\text{Ga}-^{85}\text{Rb}_{.871}$											11Et.A **
*											11Et.A **
* $^{74}\text{Se}-^{84}\text{Kr}$											10Mo03 **
* $^{74}\text{Br}-^{27}\text{Al}-^{85}\text{Rb}_{1.188}$											Nub129 **
* $^{74}\text{Kr}-^{85}\text{Rb}_{.871}$											GAu **
* $^{74}\text{Rb}-^{85}\text{Rb}_{.871}$											GAu **
* $^{74}\text{Rb}-^{85}\text{Rb}_{.871}$											11Et.A **
* $^{74}\text{Br}-^{73}\text{Br}$											Nub127 **
* $^{74}\text{Se(p,t)}^{72}\text{Se}$											GAu **
* $^{74}\text{Se(d,}^3\text{He)}^{73}\text{As}$											AHW **
* $^{74}\text{Zn}(\beta^-)^{74}\text{Ga}$											Ens067 **
* $^{74}\text{Ga}(\beta^-)^{74}\text{Ge}$											Ens067 **
* $^{74}\text{As}(\beta^+)^{74}\text{Ge}$											AHW **
*											Ens067 **
* $^{74}\text{As}(\beta^-)^{74}\text{Se}$											AHW **
* $^{74}\text{Br}(\beta^+)^{74}\text{Se}$											69La15 **
*											93Do05 **
* $^{74}\text{Se(p,n)}^{74}\text{Br}$											Ens067 **
* $^{74}\text{Rb}(\beta^+)^{74}\text{Kr}$											GAu **
* $^{74}\text{Rb}(\beta^+)^{74}\text{Kr}$											11To.A **
$^{75}\text{Cu-u}$	-58100	700	-58477.4	2.5	-0.4	U					TO6 1.5 98Ba.A
$^{75}\text{Zn}-^{85}\text{Rb}_{.882}$	10641.7	2.1				2					MA8 1.0 08Ba54
$^{75}\text{Ga}-^{85}\text{Rb}_{.882}$	4301.7	2.6				2					MA8 1.0 07Gu09
$\text{C}_3\text{H}_7\text{O}_2-^{75}\text{As}$	123009.8	2.6	123009.9	0.9	0.0	U					M15 2.5 63Ri07
$^{75}\text{As}-^{85}\text{Rb}_{.882}$	-601.3	7.6	-604.0	0.9	-0.4	U					MA8 1.0 02Ke.A
$^{75}\text{Br}-^{27}\text{Al}-^{85}\text{Rb}_{1.200}$	13201.3	4.6				2					MA8 1.0 11He10
$^{75}\text{Kr}-^{85}\text{Rb}_{.882}$	8747.2	8.7				2					MA8 1.0 06Ro11
$^{75}\text{Rb}-^{85}\text{Rb}_{.882}$	16371	8	16374.7	1.3	0.5	U					MA2 1.0 94Ot01
	16374.7	1.7				0.0	2				MA8 1.0 07Ke09
	16368	21				0.3	U				MA8 1.0 07Ke09
	16374.6	1.9				0.0	2				TT1 1.0 11Et.A *
$^{75}\text{Cu}-^{72}\text{Ge}_{1.042}$	22719.6	2.5				2					JY1 1.0 07Ra27
$^{75}\text{As}^{35}\text{Cl}-^{73}\text{Ge}^{37}\text{Cl}$	1079.6	5.0	1085.7	1.0	0.5	U					H40 2.5 85El01
$^{74}\text{Ge(n,}\gamma)^{75}\text{Ge}$	6505.9	1.1	6505.84	0.05	-0.1	U					72Gr34
	6505.5	2.				0.2	U				72Ha74
	6505.81	0.30				0.1	U				89Bu.A *
	6505.26	0.08				7.3	B				MMn 91Is01 Z
	6505.45	0.14				2.8	C				Bdn 06Fi.A
	6505.84	0.05				2					12Me04
$^{74}\text{Ge(d,p)}^{75}\text{Ge}$	4265	15	4281.27	0.05	1.1	U					MIT 67Sp09
	4282	10			-0.1	U					Kop 72Ha74
	4268	10			1.3	U					Kyu 73Ka03
$^{74}\text{Ge(p,}\gamma)^{75}\text{As}$	6901.6	5.	6900.7	0.9	-0.2	U					74Wa08
$^{74}\text{Ge(}^3\text{He,d)}^{75}\text{As}$	1414	4	1407.2	0.9	-1.7	U					76Sc13
$^{75}\text{As}(\gamma,\text{n})^{74}\text{As}$	-10259	31	-10245.5	1.9	0.4	U					Phi 60Ge01
$^{74}\text{Se(n,}\gamma)^{75}\text{Se}$	8027.84	0.30	8027.60	0.07	-0.8	U					BNn 81En07 Z
	8027.60	0.08				0.0	-				ILn 84To11 Z
	8027.59	0.16				0.0	-				Bdn 06Fi.A
	ave.	8027.60	0.07			0.0	1	100	100 $^{75}\text{Se}$		average
$^{75}\text{Zn}(\beta^-)^{75}\text{Ga}$	6060	80	5906	3	-1.9	U					Stu 86Ek01
$^{75}\text{Ga}(\beta^-)^{75}\text{Ge}$	3300	200	3392.4	2.4	0.5	U					60Mo01
$^{75}\text{Ge}(\beta^-)^{75}\text{As}$	1188	20	1177.2	0.9	-0.5	U					55Sc09
$^{75}\text{As(p,n)}^{75}\text{Se}$	-1647.2	2.0	-1647.1	0.9	0.1	-					Nvl 59Go68 Z
	-1647.3	1.1				0.3	-				Oak 64Jo11 Z
	-1643	5				-0.8	U				70Fi03
	ave.	-1647.3	1.0			0.3	1	85	85 $^{75}\text{As}$		average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{75}\text{Br}(\beta^+)^{75}\text{Se}$	3010	20	3062	4	2.6	U				52Fu04	*	
	3030	50			0.6	U				61Ba43	*	
	3050	20			0.6	U				69Ra24	*	
$^{75}\text{Kr}(\beta^+)^{75}\text{Br}$	4400	200	4783	9	1.9	U				74Ro12	*	
$^{75}\text{Sr}(\varepsilon)^{75}\text{Rb}$	10600	220			3					03Hu01		
$*^{75}\text{Rb}-^{85}\text{Rb}_{882}$	$D_M=16374.5(1.9) \mu\text{m}$ ME=-57218.8(1.7)keV corrected for $e^-$ binding=+74eV									11Et.A	**	
$*^{74}\text{Ge}(\text{n},\gamma)^{75}\text{Ge}$	Original error 0.03 keV increased									GAu	**	
$*^{75}\text{Br}(\beta^+)^{75}\text{Se}$	$E_{\beta^+}=1700(20)$ 1720(50) 1740(20) respectively, to $3/2^-$ level at 286.5698 keV									Ens997	**	
$*^{75}\text{Kr}(\beta^+)^{75}\text{Br}$	$E_{\beta^+}=3200(200)$ to 132.46 $5/2^+$ , 154.61 $3/2^+$ levels									Ens997	**	
$^{76}\text{Cu}-^{85}\text{Rb}_{894}$	24135.0	7.2			2				MA8	1.0	07Gu09	
$^{76}\text{Zn}-^{85}\text{Rb}_{894}$	11975.5	2.0	11974.9	1.6	-0.3	1	61	61	MA8	1.0	08Ba54	
$^{76}\text{Zn}-^{88}\text{Rb}_{864}$	9737.4	2.5	9738.3	1.6	0.4	1	39	39	$^{76}\text{Zn}$	1.0	08Ha23	
$^{76}\text{Ga}-^{85}\text{Rb}_{894}$	7687.6	2.1			2				MA8	1.0	07Gu09	
$\text{C}^{32}\text{S}_2-^{76}\text{Ge}$	22741.6	1.5	22739.622	0.019	-0.5	U			M15	2.5	63Ri07	
$^{76}\text{Ge-u}$	-78597.242	0.096	-78597.274	0.019	-0.3	U			ST2	1.0	01Do08	
$\text{C}_6\text{H}_4-^{76}\text{Se}$	112100	8	112086.425	0.017	-0.7	U			M15	2.5	63Ri07	
$^{76}\text{Se-u}$	-80786.205	0.081	-80786.296	0.017	-1.1	U			ST2	1.0	01Do08	
$^{76}\text{Kr}-^{85}\text{Rb}_{894}$	4774.3	4.7	4770	4	-0.9	1	84	84	$^{76}\text{Kr}$	MA8	1.0	06Ro11
$^{76}\text{Rb}-^{85}\text{Rb}_{894}$	13931	8	13933.0	1.0	0.3	U			MA2	1.0	94Ot01	
	13932.2	2.0			0.4	2			MA8	1.0	07Ke09	
	13923	15			0.7	U			MA8	1.0	07Ke09	
	13935.3	1.6			-1.4	2			MA8	1.0	07Ke09	
	13931.0	1.7			1.2	2			TT1	1.0	11Et.A	
$^{76}\text{Sr}^{19}\text{F}-^{85}\text{Rb}_{1.118}$	38785	37			2				MA8	1.0	05Si34	
$^{76}\text{Sr-u}$	-58813	107	-58240	40	2.2	F				2.5	01La31	
$^{76}\text{Ge}-^{84}\text{Kr}$	9904.9983	0.0175	9904.998	0.019	0.0	o			FS1	1.0	10Mo03	
$^{76}\text{Se}-^{84}\text{Kr}$	7715.9762	0.0169	7715.976	0.017	0.0	1	100	100	$^{76}\text{Se}$	FS1	1.0	10Mo03
$^{74}\text{Ge H}_2-^{76}\text{Ge}$	15425.0	1.7	15425.100	0.023	0.0	U			M15	2.5	63Ri07	
$^{76}\text{Ge}^{35}\text{Cl}-^{74}\text{Ge}^{37}\text{Cl}$	3175.7	1.5	3175.04	0.07	-0.1	U			H18	4.0	64Ba03	
	3170.41	0.74			2.5	U			H40	2.5	85El01	
	3174.61	0.41			0.7	U			H44	1.5	91Hy01	
$^{76}\text{Se}^{35}\text{Cl}-^{74}\text{Ge}^{37}\text{Cl}$	986.30	0.65	986.02	0.07	-0.3	U			H44	1.5	91Hy01	
$^{76}\text{Ge}-^{76}\text{Se}$	2190.92	0.59	2189.022	0.008	-1.3	U			H40	2.5	85El01	
	2188.60	0.42			0.7	U			H44	1.5	91Hy01	
	2188.963	0.054			1.1	U			ST2	1.0	01Do08	
	2188.98	0.16			0.3	U			JY1	1.0	08Ra09	
	2189.0221	0.008			0.0	1	100	100	$^{76}\text{Ge}$	FS1	1.0	10Mo03
$^{75}\text{Rb}-^{76}\text{Rb}_{493}^{74}\text{Rb}_{507}$	-1140	170	-1081.1	2.0	0.1	U			P20	2.5	82Au01	
$^{76}\text{Ge}^{14}\text{C},^{17}\text{O}^{73}\text{Zn}$	-3779	40	-3790.8	1.9	-0.3	U			Ors		84Be10	
$^{76}\text{Ge}^{14}\text{C},^{16}\text{O}^{74}\text{Zn}$	163	40	300.7	2.5	3.4	B			Ors		84Be10	
$^{76}\text{Ge}^{18}\text{O},^{20}\text{Ne}^{74}\text{Zn}$	-1219	21	-1197.1	2.5	1.0	U			Hei		84Ha31	
$^{76}\text{Ge}^{14}\text{C},^{15}\text{O}^{75}\text{Zn}$	-10354	150	-10489.7	2.0	-0.9	U			Ors		84De33	
$^{76}\text{Ge(d,}^3\text{He)}^{75}\text{Ga}$	-6545	7	-6543.8	2.4	0.2	U			Ors		78Ro14	
	-6536	22			-0.4	U			Hei		84Ha31	
$^{75}\text{As(n,}\gamma)^{76}\text{As}$	7329	2	7328.50	0.07	-0.3	U				68Jo11		
	7328.421	0.075			1.0	2			ILn		90Ho10	
	7328.81	0.15			-2.1	2			Bdn		06Fi.A	
$^{75}\text{As(d,p)}^{76}\text{As}$	5105	5	5103.93	0.07	-0.2	U					76Mo32	
$^{75}\text{Se(n,}\gamma)^{76}\text{Se}$	11154.15	0.30	11153.79	0.07	-1.2	U			ILn		83To20	
$^{76}\text{Zn}(\beta^-)^{76}\text{Ga}$	4160	80	3993.6	2.4	-2.1	U			Stu		86Ek01	
$^{76}\text{Ga}(\beta^-)^{76}\text{Ge}$	6770	150	6916.2	2.0	1.0	o			Stu		77Al17	
	7010	90			-1.0	U			Stu		86Ek01	
$^{76}\text{Ge(p,n)}^{76}\text{As}$	-1705	5	-1703.9	0.9	0.2	U					70Fi03	
$^{76}\text{As}(\beta^-)^{76}\text{Se}$	2970	2	2960.6	0.9	-4.7	B					69Na11	
$^{76}\text{Br}(\beta^+)^{76}\text{Se}$	5002	20	4963	9	-2.0	2					71Dz08	
$^{76}\text{Br(n,p)}^{76}\text{Se}$	5730	15	5745	9	1.0	2			ILL		78An14	
$^{76}\text{Se(p,n)}^{76}\text{Br}$	-5738.6	15.	-5745	9	-0.4	2					75Lu02	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{78}\text{Cu-u}$	-47770	540				2			OR1	1.0	06Ha62
$^{78}\text{Zn}-^{88}\text{Rb}_{.886}$	16863.8	2.9	16863.6	2.1	-0.1	1	52	52 $^{78}\text{Zn}$	JY1	1.0	08Ha23
$^{78}\text{Ga}-^{88}\text{Rb}_{.886}$	10184.3	3.3	10183.2	2.0	-0.3	1	38	38 $^{78}\text{Ga}$	JY1	1.0	08Ha23
$\text{C}_6\text{H}_6-^{78}\text{Se}$	129642.6	2.2	129640.91	0.20	-0.3	U			M15	2.5	63Ri07
$\text{C}_6\text{H}_6-^{78}\text{Kr}$	126548.3	3.6	126585.2	0.8	4.1	B			M15	2.5	63Ri07
	126554	17			1.2	U			R11	1.5	78Di09
	126560	7			2.4	U			R11	1.5	78Di09
$\text{C}_5\text{N H}_4-^{78}\text{Kr}$	113994	20	114009.2	0.8	0.5	U			R11	1.5	78Di09
$^{78}\text{Kr}-^{86}\text{Kr}_{.907}$	1441.2	1.0	1441.1	0.8	-0.1	1	57	57 $^{78}\text{Kr}$	MS1	1.0	06Ri15
$^{78}\text{Zn}-^{85}\text{Rb}_{.918}$	19266.0	3.0	19266.2	2.1	0.1	1	48	48 $^{78}\text{Zn}$	MA8	1.0	08Ba54
$^{78}\text{Ga}-^{85}\text{Rb}_{.918}$	12585.2	2.6	12585.9	2.0	0.3	1	62	62 $^{78}\text{Ga}$	MA8	1.0	07Gu09
$^{78}\text{Kr}-^{85}\text{Rb}_{.918}$	1342.3	1.4	1342.0	0.8	-0.2	-			MA8	1.0	06Ro11
	1338.9	2.2			1.4	-			MA8	1.0	06Ro11
ave.	1341.3	1.2			0.5	1	41	41 $^{78}\text{Kr}$			average
$^{78}\text{Rb}-^{85}\text{Rb}_{.918}$	9118	8	9119	3	0.1	2			MA2	1.0	94Ot01
	9121.3	7.5			-0.3	2			TT1	1.0	12Ga15 *
	9118.3	4.5			0.1	2			TT1	1.0	12Ga15 *
$^{78}\text{Sr}-^{85}\text{Rb}_{.918}$	13157	8				2			MA2	1.0	94Ot01
$^{78}\text{Se}^{35}\text{Cl}_2-^{74}\text{Ge}^{37}\text{Cl}_2$	2030.4	2.2	2031.68	0.24	0.4	U			H44	1.5	91Hy01
$^{78}\text{Se}^{35}\text{Cl}_2-^{76}\text{Ge}^{37}\text{Cl}_1$	-1147.60	0.92	-1143.37	0.21	1.8	U			H40	2.5	85El01
	-1143.57	0.72			0.2	U			H44	1.5	91Hy01
$^{78}\text{Se}^{35}\text{Cl}_2-^{76}\text{Se}^{37}\text{Cl}_1$	1042.03	1.35	1045.66	0.21	1.1	U			H40	2.5	85El01
	1044.58	0.45			1.6	U			H44	1.5	91Hy01
$^{76}\text{Se H}_2-^{78}\text{Kr}$	14440	25	14498.8	0.8	1.6	U			R11	1.5	78Di09
$^{77}\text{Se H}-^{78}\text{Kr}$	7367	26	7374.2	0.8	0.2	U			R11	1.5	78Di09
$^{78}\text{Kr}-^{78}\text{Se}$	3074	16	3055.7	0.8	-0.8	U			R11	1.5	78Di09
	3098	20			-1.4	U			R11	1.5	78Di09
$^{78}\text{Se H}-^{78}\text{Kr}$	4724	33	4769.4	0.8	0.9	U			R11	1.5	78Di09
$^{76}\text{Rb}-^{78}\text{Rb}_{.325}^{75}\text{Rb}_{.676}$	-130	40	-69	4	0.6	U			P20	2.5	82Au01
$^{77}\text{Rb}-^{78}\text{Rb}_{.494}^{76}\text{Rb}_{.507}$	-1192	19	-1138	6	1.1	U			P20	2.5	82Au01
$^{78}\text{Kr}(\alpha, ^8\text{He})^{74}\text{Kr}$	-41080	75	-41032.5	2.1	0.6	U			Tex	82Mo23 *	
$^{78}\text{Se}(\text{p}, \alpha)^{75}\text{As}$	870.9	2.3	872.3	0.9	0.6	1	15	15 $^{75}\text{As}$	NDm		82Zu04
$^{78}\text{Kr}(\text{p}, \text{d})^{75}\text{Kr}$	-12581	14	-12517	8	4.6	B					87Mo06
$^{76}\text{Ge}(\text{t}, \text{p})^{78}\text{Ge}$	6310	5	6310	4	0.0	2			LAI		78Ar12
	6310	5			0.0	2			Phi		81St18
$^{78}\text{Se}(\text{p}, \text{t})^{76}\text{Se}$	-9433.7	4.3	-9434.80	0.18	-0.3	U			NDm		82Zu04
$^{78}\text{Kr}(\alpha, ^6\text{He})^{76}\text{Kr}$	-20351	10	-20333	4	1.8	o			Tex	82Mo23 *	
$^{78}\text{Kr}(\text{p}, \text{t})^{76}\text{Kr}$	-12840	15	-12826	4	0.9	U			Tky		81Ma30
$^{78}\text{Se}(\text{d}, ^3\text{He})^{77}\text{As}$	-4904	4	-4905.1	1.7	-0.3	1	18	18 $^{77}\text{As}$	Ors		83Ro08 *
$^{77}\text{Se}(\text{n}, \gamma)^{78}\text{Se}$	10497.7	0.3	10497.74	0.17	0.1	-			BNn		81En07 Z
	10497.75	0.21			0.0	-			Bdn		06Fi.A
$^{78}\text{Se}(\text{p}, \text{d})^{77}\text{Se}$	-8271.9	4.0	-8273.18	0.17	-0.3	U			NDm		82Zu04
$^{77}\text{Se}(\text{n}, \gamma)^{78}\text{Se}$	ave.	10497.73	0.17	10497.74	0.17	0.0	1	99	99 $^{78}\text{Se}$		average
$^{78}\text{Kr}(\text{d}, \text{t})^{77}\text{Kr}$	-5804	7	-5824.2	2.1	-2.9	U					87Mo06
$^{78}\text{Zn}(\beta^-)^{78}\text{Ga}$	6440	140	6222.7	2.7	-1.6	o			Stu		86Ek01
	6364	90			-1.6	U			Stu		00Me.A
$^{78}\text{Ga}(\beta^-)^{78}\text{Ge}$	8140	160	8156	4	0.1	o			Stu		77Al17
	8200	80			-0.5	o			Stu		86Ek01
	8054	43			2.4	U			Stu		00Me.A
$^{78}\text{Ge}(\beta^-)^{78}\text{As}$	967	30	955	10	-0.4	R					65Fr04 *
	987	20			-1.6	R					65Kv01 *
$^{78}\text{As}(\beta^-)^{78}\text{Se}$	4270	100	4209	10	-0.6	U					70Mc01
	4310	100			-1.0	U					71Mo20 *
$^{78}\text{Br}(\beta^+)^{78}\text{Se}$	3542	50	3574	4	0.6	U			Bar		61Ri02
$^{78}\text{Se}(\text{p}, \text{n})^{78}\text{Br}$	-4344	10	-4356	4	-1.2	2			Bar		61Ri02
	-4370	10			1.4	2			LAI		61Sc11
	-4355.5	7.4			-0.1	2			Tkm		63Ok01 Z
	-4356	5			0.0	2					70Fi03 Z
$^{78}\text{Rb}(\beta^+)^{78}\text{Kr}$	7085	370	7244	3	0.4	U					75We23 *
	7240	50			0.1	U					81Ba40
	7185	50			1.2	U			IRS		93Al03 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{78}\text{Rb}^x(\text{IT})^{78}\text{Rb}$	74	12				3				82Au01	*	
$^{*78}\text{Rb}-^{85}\text{Rb}_{.918}$	Correction for $e^-$ binding=+97eV is negligible									12Ga15	**	
$^{*78}\text{Rb}-^{85}\text{Rb}_{.918}$	$D_M = 9237.6(4.5) \mu\text{u ME} = -66824.9(4.2)\text{keV}$ corrected for $e^-$ binding=+97eV									12Ga15	**	
$^{*78}\text{Kr}(\alpha, ^6\text{He})^{74}\text{Kr}$	Original -41120(75) for 4 events included 1 background event									Nub127	**	
$^{*78}\text{Kr}(\alpha, ^6\text{He})^{76}\text{Kr}$	Replaced by calibration free $^{80}\text{Kr}(\alpha, ^6\text{He})^{78}\text{Kr}-^{78}\text{Kr}(\alpha, ^6\text{He})^{76}\text{Kr}$									GAu	**	
$^{*78}\text{Se}(\text{d}, ^3\text{He})^{77}\text{As}$	Original value -4910(4) corrected, see $^{74}\text{Se}(\text{d}, ^3\text{He})$									AHW	**	
$^{*78}\text{Ge}(\beta^-)^{78}\text{As}$	$E_{\beta^-} = 690(30) \text{ 710(20)}$ respectively, to $1^+$ level at 277.3 keV									Ens09a	**	
$^{*78}\text{As}(\beta^-)^{78}\text{Se}$	$E_{\beta^-} = 3000(100)$ to $2^+$ level at 1308.644 keV									Ens09a	**	
$^{*78}\text{Rb}(\beta^+)^{78}\text{Kr}$	$E_{\beta^+} = 3410(370)$ from $^{78}\text{Rb}^n 4^{(-)}$ at 111.19(0.22) to $4^{(-)}$ level at 2764.10 keV									Ens09a	**	
$^{*78}\text{Rb}(\beta^+)^{78}\text{Kr}$	$Q_{\beta^+} = 7180(80)$ ; and 7300(50) from $^{78}\text{Rb}^n$ at 111.19(0.22) keV									Ens09a	**	
$^{*78}\text{Rb}^x(\text{IT})^{78}\text{Rb}$	Corrected; using $^{78}\text{Rb}^n(\text{IT}) = 111.2$ keV									GAu	**	
$^{79}\text{Cu-u}$	-46700	540	-44980#	430#	3.2	D			OR1	1.0	06Ha62	*
$^{79}\text{Zn}-^{88}\text{Rb}_{.898}$	22278.1	2.9	22276.7	2.4	-0.5	1	68	68 $^{79}\text{Zn}$	JY1	1.0	08Ha23	
$^{79}\text{Ga}-^{88}\text{Rb}_{.898}$	12490.9	2.0	12490.9	2.0	0.0	1	100	100 $^{79}\text{Ga}$	JY1	1.0	08Ha23	
$^{79}\text{Ga-u}$	-67064	129	-67147.7	2.0	-0.4	U			GT2	1.5	08Su19	
$\text{C}_6 \text{H}_7-^{79}\text{Br}$	136444.3	2.4	136437.6	1.4	-1.1	U			M15	2.5	63Ri07	
	136444	15			-0.3	U			R11	1.5	78Di09	
	136449	12			-0.6	U			R11	1.5	78Di09	
$\text{C}_5 \text{C}_6-^{79}\text{Br}$	131976	16	131967.4	1.4	-0.4	U			R11	1.5	78Di09	
	131974	17			-0.3	U			R11	1.5	78Di09	
$\text{C}_5 \text{N H}_5-^{79}\text{Br}$	123870	7	123861.6	1.4	-0.8	U			R11	1.5	78Di09	
	123871	14			-0.4	U			R11	1.5	78Di09	
$\text{C}_5 \text{O H}_3-^{79}\text{Br}$	100061	15	100052.1	1.4	-0.4	U			R11	1.5	78Di09	
	100057	20			-0.2	U			R11	1.5	78Di09	
$\text{C}_4 \text{N O H}-^{79}\text{Br}$	87489	20	87476.1	1.4	-0.4	U			R11	1.5	78Di09	
$^{79}\text{Kr-u}$	-79981	52	-79917	4	1.2	U			GS2	1.0	05Li24	*
$^{79}\text{Zn}-^{85}\text{Rb}_{.929}$	24582.4	4.2	24585.4	2.4	0.7	1	32	32 $^{79}\text{Zn}$	MA8	1.0	08Ba54	
$^{79}\text{Rb}-^{85}\text{Rb}_{.929}$	5934	8	5937.2	2.3	0.4	U			MA2	1.0	94Ot01	
	5937.2	2.3				2			MA8	1.0	07Ke09	
$^{79}\text{Sr}-^{85}\text{Rb}_{.929}$	11655	9				2			MA2	1.0	94Ot01	
$^{77}\text{Se H}_2-^{79}\text{Br}$	17239	8	17226.6	1.4	-1.0	U			R11	1.5	78Di09	
$^{78}\text{Se H}-^{79}\text{Br}$	6806	8	6796.7	1.4	-0.8	U			R11	1.5	78Di09	
$^{79}\text{Br}-^{78}\text{Kr}$	-2072	30	-2027.4	1.6	1.0	U			R11	1.5	78Di09	
$^{77}\text{Rb}-^{79}\text{Rb}_{.487} \text{ }^{75}\text{Rb}_{.513}$	-1010	40	-996.2	1.8	0.1	U			P20	2.5	82Au01	
$^{77}\text{Rb}-^{79}\text{Rb}_{.325} \text{ }^{76}\text{Rb}_{.675}$	-1060	40	-996.1	1.6	0.6	U			P20	2.5	82Au01	
	-990	70			0.0	U			P20	2.5	82Au01	
$^{78}\text{Rb}^x-^{79}\text{Rb}_{.494} \text{ }^{77}\text{Rb}_{.506}$	940	40	919	12	-0.2	U			P20	2.5	82Au01	
$^{78}\text{Se}(\gamma)^{79}\text{Se}$	6962.6	0.3	6962.83	0.13	0.8	2			79Br.A	Z		
	6962.2	0.3			2.1	2			Bn	81En07	Z	
	6963.11	0.17			-1.6	2			Bdn	06Fi.A		
$^{78}\text{Se}(\text{d}, \text{p})^{79}\text{Se}$	4756	6	4738.27	0.13	-3.0	U			MIT	64Sp12		
$^{78}\text{Kr}(\text{d}, \text{p})^{79}\text{Kr}$	5980	50	6109	4	2.6	U			Yal	56B110		
$^{78}\text{Kr}(\text{d}, \text{p})^{79}\text{Rb}$	-1585	10	-1581.1	2.3	0.4	U			Phi	87St11		
$^{79}\text{Zn}(\beta^-)^{79}\text{Ga}$	8550	240	9115.4	2.9	2.4	U			Stu	86Ek01		
$^{79}\text{Ga}(\beta^-)^{79}\text{Ge}$	6770	80	6980	40	2.6	U			Stu	77Al17		
	7000	80			-0.3	o			Stu	86Ek01		
	6979	40			0.0	1	86	86 $^{79}\text{Ge}$	Stu	00Me.A		
$^{79}\text{Ge}(\beta^-)^{79}\text{As}$	4300	200	4110	40	-1.0	U				70Ka04		
	4110	100			0.0	1	14	14 $^{79}\text{Ge}$	Stu	81Al20		
$^{79}\text{As}(\beta^-)^{79}\text{Se}$	2230	50	2281	5	1.0	U				61Ku09	*	
$^{79}\text{Se}(\beta^-)^{79}\text{Br}$	160	5	150.6	1.3	-1.9	U				49Pa.A		
$^{79}\text{Kr}(\beta^+)^{79}\text{Br}$	1612	10	1626	3	1.4	4				52Be55		
	1620	5			1.2	4				54Th39		
	1635	5			-1.8	4				64Bo25		
$^{79}\text{Rb}(\beta^+)^{79}\text{Kr}$	3530	50	3639	4	2.2	U				71Li02	*	
	3720	90			-0.9	U				72Br31	*	
	3650	70			-0.2	U			IRS	93Al03		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{79}\text{Sr}(\beta^+)^{79}\text{Rb}$	5259	78	5326	9	0.9	U			BNL		81Li12
	5059	67		4.0		B			Ors		82De36
$^{79}\text{Y}(\beta^+)^{79}\text{Sr}$	7120	450				3					92Mu12
* $^{79}\text{Cu-u}$			Trends from Mass Surface TMS suggest $^{79}\text{Cu}$ 1600 less bound								
* $^{79}\text{Kr-u}$			M-A=-74437(30) keV for mixture gs+m at 129.77 $7/2^+$ keV								
* $^{79}\text{As}(\beta^-)^{79}\text{Se}$			$E_{\beta^-}$ =1700(50) to 527.93 $3/2^-$ level, and other $E_{\beta^-}$								
* $^{79}\text{Rb}(\beta^+)^{79}\text{Kr}$			$E_{\beta^+}$ =1825(50) 2010(90) respectively, to $3/2^+$ level at 688.17(0.05) keV								
$^{80}\text{Ga-u}$	-63441	129	-63579	3	-0.7	U			GT2	1.5	08Su19
$\text{C}_6\text{H}_8-^{80}\text{Se}$	146068.5	2.9	146078.5	1.3	1.4	U			M15	2.5	63Ri07
$\text{C}_6\text{H}_8-^{80}\text{Kr}$	146225.7	4.6	146222.2	0.7	-0.3	U			M15	2.5	63Ri07
	146235	18			-0.5	U			R11	1.5	78Di09
	146215	16			0.3	U			R11	1.5	78Di09
$\text{C}_5\text{O H}_4-^{80}\text{Kr}$	109834	20	109836.7	0.7	0.1	U			R11	1.5	78Di09
$^{80}\text{Y-u}$	-65720	190	-65644	7	0.4	U				1.0	98Is06
	-66664	86			4.7	F				2.5	01La31 *
	-65600	200			-0.1	U				2.5	08Go23
$^{80}\text{Y O}-^{96}\text{Mo}$	24594.6	6.7			2				JY1	1.0	06Ka48
$^{80}\text{Zr-u}$	-59600	1600			2					1.0	98Is06
	-59740	161	-59600	1600	0.3	F				2.5	01La31 *
$^{80}\text{Zn}-^{88}\text{Rb}_{.909}$	25165.2	7.3	25167.1	2.8	0.3	1	14	14	$^{80}\text{Zn}$	JY1	1.0 08Ha23
$^{80}\text{Ga}-^{88}\text{Rb}_{.909}$	17034.9	3.1				2				JY1	1.0 08Ha23
$^{80}\text{Ge}-^{88}\text{Rb}_{.909}$	5964.9	2.2				2				JY1	1.0 08Ha23
$^{80}\text{Kr}-^{86}\text{Kr}_{.930}$	-488.9	1.1	-489.8	0.7	-0.8	1	46	46	$^{80}\text{Kr}$	MS1	1.0 06Ri15
$^{80}\text{Zn}-^{85}\text{Rb}_{.941}$	27559.1	3.0	27558.8	2.8	-0.1	1	86	86	$^{80}\text{Zn}$	MA8	1.0 08Ba54
$^{80}\text{Kr}-^{85}\text{Rb}_{.941}$	-614.5	1.7	-616.1	0.7	-0.9	1	19	19	$^{80}\text{Kr}$	MA8	1.0 06Ro11
	-627.1	9.6			1.1	U				MA8	1.0 10Na13 *
$^{80}\text{Rb}-^{85}\text{Rb}_{.941}$	5528	8	5522.3	2.0	-0.7	U				MA2	1.0 94Ot01
	5522.3	2.0				2				MA8	1.0 07Ke09
$^{80}\text{Sr}-^{85}\text{Rb}_{.941}$	7531	8	7523	4	-1.0	-				MA2	1.0 94Ot01
	7513	14			0.7	U				MA8	1.0 05Si34
	7521.3	4.2			0.5	-				SH1	1.0 11Ha08
ave.	7523	4			0.0	1	100	100	$^{80}\text{Sr}$		average
$^{80}\text{Se}^{35}\text{Cl}-^{78}\text{Se}^{37}\text{Cl}$	2164.8	1.4	2162.6	1.3	-0.4	U			H18	4.0	64Ba03
	2160.8	9.2			0.1	U			H40	2.5	85El01
$^{80}\text{As}-^{80}\text{Kr}$	6096.5	3.5			2				MS1	1.0	07Bo50
$^{80}\text{Kr}-^{79}\text{Br}$	-1955	28	-1959.5	1.5	-0.1	U			R11	1.5	78Di09
$^{80}\text{Kr}-^{78}\text{Kr}$	-4046	30	-3986.9	1.1	1.3	U			R11	1.5	78Di09
$^{79}\text{Rb}-^{80}\text{Rb}_{.658}$	77Rb. <sub>342</sub>	27	-1139.5	2.5	1.2	U			P20	2.5	82Au01
$^{79}\text{Rb}-^{80}\text{Rb}_{.494}$	<sup>78</sup> Rb. <sub>506</sub>	24	-1316	7	-0.1	U			P20	2.5	82Au01
$^{80}\text{Se}(\text{p},\alpha)^{77}\text{As}$	1020.0	2.8	1020.9	1.8	0.3	1	43	31	$^{77}\text{As}$	NDm	82Zu04
$^{80}\text{Kr}({}^3\text{He},{}^6\text{He})^{77}\text{Kr}$	-10398	24	-10384.8	2.1	0.6	U					87Mo06
$^{80}\text{Se}(\text{d},\alpha)^{78}\text{As}$	5755	12	5768	10	1.1	2			Phi		77Mo13
$^{80}\text{Se}(\text{p},\text{t})^{78}\text{Se}$	-8395.1	3.0	-8394.4	1.3	0.2	-			NDm		82Zu04
ave.	-8394.1	2.1			-0.2	1	35	34	$^{80}\text{Se}$		average
$^{80}\text{Kr}(\alpha,{}^6\text{He})^{78}\text{Kr}-^{78}\text{Kr}({}^7\text{Be},{}^6\text{He})^{76}\text{Kr}$	1432	10	1452	4	2.0	1	18	16	$^{76}\text{Kr}$		82Mo23
$^{78}\text{Kr}({}^3\text{He},\text{n})^{80}\text{Sr}$	2990	30	2992	4	0.1	U					79Al19
$^{80}\text{Se}(\text{d},{}^3\text{He})^{79}\text{As}$	-5921	7	-5919	5	0.3	-			Ors		83Ro08 *
	-5921	13			0.2	-			Hei		83Wi14
$^{80}\text{Se}(\text{t},\alpha)^{79}\text{As}$	8407	10	8401	5	-0.6	-			Phi		83Mo09
$^{80}\text{Se}(\text{d},{}^3\text{He})^{79}\text{As}$	ave.	5919	5	-5919	5	0.0	1	100	100	$^{79}\text{As}$	average
$^{80}\text{Se}(\text{p},\text{d})^{79}\text{Se}$	-7687.6	3.0	-7688.8	1.3	-0.4	R			NDm		82Zu04
$^{79}\text{Br}(\text{n},\gamma)^{80}\text{Br}$	7892.11	0.20	7892.28	0.13	0.8	3			ILn		78Do06 Z
	7892.41	0.18			-0.7	3			Bdn		06Fi.A
$^{79}\text{Br}(\text{d},\text{p})^{80}\text{Br}$	5640	20	5667.71	0.13	1.4	U			Mtr		72Ch33
$^{80}\text{Zn}(\beta^-)^{80}\text{Ga}$	7540	200	7575	4	0.2	U			Stu		86Ek01
	7150	150			2.8	U			Trs		86Gi07

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
${}^{80}\text{Ga}(\beta^-){}^{80}\text{Ge}$	10000	300	10312	4	1.0	o			Stu	81Al20	
	10380	120			-0.6	U			Stu	86Ek01	
${}^{80}\text{Ge}(\beta^-){}^{80}\text{As}$	2640	70	2679	4	0.6	U			Stu	77Al17	
	2630	20			2.5	U			Trs	86Gi07	
${}^{80}\text{As}(\beta^-){}^{80}\text{Se}$	6000	200	5545	4	-2.3	U				59Me68	
	5470	90			0.8	U			Trs	86Gi07	
${}^{80}\text{Se}(\text{t},{}^3\text{He}){}^{80}\text{As}$	-5560	25	-5526	4	1.3	U			LAl	79Aj02	
${}^{80}\text{Br}(\beta^+){}^{80}\text{Se}$	1884	10	1870.5	0.3	-1.4	U				54Li19	
	1872	7			-0.2	U				69Ka06	
${}^{80}\text{Se}(\text{p},\text{n}){}^{80}\text{Br}$	-2655.2	2.8	-2652.8	0.3	0.9	U			Tkm	63Ok01	
	-2652.5	3.0			-0.1	U			Oak	64Jo11	Z
	-2653.2	5.			0.1	U				70Fi03	
	-2652.81	0.31			2				PTB	92B002	Z
${}^{80}\text{Br}(\beta^-){}^{80}\text{Kr}$	1970	30	2004.3	1.4	1.1	U				52Fu04	
	2040	20			-1.8	U				54Li19	
	1997	10			0.7	U				69Ka06	
${}^{80}\text{Rb}(\beta^+){}^{80}\text{Kr}$	5120	500	5717.8	2.0	1.2	U				61Ho13	
	5500	350			0.6	U				75We23	*
	5650	100			0.7	U			IRS	93Al03	
${}^{80}\text{Kr}(\text{p},\text{n}){}^{80}\text{Rb}$	-6484.0	20.	-6500.2	2.0	-0.8	U				72Ja.A	
${}^{80}\text{Y}(\beta^+){}^{80}\text{Sr}$	6952	152	9165	7	14.6	F			BNL	81Li12	*
	6934	242			9.2	F			Ors	82De36	*
	6200	600			4.9	F				96Sh27	*
* ${}^{80}\text{Y}-\text{u}$	F : below lower limit M>-65890(90) $\mu\text{u}$ -61376(83) keV determined in reference										03Ba18 **
* ${}^{80}\text{Zr}-\text{u}$	F : other results in same paper not trusted, see ${}^{80}\text{Y}$ and ${}^{68}\text{Se}$										GAu **
* ${}^{80}\text{Kr}-{}^{85}\text{Rb}_{.941}$	Only one measurement										GAu **
* ${}^{80}\text{Se}(\text{d},{}^3\text{He}){}^{79}\text{As}$	Originally -5927(7), see ${}^{74}\text{Se}(\text{d},{}^3\text{He})$										AHW **
* ${}^{80}\text{Rb}(\beta^+){}^{80}\text{Kr}$	$E_{\beta^+}=3860(350)$ to $2^+$ level at 616.60 keV										Ens058 **
* ${}^{80}\text{Y}(\beta^+){}^{80}\text{Sr}$	F : below lower limit $Q_{\beta^-} > 8929(23)$ keV determined in reference										03Ba18 **
${}^{81}\text{Ge-u}$	-71710	240	-71167.1	2.2	1.5	U			GT2	1.5	08Kn.A *
$\text{C}_6\text{H}_9-{}^{81}\text{Br}$	154135.3	3.8	154135.6	1.4	0.0	U			M15	2.5	63Ri07
	154143	17			-0.3	U			R11	1.5	78Di09
	154134	10			0.1	U			R11	1.5	78Di09
$\text{C}_5\text{N H}_7-{}^{81}\text{Br}$	141561	10	141559.5	1.4	-0.1	U			R11	1.5	78Di09
	141553	18			0.2	U			R11	1.5	78Di09
$\text{C}_5\text{O H}_5-{}^{81}\text{Br}$	117742	12	117750.1	1.4	0.4	U			R11	1.5	78Di09
$\text{C}_4\text{O}_2\text{H}-{}^{81}\text{Br}$	81356	20	81364.6	1.4	0.3	U			R11	1.5	78Di09
$\text{C}_4-{}^{13}\text{C O H}_4-{}^{81}\text{Br}$	113275	14	113279.9	1.4	0.2	U			R11	1.5	78Di09
${}^{81}\text{Rb-u}$	-80958	41	-81006	5	-1.2	U			GS2	1.0	05Li24 *
${}^{81}\text{Y O}-{}^{97}\text{Mo}$	18352.0	5.8	18352	6	0.0	1	100	100 ${}^{81}\text{Y}$	JY1	1.0	06Ka48
${}^{81}\text{Ga}-{}^{88}\text{Rb}_{.920}$	19723.5	3.5			2				JY1	1.0	08Ha23
${}^{81}\text{Ge}-{}^{88}\text{Rb}_{.920}$	10422.6	2.2			2				JY1	1.0	08Ha23
${}^{81}\text{As}-{}^{88}\text{Rb}_{.920}$	3721.9	3.3	3721.9	2.9	0.0	1	75	75 ${}^{81}\text{As}$	JY1	1.0	08Ha23
${}^{81}\text{Zn}-{}^{85}\text{Rb}_{.953}$	34467.0	5.4			2				MA8	1.0	08Ba54
${}^{81}\text{Rb}-{}^{85}\text{Rb}_{.953}$	3063	8	3058	5	-0.6	-			MA2	1.0	94Ot01
	3055.4	9.2			0.3	-			SH1	1.0	11Ha08 *
ave.	3060	6			-0.2	1	76	76 ${}^{81}\text{Rb}$			average
${}^{81}\text{Sr}-{}^{85}\text{Rb}_{.953}$	7278	8	7276	3	-0.3	2			MA2	1.0	94Ot01
	7272	12			0.3	U			MA8	1.0	05Si34
	7275.3	3.7			0.1	2			SH1	1.0	11Ha08
${}^{81}\text{Se}-{}^{80}\text{Kr}_{1.013}$	2704.2	2.4	2702.0	1.4	-0.9	1	36	29 ${}^{81}\text{Se}$	MS1	1.0	07Bo50 *
${}^{80}\text{Se H}-{}^{81}\text{Br}$	8023	8	8057.1	1.8	2.8	U			R11	1.5	78Di09
${}^{80}\text{Kr H}-{}^{81}\text{Br}$	7922	18	7913.4	1.5	-0.3	U			R11	1.5	78Di09
${}^{81}\text{Br-H}-{}^{79}\text{Br}$	-9865	13	-9872.9	1.8	-0.2	U			M15	2.5	63Ri07
${}^{81}\text{Br}-{}^{80}\text{Kr}$	-91	32	-88.4	1.5	0.1	U			R11	1.5	78Di09
${}^{81}\text{Br}-{}^{79}\text{Br}$	-2020	32	-2047.9	1.8	-0.6	U			R11	1.5	78Di09
	-2014	35			-0.6	U			R11	1.5	78Di09

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{79}\text{Rb}-^{81}\text{Rb}_{.325}$ $^{78}\text{Rb}^x_{.675}$	-1130	30	-1148	9	-0.2	U		P20	2.5	82Au01	Y	
$^{80}\text{Rb}-^{81}\text{Rb}_{.494}$ $^{79}\text{Rb}_{.506}$	927	29	926	3	0.0	U		P20	2.5	82Au01	Y	
$^{80}\text{Se}(\text{n},\gamma)^{81}\text{Se}$	6700.9	0.5	6700.8	0.3	-0.1	-		BNn		81En07	Z	
	6700.9	0.5			-0.1	-		Bdn		06Fi.A		
$^{80}\text{Se}(\text{d,p})^{81}\text{Se}$	4490	6	4476.3	0.3	-2.3	U		MIT		64Sp12		
	4477.5	3.0			-0.4	U		NDm		82Zu04		
$^{80}\text{Se}(\text{n},\gamma)^{81}\text{Se}$	ave.	6700.9	0.4	6700.8	0.3	-0.1	1	97	66 $^{81}\text{Se}$		average	
$^{81}\text{Br}(\text{p,n})^{80}\text{Br}$	-10130	35	-10158.0	1.7	-0.8	U		Phi		60Ge01		
$^{80}\text{Kr}(\text{d,p})^{81}\text{Kr}$	5660	15	5648.3	1.5	-0.8	U		Tex		75Ch11	*	
	5646	4			0.6	1	14	11 $^{81}\text{Kr}$		86Bu18		
$^{80}\text{Kr}(\text{He,t})^{81}\text{Rb}$	-637	10	-641	5	-0.4	1	24	24 $^{81}\text{Rb}$		Phi		
$^{81}\text{Zr}(\epsilon\text{p})^{80}\text{Sr}$	4700	200	4630	160	-0.4	1	68	68 $^{81}\text{Zr}$		87St11		
$^{81}\text{Ga}(\beta^-)^{81}\text{Ge}$	8320	150	8664	4	2.3	U		Stu		99Hu05		
$^{81}\text{Ge}(\beta^-)^{81}\text{As}$	6230	120	6242	3	0.1	U		Stu		81Al20	*	
$^{81}\text{As}(\beta^-)^{81}\text{Se}$	3800	200	3855.7	2.8	0.3	U				60Mo01		
	3730	100			1.3	U		Stu		77Al17		
$^{81}\text{Se}(\beta^-)^{81}\text{Br}$	1600	50	1586.6	1.7	-0.3	U				60Ku06		
	1560	50			0.5	U				67Yt03		
$^{81}\text{Kr}(\epsilon)^{81}\text{Br}$	280.7	0.5	280.8	0.5	0.3	1	93	84 $^{81}\text{Kr}$		88Ax01	*	
$^{81}\text{Br}(\text{p,n})^{81}\text{Kr}$	-1062	4	-1063.2	0.5	-0.3	U				84Fi.A		
$^{81}\text{Br}(\text{He,t})^{81}\text{Kr}$	-296	6	-299.4	0.5	-0.6	U				84Bu23		
$^{81}\text{Br}(\text{He,t})^{81}\text{Kr}-^{51}\text{V}()^{51}\text{Cr}$	470.6	1.8	471.8	0.5	0.7	U		Pri		82Ko06	*	
$^{81}\text{Rb}(\beta^+)^{81}\text{Kr}$	2260	30	2238	5	-0.7	U				75Va24	*	
	2290	50			-1.0	U				77Li14		
$^{81}\text{Sr}(\beta^+)^{81}\text{Rb}$	3990	30	3929	6	-2.0	U				73Br32	*	
$^{81}\text{Y}(\beta^+)^{81}\text{Sr}$	5408	86	5816	6	4.7	B		BNL		81Li12		
	5620	89			2.2	U		Ors		82De36		
$^{81}\text{Zr}(\beta^+)^{81}\text{Y}$	7160	290	7320	160	0.5	1	32	32 $^{81}\text{Zr}$		Ors	82De36	
* $^{81}\text{Ge-u}$	M-A=-66454(93) keV for mixture gs+m at 679.14 keV											
* $^{81}\text{Rb-u}$	M-A=-75369(29) keV for mixture gs+m at 86.31 keV											
* $^{81}\text{Rb}-^{85}\text{Rb}_{.953}$	$D_M=3148.1(9.2)$ keV for $^{81}\text{Rb}^m$ at 86.31(0.07) keV; M-A=-75373.1(8.6) keV											
* $^{81}\text{Se}-^{80}\text{Kr}_{1.013}$	$D_M=2814.8(2.4)$ $\mu\text{u}$ for $^{81}\text{Se}^m$ at 103.00(0.06)keV; M-A=-76283.2(2.4) keV											
* $^{80}\text{Kr}(\text{d,p})^{81}\text{Kr}$	Original value 5610(15) reinterpreted as going to 49.57 level											
* $^{81}\text{Ge}(\beta^-)^{81}\text{As}$	$Q_{\beta^-}=6230(120)$ ; and 6930(280) from $^{81}\text{Ge}^m$ at 679.14 keV											
* $^{81}\text{Kr}(\epsilon)^{81}\text{Br}$	LM=0.42(0.05), Q( $\epsilon$ )=4.7(0.5) to 5/2 <sup>-</sup> level at 275.985 keV											
* $^{81}\text{Br}(\text{He,t})^{81}\text{Kr}-^{51}\text{V}()^{51}\text{Cr}$	Q-Q to 456.89(0.03) level=13.7(1.8) keV											
* $^{81}\text{Rb}(\beta^+)^{81}\text{Kr}$	$E_{\beta^+}=1050(30)$ to 1/2 <sup>-</sup> level at 190.64 keV											
* $^{81}\text{Sr}(\beta^+)^{81}\text{Rb}$	$E_{\beta^+}=2684(30)$ to 301.241 3/2 <sup>-</sup> level, and other $E_{\beta^+}$											
$^{82}\text{Ga-u}$	-56812	268	-56823.5	2.6	0.0	U		GT1	1.5	04Ma.A		
$^{82}\text{Ge-u}$	-70400	129	-70226.0	2.4	0.9	U		GT2	1.5	08Su19		
$\text{C}_6\text{H}_{10}-^{82}\text{Se}$	161545.0	4.6	161550.8	1.5	0.5	U		M15	2.5	63Ri07		
$\text{C}_6\text{H}_{10}-^{82}\text{Kr}$	164769.8	3.4	164767.6	0.9	-0.3	U		M15	2.5	63Ri07		
	164787	14			-0.9	U		R11	1.5	78Di09		
	164784	16			-0.7	U		R11	1.5	78Di09		
$\text{C}_5\text{N}\text{H}_8-^{82}\text{Kr}$	152200	25	152191.5	0.9	-0.2	U		R11	1.5	78Di09		
$\text{C}_5\text{O}\text{H}_6-^{82}\text{Kr}$	128396	20	128382.1	0.9	-0.5	U		R11	1.5	78Di09		
$^{82}\text{Rb-u}$	-81775	39	-81791	3	-0.4	U		GS2	1.0	05Li24	*	
$^{82}\text{Sr-u}$	-81604	63	-81600	6	0.1	U		GS2	1.0	05Li24		
$^{82}\text{Y}\text{O}-^{98}\text{Mo}$	16441.2	5.9			2			JY1	1.0	06Ka48		
$^{82}\text{Ga}-^{88}\text{Rb}_{.932}$	25830.4	2.6			2			JY1	1.0	08Ha23		
$^{82}\text{Ge}-^{88}\text{Rb}_{.932}$	12427.9	2.4			2			JY1	1.0	08Ha23		
$^{82}\text{As}-^{88}\text{Rb}_{.932}$	7395.1	4.6			2			JY1	1.0	08Ha23		
$^{82}\text{As}^m-^{88}\text{Rb}_{.932}$	7532.5	4.0			2			JY1	1.0	08Ha23		
$^{82}\text{Kr}-^{86}\text{Kr}_{.953}$	-1329.4	1.1	-1329.2	0.9	0.2	1	73	73 $^{82}\text{Kr}$		MS1	1.0	06Ri15
$^{82}\text{Kr}-^{85}\text{Rb}_{.965}$	-1394.9	2.6	-1394.4	0.9	0.2	1	13	13 $^{82}\text{Kr}$		MA8	1.0	06Ro11
$^{82}\text{Rb}^m-^{85}\text{Rb}_{.965}$	3407	9	3406.0	2.8	-0.1	U		MA2	1.0	94Ot01		
	3406.0	2.8			2			MA8	1.0	05Gu37		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{82}\text{Sr}-^{85}\text{Rb}_{.965}$	3517	8	3523	6	0.7	1	65	$^{65}\text{Sr}$	MA2	1.0	94Ot01
$^{82}\text{Se}^{35}\text{Cl}-^{80}\text{Se}^{37}\text{Cl}$	3128.92	0.63	3127.8	1.2	-0.7	1	55	$^{38}\text{Se}$	H40	2.5	85El01
$^{80}\text{Se H}_2-^{82}\text{Kr}$	18665	18	18689.1	1.5	0.9	U			R11	1.5	78Di09
	18671	19			0.6	U			R11	1.5	78Di09
$^{81}\text{Br H}-^{82}\text{Se}$	7419	8	7415.2	1.9	-0.3	U			R11	1.5	78Di09
$^{81}\text{Br H}-^{82}\text{Kr}$	10662	20	10632.0	1.1	-1.0	U			R11	1.5	78Di09
$^{82}\text{Se}-^{82}\text{Kr}$	3222	16	3216.8	1.6	-0.2	U			R11	1.5	78Di09
	3218	22			0.0	U			R11	1.5	78Di09
	3216.1	1.6			0.3	1	44	$^{34}\text{Se}$	H45	1.5	93Nx01
$^{82}\text{Kr}-^{78}\text{Se H}_3$	-27269	35	-27301.6	1.0	-0.6	U			R11	1.5	78Di09
$^{80}\text{Se H}_3-^{82}\text{Kr}$	26466	32	26514.1	1.5	1.0	U			R11	1.5	78Di09
$^{82}\text{Kr}-^{81}\text{Br}$	-2805	32	-2807.0	1.1	0.0	U			R11	1.5	78Di09
$^{82}\text{Se H}-^{82}\text{Kr}$	11082	40	11041.8	1.6	-0.7	U			R11	1.5	78Di09
$^{79}\text{Rb}-^{82}\text{Rb}_{.241}^{78}\text{Rb}_{.760}^x$	-1536	29	-1627	10	-1.3	U			P20	2.5	82Au01 Y
$^{81}\text{Rb}-^{82}\text{Rb}_{.741}^{78}\text{Rb}_{.260}^x$	-1680	40	-1618	6	0.6	U			P20	2.5	82Au01 Y
$^{80}\text{Rb}-^{82}\text{Rb}_{.325}^{79}\text{Rb}_{.675}^x$	440	40	377.6	2.6	-0.6	U			P20	2.5	82Au01 Y
$^{82}\text{Kr}(\text{He},\text{He})^{79}\text{Kr}$	-8822	31	-8809	4	0.4	U					87Mo06
$^{82}\text{Se}^{(14}\text{C},^{16}\text{O})^{80}\text{Ge}$	-449	60	-301.7	2.5	2.5	U			Ors		83Be.C
$^{82}\text{Se}^{(18}\text{O},^{20}\text{Ne})^{80}\text{Ge}$	-2020	40	-1799.5	2.5	5.5	B			Hei		83Wi14 *
$^{82}\text{Se}(\text{p},\text{l})^{80}\text{Se}$	-7496.1	3.0	-7495.3	1.1	0.3	1	13	$^{9}\text{Se}$	NDm		82Zu04
$^{82}\text{Se}(\text{d},\text{d})^{81}\text{As}$	-6864	10	-6856.1	2.8	0.8	-			Ors		83Ro08 *
	6861	18			0.3	U			Hei		83Wi14
$^{82}\text{Se}(\text{t},\alpha)^{81}\text{As}$	7467	6	7464.3	2.8	-0.5	-			Phi		82Mo04
$^{82}\text{Se}(\text{d},\text{He})^{81}\text{As}$	ave.	-6856	5	-6856.1	2.8	0.0	1	30	$^{25}\text{As}$		average
$^{82}\text{Se}(\text{p},\text{d})^{81}\text{Se}$	-7051.8	2.8	-7051.7	1.1	0.0	1	16	$^{10}\text{Se}$	NDm		82Zu04
$^{81}\text{Br}(\text{n},\gamma)^{82}\text{Br}$	7592.80	0.20	7592.94	0.12	0.7	-			ILn		78Do06 Z
	7593.02	0.15			-0.5	-			Bdn		06Fi.A
$^{81}\text{Br}(\text{d},\text{p})^{82}\text{Br}$	5400	20	5368.38	0.12	-1.6	U			Mtr		72Ch33
$^{81}\text{Br}(\text{n},\gamma)^{82}\text{Br}$	ave.	7592.94	0.12	7592.94	0.12	0.0	1	100	$^{90}\text{Br}$		average
$^{82}\text{Ge}(\beta^-)^{82}\text{As}$	4700	140	4688	5	-0.1	U			Stu		81Al20
$^{82}\text{As}(\beta^-)^{82}\text{Se}$	7270	200	7491	5	1.1	U					70Va31 *
	7740	30			-8.3	C			Stu		00Me.A
	7531	21			-1.9	U			Stu		04Ga44 *
$^{82}\text{As}^m(\beta^-)^{82}\text{Se}$	6600	200	7619	4	5.1	B					70Ka04 *
	7625	22			-0.3	U			Stu		00Me.A
	7677	17			-3.4	B			Stu		04Ga44 *
$^{82}\text{Se}(\text{t},^3\text{He})^{82}\text{As}^m$	-7500	25	-7600	4	-4.0	B			LAl		79Aj02
$^{82}\text{Br}(\beta^-)^{82}\text{Kr}$	3092.9	1.0	3093.0	1.0	0.1	1	95	$^{90}\text{Br}$			56Wa24 *
$^{82}\text{Rb}(\beta^+)^{82}\text{Kr}$	4400	15	4403	3	0.2	U					69Be74 *
	4420	60			-0.3	U			IRS		93Al03 *
$^{82}\text{Kr}(\text{p},\text{n})^{82}\text{Rb}$	-5161	20	-5185	3	-1.2	U					72Ja.A
$^{82}\text{Rb}^m(\text{IT})^{82}\text{Rb}$	69.0	1.5			3						Ens03
$^{82}\text{Y}(\beta^+)^{82}\text{Sr}$	7868	185	7947	8	0.4	U			BNL		81Li12
	7793	123			1.3	U			Ors		82De36
$^{82}\text{Zr}(\beta^+)^{82}\text{Y}$	4000	500	4120#	200#	0.2	F			Ors		82De36 *
* $^{82}\text{Rb-u}$	M-A=-76138(30) keV for mixture gs+m at 69.0(1.5) keV										
* $^{82}\text{Se}^{(18}\text{O},^{20}\text{Ne})^{80}\text{Ge}$	Recalibrated to $^{64}\text{Ni}(\text{d},\text{p})^{65}\text{Fe}=-1938(15)$ keV										
* $^{82}\text{Se}(\text{d},^3\text{He})^{81}\text{As}$	Originally -6870(10), see $^{74}\text{Se}(\text{d},^3\text{He})$										
* $^{82}\text{As}(\beta^-)^{82}\text{Se}$	$E_{\beta^-}=7200(200)$ to ground state (80%) and 654.75 2 <sup>+</sup> level (10%)										
* $^{82}\text{As}(\beta^-)^{82}\text{Se}$	Average of 3 branches										
* $^{82}\text{As}^m(\beta^-)^{82}\text{Se}$	$E_{\beta^-}=3600(200)$ to 5 <sup>-</sup> level at 2893.70 and higher levels										
* $^{82}\text{As}^m(\beta^-)^{82}\text{Se}$	Average of 2 branches										
* $^{82}\text{Br}(\beta^-)^{82}\text{Kr}$	$E_{\beta^-}=444(1)$ to 4 <sup>-</sup> level at 2648.360 keV										
* $^{82}\text{Rb}(\beta^+)^{82}\text{Kr}$	$E_{\beta^+}=3350(60)$ ; and 800(15) from $^{82}\text{Rb}^m$ at 69.0(1.5) to 4 <sup>-</sup> level at 2648.360										
* $^{82}\text{Rb}(\beta^+)^{82}\text{Kr}$	$Q_{\beta^+}=4360(100)$ ; and 4510(60) of $^{82}\text{Rb}^m$ at 69.0(1.5) keV										
* $^{82}\text{Zr}(\beta^+)^{82}\text{Y}$	F : for 2.5(0.1) m activity, but Ensdf adopts 32(5) s										
$^{83}\text{Ge-u}$	-65626	268	-65460.9	2.6	0.4	o			GT1	1.5	04Ma.A
	-65270	320			-0.6	U			OR1	1.0	06Ha62
	-65276	129			-1.0	U			GT2	1.5	08Su19

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{83}\text{As-u}$	-74677	129	-74793	3	-0.6	U			GT2	1.5	08Su19
$\text{C}_6\text{H}_{11}-^{83}\text{Kr}$	171946.8	3.4	171948.2	0.3	0.2	U			M15	2.5	63Ri07
	171948	16			0.0	U			R11	1.5	78Di09
$\text{C}_5\text{N H}_9-^{83}\text{Kr}$	159344	25	159372.1	0.3	0.8	U			R11	1.5	78Di09
	159360	19			0.4	U			R11	1.5	78Di09
$\text{C}_5\text{O H}_7-^{83}\text{Kr}$	135543	25	135562.7	0.3	0.5	U			R11	1.5	78Di09
$^{83}\text{Y O}-^{98}\text{Mo}_{1.010}$	12941	20			2				JY1	1.0	06Ka48 *
$^{83}\text{Zr O}-^{98}\text{Mo}_{1.010}$	19697.9	6.9			2				JY1	1.0	06Ka48
$^{83}\text{Ga}-^{88}\text{Rb}_{.943}$	30749.7	2.8			2				JY1	1.0	08Ha23
$^{83}\text{Ge}-^{88}\text{Rb}_{.943}$	18168.5	2.6			2				JY1	1.0	08Ha23
$^{83}\text{As}-^{88}\text{Rb}_{.943}$	8836.3	3.0			2				JY1	1.0	08Ha23
$^{80}\text{Se H}_3-^{83}\text{Kr}$	25825	25	25869.7	1.4	1.2	U			R11	1.5	78Di09
$^{83}\text{Kr}-^{86}\text{Kr}_{.965}$	386.6	1.1	387.9	0.3	1.2	U			MS1	1.0	06Ri15
$^{83}\text{Rb}-^{85}\text{Rb}_{.976}$	1207	8	1207.4	2.5	0.1	U			MA2	1.0	94Ot01
	1207.4	2.5			0.0	1	100	100 $^{83}\text{Rb}$	MA8	1.0	07Ke09
$^{82}\text{Se H}-^{83}\text{Kr}$	10380	18	10397.4	1.5	0.6	U			R11	1.5	78Di09
	10368	16			1.2	U			R11	1.5	78Di09
$^{82}\text{Kr H}-^{83}\text{Kr}$	7160	18	7180.6	1.0	0.8	U			R11	1.5	78Di09
$^{83}\text{Sr}-^{83}\text{Rb}$	2447	9	2440	7	-0.8	1	59	59 $^{83}\text{Sr}$	MA2	1.0	94Ot01
$^{83}\text{Kr}-^{80}\text{Se H}_2$	-18022	36	-18044.7	1.4	-0.4	U			R11	1.5	78Di09
$^{85}\text{Rb}-^{83}\text{Kr H}$	-10211	45	-10162.5	0.3	0.7	U			R11	1.5	78Di09
$^{83}\text{Kr}-^{82}\text{Se}$	-2572	35	-2572.3	1.5	0.0	U			R11	1.5	78Di09
$^{83}\text{Kr}-^{82}\text{Kr}$	648	12	644.4	1.0	-0.1	U			M15	2.5	63Ri07
$^{81}\text{Rb}-^{83}\text{Rb}_{.488}$ $^{79}\text{Rb}_{.513}$	-529	26	-548	5	-0.3	U			P20	2.5	82Au01 Y
$^{81}\text{Rb}-^{83}\text{Rb}_{.325}$ $^{80}\text{Rb}_{.675}$	-1054	27	-1040	5	0.2	U			P20	2.5	82Au01 Y
$^{82}\text{Rb}-^{83}\text{Rb}_{.659}$ $^{80}\text{Rb}_{.342}$	627	24	604	3	-0.4	U			P20	2.5	82Au01 Y
$^{82}\text{Rb}-^{83}\text{Rb}_{.494}$ $^{81}\text{Rb}_{.506}$	1098	23	1054	4	-0.8	U			P21	2.5	82Au01 Y
$^{82}\text{Ge(d,p)}^{83}\text{Ge}$	1470	70	1408	3	-0.9	U			NDm		05Th03
$^{82}\text{Se(d,p)}^{83}\text{Se}$	3593.4	3.0			2				NDm		78Mo12
$^{82}\text{Se}(\text{He},\text{d})^{83}\text{Br}$	3207.4	5.6	3215	4	1.4	1	48	44 $^{83}\text{Br}$	NDm		83Zu01
$^{82}\text{Kr}(\text{He},\text{d})^{83}\text{Rb}$	288	10	275.8	2.5	-1.2	U			Phi		87St11
$^{83}\text{Zr}(\epsilon\text{p})^{82}\text{Sr}$	2750	100	2811	9	0.6	U					83Ha06
$^{83}\text{As}(\beta^-)^{83}\text{Se}$	5460	220	5671	4	1.0	U			Stu		77Al17
$^{83}\text{Se}(\beta^-)^{83}\text{Br}$	3610	40	3673	5	1.6	U					67Ma35
	3681	20			-0.4	U					68Sc10 *
$^{83}\text{Br}(\beta^-)^{83}\text{Kr}$	982	10	977	4	-0.5	-					51Du03 *
	967	15			0.6	U					63Pa09 *
	966	6			1.8	-					69Ph03 *
ave.	970	5			1.2	1	56	56 $^{83}\text{Br}$			average
$^{83}\text{Rb}(\epsilon)^{83}\text{Kr}$	750	20	919.4	2.3	8.5	B					70Go45 *
$^{83}\text{Sr}(\beta^+)^{83}\text{Rb}$	2264	10	2273	6	0.9	1	41	41 $^{83}\text{Sr}$			68Et01 *
$^{83}\text{Y}(\beta^+)^{83}\text{Sr}$	4509	85	4593	20	1.0	U			BNL		81Li12 *
	4455	50			2.8	B			Ors		82De36 *
$^{83}\text{Zr}(\beta^+)^{83}\text{Y}$	5868	85	6294	20	5.0	B			Ors		82De36 *
$^{83}\text{Nb}(\beta^+)^{83}\text{Zr}$	7500	300			3						88Ku14
$*^{83}\text{Y O}-^{98}\text{Mo}_{1.010}$	$D_M=12973.8(5.9) \mu\text{u}$ for mixture gs+m at 61.98(0.11) keV; M-A=-72172.9(5.8) keV										
$*^{83}\text{Se}(\beta^-)^{83}\text{Br}$	$Q_{\beta^-}=3910(20)$ from $^{83}\text{Se}^m$ at 228.50 keV										
$*^{83}\text{Br}(\beta^-)^{83}\text{Kr}$	$E_{\beta^-}=940(10)$ 925(15) 924(6) respectively, to $^{83}\text{Kr}^n$ at 41.5569 keV										
$*^{83}\text{Rb}(\epsilon)^{83}\text{Kr}$	$LK=0.132(0.002)$ to $5/2^-$ level at 561.9569, recalculated Q										
$*^{83}\text{Sr}(\beta^+)^{83}\text{Rb}$	$E_{\beta^+}=1227(8)$ 24% to ground state, 20% to $^{83}\text{Rb}^m$ at 42.11, and other $E_{\beta^+}$										
$*^{83}\text{Y}(\beta^+)^{83}\text{Sr}$	$E_{\beta^+}=2868(85)$ from $^{83}\text{Y}^m$ at 61.98 keV to $(3/2^-, 5/2^-)$ level at 681.11 keV										
$*^{83}\text{Y}(\beta^+)^{83}\text{Sr}$	$E_{\beta^+}=3353(50)$ to $9/2^+$ level at 35.47 keV										
*	and $E_{\beta^+}=2941(84)$ from $^{83}\text{Y}^m$ at 61.98 to $(3/2^-, 5/2^-)$ level at 681.11 k										
$*^{83}\text{Zr}(\beta^+)^{83}\text{Y}$	$Q_{\beta^+}=5806(85)$ to $^{83}\text{Y}^m$ at 61.98 keV										
$*^{83}\text{Zr}(\beta^+)^{83}\text{Y}$	Recalculated value 5802(50) of reference not accepted										
$^{84}\text{Ge-u}$	-62270	430	-62425	3	-0.4	U			OR1	1.0	06Ha62
$^{84}\text{As-u}$	-70530	320	-70697	3	-0.5	U			OR1	1.0	06Ha62 *
	-70710	140			0.1	U			GT2	1.5	08Su19 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{84}\text{Y}(\beta^+)^{84}\text{Sr}$	F : possibly additioned with $e^+e^-$								AHW **
* $^{84}\text{Y}(\beta^+)^{84}\text{Sr}$	$E_{\beta^+}=1641(10)$ and $2242(17)$ to levels at 4062 and 3511 keV								70Re.A **
* $^{84}\text{Y}(\beta^+)^{84}\text{Sr}$	$Q_{\beta^+}=6409(170)$ , and $6499(135)$ from $^{84}\text{Y}^m$ at 67 keV								00Do10 **
* $^{84}\text{Y}(\beta^+)^{84}\text{Sr}$	$Q_{\beta^+}=6475(124)$ from $^{84}\text{Y}^m$ at 67 keV								00Do10 **
* $^{84}\text{Nb}(\beta^+)^{84}\text{Zr}$	Trends from Mass Surface TMS suggest $^{84}\text{Nb}$ 3200 less bound								GAu **
*	see also result of same reference for $^{80}\text{Y}$ and $^{88}\text{Tc}$ : all 3 MeV too small								GAu **
$^{85}\text{Ge-u}$	-57220	540	-57030	4	0.4	U			
$^{85}\text{As-u}$	-68095	225	-67836	3	0.8	o			
	-67887	129			0.3	U			
$\text{C}_6\text{H}_{13}-^{85}\text{Rb}$	189927.6	3.9	189935.681	0.005	0.8	U			
	189930	15			0.3	U			
$\text{C}_4\text{N O H}_7-^{85}\text{Rb}$	140985	18	140974.112	0.005	-0.4	U			
$^{85}\text{Rb}-^{39}\text{K}_{2.179}$	-9124.6	2.7	-9126.700	0.012	-0.8	U			
$^{85}\text{Rb}-^{120}\text{Sn}_{.708}$	-18970.8	2.2	-18969.0	0.7	0.8	U			
$^{85}\text{Y-u}$	-83559	31	-83567	20	-0.3	2			
$^{85}\text{Zr O-}^{98}\text{Mo}_{1.031}$	13886.7	6.9				2			
$^{85}\text{Nb O-}^{98}\text{Mo}_{1.031}$	21246	26	21288	4	1.6	U			
$^{85}\text{Ge-}^{88}\text{Rb}_{.966}$	28638.8	4.0				2			
$^{85}\text{As-}^{88}\text{Rb}_{.966}$	17832.8	3.3				2			
$^{85}\text{Se-}^{88}\text{Rb}_{.966}$	7929.9	2.8				2			
$^{85}\text{Br-}^{88}\text{Rb}_{.966}$	1314.9	3.3				2			
$^{85}\text{Nb-}^{85}\text{Rb}$	17056.1	4.4				2			
$^{85}\text{Mo-}^{85}\text{Rb}$	26471	17				2			
$\text{C}_6\text{H}_{14}-^{85}\text{Rb}$	197760.706	0.014	197760.713	0.005	0.5	U			
$^{85}\text{Rb-C}_6\text{H}_{12}$	-182110.662	0.024	-182110.649	0.005	0.5	U			
$^{85}\text{Rb-}^{84}\text{Kr}$	300	32	292.010	0.004	-0.2	U			
	292.0121	0.0064			-0.4	1	47		
$^{83}\text{Rb-}^{85}\text{Rb}_{.488}$	$^{81}\text{Rb}_{.512}$	-351	22	-339	3	0.2	U		P21 2.5 82Au01 Y
$^{84}\text{Kr(d,p)}^{85}\text{Kr}$	4895	8	4887.7	2.0	-0.9	U			MIT 63Ho.A
$^{85}\text{Rb}(\gamma, n)^{84}\text{Rb}$	-10650	80	-10479.7	2.2	2.1	U			Phi 60Ge01
$^{85}\text{Rb(p,d)}^{84}\text{Rb}$	-8275	6	-8255.1	2.2	3.3	B			Bld 78Sh11
$^{84}\text{Sr(d,p)}^{84}\text{Sr}$	6303	8	6300	3	-0.3	1	14		71Mo02
$^{85}\text{Mo}(\epsilon p)^{84}\text{Zr}$	5100	200	6622	17	7.6	B			99Hu05
$^{85}\text{Se}(\beta^-)^{85}\text{Br}$	6185	90	6162	4	-0.3	o			Bwg 87Gr.A
	6182	23			-0.9	U			Bwg 92Gr.A
$^{85}\text{Br}(\beta^-)^{85}\text{Kr}$	2870	19	2905	4	1.8	U			Stu 79Al05
$^{85}\text{Kr}(\beta^-)^{85}\text{Rb}$	687	2				2			70Wo08
$^{85}\text{Sr}(\epsilon)^{85}\text{Rb}$	1007	30	1064.1	2.8	1.9	U			69Mc05
$^{85}\text{Rb(p,n)}^{85}\text{Sr}$	-1890	30	-1846.4	2.8	1.5	U			58EJ44
$^{85}\text{Rb}({}^3\text{He,t})^{85}\text{Sr}$	-1083	3	-1082.6	2.8	0.1	1	88		Pri 82Ko06
$^{85}\text{Y}(\beta^+)^{85}\text{Sr}$	3255	25	3261	19	0.2	R			63Do07 *
$^{85}\text{Zr}(\beta^+)^{85}\text{Y}$	4693	99	4668	20	-0.3	U			Ors 82De36
$^{85}\text{Nb}(\beta^+)^{85}\text{Zr}$	6000	200	6894	8	4.5	F			88Ku14 *
$^{85}\text{Y-u}$	M-A=-77824(28) keV for mixture gs+m at 19.8 keV								Ens94 **
$^{85}\text{Nb O-}^{98}\text{Mo}_{1.031}$	$D_M=21292.2(6.9)$ $\mu\text{u}$ for mixture gs+m at 150#80 keV; M-A=-66274.8(6.6) keV								Nub127 **
*	ground state 2 ions/s; 0.8/s 69 keV transitions for same production reaction								05Ka39 **
$^{85}\text{Nb-}^{85}\text{Rb}$	Misprint in publication 1.000200869 (not 1.00200869)								GAu **
$^{85}\text{Y}(\beta^+)^{85}\text{Sr}$	$E_{\beta^+}=1540(20)$ to $3/2^-$ level at 743.13 keV								Ens914 **
*	and $E_{\beta^+}=2240(10)$ from $^{85}\text{Y}^m$ at 19.8 (conflicting -> outer error used)								Nub127 **
$^{85}\text{Nb}(\beta^+)^{85}\text{Zr}$	F: see discussion of this result in reference								06Ka48 **
*	$Q_{\beta^+}=6100(200)$ in text p.268 and in Table 1								GAu **
$^{86}\text{Ge-u}$	-54750	540	-53420#	320#	2.5	D			
$^{86}\text{As-u}$	-63586	247	-63298	4	0.8	o			
	-63189	129			-0.6	U			
$^{86}\text{Se-u}$	-75702	128	-75688.3	2.7	0.1	U			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{87}\text{Se-u}$	-71357	128	-71311.4	2.4	0.2	U			GT2	1.5	08Su19
$^{87}\text{Kr-u}$	-86622	30	-86645.24	0.26	-0.8	U			GS2	1.0	05Li24
$\text{C}_4\text{H}_7\text{O}_2-^{87}\text{Rb}$	135417.8	2.7	135423.933	0.007	0.9	U			M15	2.5	63Ri07
$\text{C}_5\ ^{13}\text{C}\text{H}_{14}-^{87}\text{Rb}$	203767	15	203724.754	0.007	-1.9	U			R11	1.5	78Di09
$\text{C}_4\text{O}\text{N}\text{H}_9-^{87}\text{Rb}$	159277	15	159233.382	0.007	-1.9	U			R11	1.5	78Di09
$\text{C}_3\ ^{13}\text{C}\text{O}\text{N}\text{H}_8-^{87}\text{Rb}$	154809	25	154763.185	0.007	-1.2	U			R11	1.5	78Di09
$\text{C}_4\text{H}_7\text{O}_2-^{87}\text{Sr}$	135722.2	3.5	135726.9	1.2	0.5	U			M15	2.5	63Ri07
$^{87}\text{Y-u}$	-89153	30	-89123.9	1.7	1.0	U			GS2	1.0	03Li.A *
$^{87}\text{Zr-u}$	-85222	30	-85182	5	1.3	U			GS2	1.0	05Li24
$^{87}\text{Zr O}-^{97}\text{Mo}_{1,062}$	9543.3	5.2	9541	4	-0.4	1	74	74 $^{87}\text{Zr}$	JY1	1.0	08We10
$^{87}\text{Nb}_{1,069}-\text{C}_7\text{H}_9$	-155224	30	-155204	8	0.7	U			CP1	1.0	11Fa10
$^{87}\text{Nb O}-^{98}\text{Mo}_{1,051}$	15027.9	7.3				2			JY1	1.0	06Ka48 *
$^{87}\text{Mo}_{1,069}-\text{C}_7\text{H}_9$	-147186.1	4.8	-147184	3	0.5	1	47	47 $^{87}\text{Mo}$	CP1	1.0	11Fa10
$^{87}\text{Kr}-^{85}\text{Rb}_{1,024}$	3683.0	2.9	3682.07	0.26	-0.3	U			MA8	1.0	06De36
	3684.1	4.7			-0.4	U			MA8	1.0	10Na13
$^{87}\text{Rb}-^{85}\text{Rb}_{1,024}$	-490	9	-492.155	0.007	-0.2	U			MA2	1.0	94Ot01
	-493.0	2.7			0.3	U			MA8	1.0	06De36
	-492.33	0.80			0.2	U			MA8	1.0	07Ke09
	-492.4	1.4			0.2	U			MA8	1.0	09Na.A
	-492.04	0.87			-0.1	U			MA8	1.0	11He10
$^{87}\text{Sr}-^{85}\text{Rb}_{1,024}$	-780	9	-795.2	1.2	-1.7	U			MA2	1.0	94Ot01
$^{87}\text{Mo}-^{85}\text{Rb}_{1,024}$	18525.6	4.2	18524	3	-0.5	1	53	53 $^{87}\text{Mo}$	SH1	1.0	11Ha08
$^{87}\text{Tc}-^{85}\text{Rb}_{1,024}$	28394.5	4.5				2			SH1	1.0	11Ha08 *
$^{87}\text{As}-^{88}\text{Rb}_{0.98}$	28000.6	3.2				2			JY1	1.0	08Ha23
$^{87}\text{Se}-^{88}\text{Rb}_{0.98}$	16397.5	2.4				2			JY1	1.0	08Ha23
$^{87}\text{Br}-^{88}\text{Rb}_{0.98}$	8382.9	3.4				2			JY1	1.0	07Ra23
$^{86}\text{Kr H}-^{87}\text{Rb}$	9309	16	9255.127	0.006	-2.2	U			R11	1.5	78Di09
$\text{C}_6\text{H}_{16}-^{87}\text{Rb}$	216019.966	0.023	216019.984	0.007	0.8	U			MI2	1.0	99Br47
$^{87}\text{Rb}-\text{C}_6\text{H}_{14}$	-200369.931	0.015	-200369.919	0.007	0.8	1	19	19 $^{87}\text{Rb}$	MI2	1.0	99Br47
$^{87}\text{Rb}-^{86}\text{Kr}$	-1477	30	-1430.095	0.006	1.0	U			R11	1.5	78Di09
	-1430.0932	0.0059			-0.3	1	88	81 $^{87}\text{Rb}$	FS1	1.0	10Mo30
$^{87}\text{Sr}-^{86}\text{Sr}$	-382	12	-383.08	0.13	0.0	U			M15	2.5	63Ri07
$^{87}\text{Rb}-^{85}\text{Rb}$	-2620	35	-2609.206	0.007	0.2	U			R11	1.5	78Di09
$^{85}\text{Rb}-^{87}\text{Rb}_{0.489}$	-310	30	-314.8	1.2	-0.1	U			P21	2.5	82Au01
$^{84}\text{Rb}-^{87}\text{Rb}_{0.241}$	850	72	643.7	2.8	-1.1	U			P21	2.5	82Au01 *
$^{87}\text{Sr(p,t)}^{85}\text{Sr}$	-11440	10	-11438	3	0.2	U			Oak	73Ba56	
$^{87}\text{Br}(\beta^-n)^{86}\text{Kr}$	1335	25	1303	3	-1.3	U				84Kr.B	
$^{86}\text{Kr(n,g)}^{87}\text{Kr}$	5515.04	0.6	5515.17	0.25	0.2	2				77Je03	Z
	5515.20	0.27			-0.1	2			Bdn	06Fi.A	
$^{86}\text{Kr(d,p)}^{87}\text{Kr}$	3286	8	3290.61	0.25	0.6	U			MIT	63Ho.A	
$^{87}\text{Rb}(\gamma,n)^{86}\text{Rb}$	-9990	70	-9922.10	0.20	1.0	U			Phi	60Ge01	
$^{87}\text{Rb}(d,t)^{86}\text{Rb}$	-3659	15	-3664.86	0.20	-0.4	U			Tal	69Da15	
$^{86}\text{Sr(n,g)}^{87}\text{Sr}$	8428.12	0.17	8428.15	0.12	0.2	-			ILn	86Wi16	Z
	8428.17	0.17			-0.1	-			Bdn	06Fi.A	
$^{86}\text{Sr(d,p)}^{87}\text{Sr}$	6203	8	6203.59	0.12	0.1	U				71Mo02	
$^{86}\text{Sr(n,g)}^{87}\text{Sr}$	ave.	8428.15	0.12	8428.15	0.12	0.1	1	100	52 $^{86}\text{Sr}$	average	
$^{86}\text{Sr(p,g)}^{87}\text{Y}$	5785.4	3.3	5784.1	1.1	-0.4	R				71Um03	
$^{86}\text{Sr}(\beta^-)\text{He}_3\text{d}^{87}\text{Y}$	346	15	290.6	1.1	-3.7	B			ANL	71Ma11	
$^{87}\text{Mo}(\epsilon p)^{86}\text{Zr}$	3700	300	3795	5	0.3	U				83Ha06	
$^{87}\text{Se}(\beta^-)^{87}\text{Br}$	7250	150	7466	4	1.4	o			Bwg	87Gr.A	
	7275	35			5.4	B			Bwg	92Gr.A	
$^{87}\text{Br}(\beta^-)^{87}\text{Kr}$	6830	120	6818	3	-0.1	U			Stu	79Al05	
	6750	150			0.5	o			Bwg	87Gr.B	
	6855	25			-1.5	U			Bwg	92Gr.A	
$^{87}\text{Kr}(\beta^-)^{87}\text{Rb}$	3888	7	3888.27	0.25	0.0	U				73Wo01	
$^{87}\text{Rb}(\beta^-)^{87}\text{Sr}$	272	3	282.2	1.1	3.4	B				59Fl40	
	274	3			2.7	U				61Be41	
$^{87}\text{Rb}(\beta^-)\text{He}_3\text{t}^{87}\text{Sr}-^{81}\text{Br}(\beta^-)^{81}\text{Kr}$	564.0	1.5	563.1	1.1	-0.6	1	52	46 $^{87}\text{Sr}$	Pri	82Ko06	
$^{87}\text{Y}(\beta^+)^{87}\text{Sr}$	2190	50	1861.7	1.1	-6.6	B				67Mi13	*
	1791	40			1.8	U				69Zo04	*
$^{87}\text{Sr(p,n)}^{87}\text{Y}$	-2644.2	1.2	-2644.0	1.1	0.1	2				71Um03	Z

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{89}\text{Se-u}$	-63285	225	-63331	4	-0.1	o			GT1	1.5	04Ma.A
	-63291	129			-0.2	U			GT2	1.5	08Su19
$\text{C}_7\text{H}_5 - ^{89}\text{Y}$	133247.0	3.4	133284.8	2.4	4.4	B			M15	2.5	63Ri07
$^{89}\text{Nb-u}$	-86588	34	-86555	25	1.0	-			GS2	1.0	05Li24 *
	ave.	-86582	29		1.0	1	78	78 $^{89}\text{Nb}$			average
$^{89}\text{Kr} - ^{85}\text{Rb}_{1,047}$	10191.6	2.3				2			MA8	1.0	06De36
$^{89}\text{Rb} - ^{85}\text{Rb}_{1,047}$	4628	9	4634	6	0.7	1	42	42 $^{89}\text{Rb}$	MA4	1.0	02Ra23
$^{89}\text{Mo} - ^{85}\text{Rb}_{1,047}$	11824.3	4.2				2			JY1	1.0	08We10
$^{89}\text{Tc} - ^{85}\text{Rb}_{1,047}$	20007	17	20005	4	-0.1	U			SH1	1.0	08We10
		20004.8	4.1			2			JY1	1.0	08We10
$^{89}\text{Se} - ^{88}\text{Rb}_{1,011}$	26329.0	4.0				2			JY1	1.0	08Ha23
$^{89}\text{Br} - ^{88}\text{Rb}_{1,011}$	16364.5	3.5				2			JY1	1.0	07Ra23
$^{88}\text{Rb} - ^{89}\text{Rb}_{494} - ^{87}\text{Rb}_{506}$	545	23	563.3	2.7	0.3	U			P21	2.5	82Au01
$^{89}\text{Y}(\text{d},\alpha)^{87}\text{Sr}$	7889	15	7881.7	2.3	-0.5	U			Mtr		72Br13
$^{88}\text{Sr}(\text{n},\gamma)^{89}\text{Sr}$	6358.70	0.13	6358.72	0.09	0.1	-			ILn		89Wi05 Z
		6358.73	0.13		-0.1	-			Bdn		06Fi.A
$^{88}\text{Sr}(\text{d,p})^{89}\text{Sr}$	4133	5	4134.15	0.09	0.2	U			MIT		67Sp09
$^{88}\text{Sr}(\text{n},\gamma)^{89}\text{Sr}$	ave.	6358.71	0.09	6358.72	0.09	0.0	1	100	99 $^{89}\text{Sr}$		average
$^{88}\text{Sr}(\text{p},\gamma)^{89}\text{Y}$	7078	4	7076.8	2.3	-0.3	1	34	29 $^{89}\text{Y}$			75Be.B Z
$^{89}\text{Y}(\gamma,\text{n})^{88}\text{Y}$	-11540	40	-11481.7	2.8	1.5	U			Phi		63Ge02
$^{89}\text{Br}(\beta^-)^{89}\text{Kr}$	8140	140	8262	4	0.9	U			Stu		81Ho17
		8120	120		1.2	o			Bwg		87Gr.B
		8155	30		3.6	C			Bwg		92Gr.A
$^{89}\text{Kr}(\beta^-)^{89}\text{Rb}$	5150	30	5176	6	0.9	U					67Ki01
		5191	60		-0.2	U			Trs		78Wo15 *
		5140	120		0.3	U			Stu		81Ho17 *
$^{89}\text{Rb}(\beta^-)^{89}\text{Sr}$	4486	12	4497	5	0.9	-			Gsn		66Ki06
		4491	15		0.4	o			Gsn		80Bl.A
		4510	9		-1.5	-			Gsn		80De02 *
	ave.	4501	7		-0.7	1	57	56 $^{89}\text{Rb}$			average
$^{89}\text{Sr}(\beta^-)^{89}\text{Y}$	1463	5	1500.4	2.3	7.5	B					49La06
		1488	4		3.1	B					70Wo05
$^{89}\text{Zr}(\beta^+)^{89}\text{Y}$	2841	10	2832.8	2.8	-0.8	U					51Hy24 *
		2832	10		0.1	U					53Sh48 *
		2828	7		0.7	-					60Ha26 *
$^{89}\text{Y}(\text{p,n})^{89}\text{Zr}$	-3612.8	4.	-3615.1	2.8	-0.6	-			Tkm		63Ok01 Z
		-3619.4	6.		0.7	-			Oak		64Jo11 Z
	ave.	2832	3	2832.8	2.8	0.4	1	85	82 $^{89}\text{Zr}$		average
$^{89}\text{Zr}(\beta^+)^{89}\text{Y}$	3870	100	4251	24	3.8	B					55Ma13
		4340	50		-1.8	1	23	22 $^{89}\text{Nb}$			74Vo08
$^{89}\text{Mo}(\beta^+)^{89}\text{Nb}$	5970	300	5610	24	-1.2	U					64Bu12
$^{89}\text{Tc}(\beta^+)^{89}\text{Mo}$	7510	210	7620	5	0.5	U					91He04 *
$*^{89}\text{Nb-u}$	M-A=-80656(28) keV for mixture gs+m at 0#30 keV										
$*^{89}\text{Kr}(\beta^-)^{89}\text{Rb}$	$E_{\beta^-}=4970(60)$ to 220.948 level										
$*^{89}\text{Kr}(\beta^-)^{89}\text{Rb}$	Splitting Table 3a into 3 groups yields 4610(120) 4867(152) 5135(123) keV										
$*^{89}\text{Rb}(\beta^-)^{89}\text{Sr}$	Original error 8 corrected in reference										
$*^{89}\text{Zr}(\beta^+)^{89}\text{Y}$	$E_{\beta^+}=910(10)$ 901(10) 897(7) respectively, to $^{89}\text{Y}^m$ at 908.97 keV										
$*^{89}\text{Tc}(\beta^+)^{89}\text{Mo}$	$E_{\beta^+}=6370(210)$ to 118.8 level; no Fermi-Kurie plot										
$^{90}\text{Se-u}$	-59904	236			2				GT1	1.5	04Ma.A
$\text{C}_4\text{H}_{10}\text{O}_2 - ^{90}\text{Zr}$	163377	6	163381.9	2.0	0.3	U			M15	2.5	63Ri07
$^{90}\text{Nb-u}$	-88872	50	-88742	4	2.6	U			GS2	1.0	05Li24 *
$^{90}\text{Mo-C}_7\text{H}_6$	-133018.9	4.7	-133019	4	-0.1	1	65	65 $^{90}\text{Mo}$	CP1	1.0	11Fa10
$^{90}\text{Mo}_{1.033}-\text{C}_7\text{H}_9$	-159318	23	-159335	4	-0.7	U			CP1	1.0	11Fa10
$^{90}\text{Tc-C}_7\text{H}_6$	-122880.3	6.7	-122876.3	1.1	0.6	U			CP1	1.0	11Fa10
$^{90}\text{Tc}_{1.033}-\text{C}_7\text{H}_9$	-148835	22	-148856.9	1.1	-1.0	U			CP1	1.0	11Fa10
		-148854.2	8.5		-0.3	U			CP1	1.0	11Fa10

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{90}\text{Ru}_{1.033}-\text{C}_7 \text{H}_9$	-142382	11	-142380	4	0.2	1	14	14 $^{90}\text{Ru}$	CP1	1.0	11Fa10
$^{90}\text{Kr}-\overset{x}{^{85}\text{Rb}}_{1.059}$	12942.6	2.0				2			MA8	1.0	06De36
$^{90}\text{Rb}-\overset{x}{^{85}\text{Rb}}_{1.059}$	8211	9	8213	7	0.2	1	60	60 $^{90}\text{Rb}$	MA4	1.0	02Ra23
$^{90}\text{Tc}-\overset{x}{^{85}\text{Rb}}_{1.059}$	17489.2	8.0	17488.6	1.1	-0.1	U			SH1	1.0	08We10
	17489.8	4.2			-0.3	U			JY1	1.0	08We10
$^{90}\text{Ru}-\overset{x}{^{85}\text{Rb}}_{1.059}$	23775	11	23759	4	-1.5	-			SH1	1.0	08We10
	23756.6	4.7			0.5	-			JY1	1.0	08We10
	ave.	23759	4		-0.1	1	86	86 $^{90}\text{Ru}$			average
$^{90}\text{Tc}-\overset{x}{^{86}\text{Kr}}_{1.047}$	17664.6	1.1				2			JY1	1.0	12Ka12
$^{90}\text{Tc}^m-\overset{x}{^{86}\text{Kr}}_{1.047}$	17819.2	1.4				2			JY1	1.0	12Ka12
$^{90}\text{Br}-\overset{x}{^{88}\text{Rb}}_{1.023}$	22017.0	3.6				2			JY1	1.0	07Ra23
$^{89}\text{Rb}-\overset{x}{^{90}\text{Rb}}^y_{79} \overset{x}{^{85}\text{Rb}}_{209}$	-1826	24	-1818	12	0.1	U			P21	2.5	82Au01
$^{90}\text{Zr}(\alpha, ^{8}\text{He})^{86}\text{Zr}$	-40136	30	-39990	4	4.9	B			INS		90Ka01
$^{90}\text{Zr}({}^3\text{He}, {}^6\text{He})^{87}\text{Zr}$	-12083	8	-12088	4	-0.6	1	30	26 $^{87}\text{Zr}$	MSU		78Pa11
$^{90}\text{Zr}(\text{p}, \text{t})^{88}\text{Zr}$	-12805	10	-12806	6	-0.1	1	31	29 $^{88}\text{Zr}$	Oak		71Ba43
$^{89}\text{Y}(\text{n}, \gamma)^{90}\text{Y}$	6857.1	1.0	6857.03	0.10	-0.1	U			ORn		81Ra07
	6857.26	0.30			-0.8	-					83De17
	6856.98	0.17			0.3	-			ILn		93Mi04 Z
	6857.01	0.14			0.1	-			Bdn		06Fi.A
$^{89}\text{Y}(\text{d}, \text{p})^{90}\text{Y}$	4635	5	4632.46	0.10	-0.5	U					64Wa14
$^{89}\text{Y}(\text{n}, \gamma)^{90}\text{Y}$	ave.	6857.03	0.10	6857.03	0.10	0.0	1	100	54 $^{89}\text{Y}$		average
$^{89}\text{Y}(\text{p}, \gamma)^{90}\text{Zr}$	8351	4	8353.4	1.6	0.6	1	17	13 $^{89}\text{Y}$			75Be.B
$^{90}\text{Zr}(\gamma, \text{n})^{89}\text{Zr}$	-11940	50	-11968	3	-0.6	U			Phi		63Ge02
$^{90}\text{Zr}(\text{p}, \text{d})^{89}\text{Zr}$	-9728	10	-9744	3	-1.6	U			Oak		71Ba43
$^{90}\text{Zr}(\text{d}, \text{t})^{89}\text{Zr}$	-5719.2	7.1	-5711	3	1.1	1	19	18 $^{89}\text{Zr}$	SPa		79Bo37
$^{90}\text{Zr}({}^3\text{He}, \alpha)^{89}\text{Zr}$	8580	50	8609	3	0.6	U			Phi		67Fo04
$^{90}\text{Br}(\beta^-)^{90}\text{Kr}$	9800	400	10959	4	2.9	U			Stu		81Ho17
	10280	110			6.2	C			Bwg		87Gr.B
	10350	75			8.1	C			Bwg		92Gr.A
$^{90}\text{Kr}(\beta^-)^{90}\text{Rb}$	4410	30	4405	7	-0.2	U					70Ma11
	4390	40			0.4	U			Trs		78Wo15
	4380	25			1.0	U			Bwg		87Gr.A
$^{90}\text{Rb}^x(\text{IT})^{90}\text{Rb}$	71	12			2						82Au01
$^{90}\text{Rb}(\beta^-)^{90}\text{Sr}$	6550	60	6584	7	0.6	U			Trs		78Wo15
	6560	150			0.2	U			Bwg		78St02
	6585	15			-0.1	o			Gsn		80Bl.A
	6578	15			0.4	o			Gsn		80De02
	6587	10			-0.3	1	44	40 $^{90}\text{Rb}$	Gsn		92Pr03
$^{90}\text{Sr}(\beta^-)^{90}\text{Y}$	546	2	545.9	1.4	0.0	-					64Da16
	546	2			0.0	-					83Ha35
	ave.	546.0	1.4		0.0	1	99	96 $^{90}\text{Sr}$			average
$^{90}\text{Y}(\beta^-)^{90}\text{Zr}$	2271	2	2278.7	1.6	3.8	B			61Ni02		
	2284	5			-1.1	-					64Da16
	2273	5			1.1	-					64La13
	2280	5			-0.3	-					66Ri01
	2278	8			0.1	U			Gsn		80Bl.A
	2279.5	2.9			-0.3	-					83Ha35
	ave.	2279.2	2.0		-0.3	1	65	51 $^{90}\text{Y}$			average
$^{90}\text{Nb}(\beta^+)^{90}\text{Zr}$	6111	4	6111	3	0.1	1	71	64 $^{90}\text{Nb}$	68Pe01		*
$^{90}\text{Mo}(\beta^+)^{90}\text{Nb}$	2489	4	2489	3	0.1	1	71	36 $^{90}\text{Nb}$	66Pe10		*
$^{90}\text{Tc}(\beta^+)^{90}\text{Mo}$	8920	410	9448	4	1.3	U			74Ia01		*
	9270	300			0.6	U					81Ox01 *
	8726	300			2.4	U					81Ox01 *
$^{*90}\text{Nb-u}$	M-A=-82721(29) keV for mixture gs+n at 124.67 keV										
$^{*90}\text{Rb}-\overset{x}{^{85}\text{Rb}}_{1.059}$	$D_M=8326(9)$ $\mu\text{u}$ for $^{90}\text{Rb}^m$ at 106.90 keV; M-A=-79260(9) keV										
$^{*90}\text{Nb}(\beta^+)^{90}\text{Zr}$	$E_{\beta^+}=1500(4)$ to $6^+$ level at 3589.419 keV										
$^{*90}\text{Mo}(\beta^+)^{90}\text{Nb}$	$E_{\beta^+}=1085(4)$ to $1^+$ level at 382.01 keV										
$^{*90}\text{Tc}(\beta^+)^{90}\text{Mo}$	$E_{\beta^+}=7900(400)$ from $^{90}\text{Tc}^m$ at 144.1 to ground state (85%) and 947.97 (15%) level										
$^{*90}\text{Tc}(\beta^+)^{90}\text{Mo}$	$E_{\beta^+}=5300(300)$ to 2946.82 level										
$^{*90}\text{Tc}(\beta^+)^{90}\text{Mo}$	$E_{\beta^+}=6900(300)$ from $^{90}\text{Tc}^m$ at 144.0(1.7) to $2^+$ level a 947.97 keV										
									Nub127		**
									Nub127		**
									Ens981		**
									Ens981		**
									74Ia01		**
									81Ox01		*
									81Ox01		*
									Ens981		**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{91}\text{Rb-u}$	-83532	21	-83463	8	1.3	U			Pb1	2.5	89Al33	
$\text{C}_7\text{H}_7-^{91}\text{Zr}$	149143.1	4.4	149135.6	2.0	-0.7	U			M15	2.5	63Ri07	
$^{91}\text{Nb-u}$	-93064	46	-93010	4	1.2	U			GS2	1.0	05Li24 *	
$^{91}\text{Mo-C}_7\text{H}_7$	-143031.3	8.3	-143030	7	0.2	1	65	$^{65}\text{Mo}$	CP1	1.0	11Fa10	
$^{91}\text{Tc-C}_7\text{H}_7$	-136340.9	6.7	-136349.8	2.5	-1.3	-			CP1	1.0	11Fa10	
					0.8	-			CP1	1.0	11Fa10	
					ave.	-136350	4		45	$^{45}\text{Tc}$	average	
						-136730	610	-136664.2	2.4	0.1	U	
$^{91}\text{Ru}_{1.011}-\text{C}_7\text{H}_8$	-128035.6	3.9	-128033.4	2.4	0.6	1	37	$^{37}\text{Ru}$	CP1	1.0	11Fa10	
$^{91}\text{Ru-C}_7\text{H}_7$	-145261	23	-145295.1	2.4	-1.5	U			CP1	1.0	11Fa10	
$^{91}\text{Kr-}^{85}\text{Rb}_{1.071}$	18279.5	2.4				2			MA8	1.0	06De36	
$^{91}\text{Rb-}^{85}\text{Rb}_{1.071}$	11003	10	11010	8	0.7	1	70	$^{70}\text{Rb}$	MA4	1.0	02Ra23	
$^{91}\text{Sr-}^{85}\text{Rb}_{1.071}$	4702	9	4669	6	-3.7	B			MA4	1.0	02Ra23	
$^{91}\text{Tc-}^{85}\text{Rb}_{1.071}$	12898.3	5.4	12898.6	2.5	0.1	1	22	$^{22}\text{Tc}$	SH1	1.0	08We10	
$^{91}\text{Ru-}^{85}\text{Rb}_{1.071}$	21223	11	21215.0	2.4	-0.7	-			SH1	1.0	08We10	
					ave.	21215.5	4.2	-0.1	-	JY1	1.0	08We10
						21216	4	-0.4	1	37	$^{37}\text{Ru}$	average
$^{91}\text{Br-}^{88}\text{Rb}_{1.034}$	26098.3	3.8				2			JY1	1.0	07Ra23	
$^{91}\text{Tc-}^{94}\text{Mo}_{.968}$	10303.0	4.4	10303.2	2.6	0.0	1	34	$^{33}\text{Tc}$	JY1	1.0	08We10	
$^{91}\text{Ru-}^{94}\text{Mo}_{.968}$	18620.9	4.7	18619.7	2.4	-0.3	1	26	$^{26}\text{Ru}$	JY1	1.0	08We10	
$^{91}\text{Zr-}^{90}\text{Zr}$	942	12	941.9	0.5	0.0	U			M15	2.5	63Ri07	
$^{90}\text{Rb}^x-^{91}\text{Rb}_{.824}$	-686	24	-770	15	-1.4	U			P21	2.5	82Au01	
$^{91}\text{Zr(p,t)}^{89}\text{Zr}$	-10677	10	-10681	3	-0.4	U			Oak		71Ba43	
$^{90}\text{Zr(n,}\gamma^{91}\text{Zr}$	7194.4	0.5	7193.9	0.4	-1.0	-					81Lo.A Z	
					ave.	7192.7	0.8	1.5	-	Bdn	06Fi.A	
$^{90}\text{Zr(d,p)}^{91}\text{Zr}$	4959	20	4969.4	0.4	0.5	U			Pit		64Co11	
						4969	8	0.0	U	MIT	72Gr12	
						4970.3	2.2	-0.4	U	SPA	79Bo37	
$^{91}\text{Zr(p,d)}^{90}\text{Zr}$	-4977	10	-4969.4	0.4	0.8	U			Oak		71Ba43	
$^{91}\text{Zr(d,t)}^{90}\text{Zr}$	-932	20	-936.7	0.4	-0.2	U			Pit		64Co11	
					ave.	-940.3	3.7	1.0	U	SPA	79Bo37	
$^{90}\text{Zr(n,}\gamma^{91}\text{Zr}$	7193.9	0.4	7193.9	0.4	0.0	1	99	$^{69}\text{Zr}$			average	
$^{90}\text{Zr(p,}\gamma^{91}\text{Nb}$	5167	5	5154.0	3.0	-2.6	U					71Ra08	
						5167	4	-3.3	C		75Be.B Z	
$^{90}\text{Zr(}^3\text{He,d)}^{91}\text{Nb}$	-227	20	-339.5	3.0	-5.6	B			Hei		70Kn05	
$^{90}\text{Zr(}\alpha,\text{t)}^{91}\text{Nb}$	-14643	27	-14659.9	3.0	-0.6	U			Brk		71Zi03	
$^{91}\text{Ru}^m(\text{ep})^{90}\text{Mo}$	4300	500				2					83Ha06	
$^{91}\text{Br(}\beta^-\text{)}^{91}\text{Kr}$	9790	100	9867	4	0.8	U			Bwg		89Gr03	
						9805	50	1.2	U	Bwg	92Gr.A	
$^{91}\text{Kr(}\beta^-\text{)}^{91}\text{Rb}$	6420	80	6771	8	4.4	B			Trs		78Wo15	
						6450	80	4.0	B	Bwg	89Gr03	
$^{91}\text{Rb(}\beta^-\text{)}^{91}\text{Sr}$	5830	45	5907	9	1.7	U			Trs		78Wo15 *	
					ave.	5927	24	-0.8	o	Gsn	80De02 *	
						5920	28	-0.5	-	McG	83Ia02 *	
						5930	22	-1.0	-	Gsn	92Pr03 *	
$^{91}\text{Sr(}\beta^-\text{)}^{91}\text{Y}$	2669	10	2699	5	3.0	B			ave.		average	
						2684	10	1.5	-		53Am08 *	
						2704	8	-0.6	-		73Ha11 *	
					ave.	2709	15	-0.6	-		80De02 *	
$^{91}\text{Y(}\beta^-\text{)}^{91}\text{Zr}$	1545	5	1544.3	1.8	-0.1	1	83	$^{80}\text{Sr}$			83Ia02	
						1544	2	0.1	-		64La13	
					ave.	1544.1	1.9	0.1	1		75Ra08	
$^{91}\text{Zr(p,n)}^{91}\text{Nb}$	-2045	6	-2039.9	2.9	0.8	-					average	
						-2038.8	3.4	-0.3	-		70Ki01	
					ave.	-2040.3	3.0	0.1	1		Kyu	
$^{91}\text{Mo(}\beta^+\text{)}^{91}\text{Nb}$	4460	30	4430	7	-1.0	-					56Sm96	
						4435	23	-0.2	-		93Os06	
					ave.	4444	18	-0.8	1	14	11 $^{91}\text{Mo}$	average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{91}\text{Tc}(\beta^+)^{91}\text{Mo}$	6220 200	6222	7	0.0	U						74Ia01
$^{91}\text{Nb-u}$	M-A=-86636(30) keV for mixture gs+m at 104.60 keV										Nub127 **
$^{91}\text{Rb}(\beta^-)^{91}\text{Sr}$	$E_{\beta^-}=5760(40)$ to $^{91}\text{Sr}$ ground state <8% and 93.628 keV $3/2^+$ level 25%										Ens012 **
$^{91}\text{Rb}(\beta^-)^{91}\text{Sr}$	Original error 8 corrected to 13 keV in reference										94Ha.A **
$^{91}\text{Rb}(\beta^-)^{91}\text{Sr}$	$E_{\beta^-}=5857$ to mixture $^{91}\text{Sr}$ ground state <8% and 93.628 $3/2^+$ level 25%										Ens012 **
$^{91}\text{Rb}(\beta^-)^{91}\text{Sr}$	$E_{\beta^-}=5850(20)$ and $E_{\beta^-}=5860(10)$ respectively, to $^{91}\text{Sr}$ ground state <8% and 93.628 level 25%										Ens012 **
$^{91}\text{Sr}(\beta^-)^{91}\text{Y}$	$E_{\beta^-}=2665(10)$ , 2030(20), 1359(10), 1093(10) to										53Am08 **
*	ground state, $3/2^-$ level at 653.02 keV, $(5/2)^+$ at 1305.39, $(5/2)^-$ at 1545.90										Ens992 **
$^{91}\text{Sr}(\beta^-)^{91}\text{Y}$	Original error 4 increased: in disagreement with other results										AHW **
$^{91}\text{Sr}(\beta^-)^{91}\text{Y}$	Original error 3 corrected in reference										94Ha.A **
$^{92}\text{Br-u}$	-60711 103	-60368	7	2.2	U						08Kn.A
$^{92}\text{Rb-u}$	-80323 32	-80272	7	0.6	U						89Al33
$C_7 \text{H}_8 - ^{92}\text{Zr}$	157569.4 3.8	157565.6	2.0	-0.4	U						63Ri07
$^{92}\text{Nb-u}$	-92851 56	-92811.9	2.6	0.7	U						05Li24 *
$C_7 \text{H}_8 - ^{92}\text{Mo}$	155790.0 3.2	155792.3	0.8	0.3	U						63Ri07
$^{92}\text{Mo}_{1.011} - C_7 \text{H}_9$	-164641.3 7.0	-164642.4	0.8	-0.2	U						11Fa10
$^{92}\text{Tc-C}_7 \text{H}_8$	-147328 13	-147330	3	-0.2	U						11Fa10
$^{92}\text{Tc}_{.989} - C_7 \text{H}_7$	-138569 10	-138573	3	-0.4	-						11Fa10
$^{92}\text{Tc}_{1.011} - C_7 \text{H}_9$	-156087.6 6.1	-156088	3	0.0	-						11Fa10
$^{92}\text{Tc}_{.989} - C_7 \text{H}_7$	ave. -138572 5	-138573	3	-0.2	1	40	40 $^{92}\text{Tc}$				average
$^{92}\text{Ru-C}_7 \text{H}_8$	-142352 18	-142365.9	2.9	-0.8	o						08Fa11
	-142352 18			-0.8	U						11Fa10
	-142377 10			1.1	o						08Fa11
	-142378 10			1.2	U						11Fa10
$^{92}\text{Ru}_{1.011} - C_7 \text{H}_9$	-151074.5 5.6	-151068.3	2.9	1.1	o						08Fa11
	-151074.5 5.6			1.1	1	28	28 $^{92}\text{Ru}$				11Fa10
$^{92}\text{Rh}_{1.011} - C_7 \text{H}_9$	-138825 23	-138802	5	1.0	U						11Fa10
	-138818 17			1.0	U						11Fa10
$^{92}\text{Kr} - ^{85}\text{Rb}_{1.082}$	21616.6 2.9			2							06De36
$^{92}\text{Rb} - ^{85}\text{Rb}_{1.082}$	15176 9	15172	7	-0.5	1	53	53 $^{92}\text{Rb}$				02Ra23
$^{92}\text{Sr} - ^{85}\text{Rb}_{1.082}$	6482 9	6482	4	0.0	-						02Ra23
	6484.0 4.3			-0.5	-						05Gu37
	ave. 6484 4			-0.5	1	90	90 $^{92}\text{Sr}$				average
$^{92}\text{Mo} - ^{85}\text{Rb}_{1.082}$	2251.43 0.85	2251.5	0.8	0.0	1	97	97 $^{92}\text{Mo}$				12Ka13
$^{92}\text{Tc} - ^{85}\text{Rb}_{1.082}$	10728 12	10713	3	-1.2	U						08We10
	10712.5 4.3			0.2	1	60	60 $^{92}\text{Tc}$				08We10
$^{92}\text{Ru} - ^{85}\text{Rb}_{1.082}$	15684.3 5.7	15677.9	2.9	-1.1	-						08We10
	15677.9 4.3			0.0	-						08We10
	ave. 15680 3			-0.7	1	72	72 $^{92}\text{Ru}$				average
$^{92}\text{Rh} - ^{85}\text{Rb}_{1.082}$	27841 37	27811	5	-0.8	U						08We10
	27811.2 4.7			2							08We10
$^{92}\text{Br} - ^{88}\text{Rb}_{1.045}$	32306.8 7.2			2							07Ra23
$^{92}\text{Zr}^{35}\text{Cl} - ^{90}\text{Zr}^{37}\text{Cl}$	3285 2	3287.1	0.5	0.3	U						63Ba20
$^{92}\text{Zr} - ^{91}\text{Zr}$	-603 12	-604.91	0.12	-0.1	U						63Ri07
$^{88}\text{Rb} - ^{92}\text{Rb}_{.410}^{85}\text{Rb}_{.592}$	-3258 22	-3309.2	2.5	-0.9	U						82Au01
$^{89}\text{Rb} - ^{92}\text{Rb}_{.553}^{85}\text{Rb}_{.449}$	-3457 24	-3470	6	-0.2	U						82Au01
$^{91}\text{Rb} - ^{92}\text{Rb}_{.848}^{85}\text{Rb}_{.153}$	-1703 25	-1766	9	-1.0	U						82Au01
$^{90}\text{Rb}^x - ^{92}\text{Rb}_{.699}^{85}\text{Rb}_{.303}$	-2059 24	-2131	14	-1.2	U						82Au01
$^{90}\text{Rb}^x - ^{92}\text{Rb}_{.326}^{89}\text{Rb}_{.674}$	209 24	156	14	-0.9	U						82Au01
$^{92}\text{Mo}(\alpha, ^8\text{He})^{88}\text{Mo}$	-43278 20	-43306	4	-1.4	U						90Ka01
$^{92}\text{Mo}(\text{p}, \alpha)^{89}\text{Nb}$	-1306 50	-1318	24	-0.2	R						75Se.A
$^{92}\text{Mo}(^3\text{He}, ^6\text{He})^{89}\text{Mo}$	-14465 15	-14454	4	0.7	U						80Pa02
$^{92}\text{Zr}(\text{p}, \text{t})^{90}\text{Zr}$	-7372 14	-7346.9	0.4	1.8	U						66St15
	-7350 10			0.3	U						Oak
$^{92}\text{Mo}(\text{p}, \text{t})^{90}\text{Mo}$	-14330 30	-14296	4	1.1	U						76Ka08
$^{92}\text{Rb}(\beta^- \text{n})^{91}\text{Sr}$	785 15	809	8	1.6	1	26	14 $^{92}\text{Rb}$				84Krb
$^{91}\text{Zr}(\text{n}, \gamma)^{92}\text{Zr}$	8634.91 0.20	8634.79	0.11	-0.6	-						79Br25 Z
	8634.64 0.15			1.0	-						81Su.A Z
	8635.00 0.24			-0.9	-						06Fi.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{91}\text{Zr}(\text{d,p})^{92}\text{Zr}$	6470	30	6410.22	0.11	-2.0	U					62Ma06
	6395	20			0.8	U			Pit		64Co11
	6410.9	4.3			-0.2	U			SPa		79Bo37
$^{92}\text{Zr}(\text{p,d})^{91}\text{Zr}$	-6410	11	-6410.22	0.11	0.0	U			Bld		66St15
	-6410	10			0.0	U			Oak		71Ba43
$^{92}\text{Zr}(\text{d,t})^{91}\text{Zr}$	-2363	25	-2377.56	0.11	-0.6	U			Pit		64Co11
$^{91}\text{Zr}(\text{n},\gamma)^{92}\text{Zr}$	ave.	8634.79	0.11	8634.79	0.11	0.0	1	100	$^{68}\text{Zr}$		average
$^{92}\text{Mo}(\text{p,d})^{91}\text{Mo}$	-10446	15	-10446	6	0.0	-			Tex		73Ko03
	-10432	25			-0.6	-			Grn		73Mo03
	ave.	-10442	13		-0.3	1	24		$^{23}\text{Mo}$		average
$^{92}\text{Br}(\beta^-)^{92}\text{Kr}$	12155	100	12537	7	3.8	B			Bwg		89Gr03
	12220	55			5.8	C			Bwg		92Gr.A
$^{92}\text{Kr}(\beta^-)^{92}\text{Rb}$	6160	80	6003	7	-2.0	U			Trs		78Wo15
	6045	80			-0.5	o			Bwg		89Gr03
	5987	10			1.6	o			Bwg		92Gr.A
	5993	27			0.4	U			Bwg		92Gr06
$^{92}\text{Rb}(\beta^-)^{92}\text{Sr}$	8080	160	8095	6	0.1	U			Trs		78Wo15
	8091	15			0.3	o			Gsn		80Bl.A
	8111	15			-1.1	o			Gsn		80De02
	8080	30			0.5	-			McG		83Ia02
	8095	25			0.0	o			Bwg		87Gr.A
	8096	16			-0.1	-			Bwg		92Gr.A
	8107	15			-0.8	-			Gsn		92Pr03
	ave.	8099	10		-0.4	1	39		$^{32}\text{Rb}$		average
$^{92}\text{Sr}(\beta^-)^{92}\text{Y}$	1929	50	1950	9	0.4	U					57He39 *
	1930	30			0.7	-			Trs		78Wo15 *
	1920	20			1.5	-			McG		83Ia02
	ave.	1923	17		1.6	1	32		$^{29}\text{Y}$		average
$^{92}\text{Y}(\beta^-)^{92}\text{Zr}$	3640	20	3643	9	0.1	-					62Bu16
	3630	15			0.8	-			McG		83Ia02
	ave.	3634	12		0.7	1	58		$^{57}\text{Y}$		average
$^{92}\text{Nb}(\beta^+)^{92}\text{Zr}$	2005	6	2005.9	1.8	0.1	U					59We30 *
	2008	6			-0.4	U					62Bu16 *
$^{92}\text{Zr}(\text{p,n})^{92}\text{Nb}$	-2790.7	2.3	-2788.2	1.8	1.1	-			Kyu		74Ku01
	-2792	5			0.8	-					75Ke12
	ave.	-2790.9	2.1		1.3	1	73		$^{64}\text{Nb}$		average
$^{92}\text{Tc}(\beta^+)^{92}\text{Mo}$	7880	100	7882	3	0.0	U					64Va05
$^{92}\text{Mo}(\text{p,n})^{92}\text{Tc}$	-8672	50	-8664	3	0.2	U			Tal		66Mo06 *
$^{92}\text{Mo}({}^3\text{He,t})^{92}\text{Tc}$	-7882	30	-7901	3	-0.6	U			ChR		73Ha02
* $^{92}\text{Nb-u}$	M-A=-86422(34) keV for mixture gs+m at 135.5 keV										
* $^{92}\text{Sr}(\beta^-)^{92}\text{Y}$	$E_{\beta^-}=545(50)$ 546(30) respectively, to $1^+$ level at 1383.90 keV										
* $^{92}\text{Nb}(\beta^+)^{92}\text{Zr}$	$p^+=56(6)\times 10^{-5}$ , $60(6)\times 10^{-5}$ respectively, to $2^+$ level at 934.47 keV										
*	recalculated $Q_{\beta^+}=2140(6)$ 2143(6) respectively, from $^{92}\text{Nb}^m$ at 135.5 keV										
* $^{92}\text{Mo}(\text{p,n})^{92}\text{Tc}$	T=9040(50) to $4^+$ level at 270.15 keV										
$^{93}\text{Br-u}$	-56866	322			2				GT1	1.5	04Ma.A
$^{93}\text{Rb-u}$	-78036	21	-77961	8	1.4	U			Pb1	2.5	89Al33
	-77868	100			-0.6	U			GT2	1.5	08Kn.A
$\text{C}_7\text{H}_9-^{93}\text{Nb}$	164046.9	3.5	164052.3	2.0	0.6	U			M15	2.5	63Ro07
$^{93}\text{Mo-u}$	-93194	30	-93190.4	0.8	0.1	U			GS2	1.0	05Li24 *
$^{93}\text{Tc-u}$	-89729	31	-89754.0	1.4	-0.8	U			GS2	1.0	05Li24
$^{93}\text{Tc-C}_7\text{H}_9$	-160189.5	7.7	-160179.3	1.4	1.3	U			CP1	1.0	11Fa10
	-160170	22			-0.4	U			CP1	1.0	11Fa10
	-160189.4	8.5			1.2	U			CP1	1.0	11Fa10
$^{93}\text{Tc}_{.989}-\text{C}_7\text{H}_8$	-151270	190	-151367.0	1.3	-0.5	U			CP1	1.0	11Fa10
$^{93}\text{Ru-C}_7\text{H}_9$	-153318.2	6.4	-153320.8	2.2	-0.4	-			CP1	1.0	11Fa10
	-153307	23			-0.6	U			CP1	1.0	11Fa10
	-153324.0	4.8			0.7	-			CP1	1.0	11Fa10
	-153321.9	3.5			0.3	-			CP1	1.0	11Fa10
ave.	-153321.9	2.6			0.4	1	73		$^{73}\text{Ru}$		average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference					
$^{93}\text{Rh}-\text{C}_7\text{H}_9$	-144485	25	-144512.5	2.8	-1.1	o			CP1	1.0	08Fa11					
	-144485	26			-1.1	U			CP1	1.0	11Fa10					
	-144527.7	5.3			2.9	U			CP1	1.0	08Fa11					
	-144527.7	5.2			2.9	U			CP1	1.0	11Fa10					
	-144512.9	3.8			0.1	1	55	55 $^{93}\text{Rh}$	CP1	1.0	11Fa10					
	27649.2	2.7				2			MA8	1.0	06De36					
$^{93}\text{Kr}-\text{Rb}_{1.094}$	18549	10	18541	8	-0.8	1	71	71 $^{93}\text{Rb}$	MA4	1.0	02Ra23					
$^{93}\text{Rb}-\text{Rb}_{1.094}$	10526	10	10526	8	0.0	1	66	66 $^{93}\text{Sr}$	MA4	1.0	02Ra23					
$^{93}\text{Ru}-\text{Rb}_{1.094}$	13609.4	4.3	13606.5	2.2	-0.7	1	27	27 $^{93}\text{Ru}$	JY1	1.0	08We10					
$^{93}\text{Rh}-\text{Rb}_{1.094}$	22428	12	22414.8	2.8	-1.1	-			SH1	1.0	08We10					
					0.3	-			JY1	1.0	08We10					
					4.5	-										
					ave.	22415	4			-0.1	1	45				
									45 $^{93}\text{Rh}$	12 $^{91}\text{Rb}$	P31	2.5	86Au02			
						-471	9	-479	9	-0.4	1	15				
						-656	23	-627	12	0.5	U		P21	2.5	82Au01	
						465	23	436	8	-0.5	U		P21	2.5	82Au01	
						2220	30	2176	9	-1.5	U				84Kr.B	
						5230	6	5290	8	10.0	B				80Kr07	
						6733.7	1.1	6734.4	0.4	0.6	-				72Gr23 Z	
						6734.0	0.7			0.5	-				79Ke.D Z	
						6735.3	0.7			-1.3	-				Bdn	
						4493	20	4509.8	0.4	0.8	U				06Fi.A	
						ave.	6734.5	0.5	6734.4	0.4	-0.3	1	98	57 $^{92}\text{Zr}$	Pit	
						-8780	60	-8830.6	2.0	-0.8	U				64Co11	
						-8825	3			-1.9	1	45	36 $^{92}\text{Nb}$	Phi		
						-2581	20	-2573.3	2.0	0.4	U				79Ba06	
						-2571	10			-0.2	U				64Co11	
						8067.4	1.5	8069.81	0.09	1.6	U				64Sh04	
						8066	2			1.9	U				73Wa17	
						8069.81	0.09			0.0	1	100	97 $^{93}\text{Mo}$	MMn		
						8070.0	0.3			-0.6	U				91Il02 Z	
						5853	20	5845.24	0.09	-0.4	U				06Fi.A	
						92Mo(d,p) $^{93}\text{Mo}$	4081	5	4086.5	1.0	1.1	U			Pit	
						4086.5	1.0			2	-				64Co11	
						92Mo(d,p) $^{93}\text{Mo}$	-1411	-1407.0	1.0	1.0	U				75Be.B	
						93Kr( $\beta^-$ ) $^{93}\text{Rb}$	8700	500	8484	8	-0.4	U				83Ay01
							8600	100			-1.2	U				83Wi.A
						93Rb( $\beta^-$ ) $^{93}\text{Sr}$	7560	120	7466	9	-0.8	U				78Wo15
							7488	15			-1.5	o				80Bl.A
							7485	15			-1.3	o				80De02
							7440	30			0.9	-				83La02
							7455	35			0.3	-				87Gr.A
							7456	15			0.7	-				Gsn
						ave.	7453	13			1.0	1	50	26 $^{93}\text{Rb}$	average	
						93Sr( $\beta^-$ ) $^{93}\text{Y}$	4130	100	4142	12	0.1	U				78St02
							4110	20			1.6	1	35	24 $^{93}\text{Y}$	McG	
						93Y( $\beta^-$ ) $^{93}\text{Zr}$	2890	20	2895	10	0.3	-				83Ia02
							2880	15			1.0	-		McG		59Kn38
						ave.	2884	12			1.0	1	76	76 $^{93}\text{Y}$	average	
						93Zr( $\beta^-$ ) $^{93}\text{Nb}$	93.8	2.	90.3	1.5	-1.7	1	60	30 $^{93}\text{Nb}$	53Gl.A *	
						93Mo( $\varepsilon$ ) $^{93}\text{Nb}$	158	15	406.7	1.9	16.6	B				64Ho08 *
						93Nb(p,n) $^{93}\text{Mo}$	-1188	10	-1189.0	1.9	-0.1	-				68Fi01
							-1190	5			0.2	-				75Ch05
						ave.	-1190	4			0.1	1	19	16 $^{93}\text{Nb}$	average	
						93Tc( $\beta^+$ ) $^{93}\text{Mo}$	3185.1	5.	3201.0	1.0	3.2	B				51Bo48 *
							3192.1	3.			3.0	U				74An24 *
						93Ru( $\beta^+$ ) $^{93}\text{Tc}$	6337	85	6388.6	2.4	0.6	U				83Ay01
						* $^{93}\text{Mo-u}$	M-A=-84385(28) keV for $^{93}\text{Mo}^m$ at 2424.95 keV									Ens115 **
						* $^{93}\text{Zr}(\beta^-)$ $^{93}\text{Nb}$	$E_{\beta^-}=63(2)$ to $1/2^-$ level at 30.77(0.02)keV									Ens **
						* $^{93}\text{Mo}(\varepsilon)$ $^{93}\text{Nb}$	L/K=0.36(0.04) to $1/2^-$ level at 30.82 keV, recalculated Q									Ens115 **
						* $^{93}\text{Tc}(\beta^+)$ $^{93}\text{Mo}$	$E_{\beta^+}=800(5)$ 807(3) respectively, to $7/2^+$ level 1363.048 keV									Ens115 **

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{94}\text{Kr-u}$	-66238	247	-65860	13	1.0	U			GT1	1.5	04Ma.A
$^{94}\text{Kr}-^{85}\text{Rb}_{1.106}$	31701	13			2				MA8	1.0	06De36
	31665	24	31701	13	1.5	U			MA8	1.0	10Na13
	31649	97			0.5	U			MA9	1.0	10Na13 *
$^{94}\text{Rb-u}$	-73602	54	-73605.2	2.2	0.0	F			Pb1	2.5	89Al33 *
$^{94}\text{Rb}-^{85}\text{Rb}_{1.106}$	23958	10	23955.4	2.2	-0.3	U			MA4	1.0	02Ra23
	23955.6	2.6			-0.1	1	70	70 $^{94}\text{Rb}$	TT1	1.0	12Si10 *
$^{94}\text{Sr}-^{85}\text{Rb}_{1.106}$	12924	10	12916.1	1.8	-0.8	U			MA4	1.0	02Ra23
	12916.0	1.8			0.1	1	98	98 $^{94}\text{Sr}$	TT1	1.0	12Si10 *
$\text{C}_7\text{H}_{10}-^{94}\text{Zr}$	171929.4	3.9	171939.5	2.0	1.0	U			M15	2.5	63Ri07
$^{94}\text{Mo}-^{85}\text{Rb}_{1.106}$	2645.6	1.0	2645.4	0.5	-0.2	1	23	23 $^{94}\text{Mo}$	JY1	1.0	12Ka13
$\text{C}_7\text{H}_{10}-^{94}\text{Mo}$	173159.6	3.2	173165.4	0.5	0.7	U			M15	2.5	63Ri07
$^{94}\text{Tc-u}$	-90362	39	-90346	4	0.4	U			GS2	1.0	05Li24 *
$^{94}\text{Ru}-^{85}\text{Rb}_{1.106}$	8891	25	8903	3	0.5	U			SH1	1.0	08We10
	8907.1	4.5			-0.8	1	56	56 $^{94}\text{Ru}$	JY1	1.0	08We10
$^{94}\text{Ru}-\text{C}_7\text{H}_{10}$	-166912.2	5.1	-166907	3	0.9	1	44	44 $^{94}\text{Ru}$	CP1	1.0	11Fa10
$^{94}\text{Rh}-^{85}\text{Rb}_{1.106}$	19291.2	4.6	19291	4	0.0	1	62	62 $^{94}\text{Rh}$	JY1	1.0	08We10
$^{94}\text{Rh}-\text{C}_7\text{H}_{10}$	-156520.2	5.9	-156520	4	0.1	1	38	38 $^{94}\text{Rh}$	CP1	1.0	11Fa10
$^{94}\text{Rh}_{.989}-\text{C}_7\text{H}_9$	-147834	30	-147834	4	0.0	U			CP1	1.0	11Fa10
$^{94}\text{Kr}-^{86}\text{Kr}_{1.093}$	31710	110	31843	13	1.2	U			MA9	1.0	10Na13
$^{94}\text{Rb}-^{88}\text{Rb}_{1.068}$	21109.1	4.0	21109.8	2.2	0.2	1	30	30 $^{94}\text{Rb}$	JY1	1.0	07Ra23
$^{94}\text{Zr}_{.35}\text{Cl}-^{92}\text{Zr}_{.37}\text{Cl}$	4235.0	2.	4226.2	2.1	-1.1	U			H13	4.0	63Ba20
$^{94}\text{Mo}_{.35}\text{Cl}-^{92}\text{Mo}_{.37}\text{Cl}$	1234.0	2.	1227.0	1.0	-0.9	U			H11	4.0	63Bi12
$^{94}\text{Pd}-^{94}\text{Mo}$	23952.7	4.6			2				JY1	1.0	08We10
$^{92}\text{Rb}-^{94}\text{Rb}_{.587}$	-764	24	-779	7	-0.3	U			P21	2.5	82Au01 Y
$^{92}\text{Rb}-^{94}\text{Rb}_{.489}$	-717	23	-726	9	-0.2	U			P21	2.5	82Au01 Y
$^{93}\text{Rb}-^{94}\text{Rb}_{.742}$	-1296	25	-1289	9	0.1	U			P21	2.5	82Au01 Y
$^{93}\text{Rb}-^{94}\text{Rb}_{.495}$	-840	40	-921	8	-0.8	F			P31	2.5	86Au02 *
$^{94}\text{Zr}(\text{d},\alpha)^{92}\text{Y}$	8278	25	8257	9	-0.8	1	14	13 $^{92}\text{Y}$	Gn		74Gi09
$^{94}\text{Zr}(\text{p,t})^{92}\text{Zr}$	-6466	12	-6472.1	1.9	-0.5	U			Bld		66St15
	-6470	10			-0.2	U			Oak		71Ba43
$^{94}\text{Ag}^n(\text{p})^{92}\text{Rh}$	3449	100	2360#	400#	-10.9	F					06Mu03 *
$^{94}\text{Rb}(\beta^-n)^{93}\text{Sr}$	3580	80	3452	8	-1.6	U					84Kr.B
$^{94}\text{Zr}(\text{p,d})^{93}\text{Zr}$	-5983	15	-5995.0	1.9	-0.8	U			Bld		66St15
	-6000	10			0.5	U			Oak		71Ba43
$^{94}\text{Zr}(\text{d,t})^{93}\text{Zr}$	-1969	20	-1962.3	1.9	0.3	U			Pit		64Co11
	-1960.2	2.4			-0.9	1	63	33 $^{94}\text{Zr}$	SPa		79Bo37
$^{93}\text{Nb}(\text{n},\gamma)^{94}\text{Nb}$	7229.13	0.12	7227.54	0.08	-13.2	C					84Bo.C
	7227.51	0.09			0.3	-					88Ke09 Z
	7227.63	0.15			-0.6	-					06Fi.A
	7227.54	0.08			0.0	1	100	56 $^{94}\text{Nb}$			average
$^{94}\text{Mo}(\text{d,t})^{93}\text{Mo}$	-3441	20	-3420.6	0.9	1.0	U			Pit		64Co11
$^{94}\text{Ag}^n(\text{p})^{93}\text{Pd}$	5780	30	5790	17	0.3	4					05Mu15 *
	5794	20			-0.2	4					09Ce04 *
$^{94}\text{Rb}(\beta^-)^{94}\text{Sr}$	10304	20	10283.0	2.6	-1.1	o			Gsn		80Bl.A
	10322	100			-0.4	o			Gsn		80De02 *
	10353	140			-0.5	U			Trs		82Br23 *
	10335	45			-1.2	U			Bwg		82Pa24 *
	10312	20			-1.5	U			Gsn		92Pr03 *
$^{94}\text{Sr}(\beta^-)^{94}\text{Y}$	3512	10	3507	7	-0.5	1	42	41 $^{94}\text{Y}$	Gsn		80De02 *
$^{94}\text{Y}(\beta^-)^{94}\text{Zr}$	4920	9	4918	6	-0.2	1	51	49 $^{94}\text{Y}$	Gsn		80De02 *
$^{94}\text{Nb}(\beta^-)^{94}\text{Mo}$	2043.3	6.	2043.6	1.8	0.1	-					66Sn02 *
	2046.3	3.			-0.9	-					68Ho10 *
	ave.	2045.7	2.7		-0.8	1	45	44 $^{94}\text{Nb}$			average
$^{94}\text{Tc}(\beta^+)^{94}\text{Mo}$	4261	5	4256	4	-1.1	2					64Ha29 *
$^{94}\text{Mo}(\text{p,n})^{94}\text{Tc}$	-5027.8	7.	-5038	4	-1.5	2					73Mc04 *
$^{94}\text{Rh}(\beta^+)^{94}\text{Ru}$	9930	400	9676	5	-0.6	U					80Ox01 *
	9750	320			-0.2	U					06Ba55
$^{94}\text{Pd}(\beta^+)^{94}\text{Rh}$	6700	320	6807	5	0.3	U					06Ba55

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{94}\text{Ag}^n(\beta^+)^{94}\text{Pd}$	17700	500	20040#	400#	4.7	D				04Mu30 *
$^{94}\text{Kr}-^{85}\text{Rb}_{1.106}$						Typo in original paper, ratio should read 1.006 255 64(1 14)				GAu **
$^{94}\text{Rb-u}$						F : possibly isomeric mixture				92Al.B **
$^{94}\text{Rb}-^{85}\text{Rb}_{1.106}$						$D_M=23956.4(2.6) \mu\text{u ME}=68561.8(2.4)\text{keV}$ corrected for $e^-$ binding=-775eV				12Si10 **
$^{94}\text{Sr}-^{85}\text{Rb}_{1.106}$						$D_M=12916.7(1.8) \mu\text{u ME}=78845.2(1.7)\text{keV}$ corrected for $e^-$ binding=-625eV				12Si10 **
$^{94}\text{Tc-u}$						M-A=-84133(29) keV for mixture gs+m at 76(3) keV				Nub127 **
$^{93}\text{Rb}-^{94}\text{Rb}_{.495}^{92}\text{Rb}_{.505}$						F : rejection based on line-shape analysis				86Au02 **
$^{94}\text{Ag}^n(2p)^{92}\text{Rh}$						$Q_{2p}=1900(100)$ to $(11^+)$ level at 1548.6(1.4) keV				Ens011 **
$^{94}\text{Ag}^n(2p)^{92}\text{Rh}$						F : no evidence from He-jet experiment				09Ce04 **
$^{94}\text{Ag}^n(p)^{93}\text{Pd}$						$E_p=790(30), 1010(30)$ to $(33/2^+)$ at 4995.6, $(33/2^-, 35/2^-)$ at 4752.7				Ens115 **
$^{94}\text{Ag}^n(p)^{93}\text{Pd}$						$E_p=790(20)$ to level $(33/2^+)$ at 4995.6 keV				Ens115 **
$^{94}\text{Rb}(\beta^-)^{94}\text{Sr}$						Original value 10304(30) corrected in reference				94Ha.A **
$^{94}\text{Rb}(\beta^-)^{94}\text{Sr}$						Original error 100 keV increased by 100 in reference for lower level feeding				94Ha.A **
$^{94}\text{Rb}(\beta^-)^{94}\text{Sr}$						As corrected in reference				87Gr.A **
$^{94}\text{Rb}(\beta^-)^{94}\text{Sr}$						$E_{\beta^-}=9475(20)$ to $2^+$ level at 836.91 keV				Ens116 **
$^{94}\text{Sr}(\beta^-)^{94}\text{Y}$						Original error 6 corrected in reference				94Ha.A **
$^{94}\text{Y}(\beta^-)^{94}\text{Zr}$						Original error 5 corrected in reference				94Ha.A **
$^{94}\text{Nb}(\beta^-)^{94}\text{Mo}$						$E_{\beta^-}=470(6) 473(3)$ respectively, to level $4^+$ at 1573.76 keV				Ens069 **
$^{94}\text{Tc}(\beta^+)^{94}\text{Mo}$						$E_{\beta^+}=816(5)$ to $6^+$ level at 2423.45 keV				Ens069 **
$^{94}\text{Mo(p,n)}^{94}\text{Tc}$						T=5158(7) to $^{94}\text{Tc}^m$ at 76(3) keV				Nub127 **
$^{94}\text{Rh}(\beta^+)^{94}\text{Ru}$						$E_{\beta^+}=6400(400)$ to $(3,4,5)$ level at 2503.2 keV				Ens069 **
$^{94}\text{Ag}^n(\beta^+)^{94}\text{Pd}$						$Q_{\beta^+}$ larger than 17.7 MeV, uncertainty not given				04Mu30 **
$^{94}\text{Ag}^n(\beta^+)^{94}\text{Pd}$						Trends from Mass Surface TMS suggest $^{94}\text{Ag}^n$ 2340 less bound				WgM127**
$^{95}\text{Kr-u}$	-60183	150	-60289	20	-0.5	U			GT1	1.5 04Ma.A
$^{95}\text{Kr}-^{85}\text{Rb}_{1.118}$	38330	20				2			MA8	1.0 06De36
$^{95}\text{Rb-u}$	-70618	86	-70740	22	-0.6	U			Pb1	2.5 89Al33
$^{95}\text{Sr}-^{85}\text{Rb}_{1.118}$	17987	10	17972	6	-1.5	1	40	40 $^{95}\text{Sr}$	MA4	1.0 02Ra23
$^{95}\text{Mo}-^{85}\text{Rb}_{1.118}$	4457.6	1.0	4457.8	0.5	0.2	1	22	22 $^{95}\text{Mo}$	JY1	1.0 12Ka13
$C_7\text{H}_{11}-^{95}\text{Mo}$	180236.5	3.5	180236.6	0.5	0.0	U			M15	2.5 63Ri07
$^{95}\text{Tc-u}$	-92417	32	-92346	5	2.2	U			GS2	1.0 05Li24 *
$^{95}\text{Rh}-^{85}\text{Rb}_{1.118}$	14515.1	4.5	14517	4	0.4	1	86	86 $^{95}\text{Rh}$	JY1	1.0 08We10
$^{95}\text{Rh}_{.989}-C_7\text{H}_{10}$	-161416	11	-161427	4	-1.0	1	14	14 $^{95}\text{Rh}$	CP1	1.0 11Fa10
$^{95}\text{Sr}-^{97}\text{Zr}_{.979}$	6529	10	6532	6	0.3	1	40	38 $^{95}\text{Sr}$	JY1	1.0 06Ha03
$^{95}\text{Y}-^{97}\text{Zr}_{.979}$	-32.4	6.7	-5	7	4.1	B			JY1	1.0 07Ha32
$^{95}\text{Pd}-^{94}\text{Mo}_{1.011}$	20848.9	4.7	20849	3	0.0	2			JY1	1.0 08We10
		4.5			0.0	2			JY1	1.0 08We10 *
$^{95}\text{Mo}-^{94}\text{Mo}$	757	12	753.86	0.11	-0.1	U			M15	2.5 63Ri07
$^{93}\text{Rb}-^{95}\text{Rb}_{.653}^{89}\text{Rb}_{.348}$	-1323	25	-1155	15	2.7	U			P21	2.5 82Au01
$^{93}\text{Rb}-^{95}\text{Rb}_{.587}^{90}\text{Rb}_{.413}^x$	-1376	24	-1192	15	3.1	B			P21	2.5 82Au01
$^{94}\text{Rb}-^{95}\text{Rb}_{.792}^{90}\text{Rb}_{.209}^x$	-16	28	198	16	3.1	B			P21	2.5 82Au01 Y
$^{92}\text{Rb}-^{95}\text{Rb}_{.242}^{91}\text{Rb}_{.758}$	80	23	105	10	0.4	U			P21	2.5 82Au01
$^{93}\text{Rb}-^{95}\text{Rb}_{.489}^{91}\text{Rb}_{.511}$	-654	12	-670	13	-0.5	F			P31	2.5 86Au02 *
$^{94}\text{Rb}-^{95}\text{Rb}_{.660}^{92}\text{Rb}_{.341}$	433	15	425	14	-0.2	1	13	13 $^{95}\text{Rb}$	P31	2.5 86Au02
		462	28		-0.5	U			P31	2.5 86Au02
$^{95}\text{Mo(n,}\alpha^{92}\text{Zr}$	6405	30	6395.4	1.8	-0.3	U			ILL	75Em04
$^{95}\text{Rb}(\beta^-n)^{94}\text{Sr}$	5120	100	4881	20	-2.4	U				84Kr.B
$^{94}\text{Zr(n,}\gamma^{95}\text{Zr}$	6461.6	1.0	6462.0	0.9	0.4	-				79Ke.D Z
		6357.8	0.3		347.2	F			Bdn	06Fi.A *
		6460.3	0.5		3.3	C			Bdn	08Fi.A *
$^{94}\text{Zr(d,p)}^{95}\text{Zr}$	4223	20	4237.4	0.9	0.7	U			Pit	64Co11
		4237.4	2.0		0.0	-			SPa	79Bo37
$^{94}\text{Zr(n,}\gamma^{95}\text{Zr}$	ave.	6461.7	0.9	6462.0	0.9	0.3	1	95	64 $^{94}\text{Zr}$	average
$^{94}\text{Mo(n,}\gamma^{95}\text{Mo}$	7367	2	7369.10	0.10	1.0	U				77Ri04
		7369.10	0.10		0.0	1	99	75 $^{94}\text{Mo}$	MMn	91Is02 Z
		7368.4	0.5		1.4	U			Bdn	06Fi.A
$^{94}\text{Mo(d,p)}^{95}\text{Mo}$	5137	20	5144.53	0.10	0.4	U			Pit	64Co11

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{95}\text{Pd}(\epsilon\text{p})^{94}\text{Ru}$	5116	300	5330	4	0.7	U				82Ku15	*	
$^{95}\text{Rb}(\beta^-)^{95}\text{Sr}$	9224	30	9228	20	0.1	o			Gsn	80Bl.A		
	9276	100			-0.5	o			Gsn	80De02	*	
	9300	30			-2.4	U			Gsn	84Bl.A		
	9280	45			-1.1	-			Bwg	87Gr.A		
	9272	35			-1.2	-			Gsn	92Pr03		
	ave.	9275	28		-1.7	1	53	51	$^{95}\text{Rb}$	average		
$^{95}\text{Sr}(\beta^-)^{95}\text{Y}$	6110	150	6089	7	-0.1	U				70Ma.A		
	6060	100			0.3	U			Bwg	78St02		
	6082	10			0.7	1	53	33	$^{95}\text{Y}$	Gsn	84Bl.A	
	6052	25			1.5	U				90Ma03		
$^{95}\text{Y}(\beta^-)^{95}\text{Zr}$	4445	9	4450	7	0.6	1	57	56	$^{95}\text{Y}$	Gsn	80De02	
$^{95}\text{Zr}(\beta^-)^{95}\text{Nb}$	1125	8	1123.5	1.8	-0.2	U				54Za05		
	1119	5			0.9	-				55Dr43		
	1122.7	3.			0.3	-				74An22	*	
	ave.	1121.7	2.6		0.7	1	48	45	$^{95}\text{Zr}$	average		
$^{95}\text{Nb}(\beta^-)^{95}\text{Mo}$	925.5	0.5	925.6	0.5	0.1	1	98	97	$^{95}\text{Nb}$	63La06	*	
$^{95}\text{Tc}(\beta^+)^{95}\text{Mo}$	1683	10	1691	5	0.8	-				65Cr04	*	
	1693	6			-0.4	-				74An05	*	
$^{95}\text{Mo}(\text{p},\text{n})^{95}\text{Tc}$	-2440	30	-2473	5	-1.1	U				57Le27		
	-2490	6			2.9	B			Oak	70Ki01		
$^{95}\text{Tc}(\beta^+)^{95}\text{Mo}$	ave.	1690	5	1691	5	0.0	1	97	97	$^{95}\text{Tc}$	average	
$^{95}\text{Ru}(\beta^+)^{95}\text{Tc}$	2558	30	2564	11	0.2	1	12	10	$^{95}\text{Ru}$	68Pi03	*	
$^{95}\text{Rh}(\beta^+)^{95}\text{Ru}$	5110	150	5116	10	0.0	U				75We03	*	
* $^{95}\text{Tc-u}$	M-A=-86066(28) keV for mixture gs+m at 38.91 keV											
* $^{95}\text{Pd}-^{94}\text{Mo}_{1.021}$	$D_M=22862.1(4.5) \mu\text{u}$ for $^{95}\text{Pd}^m$ at 1875.13 keV; M-A=-68090.2(4.4) keV											
* $^{93}\text{Rb}-^{95}\text{Rb}_{.489}$	$^{91}\text{Rb}_{.511}$											
* $^{94}\text{Zr}(\text{n},\gamma)^{95}\text{Zr}$	F : Rejected by authors											
* $^{94}\text{Zr}(\text{n},\gamma)^{95}\text{Zr}$	F : value from 06Fi.A retracted											
Weak evidence												
* $^{95}\text{Pd}(\epsilon\text{p})^{94}\text{Ru}$	E <sub>p</sub> =4300(300) from $^{95}\text{Pd}^m$ at 1875.13 to $^{94}\text{Ru}^m$ at 2644.1 keV											
*	same E <sub>p</sub> ; both from figures											
* $^{95}\text{Rb}(\beta^-)^{95}\text{Sr}$	E <sub>β</sub> =8595(100) to (3/2 <sup>+</sup> ,5/2 <sup>+</sup> ) level at 680.70, corrected in reference											
* $^{95}\text{Y}(\beta^-)^{95}\text{Zr}$	Original error 5 corrected in reference											
*	Q <sub>β</sub> =4417(10) given by same group, not used											
* $^{95}\text{Zr}(\beta^-)^{95}\text{Nb}$	E <sub>β</sub> =887(3) to 1/2 <sup>-</sup> level at 235.69 keV											
* $^{95}\text{Nb}(\beta^-)^{95}\text{Mo}$	E <sub>β</sub> =159.7(0.5) to 7/2 <sup>+</sup> level at 765.803 keV											
* $^{95}\text{Tc}(\beta^+)^{95}\text{Mo}$	E <sub>β</sub> =700(10) 710(6) respectively, from $^{95}\text{Tc}^m$ at 38.91 keV											
* $^{95}\text{Ru}(\beta^+)^{95}\text{Tc}$	E <sub>β</sub> =1200(30) to 7/2 <sup>+</sup> level at 336.413 keV											
* $^{95}\text{Rh}(\beta^+)^{95}\text{Ru}$	E <sub>β</sub> =3150(150) to 7/2 <sup>+</sup> level at 941.79 keV											
$^{96}\text{Kr}-^{85}\text{Rb}_{1.129}$	42606	22			2				MA8	1.0	10Na13	
$^{96}\text{Rb-u}$	-65508	43	-65867	4	-3.3	F			Pb1	2.5	89Al33	
$\text{C}_7\text{H}_{12}-^{96}\text{Zr}$	185628	6	185629.0	2.1	0.1	U			M15	2.5	63Ri07	
$^{96}\text{Zr-u}$	-91691	43	-91728.6	2.1	-0.9	U			JY0	1.0	04Ri12	
$^{96}\text{Mo}-^{85}\text{Rb}_{1.129}$	4265.7	1.1	4265.5	0.5	-0.2	1	19	19	$^{96}\text{Mo}$	JY1	1.0	12Ka13
$\text{C}_7\text{H}_{12}-^{96}\text{Mo}$	189226.9	3.0	189224.3	0.5	-0.4	U			M15	2.5	63Ri07	
$^{96}\text{Tc-u}$	-92192	32	-92132	6	1.9	U			GS2	1.0	05Li24	
$\text{C}_7\text{H}_{12}-^{96}\text{Ru}$	186304.6	3.8	186310.1	0.5	0.6	U			M16	2.5	63Da10	
$^{96}\text{Rb}-^{88}\text{Rb}_{0.091}$	30887.7	3.6	30888	4	0.1	1	100	100	$^{96}\text{Rb}$	JY1	1.0	07Ra23
$^{96}\text{Zr}^{35}\text{Cl}-^{94}\text{Zr}^{37}\text{Cl}$	4929	3	4910.7	2.3	-1.5	U			H13	4.0	63Ba20	
$^{96}\text{Mo}^{35}\text{Cl}-^{94}\text{Mo}^{37}\text{Cl}$	2539	2	2541.29	0.14	0.3	U			H11	4.0	63Bi12	
$^{96}\text{Pd}-^{94}\text{Mo}_{1.021}$	15123.4	4.5			2				JY1	1.0	08We10	
$^{96}\text{Sr}-^{97}\text{Zr}_{.990}$	9868	10	9865	9	-0.3	1	83	83	$^{96}\text{Sr}$	JY1	1.0	06Ha03
$^{96}\text{Y}-^{97}\text{Zr}_{.990}$	4053.7	6.8	4055	7	0.2	1	92	92	$^{96}\text{Y}$	JY1	1.0	07Ha32
$^{96}\text{Y}^m-^{97}\text{Zr}_{.990}$	5708.1	6.7			2				JY1	1.0	07Ha32	
$^{96}\text{Mo}-^{97}\text{Mo}_{.990}$	-2280.5	5.8	-2281.82	0.22	-0.2	U			JY1	1.0	06Ka48	
$^{96}\text{Ru}-^{96}\text{Mo}$	2914.14	0.13	2914.14	0.13	0.0	1	100	100	$^{96}\text{Ru}$	SH1	1.0	11El04
$^{96}\text{Mo}-^{95}\text{Mo}$	-1161	12	-1162.65	0.05	-0.1	U			M15	2.5	63Ri07	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{93}\text{Rb}-^{96}\text{Rb}_{.554}$ $^{89}\text{Rb}_{.448}$	-2210	27	-2023	8	2.8	U		P21	2.5	82Au01		
$^{95}\text{Rb}-^{96}\text{Rb}_{.848}$ $^{89}\text{Rb}_{.152}$	-1590	30	-1445	20	1.9	U		P21	2.5	82Au01		
$^{94}\text{Rb}-^{96}\text{Rb}_{.699}$ $^{89}\text{Rb}_{.302}$	-1250	30	-999	4	3.3	B		P21	2.5	82Au01	Y	
$^{94}\text{Rb}-^{96}\text{Rb}_{.588}$ $^{91}\text{Rb}_{.413}$	-380	25	-378	4	0.0	U		P21	2.5	82Au01		
$^{95}\text{Rb}-^{96}\text{Rb}_{.742}$ $^{92}\text{Rb}_{.258}$	-1116	27	-1078	20	0.6	U		P21	2.5	82Au01		
		-1143	16		1.6	1	26	25 $^{95}\text{Rb}$	P31	2.5	86Au02	
$^{96}\text{Zr}(\text{d},\alpha)^{94}\text{Y}$	7609	20	7619	7	0.5	1	11	10 $^{94}\text{Y}$	Gra		74Gi09	
$^{96}\text{Zr}(\text{p},\text{t})^{94}\text{Zr}$	-5825	10	-5834.5	2.2	-1.0	U			Oak		71Ba43	
$^{96}\text{Ru}(\text{p},\text{t})^{94}\text{Ru}$	-11165	10	-11156	3	0.9	U			Oak		71Ba01	
$^{96}\text{Zr}(\text{t},\alpha)^{95}\text{Y}$	8294	20	8292	7	-0.1	1	12	11 $^{95}\text{Y}$	LAI		83Fl06	
$^{96}\text{Zr}(\text{p},\text{d})^{95}\text{Zr}$	-5440	20	-5629.8	2.1	-9.5	B			Bld		67St24	
		-5630	10		0.0	U			Oak		71Ba43	
$^{96}\text{Zr}(\text{d},\text{t})^{95}\text{Zr}$	-1603	20	-1597.1	2.1	0.3	U			Pit		64Co11	
	-1595.8	2.8			-0.5	1	55	32 $^{96}\text{Zr}$	SPa		79Bo37	
$^{96}\text{Mo}(\text{t},\alpha)^{95}\text{Nb}$	10524	20	10516.3	0.5	-0.4	U			LAI		83Fl06	
$^{95}\text{Mo}(\text{n},\gamma)^{96}\text{Mo}$	9154.2	0.5	9154.32	0.05	0.2	U					70He27	
	9154.32	0.05			0.0	1	100	52 $^{95}\text{Mo}$	MMn	91Is02	Z	
	9153.90	0.20			2.1	U			Bdn	06Fi.A		
$^{96}\text{Mo}(\text{d},\text{t})^{95}\text{Mo}$	-2923	20	-2897.09	0.05	1.3	U			Pit		64Co11	
$^{96}\text{Ru}(\text{p},\text{d})^{95}\text{Ru}$	-8470	10	-8469	10	0.1	1	90	90 $^{95}\text{Ru}$	Oak		71Ba01	
$^{96}\text{Ag}(\epsilon\text{p})^{95}\text{Rh}$	6540	90			2					03Ba39	*	
$^{96}\text{Rb}(\beta^-)^{96}\text{Sr}$	10800	220	11575	9	3.5	B				79Pe17		
	11303	250			1.1	o			Gsn	80De02		
	11547	100			0.3	U			Trs	82Br23		
	11553	45			0.5	U			Gsn	84Bl.A		
	11590	80			-0.2	U			Bwg	87Gr.A		
	11709	40			-3.3	B			Gsn	92Pr03	*	
$^{96}\text{Sr}(\beta^-)^{96}\text{Y}$	5332	30	5412	10	2.7	F				79Pe17	*	
	5413	22			-0.1	-			Gsn	80De02	*	
	5345	50			1.3	U			Bwg	87Gr.A		
	5354	40			1.4	-				90Ma03		
	ave.	5399	19		0.6	1	25	17 $^{96}\text{Sr}$		average		
$^{96}\text{Y}(\beta^-)^{96}\text{Zr}$	7120	50	7103	6	-0.3	U			Gsn	80De02	*	
	7030	70			1.0	U			Bwg	87Gr.A		
	7067	30			1.2	U				90Ma03	*	
$^{96}\text{Y}^m(\beta^-)^{96}\text{Zr}$	8030	150	8643	6	4.1	C			Bwg	87Gr.A		
	8600	200			0.2	U				88St.A		
	8237	21			19.3	C			Bwg	92Gr.A		
$^{96}\text{Nb}(\beta^-)^{96}\text{Mo}$	3186.8	3.2			2					68An03	*	
$^{96}\text{Mo}(\text{p},\text{n})^{96}\text{Tc}$	-3760	10	-3756	5	0.4	2				74Do09		
	-3754	6			-0.3	2				78Ke10		
$^{96}\text{Rh}(\beta^+)^{96}\text{Ru}$	6472	200	6393	10	-0.4	U				75Gu01	*	
$^{96}\text{Ru}(\text{p},\text{n})^{96}\text{Rh}$	-7175	10			2					70As08	Z	
$^{96}\text{Pd}(\beta^+)^{96}\text{Rh}$	3450	150	3504	11	0.4	U				85Ry02	*	
* $^{96}\text{Rb-u}$										92Al.B	**	
* $^{96}\text{Tc-u}$										Nub127	**	
* $^{96}\text{Ag}(\epsilon\text{p})^{95}\text{Rh}$										03Ba39	**	
*										03Ba39	**	
* $^{96}\text{Rb}(\beta^-)^{96}\text{Sr}$										Ens08a	**	
* $^{96}\text{Sr}(\beta^-)^{96}\text{Y}$										Ens08a	**	
* $^{96}\text{Sr}(\beta^-)^{96}\text{Y}$										79Pe17	**	
* $^{96}\text{Sr}(\beta^-)^{96}\text{Y}$										94Ha.A	**	
*										84Bl.A	**	
* $^{96}\text{Y}(\beta^-)^{96}\text{Zr}$										84Bl.A	**	
* $^{96}\text{Y}(\beta^-)^{96}\text{Zr}$										Ens08a	**	
* $^{96}\text{Nb}(\beta^-)^{96}\text{Mo}$										Ens08a	**	
* $^{96}\text{Rh}(\beta^+)^{96}\text{Ru}$										Ens08a	**	
* $^{96}\text{Pd}(\beta^+)^{96}\text{Rh}$										Ens08a	**	

F : possibly isomeric mixture  
M-A=-85860(28) keV for mixture gs+m at 34.23 keV  
Original 6430(60) corrected by -110 keV for mixture of two  $\beta$ -decaying  $^{96}\text{Ag}$  states, to two isomeric states in  $^{95}\text{Rh}$   
 $E_{\beta^-}=10894(40)$  to  $2^+$  level at 814.93 keV  
 $E_{\beta^-}=4400(30)$  to  $1^+$  level at 931.70 keV, and other  $E_{\beta^-}$   
F : all other results of reference are strongly conflicting  
Original error 20 corrected in reference  
 $Q_{\beta^-}=5362(10)$  given by same group, not used  
 $Q_{\beta^-}=7079(15)$  given by same group, not used  
 $E_{\beta^-}=5326(36)$  to  $2^+$  level at 1750.497 keV, and other  $E_{\beta^-}$   
 $E_{\beta^-}=748.4(3.1)$  to  $5^+$  level at 2438.477 keV  
 $E_{\beta^+}=3300(200)$  to  $6^+$  level at 2149.74 keV  
 $p^+=0.257(0.03)$  to  $1^+$  level at 1274.78 keV

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{98}\text{Rb}-^{85}\text{Rb}_{1.153}$	43393.3	3.7				2			TT1	1.0	12Si10 *
$^{98}\text{Sr}-^{85}\text{Rb}_{1.153}$	30396.7	4.3	30395	4	-0.3	1	85	85 $^{98}\text{Sr}$	TT1	1.0	12Si10 *
$^{98}\text{Zr-u}$	-87247	43	-87271	9	-0.6	U			JY0	1.0	04Ri12
$^{98}\text{Mo}-^{85}\text{Rb}_{1.153}$	7104.1	5.7	7111.3	0.5	1.3	U			MA8	1.0	11He10
	7111.6	1.3			-0.3	1	14	14 $^{98}\text{Mo}$	JY1	1.0	12Ka13
$\text{C}_5\text{H}_6\text{O}_2-^{98}\text{Mo}$	131375.4	2.8	131374.6	0.5	-0.1	U			M15	2.5	63Ri07
$\text{C}_7\text{H}_{14}-^{98}\text{Ru}$	204263.5	2.9	204264	7	0.0	1	92	92 $^{98}\text{Ru}$	M16	2.5	63Da10
$^{98}\text{Rh-u}$	-89302	46	-89292	13	0.2	U			GS2	1.0	05Li24 *
$^{98}\text{Pd}-^{85}\text{Rb}_{1.153}$	14404.5	5.1	14405	5	0.1	1	100	100 $^{98}\text{Pd}$	JY1	1.0	09El08
$^{98}\text{Ag}-^{85}\text{Rb}_{1.153}$	23283	40	23270	40	-0.4	1	78	78 $^{98}\text{Ag}$	MA8	1.0	11He10
$^{98}\text{Mo}^{35}\text{Cl}-^{96}\text{Mo}^{37}\text{Cl}$	3690	2	3678.78	0.24	-1.4	U			H11	4.0	63Bi12
$^{98}\text{Sr}-^{97}\text{Zr}_{1.010}$	18620	10	18628	4	0.8	1	19	15 $^{98}\text{Sr}$	JY1	1.0	06Ha03
$^{98}\text{Y}-^{97}\text{Zr}_{1.010}$	12321.4	8.5				2			JY1	1.0	07Ha32
$^{98}\text{Zr}-^{97}\text{Zr}_{1.010}$	2668	10	2668	9	0.0	1	82	82 $^{98}\text{Zr}$	JY1	1.0	06Ha03
$^{98}\text{Mo}-^{97}\text{Mo}_{1.010}$	327.9	5.8	326.52	0.07	-0.2	U			JY1	1.0	06Ka48
$^{98}\text{Mo}-^{97}\text{Mo}$	-614	12	-613.30	0.07	0.0	U			M15	2.5	63Ri07
$^{94}\text{Rb}-^{98}\text{Rb}_{.411}$ $^{91}\text{Rb}_{.590}$	-290	40	-368	5	-0.8	U			P21	2.5	82Au01 Y
$^{97}\text{Rb}-^{98}\text{Rb}_{.792}$ $^{93}\text{Rb}_{.209}$	-250	60	-321	4	-0.5	U			P21	2.5	82Au01
$^{96}\text{Rb}-^{98}\text{Rb}_{.490}$ $^{94}\text{Rb}_{.511}$	330	30	297	4	-0.4	U			P21	2.5	82Au01 Y
$^{97}\text{Rb}-^{98}\text{Rb}_{.660}$ $^{95}\text{Rb}_{.340}$	-300	50	-265	7	0.3	U			P21	2.5	82Au01
	-232	27			-0.5	U			P31	2.5	86Au02
$^{96}\text{Zr(t,p)}^{98}\text{Zr}$	3508	20	3509	8	0.0	1	18	18 $^{98}\text{Zr}$	LAI	69Bl01	
$^{96}\text{Zr}({}^3\text{He},\text{p})^{98}\text{Nb}$	5728	5				2			Phi		75Me13
$^{96}\text{Ru}({}^{16}\text{O},{}^{14}\text{C})^{98}\text{Pd}$	-12529	20	-12515	5	0.7	U			BNL		82Th01
$^{98}\text{Mo(t,}\alpha^{97}\text{Nb}$	10019	20	10018.1	1.7	0.0	U			LAI		83Fl06
$^{97}\text{Mo(n,}\gamma^{98}\text{Mo}$	8642.4	0.5	8642.60	0.07	0.4	U					71He10
	8642.60	0.07			0.0	-			MMn	91Is02	Z
	8642.57	0.18			0.2	-			Bdn	06Fi.A	
$^{98}\text{Mo(d,t)}^{97}\text{Mo}$	-2379	20	-2385.37	0.07	-0.3	U			Pit		64Co11
$^{97}\text{Mo(n,}\gamma^{98}\text{Mo}$	ave.	8642.60	0.07	8642.60	0.07	0.1	1	100	81 $^{98}\text{Mo}$		average
$^{97}\text{Mo}({}^3\text{He,d})^{98}\text{Tc}$	680	8	683	3	0.4	-			ANL	74Co27	
	686	10			-0.3	-			McM	76Ma16	
	ave.	682	6		0.1	1	29	29 $^{98}\text{Tc}$		average	
$^{98}\text{Rb}(\beta^-)^{98}\text{Sr}$	11200	110	12108	5	8.3	B					79Pe17
	12343	150			-1.6	U			Trs		82Br23
	12519	60			-6.9	C			Gsn		84Bl.A
	12270	30			-5.4	C			McG		84Ia.A
	12440	75			-4.4	C			Bwg		87Gr.A
	12380	65			-4.2	B			Gsn		92Pr03
$^{98}\text{Rb}^m(\beta^-)^{98}\text{Sr}$	12710	120			2				Bwg		87Gr.A
$^{98}\text{Sr}(\beta^-)^{98}\text{Y}$	5730	40	5875	9	3.6	C					79Pe17
	5821	10			5.4	C			Gsn		84Bl.A
	5815	40			1.5	U			Bwg		87Gr.A
$^{98}\text{Y}(\beta^-)^{98}\text{Zr}$	8974	100	8992	12	0.2	U					79Pe17 *
	8780	30			7.1	C			Gsn		84Bl.A
	8840	55			2.8	o			Bwg		87Gr.A
	8963	41			0.7	U					88Ma.A
	8830	17			9.5	C			Bwg		92Gr.A
$^{98}\text{Y}^m(\beta^-)^{98}\text{Zr}$	9780	200	9233	27	-2.7	o			Bwg		87Gr.A
	9233	27			2				Bwg		92Gr.A
$^{98}\text{Zr}(\beta^-)^{98}\text{Nb}$	2300	200	2238	10	-0.3	U					76He10
$^{98}\text{Nb}(\beta^-)^{98}\text{Mo}$	4300	200	4584	5	1.4	U					66Gu05
	4300	200			1.4	U					67Hu07
	4800	200			-1.1	U					76He10
	4580	100			0.0	U			Bwg		78St02
$^{98}\text{Mo(p,n)}^{98}\text{Tc}$	-2458	10	-2466	3	-0.8	1	11	11 $^{98}\text{Tc}$	ANL	74Co27	
$^{98}\text{Tc}(\beta^-)^{98}\text{Ru}$	1795	22	1794	7	-0.1	1	11	8 $^{98}\text{Ru}$		73Ok.A	*
$^{98}\text{Rh}(\beta^+)^{98}\text{Ru}$	5120	100	5050	10	-0.7	U					72Ba37 *
	5151	50			-2.0	U					94Ba06 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{98}\text{Ru}(\text{p},\text{n})^{98}\text{Rh}$	-5832	10				2				70As08	Z		
$^{98}\text{Ag}(\beta^+)^{98}\text{Pd}$	8420	150	8250	30	-1.1	U				79Ve.A	*		
		8200	70		0.8	1	22	22	$^{98}\text{Ag}$	00Hu17			
$^{98}\text{Cd}(\beta^+)^{98}\text{Ag}$	5330	140	5430	40	0.7	U				92Pl01			
$^{98}\text{Cd}(\epsilon)^{98}\text{Ag}$	5430	40			2					01St.A			
$^{98}\text{Rb}-^{85}\text{Rb}_{1.153}$	$D_M=43394.0(3.7) \mu\mu \text{ ME}=-54317.7(3.4)\text{keV}$ corrected for $e^-$ binding=-679eV									12Si10	**		
$^{98}\text{Sr}-^{85}\text{Rb}_{1.153}$	$D_M=30397.3(4.3) \mu\mu \text{ ME}=-66424.0(4.0)\text{keV}$ corrected for $e^-$ binding=-529eV									12Si10	**		
$^{98}\text{Rh-u}$	$M-A=-83154(30) \text{ keV}$ for mixture gs+m at 60#50 keV									Nub127	**		
$^{98}\text{Y}(\beta^-)^{98}\text{Zr}$	$E_{\beta^-}=4810(100)$ to $1^-$ level at 4164.60 keV									Ens035	**		
$^{98}\text{Tc}(\beta^-)^{98}\text{Ru}$	$E_{\beta^-}=397(22)$ to $4^+$ level at 1397.82 keV									Ens035	**		
$^{98}\text{Rh}(\beta^+)^{98}\text{Ru}$	$E_{\beta^+}=3450(100)$ to $2^+$ level at 652.44 keV, and others									Ens035	**		
$^{98}\text{Rh}(\beta^+)^{98}\text{Ru}$	$E_{\beta^+}=3476(50)$ to $2^+$ level at 652.44 keV									Ens035	**		
$^{98}\text{Ag}(\beta^+)^{98}\text{Pd}$	$Q_{\beta^+}=6880(150)$ to $4^+$ level at 1541.40 keV									Ens035	**		
$^{99}\text{Sr}-^{85}\text{Rb}_{1.165}$	35661.1	4.4	35656	4	-1.2	1	76	76	$^{99}\text{Sr}$	TT1	1.0	12Si10	*
$^{99}\text{Zr-u}$	-83323	19	-83333	11	-0.5	1	36	36	$^{99}\text{Zr}$	JY0	1.0	04Ri12	
$C_7\text{H}_{15}-^{99}\text{Ru}$	211442.8	3.0	211441.4	1.1	-0.2	U				M16	2.5	63Da10	
$^{99}\text{Ag}-^{85}\text{Rb}_{1.165}$	20401.0	8.5	20411	7	1.1	2				SH1	1.0	07Ma92	
	20427	11			-1.5	2				MA8	1.0	11He10	
$^{99}\text{Cd}-^{85}\text{Rb}_{1.165}$	27690.8	1.7			2					MA8	1.0	09Br09	
$^{99}\text{Pd}-^{96}\text{Mo}_{1.031}$	10052.8	5.5	10054	5	0.2	1	95	94	$^{99}\text{Pd}$	JY1	1.0	09El08	
$^{99}\text{Sr}-^{97}\text{Zr}_{1.021}$	23794.1	7.4	23809	4	2.1	1	31	24	$^{99}\text{Sr}$	JY1	1.0	06Ha03	
$^{99}\text{Y}-^{97}\text{Zr}_{1.021}$	15066.8	7.1			2					JY1	1.0	07Ha32	
$^{99}\text{Zr}-^{97}\text{Zr}_{1.021}$	7580	14	7586	11	0.4	1	65	64	$^{99}\text{Zr}$	JY1	1.0	06Ha03	
$^{99}\text{Ru}-^{98}\text{Ru}$	652	11	647	7	-0.2	U				M16	2.5	63Da10	
$^{97}\text{Rb}-^{99}\text{Rb}_{.653}^{93}\text{Rb}_{.348}$	100	100	190	70	0.4	U				P21	2.5	82Au01	
$^{98}\text{Rb}-^{99}\text{Rb}_{.742}^{95}\text{Rb}_{.258}$	690	180	680	80	0.0	U				P21	2.5	82Au01	
$^{97}\text{Rb}-^{99}\text{Rb}_{.490}^{95}\text{Rb}_{.511}$	350	60	240	60	-0.7	1	14	13	$^{99}\text{Rb}$	P31	2.5	86Au02	
$^{99}\text{Ru}(\text{n},\alpha)^{96}\text{Mo}$	6822	5	6818.2	1.1	-0.8	U						01Wa50	
$^{96}\text{Ru}({}^{16}\text{O},{}^{13}\text{C})^{99}\text{Pd}$	-11723	20	-11760	5	-1.8	U				BNL		82Th01	
$^{98}\text{Mo}(\text{n},\gamma)^{99}\text{Mo}$	5927.7	1.	5925.44	0.15	-2.3	U						73De39	
	5927	1			-1.6	U						74Er.A	
	5924.6	0.6			1.4	U						76Ch02	
	5923	2			1.2	U						77Ri04	
	5925.42	0.15			0.2	1	100	95	$^{99}\text{Mo}$	MMn		91Is02	Z
	5927.7	0.5			-4.5	C				Bdn		06Fi.A	
$^{98}\text{Mo}(\text{d},\text{p})^{99}\text{Mo}$	3687	20	3700.88	0.15	0.7	U				Pit		64Co11	
$^{98}\text{Mo}({}^3\text{He},\text{d})^{99}\text{Tc}$	1010	20	1007.4	0.9	-0.1	U				McM		77Ch06	
$^{99}\text{Tc}(\text{p},\text{d})^{98}\text{Tc}$	-6740	5	-6742	3	-0.5	-				76Sl06			
	-6755	9			1.4	-				Bld		77Em02	
ave.	-6744	4			0.3	1	59	57	$^{98}\text{Tc}$			average	
$^{99}\text{Rb}(\beta^-)^{99}\text{Sr}$	11340	120	11310	110	-0.3	1	87	87	$^{99}\text{Rb}$	McG		84Ia.A	
	10960	130			2.7	U				Bwg		87Gr.A	
$^{99}\text{Sr}(\beta^-)^{99}\text{Y}$	8030	80	8144	8	1.4	U				McG		84Ia.A	
	8360	75			-2.9	U				Bwg		87Gr.A	
$^{99}\text{Y}(\beta^-)^{99}\text{Zr}$	7605	60	6969	12	-10.6	C				Bwg		87Gr.A	
	7568	14			-42.8	C				Bwg		92Gr.A	
$^{99}\text{Zr}(\beta^-)^{99}\text{Nb}$	4550	35	4707	16	4.5	C				Bwg		87Gr.A	
	4559	15			9.9	C				Bwg		92Gr.A	
$^{99}\text{Nb}(\beta^-)^{99}\text{Mo}$	3740	200	3637	12	-0.5	U						70Ei02	*
$^{99}\text{Mo}(\beta^-)^{99}\text{Tc}$	1356.7	1.0	1357.8	0.9	1.1	1	79	75	$^{99}\text{Tc}$			71Na01	*
$^{99}\text{Tc}(\beta^-)^{99}\text{Ru}$	292	3	295.1	1.1	1.0	-						51Ta05	
	290	4			1.3	-						52Fe16	
	293.5	2.0			0.8	-						80Al02	*
ave.	292.6	1.5			1.6	1	54	31	$^{99}\text{Ru}$			average	
$^{99}\text{Rh}(\beta^+)^{99}\text{Ru}$	2038	10	2044	7	0.6	-						52Sc11	*
	2053	10			-0.9	-						59To.A	*
	2110	40			-1.7	U						74An23	*
ave.	2046	7			-0.2	1	90	89	$^{99}\text{Rh}$			average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{99}\text{Pd}(\beta^+)^{99}\text{Rh}$	3410	20	3397	8	-0.7	1	16	11	$^{99}\text{Rh}$	69Ph01 *		
$^{99}\text{Ag}(\beta^+)^{99}\text{Pd}$	5430	150	5469	8	0.3	U				81Hu03		
$^{*99}\text{Sr}-^{85}\text{Rb}_{1.165}$	$D_M=35661.6(4.4) \mu\text{u}$	$\text{ME}=-62506.3(4.1)\text{keV}$	corrected for $e^-$ binding= $-505\text{eV}$							12Si10 **		
$^{*99}\text{Nb}(\beta^-)^{99}\text{Mo}$	$E_{\beta^-}=3500(200)$	to $7/2^+$ level at $235.508\text{ keV}$								Ens112 **		
$^{*99}\text{Mo}(\beta^-)^{99}\text{Tc}$	$E_{\beta^-}=1214(1)$	to $1/2^-$ level at $142.6832\text{ keV}$								Ens112 **		
$^{*99}\text{Tc}(\beta^-)^{99}\text{Ru}$	$E_{\beta^-}=434.8(2.6), 346.7(2.0)$	from $^{99}\text{Tc}^m$ at $142.6832$ to ground state, $89.57$ level								Ens112 **		
$^{*99}\text{Rh}(\beta^+)^{99}\text{Ru}$	$E_{\beta^+}=740(10)$	from $^{99}\text{Rh}^m$ at $64.5$ to $340.90$ level								Ens112 **		
$^{*99}\text{Rh}(\beta^+)^{99}\text{Ru}$	$E_{\beta^+}=1030(10), 710(10), 590(10), 420(20) \text{ keV}$									59To.A **		
*		to ground state, $321.99$ $3/2^+$ , $442.59$ $3/2^+$ , $618.13$ $1/2^+$ levels								Ens112 **		
$^{*99}\text{Rh}(\beta^+)^{99}\text{Ru}$	$E_{\beta^+}=680(30), 540(30)$	to mixture $322.38$ $3/2^+$ , $442.71$ $3/2^+$ , $618.04$ $1/2^+$ levels								Ens112 **		
$^{*99}\text{Pd}(\beta^+)^{99}\text{Rh}$	$E_{\beta^+}=2180(20), 1930(20), 1510(20) \text{ keV}$									69Ph01 **		
*		to $200.7$ $7/2^+$ , $464.4$ ( $5/2, 7/2$ ) $^+$ , $874.5$ $5/2^+$ levels above ( $1/2^-$ ) ground state								Ens112 **		
$^{100}\text{Y-u}$	-72270	110	-72285	12	-0.1	o			GT2	1.5	08Kn.A *	
	-72290	140			0.0	U			GT2	1.5	08Su19 *	
$^{100}\text{Zr-u}$	-82016	18	-81999	9	0.9	1	24	24	$^{100}\text{Zr}$	JY0	1.0	04Ri12
$^{100}\text{Mo}-^{85}\text{Rb}_{1.176}$	11216	27	11207.1	1.1	-0.3	U			MA8	1.0	11He10	
	11205.5	1.4			1.1	1	65	65	$^{100}\text{Mo}$	JY1	1.0	12Ka13
$\text{C}_7\text{H}_{16}-^{100}\text{Mo}$	217730.3	4.2	217728.7	1.1	-0.1	U			M15	2.5	63Ri07	
$\text{C}_7\text{H}_{16}-^{100}\text{Ru}$	220983.8	3.7	220986.3	1.1	0.3	U			M16	2.5	63Da10	
$^{100}\text{Rh-u}$	-91855	46	-91883	19	-0.6	1	18	18	$^{100}\text{Rh}$	GS2	1.0	05Li24 *
$^{100}\text{Ag}-^{85}\text{Rb}_{1.176}$	19849.9	7.1	19851	5	0.1	2			JY1	1.0	09El08 *	
	19851.8	8.2			-0.1	2			MA8	1.0	11He10 *	
$^{100}\text{Cd-u}$	-79636	214	-79651.2	1.8	-0.1	U			CS1	1.0	96Ch32	
$^{100}\text{Cd}-^{85}\text{Rb}_{1.176}$	24084.1	1.8	24084.1	1.8	0.0	1	100	100	$^{100}\text{Cd}$	MA8	1.0	09Br09
$^{100}\text{In-u}$	-69405	322	-69040	200	1.1	1	37	37	$^{100}\text{In}$	CS1	1.0	96Ch32
$^{100}\text{Sn-u}$	-62020	1020	-61500	320	0.5	U			CS1	1.0	96Ch32	
$^{100}\text{Sr}-^{97}\text{Zr}_{1.031}$	27579	10			2				JY1	1.0	06Ha03	
$^{100}\text{Y}-^{97}\text{Zr}_{1.031}$	19524	12			2				JY1	1.0	07Ha32	
$^{100}\text{Y}^m-^{97}\text{Zr}_{1.031}$	19679	12			2				JY1	1.0	07Ha32	
$^{100}\text{Zr}-^{97}\text{Zr}_{1.031}$	9815	10	9810	9	-0.5	1	77	76	$^{100}\text{Zr}$	JY1	1.0	06Ha03
$^{100}\text{Nb}^m-^{97}\text{Zr}_{1.031}$	6472.6	2.1			2				JY1	1.0	07Ha32	
$^{100}\text{Mo}^{35}\text{Cl}-^{98}\text{Mo}^{37}\text{Cl}$	5019	2	5017.0	1.2	-0.2	U			H11	4.0	63Bi12	
$^{100}\text{Nb}-^{100}\text{Nb}^m$	-335.7	8.3			3				JY1	1.0	07Ha32	
$^{100}\text{Mo}-^{100}\text{Ru}$	3257.55	0.18	3257.53	0.18	-0.1	1	99	64	$^{100}\text{Ru}$	JY1	1.0	08Ra09
$^{100}\text{Ru}-^{99}\text{Ru}$	-1718	11	-1719.826	0.028	-0.1	U			M16	2.5	63Da10	
$^{96}\text{Ru}(^{16}\text{O}, ^{12}\text{C})^{100}\text{Pd}$	-5599	26	-5589	18	0.4	1	46	46	$^{100}\text{Pd}$	BNL		82Th01
$^{100}\text{Mo(d,}^3\text{He)}^{99}\text{Nb}$	-5639	15	-5653	12	-0.9	2			Tex			74Bi08
$^{100}\text{Mo(t,}\alpha^{99}\text{Nb}$	8642	20	8667	12	1.3	2			LAI			83Fl06
$^{100}\text{Mo(d,t)}^{99}\text{Mo}$	-2038	20	-2034.6	1.1	0.2	U			Pit			64Co11
$^{99}\text{Tc(n,}\gamma^{100}\text{Tc}$	6764.4	1.			2							79Pi08
	6765.20	0.04	6764.4	1.0	-20.0	C						04Fu.A
$^{99}\text{Ru(n,}\gamma^{100}\text{Ru}$	9673.2	0.7	9673.324	0.026	0.2	U						74Ri03
	9672.65	0.06			11.2	B			ILn			88Co18 Z
	9673.39	0.05			-1.3	-			MMn			91IIs02 Z
	9673.30	0.03			0.8	-			ILn			00Ge01
	9673.41	0.19			-0.5	U			Bdn			06Fi.A
ave.	9673.324	0.026			0.0	1	100	69	$^{99}\text{Ru}$			average
$^{100}\text{Sr}(\beta^-)^{100}\text{Y}$	7460	140	7503	15	0.3	U			McG			84Ia.A *
	7075	100			4.3	C			Bwg			87Gr.A
$^{100}\text{Y}(\beta^-)^{100}\text{Zr}$	7920	100	9049	14	11.3	C			McG			84Ia.A *
	9310	70			-3.7	C			Bwg			87Gr.A
$^{100}\text{Zr}(\beta^-)^{100}\text{Nb}$	3335	25	3421	11	3.5	C			Bwg			87Gr.A
$^{100}\text{Nb}(\beta^-)^{100}\text{Mo}$	6245	25	6386	8	5.6	C			Bwg			87Gr.A
$^{100}\text{Nb}^m(\beta^-)^{100}\text{Mo}$	6745	75	6698.8	3.0	-0.6	U			Bwg			87Gr.A
$^{100}\text{Mo(t,}^3\text{He)}^{100}\text{Nb}^m$	-6690	30	-6680.3	3.0	0.3	U			LAI			79Aj03
$^{100}\text{Rh}(\beta^+)^{100}\text{Ru}$	3630	20	3636	18	0.3	1	82	82	$^{100}\text{Rh}$			53Ma64
$^{100}\text{Ag}(\beta^+)^{100}\text{Pd}$	7075	90	7089	18	0.2	U						79Ve.A *
	7022	200			0.3	U						80Ha20 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{100}\text{Cd}(\beta^+)^{100}\text{Ag}$	3890	70	3943	5	0.8	U					89Ry02
$^{100}\text{In}(\beta^+)^{100}\text{Cd}$	10900	930	9880	180	-1.1	U			Lvp	95Sz01	*
	10080	230			-0.9	1	63	$^{63}\text{In}$		02Pl03	
$^{100}\text{Sn}(\beta^+)^{100}\text{In}$	7390	660	7030	240	-0.5	o			GSI	97Su06	*
	7840	660			-1.2	o			GSI	02Fa13	*
	7030	240				2			GSI	12Hi07	*
* $^{100}\text{Y-u}$	M-A=-67245(93) keV for mixture gs+m at 144(16) keV										
* $^{100}\text{Y-u}$	M-A=-67264(119) keV for mixture gs+m at 144(16) keV										
* $^{100}\text{Rh-u}$	M-A=-85508(29) keV for mixture gs+m at 107.6 keV										
* $^{100}\text{Ag}-^{85}\text{Rb}_{1.176}$	$D_M=19858.2(5.2) \mu\text{u}$ for mixture gs+m at 15.52 keV; M-A=-78131.0(4.9) keV										
* $^{100}\text{Ag}-^{85}\text{Rb}_{1.176}$	$D_M=19860.2(6.6) \mu\text{u}$ for mixture gs+m at 15.52 keV; M-A=-78129.1(6.2) keV										
* $^{100}\text{Sr}(\beta^-)^{100}\text{Y}$	$E_{\beta^-}=7450(140)$ assumed by evaluator to $1^+$ level at 10.70 keV										
* $^{100}\text{Y}(\beta^-)^{100}\text{Zr}$	Not unambiguously ground state transition										
* $^{100}\text{Ag}(\beta^+)^{100}\text{Pd}$	From $5^+$ ground state to high spin level at 2920.4 keV										
* $^{100}\text{Ag}(\beta^+)^{100}\text{Pd}$	$E_{\beta^+}=5350(200)$ from $^{100}\text{Ag}^m 2^+$ at 15.52 to $2^+$ level at 665.50 keV										
* $^{100}\text{In}(\beta^+)^{100}\text{Cd}$	From lower and upper limits 9300–12500										
* $^{100}\text{Sn}(\beta^+)^{100}\text{In}$	$Q_{\beta^+}=7200(+800-500)$ ; also $E_{\beta^+}=3400(+700-300)$ keV										
* $^{100}\text{Sn}(\beta^+)^{100}\text{In}$	$E_{\beta^+}=3800(+700-300)$ to 2760(430) level										
* $^{100}\text{Sn}(\beta^+)^{100}\text{In}$	$E_{\beta^+}=3290(200)$ to $1^+$ level at 2721+x, with x<80 keV										
$^{101}\text{Zr-u}$	-78573	20	-78552	9	1.0	1	21	$^{21}\text{Zr}$	JY0	1.0	04Ri12
$\text{C}_8\text{H}_5-^{101}\text{Ru}$	133549.5	2.2	133548.3	1.2	-0.2	U			M16	2.5	63Da10
$^{101}\text{Rh-u}$	-93821	58	-93839	6	-0.3	U			GS2	1.0	05Li24
$^{101}\text{Pd-u}$	-91816	30	-91714	5	3.4	C			GS2	1.0	05Li24
$^{101}\text{Ag}-^{85}\text{Rb}_{1.188}$	17470.5	7.2	17478	5	1.0	2			SH1	1.0	07Ma92
	17485.6	7.5			-1.0	2			MA8	1.0	11He10
$^{101}\text{Cd}-^{85}\text{Rb}_{1.188}$	23367	11	23380.0	1.6	1.2	U			SH1	1.0	07Ma92
	23380.0	1.6				2			MA8	1.0	09Br09
$^{101}\text{Pd}-^{96}\text{Mo}_{1.052}$	8567.4	5.1	8567	5	-0.1	1	93	$^{93}\text{Pd}$	JY1	1.0	09El08
$^{101}\text{Cd}-^{96}\text{Mo}_{1.052}$	18872.7	5.5	18866.9	1.7	-1.0	U			JY1	1.0	09El08
$^{101}\text{Y}-^{97}\text{Zr}_{1.041}$	22847.5	7.6				2			JY1	1.0	07Ha32
$^{101}\text{Zr}-^{97}\text{Zr}_{1.041}$	14153	10	14148	9	-0.5	1	80	$^{79}\text{Zr}$	JY1	1.0	06Ha03
$^{101}\text{Nb}-^{102}\text{Ru}_{.990}$	10009.6	4.0				2			JY1	1.0	07Ha32
$^{101}\text{Ru}-^{100}\text{Ru}$	1368	11	1362.62	0.25	-0.2	U			M16	2.5	63Da10
$^{100}\text{Mo}(\text{n},\gamma)^{101}\text{Mo}$	5398.4	0.5	5398.24	0.07	-0.3	U			ILn	75Ka.A	
	5399.6	0.7			-1.9	U			ORn	79We07	Z
	5398.23	0.08			0.1	2			ILn	90Se17	Z
	5398.27	0.13			-0.2	2			Bdn	06Fi.A	
$^{100}\text{Mo}(\text{d,p})^{101}\text{Mo}$	3161	6	3173.68	0.07	2.1	U				72Si25	
$^{100}\text{Ru}(\text{n},\gamma)^{101}\text{Ru}$	6802.0	0.7	6802.05	0.24	0.1	—				82Ba69	
	6802.04	0.25			0.0	—			Bdn	06Fi.A	
$^{100}\text{Ru}(\text{d,p})^{101}\text{Ru}$	4581	4	4577.48	0.24	-0.9	U				77Ho02	
$^{100}\text{Ru}(\text{n},\gamma)^{101}\text{Ru}$	ave.	6802.04	0.24	6802.05	0.24	0.1	1	100	$^{95}\text{Ru}$	average	
$^{101}\text{Sn}(\epsilon\text{p})^{100}\text{Cd}$	6600	300				2				10St.A	
$^{101}\text{Rb}(\beta^-)^{101}\text{Sr}$	11810	110	12750#	200#	8.5	D			Bwg	92Ba28	*
$^{101}\text{Sr}(\beta^-)^{101}\text{Y}$	9505	80				3			Bwg	92Ba28	
$^{101}\text{Y}(\beta^-)^{101}\text{Zr}$	8545	90	8104	11	-4.9	B			Bwg	92Ba28	
$^{101}\text{Zr}(\beta^-)^{101}\text{Nb}$	5520	45	5717	9	4.4	B			Bwg	87Gr18	
	5485	25			9.3	C			Bwg	92Gr.A	
$^{101}\text{Nb}(\beta^-)^{101}\text{Mo}$	4575	30	4628	4	1.8	U			Bwg	87Gr.A	
	4590	30			1.3	U			Bwg	87Gr18	
	4569	18			3.3	C			Bwg	92Gr.A	
$^{101}\text{Mo}(\beta^-)^{101}\text{Tc}$	2836	40	2825	24	-0.3	R				57Ok.A	*
$^{101}\text{Tc}(\beta^-)^{101}\text{Ru}$	1620	30	1614	24	-0.2	2				71Ar23	*
$^{101}\text{Pd}(\beta^+)^{101}\text{Rh}$	1980	4	1980	4	0.0	1	95	$^{88}\text{Rh}$		71Ib01	*
$^{101}\text{Ag}(\beta^+)^{101}\text{Pd}$	4100	200	4096	7	0.0	U				72We.A	
	4350	200			-1.3	U				78Ha11	
	4180	150			-0.6	U				79Ve.A	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{101}\text{Cd}(\beta^+)^{101}\text{Ag}$	5530	130	5498	5	-0.2	U				70Be.A	*		
	5350	200			0.7	U				72We.A			
* $^{101}\text{Rh-u}$	M-A=-87315(29) keV for mixture gs+m at 157.32 keV									Nub127	**		
* $^{101}\text{Rb}(\beta^-)^{101}\text{Sr}$	Trends from Mass Surface TMS suggest $^{101}\text{Rb}$ 940 less bound									GAu	**		
* $^{101}\text{Mo}(\beta^-)^{101}\text{Tc}$	$E_{\beta^-}=2230(40)$ to $(1/2^+, 3/2^+)$ level at 606.47 keV									Ens06a	**		
* $^{101}\text{Tc}(\beta^-)^{101}\text{Ru}$	$E_{\beta^-}=1320(30)$ to 306.858 $7/2^+$ and 1070(30) to 545.115 $7/2^+$ levels									Ens06a	**		
* $^{101}\text{Pd}(\beta^+)^{101}\text{Rh}$	$E_{\beta^+}=776(4)$ to $7/2^+$ level at 181.78 keV									Ens06a	**		
* $^{101}\text{Ag}(\beta^+)^{101}\text{Pd}$	$E_{\beta^+}=2895(150)$ to $7/2^+$ level at 261.0 keV, and others									Ens06a	**		
* $^{101}\text{Cd}(\beta^+)^{101}\text{Ag}$	Measured $E_{\beta^+}$ may go to excited state									70Be.A	**		
$^{102}\text{Y}-^{120}\text{Sn}_{,850}$	17456.3	4.3								JY1	1.0	11Ha48	*
$^{102}\text{Zr-u}$	-76780	43	-76859	10	-1.8	U				JY0	1.0	04Ri12	
$\text{C}_8\text{H}_6-^{102}\text{Ru}$	142604.8	3.2	142606.1	1.2	0.2	U				M16	2.5	63Da10	
$\text{C}_8\text{H}_6-^{102}\text{Pd}$	141324	19	141348.0	2.8	0.5	U				M16	2.5	63Da10	
	141346	18			0.1	U				R12	1.5	83De51	
$\text{C}_7\text{N H}_4-^{102}\text{Pd}$	128775	19	128771.9	2.8	-0.1	U				R12	1.5	83De51	
$^{102}\text{Ag-u}$	-88315	30	-88295	9	0.7	U				GS2	1.0	05Li24	*
$^{102}\text{Cd}-^{85}\text{Rb}_{,200}$	20320.9	7.3	20334.3	1.8	1.8	U				SH1	1.0	07Ma92	
	20334.2	1.9			0.0	1	88	88 $^{102}\text{Cd}$		MA8	1.0	09Br09	
$^{102}\text{In}-^{85}\text{Rb}_{,200}$	29959	13	29959	5	0.0	1	14	14 $^{102}\text{In}$		SH1	1.0	07Ma92	
$^{102}\text{Cd}-^{96}\text{Mo}_{,063}$	15811.9	5.2	15811.3	1.8	-0.1	1	13	12 $^{102}\text{Cd}$		JY1	1.0	09El08	
$^{102}\text{In}-^{96}\text{Mo}_{,063}$	25436.5	5.3	25436	5	0.0	1	86	86 $^{102}\text{In}$		JY1	1.0	09El08	
$^{102}\text{Zr}-^{97}\text{Zr}_{,052}$	16822.0	9.8	16820	9	-0.2	1	92	92 $^{102}\text{Zr}$		JY1	1.0	06Ha03	
$^{102}\text{Nb}-^{97}\text{Zr}_{,052}$	11756.4	2.7	11756.5	2.7	0.0	1	99	99 $^{102}\text{Nb}$		JY1	1.0	07Ha32	
$^{102}\text{Mo}-^{97}\text{Zr}_{,052}$	3961.0	9.8	3963	9	0.2	1	83	82 $^{102}\text{Mo}$		JY1	1.0	06Ha03	
$^{102}\text{Nb}^m-^{102}\text{Nb}$	100.2	7.9	101	8	0.1	1	95	94 $^{102}\text{Nb}^m$		JY1	1.0	07Ha32	
$^{102}\text{Pd}-^{102}\text{Ru}$	1291.76	0.39	1258.1	2.6	-86.3	B				SH1	1.0	11Go23	*
$^{102}\text{Ru}-^{101}\text{Ru}$	-1233	11	-1232.78	0.05	0.0	U				M16	2.5	63Da10	
$^{100}\text{Mo(p)}^{102}\text{Mo}$	5034	20	5042	9	0.4	1	18	18 $^{102}\text{Mo}$		LAI		72Ca10	
$^{100}\text{Mo(^3He,p)}^{102}\text{Tc}$	6054	20	6023	9	-1.5	1	21	21 $^{102}\text{Tc}$		Pri		82De03	
$^{102}\text{Pd(p,t)}^{100}\text{Pd}$	-10356	24	-10365	18	-0.4	1	54	54 $^{100}\text{Pd}$		Win		74De31	*
$^{101}\text{Ru(n,}\gamma^{102}\text{Ru}$	9220.4	0.9	9219.64	0.05	-0.8	U				74Ri03			
	9219.64	0.05			0.0	1	100	95 $^{102}\text{Ru}$		MMn		91Is02	Z
	9219.63	0.19			0.1	U				Bdn		06Fi.A	
$^{102}\text{In}(\epsilon p)^{101}\text{Ag}$	3420	310	3352	7	-0.2	o				Lvp		91Re.A	*
$^{102}\text{Sr}(\beta^-)^{102}\text{Y}$	8815	70					3			Bwg		92Ba28	
$^{102}\text{Y}(\beta^-)^{102}\text{Zr}$	9850	70	10420	10	8.1	B				Bwg		92Ba28	
$^{102}\text{Zr}(\beta^-)^{102}\text{Nb}^m$	4605	30	4622	11	0.6	1	14	8 $^{102}\text{Zr}$		Bwg		87Gr18	
$^{102}\text{Nb}(\beta^-)^{102}\text{Mo}$	7300	50	7260	9	-0.8	o				Bwg		87Gr.A	
	7335	40			-1.9	U				Bwg		87Gr18	
$^{102}\text{Nb}^m(\beta^-)^{102}\text{Mo}$	7215	40	7354	11	3.5	C				Bwg		87Gr.A	
	7210	35			4.1	B				Bwg		87Gr18	
$^{102}\text{Tc}(\beta^-)^{102}\text{Ru}$	4420	100	4532	9	1.1	U						69Bi16	
$^{102}\text{Rh}(\beta^+)^{102}\text{Ru}$	2317	10	2322	5	0.5	-						61Hi06	
	2325	10			-0.3	-						63Bo17	
$^{102}\text{Ru(p,n)}^{102}\text{Rh}$	-3115	15	-3105	5	0.7	-						83Do11	
$^{102}\text{Rh}(\beta^+)^{102}\text{Ru}$	ave.	2323	6	2322	5	-0.1	1	51	51 $^{102}\text{Rh}$			average	
$^{102}\text{Rh}(\beta^-)^{102}\text{Pd}$	1150	6	1151	5	0.1	1	57	49 $^{102}\text{Rh}$				61Hi06	
$^{102}\text{Ag}(\beta^+)^{102}\text{Pd}$	5800	200	5684	9	-0.6	U						67Ch05	
	5966	100			-2.8	U						67Ch05	*
	4910	140			5.5	C						70Be.A	*
	5350	200			1.7	U						72We.A	
	5880	110			-1.8	U						79Ve.A	
$^{102}\text{Cd}(\beta^+)^{102}\text{Ag}$	2554	57	2587	8	0.6	U						72We.A	
	2587	8			2					GSI		91Ke08	*
$^{102}\text{In}(\beta^+)^{102}\text{Cd}$	9250	380	8966	5	-0.7	U				Lvp		95Sz01	*
	8970	150			0.0	U				GSI		98Ka.A	
	8910	170			0.3	U				GSI		03Gi06	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{102}\text{Sn}(\beta^+)^{102}\text{In}$	5780	70	5760	100	-0.3	o		GSI	01St.A		
	5760	100				2		GSI	02Fa13		
* $^{102}\text{Y}-^{120}\text{Sn}_{.850}$	Associated with low-spin isomer M-A=-82260(28) keV for mixture gs+m at 9.40(0.07) keV										
* $^{102}\text{Ag-u}$	10 $\sigma$ away from other data! (see text)										
* $^{102}\text{Pd}-^{102}\text{Ru}$	Original error 12; added systematic error 21 keV										
* $^{102}\text{Pd}(\text{p},\text{t})^{100}\text{Pd}$	Estimated using proton spectrum from 1450 to 3200 keV										
* $^{102}\text{In}(\epsilon\text{p})^{101}\text{Ag}$	$E_{\beta^+}=3340(100)$ , 3070(130) from $^{102}\text{Ag}^m$ at 9.40 to 1534.48, 2017.8 levels										
* $^{102}\text{Ag}(\beta^+)^{102}\text{Pd}$	$E_{\beta^+}=3340(100)$ , 3070(130) from $^{102}\text{Ag}^m$ at 9.40 to 1534.48, 2017.8 levels										
* $^{102}\text{Ag}(\beta^+)^{102}\text{Pd}$	$Q_{\beta^+}=4920(100)$ from $^{102}\text{Ag}^m$ at 9.40(0.07) keV										
* $^{102}\text{Cd}(\beta^+)^{102}\text{Ag}$	$E_{\beta^+}=1075(8)$ to 1 <sup>+</sup> level at 490.44 keV										
* $^{102}\text{In}(\beta^+)^{102}\text{Cd}$	From 9900 keV upper and 8600 keV lower limits										
* $^{102}\text{In}(\beta^+)^{102}\text{Cd}$	Good agreement with authors' earlier measurement, average=8950(120) keV										
$^{103}\text{Y-u}$	-63060	183	-62757	12	1.1	o		GT1	1.5	04Ma.A	
	-62803	106			0.3	U		GT2	1.5	08Kn.A	
$^{103}\text{Y}-^{120}\text{Sn}_{.858}$	21154	12			2			JY1	1.0	11Ha48	**
$^{103}\text{Zr-u}$	-72765	64	-72809	10	-0.7	U		JY0	1.0	04Ri12	
$\text{C}_8\text{H}_7-^{103}\text{Rh}$	149263.5	3.3	149277.2	2.6	1.7	U		M16	2.5	63Da10	
	149261	19			0.6	U		R12	1.5	83De51	
$\text{C}_7\text{N H}_5-^{103}\text{Rh}$	136681	18	136701.2	2.6	0.7	U		R12	1.5	83De51	
$^{103}\text{Ag-u}$	-91091	52	-91037	4	1.0	U		GS2	1.0	05Li24	*
$^{103}\text{Ag}-^{85}\text{Rb}_{1.212}$	15875	14	15874	4	-0.1	U		SH1	1.0	07Ma92	
	15871.4	4.4			0.6	1	88	88 $^{103}\text{Ag}$	MA8	1.0	11He10
$^{103}\text{Cd}-^{85}\text{Rb}_{1.212}$	20328	11	20327.4	1.9	-0.1	U		SH1	1.0	07Ma92	
	20328.2	2.1			-0.4	1	84	84 $^{103}\text{Cd}$	MA8	1.0	09Br09
$^{103}\text{In}-^{85}\text{Rb}_{1.212}$	26785	11	26793	10	0.7	1	79	79 $^{103}\text{In}$	SH1	1.0	07Ma92
$^{103}\text{Cd}-^{96}\text{Mo}_{1.073}$	15699.2	5.2	15699.0	2.0	0.0	1	14	13 $^{103}\text{Cd}$	JY1	1.0	09El08
$^{103}\text{Zr}-^{97}\text{Zr}_{1.062}$	21760.5	9.9			2			JY1	1.0	06Ha03	
$^{103}\text{Mo}-^{97}\text{Zr}_{1.062}$	7648.4	9.9			2			JY1	1.0	06Ha03	
$^{103}\text{Nb}-^{102}\text{Ru}_{1.010}$	16069.7	4.2			2			JY1	1.0	07Ha32	
$^{103}\text{Cd}-^{102}\text{Cd}$	-1534	154	-1065.5	2.6	2.0	U		CR2	1.5	92Sh.A	*
$^{103}\text{Rh}(\text{p},\text{t})^{101}\text{Rh}$	-8275	17	-8278	6	-0.2	1	13	12 $^{101}\text{Rh}$	Pri	64Th05	
$^{102}\text{Ru}(\text{n},\gamma)^{103}\text{Ru}$	6232.2	0.3	6232.05	0.15	-0.5	-		Bdn	82Ba69	Z	
	6232.00	0.17			0.3	-			06Fi.A		
$^{102}\text{Ru}(\text{d},\text{p})^{103}\text{Ru}$	4005	15	4007.49	0.15	0.2	U		ANL	71Fo01		
$^{102}\text{Ru}(\text{n},\gamma)^{103}\text{Ru}$	ave.	6232.05	0.15	6232.05	0.15	0.0	1	100	95 $^{103}\text{Ru}$	average	
$^{103}\text{Rh}(\text{y},\text{n})^{102}\text{Rh}$	-9307	32	-9319	5	-0.4	U		Phi	60Ge01		
$^{103}\text{Rh}(\text{p},\text{d})^{102}\text{Rh}$	-7144	16	-7094	5	3.1	B		Pri	64Th05		
$^{102}\text{Pd}(\text{n},\gamma)^{103}\text{Pd}$	7624.6	1.5	7625.4	0.8	0.5	-		Bdn	70Bo29		
	7625.6	0.9			-0.3	-			06Fi.A		
	ave.	7625.3	0.8		0.0	1	99	92 $^{102}\text{Pd}$	average		
$^{103}\text{Zr}(\beta^-)^{103}\text{Nb}$	6945	85	7204	10	3.0	U		Bwg	87Gr18		
$^{103}\text{Nb}(\beta^-)^{103}\text{Mo}$	5535	35	5942	10	11.6	C		Bwg	87Gr.A		
	5530	30			13.7	B		Bwg	87Gr18		
$^{103}\text{Mo}(\beta^-)^{103}\text{Tc}$	3750	60	3635	14	-1.9	U		Bwg	87Gr18		
$^{103}\text{Tc}(\beta^-)^{103}\text{Ru}$	2615	45	2662	10	1.0	U		Bwg	87Gr.A		
$^{103}\text{Ru}(\beta^-)^{103}\text{Rh}$	764	4	764.4	2.2	0.1	-			58Ro09	*	
	760	6			0.7	-			65Mu09	*	
	762	5			0.5	-			70Pe04	*	
	769	4			-1.1	-			82Oh04		
	ave.	764.6	2.3		-0.1	1	92	92 $^{103}\text{Rh}$	average		
$^{103}\text{Pd}(\epsilon)^{103}\text{Rh}$	564	20	543.0	0.8	-1.0	U			54Ri09	*	
	543.0	0.8			0.0	1	99	93 $^{103}\text{Pd}$	86Be53		
$^{103}\text{Ag}(\beta^+)^{103}\text{Pd}$	2580	100	2685	5	1.0	U			62Pa05	*	
	2700	100			-0.2	U			66Ja12		
	2320	50			7.3	B			69Ba02		
	2622	27			2.3	U		Dlf	88Bo28		
$^{103}\text{Cd}(\beta^+)^{103}\text{Ag}$	4200	130	4148	4	-0.4	U			70Be.A		
	4250	200			-0.5	U			72We.A		
	4131	11			1.6	1	14	12 $^{103}\text{Ag}$	Dlf	88Bo28	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{103}\text{In}(\beta^+)^{103}\text{Cd}$	5380	200	6022	9	3.2	B			Brk	83Wo04	*
	6050	20		-1.4	1	21	21	$^{103}\text{In}$	Dlf	88Bo28	*
	6040	60		-0.3	U					98Ka42	
$^{103}\text{Sn}(\beta^+)^{103}\text{In}$	7500	600	7660	70	0.3	o			GSI	04Mu32	
	7660	70		2					GSI	05Ka34	*
* $^{103}\text{Ag-u}$	M-A=-84784(29) keV for mixture gs+m at 134.45 keV										
* $^{103}\text{Cd}-^{102}\text{Cd}$	From $^{102}\text{Cd}/^{103}\text{Cd}=0.99029800(150)$										
* $^{103}\text{Ru}(\beta^-)^{103}\text{Rh}$	$E_{\beta^-}=227(4)$ to $5/2^+$ level at 536.840 keV, and other $E_{\beta^-}$										
* $^{103}\text{Ru}(\beta^-)^{103}\text{Rh}$	$E_{\beta^-}=112(6)$ to $5/2^+$ level at 650.064 keV, and other $E_{\beta^-}$										
* $^{103}\text{Ru}(\beta^-)^{103}\text{Rh}$	$E_{\beta^-}=225(5)$ to $5/2^+$ level at 536.840 keV, and other $E_{\beta^-}$										
* $^{103}\text{Pd}(\varepsilon)^{103}\text{Rh}$	IBE=500(20) to $^{103}\text{Rh}^m$ $7/2^+$ at 39.753 keV										
* $^{103}\text{Ag}(\beta^+)^{103}\text{Pd}$	$E_{\beta^+}=1290(100)$ to $5/2^+$ level at 266.861 keV, and other $E_{\beta^+}$										
* $^{103}\text{In}(\beta^+)^{103}\text{Cd}$	$E_{\beta^+}=4170(200)$ 4833(20) respectively, to $7/2^+$ level 187.89 keV										
* $^{103}\text{Sn}(\beta^+)^{103}\text{In}$	Original 7640(70) recalibrated										
$^{104}\text{Zr-u}$	-70661	54	-70564	10	1.8	U			JY0	1.0	04Ri12
$^{104}\text{Nb-u}$	-77460	140	-77108	4	1.7	U			GT2	1.5	08Kn.A
$\text{C}_8\text{H}_8-^{104}\text{Ru}$	157171.5	3.4	157172.8	2.8	0.2	1	11	$^{104}\text{Ru}$	M16	2.5	63Da10
$\text{C}_8\text{H}_8-^{104}\text{Pd}$	158612	10	158569.7	1.4	-1.7	U			M16	2.5	63Da10
	158599	12		-1.6	U				R12	1.5	83De51
$\text{C}_7\text{N H}_6-^{104}\text{Pd}$	146013	8	145993.7	1.4	-1.6	U			R12	1.5	83De51
$\text{C}_6^{13}\text{C N H}_5-^{104}\text{Pd}$	141552	20	141523.5	1.4	-1.0	U			R12	1.5	83De51
$^{104}\text{Pd-u}$	-95938	30	-95969.5	1.4	-1.0	U			GS2	1.0	05Li24
$^{104}\text{Ag-u}$	-91410	30	-91376	5	1.1	U			GS2	1.0	05Li24
$^{104}\text{Cd-u}$	-90147	30	-90143.6	1.8	0.1	U			GS2	1.0	05Li24
$^{104}\text{Cd}-^{85}\text{Rb}_{1.224}$	17813.7	5.5	17825.7	1.8	2.2	U			SH1	1.0	07Ma92
	17825.5	1.9		0.1	1	89		$^{104}\text{Cd}$	MA8	1.0	09Br09
$^{104}\text{In}-^{85}\text{Rb}_{1.224}$	26183.9	6.2		2					SH1	1.0	07Ma92
	26140.3	29.6	26184	6	1.5	U			JY1	1.0	09El08
$^{104}\text{Sn}-^{87}\text{Rb}_{1.195}$	31636.9	6.4	31634	6	-0.4	1	93	$^{104}\text{Sn}$	JY1	1.0	09El07
$^{104}\text{Cd}-^{96}\text{Mo}_{1.083}$	13094.2	5.5	13092.1	1.9	-0.4	1	11	$^{104}\text{Cd}$	JY1	1.0	09El08
$^{104}\text{Zr}-^{97}\text{Zr}_{1.072}$	24896	10		2					JY1	1.0	06Ha03
$^{104}\text{Nb}-^{97}\text{Zr}_{1.072}$	18352.8	2.9		2					JY1	1.0	07Ha32
$^{104}\text{Mo}-^{97}\text{Zr}_{1.072}$	9194.0	9.7	9195	10	0.1	1	97	$^{104}\text{Mo}$	JY1	1.0	06Ha03
$^{104}\text{In}-^{103}\text{In}$	-1241	231	-1667	12	-1.2	U			CR2	1.5	91Sh19
$^{104}\text{Pd}-^{102}\text{Pd}$	-1617	30	-1572	3	1.0	U			R12	1.5	83De51
$^{104}\text{Ru(d,}\alpha^{102}\text{Tc}$	7180	10	7188	9	0.8	1	80	$^{102}\text{Tc}$	Pri		82De03
$^{102}\text{Ru(t,p)}^{104}\text{Ru}$	6648	30	6651.7	2.5	0.1	U			LAL		72Ca10
$^{104}\text{Ru(d,}^{3}\text{He})^{103}\text{Tc}$	-5289	10	-5287	9	0.2	2			VUn		83De20
$^{104}\text{Ru(t,}\alpha^{103}\text{Tc}$	9048	30	9033	9	-0.5	2			LAL		81Fl02
$^{104}\text{Ru(d,t)}^{103}\text{Ru}-^{148}\text{Gd}(\cdot)^{147}\text{Gd}$	85	3	82.6	2.4	-0.8	1	66	$^{104}\text{Ru}$	Jul		86Ru04
$^{103}\text{Rh(n,}\gamma^{104}\text{Rh}$	6998.96	0.10	6998.96	0.08	0.0	2			MMn		81Ke03
	6998.95	0.14		0.0	2				Bdn		Z
$^{103}\text{Rh(d,p)}^{104}\text{Rh}$	4786	10	4774.39	0.08	-1.2	U			MIT		64Sp12
$^{104}\text{Pd(d,t)}^{103}\text{Pd}$	-3762	25	-3724.0	2.9	1.5	U			Pit		64Co11
$^{104}\text{Sb(p)}^{103}\text{Sn}$	510	100		3							94Pa12
$^{104}\text{Nb}^m(\text{IT})^{104}\text{Nb}$	215	120		3					Bwg		87Gr18
$^{104}\text{Nb}(\beta^-)^{104}\text{Mo}$	8105	90	8531	9	4.7	B			Bwg		87Gr18
$^{104}\text{Nb}^m(\beta^-)^{104}\text{Mo}$	8320	80	8750	120	5.3	B			Bwg		87Gr18
$^{104}\text{Mo}(\beta^-)^{104}\text{Tc}$	4800	200	2151	24	-13.2	B					64Te02
	2155	40		-0.1					Bwg		87Gr18
	2160	40		-0.2					Jyv		94Jo.A
ave.	2158	28		-0.2	1	73		$^{104}\text{Tc}$			average
$^{104}\text{Tc}(\beta^-)^{104}\text{Ru}$	5620	70	5587	25	-0.5	-					78Su03
	5590	60		-0.1	-				Bwg		87Gr18
ave.	5600	50		-0.4	1	30		$^{104}\text{Tc}$			average
$^{104}\text{Rh}(\beta^-)^{104}\text{Pd}$	2440	30	2439.3	2.8	0.0	U					55Bu.A
$^{104}\text{Ag}(\beta^+)^{104}\text{Pd}$	4276	15	4279	4	0.2	U					60Nu02
	4350	200		-0.4	U						72We.A
	4306	24		-1.1	U				Dlf		88Bo28

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{104}\text{Pd}(\text{p},\text{n})^{104}\text{Ag}$	-5061	4				3					79De44
$^{104}\text{Cd}(\beta^+)^{104}\text{Ag}$	1587	60	1148	5	-7.3	B					70Mu17 *
	1403	26			-9.8	B					79Pl06 *
$^{104}\text{In}(\beta^+)^{104}\text{Cd}$	7100	200	7786	6	3.4	B			GSI		78Hu06 *
	7260	250			2.1	U			Brk		83Wo04 *
	7800	250			-0.1	U			Dlf		88Bo28
	7890	120			-0.9	U			Dlf		90Re08
	7880	100			-0.9	U			GSI		98Ka.A
$^{104}\text{Sn}(\beta^+)^{104}\text{In}$	4550	300	4556	8	0.0	U					88Ba10 *
	4515	60			0.7	U			GSI		91Ke11
* $^{104}\text{Nb-u}$	$D_M=-77350(100) \mu\text{u}$ for mixture gs+m at 210(120); M-A=-72051(93) keV										
* $^{104}\text{Ag-u}$	$M-A=-85144(28) \text{ keV}$ for mixture gs+m at 6.90 keV										
* $^{104}\text{In}-^{85}\text{Rb}_{1.224}$	$D_M=26190.5(5.5) \mu\text{u}$ for mixture gs+m at 93.48 keV; M-A=-76176.5(5.1) keV										
* $^{104}\text{Nb}-^{97}\text{Zr}_{1.072}$	Only long-lived state is measured										
* $^{104}\text{In}-^{103}\text{In}$	From $^{103}\text{In}/^{104}\text{In}=0.99038900(222)$										
* $^{104}\text{Ru}(\text{d},\text{t})^{103}\text{Ru}-^{148}\text{Gd}$	$Q=82(3)$ to $5/2^+$ level at 2.81 keV										
* $^{104}\text{Sb}(\text{p})^{103}\text{Sn}$	Below 550 keV; value and error estimated by evaluator										
* $^{104}\text{Nb}^m(\text{IT})^{104}\text{Nb}$	From difference in $Q_{\beta^-}$										
* $^{104}\text{Nb}^m(\beta^+)^{104}\text{Mo}$	Better use the difference of the two $Q_{\beta^-}$ 's										
* $^{104}\text{Ag}(\beta^+)^{104}\text{Pd}$	$E_{\beta^+}=2705(15)$ from $^{104}\text{Ag}^m$ at 6.90 to $2^+$ level at 555.81 keV										
* $^{104}\text{Ag}(\beta^+)^{104}\text{Pd}$	$E_{\beta^+}=2012(71)$ to $4^+$ level at 1323.59 keV										
*	and $E_{\beta^+}=2729(24)$ from $^{104}\text{Ag}^m$ at 6.90 to $2^+$ level at 555.81 keV										
* $^{104}\text{Cd}(\beta^+)^{104}\text{Ag}$	$p^+=0.011(0.003)$ 0.0019(0.0005) respectively, to $1^+$ level at 90.6 keV; recalculated $E_{\beta^+}$										
* $^{104}\text{In}(\beta^+)^{104}\text{Cd}$	$E_{\beta^+}=4600(200)$ 4750(250) respectively, to $4^+$ level at 1492.1 keV										
* $^{104}\text{Sn}(\beta^+)^{104}\text{In}$	$p^+=0.71(0.07)$ to 1139.25 level										
$^{105}\text{Rh-u}$	-94378	53	-94311.5	2.7	1.3	U			GS2	1.0	05Li24 *
C <sub>8</sub> H <sub>9</sub> - $^{105}\text{Pd}$	165357	14	165345.7	1.2	-0.3	U			M16	2.5	63Da10
	165360	9			-1.1	U			R12	1.5	83De51
C <sub>7</sub> NH <sub>7</sub> - $^{105}\text{Pd}$	152773	18	152769.6	1.2	-0.1	U			R12	1.5	83De51
C <sub>6</sub> <sup>13</sup> CH <sub>6</sub> - $^{105}\text{Pd}$	148309	26	148299.4	1.2	-0.2	U			R12	1.5	83De51
C <sub>7</sub> O <sub>5</sub> H <sub>5</sub> - $^{105}\text{Pd}$	128970	18	128960.2	1.2	-0.4	U			R12	1.5	83De51
$^{105}\text{Ag-u}$	-93534	31	-93474	5	1.9	U			GS2	1.0	05Li24 *
$^{105}\text{Cd}-^{96}\text{Mo}_{1.094}$	13748.5	5.4	13748.2	1.6	-0.1	U			JY1	1.0	09El08
$^{105}\text{Cd}-^{85}\text{Rb}_{1.235}$	18403.4	1.5	18403.6	1.5	0.1	1	99	99 $^{105}\text{Cd}$	MA8	1.0	09Br09
$^{105}\text{In}-^{85}\text{Rb}_{1.235}$	23442	11			2				SH1	1.0	07Ma92
$^{105}\text{Sn}-^{85}\text{Rb}_{1.235}$	30204.1	7.1	30208	4	0.6	1	36	36 $^{105}\text{Sn}$	SH1	1.0	07Ma92
$^{105}\text{Sn}-^{87}\text{Rb}_{1.207}$	30890.0	5.6	30888	4	-0.4	1	58	58 $^{105}\text{Sn}$	JY1	1.0	09El07
$^{105}\text{Zr}-^{97}\text{Zr}_{1.082}$	30359	13			2				JY1	1.0	06Ha03
$^{105}\text{Mo}-^{97}\text{Zr}_{1.082}$	13319.4	9.8	13319	10	0.0	1	98	98 $^{105}\text{Mo}$	JY1	1.0	06Ha03
$^{105}\text{Nb}-^{102}\text{Ru}_{1.029}$	23376.4	4.3			2				JY1	1.0	07Ha32
$^{105}\text{Pd}-^{104}\text{Pd}$	1049	35	1049.1	0.8	0.0	U			R12	1.5	83De51
$^{105}\text{In}-^{104}\text{In}$	-3618	144	-3712	13	-0.4	U			CR2	1.5	91Sh19 *
$^{105}\text{Te}(\alpha)^{101}\text{Sn}$	5079	50	5069	3	-0.2	U					06Se08 *
	5061.1	5.			1.6	o					06Li41 *
	5069.2	3.			3						10Da17 *
$^{104}\text{Ru}(\text{n},\gamma)^{105}\text{Ru}$	5909.9	0.5	5910.10	0.11	0.4	-					74Hr01
	5910.1	0.2			0.0	-					78Gu14
	5910.11	0.14			-0.1	-			Bdn		06Fi.A
$^{104}\text{Ru}(\text{d},\text{p})^{105}\text{Ru}$	3684	15	3685.53	0.11	0.1	U			ANL		71Fo01
	3684.5	1.0			1.0	U			Mun		76Ma49
$^{104}\text{Ru}(\text{n},\gamma)^{105}\text{Ru}$	ave.	5910.10	0.11	5910.10	0.11	0.0	1	100	67 $^{105}\text{Ru}$		average
$^{104}\text{Pd}(\text{n},\gamma)^{105}\text{Pd}$	7094.1	0.7			2						70Bo29
$^{104}\text{Pd}(\text{d},\text{p})^{105}\text{Pd}$	4867	20	4869.5	0.7	0.1	U			Pit		64Co11
$^{105}\text{Pd}(\text{d},\text{t})^{104}\text{Pd}$	-851	30	-836.9	0.7	0.5	U			Pit		64Co11
$^{105}\text{Sb}(\text{p})^{104}\text{Sn}$	482.6	15.	322	22	-10.7	F			Bkp		94Ti03 *
$^{105}\text{Nb}(\beta^-)^{105}\text{Mo}$	6485	70	7431	10	13.5	B			Bwg		87Gr18
$^{105}\text{Mo}(\beta^-)^{105}\text{Tc}$	4950	45	4950	40	0.0	1	61	59 $^{105}\text{Tc}$	Bwg		87Gr18

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{105}\text{Tc}(\beta^-)^{105}\text{Ru}$	3640	55	3640	40	0.0	1	41	$41\ ^{105}\text{Tc}$	Bwg		87Gr18
$^{105}\text{Ru}(\beta^-)^{105}\text{Rh}$	1916	4	1918.0	2.9	0.5	1	52	$27\ ^{105}\text{Ru}$			67Sc01
$^{105}\text{Rh}(\beta^-)^{105}\text{Pd}$	570	5	567.2	2.4	-0.6	-					51Du03
	560	5			1.4	-					56La24
	568	4			-0.2	-					64Ka23
	ave.		566.3	2.6		0.3	1	79	$75\ ^{105}\text{Rh}$		average
$^{105}\text{Ag}(\epsilon)^{105}\text{Pd}$	1347	25	1347	5	0.0	U					67Pi03
	1310	25			1.5	U					67Sc26 *
$^{105}\text{Cd}(\beta^+)^{105}\text{Ag}$	2738	5	2737	4	-0.2	-					53Jo20 *
	2600	200			0.7	U					72We.A
	2742	11			-0.5	-					86Bo28 *
	ave.		2739	5		-0.4	1	92	$91\ ^{105}\text{Ag}$		average
$^{105}\text{In}(\beta^+)^{105}\text{Cd}$	5140	200	4693	10	-2.2	U			Brk		83Wo04
	4849	13			-12.0	B					86Bo28 *
$^{105}\text{Sn}(\beta^+)^{105}\text{In}$	6230	80	6303	11	0.9	U			GSI		06Ka74
* $^{105}\text{Rh-u}$	M-A=-87847(32) keV for mixture gs+m at 129.782 keV										
* $^{105}\text{Ag-u}$	M-A=-87113(28) keV for mixture gs+m at 25.465 keV										
* $^{105}\text{In}-^{104}\text{In}$	From $^{104}\text{In}/^{105}\text{In}=0.99050293(139)$										
* $^{105}\text{Te}(\alpha)^{101}\text{Sn}$	$E_\alpha=4720(50), 4703(5)$ to $7/2^+$ level at 171.7 keV (same group as next)										
* $^{105}\text{Te}(\alpha)^{101}\text{Sn}$	$E_\alpha=4711(3)$ to $7/2^+$ level at 171.7 keV; also $E_\alpha=4880(20)$ to ground state										
* $^{105}\text{Sb(p)}^{104}\text{Sn}$	F : expected 150 protons, no proton peak observed										
* $^{105}\text{Ag}(\epsilon)^{105}\text{Pd}$	L/K=0.152(0.002) -> Q=222(12+theor.error) to $3/2^-$ level at 1087.96 keV										
* $^{105}\text{Cd}(\beta^+)^{105}\text{Ag}$	$E_{\beta^+}=1691(5)$ to $^{105}\text{Ag}^m$ at 25.479 keV										
* $^{105}\text{Cd}(\beta^+)^{105}\text{Ag}$	$E_{\beta^+}=1695(11)$ to $^{105}\text{Ag}^m$ at 25.479 keV										
* $^{105}\text{In}(\beta^+)^{105}\text{Cd}$	$E_{\beta^+}=3696(13)$ to $7/2^+$ level at 131.11 keV										
$^{106}\text{Zr-u}$	-62674	322	-63240#	210#	-1.2	D			GT1	1.5	04Ma.A *
$^{106}\text{Nb-u}$	-70843	258	-71068	5	-0.6	U			GT1	1.5	04Ma.A
$^{106}\text{Mo}-^{97}\text{Zr}_{1.093}$	15589.8	9.8			2				JY1	1.0	06Ha03
C <sub>8</sub> H <sub>10</sub> - <sup>106</sup> Pd	174764.0	4.3	174769.9	1.2	0.5	U			M16	2.5	63Da10
	174751	32			0.4	U			R12	1.5	83De51
	174766	8			0.3	U			R12	1.5	83De51
C <sub>7</sub> <sup>13</sup> C H <sub>9</sub> - <sup>106</sup> Pd	170285	32	170299.7	1.2	0.3	U			R12	1.5	83De51
	170298	30			0.0	U			R12	1.5	83De51
C <sub>7</sub> NH <sub>8</sub> - <sup>106</sup> Pd	162186	18	162193.8	1.2	0.3	U			R12	1.5	83De51
C <sub>7</sub> O H <sub>6</sub> - <sup>106</sup> Pd	138378	20	138384.4	1.2	0.2	U			R12	1.5	83De51
<sup>106</sup> Pd-u	-96495	30	-96519.6	1.2	-0.8	U			GS2	1.0	05Li24
	-96521.0	1.9			0.5	-			TG1	1.5	12Sm01
	-96524.9	4.7			0.8	-			TG1	1.5	12Sm01
ave.	-96521.5	2.6			0.7	1	20	$20\ ^{106}\text{Pd}$			average
* $^{106}\text{Ag-u}$	-93318	44	-93336	3	-0.4	U			GS2	1.0	05Li24 *
C <sub>8</sub> H <sub>10</sub> - <sup>106</sup> Cd	171789.3	2.7	171790.4	1.2	0.2	U			M16	2.5	63Da10
	171841	17			-2.0	U			R12	1.5	83De51
C <sub>7</sub> NH <sub>8</sub> - <sup>106</sup> Cd	159210	15	159214.3	1.2	0.2	U			R12	1.5	83De51
<sup>106</sup> Cd-u	-93540.6	1.7	-93540.1	1.2	0.2	-			TG1	1.5	12Sm01
	-93545.7	3.47			1.1	-			TG1	1.5	12Sm01
ave.	-93541.6	2.3			0.7	1	27	$27\ ^{106}\text{Cd}$			average
<sup>106</sup> Cd- <sup>85</sup> Rb <sub>1.247</sub>	16459.8	1.8	16458.1	1.2	-0.9	1	43	$43\ ^{106}\text{Cd}$	MA8	1.0	09Br09
<sup>106</sup> In-u	-86516	32	-86536	13	-0.6	U			GS2	1.0	05Li24 *
<sup>106</sup> Sn- <sup>85</sup> Rb <sub>1.247</sub>	26959.4	8.7	26956	5	-0.4	1	39	$39\ ^{106}\text{Sn}$	SH1	1.0	07Ma92
<sup>106</sup> Sn- <sup>87</sup> Rb <sub>1.218</sub>	27578.0	7.6	27576	5	-0.3	1	52	$52\ ^{106}\text{Sn}$	JY1	1.0	09El07
<sup>106</sup> Sb- <sup>87</sup> Rb <sub>1.218</sub>	39256.1	8.0			2				JY1	1.0	09El07
<sup>106</sup> Nb- <sup>102</sup> Ru <sub>1.039</sub>	28318.2	4.4			2				JY1	1.0	07Ha32
<sup>106</sup> Tc- <sup>102</sup> Ru <sub>1.039</sub>	13780.7	4.7	13744	13	-7.8	F			JY1	1.0	07Ha20 *
<sup>106</sup> Ru- <sup>105</sup> Ru <sub>1.010</sub>	511.8	9.1	504	6	-0.9	1	42	$37\ ^{106}\text{Ru}$	JY1	1.0	07Ha20
<sup>106</sup> Cd- <sup>106</sup> Pd	2979.50	0.11	2979.50	0.11	0.0	1	100	$70\ ^{106}\text{Pd}$	SH1	1.0	11Go23
	2979.08	0.60			0.5	U			TG1	1.5	12Sm01
<sup>106</sup> Pd- <sup>105</sup> Pd	-1608	25	-1599.2	0.3	0.2	U			R12	1.5	83De51

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{107}\text{Nb-u}$	-68326	279	-68406	9	-0.2	U			GT1	1.5	04Ma.A
$^{107}\text{Mo-}^{97}\text{Zr}_{1.103}$	20326.7	9.9				2			JY1	1.0	06Ha03
$^{107}\text{Pd-u}$	-95013	95	-94871.8	1.3	1.5	U			GS2	1.0	05Li24 *
$\text{C}_8\text{H}_{11}-^{107}\text{Ag}$	180986.4	3.1	180983.7	2.6	-0.3	1	11	$^{11}\text{Ag}$	M16	2.5	63Da10
	180994	17			-0.4	U			R12	1.5	83De51
$\text{C}_7\text{N H}_9-^{107}\text{Ag}$	168415	8	168407.7	2.6	-0.6	U			R12	1.5	83De51
$\text{C}_7\text{O H}_7-^{107}\text{Ag}$	144595	18	144598.2	2.6	0.1	U			R12	1.5	83De51
$\text{C}_6\text{C O H}_6-^{107}\text{Ag}$	140131	16	140128.0	2.6	-0.1	U			R12	1.5	83De51
$\text{C}_6\text{N O H}_5-^{107}\text{Ag}$	132025	16	132022.2	2.6	-0.1	U			R12	1.5	83De51
$^{107}\text{Cd-u}$	-93410	30	-93387.9	1.8	0.7	U			GS2	1.0	05Li24
$^{107}\text{Cd-}^{85}\text{Rb}_{1.259}$	17668.7	1.9	17668.8	1.8	0.1	1	88	$^{88}\text{Cd}$	MA8	1.0	09Br09
$^{107}\text{In-u}$	-89710	30	-89710	12	0.0	U			GS2	1.0	05Li24
$^{107}\text{Sn-}^{87}\text{Rb}_{1.230}$	27421.6	5.7				2			JY1	1.0	09El07
$^{107}\text{Sb-}^{87}\text{Rb}_{1.230}$	35866.2	5.8	35859	4	-1.3	1	59	$^{59}\text{Sb}$	JY1	1.0	09El07
$^{107}\text{Sb-}^{133}\text{Cs}_{.805}$	251.8	9.7	262	4	1.0	1	21	$^{21}\text{Sb}$	SH1	1.0	07Ma92
$^{107}\text{Nb-}^{102}\text{Ru}_{1.049}$	31936.7	8.6				2			JY1	1.0	07Ha32
$^{107}\text{Tc-}^{105}\text{Ru}_{1.019}$	9465.8	8.9				2			JY1	1.0	07Ha20
$^{107}\text{Ru-}^{105}\text{Ru}_{1.019}$	3977.2	8.9				2			JY1	1.0	07Ha20
$^{107}\text{Sn-}^{106}\text{Sn}$	-1148	86	-1244	8	-0.7	U			CR2	1.5	92Sh.A *
$^{107}\text{Te}(\alpha)^{103}\text{Sn}$	3982.2	15.	4008	5	1.7	3					79Sc22
	4011.3	5.			-0.6	3					91He21
$^{107}\text{Ag(p,t)}^{105}\text{Ag}$	-9015	15	-8997	5	1.2	1	11	$^{9}\text{Ag}$	Min	75Ku14 *	
$^{106}\text{Pd(n,}\gamma^{107}\text{Pd}$	6536.4	0.5	6536.4	0.5	0.1	1	99	$^{94}\text{Pd}$	Bdn	06Fi.A	
$^{107}\text{Ag}(\gamma,n)^{106}\text{Ag}$	-9353	34	-9536	4	-5.4	B			Phi	60Ge01	
$^{107}\text{Ag(p,d)}^{106}\text{Ag}$	-7305	11	-7311	4	-0.6	1	10	$^{7}\text{Ag}$	Bld	75An07	
$^{107}\text{Mo}(\beta^-)^{107}\text{Tc}$	6160	60	6190	13	0.5	U			Bwg	89Gr23	
$^{107}\text{Tc}(\beta^-)^{107}\text{Ru}$	4820	85	5113	12	3.4	B			Bwg	89Gr23	
$^{107}\text{Ru}(\beta^-)^{107}\text{Rh}$	3140	300	3003	15	-0.5	U			Bwg	62Pi02 *	
	2900	135			0.8	U					89Gr23
$^{107}\text{Rh}(\beta^-)^{107}\text{Pd}$	1510	40	1509	12	0.0	U					62Pi02 *
$^{107}\text{Pd}(\beta^-)^{107}\text{Ag}$	33	3	34.1	2.3	0.4	1	60	$^{53}\text{Ag}$	49Pa.B		
$^{107}\text{Cd}(\beta^+)^{107}\text{Ag}$	1417	4	1416.3	2.6	-0.2	1	41	$^{30}\text{Ag}$	62La10 *		
$^{107}\text{In}(\beta^+)^{107}\text{Cd}$	3426	11				2					86Bo28 *
* $^{107}\text{Pd-u}$	M-A=-88397(62) keV for mixture gs+n at 214.6 keV										
* $^{107}\text{Sn-}^{106}\text{Sn}$	From $^{107}\text{Sn}/^{106}\text{Sn}=1.00943053(81)$										
* $^{107}\text{Ag(p,t)}^{105}\text{Ag}$	Recalibrated with (p,t) results on $^{104}\text{Pd}$ , $^{105}\text{Pd}$ , $^{106}\text{Pd}$ and $^{108}\text{Pd}$										
* $^{107}\text{Ru}(\beta^-)^{107}\text{Rh}$	$E_{\beta^-}=2100(300)$ to $(5/2^+, 7/2^+)$ level at 1041.950 keV										
* $^{107}\text{Rh}(\beta^-)^{107}\text{Pd}$	$E_{\beta^-}=840(40)$ to $5/2^+$ level at 670.06 keV										
* $^{107}\text{Cd}(\beta^+)^{107}\text{Ag}$	$E_{\beta^+}=302(4)$ to $^{107}\text{Ag}'''$ at 93.125 keV										
* $^{107}\text{In}(\beta^+)^{107}\text{Cd}$	$E_{\beta^+}=2199(11)$ to $5/2^+$ level at 204.98 keV										
$^{108}\text{Nb-u}$	-64413	440	-63925	9	0.7	o			GT1	1.5	04Ma.A
	-63945	112			0.1	U			GT2	1.5	08Kn.A
$^{108}\text{Nb-}^{120}\text{Sn}_{.900}$	24093.3	8.8				2			JY1	1.0	11Ha48
$^{108}\text{Mo-}^{97}\text{Zr}_{1.113}$	23144.8	9.9				2			JY1	1.0	06Ha03
$^{108}\text{Mo-u}$	-76039	215	-75967	10	0.2	U			GT1	1.5	04Ma.A
$^{108}\text{Rh-}^{120}\text{Sn}_{.900}$	-3267	15				2			JY1	1.0	07Ha20
$^{108}\text{Rh}^m-^{120}\text{Sn}_{.900}$	-3144	13				2			JY1	1.0	07Ha20
$\text{C}_8\text{H}_{12}-^{108}\text{Pd}$	190014	6	190008.7	1.2	-0.4	U			M16	2.5	63Da10
	190005	19			0.1	U			R12	1.5	83De51
$\text{C}_7\text{C H}_{11}-^{108}\text{Pd}$	185532	30	185538.5	1.2	0.1	U			R12	1.5	83De51
$\text{C}_7\text{N H}_{10}-^{108}\text{Pd}$	177422	17	177432.7	1.2	0.4	U			R12	1.5	83De51
$\text{C}_6\text{C N H}_9-^{108}\text{Pd}$	172943	18	172962.5	1.2	0.7	U			R12	1.5	83De51
$\text{C}_7\text{O H}_8-^{108}\text{Pd}$	153611	17	153623.2	1.2	0.5	U			R12	1.5	83De51
$\text{C}_6\text{N O H}_6-^{108}\text{Pd}$	141031	16	141047.2	1.2	0.7	U			R12	1.5	83De51
$^{108}\text{Pd-u}$	-96109.6	1.3	-96108.4	1.2	0.6	-			TG1	1.5	12Sm01
	-96108.1	4.7			0.0	-			TG1	1.5	12Sm01
ave.	-96109.5	1.9			0.6	1	40	$^{40}\text{Pd}$			average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{110}\text{Mo}-^{97}\text{Zr}_{1.134}$	31685	26				2			JY1	1.0	06Ha03
$^{110}\text{Mo-u}$	-69544	268	-69296	26	0.6	U			GT1	1.5	04Ma.A
$^{110}\text{Ru-u}$	-85903	78	-85959	10	-0.7	U			JY0	1.0	03Ko.A
$^{110}\text{Rh-u}$	-88840	130	-88921	19	-0.6	U			JY0	1.0	03Ko.A *
$^{110}\text{Rh}-^{120}\text{Sn}_{.917}$	815	110	761	19	-0.5	U			JY1	1.0	07Ha20 *
$\text{C}_8\text{H}_{14}-^{110}\text{Pd}$	204389	9	204378.3	0.7	-0.5	U			M16	2.5	63Da10
	204380	20			-0.1	U			R12	1.5	83De51
$\text{C}_7\text{C}_{13}\text{H}_{13}-^{110}\text{Pd}$	199913	20	199908.1	0.7	-0.2	U			R12	1.5	83De51
$\text{C}_6\text{N O H}_8-^{110}\text{Pd}$	155418	17	155416.7	0.7	-0.1	U			R12	1.5	83De51
$\text{C}_5\text{C}_{13}\text{N O H}_7-^{110}\text{Pd}$	150946	17	150946.5	0.7	0.0	U			R12	1.5	83De51
$\text{C}_6\text{O}_2\text{H}_6-^{110}\text{Pd}$	131609	18	131607.2	0.7	-0.1	U			R12	1.5	83De51
$^{110}\text{Pd-u}$	-94829.7	1.5	-94827.8	0.7	1.3	-			MA8	1.0	12Fi01
	-94829.5	1.7			0.7	-			TG1	1.5	12Sm01
	-94830.9	3.0			0.7	-			TG1	1.5	12Sm01
	ave.	-94829.7	1.2		1.6	1	36	36 $^{110}\text{Pd}$			average
$\text{C}_8\text{H}_{14}-^{110}\text{Cd}$	206548.4	4.6	206543.8	0.6	-0.4	U			M16	2.5	63Da10
	206550	45			-0.1	U			R12	1.5	83De51
	206569	13			-1.3	U			R12	1.5	83De51
$\text{C}_7\text{C}_{13}\text{H}_{13}-^{110}\text{Cd}$	202093	14	202073.6	0.6	-0.9	U			R12	1.5	83De51
	202053	28			0.5	U			R12	1.5	83De51
$\text{C}_7\text{O H}_{10}-^{110}\text{Cd}$	170156	16	170158.3	0.6	0.1	U			R12	1.5	83De51
$\text{C}_6\text{N O H}_8-^{110}\text{Cd}$	157614	17	157582.3	0.6	-1.2	U			R12	1.5	83De51
$\text{C}_5\text{C}_{13}\text{N O H}_7-^{110}\text{Cd}$	153131	17	153112.1	0.6	-0.7	U			R12	1.5	83De51
$\text{C}_6\text{O}_2\text{H}_6-^{110}\text{Cd}$	133801	18	133772.8	0.6	-1.0	U			R12	1.5	83De51
$\text{C}_9\text{H}_2-^{110}\text{Cd}$	112661	19	112643.5	0.6	-0.6	U			R12	1.5	83De51
$^{110}\text{Cd-u}$	-96993.6	1.5	-96993.4	0.6	0.1	-			MA8	1.0	12Fi01
	-96997.0	1.5			1.6	-			TG1	1.5	12Sm01
	-96992.2	2.4			-0.3	-			TG1	1.5	12Sm01
	ave.	-96994.4	1.2		0.8	1	26	26 $^{110}\text{Cd}$			average
$^{110}\text{In-u}$	-92898	36	-92830	12	1.9	U			GS2	1.0	05Li24 *
$^{110}\text{Sn-u}$	-92189	30	-92155	15	1.1	2			GS2	1.0	05Li24
$^{110}\text{Sb}-^{87}\text{Rb}_{1.264}$	31650.1	6.4			2				JY1	1.0	09El07
$^{110}\text{Te}-^{133}\text{Cs}_{.827}$	643.8	7.7	649	7	0.7	1	84	84 $^{110}\text{Te}$	SH1	1.0	07Ma92
$^{110}\text{Te}-^{105}\text{Ru}_{1.048}$	20424.0	9.8			2				JY1	1.0	07Ha20
$^{110}\text{Ru}-^{105}\text{Ru}_{1.048}$	10719.5	9.3	10721	9	0.2	1	97	97 $^{110}\text{Ru}$	JY1	1.0	07Ha20
$^{110}\text{Cd}^{35}\text{Cl}-^{108}\text{Cd}^{37}\text{Cl}$	1764	5	1773.2	1.3	0.5	U			H11	4.0	63Bi12
$^{110}\text{Pd}-^{110}\text{Cd}$	2166.24	0.69	2165.6	0.6	-0.9	-			MA8	1.0	12Fi01
	2166.2	1.3			-0.3	-			TG1	1.5	12Sm01
	ave.	2166.2	0.7		-1.0	1	82	63 $^{110}\text{Pd}$			average
$^{110}\text{Pd}-^{108}\text{Pd}$	1288	35	1280.6	1.4	-0.1	U			R12	1.5	83De51
$^{110}\text{Cd}-^{108}\text{Cd}$	-1219	34	-1176.8	1.3	0.8	U			R12	1.5	83De51
$^{110}\text{Te}(\alpha)^{106}\text{Sn}$	2723.1	15.	2699	8	-1.6	1	25	16 $^{110}\text{Te}$	81Sc17		
$^{110}\text{I}(\alpha)^{106}\text{Sb}$	3574.2	10.	3580	50	0.2	3					81Sc17
	3586.7	5.			-0.1	3					91He21
$^{110}\text{Xe}(\alpha)^{106}\text{Te}$	3878.3	30.	3875	11	-0.1	4					81Sc17
	3886.6	15.			-0.7	4					92He.A
	3871.0	30.			0.1	4					02Ma19
	3857.3	19.			0.9	4					Jya 07Sa36
$^{110}\text{Pd(p,t)}^{108}\text{Pd}$	-6495	15	-6468.0	1.3	1.8	U					Min 75Ku14 *
$^{110}\text{Pd(d,}^3\text{He)}^{109}\text{Rh}$	-5134	5	-5127	4	1.4	1	65	64 $^{109}\text{Rh}$	VUn		87Ka29
$^{110}\text{Pd(t,}\alpha^{109}\text{Rh}$	9206	25	9193	4	-0.5	U			LAl		82Fl09
$^{109}\text{Ag(n,}\gamma^{110}\text{Ag}$	6809.2	0.1	6809.19	0.10	-0.1	1	100	55 $^{109}\text{Ag}$			81Bo.B
	6808.20	0.16			6.2	C					Bdn 06Fi.A
$^{109}\text{Ag(d,p)}^{110}\text{Ag}$	4590	5	4584.63	0.10	-1.1	U					MIT 64Sp12
$^{110}\text{Cd(d,t)}^{109}\text{Cd}$	-3664	30	-3658.5	1.6	0.2	U			Pit		64Ro17
$^{110}\text{Te}(\beta^-)^{110}\text{Ru}$	6680	120	9038	13	19.7	C			Jyv		89Jo.A
	9021	55			0.3	U			Jyv		00Kr.A
$^{110}\text{Ru}(\beta^-)^{110}\text{Rh}$	2810	50	2758	19	-1.0	1	15	12 $^{110}\text{Rh}$	Jyv		91Jo11 *
$^{110}\text{Rh}(\beta^-)^{110}\text{Pd}$	5500	500	5503	18	0.0	U					63Ka21
	5400	100			1.0	U					70Pi01 *
	5510	19			-0.4	1	88	88 $^{110}\text{Rh}$	Bwg		00Kr.A
$^{110}\text{Ag}(\beta^-)^{110}\text{Cd}$	2891.4	3.0	2891.0	1.3	-0.1	-					63Da03 *
	2892.9	2.0			-0.9	-					67Mo12 *
	ave.	2892.4	1.7		-0.9	1	60	55 $^{110}\text{Ag}$			average
$^{110}\text{In}(\beta^+)^{110}\text{Cd}$	3928	20	3878	12	-2.5	2					51Mc11 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{110}\text{In}(\beta^+)^{110}\text{Cd}$	3868	20	3878	12	0.5	2				53Bl44	*
	3838	20			2.0	2				62Ka08	*
$^{110}\text{Sb}(\beta^+)^{110}\text{Sn}$	8750	200	8392	15	-1.8	U				72Mi26	*
	9085	100			-6.9	B				72Si28	*
* $^{110}\text{Rh-u}$	M-A=-82645(73) keV for mixture gs+m at 220#(150#) keV										
* $^{110}\text{Rh}-^{120}\text{Sn}_{.917}$	$D_M=933.3(7.2) \mu\text{u}$ for mixture gs+m at 220#(150#) keV; M-A=-82675.0(7.1) keV										
* $^{110}\text{In-u}$	M-A=-86503(28) keV for mixture gs+m at 62.08 keV										
* $^{110}\text{Pd(p,t)}^{108}\text{Pd}$	Recalibrated with (p,t) results on $^{104}\text{Pd}$ , $^{105}\text{Pd}$ , $^{106}\text{Pd}$ and $^{108}\text{Pd}$										
* $^{110}\text{Ru}(\beta^-)^{110}\text{Rh}$	$E_{\beta^-}=2700(50)$ to $1^+$ level at 112.19 keV										
* $^{110}\text{Rh}(\beta^-)^{110}\text{Pd}$	$E_{\beta^-}=2600(100)$ to $(4^+)$ levels at 2790.64 and 2805.03 keV										
* $^{110}\text{Ag}(\beta^-)^{110}\text{Cd}$	$E_{\beta^-}=529(3)$ from $^{110}\text{Ag}^n$ at 117.59 to $6^+$ level at 2479.9339 keV										
* $^{110}\text{Ag}(\beta^-)^{110}\text{Cd}$	$E_{\beta^-}=2891(4)$ ; and 531(2) from $^{110}\text{Ag}^n$ at 117.59 to $6^+$ level at 2479.9339 keV										
* $^{110}\text{In}(\beta^+)^{110}\text{Cd}$	$E_{\beta^+}=2310(20)$ 2250(20) 2220(20) respectively, from $^{110}\text{In}^m$ at 62.08(0.04) keV to $2^+$ level at 657.7623 keV										
*											
* $^{110}\text{Sb}(\beta^+)^{110}\text{Sn}$	$E_{\beta^+}=6500(200)$ 6850(100) respectively, to $2^+$ level at 1211.72; and other $E_{\beta^+}$										
$^{111}\text{Mo-u}$	-64348	279	-64346	14	0.0	U				GT1	1.5
$^{111}\text{Ru-u}$	-82308	79	-82430	10	-1.5	U				JY0	1.0
$^{111}\text{Rh-u}$	-88287	79	-88358	7	-0.9	U				JY0	1.0
$^{111}\text{Rh}-^{120}\text{Sn}_{.925}$	2105.8	7.3			2					JY1	1.0
$^{111}\text{Ag-u}$	-94741	51	-94704.1	1.6	0.7	U				GS2	1.0
$\text{C}_8\text{H}_{15}-^{111}\text{Cd}$	213184.4	3.9	213192.6	0.6	0.8	U				M16	2.5
	213197	40			-0.1	U				R12	1.5
$\text{C}_7\text{H}_{14}-^{111}\text{Cd}$	208719	19	208722.4	0.6	0.1	U				R12	1.5
$\text{C}_7\text{O}\text{H}_{11}-^{111}\text{Cd}$	176814	16	176807.1	0.6	-0.3	U				R12	1.5
$\text{C}_9\text{H}_3-^{111}\text{Cd}$	119317	18	119292.2	0.6	-0.9	U				R12	1.5
$\text{C}_8\text{N}\text{H}-^{111}\text{Cd}$	106723	17	106716.2	0.6	-0.3	U				R12	1.5
$^{111}\text{Cd-u}$	-95774	30	-95817.1	0.6	-1.4	U				GS2	1.0
$^{111}\text{Sb-u}$	-86837	30	-86782	10	1.8	U				GS2	1.0
$^{111}\text{Sb}-^{133}\text{Cs}_{.835}$	-7834.2	9.5			2					SH1	1.0
$^{111}\text{Te}-^{133}\text{Cs}_{.835}$	-51.8	6.9			2					SH1	1.0
$^{111}\text{I}-^{87}\text{Rb}_{1.276}$	46150.4	6.1	46155	5	0.7	1	70	70	$^{111}\text{I}$	JY1	1.0
$^{111}\text{I}-^{133}\text{Cs}_{.835}$	9197	19	9217	5	1.0	U				SH1	1.0
$^{111}\text{Tc}-^{105}\text{Ru}_{1.057}$	23412	11			2					JY1	1.0
$^{111}\text{Ru}-^{105}\text{Ru}_{1.057}$	15080.6	10.0			2					JY1	1.0
$^{110}\text{Cd H}-^{111}\text{Cd}$	6638	18	6648.77	0.18	0.4	U				R12	1.5
$^{111}\text{Mo}-^{111}\text{Tc}$	9753.0	7.3			3					JY1	1.0
$^{111}\text{Cd}-^{110}\text{Cd}$	1180	11	1176.27	0.18	-0.1	U				M16	2.5
	1208	34			-0.6	U				R12	1.5
$^{111}\text{Cd H}-^{110}\text{Cd}$	8994	35	9001.30	0.18	0.1	U				R12	1.5
$^{111}\text{I}(\alpha)^{107}\text{Sb}$	3270.1	10.	3274	5	0.4	-					79Sc22
	3293.0	10.			-1.8	-					92He.A
ave.	3281	7			-0.9	1	50	30	$^{111}\text{I}$	average	
$^{111}\text{Xe}(\alpha)^{107}\text{Te}$	3693.3	25.	3720	50	0.5	4				79Sc22	
	3714.1	30.			0.1	4				81Sc17	
	3723.5	10.			-0.1	4				91He21	
$^{110}\text{Pd(n,}\gamma^{111}\text{Pd}$	5726.3	0.4			2					Bdn	06Fi.A
$^{110}\text{Cd(n,}\gamma^{111}\text{Cd}$	6980	100	6975.63	0.17	0.0	U					61Ja21
	6975.5	0.5			0.3	-					86Ba72
	6975.9	0.2			-1.3	-					90Ne.B
	6975.1	0.4			1.3	-					06Fi.A
$^{111}\text{Cd}(\gamma,\text{n})^{110}\text{Cd}$	-6975	3	-6975.63	0.17	-0.2	U				McM	79Ba06
$^{110}\text{Cd(d,p)}^{111}\text{Cd}$	4740	30	4751.07	0.17	0.4	U				Pit	64Ro17
	4750.68	0.88			0.4	U				Rez	90Pi05
$^{111}\text{Cd(d,t)}^{110}\text{Cd}$	-745	30	-718.40	0.17	0.9	U				Pit	64Co11
$^{110}\text{Cd(n,}\gamma^{111}\text{Cd}$	ave.	6975.71	0.17	6975.63	0.17	-0.5	1	98	50	$^{110}\text{Cd}$	average
$^{111}\text{Te}(\epsilon\text{p})^{110}\text{Sn}$	5070	70	4966	15	-1.5	U					68Ba53
$^{111}\text{Tc}(\beta^-)^{111}\text{Ru}$	7480	80	7761	14	3.5	B				Jyv	96Kl.A
	7449	80			3.9	B				Jyv	00Kr.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{111}\text{Ru}(\beta^-)^{111}\text{Rh}$	5039	50	5521	12	9.6	C		Jyv	00Kr.A		
$^{111}\text{Rh}(\beta^-)^{111}\text{Pd}$	3640	50	3682	7	0.8	U		Jyv	00Kr.A		
	3650	33			1.0	U		Bwg	00Kr.A		
$^{111}\text{Pd}(\beta^-)^{111}\text{Ag}$	2210	100	2229.8	1.6	0.2	U			52Mc34	*	
	2190	50			0.8	U			57Kn.A	*	
	2160	100			0.7	U			60Pr07	*	
$^{111}\text{Ag}(\beta^-)^{111}\text{Cd}$	1028	3	1036.8	1.4	2.9	B			67Le06		
	1035	2			0.9	2			71Na02		
	1038.6	2.			-0.9	2			77Re12		
$^{111}\text{Cd(p,n)}^{111}\text{In}$	-1635	20	-1645	4	-0.5	U		Oak	74Ki02		
$^{111}\text{Sn}(\beta^+)^{111}\text{In}$	2530	30	2451	6	-2.6	U			51Mc11		
$^{111}\text{Sb}(\beta^+)^{111}\text{Sn}$	4470	50	5103	10	12.7	B			72Si28	*	
* $^{111}\text{Ag-u}$	$M-A=-88221(44)$ keV for mixture gs+m at 59.82 keV										
* $^{111}\text{Cd-u}$	$M-A=-88817(28)$ keV for $^{111}\text{Cd}^m$ $11/2^-$ at 396.214 keV										
* $^{111}\text{Mo}-^{111}\text{Tc}$	Taken as low-spin isomer (see also $^{102}\text{Y}$ and $^{114}\text{Tc}$ doublets in same work)										
* $^{110}\text{Cd(d,p)}^{111}\text{Cd}$	Estimated systematic error 0.5 added to statistical error 0.73 keV										
* $^{111}\text{Pd}(\beta^-)^{111}\text{Ag}$	$Q_{\beta^-}=2150(100)$ 2130(50) 2100(100) respectively, to $^{111}\text{Ag}^m$ at 59.82 keV										
* $^{111}\text{Sb}(\beta^+)^{111}\text{Sn}$	$E_{\beta^+}=3290(50)$ to $5/2^+$ level at 154.48 keV										
$^{112}\text{Tc}-^{102}\text{Ru}_{1.098}$	34976.0	5.9			2			JY1	1.0	07Ha20	
$^{112}\text{Ru-u}$	-81040	78	-81191	10	-1.9	U		JY0	1.0	03Ko.A	
$^{112}\text{Rh-u}$	-85514	119	-85600	50	-0.7	1	16	$^{16}\text{Rh}$	JY0	1.0	03Ko.A
$^{112}\text{Ag}-^{133}\text{Cs}_{.842}$	-13342.0	2.6			2			MA8	1.0	10Br02	
$\text{C}_8\text{H}_{16}-^{112}\text{Cd}$	222445.3	3.9	222437.6	0.6	-0.8	U		M16	2.5	63Da10	
$\text{C}_7\text{O H}_{12}-^{112}\text{Cd}$	186063	16	186052.1	0.6	-0.5	U		R12	1.5	83De51	
$\text{C}_9\text{H}_4-^{112}\text{Cd}$	128541	19	128537.3	0.6	-0.1	U		R12	1.5	83De51	
	128550	10			-0.8	U		R12	1.5	83De51	
$\text{C}_8\text{N H}_2-^{112}\text{Cd}$	115979	14	115961.2	0.6	-0.8	U		R12	1.5	83De51	
$^{112}\text{In-u}$	-94366	58	-94462	5	-1.7	U		GS2	1.0	05Li24	*
$\text{C}_8\text{H}_{16}-^{112}\text{Sn}$	220384	9	220376.6	0.6	-0.3	U		M16	2.5	63Da10	
	220385	8			-0.7	U		R13	1.5	83De51	
$^{112}\text{Sn}-^{86}\text{Kr}_{1.302}$	21210.3	2.5	21208.8	0.6	-0.6	U		JY1	1.0	11Ha48	
$^{112}\text{Sb-u}$	-87597	30	-87600	19	-0.1	2		GS2	1.0	05Li24	
$^{112}\text{Te}-^{133}\text{Cs}_{.842}$	-3662.7	9.0			2			SH1	1.0	07Ma92	
$^{112}\text{I}-^{133}\text{Cs}_{.842}$	7614	11			2			SH1	1.0	07Ma92	
$^{112}\text{Rh}-^{120}\text{Sn}_{.933}$	5640	110	5650	50	0.1	1	19	$^{19}\text{Rh}$	JY1	1.0	07Ha20
$^{112}\text{Pd}-^{120}\text{Sn}_{.933}$	-1423.7	7.4	-1424	7	-0.1	1	89	$^{89}\text{Pd}$	JY1	1.0	07Ha20
$^{112}\text{Sn}-^{120}\text{Sn}_{.933}$	-3930.2	1.9	-3930.2	1.0	0.0	1	28	$^{20}\text{Sn}$	JY1	1.0	11Ha48
$^{112}\text{Ru}-^{105}\text{Ru}_{1.067}$	17242.5	9.9			2			JY1	1.0	07Ha20	
$^{112}\text{Cd }^{35}\text{Cl}-^{110}\text{Cd }^{37}\text{Cl}$	2701	2	2706.3	0.4	0.7	U		H11	4.0	63Bi12	
$^{111}\text{Cd H}-^{112}\text{Cd}$	9255	20	9245.0	0.3	-0.3	U		R12	1.5	83De51	
$^{112}\text{Sn}-^{112}\text{Cd}$	2061.01	0.17	2061.01	0.17	0.0	1	99	$^{90}\text{Sn}$	JY1	1.0	09Ra11
$^{112}\text{Cd}-^{110}\text{Cd H}$	-8060	40	-8068.8	0.4	-0.1	U		R12	1.5	83De51	
$^{112}\text{Cd}-^{111}\text{Cd}$	-1419	11	-1420.0	0.3	0.0	U		M16	2.5	63Da10	
	-1410	42			-0.2	U		R12	1.5	83De51	
$^{112}\text{Cd}-^{110}\text{Cd}$	-238	39	-243.7	0.4	-0.1	U		R12	1.5	83De51	
$^{112}\text{Cd H}-^{111}\text{Cd}$	6402	35	6405.0	0.3	0.1	U		R12	1.5	83De51	
$^{112}\text{I}(\alpha)^{108}\text{Sb}$	2987.0	30.	2957	12	-0.6	U					81Sc17
$^{112}\text{Xe}(\alpha)^{108}\text{Te}$	3329.1	20.	3330	6	0.1	2					81Sc17
	3308.5	15.			1.4	2					92He.A
	3335.4	7.			-0.7	2					94Pa11
$^{112}\text{Sn}(^3\text{He},^6\text{He})^{109}\text{Sn}$	-8686	9	-8686	8	0.0	1	78	$^{78}\text{Sn}$	MSU		78Pa11
$^{110}\text{Pd}(t,p)^{112}\text{Pd}$	5659	20	5651	7	-0.4	1	11	$^{11}\text{Pd}$	LAl		72Ca10
$^{112}\text{Cd}(^{14}\text{C},^{16}\text{O})^{110}\text{Pd}$	5543	29	5512.6	0.6	-1.0	U					84Co19
$^{110}\text{Cd}(t,p)^{112}\text{Cd}$	7888	20	7887.9	0.3	0.0	U					Ald
$^{112}\text{Cd}(p,t)^{110}\text{Cd}$	-7891	5	-7887.9	0.3	0.6	U					Min
$^{112}\text{Sn}(p,t)^{110}\text{Sn}$	-10485	15	-10475	14	0.7	R					Roc
$^{111}\text{Cd}(n,\gamma)^{112}\text{Cd}$	9460	50	9394.04	0.29	-1.3	U					61Ja21
	9394.3	0.3			-0.9	1	93	$^{52}\text{Cd}$	ILn		93Dr.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{112}\text{Cd}(\gamma,\text{n})^{111}\text{Cd}$	-9403	5	-9394.04	0.29	1.8	U			McM		79Ba06
$^{111}\text{Cd}(\text{d},\text{p})^{112}\text{Cd}$	7183	30	7169.48	0.29	-0.5	U			Pit		64Co11
	7170	10			-0.1	U			Yal		67Ba15
	7171	5			-0.3	U			MIT		67Sp09
$^{112}\text{Cd}(\text{d},\text{t})^{111}\text{Cd}$	-3129	30	-3136.81	0.29	-0.3	U			Pit		64Ro17
$^{112}\text{Sn}(\text{d},^3\text{He})^{111}\text{In}$	-2050	50	-2061	4	-0.2	U			Sac		69Co03
$^{112}\text{Sn}(\text{p},\text{d})^{111}\text{Sn}$	-8574	15	-8563	5	0.7	2			Har		70Ca01
$^{112}\text{Sn}(\text{d},\text{t})^{111}\text{Sn}$	-4529.0	5.7	-4531	5	-0.3	2			SPa		75Be09
$^{112}\text{Cs}(\text{p})^{111}\text{Xe}$	814.3	7.	816	4	0.3	5					94Pa12
	817.3	5.			-0.2	5					12Wa10
$^{112}\text{Tc}(\beta^-)^{112}\text{Ru}$	6060	130	10374	11	33.2	C			Jyv		89Jo.A
	9484	100			8.9	C			Jyv		00Kr.A
$^{112}\text{Ru}(\beta^-)^{112}\text{Rh}$	4520	80	4100	50	-5.2	B			Jyv		91Jo11 *
$^{112}\text{Rh}(\beta^-)^{112}\text{Pd}$	6200	500	6590	40	0.8	U			Jyv		88Ay02
	6573	54			0.3	1	66	66 $^{112}\text{Rh}$	Bwg		00Kr.A
$^{112}\text{Rh}^m(\beta^-)^{112}\text{Pd}$	6929	56			2				Bwg		00Kr.A
$^{112}\text{Pd}(\beta^-)^{112}\text{Ag}$	299	20	262	7	-1.9	U					55Nu11 *
$^{112}\text{Ag}(\beta^-)^{112}\text{Cd}$	4057	20	3992.1	2.5	-3.2	C					57Je.A *
	3940	40			1.3	U					62In01 *
$^{112}\text{In}(\beta^+)^{112}\text{Cd}$	2582	20	2585	4	0.1	U					62Ru05
$^{112}\text{Cd}(\text{p},\text{n})^{112}\text{In}$	-3399.3	20.	-3367	4	1.6	U			Oak		64Jo11
	-3376	6			1.5	1	50	50 $^{112}\text{In}$	Tky		80Ad04 *
$^{112}\text{In}(\beta^-)^{112}\text{Sn}$	656	6	665	4	1.5	1	50	50 $^{112}\text{In}$			53Bi44
$^{112}\text{Sb}(\beta^+)^{112}\text{Sn}$	7530	100	7057	18	-4.7	B					72Mi27 *
	7029	50			0.6	R					72Si28 *
	7062	26			-0.2	R					82Jo03 *
	-7995	55	-7839	18	2.8	U			VUn		76Ka19
* $^{112}\text{Rh-u}$	Average of 2 values; M-A=-79486(37) keV for mixture gs+m at 340(70) keV										
* $^{112}\text{In-u}$	M-A=-87823(30) keV for mixture gs+m at 156.59 keV										
* $^{112}\text{Rh}-^{120}\text{Sn}_{933}$	$D_M=5822.6(7.4) \mu\text{u}$ for mixture gs+m at 340(70) keV; M-A=-79578.2(7.3) keV										
* $^{112}\text{Ru}(\beta^-)^{112}\text{Rh}$	$E_{\beta^-}=4190(80)$ to $1^+$ level at 327.0 keV										
* $^{112}\text{Pd}(\beta^-)^{112}\text{Ag}$	$E_{\beta^-}=280(20)$ to $1^+$ level at 18.5 keV										
* $^{112}\text{Ag}(\beta^-)^{112}\text{Cd}$	$E_{\beta^-}=3440(20)$ to $2^+$ level at 617.520 keV										
* $^{112}\text{Ag}(\beta^-)^{112}\text{Cd}$	$E_{\beta^-}=3350(20)$ to $2^+$ level at 617.520 keV; error increased by evaluator										
* $^{112}\text{Cd}(\text{p},\text{n})^{112}\text{In}$	T=3583(6) to gs; 3376(6) to $2^+$ level at 206.701 keV										
* $^{112}\text{Sb}(\beta^+)^{112}\text{Sn}$	$E_{\beta^+}=5200(100)$ 4750(50) 4783(26) respectively, to $2^+$ level at 1256.85 keV										
$^{113}\text{Tc-u}$	-67633	268	-67431	4	0.5	o			GT1	1.5	04Ma.A
	-67502	106			0.4	U			GT2	1.5	08Kn.A
$^{113}\text{Tc}-^{129}\text{Xe}_{.876}$	15981.0	3.6			2				JY1	1.0	11Ha48
$^{113}\text{Ru-u}$	-77038	93	-77160	40	-1.3	-			JY0	1.0	03Ko.A *
	-77240	110			0.5	o			GT2	1.5	08Kn.A
	-77290	140			0.6	-			GT2	1.5	08Su19
	ave.	77080	90		-0.9	1	21	21 $^{113}\text{Ru}$			average
$^{113}\text{Rh-u}$	-84471	83	-84561	8	-1.1	U			JY0	1.0	03Ko.A
C <sub>9</sub> H <sub>5</sub> - $^{113}\text{Cd}$	134721.1	3.9	134717.0	0.4	-0.4	U			M16	2.5	63Da10
	134727	19			-0.3	U			R12	1.5	83De51
	134728	5			-1.5	U			R12	1.5	83De51
C <sub>7</sub> OH <sub>13</sub> - $^{113}\text{Cd}$	192250	16	192231.9	0.4	-0.8	U			R12	1.5	83De51
C <sub>6</sub> <sup>13</sup> COH <sub>12</sub> - $^{113}\text{Cd}$	187772	17	187761.7	0.4	-0.4	U			R12	1.5	83De51
C <sub>8</sub> NH <sub>3</sub> - $^{113}\text{Cd}$	122161	19	122141.0	0.4	-0.7	U			R12	1.5	83De51
$^{113}\text{Cd-u}$	-95506	93	-95591.9	0.4	-0.9	U			GS2	1.0	05Li24 *
C <sub>9</sub> H <sub>5</sub> - $^{113}\text{In}$	135015	9	135063.3	0.9	2.1	U			M16	2.5	63Da10
	135087	6			-2.6	U			R12	1.5	83De51
C <sub>8</sub> NH <sub>3</sub> - $^{113}\text{In}$	122506	14	122487.3	0.9	-0.9	U			R12	1.5	83De51
$^{113}\text{In-u}$	-95969	126	-95938.2	0.9	0.2	U			GS2	1.0	05Li24 *
$^{113}\text{Sn-u}$	-94796	39	-94824.3	1.8	-0.7	U			GS2	1.0	05Li24 *
$^{113}\text{Sb-u}$	-90635	30	-90625	18	0.3	R			GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{113}\text{Te-u}$	-84109	30				2			GS2	1.0	05Li24
$^{113}\text{I}_{-133}\text{Cs}_{.850}$	4015.9	8.6				2			SH1	1.0	07Ma92
$^{113}\text{Xe}_{-133}\text{Cs}_{.850}$	13585.5	8.1	13587	7	0.2	1	82	82 $^{113}\text{Xe}$	SH1	1.0	07Ma92
$^{113}\text{Ru}_{-105}\text{Ru}_{1.076}$	22087	44	22110	40	0.5	1	79	79 $^{113}\text{Ru}$	JY1	1.0	07Ha20
$^{113}\text{Rh}_{-120}\text{Sn}_{.942}$	7565.4	7.6				2			JY1	1.0	07Ha20
$^{113}\text{Pd}_{-120}\text{Sn}_{.942}$	2387.1	7.4				2			JY1	1.0	07Ha20
$^{113}\text{Cd}^{35}\text{Cl}-^{111}\text{Cd}^{37}\text{Cl}$	3174	2	3175.3	0.6	0.2	U			H11	4.0	63Bi12
$^{112}\text{Cd H}-^{113}\text{Cd}$	6164	20	6179.8	0.6	0.5	U			R12	1.5	83De51
$^{113}\text{Cd}-^{111}\text{Cd H}$	-7623	42	-7599.8	0.6	0.4	U			R12	1.5	83De51
$^{113}\text{Cd}-^{112}\text{Cd}$	1642	11	1645.3	0.6	0.1	U			M16	2.5	63Da10
	1620	40			0.4	U			R12	1.5	83De51
$^{113}\text{In}-^{112}\text{Cd}$	1297	45	1299.0	1.0	0.0	U			R12	1.5	83De51
$^{113}\text{Cd}-^{110}\text{Cd H}$	-6412	32	-6423.5	0.6	-0.2	U			R12	1.5	83De51
$^{113}\text{Cd}-^{111}\text{Cd}$	242	35	225.3	0.6	-0.3	U			R12	1.5	83De51
$^{113}\text{Cd H}-^{112}\text{Cd}$	9467	35	9470.3	0.6	0.1	U			R12	1.5	83De51
$^{113}\text{I}(\alpha)^{109}\text{Sb}$	2705.9	40.	2707	10	0.0	U					81Sc17
$^{113}\text{Xe}(\alpha)^{109}\text{Te}$	3094.8	15.	3087	8	-0.5	1	24	18 $^{113}\text{Xe}$			79Sc22
$^{111}\text{Cd(t,p)}^{113}\text{Cd}$	7456	20	7451.0	0.6	-0.2	U			Ald		67Hi01
$^{113}\text{Cd(p,t)}^{111}\text{Cd}$	-7456	5	-7451.0	0.6	1.0	U			Min		73Oo01
$^{113}\text{In(p,t)}^{111}\text{In}-^{115}\text{In}(\text{o})^{113}\text{In}$	-810	10	-804	4	0.6	1	13	11 $^{111}\text{In}$	Roc		74Ma09
$^{113}\text{In(p,t)}^{111}\text{In}-^{112}\text{Cd}(\text{o})^{110}\text{Cd}$	-746.3	4.1	-748	3	-0.4	1	69	69 $^{111}\text{In}$	SPa		80Ta07
$^{112}\text{Cd(n,}\gamma\text{)}^{113}\text{Cd}$	6550	100	6538.8	0.5	-0.1	U					61Ja21
	6542.0	0.2			-16.2	C					90Ne.A
$^{112}\text{Cd(d,p)}^{113}\text{Cd}$	4318	30	4314.2	0.5	-0.1	U			Pit		64Ro17
	4315.56	0.64			-2.1	1	66	49 $^{112}\text{Cd}$	Rez		90Pi05
$^{113}\text{Cd(d,t)}^{112}\text{Cd}$	-254	30	-281.5	0.5	-0.9	U			Pit		64Co11
$^{113}\text{In(d,t)}^{112}\text{In}$	-3180	25	-3189	4	-0.4	U			Pit		67Hj03
$^{112}\text{Sn(n,}\gamma\text{)}^{113}\text{Sn}$	7741.9	2.3	7743.6	1.6	0.7	-			ORn		75Sl.A
$^{112}\text{Sn(d,p)}^{113}\text{Sn}$	5504	25	5519.0	1.6	0.6	U			Pit		64Co11
	5518.2	3.2			0.3	-			SPa		75Be09
$^{112}\text{Sn(n,}\gamma\text{)}^{113}\text{Sn}$	ave.	7742.2	1.9	7743.6	1.6	0.7	1	72	70 $^{113}\text{Sn}$		average
$^{112}\text{Sn}^3\text{He}_d\text{)}^{113}\text{Sb}$	-2400	40	-2443	17	-1.1	R			Sac		68Co22
$^{113}\text{Xe}(\epsilon\text{p})^{112}\text{Te}$	7920	150	8075	11	1.0	o					82Pi05
	8300	150			-1.5	U					05Ja10
$^{113}\text{Cs(p)}^{112}\text{Xe}$	967	4	973.5	2.6	1.6	3					84Fa04
	982.7	4.			-2.3	3					92He.A
	967.6	6.			1.0	3					94Pa12
$^{113}\text{Ru}(\beta^-)^{113}\text{Rh}$	6480	50	6900	40	8.3	C			Jyv		00Kr.A
$^{113}\text{Rh}(\beta^-)^{113}\text{Pd}$	5008	50	4824	10	-3.7	C			Jyv		00Kr.A
$^{113}\text{Pd}(\beta^-)^{113}\text{Ag}$	3360	150	3435	18	0.5	U					75Br.A
	3340	35			2.7	U			Stu		90Fo07
$^{113}\text{Ag}(\beta^-)^{113}\text{Cd}$	2010	20	2016	17	0.3	2					57Je.A
	2070	150			-0.4	U					70Ma47
	2031	30			-0.5	2			Stu		90Fo07
$^{113}\text{Cd}(\beta^-)^{113}\text{In}$	326.4	15.	322.6	0.8	-0.3	U					51Ca43
	316.4	30.			0.2	U					54De13
	320	10			0.3	U			CIT		88Mi13
	344.9	21.0			-1.1	U					07Be61
	322.2	0.9			0.4	1	77	73 $^{113}\text{In}$			09Da03
$^{113}\text{Sn}(\beta^+)^{113}\text{In}$	1034.6	5.0	1037.6	1.7	0.6	-					93Li10
$^{113}\text{In(p,n)}^{113}\text{Sn}$	-1809	6	-1819.9	1.7	-1.8	-			Oak		73Ra13
$^{113}\text{Sn}(\beta^+)^{113}\text{In}$	ave.	1031	4	1037.6	1.7	1.6	1	20	16 $^{113}\text{Sn}$		average
$^{113}\text{Sb}(\beta^+)^{113}\text{Sn}$	3934	30	3911	17	-0.8	2					61Se08
	3945	50			-0.7	2					69Ki16
$^{113}\text{Te}(\beta^+)^{113}\text{Sb}$	5520	300	6070	30	1.8	U					74Bu21
	5720	200			1.8	U					74Ch17
* $^{113}\text{Ru-u}$	M-A=-71695(77) keV for mixture gs+m at 130(18) keV										
* $^{113}\text{Ru-u}$	M-A=-71882(93) keV for mixture gs+m at 130(18) keV										
* $^{113}\text{Ru-u}$	M-A=-71931(120) keV for mixture gs+m at 130(18) keV										
* $^{113}\text{Cd-u}$	M-A=-88832(41) keV for mixture gs+m at 263.54 keV										
* $^{113}\text{In-u}$	M-A=-89199(30) keV for mixture gs+m at 391.699 keV										
* $^{113}\text{Sn-u}$	M-A=-88263(29) keV for mixture gs+m at 77.389 keV										
* $^{113}\text{Ru}_{-105}\text{Ru}_{1.076}$	$D_M=22157(12)$ $\mu\text{u}$ for mixture gs+m at 130(18) keV; M-A=-71822(12) keV										
* $^{112}\text{Cd(d,p)}^{113}\text{Cd}$	Estimated systematic error 0.5 added to statistical error 0.40										
* $^{113}\text{Ag}(\beta^-)^{113}\text{Cd}$	$E_{\beta^-}=1530(150)$ from $^{113}\text{Ag}^m$ at 43.50 to $5/2^+$ level at 583.962 keV										
									Ens106		**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item		Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
* ${}^{113}\text{Ag}(\beta^-){}^{113}\text{Cd}$		$Q_{\beta^-}=2075(30)$ from ${}^{113}\text{Ag}^m$ at 43.50 keV									Nub127 **	
* ${}^{113}\text{Cd}(\beta^-){}^{113}\text{In}$		$Q_{\beta^-}=590(15)$ 580(30) respectively, from ${}^{113}\text{Cd}^m$ at 263.54 keV									Nub127 **	
* ${}^{113}\text{Sn}(\beta^+){}^{113}\text{In}$		$Q_{\beta^+}=642.9(5.0)$ to $1/2^-$ level at 391.699 keV									Ens106 **	
* ${}^{113}\text{Sb}(\beta^+){}^{113}\text{Sn}$		$E_{\beta^+}=2420(20)$ 2430(50) respectively, to $3/2^+$ level at 498.06 keV, plus 6% to $5/2^+$ at 409.83 keV									Ens106 **	
*											Ens106 **	
${}^{114}\text{Tc-u}$		-62459	365	-63090#	110#	-1.2	U			GT1	1.5	04Ma.A
${}^{114}\text{Ru-}{}^{105}\text{Ru}_{1.086}$		24805	13	24800	5	-0.4	U			JY1	1.0	07Ha20
${}^{114}\text{Ru-u}$		-75642	236	-75386	4	0.7	U			GT1	1.5	04Ma.A
${}^{114}\text{Rh-u}$		-81200	120	-81280	80	-0.7	1	41	41 ${}^{114}\text{Rh}$	JY0	1.0	03Ko.A *
${}^{114}\text{Ag-}{}^{133}\text{Cs}_{.857}$		-10149.3	4.9			2				MA8	1.0	10Br02
${}^{114}\text{C}_8\text{H}_{18-}{}^{114}\text{Cd}$		237487.6	4.	237485.5	0.4	-0.2	U			M16	2.5	63Da10
${}^{114}\text{C}_6\text{O}_2\text{H}_{10-}{}^{114}\text{Cd}$		164713	15	164714.5	0.4	0.1	U			R12	1.5	83De51
		164711	15			0.2	U			R12	1.5	83De51
${}^{114}\text{C}_9\text{H}_6-{}^{114}\text{Cd}$		143591	5	143585.1	0.4	-0.8	U			R12	1.5	83De51
		143586	8			-0.1	U			R12	1.5	83De51
${}^{114}\text{C}_8\text{C}_5\text{H}_5-{}^{114}\text{Cd}$		139117	17	139114.9	0.4	-0.1	U			R12	1.5	83De51
${}^{114}\text{C}_8\text{N H}_4-{}^{114}\text{Cd}$		131017	12	131009.0	0.4	-0.4	U			R12	1.5	83De51
		131009	20			0.0	U			R12	1.5	83De51
${}^{114}\text{Cd-}{}^{133}\text{Cs}_{.857}$		-15611.4	4.2	-15607.2	0.4	1.0	U			MA8	1.0	10Br02
${}^{114}\text{In-u}$		-94986	68	-95082.1	0.9	-1.4	U			GS2	1.0	05Li24 *
${}^{114}\text{C}_8\text{H}_{18-}{}^{114}\text{Sn}$		238092	10	238067.9	1.0	-1.0	U			M16	2.5	63Da10
		238066	8			0.2	U			R13	1.5	83De51
${}^{114}\text{Sb-u}$		-90731	30	-90710	23	0.7	1	61	61 ${}^{114}\text{Sb}$	GS2	1.0	05Li24
${}^{114}\text{Te-u}$		-87911	30			2				GS2	1.0	05Li24
${}^{114}\text{Xe-}{}^{133}\text{Cs}_{.857}$		9008	12			2				MA6	1.0	04Di18
${}^{114}\text{Ru-}{}^{120}\text{Sn}_{.950}$		17522.0	3.7			2				JY1	1.0	11Ha48
${}^{114}\text{Rh-}{}^{120}\text{Sn}_{.950}$		11570	100	11630	80	0.6	1	59	59 ${}^{114}\text{Rh}$	JY1	1.0	07Ha20 *
${}^{114}\text{Pd-}{}^{120}\text{Sn}_{.950}$		3277.0	7.4			2				JY1	1.0	07Ha20
${}^{114}\text{Cd} \ {}^{35}\text{Cl}-{}^{112}\text{Cd} \ {}^{37}\text{Cl}$		3546	3	3552.3	0.6	0.5	U			H11	4.0	63Bi12
		3547	3			0.7	U			H20	2.5	66Ma05
		3548.5	1.0			1.5	U			H26	2.5	73Me28
${}^{113}\text{Cd H-}{}^{114}\text{Cd}$		8859	18	8868.08	0.15	0.3	U			R12	1.5	83De51
${}^{114}\text{Tc}^m-{}^{114}\text{Ru}$		12651	13			3				JY1	1.0	11Ha48 *
${}^{114}\text{Cd-}{}^{112}\text{Cd H}$		-7225	33	-7222.8	0.6	0.0	U			R12	1.5	83De51
${}^{114}\text{Cd-}{}^{113}\text{Cd}$		-1040	11	-1043.05	0.15	-0.1	U			M16	2.5	63Da10
		-1032	33			-0.2	U			R12	1.5	83De51
${}^{114}\text{Cd-}{}^{113}\text{In}$		-679	45	-696.8	0.9	-0.3	U			R12	1.5	83De51
${}^{114}\text{Cd-}{}^{111}\text{Cd H}$		-8651	35	-8642.8	0.6	0.2	U			R12	1.5	83De51
${}^{114}\text{Cd-}{}^{112}\text{Cd}$		587	33	602.2	0.6	0.3	U			R12	1.5	83De51
${}^{114}\text{Cd H-}{}^{113}\text{Cd}$		6821	35	6781.99	0.15	-0.7	U			R12	1.5	83De51
${}^{114}\text{Ba}(\gamma, {}^{12}\text{C}){}^{102}\text{Sn}$		18110	780	18970	40	1.1	U			R12	1.5	95Gu01
${}^{114}\text{Cs}(\alpha){}^{110}\text{I}$		3343.5	30.	3360	50	0.3	o			GSa	80Ro04	
		3357.0	30.			4				GSa	81Sc17	
${}^{114}\text{Ba}(\alpha){}^{110}\text{Xe}$		3534.2	40.			5					02Ma19	
${}^{112}\text{Cd(t,p)}{}^{114}\text{Cd}$		7105	20	7099.9	0.5	-0.3	U			Ald	67Hi01	
${}^{114}\text{Cd(p,t)}{}^{112}\text{Cd}$		-7106	5	-7099.9	0.5	1.2	U			Min	73Oo01	
${}^{112}\text{Sn(t,p)}{}^{114}\text{Sn}$		9579	15	9562.2	1.0	-1.1	U			Ald	69Bj01	
${}^{114}\text{Sn(p,t)}{}^{112}\text{Sn}$		-9582	15	-9562.2	1.0	1.3	U			Roc	70Fl08	
${}^{113}\text{Cd(n,}\gamma{}^{114}\text{Cd}$		9042.76	0.20	9042.91	0.14	0.7	-			ILn	79Br25	
		9043.18	0.19			-1.4	-			Bdn	06Fi.A	
${}^{114}\text{Cd}(\gamma,\text{n}){}^{113}\text{Cd}$		-9050	4	-9042.91	0.14	1.8	U			McM	79Ba06	
${}^{113}\text{Cd(d,p)}{}^{114}\text{Cd}$		6817	30	6818.34	0.14	0.0	U			Pit	64Co11	
		6822	8			-0.5	U			MIT	67Co15	
${}^{114}\text{Cd(d,t)}{}^{113}\text{Cd}$		-2801	30	-2785.68	0.14	0.5	U			Pit	64Ro17	
${}^{113}\text{Cd(d,n,}\gamma{}^{114}\text{Cd}$	ave.	9042.98	0.14	9042.91	0.14	-0.5	1	98	79 ${}^{113}\text{Cd}$	average		
${}^{113}\text{In(n,}\gamma{}^{114}\text{In}$		7274.0	1.2	7273.89	0.27	-0.1	U			75Ra07	Z	
		7273.83	0.27			0.2	1	98	76 ${}^{114}\text{In}$	Bdn	06Fi.A	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{113}\text{In}(\text{d,p})^{114}\text{In}$	5082	25	5049.33	0.27	-1.3	U			Pit	67Hj03		
$^{114}\text{Sn}(\text{d},^3\text{He})^{113}\text{In}$	-2980	50	-2987.0	0.7	-0.1	U			Sac	69Co03		
$^{114}\text{Sn}(\text{p,d})^{113}\text{Sn}$	-8101	15	-8075.8	1.7	1.7	U			Har	70Ca01		
$^{114}\text{Sn}(\text{d,t})^{113}\text{Sn}$	-4052	20	-4043.2	1.7	0.4	U			Pit	64Co11		
	-4043.7	4.2			0.1	1	17	14	$^{113}\text{Sn}$	SPa	75Be09	
$^{114}\text{Cs}(\varepsilon\text{p})^{113}\text{I}$	8730	150	9150	70	2.8	B					82Pi05	
$^{114}\text{Ru}(\beta^-)^{114}\text{Rh}$	6100	200	5490	70	-3.0	B			Jyv	92Jo05	*	
	6120	200			-3.1	C			Jyv	94Jo.A		
$^{114}\text{Rh}(\beta^-)^{114}\text{Pd}$	6500	500	7780	70	2.6	U			Jyv	88Ay02		
	7392	53			7.3	C			Jyv	00Kr.A		
$^{114}\text{Pd}(\beta^-)^{114}\text{Ag}$	1450	100	1440	8	-0.1	U					75Br.A	
	1450	100			-0.1	o			Jyv	89Ay.A		
	1450	100			-0.1	o			Jyv	89Ko22		
	1414	30			0.9	U			Stu	90Fo07		
	1451	25			-0.5	U			Jyv	94Jo.A		
$^{114}\text{Ag}(\beta^-)^{114}\text{Cd}$	4850	150	5084	5	1.6	U					71Ro19	
	4900	260			0.7	U					72Wa06	
	5160	110			-0.7	o			Stu	84Lu02		
	5018	35			1.9	U			Stu	90Fo07		
$^{114}\text{In}(\beta^+)^{114}\text{Cd}$	1422	25	1446.4	0.8	1.0	U					56Gr35	
	1417	20			1.5	U					57Dz64	
$^{114}\text{In}(\beta^-)^{114}\text{Sn}$	1987	2	1988.9	0.6	1.0	-					61Da01	
	1989	1			-0.1	-					61Ni02	
	1980	2			4.5	B					64An12	
	1988.5	1.0			0.4	-					68Ze04	
	ave.	1988.6	0.7		0.6	1	89	65	$^{114}\text{Sn}$		average	
$^{114}\text{Sb}(\beta^+)^{114}\text{Sn}$	5690	100	6062	22	3.7	C					69Bu.A *	
	6370	100			-3.1	B					72Mi27 *	
$^{114}\text{Sn}(\text{p,n})^{114}\text{Sb}$	-6875	35	-6844	22	0.9	1	39	39	$^{114}\text{Sb}$	VUn	76Ka19	
* $^{114}\text{Rh-u}$	Average of 2 values; M-A=-75537(60) keV for mixture gs+m at 200#150 keV											
* $^{114}\text{In-u}$	M-A=-88384(31) keV for mixture gs+m at 190.2682 keV											
* $^{114}\text{Rh}-^{120}\text{Sn}_{.950}$	$D_M=11678.0(7.8) \mu\text{u}$ for mixture gs+m at 200#150 keV; M-A=-75672.8(7.6) keV											
* $^{114}\text{Tc}^m-^{114}\text{Ru}$	Mixture of two isomeric states with stronger component of low-spin state however, estimates from TMS suggest this is $^{114}\text{Tc}^m$											
*	$E_{\beta^-}=5910(120)$ doublet to $(2)^+$ level at 127.0, $1^+$ at 255.2 keV											
* $^{114}\text{Ru}(\beta^-)^{114}\text{Rh}$	$E_{\beta^+}=3365(50)$ to $2^+$ at 1299.92, original error doubled see $^{114}\text{Sn}(\text{p,n})$											
* $^{114}\text{Sb}(\beta^+)^{114}\text{Sn}$	$E_{\beta^+}=4050(100)$ to $2^+$ at 1299.92 level, see $^{112}\text{Sb}(\beta^+)$											
$^{115}\text{Rh-u}$	-79671	85	-79688	8	-0.2	U			JY0	1.0	03Ko.A	
$^{115}\text{Ag}-^{133}\text{Cs}_{.865}$	-9439	24	-9449	20	-0.4	1	67	67	$^{115}\text{Ag}$	MA8	1.0	10Br02 *
$\text{C}_9\text{H}_7-^{115}\text{In}$	150910	8	150896.449	0.013	-0.7	U			M16	2.5	63Da10	
	150932	16			-1.5	U			R12	1.5	83De51	
$\text{C}_6\text{O}_2\text{H}_{11}-^{115}\text{In}$	172055	16	172025.817	0.013	-1.2	U			R12	1.5	83De51	
$\text{C}_8\text{N}\text{H}_5-^{115}\text{In}$	138355	13	138320.389	0.013	-1.8	U			R12	1.5	83De51	
$^{115}\text{In-u}$	-96095	30	-96121.224	0.013	-0.9	U			GS2	1.0	05Li24	
$\text{C}_9\text{H}_7-^{115}\text{Sn}$	151411	8	151430.526	0.016	1.0	U			M16	2.5	63Da10	
	151440	8			-0.8	U			R13	1.5	83De51	
$^{115}\text{Sb-u}$	-93402	30	-93402	17	0.0	2			GS2	1.0	05Li24	
$^{115}\text{Te-u}$	-88098	30			2				GS2	1.0	05Li24 *	
$^{115}\text{I-u}$	-81952	31			2				GS2	1.0	05Li24	
$^{115}\text{Xe}-^{133}\text{Cs}_{.865}$	8078	13			2				MA6	1.0	04Di18	
$^{115}\text{Ru}-^{120}\text{Sn}_{.958}$	22633	95	22510	70	-1.3	1	56	56	$^{115}\text{Ru}$	JY1	1.0	07Ha20 *
$^{115}\text{Rh}-^{120}\text{Sn}_{.958}$	14001.6	7.8	14002	8	0.1	1	100	100	$^{115}\text{Rh}$	JY1	1.0	07Ha20
$^{115}\text{Pd}-^{120}\text{Sn}_{.958}$	7347	15	7349	15	0.2	1	94	94	$^{115}\text{Pd}$	JY1	1.0	07Ha20 *
$^{115}\text{Sn}-^{120}\text{Sn}_{.958}$	-2963.9	2.0	-2964.5	0.9	-0.3	1	22	22	$^{120}\text{Sn}$	JY1	1.0	11Ha48
$^{115}\text{In}-^{115}\text{Sn}$	534.0768	0.0104	534.077	0.010	0.0	1	100	100	$^{115}\text{Sn}$	FS1	1.0	09Mo23
	534.28	0.18			-1.1	U			JY1	1.0	09Wi10	
$^{115}\text{In}-^{114}\text{Cd}$	483	45	513.7	0.4	0.5	U			R12	1.5	83De51	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{115}\text{Sn}-^{114}\text{Sn}$	573	11	562.0	1.0	-0.4	U			M16	2.5	63Da10
$^{115}\text{In}-^{113}\text{In}$	-200	28	-183.1	0.9	0.4	U			R12	1.5	83De51
$^{115}\text{In}-^{129}\text{Xe}$	-902.0845	0.0111	-902.085	0.011	0.0	1	100	100 $^{115}\text{In}$	FS1	1.0	09Mo23
$^{115}\text{Sn}-^{129}\text{Xe}$	-1436.1613	0.0130	-1436.162	0.015	0.0	o			FS1	1.0	09Mo23 *
$^{113}\text{Cd}(\text{t},\text{p})^{115}\text{Cd}$	6702	20	6702.0	0.6	0.0	U			Ald		67Hi01
$^{114}\text{Cd}(\text{n},\gamma)^{115}\text{Cd}$	6160	100	6140.9	0.6	-0.2	U					61Ja21
$^{114}\text{Cd}(\text{d},\text{p})^{115}\text{Cd}$	3923	30	3916.3	0.6	-0.2	U			Pit		64Ro17
	3929	20		-0.6	U				Oak		64Si18
	3916.30	0.59		0.0	1	100	100 $^{115}\text{Cd}$	Rez	90Pi05		*
$^{114}\text{Cd}({}^3\text{He},\text{d})^{115}\text{In}$	1320	15	1317.0	0.4	-0.2	U					70Th.A
$^{115}\text{In}(\text{n},\gamma)^{114}\text{In}$	-9025	29	-9039.3	0.9	-0.5	U			Phi		60Ge01
	-9039	5		-0.1	U				McM		79Ba06
$^{115}\text{In}(\text{d},\text{t})^{114}\text{In}$	-2789	30	-2782.0	0.9	0.2	U			Pit		64Co11
	-2766	25		-0.6	U				Pit		67Hj03
$^{114}\text{Sn}(\text{n},\gamma)^{115}\text{Sn}$	7545.5	2.0	7547.8	1.0	1.2	-			ORn		78Ra16 Z
$^{114}\text{Sn}(\text{d},\text{p})^{115}\text{Sn}$	5329	25	5323.2	1.0	-0.2	U			Pit		64Co11
	5320.6	3.4		0.8	-				SPa		75Be09
$^{115}\text{Sn}(\text{d},\text{t})^{114}\text{Sn}$	-1304	30	-1290.6	1.0	0.4	U			Pit		64Co11
$^{114}\text{Sn}(\text{n},\gamma)^{115}\text{Sn}$	ave. 7545.4	1.7	7547.8	1.0	1.4	1	32	32 $^{114}\text{Sn}$			average
$^{115}\text{Xe}(\text{ep})^{114}\text{Te}$	6200	130	5940	30	-2.0	U					72Ho18
$^{115}\text{Ru}(\beta^-)^{115}\text{Rh}$	7780	100	7930	70	1.5	1	44	44 $^{115}\text{Ru}$	Jyv		00Kr.A
$^{115}\text{Rh}(\beta^-)^{115}\text{Pd}$	6000	500	6197	15	0.4	U			Jyv		88Ay01
	6566	50		-7.4	C				Jyv		00Kr.A
$^{115}\text{Pd}(\beta^-)^{115}\text{Ag}$	4584	50	4556	22	-0.6	1	19	12 $^{115}\text{Ag}$	Stu		90Fo07
$^{115}\text{Ag}(\beta^-)^{115}\text{Cd}$	3180	100	3102	18	-0.8	U					64Ba36 *
	3105	100		0.0	U						78Ma18 *
	3091	40		0.3	1	21	21 $^{115}\text{Ag}$				90Fo07 *
$^{115}\text{Cd}(\beta^-)^{115}\text{In}$	1460	4	1452.0	0.7	-2.0	U					74Bo26 *
	1431	5		4.2	B						75Bo29 *
	1440	2		6.0	B						76Ra16 *
$^{115}\text{In}(\beta^-)^{115}\text{Sn}$	494	20	497.490	0.010	0.2	U					49Be53 *
	630	30		-4.4	B						50Ma76
	625	70		-1.8	U						61Be15
	494	30		0.1	U						62Se03 *
	480	30		0.6	U						62Wa15
	495	20		0.1	U						72Mu02
	482	15		1.0	U						78Pf01 *
	3030	20	3030	16	0.0	R					61Se08 *
$^{115}\text{Sb}(\beta^+)^{115}\text{Sn}$											
* $^{115}\text{Ag}-^{133}\text{Cs}_{.865}$	$D_M = -9416.7(9.2) \mu\text{u}$ for ground state or $^{115}\text{Ag}^m$ at 41.16 keV; M-A=-84952.9(8.6) keV										
* $^{115}\text{Te}-\text{u}$	$M-A=-82058(28) \text{keV}$ for mixture gs+m at 10(7) keV										
* $^{115}\text{Ru}-^{120}\text{Sn}_{.958}$	$D_M=22767.3(7.3) \mu\text{u}$ for mixture gs+m at 250#(100#); M-A=-66072.0(7.2) keV										
* $^{115}\text{Pd}-^{120}\text{Sn}_{.958}$	$D_M=7348(15), 7442(15) \mu\text{u}$ for ground state, 89.18 level										
* $^{115}\text{Sn}-^{129}\text{Xe}$	Used are the equations for the $^{115}\text{In}-^{129}\text{Xe}$ and $^{115}\text{In}-^{115}\text{Sn}$ doublets										
* $^{114}\text{Cd}(\text{d},\text{p})^{115}\text{Cd}$	Estimated systematic error 0.5 added to statistical error 0.32 keV										
* $^{115}\text{Ag}(\beta^-)^{115}\text{Cd}$	$E_{\beta^-}=2950(100)$ to $3/2^+$ level at 229.1 keV, and other $E_{\beta^-}$										
* $^{115}\text{Ag}(\beta^-)^{115}\text{Cd}$	$E_{\beta^-}=721(100)$ to $23/2^-$ level at 2383.5 keV, and other $E_{\beta^-}$										
* $^{115}\text{Ag}(\beta^-)^{115}\text{Cd}$	$Q_{\beta^-}=3132(40)$ from $^{115}\text{Ag}^m$ at 41.16 keV										
* $^{115}\text{Cd}(\beta^-)^{115}\text{In}$	$E_{\beta^-}=593(2), 636(2)$ to $1/2^+$ level at 864.139, $3/2^+$ at 828.588 keV										
* $^{115}\text{Cd}(\beta^-)^{115}\text{In}$	$E_{\beta^-}=320(5), 679(6)$ from $^{115}\text{Cd}^m$ 181.0 to $13/2^+$ 1290.592, $7/2^-$ 933.780										
* $^{115}\text{Cd}(\beta^-)^{115}\text{In}$	$Q_{\beta^-}=1621(2)$ from $^{115}\text{Cd}^m$ at 181.0 keV										
* $^{115}\text{In}(\beta^-)^{115}\text{Sn}$	$Q_{\beta^-}=830(20)$ from $^{115}\text{In}^m$ at 336.244 keV										
* $^{115}\text{In}(\beta^-)^{115}\text{Sn}$	$Q_{\beta^-}=830(30)$ from $^{115}\text{In}^m$ at 336.244 keV										
* $^{115}\text{In}(\beta^-)^{115}\text{Sn}$	$Q_{\beta^-}$ is larger than first excitation energy 497.334(0.023) in $^{115}\text{Sn}$										
* $^{115}\text{Sb}(\beta^+)^{115}\text{Sn}$	$E_{\beta^+}=1510(20)$ to $3/2^+$ level at 497.334 keV										
$^{116}\text{Ru}-^{129}\text{Xe}_{.899}$	16821.2	4.0			2				JY1	1.0	11Ha48
$^{116}\text{Rh}-\text{u}$	-75940	140	-75940	80	0.0	-			JY0	1.0	03Ko.A *
	-75960	140			0.1	-			GT2	1.5	08Kn.A *
ave.	-75950	120			0.0	1	42	42 $^{116}\text{Rh}$			average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{116}\text{Ag}-^{133}\text{Cs}_{872}$	-6167.3	3.5				2			MA8	1.0	10Br02
$\text{C}_9\text{H}_8-^{116}\text{Cd}$	157837.4	2.9	157837.11	0.17	0.0	U			M16	2.5	63Da10
	157851	5		-1.9		U			R12	1.5	83De51
	157846	22		-0.3		U			R12	1.5	83De51
$\text{C}_6\text{O}_2\text{H}_{12}-^{116}\text{Cd}$	178982	15	178966.48	0.17	-0.7	U			R12	1.5	83De51
$\text{C}_8\text{C}_{13}\text{H}_7-^{116}\text{Cd}$	153376	8	153366.91	0.17	-0.8	U			R12	1.5	83De51
	153382	22		-0.5		U			R12	1.5	83De51
$\text{C}_8\text{N}\text{H}_6-^{116}\text{Cd}$	145262	17	145261.05	0.17	0.0	U			R12	1.5	83De51
$\text{C}_9\text{H}_8-^{116}\text{Sn}$	160861	8	160857.46	0.10	-0.2	U			M16	2.5	63Da10
	160857	8		0.0		U			R13	1.5	83De51
$^{116}\text{Sb-u}$	-93128	129	-93207	6	-0.6	U			GS2	1.0	05Li24
$^{116}\text{Te-u}$	-91540	30				2			GS2	1.0	05Li24
$^{116}\text{Xe}-^{133}\text{Cs}_{872}$	4027	14				2			MA6	1.0	04Di18
$^{116}\text{Rh}-^{120}\text{Sn}_{967}$	18633	100	18630	80	0.0	1	58	58 $^{116}\text{Rh}$	JY1	1.0	07Ha20
$^{116}\text{Pd}-^{120}\text{Sn}_{967}$	8868.0	7.6				2			JY1	1.0	07Ha20
$^{116}\text{Cd}^{35}\text{Cl}-^{114}\text{Cd}^{37}\text{Cl}$	4353	3	4348.1	0.4	-0.4	U			H11	4.0	63Bi12
	4344	2		0.8		U			H20	2.5	66Ma05
	4348.7	1.2		-0.2		o			H26	2.5	73Me28
	4347.46	0.44		1.5		1	84	81 $^{114}\text{Cd}$	H49	1.0	10Mc04
$^{116}\text{Cd}-^{116}\text{Sn}$	3020.42	0.14	3020.35	0.14	-0.5	1	98	98 $^{116}\text{Cd}$	JY1	1.0	11Ra24
$^{116}\text{Cd}-^{114}\text{Cd H}$	-6452	32	-6427.0	0.4	0.5	U			R12	1.5	83De51
$^{116}\text{Sn}-^{115}\text{Sn}$	-1602	11	-1601.90	0.10	0.0	U			M16	2.5	63Da10
$^{116}\text{Cd}-^{113}\text{Cd H}$	-7458	32	-7470.0	0.4	-0.3	U			R12	1.5	83De51
$^{116}\text{Cd}-^{114}\text{Cd}$	1370	32	1398.1	0.4	0.6	U			R12	1.5	83De51
$^{116}\text{Cs}(\varepsilon\alpha)^{112}\text{Te}$	12300	400	13080#	100#	1.9	D					77Bo28
	12400	900		0.8		D					76Jo.A
$^{116}\text{Cd}^{(14)\text{C},^{16}\text{O}}^{114}\text{Pd}$	2497	29	2535	7	1.3	U			LAl		84Co19
$^{114}\text{Cd}(\text{t,p})^{116}\text{Cd}$	6362	20	6358.5	0.4	-0.2	U			Ald		67Hi01
$^{116}\text{Cd}(\text{p,t})^{114}\text{Cd}$	-6363	5	-6358.5	0.4	0.9	U			Min		73Oo01
$^{116}\text{Sn}(\text{p,t})^{114}\text{Sn}$	-8619	15	-8629.5	1.0	-0.7	U			Roc		70Fl08
$^{116}\text{Cd}(\gamma,\text{n})^{115}\text{Cd}$	-8702	4	-8699.5	0.7	0.6	U			McM		79Ba06
$^{116}\text{Cd}(\text{d,t})^{115}\text{Cd}$	-2458	30	-2442.3	0.7	0.5	U			Pit		64Ro17
$^{115}\text{In}(\text{n},\gamma)^{116}\text{In}$	6783.8	1.2	6784.72	0.22	0.8	U					72Ra39
	6784.4	1.1		0.3		U					74Co35
	6784.72	0.22		2					Bdn		06Fi.A
$^{115}\text{In}(\text{d,p})^{116}\text{In}$	4494	25	4560.15	0.22	2.6	U			Pit		64Co11
	4580	30		-0.7		U			Pit		67Hj03
$^{116}\text{Sn}(\text{d},^3\text{He})^{115}\text{In}$	-3740	50	-3785.15	0.10	-0.9	U			Sac		69Co03
$^{115}\text{Sn}(\text{n},\gamma)^{116}\text{Sn}$	9562.2	1.5	9563.48	0.09	0.9	U					72Mc08
	9563.5	0.5		0.0		U					84Ga.B
	9563.41	0.11		0.6		-			ORn		91Ra01
	9563.55	0.19		-0.4		-			Bdn		06Fi.A
$^{115}\text{Sn}(\text{d,p})^{116}\text{Sn}$	7358	30	7338.91	0.09	-0.6	U			Pit		64Co11
$^{116}\text{Sn}(\text{p,d})^{115}\text{Sn}$	-7344	15	-7338.91	0.09	0.3	U			Har		70Ca01
$^{116}\text{Sn}(\text{d,t})^{115}\text{Sn}$	-3309	20	-3306.25	0.09	0.1	U			Pit		64Co11
	-3305.0	2.5		-0.5		U			SPa		75Be09
$^{115}\text{Sn}(\text{n},\gamma)^{116}\text{Sn}$	ave.	9563.45	0.10	9563.48	0.09	0.4	1	99	99 $^{116}\text{Sn}$		average
$^{115}\text{Sn}({}^3\text{He},\text{d})^{116}\text{Sb}-^{120}\text{Sn}({}^{121}\text{Sb})$	-1722	10	-1712	6	1.0	1	31	25 $^{116}\text{Sb}$	VUn		78Ka12
$^{116}\text{Cs}(\varepsilon\text{p})^{115}\text{I}$	6350	300	6990#	100#	2.1	U					78Da07
$^{116}\text{Rh}(\beta^-)^{116}\text{Pd}$	8000	500	9090	70	2.2	U			Jyv		88Ay02
$^{116}\text{Pd}(\beta^-)^{116}\text{Ag}$	2615	100	2711	8	1.0	U					75Br.A
	2620	100		0.9		o			Jyv		89Ay.A
	2607	30		3.5		B			Stu		90Fo07
	2620	100		0.9		U			Jyv		94Jo.A
$^{116}\text{Ag}(\beta^-)^{116}\text{Cd}$	6062	130	6170	3	0.8	o			Stu		82Al29
	5800	200		1.8		U					82Br10
	6194	50		-0.5		U			Stu		90Fo07
$^{116}\text{In}(\beta^-)^{116}\text{Sn}$	3290	60	3276.25	0.24	-0.2	U					54Bo39
$^{116}\text{Sb}(\beta^+)^{116}\text{Sn}$	4586	100	4704	5	1.2	U					61Fi05
	4606	50		2.0		U					68Ki07

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{116}\text{Sn}(\text{p},\text{n})^{116}\text{Sb}$	-5515	40	-5487	5	0.7	U			VUn		76Ka19
	-5483.2	6.		-0.6	1	75		75 $^{116}\text{Sb}$	Oak		77Jo03
$^{116}\text{Sb}^n(\beta^+)^{116}\text{Sn}$	5090	40				2					60Je03 *
$^{116}\text{Te}(\beta^+)^{116}\text{Sb}$	1554	100	1553	28	0.0	U					61Fi05 *
$^{116}\text{I}(\beta^+)^{116}\text{Te}$	7760	130	7780	100	0.1	R					70Be.A
	7710	200			0.3	R					76Go02
$^{116}\text{Xe}(\beta^+)^{116}\text{I}$	4340	200	4450	100	0.5	3					76Go02
* $^{116}\text{Rh-u}$	M-A=-70641(96) keV for mixture gs+m at 200#150 keV										
* $^{116}\text{Rh-u}$	M-A=-70662(93) keV for mixture gs+m at 200#150 keV										
* $^{116}\text{Sb-u}$	M-A=-86553(34) keV for mixture gs+n at 390(40) keV										
* $^{116}\text{Rh}-^{120}\text{Sn}_{.967}$	$D_M=18740.7(8.4) \mu\text{m}$ for mixture gs+m at 200#150 keV ; M-A=-70642.7(8.2) keV										
* $^{116}\text{Cs}(\varepsilon\alpha)^{112}\text{Te}$	$Q=12500(900)$ from $^{116}\text{Cs}^m$ estimated at 100#60 keV										
* $^{116}\text{Cs}(\varepsilon\alpha)^{112}\text{Te}$	Trends from Mass Surface TMS suggest $^{116}\text{Cs}$ 760 less bound										
* $^{116}\text{Cs}(\varepsilon\text{p})^{115}\text{I}$	$Q=6450(300)$ from $^{116}\text{Cs}^m$ at estimated 100#60 keV										
* $^{116}\text{Ag}(\beta^-)^{116}\text{Cd}$	$Q_\beta=6110(130)$ from $^{116}\text{Ag}^m$ at 47.90 keV										
* $^{116}\text{Ag}(\beta^-)^{116}\text{Cd}$	$Q_\beta=6199(100)$ ; and 6241(50) from $^{116}\text{Ag}^m$ at 47.90 keV										
* $^{116}\text{Sb}(\beta^+)^{116}\text{Sn}$	$E_{\beta^+}=2270(100)$ 2290(50) respectively, to $2^+$ level at 1293.560 keV										
* $^{116}\text{Sb}^n(\beta^+)^{116}\text{Sn}$	$E_{\beta^+}=1160(40)$ to $7^-$ level at 2908.85 keV										
* $^{116}\text{Te}(\beta^+)^{116}\text{Sb}$	$E_{\beta^+}=440(100)$ to $1^+$ level at 93.99 keV										
$^{117}\text{Ru-u}$	-63897	419				2			GT1	1.5	04Ma.A
$^{117}\text{Rh-u}$	-73903	408	-73965	10	-0.1	U		83 $^{117}\text{Ag}$	GT1	1.5	04Ma.A
$^{117}\text{Ag}-^{133}\text{Cs}_{.880}$	-5029	16	-5024	15	0.3	1	83	MA8	1.0	10Br02	*
C <sub>9</sub> H <sub>9</sub> - $^{117}\text{Sn}$	167486	12	167471.3	0.5	-0.5	U		M16	2.5	63Da10	
	167471	8			0.0	U		R13	1.5	83De51	
C <sup>35</sup> Cl <sub>3</sub> - $^{117}\text{Sn}$	3596	2	3604.1	0.5	1.0	U		H14	4.0	62Ba24	
$^{117}\text{Te-u}$	-91318	30	-91354	14	-1.2	-		GS2	1.0	05Li24	
	91359	30			0.2	-		GS2	1.0	05Li24	*
ave.	-91339	21			-0.7	1	46	46 $^{117}\text{Te}$		average	
$^{117}\text{I-u}$	-86350	30	-86352	28	-0.1	1	88	88 $^{117}\text{I}$	GS2	1.0	05Li24
$^{117}\text{Xe-u}$	-79647	30	-79641	11	0.2	R		GS2	1.0	05Li24	
$^{117}\text{Xe}-^{133}\text{Cs}_{.880}$	3562	12	3561	11	-0.1	2		MA6	1.0	04Di18	
$^{117}\text{Cs}-^{133}\text{Cs}_{.880}$	11819	67				2		MA4	1.0	99Am05	*
$^{117}\text{Rh}-^{120}\text{Sn}_{.975}$	21388.8	9.5				2		JY1	1.0	07Ha20	
$^{117}\text{Pd}-^{120}\text{Sn}_{.975}$	13309.4	7.9	13308	8	-0.2	1	96	96 $^{117}\text{Pd}$	JY1	1.0	07Ha20
$^{117}\text{Sn}-^{116}\text{Sn}$	1219	11	1211.2	0.5	-0.3	U		M16	2.5	63Da10	
$^{116}\text{Cd(d,p)}^{117}\text{Cd}$	3538	30	3552.7	1.0	0.5	U		Pit		64Ro17	
	3550	20			0.1	U		Oak		64Si18	
	3552.66	1.0				2		Rez		90Pi05	*
$^{116}\text{Sn(n,\gamma)}^{117}\text{Sn}$	6943.5	2.0	6943.1	0.5	-0.2	U				75Bh01	Z
	6943.3	1.5			-0.1	U		ORn		78Ra16	Z
	6942.9	0.5			0.4	-		Bdn		06Fi.A	
$^{116}\text{Sn(d,p)}^{117}\text{Sn}$	4721.0	1.8	4718.5	0.5	-1.4	-		SPa		75Be09	
$^{116}\text{Sn(n,\gamma)}^{117}\text{Sn}$	ave.	6943.1	0.5	6943.1	0.5	0.0	1	97	97 $^{117}\text{Sn}$	average	
$^{116}\text{Sn}({}^3\text{He,d})^{117}\text{Sb}$	-1091	10	-1091	8	0.0	1	71	71 $^{117}\text{Sb}$	VUn	78Ka12	*
$^{117}\text{Xe}(\varepsilon\text{p})^{116}\text{Te}$	4100	200	3795	30	-1.5	U				72Ho18	
$^{117}\text{Ba}(\varepsilon\text{p})^{116}\text{Xe}$	7900	300	8140	190	0.8	3				78Bo20	
	8300	250			-0.7	3		GSI		05Ja06	
$^{117}\text{La(p)}^{116}\text{Ba}$	789.8	6.	820	3	5.0	B				01So02	*
	813.0	5.			1.4	o		Arp		01Ma69	
	820.1	3.				3		Arp		11Li28	
$^{117}\text{Pd}(\beta^-)^{117}\text{Ag}$	5735	32	5757	15	0.7	1	21	17 $^{117}\text{Ag}$	Jyv	00Kr.A	
$^{117}\text{Ag}(\beta^-)^{117}\text{Cd}$	4160	50	4236	14	1.5	U		Stu		82Al29	*
$^{117}\text{Cd}(\beta^-)^{117}\text{In}$	2535	20	2525	5	-0.5	U				75Ta06	*
$^{117}\text{In}(\beta^-)^{117}\text{Sn}$	1456.6	5.	1455	5	-0.4	1	94	94 $^{117}\text{In}$		55Mc17	*
$^{117}\text{Sb}(\beta^+)^{117}\text{Sn}$	1751	40	1758	8	0.2	U				64Ba46	*
$^{117}\text{Sn(p,n)}^{117}\text{Sb}$	-2525	20	-2541	8	-0.8	1	18	18 $^{117}\text{Sb}$	Oak	71Ke21	
$^{117}\text{Te}(\beta^+)^{117}\text{Sb}$	3552	20	3544	13	-0.4	-				62Kh05	*
	3492	30			1.7	-				67Be46	*
ave.	3534	17			0.6	1	62	51 $^{117}\text{Te}$		average	
$^{117}\text{I}(\beta^+)^{117}\text{Te}$	4680	100	4659	29	-0.2	-				69La33	*
	4610	110			0.4	-				70Be.A	*
ave.	4650	70			0.1	1	15	12 $^{117}\text{I}$		average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value			Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	$F$	Reference
$^{117}\text{Xe}(\beta^+)^{117}\text{I}$	6270	300	6251	28	-0.1	U							85Le10 *
$^{117}\text{Cs}^x(\text{IT})^{117}\text{Cs}$	50	50				3							AHW
* $^{117}\text{Ag}-^{133}\text{Cs}_{.880}$													Nub127 **
* $^{117}\text{Te-u}$													Nub126 **
* $^{117}\text{Cs}-^{133}\text{Cs}_{.880}$													Nub127 **
* $^{116}\text{Cd(d,p)}^{117}\text{Cd}$													AHW **
* $^{116}\text{Sn}({}^3\text{He},\text{d})^{117}\text{Sb}$													AHW **
* $^{117}\text{La(p)}^{116}\text{Ba}$													01So02 **
*													11Li28 **
* $^{117}\text{Ag}(\beta^-)^{117}\text{Cd}$													Nub127 **
* $^{117}\text{Cd}(\beta^-)^{117}\text{In}$													Nub127 **
* $^{117}\text{In}(\beta^-)^{117}\text{Sn}$													Ens111 **
*													Nub127 **
* $^{117}\text{Sb}(\beta^+)^{117}\text{Sn}$													Ens111 **
* $^{117}\text{Te}(\beta^+)^{117}\text{Sb}$													Ens111 **
* $^{117}\text{I}(\beta^+)^{117}\text{Te}$													Ens111 **
* $^{117}\text{I}(\beta^+)^{117}\text{Te}$													Ens111 **
* $^{117}\text{Xe}(\beta^+)^{117}\text{I}$													AHW **
$^{118}\text{Rh-u}$	-69598	290	-69660	26	-0.1	U							04Ma.A
$^{118}\text{Pd}-^{129}\text{Xe}_{.915}$	6193.6	4.3	6192.2	2.7	-0.3	1	39						11Ha48
$^{118}\text{Ag}-^{133}\text{Cs}_{.887}$	-1540.4	2.7				2							MA8 1.0
$\text{C}_9\text{H}_{10}-^{118}\text{Sn}$	176645	7	176643.7	0.5	-0.1	U							M16 2.5
	176637	8				0.6	U						R13 1.5
$^{118}\text{Te-u}$	-94162	30	-94146	20	0.5	R							GS2 1.0
$^{118}\text{I-u}$	-86932	30	-86926	21	0.2	2							GS2 1.0
	-86920	30				-0.2	2						GS2 1.0
$^{118}\text{Xe-u}$	-83785	30	-83821	11	-1.2	R							GS2 1.0
$^{118}\text{Xe}-^{133}\text{Cs}_{.887}$	37	12	43	11	0.5	2							MA6 1.0
$^{118}\text{Cs}^x-^{133}\text{Cs}_{.887}$	10433	15	10429	13	-0.3	o							MA1 1.0
	10429	13				2							90St25
$^{118}\text{Rh}-^{120}\text{Sn}_{.983}$	26476	26				2							JY1 1.0
$^{118}\text{Pd}-^{120}\text{Sn}_{.983}$	15199.7	7.9	15202.5	2.6	0.4	-							JY1 1.0
	15202.1	3.6				0.1	-						11Ha48
ave.	15202	3				0.2	1	64					average
$^{118}\text{Sn}^{35}\text{Cl}-^{116}\text{Sn}^{37}\text{Cl}$	2814	2	2813.9	0.5	0.0	U							H15 4.0
$^{118}\text{Sn}-^{117}\text{Sn}$	-1338	11	-1347.41	0.14	-0.3	U							M16 2.5
$^{117}\text{Cs}^x-^{118}\text{Cs}^x_{.496}$	-1160	400	-1240#	100#	-0.1	U							P32 2.5
$^{118}\text{Cs}(\varepsilon\alpha)^{114}\text{Te}$	10600	200	11050	30	2.3	U							77Bo28
	10750	200				1.5	U						78Da07 *
$^{116}\text{Cd(t,p)}^{118}\text{Cd}$	5650	20				2							Ald 67Hi01
$^{116}\text{Sn(t,p)}^{118}\text{Sn}$	7769	15	7787.7	0.5	1.2	U							Ald 68Bj02
$^{118}\text{Sn(p,t)}^{116}\text{Sn}$	-7790	10	-7787.7	0.5	0.2	U							Roc 70Fl08
$^{118}\text{Sn(d,}{}^3\text{He)}^{117}\text{In}$	-4440	40	-4505	5	-1.6	U							Sac 69Co03
	-4481	15				-1.6	U						MSU 71We01
$^{117}\text{Sn(n,}\gamma)^{118}\text{Sn}$	9326.5	2.	9326.42	0.13	0.0	U							70Or.A
	9324.8	2.1				0.8	U						75Sl.A
	9326.42	0.13				0.0	1	100					02Bo11
	9327.9	1.1				-1.3	U						Bdn 06Fi.A
$^{117}\text{Sn(d,p)}^{118}\text{Sn}$	7090	12	7101.85	0.13	1.0	U							Tal 64No06
$^{118}\text{Sn(p,d)}^{117}\text{Sn}$	-7097	15	-7101.85	0.13	-0.3	U							Har 70Ca01
$^{118}\text{Cs}(\varepsilon p)^{117}\text{I}$	4700	300	4738	29	0.1	U							78Da07
$^{118}\text{Pd}(\beta^-)^{118}\text{Ag}$	4100	200	4165	4	0.3	U							Jyv 89Ko22 *
$^{118}\text{Ag}(\beta^-)^{118}\text{Cd}$	7122	100	7148	20	0.3	U							Stu 82Al29 *
	7110	470				0.1	U						Stu 82Al29 *
	7155	76				-0.1	U						95Ap.A
$^{118}\text{In}(\beta^-)^{118}\text{Sn}$	4200	400	4425	8	0.6	U							61Gj02
	4200	300				0.7	U						64Ka10
	4310	100				1.1	U						87Ga.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{118}\text{In}^m(\beta^-)^{118}\text{Sn}$	4270	100	4530#	50#	2.5	D				64Ka10	*	
$^{118}\text{Sb}(\beta^+)^{118}\text{Sn}$	3610	50	3656.6	3.0	0.9	U				61Fi05		
$^{118}\text{Sn}(\text{p},\text{n})^{118}\text{Sb}$	-4477.7	5.7	-4439.0	3.0	6.8	F		Tkm		63Ok01	*	
	-4439.0	3.				2		Oak		77Jo03		
$^{118}\text{Sb}^n(\beta^+)^{118}\text{Sn}$	3907	5				2				61Bo13	*	
$^{118}\text{I}(\beta^+)^{118}\text{Te}$	7080	150	6726	27	-2.4	U				68La18	*	
	7068	100			-3.4	C				70Be.A	*	
$^{118}\text{Xe}(\beta^+)^{118}\text{I}$	3720	110	2892	22	-7.5	F				70Be.A	*	
$^{118}\text{Cs}(\beta^+)^{118}\text{Xe}$	9300	1000	9670	16	0.4	U				76Da.C		
$^{118}\text{Cs}^x(\text{IT})^{118}\text{Cs}$			5	4			3			82Au01	*	
* $^{118}\text{Ag}-^{133}\text{Cs}_{.887}$	$D_M=-1403.5(2.7) \mu\text{m}$ for $^{118}\text{Ag}^n$ at 127.63(0.10) keV; $M-A=-79426.3(2.5)$ keV											
* $^{118}\text{I}-\text{u}$	$M-A=-80775(28)$ keV for $^{118}\text{I}^m$ 7- at 188.8 keV											
* $^{118}\text{Cs}(\varepsilon\alpha)^{114}\text{Te}$	As read from Fig. 2 (p.401)											
* $^{118}\text{Pd}(\beta^-)^{118}\text{Ag}$	Original value 4000(200) corrected for new branching ratios											
* $^{118}\text{Ag}(\beta^-)^{118}\text{Cd}$	$E_{\beta^-}=4330(240), 3960(170), 3810(150)$ reinterpreted as feeding											
*	(1) level at 2788.72, (1) at 3224.32, (2,3,4) at 3265.77 keV											
* $^{118}\text{Ag}(\beta^-)^{118}\text{Cd}$	$E_{\beta^-}=3990(720), 3910(630)$ reinterpreted as $^{118}\text{Ag}^n$ at 127.63(0.10) keV											
*	to (2,3,4) level at 3181.73, 3381.8 keV											
* $^{118}\text{In}^m(\beta^-)^{118}\text{Sn}$	$E_{\beta^-}=2000(100)$ to 4+ level at 2280.342 level, and other $E_{\beta^-}$											
* $^{118}\text{In}^m(\beta^-)^{118}\text{Sn}$	Trends from Mass Surface TMS suggest $^{118}\text{In}^m$ 255 less bound											
* $^{118}\text{Sn}(\text{p},\text{n})^{118}\text{Sb}$	F : see note added in proof to reference											
* $^{118}\text{Sb}^n(\beta^+)^{118}\text{Sn}$	$p^+=16(1)\times 10^{-4}$ to 7- level at 2574.91 keV, recalculated Q											
* $^{118}\text{I}(\beta^+)^{118}\text{Te}$	$E_{\beta^+}=5450(150)$ to 2+ level at 605.70 keV											
* $^{118}\text{I}(\beta^+)^{118}\text{Te}$	$E_{\beta^+}=5440(100)$ to 2+ level at 605.70 keV											
* $^{118}\text{Xe}(\beta^+)^{118}\text{I}$	F : probably contaminated by isobars											
* $^{118}\text{Cs}^x(\text{IT})^{118}\text{Cs}$	Original 24(19) corrected for new estimated IT=100(60)#											
$^{119}\text{Rh-u}$	-67698	268	-67443	10	0.6	U			GT1	1.5	04Ma.A	
$^{119}\text{Rh}-^{129}\text{Xe}_{.922}$	20349	10				2			JY1	1.0	11Ha48	
$^{119}\text{Pd-u}$	-76844	208	-76660	9	0.6	U			GT1	1.5	04Ma.A	
$^{119}\text{Ag}-^{133}\text{Cs}_{.895}$	188	16	191	16	0.2	1	97	97	$^{119}\text{Ag}$	MA8	1.0	10Br02
$\text{C}_9\text{H}_{11}-^{119}\text{Sn}$	182778	7	182764.2	0.8	-0.8	U			M16	2.5	63Da10	
	182762	8			0.2	U			R13	1.5	83De51	
$^{119}\text{I}-\text{u}$	-89926	30				2			GS2	1.0	05Li24	
$^{119}\text{Xe-u}$	-84601	30	-84589	11	0.4	R			GS2	1.0	05Li24	
$^{119}\text{Xe}-^{133}\text{Cs}_{.895}$	33	12	31	11	-0.1	2			MA6	1.0	04Di18	
$^{119}\text{Cs-u}$	-77532	57	-77623	15	-1.6	U			GS2	1.0	05Li24	
$^{119}\text{Cs}^x-^{133}\text{Cs}_{.895}$	7019	15	7015	9	-0.3	o			MA1	1.0	90St25	
	7018	13			-0.2	2			MA1	1.0	99Am05	
	7012	13			0.2	2			MA4	1.0	99Am05	
$^{119}\text{Sn}^{35}\text{Cl}-^{117}\text{Sn}^{37}\text{Cl}$	3306	2	3307.3	0.6	0.2	U			H15	4.0	62Ba23	
$^{119}\text{Pd}-^{120}\text{Sn}_{.992}$	20356.2	8.8				2			JY1	1.0	07Ha20	
$^{119}\text{Sn}-^{118}\text{Sn}$	1709	12	1704.6	0.6	-0.1	U			M16	2.5	63Da10	
$^{119}\text{I}-^{118}\text{I}$	-2747	155	-3000	40	-1.1	U			CR2	1.5	92Sh.A	
$^{119}\text{I}-^{117}\text{I}$	-3570	155	-3570	40	0.0	U			CR2	1.5	92Sh.A	
$^{118}\text{Cs}^x-^{119}\text{Cs}_{.661}^{x.661} \text{---} ^{116}\text{Cs}_{.339}$	530	80	420#	40#	-0.6	U			P32	2.5	86Au02	
$^{118}\text{Cs}^x-^{119}\text{Cs}_{.496}^{x.496} \text{---} ^{117}\text{Cs}_{.504}$	870	50	940	40	0.5	U			P22	2.5	82Au01	
	980	40			-0.4	U			P32	2.5	86Au02	
$^{119}\text{Sn}(\text{t},\alpha)^{118}\text{In}-^{118}\text{Sn}(\text{t},\alpha)^{117}\text{In}$	-127	6	-127	6	0.0	1	100	100	$^{118}\text{In}$	McM	85Pi03	
$^{118}\text{Sn}(\text{n},\gamma)^{119}\text{Sn}$	6484.6	1.5	6483.5	0.5	-0.7	-			ORn		78Ra16	
	6483.3	0.6			0.3	-			Bdn		06Fi.A	
$^{118}\text{Sn}(\text{d,p})^{119}\text{Sn}$	4238	12	4258.9	0.5	1.7	U			MIT		67Sp09	
$^{118}\text{Sn}(\text{n},\gamma)^{119}\text{Sn}$	ave.	6483.5	0.6	6483.5	0.5	0.0	1	96	93	$^{119}\text{Sn}$	average	
$^{118}\text{Sn}(\text{d,e})^{119}\text{Sb}$	-388	10	-383	8	0.5	1	59	59	$^{119}\text{Sb}$	VUn	78Ka12	
$^{119}\text{Ba}(\text{ep})^{118}\text{Xe}$	6200	200				3					78Bo20	
$^{119}\text{Ag}(\beta^-)^{119}\text{Cd}$	5350	40	5330	40	-0.5	1	81	78	$^{119}\text{Cd}$	Stu	82Al29	
$^{119}\text{Cd}(\beta^-)^{119}\text{In}$	3797	80	3720	40	-0.9	1	23	22	$^{119}\text{Cd}$	Stu	82Al29	
$^{119}\text{In}(\beta^-)^{119}\text{Sn}$	2387	100	2366	7	-0.2	U					60Yu01	
	2413	200			-0.2	U					61Gl06	
$^{119}\text{Sb}(\varepsilon)^{119}\text{Sn}$	579	20	591	8	0.6	-					57Ol05	
$^{119}\text{Sn}(\text{p},\text{n})^{119}\text{Sb}$	-1369	15	-1373	8	-0.3	-			Oak		71Ke21	
$^{119}\text{Sb}(\varepsilon)^{119}\text{Sn}$	ave.	584	12	591	8	0.6	1	41	41	$^{119}\text{Sb}$	average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{119}\text{Te}(\beta^+)^{119}\text{Sb}$	2293	2				2					60Ko12 *
$^{119}\text{I}(\beta^+)^{119}\text{Te}$	3630	100	3416	29	-2.1	U					69La33 *
	3370	100			0.5	U					70Be.A
$^{119}\text{Xe}(\beta^+)^{119}\text{I}$	4990	120	4971	30	-0.2	U					70Be.A
$^{119}\text{Cs}(\beta^+)^{119}\text{Xe}$	6260	290	6489	17	0.8	U					83Pa.A *
$^{119}\text{Cs}^x(\text{IT})^{119}\text{Cs}$		16	11			3					82Au01 *
* $^{119}\text{Ag}-^{133}\text{Cs}_{.895}$											Nub127 **
* $^{119}\text{Cs-u}$											Nub127 **
* $^{119}\text{I}-^{118}\text{I}$											GAu **
*											Nubase **
* $^{119}\text{I}-^{117}\text{I}$											GAu **
* $^{118}\text{Sn}(\text{He},\text{d})^{119}\text{Sb}$											AHW **
* $^{119}\text{Ba}(\epsilon p)^{118}\text{Xe}$											GAu **
* $^{119}\text{Cd}(\beta^-)^{119}\text{In}$											Nub127 **
* $^{119}\text{In}(\beta^-)^{119}\text{Sn}$											Ens09a **
* $^{119}\text{In}(\beta^-)^{119}\text{Sn}$											Ens09a **
* $^{119}\text{Sb}(\epsilon)^{119}\text{Sn}$											Ens09a **
* $^{119}\text{Te}(\beta^+)^{119}\text{Sb}$											Ens09a **
* $^{119}\text{I}(\beta^+)^{119}\text{Te}$											Ens09a **
* $^{119}\text{Cs}(\beta^+)^{119}\text{Xe}$											Ens09a **
* $^{119}\text{Cs}^x(\text{IT})^{119}\text{Cs}$											GAu **
$^{120}\text{Pd}-^{129}\text{Xe}_{.930}$	13107.0	4.4	13104.9	2.5	-0.5	1	31	31	$^{120}\text{Pd}$	JY1 1.0	11Ha48
$^{120}\text{Ag}-^{133}\text{Cs}_{.902}$	4067.1	4.8				2				MA8 1.0	10Br02
	4086	12	4067	5	-1.6	o				MA8 1.0	10Br02
$^{120}\text{Cd}-^{133}\text{Cs}_{.902}$	-4849.6	4.0				2				MA8 1.0	10Br02
C <sub>9</sub> H <sub>12</sub> - <sup>120</sup> Sn	191709	11	191698.8	1.0	-0.4	U				M16 2.5	63Da10
	191705	8			-0.5	U				R13 1.5	83De51
<sup>13</sup> C <sup>35</sup> Cl <sub>2</sub> <sup>37</sup> Cl- <sup>120</sup> Sn	4758	3	4761.2	1.0	0.3	U				H14 4.0	62Ba24
<sup>120</sup> Sb-u	-94796	76	-94921	8	-1.6	U				GS2 1.0	05Li24 *
C <sub>9</sub> H <sub>12</sub> - <sup>120</sup> Te	189879	9	189841	3	-1.7	U				M16 2.5	63Da10
	189868	8			-2.2	U				R13 1.5	83De51
<sup>120</sup> I-u	-90222	104	-89913	16	3.0	C				GS2 1.0	05Li24 *
<sup>120</sup> Xe-u	-88231	30	-88216	13	0.5	R				GS2 1.0	05Li24
<sup>120</sup> Xe- <sup>133</sup> Cs <sub>.902</sub>	-2930	14	-2933	13	-0.2	2				MA6 1.0	04Di18
<sup>120</sup> Cs-u	-79342	54	-79323	11	0.4	U				GS2 1.0	05Li24 *
<sup>120</sup> Cs <sup>x</sup> - <sup>133</sup> Cs <sub>.902</sub>	5956	15	5965	10	0.6	o				MA1 1.0	90St25
	5956	12			0.7	2				MA1 1.0	99Am05
	5983	17			-1.1	2				MA4 1.0	99Am05
<sup>120</sup> Sn <sup>35</sup> Cl- <sup>118</sup> Sn <sup>37</sup> Cl	3546	2	3545.1	1.1	-0.1	U				H15 4.0	62Ba23
<sup>120</sup> Pd- <sup>120</sup> Sn	22317.1	9.7	22349.5	2.4	3.3	B				JY1 1.0	07Ha20
	22348.6	2.8			0.3	1	72	69	$^{120}\text{Pd}$	JY1 1.0	11Ha48
<sup>120</sup> Te- <sup>120</sup> Sn	1842.2	1.7	1858	3	9.1	B				CP1 1.0	09Sc19
	1839.7	1.7			10.6	B				CP1 1.0	09Sc19
<sup>120</sup> Sn- <sup>119</sup> Sn	-1113	11	-1109.5	1.2	0.1	U				M16 2.5	63Da10
<sup>118</sup> Cs <sup>x</sup> - <sup>120</sup> Cs <sup>x</sup> <sub>328</sub> <sup>117</sup> Cs <sup>x</sup> <sub>672</sub>	460	120	480	60	0.1	U				P22 2.5	82Au01
<sup>119</sup> Cs <sup>x</sup> - <sup>120</sup> Cs <sup>x</sup> <sub>661</sub> <sup>117</sup> Cs <sup>x</sup> <sub>339</sub>	-940	50	-928	29	0.1	U				P22 2.5	82Au01
<sup>119</sup> Cs <sup>x</sup> - <sup>120</sup> Cs <sup>x</sup> <sub>496</sub> <sup>118</sup> Cs <sup>x</sup> <sub>504</sub>	-1220	30	-1167	11	0.7	U				P22 2.5	82Au01
	-1180	60			0.1	U				P32 2.5	86Au02
	-1200	30			0.4	U				P32 2.5	86Au02
	-1270	50			0.8	F				P32 2.5	86Au02 *
<sup>120</sup> Cs( $\epsilon\alpha$ ) <sup>116</sup> Te	9200	300	8955	30	-0.8	U					76Jo.A
<sup>118</sup> Sn(t,p) <sup>120</sup> Sn	7107	15	7106.5	1.0	0.0	U					68Bj02
<sup>120</sup> Sn(p,t) <sup>118</sup> Sn	-7109	10	-7106.5	1.0	0.2	U					70Fl08
<sup>120</sup> Te(p,t) <sup>118</sup> Te	-9343	24	-9332	18	0.4	2					74De31 *
<sup>120</sup> Sn(d, <sup>3</sup> He) <sup>119</sup> In	-5160	40	-5195	7	-0.9	U					69Co03
	-5169	20			-1.3	1	13	13	$^{119}\text{In}$	MSU	71We01
<sup>120</sup> Sn(t, $\alpha$ ) <sup>119</sup> In- <sup>118</sup> Sn( <sup>0</sup> ) <sup>117</sup> In	-692	6	-689	6	0.5	1	92	86	$^{119}\text{In}$	McM	85Pi03

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{119}\text{Sn}(\text{d,p})^{120}\text{Sn}$	6890	12	6880.3	1.1	-0.8	U			Tal	64No06	
$^{120}\text{Sn}(\text{p,d})^{119}\text{Sn}$	-6889	15	-6880.3	1.1	0.6	U			Har	70Ca01	
$^{120}\text{Sn}(\text{d,t})^{119}\text{Sn}$	-2847.0	2.5	-2847.6	1.1	-0.2	1	19	$^{120}\text{Sn}$	SPa	75Be09	
$^{120}\text{Pd}(\beta^-)^{120}\text{Ag}$	5500	100	5371	5	-1.3	U			Jyv	94Jo.A	
$^{120}\text{Ag}(\beta^-)^{120}\text{Cd}$	8200	100	8306	6	1.1	U			Stu	82Al29	
	8450	100			-1.4	U				95Ap.A	
$^{120}\text{In}(\beta^-)^{120}\text{Sn}$	5300	170	5370	40	0.4	U			Stu	78Al18	
	5370	40				2				87Ga.A	
$^{120}\text{In}^m(\beta^-)^{120}\text{Sn}$	5280	200	5420#	50#	0.7	D				64Ka10	*
	5340	170			0.5	D			Stu	78Al18	*
$^{120}\text{Sb}(\beta^+)^{120}\text{Sn}$	2720	20	2681	7	-2.0	U				50Bi92	
	2770	30			-3.0	U				69Ki15	
$^{120}\text{Sn}(\text{p,n})^{120}\text{Sb}$	-3462.9	7.1				2			Tkm	63Ok01	
$^{120}\text{I}(\beta^+)^{120}\text{Te}$	5615	15				2				70Ga32	*
	5608	150	5615	15	0.0	U				68La18	*
$^{120}\text{Xe}(\beta^+)^{120}\text{I}$	1960	40	1581	19	-9.5	B				74Mu10	*
$^{120}\text{Cs}(\beta^+)^{120}\text{Xe}$	7300	500	8284	15	2.0	U				76Ba.A	*
	7800	1000			0.5	U				76Da.C	*
	7380	230			3.9	C				83Pa.A	*
	8210	200			0.4	U			IRS	93Al03	
$^{120}\text{Cs}^x(\text{IT})^{120}\text{Cs}$	5	4				3				82Au01	*
$^{120}\text{Ba}(\beta^+)^{120}\text{Cs}$	5000	300				4				92Xu04	
* $^{120}\text{Sb-u}$	M-A=-88302(50) keV for mixture gs+m at 0#100 keV										
* $^{120}\text{I-u}$	M-A=-83881(28) keV for mixture gs+n at 320(15) keV										
* $^{120}\text{Cs-u}$	M-A=-73856(29) keV for mixture gs+m at 100#60 keV										
* $^{119}\text{Cs}^x - ^{120}\text{Cs}_{.496}^{.496}$	$^{118}\text{C}$ F : rejection based on line-shape analysis										
* $^{120}\text{Te}(\text{p,t})^{118}\text{Te}$	Original error 12; added systematic error 21 keV										
* $^{120}\text{In}^m(\beta^-)^{120}\text{Sn}$	$E_{\beta^-}=3100(200), 2200(200)$ to $4^+$ levels at 2194.299, 3057.946 keV										
* $^{120}\text{In}^m(\beta^-)^{120}\text{Sn}$	$E_{\beta^-}=3100(170)$ to $4^+$ level at 2194.299 keV, and other $E_{\beta^-}$										
* $^{120}\text{In}^m(\beta^-)^{120}\text{Sn}$	Trends from Mass Surface TMS suggest $^{120}\text{In}^m$ 105 less bound										
* $^{120}\text{I}(\beta^+)^{120}\text{Te}$	$E_{\beta^+}=4595(15), 4030(20)$ to ground state, $2^+$ level at 560.438 keV										
* $^{120}\text{I}(\beta^+)^{120}\text{Te}$	$E_{\beta^+}=3130(150)$ from $^{120}\text{I}^n$ at 320(15) to $6^+$ level at 1776.23 keV										
* $^{120}\text{Xe}(\beta^+)^{120}\text{I}$	$p^+=0.07(0.01)$ to $1^+$ level at 25.1 keV, recalculated Q										
* $^{120}\text{Cs}(\beta^+)^{120}\text{Xe}$	$E_{\beta^+}=6000(500), 6500(1000), 6040(230)$ , respectively, to $2^+$ level at 322.61 keV										
* $^{120}\text{Cs}^x(\text{IT})^{120}\text{Cs}$	Original 24(19) corrected for new estimated IT=100(60)#										
$^{121}\text{Pd-u}$	-71820	311	-71050	4	1.7	U			GT1	1.5	04Ma.A
$^{121}\text{Ag}-^{133}\text{Cs}_{.910}$	6164	13			2				MA8	1.0	10Br02
	6170	17	6164	13	-0.4	o			MA8	1.0	10Br02
$^{121}\text{Cd}-^{130}\text{Xe}_{.931}$	2796.2	3.0	2796.5	2.1	0.1	2			JY1	1.0	12Ha25
	2796.7	2.9			-0.1	2			JY1	1.0	12Ka.C
$\text{C}_9\text{H}_{13}-^{121}\text{Sb}$	197910.5	3.7	197913	3	0.3	U			M16	2.5	63Da10
	197910	8			0.3	U			R13	1.5	83De51
$^{121}\text{Sb}-\text{C}^{35}\text{Cl}^{37}\text{Cl}_2$	3162	3	3154	3	-0.7	U			H14	4.0	62Ba24
$^{121}\text{Sb-u}$	-96180	30	-96188	3	-0.3	U			GS2	1.0	05Li24
$^{121}\text{I-u}$	-92609	30	-92595	6	0.5	U			GS2	1.0	05Li24
$^{121}\text{Xe-u}$	-88562	30	-88547	11	0.5	R			GS2	1.0	05Li24
$^{121}\text{Xe}-^{133}\text{Cs}_{.910}$	-2495	13	-2508	11	-1.0	-			MA6	1.0	04Di18
	ave.	-2499	12		-0.7	1	85	$^{85}\text{Xe}$			average
$^{121}\text{Cs}-^{133}\text{Cs}_{.910}$	3247	25	3266	15	0.8	o			MA1	1.0	90St25
	3248	25			0.7	1	38	$^{38}\text{Cs}$	MA1	1.0	99Am05
$^{121}\text{Cs-u}$	-82821	38	-82773	15	1.3	1	16	$^{16}\text{Cs}$	GS2	1.0	05Li24
	18265.9	3.6			2				JY1	1.0	11Ha48
$^{121}\text{Sb}^{35}\text{Cl}-^{119}\text{Sn}^{37}\text{Cl}$	3452	2	3451	3	-0.1	U			H14	4.0	62Ba24
$^{119}\text{Cs}^x-^{121}\text{Cs}_{.328}^{.672}$	-1080	30	-1047	13	0.4	U			P22	2.5	82Au01
$^{120}\text{Cs}^x-^{121}\text{Cs}_{.661}^{.339}$	280	30	240	15	-0.5	U			P22	2.5	82Au01
$^{120}\text{Cs}^x-^{121}\text{Cs}_{.496}^{.504}$	790	30	770	13	-0.3	U			P32	2.5	86Au02
	860	50			-0.7	U			P32	2.5	86Au02
	813	14			-1.2	U			P32	2.5	86Au02

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{120}\text{Sn}(\text{n},\gamma)^{121}\text{Sn}$	6170.3	2.	6170.2	0.3	0.0	U					76Ca24
	6170.5	0.7			-0.4	-					81Ba53
	6170.1	0.4			0.3	-					06Fi.A
$^{120}\text{Sn}(\text{d,p})^{121}\text{Sn}$	3946.2	1.7	3945.6	0.3	-0.3	-					75Be09
$^{120}\text{Sn}(\text{n},\gamma)^{121}\text{Sn}$	ave.	6170.2	0.3	6170.2	0.3	0.0	1	99	$^{97}\text{Sn}$		average
$^{121}\text{Sb}(\gamma,\text{n})^{120}\text{Sb}$		-9310	60	-9252	8	1.0	U				Phi
		-9240	25			-0.5	U				McM
$^{120}\text{Te}(\text{He,d})^{121}\text{I}$	-1320.5	4.4	-1321	4	-0.1	1	99	$^{99}\text{I}$	Hei		78Sz09
$^{121}\text{Ba}(\epsilon\text{p})^{120}\text{Xe}$	4200	300	4140	140	-0.2	R					78Bo20
$^{121}\text{Pr}(\text{p})^{120}\text{Ce}$	837	50	890	10	1.1	F					90Bo39
		889.6	10.			3					*
$^{121}\text{Ag}(\beta^-)^{121}\text{Cd}$	6400	120	6671	12	2.3	U					05Ro19
$^{121}\text{Cd}(\beta^-)^{121}\text{In}$	4780	80	4762	27	-0.2	U					82Al29
$^{121}\text{In}(\beta^-)^{121}\text{Sn}$	3426	200	3361	27	-0.3	U					82Al29
		3406	50			-0.9	R				*
$^{121}\text{Sn}(\beta^-)^{121}\text{Sb}$	383	5	401.1	2.9	3.6	B					78Al18
		383.4	3.			5.9	B				*
$^{121}\text{Te}(\beta^+)^{121}\text{Sb}$	1080	30	1054	26	-0.9	1	74	$^{74}\text{Te}$			68Sn01
$^{121}\text{I}(\beta^+)^{121}\text{Te}$	2364	50	2293	26	-1.4	1	27	$^{26}\text{Te}$			75Me23
		2384	100			-0.9	U				*
$^{121}\text{Xe}(\beta^+)^{121}\text{I}$	3790	100	3771	12	-0.2	U					60Mo.A
		4160	140			-2.8	U				70Be.A
$^{121}\text{Cs}(\beta^+)^{121}\text{Xe}$	5650	490	5379	14	-0.6	U					75We23
		5400	20			-1.1	-				81So06
		5210	220			0.8	U				83Pa.A
		5300	100			0.8	U				*
		5400	40			-0.5	-				93Al03
	ave.	5400	18			-1.2	1	61	$^{46}\text{Cs}$		96Os04
$^{121}\text{Cs}^x(\text{IT})^{121}\text{Cs}$		46	8			2					average
$^{121}\text{Ba}(\beta^+)^{121}\text{Cs}$	6340	160	6360	140	0.1	2					GAu
$*^{121}\text{Ag}-^{133}\text{Cs}_{.910}$	$D_M=6175.1(5.0) \mu\text{u}$ for ground state or $^{121}\text{Ag}^m$ at 20#20 keV; M-A=-74392.5(4.7) keV										Nub127 **
$*^{121}\text{Ag}-^{133}\text{Cs}_{.910}$	$D_M=6180(12) \mu\text{u}$ for ground state or $^{121}\text{Ag}^m$ at 20#20 keV; M-A=-74388(11) keV										Nub127 **
$*^{121}\text{Cd}-^{130}\text{Xe}_{.931}$	$D_M=3027.4(2.9) \mu\text{u}$ for $^{121}\text{Cd}^m$ at 214.86(0.15) keV; M-A=-80858.7(2.7) keV										Nub129 **
$*^{121}\text{Cs}-^{133}\text{Cs}_{.910}$	$D_M=3284(16) \mu\text{u}$ for mixture gs+m at 68.5 keV										Nub127 **
$*^{121}\text{Cs}-^{133}\text{Cs}_{.910}$	$D_M=3285(13) \mu\text{u}$ for mixture gs+m at 68.5 keV; M-A=-77084(12) keV										Nub127 **
$*^{121}\text{Cs-u}$	$M-A=-77113(29) \text{keV}$ for mixture gs+m at 68.5 keV										Nub127 **
$*^{121}\text{Pd}-^{129}\text{Xe}_{.938}$	Taken as low-spin isomer (see also $^{102}\text{Y}$ and $^{114}\text{Tc}$ doublets in same paper)										GAu **
$*^{121}\text{Pr(p)}^{120}\text{Ce}$	F : misassigned according to reference										05Ro19 **
$*^{121}\text{Pr(p)}^{120}\text{Ce}$	$E_p=882(10)$ ; in publication $Q_p=900(10) \text{keV}$										Wg10c**
$*^{121}\text{Cd}(\beta^-)^{121}\text{In}$	$Q_{\beta^-}=4890(150)$ ; and 4960(80) from $^{121}\text{Cd}^m$ at 214.86 keV										Nub127 **
$*^{121}\text{In}(\beta^-)^{121}\text{Sn}$	$E_{\beta^-}=3700(200)$ from $^{121}\text{In}^m$ at 313.68(0.07) to ground state and $1/2^+$ level at 60.34 keV										Ens106 **
$*^{121}\text{In}(\beta^-)^{121}\text{Sn}$	$E_{\beta^-}=2480(50)$ to $7/2^+$ level at 925.59 keV										Ens106 **
$*^{121}\text{Sn}(\beta^-)^{121}\text{Sb}$	$E_{\beta^-}=383(3)$ ; and 354(5) from $^{121}\text{Sn}^m$ at 6.31 to $7/2^+$ level at 37.1298 keV										Ens106 **
$*^{121}\text{Te}(\beta^+)^{121}\text{Sb}$	$p^+=0.024(0.011)$ gives $Q_{\beta^+}=315(30)$ , recalculated $Q_{\beta^+}$ from $^{121}\text{Te}^m$ at 293.974 to $7/2^+$ level at 37.1298 keV										AHW **
*	$E_{\beta^+}=1130(50)$ 1150(100) respectively, to $3/2^+$ level at 212.191 keV										Ens106 **
$*^{121}\text{I}(\beta^+)^{121}\text{Te}$	$E_{\beta^+}=3730(220)$ to $7/2^+$ level at 459.59 keV										Ens106 **
$*^{121}\text{Cs}(\beta^+)^{121}\text{Xe}$	$Q_{\beta^+}=5370(100)$ 5470(40) respectively, from $^{121}\text{Cs}^m$ at 68.5 keV										Ens106 **
$^{122}\text{Pd-u}$	-69308	397	-69368	21	-0.1	U			GT1	1.5	04Ma.A
$^{122}\text{Ag-u}$	-76280	110	-76340	40	-0.3	o			GT2	1.5	08Kn.A *
	-76340	130			0.0	U			GT2	1.5	08Su19 *
$^{122}\text{Ag}-^{133}\text{Cs}_{.917}$	10365	41			2				MA8	1.0	10Br02 *
$^{122}\text{Cd}-^{133}\text{Cs}_{.917}$	155.1	4.7	159.6	2.5	1.0	1	28	$^{28}\text{Cd}$	MA8	1.0	10Br02
$\text{C}_8\text{H}_{12}\text{N}-^{122}\text{Sn}$	193541	8	193530.6	2.6	-0.5	U			M16	2.5	63Da10
	193558	8			-2.3	U			R13	1.5	83De51
$\text{C}_8\text{H}_{12}\text{N}-^{122}\text{Te}$	193925	9	193930.9	1.6	0.3	U			M16	2.5	63Da10
	193926	8			0.4	U			R13	1.5	83De51

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{123}\text{Sn}(\beta^-)^{123}\text{Sb}$	$E_{\beta^-}=310(20)$ to $9/2^+$ level at 1088.64 keV										Ens04a **
* $^{123}\text{Xe}(\beta^+)^{123}\text{I}$	$E_{\beta^+}=1505(15)$ to $1/2^+$ level at 148.92 keV										Ens04a **
* $^{123}\text{Cs}(\beta^+)^{123}\text{Xe}$	$E_{\beta^+}=2990(310)$ to $3/2^+$ level at 97.30 keV										Ens04a **
* $^{123}\text{Cs}(\beta^+)^{123}\text{Xe}$	$E_{\beta^+}=2370(140)$ to $(1/2, 3/2)^+$ level at 596.65 keV, and other $E_{\beta^+}$										Ens04a **
* $^{123}\text{Cs}(\beta^+)^{123}\text{Xe}$	$E_{\beta^+}=2930(180)$ to $3/2^+$ level at 97.30 keV										Ens04a **
* $^{123}\text{Cs}^x(\text{IT})^{123}\text{Cs}$	Based on $^{123}\text{Cs}^m(\text{IT})=156.27$ and isomeric ratio $R<0.1$										Nub127 **
$^{124}\text{Ag}-^{133}\text{Cs}_{.932}$	17050	270			2						
$^{124}\text{Cd}-^{133}\text{Cs}_{.932}$	5781	10	5776	3	-0.5	1	10	10	$^{124}\text{Cd}$	MA8	1.0
$\text{C}_7 \ ^{13}\text{C} \ \text{H}_{13} \ \text{N}-^{124}\text{Sn}$	202886	8	202877.6	1.1	-0.4	U				MA8	1.0
	202891	8			-1.1	U				M16	2.5
$^{124}\text{Sn}-^{13}\text{C} \ ^{37}\text{Cl}_3$	4210.47	0.71	4214.0	1.1	2.0	1	38	37	$^{124}\text{Sn}$	H39	2.5
$^{124}\text{Sn}-^{133}\text{Cs}_{.932}$	-6598	21	-6604.6	1.1	-0.3	U				MA8	1.0
$^{124}\text{Te}-^{13}\text{C} \ ^{37}\text{Cl}_3$	1754.63	1.26	1754.4	1.6	-0.1	1	26	26	$^{124}\text{Te}$	H39	2.5
$^{124}\text{Te}-^{54}\text{Fe} \ ^{35}\text{Cl}_2$	25501.65	2.56	25502.7	1.7	0.2	U				H39	2.5
$\text{C}_7 \ ^{13}\text{C} \ \text{H}_{13} \ \text{N}-^{124}\text{Te}$	205336	13	205337.2	1.6	0.0	U				M16	2.5
	205325	8			1.0	U				R13	1.5
$^{124}\text{I}-\text{u}$	-93786	30	-93791.0	2.6	-0.2	U				GS2	1.0
$^{124}\text{Xe}-^{13}\text{C} \ ^{37}\text{Cl}_3$	4831.15	1.58	4829.3	1.9	-0.5	1	24	24	$^{124}\text{Xe}$	H39	2.5
$^{124}\text{Xe}-^{54}\text{Fe} \ ^{35}\text{Cl}_2$	28575.78	0.99	28577.6	1.9	0.7	1	60	58	$^{124}\text{Xe}$	H39	2.5
$^{124}\text{Xe}-^{133}\text{Cs}_{.932}$	-5986	13	-5989.2	1.9	-0.2	U				MA6	1.0
$^{124}\text{Cs}-^{133}\text{Cs}_{.932}$	370	16	377	9	0.4	o				MA1	1.0
	370	13			0.5	R				MA1	1.0
	361	15			1.0	R				MA8	1.0
$^{124}\text{Cs-u}$	-87696	30	-87742	9	-1.5	2				GS2	1.0
	-87693	30			-1.6	2				GS2	1.0
$^{124}\text{Ba}-^{133}\text{Cs}_{.932}$	3212	15	3212	13	0.0	2				MA1	1.0
$^{124}\text{Ba-u}$	-84905	30	-84906	13	0.0	R				GS2	1.0
$^{124}\text{La-u}$	-75464	71	-75430	60	0.5	2				GS2	1.0
$^{124}\text{Cd}-^{130}\text{Xe}_{.954}$	9708.9	3.4	9709	3	0.2	1	89	89	$^{124}\text{Cd}$	JY1	1.0
$^{124}\text{Sn}-^{129}\text{Xe}_{.961}$	-3214.3	2.1	-3217.8	1.1	-1.6	1	27	27	$^{124}\text{Sn}$	JY1	1.0
$^{124}\text{Sn}-^{120}\text{Sn}_{1.033}$	6305.1	2.1	6302.4	1.3	-1.3	1	36	20	$^{124}\text{Sn}$	JY1	1.0
$^{124}\text{Sn} \ ^{35}\text{Cl}-^{122}\text{Sn} \ ^{37}\text{Cl}$	4784	2	4783.0	2.6	-0.1	U				H15	4.0
$^{124}\text{Te} \ ^{35}\text{Cl}-^{122}\text{Te} \ ^{37}\text{Cl}$	2728	2	2723.71	0.15	-0.5	U				H16	4.0
$^{124}\text{Sn}-^{124}\text{Te}$	2458.51	0.89	2459.6	1.6	0.5	1	53	41	$^{124}\text{Te}$	H39	2.5
$^{124}\text{Xe}-^{124}\text{Te}$	3076.00	1.78	3074.9	2.3	-0.2	1	27	16	$^{124}\text{Xe}$	H39	2.5
$^{124}\text{Sn}-^{122}\text{Sn}$	1838	22	1832.9	2.6	-0.1	U				M16	2.5
$^{120}\text{Cs}^x-^{124}\text{Cs}^x \ ^{119}\text{Cs}^x_{.807}$	310	30	304	12	-0.1	U				P22	2.5
$^{121}\text{Cs}^x-^{124}\text{Cs}^x_{.244} \ ^{120}\text{Cs}^x_{.756}$	-1360	30	-1265	19	1.3	U				P22	2.5
$^{123}\text{Cs}^x-^{124}\text{Cs}^x_{.744} \ ^{120}\text{Cs}^x_{.256}$	-1390	30	-1337	21	0.7	U				P22	2.5
$^{124}\text{Sn}(\text{d}, ^6\text{Li})^{120}\text{Cd}$	-5216	24	-5228	4	-0.5	U				79Ja21	
$^{124}\text{Sn}(^3\text{He}, ^7\text{Be})^{120}\text{Cd}$	-5098	30	-5115	4	-0.6	U				MSU	76St11
$^{124}\text{Sn}(^{18}\text{O}, ^{20}\text{Ne})^{122}\text{Cd}$	-1266	39	-1362.7	2.5	-2.5	U					97Gu32 *
$^{122}\text{Sn}(\text{t}, \text{p})^{124}\text{Sn}$	5931	15	5953.5	2.4	1.5	U				Roc	70Fl05
$^{124}\text{Sn}(\text{p}, \text{t})^{122}\text{Sn}$	-5956	10	-5953.5	2.4	0.2	U					64Al29
$^{124}\text{Sn}(\text{d}, ^3\text{He})^{123}\text{In}$	-6610	50	-6599	20	0.2	-				Sac	69Co03
	-6572	66			-0.4	-				MSU	71We01
	ave.	-6600	40		-0.1	1	25	25	$^{123}\text{In}$		average
$^{124}\text{Sn}(\text{p}, \text{d})^{123}\text{Sn}$	-6279	15	-6264.6	2.4	1.0	U				Har	70Ca01
$^{124}\text{Sn}(\text{d}, \text{t})^{123}\text{Sn}$	-2260	35	-2231.9	2.4	0.8	U				Pit	64Co11
	-2233.4	3.7			0.4	1	42	39	$^{123}\text{Sn}$	SPa	75Be09
$^{123}\text{Sb}(\text{n}, \gamma)^{124}\text{Sb}$	6467.55	0.10	6467.50	0.06	-0.5	-					73Sh.A Z
	6467.40	0.10			1.0	-					81Su.A Z
	6467.58	0.14			-0.6	-				Bdn	06Fi.A
	ave.	6467.50	0.06		0.0	1	100	82	$^{123}\text{Sb}$		average
$^{123}\text{Te}(\text{n}, \gamma)^{124}\text{Te}$	9425	2	9424.48	0.09	-0.3	U					69Bu05
	9423.7	1.5			0.5	U					70Or.A
	9424.05	0.30			1.4	-				Ltn	95Ge06 Z
	9423.89	0.20			3.0	C				Bdn	06Fi.A
	9424.53	0.10			-0.5	-					06Vo09
	ave.	9424.48	0.09		0.0	1	100	98	$^{123}\text{Te}$		average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{124}\text{Cd}(\beta^-)^{124}\text{In}$	4166	39	4170	30	0.1	1	61	61	$^{124}\text{In}$	Stu	87Sp09	
$^{124}\text{In}(\beta^-)^{124}\text{Sn}$	7180	50	7360	30	3.7	B			Stu	78Al18		
	7360	49			0.1	1	39	39	$^{124}\text{In}$	Stu	87Sp09	
$^{124}\text{Sn}(\text{t},^3\text{He})^{124}\text{In}$	-7590	50	-7350	30	4.9	B			LAI	78Aj01		
$^{124}\text{In}^m(\beta^-)^{124}\text{Sn}$	7370	210	7340	50	-0.1	o			Stu	78Al18		
	7341	51				2			Stu	87Sp09		
$^{124}\text{Sb}(\beta^-)^{124}\text{Te}$	2907.7	5.	2904.3	1.6	-0.7	-				65Hs02	*	
	2903.7	4.			0.1	-				66Ca10	*	
	2904.7	2.			-0.2	-				69Na05	*	
	ave.	2904.9	1.7		-0.3	1	86	82	$^{124}\text{Sb}$	average		
$^{124}\text{I}(\beta^+)^{124}\text{Te}$	3157	4	3159.6	1.9	0.6	2				71Bo01	*	
	3160.3	2.1			-0.3	2				92Wo03		
$^{124}\text{Cs}(\beta^+)^{124}\text{Xe}$	5920	460	5930	8	0.0	U			IRS	75We23		
	5900	90			0.3	U			JAE	93Al03		
	5910	30			0.7	U				96Os04		
$^{124}\text{Cs}^x(\text{IT})^{124}\text{Cs}$	30	20			3					AHW	*	
$^{124}\text{La}(\beta^+)^{124}\text{Ba}$	8930	110	8830	60	-0.9	R			JAE	98Ko66		
* $^{124}\text{Ag}-^{133}\text{Cs}_{.932}$	$D_M=17050(270) \mu\text{m}$ for mixture gs+m at 0#(100#); M-A=-66200(250) keV											
* $^{124}\text{Cs-u}$	M-A=-81223(28) keV for $^{124}\text{Cs}^m$ at 462.63 keV											
* $^{124}\text{La-u}$	M-A=-70244(32) keV for mixture gs+m at 100#100 keV											
* $^{124}\text{Sn}(^{18}\text{O},^{20}\text{Ne})^{122}\text{Cd}$	Original Q=-1250(39) calibrated with $^{120}\text{Cd}=-83973(19)$ keV											
* $^{124}\text{Sb}(\beta^-)^{124}\text{Te}$	$E_{\beta^-}=2305(5)$ 2301(4) 2302(2) respectively, to $2^+$ level at 602.7271 keV											
* $^{124}\text{I}(\beta^+)^{124}\text{Te}$	Original error increased, see $^{84}\text{Rb}(\beta^+)$											
* $^{124}\text{Cs}^x(\text{IT})^{124}\text{Cs}$	Based on $^{124}\text{Cs}^m(\text{IT})=462.63$ keV											
* $^{124}\text{Cs}^x(\text{IT})^{124}\text{Cs}$	Isomeric ratio assumed <0.1 as for $^{118}\text{Cs}$ , $^{120}\text{Cs}$ , $^{122}\text{Cs}$											
$^{125}\text{Ag-u}$	-68954	429			2				GT1	1.5	04Ma.A	
$^{125}\text{Cd-u}$	-78770	120	-78742	3	0.2	o			GT2	1.5	08Kn.A	
	-78780	140			0.2	U			GT2	1.5	08Su19	
C <sub>7</sub> H <sub>6</sub> $^{35}\text{Cl}-^{125}\text{Te}$	111363	6	111373.0	1.6	0.7	U			M16	2.5	63Da10	
	111368	8			0.4	U			R13	1.5	83De51	
$^{125}\text{I-u}$	-95374	30	-95370.6	1.6	0.1	U			GS2	1.0	05Li24	
$^{125}\text{Cs-u}$	-90280	30	-90272	8	0.3	U			GS2	1.0	05Li24	
$^{125}\text{Ba-u}$	-85569	30	-85528	12	1.4	R			GS2	1.0	05Li24	
$^{125}\text{La-u}$	-79191	30	-79184	28	0.2	1	87	87	$^{125}\text{La}$	GS2	1.0	05Li24
$^{125}\text{Cs}-^{133}\text{Cs}_{.940}$	-1383	17	-1397	8	-0.8	o			MA1	1.0	90St25	
	-1382	14			-1.1	-			MA1	1.0	99Am05	
	-1386	14			-0.8	-			MA4	1.0	99Am05	
	ave.	-1384	10		-1.3	1	71	71	$^{125}\text{Cs}$	average		
$^{125}\text{Ba}-^{133}\text{Cs}_{.940}$	3356	13	3347	12	-0.7	-			MA5	1.0	00Be42	
	ave.	3348	12		-0.1	1	98	98	$^{125}\text{Ba}$	average		
$^{125}\text{Cd}-^{130}\text{Xe}_{.962}$	14081.6	3.1	14082	3	0.0	1	100	100	$^{125}\text{Cd}$	JY1	1.0	12Ha25
$^{125}\text{Cd}^m-^{130}\text{Xe}_{.962}$	14281.6	3.4			2				JY1	1.0	12Ka.C	
$^{125}\text{Te} \ ^{35}\text{Cl}-^{123}\text{Te} \ ^{37}\text{Cl}$	3090	2	3110.23	0.13	2.5	U			H16	4.0	63Ba47	
$^{122}\text{Cs}^x-^{125}\text{Cs}_{.244}$ $^{121}\text{Cs}^x_{.756}$	715	23	640	40	-1.3	U			P32	2.5	86Au02	
$^{123}\text{Sb}(\text{t},\text{p})^{125}\text{Sb}$	6696	20	6692.3	2.6	-0.2	U			Ald		67Hi01	
$^{124}\text{Sn}(\text{n},\gamma)^{125}\text{Sn}$	5733.1	1.5	5733.50	0.20	0.3	U					77Ca09	
	5733.1	0.6			0.7	U					Z	
	5733.5	0.2			0.0	1	100	100	$^{125}\text{Sn}$	11To04		
$^{124}\text{Sn}(\text{d},\text{p})^{125}\text{Sn}$	3530	30	3508.93	0.20	-0.7	U			Pit		64Co11	
	3506	12			0.2	U			Tal		64Ne10	
	3515	11			-0.6	U					72Ca33	
	3509.4	3.6			-0.1	U			SPa		75Be09	
$^{124}\text{Te}(\text{n},\gamma)^{125}\text{Te}$	6569.0	1.0	6568.970	0.030	0.0	U					71Gr.A	
	6568.97	0.03			0.0	1	100	83	$^{125}\text{Te}$	Prn	99Ho01	
	6569.39	0.19			-2.2	U			Bdn		06Fi.A	
$^{125}\text{Te}(\gamma,\text{n})^{124}\text{Te}$	-6560	60	-6568.970	0.030	-0.1	U			Phi		60Ge01	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{124}\text{Te}(\text{d},\text{p})^{125}\text{Te}$	4344	8	4344.404	0.030	0.1	U			MIT	69Gr24	
$^{124}\text{Te}(\text{He},\text{d})^{125}\text{I}$	115.1	3.0	107.38	0.07	-2.6	U			Hei	78Sz04	
$^{124}\text{Te}(\alpha,\text{t})^{125}\text{I}$	-14203	7	-14213.01	0.07	-1.4	U			Hei	78Sz04	
$^{124}\text{Xe}(\text{n},\gamma)^{125}\text{Xe}$	7603.3	0.4	7603.3	0.4	-0.1	1	100	99 $^{125}\text{Xe}$		82Ka.A	
$^{125}\text{Cd}(\beta^-)^{125}\text{In}$	7122	62	7129	27	0.1	1	19	19 $^{125}\text{In}$	Stu	87Sp09	*
$^{125}\text{Cd}^m(\beta^-)^{125}\text{In}$	7172	35	7315	27	4.1	U			Stu	87Sp09	*
$^{125}\text{In}(\beta^-)^{125}\text{Sn}$	5418	30	5420	27	0.1	1	81	81 $^{125}\text{In}$	Stu	87Sp09	*
$^{125}\text{Sn}(\beta^-)^{125}\text{Sb}$	2330	10	2359.8	2.6	3.0	U				50Ha58	
	2370	20			-0.5	U				50Ke11	
	2335	40			0.6	U				64De02	*
$^{125}\text{Sb}(\beta^-)^{125}\text{Te}$	767.7	3.	766.7	2.1	-0.3	2				64Ma30	
	765.7	3.			0.3	2				66Ma49	*
$^{125}\text{I}(\varepsilon)^{125}\text{Te}$	184	7	185.77	0.06	0.3	U				64Le05	*
	185	8			0.1	U				66Sm05	*
	177.2	2.			4.3	C				68Go.A	*
	186.1	0.3			-1.1	U				86Bo46	
	179.3	2.0			3.2	B				90Li14	*
	185.77	0.06				2				94Hi04	
$^{125}\text{Xe}(\varepsilon)^{125}\text{I}$	1735	40	1644.2	2.2	-2.3	U				69Lu09	*
$^{125}\text{Cs}(\beta^+)^{125}\text{Xe}$	3072	20	3105	8	1.7	-				54Ma54	
	3082	20			1.2	-				75We23	
	3100	100			0.1	U				93Al03	
	ave.	3077	14		2.0	1	31	29 $^{125}\text{Cs}$	IRS	average	
$^{125}\text{Ba}(\beta^+)^{125}\text{Cs}$	4560	250	4419	13	-0.6	U				68Da09	*
	4380	50			0.8	U				96Os04	
$^{125}\text{La}(\beta^+)^{125}\text{Ba}$	5950	70	5909	28	-0.6	1	16	13 $^{125}\text{La}$	JAE	98Ko66	
* $^{125}\text{Cd-u}$	M-A=-73274(93) keV for mixture gs+m at 186(5) keV										
* $^{125}\text{Cd-u}$	M-A=-73287(120) keV for mixture gs+m at 186(5) keV										
* $^{125}\text{Cd}(\beta^-)^{125}\text{In}$	$E_{\beta^-}=4625(62)$ to $(1/2^+, 3/2^+)$ level at 2497.43 keV										
* $^{125}\text{Cd}^m(\beta^-)^{125}\text{In}$	$E_{\beta^-}=5009(109)$ , 4581(126), 4533(39) to 2101.40, 2640.29, 2641.26 levels										
* $^{125}\text{In}(\beta^-)^{125}\text{Sn}$	$Q_{\beta^-}=5443(31)$ ; and 5730(43) from $^{125}\text{In}^m$ at 360.12 keV										
* $^{125}\text{Sn}(\beta^-)^{125}\text{Sb}$	$E_{\beta^-}=2030(40)$ from $^{125}\text{Sn}^m$ at 27.50(0.14) to $5/2^+$ level at 332.06 keV										
* $^{125}\text{Sb}(\beta^-)^{125}\text{Te}$	$E_{\beta^-}=623(3)$ 621(3) respectively, to $1/2^-$ level at 144.775 keV										
* $^{125}\text{I}(\varepsilon)^{125}\text{Te}$	LMK=0.254(0.003) 0.253(0.005) IBE=110(2) 150.6(0.3) respectively, all to $3/2^+$ level at 35.4925 keV. Q(LMK) recalculated, error mainly theory										
* $^{125}\text{I}(\varepsilon)^{125}\text{Te}$	IBE=112.0(2.0)(1s)+31.8 to $3/2^+$ level at 35.4925 keV										
* $^{125}\text{Xe}(\varepsilon)^{125}\text{I}$	$E_{\beta^+}=470(40)$ to $3/2^+$ at 188.416 and $1/2^+$ at 243.382 keV, ratio 1:2										
* $^{125}\text{Ba}(\beta^+)^{125}\text{Cs}$	$E_{\beta^+}=3450(250)$ to $(5/2^+)$ level at 84.82 level										
$\text{C}_{10}\text{H}_6 - ^{126}\text{Te}$	143623	9	143639.3	1.6	0.7	U			M16	2.5	63Da10
	143640	8			-0.1	U			R13	1.5	83De51
$^{126}\text{Xe-u}$	-95647	30	-95702	4	-1.8	U			GS2	1.0	05Li24
$^{126}\text{Ba-u}$	-88745	30	-88750	13	-0.2	R			GS2	1.0	05Li24
$^{126}\text{La-u}$	-80503	232	-80490	100	0.1	2			GS2	1.0	05Li24
$^{126}\text{Ce-u}$	-76029	30			2				GS2	1.0	05Li24
$^{126}\text{Xe}-^{134}\text{Xe}_{.940}$	-6772.8	2.9	-6773	4	0.0	o			MA8	1.0	05He.A
	-6773.2	3.8			0.1	1	98	98 $^{126}\text{Xe}$	MA8	1.0	06He29
$^{126}\text{Cd}-^{133}\text{Cs}_{.947}$	11966.5	4.5	11966.1	2.7	-0.1	1	35	35 $^{126}\text{Cd}$	MA8	1.0	10Br02
$^{126}\text{Cs}-^{133}\text{Cs}_{.947}$	11956	15			0.7	U			MA8	1.0	10Br02
	-1018	16	-1017	11	0.1	o			MA1	1.0	90St25
	-1011	13			-0.5	1	74	74 $^{126}\text{Cs}$	MA1	1.0	99Am05
$^{126}\text{Ba}-^{133}\text{Cs}_{.947}$	786	15	787	13	0.1	2			MA1	1.0	99Am05
$^{126}\text{Cd}-^{130}\text{Xe}_{.969}$	15928.6	3.3	15928.6	2.7	0.0	1	65	65 $^{126}\text{Cd}$	JY1	1.0	12Ha25
$^{126}\text{Te}^{35}\text{Cl}-^{124}\text{Te}^{37}\text{Cl}$	3432	2	3443.88	0.11	1.5	U			H16	4.0	63Ba47
	3441.28	1.54			1.1	U			H43	1.5	90Dy04
$^{123}\text{Cs}^x-^{126}\text{Cs}_{.390}$	-1160	30	-1136	17	0.3	U			P22	2.5	82Au01
$^{124}\text{Cs}^x-^{126}\text{Cs}_{.590}$	-340	30	-341	23	0.0	U			P22	2.5	82Au01
$^{124}\text{Cs}^x-^{126}\text{Cs}_{.492}$	-570	30	-510	28	0.8	U			P22	2.5	82Au01

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{124}\text{Cs}^x - ^{126}\text{Cs}_{.328}$	390	30	422	24	0.4	U		P22	2.5		82Au01
$^{125}\text{Cs} - ^{126}\text{Cs}_{.496}$	-1130	30	-1073	14	0.8	U		P22	2.5		82Au01
$^{124}\text{Sn}(\text{t},\text{p})^{126}\text{Sn}$	5445	15	5442	10	-0.2	-		Ald			69Bj01
	5444	15			-0.1	-		Roc			70Fl05
	ave.	5445	11		-0.2	1	96	$^{96}\text{Sn}$			average
$^{125}\text{Te}(\text{n},\gamma)^{126}\text{Te}$	9113.7	0.4	9113.69	0.08	0.0	U					77Ko.A
	9113.69	0.08			0.0	1	100	$^{83}\text{Te}$			03Vo03
$^{126}\text{Te}(\gamma,\text{n})^{125}\text{Te}$	-8840	120	-9113.69	0.08	-2.3	U		Phi			60Ge01
$^{125}\text{Te}(\text{d},\text{p})^{126}\text{Te}$	6892	6	6889.13	0.08	-0.5	U		MIT			71Gr01
$^{126}\text{Cd}(\beta^-)^{126}\text{In}$	5486	36	5516	27	0.8	1	56	$^{56}\text{In}$	Stu		87Sp09
$^{126}\text{In}(\beta^-)^{126}\text{Sn}$	8207	39	8242	27	0.9	1	48	$^{44}\text{In}$	Stu		87Sp09
$^{126}\text{In}'(\beta^-)^{126}\text{Sn}$	8309	51			2			Stu			87Sp09
$^{126}\text{Sn}(\beta^-)^{126}\text{Sb}$	378	30			2						71Or04 *
$^{126}\text{Sb}(\beta^-)^{126}\text{Te}$	3667	150	3670	30	0.0	U					71Or04 *
$^{126}\text{I}(\beta^+)^{126}\text{Te}$	2151	5	2154	4	0.6	1	54	$^{52}\text{I}$			59Ha27
$^{126}\text{I}(\beta^-)^{126}\text{Xe}$	1258	5	1234	5	-4.7	B					55Ko14 *
$^{126}\text{Cs}(\beta^+)^{126}\text{Xe}$	4670	140	4795	11	0.9	U					75We23 *
	4810	100			-0.1	U		JAE			76Pa11 *
	4830	40			-0.9	U		IRS			92Os07
	4730	100			0.7	U					93Al03
	4780	20			0.8	1	29	$^{26}\text{Cs}$	JAE		96Os04
$^{126}\text{La}(\beta^+)^{126}\text{Ba}$	7700	100	7700	90	0.0	R		JAE			98Ko66
$^{126}\text{La}'(\beta^+)^{126}\text{Ba}$	7910	400			3			JAE			98Ko66
* $^{126}\text{La-u}$	M-A=-74883(28) keV for mixture gs+m at 210(410) keV										
* $^{126}\text{Sn}(\beta^-)^{126}\text{Sb}$	$E_{\beta^-}=250(30)$ to $2^+$ level at 127.9 keV										
* $^{126}\text{Sb}(\beta^-)^{126}\text{Te}$	$E_{\beta^-}=1900(150)$ from mixture ground state and $^{126}\text{Sb}^m$ at 17.7 to $6^+$ level at 1776.19 keV										
* $^{126}\text{I}(\beta^-)^{126}\text{Xe}$	$E_{\beta^-}=865(5)$ to $2^+$ level at 388.631 keV, and other $E_{\beta^-}$										
* $^{126}\text{Cs}(\beta^+)^{126}\text{Xe}$	$E_{\beta^+}=3260(140)$ 3400(100) respectively, to $2^+$ level at 388.631 keV										
$\text{C}_{10}\text{H}_7 - ^{127}\text{I}$	150297	6	150303	4	0.4	U		$^{21}\text{I}$	M16	2.5	63Da10
	150305.3	3.4			-0.2	1	21		M16	2.5	63Da10
	150322	8			-1.6	U			R13	1.5	83De51
$^{127}\text{Cs-u}$	-92571	30	-92583	6	-0.4	U			GS2	1.0	05Li24
$^{127}\text{Ba-u}$	-88923	39	-88909	12	0.4	R			GS2	1.0	05Li24 *
$^{127}\text{La-u}$	-83640	30	-83625	28	0.5	1	87	$^{87}\text{La}$	GS2	1.0	05Li24 *
$^{127}\text{Ce-u}$	-77273	31			2				GS2	1.0	05Li24 *
$^{127}\text{Sn}^{34}\text{S} - ^{133}\text{Cs}_{1.211}$	-7237	12	-7245	11	-0.7	1	81	$^{81}\text{Sn}$	MA8	1.0	08Dw01 *
$^{127}\text{Cs} - ^{133}\text{Cs}_{.955}$	-2293	16	-2289	6	0.2	o			MA1	1.0	90St25
	-2287	13			-0.2	-			MA1	1.0	99Am05
	-2293.3	7.7			0.5	-			MA8	1.0	05Gu37
	ave.	2292	7		0.4	1	82	$^{82}\text{Cs}$			average
$^{127}\text{Ba} - ^{133}\text{Cs}_{.955}$	1389	13	1385	12	-0.3	-			MA5	1.0	00Be42
	ave.	1387	12		-0.2	1	98	$^{98}\text{Ba}$			average
$^{127}\text{Cd} - ^{130}\text{Xe}_{.977}$	20741	14	20744	14	0.2	1	96	$^{96}\text{Cd}$	JY1	1.0	12Ha25
$^{125}\text{Cs} - ^{127}\text{Cs}_{.591}$	-1098	18	-1086	16	0.3	U			P32	2.5	86Au02
$^{126}\text{Te}(\text{n},\gamma)^{127}\text{Te}$	6289	3	6287.65	0.18	-0.5	U					72Mu.A
	6287.8	0.4			-0.4	-			Bdn		06Fi.A
	6287.6	0.2			0.2	-			Prn		05Ho15
$^{126}\text{Te}(\text{d},\text{p})^{127}\text{Te}$	4044	8	4063.08	0.18	2.4	U			MIT		68Gr16
$^{126}\text{Te}(\text{n},\gamma)^{127}\text{Te}$	ave.	6287.64	0.18	6287.65	0.18	0.0	1	100	$^{98}\text{Te}$		average
$^{127}\text{I}(\gamma,\text{n})^{126}\text{I}$	-9135	22	-9143.9	2.7	-0.4	U			Phi		60Ge01
	-9145	3			0.4	1	83	$^{48}\text{I}$	MMn		86Ts04
$^{127}\text{Cd}(\beta^-)^{127}\text{In}$	8468	63	8408	24	-1.0	1	15	$^{11}\text{In}$	Stu		87Sp09 *
$^{127}\text{In}(\beta^-)^{127}\text{Sn}$	6514	31	6573	19	1.9	o			Stu		87Sp09 *
	6579	20			-0.3	1	91	$^{89}\text{In}$	Stu		04Ga24 *
$^{127}\text{In}^n(\beta^-)^{127}\text{Sn}$	8442	56			2				Stu		04Ga24
$^{127}\text{Sn}(\beta^-)^{127}\text{Sb}$	3201	24	3228	11	1.1	1	21	$^{17}\text{Sn}$	Stu		77Lu06 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{127}\text{Sb}(\beta^-)^{127}\text{Te}$	1581	5	1582	5	0.2	1	97	96 $^{127}\text{Sb}$		67Ra13	*
$^{127}\text{Te}(\beta^-)^{127}\text{I}$	683	10	702	4	1.9	—				55Da37	
	695	10			0.7	—				56Kn20	
	ave.	689	7		1.9	1	26	24 $^{127}\text{I}$		average	
$^{127}\text{Xe}(\varepsilon)^{127}\text{I}$	663.3	2.2	662.3	2.0	-0.4	—				68Sc14	
$^{127}\text{I}({}^3\text{He},\text{t})^{127}\text{Xe}$	-676	6	-680.9	2.0	-0.8	—			Pri	89Ch01	
$^{127}\text{Xe}(\varepsilon)^{127}\text{I}$	ave.	662.6	2.1	662.3	2.0	-0.1	1	98	91 $^{127}\text{Xe}$		average
$^{127}\text{Cs}(\beta^+)^{127}\text{Xe}$	2115	25	2081	6	-1.3	—				54Ma54	*
	2076	20			0.3	—				67Sp08	*
	2089	20			-0.4	—				75We23	*
	ave.	2090	12		-0.7	1	27	18 $^{127}\text{Cs}$		average	
$^{127}\text{Ba}(\beta^+)^{127}\text{Cs}$	3450	100	3422	13	-0.3	U				76Be11	*
$^{127}\text{La}(\beta^+)^{127}\text{Ba}$	5010	70	4922	28	-1.3	1	16	13 $^{127}\text{La}$	JAE	98Ko66	
* $^{127}\text{Ba-u}$	$M-A=-82791(28)$ keV for mixture gs+m at 80.32 keV										
* $^{127}\text{La-u}$	$M-A=-77903(28)$ keV for mixture gs+m at 14.2(0.4) keV										
* $^{127}\text{Ce-u}$	$M-A=-71976(29)$ keV for mixture gs+m at 7.3(1.1) keV										
* $^{127}\text{Sn}^{34}\text{S}-^{133}\text{Cs}_{1.211}$	$D_M=-7234.3(11.6)$ $\mu\text{u}$ for mixture gs+m at 5.07(0.06) keV										
* $^{127}\text{Cd}(\beta^-)^{127}\text{In}$	Also $E_{\beta^-}=7910(200)$ to $^{127}\text{In}^m$ at 408.9(0.3) keV										
* $^{127}\text{In}(\beta^-)^{127}\text{Sn}$	Also $E_{\beta^-}=6976(64)$ from $^{127}\text{In}^m$ at 408.9(0.3) keV										
* $^{127}\text{In}(\beta^-)^{127}\text{Sn}$	Also $E_{\beta^-}=6999(63)$ from $^{127}\text{In}^m$ at 408.9(0.3) keV										
* $^{127}\text{Sn}(\beta^-)^{127}\text{Sb}$	$Q_{\beta^-}=3206(24)$ from $^{127}\text{Sn}^m$ at 5.07(0.06) keV										
* $^{127}\text{Sb}(\beta^-)^{127}\text{Te}$	$E_{\beta^-}=1493(5)$ to $11/2^-$ level at 88.23 keV, and other $E_{\beta^-}$										
* $^{127}\text{Cs}(\beta^+)^{127}\text{Xe}$	$E_{\beta^+}=1063(10), 685(25)$ to mixture gs+124.751 and $1/2^+$ level at 411.965 keV										
* $^{127}\text{Cs}(\beta^+)^{127}\text{Xe}$	$E_{\beta^+}=1068(20), 910(30), 650(30)$ to ground state, $3/2^+$ at 124.751, $1/2^+$ at 411.965										
* $^{127}\text{Cs}(\beta^+)^{127}\text{Xe}$	$E_{\beta^+}=1040(20), 650(20)$ to mixture gs+124.751 and $1/2^+$ level at 411.965 keV										
* $^{127}\text{Ba}(\beta^+)^{127}\text{Cs}$	$E_{\beta^+}=2230(100)$ to $3/2^+$ level at 180.92 keV, and other $E_{\beta^+}$										
$^{128}\text{Sn-u}$	-89512	25	-89493	19	0.8	1	58	58 $^{128}\text{Sn}$	GS3	1.0	12Ch19
$\text{C}_{10}\text{H}_8-^{128}\text{Te}$	158112	9	158139.0	0.9	1.2	U			M16	2.5	63Da10
	158141.2	7.			-0.1	U			C3	2.5	70Ke05
	158151	8			-1.0	U			R13	1.5	83De51
$\text{C}_{10}\text{H}_8-^{128}\text{Xe}$	159068.2	4.2	159069.2	1.1	0.1	U			M16	2.5	63Da10
	159069.7	0.7			-0.3	1	42	42 $^{128}\text{Xe}$	C3	2.5	70Ke05
$^{128}\text{Cs-u}$	-92181	30	-92251	6	-2.3	U			GS2	1.0	05Li24
$^{128}\text{Ba-u}$	-91663	30	-91658	6	0.2	R			GS2	1.0	05Li24
$^{128}\text{La-u}$	-84436	69	-84410	60	0.4	2			GS2	1.0	05Li24
$^{128}\text{Ce-u}$	-81089	30				2			GS2	1.0	05Li24
$^{128}\text{Pr-u}$	-71209	32				2			GS2	1.0	05Li24
$^{128}\text{Cd}-^{133}\text{Cs}_{.962}$	18759	11	18768	8	0.8	1	50	50 $^{128}\text{Cd}$	MA8	1.0	10Br02
$^{128}\text{Sn}^{34}\text{S}-^{133}\text{Cs}_{1.218}$	-6396	14	-6466	19	-5.0	F			MA8	1.0	08Dw01
$^{128}\text{Cs}-^{133}\text{Cs}_{.962}$	-1297	16	-1296	6	0.1	o			MA1	1.0	90St25
	-1293	13			-0.2	1	20	20 $^{128}\text{Cs}$	MA1	1.0	99Am05
$^{128}\text{Ba}-^{133}\text{Cs}_{.962}$	-720	13	-703	6	1.3	—			MA1	1.0	99Am05
	ave.	-718	12		1.3	1	22	22 $^{128}\text{Ba}$	average		
$^{128}\text{Cd}-^{130}\text{Xe}_{.985}$	22865	11	22856	8	-0.8	1	50	50 $^{128}\text{Cd}$	JY1	1.0	12Ha25
$^{128}\text{Te}^{35}\text{Cl}-^{126}\text{Te}^{37}\text{Cl}$	4106	2	4100.5	1.8	-0.7	U			H16	4.0	63Ba47
	4102.3	1.8			-0.4	1	16	12 $^{126}\text{Te}$	C3	2.5	70Ke05
$^{128}\text{Te}-^{128}\text{Xe}$	931.26	1.20	930.3	1.0	-0.6	—			H43	1.5	90Dy04
	929.5	1.4			0.5	—			CP1	1.0	09Sc19
	ave.	930.2	1.1		0.1	1	77	56 $^{128}\text{Xe}$	average		
$^{128}\text{Xe}-^{126}\text{Xe}$	-774	45	-767	4	0.1	U			M16	2.5	63Da10
$^{126}\text{Cs}-^{128}\text{Cs}_{.656}$	-1130	30	-1102	16	0.4	U			P22	2.5	82Au01
$^{124}\text{Cs}^x-^{128}\text{Cs}_{.323}$	-1070	30	-970	30	1.3	U			P22	2.5	82Au01
$^{126}\text{Cs}-^{128}\text{Cs}_{.591}$	-350	30	-340	12	0.1	U			P22	2.5	82Au01
$^{124}\text{Cs}^x-^{128}\text{Cs}_{.194}$	370	50	366	24	0.0	U			P22	2.5	82Au01
$^{125}\text{Cs}-^{128}\text{Cs}_{.244}$	-1440	30	-1354	18	1.1	U			P22	2.5	82Au01
$^{126}\text{Cs}-^{128}\text{Cs}_{.492}$	-610	30	-568	15	0.6	U			P22	2.5	82Au01

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{127}\text{Cs}-^{128}\text{Cs}_{.661}$	-965	16	-934	7	0.8	U		P32	2.5	86Au02		
$^{127}\text{Cs}-^{128}\text{Cs}_{.496}$	-1160	30	-1105	8	0.7	U		P22	2.5	82Au01		
$^{128}\text{Te}(\gamma, n)^{127}\text{Te}$	-8410	120	-8783.4	1.7	-3.1	B		Phi		60Ge01		
$^{127}\text{I}(n, \gamma)^{128}\text{I}$	6825.7	0.5	6826.13	0.05	0.9	U				71Sc07		
	6826.12	0.05			0.2	-				MMn	90I03	
	6826.22	0.14			-0.6	-				Bdn	06Fi.A	
	ave.	6826.13	0.05		0.0	1	100	87	$^{128}\text{I}$		average	
$^{128}\text{Cd}(\beta^-)^{128}\text{In}$	7070	290	6900	150	-0.6	1	28	28	$^{128}\text{In}$	Stu	87Sp09	
$^{128}\text{In}(\beta^-)^{128}\text{Sn}$	9280	180	9220	150	-0.4	1	72	72	$^{128}\text{In}$	Stu	78Al18 *	
	8984	37			6.3	F				Stu	87Sp09 *	
	8950	103			2.6	F				Gsn	90St13 *	
$^{128}\text{In}^m(\beta^-)^{128}\text{Sn}$	9390	220	9298	28	-0.4	o		Stu		78Al18 *		
	9306	30			-0.3	2		Stu		87Sp09 *		
	9230	90			0.8	2		Gsn		90St13 *		
$^{128}\text{Sn}(\beta^-)^{128}\text{Sb}^m$	1265	30	1258	12	-0.2	-				76Nu01 *		
	1290	40			-0.8	-		Stu		77Lu06 *		
	1260	15			-0.1	-		Gsn		90St13 *		
	ave.	1264	13		-0.4	1	87	45	$^{128}\text{Sb}^m$		average	
$^{128}\text{Sb}^m(\text{IT})^{128}\text{Sb}$	10	7			2					AHW	*	
$^{128}\text{Sb}(\beta^-)^{128}\text{Te}$	4640	100	4363	19	-2.8	U				71Ki15	*	
$^{128}\text{Sb}^m(\beta^-)^{128}\text{Te}$	4391	40	4373	18	-0.4	-				77Lu06	*	
	4395	30			-0.7	-		Gsn		90St13 *		
	ave.	4394	24		-0.8	1	55	55	$^{128}\text{Sb}^m$		average	
$^{128}\text{I}(\beta^+)^{128}\text{Te}$	1277	13	1255	4	-1.7	U				61La16		
$^{128}\text{I}(\beta^-)^{128}\text{Xe}$	2116	10	2122	4	0.6	1	14	13	$^{128}\text{I}$	56Be18	*	
$^{128}\text{Cs}(\beta^+)^{128}\text{Xe}$	3855	90	3929	5	0.8	U				75We23	*	
	3928	6			0.1	1	80	80	$^{128}\text{Cs}$	76Cr.B		
	3907	40			0.5	o				IRS	83Al06	
	3930	100			0.0	U				IRS	93Al03	
$^{128}\text{La}(\beta^+)^{128}\text{Ba}$	6650	400	6750	50	0.3	U				66Li04	*	
	6820	100			-0.7	R				JAE	98Ko66 *	
* $^{128}\text{La-u}$					M-A=-78601(28) keV for mixture gs+m at 100#100 keV					Nub127	**	
* $^{128}\text{Sn}^{34}\text{S}-^{133}\text{Cs}_{1.218}$					F : authors say "possible contamination, measurement abandoned"					GAu	**	
* $^{128}\text{In}(\beta^-)^{128}\text{Sn}$					$E_{\beta^-}=4980(180)$ to $(2)^+$ level at 4297.70 keV					Ens01c	**	
* $^{128}\text{In}(\beta^-)^{128}\text{Sn}$					$E_{\beta^-}=5464(37)$ to $(2)^+$ at 3519.86; others 6986(170), 7857(109) to 2104.07, 1168.82; different equipment/method than in previous; low $E_{\beta^-}$ not seen					Ens01c	**	
*					$E_{\beta^-}=4650(120)$ , 5440(200) to 4297, 3520 levels and others					FGK126	**	
* $^{128}\text{In}(\beta^-)^{128}\text{Sn}$					$E_{\beta^-}=5430(220)$ to 3958 level					FGK126	**	
* $^{128}\text{In}(\beta^-)^{128}\text{Sn}$					$E_{\beta^-}=5239(40)$ , 5350(44) to 4066, 3958 level					FGK126	**	
* $^{128}\text{In}(\beta^-)^{128}\text{Sn}$					$E_{\beta^-}=5160(170)$ , 5250(130) to 4066, 3958 levels					FGK126	**	
* $^{128}\text{Sn}(\beta^-)^{128}\text{Sb}^m$					$E_{\beta^-}=630(30)$ 655(40) 625(15), to $1^+$ level 635.2 above $^{128}\text{Sb}^m$ at 10(7) keV					Ens01c	**	
* $^{128}\text{Sb}^m(\text{IT})^{128}\text{Sb}$					From 3.6% IT for M3 transition					Ens01c	**	
* $^{128}\text{Sb}(\beta^-)^{128}\text{Te}$					$E_{\beta^-}=2300(100)$ to $7^-$ level at 2337.73 keV					Ens01c	**	
* $^{128}\text{Sb}^m(\beta^-)^{128}\text{Te}$					$E_{\beta^-}=2580(40)$ 2585(30) respectively, to $6^+$ level at 1811.16 keV					Ens01c	**	
* $^{128}\text{I}(\beta^-)^{128}\text{Xe}$					$E_{\beta^-}=2120(10)$ and $E_{\beta^-}=1665(15)$ to ground state and $2^+$ level at 442.911 keV					Ens01c	**	
* $^{128}\text{Cs}(\beta^+)^{128}\text{Xe}$					$E_{\beta^+}=2390(90)$ to $2^+$ level at 442.911 keV					Ens01c	**	
* $^{128}\text{La}(\beta^+)^{128}\text{Ba}$					$E_{\beta^+}=3200(400)$ 3370(100) respectively, to $(4^-, 5^+)$ level at 2425.44 keV					Ens01c	**	
$^{129}\text{Sn-u}$	-86521	31	-86535	21	-0.5	1	45	45	$^{129}\text{Sn}$	MA8	1.0	05Si34
$^{129}\text{Xe-}^{120}\text{Sn}_{1.075}$	9913.3	2.4	9914.1	1.0	0.3	1	19	19	$^{120}\text{Sn}$	JY1	1.0	11Ha48
$\text{C}_{10}\text{H}_9-^{129}\text{Xe}$	165643.6	3.6	165644.429	0.006	0.1	U				M16	2.5	63Da10
$^{129}\text{Xe-u}$	-95228.7	5.4	-95219.139	0.006	0.7	U				ACC	2.5	90Me08
$^{129}\text{Xe-C}_2$	-1777.98	0.68	-1777.18	0.11	0.8	U				H47	1.5	94Hy01
$^{129}\text{Xe}_2-^{86}\text{Kr}_3$	77729.8547	0.0250	77729.841	0.014	-0.5	1	31	16	$^{86}\text{Kr}$	FS1	1.0	05Sh38
$^{129}\text{La-u}$	-87300	30	-87306	23	-0.2	1	58	58	$^{129}\text{La}$	GS2	1.0	05Li24
$^{129}\text{Ce-u}$	-81898	30			2					GS2	1.0	05Li24
$^{129}\text{Pr-u}$	-74905	32			2					GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{129}\text{Xe}-^{134}\text{Xe}_{.963}$	-4114.7	3.8	-4114.2	0.9	0.1	o			MA8	1.0	05He.A	
	-4119.3	5.1		1.0		U			MA8	1.0	06He29	
$^{129}\text{Cs}-^{133}\text{Cs}_{.970}$	-2225	18	-2223	5	0.1	o			MA1	1.0	90St25	
	-2216	14		-0.5	1	12	12	$^{129}\text{Cs}$	MA1	1.0	99Am05	
$^{129}\text{In}-^{130}\text{Xe}_{.992}$	17523.9	2.9	17524.0	2.9	0.0	1	100	100	$^{129}\text{In}$	JY1	1.0	12Ha25
$^{129}\text{In}^m-^{130}\text{Xe}_{.992}$	18016.5	3.5		2					JY1	1.0	12Ka.C	
$\text{C}_{10}\text{H}_{10}-^{129}\text{Xe}$	173469.4660	0.0147	173469.461	0.006	-0.3	1	16	16	$^{129}\text{Xe}$	FS1	1.0	09Re03
$^{129}\text{Xe}-^{128}\text{Xe}$	1247	12	1249.8	1.1	0.1	U			M16	2.5	63Da10	
$\text{C}_3\text{O}_6-^{129}\text{Xe}$	64706.8420	0.0255	64706.856	0.006	0.6	o			FS1	1.0	05Sh38	
	64706.8516	0.0181		0.3	1	11	11	$^{129}\text{Xe}$	FS1	1.0	09Re03	
$^{129}\text{Xe}_2-^{84}\text{Kr}_3$	75068.5115	0.0405	75068.538	0.015	0.6	1	14	8	$^{84}\text{Kr}$	FS1	1.0	05Sh38
$^{128}\text{Cs}-^{129}\text{Cs}_{.661}$	510	30	500	7	-0.1	U			P22	2.5	82Au01	
$^{128}\text{Te}(\text{n},\gamma)^{129}\text{Te}$	6085	3	6082.41	0.08	-0.9	U					72Mu.A	
	6082.42	0.09		-0.1					Prn		03Wi02	
	6082.36	0.19		0.3					Bdn		06Fi.A	
$^{128}\text{Te}(\text{d,p})^{129}\text{Te}$	3857	10	3857.84	0.08	0.1	U			MIT		67Mo22	
$^{128}\text{Te}(\text{n},\gamma)^{129}\text{Te}$	ave.	6082.41	0.08	6082.41	0.08	0.0	1	100	98	$^{129}\text{Te}$	average	
$^{129}\text{Nd}(\epsilon\text{p})^{128}\text{Ce}$	5300	300	5930#	200#	2.1	D					78Bo.A	
$^{129}\text{In}(\beta^-)^{129}\text{Sn}$	7655	32	7769	19	3.6	B			Stu		87Sp09	
	7780	26		-0.4	1	55	55	$^{129}\text{Sn}$	Stu		04Ga24	
$^{129}\text{In}^m(\beta^-)^{129}\text{Sn}$	8033	66	8228	20	3.0	U			Stu		87Sp09	
	8149	38		2.1					Stu		04Ga24	
$^{129}\text{In}^p(\beta^-)^{129}\text{Sn}$	9410	50		2					Stu		04Ga24	
$^{129}\text{Sn}(\beta^-)^{129}\text{Sb}$	3996	120	4022	29	0.2	U			Stu		77Lu06	
$^{129}\text{Sb}(\beta^-)^{129}\text{Te}$	2345	30	2376	21	1.0	2					70Oh05	
$^{129}\text{Te}(\beta^-)^{129}\text{I}$	1453	28	1502	3	1.8	U					56Gr10	
	1485	10		1.7							64De10	
	1503	4		-0.2	1	62	60	$^{129}\text{I}$			68Go34	
$^{129}\text{I}(\beta^-)^{129}\text{Xe}$	190	5	189	3	-0.2	1	40	40	$^{129}\text{I}$		54De17	
$^{129}\text{Cs}(\beta^+)^{129}\text{Xe}$	1197	5	1197	5	0.0	1	83	83	$^{129}\text{Cs}$		76Ma35	
$^{129}\text{Ba}(\beta^+)^{129}\text{Cs}$	2446	15	2436	11	-0.7	1	50	45	$^{129}\text{Ba}$		61Ar05	
$^{129}\text{La}(\beta^+)^{129}\text{Ba}$	3720	50	3739	22	0.4	—					79Br05	
	3740	40		0.0					JAE		98Ko66	
$^{129}\text{Ce}(\beta^+)^{129}\text{La}$	ave.	3730	30		0.2	1	48	42	$^{129}\text{La}$		average	
	5600	200	5040	40	-2.8	U			IRS		93Al03	
$^{129}\text{Sn-u}$	M-A=-80576(27) keV for mixture gs+m at 35.2 keV											
$^{129}\text{Xe}_2-^{86}\text{Kr}_3$	Corrected in reference of same group											
$^{129}\text{Pr-u}$	Isomer at 382.7(0.5) with estimated T=1# ms not considered											
$*^{129}\text{O}_6-^{129}\text{Xe}$	Corrected in reference of same group											
$*^{129}\text{Xe}_2-^{84}\text{Kr}_3$	Corrected in reference of same group											
$*^{129}\text{Nd}(\epsilon\text{p})^{128}\text{Ce}$	Trends from Mass Surface TMS suggest $^{129}\text{Nd}$ 630 less bound											
$*^{129}\text{In}(\beta^-)^{129}\text{Sn}$	$E_{\beta^-}=7780(26)$ , 9410(50) from ground state, 1688.0(0.5) levels											
$*^{129}\text{Sn}(\beta^-)^{129}\text{Sb}$	$E_{\beta^-}=3350(120)$ to $(3/2^+, 5/2^+)$ level at 645.2 keV											
$*^{129}\text{Sb}(\beta^-)^{129}\text{Te}$	$E_{\beta^-}=1800(30)$ to $5/2^+$ level at 544.5 keV, and other $E_{\beta^-}$											
$*^{129}\text{Te}(\beta^-)^{129}\text{I}$	$E_{\beta^-}=1453(5)$ to $5/2^+$ level at 27.80 keV and 1530(5) from $^{129}\text{Te}^m$ at 105.50 at 105.50 to ground state (Birge=8.0: arithmetic average used)											
$*^{129}\text{Te}(\beta^-)^{129}\text{I}$	$E_{\beta^-}=1452(10)$ to $5/2^+$ level at 27.80 keV and 1595(10) from $^{129}\text{Te}^m$ at 105.50											
$*^{129}\text{Te}(\beta^-)^{129}\text{I}$	$E_{\beta^-}=1476(4)$ to $5/2^+$ level at 27.80 keV and 1607(7) from $^{129}\text{Te}^m$ at 105.50											
$*^{129}\text{I}(\beta^-)^{129}\text{Xe}$	$E_{\beta^-}=150(5)$ to $3/2^+$ level at 39.578 keV											
$*^{129}\text{Ba}(\beta^+)^{129}\text{Cs}$	$E_{\beta^+}=1425(15)$ ; and 1243(35), 975(60) from $^{129}\text{Ba}^m$ at 8.42(0.06) keV to $7/2^+$ level at 188.93, 9/2 $^+$ at 426.47 keV											
*	$E_{\beta^+}=2420(50)$ to $(1/2^+, 3/2^+)$ level at 278.57 keV, and other $E_{\beta^+}$											
$*^{129}\text{La}(\beta^+)^{129}\text{Ba}$	$E_{\beta^+}=2420(50)$ to $(1/2^+, 3/2^+)$ level at 278.57 keV, and other $E_{\beta^+}$											
$\text{C}_9\text{H}_8\text{N}-^{130}\text{Te}$	159446	10	159451.513	0.012	0.2	U			M16	2.5	63Da10	
$^{13}\text{C}\text{C}_8\text{N}\text{H}_7-^{130}\text{Te}$	154990.6	7.	154981.316	0.012	-0.5	U			C3	2.5	70Ke05	
$\text{C}_9\text{H}_8\text{N}-^{130}\text{Te}$	159449	8	159451.513	0.012	0.2	U			R13	1.5	83De51	
$\text{C}_{10}\text{H}_{10}-^{130}\text{Xe}$	174743.6	4.2	174740.972	0.010	-0.3	U			M16	2.5	63Da10	
$^{13}\text{C}\text{C}_8\text{N}\text{H}_7-^{130}\text{Xe}$	157695.4	0.7	157694.715	0.010	-0.4	U			C3	2.5	70Ke05	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{130}\text{Xe}-\text{C } ^{13}\text{C } ^{35}\text{Cl}_3$	-6407.63	1.21	-6403.53	0.11	2.3	U			H47	1.5	94Hy01	
$^{130}\text{Cs-u}$	-93181	60	-93291	9	-1.8	U			GS2	1.0	05Li24 *	
$\text{C}_{10}\text{H}_{10}-^{130}\text{Ba}$	171926	68	171929.7	2.8	0.0	U			R07	1.5	68De17	
$^{130}\text{Ba}-^{85}\text{Rb}_{1,529}$	41195.8	3.4	41194.2	2.8	-0.5	1	66	66 $^{130}\text{Ba}$	MA8	1.0	05Gu37	
$^{130}\text{La-u}$	-87635	30	-87631	28	0.1	2			GS2	1.0	05Li24	
$^{130}\text{Ce-u}$	-85264	30				2			GS2	1.0	05Li24	
$^{130}\text{Pr-u}$	-76410	69				2			GS2	1.0	05Li24 *	
$^{130}\text{Nd-u}$	-71494	30				2			GS2	1.0	05Li24	
$^{130}\text{Xe}-^{134}\text{Xe}_{970}$	-4726.6	5.6	-4723.5	0.9	0.6	o			MA8	1.0	05He.A	
	-4724.8	7.0			0.2	U			MA8	1.0	06He29	
$^{130}\text{Sn}-^{133}\text{Cs}_{977}$	6346	17	6347.3	2.3	0.1	-			MA8	1.0	05Si34	
	6344	12			0.3	-			MA8	1.0	05Si34 *	
	ave.	6345	10		0.3	1	5	5 $^{130}\text{Sn}$			average	
$^{130}\text{Xe}-^{133}\text{Cs}_{977}$	-4114	13	-4117.217	0.011	-0.2	U			MA6	1.0	04Di18	
$^{130}\text{Cs}-^{133}\text{Cs}_{977}$	-919	17	-917	9	0.1	o			MA1	1.0	90St25	
	-916	13			-0.1	1	48	48 $^{130}\text{Cs}$	MA1	1.0	99Am05	
$^{130}\text{Nd } ^{19}\text{F}-^{133}\text{Cs}_{1,120}$	32902	130	32800	30	-0.8	U			MA5	1.0	00Be42 *	
$^{130}\text{Te } ^{35}\text{Cl}-^{128}\text{Te } ^{37}\text{Cl}$	4715	2	4711.5	0.9	-0.4	o			H16	4.0	63Ba47	
	4711.7	1.8			0.0	U			C3	2.5	70Ke05	
	4711.57	0.72			0.0	1	74	74 $^{128}\text{Te}$	H43	1.5	90Dy04	
$^{130}\text{Xe}-^{129}\text{Xe}_{1,008}$	-509.78	0.34	-509.757	0.009	0.1	U			CP1	1.0	09Sc19	
$^{130}\text{Sn}-^{130}\text{Xe}$	10463.9	3.6	10464.5	2.3	0.2	-			JY1	1.0	12Ha25	
	10465.4	3.1			-0.3	-			JY1	1.0	12Ka.C *	
	ave.	10464.8	2.3		-0.1	1	94	94 $^{130}\text{Sn}$			average	
$^{130}\text{Te}-^{130}\text{Xe}$	2706.2	7.	2713.399	0.012	0.4	U			C3	2.5	70Ke05	
	2712.98	3.02			0.1	U			H43	1.5	90Dy04	
	2713.416	0.034			-0.5	-			FS1	1.0	09Re07	
	2713.402	0.026			-0.1	-			FS1	1.0	09Re07 *	
	2713.402	0.014			-0.2	o			FS1	1.0	09Re07 *	
	2712.85	0.34			1.6	U			CP1	1.0	09Sc19	
	2712.82	0.25			2.3	U			JY1	1.0	11Ra24	
	ave.	2713.407	0.021		-0.4	1	35	23 $^{130}\text{Te}$			average	
$^{130}\text{Te}-^{129}\text{Xe}$	1441.885	0.012	1441.888	0.011	0.2	1	78	77 $^{130}\text{Te}$	FS1	1.0	09Re07	
$^{130}\text{Xe}-^{129}\text{Xe}$	-1277	12	-1271.511	0.009	0.2	U			M16	2.5	63Da10	
	-1271.517	0.012			0.5	1	52	49 $^{130}\text{Xe}$	FS1	1.0	09Re07	
$^{129}\text{Cs}-^{130}\text{Cs}_{794}^{x} \text{ } ^{125}\text{Cs}_{206}$	-1270	40	-1200	14	0.7	U			P22	2.5	82Au01	
$^{130}\text{Ba(p,t)}^{128}\text{Ba}$	-9482	32	-9543.7	2.9	-1.9	U			Win	74De31	*	
$^{130}\text{Ba(p,t)}^{128}\text{Ba}-^{144}\text{Sm}(\text{p,t})^{142}\text{Sm}$	1095.9	1.0	1096.0	1.0	0.1	1	99	78 $^{128}\text{Ba}$			09Pa25	
$^{130}\text{Te(d,}^3\text{He)}^{129}\text{Sb}$	-4550	30	-4519	21	1.0	R			Oak		68Au04	
$^{129}\text{I(n,}\gamma^{130}\text{I}$	6500.33	0.04				2			ILn		89Sa11 Z	
$^{129}\text{Xe(n,}\gamma^{130}\text{Xe}$	9255.3	1.0	9255.722	0.008	0.4	U					71Gr28 Z	
	9256.1	0.8			-0.5	U					74Ge05 Z	
	9255.57	0.30			0.5	U					Bdn	06Fi.A
$^{129}\text{Xe}(\text{d,}^3\text{He,d)}^{130}\text{Cs}$	5	20	-1	8	-0.3	1	17	17 $^{130}\text{Cs}$	ChR		81Ha08	
$^{130}\text{Ba(d,t)}^{129}\text{Ba}$	-4001	15	-4013	11	-0.8	1	50	48 $^{129}\text{Ba}$	Tal		74Gr22	
$^{130}\text{Eu(p,t)}^{129}\text{Sm}$	1028.0	15.0				3			Arp		04Da04	
$^{130}\text{Cd}(\beta^{-})^{130}\text{In}$	8350	160				3			Bwg		03Di06 *	
$^{130}\text{In}(\beta^{-})^{130}\text{Sn}$	10249	38				2			Stu		87Sp09	
	9880	90	10250	40	4.1	B			Gsn		90St13	
$^{130}\text{In}^m(\beta^{-})^{130}\text{Sn}$	10300	37				2			Stu		87Sp09	
	10170	170	10300	40	0.8	U			Gsn		90St13	
$^{130}\text{In}^n(\beta^{-})^{130}\text{Sn}$	10650	49				2			Stu		87Sp09	
	9880	200	10650	50	3.9	B			Gsn		90St13	
$^{130}\text{Sn}(\beta^{-})^{130}\text{Sb}$	2195	35	2153	14	-1.2	-			Stu		77Lu06 *	
	2080	40			1.8	-					77Nu01 *	
	2149	18			0.2	-			Gsn		90St13 *	
	ave.	2148	15		0.4	1	90	90 $^{130}\text{Sb}$			average	
$^{130}\text{Sb}(\beta^{-})^{130}\text{Te}$	5046	100	5067	14	0.2	U					71Ki15 *	
	5015	100			0.5	U			Stu		77Lu06 *	
	4990	70			1.1	U			Gsn		90St13 *	
	5015	45			1.1	1	10	10 $^{130}\text{Sb}$	Stu		95Me16 *	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{130}\text{I}(\beta^-)^{130}\text{Xe}$	2983	10	2944	3	-3.9	B				65Da01	*		
	2964	50			-0.4	U				70Qa03	*		
$^{130}\text{Cs}(\beta^+)^{130}\text{Xe}$	2992	20	2981	8	-0.6	-				52Sm41			
	2972	20			0.4	-				75We23			
	ave.	2982	14		-0.1	1	35	35	$^{130}\text{Cs}$	average			
$^{130}\text{Cs}^x(\text{IT})^{130}\text{Cs}$		27	15			2				AHW	*		
$^{130}\text{Cs}(\beta^-)^{130}\text{Ba}$	442	50	362	9	-1.6	U				52Sm41	*		
$^{130}\text{La}(\beta^+)^{130}\text{Ba}$	5660	70	5634	26	-0.4	R				98Ko66			
* $^{130}\text{Cs-u}$					M-A=-86716(30) keV for mixture gs+m at 163.25 keV					Nub127	**		
* $^{130}\text{Pr-u}$					M-A=-71125(29) keV for mixture gs+m at 100#100 keV					Nub127	**		
* $^{130}\text{Sn}-^{133}\text{Cs}_{977}$					$D_M=8434(12) \mu\text{A}$ for $^{130}\text{Sn}^m$ at 1946.88 keV; M-A=-78189(11) keV					Nub127	**		
* $^{130}\text{Nd}^{19}\text{F}-^{133}\text{Cs}_{1.120}$					Tentative result, low statistics					00Be42	**		
* $^{130}\text{Sn}-^{130}\text{Xe}$					$D_M=12555.5(3.1) \mu\text{A}$ for $^{130}\text{Sn}^m$ at 1946.88 keV; M-A=-78185.1(2.9) keV					Nub129	**		
* $^{130}\text{Te}-^{130}\text{Xe}$					First item 1 ion; second item 2 ions - considered independent					GAu	**		
* $^{130}\text{Te}-^{130}\text{Xe}$					Combination of $^{130}\text{Xe}-^{129}\text{Xe}$ and $^{130}\text{Te}-^{129}\text{Xe}$					GAu	**		
* $^{130}\text{Ba(p,t)}^{128}\text{Ba}$					Not resolved peak. Original uncertainty 16 increased to 24 keV and added systematic error 21 keV					GAu	**		
*					$E_\beta=6224(+165-157)$ to $1^+$ level at 2120.2 keV					Ens017	**		
* $^{130}\text{Cd}(\beta^-)^{130}\text{In}$					$E_\beta=1490(90), 1150(35)$ to $1^+$ levels at 702.32, 1047.67 keV					Ens017	**		
* $^{130}\text{Sn}(\beta^-)^{130}\text{Sb}$					$E_\beta=1280(80), 1060(40)$ to $1^+$ levels at 702.32, 1047.67 keV					Ens017	**		
* $^{130}\text{Sn}(\beta^-)^{130}\text{Sb}$					$E_\beta=1415(30), 1112(18)$ to $1^+$ levels at 702.32, 1047.67 keV					Ens017	**		
*					and a $3\sigma$ conflicting 3955(50) from $^{130}\text{Sn}^m$ at 1946.88 keV					Nub127	**		
* $^{130}\text{Sb}(\beta^-)^{130}\text{Te}$					$E_\beta=2900(100)$ to $^{130}\text{Te}^m$ at 2146.41 keV					Nub127	**		
* $^{130}\text{Sb}(\beta^-)^{130}\text{Te}$					$Q=5020(100)$ from $^{130}\text{Sb}^m$ at 4.80(0.20) keV					Nub127	**		
* $^{130}\text{Sb}(\beta^-)^{130}\text{Te}$					Also 4960(25) from $^{130}\text{Sb}^m$ at 4.80(0.20), in disagreement					Nub127	**		
* $^{130}\text{Sb}(\beta^-)^{130}\text{Te}$					Derived from given average=5008(38) with 90St13=4990(70) keV					GAu	**		
* $^{130}\text{I}(\beta^-)^{130}\text{Xe}$					$E_\beta=1702(10), 1042(10), 618(10)$ to $4^+$ 1204.614, $6^+$ 1944.140, $5^+$ 2362.073					Ens017	**		
* $^{130}\text{I}(\beta^-)^{130}\text{Xe}$					$E_\beta=2480(50), 1850(80)$ from $^{130}\text{I}^m$ at 39.9525 to $2^+$ levels at 536.068, and 1122.112 keV					GAu	**		
*					Combining isomer ratio of reference					Ens017	**		
* $^{130}\text{Cs}^x(\text{IT})^{130}\text{Cs}$					with $^{130}\text{Cs}^m(\text{IT})=163.25$ keV					82Au01	**		
* $^{130}\text{Cs}(\beta^-)^{130}\text{Ba}$					Value given without associated error					Nub127	**		
										AHW	**		
$^{131}\text{Sn-u}$	-82958	26	-82955	7	0.1	U			MA8	1.0	05Si34	*	
	-82950	130			0.0	U			GT2	1.5	08Su19	*	
$^{131}\text{Sb-u}$	-88170	530	-88011.2	2.3	0.2	U			GT2	1.5	08Kn.A	*	
$\text{C}_{10}\text{H}_{11}-^{131}\text{Xe}$	180991.6	3.0	180991.30	0.24	0.0	U			M16	2.5	63Da10		
$^{131}\text{Xe-u}$	-94925.5	5.7	-94915.94	0.24	0.7	U			ACC	2.5	90Me08		
$^{131}\text{Xe}-\text{C}_2^{35}\text{Cl}_2^{37}\text{Cl}$	1472.65	0.80	1476.09	0.25	2.9	B			H47	1.5	94Hy01		
$^{131}\text{Ba-u}$	-92955	66	-93059.0	2.8	-1.6	U			GS2	1.0	05Li24	*	
$^{131}\text{La-u}$	-89930	30			2				GS2	1.0	05Li24		
$^{131}\text{Ce-u}$	-85579	36	-85570	40	0.2	1	96	96	$^{131}\text{Ce}$	GS2	1.0	05Li24	*
$^{131}\text{Pr-u}$	-79741	56	-79770	50	-0.4	1	81	81	$^{131}\text{Pr}$	GS2	1.0	05Li24	*
$^{131}\text{Nd-u}$	-72753	30	-72752	30	0.0	1	97	97	$^{131}\text{Nd}$	GS2	1.0	05Li24	
$^{131}\text{Sn}^{34}\text{S}-^{133}\text{Cs}_{1.241}$	2253	11	2246	7	-0.6	1	35	35	$^{131}\text{Sn}$	MA8	1.0	08Dw01	*
$^{131}\text{Cs}-^{133}\text{Cs}_{985}$	-1419	17	-1405	5	0.8	o			MA1	1.0	90St25		
	-1419	14			1.0	1	15	15	$^{131}\text{Cs}$	MA1	1.0	99Am05	
$^{131}\text{Ba}-^{133}\text{Cs}_{985}$	72	14	70.8	2.8	-0.1	U			MA5	1.0	00Be42		
$^{131}\text{In}-^{130}\text{Xe}_{1.008}$	24234.7	2.9	24234.1	2.9	-0.2	1	98	98	$^{131}\text{In}$	JY1	1.0	12Ha25	
$^{131}\text{In}^m-^{130}\text{Xe}_{1.008}$	24626.8	7.7			2				JY1	1.0	12Ka.C		
$^{131}\text{Sn}-^{132}\text{Xe}_{.992}$	12134	21	12123	7	-0.5	U			JY1	1.0	12Ha25	*	
$^{131}\text{Sb}-^{130}\text{Xe}_{1.008}$	9250.7	2.3	9251.4	2.3	0.3	1	97	97	$^{131}\text{Sb}$	JY1	1.0	12Ha25	
$^{131}\text{Xe}-^{130}\text{Xe}$	1574	11	1574.71	0.24	0.0	U			M16	2.5	63Da10		
$^{128}\text{Cs}-^{131}\text{Cs}_{.391}$	-100	30	-47	9	0.7	U			P22	2.5	82Au01		
$^{128}\text{Cs}-^{131}\text{Cs}_{.244}$	783	21	752	7	-0.6	F			P33	2.5	86Au02	*	
$^{129}\text{Cs}-^{131}\text{Cs}_{.328}$	-1030	30	-870	6	2.1	U			P22	2.5	82Au01		
$^{130}\text{Te}(\text{n},\gamma)^{131}\text{Te}$	5929.7	0.5	5929.38	0.06	-0.6	U				77Ko.A			
	5929.5	0.4			-0.3	U				80Ho29	Z		
	5929.38	0.06			2				Prn	03To08			
	5930.16	0.19			-4.1	C			Bdn	06Fi.A			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{132}\text{Sb-u}$	-85850	150	-85492.3	2.9	1.6	U			GT2	1.5	08Su19 *	
$\text{C}_{10}\text{H}_{12}-^{132}\text{Xe}$	189740.8	3.3	189745.301	0.006	0.5	U			M16	2.5	63Da10	
$^{132}\text{Xe-u}$	-95856.2	4.0	-95844.914	0.006	1.1	U			ACC	2.5	90Me08	
$^{132}\text{Xe-C }^{13}\text{C }^{35}\text{Cl}_2 \text{ }^{37}\text{Cl}$	-2803.73	1.40	-2807.72	0.09	-1.9	U			H47	1.5	94Hy01	
$^{132}\text{Xe-C}_3\text{O}_6$	-65332.6117	0.0248	-65332.632	0.006	-0.8	o			FS1	1.0	05Sh38 *	
	-65332.6238	0.0140			-0.6	1	16	16	$^{132}\text{Xe}$	FS1	1.0	09Re03
$\text{C}_{10}\text{H}_{12}-^{132}\text{Ba}$	188863	70	188839.3	1.1	-0.2	U			R07	1.5	68De17	
	188821	88			0.1	U			R07	1.5	68De17	
$^{132}\text{La-u}$	-89874	67	-89880	40	-0.1	1	34	34	$^{132}\text{La}$	GS2	1.0	05Li24 *
$^{132}\text{Ce-u}$	-88542	30	-88536	22	0.2	1	54	54	$^{132}\text{Ce}$	GS2	1.0	05Li24
$^{132}\text{Ce O}-^{142}\text{Sm}_{1.042}$	-5258	32	-5265	22	-0.2	1	47	46	$^{132}\text{Ce}$	MA7	1.0	01Bo59 *
$^{132}\text{Pr-u}$	-80745	61				2			GS2	1.0	05Li24 *	
$^{132}\text{Nd-u}$	-76690	30	-76679	26	0.4	2			GS2	1.0	05Li24	
$^{132}\text{Xe}-^{129}\text{Xe}_{1.023}$	1564.20	0.32	1564.265	0.005	0.2	U			CP1	1.0	09Sc19	
	1565.4	1.0			-1.1	U			CP1	1.0	09Sc19	
$^{132}\text{Sb}-^{130}\text{Xe}_{1.015}$	12445.7	2.9			2				JY1	1.0	12Ha25	
$^{132}\text{Te}-^{130}\text{Xe}_{1.015}$	6482.9	4.3	6485	4	0.4	1	76	76	$^{132}\text{Te}$	JY1	1.0	12Ha25
$^{132}\text{Sn}-^{133}\text{Cs}_{.992}$	11621	19	11618	3	-0.1	U			MA8	1.0	05Si34	
$^{132}\text{Sn }^{34}\text{S}-^{133}\text{Cs}_{1.248}$	3686.3	7.7	3690	3	0.4	1	16	16	$^{132}\text{Sn}$	MA8	1.0	08Dw01
$^{132}\text{Cs}-^{133}\text{Cs}_{.992}$	233	18	225.6	2.1	-0.4	o			MA1	1.0	90St25	
	232	14			-0.5	U			MA1	1.0	99Am05	
	246.9	5.9			-3.6	C			MA8	1.0	09Bo.A	
$^{132}\text{Nd}-^{133}\text{Cs}_{.992}$	17147	52	17113	26	-0.7	R			MA5	1.0	00Be42	
$^{132}\text{Sn}-^{132}\text{Xe}$	13672.3	3.4	13672	3	-0.2	1	84	84	$^{132}\text{Sn}$	JY1	1.0	12Ha25
$^{132}\text{Xe}-^{131}\text{Xe}$	-930	11	-928.97	0.24	0.0	U			M16	2.5	63Da10	
$^{132}\text{Xe-C}_{10}\text{H}_{10}$	-174095.2367	0.0095	-174095.237	0.006	0.0	1	35	34	$^{132}\text{Xe}$	FS1	1.0	09Re03
$^{132}\text{Xe}-^{130}\text{Xe}$	645.724	0.014	645.736	0.009	0.8	1	41	38	$^{130}\text{Xe}$	FS1	1.0	09Re07
$^{132}\text{Ba}-^{130}\text{Ba}$	-1241	4	-1259.5	2.9	-1.9	U			M17	2.5	66Be10	
	-1253	68			-0.1	U			R07	1.5	68De17	
$^{132}\text{Xe}-^{129}\text{Xe}$	-625.7755	0.0156	-625.775	0.004	0.0	o			FS1	1.0	05Sh38 *	
	-625.7703	0.0119			-0.4	-			FS1	1.0	09Re03 *	
	-625.7732	0.0125			-0.2	-			FS1	1.0	09Re03 *	
	-625.7711	0.013			-0.3	-			FS1	1.0	09Re07	
	-625.7771	0.0083			0.2	-			FS1	1.0	10Mo30	
ave.	-625.774	0.005			-0.3	1	67	40	$^{129}\text{Xe}$		average	
$^{132}\text{Xe}_2-^{84}\text{Kr}_3$	73816.9775	0.0594	73816.987	0.015	0.2	U			FS1	1.0	05Sh38 *	
$^{132}\text{Xe}_2-^{86}\text{Kr}_3$	76478.3099	0.0412	76478.290	0.014	-0.5	1	12	7	$^{86}\text{Kr}$	FS1	1.0	05Sh38 *
$^{14}\text{N}_{10}-^{132}\text{Xe}$	126584.9632	0.0168	126584.959	0.006	-0.3	1	12	11	$^{132}\text{Xe}$	FS1	1.0	09Re03
$^{131}\text{Cs}-^{132}\text{Cs}_{.794}$	-1118	16	-1091	5	0.7	F			P33	2.5	86Au02 *	
$^{131}\text{Cs}-^{132}\text{Cs}_{.744}$	-1200	30	-1216	5	-0.2	U			P22	2.5	82Au01	
$^{130}\text{Cs}^x-^{132}\text{Cs}_{.492}$	-210	40	-339	17	-1.3	U			P22	2.5	82Au01	
$^{131}\text{Xe}(n,\gamma)^{132}\text{Xe}$	8936.3	1.0	8936.65	0.22	0.3	U				71Ge05		
	8935	2			0.8	U				71Gr28		
	8936.65	0.22			0.0	1	100	100	$^{131}\text{Xe}$	Bdn		
$^{132}\text{In}(\beta^-)^{132}\text{Sn}$	13600	400	14140	60	1.3	U				06Fi.A		
	14135	60				2				86Bj01		
$^{132}\text{Sn}(\beta^-)^{132}\text{Sb}$	3080	40	3092	4	0.3	o			Stu	95Me16		
	3103	10			-1.1	o			Stu	77Al09		
	3115	10			-2.3	U			Stu	95Me16		
$^{132}\text{Sb}(\beta^-)^{132}\text{Te}$	5530	70	5553	4	0.3	o			Stu	99Fo01		
	5486	24			2.8	U			Stu	77Al09		
	5491	20			3.1	B			Stu	95Me16		
	493	4	515	3	5.6	B				65Iv01	*	
	517	4			-0.4	1	76	52	$^{132}\text{I}$	Stu	99Fo01	
$^{132}\text{I}(\beta^-)^{132}\text{Xe}$	3596	15	3575	4	-1.4	-				61De17	*	
	3558	15			1.2	-				65Jo13	*	
	3580	7			-0.6	-			Stu	99Fo01		
ave.	3579	6			-0.6	1	48	48	$^{132}\text{I}$		average	
$^{132}\text{I}^m(\beta^-)^{132}\text{Xe}$	3685	10			2					74Di03	*	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{132}\text{Cs}(\beta^+)^{132}\text{Xe}$	2090	25	2122.7	2.0	1.3	U				63Ta05	*
	2127.7	6.		-0.8	U					87De33	*
$^{132}\text{La}(\beta^+)^{132}\text{Ba}$	4820	100	4710	40	-1.1	-				60Wa03	
	4680	50		0.6	-					67Fr02	
	ave.	4710	40		0.1	1	66	66	$^{132}\text{La}$	average	
* $^{132}\text{Sb-u}$	M-A=-79870(124) keV for mixture gs+m at 200(30) keV										
* $^{132}\text{Xe-C}_3\text{O}_6$	Corrected in reference of same group										
* $^{132}\text{La-u}$	M-A=-83623(30) keV for mixture gs+m at 188.20 keV										
* $^{132}\text{Ce O-}^{142}\text{Sm}_{1.042}$	Original error (22 keV) increased by 23 for BaF contamination in trap										
* $^{132}\text{Pr-u}$	M-A=-75213(28) keV for mixture gs+m at #100 keV										
* $^{132}\text{Xe-}^{129}\text{Xe}$	Corrected in reference of same group										
* $^{132}\text{Xe-}^{129}\text{Xe}$	First item 5 <sup>+</sup> ions; second item 3 <sup>+</sup> ions - considered to be independent										
* $^{132}\text{Xe}_2-^{84}\text{Kr}_3$	Corrected in reference of same group										
* $^{132}\text{Xe}_2-^{86}\text{Kr}_3$	Corrected in reference of same group										
* $^{131}\text{Cs-}^{132}\text{Cs}_{.794}$	$F$ : Rejection based on line-shape analysis										
* $^{132}\text{Te}(\beta^-)^{132}\text{I}$	$E_{\beta^-}=215(4)$ 239(4) respectively, to 1 <sup>+</sup> level at 277.86 keV										
* $^{132}\text{I}(\beta^-)^{132}\text{Xe}$	$E_{\beta^-}=2156(15)$ 2118(15) respectively, to 4 <sup>+</sup> level at 1440.323 keV										
* $^{132}\text{I}^m(\beta^-)^{132}\text{Xe}$	$E_{\beta^-}=1465(10)$ to 7 <sup>-</sup> level at 2214.01 level, and other $E_{\beta^-}$										
* $^{132}\text{Cs}(\beta^+)^{132}\text{Xe}$	$E_{\beta^+}=400(25)$ to 2 <sup>+</sup> level at 667.715 keV										
* $^{132}\text{Cs}(\beta^+)^{132}\text{Xe}$	$p^+=0.0042(0.0001)$ gives $E_{\beta^+}=438(6)$ recalculated Q to 2 <sup>+</sup> level at 667.715 keV										
*											
$^{133}\text{Sb-u}$	-84766	100	-84727	3	0.3	o		GT2	1.5	08Kn.A	
	-84795	129		0.4	U			GT2	1.5	08Su19	
	-84702	25		-1.0	U			GS3	1.0	12Ch19	
$\text{C}_{10}\text{H}_{13}-^{133}\text{Cs}$	196266	64	196273.458	0.009	0.1	U		R07	1.5	68De17	
	196279	25		-0.1	U			R07	1.5	68De17	
$\text{C}_9\text{C}_{12}-^{133}\text{Cs}$	191796	34	191803.260	0.009	0.1	U		R07	1.5	68De17	
$\text{C}_8\text{O}\text{N}\text{H}_7-^{133}\text{Cs}$	147321	25	147311.888	0.009	-0.2	U		R07	1.5	68De17	
$\text{C}_7\text{C}\text{N}\text{O}\text{H}_6-^{133}\text{Cs}$	142835	31	142841.691	0.009	0.1	U		R07	1.5	68De17	
$^{133}\text{Cs-}^{85}\text{Rb}_{1.565}$	43500	13	43501.027	0.011	0.1	U		MA5	1.0	00Be42	
	43499.3	1.6		1.1	U			MA8	1.0	07Ke09	
	43500.9	6.7		0.0	U			MA8	1.0	02Ke.A	
	43500.1	6.7		0.1	U			MA8	1.0	09Na.A	
	43470	47		0.7	U			MA9	1.0	09Na.A	
	43501.2	1.7		-0.1	U			MA8	1.0	11He10	
$^{133}\text{Cs-u}$	-94548.41	0.41	-94548.039	0.009	0.9	U		ST2	1.0	99Ca46	*
$^{133}\text{La-u}$	-91810	120	-91780	30	0.2	U		GS1	1.0	00Ra23	
	-91782	30		2				GS2	1.0	05Li24	
$^{133}\text{Ce-u}$	-88471	32	-88480	18	-0.3	2		GS2	1.0	05Li24	*
$^{133}\text{Ce O-}^{142}\text{Sm}_{1.049}$	-4618	21	-4614	18	0.2	R		MA7	1.0	01Bo59	*
$^{133}\text{Pr-u}$	-83663	30	-83669	13	-0.2	R		GS2	1.0	05Li24	
$^{133}\text{Nd-u}$	-77652	50		2				GS2	1.0	05Li24	*
$^{133}\text{Pm-u}$	-70218	54		2				GS2	1.0	05Li24	*
$^{133}\text{Sb-}^{136}\text{Xe}_{.978}$	6022	10	6017	3	-0.5	1	12	$^{133}\text{Sb}$	CP1	1.0	12Va02
$^{133}\text{Sb-}^{130}\text{Xe}_{1.023}$	13984.7	4.0	13983	3	-0.4	1	73	$^{133}\text{Sb}$	JY1	1.0	12Ha25
$^{133}\text{Te-}^{130}\text{Xe}_{1.023}$	9672.1	2.3	9679	4	2.9	-		JY1	1.0	12Ha25	
	9680.9	2.6		-0.8	-			JY1	1.0	12Ka.C	*
	ave.	9676	4		0.6	1	79	$^{133}\text{Te}$			average
$^{133}\text{Sn-}^{134}\text{Xe}_{.993}$	17856.5	2.4		2				JY1	1.0	12Ha25	
$^{133}\text{Sn-}^{34}\text{S-}^{133}\text{Cs}_{1.256}$	10562	25	10532.7	2.6	-1.2	U		MA8	1.0	08Dw01	
$^{133}\text{Pr-}^{133}\text{Cs}$	10877	15	10879	13	0.1	2		MA5	1.0	00Be42	
$^{133}\text{Cs-C}_3\text{O}_6$	-64035.786	0.026	-64035.756	0.009	1.2	1	11	$^{133}\text{Cs}$	MI2	1.0	99Br47
$^{133}\text{Cs-C}_{10}\text{H}_{12}$	-188448.445	0.057	-188448.425	0.009	0.3	U		MI2	1.0	99Br47	
$^{133}\text{Cs-}^{132}\text{Xe}$	1296.8803	0.0103	1296.876	0.007	-0.4	1	51	$^{45}\text{Cs}$	FS1	1.0	10Mo30
$^{133}\text{Cs-}^{129}\text{Xe}$	671.1007	0.0103	671.100	0.007	0.0	1	51	$^{44}\text{Cs}$	FS1	1.0	10Mo30
$^{133}\text{Cs}(\gamma,\text{n})^{132}\text{Cs}$	-8988	33	-8986.0	2.0	0.1	U		Phi			60Ge01
	-8986	2			2			MMn			85Ts02

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{132}\text{Ba}(\text{n},\gamma)^{133}\text{Ba}$	7189.91	0.36	7189.9	0.4	0.0	1	100	99 $^{132}\text{Ba}$	MMn	90Is07	Z
$^{132}\text{Ba}(\text{d,p})^{133}\text{Ba}$	4977	15	4965.3	0.4	-0.8	U		ANL		70Vo04	
$^{133}\text{Sn}(\beta^-)^{133}\text{Sb}$	7830	70	8048	4	3.1	B		Stu		83B116	*
	8013	50			0.7	o		Stu		92Sp.A	*
	7990	25			2.3	U		Stu		95Me16	
$^{133}\text{Sb}(\beta^-)^{133}\text{Te}$	3966	50	4010	4	0.9	o		Stu		70Ru.A	*
	4003	10			0.7	o		Stu		95Me16	
	4002	7			1.1	1	37	21 $^{133}\text{Te}$	Stu	99Fo01	
$^{133}\text{Te}(\beta^-)^{133}\text{I}$	2960	100	2955	6	-0.1	U				68Mc09	
	2876	100			0.8	U				68Pa03	*
	3392	100			-4.4	C		Stu		70Ru.A	*
	2890	15			4.3	B		Stu		95Me16	
	2942	24			0.5	U		Stu		99Fo01	
$^{133}\text{I}(\beta^-)^{133}\text{Xe}$	1800	50	1757	4	-0.9	U				59Ho97	*
	1760	30			-0.1	U				66Ei01	*
	1757	4				3		Stu		99Fo01	
$^{133}\text{Xe}(\beta^-)^{133}\text{Cs}$	428.0	4.	427.4	2.4	-0.2	2				52Be55	*
	427.0	3.			0.1	2				61Er04	*
	424	11			0.3	U		Stu		99Fo01	
$^{133}\text{Ba}(\epsilon)^{133}\text{Cs}$	517.3	1.0	517.3	1.0	0.0	1	99	99 $^{133}\text{Ba}$		67Sc10	*
	498	5			3.9	F				68Mc06	*
	486	2			15.7	F				69Bo49	*
	521	5			-0.7	U				69To14	*
	2230	200	2059	28	-0.9	U				50Na09	*
$^{133}\text{La}(\beta^+)^{133}\text{Ba}$	As revised in reference. Original: -94548.20(0.28) $\mu\text{u}$										
* $^{133}\text{Cs-u}$	$M-A=-82392(28)$ keV for mixture gs+m at 37.2 keV										
* $^{133}\text{Ce-u}$	$D_M=-4599(16)$ $\mu\text{u}$ for mixture gs+m at 37.2 keV; $M-A=-87150(16)$ keV										
* $^{133}\text{Ce O}-^{142}\text{Sm}_{1.049}$	$M-A=-72268(28)$ keV for mixture gs+m at 127.97 keV										
* $^{133}\text{Nd-u}$	$M-A=-65342(33)$ keV for mixture gs+m at 129.7(1.0) keV										
* $^{133}\text{Pm-u}$	$D_M=10039.7(2.6)$ $\mu\text{u}$ for $^{133}\text{Te}^m$ at 334.26 keV; $M-A=-82595.8(2.4)$ keV										
* $^{133}\text{Te}-^{130}\text{Xe}_{1.023}$	$E_\beta=6870(70)$ to $5/2^+$ level at 962.30 keV										
* $^{133}\text{Sn}(\beta^-)^{133}\text{Sb}$	Ens114 **										
* $^{133}\text{Sn}(\beta^-)^{133}\text{Sb}$	Private communication to reference										
* $^{133}\text{Sb}(\beta^-)^{133}\text{Te}$	$E_\beta=1210(50)$ to $5/2^+$ level at 2755.51 keV; re-evaluated										
* $^{133}\text{Te}(\beta^-)^{133}\text{I}$	$Q_\beta=3210(100)$ from $^{133}\text{Te}^m$ at 334.26 keV										
*	Nub127 **										
* $^{133}\text{Te}(\beta^-)^{133}\text{I}$	AHW **										
* $^{133}\text{I}(\beta^-)^{133}\text{Xe}$	Ens114 **										
* $^{133}\text{Xe}(\beta^-)^{133}\text{Cs}$	Ens114 **										
* $^{133}\text{Ba}(\epsilon)^{133}\text{Cs}$	Ens114 **										
*	Nub127 **										
* $^{133}\text{Ba}(\epsilon)^{133}\text{Cs}$	AHW **										
* $^{133}\text{Ba}(\epsilon)^{133}\text{Cs}$	Ens114 **										
* $^{133}\text{Ba}(\beta^+)^{133}\text{Ba}$	Ens114 **										
$^{134}\text{Te-u}$	-88844	130	-88606.0	3.0	1.2	U			GT2	1.5	08Su19
$\text{C}_{10}\text{H}_{14}-^{134}\text{Xe}$	204155.5	3.2	204155.8	0.9	0.0	U			M16	2.5	63Da10
$^{134}\text{Xe-u}$	-94634.4	5.4	-94605.3	0.9	2.2	U			ACC	2.5	90Me08
$^{134}\text{Xe}-\text{C } ^{13}\text{C } ^{35}\text{Cl } ^{37}\text{Cl}_2$	1381.76	0.60	1381.9	0.9	0.2	1	99	99 $^{134}\text{Xe}$	H47	1.5	94Hy01
$\text{C}_{10}\text{H}_{14}-^{134}\text{Ba}$	205025	20	205042.27	0.30	0.3	U			M17	2.5	66Be10
	205010	46			0.5	U			R07	1.5	68De17
$\text{C}_{11}\text{H}_{2}-^{134}\text{Ba}$	111125	48	111141.88	0.30	0.2	U			R07	1.5	68De17
$\text{C}_8\text{N}\text{O}\text{H}_8-^{134}\text{Ba}$	156063	78	156080.70	0.30	0.2	U			R07	1.5	68De17
$\text{C}_{12}\text{H}_6-^{134}\text{Ba O}$	147531	64	147527.39	0.30	0.0	U			R07	1.5	68De17
$^{134}\text{La-u}$	-91456	34	-91486	21	-0.9	2			GS2	1.0	05Li24
$^{134}\text{Ce-u}$	-91190	130	-91072	22	0.9	U			GS1	1.0	00Ra23
	-91056	30			-0.5	2			GS2	1.0	05Li24
$^{134}\text{Ce O}-^{142}\text{Sm}_{1.056}$	-6631	32	-6613	22	0.6	R			MA7	1.0	01Bo59
$^{134}\text{Pr-u}$	-84285	37	-84303	22	-0.5	2			GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{135}\text{Ce}(\beta^+)^{135}\text{La}$	E $_{\beta^+}$ =705(5) 694(13) respectively, to $1/2^+$ level at 300.052 keV										Ens083 **
* $^{135}\text{Pr}(\beta^+)^{135}\text{Ce}$	E $_{\beta^+}$ =2500(100) to levels ( $5/2^+$ ) 296.11 and $3/2^+$ ) 82.67 keV, roughly equal										Ens083 **
* $^{135}\text{Pm}^m(\beta^+)^{135}\text{Nd}$	E $_{\beta^+}$ =4920(150) to mixture ground state and ( $11/2^-$ ) level at 198.5 keV										Ens083 **
* $^{135}\text{Pm}^m(\beta^+)^{135}\text{Nd}$	Trends from Mass Surface TMS suggest $^{135}\text{Pm}^m$ 350 less bound (see Nubase)										GAu **
$^{136}\text{Te-u}$	-79945	25	-79899.4	2.6	1.8	U			GS3	1.0	12Ch19
$^{136}\text{Xe-}^{120}\text{Sn}_{1.133}$	18019.8	3.1	18020.0	1.1	0.1	U			JY1	1.0	11Ha48
$\text{C}_{10}\text{H}_{16}-^{136}\text{Xe}$	217982.	3.9	217986.032	0.011	0.4	U			M16	2.5	63Da10
$^{136}\text{Xe-u}$	-92793.6	9.0	-92785.516	0.011	0.4	U			ACC	2.5	90Me08
	-92785.516	0.011		0.0	1	100	100 $^{136}\text{Xe}$	FS1	1.0	07Re03	
$\text{C}_{11}\text{H}_4-^{136}\text{Ba}$	126737	56	126724.40	0.29	-0.1	U			R07	1.5	68De17
$\text{C}_8\text{N O H}_{10}-^{136}\text{Ba}$	171635	56	171663.22	0.29	0.3	U			R07	1.5	68De17
$\text{C}_{12}\text{H}_8-^{136}\text{Ba O}$	163094	40	163109.91	0.29	0.3	U			R07	1.5	68De17
$^{136}\text{La-u}$	-92394	88	-92370	60	0.3	2			GS2	1.0	05Li24 *
$\text{C}_{10}\text{H}_{16}-^{136}\text{Ce}$	218128	50	218071.3	0.4	-0.3	U			R05	4.0	65De13
$\text{C}_{12}\text{H}_8-^{136}\text{Ce O}$	160563	36	160556.4	0.4	0.0	U			R05	4.0	65De13
$^{136}\text{Nd-u}$	-85044	30	-85024	13	0.7	R			GS2	1.0	05Li24
$^{136}\text{Pm-u}$	-76389	82	-76420	80	-0.3	2			GS2	1.0	05Li24 *
$^{136}\text{Sm-u}$	-71768	30	-71724	13	1.5	R			GS2	1.0	05Li24
$^{136}\text{Sb-}^{130}\text{Xe}_{1.046}$	31675.1	6.8			2				JY1	1.0	12Ha25
$^{136}\text{Te-}^{130}\text{Xe}_{1.046}$	21029.9	3.1	21029.8	2.6	0.0	1	72	72 $^{136}\text{Te}$	JY1	1.0	12Ha25
$^{136}\text{Xe-}^{133}\text{Cs}_{1.023}$	3936.5	1.9	3937.128	0.014	0.3	U			MA8	1.0	09Ne11
$^{136}\text{Cs-}^{133}\text{Cs}_{1.023}$	4017	18	4034.0	2.0	0.9	o			MA1	1.0	90St25
	4021	14		0.9	U				MA1	1.0	99Am05
$^{136}\text{Pr-}^{133}\text{Cs}_{1.023}$	9418	15	9400	12	-1.2	1	67	67 $^{136}\text{Pr}$	MA5	1.0	00Be42
$^{136}\text{Nd-}^{133}\text{Cs}_{1.023}$	11703	14	11699	13	-0.3	2			MA5	1.0	00Be42
$^{136}\text{Pm}^m-^{133}\text{Cs}_{1.023}$	20429	100			2				MA5	1.0	00Be42 *
$^{136}\text{Sm-}^{133}\text{Cs}_{1.023}$	25009	15	24998	13	-0.7	2			MA5	1.0	00Be42
$^{136}\text{Xe-}^{134}\text{Xe}_{1.015}$	3245.8	3.8	3238.9	0.9	-1.8	o			MA8	1.0	05He.A
	3244.3	4.0		-1.4	U				MA8	1.0	06He29
$^{136}\text{Te-}^{136}\text{Xe}$	12887.9	5.0	12886.1	2.6	-0.4	1	28	28 $^{136}\text{Te}$	CP1	1.0	12Va02
$^{136}\text{I}^m-^{136}\text{Xe}$	7611.2	4.9			2				CP1	1.0	12Va02 *
$^{136}\text{Xe-}^{136}\text{Ba}$	2639.6	0.6	2638.76	0.29	-1.4	-			H49	1.0	10Mc04
	2638.62	0.52		0.3	-				JY1	1.0	11Ko03
ave.	2639.0	0.4		-0.7	1	56	56 $^{136}\text{Ba}$				average
$^{136}\text{Ce-}^{136}\text{Ba}$	2553.46	0.29	2553.48	0.29	0.1	1	100	100 $^{136}\text{Ce}$	JY1	1.0	11Ko03
$^{136}\text{Ba-}^{135}\text{Ba}$	-1115	3	-1112.65	0.04	0.3	U			M17	2.5	66Be10
	-1119	50		0.1	U				R07	1.5	68De17
	-1074	50		-0.5	U				R07	1.5	68De17
$^{136}\text{Ba-}^{134}\text{Ba}$	67	5	67.54	0.11	0.0	U			M17	2.5	66Be10
	69	128		0.0	U				R07	1.5	68De17
	72	78		0.0	U				R07	1.5	68De17
$^{136}\text{Te}(\beta^-n)^{135}\text{I}$	1285	50	1292	6	0.1	U					84Kr.B
$^{136}\text{Xe(d,}^3\text{He})^{135}\text{I}$	-4438	30	-4436	5	0.1	U			Oak		71Wi04
$^{136}\text{Xe(d,t)}^{135}\text{Xe}$	-1723	40	-1826	4	-2.6	U			Oak		68Mo21
$^{135}\text{Ba(n,}\gamma^{136}\text{Ba}$	9106.4	0.8	9107.74	0.04	1.7	U					69Ge07
	9107.74	0.04		0.1	-				MMn	90Is07	Z
	9107.73	0.19		0.1	-				Bdn	06Fi.A	
$^{135}\text{Ba(d,p)}^{136}\text{Ba}$	6886	15	6883.18	0.04	-0.2	U			ANL		70Vo04
$^{135}\text{Ba(n,}\gamma^{136}\text{Ba}$	ave.	9107.74	0.04	9107.74	0.04	0.1	1	99	56 $^{135}\text{Ba}$		average
$^{136}\text{Te}(\beta^-)^{136}\text{I}$	5100	150	5120	14	0.1	U					77Sc21
	5095	100		0.2	U				Bwg		87Gr.A
	5086	20		1.7	1	50	50 $^{136}\text{I}$	Stu			07Fo02
$^{136}\text{I}(\beta^-)^{136}\text{Xe}$	6960	100	6884	14	-0.8	U			Stu		59Jo37 *
	6690	150		1.3	U				Stu		76Lu04 *
	6925	70		-0.6	U				Bwg		87Gr.A
	6850	20		1.7	1	50	50 $^{136}\text{I}$	Stu			07Fo02
$^{136}\text{I}^m(\beta^-)^{136}\text{Xe}$	7100	230	7090	5	0.0	o			Stu		76Lu04 *
	7705	120		-5.1	C				Bwg		87Gr.A
	7051	12		3.2	B				Stu		07Fo02
$^{136}\text{Cs}(\beta^-)^{136}\text{Ba}$	2548.1	2.0	2548.2	1.9	0.1	2					54Ol05 *
	2549	5		-0.2	2						65Re07 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{136}\text{La}(\beta^+)^{136}\text{Ba}$	2870	70	2850	50	-0.3	R					59Gi50
$^{136}\text{Pr}(\beta^+)^{136}\text{Ce}$	5084	50	5168	11	1.7	U					68Zh04 *
	5114	75			0.7	U					71Ke07 *
	5134	20			1.7	1	33	$^{136}\text{Pr}$	IRS		83Al.B *
$^{136}\text{Nd}(\beta^+)^{136}\text{Pr}$	2501	50	2141	16	-7.2	B					68Zh04 *
	2211	25			-2.8	B					75Br16 *
$^{136}\text{Pm}(\beta^+)^{136}\text{Nd}$	7850	200	8020	70	0.8	R			IRS		83Al06 *
* $^{136}\text{La-u}$	M-A=-85935(32) keV for mixture gs+m at 259.3(0.4) keV										
* $^{136}\text{Pm-u}$	M-A=-71091(28) keV for mixture gs+m at 130(120) keV										
* $^{136}\text{Pm}^m-^{133}\text{Cs}_{1.023}$	Slightly contaminated by ground state, original error (20) increased										
* $^{136}\text{I}^m-^{136}\text{Xe}$	High spin isomer is preferred (see also $^{134}\text{Sb}$ )										
* $^{136}\text{I}(\beta^-)^{136}\text{Xe}$	$E_{\beta^-}=7000(100), 5610(150), 4280(150)$ to ground state, $2^+$ levels 1313.027, 2634.16 keV										
* $^{136}\text{I}(\beta^-)^{136}\text{Xe}$	$E_{\beta^-}=5370(400), 4700(320), 3920(220)$ to $2^+$ levels 1313.027, 2289.53, 2634.16 keV										
* $^{136}\text{I}^m(\beta^-)^{136}\text{Xe}$	$E_{\beta^-}=5170(400), 4670(270)$ to $^{136}\text{Xe}^m$ $6^+$ at 1891.703 and 2444.39 level										
* $^{136}\text{Cs}(\beta^-)^{136}\text{Ba}$	$E_{\beta^-}=341(2), 342(5)$ respectively, to $6^+$ level at 2207.077 keV										
* $^{136}\text{Pr}(\beta^+)^{136}\text{Ce}$	$E_{\beta^+}=2970(50), 3000(75), 3020(20)$ respectively, to $2^+$ level at 1092.09 keV										
* $^{136}\text{Nd}(\beta^+)^{136}\text{Pr}$	$E_{\beta^+}=1330(50)$ to $1^+$ level at 149.11 keV										
* $^{136}\text{Nd}(\beta^+)^{136}\text{Pr}$	$K/\beta^+=13.2(0.5)$ to $1^+$ level at 149.11 keV										
* $^{136}\text{Pm}(\beta^+)^{136}\text{Nd}$	$E_{\beta^-}=4732(70)$ probably from high spin isomer going to several high spin levels around 2100 keV										
*											AHW **
											AHW **
$^{137}\text{Sb-u}$	-64445	215			2				GT1	1.5	04Ma.A
$^{137}\text{Te-u}$	-74528	101	-74401.1	2.7	0.8	o			GT2	1.5	08Kn.A
	-74386	129			-0.1	U			GT2	1.5	08Su19
$^{137}\text{I-u}$	-82145	130	-81972	9	0.9	U			GT2	1.5	08Su19
$\text{C}_{11}\text{H}_5-^{137}\text{Ba}$	133366	24	133298.0	0.3	-1.9	U			R07	1.5	68De17
$\text{C}_7\text{CNOH}_{10}-^{137}\text{Ba}$	173792	73	173766.6	0.3	-0.2	U			R07	1.5	68De17
$\text{C}_{12}\text{H}_9-^{137}\text{Ba O}$	169692	39	169683.5	0.3	-0.1	U			R07	1.5	68De17
$^{137}\text{La-u}$	-93556	30	-93549.6	1.8	0.2	U			GS2	1.0	05Li24
$^{137}\text{Ce-u}$	-92101	85	-92237.6	0.4	-1.6	U			GS2	1.0	05Li24 *
$^{137}\text{Nd-u}$	-85438	30	-85438	13	0.0	1	18	$^{137}\text{Nd}$	GS2	1.0	05Li24
$^{137}\text{Pm-u}$	-79608	62	-79520	14	1.4	U			GS2	1.0	05Li24 *
$^{137}\text{Sm-u}$	-73025	69	-73030	50	-0.1	1	44	$^{137}\text{Sm}$	GS2	1.0	05Li24 *
$^{137}\text{Te}-^{130}\text{Xe}_{1.054}$	27300.0	2.7			2				JY1	1.0	12Ha25
$^{137}\text{Xe}-^{133}\text{Cs}_{1.030}$	8943.6	2.0	8942.26	0.11	-0.7	U			MA8	1.0	09Ne11
$^{137}\text{Cs}-^{133}\text{Cs}_{1.030}$	4462	19	4473.7	0.4	0.6	o			MA1	1.0	90St25
	4470	14			0.3	U			MA1	1.0	99Am05
$^{137}\text{Pr}-^{133}\text{Cs}_{1.030}$	8095	15	8064	9	-2.1	1	34	$^{137}\text{Pr}$	MA5	1.0	00Be42
$^{137}\text{Nd}-^{133}\text{Cs}_{1.030}$	11947	14	11947	13	0.0	1	81	$^{137}\text{Nd}$	MA5	1.0	00Be42
$^{137}\text{Pm}-^{133}\text{Cs}_{1.030}$	17864	14			2				MA5	1.0	00Be42
$^{137}\text{Sm}-^{133}\text{Cs}_{1.030}$	24350	78	24350	50	0.1	1	34	$^{137}\text{Sm}$	MA5	1.0	00Be42 *
$^{137}\text{Ba}^{35}\text{Cl}-^{135}\text{Ba}^{37}\text{Cl}$	3089.1	0.6	3088.85	0.11	-0.4	U			H49	1.0	10Mc04
$^{137}\text{Te}-^{136}\text{Xe}_{1.007}$	19057	18	19033.9	2.7	-1.3	U			CP1	1.0	12Va02
$^{137}\text{I}-^{136}\text{Xe}_{1.007}$	11463.2	9.0			2				CP1	1.0	12Va02
$^{137}\text{Xe}-^{136}\text{Xe}_{1.007}$	5004	11	4992.79	0.11	-1.0	U			CP1	1.0	12Va02
$^{137}\text{Ba}-^{136}\text{Ba}$	1249	3	1251.41	0.07	0.3	U			M17	2.5	66Be10
	1222	50			0.4	U			R07	1.5	68De17
	1227	44			0.4	U			R07	1.5	68De17
$^{137}\text{Ba}-^{135}\text{Ba}$	143	3	138.77	0.09	-0.6	U			M17	2.5	66Be10
	69	63			0.7	U			R07	1.5	68De17
	106	46			0.5	U			R07	1.5	68De17
$^{137}\text{I}(\beta^-n)^{136}\text{Xe}$	1850	30	2002	8	5.1	C					84KrB
$^{136}\text{Xe}(n,\gamma)^{137}\text{Xe}$	4025.5	0.5	4025.56	0.10	0.1	U					77Fo02 Z
	4025.8	0.3			-0.8	2					77Pr07 Z
	4025.53	0.11			0.3	2			Bdn		06Fi.A
$^{136}\text{Xe(d,p)}^{137}\text{Xe}$	1637	20	1801.00	0.10	8.2	F			Oak		68Mo21 *
$^{136}\text{Xe}(^3\text{He},d)^{137}\text{Cs}$	1918	12	1912.2	0.3	-0.5	U			ChR		81Ha08
$^{136}\text{Ba}(n,\gamma)^{137}\text{Ba}$	6891	5	6905.63	0.07	2.9	U					69Gr31
	6905.54	0.10			0.9	-			MMn		90Is07 Z
	6905.70	0.12			-0.6	-			Mtn		95Bo03 Z
	6905.74	0.16			-0.7	-			Bdn		06Fi.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value			Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{137}\text{Ba}(\gamma,\text{n})^{136}\text{Ba}$	-6949	38	-6905.63	0.07	1.1	U			Phi	60Ge01			
$^{136}\text{Ba}(\text{d,p})^{137}\text{Ba}$	4680	15	4681.07	0.07	0.1	U			ANL	70Vo04			
$^{136}\text{Ba}(\text{n},\gamma)^{137}\text{Ba}$	ave. 6905.63	0.07	6905.63	0.07	0.0	1	100	100	$^{137}\text{Ba}$	average			
$^{136}\text{Ce}(\text{n},\gamma)^{137}\text{Ce}$	7481.3	0.4	7481.53	0.16	0.6	-				81Ko.A	Z		
	7481.58	0.17		-0.3	-				Bdn	06Fi.A			
	ave. 7481.54	0.16		0.0	1	100	100	$^{137}\text{Ce}$		average			
$^{137}\text{Te}(\beta^-)^{137}\text{I}$	7030	300	7052	9	0.1	U				85Sa15			
	6925	130		1.0	U				Bwg	87Gr.A			
$^{137}\text{I}(\beta^-)^{137}\text{Xe}$	5880	60	6027	8	2.5	U			Bwg	87Gr.A			
$^{137}\text{Xe}(\beta^-)^{137}\text{Cs}$	4140	70	4162.4	0.3	0.3	U				64On03			
	4150	100		0.1	U					68Ho22			
$^{137}\text{Cs}(\beta^-)^{137}\text{Ba}$	1173.29	0.84	1175.63	0.17	2.8	U				68Wo02	*		
	1175.55	0.26		0.3	2					78Ch22	*		
	1175.69	0.23		-0.3	2					83Be18	*		
$^{137}\text{Ce}(\beta^+)^{137}\text{La}$	1222.1	1.6			2					81Ar.A	*		
$^{137}\text{Pr}(\beta^+)^{137}\text{Ce}$	2702	10	2717	8	1.5	1	66	66	$^{137}\text{Pr}$	73Bu17			
$^{137}\text{Nd}(\beta^+)^{137}\text{Pr}$	3497	40	3617	14	3.0	B				73Bu18	*		
	3690	54		-1.3	U					85Af.A	*		
$^{137}\text{Pm}^m(\beta^+)^{137}\text{Nd}$	5690	130	5660	50	-0.3	-			IRS	83Al06	*		
	5650	60		0.1	-				Dbn	95Ve08	*		
	ave. 5660	50		0.0	1	71	70	$^{137}\text{Pm}^m$		average			
	5900	70	5900	50	0.0	1	53	30	$^{137}\text{Pm}^m$	Dbn	95Ve08		
$^{137}\text{Sm}(\beta^+)^{137}\text{Pm}^m$	M-A=-85665(29) keV for mixture gs+m at 254.29 keV									Nub127	**		
$^{137}\text{Ce-u}$	M-A=-85665(29) keV for mixture gs+m at 254.29 keV									Nub127	**		
$^{137}\text{Pm-u}$	M-A=-74079(28) keV for mixture gs+m at 150(50) keV									Nub127	**		
$^{137}\text{Sm-u}$	M-A=-67932(28) keV for mixture gs+m at 180#50 keV									Nub127	**		
$^{137}\text{Sm}-^{133}\text{Cs}_{1.030}$	Might be a mixture of ground state and isomer say authors									00Be42	**		
*										Nub127	**		
$^{136}\text{Xe}(\text{d,p})^{137}\text{Xe}$	$D_M=24447(14) \mu\text{u}$ for mixture gs+m at 180#50 keV; M-A=-67941(13) keV									Nub127	**		
$^{137}\text{Cs}(\beta^-)^{137}\text{Ba}$	F : error severely underestimated and value low, see excitation energies									AHW	**		
$^{137}\text{Ce}(\beta^+)^{137}\text{La}$	$E_{\beta^-}=511.63(0.84) \text{ } 513.89(0.26) \text{ } 514.03(0.23) \text{ to } ^{137}\text{Ba}^m$ at 661.659 keV									Nub127	**		
$^{137}\text{Nd}(\beta^+)^{137}\text{Pr}$	$E_{\beta^+}=189.5(1.6)$ to $5/2^+$ level at 10.59 keV									Ens079	**		
$^{137}\text{Pm}^m(\beta^+)^{137}\text{Nd}$	$E_{\beta^+}=2400(40) \text{ } E_{\beta^+}=2592(54)$ respectively, to $3/2^+$ level at 75.5 keV									Ens079	**		
	$E_{\beta^+}=4132(+150-115) \text{ } 4110(60)$ respectively, to $11/2^- \text{ } ^{137}\text{Nd}^m$ at 519.43 keV									Nub127	**		
$^{138}\text{Te-u}$	-70940	247	-70528	5	1.1	o			GT1	1.5	04Ma.A		
	-70583	106		0.3	o				GT2	1.5	08Kn.A		
	-70591	131		0.3	U				GT2	1.5	08Su19		
$\text{C}_{10} \text{H}_{18}-^{138}\text{Ba}$	235609	20	235603.6	0.3	-0.1	U			M17	2.5	66Be10		
$\text{C}_{11} \text{H}_7-^{138}\text{Ba H}$	141649	51	141703.2	0.3	0.7	U			R07	1.5	68De17		
$\text{C}_{11} \text{H}_6-^{138}\text{Ba}$	141701	30		0.0	U				R07	1.5	68De17		
$\text{C}_{12} \text{H}_{10}-^{138}\text{Ba O}$	178106	15	178088.7	0.3	-0.8	U			R07	1.5	68De17		
	178105	49		-0.2	U				R07	1.5	68De17		
$\text{C}_{11} \text{C}_{13} \text{H}_9-^{138}\text{Ba O}$	173612	37	173618.5	0.3	0.1	U			R07	1.5	68De17		
$\text{C}_{10} \text{H}_{18}-^{138}\text{Ce}$	234799	60	234859	11	0.3	U			R05	4.0	65De13		
$\text{C}_{12} \text{H}_{10}-^{138}\text{Ce O}$	177382	46	177345	11	-0.2	U			R05	4.0	65De13		
$\text{C}_9 \text{C}_{13} \text{H}_{17}-^{138}\text{Ce}$	230358	60	230389	11	0.1	U			R05	4.0	65De13		
$^{138}\text{Pr}^m\text{-u}$	-88896	30	-88869	19	0.9	1	39	39	$^{138}\text{Pr}^m$	GS2	1.0	05Li24	
$^{138}\text{Nd-u}$	-88060	130	-88050	12	0.1	o			GS1	1.0	00Ra23		
	-88060	30		0.3	R				GS2	1.0	05Li24		
$^{138}\text{Pm-u}$	-80242	141	-80452	30	-1.5	o			GS1	1.0	00Ra23	*	
	-80454	35		0.1	1	72	72	$^{138}\text{Pm}$	GS2	1.0	05Li24	*	
$^{138}\text{Sm-u}$	-76766	30	-76756	13	0.3	R			GS2	1.0	05Li24		
$^{138}\text{Eu-u}$	-66291	30		2					GS2	1.0	05Li24		
$^{138}\text{Te}-^{130}\text{Xe}_{1.062}$	31945.3	4.7		2					JY1	1.0	12Ha25		
$^{138}\text{Xe}-^{133}\text{Cs}_{1.038}$	12284.1	3.5	12287	3	0.9	1	74	74	$^{138}\text{Xe}$	MA8	1.0	09Ne11	
$^{138}\text{Cs}-^{133}\text{Cs}_{1.038}$	9158	14	9158	10	0.0	1	49	49	$^{138}\text{Cs}$	MA1	1.0	99Am05	
$^{138}\text{Ba}-^{133}\text{Cs}_{1.038}$	3388	14	3387.9	0.3	0.0	U			MA1	1.0	99Am05		
$^{138}\text{Nd}-^{133}\text{Cs}_{1.038}$	10093	14	10091	12	-0.2	-			MA5	1.0	00Be42		
	ave. 10091	13		0.0	1	96	96	$^{138}\text{Nd}$		average			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{138}\text{Pm}^m - ^{133}\text{Cs}_{1.038}$	17721	14				2			MA5	1.0	00Be42	
$^{138}\text{Sm} - ^{133}\text{Cs}_{1.038}$	21387	14	21385	13	-0.2	2			MA5	1.0	00Be42	
$^{138}\text{I} - ^{136}\text{Xe}_{1.015}$	16903.7	6.4				2			CP1	1.0	12Va02	
$^{138}\text{Xe} - ^{136}\text{Xe}_{1.015}$	8332.2	5.9	8324	3	-1.5	1	26	26	$^{138}\text{Xe}$	CP1	1.0	12Va02
$^{138}\text{Ba} - ^{35}\text{Cl} - ^{136}\text{Ba} - ^{37}\text{Cl}$	3621.1	0.6	3621.35	0.11	0.4	U			H49	1.0	10Mc04	
$^{138}\text{Ba} - ^{137}\text{Ba}$	-582	2	-580.15	0.04	0.4	U			M17	2.5	66Be10	
	-480	27			-2.5	U			R07	1.5	68De17	
	-553	40			-0.5	U			R07	1.5	68De17	
$^{138}\text{Ba} - ^{136}\text{Ba}$	676	3	671.27	0.09	-0.6	U			M17	2.5	66Be10	
	658	98			0.1	U			R07	1.5	68De17	
	628	43			0.7	U			R07	1.5	68De17	
$^{138}\text{Ce} - ^{136}\text{Ce}$	-1040	47	-1138	11	-0.5	U			R05	4.0	65De13	
	-1158	20			0.4	U			M17	2.5	66Be10	
$^{138}\text{Ba H} - ^{137}\text{Ba}$	7399	88	7244.89	0.04	-1.2	U			R07	1.5	68De17	
	7280	43			-0.5	U			R07	1.5	68De17	
$^{137}\text{Ba}(\text{n},\gamma)^{138}\text{Ba}$	8611.3	0.8	8611.72	0.04	0.5	U					68Ma35	
	8611.72	0.04			0.0	1	100	100	$^{138}\text{Ba}$	MMn	90Is07	
	8611.5	0.15			1.5	U			Ltn		95Bo05	
	8611.63	0.18			0.5	U			Bdn		06Fi.A	
$^{137}\text{Ba}(\text{d,p})^{138}\text{Ba}$	6398	15	6387.15	0.04	-0.7	U			ANL		70Vo04	
$^{138}\text{I}(\beta^-)^{138}\text{Xe}$	7820	70	7992	7	2.5	U			Bwg		87Gr.A	
$^{138}\text{Xe}(\beta^-)^{138}\text{Cs}$	2700	50	2915	10	4.3	B					72Mo33 *	
	2830	80			1.1	U			Trs		78Wo15	
$^{138}\text{Cs}^x(\text{IT})^{138}\text{Cs}$	40	23			2						82Au01 *	
$^{138}\text{Cs}(\beta^-)^{138}\text{Ba}$	5350	80	5375	9	0.3	U			Trs		78Wo15	
	5388	25			-0.5	-			Gsn		81De25	
	5370	15			0.3	-			McG		84He.A	
ave.	5375	13			0.0	1	51	51	$^{138}\text{Cs}$		average	
$^{138}\text{La}(\varepsilon)^{138}\text{Ba}$	1620	15	1740	3	8.0	B					56Tu17 *	
$^{138}\text{La}(\beta^-)^{138}\text{Ce}$	994	10	1047	10	5.3	B					57Gl20 *	
	1159	40			-2.8	U					70El.A *	
$^{138}\text{Pr}(\beta^+)^{138}\text{Ce}$	4437	10			2						71Af05	
$^{138}\text{Pr}^m(\beta^+)^{138}\text{Ce}$	4801	20	4788	17	-0.6	1	69	61	$^{138}\text{Pr}^m$		64Fu08 *	
$^{138}\text{Nd}(\beta^+)^{138}\text{Pr}$	2020	100	1113	18	-9.1	C					61Bo.B	
$^{138}\text{Pm}(\beta^+)^{138}\text{Nd}$	7090	100	7078	29	-0.1	-			IRS		83Al06	
	7080	60			0.0	-			Dbn		95Ve08	
ave.	7080	50			-0.1	1	31	28	$^{138}\text{Pm}$		average	
$^{138}\text{Pm}^m(\beta^+)^{138}\text{Nd}$	7000	250	7108	17	0.4	U					81De38 *	
* $^{138}\text{Pm-u}$	$M - A = -74730(130)$ keV for mixture gs+m at 30(30) keV											
* $^{138}\text{Pm-u}$	$M - A = -74927(28)$ keV for mixture gs+m at 30(30) keV											
* $^{138}\text{Xe}(\beta^-)^{138}\text{Cs}$	$E_{\beta^-} = 2460(50), 2270(50)$ to $(1^- 2^-)$ level at 258.400, $1^-$ at 412.260 keV											
* $^{138}\text{Cs}^x(\text{IT})^{138}\text{Cs}$	Based on $^{138}\text{Cs}^m(\text{IT}) = 79.9$ keV											
* $^{138}\text{La}(\varepsilon)^{138}\text{Ba}$	L/K=1.40(0.25) to $2^+$ level at 1435.816 keV											
* $^{138}\text{La}(\beta^-)^{138}\text{Ce}$	$E_{\beta^-} = 205(10)$ 370(40) respectively, to $2^+$ level at 788.744 keV											
* $^{138}\text{Pr}^m(\beta^+)^{138}\text{Ce}$	$E_{\beta^+} = 1650(20)$ to $7^-$ level at 2129.17 keV											
* $^{138}\text{Pm}^m(\beta^+)^{138}\text{Nd}$	$E_{\beta^+} = 3900(200)$ to $5^-$ level at 1990.4, $6^+$ at 2134.3 and $(5^-)$ at 2221.8 keV											
$^{139}\text{Te-u}$	-64541	333	-64633	4	-0.2	U			GT1	1.5	04Ma.A	
$^{139}\text{Te} - ^{130}\text{Xe}_{1.069}$	38515.7	3.8				2			JY1	1.0	12Ha25	
$^{139}\text{I-u}$	-73838	102	-73490	30	2.2	U			GT2	1.5	08Kn.A	
	-73567	130			0.4	U			GT2	1.5	08Su19	
$\text{C}_6 \text{ } ^{13}\text{C} \text{ O}_3 \text{ H}_6 - ^{139}\text{La}$	128474	41	128692.6	2.4	1.3	U			R05	4.0	65De13	
$\text{C}_7 \text{ O}_3 \text{ H}_7 - ^{139}\text{La}$	133063	32	133162.8	2.4	0.8	U			R05	4.0	65De13	
$\text{C}_6 \text{ N} \text{ O}_3 \text{ H}_5 - ^{139}\text{La}$	120496	21	120586.8	2.4	1.1	U			R05	4.0	65De13	
$\text{C}_{12} \text{ H}_{11} - ^{139}\text{La}$	184568	66	184804.5	2.4	0.9	U			R05	4.0	65De13	
$\text{C}_{11} \text{ } ^{13}\text{C} \text{ H}_{10} - ^{139}\text{La}$	180100	58	180334.3	2.4	1.0	U			R05	4.0	65De13	
$^{139}\text{Nd-u}$	-87840	79	-88046	30	-2.6	U			GS2	1.0	05Li24 *	
$^{139}\text{Sm-u}$	-77704	30	-77703	12	0.0	R			GS2	1.0	05Li24	
	-77711	30			0.3	R			GS2	1.0	05Li24 *	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{139}\text{Eu-u}$	-70215	30	-70208	14	0.2	R			GS2	1.0	05Li24
$^{139}\text{Xe-}^{133}\text{Cs}_{1,045}$	17594.9	2.3				2			MA8	1.0	09Ne11 *
$^{139}\text{Cs-}^{133}\text{Cs}_{1,045}$	12163	14	12166	3	0.2	U			MA1	1.0	99Am05
$^{139}\text{Ba-}^{133}\text{Cs}_{1,045}$	7649	14	7643.8	0.3	-0.4	U			MA1	1.0	99Am05
$^{139}\text{Pm-}^{133}\text{Cs}_{1,045}$	15604	15	15602	15	-0.1	1	95	95 $^{139}\text{Pm}$	MA5	1.0	00Be42
$^{139}\text{Sm-}^{133}\text{Cs}_{1,045}$	21101	14	21099	12	-0.1	2			MA5	1.0	00Be42
$^{139}\text{Eu-}^{133}\text{Cs}_{1,045}$	28597	16	28595	14	-0.1	2			MA5	1.0	00Be42
$^{139}\text{I-}^{136}\text{Xe}_{1,022}$	21333	31				2			CP1	1.0	12Va02
$^{139}\text{Xe-}^{136}\text{Xe}_{1,022}$	13618	12	13619.0	2.3	0.1	U			CP1	1.0	12Va02
$^{139}\text{La-}^{138}\text{La}$	-622	132	-758.7	2.8	-0.3	U			R05	4.0	65De13
$^{139}\text{La-}^{138}\text{Ce}$	485	74	365	11	-0.4	U			R05	4.0	65De13
$^{133}\text{Cs-}^{139}\text{Cs}_{239}$ $^{131}\text{Cs}_{761}$	-1774	24	-1771	4	0.1	F			P33	2.5	86Au02 *
$^{138}\text{Cs}^x\text{-}^{139}\text{Cs}_{496}$ $^{137}\text{Cs}_{504}$	770	40	800	25	0.3	U			P23	2.5	82Au01
$^{138}\text{Ba(n,}\gamma\text{)}^{139}\text{Ba}$	4723.4	0.7	4723.43	0.04	0.0	U					69Mo13
	4723.4	0.3			0.1	U					80Ba.A
	4723.43	0.04			0.0	1	100	100 $^{139}\text{Ba}$	MMn	90Is07	Z
	4723.20	0.14			1.6	U			Bdn	06Fi.A	
$^{138}\text{Ba(d,p)}^{139}\text{Ba}$	2495	10	2498.86	0.04	0.4	U			MIT	64Sp12	
	2496	15			0.2	U			Hei	67Wi08	
	2493	10			0.6	U			ANL	70Vo04	
$^{139}\text{La}(\gamma,\text{n})^{138}\text{La}$	-8775	25	-8778.0	2.6	-0.1	U			Phi	60Ge01	
$^{138}\text{La(d,p)}^{139}\text{La}$	6553	3	6553.4	2.6	0.1	2			Tal	71Du02	
$^{139}\text{La(dt,t)}^{138}\text{La}$	-2522	5	-2520.8	2.6	0.2	2			Tal	72La20	
$^{139}\text{I}(\beta^-)^{139}\text{Xe}$	6815	100	7186	29	3.7	C			Bwg	87Gr.A	
	6806	23			16.5	B			Bwg	92Gr06	
$^{139}\text{Xe}(\beta^-)^{139}\text{Cs}$	5020	60	5057	4	0.6	U			Trs	78Wo15	
	5062	22			-0.2	U			Bwg	92Gr06	
$^{139}\text{Cs}(\beta^-)^{139}\text{Ba}$	4290	70	4213	3	-1.1	U			Trs	78Wo15	
	4190	25			0.9	o			Gsn	80Bl.A	
	4213	5			0.0	o			Gsn	81De25	
	4214	4			-0.3	2			McG	84He.A	
	4211	5			0.4	2			Gsn	92Pr04	
$^{139}\text{Ba}(\beta^-)^{139}\text{La}$	2307	5	2314.6	2.3	1.5	-				75Fl07	*
	2336	25			-0.9	U			Gsn	81De25	
	2316	4			-0.3	-			McG	84He.A	
ave.	2312	3			0.7	1	53	52 $^{139}\text{La}$		average	
$^{139}\text{Ce}(\varepsilon)^{139}\text{La}$	278	7	278	7	0.1	1	99	99 $^{139}\text{Ce}$	Averag	*	
$^{139}\text{Pr}(\beta^+)^{139}\text{Ce}$	2129	3	2129.1	3.0	0.0	1	100	98 $^{139}\text{Pr}$	81Ar.A		
$^{139}\text{Nd}(\beta^+)^{139}\text{Pr}$	2787	50	2806	28	0.4	1	31	30 $^{139}\text{Nd}$	75Vy02	*	
$^{139}\text{Pm}(\beta^+)^{139}\text{Nd}$	4450	100	4514	26	0.6	-			77De06	*	
	4540	40			-0.6	-			IRS	83Al06	
	4470	50			0.9	-			Dbn	95Ve08	
ave.	4507	30			0.2	1	76	70 $^{139}\text{Nd}$		average	
$^{139}\text{Sm}(\beta^+)^{139}\text{Pm}$	5430	150	5120	17	-2.1	U				82De06	*
	5510	150			-2.6	U			IRS	83Al06	*
	6080	50	6982	17	18.0	C			Dbn	95Ve08	*
$^{139}\text{Eu}(\beta^+)^{139}\text{Sm}$	M-A=-81707(30) keV for mixture gs+m at 231.15 keV								Nub127	**	
$^{139}\text{Nd-u}$	M-A=-71930(28) keV for $^{139}\text{Sm}^m$ at 457.40 keV								Nub127	**	
$^{139}\text{Sm-u}$	Typo in original paper, ratio should read 1.045 245 4357(175)								GAu	**	
$^{139}\text{Xe-}^{133}\text{Cs}_{1,045}$	F : rejection based on line-shape analysis								86Au02	**	
$^{133}\text{Cs-}^{139}\text{Cs}_{239}$ $^{131}\text{Cs}_{.}$	$E_{\beta^-}=2141(5)$ to $5/2^+$ level at 165.8576 keV								Ens014	**	
$^{139}\text{Ba}(\beta^-)^{139}\text{La}$	Average pK=0.73(0.01) to $5/2^+$ level at 165.8576 keV in 10 references:								Ens014	**	
	pK=0.76 (0.04)								54Pr31	**	
	pK=0.73 (0.01)								56Ke23	**	
	pK=0.68 (0.02)								67Ma07	**	
	pK=0.75 (0.01)								68Ad08	**	
	pK=0.69 (0.02)								68Va08	**	
	pK=0.716(0.02)								72Ca07	**	
	pK=0.78 (0.02)								72Sc08	**	
	pK=0.726(0.010)								75Ha43	**	
	pK=0.801(0.034)								75Pl06	**	
	pK=0.705(0.020)								76Ha36	**	
$^{139}\text{Nd}(\beta^+)^{139}\text{Pr}$	$E_{\beta^+}=1770(50)$ ; and 1170(50) from $^{139}\text{Nd}^m$ at 231.15 to $1/2^-$ level at 821.98								Ens014	**	
$^{139}\text{Pm}(\beta^+)^{139}\text{Nd}$	$E_{\beta^+}=3020(120)$ , 2990(100) to $3/2^+$ levels at 463.10, 402.77 keV								Ens014	**	
$^{139}\text{Sm}(\beta^+)^{139}\text{Pm}$	$E_{\beta^+}=4100(150)$ to $(1/2, 3/2)^+$ level at 306.69 keV								Ens014	**	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item		Input value		Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
* $^{139}\text{Sm}(\beta^+)^{139}\text{Pm}$		E $_{\beta^+}$ =4735(+180–130) from $^{139}\text{Sm}^m$ at 457.40 to $^{139}\text{Pm}^m$ at 188.7 keV									Nub127 **	
* $^{139}\text{Eu}(\beta^+)^{139}\text{Sm}$		E $_{\beta^+}$ =4600(50) to $^{139}\text{Sm}^m$ at 457.40 keV									Nub127 **	
$^{140}\text{Te-u}$	–60827	225	–60500	30	1.0	U				GT1	1.5	04Ma.A
$^{140}\text{Te}-^{130}\text{Xe}_{1.077}$	43419	30				2				JY1	1.0	12Ha25
$^{140}\text{I-u}$	–68181	193	–68270	200	–0.3	o				GT1	1.5	04Ma.A
	–68463	102			1.2	o				GT2	1.5	08Kn.A
	–68273	130				2				GT2	1.5	08Su19
$^{140}\text{Xe-u}$	–78449	103	–78354.2	2.5	0.6	o				GT2	1.5	08Kn.A
	–78229	130			–0.6	U				GT2	1.5	08Su19
$\text{C}_{11}\text{H}_8-^{140}\text{Ce}$	157116	29	157157.2	2.3	0.4	U				R05	4.0	65De13
$\text{C}_{10}\text{H}_7-^{140}\text{Ce}$	152553	17	152687.0	2.3	2.0	U				R05	4.0	65De13
$\text{C}_{10}\text{N}\text{H}_6-^{140}\text{Ce}$	144599	35	144581.1	2.3	–0.1	U				R05	4.0	65De13
$\text{C}_{10}\text{N}_2\text{H}_8-^{140}\text{Ce O}$	168207	48	168390.5	2.3	1.0	U				R05	4.0	65De13
$^{140}\text{Nd-u}$	–90448	30	–90450	28	–0.1	1	87	87 $^{140}\text{Nd}$	GS2	1.0	05Li24	
$^{140}\text{Pm}^m\text{-u}$	–83532	30	–83503	14	1.0	1	21	21 $^{140}\text{Pm}^m$	GS2	1.0	05Li24	
$^{140}\text{Sm-u}$	–81018	30	–81005	13	0.4	R				GS2	1.0	05Li24
$^{140}\text{Gd-u}$	–66326	30				2				GS2	1.0	05Li24
$^{140}\text{Xe}-^{133}\text{Cs}_{1.053}$	21204.9	2.5				2				MA8	1.0	09Ne11
$^{140}\text{Cs}-^{133}\text{Cs}_{1.053}$	16837	14	16842	9	0.4	–				MA1	1.0	99Am05
	16857	14			–1.1	–				MA4	1.0	99Am05
	ave.	16847	10		–0.5	1	79	79 $^{140}\text{Cs}$				average
$^{140}\text{Ba}-^{133}\text{Cs}_{1.053}$	10150	14	10165	9	1.1	1	37	37 $^{140}\text{Ba}$	MA1	1.0	99Am05	
$^{140}\text{Pm}^m-^{133}\text{Cs}_{1.053}$	16064	16	16056	14	–0.5	1	76	76 $^{140}\text{Pm}^m$	MA5	1.0	00Be42	
$^{140}\text{Sm}-^{133}\text{Cs}_{1.053}$	18557	15	18554	13	–0.2	2			MA5	1.0	00Be42	
$^{140}\text{Xe}-^{136}\text{Xe}_{1.029}$	17134	11	17122.1	2.5	–1.1	U			CP1	1.0	12Va02	
$\text{C}_{11}\text{H}_9-^{140}\text{Ce}$	164956	40	164982.2	2.3	0.3	U			M17	2.5	66Be10	
$^{140}\text{Ce}-^{139}\text{La}$	–1029	80	–913.1	1.9	0.4	U			R05	4.0	65De13	
$\text{C}_{11}\text{H}_{10}-^{140}\text{Ce}$	172765	40	172807.2	2.3	0.4	U			M17	2.5	66Be10	
$^{140}\text{Ce}-^{138}\text{Ce}$	–497	83	–548	10	–0.2	U			R05	4.0	65De13	
		–543	8		–0.2	1	27	27 $^{138}\text{Ce}$	M17	2.5	66Be10	
$^{139}\text{Cs}-^{140}\text{Cs}_{.883}$	–2280	40	–2275	8	0.1	U			P23	2.5	82Au01	
$^{139}\text{Cs}-^{140}\text{Cs}_{.869}$	–2210	40	–2240	8	–0.3	U			P23	2.5	82Au01	
$^{138}\text{Ce(t,p)}^{140}\text{Ce}$	8184	15	8171	10	–0.8	–			LAl		72Mu09	
$^{140}\text{Ce(p,t)}^{138}\text{Ce}$	–8167	20	–8171	10	–0.2	–			Brk		77Sh06	
$^{138}\text{Ce(t,p)}^{140}\text{Ce}$	ave.	8178	12	8171	10	–0.6	1	65	65 $^{138}\text{Ce}$		average	
$^{139}\text{La(n,}\gamma^{140}\text{La}$	5161.1	1.0	5160.98	0.04	–0.1	U					70Ju04	
		5160	1		1.0	U					72Fu10	
		5160.97	0.05		0.1	–			MMn	90Is09	Z	
		5161.00	0.10		–0.2	–			Bdn	06Fi.A		
$^{139}\text{La(d,p)}^{140}\text{La}$	2938	3	2936.41	0.04	–0.5	U			Tal	67Ke02		
$^{139}\text{La(n,}\gamma^{140}\text{La}$	ave.	5160.98	0.04	5160.98	0.04	0.0	1	100	53 $^{140}\text{La}$		average	
$^{140}\text{Ho(p)}^{139}\text{Dy}$	1093.9	10.				3					99Ry04	
$^{140}\text{Xe}(\beta^-)^{140}\text{Cs}$	4060	60	4064	9	0.1	U			Trs		78Wo15	
$^{140}\text{Cs}(\beta^-)^{140}\text{Ba}$	6100	100	6220	10	1.2	U			Trs		78Wo15	
		6235	25		–0.6	o			Gsn		80Bl.A	
		6220	15		0.0	o			Gsn		81De25	
		6212	20		0.4	–			Gsn		92Pr04	
		6199	25		0.8	–			Ida		93Gr17	
	ave.	6207	16		0.8	1	40	21 $^{140}\text{Cs}$			average	
$^{140}\text{Ba}(\beta^-)^{140}\text{La}$	1060	20	1048	8	–0.6	–				49Be36	*	
		1050	20		–0.1	–				59Bo61	*	
		1055	30		–0.2	–				65Bu07	*	
	ave.	1055	13		–0.5	1	39	37 $^{140}\text{Ba}$			average	
$^{140}\text{La}(\beta^-)^{140}\text{Ce}$	3760.2	2.0	3760.9	1.8	0.4	1	81	45 $^{140}\text{La}$	72Na04	*		
$^{140}\text{Pr}(\beta^+)^{140}\text{Ce}$	3388	6				2					68Ab17	
$^{140}\text{Nd}(\epsilon)^{140}\text{Pr}$	160	60	437	27	4.6	B					72Ba91	
$^{140}\text{Pm}(\beta^+)^{140}\text{Nd}$	6080	100	6045	24	–0.3	U					75Ke09	
		6090	40		–1.1	2			IRS		83Al06	
		6020	30		0.8	2			Dbn		95Ve08	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{140}\text{Pm}^m(\beta^+)^{140}\text{Nd}$	6484	70	6471	28	-0.2	1	16	13	$^{140}\text{Nd}$	75Ke09	*	
$^{140}\text{Sm}(\epsilon)^{140}\text{Pm}$	3400	300	2750	40	-2.2	U				87De04		
$^{140}\text{Eu}(\beta^+)^{140}\text{Sm}$	8400	400	8470	50	0.2	U				91Fi03	*	
		8470	50				3			Dbn	95Ve08	
$^{140}\text{Gd}(\beta^+)^{140}\text{Eu}$	4800	400	5200	60	1.0	U				91Fi03		
$^{140}\text{Tb}(\beta^+)^{140}\text{Gd}$	11300	800					3			91Fi03	*	
$*^{140}\text{Ba}(\beta^-)^{140}\text{La}$	$E_{\beta^-}=1022(20), 480(20) \text{ to } 2^- \text{ level at } 29.9641, 0^- \text{ at } 581.07 \text{ keV}$											
$*^{140}\text{Ba}(\beta^-)^{140}\text{La}$	$E_{\beta^-}=1020(20), 830(50), 590(50) \text{ to } 2^- \text{ level at } 29.9641, 2^- \text{ at } 162.6591,$ and $1^- \text{ at } 467.653 \text{ keV}$											
*										Ens077	**	
$*^{140}\text{Ba}(\beta^-)^{140}\text{La}$	$E_{\beta^-}=1030(30), 1020(30) \text{ to } 2^- \text{ level at } 29.9641, 1^- \text{ at } 43.844 \text{ keV}$											
$*^{140}\text{La}(\beta^-)^{140}\text{Ce}$	$E_{\beta^-}=2164(2) \text{ to } 2^+ \text{ level at } 1596.237 \text{ keV}$											
$*^{140}\text{Pm}^m(\beta^+)^{140}\text{Nd}$	$E_{\beta^+}=3240(70) \text{ to } 7^- \text{ level at } 2221.4 \text{ keV}$											
$*^{140}\text{Eu}(\beta^+)^{140}\text{Sm}$	From p <sup>+</sup> . May be lower limit											
$*^{140}\text{Tb}(\beta^+)^{140}\text{Gd}$	Lower limit											
$^{141}\text{I}-\text{u}$	-64316	419	-64310#	210#	0.0	o			GT1	1.5	04Ma.A	
	-64549	120			1.3	o			GT2	1.5	08Kn.A	
	-64736	137			2.1	D			GT2	1.5	08Su19	
$^{141}\text{Xe}-\text{u}$	-73092	126	-73213	3	-0.6	o			GT2	1.5	08Kn.A	
	-73560	136			1.7	U			GT2	1.5	08Su19	
$^{141}\text{Ba}-\text{u}$	-85603.5	7.5	-85597	6	0.9	1	58	58	$^{141}\text{Ba}$	CP1	1.0	06Sa56
$\text{C}_{11}\text{H}_9-^{141}\text{Pr}$	162852	41	162767.7	2.3	-0.5	U			R05	4.0	65De13	
$\text{C}_{10}\text{N}\text{H}_7-^{141}\text{Pr}$	150229	37	150191.7	2.3	-0.3	U			R05	4.0	65De13	
$\text{C}_9\text{C}_{13}\text{N}\text{H}_6-^{141}\text{Pr}$	145722	65	145721.5	2.3	0.0	U			R05	4.0	65De13	
$^{141}\text{Pr}-\text{u}$	-92374	30	-92342.4	2.3	1.1	U			GS2	1.0	05Li24	
$^{141}\text{Nd}-\text{u}$	-90401	30	-90385	4	0.5	U			GS2	1.0	05Li24	
	-90365	30			-0.7	U			GS2	1.0	05Li24	
$^{141}\text{Sm}-\text{u}$	-81496	62	-81518	9	-0.4	U			GS2	1.0	05Li24	
$^{141}\text{Eu}-\text{u}$	-75048	42	-75068	14	-0.5	U			GS2	1.0	05Li24	
$^{141}\text{Gd}-\text{u}$	-67881	30	-67874	21	0.2	2			GS2	1.0	05Li24	
	-67867	30			-0.2	2			GS2	1.0	05Li24	
$^{141}\text{Tb}-\text{u}$	-58552	113			2				GS2	1.0	05Li24	
$^{141}\text{Xe}-^{133}\text{Cs}_{1.060}$	27008.1	3.1			2				MA8	1.0	09Ne11	
$^{141}\text{Cs}-^{133}\text{Cs}_{1.060}$	20269	16	20266	10	-0.2	1	37	37	$^{141}\text{Cs}$	MA4	1.0	99Am05
$^{141}\text{Ba}-^{133}\text{Cs}_{1.060}$	14625	15	14624	6	-0.1	-			MA1	1.0	99Am05	
	14631	16			-0.4	-			MA4	1.0	99Am05	
ave.	14628	11			-0.3	1	27	27	$^{141}\text{Ba}$		average	
$^{141}\text{Pm}-^{133}\text{Cs}_{1.060}$	13776	15			2				MA5	1.0	00Be42	
$^{141}\text{Sm}-^{133}\text{Cs}_{1.060}$	18692	14	18703	9	0.8	1	43	43	$^{141}\text{Sm}$	MA5	1.0	00Be42
$^{141}\text{Eu}-^{133}\text{Cs}_{1.060}$	25164	15	25153	14	-0.8	1	82	82	$^{141}\text{Eu}$	MA5	1.0	00Be42
$^{141}\text{Xe}-^{136}\text{Xe}_{1.037}$	23003	10	23006	3	0.3	U			CP1	1.0	12Va02	
$^{141}\text{Cs}-^{136}\text{Xe}_{1.037}$	16277	22	16264	10	-0.6	1	20	20	$^{141}\text{Cs}$	CP1	1.0	12Va02
$^{139}\text{Cs}-^{141}\text{Cs}_{.789}$	-3190	40	-3270	8	-0.8	U			P23	2.5	82Au01	
$^{140}\text{Cs}-^{141}\text{Cs}_{.894}$	-970	40	-1045	11	-0.8	U			P23	2.5	82Au01	
$^{139}\text{Cs}-^{141}\text{Cs}_{.767}$	-3210	40	-3183	8	0.3	U			P23	2.5	82Au01	
$^{141}\text{Cs}(\beta^-n)^{140}\text{Ba}$	735	30	722	12	-0.4	1	15	9	$^{141}\text{Cs}$		84Kr.B	
$^{140}\text{Ce}(n,\gamma)^{141}\text{Ce}$	5428.6	0.6	5428.14	0.10	-0.8	U			BNn	70Ge03	Z	
	5428.01	0.20			0.7	-			Ptn	80Ba.A	Z	
	5428.19	0.12			-0.4	-			Bdn	06Fi.A		
$^{140}\text{Ce}(d,p)^{141}\text{Ce}$	3210	10	3203.57	0.10	-0.6	U			MIT	64Sp12		
	3202	15			0.1	U			Hei	67Wi08		
$^{140}\text{Ce}(n,\gamma)^{141}\text{Ce}$	ave.	5428.14	0.10	5428.14	0.10	0.0	1	100	54	$^{140}\text{Ce}$	average	
$^{141}\text{Pr}(\gamma,n)^{140}\text{Pr}$	-9361	23	-9397	6	-1.5	U			Phi	60Ge01		
$^{141}\text{Ho}(p)^{140}\text{Dy}$	1177.4	8.	1177	7	-0.1	3				98Da03		
	1172.9	20.			0.2	3				99Ry04	*	
$^{141}\text{Xe}(\beta^-)^{141}\text{Cs}$	6150	90	6280	10	1.4	U			Trs	78Wo15		
$^{141}\text{Cs}(\beta^-)^{141}\text{Ba}$	5200	80	5256	10	0.7	U			Trs	78Wo15		
	5264	15			-0.6	o			Gsn	80Bl.A	*	
	5252	15			0.2	o			Gsn	81De25		
	5242	15			0.9	1	41	32	$^{141}\text{Cs}$	Gsn	92Pr04	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{141}\text{Ba}(\beta^-)^{141}\text{La}$	3010	60	3202	7	3.2	B			Trs		78Wo15
	3208	35			-0.2	U			Gsn		81De25
	3217	20			-0.8	1	11	7 $^{141}\text{Ba}$	McG		84He.A
$^{141}\text{La}(\beta^-)^{141}\text{Ce}$	2430	30	2501	4	2.4	U					51Du19
	2502	4			-0.2	1	96	95 $^{141}\text{La}$	McG		84He.A
$^{141}\text{Ce}(\beta^-)^{141}\text{Pr}$	584	3	580.4	1.1	-1.2	-					50Fr58 *
	585	4			-1.1	-					52Ko27 *
	576.4	2.0			2.0	-					55Jo02 *
	581.4	2.0			-0.5	-					68Be06 *
	582.2	2.6			-0.7	-					79Ha09 *
ave.	580.6	1.1			-0.2	1	91	53 $^{141}\text{Ce}$			average
$^{141}\text{Nd}(\beta^+)^{141}\text{Pr}$	1816	8	1823.0	2.8	0.9	2					73Bu21
	1824	3			-0.3	2					76Ga.A *
$^{141}\text{Pm}(\beta^+)^{141}\text{Nd}$	3730	60	3670	14	-1.0	U					70Ch29 *
	3640	70			0.4	U					75Ke09
$^{141}\text{Sm}(\beta^+)^{141}\text{Pm}$	4580	50	4589	16	0.2	U					77Ke03 *
	4463	60			2.1	U			IRS		83Al06 *
	4524	80			0.8	U			IRS		93Al03 *
$^{141}\text{Eu}(\beta^+)^{141}\text{Sm}$	6030	100	6008	14	-0.2	U					77De25 *
	5950	40			1.5	-			IRS		83Al06 *
	6035	60			-0.4	U					85Af.A
	5550	100			4.6	B			IRS		93Al03
	5980	40			0.7	-			Dbn		95Ve08 *
ave.	5965	28			1.5	1	26	18 $^{141}\text{Eu}$			average
* $^{141}\text{I}-\text{u}$	Trends from Mass Surface TMS suggest $^{141}\text{I}$ 400 less bound										
* $^{141}\text{Nd}-\text{u}$	M-A=-83418(28) keV for $^{141}\text{Nd}^m$ at 756.51 keV										
* $^{141}\text{Sm}-\text{u}$	M-A=-75825(28) keV for mixture gs+m at 176.0 keV										
* $^{141}\text{Eu}-\text{u}$	M-A=-69858(28) keV for mixture gs+m at 96.45 keV										
* $^{141}\text{Gd}-\text{u}$	M-A=-62840(28) keV for $^{141}\text{Gd}^m$ at 377.8 keV										
* $^{141}\text{Tb}-\text{u}$	M-A=-54541(34) keV for mixture gs+m at 0#200 keV										
* $^{141}\text{Sm}-^{133}\text{Cs}_{1.060}$	$D_M=18694(14)$ and $D_M=18878(14)$ from $^{141}\text{Sm}^m$ at 176.0 keV										
* $^{141}\text{Eu}-^{133}\text{Cs}_{1.060}$	Slight (< 10%) isomeric contamination cannot be excluded										
* $^{141}\text{Ho}(\text{p})^{140}\text{Dy}$	$E_p=1230(20)$ from $^{141}\text{Ho}^m$ at 66(2) keV										
* $^{141}\text{Cs}(\beta^-)^{141}\text{Ba}$	$E_{\beta^-}=5215(15)$ to (5/2) <sup>-</sup> level at 48.53 keV										
* $^{141}\text{Ce}(\beta^-)^{141}\text{Pr}$	$E_{\beta^-}=442(3)$ 444(4) 432(2) 436(2) 436.7(2.6) respectively, to 7/2 <sup>+</sup> level at 145.4434										
* $^{141}\text{Nd}(\beta^+)^{141}\text{Pr}$	Was erroneously quoted 77Ga.A in the 1993 tables										
* $^{141}\text{Pm}(\beta^+)^{141}\text{Nd}$	Original error 40 increased due to lack of information on calibration										
* $^{141}\text{Sm}(\beta^+)^{141}\text{Pm}$	$E_{\beta^+}=3180(50)$ , 3100(50) to 3/2 <sup>+</sup> level at 403.8, 1/2 <sup>+</sup> at 438.29 keV and $E_{\beta^+}=1670(70)$ , 1600(70)										
*	from $^{141}\text{Sm}^m$ at 176.0 to 11/2 <sup>-</sup> at 2091.6, (9/2,11/2,13/2) <sup>-</sup> at 2119.0										
* $^{141}\text{Sm}(\beta^+)^{141}\text{Pm}$	$E_{\beta^+}=3020(60)$ 32% to 3/2 <sup>+</sup> level at 403.8, 31% to 1/2 <sup>+</sup> 438.29 keV										
* $^{141}\text{Sm}(\beta^+)^{141}\text{Pm}$	$Q_{\beta^+}=4700(80)$ from $^{141}\text{Sm}^m$ at 176.0 keV										
* $^{141}\text{Eu}(\beta^+)^{141}\text{Sm}$	$E_{\beta^+}=4620(110)$ to 5/2 <sup>+</sup> level at 396.29 keV, and other $E_{\beta^+}$ (not given)										
* $^{141}\text{Eu}(\beta^+)^{141}\text{Sm}$	$E_{\beta^+}=4925(40)$ to 3/2 <sup>+</sup> level at 1.58 keV										
* $^{141}\text{Eu}(\beta^+)^{141}\text{Sm}$	$E_{\beta^+}=4960(40)$ to 3/2 <sup>+</sup> level at 1.58 keV										
$^{142}\text{I}-\text{u}$	-58798	268			2				GT1	1.5	04Ma.A
$^{142}\text{Xe}-\text{u}$	-70247	111	-70026.9	2.9	1.3	U			GT2	1.5	08Kn.A
$^{142}\text{Xe}-^{133}\text{Cs}_{1.068}$	30950.4	2.9			2				MA8	1.0	09Ne11
$^{142}\text{Cs}-^{133}\text{Cs}_{1.068}$	25270	16	25273	8	0.2	1	24	24 $^{142}\text{Cs}$	MA4	1.0	99Am05
$^{142}\text{Ba}-^{133}\text{Cs}_{1.068}$	17410	15	17410	6	0.0	-			MA1	1.0	99Am05
	17420	16			-0.6	-			MA4	1.0	99Am05
ave.	17415	11			-0.5	1	34	34 $^{142}\text{Ba}$			average
$^{142}\text{Ba}-\text{u}$	-83576.8	9.1	-83568	6	1.0	1	49	49 $^{142}\text{Ba}$	CP1	1.0	06Sa56
C <sub>11</sub> H <sub>10</sub> - $^{142}\text{Ce}$	169111	15	168999.9	2.9	-1.9	U			R05	4.0	65De13
	168955	40			0.4	U			M17	2.5	66Be10
	168955	40			0.4	U			M17	2.5	66Be10
C <sub>10</sub> <sup>13</sup> C H <sub>9</sub> - $^{142}\text{Ce}$	164528	82	164529.7	2.9	0.0	U			R05	4.0	65De13

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$C_{10} N H_8 - ^{142}Ce$	156558	42	156423.9	2.9	-0.8	U			R05	4.0	65De13
$C_{11} H_{10} - ^{142}Nd$	170509	36	170521.3	2.0	0.1	U			R05	4.0	65De13
$C_{10} N H_8 - ^{142}Nd$	157870	43	157945.3	2.0	0.4	U			R05	4.0	65De13
$C_{10} O H_6 - ^{142}Nd$	134076	36	134135.8	2.0	0.4	U			R05	4.0	65De13
$C_{10} ^{13}C H_9 - ^{142}Nd$	166021	32	166051.1	2.0	0.2	U			R05	4.0	65De13
$^{142}Pm-u$	-87136	30	-87110	25	0.9	-			GS2	1.0	05Li24
	ave.	-87124	27		0.5	1	89	89 $^{142}Pm$			average
$^{142}Sm - ^{133}Cs_{1.068}$	16173	14	16182	4	0.6	U			MA5	1.0	00Be42
$^{142}Eu^m - ^{133}Cs_{1.068}$	24909	15	24910	13	0.1	2			MA5	1.0	00Be42
$^{142}Eu^m-u$	-76063	30	-76067	13	-0.1	R			GS2	1.0	05Li24
$^{142}Gd-u$	-71884	30				2			GS2	1.0	05Li24
$^{142}Cs - ^{136}Xe_{1.044}$	21171	11	21164	8	-0.6	1	52	52 $^{142}Cs$	CP1	1.0	12Va02
$^{142}Ce-C_{11} H_9$	-161176	40	-161174.9	2.9	0.0	U			M17	2.5	66Be10
$^{142}Nd-C_{11} H_9$	-162665	30	-162696.3	2.0	-0.4	U			M17	2.5	66Be10
$^{142}Ce - ^{140}Ce$	3818	3	3807.3	2.6	-1.4	1	12	9 $^{142}Ce$	M17	2.5	66Be10
$^{142}Ce - ^{138}Ce$	3644	35	3259	11	-2.7	B			R05	4.0	65De13
$^{139}Cs - ^{142}Cs_{.685} ^{132}Cs_{.316}$	-4840	40	-4855	6	-0.2	U			P23	2.5	82Au01
$^{140}Cs - ^{142}Cs_{.789} ^{132}Cs_{.212}$	-2950	40	-2935	10	0.2	U			P23	2.5	82Au01
$^{141}Cs - ^{142}Cs_{.794} ^{137}Cs_{.206}$	-580	40	-658	11	-0.8	U			P23	2.5	82Au01
$^{138}Cs^x - ^{142}Cs_{.194} ^{137}Cs_{.806}$	550	40	589	25	0.4	U			P23	2.5	82Au01
$^{140}Cs - ^{142}Cs_{.329} ^{139}Cs_{.671}$	260	40	301	9	0.4	U			P23	2.5	82Au01
$^{141}Cs - ^{142}Cs_{.662} ^{139}Cs_{.338}$	-410	40	-517	10	-1.1	U			P23	2.5	82Au01
$^{141}Cs - ^{142}Cs_{.496} ^{140}Cs_{.504}$	-640	40	-667	11	-0.3	U			P23	2.5	82Au01
		-663	19		-0.1	U			P33	2.5	86Au02
$^{142}Ce(\alpha) ^{138}Ba$	1545	200	1304.2	2.7	-1.2	U					57Ri43
$^{140}Ce(t,p) ^{142}Ce$	4112	5	4114.4	2.4	0.5	1	23	17 $^{142}Ce$	LAI	72Mu09	
$^{142}Ce(p,t) ^{140}Ce$	-4170	20	-4114.4	2.4	2.8	U			Osa	70Ya05	
$^{142}Nd(p,t) ^{140}Nd$	-9150	20	-9357	26	-10.3	B			Osa	71Ya10	
$^{142}Ce(\gamma,n) ^{141}Ce$	-7240	70	-7168.0	2.4	1.0	U			Phi	60Ge01	
$^{142}Ce(d,t) ^{141}Ce$	-909	15	-910.8	2.4	-0.1	U			Mtr	72Le17	
$^{141}Pr(n,\gamma) ^{142}Pr$	5843.14	0.10	5843.15	0.08	0.1	-			MMn	81Ke11	
		5843.16	0.12		-0.1	-			Bdn	06Fi.A	
$^{141}Pr(d,p) ^{142}Pr$	3626	10	3618.58	0.08	-0.7	U			MIT	64Sp12	
$^{141}Pr(n,\gamma) ^{142}Pr$	ave.	5843.15	0.08	5843.15	0.08	0.0	1	100	62 $^{141}Pr$		average
$^{142}Xe(\beta^-) ^{142}Cs$	5040	100	5288	8	2.5	U			Trs	78Wo15	
$^{142}Cs(\beta^-) ^{142}Ba$	7230	70	7325	9	1.4	U			Trs	78Wo15	
		7329	20		-0.2	o			Gsn	81De25	
		7280	40		1.1	U			Bwg	87Gr.A	
		7315	15		0.7	1	32	20 $^{142}Cs$	Gsn	92Pt04	
$^{142}Ba(\beta^-) ^{142}La$	2200	25	2181	8	-0.8	1	11	6 $^{142}La$		83Ch39	
		2216	5		-7.0	C			McG	84He.A	
$^{142}La(\beta^-) ^{142}Ce$	4517	25	4509	6	-0.3	U				65Pr03	
		4510	6		-0.2	1	95	94 $^{142}La$	McG	84He.A	
$^{142}Pr(\beta^-) ^{142}Nd$	2164	2	2161.6	1.5	-1.2	-				66Be12	
		2158	3		1.2	-				75Ra09	
	ave.	2162.2	1.7		-0.3	1	80	62 $^{142}Pr$		average	
$^{142}Pm(\beta^+) ^{142}Nd$	4800	80	4808	24	0.1	R				60Ma.A	
		4880	80		-0.9	R			IRS	83Al06	
		4880	160		-0.5	U			LBL	91Fi03	
$^{142}Sm(\beta^+) ^{142}Pm$	2050	70	2155	24	1.5	1	12	11 $^{142}Pm$		60Ma.A	
		2100	400		0.1	U			LBL	91Fi03	
$^{142}Eu(\beta^+) ^{142}Sm$	8000	300	7670	30	-1.1	U				75Ke08	
		7400	100		2.7	U				82Gr.A	
		7000	300		2.2	U			LBL	91Fi03	
		7673	30		2	-			Dbn	94Po26	
$^{142}Eu^m(\beta^+) ^{142}Sm$	8150	100	8130	13	-0.2	U				75Ke08	
		8174	50		-0.9	U			IRS	83Al06	
		7480	100		6.5	B			IRS	93Al03	
		8150	60		-0.3	U			Dbn	94Po26	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value			Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{142}\text{Gd}(\beta^+)^{142}\text{Eu}$	4200	300	4350	40	0.5	U				LBL	91Fi03		
$^{142}\text{Tb}(\beta^+)^{142}\text{Gd}$	10400	700			3					LBL	91Fi03		
$^{142}\text{Dy}(\beta^+)^{142}\text{Tb}$	7100	200	6440#	200#	-3.3	D				LBL	91Fi03	*	
* $\text{C}_{10}\ ^{13}\text{C}\ \text{H}_9$ - $^{142}\text{Nd}$	Original 1002055(32) is certainly a typo; rebuilt from M=141.907760(36)u										WgM127**		
* $^{142}\text{Nd}(\text{p},\text{t})^{140}\text{Nd}$	Disagrees strongly with $^{140}\text{Nd}$ -u										AHW **		
* $^{142}\text{Eu}^m(\beta^+)^{142}\text{Sm}$	$E_{\beta^+}=4760(100)$ 4782(50) respectively, to $7^-$ level at 2372.1 keV										Ens118 **		
* $^{142}\text{Eu}^m(\beta^+)^{142}\text{Sm}$	Measured half-life 73.4(0.5) s corresponds to $^{142}\text{Eu}^m$										GAu **		
* $^{142}\text{Eu}^m(\beta^+)^{142}\text{Sm}$	$E_{\beta^+}=4756(60)$ to $7^-$ level at 2372.1 keV										Ens118 **		
* $^{142}\text{Dy}(\beta^+)^{142}\text{Tb}$	Trends from Mass Surface TMS suggest $^{142}\text{Dy}$ 660 more bound										GAu **		
$^{143}\text{Xe-u}$	-64649	290	-64630	5	0.0	o				GT1	1.5	04Ma.A	
	-64858	108			1.4	o				GT2	1.5	08Kn.A	
	-64684	133			0.3	U				GT2	1.5	08Su19	
$^{143}\text{Xe}-^{133}\text{Cs}_{1.075}$	37008.7	5.0			2					MA8	1.0	09Ne11	
$^{143}\text{Cs-u}$	-72771	117	-72651	24	0.7	U				GT2	1.5	08Kn.A	
$^{143}\text{Ba}-^{133}\text{Cs}_{1.075}$	22268	16	22264	7	-0.2	1	22	22	$^{143}\text{Ba}$	MA1	1.0	99Am05	
$^{143}\text{Ba-u}$	-79375.0	8.5	-79375	7	0.0	1	76	76	$^{143}\text{Ba}$	CP1	1.0	06Sa56	
$^{143}\text{La-u}$	-83918.1	8.7	-83920	8	-0.3	1	82	82	$^{143}\text{La}$	CP1	1.0	06Sa56	
$\text{C}_{10}\ \text{N}\ \text{H}_9$ - $^{143}\text{Nd}$	163719	31	163679.3	2.0	-0.3	U				R05	4.0	65De13	
$\text{C}_{10}\ \text{O}\ \text{H}_7$ - $^{143}\text{Nd}$	139814	42	139869.9	2.0	0.3	U				R05	4.0	65De13	
$^{143}\text{Pm}-^{133}\text{Cs}_{1.075}$	12567	15	12577	3	0.7	U				MA5	1.0	00Be42	
$^{143}\text{Sm}-^{133}\text{Cs}_{1.075}$	16268	15	16274	3	0.4	U				MA5	1.0	00Be42	
$^{143}\text{Sm-u}$	-85347	30	-85365	3	-0.6	U				GS2	1.0	05Li24	*
$^{143}\text{Eu}-^{133}\text{Cs}_{1.075}$	21947	14	21938	12	-0.7	2				MA5	1.0	00Be42	
$^{143}\text{Eu-u}$	-79706	30	-79701	12	0.2	R				GS2	1.0	05Li24	
$^{143}\text{Gd-u}$	-73012	56	-73250	220	-4.2	C				GS2	1.0	05Li24	*
$^{143}\text{Tb-u}$	-64879	64	-64860	60	0.3	U				GS2	1.0	05Li24	*
$^{143}\text{Tb}-^{85}\text{Rb}_{1.682}$	83507	55			2					SH1	1.0	07Ra37	*
$^{143}\text{Dy}-^{85}\text{Rb}_{1.682}$	92364	14			2					SH1	1.0	07Ra37	*
$^{143}\text{Nd}-^{35}\text{Cl}-^{141}\text{Pr}-^{37}\text{Cl}$	5116	4	5112.5	1.6	-0.3	U				H21	2.5	70Ma05	
$^{143}\text{Nd}-\text{C}_{11}\ \text{H}_{10}$	-168422	30	-168430.3	2.0	-0.1	U				M17	2.5	66Be10	
$^{143}\text{Nd}-^{142}\text{Nd}$	2322	46	2090.99	0.07	-1.3	U				R05	4.0	65De13	
	2084	2			1.4	U				M17	2.5	66Be10	
$^{143}\text{Nd}-\text{C}_{11}\ \text{H}_9$	-160594	30	-160605.3	2.0	-0.2	U				M17	2.5	66Be10	
$^{141}\text{Cs}-^{143}\text{Cs}_{.493}$ $^{139}\text{Cs}_{.507}$	-230	40	-199	14	0.3	U				P23	2.5	82Au01	
	-115	22			-1.5	U				P33	2.5	86Au02	
$^{142}\text{Cs}-^{143}\text{Cs}_{.497}$ $^{141}\text{Cs}_{.504}$	647	15	652	14	0.1	1	13	8	$^{143}\text{Cs}$	P33	2.5	86Au02	
$^{143}\text{Nd}(\text{n},\alpha)^{140}\text{Ce}$	9699	15	9723.4	1.7	1.6	U				ILL	75Em.A		
$^{143}\text{Nd}(\text{p},\text{t})^{141}\text{Nd}$	-7450	20	-7470	3	-1.0	U				Osa	71Ya10		
$^{142}\text{Ce}(\text{n},\gamma)^{143}\text{Ce}$	5145.9	0.5	5144.80	0.09	-2.2	U					76Ge02		
	5144.78	0.15			0.1	-				Ptn	80Ba.A	Z	
	5144.81	0.12			-0.1	-				Bdn	06Fi.A		
$^{142}\text{Ce}(\text{d},\text{p})^{143}\text{Ce}$	2945	15	2920.23	0.09	-1.7	U				Mtr	72Le17		
$^{142}\text{Ce}(\text{n},\gamma)^{143}\text{Ce}$	ave.	5144.80	0.09	5144.80	0.09	0.0	1	100	73	$^{142}\text{Ce}$	average		
$^{142}\text{Nd}(\text{n},\gamma)^{143}\text{Nd}$	6123.62	0.08	6123.57	0.07	-0.6	-				MMn	82Is05	Z	
	6123.41	0.14			1.1	-				Bdn	06Fi.A		
$^{142}\text{Nd}(\text{d},\text{p})^{143}\text{Nd}$	3916	15	3899.00	0.07	-1.1	U				Kop	67Ch16		
	3902	15			-0.2	U				Tal	67Ne04		
	3902	15			-0.2	U				Hei	67Wi08		
$^{142}\text{Nd}(\text{n},\gamma)^{143}\text{Nd}$	ave.	6123.57	0.07	6123.57	0.07	0.0	1	100	80	$^{142}\text{Nd}$	average		
$^{142}\text{Nd}(\text{d},\text{p})^{143}\text{Pm}$	-1099	25	-1193.9	2.7	-3.8	B				Oak	71Wi04		
	-1195	5			0.2	1	29	28	$^{143}\text{Pm}$	McM	80St10	*	
$^{143}\text{Cs}(\beta^-)^{143}\text{Ba}$	6250	90	6263	22	0.1	o				Gsn	81De25	*	
	6240	70			0.3	U				Bwg	87Gr.A		
	6270	25			-0.3	1	74	72	$^{143}\text{Cs}$	Gsn	92Pr04		
$^{143}\text{Ba}(\beta^-)^{143}\text{La}$	4240	50	4234	10	-0.1	U				Gsn	79Sc11		
	4259	40			-0.6	U				Bwg	81De25		
	4210	70			0.3	U				Bwg	87Gr.A		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{143}\text{Cs}-^{144}\text{Cs}_{.662}$	-651	21	-615	26	0.7	1	24	16	$^{143}\text{Cs}$	2.5	86Au02
$^{143}\text{Cs}-^{144}\text{Cs}_{.497}$	-790	50	-687	24	0.8	U		$P_{23}$	2.5	82Au01	
$^{144}\text{Nd}(\alpha)^{140}\text{Ce}$	1882.4	30.	1906.4	1.7	0.8	U					61Ma05
	1882.4	20.			1.2	U					65Is01
$^{144}\text{Sm}({}^3\text{He}, {}^6\text{He})^{141}\text{Sm}$	-8693	12	-8692	9	0.0	1	51	50	$^{141}\text{Sm}$	MSU	78Pa11
$^{142}\text{Ce}(\text{t},\text{p})^{144}\text{Ce}$	3582	15	3560	3	-1.5	U			LAI		72Mu09
$^{142}\text{Nd}(\text{t},\text{p})^{144}\text{Nd}$	5450	30	5458.80	0.09	0.3	U			Ald		72Ch11
$^{144}\text{Nd}(\text{p},\text{t})^{142}\text{Nd}$	-5470	20	-5458.80	0.09	0.6	U			Osa		71Ya10
$^{144}\text{Sm}(\text{p},\text{t})^{142}\text{Sm}$	-10649	15	-10639.7	2.7	0.6	U			Ham		73Oe02
$^{143}\text{Nd}(\text{n},\gamma)^{144}\text{Nd}$	7817.11	0.07	7817.03	0.05	-1.1	-			MMn		82Is05
	7816.93	0.08			1.3	-			ILn		91Ro.A
	7816.94	0.23			0.4	U			Bdn		06Fi.A
$^{144}\text{Nd}(\text{d},\text{t})^{143}\text{Nd}$	-1555	15	-1559.80	0.05	-0.3	U			Ors		73Ga01
$^{143}\text{Nd}(\text{n},\gamma)^{144}\text{Nd}$	ave.	7817.03	0.05	7817.03	0.05	0.0	1	100	60	$^{143}\text{Nd}$	average
$^{143}\text{Nd}({}^3\text{He},\text{d})^{144}\text{Pm}$	-804	5	-790.7	2.6	2.7	B			McM		80St10
$^{143}\text{Nd}({}^3\text{He},\text{d})^{144}\text{Pm}-^{142}\text{Nd}({}^3\text{He},\text{d})^{143}\text{Pm}$	402.7	1.6	403.2	1.5	0.3	1	91	49	$^{143}\text{Pm}$		75Ma04
$^{144}\text{Sm}(\text{t},\alpha)^{143}\text{Pm}$	13542	25	13519.9	2.7	-0.9	U			Ald		68Ha13
$^{144}\text{Sm}(\text{d},\text{t})^{143}\text{Sm}$	-4262	10	-4262.8	2.3	-0.1	U					72Ja28
$^{144}\text{Sm}(\text{p},\text{d})^{143}\text{Sm}-^{148}\text{Gd}({}^3\text{He},\text{d})^{147}\text{Gd}$	-1536	2	-1536.0	2.0	0.0	1	100	100	$^{143}\text{Sm}$		86Ru04
$^{144}\text{Tm}(\text{p})^{143}\text{Er}$	1712.0	16.				3			ORp		05Gr32
$^{144}\text{Cs}(\beta^-)^{144}\text{Ba}$	8451	30	8497	25	1.5	o			Gsn		81De25
	8560	80			-0.8	-			Bwg		87Gr.A
	8462	35			1.0	-			Gsn		92Pr04
$^{144}\text{Ba}(\beta^-)^{144}\text{La}$	ave.	8480	30		0.6	1	61	59	$^{144}\text{Cs}$		average
$^{144}\text{La}(\beta^-)^{144}\text{Ce}$	3055	70	3083	15	0.4	U			Bwg		87Gr.A
	4300	100	5582	13	12.8	B					79Ik07
	5435	90			1.6	U			Bwg		87Gr.A
	5540	100			0.4	o			Kur		02Sh.B
	5540	100			0.4	U			Kur		02Sh16
$^{144}\text{Ce}(\beta^-)^{144}\text{Pr}$	315.6	1.5	318.6	0.8	2.0	3					66Da04
	320	1			-1.4	3					76Ra33
$^{144}\text{Pr}(\beta^-)^{144}\text{Nd}$	2996	3	2997.4	2.4	0.5	2					59Po77
	3000	4			-0.6	2					66Da04
$^{144}\text{Eu}(\beta^+)^{144}\text{Sm}$	6330	30	6346	11	0.5	-			IRS		83Al06
	6400	80			-0.7	U			IRS		93Al03
	6287	30			2.0	-			Dbn		94Po26
$^{144}\text{Sm}(\text{p},\text{n})^{144}\text{Eu}$	-7110.0	30.	-7129	11	-0.6	-					65Me12
$^{144}\text{Eu}(\beta^+)^{144}\text{Sm}$	ave.	6315	17	6346	11	1.8	1	39	39	$^{144}\text{Eu}$	average
$^{144}\text{Gd}(\beta^+)^{144}\text{Eu}$	4300	400	3860	30	-1.1	U					70Ar04
$^{144}\text{Tb-u}$	M-A=-61971(28) keV for $^{144}\text{Tb}^m$ at 396.9 keV										
$^{143}\text{Nd}({}^3\text{He},\text{d})^{144}\text{Pm}$	Based on $^{146}\text{Nd}({}^3\text{He},\text{d})^{147}\text{Pm}$ Q=-87.6(0.9) keV										
$^{145}\text{Xe}-^{133}\text{Cs}_{1.090}$	47777	12				2			MA8	1.0	09Ne11
$^{145}\text{Cs}-^{133}\text{Cs}_{1.090}$	38588	12	38585	12	-0.3	1	93	93	$^{145}\text{Cs}$	MA8	1.0
$^{145}\text{Ba-u}$	-72481.6	9.1				2			CP1	1.0	08We02
$^{145}\text{La-u}$	-78188.8	13.3	-78192	13	-0.2	1	98	98	$^{145}\text{La}$	CP1	1.0
$^{145}\text{Ce-u}$	-82771.8	92.2	-82730	40	0.4	1	16	16	$^{145}\text{Ce}$	CP1	1.0
$\text{C}_{10}\text{O H}_9-^{145}\text{Nd}$	152641	55	152760.6	2.0	0.5	U			R05	4.0	06Sa56
	152653	30			0.9	U			R05	4.0	65De13
$\text{C}_9\text{O H}_8-^{145}\text{Nd}$	148231	31	148290.4	2.0	0.5	U			R05	4.0	65De13
$^{145}\text{Pm-u}$	-87255	30	-87244	3	0.4	U			GS2	1.0	05Li24
$^{145}\text{Sm-u}$	-86535	30	-86582.7	2.1	-1.6	U			GS2	1.0	05Li24
$^{145}\text{Eu}-^{133}\text{Cs}_{1.090}$	19338	17	19330	4	-0.5	U			MA5	1.0	00Be42
$^{145}\text{Gd-u}$	-78287	30	-78287	21	0.0	-			GS2	1.0	05Li24
	-78294	30			0.2	-			GS2	1.0	05Li24
$^{145}\text{Tb-u}$	ave.	-78291	21		0.2	1	99	99	$^{145}\text{Gd}$	average	*
	-70952	175	-71180	100	-1.3	1	36	36	$^{145}\text{Tb}$	GS2	1.0
$^{145}\text{Dy-u}$	-62575	49	-62526	7	1.0	U			GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{145}\text{Dy}-^{85}\text{Rb}_{1.706}$	87960.7	7.0			2				SH1	1.0	07Ra37 *
$^{145}\text{Ho}-^{85}\text{Rb}_{1.706}$	97754.1	8.0			2				SH1	1.0	07Ra37
$^{145}\text{Nd}^{35}\text{Cl}_2-^{141}\text{Pr}^{37}\text{Cl}_2$	10828	7	10821.9	1.6	-0.3	U			H21	2.5	70Ma05
$^{145}\text{Nd}^{35}\text{Cl}-^{143}\text{Nd}^{37}\text{Cl}$	5744	5	5709.41	0.27	-1.7	U			H12	4.0	64Ba15
	5703	4			0.6	U			H21	2.5	70Ma05
$^{145}\text{Nd}-^{144}\text{Nd}$	2582	21	2486.35	0.25	-1.1	U			R05	4.0	65De13
	2480	2			1.3	U			M17	2.5	66Be10
$^{145}\text{Nd}-^{143}\text{Nd}$	2862	40	2759.33	0.26	-0.6	U			R05	4.0	65De13
	2751	3			1.1	U			M17	2.5	66Be10
$^{142}\text{Cs}-^{145}\text{Cs}_{.490}^{139}\text{Cs}_{.511}$	240	50	148	9	-0.7	U			P23	2.5	82Au01
$^{144}\text{Cs}-^{145}\text{Cs}_{.828}^{139}\text{Cs}_{.173}$	450	50	417	26	-0.3	U			P23	2.5	82Au01
$^{143}\text{Cs}-^{145}\text{Cs}_{.592}^{140}\text{Cs}_{.409}$	-700	80	-607	23	0.5	U			P23	2.5	82Au01
$^{143}\text{Cs}-^{145}\text{Cs}_{.493}^{141}\text{Cs}_{.507}$	-310	40	-306	23	0.0	U			P23	2.5	82Au01
$^{144}\text{Cs}-^{145}\text{Cs}_{.662}^{142}\text{Cs}_{.338}$	320	18	321	25	0.0	1	32	30 $^{144}\text{Cs}$	P33	2.5	86Au02
$^{144}\text{Cs}-^{145}\text{Cs}_{.497}^{143}\text{Cs}_{.503}$	600	40	617	26	0.2	U			P23	2.5	82Au01
$^{145}\text{Pm}(\alpha)^{141}\text{Pr}$	2303.6	40.	2324.2	2.9	0.5	U					62Nu01
$^{145}\text{Nd}(\text{n},\alpha)^{142}\text{Ce}$	8706	30	8747.3	2.1	1.4	U			ILL		75Em04
$^{145}\text{Nd}(\text{p},\text{t})^{143}\text{Nd}$	-5100	20	-5090.53	0.24	0.5	U			Osa		71Ya10
$^{144}\text{Nd}(\text{n},\gamma)^{145}\text{Nd}$	5755.3	0.7	5755.30	0.23	0.0	-					75Na.A
	5756.9	2.0			-0.8	U					77Mc09
	5755.26	0.25			0.2	-			Bdn		06Fi.A
$^{144}\text{Nd}(\text{d},\text{p})^{145}\text{Nd}$	3521	15	3530.73	0.23	0.6	U			Hei		67Wi08
	3538	15			-0.5	U			Ors		73Ga01
$^{144}\text{Nd}(\text{n},\gamma)^{145}\text{Nd}$	ave.	5755.26	0.24	5755.30	0.23	0.1	1	99	50 $^{145}\text{Nd}$		average
$^{144}\text{Nd}({}^3\text{He},\text{d})^{145}\text{Pm}$	-680	5	-685.0	2.5	-1.0	1	26	25 $^{145}\text{Pm}$	McM	80St10	*
$^{144}\text{Nd}({}^3\text{He},\text{d})^{145}\text{Pm}-^{143}\text{Nd}({}^1\text{H})^{144}\text{Pm}$	105.2	1.6	105.7	1.5	0.3	1	91	57 $^{144}\text{Pm}$		75Ma04	
$^{144}\text{Sm}(\text{n},\gamma)^{145}\text{Sm}$	6757.1	0.3	6757.10	0.30	0.0	1	99	91 $^{145}\text{Sm}$		79Wa22	
$^{144}\text{Sm}(\text{d},\text{p})^{145}\text{Sm}$	4533	12	4532.53	0.30	0.0	U			Tal		65Ke09
	4547	15			-1.0	U			Kop		67Ch16
$^{144}\text{Sm}({}^3\text{He},\text{d})^{145}\text{Eu}$	-2184	4	-2178.4	2.7	1.4	-			Mun		82Sc25
	-2174	4			-1.1	-					84Ru.A
	ave.	-2179.0	2.8		0.2	1	92	91 $^{145}\text{Eu}$			average
$^{145}\text{Dy}(\epsilon\text{p})^{144}\text{Gd}$	6000	500	6228	29	0.5	U					83La.A *
$^{145}\text{Tm}(\text{p})^{144}\text{Er}$	1740.1	10.	1736	7	-0.4	3			ORp		98Ba13
	1732.1	10.			0.4	3			Arp		07Se06
$^{145}\text{Cs}(\beta^-)^{145}\text{Ba}$	7358	70	7460	14	1.5	U			Gsn		81De25
	7930	75			-6.3	C			Bwg		87Gr.A
	7865	50			-8.1	B			Gsn		92Pr04
$^{145}\text{Ba}(\beta^-)^{145}\text{La}$	4925	80	5319	15	4.9	C			Bwg		87Gr.A
$^{145}\text{La}(\beta^-)^{145}\text{Ce}$	4110	80	4230	40	1.5	1	19	18 $^{145}\text{Ce}$	Bwg		87Gr.A
$^{145}\text{Ce}(\beta^-)^{145}\text{Pr}$	2490	100	2560	30	0.7	-					67Ho19 *
	2600	100			-0.4	-					80Ya07 *
	2530	50			0.6	-			Bwg		87Gr.A
	ave.	2540	40		0.6	1	68	67 $^{145}\text{Ce}$			average
$^{145}\text{Pr}(\beta^-)^{145}\text{Nd}$	1805	10	1806	7	0.1	1	50	49 $^{145}\text{Pr}$			59Dr.A
$^{145}\text{Pm}(\epsilon)^{145}\text{Nd}$	143	15	164.5	2.5	1.4	U					59Br65 *
	150	5			2.9	B					74To04 *
$^{145}\text{Sm}(\epsilon)^{145}\text{Pm}$	607	6	616.1	2.5	1.5	-					71My01 *
	622	5			-1.2	-					83Vo10 *
	ave.	616	4		0.1	1	44	41 $^{145}\text{Pm}$			average
$^{145}\text{Eu}(\beta^+)^{145}\text{Sm}$	2710	15	2659.7	2.7	-3.4	B					68Ad04 *
	2647	12			1.1	U					83Sc28 *
$^{145}\text{Gd}(\beta^+)^{145}\text{Eu}$	5070	60	5068	20	0.0	U					79Fi07
	5090	90			-0.2	o			IRS		83Ve.A *
	5070	80			0.0	U			IRS		85Al13
$^{145}\text{Gd}(\epsilon)^{145}\text{Eu}$	5000	70			1.0	U					77Ho18
$^{145}\text{Tb}(\beta^+)^{145}\text{Gd}$	6700	200	6620	100	-0.4	-					86Ve.A *
	6400	150			1.5	-			IRS		93Al03
	ave.	6510	120		1.0	1	65	64 $^{145}\text{Tb}$			average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{145}\text{Dy}(\beta^+)^{145}\text{Tb}^m$	7300	200			3			IRS		93Al03
* $^{145}\text{Gd-u}$	M=A=-72181(28) keV for $^{145}\text{Gd}^m$ at 749.1 keV									Nub127 **
* $^{145}\text{Tb-u}$	M=A=-65881(28) keV for mixture gs+m at 420(210) keV									Nub127 **
* $^{145}\text{Dy-u}$	M=A=-58230(30) keV for mixture gs+m at 118.2 keV									Nub127 **
* $^{145}\text{Dy}-^{85}\text{Rb}_{1,706}$	$D_M=88054.7(6.8) \mu\text{e}$ for mixture gs+m at 118.2 keV with ratio R=0.741(13)									Nub127 **
* $^{144}\text{Nd}({}^3\text{He},\text{d})^{145}\text{Pm}$	Based on $^{146}\text{Nd}({}^3\text{He},\text{d})^{147}\text{Pm}$ Q=-87.6(0.9) keV									AHW **
* $^{145}\text{Dy}(\epsilon\text{p})^{144}\text{Gd}$	As read from graph									AHW **
* $^{145}\text{Ce}(\beta^-)^{145}\text{Pr}$	$E_{\beta^-}=1700(100)$ 1810(100) respectively, to $(3/2)^-$ level at 786.91; and other $E_{\beta^-}$									Ens092 **
* $^{145}\text{Pm}(\epsilon)^{145}\text{Nd}$	$\text{LM/K}=0.85(0.03)$ to $3/2^-$ level at 67.167 keV									Ens092 **
* $^{145}\text{Pm}(\epsilon)^{145}\text{Nd}$	$\text{pK}=0.554(0.025)$ to $5/2^-$ level at 72.486 keV, and other pK									Ens092 **
* $^{145}\text{Sm}(\epsilon)^{145}\text{Pm}$	$\text{pK}=0.27(0.03)$ 0.35(0.025) respectively, to $3/2^+$ level at 492.31 keV									Ens092 **
* $^{145}\text{Eu}(\beta^+)^{145}\text{Sm}$	$E_{\beta^+}=794(15)$ to $3/2^+$ level at 893.788 keV									Ens092 **
* $^{145}\text{Eu}(\beta^+)^{145}\text{Sm}$	pK=0.72(0.02) to $(5/2^-, 7/2^-)$ level at 2508.31 and 9 $^-$ at 2513.37 levels									Ens092 **
* $^{145}\text{Gd}(\beta^+)^{145}\text{Eu}$	$E_{\beta^+}=2310(90)$ to $3/2^+$ level at 1758.03 keV, and other $E_{\beta^+}$									Ens092 **
* $^{145}\text{Tb}(\beta^+)^{145}\text{Gd}$	$E_{\beta^+}=3300(200)$ to $(9/2^-)$ level at 2382.3(0.2) keV									Ens092 **
$^{146}\text{Xe}-^{133}\text{Cs}_{1,098}$	52332	26			2			MA8	1.0	09Ne11
$^{146}\text{Ba-u}$	-69618	112	-69716	22	-0.6	o		GT2	1.5	08Kn.A
	-69963	141			1.2	U		GT2	1.5	08Su19
	-69717.5	23.7			0.1	1	86	86 $^{146}\text{Ba}$	CP1	1.0 06Sa56
$^{146}\text{La-u}$	-74252	86	-74120	40	1.5	1	18	18 $^{146}\text{La}$	CP1	1.0 06Sa56 *
$^{146}\text{Ce-u}$	-81191.8	20.8	-81198	18	-0.3	-			CP1	1.0 06Sa56
	-81171	40			-0.7	-			GS3	1.0 12Ch19
	ave.	-81187	18		-0.6	1	90	90 $^{146}\text{Ce}$		average
$\text{C}_{12} \text{H}_2-^{146}\text{Nd}$	102453	31	102527.4	2.0	0.6	U			R05	4.0 65De13
$\text{C}_{10} \text{O H}_{10}-^{146}\text{Nd}$	160017	27	160042.3	2.0	0.2	U			R05	4.0 65De13
	159971	50			0.4	U			R05	4.0 65De13
$\text{C}_9 \text{ }^{13}\text{C O H}_9-^{146}\text{Nd}$	155525	35	155572.1	2.0	0.3	U			R05	4.0 65De13
$^{146}\text{Pm-u}$	-85289	30	-85298	5	-0.3	U			GS2	1.0 05Li24
$^{146}\text{Eu}-^{133}\text{Cs}_{1,098}$	21029	15	21025	7	-0.3	1	19	19 $^{146}\text{Eu}$	MA5	1.0 00Be42
$^{146}\text{Tb-u}$	-72464	77	-72750	50	-3.7	C			GS2	1.0 05Li24 *
$^{146}\text{Dy-u}$	-67150	30	-67155	7	-0.2	U			GS2	1.0 05Li24
$^{146}\text{Dy}-^{85}\text{Rb}_{1,718}$	84390.0	7.2	84390	7	0.0	1	100	100 $^{146}\text{Dy}$	SH1	1.0 07Ra37
$^{146}\text{Ho}-^{133}\text{Cs}_{1,098}$	48797	10	48807	7	1.0	1	50	50 $^{146}\text{Ho}$	SH1	1.0 07Ra37
$^{146}\text{Ho}-^{85}\text{Rb}_{1,718}$	96549	10	96539	7	-1.0	1	50	50 $^{146}\text{Ho}$	SH1	1.0 07Ra37
$^{146}\text{Er}-^{85}\text{Rb}_{1,718}$	103960.4	9.2	103964	7	0.3	1	61	61 $^{146}\text{Er}$	SH1	1.0 07Ra37
$^{146}\text{Nd} \ ^{35}\text{Cl}-^{144}\text{Nd} \ ^{37}\text{Cl}$	6003	3	5979.73	0.28	-1.9	U			H12	4.0 64Ba15
	5966	4			1.4	U			H21	2.5 70Ma05
	5982.8	1.1			-1.1	U			H25	2.5 72Ba08
$^{146}\text{Nd}-^{145}\text{Nd}$	526	33	543.31	0.09	0.1	U			R05	4.0 65De13
	536	2			1.5	U			M17	2.5 66Be10
$^{146}\text{Nd}-^{144}\text{Nd}$	3147	36	3029.65	0.27	-0.8	U			R05	4.0 65De13
	3026	3			0.5	U			M17	2.5 66Be10
$^{145}\text{Cs}-^{146}\text{Cs}_{828} \ ^{140}\text{Cs}_{173}$	-580	80	-720	30	-0.7	U			P23	2.5 82Au01
$^{144}\text{Cs}-^{146}\text{Cs}_{329} \ ^{143}\text{Cs}_{671}$	320	50	420	30	0.8	U			P23	2.5 82Au01
$^{145}\text{Cs}-^{146}\text{Cs}_{662} \ ^{143}\text{Cs}_{338}$	-440	30	-395	28	0.6	1	14	12 $^{146}\text{Cs}$	P33	2.5 86Au02
$^{145}\text{Cs}-^{146}\text{Cs}_{497} \ ^{144}\text{Cs}_{503}$	-730	30	-613	24	1.6	1	10	6 $^{146}\text{Cs}$	P33	2.5 86Au02
$^{146}\text{Sm}(\alpha)^{142}\text{Nd}$	2529.5	20.	2528.8	2.8	0.0	U				64Nu02
	2622.0	30.			-3.1	B				66Fr11
	2524.2	4.			1.1	1	47	45 $^{146}\text{Sm}$		87Me08 Z
$^{144}\text{Nd}(\text{t,p})^{146}\text{Nd}$	4834	30	4838.73	0.25	0.2	U			Ald	72Ch11
$^{144}\text{Sm}(\text{t,p})^{146}\text{Sm}$	6681	25	6691.6	2.9	0.4	U			Ald	66Bj01
$^{144}\text{Sm}({}^3\text{He},\text{p})^{146}\text{Eu}$	2797	12	2794	6	-0.2	1	25	24 $^{146}\text{Eu}$		84Ru.A
$^{144}\text{Sm}({}^3\text{He},\text{n})^{146}\text{Gd}$	977	30	980	4	0.1	U			Bld	79Al07
$^{144}\text{Sm}({}^{12}\text{C},{}^{10}\text{Be})^{146}\text{Gd}$	-18476	25	-18487	4	-0.5	U			MSU	80Pa07
$^{146}\text{Nd}(\text{d},{}^3\text{He})^{145}\text{Pr}$	-3095	10	-3095	7	0.0	1	50	49 $^{145}\text{Pr}$	KVI	79Sa.A
$^{145}\text{Nd}(\text{n},\gamma)^{146}\text{Nd}$	7565.28	0.10	7565.23	0.09	-0.5	-			MMn	82Is05 Z
	7565.05	0.18			1.0	-			Bdn	06Fi.A
ave.	7565.23	0.09			0.1	1	100	50 $^{146}\text{Nd}$		average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{147}\text{Cs}-^{133}\text{Cs}_{1.105}$	48640	64	48630	60	-0.1	1	79	79 $^{147}\text{Cs}$	MA8	1.0	08We02
$^{147}\text{Ba-u}$	-64696.1	21.2				2			CP1	1.0	06Sa56
$^{147}\text{La-u}$	-71582.2	11.5				2			CP1	1.0	06Sa56
$^{147}\text{Ce-u}$	-77309.2	9.6	-77310	9	-0.1	1	92	92 $^{147}\text{Ce}$	CP1	1.0	06Sa56
$\text{C}_8\text{H}_5\text{N O}_2-^{147}\text{Sm}$	117197	40	117124.0	1.9	-0.5	U			R04	4.0	64De15
$\text{C}_9\text{H}_7\text{O}_2-^{147}\text{Sm}$	129703	17	129700.0	1.9	0.0	U			R04	4.0	64De15
$^{147}\text{Eu}-^{133}\text{Cs}_{1.105}$	21215	16	21228	3	0.8	U			MA5	1.0	00Be42
$^{147}\text{Tb-u}$	-75934	34	-75945	9	-0.3	U			GS2	1.0	05Li24 *
$^{147}\text{Tb}-^{133}\text{Cs}_{1.105}$	28533	12	28530	9	-0.2	1	53	53 $^{147}\text{Tb}$	SH1	1.0	07Ra37 *
$^{147}\text{Dy-u}$	-68909	30	-68917	10	-0.3	U			GS2	1.0	05Li24
	-68908	30			-0.3	U			GS2	1.0	05Li24 *
$^{147}\text{Dy}-^{133}\text{Cs}_{1.105}$	35558.3	9.5				2			SH1	1.0	07Ra37 *
$^{147}\text{Ho-u}$	-59944	30	-59858	5	2.9	B			GS2	1.0	05Li24
$^{147}\text{Ho}-^{133}\text{Cs}_{1.105}$	44613.7	7.8	44618	5	0.5	1	47	47 $^{147}\text{Ho}$	SH1	1.0	07Ra37
$^{147}\text{Ho}-^{85}\text{Rb}_{1.729}$	92661.6	7.4	92658	5	-0.5	1	53	53 $^{147}\text{Ho}$	SH1	1.0	07Ra37
$^{147}\text{Er}-^{133}\text{Cs}_{1.105}$	54452	42	54440	40	-0.3	o			SH1	1.0	07Ra37 *
$^{147}\text{Er}-^{85}\text{Rb}_{1.729}$	102480	41				2			SH1	1.0	07Ra37 *
$^{147}\text{Tm}-^{85}\text{Rb}_{1.729}$	113900	11	113895	7	-0.4	1	45	45 $^{147}\text{Tm}$	SH1	1.0	07Ra37
$^{147}\text{Eu}-^{142}\text{Sm}_{1.035}$	4516	17	4516	4	0.0	U			MA7	1.0	01Bo59
$^{147}\text{Sm}^{35}\text{Cl}-^{145}\text{Nd}^{37}\text{Cl}$	5305	4	5275.2	1.0	-1.9	U			H12	4.0	64Ba15
	5264	4			1.1	U			H21	2.5	70Ma05
$^{145}\text{Cs}-^{147}\text{Cs}_{.705}^{140}\text{Cs}_{.296}$	-170	170	-580	40	-1.0	U			P23	2.5	82Au01
$^{144}\text{Cs}-^{147}\text{Cs}_{.490}^{141}\text{Cs}_{.511}$	80	250	280	40	0.3	U			P23	2.5	82Au01
$^{145}\text{Cs}-^{147}\text{Cs}_{.493}^{143}\text{Cs}_{.507}$	-87	22	-100	28	-0.2	1	27	21 $^{147}\text{Cs}$	P33	2.5	86Au02
$^{147}\text{Sm}(\alpha)^{143}\text{Nd}$	2292.5	10.	2311.2	1.0	1.9	U				62Si14	Z
	2296.7	5.			2.9	U				66Ma05	Z
	2300.8	5.			2.1	U				70Gu14	Z
$^{147}\text{Eu}(\alpha)^{143}\text{Pm}$	2990.6	10.	2991	3	0.1	U				62Si14	Z
	2981.5	20.			0.5	U				64To04	Z
	2987.2	5.			0.8	1	37	23 $^{143}\text{Pm}$	Dba	67Go32	Z
$^{147}\text{Sm}(n,\alpha)^{144}\text{Nd}$	10114	8	10128.2	1.0	1.8	U			ILL	74Em01	
$^{144}\text{Sm}^{(12}\text{C},^9\text{Be})^{147}\text{Gd}$	-17832	30	-17957.3	1.2	-4.2	B			MSU	80Pa07	
	-17921	25			-1.5	U			Ors	85Be24	
$^{144}\text{Sm}^{(14}\text{N},^{11}\text{Be})^{147}\text{Tb}$	-28280	50	-28537	8	-5.1	B			Hei	85Gy01	
$^{147}\text{Sm}(\text{p,t})^{145}\text{Sm}$	-6287	8	-6275.6	1.3	1.4	U			Min	72De47	
$^{146}\text{Nd}(\text{n},\gamma)^{147}\text{Nd}$	5292.19	0.15	5292.20	0.09	0.0	-			ILn	75Ro16	Z
	5292.19	0.11			0.1	-			Bdn	06Fi.A	
$^{146}\text{Nd}(\text{d,p})^{147}\text{Nd}$	3070	15	3067.63	0.09	-0.2	U			Hei	67Wi08	
$^{146}\text{Nd}(\text{n},\gamma)^{147}\text{Nd}$	ave.	5292.19	0.09	5292.20	0.09	0.1	1	100	53 $^{147}\text{Nd}$	average	
$^{147}\text{Sm}(\text{d,t})^{146}\text{Sm}$	-98	10	-83.9	2.9	1.4	U			McM	75Si03	
$^{147}\text{Tb}(\text{p})^{146}\text{Gd}$	-1945	18	-1946	9	-0.1	1	23	19 $^{147}\text{Tb}$		87Sc.A	
$^{147}\text{Tm}(\text{p})^{146}\text{Er}$	1062.2	6.	1059	3	-0.6	o				82Kl03	
	1058.2	3.3			0.1	1	94	55 $^{147}\text{Tm}$	Dap	93Se04	*
	1067.3	15.			-0.6	U			ORp	03Gi10	
$^{147}\text{Tm}^m(\text{p})^{146}\text{Er}$	1124.7	6.	1120	3	-0.7	2				84Ho.A	
	1118.5	3.9			0.5	2			Dap	93Se04	
$^{147}\text{Ba}(\beta^-)^{147}\text{La}$	5750	50	6414	22	13.3	C			Bwg	87Gr.A	
$^{147}\text{La}(\beta^-)^{147}\text{Ce}$	4945	55	5335	14	7.1	C			Bwg	87Gr.A	
	5150	40			4.6	B			Kur	95Ik03	
	5370	100			-0.3	o			Kur	02Sh.B	
	5366	40			-0.8	U			Kur	09Ha.B	
$^{147}\text{Ce}(\beta^-)^{147}\text{Pr}$	3290	40	3430	16	3.5	C			Bwg	87Gr.A	
	3426	20			0.2	1	60	52 $^{147}\text{Pr}$	Kur	95Ik03	
	3380	100			0.5	U			Kur	02Sh.B	
$^{147}\text{Pr}(\beta^-)^{147}\text{Nd}$	2700	200	2703	16	0.0	U				64Ho03	
	2790	100			-0.9	U				81Ya06	*
	2711	28			-0.3	-			Kur	95Ik03	
ave.	2697	23			0.2	1	48	48 $^{147}\text{Pr}$		average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{147}\text{Nd}(\beta^-)^{147}\text{Pm}$	894.6	1.0	895.3	0.9	0.7	1	84	46	$^{147}\text{Nd}$		67Ca18 *
$^{147}\text{Pm}(\beta^-)^{147}\text{Sm}$	223.2	0.5	224.1	0.3	1.7	-					50La04
	224.3	1.3			-0.2	-					58Ha32
	224.5	0.4			-1.1	-					66Hs01
	ave.	224.0	0.3		0.2	1	99	63	$^{147}\text{Pm}$		average
$^{147}\text{Eu}(\beta^+)^{147}\text{Sm}$	1767	10	1721.6	2.3	-4.5	B					67Ad03
	1723	3			-0.5	1	59	57	$^{147}\text{Eu}$		80Bu04
	1702	13			1.5	U					84Sc18 *
	1692	18			1.6	U					84Sc18
$^{147}\text{Gd}(\beta^+)^{147}\text{Eu}$	2185	5	2187.8	2.6	0.6	1	27	19	$^{147}\text{Eu}$		80Vy01 *
	2199	17			-0.7	U					84Sc18 *
$^{147}\text{Tb}(\beta^+)^{147}\text{Gd}$	4700	90	4614	8	-1.0	U					83Ve06 *
	4490	60			2.1	U					85Ti01
	4560	50			1.1	U					Averag *
	4609	15			0.3	1	30	28	$^{147}\text{Tb}$	GSI	91Ke11 *
	4509	60			1.8	U				IRS	93Al03 *
$^{147}\text{Dy}(\beta^+)^{147}\text{Tb}$	6334	60	6546	12	3.5	B				IRS	83Al06 *
	6480	100			0.7	U				IRS	83Al18 *
	6334	60			3.5	C					85Af.A *
	6480	100			0.7	U				IRS	85Al08 *
* $^{147}\text{Tb-u}$	M-A=-70707(28) keV for mixture gs+m at 50.6 keV										
* $^{147}\text{Tb}-^{133}\text{Cs}_{1.105}$	$D_M=28574(12) \mu\text{u}$ for mixture gs+m at 50.6 keV with ratio R=0.741(13)										
* $^{147}\text{Dy-u}$	M-A=-63437(28) keV for $^{147}\text{Dy}^m$ at 750.5 keV										
* $^{147}\text{Dy}-^{133}\text{Cs}_{1.105}$	$D_M=35567(14)$ and $D_M=36358.4(9.5)$ for $^{147}\text{Dy}^m$ at 750.5 keV										
* $^{147}\text{Er}-^{133}\text{Cs}_{1.105}$	$D_M=54531(11) \mu\text{u}$ for mixture gs+m at 100#50 keV with ratio R=0.741(13)										
*	error due to excitation energy, use only next item										
* $^{147}\text{Er}-^{85}\text{Rb}_{1.729}$	$D_M=102559.5(8.3) \mu\text{u}$ for mixture gs+m at 100#50 keV with R=0.741(13)										
* $^{147}\text{Tm(p)}^{146}\text{Er}$	$Q_p$ from $E_p=1051.0(3.3)$ , no screening correction should be applied										
* $^{147}\text{Pr}(\beta^-)^{147}\text{Nd}$	$E_{\beta^-}=2760(100)$ to 49.93, 1450(100) to 1310.7 and 1350.5 keV										
* $^{147}\text{Nd}(\beta^-)^{147}\text{Pm}$	$E_{\beta^-}=803.5(1.0)$ to 5/2 <sup>+</sup> level at 91.1047 keV										
* $^{147}\text{Eu}(\beta^+)^{147}\text{Sm}$	$p^+=2.9(0.3) \times 10^{-3}$ to 3/2 <sup>-</sup> level at 197.284 keV										
* $^{147}\text{Eu}(\beta^+)^{147}\text{Sm}$	$pK=0.724(0.026)$ to (3/2 <sup>+</sup> , 5/2 <sup>+</sup> ) level at 1548.634 keV										
* $^{147}\text{Gd}(\beta^+)^{147}\text{Eu}$	$E_{\beta^+}=933(5)$ to 7/2 <sup>+</sup> level at 229.323 keV										
* $^{147}\text{Gd}(\beta^+)^{147}\text{Eu}$	$pK=0.694(0.016)$ to 2073 level, recalculated by AHW										
* $^{147}\text{Tb}(\beta^+)^{147}\text{Gd}$	$E_{\beta^+}=2460(80)$ to 3/2 <sup>+</sup> level at 1152.56 and 1/2 <sup>+</sup> at 1292.3 keV, reinterpret										
* $^{147}\text{Tb}(\beta^+)^{147}\text{Gd}$	Average KLM/ $\beta^+=2.03(0.15)$ -> $E_{\beta^+}=2190(50)$ from $^{147}\text{Tb}^m$ at 50.6(0.9) to 9/2 <sup>-</sup> level at 1397.00 from 3 references (no side-feeding correction applied):										
*	$p^+=0.32(0.07)$ gives KLM/ $\beta^+=2.2(0.8)$										
*	$KLM/\beta^+=2.17(0.30)$										
*	$\beta^+/K=0.59(0.05)$ gives KLM/ $\beta^+=1.99(0.17)$										
* $^{147}\text{Tb}(\beta^+)^{147}\text{Gd}$	$Q_{\beta^+}=4660(15)$ 4560(60) respectively, from $^{147}\text{Tb}^m$ at 50.6(0.9) keV										
* $^{147}\text{Dy}(\beta^+)^{147}\text{Tb}$	$E_{\beta^+}=6012(60)$ from $^{147}\text{Dy}^m$ at 750.5 to $^{147}\text{Tb}^m$ at 50.6(0.9) keV										
* $^{147}\text{Dy}(\beta^+)^{147}\text{Tb}$	$Q_{\beta^+}=7180(100)$ from $^{147}\text{Dy}^m$ at 750.5 to $^{147}\text{Tb}^m$ at 50.6(0.9) keV										
* $^{147}\text{Dy}(\beta^+)^{147}\text{Tb}$	$E_{\beta^+}=6012(60)$ from $^{147}\text{Dy}^m$ at 750.5 to $^{147}\text{Tb}^m$ at 50.6(0.9) keV										
* $^{147}\text{Dy}(\beta^+)^{147}\text{Tb}$	$Q_{\beta^+}=7180(100)$ from $^{147}\text{Dy}^m$ at 750.5 to $^{147}\text{Tb}^m$ at 50.6(0.9) keV										
$^{148}\text{La-u}$	-67320.6	20.9			2					CP1	1.0
$^{148}\text{Ce-u}$	-75578.2	13.0	-75576	12	0.2	1	85	85	$^{148}\text{Ce}$	CP1	1.0
$^{148}\text{Pr-u}$	-77766	38	-77870	16	-2.7	B				CP1	1.0
$\text{C}_{12}\text{H}_4-^{148}\text{Nd}$	114261	34	114400.8	2.6	1.0	U				R05	4.0
$\text{C}_9\text{N}\text{O}\text{H}_{10}-^{148}\text{Nd}$	159186	59	159339.7	2.6	0.7	U				R05	4.0
$\text{C}_9\text{H}_8\text{O}_2-^{148}\text{Sm}$	137540	26	137600.3	1.9	0.6	U				R04	4.0
$\text{C}_9\text{H}_{10}\text{N}\text{O}-^{148}\text{Sm}$	161275	31	161409.7	1.9	1.1	U				R04	4.0
$\text{C}_8^{13}\text{C}\text{H}_7\text{O}_2-^{148}\text{Sm}$	133030	60	133130.1	1.9	0.4	U				R04	4.0
$^{148}\text{Eu}-^{133}\text{Cs}_{1.113}$	23315	15	23321	11	0.4	1	52	52	$^{148}\text{Eu}$	MA5	1.0
$^{148}\text{Tb-u}$	-75692	41	-75718	14	-0.6	U				GS2	1.0
$^{148}\text{Dy}-^{133}\text{Cs}_{1.113}$	32394	16	32389	10	-0.3	-				MA5	1.0
		32380	14		0.6	-				SH1	1.0
	ave.	32386	11		0.2	1	90	90	$^{148}\text{Dy}$	average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{148}\text{Ho-u}$	-62201	100	-62260	90	-0.6	U				GS2	1.0	05Li24 *
$^{148}\text{Ho}-^{85}\text{Rb}_{1,741}$	91318	90				2				SH1	1.0	07Ra37 *
$^{148}\text{Er}-^{133}\text{Cs}_{1,113}$	49967	11				2				SH1	1.0	07Ra37
$^{148}\text{Tm}-^{133}\text{Cs}_{1,113}$	63616	11				2				SH1	1.0	07Ra37
$^{148}\text{Eu}-^{142}\text{Sm}_{1,042}$	6451	17	6446	11	-0.3	1	41	38	$^{148}\text{Eu}$	MA7	1.0	01Bo59
$^{148}\text{Nd}^{35}\text{Cl}_2-^{144}\text{Nd}^{37}\text{Cl}_2$	12690	9	12706.5	1.8	0.7	U				H21	2.5	70Ma05
		12703.6	2.1		0.5	1	12	11	$^{148}\text{Nd}$	H25	2.5	72Ba08
$^{148}\text{Sm}^{35}\text{Cl}_2-^{144}\text{Sm}^{37}\text{Cl}_2$	8710	10	8722.9	1.3	0.3	U				H12	4.0	64Ba15
	8721.4	2.6		0.2	U					H25	2.5	72Ba08
$^{148}\text{Nd}^{35}\text{Cl}-^{146}\text{Nd}^{37}\text{Cl}$	6740	5	6726.7	1.8	-0.7	U				H12	4.0	64Ba15
	6721	4		0.6	U					H21	2.5	70Ma05
	6723.8	2.7		0.4	U					H25	2.5	72Ba08
	6725.7	0.9		0.5	1	62		60	$^{148}\text{Nd}$	H26	2.5	73Me28
$^{148}\text{Sm}^{35}\text{Cl}-^{146}\text{Nd}^{37}\text{Cl}$	4656	3	4656.7	1.1	0.1	U				H12	4.0	64Ba15
$^{148}\text{Sm}-^{147}\text{Sm}$	110	44	-75.21	0.30	-1.1	U				R04	4.0	64De15
$^{148}\text{Nd}-^{146}\text{Nd}$	3866	50	3776.7	1.8	-0.4	U				R05	4.0	65De13
	3773	3		0.5	U					M17	2.5	66Be10
$^{145}\text{Cs}-^{148}\text{Cs}_{392}^{143}\text{Cs}_{608}$	-370	90	-370	220	0.0	1	100	100	$^{148}\text{Cs}$	P33	2.5	86Au02
$^{148}\text{Sm}(\alpha)^{144}\text{Nd}$	2014.6	20.	1986.9	1.0	-1.4	U						70Gu14
$^{148}\text{Eu}(\alpha)^{144}\text{Pm}$	2703.2	30.	2692	10	-0.4	1	11	10	$^{148}\text{Eu}$			64To04
$^{148}\text{Gd}(\alpha)^{144}\text{Sm}$	3271.29	0.03	3271.21	0.03	0.0	1	100	94	$^{148}\text{Gd}$			73Go29 Z
$^{146}\text{Nd}(\text{t},\text{p})^{148}\text{Nd}$	4139	30	4142.9	1.7	0.1	U				Ald		72Ch11
$^{148}\text{Sm}(\text{p},\text{t})^{146}\text{Sm}$	-6011	8	-6000.7	2.9	1.3	1	13	13	$^{146}\text{Sm}$	Min		72De47
	-6018	15		1.2	U					Ham		74Oe03
$^{148}\text{Gd}(\text{p},\text{t})^{146}\text{Gd}$	-7844	14	-7845	4	0.0	U				LAI		83Fl05
$^{148}\text{Gd}(\text{p},\text{t})^{146}\text{Gd}-^{65}\text{Cu}(0)^{63}\text{Cu}$	1500	4	1500	4	0.1	1	90	88	$^{146}\text{Gd}$	Liv		86Ma40
$^{148}\text{Nd}(\text{d},^3\text{He})^{147}\text{Pr}$	-3726	40	-3759	16	-0.8	R				KVI		79Sa.A
$^{148}\text{Nd}(\text{d},\text{t})^{147}\text{Nd}$	-1072	4	-1075.3	1.7	-0.8	1	17	16	$^{148}\text{Nd}$	McM		77St22
$^{147}\text{Sm}(\gamma,\gamma)^{148}\text{Sm}$	8139.8	1.2	8141.37	0.28	1.3	U						69Re04 Z
	8141.1	1.5		0.2	U							70Bu19 Z
	8141.8	0.8		-0.5	-							71Gr37 Z
	8141.3	0.3		0.2	-					Bdn		06Fi.A
$^{147}\text{Sm}(\text{d},\text{p})^{148}\text{Sm}$	5920	10	5916.81	0.28	-0.3	U				Tal		64Ke03
$^{148}\text{Sm}(\text{d},\text{t})^{147}\text{Sm}$	-1890	15	-1884.14	0.28	0.4	U				Kop		67Ve04
$^{147}\text{Sm}(\text{n},\gamma)^{148}\text{Sm}$	ave.	8141.36	0.28	8141.37	0.28	0.0	1	97	51	$^{148}\text{Sm}$		average
$^{148}\text{Gd}(\text{p},\text{d})^{147}\text{Gd}$	-6755	5	-6759.5	1.2	-0.9	U						86Ru04
$^{148}\text{Gd}(\text{p},\text{d})^{147}\text{Gd}-^{148}\text{Sm}(0)^{147}\text{Sm}$	-842	2	-842.7	1.2	-0.3	-						86Ru04
$^{148}\text{Gd}(\text{d},\text{t})^{147}\text{Gd}-^{148}\text{Sm}(0)^{147}\text{Sm}$	-843	2		0.2	-							86Ru04
$^{148}\text{Gd}(^3\text{He},\alpha)^{147}\text{Gd}-^{148}\text{Sm}(0)^{147}\text{Sm}$	-842	3		-0.2	-							86Ru04
$^{148}\text{Gd}(\text{p},\text{d})^{147}\text{Gd}-^{148}\text{Sm}(0)^{147}\text{S}$	ave.	-842.4	1.3		-0.2	1	89	85	$^{147}\text{Gd}$			average
$^{148}\text{Ba}(\beta^-)^{148}\text{La}$	5115	60				3				Bwg		90Gr10
$^{148}\text{La}(\beta^-)^{148}\text{Ce}$	7310	140	7690	22	2.7	U				Trs		82Br23 *
	7255	55			7.9	B				Bwg		90Gr10
	7650	100			0.4	U				Kur		02Sh.B
	7732	70			-0.6	U				Kur		09Ha.B
$^{148}\text{Ce}(\beta^-)^{148}\text{Pr}$	2060	75	2137	13	1.0	U				Bwg		87Gr.A
	2140	14			-0.2	1	81	66	$^{148}\text{Pr}$	Kur		95Ik03
$^{148}\text{Pr}(\beta^-)^{148}\text{Nd}$	4800	200	4872	15	0.4	U						79Ik06
	4965	100			-0.9	U				Bwg		87Gr.A
	4890	50			-0.4	-						88Ka14
	4880	30			-0.3	-				Kur		95Ik03
	4930	100			-0.6	U				Kur		02Sh.B
	ave.	4883	26		-0.4	1	34	34	$^{148}\text{Pr}$			average
$^{148}\text{Pm}(\beta^-)^{148}\text{Sm}$	2480	15	2471	6	-0.6	R						62Sc04 *
	2475	30			-0.1	U						63Ba31 *
$^{148}\text{Eu}(\beta^+)^{148}\text{Sm}$	3122	30	3037	10	-2.8	U						63Ba32 *
	3150	30			-3.8	B						70Ag01 *
$^{148}\text{Tb}(\beta^+)^{148}\text{Gd}$	5630	80	5738	13	1.4	F						76Cr.B *
	5835	70			-1.4	U						83Ve06 *
	5710	100			0.3	U				Got		85Sc09 *
	5390	100			3.5	B				Got		85Ti01 *
	5760	80			-0.3	U				IRS		93Al03 *
	5752	40			-0.3	1	10	10	$^{148}\text{Tb}$	GSI		95Ke05 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{148}\text{Dy}(\beta^+)^{148}\text{Tb}$	2660	60	2678	10	0.3	U					81Sc21
	2805	60		-2.1		U					81Sp03 *
	2700	60		-0.4		U					82Al.A
	2700	60		-0.4		U					82Ve.A
	2722	60		-0.7		U					83Ve06 *
	2835	95		-1.7		U					84Ha.B *
	2740	60		-1.0		U					85Sc09 *
	2682	10		-0.4	1	92	85 $^{148}\text{Tb}$	Got	GSI		95Ke05 *
$^{148}\text{Ho}^m(\beta^+)^{148}\text{Dy}$	9400	250	10110#	130#	2.8	B					93Al03
$*^{148}\text{Pr-u}$	$D_M = -77739.3(30.6) \mu\text{u}$ for mixture gs+m at 50#30; $M-A = -72413.7(28.5) \text{ keV}$										
$*^{148}\text{Tb-u}$	$M-A = -70462(28) \text{ keV}$ for mixture gs+m at 90.1 keV										
$*^{148}\text{Ho-u}$	$M-A = -57815(30) \text{ keV}$ for mixture gs+m at 250#100 keV outweighed by next item before correcting for isomeric mixture										
$*^{148}\text{Ho}-^{85}\text{Rb}_{1,741}$	$D_M = 91517.5(9.5) \mu\text{u}$ for mixture gs+m at 250#100 keV with $R=0.74(15)$										
$*^{148}\text{La}(\beta^-)^{148}\text{Ce}$	$E_{\beta^-} = 5862(100)$ supposed to go to levels around $E=1450(100) \text{ keV}$										
$*^{148}\text{Pm}(\beta^-)^{148}\text{Sm}$	$E_{\beta^-} = 2460(20) 1020(15)$ to ground state, $1^-$ level at 1465.137 keV										
$*^{148}\text{Pm}(\beta^-)^{148}\text{Sm}$	$E_{\beta^-} = 2480(30) 1930(30) 1020(30)$ to ground state, $2^+$ at 550.255, $1^-$ at 1465.137 keV and $E_{\beta^-} = 400(30)$ from $^{148}\text{Pm}^m$ at 137.0 to $6^+$ level at 2194.061 keV										
*											
$*^{148}\text{Eu}(\beta^+)^{148}\text{Sm}$	$E_{\beta^+} = 920(30)$ to 1180.261 keV $4^+$ level										
$*^{148}\text{Eu}(\beta^+)^{148}\text{Sm}$	$E_{\beta^+} = 540(30)$ to 1594.247 keV $5^-$ level, and other $E_{\beta^+}$										
$*^{148}\text{Tb}(\beta^+)^{148}\text{Gd}$	$E_{\beta^+} = 4610(80)$ assumed to ground state										
*											
$*^{148}\text{Tb}(\beta^+)^{148}\text{Gd}$	$F$ : since $^{148}\text{Tb}$ ground state $2^-$ , transition to $^{148}\text{Gd}$ ground state weak										
	$E_{\beta^+} = 2210(70)$ from $^{148}\text{Tb}^m$ at 90.1 to $8^+$ level at 2693.28 keV and										
	$E_{\beta^+} = 4560(80)$ mainly to $2^+$ at 748.432 keV. Conflicting, not used										
$*^{148}\text{Tb}(\beta^+)^{148}\text{Gd}$	$p^+ = 0.271(0.10)$ gives $E_{\beta^+} = 1920(30)$ from $^{148}\text{Tb}^m$ at 90.1 to $8^+$ at 2693.3 keV but assuming 5(5)% side-feeding; see reference										
*											
$*^{148}\text{Tb}(\beta^+)^{148}\text{Gd}$	$KL/\beta^+ = 1.54(0.09)$ to 1863.42 level; yields $Q_{\beta^+} = 5295(45) \text{ keV}$ but assuming 7(7)% side-feeding; see 1990Sa32										
*											
$*^{148}\text{Tb}(\beta^+)^{148}\text{Gd}$	$Q_{\beta^+} = 5700(80)$ ; and 5910(80) from $^{148}\text{Tb}^m$ at 90.1 keV										
*											
$*^{148}\text{Dy}(\beta^+)^{148}\text{Tb}$	$Q_{\beta^+} = 5750(40)$ ; and 5846(50) from $^{148}\text{Tb}^m$ at 90.1 keV										
$*^{148}\text{Dy}(\beta^+)^{148}\text{Tb}$	$p^+ = -0.069(0.014)$ to $1^+$ level at 620.24 keV, recalculated Q										
$*^{148}\text{Dy}(\beta^+)^{148}\text{Tb}$	$E_{\beta^+} = 1040(60), 1120(60)$ to $1^+$ level at 620.24 keV										
$*^{148}\text{Dy}(\beta^+)^{148}\text{Tb}$	$E_{\beta^+} = 1043(10)$ , 1036(10) of reference										
$*^{148}\text{Dy}(\beta^+)^{148}\text{Tb}$	to $1^+$ level at 620.24 keV										
*											
$^{149}\text{Ce-u}$	-71573.1	11.0				2			CP1	1.0	06Sa56
$^{149}\text{Pr-u}$	-76263.9	10.6				2			CP1	1.0	06Sa56
$\text{C}_8 \text{H}_8 \text{O}_2 - ^{149}\text{Sm}$	138597	29	138592.3	1.8	0.0	U			R04	4.0	64De15
$\text{C}_9 \text{H}_{11} \text{N O} - ^{149}\text{Sm}$	166820	33	166871.9	1.8	0.4	U			R04	4.0	64De15
$\text{C}_8 \text{H}_{10} \text{N O} - ^{149}\text{Sm}$	162408	46	162401.7	1.8	0.0	U			R04	4.0	64De15
$^{149}\text{Eu} - ^{133}\text{Cs}_{1,120}$	23849	17	23832	4	-1.0	U			MA5	1.0	00Be42
$^{149}\text{Tb-u}$	-76730	32	-76746	4	-0.5	U			GS2	1.0	05Li24 *
$^{149}\text{Dy} - ^{133}\text{Cs}_{1,120}$	33278	109	33215	10	-0.6	U			MA5	1.0	00Be42
$^{149}\text{Dy-u}$	-72698	30	-72678	10	0.7	U			GS2	1.0	05Li24 *
$^{149}\text{Ho-u}$	-66179	34	-66197	16	-0.5	1	21	$^{149}\text{Ho}$	GS2	1.0	05Li24 *
$^{149}\text{Er-u}$	-57694	30				2			GS2	1.0	05Li24 *
$^{149}\text{Eu} - ^{142}\text{Sm}_{1,049}$	6909	18	6888	5	-1.1	U			MA7	1.0	01Bo59
$^{149}\text{Dy} - ^{142}\text{Sm}_{1,049}$	16249	16	16272	10	1.5	1	40	$^{37}\text{Dy}$	MA7	1.0	01Bo59
$^{149}\text{Sm} - ^{35}\text{Cl} - ^{147}\text{Sm} - ^{37}\text{Cl}$	5257	4	5237.7	1.0	-1.2	U			H12	4.0	64Ba15
		5231	3		0.9	U			H21	2.5	70Ma05
		5239.8	0.8		-1.0	1	25	$^{16}\text{Sm}$	M21	2.5	75Ka25
$^{149}\text{Sm} - ^{148}\text{Sm}$	2282	31	2362.8	1.0	0.7	U			R04	4.0	64De15
$^{149}\text{Sm} - ^{147}\text{Sm}$	2320	60	2287.6	1.0	-0.1	U			R04	4.0	64De15
$^{149}\text{Gd}(\alpha)^{145}\text{Sm}$	3102.3	10.	3100	3	-0.3	-					65Ma51 Z
		3096.2	10.		0.3	-			ORa		66Wi12 Z
		3099.1	5.		0.1	-			Dba		67Go32 Z
		ave.	3099	4	0.1	1	56	$^{53}\text{Gd}$			average
$^{149}\text{Tb}(\alpha)^{145}\text{Eu}$	4074.4	3.	4077.8	2.2	1.1	-			Dba		67Go32 Z
		4073.8	7.		0.6	U			ORa		74To07 *
		4074.6	10.		0.3	U					81Ho.A Z
		4081.8	5.		-0.8	-			Bka		82Bo04 Z
		4082.8	4.		-1.2	-			Daa		96Pa01

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item		Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{149}\text{Tb}(\alpha)^{145}\text{Eu}$	ave.	4078.1	2.2	4077.8	2.2	-0.2	1	95	86 $^{149}\text{Tb}$			average
$^{149}\text{Sm}(\text{n},\alpha)^{146}\text{Nd}$		9429	4	9437.1	1.2	2.0	U			McM		67Oa01
		9421	15			1.1	U			ILL		75Em.A
$^{149}\text{Sm}(\text{p},\text{t})^{147}\text{Sm}$		-5532	8	-5529.9	0.9	0.3	U			Min		72De47
		-5532	7			0.3	U			McM		73Ga04
$^{148}\text{Nd}(\text{n},\gamma)^{149}\text{Nd}$		5038.76	0.10	5038.79	0.07	0.3	2			ILn		76Pi04
		5038.82	0.11			-0.3	2			Bdn		06Fi.A
$^{148}\text{Nd}({}^3\text{He},\text{d})^{149}\text{Pm}$		455	5	451.4	2.5	-0.7	1	26	14 $^{149}\text{Pm}$	McM		80St10 *
$^{149}\text{Sm}(\text{d},{}^3\text{He})^{148}\text{Pm}$		-2064	6	-2066	6	-0.3	2					88No02
$^{148}\text{Sm}(\text{n},\gamma)^{149}\text{Sm}$		5872.5	1.8	5870.3	0.9	-1.2	1	26	17 $^{148}\text{Sm}$			70Sm.A
		5850.8	0.6			32.6	C					82Ba15
$^{149}\text{Sm}(\gamma,\text{n})^{148}\text{Sm}$		-5890	160	-5870.3	0.9	0.1	U			Phi		60Ge01
$^{148}\text{Sm}(\text{d},\text{p})^{149}\text{Sm}$		3656	15	3645.8	0.9	-0.7	U			Kop		67Ve04
$^{149}\text{Er}(\epsilon\text{p})^{148}\text{Dy}$		5758	900	6823	29	1.2	U					83La.A *
		7080	470			-0.5	U			LBL		89Fi01
$^{149}\text{La}(\beta^-)^{149}\text{Ce}$		6450	200					3				02Sh.B
$^{149}\text{Ce}(\beta^-)^{149}\text{Pr}$		4190	75	4369	14	2.4	U			Bwg		87Gr.A
		4380	60			-0.2	U			Kur		95Ik03
		4310	100			0.6	U			Kur		02Sh.B
$^{149}\text{Pr}(\beta^-)^{149}\text{Nd}$		3000	200	3336	10	1.7	U					67Va14
		3390	90			-0.6	U			Kur		95Ik03
$^{149}\text{Nd}(\beta^-)^{149}\text{Pm}$		1669	10	1688.4	2.5	1.9	U					64Go08 *
$^{149}\text{Pm}(\beta^-)^{149}\text{Sm}$		1072	2	1071.4	1.9	-0.3	1	88	86 $^{149}\text{Pm}$			60Ar05
		1062	2			4.7	B					78Re01
$^{149}\text{Eu}(\epsilon)^{149}\text{Sm}$		680	10	695	4	1.5	1	14	14 $^{149}\text{Eu}$			85Ad.A
$^{149}\text{Gd}(\epsilon)^{149}\text{Eu}$		1308	6	1314	4	1.0	1	48	30 $^{149}\text{Eu}$	Got		84Sc.B
$^{149}\text{Tb}(\beta^+)^{149}\text{Gd}$		3575	50	3638	4	1.3	U			Got		85Sc09 *
		3635	10			0.3	1	19	11 $^{149}\text{Tb}$	GSI		91Ke06 *
$^{149}\text{Dy}(\beta^+)^{149}\text{Tb}$		3930	150	3789	9	-0.9	U					84Al36 *
		3925	65			-2.1	U			Got		90Sa32 *
		3797	13			-0.6	1	51	48 $^{149}\text{Dy}$	GSI		91Ke11 *
		3950	100			-1.6	U			IRS		93Al03
$^{149}\text{Ho}(\beta^+)^{149}\text{Dy}$		6043	50	6037	14	-0.1	-			IRS		83Al06 *
		5330	100			7.1	C					84Ha.B
		6000	90			0.4	U			IRS		93Al03
		6009	20			1.4	-			GSI		91Ke11 *
	ave.	6014	19			1.3	1	59	47 $^{149}\text{Ho}$			average
$^{149}\text{Er}(\epsilon)^{149}\text{Ho}$		8610	650	7920	30	-1.1	U			LBL		89Fi01 *
$^{*149}\text{Tb-u}$		M-A=-71456(28) keV for mixture gs+m at 35.78 keV										
$^{*149}\text{Dy-u}$		M-A=-65057(28) keV for $^{149}\text{Dy}^m$ at 2661.1 keV										
$^{*149}\text{Ho-u}$		M-A=-61621(28) keV for mixture gs+m at 48.80 keV										
$^{*149}\text{Er-u}$		M-A=-53000(28) keV for $^{149}\text{Er}^m$ at 741.8 keV										
$^{*149}\text{Tb}(\alpha)^{145}\text{Eu}$		E $\alpha$ =3999(7) from $^{149}\text{Tb}^m$ at 35.78 keV										
$^{*148}\text{Nd}({}^3\text{He},\text{d})^{149}\text{Pm}$		Based on $^{146}\text{Nd}({}^3\text{He},\text{d})^{147}\text{Pm}$ Q=-87.6(0.9) keV										
$^{*149}\text{Er}(\epsilon\text{p})^{148}\text{Dy}$		As read from graph; Q=6500 from $^{149}\text{Er}^m$ at 741.8 keV										
$^{*149}\text{Nd}(\beta^-)^{149}\text{Pm}$		$E_{\beta^-}=1555(10)$ to $5/2^+$ level at 114.312 level										
$^{*149}\text{Tb}(\beta^+)^{149}\text{Gd}$		$\beta^+/K=0.31(0.03)$ from $^{149}\text{Tb}^m$ at 35.78 to $9/2^-$ level at 795.82 keV										
$^{*149}\text{Tb}(\beta^+)^{149}\text{Gd}$		$E_{\beta^+}=1853(10)$ from $^{149}\text{Tb}^m$ at 35.78 to $9/2^-$ level at 795.82 keV										
$^{*149}\text{Dy}(\beta^+)^{149}\text{Tb}$		$E_{\beta^+}=1030(150)$ to 1728.31–1876.96 levels										
$^{*149}\text{Dy}(\beta^+)^{149}\text{Tb}$		$KL/\beta^+=29.4(10.6), 14.5(3.7), 17.6(4.9)$ to 1883, 1735, 1728 levels										
$^{*149}\text{Dy}(\beta^+)^{149}\text{Tb}$		Original Q=3812(10) from $E_{\beta^+}=1965(10)$ to 825.16 level corrected to $E_{\beta^+}=1950(13)$ for background subtraction										
*		$E_{\beta^+}=3930(50)$ to $9/2^-$ level at 1090.76 keV										
$^{*149}\text{Ho}(\beta^+)^{149}\text{Dy}$		$E_{\beta^+}=3896(20)$ to $9/2^-$ level at 1090.76 keV										
$^{*149}\text{Er}(\beta^+)^{149}\text{Ho}$		$KLM/\beta^+=0.68(0.34)$ from $^{149}\text{Er}^m$ at 741.8 to 4699.7 level										
$^{150}\text{Ce-u}$		-69618.6	13.1	-69616	13	0.2	1	92	92 $^{150}\text{Ce}$	CP1	1.0	06Sa56
$^{150}\text{Pr-u}$		-73322.9	10.6	-73323	10	-0.1	1	83	83 $^{150}\text{Pr}$	CP1	1.0	06Sa56
$\text{C}_{12}\text{H}_6 - ^{150}\text{Nd}$		126194	43	126047.9	1.8	-0.8	U			R05	4.0	65De13

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$C_8^{13}C\ N\ O\ H_{11}-^{150}Nd$	166439	34	166516.6	1.8	0.6	U		R05	4.0	65De13		
$C_9\ N\ O\ H_{12}-^{150}Nd$	170931	46	170986.8	1.8	0.3	U		R05	4.0	65De13		
$C_{12}\ H_6-^{150}Sm$	129810	140	129667.3	1.8	-0.3	U		R04	4.0	64De15		
$C_8^{13}C\ H_{11}\ N\ O-^{150}Sm$	170029	25	170135.9	1.8	1.1	U		R04	4.0	64De15		
$C_9\ H_{12}\ N\ O-^{150}Sm$	174612	47	174606.1	1.8	0.0	U		R04	4.0	64De15		
$^{150}Tb^m-u$	-75850	30	-75840	28	0.3	1	89	89 $^{150}Tb^m$	GS2	1.0	05Li24	
$^{150}Ho-^{133}Cs_{1.128}$	40150	29	40149	15	0.0	-		MA5	1.0	00Be42		
	ave.	40132	21		0.8	1	53	53 $^{150}Ho$			average	
$^{150}Ho-u$	-66504	40	-66502	15	0.1	U		GS2	1.0	05Li24	*	
$^{150}Er-u$	-62060	30	-62084	18	-0.8	1	38	38 $^{150}Er$	GS2	1.0	05Li24	
$^{150}Nd^{35}Cl_2-^{146}Nd^{37}Cl_2$	13654	9	13679.8	1.3	1.1	U		H21	2.5	70Ma05		
	13672.5	1.8			1.6	U		H25	2.5	72Ba08		
$^{150}Nd^{35}Cl-^{148}Nd^{37}Cl$	7006	4	6953.0	2.1	-3.3	B		H12	4.0	64Ba15		
	6939	4			1.4	U		H21	2.5	70Ma05		
$^{150}Sm^{35}Cl-^{148}Sm^{37}Cl$	5452	8	5403.8	1.0	-1.5	U		H12	4.0	64Ba15		
	5400	4			0.4	U		H21	2.5	70Ma05		
	5404.8	0.6			-0.7	1	43	30 $^{148}Sm$	M21	2.5	75Ka25	
$^{150}Nd-^{150}Sm$	3633	4	3619.33	0.21	-0.9	U		H19	4.0	64Mc11		
	3617.0	1.2			0.8	U		H25	2.5	72Ba08		
	3619.33	0.21			0.0	1	100	99 $^{150}Nd$	JY1	1.0	10Ko28	
$^{150}Sm-^{149}Sm$	149	30	90.9	0.4	-0.5	U		R04	4.0	64De15		
$^{150}Nd-^{148}Nd$	3860	46	4003.0	2.1	0.8	U		R05	4.0	65De13		
	3988	3			2.0	U		M17	2.5	66Be10		
$^{150}Sm-^{148}Sm$	2430	50	2453.7	1.0	0.1	U		R04	4.0	64De15		
$^{150}Nd-^{146}Nd$	7719	67	7779.6	1.3	0.2	U		R05	4.0	65De13		
$^{150}Gd(\alpha)^{146}Sm$	2804.9	10.	2808	6	0.3	-					62Si14	
	2792.6	18.			0.8	-					65Og01	
	ave.	2802	9		0.6	1	45	39 $^{150}Gd$			average	
$^{150}Tb(\alpha)^{146}Eu$	3585.5	5.	3587	5	0.3	1	92	80 $^{150}Tb$	Dba	67Go32	Z	
$^{150}Dy(\alpha)^{146}Gd$	4345.8	5.	4351.2	1.5	1.1	-		Dba	67Go32	Z		
	4349.5	5.			0.3	-		Gsa	79Ho10	Z		
	4351.3	3.			0.0	-		Bka	82Bo04	*		
	4352.4	2.			-0.6	-		Ora	82De11	Z		
	ave.	4351.2	1.5		0.0	1	99	92 $^{150}Dy$			average	
$^{148}Nd(t,p)^{150}Nd$	3935	30	3932.1	2.0	-0.1	U		Ald	72Ch11			
$^{148}Sm(t,p)^{150}Sm$	5372	25	5375.2	0.9	0.1	U		Ald	66Bj01			
$^{150}Sm(p,t)^{148}Sm$	-5379	8	-5375.2	0.9	0.5	U		Min	72De47			
	-5378	15			0.2	U		Ham	74Oe03			
$^{150}Nd(d,^3He)^{149}Pr$	-4501	10	-4435	10	6.6	C		KVI	79Sa.A			
$^{150}Nd(d,t)^{149}Nd$	-1122	10	-1117.9	2.0	0.4	U		McM	73Bu02			
$^{149}Sm(n,\gamma)^{150}Sm$	7984.9	0.6	7986.7	0.4	3.0	B			69Re04	Z		
	7986.7	1.5			0.0	-			70Bu19	Z		
	7986.7	0.4			0.0	-		Bdn	06Fi.A			
$^{149}Sm(d,p)^{150}Sm$	5764	4	5762.1	0.4	-0.5	U		Tal	64Ke03			
$^{150}Sm(d,t)^{149}Sm$	-1738	15	-1729.5	0.4	0.6	U		Kop	67Ve04			
$^{149}Sm(n,\gamma)^{150}Sm$	ave.	7986.7	0.4	7986.7	0.4	0.0	1	95	80 $^{149}Sm$		average	
$^{150}Lu(p)^{149}Yb$	1269.6	4.	1269.6	2.3	0.0	3					84Ho.A	
	1269.6	4.			0.0	3		Dap	93Se04			
	1269.6	4.			0.0	3		ORp	03Gi10			
	1269.6	4.			0.0	3		Arp	03Ro21			
$^{150}Lu^m(p)^{149}Yb$	1303.8	15.	1291	5	-0.8	o		ORp	00Gi01			
	1285.6	8.			0.7	3		ORp	03Gi10			
	1294.7	6.			-0.5	3		Bwg	87Gr.A			
$^{150}Ce(\beta^-)^{150}Pr$	3010	90	3454	14	4.9	C		Kur	95Ik03			
$^{150}Pr(\beta^-)^{150}Nd$	3480	40			-0.7	1	13	8 $^{150}Ce$	Bwg	87Gr.A		
	5690	80	5379	9	-3.9	C		Kur	95Ik03			
	5386	26			-0.3	1	12	12 $^{150}Pr$	Bwg	87Gr.A		
	5290	100			0.9	U		Kur	02Sh.B			
$^{150}Pm(\beta^-)^{150}Sm$	3454	20			2				77Ho09			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{150}\text{Eu}(\beta^+)^{150}\text{Sm}$	2222	25	2259	6	1.5	U					65Gu03 *	
$^{150}\text{Eu}(\beta^-)^{150}\text{Gd}$	978	10	972	4	-0.6	-					63Yo07 *	
	968	4		0.9	-						65Gu03 *	
	ave.	969	4	0.6	1	91	54	$^{150}\text{Eu}$			average	
$^{150}\text{Tb}(\beta^+)^{150}\text{Gd}$	4720	40	4658	8	-1.6	U					68Wi21	
	4670	15		-0.8	1	31	20	$^{150}\text{Tb}$			76CrB	
	4760	50		-2.0	U						77Ha31 *	
	4620	60		0.6	U						83Ve06	
$^{150}\text{Tb}^m(\beta^+)^{150}\text{Gd}$	5040	100	5119	27	0.8	U					93Al03	
$^{150}\text{Dy}(\beta^+)^{150}\text{Tb}$	1760	40	1796	8	0.9	U					81Ka07 *	
$^{150}\text{Ho}(\beta^+)^{150}\text{Dy}$	6980	150	7364	14	2.6	U					84Al36 *	
	6560	100		8.0	B						93Al03	
$^{150}\text{Ho}(\epsilon)^{150}\text{Dy}$	7400	200		-0.2	U						98AgA	
	7372	27		-0.3	1	29	27	$^{150}\text{Ho}$			00CaA	
	7444	126		-0.6	U						01Ro35	
$^{150}\text{Ho}^m(\beta^+)^{150}\text{Dy}$	7360	50		2							83Al06 *	
	6575	75	7360	50	10.5	C					84HaB *	
	6625	120		6.1	B						85Sc09 *	
	6900	130		3.5	B						90Sa32 *	
	7060	80		3.7	C						93Al03	
$^{150}\text{Er}(\beta^+)^{150}\text{Ho}$	4010	80	4115	14	1.3	o					82No08 *	
	4105	75		0.1	U						84HaB *	
	4108	15		0.4	1	82	62	$^{150}\text{Er}$	GSI		91Ke11 *	
* $^{150}\text{Ho-u}$	M-A=-61948(28) keV for mixture gs+m at -0(50) keV											
* $^{150}\text{Dy}(\alpha)^{146}\text{Gd}$	Recalibrated as in reference											
* $^{150}\text{Eu}(\beta^+)^{150}\text{Sm}$	$E_{\beta^+}=1242(25)$ from $^{150}\text{Eu}^m$ at 42.1 keV											
* $^{150}\text{Eu}(\beta^-)^{150}\text{Gd}$	$Q_{\beta^-}=1020(10)$ 1010(4) respectively, from $^{150}\text{Eu}^m$ at 42.1 keV											
* $^{150}\text{Tb}(\beta^+)^{150}\text{Gd}$	$Q_{\beta^+}=1655(80)$ to 2 <sup>+</sup> at 2091.62 keV, and other $E_{\beta^+}$ . Orig. error 35 increased											
* $^{150}\text{Dy}(\beta^+)^{150}\text{Tb}$	$E_{\beta^+}=1655(80)$ to 2 <sup>+</sup> at 2091.62 keV, and other $E_{\beta^+}$ . Orig. error 35 increased											
* $^{150}\text{Ho}(\beta^+)^{150}\text{Dy}$	$p^+=2(10)\times 10^{-3}$ to 1 <sup>+</sup> 397.2 level combined with lower limit through $^{146}\text{Gd}(\epsilon)$											
* $^{150}\text{Ho}^m(\beta^+)^{150}\text{Dy}$	$E_{\beta^+}=4550(150)$ to 1395.0 and 1456.8 levels											
* $^{150}\text{Ho}(\beta^+)^{150}\text{Dy}$	$E_{\beta^+}=3940(50)$ to 8 <sup>+</sup> level at 2402 keV											
* $^{150}\text{Ho}^m(\beta^+)^{150}\text{Dy}$	$p^+=0.56(0.02)$ 0.58(0.07) respectively to 8 <sup>+</sup> level at 2402 keV											
* $^{150}\text{Ho}^m(\beta^+)^{150}\text{Dy}$	$Q_{\beta^+}=6819(+117-100)$ from $p^+$ to 2402 level; could be raised 140 if 4% feeding of higher Dy levels											
*												
* $^{150}\text{Er}(\beta^+)^{150}\text{Ho}$	$p^+=0.36(0.04)$ 0.39(0.04) to 1 <sup>+</sup> level at 475.8 keV											
* $^{150}\text{Er}(\beta^+)^{150}\text{Ho}$	$E_{\beta^+}=2610(15)$ to 1 <sup>+</sup> level at 475.8 keV											
$^{151}\text{La-u}$	-58734	397	-57680#	210#	1.8	D					GT1 1.5 04Ma.A *	
$^{151}\text{Ce-u}$	-65727.8	19.0			2						CP1 1.0 06Sa56	
$^{151}\text{Pr-u}$	-71697.5	14.3	-71691	13	0.5	1	77	77	$^{151}\text{Pr}$	CP1	1.0 06Sa56	
$\text{C}_{12}\text{H}_7-^{151}\text{Eu}$	134920	37	134917.4	1.8	0.0	U					R04 4.0 64De15	
$\text{C}_{10}\text{H}_{15}\text{O}-^{151}\text{Eu}$	192490	70	192432.3	1.8	-0.2	U					R04 4.0 64De15	
$^{151}\text{Eu}-^{85}\text{Rb}_{1.776}$	76520	15	76519.2	1.8	-0.1	U					MA5 1.0 00Be42	
$^{151}\text{Tb-u}$	-76866	43	-76890	5	-0.6	U					GS2 1.0 05Li24 *	
$^{151}\text{Dy-u}$	-73809	30	-73808	4	0.0	U					GS2 1.0 05Li24	
$^{151}\text{Ho-u}$	-68323	33	-68302	9	0.6	U					GS2 1.0 05Li24 *	
$^{151}\text{Er-u}$	-62528	30	-62551	18	-0.8	2					GS2 1.0 05Li24	
	-62540	30		-0.4	2						GS2 1.0 05Li24 *	
$^{151}\text{Eu}^{35}\text{Cl}-^{149}\text{Sm}^{37}\text{Cl}$	5620.3	2.6	5615.8	0.7	-0.7	U					H25 2.5 72Ba08	
$^{151}\text{Eu}-^{150}\text{Sm}$	2800	60	2574.9	0.6	-0.9	U					R04 4.0 64De15	
$^{151}\text{Eu}(\alpha)^{147}\text{Pm}$	1960	30	1965.0	1.1	0.2	U					07Be48	
$^{151}\text{Gd}(\alpha)^{147}\text{Sm}$	2670.8	30.	2653.1	2.9	-0.6	U					65Si06	
$^{151}\text{Tb}(\alpha)^{147}\text{Eu}$	3499.6	5.	3497	4	-0.6	1	58	49	$^{151}\text{Tb}$	Dba	67Go32	
$^{151}\text{Dy}(\alpha)^{147}\text{Gd}$	4175.5	5.	4179.5	2.6	0.8	2					Dba	67Go32 Z
	4181.1	3.		-0.5	2						Bka	82Bo04 Z
$^{151}\text{Ho}(\alpha)^{147}\text{Tb}$	4696.3	5.	4695.0	1.8	-0.3	2					GSa	79Ho10 *
	4695.8	3.		-0.3	2						Bka	82Bo04 *
	4693.8	3.		0.4	2						Ora	82De11 *
	4694.9	5.		0.0	2						Daa	96Pa01 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{152}\text{Pr-u}$	-68447.1	19.9				2			CP1	1.0	06Sa56	
$\text{C}_{12}\text{H}_8 - ^{152}\text{Sm}$	142764	32	142860.5	1.8	0.8	U			R04	4.0	64De15	
	142867.0	5.0			-0.5	U			M22	2.5	75Ka25	
$^{152}\text{Eu-u}$	-78347	50	-78247.8	1.8	2.0	U			GS2	1.0	05Li24 *	
$\text{C}_{12}\text{H}_8 - ^{152}\text{Gd}$	142870	50	142800.8	1.8	-0.3	U			R04	4.0	64De15	
$^{152}\text{Gd O-C}_{14}$	-85290.7	3.5	-85285.9	1.8	0.9	U			TG1	1.5	11Ke03	
$^{152}\text{Tb-u}$	-76212	159	-75920	40	1.9	U			GS2	1.0	05Li24 *	
$^{152}\text{Dy-u}$	-75278	30	-75275	5	0.1	U			GS2	1.0	05Li24	
$^{152}\text{Ho-u}$	-68248	58	-68276	14	-0.5	U			GS2	1.0	05Li24 *	
$^{152}\text{Er-u}$	-64962	30	-64943	10	0.6	U			GS2	1.0	05Li24	
$^{152}\text{Tm-u}$	-55578	79	-55580	80	0.0	1	100	100	$^{152}\text{Tm}$	GS2	1.0	05Li24 *
$^{152}\text{Sm}^{35}\text{Cl}_2 - ^{148}\text{Sm}^{37}\text{Cl}_2$	10802	10	10810.7	1.2	0.3	U			H21	2.5	70Ma05	
	10810.8	2.0			0.0	U			H25	2.5	72Ba08	
	10807.9	1.4			0.8	U			M21	2.5	75Ka25	
$^{152}\text{Sm}^{35}\text{Cl} - ^{150}\text{Sm}^{37}\text{Cl}$	5429	4	5406.9	0.7	-1.4	B			H12	4.0	64Ba15	
	5396	4			1.1	o			H21	2.5	70Ma05	
	5402.7	0.8			2.1	1	11	8	$^{150}\text{Sm}$	M21	2.5	75Ka25
$^{152}\text{Gd} - ^{152}\text{Sm}$	59.80	0.19	59.77	0.19	-0.1	1	98	71	$^{152}\text{Sm}$	SH1	1.0	11El02
$^{152}\text{Sm} - ^{151}\text{Eu}$	95	42	-118.1	0.7	-1.3	U			R04	4.0	64De15	
$^{152}\text{Sm} - ^{150}\text{Sm}$	2563	31	2456.8	0.7	-0.9	U			R04	4.0	64De15	
$^{152}\text{Gd}(\alpha)^{148}\text{Sm}$	2197.9	30.	2204.9	1.1	0.2	U						61Ma05
$^{152}\text{Dy}(\alpha)^{148}\text{Gd}$	3728.0	8.	3726	4	-0.2	2						65Ma51 Z
	3726.0	5.			0.1	2			Dba			67Go32 Z
$^{152}\text{Ho}(\alpha)^{148}\text{Tb}$	4506.9	3.	4507.3	1.3	0.1	-			Bka			82Bo04 *
	4508.0	2.			-0.3	-			Ora			82De11 Z
	4505.8	3.			0.5	-						82To14
	4507.9	3.			-0.2	-						87St.A Z
ave.	4507.3	1.3			0.0	1	100	95	$^{152}\text{Ho}$			average
$^{152}\text{Er}(\alpha)^{148}\text{Dy}$	4935.2	5.	4934.4	1.6	-0.1	-			GSa			79Ho10
	4934.6	3.			-0.1	-			Bka			82Bo04 Z
	4934.3	2.			0.1	-			Ora			82De11 Z
ave.	4934.4	1.6			0.0	1	100	97	$^{152}\text{Er}$			average
$^{150}\text{Nd(t,p)}^{152}\text{Nd}$	4125	30	4131	24	0.2	1	66	66	$^{152}\text{Nd}$	Ald		72Ch11
$^{150}\text{Sm(t,p)}^{152}\text{Sm}$	5376	25	5372.3	0.6	-0.1	U			Ald			66Bj01
$^{152}\text{Sm(p,t)}^{150}\text{Sm}$	-5378	8	-5372.3	0.6	0.7	U			Min			72De47
	-5376	4			0.9	U			McM			73Ga04
	-5379	15			0.4	U			Ham			74Oe03
$^{151}\text{Sm(n,}\gamma^{152}\text{Sm}$	8257.6	0.8	8257.7	0.6	0.1	1	58	41	$^{151}\text{Sm}$			71Gr22 Z
$^{151}\text{Sm(p,}\gamma^{152}\text{Eu}$	5604	4	5600.7	0.5	-0.8	U						75Jo.A
$^{151}\text{Eu(n,}\gamma^{152}\text{Eu}$	6306.70	0.10	6306.71	0.10	0.1	1	99	57	$^{152}\text{Eu}$	ILn		85Vo15 Z
	6307.11	0.14			-2.8	C			Bdn			06Fi.A
$^{152}\text{Gd(d,t)}^{151}\text{Gd}$	-2338	10	-2332.4	2.9	0.6	U			Kop			67Tj01
$^{152}\text{Pr}(\beta^-)^{152}\text{Nd}$	6350	120	6390	30	0.3	U			Kur			95Ik03
$^{152}\text{Nd}(\beta^-)^{152}\text{Pm}$	1088	27	1105	19	0.6	-						93Sh23
	1120	30			-0.5	-			Kur			95Ik03
ave.	1102	20			0.1	1	85	51	$^{152}\text{Pm}$			average
$^{152}\text{Pm}(\beta^-)^{152}\text{Sm}$	3600	200	3508	26	-0.5	U						71Da19
	3520	150			-0.1	U						72Wa04
	3400	200			0.5	U						75Wi08
	3500	100			0.1	-						77Ya07
	3500	40			0.2	-			Kur			95Ik03
ave.	3500	40			0.2	1	49	49	$^{152}\text{Pm}$			average
$^{152}\text{Pm}^m(\beta^-)^{152}\text{Sm}$	3603	100	3650	80	0.5	2						71Da19 *
	3753	150			-0.7	2						72Wa04 *
$^{152}\text{Eu}(\beta^+)^{152}\text{Sm}$	1871	5	1874.6	0.7	0.7	U						58Al99 *
	1866	5			1.7	U						62Lo10 *
	1870.8	2.			1.9	-						72Sv02 *
	1872.8	1.5			1.2	-						77Mi.A *
ave.	1872.1	1.2			2.1	1	32	25	$^{152}\text{Eu}$			average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{152}\text{Eu}(\beta^-)^{152}\text{Gd}$	1809	10	1818.9	0.7	1.0	U					58Al99 *
	1827	7		-1.2		U					60La04 *
	1836	20		-0.9		U					60Sc14 *
	1806	4		3.2		B					69An18 *
$^{152}\text{Tb}(\beta^+)^{152}\text{Gd}$	3990	40			2						76CrB *
$^{152}\text{Ho}(\beta^+)^{152}\text{Dy}$	6690	100	6519	14	-1.7	U			IRS		83Al06 *
	6270	140		1.8		U					Averag *
	6225	90		3.3		B					93Al03 *
$^{152}\text{Tm}^m(\beta^+)^{152}\text{Er}$	6850	110	8830#	100#	18.0	D					84Ha.B *
$^{152}\text{Yb}(\beta^+)^{152}\text{Tm}$	5465	195	5450	140	-0.1	-			Got		90Sa.A
	5434	200		0.1		-			GSI		04Na.A *
	ave.	5450	140	0.0	1	100	100	$^{152}\text{Yb}$			average
* $^{152}\text{Eu-u}$	M-A=72915(35) keV for mixture gs+m+r at 45.5998 and 147.86 keV										
* $^{152}\text{Tb-u}$	M-A=-70740(29) keV for mixture gs+m at 501.74 keV										
* $^{152}\text{Ho-u}$	M-A=-63492(28) keV for mixture gs+m at 160(1) keV										
* $^{152}\text{Tm-u}$	M-A=-51720(54) keV for mixture gs+m at 100#80 keV										
* $^{152}\text{Ho}(\alpha)^{148}\text{Tb}$	$E_\alpha=4389.1(3,Z)$ ; and 4455.1(3,Z) from $^{152}\text{Ho}^m$ to $^{148}\text{Tb}^m$ combined with $^{152}\text{Ho}^m$ (IT)- $^{148}\text{Tb}^m$ (IT)=160(1)-90.1(0.3) keV										
*	$E_\beta^-=1800(100)$ 1950(150) respectively, to 5- level at 1803.98 keV										
* $^{152}\text{Pm}^m(\beta^-)^{152}\text{Sm}$	$E_{\beta^+}=895(5)$ 890(5) respectively, from $^{152}\text{Eu}^m$ at 45.5998 keV										
* $^{152}\text{Eu}(\beta^+)^{152}\text{Sm}$	$E_{\beta^+}=727(2)$ 729(1.5) respectively, to 2+ level at 121.78 keV										
* $^{152}\text{Eu}(\beta^-)^{152}\text{Gd}$	$Q_{\beta^-}=1855(10)$ from $^{152}\text{Eu}^m$ at 45.5998 keV										
* $^{152}\text{Eu}(\beta^-)^{152}\text{Gd}$	$E_{\beta^-}=1483(7)$ to 2+ level at 344.2789 keV										
* $^{152}\text{Eu}(\beta^-)^{152}\text{Gd}$	$E_{\beta^-}=1840(30)$ 1490(20) 1072(20) to ground state, 2+ level at 344.28, 4+ at 755.40 keV										
* $^{152}\text{Eu}(\beta^-)^{152}\text{Gd}$	$Q_{\beta^-}=1852(4)$ from $^{152}\text{Eu}^m$ at 45.5998 keV										
* $^{152}\text{Tb}(\beta^+)^{152}\text{Gd}$	$E_{\beta^+}=2830(15)$ 8(4)% to ground state, 5.2(1)% to 2+ level at 344.2789 keV										
* $^{152}\text{Ho}(\beta^+)^{152}\text{Dy}$	$E_{\beta^+}=3390(100)$ from $^{152}\text{Ho}^m$ at 160(1) to 8+ level at 2437.40 keV										
* $^{152}\text{Ho}(\beta^+)^{152}\text{Dy}$	From adopted KLM/ $\beta^+=0.97(0.13)$										
*	from $^{152}\text{Ho}^m$ at 160(1) to 8+ level at 2437.40 keV										
*	after extra 3(2)% side-feeding correction; see reference										
*	$p^+=0.52(0.04)/.967$ gives KLM/ $\beta^+=0.86(0.14)$										
*	KLM/ $\beta^+=1.12(0.10)$ after 0.967(0.008) side-feeding correction										
* $^{152}\text{Ho}(\beta^+)^{152}\text{Dy}$	$Q_{\beta^+}=6270(90)$ ; and 6330(100) from $^{152}\text{Ho}^m$ at 160(1) keV										
* $^{152}\text{Tm}^m(\beta^+)^{152}\text{Er}$	$p^+=0.64(0.02)$ to 8+ level at 2183.28 keV										
*	Trends from Mass Surface TMS suggest $^{152}\text{Tm}^m$ 1980 less bound										
* $^{152}\text{Yb}(\beta^+)^{152}\text{Tm}$	As reported in reference										
$^{153}\text{Pr-u}$	-66110.5	15.3	-66096	13	0.9	-			CP1	1.0	06Sa56
	-66065	40		-0.8		-			CP1	1.0	12Va02 *
	ave.	66105	14		0.6	1	80	80	$^{153}\text{Pr}$		average
$^{153}\text{Pr}-^{80}\text{Kr}_{1.913}$	93906	40	93872	13	-0.8	1	10	10	$^{153}\text{Pr}$	CP1	1.0
$^{153}\text{Pr}-^{86}\text{Kr}_{1.779}$	92958	40	92927	13	-0.8	1	10	10	$^{153}\text{Pr}$	CP1	1.0
$^{153}\text{Nd-u}$	-72283.3	5.2	-72282.0	2.9	0.2	1	32	32	$^{153}\text{Nd}$	CP1	1.0
$^{153}\text{Nd}-^{80}\text{Kr}_{1.913}$	87687.9	4.7	87687	3	-0.3	1	42	36	$^{153}\text{Nd}$	CP1	1.0
$^{153}\text{Nd}-^{86}\text{Kr}_{1.779}$	86740.7	5.3	86741.7	2.9	0.2	1	31	31	$^{153}\text{Nd}$	CP1	1.0
$^{153}\text{Pm-u}$	-75833	23	-75843	10	-0.4	1	18	18	$^{153}\text{Pm}$	CP1	1.0
$^{153}\text{Pm}-^{80}\text{Kr}_{1.913}$	84139	23	84125	10	-0.6	1	18	18	$^{153}\text{Pm}$	CP1	1.0
$^{153}\text{Pm}-^{86}\text{Kr}_{1.779}$	83192	23	83180	10	-0.5	1	18	18	$^{153}\text{Pm}$	CP1	1.0
C <sub>12</sub> H <sub>9</sub> - $^{153}\text{Eu}$	149103	18	149187.3	1.8	1.2	U			R04	4.0	64De15
C <sub>11</sub> <sup>13</sup> C H <sub>8</sub> - $^{153}\text{Eu}$	144606	30	144717.1	1.8	0.9	U			R04	4.0	64De15
C <sub>9</sub> <sup>13</sup> C H <sub>16</sub> O- $^{153}\text{Eu}$	201934	38	202232.0	1.8	2.0	U			R04	4.0	64De15
$^{153}\text{Eu}-^{85}\text{Rb}_{1.800}$	80021	16	80016.5	1.8	-0.3	U			MA5	1.0	00Be42
$^{153}\text{Ho-u}$	-69814	37	-69794	6	0.6	U			GS2	1.0	05Li24 *
$^{153}\text{Er-u}$	-64942	30	-64920	10	0.7	U			GS2	1.0	05Li24
$^{153}\text{Eu}-^{35}\text{Cl}-^{151}\text{Eu}$ $^{37}\text{Cl}$	4334	4	4330.28	0.18	-0.4	U			H21	2.5	70Ma05 *
$^{138}\text{La}$ O- $^{153}\text{Eu}$	-19266	123	-19208	4	0.1	U			R05	4.0	65De13
$^{153}\text{Eu}$ O-C <sub>14</sub>	-83849.6	5.8	-83847.4	1.8	0.3	U			TG1	1.5	11Ke03
$^{153}\text{Eu}-^{152}\text{Sm}$	1544	42	1498.3	0.7	-0.3	U			R04	4.0	64De15

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
C <sub>12</sub> H <sub>10</sub> – <sup>154</sup> Sm	155830	29	156033.5	2.0	1.8	U			R04	4.0	64De15
	156035.7	4.0		–0.2		U			M22	2.5	75Ka25
C <sub>12</sub> H <sub>10</sub> – <sup>154</sup> Gd	157149	40	157376.3	1.7	1.4	U			R04	4.0	64De15
C <sub>11</sub> <sup>13</sup> C H <sub>9</sub> – <sup>154</sup> Gd	152550	110	152906.1	1.7	0.8	U			R04	4.0	64De15
C <sub>10</sub> <sup>13</sup> C <sub>2</sub> H <sub>8</sub> – <sup>154</sup> Gd	148030	90	148435.9	1.7	1.1	U			R04	4.0	64De15
C <sub>10</sub> H <sub>6</sub> N <sub>2</sub> – <sup>154</sup> Gd	131980	240	132224.1	1.7	0.3	U			R04	4.0	64De15
<sup>154</sup> Gd– <sup>138</sup> La O	19005	80	18845	4	–0.5	U			R05	4.0	65De13
<sup>154</sup> Tb-u	–75376	115	–75320	50	0.5	R			GS2	1.0	05Li24 *
<sup>154</sup> Dy– <sup>133</sup> Cs <sub>1.158</sub>	33903	19	33916	8	0.7	1	18	18	<sup>154</sup> Dy	MA5	1.0 00Be42 *
<sup>154</sup> Ho-u	–69345	80	–69393	9	–0.6	U			GS2	1.0	05Li24 *
<sup>154</sup> Tm-u	–58485	50	–58430	15	1.1	U			GS2	1.0	05Li24 *
<sup>154</sup> Sm <sup>35</sup> Cl <sub>2</sub> – <sup>150</sup> Sm <sup>37</sup> Cl <sub>2</sub>	10832.9	5.2	10834.1	1.1	0.1	U			M21	2.5	75Ka25
<sup>154</sup> Sm <sup>35</sup> Cl– <sup>152</sup> Sm <sup>37</sup> Cl	5480	4	5427.2	0.9	–3.3	B			H12	4.0	64Ba15
					1.0	U			H21	2.5	70Ma05
					5417				M21	2.5	75Ka25
					5427.2	0.4			H25	2.5	72Ba08
<sup>154</sup> Gd <sup>35</sup> Cl– <sup>152</sup> Gd <sup>37</sup> Cl	4019.5	2.	4024.65	0.23	1.0	U			H12	4.0	64Ba15
	4016	30			0.1	U			H25	2.5	72Ba08
<sup>154</sup> Sm– <sup>154</sup> Gd	1338.2	3.8	1342.8	0.9	0.5	U			M21	2.5	75Ka25
		1342.8	0.8		0.0	1	21	21	<sup>154</sup> Sm	TG1	1.5 09Ke.A
<sup>154</sup> Sm–C <sub>12</sub> H <sub>9</sub>	–148211.0	8.0	–148208.4	2.0	0.1	U			M21	2.5	75Ka25
<sup>139</sup> La O– <sup>154</sup> Gd	–19616	55	–19603.2	2.5	0.1	U			R05	4.0	65De13
<sup>154</sup> Sm– <sup>153</sup> Eu	1082	42	978.9	1.2	–0.6	U			R04	4.0	64De15
<sup>154</sup> Sm– <sup>152</sup> Sm	2664	43	2477.1	0.9	–1.1	U			R04	4.0	64De15
<sup>154</sup> Gd– <sup>152</sup> Gd	1400	50	1074.57	0.22	–1.6	U			R04	4.0	64De15
<sup>154</sup> Gd O–C <sub>15</sub>	–84207.4	5.9	–84211.3	1.7	–0.4	U			TG1	1.5	09Ke.A
	–84206.6	4.3			–0.7	U			TG1	1.5	11Ke03
<sup>154</sup> Dy( $\alpha$ ) <sup>150</sup> Gd	2946.4	5.	2945	5	–0.3	1	93	81	<sup>154</sup> Dy	Dba	67Go32 Z
<sup>154</sup> Ho( $\alpha$ ) <sup>150</sup> Tb	4041.3	5.	4041	4	0.0	2			ORa	68Go.C	Z
	4041.7	5.			0.0	2			ORa	74Sc19	Z
<sup>154</sup> Ho <sup>m</sup> ( $\alpha$ ) <sup>150</sup> Tb <sup>m</sup>	3819.2	10.	3823	5	0.4	–			ORa	71To01	Z
		3824.0	5.		–0.1	–			ORa	74Sc19	Z
	ave.	3823	5		0.1	1	100	89	<sup>154</sup> Ho <sup>m</sup>	average	
<sup>154</sup> Er( $\alpha$ ) <sup>150</sup> Dy	4280.5	5.	4279.6	2.6	–0.2	–			Bka	68Go.C	Z
		4279.5	3.		0.1	–			Bka	82Bo04	Z
	ave.	4279.7	2.6		0.0	1	98	91	<sup>154</sup> Er	average	
<sup>154</sup> Tm( $\alpha$ ) <sup>150</sup> Ho	5096.7	5.	5093.8	2.6	–0.6	2			GSa	79Ho10	Z
		5092.7	3.		0.4	2			Bka	82Bo04	
<sup>154</sup> Tm <sup>m</sup> ( $\alpha$ ) <sup>150</sup> Ho <sup>m</sup>	5174.8	5.	5171.7	1.6	–0.6	3			GSa	79Ho10	Z
		5170.8	3.		0.3	3			Bka	82Bo04	Z
		5171.7	2.		0.0	3			Ora	82De11	Z
<sup>154</sup> Yb( $\alpha$ ) <sup>150</sup> Er	5473.4	5.	5474.2	1.7	0.2	–			GSa	79Ho10	Z
		5474.7	2.		–0.2	–			Ora	82De11	Z
		5473.4	4.		0.2	–			Daa	96Pa01	
	ave.	5474.2	1.7		0.0	1	100	100	<sup>154</sup> Yb	average	
<sup>152</sup> Sm(t,p) <sup>154</sup> Sm	5361	25	5353.4	0.8	–0.3	U			Ald	66Bj01	
<sup>154</sup> Sm(p,t) <sup>152</sup> Sm	–5357	8	–5353.4	0.8	0.5	U			Min	72De47	
		–5353	15		0.0	U			Ham	74Oe03	
<sup>154</sup> Gd(p,t) <sup>152</sup> Gd	–6660	5	–6659.88	0.21	0.0	U			Min	73Oo01	
<sup>154</sup> Sm(d, <sup>3</sup> He) <sup>153</sup> Pm	–3623	25	–3602	9	0.8	–			76Su.B		
<sup>154</sup> Sm(t, $\alpha$ ) <sup>153</sup> Pm	10748	20	10718	9	–1.5	–			LAI	78Bu18	
<sup>154</sup> Sm(d, <sup>3</sup> He) <sup>153</sup> Pm	ave.	–3592	16	–3602	9	–0.7	1	34	33	<sup>153</sup> Pm	average
<sup>153</sup> Eu(n, $\gamma$ ) <sup>154</sup> Eu		6442.2	0.3	6442.17	0.24	–0.1	–		ILn	87Ba52	Z
		6442.2	0.4		–0.1	–			Bdn	06Fi.A	
	ave.	6442.20	0.24		–0.1	1	98	80	<sup>154</sup> Eu	average	
<sup>153</sup> Gd(n, $\gamma$ ) <sup>154</sup> Gd		8895.25	0.30	8894.73	0.17	–1.7	–		ILn	85Vo15	Z
		8894.47	0.20		1.3	–			ILn	93Sp.A	Z
<sup>154</sup> Gd(d,t) <sup>153</sup> Gd		–2642	10	–2637.49	0.17	0.5	U		Kop	67Tj01	
<sup>153</sup> Gd(n, $\gamma$ ) <sup>154</sup> Gd	ave.	8894.71	0.17	8894.73	0.17	0.1	1	98	73	<sup>153</sup> Gd	average
<sup>154</sup> Pr( $\beta$ ) <sup>154</sup> Nd		7490	100			4			Kur	02Sh.B	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{154}\text{Nd}(\beta^-)^{154}\text{Pm}^m$	2687	25				3			Ida	93Gr17	
$^{154}\text{Pm}^m(\text{IT})^{154}\text{Pm}$	210	70	120	120	-1.3	o				72Ta13	*
	-20	12			11.7	B				90So08	
$^{154}\text{Pm}(\beta^-)^{154}\text{Sm}$	3900	200	3960	40	0.3	U				71Da28	*
	4190	170			-1.3	U				72Ta13	*
	3940	50			0.5	2				73Pr05	*
	3940	200			0.1	U				74Ya07	*
	4056	100			-0.9	2			Ida	93Gr17	
$^{154}\text{Pm}^m(\beta^-)^{154}\text{Sm}$	3900	200	4080	110	0.9	2				71Da28	
	4396	180			-1.7	2				72Ta13	
	3880	200			1.0	2				74Ya07	*
$^{154}\text{Eu}(\beta^-)^{154}\text{Gd}$	1978	5	1968.2	0.7	-2.0	U				60La04	*
	1967	2			0.6	-				77Ra08	*
	1975	3			-2.3	-				81Bu.A	*
ave.	1969.5	1.7			-0.8	1	20	16 $^{154}\text{Eu}$		average	
$^{154}\text{Tb}(\beta^+)^{154}\text{Gd}$	3562	50	3550	50	-0.2	2				70Ag03	*
$^{154}\text{Ho}(\beta^+)^{154}\text{Dy}$	5700	80	5754	10	0.7	U			IRS	83Al06	*
	5750	80			0.1	U			IRS	93Al03	
$^{154}\text{Ho}^m(\beta^+)^{154}\text{Dy}$	5994	100	5997	28	0.0	o			IRS	83Al.A	*
	6070	80			-0.9	1	12	11 $^{154}\text{Ho}^m$	IRS	93Al03	
$^{154}\text{Tm}^m(\beta^+)^{154}\text{Er}$	8234	150	8250	50	0.1	U				94Po26	*
$^{154}\text{Lu}(\beta^+)^{154}\text{Yb}$	7556	450	10220#	200#	5.9	C				84Ha.B	*
$^{154}\text{Lu}^m(\text{IT})^{154}\text{Lu}$		58.7	9.3	60	12	0.1	o		Ara	97Da07	*
* $^{154}\text{Tb-u}$	M-A=-70142(43) keV for mixture gs+m+n at 12(7) and 200#150 keV										
* $^{154}\text{Dy}-^{133}\text{Cs}_{1.158}$	No contamination observed, but contamination by $^{154}\text{Tb}$ cannot be excluded										
*											
* $^{154}\text{Ho-u}$	M-A=-64478(28) keV for mixture gs+m at 233(30) keV										
* $^{154}\text{Tm-u}$	M-A=-54438(32) keV for mixture gs+m at 80(50) keV										
* $^{154}\text{Pm}^m(\text{IT})^{154}\text{Pm}$	Only use the two Q-'s to $^{154}\text{Sm}$ , see below										
* $^{154}\text{Pm}(\beta^-)^{154}\text{Sm}$	$E_{\beta^-}=3270, 3090, 2810$ (all 170) to $921.345\ 1^-, 1099.26\ 0^+, 1475.81\ 1^-$										
* $^{154}\text{Pm}(\beta^-)^{154}\text{Sm}$	$E_{\beta^-}=2810(170)$ to $1^-$ level at 1475.81 keV, and other $E_{\beta^-}$										
* $^{154}\text{Pm}(\beta^-)^{154}\text{Sm}$	$E_{\beta^-}=3950(50)$ 3010(80) to ground state, $1^-$ level at 921.345 keV										
* $^{154}\text{Pm}(\beta^-)^{154}\text{Sm}$	$E_{\beta^-}=3000(200), 1900(200), 1800(200)$ to $1^-$ level at 921.345, $2^+$ at 2069.07, and $(1,2^+)$ at 2139.82 keV										
*											
* $^{154}\text{Pm}^m(\beta^-)^{154}\text{Sm}$	$E_{\beta^-}=2410(180)$ to $3^-$ level at 1986.59 keV										
* $^{154}\text{Pm}^m(\beta^-)^{154}\text{Sm}$	$E_{\beta^-}=2400(200), 1850(200)$ to $2^+$ levels at 1440.04, 2069.07 keV										
* $^{154}\text{Eu}(\beta^-)^{154}\text{Gd}$	$E_{\beta^-}=1855(5)$ 1844(2) respectively, to $2^+$ level at 123.0709 keV										
* $^{154}\text{Eu}(\beta^-)^{154}\text{Gd}$	$E_{\beta^-}=257(3)$ to $2^-$ level at 1719.5593 keV, and other $E_{\beta^-}$										
* $^{154}\text{Tb}(\beta^+)^{154}\text{Gd}$	$E_{\beta^+}=2540(50)$ 1860(50) to ground state and $0^+$ level at 680.6673 keV										
* $^{154}\text{Ho}(\beta^+)^{154}\text{Dy}$	$E_{\beta^+}=4340(80)$ to $2^+$ level at 334.34 keV										
* $^{154}\text{Ho}^m(\beta^+)^{154}\text{Dy}$	$E_{\beta^+}=2500(100)$ to $7^+$ level at 2472.40 keV										
* $^{154}\text{Tm}^m(\beta^+)^{154}\text{Er}$	$E_{\beta^+}=4882(150)$ to $8^+$ level 2329.5 keV										
* $^{154}\text{Lu}(\beta^+)^{154}\text{Yb}$	$p^+=0.75(0.05)$ $Q=5710(450)$ from $^{154}\text{Lu}^m$ at 200#150 to $8^+$ level at 2046.2 keV										
* $^{154}\text{Lu}^m(\text{IT})^{154}\text{Lu}$	Use only their $Q_\alpha$ 's										
$^{155}\text{Pr-u}$	-59492	31	-59491	18	0.0	1	35	35 $^{155}\text{Pr}$	CP1	1.0	12Va02 *
$^{155}\text{Pr}-^{80}\text{Kr}_{1.938}$	102571	33	102569	18	-0.1	1	31	31 $^{155}\text{Pr}$	CP1	1.0	12Va02
$^{155}\text{Pr}-^{86}\text{Kr}_{1.802}$	101588	32	101589	18	0.0	1	33	33 $^{155}\text{Pr}$	CP1	1.0	12Va02
$^{155}\text{Nd-u}$	-66866	17	-66864	10	0.1	1	33	33 $^{155}\text{Nd}$	CP1	1.0	12Va02 *
$^{155}\text{Nd}-^{80}\text{Kr}_{1.938}$	95197	17	95195	10	-0.1	1	34	33 $^{155}\text{Nd}$	CP1	1.0	12Va02
$^{155}\text{Nd}-^{86}\text{Kr}_{1.802}$	94215	17	94215	10	0.0	1	33	33 $^{155}\text{Nd}$	CP1	1.0	12Va02
$^{155}\text{Pm-u}$	-71863.8	8.8	-71863	5	0.1	1	33	33 $^{155}\text{Pm}$	CP1	1.0	12Va02 *
$^{155}\text{Pm}-^{80}\text{Kr}_{1.938}$	90197.8	8.6	90196	5	-0.2	1	36	34 $^{155}\text{Pm}$	CP1	1.0	12Va02
$^{155}\text{Pm}-^{86}\text{Kr}_{1.802}$	89216.0	8.8	89217	5	0.1	1	33	33 $^{155}\text{Pm}$	CP1	1.0	12Va02
$^{155}\text{Sm-u}$	-75357	24	-75352.3	2.0	0.2	U			CP1	1.0	12Va02 *
$^{155}\text{Sm}-^{80}\text{Kr}_{1.938}$	86704	24	86707.0	2.4	0.1	U			CP1	1.0	12Va02
$^{155}\text{Sm}-^{86}\text{Kr}_{1.802}$	85722	24	85727.4	2.0	0.2	U			CP1	1.0	12Va02
$\text{C}_{12}\text{H}_{11}-^{155}\text{Gd}$	163530	70	163444.9	1.7	-0.3	U			R04	4.0	64De15

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$C_{11}^{13}C\ H_{10}-^{155}Gd$	158921	42	158974.7	1.7	0.3	U			R04	4.0	64De15
$C_{10}^{13}C_2\ H_9-^{155}Gd$	154450	140	154504.5	1.7	0.1	U			R04	4.0	64De15
$C_{10}\ H_7\ N_2-^{155}Gd$	138213	38	138292.8	1.7	0.5	U			R04	4.0	64De15
$^{155}Gd-^{139}La\ O$	21252	32	21359.6	2.5	0.8	U			R05	4.0	65De13
$^{155}Tb-u$	-76431	30	-76489	11	-1.9	U			GS2	1.0	05Li24
$^{155}Dy-u$	-74227	30	-74241	10	-0.5	U			GS2	1.0	05Li24
$^{155}Ho-u$	-70867	30	-70896	19	-1.0	1	39	39 $^{155}Ho$	GS2	1.0	05Li24
$^{155}Er-u$	-66785	30	-66784	7	0.0	U			GS2	1.0	05Li24
$^{155}Tm-u$	-60814	33	-60790	11	0.7	U			GS2	1.0	05Li24 *
$^{155}Gd\ ^{35}Cl_3-^{149}Sm\ ^{37}Cl_3$	14282.4	6.3	14288.6	0.9	0.4	U			M21	2.5	75Ka25
$^{155}Gd\ ^{35}Cl-^{153}Eu\ ^{37}Cl$	4345.4	2.4	4342.5	0.8	-0.5	U			H25	2.5	72Ba08
$^{155}Gd-^{138}La\ O$	20558	49	20601	4	0.2	U			R05	4.0	65De13
$^{155}Gd-^{154}Gd$	1480	60	1756.41	0.20	1.2	U			R04	4.0	64De15
$^{155}Gd\ O-C_{15}$	-82452.8	5.0	-82454.9	1.7	-0.3	o			TG1	1.5	09Ke.A
	-82452.2	2.6			-0.7	1	20	20 $^{155}Gd$	TG1	1.5	11Ke03
$^{155}Er(\alpha)^{151}Dy$	4118.3	5.				3			ORa	74To07	Z
$^{155}Tm(\alpha)^{151}Ho$	4578.3	10.3	4572	5	-0.6	3			ORa	71To01	*
	4568.1	10.				0.4	3		ORa	71To01	*
	4570.1	8.				0.2	3			92Ha10	*
$^{155}Yb(\alpha)^{151}Er$	5344.1	5.	5338.7	2.1	-1.1	3			GSa	79Ho10	
	5336.6	5.				0.4	3		Bka	82Bo04	Z
	5344.2	5.				-1.1	3			87Ka.A	
	5331.8	4.				1.7	3		ORa	91To08	
	5340.1	4.				-0.3	3		Daa	96Pa01	
$^{155}Lu(\alpha)^{151}Tm$	5796.9	5.	5802.7	2.6	1.2	5				89Ho12	*
	5797.9	5.				1.0	5		ORa	91To08	
	5805.1	5.				-0.5	5		Daa	96Pa01	
	5811.2	5.				-1.7	5		Ara	97Da07	
$^{155}Lu^m(\alpha)^{151}Tm^m$	5723.0	10.	5730.5	2.8	0.7	6				89Ho12	
	5727.1	5.				0.7	6		ORa	91To08	
	5732.2	5.				-0.3	6		Daa	96Pa01	
	5734.2	5.				-0.7	6		Ara	97Da07	
$^{155}Lu^n(\alpha)^{151}Tm$	7574.9	15.	7584	3	0.2	U				89Ho12	*
	7586.2	5.				-0.5	o		Daa	96Pa01	*
$^{155}Gd(n,\alpha)^{152}Sm$	8331	6	8339.1	0.3	1.4	U			McM	69Be17	
$^{155}Gd(p,t)^{153}Gd$	-6850	7	-6848.16	0.25	0.3	U			McM	73Lo08	
	-6853	5				1.0	U		Min	73Oo01	
$^{154}Sm(n,\gamma)^{155}Sm$	5806.8	0.6	5806.96	0.27	0.3	2				82Ba15	Z
	5807.0	0.3				-0.1	2		ILn	82Sc03	Z
$^{154}Sm(d,p)^{155}Sm$	3584	12	3582.39	0.27	-0.1	U			Tal	65Ke09	
$^{154}Eu(n,\gamma)^{155}Eu$	8151.3	0.4	8151.3	0.4	0.0	1	100	96 $^{155}Eu$	ILn	86Pr03	
$^{154}Gd(n,\gamma)^{155}Gd$	6435.11	0.30	6435.23	0.18	0.4	-			ILn	86Sc25	Z
	6435.29	0.23				-0.3	-		Bdn	06Fi.A	
$^{154}Gd(d,p)^{155}Gd$	4217	10	4210.66	0.18	-0.6	U			Kop	67Tj01	
$^{155}Gd(d,t)^{154}Gd$	-190	10	-178.00	0.18	1.2	U			Kop	67Tj01	
$^{154}Gd(n,\gamma)^{155}Gd$	ave.	6435.22	0.18	6435.23	0.18	0.0	1	100	71 $^{154}Gd$	average	
$^{155}Ta(p)^{154}Hf$	1776	10	1453	15	-32.3	B			Arp	99Uu01	*
	1453	15				3			Jya	07Pa27	
$^{155}Nd(\beta^-)^{155}Pm$	4222	150	4656	10	2.9	U			Ida	93Gr17	
$^{155}Pm(\beta^-)^{155}Sm$	3224	30	3250	5	0.9	U			Ida	93Gr17	
$^{155}Sm(\beta^-)^{155}Eu$	1634	15	1627.0	1.2	-0.5	U				63Kr04	*
	1624	15				0.2	U			65Fu13	*
	1607	25				0.8	U		Ida	93Gr17	
$^{155}Eu(\beta^-)^{155}Gd$	252	5	252.1	0.9	0.0	U				54Le08	
	245	5				1.4	U			58Gl56	
	245	5				1.4	U			59Am16	
$^{155}Dy(\beta^+)^{155}Tb$	2099	6	2094.5	1.9	-0.7	2				63Pe13	*
	2094	2				0.3	2			80Bu04	*
$^{155}Ho(\beta^+)^{155}Dy$	3102	20	3116	17	0.7	1	69	61 $^{155}Ho$		72To07	*
$^{155}Lu^m(IT)^{155}Lu$	23.0	6.2	21	4	-0.2	5				96Pa01	
	19.9	6.2				0.3	5			97Da07	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference			
$^{155}\text{Lu}^n(\text{IT})^{155}\text{Lu}$	1781	2		5						96Pa01			
* $^{155}\text{Pr-u}$		Represents frequency ratio $^{155}\text{Pr}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.98142559(20)$								WGM124**			
* $^{155}\text{Nd-u}$		Represents frequency ratio $^{155}\text{Nd}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.98147230(11)$								WGM124**			
* $^{155}\text{Pm-u}$		Represents frequency ratio $^{155}\text{Pm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.981503965(56)$								WGM124**			
* $^{155}\text{Sm-u}$		Represents frequency ratio $^{155}\text{Sm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.98152610(15)$								WGM124**			
* $^{155}\text{Tm-u}$		M-A=-56627(28) keV for mixture gs+m at 41(6) keV								Nub127 **			
* $^{155}\text{Tm}(\alpha)^{151}\text{Ho}$		First assigned to $^{156}\text{Tm}^m$ but belonging to $^{155}\text{Tm}$ ground state								94To10 **			
* $^{155}\text{Tm}(\alpha)^{151}\text{Ho}$		Doublet from ground state and isomer, less than 5 keV apart								90Po13 **			
* $^{155}\text{Lu}(\alpha)^{151}\text{Tm}$		Original value E=5656(6) (Q=5806.1) recalibrated								79Ho10 **			
* $^{155}\text{Lu}^n(\alpha)^{151}\text{Tm}$		Original value E=7408(10) recalibrated								81Ho.A **			
* $^{155}\text{Lu}^n(\alpha)^{151}\text{Tm}$		Replaced by authors' value for $^{155}\text{Lu}^n(\text{IT})$								AHW **			
* $^{155}\text{Ta(p)}^{154}\text{Hf}$		$E_p=1765(10)$ for $(11/2^-)$ state; ground state may be $1/2^+$ , slightly lower								99Uu01 **			
*		1776 keV proton not observed in coincidence with feeding $\alpha$								07Pa27 **			
* $^{155}\text{Sm}(\beta^-)^{155}\text{Eu}$		$E_{\beta^-}=1530(15)$ $E_{\beta^-}=1520(15)$ respectively, to $5/2^-$ level at 104.334 keV								Ens051 **			
* $^{155}\text{Dy}(\beta^+)^{155}\text{Tb}$		$E_{\beta^+}=850(6)$ 845(2) respectively, to $5/2^-$ level at 226.918 keV, and other $E_{\beta^+}$								Ens051 **			
* $^{155}\text{Ho}(\beta^+)^{155}\text{Dy}$		$E_{\beta^+}=1840(20)$ to $3/2^+$ level at 240.196 keV								Ens051 **			
$^{156}\text{Pm-u}$	-68883.4	6.9	-68882	4	0.1	1	32	32	$^{156}\text{Pm}$	CP1	1.0	12Va02	*
$^{156}\text{Pm}-^{80}\text{Kr}_{1.950}$	94181.7	6.4	94180	4	-0.2	1	39	35	$^{156}\text{Pm}$	CP1	1.0	12Va02	
$^{156}\text{Pm}-^{86}\text{Kr}_{1.814}$	93269.1	6.8	93270	4	0.1	1	33	33	$^{156}\text{Pm}$	CP1	1.0	12Va02	
$\text{C}_{12}\text{H}_{12}-^{156}\text{Gd}$	171923	44	171769.1	1.7	-0.9	U			R04	4.0	64De15		
$\text{C}_{11}\text{C}_{11}-^{156}\text{Gd}$	167384	43	167298.9	1.7	-0.5	U			R04	4.0	64De15		
$\text{C}_{10}\text{C}_{12}\text{H}_{10}-^{156}\text{Gd}$	162810	60	162828.8	1.7	0.1	U			R04	4.0	64De15		
$\text{C}_{10}\text{H}_8\text{N}_2-^{156}\text{Gd}$	146661	38	146617.0	1.7	-0.3	U			R04	4.0	64De15		
$^{156}\text{Tb-u}$	-75165	40	-75245	4	-2.0	U			GS2	1.0	05Li24	*	
$\text{C}_{10}\text{H}_8\text{N}_2-^{156}\text{Dy}$	145130	100	144463.6	1.7	-1.7	U			R04	4.0	64De15		
$^{156}\text{Ho-u}$	-70107	122	-70290	60	-1.5	o			GS1	1.0	00Ra23	*	
$^{156}\text{Ho}^n\text{-u}$	-70107	30			2				GS2	1.0	05Li24	*	
$^{156}\text{Er-u}$	-68907	30	-68933	26	-0.9	1	78	78	$^{156}\text{Er}$	GS2	1.0	05Li24	
$^{156}\text{Tm-u}$	-61044	30	-61008	16	1.2	U			GS2	1.0	05Li24		
$^{156}\text{Yb-u}$	-57202	30	-57175	11	0.9	U			GS2	1.0	05Li24		
$^{156}\text{Gd}^{35}\text{Cl}-^{154}\text{Gd}^{37}\text{Cl}$	4199	5	4207.26	0.22	0.4	U			H12	4.0	64Ba15		
	4206	10			0.1	U			H21	2.5	70Ma05		
	4204.8	1.4			0.7	U			H25	2.5	72Ba08		
	4203.0	1.0			1.7	U			M21	2.5	75Ka25		
$^{156}\text{Dy}-^{156}\text{Gd}$	2153.47	0.11	2153.47	0.11	0.0	1	100	99	$^{156}\text{Dy}$	SH1	1.0	11El05	
$^{156}\text{Gd}-^{139}\text{La O}$	20618	71	20860.4	2.5	0.9	U			R05	4.0	65De13		
$^{156}\text{Gd}-^{155}\text{Gd}$	-584	33	-499.23	0.07	0.6	U			R04	4.0	64De15		
$^{156}\text{Gd O-C}_{15}$	-82946.5	5.8	-82954.1	1.7	-0.9	o			TG1	1.5	09Ke.A		
	-82945.6	3.6			-1.6	U			TG1	1.5	11Ke03		
$^{156}\text{Er}(\alpha)^{152}\text{Dy}$	3109.9	70.	3483	25	5.3	C					95Ka.A		
$^{156}\text{Tm}(\alpha)^{152}\text{Ho}$	4341.6	10.	4345	7	0.4	-			ORa		71To10		
	4345.6	10.			0.0	-					81Ga36		
ave.	4344	7			0.2	1	98	94	$^{156}\text{Tm}$	average			
$^{156}\text{Tm}^m(\alpha)^{152}\text{Ho}$	4737.5	10.	*			F			ORa		71To01	*	
$^{156}\text{Yb}(\alpha)^{152}\text{Er}$	4813.6	10.	4811	4	-0.3	-					77Ha48		
	4809.6	10.			0.1	-			GSa		79Ho10		
	4810.6	4.			0.0	-			Daa		96Pa01		
ave.	4811	4			-0.1	1	100	97	$^{156}\text{Yb}$	average			
$^{156}\text{Lu}(\alpha)^{152}\text{Tm}$	5593.7	10.	5596	3	0.2	U			GSa		79Ho10		
	5592.7	5.			0.6	2			Dba		92Po14		
	5597.9	4.			-0.5	2			Daa		96Pa01		
$^{156}\text{Lu}^m(\alpha)^{152}\text{Tm}^m$	5713.7	5.	5711.4	2.6	-0.4	3			GSa		79Ho10	Z	
	5709.7	5.			0.4	3			Dba		92Po14		
	5709.7	8.			0.2	3					92Ha10		
	5711.7	4.			-0.1	3			Daa		96Pa01		
$^{156}\text{Hf}(\alpha)^{152}\text{Yb}$	6033.0	10.	6028	4	-0.4	-			GSa		79Ho10		
	6027.9	4.			0.2	-			Daa		96Pa01		
ave.	6028	4			0.0	1	100	100	$^{156}\text{Hf}$	average			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{156}\text{Hf}^m(\alpha)^{152}\text{Yb}$	8009.8	15.	7987	4	-1.5	U			GSa	81Ho.A			
	7987.2	4.			0.1	o			Daa	96Pa01	*		
$^{154}\text{Sm}(\text{t},\text{p})^{156}\text{Sm}$	4556	25	4569	9	0.5	1	14	14	$^{156}\text{Sm}$	Ald	66Bj01		
$^{154}\text{Eu}(\text{t},\text{p})^{156}\text{Eu}$	6003	10	6009	5	0.6	1	28	28	$^{156}\text{Eu}$	LAl	84La06	*	
$^{154}\text{Gd}(\text{t},\text{p})^{156}\text{Gd}$	6495.1	3.6	6489.78	0.19	-1.5	U			McM	89Lo07			
$^{156}\text{Gd}(\text{p},\text{t})^{154}\text{Gd}$	-6490	7	-6489.78	0.19	0.0	U			McM	73Lo08			
	-6490	5			0.0	U			Min	73Oo01			
$^{155}\text{Gd}(\text{n},\gamma)^{156}\text{Gd}$	8536.8	0.5	8536.35	0.07	-0.9	U			ILn	82Ba28			
	8536.39	0.07			-0.6	-			MMn	82Is05	Z		
	8536.04	0.19			1.6	-			Bdn	06Fi.A			
$^{155}\text{Gd}(\text{d},\text{p})^{156}\text{Gd}$	6319	10	6311.78	0.07	-0.7	U			Kop	67Tj01			
$^{156}\text{Gd}(\text{d},\text{t})^{155}\text{Gd}$	-2287	10	-2279.12	0.07	0.8	U			Kop	67Tj01			
$^{155}\text{Gd}(\text{n},\gamma)^{156}\text{Gd}$	ave.	8536.35	0.07	8536.35	0.07	0.0	1	100	50	$^{156}\text{Gd}$	average		
$^{155}\text{Gd}(\alpha,\text{l})^{156}\text{Tb}-^{158}\text{Gd}(\text{l})^{159}\text{Tb}$	-821.9	3.6	-822	4	0.0	1	100	100	$^{156}\text{Tb}$	McM	75Bu02		
$^{156}\text{Dy}(\text{d},\text{t})^{155}\text{Dy}$	-3184	10	-3187	10	-0.3	1	92	92	$^{155}\text{Dy}$	Kop	70Gr46		
$^{156}\text{Ta}(\text{p})^{155}\text{Hf}$	1028.6	13.	1020	4	-0.7	o			Dap	92Pa05			
	1013.6	5.			1.2	o			Dap	96Pa01			
	1017.9	5.			0.4	3			Dap	11Da12			
$^{156}\text{Ta}^m(\text{p})^{155}\text{Hf}$	1110.2	12.	1114	7	0.3	3			Dap	93Li34			
	1115.2	8.			-0.2	3			Dap	96Pa01			
$^{156}\text{Nd}(\beta^-)^{156}\text{Pm}$	3690	200					2		Kur	02Sh.B	*		
$^{156}\text{Pm}(\beta^-)^{156}\text{Sm}$	5155	35	5199	10	1.3	U			Stu	90He11			
	5110	100			0.9	U			Kur	02Sh.B			
$^{156}\text{Sm}(\beta^-)^{156}\text{Eu}$	721	10	722	8	0.1	-				63Gu04	*		
	721	15			0.1	-				65Wi08	*		
$^{156}\text{Eu}(\beta^-)^{156}\text{Gd}$	ave.	721	8		0.2	1	90	86	$^{156}\text{Sm}$	average			
	2430	10	2449	5	1.9	-				62Ew01			
	2460	10			-1.1	-				63Th02			
	2450	15			-0.1	-				64Pe17			
	2478	20			-1.4	U				67Va23			
$^{156}\text{Tb}(\beta^+)^{156}\text{Gd}$	ave.	2446	6		0.5	1	68	68	$^{156}\text{Eu}$	average			
	3570	50	2444	4	-22.5	B				70Ag02	*		
$^{156}\text{Ho}(\beta^+)^{156}\text{Dy}$	4400	400	5050	60	1.6	U				76Gr20	*		
	5050	90			0.0	o				02Iz01			
	5050	60			2	-				04Iz02	*		
$^{156}\text{Er}(\beta^+)^{156}\text{Ho}$	1670	70	1270	60	-5.7	B				82Vy06	*		
$^{156}\text{Tm}(\beta^+)^{156}\text{Er}$	7458	50	7381	27	-1.5	1	29	22	$^{156}\text{Er}$	Dbn	94Po26	*	
	7390	100			-0.1	U				95Ga.A			
$^{156}\text{Hf}^m(\text{IT})^{156}\text{Hf}$		1959	1			2				96Pa01			
* $^{156}\text{Pm-u}$	Represents frequency ratio $^{156}\text{Pm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.975190689(43)$												
* $^{156}\text{Tb-u}$	M-A=-69968(32) keV for mixture gs+m+n at 54(3) and 88.4 keV												
* $^{156}\text{Ho-u}$	M-A=-65230(100) keV for mixture gs+m+n at 52.4 and 170(70) keV												
* $^{156}\text{Ho}^n\text{-u}$	Assuming high spin isomer is favored												
* $^{156}\text{Tm}^m(\alpha)^{152}\text{Ho}$	F : originally E $\alpha$ =4460(10) to $^{152}\text{Ho}^m$ at 160(1), reassigned to $^{155}\text{Tm}$												
* $^{156}\text{Hf}^m(\alpha)^{152}\text{Yb}$	Replaced by authors' value for $^{156}\text{Hf}^m(\text{IT})$												
* $^{154}\text{Eu}(\text{t},\text{p})^{156}\text{Eu}$	Q=5569(10) to 3 $^-$ level at 434.23 keV												
* $^{156}\text{Nd}(\beta^-)^{156}\text{Pm}$	Trends from Mass Surface TMS suggest $^{156}\text{Nd}$ 200 less bound												
* $^{156}\text{Sm}(\beta^-)^{156}\text{Eu}$	$E_{\beta^-}=430(10)$ 430(15) respectively, to 1 $^+$ level at 291.3037 keV												
* $^{156}\text{Tb}(\beta^+)^{156}\text{Gd}$	$E_{\beta^+}=2640(50)$ from $^{156}\text{Tb}^n$ at 88.4 to ground state												
* $^{156}\text{Ho}(\beta^+)^{156}\text{Dy}$	$E_{\beta^+}=1800(50)$ to levels around 1600												
* $^{156}\text{Ho}(\beta^+)^{156}\text{Dy}$	Original error 20 is for statistics only, increased by evaluator												
* $^{156}\text{Er}(\beta^+)^{156}\text{Ho}$	$p^+=0.0036(0.0017)$ to (0 $^-$ , 1 $^-$ , 2 $^-$ ) level at 82.1 keV, reanalyzed												
* $^{156}\text{Tm}(\beta^+)^{156}\text{Er}$	$E_{\beta^+}=6091(50)$ to 2 $^+$ level at 344.51 keV												
$^{157}\text{Nd-u}$	-60614	47	-60614	27	0.0	1	32	32	$^{157}\text{Nd}$	CP1	1.0	12Va02	*
$^{157}\text{Nd-}^{80}\text{Kr}_{1.963}$	103537	46	103536	27	0.0	1	34	34	$^{157}\text{Nd}$	CP1	1.0	12Va02	
$^{157}\text{Nd-}^{86}\text{Kr}_{1.826}$	102610	46	102611	27	0.0	1	34	34	$^{157}\text{Nd}$	CP1	1.0	12Va02	
$^{157}\text{Pm-u}$	-66880	13	-66879	8	0.1	1	33	33	$^{157}\text{Pm}$	CP1	1.0	12Va02	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{157}\text{Pm}-^{80}\text{Kr}_{1.963}$	97273	13	97271	8	-0.1	1	34	33 $^{157}\text{Pm}$	CP1	1.0	12Va02
$^{157}\text{Pm}-^{86}\text{Kr}_{1.826}$	96346	13	96346	8	0.0	1	33	33 $^{157}\text{Pm}$	CP1	1.0	12Va02
$^{157}\text{Sm-u}$	-71582.2	8.3	-71581	5	0.1	1	33	33 $^{157}\text{Sm}$	CP1	1.0	12Va02
$^{157}\text{Sm}-^{80}\text{Kr}_{1.963}$	92570.0	8.0	92569	5	-0.2	1	36	34 $^{157}\text{Sm}$	CP1	1.0	12Va02
$^{157}\text{Sm}-^{86}\text{Kr}_{1.826}$	91643.0	8.3	91644	5	0.1	1	33	33 $^{157}\text{Sm}$	CP1	1.0	12Va02
$\text{C}_{10}\text{H}_9\text{N}_2-^{157}\text{Gd}$	152720	60	152604.7	1.7	-0.5	U			R04	4.0	64De15
$\text{C}_9\text{C}_8\text{H}_8\text{N}_2-^{157}\text{Gd}$	148170	70	148134.5	1.7	-0.1	U			R04	4.0	64De15
$\text{C}_{10}\text{H}_5\text{O}_2-^{157}\text{Gd}$	105080	60	104985.8	1.7	-0.4	U			R04	4.0	64De15
$^{157}\text{Ho-u}$	-71724	30	-71746	25	-0.7	1	70	70 $^{157}\text{Ho}$	GS2	1.0	05Li24
$^{157}\text{Er-u}$	-68084	30	-68051	27	1.1	1	80	80 $^{157}\text{Er}$	GS2	1.0	05Li24
$^{157}\text{Tm-u}$	-63027	30	-63056	28	-1.0	1	88	88 $^{157}\text{Tm}$	GS2	1.0	05Li24
$^{157}\text{Yb-u}$	-57389	30	-57355	12	1.1	U			GS2	1.0	05Li24
$^{157}\text{Lu-u}$	-49842	31	-49873	16	-1.0	1	26	26 $^{157}\text{Lu}$	GS2	1.0	05Li24
$^{157}\text{Gd}^{35}\text{Cl}-^{155}\text{Gd}^{37}\text{Cl}$	4318	4	4288.18	0.19	-1.9	U			H12	4.0	64Ba15
	4287	3			0.2	U			H21	2.5	70Ma05
	4289.0	0.7			-0.5	U			M21	2.5	75Ka25
	4288.83	0.66			-0.4	U			H41	2.5	85Dy04
$^{157}\text{Gd}-^{156}\text{Gd}$	1860	60	1837.33	0.16	-0.1	U			R04	4.0	64De15
$^{157}\text{Gd O-C}_{15}$	-81114.2	5.4	-81116.8	1.7	-0.3	o			TG1	1.5	09Ke.A
	-81113.6	3.3			-0.6	1	12	12 $^{157}\text{Gd}$	TG1	1.5	11Ke03
$^{157}\text{Yb}(\alpha)^{153}\text{Er}$	4622.0	7.	4622	6	0.0	-					77Ha48
	4623.0	10.			-0.1	-			GSa		79Ho10
	ave.	4622	6		-0.1	1	99	96 $^{157}\text{Yb}$			average
$^{157}\text{Lu}(\alpha)^{153}\text{Tm}$	5097.2	5.	5107.7	2.9	2.1	o			Dba	91Le15	*
	5096.2	20.			0.6	U			Bka	91To09	*
	5111.5	5.			-0.8	o			Dba	92Po14	*
$^{157}\text{Lu}^m(\alpha)^{153}\text{Tm}$	5128.9	10.	5128.5	2.0	0.0	U			IRa	79Al16	Z
	5131.8	5.			-0.6	-			GSa	79Ho10	Z
	5133.7	5.			-1.0	-			ORa	83To01	Z
	5128.9	5.			-0.1	o			Dba	91Le15	
	5118.7	5.			1.9	-			Bka	91To09	
	5125.8	6.			0.4	-				92Ha10	
	5132.0	5.			-0.7	-			Dba	92Po14	
	5127.9	4.			0.2	-			Daa	96Pa01	
	ave.	5128.3	2.1		0.1	1	100	67 $^{157}\text{Lu}^m$			average
$^{157}\text{Hf}(\alpha)^{153}\text{Yb}$	5869.4	10.	5880	3	1.0	3					73Ea01
	5884.1	5.			-0.8	3			GSa	79Ho10	Z
	5879.1	4.			0.2	3			Daa	96Pa01	
$^{157}\text{Ta}(\alpha)^{153}\text{Lu}^m$	6277.2	4.	6275	8	-0.6	o			Ara	97Ir01	*
$^{157}\text{Ta}^m(\alpha)^{153}\text{Lu}$	6381.9	10.	6377	4	-0.5	3			GSa	79Ho10	
	6375.8	4.			0.2	3			Daa	96Pa01	*
$^{157}\text{Ta}^n(\alpha)^{153}\text{Lu}$	7946.9	8.	7948	8	0.0	o			Daa	96Pa01	*
$^{155}\text{Gd(t,p)}^{157}\text{Gd}$	6417.8	2.9	6414.41	0.16	-1.2	U			McM	89Lo07	
$^{157}\text{Gd(p,t)}^{155}\text{Gd}$	-6414	7	-6414.41	0.16	-0.1	U			McM	73Lo08	
	-6417	5			0.5	U			Min	73Oo01	
$^{156}\text{Gd(n,}\gamma^{157}\text{Gd}$	6359.6	0.8	6359.86	0.15	0.3	U				70Bo29	
	6360	1			-0.1	U				71Gr42	
	6359.80	0.15			0.4	o			ILn	87Sp.A	Z
	6359.86	0.15			0.0	1	99	54 $^{156}\text{Gd}$	ILn	03Bo25	
$^{157}\text{Gd}(\gamma,n)^{156}\text{Gd}$	-6350	80	-6359.86	0.15	-0.1	U			Phi	60Ge01	
$^{156}\text{Gd(d,p)}^{157}\text{Gd}$	4136	10	4135.29	0.15	-0.1	U			Kop	67Tj01	
$^{157}\text{Gd(d,t)}^{156}\text{Gd}$	-112	10	-102.62	0.15	0.9	U			Kop	67Tj01	
$^{156}\text{Gd}(\alpha,t)^{157}\text{Tb}-^{158}\text{Gd}(\alpha)^{159}\text{Tb}$	-616.2	2.0	-614.3	0.8	1.0	1	17	12 $^{159}\text{Tb}$	McM	75Bu02	
$^{156}\text{Dy(d,p)}^{157}\text{Dy}$	4748	10	4742	5	-0.6	-			Tal	68Be.A	
	4753	10			-1.1	-			Kop	70Gr46	
	ave.	4750	7		-1.2	1	53	52 $^{157}\text{Dy}$			average
$^{157}\text{Ta(p)}^{156}\text{Hf}$	925.0	17.	935	10	0.6	o			Dap	96Pa01	
	933.0	7.			0.2	o			Ara	97Ir01	*
$^{157}\text{Pm}(\beta^-)^{157}\text{Sm}$	4360	100	4381	8	0.2	U			Kur	02Sh.B	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{157}\text{Sm}(\beta^-)^{157}\text{Eu}$	2700	200	2781	6	0.4	U				73Ka23	*	
	2734	50		0.9	U				Ida	93Gr17		
$^{157}\text{Eu}(\beta^-)^{157}\text{Gd}$	1350	20	1365	4	0.7	U				64Sh21	*	
	1370	20		-0.3	U					66Fu05	*	
$^{157}\text{Tb}(\epsilon)^{157}\text{Gd}$	62.4	0.6	60.04	0.30	-3.9	B				67Na08	*	
	62.2	0.6		-3.6	B					83Be42	*	
	60.0	0.3		0.1	1	98	96	$^{157}\text{Tb}$		92Ra18		
$^{157}\text{Ho}(\beta^+)^{157}\text{Dy}$	2540	50	2593	24	1.1	1	23	22	$^{157}\text{Ho}$	72To05	*	
$^{157}\text{Er}(\beta^+)^{157}\text{Ho}$	3470	80	3440	30	-0.4	1	17	9	$^{157}\text{Er}$	75AlA		
	3805	100		-3.6	B							
$^{157}\text{Tm}(\beta^+)^{157}\text{Er}$	4480	100	4650	30	1.7	-				Dbn	94Po26	
	4482	100		1.7	-					IRS	93Al03	
	ave.	4480	70		2.4	1	23	12	$^{157}\text{Tm}$	Dbn	94Po26	
$^{157}\text{Yb}(\beta^+)^{157}\text{Tm}$	5074	100	5311	28	2.4	U				Dbn	94Po26	
$^{157}\text{Lu}^m(\text{IT})^{157}\text{Lu}$	32	2	20.9	2.0	-5.6	B				Dba	91Le15	
	21	2		-0.1	1	100	74	$^{157}\text{Lu}$	Dba	92Po14	*	
$^{157}\text{Ta}^m(\text{IT})^{157}\text{Ta}$	22	5			3					97Ir01		
$^{157}\text{Ta}^n(\text{IT})^{157}\text{Ta}^m$	1571	7			3					Daa	96Pa01	
* $^{157}\text{Nd-u}$											WgM124**	
* $^{157}\text{Pm-u}$											WgM124**	
* $^{157}\text{Sm-u}$											WgM124**	
* $^{157}\text{Lu-u}$											Nub127 **	
* $^{157}\text{Lu}(\alpha)^{153}\text{Tm}$											Nub127 **	
* $^{157}\text{Lu}(\alpha)^{153}\text{Tm}$											Nub127 **	
* $^{157}\text{Lu}(\alpha)^{153}\text{Tm}$											Nub127 **	
* $^{157}\text{Ta}(\alpha)^{153}\text{Lu}^m$											AHW **	
* $^{157}\text{Ta}^m(\alpha)^{153}\text{Lu}$											97Ir01 **	
* $^{157}\text{Ta}^n(\alpha)^{153}\text{Lu}$											AHW **	
* $^{157}\text{Ta}(\text{p})^{156}\text{Hf}$											AHW **	
* $^{157}\text{Sm}(\beta^-)^{157}\text{Eu}$											Ens051 **	
* $^{157}\text{Eu}(\beta^-)^{157}\text{Gd}$											Ens051 **	
* $^{157}\text{Tb}(\epsilon)^{157}\text{Gd}$											92Ha03 **	
* $^{157}\text{Tb}(\epsilon)^{157}\text{Gd}$											85Vo09 **	
* $^{157}\text{Ho}(\beta^+)^{157}\text{Dy}$											Ens051 **	
* $^{157}\text{Er}(\beta^+)^{157}\text{Ho}$											94Po26 **	
*											Ens051 **	
* $^{157}\text{Lu}^m(\text{IT})^{157}\text{Lu}$											Ens966 **	
$^{158}\text{Pm-u}$	-63436	25	-63435	14	0.0	1	33	33	$^{158}\text{Pm}$	CP1	1.0	12Va02
$^{158}\text{Pm}-^{80}\text{Kr}_{1.975}$	101720	25	101718	14	-0.1	1	33	33	$^{158}\text{Pm}$	CP1	1.0	12Va02
$^{158}\text{Pm}-^{86}\text{Kr}_{1.837}$	100773	25	100773	14	0.0	1	33	33	$^{158}\text{Pm}$	CP1	1.0	12Va02
$^{158}\text{Sm-u}$	-70049.2	9.5	-70049	5	0.0	1	31	31	$^{158}\text{Sm}$	CP1	1.0	12Va02
$^{158}\text{Sm}-^{80}\text{Kr}_{1.975}$	95106.5	9.1	95104	5	-0.2	1	34	32	$^{158}\text{Sm}$	CP1	1.0	12Va02
$^{158}\text{Sm}-^{86}\text{Kr}_{1.837}$	94159.3	9.4	94159	5	0.0	1	31	31	$^{158}\text{Sm}$	CP1	1.0	12Va02
$^{158}\text{Eu-u}$	-72208	25	-72201	11	0.3	1	19	19	$^{158}\text{Eu}$	CP1	1.0	12Va02
$^{158}\text{Eu}-^{80}\text{Kr}_{1.975}$	92949	25	92952	11	0.1	1	20	19	$^{158}\text{Eu}$	CP1	1.0	12Va02
$^{158}\text{Eu}-^{86}\text{Kr}_{1.837}$	92001	25	92007	11	0.2	1	19	19	$^{158}\text{Eu}$	CP1	1.0	12Va02
$\text{C}_{10}\text{H}_6\text{O}_2-^{158}\text{Gd}$	112444	33	112667.1	1.7	1.7	U				R04	4.0	64De15
$\text{C}_{10}\text{H}_6\text{O}_2-^{158}\text{Dy}$	112870	100	112364	3	-1.3	U				R04	4.0	64De15
$^{158}\text{Ho-u}$	-71101	67	-71054	29	0.7	R				GS2	1.0	05Li24
$^{158}\text{Er-u}$	-70220	110	-70107	27	1.0	U				GS1	1.0	00Ra23
	-70107	30		0.0	1	81	81	$^{158}\text{Er}$	GS2	1.0	05Li24	
$^{158}\text{Tm-u}$	-63080	110	-63020	27	0.5	U				GS1	1.0	00Ra23
	-63020	30		0.0	1	81	81	$^{158}\text{Tm}$	GS2	1.0	05Li24	
$^{158}\text{Yb}-^{142}\text{Sm}_{1.113}$	34252	22	34248	9	-0.2	1	16	14	$^{158}\text{Yb}$	MA7	1.0	01Bo59
$^{158}\text{Lu-u}$	-50720	30	-50684	16	1.2	R				GS2	1.0	05Li24
$^{158}\text{Gd}^{35}\text{Cl}-^{156}\text{Gd}^{37}\text{Cl}$	4956	4	4931.19	0.19	-1.6	U				H12	4.0	64Ba15
	4929	3		0.3	U					H21	2.5	70Ma05
	4926.2	1.4		1.4	U					H25	2.5	72Ba08
	4930.8	0.7		0.2	U					M21	2.5	75Ka25
	4930.13	1.36		0.3	U					H41	2.5	85Dy04

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{158}\text{Dy}^{35}\text{Cl}-^{156}\text{Dy}^{37}\text{Cl}$	3081.4	3.3	3081.2	2.7	0.0	U			H25	2.5	72Ba08
$^{158}\text{Gd}-^{157}\text{Gd}$	392	48	143.78	0.07	-1.3	U			R04	4.0	64De15
$^{158}\text{Gd O-C}_{15}$	-80968.3	5.4	-80973.0	1.7	-0.6	o			TG1	1.5	09Ke.A
$^{158}\text{Gd O-C}_{14}$	-80967.8	3.2			-1.1	1	13	13	$^{158}\text{Gd}$	1.5	11Ke03
$^{158}\text{Yb}(\alpha)^{154}\text{Er}$	-80964.7	8.2			-0.7	U			TG1	1.5	11Ke03
	4174.9	10.	4170	7	-0.5	-					77Ha48
	4164.6	12.			0.4	-					92Ha10
	ave.	4171	8		-0.1	1	80	71	$^{158}\text{Yb}$		average
$^{158}\text{Lu}(\alpha)^{154}\text{Tm}$	4792.2	10.	4790	5	-0.2	3			IRa	79Al16	Z
	4789.5	5.			0.1	3			ORa	83To01	Z
$^{158}\text{Hf}(\alpha)^{154}\text{Yb}$	5406.0	5.	5404.7	2.7	-0.2	-			GSa	79Ho10	Z
	5401.4	5.			0.7	-			ORa	83To01	Z
	5406.1	4.			-0.3	-			Daa	96Pa01	
	ave.	5404.7	2.7		0.0	1	100	100	$^{158}\text{Hf}$		average
$^{158}\text{Ta}(\alpha)^{154}\text{Lu}$	6124.4	8.	6124	4	-0.1	9			Daa	96Pa01	
	6123.3	5.			0.1	9			Ara	97Da07	
$^{158}\text{Ta}^m(\alpha)^{154}\text{Lu}^m$	6208.5	6.	6205.0	2.8	-0.6	10			GSa	79Ho10	
	6203.4	4.			0.4	10			Daa	96Pa01	
	6205.4	5.			-0.1	10			Ara	97Da07	
$^{158}\text{W}(\alpha)^{154}\text{Hf}$	6600.4	30.	6613	3	0.4	U			GSa	81Ho10	*
	6609.7	30.			0.1	U			Daa	96Pa01	
	6612.7	3.				3			Ara	00Ma95	
$^{158}\text{W}^m(\alpha)^{154}\text{Hf}$	8495.5	30.	8502	7	0.2	U			GSa	89Ho12	
	8506.8	24.			-0.2	U			Daa	96Pa01	
	8501.6	7.				3			Ara	00Ma95	
$^{158}\text{Gd(p,t)}^{156}\text{Gd}$	-5818	5	-5815.45	0.16	0.5	U			Min	73Oo01	
$^{158}\text{Dy(p,t)}^{156}\text{Dy}$	-7535	15	-7538.7	2.5	-0.2	U			Pri	77Ko04	
$^{158}\text{Gd(t,}\alpha^{157}\text{Eu}-^{156}\text{Gd)}^{155}\text{Eu}$	-512	5	-513	4	-0.3	1	70	66	$^{157}\text{Eu}$	LAl	79Bu05
$^{157}\text{Gd(n,}\gamma^{158}\text{Gd}$	7937.39	0.07	7937.39	0.06	0.0	-			MMn	82Is05	Z
	7937.39	0.17			0.0	-			Bdn	06Fi.A	
$^{157}\text{Gd(d,p)}^{158}\text{Gd}$	5724	10	5712.82	0.06	-1.1	U			Kop	67Tj01	
	5706	5			1.4	U			Tal	71Sh04	
$^{158}\text{Gd(d,t)}^{157}\text{Gd}$	-1688	10	-1680.15	0.06	0.8	U			Kop	67Tj01	
$^{157}\text{Gd(n,}\gamma^{158}\text{Gd}$	ave.	7937.39	0.06	7937.39	0.06	0.0	1	100	63	$^{158}\text{Gd}$	average
$^{158}\text{Gd(d,t)}^{157}\text{Gd}-^{159}\text{Tb}(\alpha)^{158}\text{Tb}$	195.0	1.5	195.6	0.6	0.4	1	18	18	$^{158}\text{Tb}$	McM	84Bu14
$^{157}\text{Gd}(\alpha,t)^{158}\text{Tb}-^{158}\text{Gd}(\alpha)^{159}\text{Tb}$	-198.3	1.0	-195.6	0.6	2.7	o			McM	75Bu02	
	-196.6	1.0			1.0	1	41	40	$^{158}\text{Tb}$	McM	84Bu14
$^{158}\text{Tb(p,d)}^{157}\text{Tb}$	-4560.3	4.2	-4553.9	1.0	1.5	U			Pri	85Al02	*
$^{158}\text{Dy(d,t)}^{157}\text{Dy}$	-2804	10	-2797	5	0.7	-			Tal	68Be.A	
	-2804	10			0.7	-			Kop	70Gr46	
	ave.	-2804	7		1.0	1	53	47	$^{157}\text{Dy}$		average
$^{158}\text{Pm}(\beta^-)^{158}\text{Sm}$	6120	100	6161	14	0.4	o			Kur	02Sh.A	
	6085	80			1.0	o			Kur	07Ha57	
	6080	80			1.0	U			Kur	10Ha.A	
$^{158}\text{Sm}(\beta^-)^{158}\text{Eu}$	1999	15	2005	10	0.4	1	48	42	$^{158}\text{Eu}$	Ida	93Gr17
$^{158}\text{Eu}(\beta^-)^{158}\text{Gd}$	3550	120	3434	10	-1.0	U				65Sc19	*
	3440	100			-0.1	U				66Da06	*
$^{158}\text{Tb}(\varepsilon)^{158}\text{Gd}$	1237.542	0.018	1219.0	1.0	*****	F				83Ra25	*
	1220	13			-0.1	U				87Br33	
	1222.1	3.			-1.0	U				85Vo13	*
$^{158}\text{Tb}(\beta^-)^{158}\text{Dy}$	952	10	936.2	2.5	-1.6	U				68Sc04	*
	933	6			0.5	1	18	15	$^{158}\text{Dy}$	85Vo03	*
$^{158}\text{Ho}(\beta^+)^{158}\text{Dy}$	4350	100	4220	27	-1.3	U				61Bo24	*
	4230	30			-0.3	2				68Ab14	*
$^{158}\text{Er}(\beta^+)^{158}\text{Ho}$	1710	40	880	40	-20.7	F				82Vy06	*
$^{158}\text{Tm}(\beta^+)^{158}\text{Er}$	6530	100	6600	30	0.7	-			IRS	93Al03	
	6624	60			-0.4	-			Dbn	94Po26	*
	ave.	6600	50		0.0	1	37	19	$^{158}\text{Er}$		average
$^{158}\text{Lu}(\varepsilon)^{158}\text{Yb}$	8960	200	8798	17	-0.8	U				95Ga.A	
* $^{158}\text{Pm-u}$	Represents frequency ratio $^{158}\text{Pm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.96280782(15)$										
* $^{158}\text{Sm-u}$	Represents frequency ratio $^{158}\text{Sm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.962848141(58)$										
* $^{158}\text{Eu-u}$	Represents frequency ratio $^{158}\text{Eu}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.96286130(15)$										
* $^{158}\text{Ho-u}$	M-A=-66148(29) keV for mixture gs+m+n at 67.199 and 180#70 keV										
* $^{158}\text{W}(\alpha)^{154}\text{Hf}$	Original value E=6450(30) (Q=6617.8) recalibrated to E=6433(30) keV										
* $^{158}\text{Tb(p,d)}^{157}\text{Tb}$	Q-Q- $^{158}\text{Gd}(\text{p},\text{d})=1152.5(4.2)$ keV										
									AHW	**	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{158}\text{Eu}(\beta^-)^{158}\text{Gd}$	$E_{\beta^-}=2520(120)$ 2430(100) respectively, to $2^-$ level at 1023.6974 keV and $3^-$ level at 1041.6376 keV, and other $E_{\beta^-}$								Ens043 **
*									Ens043 **
* $^{158}\text{Tb}(\epsilon)^{158}\text{Gd}$	$pK=0.00009(2)$ to $2^+$ level at 1187.143, recalculated Q F : $pK<0.00002$								Ens043 **
*									87Br33 **
* $^{158}\text{Tb}(\epsilon)^{158}\text{Gd}$	$pL=0.689(0.01)$ to $2^+$ level at 1187.143 keV, recalculated Q								Ens043 **
* $^{158}\text{Tb}(\beta^-)^{158}\text{Dy}$	$E_{\beta^-}=853(10)$ 834(6) respectively, to $2^+$ level at 98.9180 keV								Ens043 **
* $^{158}\text{Ho}(\beta^+)^{158}\text{Dy}$	$E_{\beta^+}=780(80)$ to 2436–2605 levels; originally assigned to $^{158}\text{Er}(\beta^+)$ ; reinterpreted by evaluator								Ens043 **
*									AHW **
* $^{158}\text{Ho}(\beta^+)^{158}\text{Dy}$	$E_{\beta^+}=2890(20)$ , 700(60) to 317.139–637.712 and 2436.52–2605.96 levels, and $E_{\beta^+}=1300(30)$ , 1850(25) keV from $^{158}\text{Ho}^m$ at 67.199 to 1920.43–1940.75								Ens043 **
*									Nub127 **
*									68Ab14 **
*									AHW **
* $^{158}\text{Er}(\beta^+)^{158}\text{Ho}$	$p^+=0.3(0.1)$ from annih. $\gamma$ coinc. to 146.90 level								96Go06 **
*									75Bu.A **
* $^{158}\text{Tm}(\beta^+)^{158}\text{Er}$	$F: Q<1550$ from upper limit on $p^+$ $E_{\beta^+}=5410(60)$ to $2^+$ level at 192.15 keV								Ens07a **
$^{159}\text{Pm-u}$	-60715	18	-60713	11	0.1	1	36	$^{36}\text{Pm}$	CP1 1.0
$^{159}\text{Pm}-^{80}\text{Kr}_{1.988}$	105529	19	105527	11	-0.1	1	32	$^{32}\text{Pm}$	CP1 1.0
$^{159}\text{Pm}-^{86}\text{Kr}_{1.849}$	104567	19	104567	11	0.0	1	32	$^{32}\text{Pm}$	CP1 1.0
$^{159}\text{Sm-u}$	-66784	11	-66783	6	0.1	1	34	$^{34}\text{Sm}$	CP1 1.0
$^{159}\text{Sm}-^{80}\text{Kr}_{1.988}$	99459	11	99458	6	-0.1	1	34	$^{33}\text{Sm}$	CP1 1.0
$^{159}\text{Sm}-^{86}\text{Kr}_{1.849}$	98498	11	98498	6	0.0	1	34	$^{34}\text{Sm}$	CP1 1.0
$^{159}\text{Eu-u}$	-70899	10	-70900	5	-0.1	1	22	$^{22}\text{Eu}$	CP1 1.0
$^{159}\text{Eu}-^{80}\text{Kr}_{1.988}$	95344	10	95340	5	-0.4	1	23	$^{21}\text{Eu}$	CP1 1.0
$^{159}\text{Eu}-^{86}\text{Kr}_{1.849}$	94382	10	94381	5	-0.1	1	22	$^{22}\text{Eu}$	CP1 1.0
$C_9\ ^{13}\text{C H}_6\ O_2-^{159}\text{Tb}$	114840	50	114779.6	1.9	-0.3	U		R04	4.0
$C_{10}\ H_7\ O_2-^{159}\text{Tb}$	119238	25	119249.8	1.9	0.1	U		R04	4.0
$^{159}\text{Dy-u}$	-74285	30	-74253.0	2.2	1.1	U		GS2	1.0
$^{159}\text{Ho-u}$	-72365	71	-72280	4	1.2	U		GS2	1.0
$^{159}\text{Er-u}$	-69290	30	-69308	4	-0.6	U		GS2	1.0
$^{159}\text{Tm-u}$	-65025	30			2			GS2	1.0
$^{159}\text{Yb}-^{142}\text{Sm}_{1.120}$	35035	24	35026	19	-0.4	2		MA7	1.0
$^{159}\text{Yb-u}$	-59960	30	-59945	19	0.5	R		GS2	1.0
$^{159}\text{Lu-u}$	-53420	61	-53360	40	0.9	2		GS2	1.0
$^{159}\text{Hf-u}$	-46044	32	-46004	18	1.2	R		GS2	1.0
$^{159}\text{Tb}\ ^{35}\text{Cl}_2-^{155}\text{Gd}\ ^{37}\text{Cl}_2$	8625.64	1.03	8624.4	0.8	-0.5	1	11	$^{9}\text{Tb}$	H41 2.5
$^{159}\text{Tb}\ ^{35}\text{Cl}-^{157}\text{Gd}\ ^{37}\text{Cl}$	4333.3	1.2	4336.2	0.8	1.0	U		H25	2.5
	4337.01	0.61			-0.5	1	29	$^{25}\text{Tb}$	H41 2.5
$^{159}\text{Lu}(\alpha)^{155}\text{Tm}$	4534.3	10.	4490	40	-0.8	R		IRa	80Al14
	4531.3	10.			-0.8	R			92Ha10
$^{159}\text{Hf}(\alpha)^{155}\text{Yb}$	5221.2	10.	5225.0	2.7	0.4	U		GSa	73Ea01 Z
	5226.2	5.			-0.2	4		ORa	79Ho10 Z
	5223.0	5.			0.4	4			83To01 Z
	5219.6	6.			0.9	4			92Ha10
	5229.8	5.			-0.9	4			96Pa01
$^{159}\text{Ta}(\alpha)^{155}\text{Lu}^m$	5658.6	5.	5659	7	0.2	o		Daa	96Pa01 *
	5661.7	5.			-0.4	o		Ara	97Da07 *
$^{159}\text{Ta}^m(\alpha)^{155}\text{Lu}$	5745.8	6.	5745	3	-0.2	4		GSa	79Ho10
	5743.8	5.			0.2	4		Daa	96Pa01
	5744.8	5.			0.0	4		Ara	97Da07
$^{159}\text{W}(\alpha)^{155}\text{Hf}$	6444.5	6.	6450	4	1.0	3		GSa	81Ho10 *
	6440.2	5.1			2.0	o		Daa	92Pa05
	6454.7	5.			-0.8	3		Daa	96Pa01
$^{159}\text{Re}^m(\alpha)^{155}\text{Ta}$	6951.1	26.	6968	23	0.7	R		Daa	07Pa27
$^{157}\text{Gd}(\text{t},\text{p})^{159}\text{Gd}$	5398.9	2.3	5398.80	0.11	0.0	U		McM	89Lo07
$^{158}\text{Gd}(\text{n},\gamma)^{159}\text{Gd}$	5942	1	5943.21	0.08	1.2	U			71Gr42
	5943.07	0.15			0.9	—		ILn	87Sp.A Z
	5943.1	0.2			0.5	—		Dbn	03Gr13
	5943.32	0.12			-0.9	—		BNn	03Gr27

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{158}\text{Gd}(\text{d},\text{p})^{159}\text{Gd}$	3717	10	3718.64	0.08	0.2	U			Kop	67Tj01	
$^{158}\text{Gd}(\text{n},\gamma)^{159}\text{Gd}$	ave.	5943.20	0.08	5943.21	0.08	0.1	1	100	96 $^{159}\text{Gd}$	average	
$^{158}\text{Gd}(\alpha,\text{t})^{159}\text{Tb}$	-13686.6	10.	-13682.1	0.8	0.4	U			McM	75Bu02	
$^{158}\text{Gd}(\alpha,\text{t})^{159}\text{Tb}-^{164}\text{Dy}(\text{d},\text{p})^{165}\text{Ho}$	-85.7	2.2	-88.9	1.1	-1.4	1	24	11 $^{159}\text{Tb}$	McM	84Bu14	
$^{159}\text{Tb}(\gamma,\text{n})^{158}\text{Tb}$	-8141	39	-8133.0	0.6	0.2	U			Phi	60Ge01	
$^{159}\text{Tb}(\text{d},\text{t})^{158}\text{Tb}$	-1870	15	-1875.8	0.6	-0.4	U			Tal	70Jo22	
$^{159}\text{Tb}(\text{d},\text{t})^{158}\text{Tb}-^{164}\text{Dy}(\text{d},\text{p})^{163}\text{Dy}$	-474.3	1.0	-474.9	0.6	-0.6	1	41	40 $^{158}\text{Tb}$	McM	84Bu14	
$^{158}\text{Dy}(\text{d},\text{p})^{159}\text{Dy}$	4608	10	4606.9	2.6	-0.1	U			Tal	68Be.A	
	4600	10			0.7	U			Kop	70Gr46	
$^{159}\text{Re}^m(\text{p})^{158}\text{W}$	1816.4	20.	1809	17	-0.4	4			Dap	06Jo10	
$^{159}\text{Pm}(\beta^-)^{159}\text{Sm}$	5460	140	5653	12	1.4	o			Kur	07Ha57	
	5430	140			1.6	U			Kur	10Ha.A	
$^{159}\text{Sm}(\beta^-)^{159}\text{Eu}$	3840	100	3835	7	0.0	o			Kur	02Sh.A	
	3805	65			0.5	o			Kur	07Ha57	
	3800	65			0.5	U			Kur	10Ha.A	
$^{159}\text{Eu}(\beta^-)^{159}\text{Gd}$	2600	50	2518	4	-1.6	U				65Iw01	*
$^{159}\text{Gd}(\beta^-)^{159}\text{Tb}$	969.0	1.5	970.9	0.8	1.2	1	26	22 $^{159}\text{Tb}$		77Bo.A	
$^{159}\text{Dy}(\epsilon)^{159}\text{Tb}$	365.9	1.3	365.4	1.2	-0.4	1	81	72 $^{159}\text{Dy}$		68My.A	*
$^{159}\text{Ho}(\beta^+)^{159}\text{Dy}$	1837.6	6.	1837.6	2.7	0.0	2				79Ad08	*
	1837.6	3.			0.0	2				82Vy02	*
$^{159}\text{Er}(\beta^+)^{159}\text{Ho}$	2768.5	2.0			3					84Ka.A	*
	2810	100	2768.5	2.0	-0.4	U			IRS	93Al03	
$^{159}\text{Tm}(\beta^+)^{159}\text{Er}$	3400	300	3990	28	2.0	U				75St07	
	3850	100			1.4	U			IRS	93Al03	
	3670	100			3.2	B			Dbn	94Po26	
$^{159}\text{Yb}(\beta^+)^{159}\text{Tm}$	5050	200	4730	30	-1.6	U			IRS	93Al03	
	4554	150			1.2	U			Dbn	94Po26	*
$^{159}\text{Lu}(\beta^+)^{159}\text{Yb}$	5850	150	6130	40	1.9	U			IRS	93Al03	
	5803	150			2.2	U			Dbn	94Po26	
$^{159}\text{Ta}^m(\text{IT})^{159}\text{Ta}$	63.7	5.2			4				Ara	97Da07	
* $^{159}\text{Pm-u}$	Represents frequency ratio $^{159}\text{Pm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.95673359(11)$										
* $^{159}\text{Sm-u}$	Represents frequency ratio $^{159}\text{Sm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.956770122(65)$										
* $^{159}\text{Eu-u}$	Represents frequency ratio $^{159}\text{Eu}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.956794898(63)$										
* $^{159}\text{Ho-u}$	M-A=-67304(28) keV for mixture gs+m at 205.91 keV										
* $^{159}\text{Lu-u}$	M-A=-49710(28) keV for mixture gs+m at 100#80 keV										
* $^{159}\text{Ta}(\alpha)^{155}\text{Lu}^m$	Replaced by $^{155}\text{Lu}^m(\text{IT})$										
* $^{159}\text{W}(\alpha)^{155}\text{Hf}$	Original value $E_\alpha=6299(6)$ recalibrated to $E_\alpha=6282(6)$ keV										
* $^{159}\text{Eu}(\beta^-)^{159}\text{Gd}$	$E_\beta^- = 2350(50)$ to $7/2^-$ level at 227.412 level, and other $E_\beta^-$										
* $^{159}\text{Dy}(\epsilon)^{159}\text{Tb}$	From intensity of feeding $5/2^-$ level at 363.5449 keV										
* $^{159}\text{Ho}(\beta^+)^{159}\text{Dy}$	$E_{\beta^+}=506(6)$ 506(3) respectively, to $5/2^-$ level at 309.593 keV										
* $^{159}\text{Er}(\beta^+)^{159}\text{Ho}$	$E_{\beta^+}=1122(3)$ to $13/2^+$ level at 624.5 keV, and other $E_{\beta^+}$										
* $^{159}\text{Yb}(\beta^+)^{159}\text{Tm}$	$E_{\beta^+}=3366(150)$ to $7/2^-$ level at 166.17 keV										
$^{160}\text{Sm-u}$	-64666	11	-64665	6	0.1	1	34	34 $^{160}\text{Sm}$	CP1	1.0	12Va02
$^{160}\text{Sm}-^{80}\text{Kr}_{2.000}$	102581	11	102579	6	-0.2	1	34	33 $^{160}\text{Sm}$	CP1	1.0	12Va02
$^{160}\text{Sm}-^{86}\text{Kr}_{1.860}$	101599	11	101600	6	0.0	1	34	34 $^{160}\text{Sm}$	CP1	1.0	12Va02
$^{160}\text{Eu-u}$	-68150	17	-68149	10	0.1	1	36	36 $^{160}\text{Eu}$	CP1	1.0	12Va02
$^{160}\text{Eu}-^{80}\text{Kr}_{2.000}$	99096	18	99095	10	-0.1	1	32	32 $^{160}\text{Eu}$	CP1	1.0	12Va02
$^{160}\text{Eu}-^{86}\text{Kr}_{1.860}$	98115	18	98115	10	0.0	1	32	32 $^{160}\text{Eu}$	CP1	1.0	12Va02
C <sub>12</sub> H <sub>16</sub> - $^{160}\text{Gd}$	198150	50	198138.1	1.8	-0.1	U			R04	4.0	64De15
C <sub>12</sub> H <sub>16</sub> - $^{160}\text{Dy}$	200050	70	199995.9	2.0	-0.2	U			R04	4.0	64De15
$^{160}\text{Er-u}$	-70916	30	-70923	26	-0.2	-			GS2	1.0	05Li24
	ave.	-70914	27		-0.3	1	95	95 $^{160}\text{Er}$		average	
$^{160}\text{Tm-u}$	-64773	127	-64740	40	0.3	U			GS1	1.0	00Ra23
	-64755	39			0.5	1	89	89 $^{160}\text{Tm}$	GS2	1.0	05Li24
$^{160}\text{Yb}-^{142}\text{Sm}_{1.127}$	33120	20	33122	17	0.1	2			MA7	1.0	01Bo59
$^{160}\text{Yb-u}$	-62440	120	-62443	17	0.0	U			GS1	1.0	00Ra23
	-62438	30			-0.2	R			GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{160}\text{Lu-u}$	-53967	61				2			GS2	1.0	05Li24 *
$^{160}\text{Hf-u}$	-49334	30	-49309	11	0.8	U			GS2	1.0	05Li24
$^{160}\text{Gd}^{35}\text{Cl}_2 - ^{156}\text{Gd}^{37}\text{Cl}_2$	10831.70	1.27	10831.3	0.8	-0.1	U			H41	2.5	85Dy04
$^{160}\text{Gd}^{35}\text{Cl} - ^{158}\text{Gd}^{37}\text{Cl}$	5890	5	5900.1	0.8	0.5	U			H12	4.0	64Ba15
	5899	3			0.2	U			H21	2.5	70Ma05
	5900.0	0.5			0.1	-			M21	2.5	75Ka25
	5899.88	0.96			0.1	-			H41	2.5	85Dy04
	ave.	5900.0	1.1		0.2	1	50	39	$^{160}\text{Gd}$		average
$^{160}\text{Dy}^{35}\text{Cl} - ^{158}\text{Dy}^{37}\text{Cl}$	3731.8	2.3	3738.9	2.4	1.2	1	18	17	$^{158}\text{Dy}$	H25	2.5
$^{160}\text{Gd} - ^{160}\text{Dy}$	1854.5	0.8	1857.8	1.4	1.6	1	47	32	$^{160}\text{Dy}$	H25	2.5
$^{160}\text{Gd O-C}_{15}$	-78020.1	5.8	-78023.0	1.8	-0.3	o			TG1	1.5	09Ke.A
	-78019.9	3.6			-0.6	1	12	12	$^{160}\text{Gd}$	TG1	1.5
$^{160}\text{Hf}(\alpha)^{156}\text{Yb}$	4892.2	10.	4902.3	2.6	1.0	-				73Ea01	Z
	4905.0	5.			-0.5	-			GSa	79Ho10	Z
	4904.0	5.			-0.3	-			ORa	83To01	Z
	4901.8	6.			0.1	-				92Ha10	
	4902.8	10.			0.0	-				95Hi12	
	4900.8	6.			0.3	-			Daa	96Pa01	
	ave.	4902.4	2.6		0.0	1	100	96	$^{160}\text{Hf}$		average
$^{160}\text{Ta}(\alpha)^{156}\text{Lu}$	5449.5	5.	5451	5	0.3	3			Daa	96Pa01	
	5456.6	10.			-0.6	3			Jya	09Ha42	
$^{160}\text{Ta}^m(\alpha)^{156}\text{Lu}^m$	5550.9	5.	5548.4	3.0	-0.5	4			GSa	79Ho10	Z
	5538.7	6.			1.6	4				92Ha10	
	5552.1	5.			-0.7	4			Daa	96Pa01	
	5551.0	10.			-0.3	4			Jya	09Ha42	
$^{160}\text{W}(\alpha)^{156}\text{Hf}$	6072.1	10.	6065	5	-0.6	-			GSa	79Ho10	
	6063.9	5.			0.3	-			Daa	96Pa01	
	ave.	6065	5		0.0	1	100	100	$^{160}\text{W}$		average
$^{160}\text{Re}(\alpha)^{156}\text{Ta}$	6704.9	16.	6698	4	-0.4	o			Daa	92Pa05	
	6711.1	16.			-0.8	o			Daa	96Pa01	
	6697.7	4.			4	-			Daa	11Da12	
$^{158}\text{Gd(t,p)}^{160}\text{Gd}$	4912.0	2.2	4912.9	0.7	0.4	U			McM	89Lo07	
$^{160}\text{Gd(p,t)}^{158}\text{Gd}$	-4919	5	-4912.9	0.7	1.2	U			Min	73Oo01	
$^{160}\text{Dy(p,t)}^{158}\text{Dy}$	-6924	5	-6926.1	2.3	-0.4	-			Min	73Oo01	
	-6925.1	3.4			-0.3	-			McM	88Bu08	*
	ave.	-6924.8	2.8		-0.5	1	64	62	$^{158}\text{Dy}$		average
$^{160}\text{Gd(t,}\alpha^{159}\text{Eu} - ^{158}\text{Gd(t,}\beta^{157}\text{Eu}$	-666	5	-667	4	-0.3	1	70	35	$^{159}\text{Eu}$	LAI	79Bu05
$^{160}\text{Gd(d,t)}^{159}\text{Gd}$	-1200	10	-1194.2	0.7	0.6	U			Kop	67Tj01	
$^{159}\text{Tb(n,}\gamma^{160}\text{Tb}$	6375.45	0.3	6375.21	0.13	-0.8	-			Bdn	74Ke01	Z
	6375.13	0.15			0.5	-			MIT	06Fi.A	
$^{159}\text{Tb(d,p)}^{160}\text{Tb}$	4165	20	4150.64	0.13	-0.7	U			Tal	64Sp12	
	4153	5			-0.5	U				67St14	
$^{159}\text{Tb(n,}\gamma^{160}\text{Tb}$	ave.	6375.19	0.13	6375.21	0.13	0.1	1	99	94	$^{160}\text{Tb}$	average
$^{160}\text{Dy(d,t)}^{159}\text{Dy}$	-2339	10	-2319.2	1.5	2.0	U			Tal	68Be.A	
	-2323	10			0.4	U			Kop	70Gr46	
$^{160}\text{Re(p)}^{159}\text{W}$	1269.1	6.	1267	7	-0.3	o			Dap	92Pa05	
	1271	9			-0.4	o			Dap	96Pa01	*
	1272.2	6.			-0.9	R			Dap	11Da12	
$^{160}\text{Eu}(\beta^-)^{160}\text{Gd}$	3900	300	4460	10	1.9	U				73Da05	
	4200	200			1.3	U				73Mo18	
	4705	60			-4.1	B			Kur	07Ha57	
	4695	60			-3.9	C			Kur	10Ha.A	
$^{160}\text{Tb}(\beta^-)^{160}\text{Dy}$	1838	10	1835.9	1.3	-0.2	U				57Na03	*
	1827	10			0.9	U				59Gr93	*
	1825	10			1.1	U				63Wu01	*
$^{160}\text{Ho}(\beta^+)^{160}\text{Dy}$	3290	15			2	-				66Av03	*
$^{160}\text{Er}(\varepsilon)^{160}\text{Ho}$	420	150	317	29	-0.7	U				82Vy06	*
$^{160}\text{Tm}(\beta^+)^{160}\text{Er}$	5600	300	5760	40	0.5	U				75St12	*
	5890	100			-1.3	1	16	11	$^{160}\text{Tm}$	IRS	93Al03

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{160}\text{Lu}(\beta^+)^{160}\text{Yb}$	7210	240	7890	60	2.9	U					83Ge08	
	7340	100			5.5	C					83Vi.A	
	7300	100			5.9	B					93Al03	
* $^{160}\text{Sm-u}$	Represents frequency ratio $^{160}\text{Sm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.950775181(67)$											
* $^{160}\text{Eu-u}$	Represents frequency ratio $^{160}\text{Eu}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.95079589(10)$											
* $^{160}\text{Tm-u}$	$M-A=-60300(110)$ keV for mixture gs+m at 70(20) keV											
* $^{160}\text{Tm-u}$	$M-A=-60283(28)$ keV for mixture gs+m at 70(20) keV											
* $^{160}\text{Lu-u}$	$M-A=-50270(28)$ keV for mixture gs+m at 0#100 keV											
* $^{160}\text{Dy(p,t)}^{158}\text{Dy}$	$Q-Q(^{164}\text{Dy(p,t)})=-1477.9(3.4)$ , see $^{164}\text{Dy(p,t)}$											
* $^{160}\text{Re(p)}^{159}\text{W}$	Corrected : Ame2003 assumed $E_p=1271(9)$ thus $Q_p=1279.1(9.)$ keV											
* $^{160}\text{Tb}(\beta^-)^{160}\text{Dy}$	$E_{\beta^-}=870(10)$ 858(10) 868(10) respectively, to $8^+$ level at 966.85 keV, and other $E_{\beta^-}$											
* $^{160}\text{Ho}(\beta^+)^{160}\text{Dy}$	$E_{\beta^+}=570(15)$ to $4^+$ level at 1694.37 keV; and 1045(15) from											
*	$^{160}\text{Ho}^m$ at 59.98 to $1^-$ level at 1285.602 and $3^-$ at 1286.711 keV											
* $^{160}\text{Er}(\varepsilon)^{160}\text{Ho}$	$pK=0.795(0.2)$ to $1^+$ level at 67.11 keV											
* $^{160}\text{Tm}(\beta^+)^{160}\text{Er}$	$E_{\beta^+}=3700(300)$ to 854.4–1007.95 levels, reassigned by evaluator											
$^{161}\text{Sm-u}$	-60841	13	-60840	7	0.1	1	32	32	$^{161}\text{Sm}$	CP1	1.0	12Va02 *
$^{161}\text{Sm}-^{80}\text{Kr}_{2.013}$	107493	12	107491	7	-0.2	1	38	37	$^{161}\text{Sm}$	CP1	1.0	12Va02
$^{161}\text{Sm}-^{86}\text{Kr}_{1.872}$	106496	13	106497	7	0.1	1	32	32	$^{161}\text{Sm}$	CP1	1.0	12Va02
$^{161}\text{Eu-u}$	-66336	19	-66336	11	0.0	1	35	35	$^{161}\text{Eu}$	CP1	1.0	12Va02 *
$^{161}\text{Eu}-^{80}\text{Kr}_{2.013}$	101996	19	101995	11	-0.1	1	35	34	$^{161}\text{Eu}$	CP1	1.0	12Va02
$^{161}\text{Eu}-^{86}\text{Kr}_{1.872}$	101000	20	101001	11	0.0	1	31	31	$^{161}\text{Eu}$	CP1	1.0	12Va02
$\text{C}_{13}\text{H}_5-^{161}\text{Dy}$	112246	25	112184.7	2.0	-0.6	U				R04	4.0	64De15
$^{161}\text{Tm-u}$	-66451	30				2				GS2	1.0	05Li24 *
$^{161}\text{Yb}-^{142}\text{Sm}_{1.134}$	34071	19	34065	16	-0.3	2				MA7	1.0	01Bo59
$^{161}\text{Yb-u}$	-62120	110	-62093	17	0.2	U				GS1	1.0	00Ra23
	-62107	30			0.5	R				GS2	1.0	05Li24
$^{161}\text{Lu-u}$	-56428	30				2				GS2	1.0	05Li24
$^{161}\text{Hf-u}$	-49733	30	-49722	24	0.4	1	65	65	$^{161}\text{Hf}$	GS2	1.0	05Li24
$^{161}\text{Dy}^{35}\text{Cl}-^{159}\text{Tb}^{37}\text{Cl}$	4535.0	1.0	4535.9	1.4	0.3	1	29	19	$^{161}\text{Dy}$	H25	2.5	72Ba08
$^{161}\text{Hf}(\alpha)^{157}\text{Yb}$	4717.0	10.	4685	24	-0.6	–						73Ea01 Z
	4725.2	10.			-0.8	–						82Sc15 Z
	4724.2	5.			-0.8	–						83To01 Z
	4716.4	7.			-0.6	–						92Ha10
	4721.5	10.			-0.7	–						95Hi12
ave.	4721	3			-0.7	1	23	19	$^{161}\text{Hf}$			average
$^{161}\text{Ta}^m(\alpha)^{157}\text{Lu}^m$	5278.9	5.	5317	22	0.8	–				GSa	79Ho10	Z
	5280.4	5.			0.7	–						92Ha10
	5271.2	7.			0.9	–				Daa		96Pa01
	5282.5	7.			0.7	–				Jya		05Sc22
ave.	5278.7	2.9			0.8	1	19	11	$^{161}\text{Ta}^m$			average
$^{161}\text{W}(\alpha)^{157}\text{Hf}$	5923.4	5.	5923	4	-0.1	4				GSa	79Ho10	Z
	5922.4	5.			0.1	4				Daa		96Pa01
$^{161}\text{Re}^m(\alpha)^{157}\text{Ta}^m$	6439.3	10.	6430	4	-0.9	2				GSa	79Ho10	
	6425.0	6.			0.8	2				Daa		96Pa01
	6432.1	7.			-0.3	2				Ara		97Ir01
$^{161}\text{Os}(\alpha)^{157}\text{W}$	7065.9	12.				3						10Bi03
$^{161}\text{Os}(\alpha)^{157}\text{W}^p$	6748.0	30.				4						10Bi03
$^{161}\text{Dy(p,t)}^{159}\text{Dy}$	-6546	5	-6549.1	1.5	-0.6	–				Min		73Oo01
	-6547.9	2.5			-0.5	–				McM		88Bu08 *
ave.	-6547.5	2.2			-0.7	1	43	28	$^{159}\text{Dy}$			average
$^{160}\text{Gd}(n,\gamma)^{161}\text{Gd}$	5635.4	1.0				2						71Gr42
$^{160}\text{Gd(d,p)}^{161}\text{Gd}$	3411	10	3410.8	1.0	0.0	U				Kop		67Tj01
$^{160}\text{Gd}(\alpha,t)^{161}\text{Tb}-^{158}\text{Gd}(\text{d})^{159}\text{Tb}$	678.0	1.0	677.1	0.7	-0.9	1	56	30	$^{160}\text{Gd}$	McM		75Bu02
$^{160}\text{Tb}(n,\gamma)^{161}\text{Tb}$	7696.3	0.6	7696.6	0.6	0.5	1	84	78	$^{161}\text{Tb}$			75He.C
$^{160}\text{Dy}(n,\gamma)^{161}\text{Dy}$	6451.5	2.	6454.39	0.08	1.4	U						77Be03
	6454.40	0.09			-0.1	–				ILn		86Sc16 Z
	6454.34	0.14			0.3	–				Bdn		06Fi.A

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{160}\text{Dy}(\text{d},\text{p})^{161}\text{Dy}$	4231	10	4229.82	0.08	-0.1	U			Tal	68Be.A	
	4237	10			-0.7	U			Kop	70Gr46	
$^{161}\text{Dy}(\text{d},\text{t})^{160}\text{Dy}$	-205	10	-197.15	0.08	0.8	U			Kop	70Gr46	
$^{160}\text{Dy}(\text{n},\gamma)^{161}\text{Dy}$	ave.	6454.38	0.08	6454.39	0.08	0.1	1	100	64 $^{160}\text{Dy}$	average	
$^{160}\text{Dy}({}^3\text{He},\text{d})^{161}\text{Ho}-^{164}\text{Dy}({}^1\text{H},\text{p})^{165}\text{Ho}$		-1406.5	2.0	-1406.5	2.0	0.0	1	100	100 $^{161}\text{Ho}$	McM	75Bu02
$^{161}\text{Re}(\text{p})^{160}\text{W}$	1199.5	6.	1197	5	-0.4	1	79	79 $^{161}\text{Re}$	Ara	97Ir01	
$^{161}\text{Re}^m(\text{p})^{160}\text{W}$	1323.3	7.	1321	5	-0.3	o			Ara	97Ir01	*
$^{161}\text{Sm}(\beta^-)^{161}\text{Eu}$	5065	130	5120	12	0.4	o			Kur	07Ha57	
	5050	130			0.5	U			Kur	10Ha.A	
$^{161}\text{Eu}(\beta^-)^{161}\text{Gd}$	3705	60	3714	11	0.1	o			Kur	07Ha57	
	3705	60			0.1	U			Kur	10Ha.A	
$^{161}\text{Gd}(\beta^-)^{161}\text{Tb}$	1977	30	1955.8	1.4	-0.7	U				66Zy02	*
$^{161}\text{Tb}(\beta^-)^{161}\text{Dy}$	584	6	593.7	1.3	1.6	U				63Ko08	
	590	10			0.4	U				64Fu11	
$^{161}\text{Er}(\beta^+)^{161}\text{Ho}$	2050	40	1996	9	-1.3	U				65Gr35	*
	1980	18			0.9	R				84Ka.A	*
$^{161}\text{Tm}(\beta^+)^{161}\text{Er}$	3100	200	3302	29	1.0	U				75Ad08	*
	3180	100			1.2	U			IRS	93Al03	
$^{161}\text{Yb}(\beta^+)^{161}\text{Tm}$	3850	250	4060	30	0.8	U				81Ad02	
	3585	200			2.4	U			Dbn	94Po26	
$^{161}\text{Lu}(\beta^+)^{161}\text{Yb}$	5300	100	5280	30	-0.2	o			IRS	83Vi.A	
	5300	100			-0.2	U			IRS	93Al03	
	5255	150			0.1	U			Dbn	94Po26	*
$^{161}\text{Re}^m(\text{IT})^{161}\text{Re}$	123.8	1.3	123.7	1.3	-0.1	1	99	78 $^{161}\text{Re}^m$		97Ir01	
* $^{161}\text{Sm-u}$	Represents frequency ratio $^{161}\text{Sm}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.944844874(74)$										
* $^{161}\text{Eu-u}$	Represents frequency ratio $^{161}\text{Eu}^{++}/(\text{C}_{12}\text{H}_4)^+ = 0.94487714(11)$										
* $^{161}\text{Tm-u}$	$M-A=-61895(28)$ keV for mixture gs+m at 7.51 keV										
* $^{161}\text{Dy}(\text{p},\text{t})^{159}\text{Dy}$	$Q-Q'(^{164}\text{Dy}(\text{p},\text{t}))=-1100.7(2.5)$ keV										
* $^{161}\text{Re}^m(\text{p})^{160}\text{W}$	Replaced by author's result for $^{161}\text{Re}^m(\text{IT})^{161}\text{Re}$										
* $^{161}\text{Gd}(\beta^-)^{161}\text{Tb}$	$E_{\beta^-}=1560(30)$ mainly to $7/2^-$ level at 417.228 keV										
* $^{161}\text{Er}(\beta^+)^{161}\text{Ho}$	$E_{\beta^+}=820(40)$ 748(18) respectively, to $1/2^+$ level at 211.15 keV										
* $^{161}\text{Tm}(\beta^+)^{161}\text{Er}$	$E_{\beta^+}=1800(100)$ to several levels around $7/2^-$ one at 266.44 keV										
* $^{161}\text{Lu}(\beta^+)^{161}\text{Yb}$	$E_{\beta^+}=3866(150)$ to 367.28 level										
$\text{C}_{13}\text{H}_6-^{162}\text{Dy}$	120115	19	120144.6	2.0	0.4	U			R04	4.0	64De15
$\text{C}_{12}\text{H}_4\text{N}-^{162}\text{Er}$	105590	70	105585.8	2.0	0.0	U			R04	4.0	64De15
$\text{C}_{13}\text{H}_6-^{162}\text{Er}$	118430	170	118161.8	2.0	-0.4	U			R04	4.0	64De15
$^{162}\text{Tm-u}$	-65942	55	-65998	28	-1.0	R			GS2	1.0	05Li24
$^{162}\text{Yb}-^{142}\text{Sm}_{1,141}$	32524	19	32525	16	0.1	2			MA7	1.0	01Bo59
$^{162}\text{Yb-u}$	-64210	110	-64226	17	-0.1	U			GS1	1.0	00Ra23
	-64223	30			-0.1	R			GS2	1.0	05Li24
$^{162}\text{Lu-u}$	-56758	234	-56720	80	0.2	o			GS1	1.0	00Ra23
	-56781	190			0.3	2			GS2	1.0	05Li24
$^{162}\text{Hf-u}$	-52756	30	-52785	10	-1.0	U			GS2	1.0	05Li24
$^{162}\text{Er}^{35}\text{Cl}_2-^{158}\text{Gd}^{37}\text{Cl}_2$	10577.5	2.7	10576.2	1.4	-0.2	U			H25	2.5	72Ba08
$^{162}\text{Dy}^{35}\text{Cl}-^{160}\text{Dy}^{37}\text{Cl}$	4555	6	4551.01	0.12	-0.2	U			H12	4.0	64Ba15
	4552.1	1.1			-0.4	U			H25	2.5	72Ba08
$^{162}\text{Er}^{35}\text{Cl}-^{160}\text{Gd}^{37}\text{Cl}$	4674.6	1.9	4676.0	1.4	0.3	U			H25	2.5	72Ba08
$^{162}\text{Er}-^{162}\text{Dy}$	1982.79	0.32	1982.8	0.3	0.0	1	100	100 $^{162}\text{Er}$	SH1	1.0	11El04
$^{161}\text{Dy}^{37}\text{Cl}-^{162}\text{Dy}^{35}\text{Cl}$	-3080	70	-2815.16	0.09	0.9	U			R04	4.0	64De15
$^{162}\text{Dy}-^{161}\text{Dy}$	150	70	-134.92	0.06	-1.0	U			R04	4.0	64De15
	78	23			-2.3	U			R04	4.0	64De15
	22	40			-1.0	U			R04	4.0	64De15
$^{162}\text{Hf}(\alpha)^{158}\text{Yb}$	4417.2	10.	4416	5	-0.1	-				82Sc15	
	4420.2	10.			-0.4	-			ORa	83To01	
	4414.2	9.			0.2	-				92Ha10	
	4416.0	10.			0.0	-				95Hi12	
ave.	4417	5			-0.1	1	95	81 $^{162}\text{Hf}$		average	
$^{162}\text{Ta}(\alpha)^{158}\text{Lu}$	5003.8	10.	5010	50	0.1	4				86Ru05	
	5007.9	5.			0.0	4				92Ha10	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{162}\text{W}(\alpha)^{158}\text{Hf}$	5669.9	10.	5677.3	2.7	0.7	U				73Ea01	Z	
	5668.0	10.			0.9	U			ORa	75To05	Z	
	5677.5	5.			0.0	—			GSa	81Ho10	Z	
	5674.5	4.			0.7	—			Ora	82De11	Z	
	5681.6	5.			-0.8	—			Daa	96Pa01		
ave.	5677.3	2.7			0.0	1	100	100	$^{162}\text{W}$	average		
$^{162}\text{Re}(\alpha)^{158}\text{Ta}$	6240.3	5.			8				Ara	97Da07		
$^{162}\text{Re}^m(\alpha)^{158}\text{Ta}^m$	6274.2	6.	6274	3	0.0	9			GSa	79Ho10		
	6278.3	6.			-0.7	9			Daa	96Pa01		
	6271.1	5.			0.6	9			Ara	97Da07		
$^{162}\text{Os}(\alpha)^{158}\text{W}$	6778.8	30.	6767	3	-0.4	U			GSa	89Ho12	*	
	6785.8	10.			-1.8	U			ORa	96Bi07		
	6767.4	3.			4				Ara	00Ma95		
	6781.7	13.			-1.1	U			Jya	04Jo12		
$^{160}\text{Gd}(\text{t,p})^{162}\text{Gd}$	3999.5	3.8			2				McM	89Lo07		
$^{160}\text{Dy}(\text{t,p})^{162}\text{Dy}$	6169.5	1.9	6169.58	0.10	0.0	U			McM	88Bu08	*	
$^{162}\text{Dy}(\text{p,t})^{160}\text{Dy}$	-6168	5	-6169.58	0.10	-0.3	U			Min	73Oo01		
	-6169.7	2.1			0.1	U			McM	88Bu08	*	
$^{162}\text{Er}(\text{p,t})^{160}\text{Er}$	-7944	55	-7930	24	0.3	R			Win	74De31	*	
$^{161}\text{Dy}(\text{n},\gamma)^{162}\text{Dy}$	8196.99	0.06	8196.99	0.06	0.1	1	100	70	$^{162}\text{Dy}$	MMn	82Is05	Z
	8193	3			1.3	U			Bdn	06Fi.A		
$^{161}\text{Dy}(\text{d,p})^{162}\text{Dy}$	5969	10	5972.43	0.06	0.3	U			Tal	67Ba34		
	5981	10			-0.9	U			Kop	70Gr46		
$^{162}\text{Dy}(\text{d,t})^{161}\text{Dy}$	-1944	10	-1939.76	0.06	0.4	U			Kop	70Gr46		
	-1943	10			0.3	U			Tal	77Be03		
$^{161}\text{Dy}(\text{He,d})^{162}\text{Ho}-^{164}\text{Dy}(\text{p})^{165}\text{Ho}$	-945.3	3.0	-945.3	3.0	0.0	1	100	100	$^{162}\text{Ho}$	McM	75Bu02	
$^{162}\text{Er}(\text{d,t})^{161}\text{Er}$	-2952	10	-2947	9	0.5	2			Kop	69Tj01		
$^{162}\text{Eu}(\beta^-)^{162}\text{Gd}$	5575	60	5580	60	0.2	o			Kur	07Ha57		
	5585	60			3				Kur	10Ha.A		
$^{162}\text{Gd}(\beta^-)^{162}\text{Tb}$	1442	100	1400	40	-0.5	R				70Ch02	*	
$^{162}\text{Tb}(\beta^-)^{162}\text{Dy}$	2448	100	2510	40	0.6	2				66Fu08	*	
	2523	50			-0.3	2				66Sc24	*	
	2528	80			-0.3	2				77Ka08	*	
$^{162}\text{Ho}(\beta^+)^{162}\text{Dy}$	2220	50	2139	3	-1.6	U				69Ak01		
$^{162}\text{Tm}(\beta^+)^{162}\text{Er}$	4840	50	4857	26	0.3	2				63Ab02		
	4705	70			2.2	2				74De47	*	
	4900	100			-0.4	2				93Al03		
	4892	50			-0.7	2				94Po26	*	
$^{162}\text{Lu}(\beta^+)^{162}\text{Yb}$	6740	270	6990	80	0.9	U				83Ge08		
	6990	120			0.0	o				83Vi.A		
	6960	100			0.3	R				93Al03		
	7111	150			-0.8	R				94Po26	*	
* $^{162}\text{Tm-u}$	M-A=-61359(28) keV for mixture gs+m at 130(40) keV											
* $^{162}\text{Lu-u}$	M-A=-52730(130) keV for mixture gs+m+n at 120#200 and 300#200 keV											
* $^{162}\text{Lu-u}$	M-A=-52751(28) keV for mixture gs+m+n at 120#200 and 300#200 keV											
* $^{162}\text{Os}(\alpha)^{158}\text{W}$	Original value E=6640(20) (Q=6808.4) recalibrated											
* $^{160}\text{Dy}(\text{t,p})^{162}\text{Dy}$	Q-Q( $^{162}\text{Dy}(\text{t,p})$ )=722.3(1.9) keV											
* $^{162}\text{Dy}(\text{p,t})^{160}\text{Dy}$	Q-Q( $^{164}\text{Dy}(\text{p,t})$ )=-722.5(2.1) keV											
* $^{162}\text{Er}(\text{p,t})^{160}\text{Er}$	Not resolved peak. Original uncertainty 28 increased to 51 keV and added systematic error 21 keV											
*	E $_{\beta^-}$ =1000(100) to 1 <sup>+</sup> level at 442.11 keV											
* $^{162}\text{Gd}(\beta^-)^{162}\text{Tb}$	E $_{\beta^-}$ =1300(100) 1375(50) 1380(80) respectively, to 2 <sup>-</sup> level at 1148.232 keV											
* $^{162}\text{Tb}(\beta^-)^{162}\text{Dy}$	E $_{\beta^-}$ =2110(70) to 2 <sup>-</sup> level at 1572.84 keV											
* $^{162}\text{Tm}(\beta^+)^{162}\text{Er}$	E $_{\beta^+}$ =3768(50) to 2 <sup>+</sup> level at 102.04 keV											
* $^{162}\text{Lu}(\beta^+)^{162}\text{Yb}$	E $_{\beta^+}$ =6006(150) to ground state and 2 <sup>+</sup> level at 166.8, unknown intensity ratio											
$^{163}\text{Gd-u}$	-65824	16	-65823	9	0.1	1	32	32	$^{163}\text{Gd}$	CP1	1.0	12Va02
$^{163}\text{Gd}-^{80}\text{Kr}_{2.038}$	104600	16	104598	9	-0.1	1	32	32	$^{163}\text{Gd}$	CP1	1.0	12Va02
$^{163}\text{Gd}-^{86}\text{Kr}_{1.895}$	103569	15	103570	9	0.0	1	36	36	$^{163}\text{Gd}$	CP1	1.0	12Va02

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$C_{13} H_7 - ^{163}Dy$	125906	36	126036.9	2.0	0.9	U		R04	4.0	64De15		
$^{163}Tm-u$	-67327	30	-67341	6	-0.5	U		GS2	1.0	05Li24		
$^{163}Yb - ^{142}Sm_{1.148}$	33686	19	33685	16	-0.1	2		MA7	1.0	01Bo59		
$^{163}Yb-u$	-63663	30	-63660	17	0.1	R		GS2	1.0	05Li24		
$^{163}Lu-u$	-58730	110	-58820	30	-0.8	U		GS1	1.0	00Ra23		
	-58821	30				2		GS2	1.0	05Li24		
$^{163}Hf-u$	-52911	30	-52887	27	0.8	1	79	79 $^{163}Hf$	GS2	1.0	05Li24	
$^{163}Ta-u$	-45849	51	-45660	40	3.6	C		GS2	1.0	05Li24	*	
$^{163}Dy - ^{35}Cl - ^{161}Dy - ^{37}Cl$	5200	60	4747.87	0.11	-1.9	U		R04	4.0	64De15		
	4746	3			0.2	U		H23	2.5	70Wh01		
	4744.7	1.2			1.1	U		H25	2.5	72Ba08		
$^{162}Dy - ^{37}Cl - ^{163}Dy - ^{35}Cl$	-5069	42	-4882.79	0.08	1.1	U		R04	4.0	64De15		
$^{163}Dy - ^{162}Dy$	2164	35	1932.71	0.05	-1.7	U		R04	4.0	64De15		
	1985	38			-0.3	U		R04	4.0	64De15		
	2174	40			-1.5	U		R04	4.0	64De15		
$^{163}Ta(\alpha) - ^{159}Lu$	4741.5	15.	4749	5	0.5	3			83Sc18		*	
	4746.7	10.			0.2	3			86Ru05			
	4751.8	7.			-0.4	3			92Ha10			
$^{163}W(\alpha) - ^{159}Hf$	5520.3	5.	5520	50	0.0	5			73Ea01	Z		
	5518.1	5.			0.0	5		GSa	79Ho10	Z		
	5519.9	3.			0.0	5		Ora	82De11	Z		
	5525.6	10.			-0.1	U			84Sc06	*		
	5518.7	6.			0.0	5		Daa	96Pa01			
$^{163}Re(\alpha) - ^{159}Ta$	6017.9	5.	6012	8	-1.2	o		Ara	97Da07	*		
$^{163}Re^m(\alpha) - ^{159}Ta^m$	6067.2	6.	6068	3	0.2	3		GSa	79Ho10			
	6067.2	7.			0.1	3		Daa	96Pa01			
	6069.2	5.			-0.2	3		Ara	97Da07			
$^{163}Os(\alpha) - ^{159}W$	6674.1	30.	6680	50	0.1	4		GSa	81Ho10			
	6678.2	10.			0.0	4		ORa	96Bi07			
	6676.2	19.			0.0	4		Daa	96Pa01			
$^{161}Dy(t,p) - ^{163}Dy$	5986.3	1.5	5986.20	0.08	-0.1	U		McM	88Bu08	*		
$^{163}Dy(p,t) - ^{161}Dy$	-5985	5	-5986.20	0.08	-0.2	U		Min	73Oo01			
	-5987.1	2.2			0.4	U		McM	88Bu08	*		
$^{162}Dy(n,\gamma) - ^{163}Dy$	6270.98	0.06	6271.01	0.05	0.5	-		MMn	82Ls05	Z		
	6271.00	0.09			0.1	-		ILn	89Sc31	Z		
	6271.14	0.13			-1.0	-		Bdn	06Fi.A			
$^{163}Dy(\gamma,n) - ^{162}Dy$	-6320	110	-6271.01	0.05	0.4	U		Phi	60Ge01			
$^{162}Dy(d,p) - ^{163}Dy$	4049	5	4046.44	0.05	-0.5	U		Tal	67Sc05			
	4045	10			0.1	U		Kop	70Gr46			
$^{163}Dy(d,t) - ^{162}Dy$	-14	5	-13.78	0.05	0.0	U			67Ba34			
	-27	10			1.3	U		Kop	70Gr46			
$^{162}Dy(n,\gamma) - ^{163}Dy$	ave.	6271.01	0.05	6271.01	0.05	0.1	1	100	53 $^{163}Dy$	average		
$^{162}Dy(^3He,d) - ^{163}Ho - ^{164}Dy(^0) - ^{165}Ho$	-734.3	1.0	-734.5	0.8	-0.2	1	72	55 $^{165}Ho$	McM	75Bu02		
$^{162}Er(d,p) - ^{163}Er$	4682	10	4680	5	-0.2	1	21	21 $^{163}Er$	Kop	69Tj01		
$^{163}Eu(\beta^-) - ^{163}Gd$	4690	70	4670	70	-0.2	o		Kur	07Ha57			
	4675	70				2		Kur	10Ha.A			
$^{163}Gd(\beta^-) - ^{163}Tb$	3170	70	3281	10	1.6	o		Kur	07Ha57			
	3120	70			2.3	U		Kur	10Ha.A			
$^{163}Tb(\beta^-) - ^{163}Dy$	1684	50	1785	4	2.0	U			66Fu08	*		
	1721	100			0.6	U			71Ka22	*		
$^{163}Ho(\epsilon) - ^{163}Dy$	2.58	0.10	2.555	0.016	-0.2	U			82An19			
	2.65	0.20			-0.5	U			83Ba32			
	2.82	0.08			-3.3	C			84La.A			
	2.56	0.05			-0.1	-			85Ha12	*		
	2.60	0.03			-1.5	o			86Ya17			
	2.561	0.020			-0.3	-			92Ha15			
	2.54	0.03			0.5	-			93Bo.A	*		
	2.71	0.10			-1.5	U			94Ya07			
	2.800	0.050			-4.9	B			97Ga12			
	ave.	2.555	0.016		0.0	1	100	83 $^{163}Ho$		average		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{163}\text{Er}(\beta^+)^{163}\text{Ho}$	1210	6	1211	5	0.1	1	58	58	$^{163}\text{Er}$		63Pe16
$^{163}\text{Tm}(\beta^+)^{163}\text{Er}$	2439	3				2					82Vy07 *
	2360	100	2439	3	0.8	U					93Al03
$^{163}\text{Yb}(\beta^+)^{163}\text{Tm}$	3370	100	3428	16	0.6	U					75Ad09 *
$^{163}\text{Lu}(\beta^+)^{163}\text{Yb}$	4860	170	4510	30	-2.1	U					83Ge08
	4600	200			-0.5	o					83Vi.A
	4600	200			-0.5	U					93Al03
$^{163}\text{Re}^m(\text{IT})^{163}\text{Re}$	115.1	4.0	120	5	1.2	o					Ara
* $^{163}\text{Gd-u}$	Represents frequency ratio $^{163}\text{Gd}^{++}/(\text{C}_{12}\text{H}_4)^+$ = 0.933275822(91)										
* $^{163}\text{Ta-u}$	$M-A=-42644(28)$ keV for mixture gs+m at 129#/(20#) keV										
* $^{163}\text{Ta}(\alpha)^{159}\text{Lu}$	Original assignment to $13\ s$ $^{164}\text{Ta}$ changed to $^{163}\text{Ta}$										
* $^{163}\text{W}(\alpha)^{159}\text{Hf}$	Originally assigned to $^{166}\text{Re}$ , re-assigned in reference original $E_\alpha=5372$ recalibrated using their $^{168}\text{Os}-^{170}\text{Os}$ results										
*											
* $^{163}\text{Re}(\alpha)^{159}\text{Ta}$	Replaced by author's value for $^{159}\text{Ta}^m(\text{IT})$										
* $^{161}\text{Dy}(\text{t,p})^{163}\text{Dy}$	$Q-Q(^{162}\text{Dy}(\text{t,p}))=539.1(1.5)$ keV										
* $^{163}\text{Dy}(\text{p,t})^{161}\text{Dy}$	$Q-Q(^{164}\text{Dy}(\text{p,t}))=-539.9(2.2)$ keV										
* $^{163}\text{Tb}(\beta^-)^{163}\text{Dy}$	$E_{\beta^-}=800(50)$ to $1/2^+$ level at 884.2943 keV										
* $^{163}\text{Tb}(\beta^-)^{163}\text{Dy}$	$E_{\beta^-}=1300(100)$ to $3/2^-$ level at 421.8439 keV										
* $^{163}\text{Ho}(\epsilon)^{163}\text{Dy}$	Orig. value 2.60(0.03) corrected to 2.561(0.020) for dynamic effects error 0.020 is statistical only										
*											
* $^{163}\text{Ho}(\epsilon)^{163}\text{Dy}$	Original 2616 < $Q$ < 2694 eV 68% CL for charge 66+ $Q_{\beta^+}$ , corrected to 2511 < $Q_{\beta^+}$ < 2572 eV 68% CL										
* $^{163}\text{Tm}(\beta^+)^{163}\text{Er}$	$E_{\beta^+}=884(3)$ to $1/2^+$ level at 540.56 keV, and other $E_{\beta^+}$										
* $^{163}\text{Yb}(\beta^+)^{163}\text{Tm}$	$E_{\beta^+}=1400(100)$ to $5/2^-$ level at 947.29 keV										
* $^{163}\text{Re}^m(\text{IT})^{163}\text{Re}$	Redundant with $^{167}\text{Ir}(\alpha)^{163}\text{Re}$ in same paper										
$C_{13}\ H_8-^{164}\text{Dy}$	133320	38	133418.4	2.0	0.6	U			R04	4.0	64De15
$C_{12}\ ^{13}\text{C}\ H_7-^{164}\text{Dy}$	128920	34	128948.2	2.0	0.2	U			R04	4.0	64De15
$C_{12}\ H_6\ N-^{164}\text{Er}$	120876	39	120815.4	2.0	-0.4	U			R04	4.0	64De15
$^{164}\text{Tm-u}$	-66440	30	-66456	26	-0.5	1	76	$^{76}\text{Tm}$	GS2	1.0	05Li24 *
$^{164}\text{Yb}-^{142}\text{Sm}_{1.155}$	32429	19	32434	16	0.3	2			MA7	1.0	01Bo59
$^{164}\text{Yb-u}$	-65690	104	-65505	17	1.8	U			GS1	1.0	00Ra23
	-65493	30			-0.4	R			GS2	1.0	05Li24
$^{164}\text{Lu-u}$	-58750	110	-58660	30	0.8	U			GS1	1.0	00Ra23
	-58661	30			2				GS2	1.0	05Li24
$^{164}\text{Hf-u}$	-55620	110	-55629	17	-0.1	U			GS1	1.0	00Ra23
	-55596	30			-1.1	1	32	$^{32}\text{Hf}$	GS2	1.0	05Li24
$^{164}\text{Ta-u}$	-46466	30			2				GS2	1.0	05Li24
$^{164}\text{Dy}^{35}\text{Cl}-^{162}\text{Dy}^{37}\text{Cl}$	5347	5	5326.38	0.11	-1.0	U			H12	4.0	64Ba15
	5589	19			-3.5	B			R04	4.0	64De15
	5321	3			0.7	U			H23	2.5	70Wh01
	5326.5	0.9			-0.1	U			H25	2.5	72Ba08
$^{164}\text{Er}^{35}\text{Cl}-^{162}\text{Er}^{37}\text{Cl}$	3373.3	1.3	3370.5	0.4	-0.9	U			H25	2.5	72Ba08
$^{164}\text{Er}-^{164}\text{Dy}$	26.92	0.12	26.92	0.12	0.0	1	100	$^{94}\text{Er}$	SH1	1.0	11El08
$^{164}\text{Dy}^{35}\text{Cl}-^{161}\text{Dy}^{37}\text{Cl}$	5610	48	5191.46	0.13	-2.2	U			R04	4.0	64De15
$^{163}\text{Dy}^{37}\text{Cl}-^{164}\text{Dy}^{35}\text{Cl}$	-3360	50	-3393.67	0.10	-0.2	U			R04	4.0	64De15
$^{164}\text{Dy}-^{163}\text{Dy}$	392	48	443.59	0.07	0.3	U			R04	4.0	64De15
	540	25			-1.0	U			R04	4.0	64De15
	446	28			0.0	U			R04	4.0	64De15
$^{164}\text{Er}-^{162}\text{Er}$	556	48	420.4	0.4	-0.7	U			R04	4.0	64De15
$^{164}\text{W}(\alpha)^{160}\text{Hf}$	5281.7	5.	5278.5	2.0	-0.6	-					73Ea01 Z
	5274.7	5.			0.8	-			ORa	75To05	Z
	5268.7	10.			1.0	U				78Sc26	*
	5279.0	5.			-0.1	-			GSa	79Ho10	
	5279.2	3.			-0.2	-			Ora	82De11	Z
	5283.0	8.			-0.6	U				84Sc06	*
	5277.0	6.			0.3	-			Daa	96Pa01	
ave.	5278.5	2.0			0.0	1	100	$^{96}\text{W}$		average	
$^{164}\text{Re}(\alpha)^{160}\text{Ta}$	5922.7	10.	5926	5	0.4	4			GSa	79Ho10	
	5928.9	7.			-0.4	4			Daa	96Pa01	
	5924.7	10.			0.2	4			Jya	09Ha42	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{164}\text{Re}^m(\alpha)^{160}\text{Ta}^m$	5763.8	10.				5			Jya	09Ha42	
$^{164}\text{Os}(\alpha)^{160}\text{W}$	6478.3	20.	6479	5	0.1	U			GSa	81Ho10	
	6473.2	10.			0.6	—			ORa	96Bi07	
	6479.4	7.			0.0	—			Daa	96Pa01	
ave.	6477	6			0.4	1	80	80 $^{164}\text{Os}$		average	
$^{162}\text{Dy}(\text{t},\text{p})^{164}\text{Dy}$	5447.3	1.9	5447.33	0.08	0.0	U			McM	88Bu08	*
$^{164}\text{Dy}(\text{p},\text{t})^{162}\text{Dy}$	-5450	5	-5447.33	0.08	0.5	U			Min	73Oo01	
$^{164}\text{Er}(\text{p},\text{t})^{162}\text{Er}$	-7262	10	-7269.2	0.3	-0.7	U			Min	73Oo01	
$^{164}\text{Dy}(\text{t},\alpha)^{163}\text{Tb}$	11153	4				2			McM	92Ga15	*
$^{163}\text{Dy}(\text{n},\gamma)^{164}\text{Dy}$	7658.11	0.07	7658.12	0.07	0.1	1	100	69 $^{164}\text{Dy}$	MMn	82Is05	Z
	7658.90	0.06			-13.1	C				99Fo.A	
	7655.0	0.9			3.5	C			Bdn	06Fi.A	
$^{163}\text{Dy}(\text{d},\text{p})^{164}\text{Dy}$	5434	5	5433.55	0.07	-0.1	U			Tal	64Sh06	
	5441	10			-0.7	U			Kop	70Gr46	
$^{164}\text{Dy}(\text{d},\text{t})^{163}\text{Dy}$	-1407	10	-1400.88	0.07	0.6	U			Kop	70Gr46	
	-1407	10			0.6	U			Kop	70Gr46	
$^{163}\text{Dy}(\text{He},\text{d})^{164}\text{Ho}-^{164}\text{Dy}(\text{He},\text{d})^{165}\text{Ho}$	-331.6	1.4	-330.7	1.1	0.6	1	67	67 $^{164}\text{Ho}$	McM	75Bu02	*
$^{164}\text{Er}(\text{d},\text{t})^{163}\text{Er}$	-2593	10	-2589	5	0.4	1	21	21 $^{163}\text{Er}$	Kop	69Tj01	
$^{164}\text{Ir}^m(\text{p})^{163}\text{Os}$	1844	9	1836	8	-0.8	5			Jyp	01Ke05	
	1818	14			1.3	5			Arp	02Ma61	
$^{164}\text{Eu}(\beta^-)^{164}\text{Gd}$	6430	70	6440	70	0.1	o			Kur	07Ha57	
	6440	70			3				Kur	10Ha.A	
$^{164}\text{Tb}(\beta^-)^{164}\text{Dy}$	3890	100				2				71Gu18	*
$^{164}\text{Ho}(\beta^-)^{164}\text{Er}$	990	30	960.8	1.4	-1.0	U				54Br96	
	965	20			-0.2	U				66Se07	
$^{164}\text{Tm}(\beta^+)^{164}\text{Er}$	3985	20	4038	24	2.6	U				67Vr04	*
	3989	50			1.0	1	24	24 $^{164}\text{Tm}$	IRS	94Po26	*
$^{164}\text{Lu}(\beta^+)^{164}\text{Yb}$	6390	140	6380	30	-0.1	U				83Ge08	
	6250	90			1.4	o			IRS	83Vi.A	
	6290	90			0.9	U			IRS	93Al03	*
	6255	120			1.0	U			Dbn	94Po26	*
* $^{164}\text{Tm-u}$	M-A=-61884(28) keV for mixture gs+m at 10(6) keV										
* $^{164}\text{W}(\alpha)^{160}\text{Hf}$	Originally assigned to $^{168}\text{Re}$										
* $^{164}\text{W}(\alpha)^{160}\text{Hf}$	Originally assigned to $^{167}\text{Re}$ , re-assigned in reference										
*	original $E_\alpha=5136$ recalibrated using their $^{168}\text{Os}-^{170}\text{Os}$ results										
* $^{162}\text{Dy}(\text{t},\text{p})^{164}\text{Dy}$	Q-Q( $^{160}\text{Dy}(\text{t},\text{p})$ )=-722.3(1.9) keV, see $^{162}\text{Dy}(\text{p},\text{t})$										
* $^{164}\text{Dy}(\text{t},\alpha)^{163}\text{Tb}$	Q-Q( $^{162}\text{Dy}(\text{t},\alpha)$ )=-123(4)+54-584=-653(4) keV										
* $^{163}\text{Dy}(\text{He},\text{d})^{164}\text{Ho}-^{164}\text{D}$	See erratum										
* $^{164}\text{Tb}(\beta^-)^{164}\text{Dy}$	$E_{\beta^-}=1700(100)$ to $4^+$ level at 2194.44 and $4^+$ at 2205.63 keV, and other $E_{\beta^-}$										
* $^{164}\text{Tm}(\beta^+)^{164}\text{Er}$	$E_{\beta^+}=2940(20)$ 29 to ground state 10 to $2^+$ level at 91.38 keV										
* $^{164}\text{Tm}(\beta^+)^{164}\text{Er}$	$E_{\beta^+}=2944(50)$ 29 to ground state 10 to $2^+$ level at 91.38 keV										
* $^{164}\text{Lu}(\beta^+)^{164}\text{Yb}$	$Q_{\beta^+}=6250(90)$ partly to $2^+$ level at 123.31 keV										
* $^{164}\text{Lu}(\beta^+)^{164}\text{Yb}$	$E_{\beta^+}=5191(120)$ partly to $2^+$ level at 123.31 keV										
$\text{C}_{13}\text{H}_9-^{165}\text{Ho}$	140043	29	140096.5	2.1	0.5	U			R04	4.0	64De15
$\text{C}_{12}\text{H}_7\text{N}-^{165}\text{Ho}$	127537	28	127520.4	2.1	-0.1	U			R04	4.0	64De15
$\text{C}_{11}\text{C}_6\text{H}_6\text{N}-^{165}\text{Ho}$	122970	50	123050.2	2.1	0.4	U			R04	4.0	64De15
$^{165}\text{Tm}-^{142}\text{Sm}_{1.162}$	30970	20	30976	4	0.3	U			MA7	1.0	01Bo59
$^{165}\text{Yb-u}$	-64721	30	-64730	28	-0.3	1	90	90 $^{165}\text{Yb}$	GS2	1.0	05Li24
$^{165}\text{Lu-u}$	-60602	30	-60593	28	0.3	1	90	90 $^{165}\text{Lu}$	GS2	1.0	05Li24
$^{165}\text{Hf-u}$	-55360	140	-55430	30	-0.5	U			GS1	1.0	00Ra23
	-55433	30			2				GS2	1.0	05Li24
$^{165}\text{Ta-u}$	-49191	30	-49219	15	-0.9	1	25	25 $^{165}\text{Ta}$	GS2	1.0	05Li24
$^{165}\text{W-u}$	-41720	30	-41719	27	0.0	1	80	80 $^{165}\text{W}$	GS2	1.0	05Li24
$^{165}\text{Ho}^{35}\text{Cl}-^{163}\text{Dy}^{37}\text{Cl}$	4539	4	4540.6	0.9	0.2	U			H23	2.5	70Wh01
$^{165}\text{W}(\alpha)^{161}\text{Hf}$	5031.0	5.	5029	30	0.0	—			ORa	75To05	Z
	5034.2	10.			-0.1	—				84Sc06	*
ave.	5032	4			0.0	1	36	20 $^{165}\text{W}$		average	
$^{165}\text{Re}(\alpha)^{161}\text{Ta}$	5631.7	10.	5633	5	0.1	6				78Sc26	*
	5643.0	10.			-1.0	6			GSa	81Ho10	
	5629.6	6.			0.5	6			Jya	05Sc22	
$^{165}\text{Re}^m(\alpha)^{161}\text{Ta}^m$	5664.5	4.	5660.0	2.7	-1.1	—			Ora	82De11	*
	5655.4	5.			0.9	—			Daa	96Pa01	*
	5657.4	5.			0.5	—			Jya	05Sc22	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item		Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{165}\text{Re}^m(\alpha)^{161}\text{Ta}^m$	ave.	5659.9	2.7	5660.0	2.7	0.0	1	100	89 $^{161}\text{Ta}^m$			average	
$^{165}\text{Os}(\alpha)^{161}\text{W}$		6354.3	20.	6340	50	-0.4	5		Ora	78Ca11			
		6317.4	10.			0.4	5		GSa	81Ho10			
		6342.1	7.			-0.1	5		Daa	96Pa01			
$^{165}\text{Ir}^m(\alpha)^{161}\text{Re}^m$		6882.1	7.	6879	6	-0.4	1	70	48 $^{165}\text{Ir}^m$	Ara	97Da07		
$^{163}\text{Dy}(\text{t},\text{p})^{165}\text{Dy}$		4890.6	2.9	4892.27	0.09	0.6	U		McM	88Bu08	*		
$^{164}\text{Dy}(\text{n},\gamma)^{165}\text{Dy}$		5716.36	0.20	5715.96	0.05	-2.0	U		ILn	79Br25	Z		
		5715.96	0.06			0.0	2		MMn	82Is05	Z		
		5715.70	0.30			0.9	U		ILn	90Ka21	Z		
		5715.95	0.12			0.1	2		Bdn	06Fi.A			
$^{164}\text{Dy}(\text{d},\text{p})^{165}\text{Dy}$		3488	5	3491.39	0.05	0.7	U		Tal	64Sh13			
		3496	10			-0.5	U		Kop	70Gr46			
$^{164}\text{Dy}({}^3\text{He},\text{d})^{165}\text{Ho}$		717.3	10.	727.1	0.8	1.0	U		McM	75Bu02			
$^{165}\text{Ho}(\gamma,\text{n})^{164}\text{Ho}$		-8160	80	-7988.8	1.1	2.1	U		Phi	60Ge01			
		-7987	2			-0.9	1	33	33 $^{164}\text{Ho}$	MMn	85Ts01		
$^{165}\text{Ho}(\text{d},\text{t})^{164}\text{Ho}$		-1730	15	-1731.6	1.1	-0.1	U		Tal	70Jo11			
$^{164}\text{Er}(\text{n},\gamma)^{165}\text{Er}$		6650.1	0.6	6650.1	0.6	0.1	1	94	88 $^{165}\text{Er}$		70Bo29	Z	
$^{164}\text{Er}(\text{d},\text{p})^{165}\text{Er}$		4431	10	4425.6	0.6	-0.5	U		Kop	69Tj01			
$^{164}\text{Er}(\alpha,\text{t})^{165}\text{Tm}-^{168}\text{Er}(\text{t})^{169}\text{Tm}$		-1298.0	2.0	-1297.7	1.5	0.1	1	60	48 $^{165}\text{Tm}$	McM	75Bu02		
$^{165}\text{Ir}^m(\text{p})^{164}\text{Os}$		1717.5	7.	1721	6	0.4	1	72	52 $^{165}\text{Ir}^m$	Ara	97Da07		
$^{165}\text{Eu}(\beta^-)^{165}\text{Gd}$		5800	120	5800	120	0.0	o		Kur	07Ha57			
		5800	120			3			Kur	10Ha.A			
$^{165}\text{Dy}(\beta^-)^{165}\text{Ho}$		1305	20	1287.0	0.8	-0.9	U			59Bo52			
		1285	10			0.2	U			63Pe11			
$^{165}\text{Er}(\varepsilon)^{165}\text{Ho}$		370	10	377.9	1.0	0.8	U			63Ry01			
		371	6			1.1	U			63Zy01			
$^{165}\text{Tm}(\beta^+)^{165}\text{Er}$		1591.3	2.0	1591.6	1.5	0.1	1	60	52 $^{165}\text{Tm}$		82Vy03	*	
$^{165}\text{Yb}(\beta^+)^{165}\text{Tm}$		2762	20	2633	27	-6.4	B			67Pa04	*		
$^{165}\text{Lu}(\beta^+)^{165}\text{Yb}$		4250	140	3850	40	-2.8	B			83Ge08			
		3920	80			-0.8	o		IRS	83Vi.A			
		3920	80			-0.8	1	20	10 $^{165}\text{Yb}$	IRS	93Al03		
* $^{165}\text{W}(\alpha)^{161}\text{Hf}$		Originally assigned to $^{168}\text{Re}$ , re-assigned in reference original $E_\alpha=4894$ recalibrated using their $^{168}\text{Os}-^{170}\text{Os}$ results											
*													
* $^{165}\text{Re}(\alpha)^{161}\text{Ta}$		Originally assigned to $^{166}\text{Re}$											
* $^{165}\text{Re}^m(\alpha)^{161}\text{Ta}^m$		Originally assigned to $^{166}\text{Re}$											
* $^{165}\text{Re}^m(\alpha)^{161}\text{Ta}^m$		Due to a high spin isomer											
* $^{163}\text{Dy}(\text{t},\text{p})^{165}\text{Dy}$		$Q-Q(^{162}\text{Dy}(\text{t},\text{p}))=-556.6(2.9)$ keV											
* $^{165}\text{Tm}(\beta^+)^{165}\text{Er}$		$E_{\beta^+}=272(2)$ to $1/2^-$ level at 297.371 keV											
* $^{165}\text{Yb}(\beta^+)^{165}\text{Tm}$		$E_{\beta^+}=1580(20)$ to $7/2^-$ level at 160.47 keV											
C <sub>12</sub> H <sub>8</sub> N- $^{166}\text{Er}$		135376	29	135374.7	2.2	0.0	U		R04	4.0	64De15		
		135420	60			-0.2	U		R04	4.0	64De15		
C <sub>13</sub> H <sub>10</sub> - $^{166}\text{Er}$		147740	60	147950.8	2.2	0.9	U		R04	4.0	64De15		
$^{166}\text{Lu-u}$		-60157	108	-60140	30	0.1	U		GS1	1.0	00Ra23	*	
		-60141	32			2			GS2	1.0	05Li24	*	
$^{166}\text{Hf-u}$		-57860	110	-57820	30	0.4	U		GS1	1.0	00Ra23		
		-57820	30			2			GS2	1.0	05Li24		
$^{166}\text{Ta-u}$		-49488	30			2			GS2	1.0	05Li24		
$^{166}\text{W-u}$		-44957	30	-44969	10	-0.4	1	12	12 $^{166}\text{W}$	GS2	1.0	05Li24	
$^{166}\text{Er}^{35}\text{Cl}-^{164}\text{Er}^{37}\text{Cl}$		4040.9	1.4	4040.8	1.2	0.0	1	12	9 $^{166}\text{Er}$	H25	2.5	72Ba08	
$^{166}\text{Er}-^{164}\text{Er}$		1214	46	1090.7	1.2	-0.7	U		R04	4.0	64De15		
		1110	80			-0.1	U		R04	4.0	64De15		
$^{166}\text{W}(\alpha)^{162}\text{Hf}$		4856.0	5.	4856	4	0.0	-		ORA	75To05	Z		
		4855.0	10.			0.1	-		GSA	79Ho10	Z		
		4858.2	8.			-0.3	-			89Hi04			
ave.		4856	4			-0.1	1	97	78 $^{166}\text{W}$		average		
$^{166}\text{Re}(\alpha)^{162}\text{Ta}$		5461.8	10.			5				78Sc26	*		
		5574.5	3.	5460	50	-2.3	U		Ora	82De11	*		
		5637.0	13.			-3.5	B		Bea	92Me10	*		
		5669.9	10.			-4.2	B		Daa	96Pa01	*		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{166}\text{Os}(\alpha)^{162}\text{W}$	6148.5	20.	6139	4	-0.5	U					77Ca23
	6129.0	6.			1.6	-					81Ho10
	6148.5	6.			-1.6	-					96Pa01
ave.	6139	4			0.0	1	100	100	$^{166}\text{Os}$		average
$^{166}\text{Ir}(\alpha)^{162}\text{Re}$	6702.8	20.	6722	6	1.0	U					GSa
	6724.3	6.			-0.3	7					Ara
	6713.1	13.			0.7	7					Jya
$^{166}\text{Ir}^m(\alpha)^{162}\text{Re}^m$	6718.2	11.	6719	4	0.0	8					Daa
	6723.3	5.			-0.9	8					Ara
	6706.7	8.			1.4	8					Jya
$^{166}\text{Pt}(\alpha)^{162}\text{Os}$	7285.9	15.				5					ORa
$^{164}\text{Dy}(\text{t},\text{p})^{166}\text{Dy}$	4276.4	4.4	4277.7	0.4	0.3	U					McM
$^{166}\text{Er}(\text{p},\text{t})^{164}\text{Er}$	-6641	5	-6644.8	1.1	-0.8	U					Min
$^{165}\text{Dy}(\text{n},\gamma)^{166}\text{Dy}$	7043.5	0.4				3					83Ke.A
$^{165}\text{Ho}(\text{n},\gamma)^{166}\text{Ho}$	6243.69	0.06	6243.640	0.020	-0.8	U					MMn
	6243.64	0.02			0.0	1	100	71	$^{166}\text{Ho}$		82Is05
	6243.68	0.13			-0.3	U					MMn
	4025	7	4019.074	0.020	-0.8	U					Bdn
$^{166}\text{Ho}(\text{d},\text{p})^{166}\text{Ho}$	-2218	10	-2219.3	1.3	-0.1	U					Tal
$^{166}\text{Er}(\text{d},\text{t})^{165}\text{Er}$	1152.0	8.0				6					Kop
$^{166}\text{Ir}(\text{p})^{165}\text{Os}$	1324.1	8.	1323	10	-0.1	o					Ara
$^{166}\text{Ir}^m(\text{p})^{165}\text{Os}$	4830	100	4700	70	-1.3	o					Ara
$^{166}\text{Tb}(\beta^-)^{166}\text{Dy}$	4695	70			0.1	o					Kur
	4700	70				4					Kur
$^{166}\text{Dy}(\beta^-)^{166}\text{Ho}$	483	5	487.1	0.9	0.8	U					10Ha.A
$^{166}\text{Ho}(\beta^-)^{166}\text{Er}$	1859	3	1855.0	0.9	-1.3	-					60He09
	1857	3			-0.7	-					63Fu17
	1854.7	1.5			0.2	-					66Da04
	1851.6	2.0			1.7	-					74Gr41
ave.	1854.7	1.0			0.3	1	75	46	$^{166}\text{Er}$		83Ra.A
$^{166}\text{Tm}(\beta^+)^{166}\text{Er}$	3043	20	3038	12	-0.3	2					average
	3031	20			0.3	2					61Gr33
	3039	20			-0.1	2					61Zy02
	280	40	293	14	0.3	U					63Pr13
$^{166}\text{Lu}(\beta^+)^{166}\text{Yb}$	5480	160	5570	30	0.6	U					Averag
$^{166}\text{Ir}^m(\text{IT})^{166}\text{Ir}$	171.5	6.1				7					74De09
* $^{166}\text{Lu-u}$	M-A=-56010(100) keV for mixture gs+m+n at 34.37 and 43.0 keV										
* $^{166}\text{Lu-u}$	M-A=-55995(28) keV for mixture gs+m+n at 34.37 and 43.0 keV										
* $^{166}\text{Re}(\alpha)^{162}\text{Ta}$	Originally assigned to $^{167}\text{Re}$										
* $^{166}\text{Re}(\alpha)^{162}\text{Ta}$	Assignment uncertain, no other obvious attribution										
* $^{166}\text{Re}(\alpha)^{162}\text{Ta}$	Originally assigned to $^{167}\text{Re}$										
* $^{166}\text{Re}(\alpha)^{162}\text{Ta}$	Assignment tentative, may be $^{165}\text{Re}$										
* $^{166}\text{Re}(\alpha)^{162}\text{Ta}$	Correlated to a $^{170}\text{Ir}$ 6003 line; assignment uncertain										
* $^{166}\text{Ir}(\alpha)^{162}\text{Re}$	All Q $\alpha$ of reference increased by 7 keV for calibration error										
* $^{166}\text{Ir}^m(\alpha)^{162}\text{Re}^m$	Correlated with E $\alpha$ =6123 of $^{162}\text{Re}^m$										
* $^{164}\text{Dy}(\text{t},\text{p})^{166}\text{Dy}$	Q-Q( $^{162}\text{Dy}(\text{t},\text{p})$ )=-1170.8(4.4) keV										
* $^{166}\text{Ir}^m(\text{p})^{165}\text{Os}$	Replaced by author's value for $^{166}\text{Ir}^m(\text{IT})^{166}\text{Ir}$										
* $^{166}\text{Dy}(\beta^-)^{166}\text{Ho}$	$E_{\beta^-}=402(5)$ to $1^-$ level at 82.47 keV, and other $E_{\beta^-}$										
* $^{166}\text{Tm}(\beta^+)^{166}\text{Er}$	$E_{\beta^+}=1940(20)$ 1928(20) 1936(20) respectively, to $2^+$ level at 80.5776 keV										
* $^{166}\text{Yb}(\epsilon)^{166}\text{Tm}$	Average pK=0.712(0.038) to $1^+$ level at 82.298 keV from 2 references:										
*	pK=0.74(0.05) to 82.298 level										
*	pK=0.675(0.059) to 82.298 level										
* $^{166}\text{Lu}(\beta^+)^{166}\text{Yb}$	$E_{\beta^+}=2225(160)$ to $(6^-, 7^-)$ level at 2233.36 keV										
C <sub>13</sub> H <sub>11</sub> - $^{167}\text{Er}$	153840	130	154020.7	2.2	0.3	U			R04	4.0	64De15
	154040.4	6.2			-1.3	U			M23	2.5	79Ha32
C <sub>12</sub> H <sub>9</sub> N- $^{167}\text{Er}$	141480	27	141444.7	2.2	-0.3	U			R04	4.0	64De15
	141520	50			-0.4	U			R04	4.0	64De15

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{167}\text{Lu-u}$	-61730	34				2			GS2	1.0	05Li24 *
$^{167}\text{Hf-u}$	-57490	110	-57400	30	0.8	U			GS1	1.0	00Ra23
	-57400	30				2			GS2	1.0	05Li24
$^{167}\text{Ta-u}$	-51870	120	-51910	30	-0.3	U			GS1	1.0	00Ra23
	-51907	30				2			GS2	1.0	05Li24
$^{167}\text{W-u}$	-45175	30	-45195	20	-0.7	R			GS2	1.0	05Li24
$^{167}\text{Er}^{35}\text{Cl}-^{165}\text{Ho}^{37}\text{Cl}$	4666	3	4675.9	1.0	1.3	U			H23	2.5	70Wh01
	4679.5	1.2			-1.2	U			H25	2.5	72Ba08
$^{167}\text{Er}-^{166}\text{Er}$	1722	31	1755.09	0.19	0.3	U			R04	4.0	64De15
$^{167}\text{W}(\alpha)^{163}\text{Hf}$	4661.9	20.	4740	28	1.6	-					89Me02
	4671.1	13.			1.4	-					91Me05
	ave.	4668	11		1.4	1	32	21 $^{163}\text{Hf}$			average
$^{167}\text{Re}(\alpha)^{163}\text{Ta}^m$	5138.3	12.				12			Bea		92Me10
$^{167}\text{Re}^m(\alpha)^{163}\text{Ta}$	5408.8	3.	5407.0	2.9	-0.6	4			Ora	82De11 *	
	5397.5	10.			0.9	4			Chr		84Sc06 *
	5392.4	12.			1.2	4			Bea		92Me10
$^{167}\text{Os}(\alpha)^{163}\text{W}$	5983.6	5.	5980	50	0.0	6			Gsa	81Ho10	Z
	5978.7	2.			0.1	6			Ora	82De11	Z
	5996.9	5.			-0.3	6			Daa	96Pa01	
	5979.5	5.			0.0	6			Bka	02Ro17	
$^{167}\text{Ir}(\alpha)^{163}\text{Re}$	6507.1	5.	6504.8	2.6	-0.4	2			Ara	97Da07	
	6504.0	3.			0.3	2			Jya	05Sc22	
$^{167}\text{Ir}^m(\alpha)^{163}\text{Re}^m$	6543.0	10.	6560	3	1.7	2			Gsa	81Ho10	
	6567.6	11.			-0.6	2			Daa	96Pa01	
	6567.6	5.			-1.4	2			Ara	97Da07	
	6551.1	7.			1.3	2			Jya	04Ke06	
	6561.5	6.			-0.1	2			Jya	05Sc22	
$^{167}\text{Pt}(\alpha)^{163}\text{Os}$	7159.8	10.	7160	50	-0.1	5			ORa	96Bi07	
	7150.6	10.			0.1	5			Jya	04Ke06	
$^{167}\text{Er(p,t)}^{165}\text{Er}$	-6427	6	-6431.2	1.3	-0.7	-			Min	73Oo01	
	-6430	5			-0.2	-				75St08	
	ave.	-6429	4		-0.6	1	11	6 $^{167}\text{Er}$			average
$^{166}\text{Er(n,}\gamma^{167}\text{Er}$	6436.35	0.50	6436.46	0.18	0.2	-				70Bo29	Z
	6436.51	0.40			-0.1	-				70Mi01	Z
	6436.46	0.22			0.0	-			Bdn	06Fi.A	
$^{167}\text{Er}(\gamma,n)^{166}\text{Er}$	-6560	80	-6436.46	0.18	1.5	U			Phi	60Ge01	
$^{166}\text{Er(d,p)}^{167}\text{Er}$	4209	10	4211.90	0.18	0.3	U			Tal	68Ha10	
	4214	10			-0.2	U			Kop	69Tj01	
$^{167}\text{Er(d,t)}^{166}\text{Er}$	-189	12	-179.23	0.18	0.8	U			Kop	69Bu01	
$^{166}\text{Er(n,}\gamma^{167}\text{Er}$	ave.	6436.46	0.18	6436.46	0.18	0.0	1	99	54 $^{167}\text{Er}$		average
$^{166}\text{Er}(\alpha,1)^{167}\text{Tm}-^{168}\text{Er}(\alpha,1)^{169}\text{Tm}$	-666.5	1.0	-666.4	1.0	0.1	1	99	99 $^{167}\text{Tm}$	McM	75Bu02	
$^{167}\text{Ir(p)}^{166}\text{Os}$	1070.5	6.	1070	4	-0.1	-				97Da07	
	1068.5	6.			0.3	-			Jyp	05Sc22 *	
	ave.	1070	4		0.1	1	77	77 $^{167}\text{Ir}$			average
$^{167}\text{Ir}^m(\text{p})^{166}\text{Os}$	1245.5	7.	1246	4	0.0	o				97Da07	*
$^{167}\text{Dy}(\beta^-)^{167}\text{Ho}$	2350	60				3				77Tu01	*
$^{167}\text{Ho}(\beta^-)^{167}\text{Er}$	970	20	1010	5	2.0	U				68Fu07	
$^{167}\text{Yb}(\beta^+)^{167}\text{Tm}$	1954	4	1953	4	-0.2	1	90		89 $^{167}\text{Yb}$	77Kr.A *	
$^{167}\text{Lu}(\beta^+)^{167}\text{Yb}$	3130	100	3090	30	-0.4	U				64Ag.A *	
$^{167}\text{W}(\beta^+)^{167}\text{Ta}$	5620	270	6250	30	2.3	U				89Me02	
$^{167}\text{Ir}^m(\text{IT})^{167}\text{Ir}$	175.3	2.2	175.5	2.1	0.1	1	94	70 $^{167}\text{Ir}^m$	Ara	97Da07	
$^{*167}\text{Lu-u}$	M-A=-57501(28) keV for mixture gs+m at 0#30 keV									Nub127 **	
$^{*167}\text{Re}^m(\alpha)^{163}\text{Ta}$	Original assignment to $^{168}\text{Re}$ changed in reference									92Me10 **	
$^{*167}\text{Re}^m(\alpha)^{163}\text{Ta}$	Original assignment to $^{168}\text{Re}^m$ changed in reference									92Me10 **	
*	original $E_\alpha=5250$ recalibrated using their $^{168}\text{Os}-^{170}\text{Os}$ results									GAU **	
$^{*167}\text{Ir(p)}^{166}\text{Os}$	$E_p=1062(6)$ ; also $E_p=1248(7)$ from $^{167}\text{Ir}^m$									05Sc22 **	
$^{*167}\text{Ir}^m(\text{p})^{166}\text{Os}$	Replaced by author's value for $^{167}\text{Ir}^m(\text{IT})^{167}\text{Ir}$									97Da07 **	
$^{*167}\text{Dy}(\beta^-)^{167}\text{Ho}$	$E_{\beta^-}=1780(60)$ to $3/2^-$ level at 569.69 keV									Ens008 **	
$^{*167}\text{Yb}(\beta^+)^{167}\text{Tm}$	$E_{\beta^+}=639(4)$ to $7/2^-$ level at 292.820 keV									Ens008 **	
$^{*167}\text{Lu}(\beta^+)^{167}\text{Yb}$	$E_{\beta^+}=2060(100)$ to $5/2^+$ level at 29.658, $7/2^-$ at 78.671 keV									Ens008 **	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
C <sub>13</sub> H <sub>12</sub> — <sup>168</sup> Er	161543.3	5.1	161523.7	2.2	-1.5	U		M23	2.5	79Ha32		
C <sub>12</sub> H <sub>10</sub> N— <sup>168</sup> Er	148884	44	148947.6	2.2	0.4	U		R04	4.0	64De15		
C <sub>11</sub> <sup>13</sup> C H <sub>9</sub> N— <sup>168</sup> Er	144524	29	144477.4	2.2	-0.4	U		R04	4.0	64De15		
C <sub>12</sub> H <sub>10</sub> N— <sup>168</sup> Yb	147010	100	147434.7	2.2	1.1	U		R04	4.0	64De15		
<sup>168</sup> Lu-u	-61217	70	-61260	40	-0.7	R		GS2	1.0	05Li24	*	
<sup>168</sup> Hf-u	-59560	104	-59430	30	1.2	U		GS1	1.0	00Ra23		
	-59432	30			2			GS2	1.0	05Li24		
<sup>168</sup> Ta-u	-52020	110	-51950	30	0.6	U		GS1	1.0	00Ra23		
	-51953	30			2			GS2	1.0	05Li24		
<sup>168</sup> W-u	-48181	30	-48194	14	-0.4	1	23	23	<sup>168</sup> W	GS2	1.0	05Li24
<sup>168</sup> Yb <sup>35</sup> Cl <sub>2</sub> — <sup>164</sup> Dy <sup>37</sup> Cl <sub>2</sub>	10612.8	8.7	10607.9	1.3	-0.2	U		H27	2.5	74Ba90		
<sup>168</sup> Er <sup>35</sup> Cl— <sup>166</sup> Er <sup>37</sup> Cl	5037	50	5027.24	0.24	-0.1	U		R08	1.5	69De19		
	5026	3			0.2	U		H23	2.5	70Wh01		
	5028.9	1.5			-0.4	U		H25	2.5	72Ba08		
<sup>168</sup> Yb— <sup>168</sup> Er	1512.91	0.27	1512.91	0.27	0.0	1	100	100	<sup>168</sup> Yb	SH1	1.0	11El04
<sup>168</sup> Er— <sup>167</sup> Er	284	31	322.07	0.13	0.3	U		R04	4.0	64De15		
	320.9	4.3			0.1	U		M24	2.5	79Ha32		
<sup>168</sup> W( $\alpha$ ) <sup>164</sup> Hf	4506.5	12.	4500	11	-0.5	1	87	68	<sup>164</sup> Hf		91Me05	
<sup>168</sup> Re( $\alpha$ ) <sup>164</sup> Ta	5063	13						Bea		92Me10	*	
<sup>168</sup> Os( $\alpha$ ) <sup>164</sup> W	5819.0	3.	5816.1	2.7	-0.9	-		Ora		82De11	Z	
	5800.4	8.			1.9	-				84Sc06		
	5812.7	8.			0.4	-				95Hi02		
	ave.	5816.2	2.7		0.0	1	100	96	<sup>168</sup> Os		average	
<sup>168</sup> Ir( $\alpha$ ) <sup>164</sup> Re	6410.9	5.	6381	9	-5.9	B		Ora		82De11		
	6379.2	15.			0.1	5		Daa		96Pa01		
	6382.2	10.			-0.1	5		Jya		09Ha42		
<sup>168</sup> Ir <sup>m</sup> ( $\alpha$ ) <sup>164</sup> Re <sup>m</sup>	6477.5	8.	6476	6	-0.1	6		Daa		96Pa01		
	6474.4	10.			0.2	6		Jya		09Ha42	*	
<sup>168</sup> Pt( $\alpha$ ) <sup>164</sup> Os	6990.8	20.	6990	3	-0.1	U		GSa		81Ho10		
	6998.9	10.			-0.9	U		ORa		96Bi07		
	6986.7	8.			0.4	o		Jya		04Ke06		
	6989.5	3.			2			Jya		09Go16		
<sup>168</sup> Er(p,t) <sup>166</sup> Er	-5723	6	-5725.98	0.22	-0.5	U		Min		73Oo01		
<sup>168</sup> Yb(p,t) <sup>166</sup> Yb	-7647	7			2			Min		73Oo01		
<sup>167</sup> Er(n, $\gamma$ ) <sup>168</sup> Er	7771.43	0.40	7771.31	0.12	-0.3	-		ILn		70Mi01	Z	
	7771.05	0.20			1.3	-				79Br25	Z	
	7771.0	0.5			0.6	U				85Va.A		
	7771.45	0.16			-0.9	-		Bdn		06Fi.A		
<sup>167</sup> Er(d,p) <sup>168</sup> Er	5541	6	5546.74	0.12	1.0	U		Tal		67Ha25		
<sup>168</sup> Er(d,t) <sup>167</sup> Er	-1523	10	-1514.08	0.12	0.9	U		Kop		69Tj01		
<sup>167</sup> Er(n, $\gamma$ ) <sup>168</sup> Er	ave.	7771.31	0.12	7771.31	0.12	0.0	1	100	74	<sup>168</sup> Er	average	
<sup>167</sup> Er( $\alpha$ ,t) <sup>168</sup> Tm— <sup>168</sup> Er( $\alpha$ ) <sup>169</sup> Tm	-262.3	1.5	-262.3	1.5	0.0	1	100	100	<sup>168</sup> Tm	McM	75Bu02	
<sup>168</sup> Yb(d,t) <sup>167</sup> Yb	-2797	12	-2805	4	-0.6	1	11	11	<sup>167</sup> Yb	Kop	66Bu16	
<sup>168</sup> Ho( $\beta^-$ ) <sup>168</sup> Er	2740	100	2930	30	1.9	U				73Ka07	*	
	2930	30			2					90Ch37		
<sup>168</sup> Lu( $\beta^+$ ) <sup>168</sup> Yb	4475	80	4510	40	0.5	2				70Ch28	*	
	4493	100			0.2	2				72Ch44	*	
	4500	80			0.2	2		IRS		83Vi.A		
* <sup>168</sup> Lu-u	M-A=-56922(28) keV for mixture gs+m at 202.81(0.12) keV											
* <sup>168</sup> Re( $\alpha$ ) <sup>164</sup> Ta	E $\alpha$ =4833(13) to level at 111.5 keV											
* <sup>168</sup> Ir <sup>m</sup> ( $\alpha$ ) <sup>164</sup> Re <sup>m</sup>	E $\alpha$ =6320(10), 6260(10) to ground state and level at 69 keV											
* <sup>168</sup> Ho( $\beta^-$ ) <sup>168</sup> Er	E $\beta^-$ =1900(100) to 2 <sup>+</sup> level at 821.17 and 3 <sup>+</sup> at 895.79 keV											
* <sup>168</sup> Lu( $\beta^+$ ) <sup>168</sup> Yb	E $\beta^+$ =1230(80) to 2222.37 level											
* <sup>168</sup> Lu( $\beta^+$ ) <sup>168</sup> Yb	E $\beta^+$ =1470(100) from <sup>168</sup> Lu <sup>m</sup> at 202.81 to 4 <sup>+</sup> level at 2203.84 keV											
C <sub>12</sub> H <sub>11</sub> N— <sup>169</sup> Tm	154920	60	154931.5	2.2	0.0	U		R04	4.0	64De15		
<sup>169</sup> Lu-u	-62362	31	-62356	4	0.2	U		GS2	1.0	05Li24	*	
<sup>169</sup> Hf-u	-58741	30			2			GS2	1.0	05Li24		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item		Input value		Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$C_{12} H_{12} N - ^{170}Er$	161210	70	161504.2	2.6	1.1	U		R04	4.0	64De15		
$C_{12} H_{12} N - ^{170}Yb$	161831	43	162208.0	2.2	2.2	U		R04	4.0	64De15		
$C_{11} H_8 O N - ^{170}Yb$	125370	150	125822.5	2.2	0.8	U		R04	4.0	64De15		
$C_{11} ^{13}C H_{11} N - ^{170}Yb$	157320	210	157737.8	2.2	0.5	U		R04	4.0	64De15		
$^{170}Lu-u$	-61529	42	-61522	18	0.2	R		GS2	1.0	05Li24	*	
$^{170}Hf-u$	-60400	104	-60390	30	0.1	U		GS1	1.0	00Ra23		
	-60391	30			2			GS2	1.0	05Li24		
$^{170}Ta-u$	-53810	104	-53830	30	-0.1	U		GS1	1.0	00Ra23		
	-53825	30			2			GS2	1.0	05Li24		
$^{170}W-u$	-50710	110	-50768	14	-0.5	U		GS1	1.0	00Ra23		
	-50755	30			-0.4	1	22	22 $^{170}W$	GS2	1.0	05Li24	
$^{170}Re-u$	-41782	30	-41780	28	0.1	2			GS2	1.0	05Li24	
$^{170}Os-u$	-36454	31	-36422	11	1.0	1	12	12 $^{170}Os$	GS2	1.0	05Li24	
$^{170}Er ^{35}Cl - ^{168}Er ^{37}Cl$	6073	31	6043.6	1.6	-0.6	U		R08	1.5	69De19		
	6040	3			0.5	U		H23	2.5	70Wh01		
	6046.9	1.8			-0.7	1	13	11 $^{170}Er$	H25	2.5	72Ba08	
$^{170}Yb ^{35}Cl - ^{168}Yb ^{37}Cl$	3806.0	7.6	3826.9	1.4	1.1	U		H27	2.5	74Ba90		
$^{170}Er - ^{168}Er$	3450	70	3093.5	1.6	-1.3	U		R04	4.0	64De15		
$^{170}Yb - ^{168}Yb$	910	200	876.8	1.4	0.0	U		R04	4.0	64De15		
$^{170}Os(\alpha) ^{166}W$	5533.5	10.	5536.8	2.7	0.3	-		ORa	72To06	Z		
	5541.6	4.			-1.2	-		Ora	82De11	Z		
	5523.2	8.			1.7	-			84Sc06	*		
	5533.4	8.			0.4	-			95Hi02			
	5537.5	5.			-0.1	-		Bka	02Ro17			
ave.	5537.1	2.7			-0.1	1	99	88 $^{170}Os$		average		
$^{170}Ir(\alpha) ^{166}Re^p$	5955.4	10.			7			Bka	02Ro17			
$^{170}Ir^m(\alpha) ^{166}Re$	6175.4	10.	6272	10	9.7	B			78Sc26	*		
	6172.7	5.			19.9	B		Ora	82De11	*		
	6147.9	10.			12.4	B		Daa	96Pa01	*		
	6229.9	11.			3.9	B		Daa	96Pa01	*		
	6272.4	10.			6			Jya	07Ha45	*		
$^{170}Pt(\alpha) ^{166}Os$	6703.0	8.	6707	3	0.5	-		GSa	81Ho10			
	6705.0	10.			0.2	-			82En03			
	6708.1	6.			-0.1	-		ORa	96Bi07			
	6711.2	11.			-0.3	-		Jya	97Uu01			
	6723.5	14.			-1.1	-		Bka	01Ro.B			
	6707.1	7.			0.0	-		Jya	04Ke06			
ave.	6708	3			-0.1	1	84	84 $^{170}Pt$		average		
$^{170}Au(\alpha) ^{166}Ir$	7174.1	11.	7177	15	0.3	o		Jya	02Ke.C			
	7170.0	12.			0.6	U		Jya	04Ke06			
$^{170}Au^m(\alpha) ^{166}Ir^m$	7277.5	6.	7285	12	0.2	o		Jya	02Ke.C			
	7226.3	15.			1.2	U		Ara	02Ma61			
	7278.5	9.			0.1	U		Jya	04Ke06			
$^{170}Er(p,\alpha) ^{167}Ho$	7036	5			2			NDm	83Ta.A			
$^{170}Er(^{18}O, ^{20}Ne) ^{168}Dy$	4710	140			2				98Lu08			
$^{170}Er(p,t) ^{168}Er$	-4785	5	-4779.2	1.5	1.2	U		Min	73Oo01			
$^{170}Yb(p,t) ^{168}Yb$	-6861	6	-6844.1	1.3	2.8	U		Min	73Oo01			
$^{170}Er(d, ^3He) ^{169}Ho$	-3107	20			2				76Su.A			
$^{170}Er(d,t) ^{169}Er$	-1010	10	-1000.5	1.5	0.9	U		Kop	69Tj01			
$^{169}Tm(n,\gamma) ^{170}Tm$	6595.	2.5	6591.97	0.17	-1.2	U			66Sh03			
	6592.1	1.5			-0.1	U			70Or.A			
	6591.7	0.9			0.3	U		BNn	96Ho12	Z		
	6591.95	0.17			0.1	1	99	58 $^{170}Tm$	Bdn	06Fi.A		
$^{169}Tm(d,p) ^{170}Tm$	4420	20	4367.41	0.17	-2.6	U		CIT	66Ry01			
	4369	15			-0.1	U		Tal	66Sh03			
$^{170}Yb(d,t) ^{169}Yb$	-2211	12	-2201.7	1.3	0.8	U		Kop	66Bu16			
$^{170}Au(p) ^{169}Pt$	1473.8	15.	1472	12	-0.1	o		Jyp	02Ke.C			
	1471.7	12.			7			Jyp	04Ke06			
$^{170}Au^m(p) ^{169}Pt$	1749.5	8.	1751	5	0.2	o		Jyp	02Ke.C			
	1745.4	10.			0.6	7		Arp	02Ma61			
	1753.5	6.			-0.4	7		Jyp	04Ke06			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{170}\text{Ho}(\beta^-)^{170}\text{Er}$	3870	50				2					78Tu04
$^{170}\text{Ho}^m(\beta^-)^{170}\text{Er}$	3970	60				2					78Tu04
$^{170}\text{Tm}(\beta^-)^{170}\text{Yb}$	970	2	968.4	0.8	-0.8	-					54Po26
		967.3	1.		1.1	-					69Va17 *
	ave.	967.8	0.9		0.7	1	81	42	$^{170}\text{Tm}$		average
$^{170}\text{Lu}(\beta^+)^{170}\text{Yb}$	3467	20	3458	17	-0.5	2					60Dz02
		3410	50		1.0	2					65Ha30
* $^{170}\text{Lu-u}$	M-A=-57267(29) keV for mixture gs+m at 92.91 keV										Nub127 **
* $^{170}\text{Os}(\alpha)^{166}\text{W}$	Used to recalibrate other results in same reference										GAu **
* $^{170}\text{Ir}^m(\alpha)^{166}\text{Re}$	E $\alpha$ =6029.8(10,Z) 6027.2(5,Z) 6003(10) most probably to low levels in $^{166}\text{Re}$										GAu **
* $^{170}\text{Ir}^m(\alpha)^{166}\text{Re}$	Correlated with $^{166}\text{Re}$ E $\alpha$ =5533 keV										96Pa01 **
* $^{170}\text{Ir}^m(\alpha)^{166}\text{Re}$	E $\alpha$ =5951(10) to level at 175, 6007(10) to 122, 6053(10) to 75 keV										07Ha45 **
* $^{170}\text{Tm}(\beta^-)^{170}\text{Yb}$	E $\beta^-$ =883(1) to 2 <sup>+</sup> level at 84.25468 keV										Ens02b **
$\text{C}_{11}\ ^{13}\text{C}\ \text{H}_{12}\ \text{N}-^{171}\text{Yb}$	164140	80	163999.0	2.2	-0.4	U					R04 4.0 64De15
$\text{C}_{10}\ \text{H}_7\ \text{O}\ \text{N}_2-^{171}\text{Yb}$	119640	270	119507.6	2.2	-0.1	U					R04 4.0 64De15
$^{171}\text{Lu-u}$	-62132	41	-62083.0	2.7	1.2	U					GS2 1.0 05Li24 *
$^{171}\text{Hf-u}$	-59570	104	-59510	30	0.6	U					GS1 1.0 00Ra23 *
		59508	31		2						GS2 1.0 05Li24 *
$^{171}\text{Ta-u}$	-55550	104	-55520	30	0.3	U					GS1 1.0 00Ra23
		55524	30		2						GS2 1.0 05Li24
$^{171}\text{W-u}$	-50650	110	-50550	30	0.9	U					GS1 1.0 00Ra23
		50549	30		2						GS2 1.0 05Li24
$^{171}\text{Re-u}$	-44284	30			2						GS2 1.0 05Li24
$^{171}\text{Os-u}$	-36796	30	-36826	19	-1.0	-					GS2 1.0 05Li24
	ave.	36801	21		-1.2	1	81	81	$^{171}\text{Os}$		average
$^{171}\text{Yb}\ ^{35}\text{Cl}_2-^{167}\text{Er}\ ^{37}\text{Cl}_2$	10178.0	1.7	10175.8	1.4	-0.5	1	11	6	$^{167}\text{Er}$	H27 2.5 74Ba90	
$^{171}\text{Yb}\ ^{35}\text{Cl}-^{169}\text{Tm}\ ^{37}\text{Cl}$	5055	3	5062.4	1.0	1.0	U					H23 2.5 70Wh01
		5061.9	1.7		0.1	U					H27 2.5 74Ba90
$^{171}\text{Yb}-^{170}\text{Yb}$	1220	60	1563.8	0.6	1.4	U					R04 4.0 64De15
$^{171}\text{Os}(\alpha)^{167}\text{W}$	5365.8	10.	5371	4	0.5	-					ORa 72To06
		5365.8	10.		0.5	-					78Sc26
		5393.4	15.		-1.4	-					79Ha10
		5367.9	8.		0.4	-					95Hi02 *
		5374.0	9.		-0.3	-					Daa 96Pa01
	ave.	5371	4		0.1	1	99	90	$^{167}\text{W}$		average
$^{171}\text{Ir}(\alpha)^{167}\text{Re}^m$	5854.2	10.	5861	6	0.7	5					Bka 02Ro17 *
		5865.4	8.		-0.5	5					Ara 11Ko.B *
$^{171}\text{Ir}^m(\alpha)^{167}\text{Re}$	6159.2	3.	6161.1	2.3	0.6	11					Ora 82De11 *
		6159	5		0.4	11					92Sc16 *
		6180	11		-1.7	11					Daa 96Pa01 *
		6159.2	8.		0.2	11					Anv 10An01 *
		6172.4	8.		-1.4	11					Ara 11Ko.B *
$^{171}\text{Pt}(\alpha)^{167}\text{Os}$	6608.1	4.	6607	3	-0.2	7					Ora 81De22 Z
		6606.8	5.		0.1	7					GSa 81Ho10 Z
		6604.8	11.		0.2	7					Jya 97Uu01
		6600.6	15.		0.4	U					Anv 10An01
$^{171}\text{Au}^m(\alpha)^{167}\text{Ir}^m$	7163.9	6.	7164	4	0.1	-					Ara 97Da07
		7162.9	8.		0.2	-					Jya 04Ke06
	ave.	7163	5		0.2	1	69	39	$^{171}\text{Au}^m$		average
$^{171}\text{Hg}(\alpha)^{167}\text{Pt}$	7667.7	15.			6						Jya 04Ke06
$^{171}\text{Yb}(\text{p},\text{i})^{169}\text{Yb}$	-6599	5	-6591.8	1.3	1.4	U					Min 73Oo01
$^{170}\text{Er}(\text{n},\gamma)^{171}\text{Er}$	5681.5	0.5	5681.6	0.4	0.2	-					71Al01
		5681.6	0.5		0.0	-					Bdn 06Fi.A
$^{170}\text{Er}(\text{d},\text{p})^{171}\text{Er}$	3450	10	3457.0	0.4	0.7	U					Tal 68Ha10
		3458	10		-0.1	U					Kop 69Tj01
$^{170}\text{Er}(\text{n},\gamma)^{171}\text{Er}$	ave.	5681.6	0.4	5681.6	0.4	0.2	1	98	70	$^{171}\text{Er}$	average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{170}\text{Er}(\alpha, \text{d})^{171}\text{Tm}$ – $^{168}\text{Er}(\text{p})^{169}\text{Tm}$	817.9	1.0	817.4	0.9	-0.5	1	82	60 $^{170}\text{Er}$	McM	75Bu02	
$^{170}\text{Yb}(\text{n}, \gamma)^{171}\text{Yb}$	6614.3	0.6	6614.6	0.6	0.5	1	89	67 $^{170}\text{Yb}$		72Wa10	Z
	6616.6	0.4			-5.0	C			Bdn	06Fi.A	
$^{170}\text{Yb}(\text{d}, \text{p})^{171}\text{Yb}$	4390	12	4390.1	0.6	0.0	U			Kop	66Bu16	
$^{171}\text{Yb}(\text{d}, \text{t})^{170}\text{Yb}$	-359	12	-357.4	0.6	0.1	U			Kop	66Bu16	
$^{170}\text{Yb}(\alpha, \text{t})^{171}\text{Lu}$ – $^{174}\text{Yb}(\text{p})^{175}\text{Lu}$	-1156.2	2.0	-1156.8	1.7	-0.3	1	74	67 $^{171}\text{Lu}$	McM	75Bu02	
$^{171}\text{Au}(\text{p})^{170}\text{Pt}$	1452.6	17.	1448	10	-0.3	2			Arp	99Po09	
	1445.6	12.			0.2	2			Jyp	04Ke06	
$^{171}\text{Au}^m(\text{p})^{170}\text{Pt}$	1702.1	6.	1702	4	0.1					97Da07	
	1704.1	6.			-0.3				Jyp	04Ke06	
ave.	1703	4			-0.1	1	77	61 $^{171}\text{Au}^m$		average	
$^{171}\text{Ho}(\beta^-)^{171}\text{Er}$	3200	600				2			LBL	90Ch34	
$^{171}\text{Er}(\beta^-)^{171}\text{Tm}$	1490	2	1492.1	1.3	1.0	1	41	30 $^{171}\text{Er}$		61Ar15	*
$^{171}\text{Tm}(\beta^-)^{171}\text{Yb}$	96.5	1.0	96.6	1.0	0.1	1	94	93 $^{171}\text{Tm}$		57Sm73	
$^{171}\text{Lu}(\beta^+)^{171}\text{Yb}$	1479.3	3.	1478.0	1.9	-0.4	1	41	33 $^{171}\text{Lu}$		77Bo32	*
$^{171}\text{Re}(\beta^+)^{171}\text{W}$	5670	200	5840	40	0.8	U			Got	87Ru05	
$^{171}\text{Au}^m(\text{IT})^{171}\text{Au}$	250	16	255	10	0.3	o				99Po09	*
* $^{171}\text{Lu-u}$	$M-A=-57840(33)$ keV for mixture gs+m at 71.13 keV										
* $^{171}\text{Hf-u}$	$M-A=-55480(100)$ keV for mixture gs+m at 21.93 keV										
* $^{171}\text{Hf-u}$	$M-A=-55420(28)$ keV for mixture gs+m at 21.93 keV										
* $^{171}\text{Os}(\alpha)^{167}\text{W}$	$E_\alpha=5241(8)$ , 5166(8) to ground state and level at 79 keV										
* $^{171}\text{Ir}(\alpha)^{167}\text{Re}^m$	Correlated with $E_\alpha=6412$ of $^{175}\text{Au}$										
* $^{171}\text{Ir}(\alpha)^{167}\text{Re}^m$	Correlated with $E_\alpha=6430(8)$ of $^{175}\text{Au}$ and 6556(8) of $^{179}\text{Tl}^m$										
* $^{171}\text{Ir}^m(\alpha)^{167}\text{Re}$	$E_\alpha=5925.2(3, Z)$ 5925(5) 5945(11) 5925(8) respectively, to 92 level										
*	$E_\alpha=5920$ correlated with $^{175}\text{Au}$ $E_\alpha=6438$ keV										
* $^{171}\text{Ir}^m(\alpha)^{167}\text{Re}$	$E_\alpha=5938(8)$ to 92 level; correlated with $E_\alpha=6431(8)$ of $^{175}\text{Au}^m$										
*	and 7194(8) of $^{179}\text{Tl}^m$										
* $^{171}\text{Er}(\beta^-)^{171}\text{Tm}$	$E_{\beta^-}=1065(2)$ to $7/2^-$ level at 424.95 keV										
* $^{171}\text{Lu}(\beta^+)^{171}\text{Yb}$	$E_{\beta^+}=362(3)$ to $7/2^+$ level at 95.28 keV										
* $^{171}\text{Au}^m(\text{IT})^{171}\text{Au}$	Redundant; use only their $Q_p$										
$\text{C}_{10}\text{H}_6\text{O}_2\text{N}-^{172}\text{Yb}$	103560	60	103467.6	2.2	-0.4	U			R04	4.0	64De15
$^{172}\text{Hf-u}$	-60555	30	-60550	26	0.2	2			GS2	1.0	05Li24
$^{172}\text{Ta-u}$	-55105	30				2			GS2	1.0	05Li24
$^{172}\text{W-u}$	-52770	110	-52710	30	0.6	U			GS1	1.0	00Ra23
	-52708	30				2			GS2	1.0	05Li24
$^{172}\text{Re-u}$	-44702	221	-44580	40	0.6	U			GS1	1.0	00Ra23
	-44587	62			0.1	1	47	47 $^{172}\text{Re}$	GS2	1.0	05Li24
$^{172}\text{Yb}^{35}\text{Cl}_2-^{168}\text{Er}^{37}\text{Cl}_2$	9906.7	1.7	9909.3	1.4	0.6	1	11	6 $^{168}\text{Er}$	H27	2.5	74Ba90
$^{172}\text{Yb}^{35}\text{Cl}-^{170}\text{Yb}^{37}\text{Cl}$	4568.5	2.0	4569.6	0.6	0.2	U			H27	2.5	74Ba90
$^{172}\text{Yb}-^{171}\text{Yb}$	-50	230	55.66	0.15	0.1	U			R04	4.0	64De15
$^{172}\text{Os}(\alpha)^{168}\text{W}$	5226.8	10.	5224	7	-0.2	-				71Bo06	
	5227.8	10.			-0.3	-			Daa	96Pa01	
ave.	5227	7			-0.4	1	93	59 $^{168}\text{W}$		average	
$^{172}\text{Ir}(\alpha)^{168}\text{Re}$	5990.6	10.				4				92Sc16	*
$^{172}\text{Ir}^m(\alpha)^{168}\text{Re}$	6129.3	3.	6129.2	2.6	0.0	4			Ora	82De11	*
	6161	20			-1.6	F			GSa	84Sc.A	*
	6129.1	5.			0.0	4				92Sc16	*
	6123.0	12.			0.5	U			Daa	96Pa01	*
$^{172}\text{Pt}(\alpha)^{168}\text{Os}$	6464.8	4.	6464	4	-0.1	1	99	95 $^{172}\text{Pt}$	Ora	81De22	Z
	6474.8	15.			-0.7	U			Anv	09An20	
$^{172}\text{Au}(\alpha)^{168}\text{Ir}$	6923.2	10.				6			Jya	09Ha42	
$^{172}\text{Au}^m(\alpha)^{168}\text{Ir}^m$	7023.6	10.	7034	6	1.0	7				93Se09	
	7042.1	9.			-0.9	7			Daa	96Pa01	
	7033.8	10.			0.0	7			Jya	09Ha42	*
$^{172}\text{Hg}(\alpha)^{168}\text{Pt}$	7525.3	12.	7524	6	-0.1	3				99Se14	
	7536.5	16.			-0.8	o			Jya	04Ke06	
	7523.1	7.			0.1	3			Jya	09Sa27	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{170}\text{Er}(\text{t},\text{p})^{172}\text{Er}$	4034	4	4036	4	0.5	1	89	87	$^{172}\text{Er}$		80Sh14	
$^{172}\text{Yb}(\text{p},\text{i})^{170}\text{Yb}$	-6161	5	-6152.3	0.6	1.7	U			Min		73Oo01	
$^{171}\text{Yb}(\text{n},\gamma)^{172}\text{Yb}$	8020.3	0.7	8019.47	0.14	-1.2	-					71Al14 Z	
	8020.1	0.5			-1.3	-					75Gr32	
	8019.67	0.35			-0.6	-					85Ge02 Z	
	8019.27	0.17			1.2	-					06Fi.A	
$^{171}\text{Yb}(\text{d},\text{p})^{172}\text{Yb}$	5797	12	5794.90	0.14	-0.2	U			Kop		66Bu16	
	5789	5			1.2	U			Tal		66Sh14	
$^{172}\text{Yb}(\text{d},\text{i})^{171}\text{Yb}$	-1772	12	-1762.23	0.14	0.8	U			Kop		66Bu16	
$^{171}\text{Yb}(\text{n},\gamma)^{172}\text{Yb}$	ave.	8019.45	0.14	8019.47	0.14	0.1	1	100	63	$^{171}\text{Yb}$	average	
$^{171}\text{Yb}(\text{He},\text{d})^{172}\text{Lu}$		-792	34	-774.4	2.4	0.5	U			Roc	76El11	
$^{171}\text{Yb}(\alpha,\text{i})^{172}\text{Lu}-^{174}\text{Yb}(\text{p})^{175}\text{Lu}$	-791.9	2.0	-791.9	2.0	0.0	1	100	100	$^{172}\text{Lu}$	McM	75Bu02	
$^{172}\text{Er}(\beta^-)^{172}\text{Tm}$	888	5	891	5	0.6	1	83	70	$^{172}\text{Tm}$		62Gu03 *	
$^{172}\text{Tm}(\beta^-)^{172}\text{Yb}$	1870	10	1881	6	1.1	1	30	30	$^{172}\text{Tm}$		66Ha15	
$^{172}\text{Hf}(\text{e})^{172}\text{Lu}$	350	50	336	25	-0.3	R					79To18	
$^{172}\text{Ta}(\beta^+)^{172}\text{Hf}$	4920	180	5070	40	0.8	U					73Ca10 *	
$^{172}\text{W}(\beta^+)^{172}\text{Ta}$	3210	100	2230	40	-9.8	C					74Ca.A *	
* $^{172}\text{Re-u}$	M-A=-41640(200) keV for mixture gs+m at 0#100 keV											
* $^{172}\text{Re-u}$	M-A=-41533(28) keV for mixture gs+m at 0#100 keV											
* $^{172}\text{Ir}(\alpha)^{168}\text{Re}$	$E_\alpha=5510(10)$ to 89.7+123.2+136.3 level											
*	level at 349.2 considered uncertain											
*	$E_\alpha=5510(10)$ correlated with $E_\alpha=6260$ of $^{186}\text{Au}$											
* $^{172}\text{Ir}^m(\alpha)^{168}\text{Re}$	$E_\alpha=5736$ followed by XK( $\alpha$ ), 128 M2 and 161 M3 $\gamma$ 's											
* $^{172}\text{Ir}^m(\alpha)^{168}\text{Re}$	F : first assigned to $^{173}\text{Ir}(\alpha)$ ; seen in neither nuclide in reference											
* $^{172}\text{Ir}^m(\alpha)^{168}\text{Re}$	$E_\alpha=5828.2(3,Z)$ 5828(5) 5822(12) respectively, to $(8^+)$ level at 162.1 keV											
* $^{172}\text{Au}^m(\alpha)^{168}\text{Ir}^m$	$E_\alpha=6870(10)$ 6800(10) to ground state and 70 keV level											
* $^{172}\text{Er}(\beta^-)^{172}\text{Tm}$	$E_{\beta^-}=278(5)$ to $1^+$ level at 610.06 keV											
* $^{172}\text{Ta}(\beta^+)^{172}\text{Hf}$	$E_{\beta^+}=2480(180)$ to $4^-$ level at 1418.55 keV											
* $^{172}\text{W}(\beta^+)^{172}\text{Ta}$	$E_{\beta^+}=1600(100)$ in coinc. with 459 keV $\gamma$ from 586.3 level											
$\text{C}_{14}\text{H}_5-^{173}\text{Yb}$	101030	70	100910.0	2.2	-0.4	U			R04	4.0	64De15	
$\text{C}_{10}\text{H}_7\text{O}_2\text{N}-^{173}\text{Yb}$	109810	60	109463.3	2.2	-1.4	U			R04	4.0	64De15	
$^{173}\text{Hf-u}$	-59487	30				2			GS2	1.0	05Li24	
$^{173}\text{Ta-u}$	-56270	104	-56250	30	0.2	U			GS1	1.0	00Ra23	
	-56250	30				2			GS2	1.0	05Li24	
$^{173}\text{W-u}$	-52340	104	-52310	30	0.3	U			GS1	1.0	00Ra23	
	-52311	30				2			GS2	1.0	05Li24	
$^{173}\text{Re-u}$	-46910	110	-46760	30	1.4	U			GS1	1.0	00Ra23	
	-46757	30				2			GS2	1.0	05Li24	
$^{173}\text{Os-u}$	-40169	30	-40192	16	-0.8	1	29	29	$^{173}\text{Os}$	GS2	1.0	05Li24
$^{173}\text{Ir-u}$	-32450	100	-32494	12	-0.4	U			GS2	1.0	05Li24	
$^{173}\text{Yb}^{35}\text{Cl}_2-^{169}\text{Tm}^{37}\text{Cl}_2$	9898.3	1.2	9897.4	1.0	-0.3	1	12	7	$^{169}\text{Tm}$	H27	2.5	74Ba90
$^{173}\text{Yb}^{35}\text{Cl}-^{171}\text{Yb}^{37}\text{Cl}$	4827	4	4835.0	0.4	0.8	U			H23	2.5	70Wh01	
	4835.3	1.6			-0.1	U			H27	2.5	74Ba90	
$^{173}\text{Yb}-^{172}\text{Yb}$	1970	120	1829.3	0.4	-0.3	U			R04	4.0	64De15	
$^{173}\text{Os}(\alpha)^{169}\text{W}$	5057.2	10.	5055	6	-0.2	-					71Bo06	
	5055.2	7.			-0.1	-			GSa		84Sc.A	
$^{173}\text{Ir}(\alpha)^{169}\text{Re}^m$	5056	6			-0.2	1	97	69	$^{169}\text{W}$		average	
	5544.4	10.	5541	10	-0.3	1	90	76	$^{169}\text{Re}^m$		92Sc16	
$^{173}\text{Ir}^m(\alpha)^{169}\text{Re}$	5930.4	5.	5941.8	2.5	2.3	4					67Si02 *	
	5947.1	4.			-1.3	4			Ora		82De11 *	
	5937	10			0.5	4			GSa		84Sc.A *	
	5944.8	5.			-0.6	4					92Sc16 *	
	5951.9	13.			-0.8	4			Daa		96Pa01 *	
	5927.3	20.			0.7	U			Ara		01Ko.B	
$^{173}\text{Pt}(\alpha)^{169}\text{Os}$	6359.1	8.	6350	50	-0.1	3					79Ha10 Z	
	6352.3	3.			0.1	3			Ora		81De22 Z	
	6382.9	10.			-0.6	o			GSa		84Sc.A	
	6372.6	9.			-0.4	3			Daa		96Pa01	
	6387.9	15.			-0.7	U			Anv		09An20	
$^{173}\text{Au}(\alpha)^{169}\text{Ir}$	6830.2	6.	6836	5	1.0	4			Ara		99Po09	
	6847.6	8.			-1.4	4			Ara		01Ko44	
$^{173}\text{Au}^m(\alpha)^{169}\text{Ir}^m$	6896.8	10.	6896	3	0.0	-			GSa		84Sc.A	
	6909.1	9.			-1.4	-			Daa		96Pa01	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{173}\text{Au}^m(\alpha)^{169}\text{Ir}^m$	6891.6	4.	6896	3	1.2	—			Ara	99Po09		
	6900.8	6.			-0.7	—			Ara	01Ko44		
ave.	6896	3			0.0	1	100	89	$^{169}\text{Ir}^m$	average		
$^{173}\text{Hg}(\alpha)^{169}\text{Pt}$	7381.9	11.3	7378	4	-0.4	7			Jya	99Se14		
	7362.3	15.			1.0	7				04Ke06		
	7378.9	5.			-0.2	7				12Od01		
$^{173}\text{Yb}(\text{p},\text{l})^{171}\text{Yb}$	-5913	5	-5905.0	0.4	1.6	U			Min	73Oo01		
$^{172}\text{Yb}(\text{n},\gamma)^{173}\text{Yb}$	6367.3	0.4	6367.4	0.3	0.2	—				71Al01	Z	
	6367.2	0.6			0.3	—			Bdn	06Fi.A		
$^{173}\text{Yb}(\gamma,\text{n})^{172}\text{Yb}$	-6500	80	-6367.4	0.3	1.7	U			Phi	60Ge01		
$^{172}\text{Yb}(\text{d},\text{p})^{173}\text{Yb}$	4145	12	4142.8	0.3	-0.2	U			Kop	66Bu16		
$^{173}\text{Yb}(\text{d},\text{t})^{172}\text{Yb}$	-114	12	-110.1	0.3	0.3	U			Kop	66Bu16		
$^{172}\text{Yb}(\text{n},\gamma)^{173}\text{Yb}$	ave.	6367.3	0.3	6367.4	0.3	0.3	1	98	58	$^{172}\text{Yb}$	average	
$^{172}\text{Yb}(\alpha,\text{t})^{173}\text{Lu}-^{174}\text{Yb}(\text{n},\gamma)^{175}\text{Lu}$	-595.6	1.0	-595.6	1.0	0.0	1	100	100	$^{173}\text{Lu}$	McM	75Bu02	
$^{173}\text{Tm}(\beta^-)^{173}\text{Yb}$	1260	50	1298	5	0.8	U				63Ku22		
	1320	40			-0.6	U				63Or01		
$^{173}\text{Lu}(\varepsilon)^{173}\text{Yb}$	675	20	669.6	1.6	-0.3	U				73Ko13		
$^{173}\text{Ta}(\beta^+)^{173}\text{Hf}$	3670	200	3020	40	-3.3	B				73Re03		
$^{173}\text{W}(\beta^+)^{173}\text{Ta}$	4000	300	3670	40	-1.1	U				80Vi.A		
* $^{173}\text{Ir-u}$	M-A=-30113(70) keV for mixture gs+m at 228(9) keV											
* $^{173}\text{Ir}^m(\alpha)^{169}\text{Re}$	E $\alpha$ =5660.0(5,Z) 5676.2(4,Z) 5666(10) 5674(5) 5681(13) respectively, to (11/2-) level at 136.24 keV											
*												
$\text{C}_{14}\text{H}_6-^{174}\text{Yb}$	108308	38	108083.8	2.2	-1.5	U			R04	4.0	64De15	
$^{174}\text{Ta-u}$	-55546	30			2				GS2	1.0	05Li24	
$^{174}\text{W-u}$	-53940	104	-53920	30	0.2	U			GS1	1.0	00Ra23	
	-53921	30			2				GS2	1.0	05Li24	
$^{174}\text{Re-u}$	-46930	104	-46890	30	0.4	U			GS1	1.0	00Ra23	
	-46885	30			2				GS2	1.0	05Li24	
$^{174}\text{Os-u}$	-42880	110	-42936	11	-0.5	U			GS1	1.0	00Ra23	
	-42919	30			-0.6	1	13	13	$^{174}\text{Os}$	GS2	1.0	05Li24
$^{174}\text{Ir-u}$	-33127	72	-33139	30	-0.2	R			GS2	1.0	05Li24	
$^{174}\text{Yb}^{35}\text{Cl}-^{172}\text{Yb}^{37}\text{Cl}$	5420	4	5430.6	0.4	1.1	U			H23	2.5	70Wh01	
	5430.3	1.1			0.1	U			H27	2.5	74Ba90	
$^{174}\text{Yb}-^{173}\text{Yb}$	700	50	651.30	0.06	-0.2	U			R04	4.0	64De15	
$^{174}\text{Hf}(\alpha)^{170}\text{Yb}$	2558.9	30.	2493.2	2.4	-2.2	U					61Ma05	
$^{174}\text{Os}(\alpha)^{170}\text{W}$	4872.2	10.	4870	10	-0.2	1	90	78	$^{170}\text{W}$		71Bo06	
$^{174}\text{Ir}(\alpha)^{170}\text{Re}$	5624.1	10.			3						92Sc16 *	
$^{174}\text{Ir}^m(\alpha)^{170}\text{Re}$	5817.6	6.	5817	4	-0.1	3					67Si02 *	
	5816.4	5.			0.1	3					92Sc16 *	
$^{174}\text{Pt}(\alpha)^{170}\text{Os}$	6176.3	10.	6183	3	0.7	2					79Ha10 Z	
	6185.7	5.			-0.5	2			Ora	81De22	Z	
	6182.5	5.			0.2	2			Ara	04Go38		
$^{174}\text{Au}(\alpha)^{170}\text{Ir}$	6700.3	10.	6699	7	-0.1	7			GSa	84Sc.A		
	6698.3	10.			0.1	7			Daa	96Pa01	*	
$^{174}\text{Au}^m(\alpha)^{170}\text{Ir}^m$	6683.9	20.	6784	8	5.0	B			GSa	83Sc24	*	
	6778	10			0.6	7			GSa	84Sc.A	*	
	6793.5	13.			-0.7	7			Daa	96Pa01		
$^{174}\text{Hg}(\alpha)^{170}\text{Pt}$	7235.6	11.	7233	6	-0.2	2			Jya	97Uu01		
	7232.5	8.2			0.1	2				99Se14		
	7231.5	14.3			0.1	2			Bka	01Ro.B		
$^{174}\text{Yb}(\text{p},\text{l})^{172}\text{Yb}$	-5359	5	-5350.2	0.3	1.8	U			Min	73Oo01		
$^{173}\text{Yb}(\text{n},\gamma)^{174}\text{Yb}$	7464.63	0.06	7464.63	0.06	0.1	1	100	54	$^{174}\text{Yb}$	MMn	82Is05 Z	
	7464.58	0.35			0.2	U			ILn	87Ge01	Z	
	7465.5	0.4			-2.2	U			Bdn	06Fi.A		
$^{173}\text{Yb}(\text{d},\text{p})^{174}\text{Yb}$	5239	12	5240.07	0.06	0.1	U			Kop	66Bu16		
	5229	5			2.2	U			Tal	66Sh14		
$^{174}\text{Yb}(\text{d},\text{t})^{173}\text{Yb}$	-1218	12	-1207.40	0.06	0.9	U			Kop	66Bu16		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{173}\text{Yb}(\alpha, t)^{174}\text{Lu} - ^{174}\text{Yb}(0)^{175}\text{Lu}$	-202.1	1.0	-202.1	1.0	0.0	1	100	100	$^{174}\text{Lu}$	McM	75Bu02	
$^{174}\text{Tm}(\beta^-)^{174}\text{Yb}$	3080	100	3080	40	0.0	2					64Ka16 *	
	3080	50			0.0	2					67Gu12 *	
$^{174}\text{Lu}(\beta^+)^{174}\text{Yb}$	1402	5	1373.4	1.6	-5.7	B					68Kl08	
$^{174}\text{Lu}(\epsilon)^{174}\text{Yb}$	1370	7			0.5	U					68Li01 *	
$^{174}\text{Ta}(\beta^+)^{174}\text{Hf}$	3845	80	4106	28	3.3	B					71Ch26 *	
* $^{174}\text{Ir-u}$	M-A=-30761(36) keV for mixture gs+m at 193(11) keV										Nub127 **	
* $^{174}\text{Ir}(\alpha)^{170}\text{Re}$	$E_\alpha=5275(10)$ to $(3^+)$ level at 224.7 keV										Ens02b **	
* $^{174}\text{Ir}^m(\alpha)^{170}\text{Re}$	$E_\alpha=5478(6)$ to $(7^+)$ level at 210.32 keV										Ens02b **	
* $^{174}\text{Ir}^m(\alpha)^{170}\text{Re}$	$E_\alpha=5478(5)$ 5316(10) to $(7^+)$ at 210.32 and 370.1 level										Ens02b **	
* $^{174}\text{Au}(\alpha)^{170}\text{Ir}$	$E_\alpha=6538$ correlated with $^{170}\text{Ir}$ $E_\alpha=5817$ keV and only this with $^{178}\text{Tl}$ $\alpha$ 's										02Ro17 **	
*											02Ro17 **	
* $^{174}\text{Au}^m(\alpha)^{170}\text{Ir}^m$	$E_\alpha=6530(20)$ to level above 76 keV										84Sc.A **	
* $^{174}\text{Au}^m(\alpha)^{170}\text{Ir}^m$	$E_\alpha=6626, 6470, 6435$ to $^{170}\text{Ir}^m$ and levels above $^{170}\text{Ir}^m$ ( $9^+$ ) at 152.5, ( $7^-, 8^-, 9^-$ ) at 190.56; last two $E_\alpha$ originally assigned to $^{175}\text{Au}$										Ens082 **	
*											01Ko.B **	
* $^{174}\text{Tm}(\beta^-)^{174}\text{Yb}$	$E_\beta^- = 1200(100)$ 1200(50) respectively, to $5^-$ level at 1884.674 keV, and other $E_\beta^-$										Ens998 **	
* $^{174}\text{Lu}(\epsilon)^{174}\text{Yb}$	No K capture to $2^-$ level at 1318.361 keV $> Q < 1380$ ; and L capture of $^{174}\text{Lu}^m$ at 170.83 to $^{174}\text{Yb}^m$ at 1518.148 keV $> Q_{gs} > 1357$ keV										Ens998 **	
*											Nub127 **	
* $^{174}\text{Ta}(\beta^+)^{174}\text{Hf}$	$E_{\beta^+}=2525(80)$ to $4^+$ level at 297.38 keV										Ens04a **	
$^{175}\text{Lu}^{37}\text{Cl} - ^{142}\text{Nd}^{35}\text{Cl}_2$	61249.5	2.5	61243.4	2.1	-1.0	U			H31	2.5	77So02	
$\text{C}_{14}\text{H}_7 - ^{175}\text{Lu}$	114121	37	114000.0	2.0	-0.8	U			R04	4.0	64De15	
$\text{C}_{13}^{13}\text{C}\text{H}_6 - ^{175}\text{Lu}$	109763	36	109529.8	2.0	-1.6	U			R04	4.0	64De15	
$^{175}\text{Ta-u}$	-56350	120	-56260	30	0.7	U			GS1	1.0	00Ra23	
	-56263	30			2				GS2	1.0	05Li24	
$^{175}\text{W-u}$	-53290	104	-53280	30	0.1	U			GS1	1.0	00Ra23	
	-53283	30			2				GS2	1.0	05Li24	
$^{175}\text{Re-u}$	-48630	104	-48620	30	0.1	U			GS1	1.0	00Ra23	
	-48619	30			2				GS2	1.0	05Li24	
$^{175}\text{Os-u}$	-43120	110	-43055	13	0.6	U			GS1	1.0	00Ra23	
	-43024	30			-1.0	1	18	18	$^{175}\text{Os}$	GS2	1.0	05Li24
$^{175}\text{Ir-u}$	-34353	1288	-35850	13	-0.5	U					2.5	91Br17
	-35828	30			-0.7	1	20	20	$^{175}\text{Ir}$	GS2	1.0	05Li24
$^{175}\text{Lu}^{35}\text{Cl} - ^{173}\text{Yb}^{37}\text{Cl}$	5503	4	5510.1	1.4	0.7	U			H23	2.5	70Wh01	
	5507.3	1.4			0.8	1	15	9	$^{173}\text{Yb}$	H27	2.5	74Ba90
$^{175}\text{Lu O-C}_{16}$	-64316.3	4.5	-64310.2	2.0	0.9	U			TG1	1.5	11Ke03	
$^{175}\text{Ir}(\alpha)^{171}\text{Re}$	5709.0	5.	5430	30	-55.6	B					67Si02 *	
	5709.2	5.			-55.7	B					92Sc16 *	
$^{175}\text{Pt}(\alpha)^{171}\text{Os}$	6179	5	6178.1	2.6	-0.2	-					79Ha10 *	
	6178.1	3.			0.0	-			Ora		82De11 *	
ave.	6178.3	2.6			-0.1	1	100	91	$^{175}\text{Pt}$		average	
$^{175}\text{Au}(\alpha)^{171}\text{Ir}$	6562.3	15.	6577	7	0.9	6			Bka		02Ro17 *	
	6580.6	8.			-0.5	6			Ara		11Ko.B *	
$^{175}\text{Au}^m(\alpha)^{171}\text{Ir}^m$	6590.9	10.	6583	3	-0.7	10			Ora		75Ca06	
	6775.8	10.			-19.3	F			GSa		84Sc.A *	
	6588.8	9.			-0.6	10			Daa		96Pa01	
	6579.6	6.			0.6	10			Ara		01Ko44	
	6582.7	5.			0.1	10			Anv		10An01	
	6581.6	8.			0.2	10			Ara		11Ko.B *	
$^{175}\text{Hg}(\alpha)^{171}\text{Pt}$	7020.7	20.	7072	5	2.5	o			GSa		83Sc24	
	7039.2	20.			1.6	U			GSa		84Sc.A	
	7071.0	24.			0.1	o			Daa		96Pa01	
	7058.7	11.			1.2	8			Jya		97Uu01	
	7075	5.			-0.5	8			Daa		09Od01	
	7082.1	20.			-0.5	U			Anv		10An01	
$^{174}\text{Yb}(\text{n}, \gamma)^{175}\text{Yb}$	5822.35	0.07	5822.36	0.07	0.1	1	100	62	$^{175}\text{Yb}$	MMn	82Is05 Z	
	5822.5	0.4			-0.4	U			Bdn		06Fi.A	
$^{174}\text{Yb}(\text{d}, \text{p})^{175}\text{Yb}$	3595	12	3597.79	0.07	0.2	U			Kop		66Bu16	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{174}\text{Yb}(\alpha, t)^{175}\text{Lu}$	-14303	10	-14302.9	1.3	0.0	U			McM	75Bu02	
$^{175}\text{Lu}(\gamma, n)^{174}\text{Lu}$	-7880	80	-7666.7	1.0	2.7	U			Phi	60Ge01	
$^{175}\text{Lu}(d, t)^{174}\text{Lu}$	-1400	10	-1409.5	1.0	-1.0	U			Tal	70Jo08	
$^{174}\text{Hf}(n, \gamma)^{175}\text{Hf}$	6708.4	0.5	6708.5	0.4	0.2	-				71Al01	Z
					-0.5	-			Bdn	06Fi.A	
										average	
										66Wi04	*
$^{175}\text{Tm}(\beta^-)^{175}\text{Yb}$	2385	50				2					
$^{175}\text{Yb}(\beta^-)^{175}\text{Lu}$	466	3	471.0	1.3	1.7	-				55De18	
	468	5			0.6	-				55Mi90	
	471	3			0.0	-				56Co13	
	467	3			1.3	-				62Ba32	
	ave.	468.0	1.6		1.8	1	59	38 $^{175}\text{Yb}$		average	
$^{175}\text{Hf}(\varepsilon)^{175}\text{Lu}$	628	9	683.7	2.0	6.2	B				68Ja11	*
	650	20			1.7	U				69Jo16	*
	630	3			17.9	B				88Si22	*
* $^{175}\text{Ir}(\alpha)^{171}\text{Re}$	$E_\alpha=5392.8(5, Z)$ to 189.8 level									95Hi02	**
* $^{175}\text{Ir}(\alpha)^{171}\text{Re}$	$E_\alpha=5393(5)$ to 189.8 level									95Hi02	**
* $^{175}\text{Pt}(\alpha)^{171}\text{Os}$	$E_\alpha=6037(10)$ , 5963.0(5, Z) to ground state, 76.4(0.5) level									84Sc.A	**
* $^{175}\text{Pt}(\alpha)^{171}\text{Os}$	$E_\alpha=5959.2(3, Z)$ to 76.4(0.5) level									84Sc.A	**
* $^{175}\text{Au}(\alpha)^{171}\text{Ir}$	Analysis by AHW of data in Fig. 3 of reference									02Ro17	**
* $^{175}\text{Au}(\alpha)^{171}\text{Ir}$	Correlated with $E_\alpha=6556(8)$ of $^{179}\text{Tl}$ and 5728(8) of $^{171}\text{Ir}$									11Ko.B	**
* $^{175}\text{Au}^m(\alpha)^{171}\text{Ir}^m$	$E_\alpha=6435(10)$ and 6470(20) to 190.0 and 152.7 levels									84Sc.A	**
* $^{175}\text{Au}^m(\alpha)^{171}\text{Ir}^m$	F : Belonground state to $^{174}\text{Au}$ !									01Ko.B	**
* $^{175}\text{Au}^m(\alpha)^{171}\text{Ir}^m$	Correlated with $E_\alpha=7194(8)$ of $^{179}\text{Tl}^m$ and 5958(8) of $^{171}\text{Ir}^m$									11Ko.B	**
*	different method and different detectors as compared to 2001Ko44									11Ko.B	**
* $^{175}\text{Tm}(\beta^-)^{175}\text{Yb}$	$E_\beta-=1870(50)$ to $1/2^-$ level at 514.866 keV									Ens04a	**
* $^{175}\text{Hf}(\varepsilon)^{175}\text{Lu}$	$pK=0.712(0.008)$ 0.740(0.015) 0.714(0.002) respectively,									AHW	**
*	to $7/2^+$ level at 432.74 keV, and other capture ratios, recalculated									Ens04a	**

$\text{C}_{14}\text{H}_8-^{176}\text{Yb}$	119980	46	120023.8	2.4	0.2	U			R04	4.0	64De15
$\text{C}_{13}\text{H}_6\text{N}-^{176}\text{Yb}$	107190	110	107447.8	2.4	0.6	U			R04	4.0	64De15
$^{176}\text{Lu}^{37}\text{Cl}-^{143}\text{Nd}^{35}\text{Cl}_2$	61067.2	1.4	61066.9	2.1	-0.1	1	35	19 $^{176}\text{Lu}$	H31	2.5	77So02
$\text{C}_{14}\text{H}_8-^{176}\text{Lu}$	119962	49	119910.6	2.0	-0.3	U			R04	4.0	64De15
$^{176}\text{Lu O-C}_{16}$	-62394.1	7.6	-62395.7	2.0	-0.1	U			TG1	1.5	11Ke03
$^{176}\text{Hf O-C}_{16}$	-63668.5	9.8	-63677.8	2.2	-0.6	U			TG1	1.5	11Ke03
$^{176}\text{Ta-u}$	-55143	33			2				GS2	1.0	05Li24
$^{176}\text{W-u}$	-54420	104	-54370	30	0.5	U			GS1	1.0	00Ra23
	-54366	30			2				GS2	1.0	05Li24
$^{176}\text{Re-u}$	-48380	110	-48380	30	0.0	U			GS1	1.0	00Ra23
	-48377	30			2				GS2	1.0	05Li24
$^{176}\text{Os-u}$	-45150	110	-45190	30	-0.4	U			GS1	1.0	00Ra23
	-45194	30			2				GS2	1.0	05Li24
$^{176}\text{Ir-u}$	-36328	30	-36350	22	-0.7	1	54	54 $^{176}\text{Ir}$	GS2	1.0	05Li24
$^{176}\text{Yb}^{35}\text{Cl}_2-^{172}\text{Yb}^{37}\text{Cl}_2$	12088.9	2.4	12090.7	1.2	0.3	U			H27	2.5	74Ba90
$^{176}\text{Yb}^{35}\text{Cl}-^{174}\text{Yb}^{37}\text{Cl}$	6652	3	6660.1	1.1	1.1	U			H23	2.5	70Wh01
	6656.3	1.4			1.1	U			H27	2.5	74Ba90
$^{176}\text{Hf}^{35}\text{Cl}-^{174}\text{Hf}^{37}\text{Cl}$	4106	16	4311.6	1.9	5.1	B			H24	2.5	73Ba40
	4314.21	0.86			-1.2	1	76	74 $^{174}\text{Hf}$	H37	2.5	77Sh12
$^{176}\text{Lu}-^{175}\text{Lu}$	1980	60	1914.49	0.16	-0.3	U			R04	4.0	64De15
$^{176}\text{Yb}-^{174}\text{Yb}$	4000	50	3710.0	1.1	-1.4	U			R04	4.0	64De15
$^{176}\text{Ir}(\alpha)^{172}\text{Re}$	5237.3	8.	5240	40	0.1	1	60	53 $^{172}\text{Re}$			67Si02
$^{176}\text{Pt}(\alpha)^{172}\text{Os}$	5890.1	5.	5885.0	2.1	-1.0	-					79Ha10
	5881.4	4.			0.9	-			Bka	82Bo04	Z
	5887.3	3.			-0.7	-			Ora	82De11	Z
	5874.8	8.			1.3	-			Daa	96Pa01	
	ave.	5885.2	2.1		-0.1	1	99	66 $^{172}\text{Os}$		average	
$^{176}\text{Au}(\alpha)^{172}\text{Ir}$	6574.2	10.	6558	7	-1.6	5			Ora	75Ca06	*
	6541.5	10.			1.6	5			Gsa	84Sc.A	*
$^{176}\text{Au}^m(\alpha)^{172}\text{Ir}^m$	6436.6	10.	6433	5	-0.3	5			Ora	75Ca06	*
	6428.4	10.			0.5	5			Gsa	84Sc.A	*
	6433.4	6.			-0.1	5			Ara	01Ko44	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{176}\text{Hg}(\alpha)^{172}\text{Pt}$	6907.2	20.	6899	6	-0.4	o			GSa	83Sc24	
	6924.7	10.			-2.5	U			GSa	84Sc.A	
	6907.3	20.			-0.4	U			Daa	96Pa01	
	6897.0	6.			0.4	-			Ara	99Po09	
	6917.5	15.			-1.2	-			Anv	09An20	
	ave.	6900	6		-0.1	1	99	$^{94}\text{Hg}$			average
		7628.8	4.4			2			NDm	78Ta10	
$^{176}\text{Yb}(\text{p},\alpha)^{173}\text{Tm}$	-4216	5	-4205.0	1.0	2.2	U			Min	73Oo01	
$^{176}\text{Yb}(\text{p,t})^{174}\text{Yb}$	-6397	5	-6392.6	1.7	0.9	1	12	$^{12}\text{Hf}$	Min	73Oo01	
$^{176}\text{Yb}(\text{d,t})^{175}\text{Yb}$	-621	12	-607.2	1.0	1.2	U			Kop	66Bu16	
$^{175}\text{Lu}(\text{n},\gamma)^{176}\text{Lu}$	6293.2	1.2	6287.98	0.15	-4.3	B				70Wa20	
		6287.96	0.15		0.1	1	100	$^{70}\text{Lu}$	ILn	91Kl02	Z
		6289.78	0.24		-7.5	C			Bdn	06Fi.A	
$^{175}\text{Lu}(\text{d,p})^{176}\text{Lu}$	4070	8	4063.42	0.15	-0.8	U			Tal	67St14	
$^{176}\text{Lu}(\text{d,t})^{175}\text{Lu}$	-25	15	-30.75	0.15	-0.4	U			Tal	71Mi01	
$^{176}\text{Hf}(\text{d,t})^{175}\text{Hf}$	-1925	8	-1908.7	1.8	2.0	U			Tal	73Za08	
$^{176}\text{Tl}(\text{p})^{175}\text{Hg}$	1265.2	18.			9				Jyp	04Ke06	
$^{176}\text{Tm}(\beta^-)^{176}\text{Yb}$	4120	100			2					67Gu11	*
$^{176}\text{Lu}(\beta^-)^{176}\text{Hf}$	1162	25	1194.2	0.9	1.3	U				69Pr11	*
		1194.1	1.0		0.1	1	76	$^{66}\text{Hf}$		73Va11	*
$^{176}\text{Ta}(\beta^+)^{176}\text{Hf}$	3100	90	3210	30	1.3	U				71Be10	*
* $^{176}\text{Au}(\alpha)^{172}\text{Ir}$	$E_\alpha=6260(10)$ coinc. with $E(\gamma)=168.4(0.5)$ keV									75Ca06	**
* $^{176}\text{Au}(\alpha)^{172}\text{Ir}$	$E_\alpha=6228(10)$ to $168.4(0.5)$ $\gamma$									84Sc.A	**
* $^{176}\text{Au}(\alpha)^{172}\text{Ir}$	$E_\alpha=6260$ correlated with $^{172}\text{Ir}$ $E_\alpha=5510$ keV									02Ro17	**
* $^{176}\text{Au}^m(\alpha)^{172}\text{Ir}^m$	$E_\alpha=6286$ correlated with $^{172}\text{Ir}^m$ $E_\alpha=5828$ keV									02Ro17	**
* $^{176}\text{Au}^m(\alpha)^{172}\text{Ir}^m$	$E_\alpha=6119+E(\gamma)=175.1$ was misassigned to $^{177}\text{Au}$									01Ko44	**
* $^{176}\text{Au}^m(\alpha)^{172}\text{Ir}^m$	$E_\alpha=6115(6)$ coinc. with 175.1 $\gamma$ of reference									84Sc.A	**
* $^{176}\text{Tm}(\beta^-)^{176}\text{Yb}$	$E_{\beta^-}=2000(100), 1150(100)$ to $(3^+, 4^+)$ level at 2053.34, $(3^+, 4^+, 5^+)$ 3052.2									Ens062	**
* $^{176}\text{Lu}(\beta^-)^{176}\text{Hf}$	$E_{\beta^-}=565(25)$ to $6^+$ level at 596.82 keV									Ens062	**
* $^{176}\text{Lu}(\beta^-)^{176}\text{Hf}$	$Q_{\beta^-}=1317(1)$ from $^{176}\text{Lu}^m$ at 122.855(0.009) keV									Nub127	**
* $^{176}\text{Ta}(\beta^+)^{176}\text{Hf}$	$KLM/\beta^+=119(50)$ to $2^-$ level at 1247.70 keV, $1^+$ level at 2994 keV									Ens062	**
$^{177}\text{Ta-u}$	-55559	30	-55521	4	1.3	U			GS2	1.0	05Li24
$^{177}\text{W-u}$	-53420	110	-53360	30	0.6	U			GS1	1.0	00Ra23
	-53357	30			2				GS2	1.0	05Li24
$^{177}\text{Re-u}$	-49620	104	-49670	30	-0.5	U			GS1	1.0	00Ra23
	-49672	30			2				GS2	1.0	05Li24
$^{177}\text{Os-u}$	-45020	104	-45034	17	-0.1	U			GS1	1.0	00Ra23
	-45012	30			-0.7	R			GS2	1.0	05Li24
$^{177}\text{Ir-u}$	-38810	110	-38699	21	1.0	U			GS1	1.0	00Ra23
	-38699	30			0.0	2			GS2	1.0	05Li24
$^{177}\text{Pt-u}$	-31545	30	-31530	16	0.5	1	29	$^{29}\text{Pt}$	GS2	1.0	05Li24
$^{177}\text{Hf O-C}_{16}$	-61845.2	7.2	-61857.7	2.0	-1.2	U			TG1	1.5	11Ke03
$^{177}\text{Ir}(\alpha)^{173}\text{Re}$	5127.1	10.	5080	30	-0.9	F				67Si02	*
$^{177}\text{Pt}(\alpha)^{173}\text{Os}$	5654.6	6.	5642.8	2.7	-1.9	-				79Ha10	Z
	5640.4	3.			0.8	-			Bka	82Bo04	Z
$^{177}\text{Au}(\alpha)^{173}\text{Ir}$	ave.	5643.3	2.7		-0.2	1	99	$^{55}\text{Pt}$		average	
		6292.5	10.	6298	4	0.6	-		Daa	75Ca06	
$^{177}\text{Au}^m(\alpha)^{173}\text{Ir}^m$	ave.	6292.5	20.		0.3	U			GSa	84Sc.A	
		6296.5	10.		0.2	-			Daa	96Pa01	
		6298.6	6.		0.0	-			Ara	01Ko44	
		6303.7	7.		-0.7	-			Anv	09An14	
		6299	4		-0.1	1	99	$^{86}\text{Ir}$		average	
$^{177}\text{Hg}(\alpha)^{173}\text{Pt}$	ave.	6251.5	10.	6262	4	1.0	3		Ora	75Ca06	
		6260.8	10.		0.1	3			GSa	84Sc.A	*
		6259.7	9.		0.2	3			Daa	96Pa01	*
		6263.8	6.		-0.3	3			Ara	01Ko44	
		6265.8	7.		-0.6	3			Anv	09An14	
		6732.4	8.	6740	50	0.1	4			79Ha10	
		6747.8	10.		-0.2	4				91KoA	
		6730.3	9.		0.1	4			Daa	96Pa01	
		6734.5	15.		0.0	4			Anv	09An20	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{177}\text{Tl}(\alpha)^{173}\text{Au}$	7067.0	7.				3			Ara	99Po09		
$^{177}\text{Tl}^m(\alpha)^{173}\text{Au}^m$	7660.4	13.	7654	9	-0.5	-			Ara	99Po09		
	7645.1	13.			0.7	-			Jya	04Ke06		
ave.	7653	9			0.1	1	97	90	$^{173}\text{Au}^m$	average		
$^{177}\text{Hf}(\text{p},\text{t})^{175}\text{Hf}$	-6071	5	-6060.0	2.0	2.2	1	16	15	$^{175}\text{Hf}$	Min	73Oo01	
$^{176}\text{Yb}(\text{n},\gamma)^{177}\text{Yb}$	5565.1	1.0	5566.40	0.22	1.3	U				72Al19	Z	
	5566.40	0.22			2				Bdn	06Fi.A		
$^{176}\text{Yb}(\text{d},\text{p})^{177}\text{Yb}$	3340	16	3341.83	0.22	0.1	U			Tal	63Ve09		
	3337	12			0.4	U			Kop	66Bu16		
$^{176}\text{Yb}(\alpha,\text{t})^{177}\text{Lu}-^{174}\text{Yb}(\text{p})^{175}\text{Lu}$	674.1	1.0	674.1	1.0	0.0	1	100	100	$^{176}\text{Yb}$	McM	75Bu02	
$^{176}\text{Lu}(\text{n},\gamma)^{177}\text{Lu}$	7071.2	0.4	7072.90	0.16	4.2	B				71Ma45	Z	
	7073.1	0.4			-0.5	-			72Mi16	Z		
	7072.85	0.17			0.3	-			Bdn	06Fi.A		
$^{176}\text{Lu}(\text{d},\text{p})^{177}\text{Lu}$	4843	10	4848.33	0.16	0.5	U			Tal	71Mi01		
$^{176}\text{Lu}(\text{n},\gamma)^{177}\text{Lu}$	7072.89	0.16	7072.90	0.16	0.1	1	99	59	$^{177}\text{Lu}$	average		
$^{176}\text{Hf}(\text{n},\gamma)^{177}\text{Hf}$	6385.8	0.8	6375.9	1.0	-12.4	C			Bdn	06Fi.A		
$^{177}\text{Hf}(\gamma,\text{n})^{176}\text{Hf}$	-6400	30	-6375.9	1.0	0.8	U			Phi	60Ge01		
$^{176}\text{Hf}(\text{d},\text{p})^{177}\text{Hf}$	4150	7	4151.3	1.0	0.2	U			Tal	68Ri07		
$^{177}\text{Hf}(\text{d},\text{t})^{176}\text{Hf}$	-127	11	-118.7	1.0	0.8	U			Tal	72Za04		
$^{177}\text{Ti}(\text{p})^{176}\text{Hg}$	1162.6	20.	1160	20	-0.1	o			Arp	99Po09	*	
$^{177}\text{Ti}^m(\text{p})^{176}\text{Hg}$	1969.2	10.	1967	8	-0.3	-			Arp	99Po09		
	1965.2	12.			0.1	-			Jyp	04Ke06		
ave.	1968	8			-0.1	1	98	92	$^{177}\text{Ti}^m$	average		
$^{177}\text{Yb}(\beta^-)^{177}\text{Lu}$	1400	20	1401.0	1.6	0.1	U				64Jo03		
$^{177}\text{Lu}(\beta^-)^{177}\text{Hf}$	497	2	497.2	0.8	0.1	-				55Ma12		
	496.4	1.0			0.8	-				62El02	*	
ave.	496.5	0.9			0.8	1	78	41	$^{177}\text{Lu}$	average		
$^{177}\text{Ta}(\beta^+)^{177}\text{Hf}$	1166	3			2					61We11		
$^{177}\text{Au}^m(\text{IT})^{177}\text{Au}$	210	30	189	8	-0.7	o				01Ko44	*	
$^{177}\text{Ti}^m(\text{IT})^{177}\text{Ti}$	807	18			2					99Po09		
* $^{177}\text{Ir}(\alpha)^{173}\text{Re}$										95Hi02	**	
* $^{177}\text{Au}^m(\alpha)^{173}\text{Ir}^m$										84Sc.A	**	
*										01Ko44	**	
*										02Ro17	**	
* $^{177}\text{Au}^m(\alpha)^{173}\text{Ir}^m$										96Pa01	**	
*										AHW	**	
* $^{177}\text{Ti}(\text{p})^{176}\text{Hg}$										AHW	**	
* $^{177}\text{Lu}(\beta^-)^{177}\text{Hf}$										Ens035	**	
* $^{177}\text{Au}^m(\text{IT})^{177}\text{Au}$										AHW	**	
*										09An14	**	
					x is better known from $^{181}\text{Ti}^m(\text{IT})^{181}\text{Ti}$ combined with $Q_\alpha$							
$^{178}\text{W-u}$	-54152	30	-54117	16	1.2	U			GS2	1.0	05Li24	
$^{178}\text{Re-u}$	-48800	110	-49010	30	-1.9	U			GS1	1.0	00Ra23	
	-49011	30			2				GS2	1.0	05Li24	
$^{178}\text{Os-u}$	-46790	104	-46746	15	0.4	U			GS1	1.0	00Ra23	
	-46710	30			-1.2	1	24	24	$^{178}\text{Os}$	GS2	1.0	05Li24
$^{178}\text{Ir-u}$	-38950	110	-38918	21	0.3	U			GS1	1.0	00Ra23	
	-38888	30			-1.0	2			GS2	1.0	05Li24	
$^{178}\text{Pt-u}$	-34783	1181	-34350	11	0.1	U				2.5	91Br17	
	-34300	110			-0.5	U			GS1	1.0	00Ra23	
	-34333	30			-0.6	1	13	13	$^{178}\text{Pt}$	GS2	1.0	05Li24
$^{178}\text{Hf}^{35}\text{Cl}-^{176}\text{Hf}^{37}\text{Cl}$	5236	5	5248.3	1.1	1.0	U			H23	2.5	70Wh01	
	5239.5	1.3			2.7	U			H27	2.5	74Ba90	
$^{178}\text{Hf O-C}_{16}$	-61364.8	7.9	-61379.5	2.0	-1.2	U			TG1	1.5	11Ke03	
$^{178}\text{Pt-}^{175}\text{Ir}$	-472	1052	1500	17	0.7	U				2.5	91Br17	
$^{178}\text{Pt}(\alpha)^{174}\text{Os}$	5583.3	5.	5572.9	2.2	-2.0	-				79Ha10	Z	
	5569.9	3.			1.0	-			Bka	82Bo04	Z	
	5568.4	13.			0.3	U			Lvn	94Wa23		
	5572.4	4.			0.1	-			Ara	00Ko16	*	
ave.	5573.1	2.2			-0.1	1	99	75	$^{174}\text{Os}$	average		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{178}\text{Au}(\alpha)^{174}\text{Ir}$	6056.4	10.	6120	50	1.2	F				68Si01	*
	6117.7	20.				4				86Ke03	
$^{178}\text{Hg}(\alpha)^{174}\text{Pt}$	6578.1	6.	6577.3	3.0	-0.1	3				79Ha10	
	6576.1	9.			0.1	3				96Pa01	
	6577.1	4.			0.1	3				00Ko48	
	6578.1	8.			-0.1	3				09An14	
$^{178}\text{Tl}(\alpha)^{174}\text{Au}$	7017.0	5.				8				Bka	02Ro17
$^{178}\text{Pb}(\alpha)^{174}\text{Hg}$	7790.4	14.				3				Bka	01Ro.B
$^{178}\text{Pt}(\text{p},\alpha)^{175}\text{Ir}$	4420	980	6261	16	1.9	U					91Br17
$^{176}\text{Yb}(\text{t,p})^{178}\text{Yb}$	3865	10				2				Phi	82Zu02
$^{176}\text{Lu}(\text{t,p})^{178}\text{Lu}^m$	4482	5	4492.6	2.9	2.1	1	34	34	$^{178}\text{Lu}^m$	LAl	81Gi01
$^{178}\text{Hf}(\text{p,t})^{176}\text{Hf}$	-5531	5	-5520.1	1.0	2.2	U				Min	73Oo01
$^{177}\text{Hf}(\text{n},\gamma)^{178}\text{Hf}$	7625	1	7625.95	0.18	1.0	U					69Fa01
	7624.4	1.5			1.0	U					77St10
	7626.2	0.3			-0.8	-				ILn	86Ha22
	7625.80	0.22			0.7	-				Bdn	06Fi.A
$^{178}\text{Hf}(\text{d,t})^{177}\text{Hf}$	-1364	9	-1368.72	0.18	-0.5	U				Tal	68Ri07
$^{177}\text{Hf}(\text{n},\gamma)^{178}\text{Hf}$	ave.	7625.94	0.18	7625.95	0.18	0.1	1	99	62	$^{177}\text{Hf}$	average
$^{178}\text{Yb}(\beta^-)^{178}\text{Lu}$	641	30	646	10	0.2	U					73Or03
$^{178}\text{Lu}^m(\text{IT})^{178}\text{Lu}$	120	3	123.8	2.6	1.3	1	76	66	$^{178}\text{Lu}^m$	McM	93Bu02
$^{178}\text{Lu}(\beta^-)^{178}\text{Hf}$	2046	50	2097.9	2.1	1.0	U					73Or03
	2117	30			-0.6	U					75Ka15
$^{178}\text{Ta}^m(\beta^+)^{178}\text{Hf}$	1937	15				2					61Ga05
$^{178}\text{W}(\varepsilon)^{178}\text{Ta}^m$	91.3	2.				3					67Ni02
$^{178}\text{Re}(\beta^+)^{178}\text{W}$	4660	180	4760	30	0.5	U					70Go20
* $^{178}\text{Pt}(\alpha)^{174}\text{Os}$	Also $E_\alpha=5289(8)$ keV to $2^+$ 158.601 level (not used)										
* $^{178}\text{Au}(\alpha)^{174}\text{Ir}$											86Ke03
* $^{178}\text{Tl}(\alpha)^{174}\text{Au}$											02Ro17
* $^{178}\text{Yb}(\beta^-)^{178}\text{Lu}$											Ens097
* $^{178}\text{Lu}(\beta^-)^{178}\text{Hf}$											Ens097
* $^{178}\text{Lu}(\beta^-)^{178}\text{Hf}$											Ens097
* $^{178}\text{Ta}^m(\beta^+)^{178}\text{Hf}$											Nub127
* $^{178}\text{Re}(\beta^+)^{178}\text{W}$											Ens097
											Ens097

$\text{C}_{14}\text{H}_{11}-^{179}\text{Hf}$	140260.3	1.8	140252.1	2.0	-1.8	1	20	20	$^{179}\text{Hf}$	M23	2.5	79Ha32
$^{179}\text{W-u}$	-52964	76	-52923	16	0.5	U				GS2	1.0	05Li24
$^{179}\text{Re-u}$	-50010	30	-50011	26	0.0	1	78	78	$^{179}\text{Re}$	GS2	1.0	05Li24
$^{179}\text{Os-u}$	-46220	104	-46183	18	0.4	U				GS1	1.0	00Ra23
	-46176	30			-0.2	1	35	35	$^{179}\text{Os}$	GS2	1.0	05Li24
$^{179}\text{Ir-u}$	-40910	104	-40880	10	0.3	U				GS1	1.0	00Ra23
	-40852	30			-0.9	1	12	12	$^{179}\text{Ir}$	GS2	1.0	05Li24
$^{179}\text{Pt-u}$	-34710	110	-34641	9	0.6	U				GS1	1.0	00Ra23
	-34625	30			-0.5	U				GS2	1.0	05Li24
$^{179}\text{Au-u}$	-26811	31	-26826	13	-0.5	1	16	16	$^{179}\text{Au}$	GS2	1.0	05Li24
$^{179}\text{Hg}_{-208}\text{Pb}_{861}$	1900	34	1934	29	1.0	1	74	74	$^{179}\text{Hg}$	MA6	1.0	01Sc41
$^{179}\text{Hf}^{35}\text{Cl}-^{177}\text{Hf}^{37}\text{Cl}$	5539	3	5545.58	0.22	0.9	U				H23	2.5	70Wh01
	5544.4	0.7			0.7	U				H27	2.5	74Ba90
$^{179}\text{Hf O-C}_{16}$	-59261.8	6.5	-59262.2	2.0	0.0	U				TG1	1.5	11Ke03
$^{179}\text{Pt}(\alpha)^{175}\text{Os}$	5370	10	5412	9	4.2	F						66Si08
	5416	10			-0.4	1	89	82	$^{175}\text{Os}$			79Ha10
	5382	3			10.1	F				Bka		82Bo04
$^{179}\text{Au}(\alpha)^{175}\text{Ir}$	5981.8	5.	5981	5	-0.1	1	97	80	$^{175}\text{Ir}$			68Si01
	5986.9	15.			-0.4	U				Jya		04Ra28
$^{179}\text{Hg}(\alpha)^{175}\text{Pt}$	6431.0	5.	6351	30	-1.6	-		80	$^{175}\text{Ir}$	ISa		79Ha10
	6418.7	9.			-1.3	-				Daa		96Pa01
	6430.0	4.			-1.6	-				Ara		02Ko09
	ave.	6429.1	3.0		-1.6	1	35	26	$^{179}\text{Hg}$			average
$^{179}\text{Tl}(\alpha)^{175}\text{Au}$	6710.2	20.	6710	5	0.0	7				GSA		83Sc24
	6718.4	18.			-0.4	7				Daa		96Pa01
	6719.4	10.			-0.9	7				Ara		98To14
	6706.1	8.			0.7	7				Ara		11Ko.B

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{179}\text{Tl}^m(\alpha)^{175}\text{Au}^m$	7364.5	20.	7368	4	0.2	U			GSa	83Sc24	
	7366.0	20.			0.1	U			Daa	96Pa01	
	7378.1	10.			-1.0	o			Ara	98To14	
	7371.9	5.			-0.7	9			Anv	10An01	
	7358.6	8.			1.2	9			Ara	11Ko.B	
$^{179}\text{Pb}(\alpha)^{175}\text{Hg}$	7598.3	20.				9			Anv	10An01	*
$^{179}\text{Hf(p,t)}^{177}\text{Hf}$	-5249	5	-5243.15	0.19	1.2	U			Min	73Oo01	
$^{179}\text{Hf(t,\alpha)}^{178}\text{Lu}-^{178}\text{Hf}(\alpha)^{177}\text{Lu}$	-72	2	-73.7	1.9	-0.8	1	89	89 $^{178}\text{Lu}$	McM	93Bu02	
$^{178}\text{Hf(n,\gamma)}^{179}\text{Hf}$	6099.02	0.10	6098.99	0.08	-0.3	-			ILn	89Ri03	Z
	6098.95	0.12			0.3	-			Bdn	06Fi.A	
$^{179}\text{Hf}(\gamma,\text{n})^{178}\text{Hf}$	-6000	70	-6098.99	0.08	-1.4	U			Phi	60Ge01	
$^{178}\text{Hf(d,p)}^{179}\text{Hf}$	3877	14	3874.43	0.08	-0.2	U			Tal	63Ve09	
$^{178}\text{Hf(n,\gamma)}^{179}\text{Hf}$	ave.	6098.99	0.08	6098.99	0.08	0.0	1	100	63 $^{178}\text{Hf}$	average	
$^{179}\text{Lu}(\beta^-)^{179}\text{Hf}$	1350	50	1404	5	1.1	U				61Ku10	
	1380	70			0.3	U				63St06	
$^{179}\text{Ta}(\epsilon)^{179}\text{Hf}$	129	16	105.6	0.4	-1.5	U				61Jo15	*
	105.61	0.41			-0.1	1	99	89 $^{179}\text{Ta}$		01Hi06	
$^{179}\text{Re}(\beta^+)^{179}\text{W}$	2710	50	2713	27	0.1	1	29	22 $^{179}\text{Re}$		75Me20	*
* $^{179}\text{W-u}$	M-A=-49225(29) keV for mixture gs+m at 221.91 keV										
* $^{179}\text{Pt}(\alpha)^{175}\text{Os}$	F : part of double line (with $^{180}\text{Pt}$ )										
* $^{179}\text{Pt}(\alpha)^{175}\text{Os}$	$E_\alpha=5150(10)$ $5195(10)$ $5161(3)$ respectively, to $1/2^-$ level at 102.3 keV, recalibrated										
* $^{179}\text{Au}(\alpha)^{175}\text{Ir}$	$E_\alpha=5853(15)$ , $5810(15)$ to ground state, 49 keV level										
* $^{179}\text{Pb}(\alpha)^{175}\text{Hg}$	$E_\alpha=7350(20)$ to 80 keV level										
* $^{179}\text{Ta}(\epsilon)^{179}\text{Hf}$	As corrected in reference										
* $^{179}\text{Re}(\beta^+)^{179}\text{W}$	$E_{\beta^+}=950(50)$ to $3/2^+$ level at 720.18 and $5/2^+$ at 773.65 keV										
$\text{C}_{14}\text{H}_{12}-^{180}\text{Hf}$	147356.6	4.8	147343.3	2.0	-1.1	U			M23	2.5	79Ha32
$^{180}\text{W-u}$	-53299	30	-53289.2	2.0	0.3	U			GS2	1.0	05Li24
$^{180}\text{Re-u}$	-49209	30	-49208	23	0.0	2			GS2	1.0	05Li24
$^{180}\text{Os-u}$	-47650	104	-47625	17	0.2	U			GS1	1.0	00Ra23
	-47626	30			0.0	1	34	34 $^{180}\text{Os}$	GS2	1.0	05Li24
$^{180}\text{Ir-u}$	-40800	104	-40771	23	0.3	U			GS1	1.0	00Ra23
	-40765	30			-0.2	2			GS2	1.0	05Li24
$^{180}\text{Pt-u}$	-36900	104	-36968	12	-0.7	U			GS1	1.0	00Ra23
	-36918	30			-1.7	R			GS2	1.0	05Li24
$^{180}\text{Au-u}$	-27496	30	-27477	21	0.6	1	51	51 $^{180}\text{Au}$	GS2	1.0	05Li24
$^{180}\text{Hg}-^{208}\text{Pb}_{865}$	-1569	22	-1544	14	1.1	1	38	38 $^{180}\text{Hg}$	MA6	1.0	01Sc41
$^{180}\text{Hf}^{35}\text{Cl}_2-^{176}\text{Hf}^{37}\text{Cl}_2$	11036.1	3.0	11049.6	1.1	1.8	U			H27	2.5	74Ba90
$^{180}\text{Hf}^{35}\text{Cl}_2-^{178}\text{Hf}^{37}\text{Cl}$	5797	3	5801.29	0.19	0.6	U			H23	2.5	70Wh01
	5798.4	0.7			1.7	U			H27	2.5	74Ba90
$^{180}\text{W}-^{180}\text{Hf}$	153.73	0.30	153.76	0.30	0.1	1	98	75 $^{180}\text{W}$	SH1	1.0	12Dr01
$^{180}\text{Hf}-^{179}\text{Hf}$	730.8	4.7	733.83	0.16	0.3	U			M24	2.5	79Ha32
$^{180}\text{Hf O-C}_{16}$	-58524.5	6.5	-58528.3	2.0	-0.4	U			TG1	1.5	11Ke03
$^{180}\text{W}(\alpha)^{176}\text{Hf}$	2516.4	1.6	2515.0	1.0	-0.9	1	41	31 $^{176}\text{Hf}$			04Co26
$^{180}\text{Pt}(\alpha)^{176}\text{Os}$	5257.1	10.	5240	30	-2.0	F					66Si08
	5279	3			-13.8	F			Bka	82Bo04	*
$^{180}\text{Au}(\alpha)^{176}\text{Ir}$	5845	30	5840	18	-0.2	-			GSa	86Ke03	*
	5857	30			-0.6	-			Lvn	93Wa03	*
ave.	5851	21			-0.5	1	74	39 $^{176}\text{Ir}$		average	
$^{180}\text{Hg}(\alpha)^{176}\text{Pt}$	6258.3	5.	6258.4	2.4	0.0	-			ISa	79Ha10	Z
	6259.5	5.			-0.2	-			Lvn	93Wa03	*
	6258.3	4.			0.0	-			Ara	00Ko48	
	6259.3	5.			-0.2	-			Anv	03An27	
ave.	6258.8	2.4			-0.1	1	99	66 $^{176}\text{Pt}$		average	
$^{180}\text{Tl}(\alpha)^{176}\text{Au}$	6709.4	10.			6				Ara	98To14	*
$^{180}\text{Pb}(\alpha)^{176}\text{Hg}$	7394.6	40.	7419	5	0.6	U			ORa	96To08	
	7415.1	15.			0.2	2			Ara	99To11	
	7419.2	10.			-0.1	2			Anv	09An20	
	7419.2	7.			-0.1	2			Jya	10Ra12	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{180}\text{Hf}(\text{p},\text{t})^{178}\text{Hf}$	-5011	5	-5004.95	0.17	1.2	U				Min	73Oo01
$^{180}\text{Hf}(\text{t},\alpha)^{179}\text{Lu}-^{178}\text{Hf}(\text{t},\alpha)^{177}\text{Lu}$	-669	5	-669	5	0.0	1	100	100	$^{179}\text{Lu}$	McM	92Bu12
$^{179}\text{Hf}(\text{n},\gamma)^{180}\text{Hf}$	7387.3	0.4	7387.76	0.15	1.1	-					74Bu22 Z
	7387.8	0.6			-0.1	-					90Bo52 Z
	7387.85	0.17			-0.5	-				Bdn	06Fi.A
$^{180}\text{Hf}(\gamma,\text{n})^{179}\text{Hf}$	-7470	110	-7387.76	0.15	0.7	U				Phi	60Ge01
$^{179}\text{Hf}(\text{d},\text{p})^{180}\text{Hf}$	5167	7	5163.19	0.15	-0.5	U				Tal	72Za04
$^{180}\text{Hf}(\text{d},\text{t})^{179}\text{Hf}$	-1112	4	-1130.53	0.15	-4.6	B				Tal	68Ri07
$^{179}\text{Hf}(\text{n},\gamma)^{180}\text{Hf}$	ave.	7387.77	0.15	7387.76	0.15	-0.1	1	99	77	$^{180}\text{Hf}$	average
$^{180}\text{W}(\text{d},\text{t})^{179}\text{W}$	-2155	15	-2155	15	0.0	1	94	93	$^{179}\text{W}$	Kop	72Ca01
$^{180}\text{Lu}(\beta^-)^{180}\text{Hf}$	3148	100	3100	70	-0.4	2					71Gu02 *
	3058	100			0.5	2					71Sw01 *
$^{180}\text{Ta}(\beta^-)^{180}\text{W}$	705	15	702.4	2.6	-0.2	U					51Br87
	712	15			-0.6	U					62Ga07
$^{180}\text{Re}(\beta^+)^{180}\text{W}$	3830	60	3801	21	-0.5	R					67Go22 *
	3790	40			0.3	R					67Ho12 *
$*^{180}\text{Pt}(\alpha)^{176}\text{Os}$	F : part of double line (with $^{179}\text{Pt}$ ); $E_\alpha=5140(10)$ keV										
$*^{180}\text{Pt}(\alpha)^{176}\text{Os}$	F : part of double line (with $^{179}\text{Pt}$ )										
$*^{180}\text{Au}(\alpha)^{176}\text{Ir}$	$E_\alpha=5685(10)$ to 40(30) level										
$*^{180}\text{Au}(\alpha)^{176}\text{Ir}$	$E_\alpha=5647(10,Z)$ to 80(30) level										
$*^{180}\text{Hg}(\alpha)^{176}\text{Pt}$	$E_\alpha=6120$ 5862 5689(5) to ground state, $2^+$ level at 264.0, $0^+$ at 443 keV										
$*^{180}\text{Tl}(\alpha)^{176}\text{Au}$	Highest $E_\alpha$ ; not necessarily ground state to ground state										
$*^{180}\text{Lu}(\beta^-)^{180}\text{Hf}$	$E_{\beta^-}=1540(100)$ 1450(100) respectively, to $4^+$ level at 1607.55 keV										
$*^{180}\text{Re}(\beta^+)^{180}\text{W}$	$E_{\beta^+}=1800(60)$ 1760(40) respectively, to $2^-$ level 1006.33 keV										
$^{181}\text{Lu-u}$	-48092	171			2					GS3	1.0 12Sh.1
$^{181}\text{Re-u}$	-49915	30	-49942	14	-0.9	R				GS2	1.0 05Li24
$^{181}\text{Os-u}$	-46670	110	-46753	27	-0.8	U				GS1	1.0 00Ra23 *
	-46756	34			0.1	1	64	64	$^{181}\text{Os}$	GS2	1.0 05Li24 *
$^{181}\text{Ir-u}$	-42330	104	-42375	28	-0.4	U				GS1	1.0 00Ra23
	-42372	30			-0.1	2				GS2	1.0 05Li24
$^{181}\text{Pt-u}$	-36880	104	-36902	16	-0.2	U				GS1	1.0 00Ra23
	-36900	30			-0.1	2				GS2	1.0 05Li24
$^{181}\text{Au-u}$	-30030	110	-29921	21	1.0	U				GS1	1.0 00Ra23
	-29920	30			0.0	R				GS2	1.0 05Li24
$^{181}\text{Hg}-^{208}\text{Pb}_{.870}$	-1929	40	-1868	17	1.5	1	17	17	$^{181}\text{Hg}$	MA6	1.0 01Sc41
$^{181}\text{Tl}-^{133}\text{Cs}_{1.361}$	114936	11	114940	10	0.4	1	79	79	$^{181}\text{Tl}$	MA8	1.0 08We02
$^{181}\text{Ta}^{35}\text{Cl}-^{179}\text{Hf}^{37}\text{Cl}$	5128.6	2.1	5122.6	2.4	-1.1	1	21	11	$^{179}\text{Hf}$	H35	2.5 80Sh06
$^{181}\text{Ta}^{17}\text{O}^{35}\text{Cl}-^{180}\text{Ta}^m\text{O}^{37}\text{Cl}$	7572	21	7617.28	0.21	0.9	U				H35	2.5 80Sh06
$^{181}\text{Pt}(\alpha)^{177}\text{Os}$	5133.7	20.	5150	5	0.8	U					66Si08
	5150.1	5.			3						95Bi01
$^{181}\text{Au}(\alpha)^{177}\text{Ir}$	5750.1	5.	5751.3	2.9	0.2	3					68Si01 Z
	5751.9	5.			-0.1	3					79Ha10 Z
	5735	4			4.1	F				IRa	92Sa03 *
	5752	5			-0.1	3				ORa	95Bi01 *
$^{181}\text{Hg}(\alpha)^{177}\text{Pt}$	6288	5	6284	4	-0.7	-					79Ha10 *
	6283	10			0.1	-				GSa	86Ke03 *
	6269.3	13.			1.2	-				Daa	96Pa01 *
	ave.	6285	4		-0.2	1	99	83	$^{181}\text{Hg}$		average
$^{181}\text{Tl}(\alpha)^{177}\text{Au}$	6319.9	20.	6321	6	0.1	U					92Bo.D
	6326.1	10.			-0.4	-					98To14
	6320.9	7.			0.1	-					Anv
	ave.	6323	6		-0.2	1	97	88	$^{177}\text{Au}$		average
$^{181}\text{Tl}(\alpha)^{177}\text{Au}^m$	6120.3	20.	6132	5	0.6	2				GSa	84Sc.A *
	6132.6	10.			-0.1	2				Ara	98To14 *
	6133.1	6.4			-0.2	2				Anv	09An14 *
$^{181}\text{Pb}(\alpha)^{177}\text{Hg}$	7374.3	10.	7240	7	-13.4	F				GSa	86Ke03 *
	7203.5	15.			2.4	5				ORa	89To01
	7224.9	20.			0.8	o				Ara	96To01 *
	7250.7	10.			-1.0	5				Ara	05Ca.A *
	7252.0	15.			-0.8	5				Anv	09An20 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{181}\text{Ta}(\text{p},\text{t})^{179}\text{Ta}$	-5738	5	-5742.7	2.2	-0.9	1	20	11 $^{179}\text{Ta}$	Min	73Oo01	
$^{180}\text{Hf}(\text{n},\gamma)^{181}\text{Hf}$	5695.2	0.6	5694.80	0.07	-0.7	U				71Al22	
	5694.80	0.07					2			02Bo41	
	5695.58	0.20			-3.9	C				06FiA	
$^{180}\text{Hf}(\text{d},\text{p})^{181}\text{Hf}$	3440	25	3470.23	0.07	1.2	U				66Ga06	
	3475	10			-0.5	U				68Ri07	
$^{181}\text{Ta}(\gamma,\text{n})^{180}\text{Ta}$	-7713	25	-7576.8	1.3	5.4	B				Phi	60Ge01
	-7852	26			10.6	B				Phi	*
	-7580	5			0.6	U				McM	79Ba06
	-7579	2			1.1	2				McM	81Co17
$^{181}\text{Ta}(\text{d},\text{t})^{180}\text{Ta}$	-1317.7	1.8	-1319.5	1.3	-1.0	2				NDm	79Ta.B
$^{180}\text{Ta}^m(\text{n},\gamma)^{181}\text{Ta}$	7651.8	0.5	7652.08	0.19	0.6	2				MMn	81Co17
	7652.13	0.20			-0.2	2				ILn	Z
$^{180}\text{W}(\text{d},\text{p})^{181}\text{W}$	4468	15	4462	5	-0.4	1	11	9 $^{181}\text{W}$	Kop	84Fo.A	Z
$^{181}\text{Hg}(\text{ep})^{180}\text{Pt}$	6150	200	6485	19	1.7	F				72Ho19	*
$^{181}\text{Hf}(\beta^-)^{181}\text{Ta}$	1023	8	1036.4	2.2	1.7	U				52Fa14	*
	1020	5			3.3	B				53Ba81	*
$^{181}\text{W}(\epsilon)^{181}\text{Ta}$	184	12	188	5	0.3	-				66Ra03	
	190	6			-0.3	-				83Se17	
	ave.	189	5		-0.1	1	71	69 $^{181}\text{W}$		average	
$^{181}\text{Os}(\beta^+)^{181}\text{Re}$	2990	200	2971	28	-0.1	U				67Go25	*
$^{181}\text{Hg}^m(\text{IT})^{181}\text{Hg}$	212	50				2				09An17	*
* $^{181}\text{Os-u}$	M-A=-43450(100) keV for mixture gs+m at 49.2 keV										
* $^{181}\text{Os-u}$	M-A=-43529(28) keV for mixture gs+m at 49.2 keV										
* $^{181}\text{Au}(\alpha)^{177}\text{Ir}$	$E_\alpha=5609(8), 5462(4)$ to ground state and $(3/2^-)$ level at 148.00 keV										
*	F : all lines in $^{181}\text{Au}$ and $^{183}\text{Au}$ shifted by 16–20keV										
* $^{181}\text{Au}(\alpha)^{177}\text{Ir}$	$E_\alpha=5626(5)$ to gs; favored 5479(5) to $3/2^-$ level at 148.0 keV										
* $^{181}\text{Hg}(\alpha)^{177}\text{Pt}$	$E_\alpha=6147.0(10,Z), 6005.0(5,Z)$ to ground state and $1/2^-$ level at 147.7 keV										
* $^{181}\text{Hg}(\alpha)^{177}\text{Pt}$	$E_\alpha=6136.6(10,Z), 6005.6(10,Z)$ to ground state and $1/2^-$ level at 147.7 keV										
* $^{181}\text{Hg}(\alpha)^{177}\text{Pt}$	$E_\alpha=5986(13)$ to $1/2^-$ level at 147.7 keV										
* $^{181}\text{Tl}(\alpha)^{177}\text{Au}^m$	$E_\alpha=6566(20)$ $Q_\alpha=6956.2$ from $^{181}\text{Tl}^m$ at 835.9(0.4) to 241.5 above $^{177}\text{Au}^m$										
* $^{181}\text{Tl}(\alpha)^{177}\text{Au}^m$	$E_\alpha=6578(10)$ $Q_\alpha=6968.5$ from $^{181}\text{Tl}^m$ at 835.9(0.4) to 241.5 above $^{177}\text{Au}^m$										
* $^{181}\text{Tl}(\alpha)^{177}\text{Au}^m$	$E_\alpha=6818(15), 6578(7)$ from $^{181}\text{Tl}^m$ to $^{177}\text{Au}^m$ and level 241.5 above $^{177}\text{Au}^m$										
* $^{181}\text{Pb}(\alpha)^{177}\text{Hg}$	F : This $\alpha$ -line not found in same reaction										
* $^{181}\text{Pb}(\alpha)^{177}\text{Hg}$	Seen in correlation with $^{177}\text{Hg}$ $E_\alpha=6580$ keV										
* $^{181}\text{Pb}(\alpha)^{177}\text{Hg}$	$E_\alpha=7015(10)$ to level at 77.2 keV										
* $^{181}\text{Pb}(\alpha)^{177}\text{Hg}$	$E_\alpha=7016(15)$ to level at 77.2 keV										
* $^{181}\text{Ta}(\gamma,\text{n})^{180}\text{Ta}$	$Q=7640(25)$ to $^{180}\text{Ta}^m$ at 75.3(1.4) keV										
* $^{181}\text{Hg}(\text{ep})^{180}\text{Pt}$	F : retracted by authors in PrvCom										
* $^{181}\text{Hf}(\beta^-)^{181}\text{Ta}$	$E_\beta=408(8), 405(5)$ respectively, to $^{181}\text{Ta}^n$ at 615.19 keV										
* $^{181}\text{Os}(\beta^+)^{181}\text{Re}$	$E_\beta+=1750(200)$ from $^{181}\text{Os}^m$ at 49.20(0.14) to $^{181}\text{Re}^m$ at 262.91(0.11) keV										
* $^{181}\text{Hg}^m(\text{IT})^{181}\text{Hg}$	From cascade x+90.3+71.4, with x estimated 50#										

$^{182}\text{Re-u}$	-48311	65	-48790	110	-7.4	C			GS2	1.0	03Li.A	*
$^{182}\text{Os-u}$	-47883	30	-47890	23	-0.2	1	61	61 $^{182}\text{Os}$	GS2	1.0	05Li24	
$^{182}\text{Ir-u}$	-41942	30	-41924	23	0.6	1	56	56 $^{182}\text{Ir}$	GS2	1.0	05Li24	
$^{182}\text{Pt-u}$	-38870	104	-38828	14	0.4	U			GS1	1.0	00Ra23	
	-38860	30			1.1	1	22	22 $^{182}\text{Pt}$	GS2	1.0	05Li24	
$^{182}\text{Au-u}$	-30420	110	-30382	22	0.3	U			GS1	1.0	00Ra23	
	-30412	30			1.0	R			GS2	1.0	05Li24	
$^{182}\text{Hg-u}$	-25297	30	-25311	11	-0.5	1	12	12 $^{182}\text{Hg}$	GS2	1.0	05Li24	
$^{182}\text{Hg} - ^{208}\text{Pb}_{.875}$	-4893	19	-4882	11	0.6	—			MA6	1.0	01Sc41	
	-4898	21			0.8	—			MA6	1.0	01Sc41	
	ave.	-4895	14		1.0	1	56	55 $^{182}\text{Hg}$			average	
$^{182}\text{Pt}(\alpha)^{178}\text{Os}$	4928.5	30.	4951	5	0.7	U					63Gr08	
	4948.9	20.			0.1	U					66Si08	
	4952.0	5.			-0.2	1	97	76 $^{178}\text{Os}$	ORa		95Bi01	
$^{182}\text{Au}(\alpha)^{178}\text{Ir}$	5529	10	5526	4	-0.3	3					79Ha10	*
	5525.5	5.			0.1	3			ORa		95Bi01	*
$^{182}\text{Hg}(\alpha)^{178}\text{Pt}$	5998.1	5.	5996	5	-0.5	—					79Ha10	Z
	5989.8	13.3			0.4	—			Lvn		94Wa23	
	ave.	5997	5		-0.3	1	95	62 $^{178}\text{Pt}$			average	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{182}\text{Tl}(\alpha)^{178}\text{Au}$	6550.2	10.	6593	15	4.3	F			GSa	86Ke03	*
	6593.1	15.				5				04Ra28	*
$^{182}\text{Tl}(\alpha)^{178}\text{Au}^p$	6186.2	20.				6				92Bo.D	
$^{182}\text{Pb}(\alpha)^{178}\text{Hg}$	7076.8	10.	7066	6	-1.1	4			GSa	86Ke03	
	7074.8	15.			-0.6	4			ORa	87To09	
	7050.2	10.			1.5	4			Ara	99To11	
	7066.6	10.			-0.1	4			Jya	00Je09	
$^{180}\text{Hf}(\text{t},\text{p})^{182}\text{Hf}$	3931	6				2			McM	83Bu03	
$^{180}\text{W}(\text{t},\text{p})^{182}\text{W}$	6265	5	6270.0	2.0	1.0	1	15	13 $^{180}\text{W}$	LAI	76Ca10	*
$^{182}\text{W}(\text{pt})^{180}\text{W}$	-6261	10	-6270.0	2.0	-0.9	U			Min	73Oo01	
$^{181}\text{Ta}(\text{n},\gamma)^{182}\text{Ta}$	6063.0	0.4	6062.94	0.11	-0.2	-				71He13	Z
	6063.1	0.5			-0.3	-				77St15	Z
	6063.1	0.5			-0.3	-			MMn	81Co17	Z
	6062.95	0.2			-0.1	-			ILn	83Fo.B	
	6062.89	0.14			0.3	-			Bdn	06Fi.A	
$^{181}\text{Ta}(\text{d},\text{p})^{182}\text{Ta}$	3832	8	3838.37	0.11	0.8	U			MIT	64Er02	
$^{181}\text{Ta}(\text{n},\gamma)^{182}\text{Ta}$	ave.	6062.93	0.11	6062.94	0.11	0.0	1	100	58 $^{182}\text{Ta}$	average	
$^{182}\text{W}(\text{d},\text{t})^{181}\text{W}$	-1809	10	-1808	5	0.1	1	22	22 $^{181}\text{W}$	Kop	72Ca01	
$^{182}\text{Hf}(\beta^-)^{182}\text{Ta}$	431	50	381	6	-1.0	U				74Wa14	*
$^{182}\text{Ta}(\beta^-)^{182}\text{W}$	1809	5	1814.5	1.7	1.1	-				64Da15	*
	1813	3			0.5	-				67Ba01	*
	ave.	1811.9	2.6		1.0	1	44	42 $^{182}\text{Ta}$		average	
$^{182}\text{Re}^m(\beta^+)^{182}\text{W}$	2860	20				2				63Ba37	*
$^{182}\text{Re}^m(\text{IT})^{182}\text{Re}$	60	100				3				63Ba37	
$^{182}\text{Os}(\varepsilon)^{182}\text{Re}^m$	848	15	779	30	-4.6	B				70Ak02	*
$^{182}\text{Ir}(\beta^+)^{182}\text{Os}$	5700	200	5560	30	-0.7	U				72We.A	
$^{182}\text{Pt}(\beta^+)^{182}\text{Ir}$	2900	200	2883	25	-0.1	U				72We.A	
$^{182}\text{Au}(\beta^+)^{182}\text{Pt}$	6850	200	7867	24	5.1	C				72We.A	
$^{182}\text{Hg}(\beta^+)^{182}\text{Au}$	4950	200	4724	23	-1.1	U				72We.A	
* $^{182}\text{Re-u}$	M-A=-44972(29) keV for mixture gs+m at 60(100) keV										
* $^{182}\text{Au}(\alpha)^{178}\text{Ir}$	$E_\alpha=5353(10)$ to $2^+$ level at $54.4(0.5)$ keV										
* $^{182}\text{Au}(\alpha)^{178}\text{Ir}$	$E_\alpha=5403(5)$ , 5352(5) to ground state, 54.4 level										
* $^{182}\text{Ti}(\alpha)^{178}\text{Au}$	F : identification from excitation function assuming 100% $\alpha$ decay										
* $^{182}\text{Ti}(\alpha)^{178}\text{Au}$	$E_\alpha=6403(15)$ in coincidence with 46 keV $\gamma$										
* $^{180}\text{W}(\text{t},\text{p})^{182}\text{W}$	$Q-Q(^{170}\text{Y}(\text{t},\text{p}))=112(5,\text{Ca}), Q(170)=-6153(4)$ keV										
* $^{182}\text{Hf}(\beta^-)^{182}\text{Ta}$	$E_\beta=970(70)$ 480(50) from $^{182}\text{Hf}^m$ at 1172.88 to 651.22 $4^-$ , 1115.96 $7^-$ levels										
* $^{182}\text{Ta}(\beta^-)^{182}\text{W}$	$E_\beta=520(5)$ to $2^-$ level at 1289.1498 keV										
* $^{182}\text{Ta}(\beta^-)^{182}\text{W}$	$E_\beta=1713(3)$ to $2^+$ level at 100.10598 keV										
* $^{182}\text{Re}^m(\beta^+)^{182}\text{W}$	$E_\beta=1740(20), 550(20)$ to $2^+$ level at 100.10598, $2^-$ at 1289.1498 keV										
* $^{182}\text{Os}(\varepsilon)^{182}\text{Re}^m$	$pK=0.47(0.07)$ to $1^+$ level at 726.97 keV above $^{182}\text{Re}^m$ , recalculated Q										
$^{183}\text{Lu-u}$	-42637	98			2				GS3	1.0	12Sh.1
$^{183}\text{W O-C}_2\ ^{35}\text{Cl}_5$	100858.0	2.7	100874.0	0.9	2.4	U			H29	2.5	77Sh04
	100873.6	0.8			0.3	1	55	55 $^{183}\text{W}$	H48	1.5	03Ba49
$^{183}\text{Re-u}$	-49151	30	-49180	9	-1.0	U			GS2	1.0	05Li24
$^{183}\text{Os-u}$	-46879	61	-46880	50	0.1	1	77	77 $^{183}\text{Os}$	GS2	1.0	05Li24
$^{183}\text{Ir-u}$	-43160	104	-43160	26	0.0	U			GS1	1.0	00Ra23
	-43145	30			-0.5	1	76	76 $^{183}\text{Ir}$	GS2	1.0	05Li24
$^{183}\text{Pt-u}$	-38440	107	-38403	17	0.3	U			GS1	1.0	00Ra23
	-38400	32			-0.1	1	27	27 $^{183}\text{Pt}$	GS2	1.0	05Li24
$^{183}\text{Au-u}$	-32440	104	-32409	10	0.3	U			GS1	1.0	00Ra23
	-32371	30			-1.3	1	11	11 $^{183}\text{Au}$	GS2	1.0	05Li24
$^{183}\text{Hg-u}$	-25537	35	-25555	8	-0.5	U			GS2	1.0	05Li24
$^{183}\text{Hg-}^{208}\text{Pb}_{.880}$	-5009	19	-5009	8	0.0	-			MA6	1.0	01Sc41
	-5002	19			-0.4	-			MA6	1.0	01Sc41
	ave.	-5006	13		-0.3	1	32	32 $^{183}\text{Hg}$		average	
$^{183}\text{Tl-}^{133}\text{Cs}_{1.376}$	112286	11	112291	10	0.4	1	83	83 $^{183}\text{Tl}$	MA8	1.0	08We02
$^{183}\text{W O}_2\text{-}^{178}\text{Hf}^{37}\text{Cl}$	30455.7	5.0	30443.6	2.1	-1.0	U			H35	2.5	80Sh06

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{185}\text{Hg}-^{208}\text{Pb}_{.889}$	Original error (17keV) increased by 20 due to isomer+ground state lines in trap								01Sc41 **
* $^{185}\text{Tl-u}$	M-A=-19664(31) keV for mixture gs+m at 454.8(1.5) keV								Nub127 **
* $^{185}\text{Pt}(\alpha)^{181}\text{Os}$	$E_\alpha=4444(10)$ assumed from ( $1/2^-$ ) isomer at 103.41(0.05) keV								Nub127 **
* $^{185}\text{Au}(\alpha)^{181}\text{Ir}$	$E_\alpha=5069(10)$ , 4826(10) to ground state, 243.3 level								91Bi04 **
*	unhindered $E_\alpha=5069(10)$ to ground state or very low level; from coinc.								95Bi01 **
* $^{185}\text{Hg}(\alpha)^{181}\text{Pt}$	$E_\alpha=5653.4(15,Z)$ , 5576.4(15,Z) to ground state, $3/2^-$ level at 79.41 keV								Ens061 **
*	and $E_\alpha=5376.4(15,Z)$ from $^{185}\text{Hg}^m$ at 103.8 to $13/2^+$ level at 380.92 keV								Ens061 **
* $^{185}\text{Hg}(\alpha)^{181}\text{Pt}$	$E_\alpha=5653(5)$ , 5569(5) to ground state, $3/2^-$ level at 79.41 keV								Ens061 **
*	and 5371(10) from $^{185}\text{Hg}^m$ at 103.8 to $13/2^+$ level at 380.92 keV								Ens061 **
* $^{185}\text{Hg}(\alpha)^{181}\text{Pt}$	$E_\alpha=5365(15)$ from $^{185}\text{Hg}^m$ at 103.8 to $13/2^+$ level at 380.92 keV								Ens061 **
* $^{185}\text{Ti}^m(\alpha)^{181}\text{Au}$	$E_\alpha=6010.2(5,Z)$ ; also an $E_\alpha=5975.2(5,Z)$ , 4 times stronger branch								76To06 **
* $^{185}\text{Ti}^m(\alpha)^{181}\text{Au}$	$E_\alpha=6012.5(15,Z)$ ; also an $E_\alpha=5970.5(15,Z)$ , 4 times stronger branch								80Sc09 **
* $^{185}\text{Pb}(\alpha)^{181}\text{Hg}$	$E_\alpha=6485(15)$ to 64 level								02An15 **
* $^{185}\text{Pb}(\alpha)^{181}\text{Hg}$	$E_\alpha=6486(5)$ , 6288(5) to 64, 269 levels								02An15 **
* $^{185}\text{Bi}^m(\alpha)^{181}\text{Tl}$	$E_\alpha=8030$ , by same authors, from only one event								96Da06 **
* $^{185}\text{Bi}^m(p)^{184}\text{Pb}$	Read from graph								AHW **
* $^{185}\text{Bi}^m(p)^{184}\text{Pb}$	Average by authors of $E_p=1618(11)$ , and 1585(9) in reference								96Da06 **
* $^{185}\text{Bi}^m(p)^{184}\text{Pb}$	As read from graph								GAu **
* $^{185}\text{Bi}^m(p)^{184}\text{Pb}$	F : rejected by authors: no dedicated calibration with known proton activity								04An07 **
* $^{185}\text{Ta}(\beta^-)^{185}\text{W}$	$E_\beta = 1770(20)$ to $7/2^-$ level at 243.62 keV								Ens061 **
* $^{185}\text{Os}(\varepsilon)^{185}\text{Re}$	L/K=0.600(0.006) to $3/2^+$ level at 874.81 and $1/2^+$ at 880.33 keV								Ens061 **
* $^{185}\text{Os}(\varepsilon)^{185}\text{Re}$	pK=0.109(0.005) to $3/2^+$ level at 931.06 keV, and other pK, recalculated								Ens061 **
* $^{185}\text{Au}(\beta^+)^{185}\text{Pt}$	F : insufficient information								GAu **
 $^{186}\text{Hf-u}$	 -39103	 59				2			
$^{186}\text{W O-C } ^{13}\text{C } ^{35}\text{Cl}_4$ $^{37}\text{Cl}$	104592.7	3.2	104609.2	1.6	2.1	U			
$^{186}\text{Ir-u}$	-42063	30	-42056	18	0.2	2			
$^{186}\text{Pt-u}$	-40656	30	-40649	23	0.2	1	61	61 $^{186}\text{Pt}$	GS2 1.0 05Li24 *
$^{186}\text{Au-u}$	-34029	30	-34047	23	-0.6	1	56	56 $^{186}\text{Au}$	GS2 1.0 05Li24
$^{186}\text{Hg-u}$	-30660	104	-30638	13	0.2	U			GS1 1.0 00Ra23
	-30630	30			-0.3	1	17	17 $^{186}\text{Hg}$	GS2 1.0 05Li24
$^{186}\text{Hg}-^{204}\text{Pb}_{.912}$	-6065	20	-6054	13	0.6	-			MA6 1.0 01Sc41
	ave.	-6058	17		0.2	1	56	56 $^{186}\text{Hg}$	average
$^{186}\text{Tl-u}$	-21653	218	-21349	24	1.4	o			GS1 1.0 00Ra23 *
	-21513	105			1.6	U			GS2 1.0 05Li24 *
$^{186}\text{Tl}-^{133}\text{Cs}_{1.398}$	110831	24	110829	24	-0.1	o			MA8 1.0 08We02 *
	110829	24			2				MA8 1.0 12Bo.A *
$^{186}\text{Ti}^n-^{133}\text{Cs}_{1.398}$	111254	34			2				MA8 1.0 12Bo.A
$^{186}\text{W O}_2-^{183}\text{W } ^{35}\text{Cl}$	25122	5	25116.6	1.4	-0.4	U			H28 2.5 77Sh04
$^{186}\text{W } ^{35}\text{Cl}-^{184}\text{W } ^{37}\text{Cl}$	6374	3	6381.9	1.4	1.1	U			H22 2.5 70Mc03
	6382.0	1.4			0.0	1	15	15 $^{186}\text{W}$	H28 2.5 77Sh04
$^{186}\text{Os}(\alpha)^{182}\text{W}$	2820.6	50.	2820.4	1.2	0.0	U			75Vi01
$^{186}\text{Pt}(\alpha)^{182}\text{Os}$	4323.2	20.	4320	18	-0.2	1	79	39 $^{182}\text{Os}$	63Gr08
$^{186}\text{Au}(\alpha)^{182}\text{Ir}$	4907	15	4912	14	0.3	1	87	44 $^{182}\text{Ir}$	90Ak04 *
$^{186}\text{Hg}(\alpha)^{182}\text{Pt}$	5206.2	15.	5204	10	-0.1	-			70Ha18
	5204.2	15.			0.0	-			96Ri12
	ave.	5205	11		-0.1	1	83	57 $^{182}\text{Pt}$	average
$^{186}\text{Tl}^m(\alpha)^{182}\text{Au}$	5891.9	7.	6010	40	2.4	U			75Co.A
	5891.9	7.			2.4	U			ORa 77Ij01
$^{186}\text{Pb}(\alpha)^{182}\text{Hg}$	6458.2	20.	6470	6	0.6	2			Ora 74Le02 Z
	6470.1	10.			0.0	2			GSa 80Sc09 Z
	6474.7	10.			-0.5	2			ORa 84To09 Z
	6476.5	15.			-0.4	2			ORa 97Ba25
	6459.2	15.			0.7	2			Anv 97An09
$^{186}\text{Bi}(\alpha)^{182}\text{Tl}$	7760	20	7757	12	-0.2	6			Ara 97Ba21 *
	7755	15			0.1	6			Anv 03An27 *
$^{186}\text{Bi}^m(\alpha)^{182}\text{Tl}^p$	7349.3	25.	7423	5	2.9	U			GSa 84Sc.A
	7420.9	20.			0.1	U			Ara 97Ba21
	7422.9	5.			7				Anv 03An27

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{186}\text{Po}(\alpha)^{182}\text{Pb}$	8493	30				5				05Hu.A	*	
$^{186}\text{W}(\text{p},\text{t})^{184}\text{W}$	-4474	5	-4464.1	1.3	2.0	U			Min	73Oo01		
$^{186}\text{W}(\text{p},\text{t})^{184}\text{W}-^{184}\text{W}(\text{p},\text{t})^{182}\text{W}$	660.1	1.6	656.6	1.3	-2.2	o				09Le03		
	657.0	1.8			-0.2	1	49	46	$^{186}\text{W}$		09Le.A	
$^{186}\text{W}(\text{t},\alpha)^{185}\text{Ta}$	11430	20	11411	14	-1.0	R			LAI	80Lo10		
$^{186}\text{W}(\gamma,\text{n})^{185}\text{W}$	-7120	60	-7192.2	1.3	-1.2	U			Phi	60Ge01		
$^{186}\text{W}(\text{d},\text{t})^{185}\text{W}$	-939	10	-934.9	1.3	0.4	U			Kop	72Ca01		
$^{185}\text{Re}(\text{n},\gamma)^{186}\text{Re}$	6179.8	0.8	6179.35	0.18	-0.6	-			Tal	69La11	Z	
	6178.6	1.5			0.5	U				70Or.A		
	6179.34	0.18			0.1	-			Bdn	06Fi.A		
$^{185}\text{Re}(\text{d},\text{p})^{186}\text{Re}$	3939	25	3954.79	0.18	0.6	U			Tal	69La11		
$^{185}\text{Re}(\text{n},\gamma)^{186}\text{Re}$	ave.	6179.36	0.18	6179.35	0.18	-0.1	1	99	88	$^{186}\text{Re}$	average	
$^{186}\text{Ta}(\beta^-)^{186}\text{W}$		3901	60			2				69Mo16	*	
$^{186}\text{Re}(\beta^-)^{186}\text{Os}$	1064	2	1071.7	1.0	3.9	B				56Jo05		
	1071.5	1.3			0.2	-				56Po28		
	1076	3			-1.4	-				64Ma36		
	1064	3			2.6	U				68An11		
	ave.	1072.2	1.2			-0.4	1	71	59	$^{186}\text{Os}$	average	
$^{186}\text{Ir}(\beta^+)^{186}\text{Os}$		3760	200	3828	17	0.3	U			62Bo22	*	
	3831	20			-0.2	R				63Em02		
$^{186}\text{Au}(\beta^+)^{186}\text{Pt}$	5950	200	6150	30	1.0	U				72We.A		
$^{186}\text{Hg}(\beta^+)^{186}\text{Au}$	3250	200	3176	24	-0.4	U				72We.A		
$^{186}\text{Tl}^n(\text{IT})^{186}\text{Tl}^m$	373.9	0.5	374.00	0.20	0.2	o			Lvn	91Va04		
	374.0	0.2				3				Ens036		
* $^{186}\text{Ir-u}$	M-A=-39181(28) keV for mixture gs+m at 0.8 keV											
* $^{186}\text{Tl-u}$	M-A=-20030(180) keV for mixture gs+m+n at 22(39) and 396(39) keV											
* $^{186}\text{Tl-u}$	M-A=-19900(29) keV for mixture gs+m+n at 22(39) and 396(39) keV											
* $^{186}\text{Ti}-^{133}\text{Cs}_{1.398}$	$D_M=110842.1(9.2) \mu\text{u}$ for mixture gs+m at 22(39) keV; M-A=-19874.4(8.6) keV											
* $^{186}\text{Ti}-^{133}\text{Cs}_{1.398}$	$D_M=110840.4(8.6) \mu\text{u}$ for mixture gs+m at 22(39) keV; M-A=-19876.0(8.0) keV											
* $^{186}\text{Au}(\alpha)^{182}\text{Ir}$	$E_\alpha=4653(15)$ to 3 <sup>-</sup> level at 152.3 keV											
* $^{186}\text{Bi}(\alpha)^{182}\text{Tl}$	$E_\alpha=7158(20)$ followed by $E(\gamma)=444$ keV											
* $^{186}\text{Bi}(\alpha)^{182}\text{Tl}$	$E_\alpha=7152(15), 7085(15)$ followed by $E(\gamma)=444, 520$ keV											
* $^{186}\text{Po}(\alpha)^{182}\text{Pb}$	Error is evaluator's educated guess											
* $^{186}\text{Ta}(\beta^-)^{186}\text{W}$	$E_{\beta^-}=2240(60)$ to (2 <sup>-</sup> ,3 <sup>-</sup> ) level at 1661.3817 keV											
* $^{186}\text{Ir}(\beta^+)^{186}\text{Os}$	$E_{\beta^+}=2600(200)$ assumed to 2 <sup>+</sup> level at 137.159 keV, also other $E_{\beta^+}$											
* $^{186}\text{Ir}(\beta^+)^{186}\text{Os}$	$E_{\beta^+}=1940(20)$ to 6 <sup>+</sup> level at 868.94 keV											
$^{187}\text{Ta-u}$	-39614	71			2				GS3	1.0	12Sh.1	
$^{187}\text{Ir-u}$	-42458	30			2				GS2	1.0	05Li24	
$^{187}\text{Pt-u}$	-39500	110	-39383	26	1.1	U			GS1	1.0	00Ra23	
	-39413	30			1.0	1	74	74	$^{187}\text{Pt}$	GS2	1.0	05Li24
$^{187}\text{Au-u}$	-35470	114	-35457	24	0.1	U			GS1	1.0	00Ra23	
	-35441	30			-0.5	1	64	64	$^{187}\text{Au}$	GS2	1.0	05Li24
$^{187}\text{Hg-u}$	-30188	109	-30186	15	0.0	U			GS1	1.0	00Ra23	
	-30155	36			-0.8	1	17	17	$^{187}\text{Hg}$	GS2	1.0	05Li24
$^{187}\text{Hg}-^{208}\text{Pb}_{.899}$	-9210	20	-9196	15	0.7	1	56	56	$^{187}\text{Hg}$	MA6	1.0	01Sc41
$^{187}\text{Hg}^m-^{208}\text{Pb}_{.899}$	-9152	19	-9133	21	1.0	o				MA6	1.0	01Sc41
$^{187}\text{Tl-u}$	-24120	107	-24094	9	0.2	U			GS1	1.0	00Ra23	
	-23928	109			-1.5	U			GS2	1.0	05Li24	
$^{187}\text{Tl}^m-^{133}\text{Cs}_{1.406}$	109151	24	109200	8	2.1	F			MA8	1.0	08We02	
$^{187}\text{Pb-u}$	-16076	45	-16089	5	-0.3	U			GS2	1.0	05Li24	
$^{187}\text{Pb}-^{133}\text{Cs}_{1.406}$	116843.5	5.9	116845	5	0.3	1	86	86	$^{187}\text{Pb}$	MA8	1.0	05We11
$^{187}\text{Pb}^m-^{133}\text{Cs}_{1.406}$	116871.6	5.6	116866	12	-1.0	o			MA8	1.0	05We11	
$^{187}\text{Re O}_2-^{184}\text{W}^{35}\text{Cl}$	25797.4	3.5	25795.7	1.3	-0.2	U			H28	2.5	77Sh04	
$^{187}\text{Re}^{35}\text{Cl}-^{185}\text{Re}^{37}\text{Cl}$	5737	3	5745.7	1.1	1.2	U			H22	2.5	70Mc03	
	5744.2	1.2			0.5	1	15	12	$^{187}\text{Re}$	H28	2.5	77Sh04
$^{187}\text{Au}(\alpha)^{183}\text{Ir}$	4792.7	20.	4751	29	-0.8	1	35	19	$^{183}\text{Ir}$		68Si01	*
$^{187}\text{Hg}(\alpha)^{183}\text{Pt}$	5229.9	20.	5230	14	0.0	1	49	30	$^{183}\text{Pt}$	ISa	70Ha18	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{187}\text{Pb}^m - ^{133}\text{Cs}_{1.406}$	M-A=-14981.5(4.0) keV $D_M=116869.5(5.5)$ for mixture gs+m at 19(10) R=8.7(0.7); M-A=-14964.5(5.1) keV used are only the equations for the $^{187}\text{Pb}$ doublet and $^{187}\text{Pb}^m(\text{IT})^{187}\text{Pb}$										GAu ** Nub129 **
*											GAu **
* $^{187}\text{Au}(\alpha)^{183}\text{Ir}$	Assignment uncertain										Ens **
* $^{187}\text{Hg}(\alpha)^{183}\text{Pt}$	$E_\alpha=5035(20)$ to $3/2^-$ level at 84.62 keV										Ens931 **
* $^{187}\text{Hg}^m(\alpha)^{183}\text{Pt}$	$E_\alpha=4870(20)$ to $13/2^+$ level at 316.7(0.5) level										Ens931 **
* $^{187}\text{Tl}^m(\alpha)^{183}\text{Au}$	$E_\alpha=5510(20)$ 5528(10) 5512(12) 5528(10) respectively, to $9/2^-$ at 12.4(0.4) keV										Ens995 **
* $^{187}\text{Pb}(\alpha)^{183}\text{Hg}$	$E_\alpha=6190(10)$ to $3/2^-$ level at 67.16 keV										Ens00b **
* $^{187}\text{Pb}(\alpha)^{183}\text{Hg}$	$E_\alpha=6194(10)$ 5993(10) to $3/2^-$ levels at 67.16 and 275.33 keV										Ens00b **
* $^{187}\text{Bi}(\alpha)^{183}\text{Tl}^m$	Also $E_\alpha=7612(15)$ keV to ground state										99Ba45 **
* $^{187}\text{Bi}(\alpha)^{183}\text{Tl}^m$	Also $E_\alpha=7605(16)$ keV to ground state										03Ke08 **
* $^{187}\text{Bi}(\alpha)^{183}\text{Tl}^m$	Also $E_\alpha=7612(5)$ , 7342(15) keV to ground state, 273(1) keV										06An11 **
* $^{187}\text{Bi}^m(\alpha)^{183}\text{Tl}$	F : for T=700 $\mu\text{s}$ instead of Nubase=370(20) $\mu\text{s}$										Nub127 **
* $^{187}\text{Po}(\alpha)^{183}\text{Pb}$	$E_\alpha=7528(15)$ to 286(1) keV level; also 1 event $E_\alpha=7796(15)$ to ground state										06An11 **
* $^{186}\text{W}(\text{n},\gamma)^{187}\text{W}$	Only statistical error 0.04 keV given; Z recalibrated										GAu **
* $^{187}\text{Ir}(\beta^+)^{187}\text{Os}$	$p^+ < 0.15(0.05)$ , resulting Q<1550 keV										Ens095 **
* $^{187}\text{Au}(\beta^+)^{187}\text{Pt}$	K/ $\beta^+=31.6(2.8)$ to $1/2^+$ level at 1341.07 keV, recalculated										Ens095 **
* $^{187}\text{Hg}^m(\text{IT})^{187}\text{Hg}$	Original error (7 keV) increased by 20 due to isomer+ground state lines in trap										01Sc41 **
$^{188}\text{Ta-u}$	-36084	71				2					12Sh.1
$^{188}\text{Au-u}$	-34750	104	-34651	17	1.0	U					00Ra23
	-34674	30			0.8	-					05Li24
	ave.	34679	22		1.3	1	57	57	$^{188}\text{Au}$		average
$^{188}\text{Hg-u}$	-32500	104	-32433	12	0.6	U					00Ra23
	-32428	30			-0.2	1	16	16	$^{188}\text{Hg}$		05Li24
$^{188}\text{Hg}-^{208}\text{Pb}_{.904}$	-11330	20	-11327	12	0.2	-					01Sc41
	ave.	11317	17		-0.6	1	53	53	$^{188}\text{Hg}$		average
$^{188}\text{Tl-u}$	-23827	110	-23980	30	-1.4	U					00Ra23 *
	-23994	38			0.4	2					05Li24 *
$^{188}\text{Pb-u}$	-19070	110	-19125	11	-0.5	U					00Ra23
	-19144	30			0.6	R					05Li24
$^{188}\text{Os}^{35}\text{Cl}-^{186}\text{W}^{37}\text{Cl}$	4426	3	4422.5	1.3	-0.5	U					70Mc03
$^{188}\text{Pt}(\alpha)^{184}\text{Os}$	4015.7	10.	4003	6	-1.3	-					63Gr08
	4000.3	10.			0.2	-					78El11
	3990.1	15.			0.8	-					79Ha10
	ave.	4005	7		-0.3	1	71	71	$^{188}\text{Pt}$		average
$^{188}\text{Hg}(\alpha)^{184}\text{Pt}$	4710.4	20.	4703	15	-0.4	1	57	42	$^{184}\text{Pt}$		79Ha10
$^{188}\text{Pb}(\alpha)^{184}\text{Hg}$	6110.3	10.	6109	3	-0.1	2					Ora
	6109.2	10.			0.0	2					74Le02 Z
	6120.5	15.			-0.8	2					77De32 Z
	6110.5	5.			-0.3	2					80Sc09 Z
	6109.3	10.			0.0	2					81To02 Z
	6100.0	8.			1.1	2					93Wa03 Z
$^{188}\text{Bi}(\alpha)^{184}\text{Tl}$	7274.5	25.	7264	5	-0.4	o					GSa 80Sc09 *
	7279.7	10.			-1.6	2					GSa 84Sc.A *
	7255.2	7.			1.2	2					Lvn 97Wa05 *
	7259.3	5.			0.9	o					Anv 03An26 *
	7264.8	10.			-0.1	2					Anv 06An04 *
$^{188}\text{Bi}^n(\alpha)^{184}\text{Tl}^m$	7462.9	5.			5						Anv 03An26 *
$^{188}\text{Bi}^n(\alpha)^{184}\text{Tl}^n$	6968.5	20.	6964	5	-0.2	o					GSa 80Sc09
	6968.5	10.			-0.4	5					GSa 84Sc.A
	6963.5	6.			0.2	5					Lvn 97Wa05
	6961.3	5.			0.6	o					Anv 03An26
	6963.5	5.			0.1	5					Anv 06An04
$^{188}\text{Po}(\alpha)^{184}\text{Pb}$	8087.4	25.	8082	15	-0.2	o					Anv 99An52
	8080.2	15.			0.1	o					Anv 01Va.B
	8082.3	15.				2					Anv 03Va16

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{188}\text{Os}(\text{p},\text{t})^{186}\text{Os}$	-5802	5	-5797.7	0.6	0.9	U		Min	73Oo01			
	-5803	4			1.3	U		McM	75Th04			
$^{187}\text{Re}(\text{n},\gamma)^{188}\text{Re}$	5871.77	0.3	5871.65	0.04	-0.4	U			72Sh13	Z		
	5871.75	0.13			-0.8	U		Bdn	06Fi.A			
	5871.65	0.04				2		Prn	10Ba48			
$^{188}\text{Os}(\text{t},\alpha)^{187}\text{Re}$	12604	10	12604.16	0.15	0.0	U		McM	76Hi08			
$^{187}\text{Os}(\text{n},\gamma)^{188}\text{Os}$	7989.6	0.3	7989.58	0.15	-0.1	-			83Fe06	Z		
	7989.58	0.17			0.0	-		Bdn	06Fi.A			
	ave.	7989.58	0.15		-0.1	1	100	95 $^{188}\text{Os}$		average		
$^{188}\text{W}(\beta^-)^{188}\text{Re}$	349	3				3			64Bu10			
$^{188}\text{Re}(\beta^-)^{188}\text{Os}$	2116	2	2120.39	0.15	2.2	U			56Jo05			
	2111	3			3.1	B			68An11			
$^{188}\text{Ir}(\beta^+)^{188}\text{Os}$	2833	10	2788	9	-4.5	B			62Wa20	*		
	2781	20			0.3	-			69Ya02	*		
	2827	30			-1.3	-			70Ag03	*		
	ave.	2795	17		-0.4	1	33	32 $^{188}\text{Ir}$		average		
$^{188}\text{Pt}(\varepsilon)^{188}\text{Ir}$	525	10	522	9	-0.3	1	76	68 $^{188}\text{Ir}$	ORa	78El11	*	
$^{188}\text{Au}(\beta^+)^{188}\text{Pt}$	5520	30	5552	16	1.1	R			84Da.A			
$^{188}\text{Hg}(\beta^+)^{188}\text{Au}$	2040	20	2066	15	1.3	1	59	43 $^{188}\text{Au}$		84Da.A		
* $^{188}\text{Tl-u}$	M-A=-22180(100) keV for mixture gs+m at 30(40) keV											
* $^{188}\text{Tl-u}$	M-A=-22335(28) keV for mixture gs+m at 30(40) keV											
* $^{188}\text{Bi}(\alpha)^{184}\text{Tl}$	$E_\alpha=7005(25)$ 7010(10) 6987(6) respectively, to ( $3^+$ ) level at 117.5(0.5) keV											
*	$E_\alpha=7029(7)$ 3 times weaker exists too, possible mixture in older results											
* $^{188}\text{Bi}(\alpha)^{184}\text{Tl}$	$E_\alpha=7106(5)$ , 6992(5), 6889(10) to ground state, 117.5, 216 levels											
* $^{188}\text{Bi}^n(\alpha)^{184}\text{Tl}^m$	$E_\alpha=6995(10)$ to 117.5 level											
* $^{188}\text{Ir}(\beta^+)^{188}\text{Os}$	$E_\alpha=7302(5)$ , 7232(10), 6995(15) to ground state, 70.5, 320 levels											
* $^{188}\text{Pt}(\varepsilon)^{188}\text{Ir}$	$E_{\beta^+}=1656(10)$ 1605(20) 1650(30) respectively, to $2^+$ level at 155.021 keV											
$pL=0.67(0.05)$ to $1^+$ level at 478.17 keV												
$^{189}\text{W}-\text{u}$	-38237	44			2			GS3	1.0	12Sh.1		
$\text{C}_{14}\text{H}_{21}-^{189}\text{Os}$	206188.3	6.2	206181.5	1.7	-0.4	U		M23	2.5	79Ha32		
$^{189}\text{Au-u}$	-36080	140	-36052	22	0.2	U		GS1	1.0	00Ra23	*	
	-36045	31			-0.2	2		GS2	1.0	05Li24		
	-36058	30			0.2	2		GS2	1.0	05Li24	*	
$^{189}\text{Hg-u}$	-31788	111	-31810	30	-0.2	U		GS1	1.0	00Ra23	*	
	-31791	42			-0.3	1	65	65 $^{189}\text{Hg}$	GS2	1.0	05Li24	*
$^{189}\text{Hg}^m-^{208}\text{Pb}_{.909}$	-10501	20	-10498	19	0.2	1	92	92 $^{189}\text{Hg}^m$	MA6	1.0	01Sc41	
$^{189}\text{Tl-u}$	-26497	139	-26412	12	0.6	U		GS1	1.0	00Ra23	*	
	-26313	93			-1.1	U		GS2	1.0	05Li24	*	
$^{189}\text{Pb-u}$	-19206	99	-19190	40	0.1	U		GS1	1.0	00Ra23	*	
	-19193	37			2			GS2	1.0	05Li24	*	
$^{189}\text{Os}^{35}\text{Cl}-^{187}\text{Re}^{37}\text{Cl}$	5341	3	5344.2	0.6	0.4	U		H22	2.5	70Mc03		
$^{189}\text{Pb}(\alpha)^{185}\text{Hg}$	5954.2	10.	5870	40	-8.2	B		Ora	72Ga27	*		
	5943.9	10.			-7.1	B		Ora	74Le02	*		
	5915	10			-4.3	C			05Fr.A	*		
$^{189}\text{Pb}^m(\alpha)^{185}\text{Hg}$	5958	10	5910#	50#	-4.6	C			05Fr.A	*		
$^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	7269.4	10.	7268.1	2.7	-0.1	6		Ora	74Le02	*		
	7274.5	10.			-0.6	6		GSa	84Sc.A	*		
	7271.2	5.			-0.6	6		Lvn	85Co06	*		
	7271.8	15.			-0.2	U		Anv	97An09	*		
	7268.1	6.			0.0	6		Lvn	97Wa05			
	7271.5	5.			-0.7	o		Jya	02Hu14	*		
	7264.2	4.5			0.9	6		Jya	03Ke08	*		
$^{189}\text{Bi}^m(\alpha)^{185}\text{Tl}$	7362.1	20.	7452	4	1.8	U		GSa	84Sc.A	*		
	7499.0	30.			-1.6	U		Dbb	93An19			
	7458.2	40.			-0.2	U		ORa	95Ba75			
	7458.2	15.			-0.4	6		Anv	97An09			
	7450.0	6.			0.4	6		Lvn	97Wa05			
	7453.1	6.			-0.2	6		Jya	03Ke08			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{189}\text{Po}(\alpha)^{185}\text{Pb}$	7699.4	15.	7694	15	-0.3	o			Anv	99An52	*
	7694.3	15.				3			Anv	05Va04	*
$^{189}\text{Os}(\text{p},\text{t})^{187}\text{Os}$	-5431	5	-5428.3	0.5	0.5	U			Min	73Oo01	
	-5432	4			0.9	U			McM	75Th04	
$^{188}\text{Os}(\text{n},\gamma)^{189}\text{Os}$	5920.8	2.	5920.5	0.5	-0.1	U				76Be50	
	5920.6	0.5			-0.2	1	99	94 $^{189}\text{Os}$	ILn	92Br17	
	5922.0	0.4			-3.7	C			Bdn	06Fi.A	
$^{188}\text{Os}(\text{d},\text{p})^{189}\text{Os}$	3689	10	3695.9	0.5	0.7	U			Kop	75Mo29	
$^{189}\text{Os}(\text{d},\text{t})^{188}\text{Os}$	335	15	336.7	0.5	0.1	U			Tal	75Th06	
$^{189}\text{W}(\beta^-)^{189}\text{Re}$	2500	200	2360	40	-0.7	U				65Ka07	
$^{189}\text{Re}(\beta^-)^{189}\text{Os}$	1000	20	1008	8	0.4	R				63Cr06	
	1015	20			-0.4	R				65Bl06	
$^{189}\text{Pt}(\beta^+)^{189}\text{Ir}$	1950	20	1971	14	1.1	1	49	29 $^{189}\text{Ir}$		71Pi08	*
$^{189}\text{Au}(\beta^+)^{189}\text{Pt}$	3160	300	2903	23	-0.9	U				75Un.A	
$^{189}\text{Hg}(\beta^+)^{189}\text{Au}$	4200	200	3960	40	-1.2	U				75Un.A	
$^{189}\text{Hg}^m(\text{IT})^{189}\text{Hg}$	100	50	80	30	-0.4	1	43	35 $^{189}\text{Hg}$	MA6	01Sc41	
$^{189}\text{Tl}^m(\beta^+)^{189}\text{Hg}$	5460	200	5310	30	-0.8	U				75Un.A	*
* $^{189}\text{Au-u}$	M-A=-33490(100) keV for mixture gs+m at 247.23 keV										
* $^{189}\text{Au-u}$	M-A=-33341(28) keV for $^{189}\text{Au}^m$ at 247.23 keV										
* $^{189}\text{Hg-u}$	M-A=-29570(100) keV for mixture gs+m at 80(30) keV										
* $^{189}\text{Hg-u}$	M-A=-29573(28) keV for mixture gs+m at 80(30) keV										
* $^{189}\text{Tl-u}$	M-A=-24540(100) keV for mixture gs+m at 283(6) keV										
* $^{189}\text{Tl-u}$	M-A=-24369(28) keV for mixture gs+m at 283(6) keV										
* $^{189}\text{Pb-u}$	M-A=-17870(90) keV for mixture gs+m at 40#30 keV										
* $^{189}\text{Pb-u}$	M-A=-17858(29) keV for mixture gs+m at 40#30 keV										
* $^{189}\text{Pb}(\alpha)^{185}\text{Hg}$	$E_\alpha=5730.1(10,Z)$ possibly from ground state, to $3/2^-$ level at 26.1 keV										
* $^{189}\text{Pb}(\alpha)^{185}\text{Hg}$	$E_\alpha=5720(10)$ possibly from ground state, to $3/2^-$ level at 26.1 keV										
* $^{189}\text{Pb}(\alpha)^{185}\text{Hg}$	$E_\alpha=5761$ to $3/2^-$ level at 26.1 and $E_\alpha=5623$ to 173.8 level										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=5730$ to 103.8 level										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=6670.1(10,Z)$ to $^{185}\text{Tl}^m$ at 454.8(1.5) keV										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=6675(10)$ to $^{185}\text{Tl}^m$ at 454.8(1.5) keV										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=7115.6(15,Z)$ and $6671.6(5,Z)$ to $^{185}\text{Tl}^m$ at 454.8(1.5) keV										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=7120(15)$ , $6670(15)$ to ground state and $^{185}\text{Tl}^m$ at 454.8(1.5) keV										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=6674(5)$ to $^{185}\text{Tl}^m$ at 452.8(2.0) keV										
* $^{189}\text{Bi}(\alpha)^{185}\text{Tl}$	$E_\alpha=6667(4)$ to $^{185}\text{Tl}^m$ at 452.8(2.0) keV and also $E_\alpha=7114(6)$ to ground state										
* $^{189}\text{Bi}^m(\alpha)^{185}\text{Tl}$	Only one event; not seen in reference										
* $^{189}\text{Po}(\alpha)^{185}\text{Pb}$	$E_\alpha=7264(15)$ to 278(1) level										
* $^{189}\text{Po}(\alpha)^{185}\text{Pb}$	$E_\alpha=7259(15)$ to 278(1) level										
* $^{189}\text{Pt}(\beta^+)^{189}\text{Ir}$	$E_{\beta^+}=885(10)$ to ground state, $1/2^+$ level at 94.34 and $3/2^+$ at 176.53 keV										
* $^{189}\text{Tl}^m(\beta^+)^{189}\text{Hg}$	$E_{\beta^+}=4140(200)$ to several levels around 300 keV										
$^{190}\text{W-u}$	-36915	43	-36910	40	0.1	1	94	94 $^{190}\text{W}$	GS3	1.0	12Sh.1
$^{190}\text{Au-u}$	-35213	106	-35302	17	-0.8	U			GS2	1.0	05Li24
$^{190}\text{Hg-u}$	-33670	107	-33677	17	-0.1	U			GS1	1.0	00Ra23
$^{190}\text{Hg}-^{208}\text{Pb}_{.913}$	-12361	20	-12361	17	0.0	1	73	73 $^{190}\text{Hg}$	MA6	1.0	01Sc41
$^{190}\text{Tl}^m\text{-u}$	-26055	107	-26076	7	-0.2	o			GS1	1.0	00Ra23
	-26048	30			-0.9	U			GS2	1.0	05Li24
$^{190}\text{Tl}^m-^{133}\text{Cs}_{1.429}$	109033.5	6.9			2				MA8	1.0	12Bo.A
$^{190}\text{Pb-u}$	-21940	104	-21918	13	0.2	U			GS1	1.0	00Ra23
	-21905	30			-0.4	R			GS2	1.0	05Li24
$^{190}\text{Bi}^m-^{133}\text{Cs}_{1.429}$	123800	27	123870	30	2.5	F			MA8	1.0	08We02
$^{190}\text{Os}^{35}\text{Cl}-^{188}\text{Os}^{37}\text{Cl}$	5557	3	5558.6	0.6	0.2	U			H22	2.5	70Mc03
$^{190}\text{Os-C}_{14}\text{H}_{21}$	-205897.8	5.8	-205882.0	1.7	1.1	U			M23	2.5	79Ha32
$^{190}\text{Os-}^{189}\text{Os}$	285.2	5.2	299.54	0.20	1.1	U			M24	2.5	79Ha32
$^{190}\text{Pt}(\alpha)^{186}\text{Os}$	3238.3	20.	3252	6	0.7	-					61Pe23
	3248.5	20.			0.2	-					63Gr08
ave.	3243	14			0.6	1	16	15 $^{190}\text{Pt}$			average
$^{190}\text{Pb}(\alpha)^{186}\text{Hg}$	5699.8	10.	5697	5	-0.2	2			Ora	74Le02	Z
	5697.0	5.			0.1	2			ORa	81El03	Z
$^{190}\text{Bi}(\alpha)^{186}\text{Tl}$	6862.2	5.	6863	4	0.1	3			Lvn	91Va04	*
	6863.3	5.			-0.1	3			Anv	03An26	*
$^{190}\text{Bi}^m(\alpha)^{186}\text{Tl}^m$	6967.9	5.	6968	3	0.0	4			Lvn	91Va04	*
	6969.1	5.			-0.2	4			Anv	03An26	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{190}\text{Bi}^m(\alpha)^{186}\text{Tl}^n$	6589.0	10.	6594	3	0.5	R			Ora	74Le02	
$^{190}\text{Po}(\alpha)^{186}\text{Pb}$	7643.2	20.	7693	7	2.5	U			GSa	88Qu.A	
	7651.4	40.			1.0	U			ORa	96Ba35	
	7691.2	10.			0.2	3			ORa	97Ba25	
	7695.3	10.			-0.2	3			Anv	00An14	*
$^{190}\text{Os}(\text{p},\text{t})^{188}\text{Os}$	-5234	5	-5231.0	0.5	0.6	U			Min	73Oo01	
	-5237	4			1.5	U			McM	75Th04	
$^{190}\text{Pt}(\text{p},\text{t})^{188}\text{Pt}$	-7150	10	-7157	7	-0.7	1	45	24 $^{190}\text{Pt}$	Ors	78Ve10	
$^{190}\text{Os}(\text{t},\alpha)^{189}\text{Re}$	11796	10	11796	8	0.0	2			McM	76Hi08	
$^{189}\text{Os}(\text{n},\gamma)^{190}\text{Os}$	7791.8	1.0	7792.30	0.19	0.5	U			BNn	79Ca02	Z
	7792.31	0.19			-0.1	1	100	94 $^{190}\text{Os}$	Bdn	06Fi.A	
$^{190}\text{Os}(\text{d},\text{t})^{189}\text{Os}$	-1541	10	-1535.06	0.19	0.6	U			Kop	75Mo29	
	-1530	4			-1.3	U			Tal	76Be50	
$^{190}\text{Pt}(\text{p},\text{d})^{189}\text{Pt}$	-6693	11	-6687	10	0.6	1	84	80 $^{189}\text{Pt}$	Ors	80Ka19	
$^{190}\text{W}(\beta^-)^{190}\text{Re}$	1270	70	1250	60	-0.2	1	82	77 $^{190}\text{Re}$		76Ha39	*
$^{190}\text{Re}(\beta^-)^{190}\text{Os}$	3090	300	3070	70	-0.1	-				55At21	*
	3190	300			-0.4	-				69Ha44	*
	3146	200			-0.4	-				64Fl02	*
	ave.	3140	150		-0.5	1	24	23 $^{190}\text{Re}$		average	
$^{190}\text{Ir}(\beta^+)^{190}\text{Os}$	2000	200	1953.8	1.2	-0.2	U			60Ka14	*	
$^{190}\text{Au}(\beta^+)^{190}\text{Pt}$	4442	15			2				73Jo11		
	4380	55	4442	15	1.1	U			74Di.A		
	4380	200			0.3	U			75Un.A		
$^{190}\text{Hg}(\beta^+)^{190}\text{Au}$	2105	80	1513	23	-7.4	C			74Di.A		
$^{190}\text{Tl}(\beta^+)^{190}\text{Hg}$	7000	400	6990#	50#	0.0	U			75Un.A	*	
$^{190}\text{Tl}^m(\beta^+)^{190}\text{Hg}$	6975	300	7081	17	0.4	U			76Bi09	*	
$^{190}\text{Bi}(\beta^+)^{190}\text{Pb}$	8700	500	9818	26	2.2	F			76Bi09	*	
* $^{190}\text{Au-u}$	M-A=-32701(28) keV for mixture gs+m at 200#150 keV										
* $^{190}\text{Tl}^m\text{-u}$	Assumed by evaluator to be the 7+ excited isomer										
* $^{190}\text{Bi}^m\text{-}^{133}\text{Cs}_{1.429}$	F : contamination due to ground state not resolved										
* $^{190}\text{Bi}(\alpha)^{186}\text{Tl}$	$E_\alpha=6716(5), 6507(5), 6431(5)$ to ground state, 215.2, 293.7 levels										
* $^{190}\text{Bi}(\alpha)^{186}\text{Tl}$	$E_\alpha=6431(5)$ to 293.7 level										
* $^{190}\text{Bi}^m(\alpha)^{186}\text{Tl}^m$	$E_\alpha=6819(5), 6734(5), 6456(5)$ to levels 0, 89.5, 373.9 above $^{186}\text{Tl}^m$										
* $^{190}\text{Bi}^m(\alpha)^{186}\text{Tl}^m$	$E_\alpha=6456(5)$ to 374.0 level above $^{186}\text{Tl}^m$										
* $^{190}\text{Po}(\alpha)^{186}\text{Pb}$	$E_\alpha=7545(15)$ same dataset as in reference 2000An14										
* $^{190}\text{W}(\beta^-)^{190}\text{Re}$	$E_{\beta^-}=950(70)$ to 1+ level at 319.7 keV										
* $^{190}\text{Re}(\beta^-)^{190}\text{Os}$	$E_{\beta^-}=1700(300)$ 1800(300) respectively, to 3- level at 1387.00 keV										
* $^{190}\text{Re}(\beta^-)^{190}\text{Os}$	$E_{\beta^-}=1600(200)$ from isomer at 204(10) to several levels around 1750 keV										
* $^{190}\text{Ir}(\beta^+)^{190}\text{Os}$	$p^+=6(1)\times 10^{-5}$ to 4+ levels at 1163.19 and 955.37 keV, level at 1872.15 keV fed										
* $^{190}\text{Tl}(\beta^+)^{190}\text{Hg}$	$E_{\beta^+}=5700(400)$ to ground state and 2+ level at 416.32 keV										
* $^{190}\text{Tl}^m(\beta^+)^{190}\text{Hg}$	$E_{\beta^+}=4180(300)$ to 6+ level at 1772.94 keV										
* $^{190}\text{Bi}(\beta^+)^{190}\text{Pb}$	F : $E_{\beta^+}=5700(300)$ to a level around 2000 at least										
$^{191}\text{W-u}$	-33469	48			2				GS3	1.0	12Sh.1
$^{191}\text{Au-u}$	-36180	88	-36300	40	-1.3	1	20	20 $^{191}\text{Au}$	GS2	1.0	05Li24
$^{191}\text{Hg-u}$	-32811	51	-32843	24	-0.6	1	23	23 $^{191}\text{Hg}$	GS2	1.0	05Li24
$^{191}\text{Hg-}^{208}\text{Pb}_{.918}$	-11414	29	-11410	24	0.1	1	70	70 $^{191}\text{Hg}$	MA6	1.0	01Sc41
$^{191}\text{Tl-u}$	-28340	130	-28216	8	1.0	U			GS1	1.0	00Ra23
	-28234	30			0.6	U			GS2	1.0	05Li24
	-28192	31			-0.8	U			GS2	1.0	05Li24
$^{191}\text{Pb-u}$	-21770	110	-21720	40	0.4	U			GS1	1.0	00Ra23
	-21724	41			2				GS2	1.0	05Li24
$^{191}\text{Bi-}^{133}\text{Cs}_{1.436}$	121552.1	8.6	121558	8	0.6	1	87	87 $^{191}\text{Bi}$	MA8	1.0	08We02
$^{191}\text{Pb}^m(\alpha)^{187}\text{Hg}^m$	5403.4	20.			2				Ora		74Le02
$^{191}\text{Bi}(\alpha)^{187}\text{Tl}$	6780.8	5.	6778	3	-0.5	-			Lvn		85Co06
	6785.3	10.2			-0.7	-			ORa		98Bi.A
	6782.2	10.			-0.4	-			Anv		99An36
	ave.	6782	4		-0.8	1	64	62 $^{187}\text{Tl}$		average	
$^{191}\text{Bi}(\alpha)^{187}\text{Tl}^m$	6440.0	5.	6443.6	2.2	0.7	-				67Tr06	Z
	6455.0	10.			-1.1	U			Ora	74Le02	Z
	6445.9	5.			-0.4	-			Lvn	85Co06	Z
	6447	10			-0.3	U			ORa	98Bi.A	
	6458.5	20.			-0.7	U			RIa	99Ta20	
	6445	10			-0.1	U			Anv	99An36	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{191}\text{Bi}(\alpha)^{187}\text{Tl}^m$	6443.2	3.	6443.6	2.2	0.2	—			Jya	03Ke04	
ave.	6443.0	2.3			0.3	1	88	77 $^{187}\text{Tl}^m$		average	
$^{191}\text{Bi}^m(\alpha)^{187}\text{Tl}$	7022.8	5.	7018.6	2.6	-0.8	2			Lvn	85Co06	Z
	7023.4	10.			-0.5	U			ORa	98Bi.A	
	7016.2	20.			0.1	U			Rla	99Ta20	
	7017.2	3.			0.5	2			Jya	03Ke04	
$^{191}\text{Po}(\alpha)^{187}\text{Pb}$	7470.8	20.	7493	5	1.1	F			GSa	93Qu03	*
	7487.1	15.			0.4	U			ORa	97Ba25	
	7491.2	5.			0.4	1	94	94 $^{191}\text{Po}$	Anv	02An19	*
$^{191}\text{Po}(\alpha)^{187}\text{Pb}^m$	7493.2	15.	7474	10	-1.2	1	45	39 $^{187}\text{Pb}^m$	Anv	02An19	
$^{191}\text{Po}^m(\alpha)^{187}\text{Pb}^m$	7535	5				2			Anv	02An19	*
$^{191}\text{At}(\alpha)^{187}\text{Bi}^m$	7713.9	11.				3			Jya	03Ke08	
$^{191}\text{At}^m(\alpha)^{187}\text{Bi}$	7880.4	15.				3			Jya	03Ke08	
$^{191}\text{Ir}(\text{p},\text{t})^{189}\text{Ir}$	-5903	15	-5915	13	-0.8	1	71	71 $^{189}\text{Ir}$	McM	78Lo07	
$^{190}\text{Os}(\text{n},\gamma)^{191}\text{Os}$	5758.2	2.	5758.74	0.11	0.3	U				77Be15	
	5759.1	1.5			-0.2	U				77Ca19	
	5758.67	0.16			0.4	—			ILn	91Bo35	Z
	5758.81	0.15			-0.5	—			Bdn	06Fi.A	
ave.	5758.74	0.11			-0.1	1	100	94 $^{191}\text{Os}$		average	
$^{190}\text{Os}(\alpha,\text{t})^{191}\text{Ir}$	-14569	15	-14523.5	1.2	3.0	U			McM	71Pr13	
$^{191}\text{Ir}(\text{d},\text{t})^{190}\text{Ir}$	-1769.3	0.4				2				95Ga04	*
$^{191}\text{Os}(\beta^-)^{191}\text{Ir}$	313.3	3.	314.0	1.2	0.2	—				48Sa18	*
	314.3	2.			-0.2	—				51Ko17	*
	316.3	3.			-0.8	—				58Na15	*
	314.3	3.			-0.1	—				60Fe03	*
	318.3	3.			-1.4	—				63Pi01	*
ave.	315.1	1.2			-0.9	1	92	86 $^{191}\text{Ir}$		average	
$^{191}\text{Pt}(\epsilon)^{191}\text{Ir}$	1000	15	1009	4	0.6	U				70Sc20	*
$^{191}\text{Au}(\beta^+)^{191}\text{Pt}$	1830	50	1890	40	1.2	1	55	54 $^{191}\text{Au}$		76Vi.A	*
$^{191}\text{Hg}(\beta^+)^{191}\text{Au}$	3430	200	3220	40	-1.1	U				75Un.A	*
	3180	70			0.5	1	33	25 $^{191}\text{Au}$		76Vi.A	*
$^{191}\text{Tl}^m(\beta^+)^{191}\text{Hg}$	5178	200	4607	24	-2.9	C				75Un.A	*
* $^{191}\text{Au-u}$	M-A=-33568(28) keV for mixture gs+m at 266.2 keV										
* $^{191}\text{Hg-u}$	M-A=-30499(28) keV for mixture gs+m at 128(22) keV										
* $^{191}\text{Hg}-^{208}\text{Pb}_{.918}$	Original error (19keV) increased by 20 due to isomer+ground state lines in trap										
* $^{191}\text{Tl-u}$	M-A=-26250(90) keV for mixture gs+m at 297(7) keV										
* $^{191}\text{Tl-u}$	M-A=-25964(28) keV for $^{191}\text{Tl}^m$ at 297(7) keV										
* $^{191}\text{Pb-u}$	Possible isomeric contamination										
* $^{191}\text{Pb-u}$	M-A=-20226(28) keV for mixture gs+m at 20(50) keV										
* $^{191}\text{Po}(\alpha)^{187}\text{Pb}$	F : probably mainly $^{189}\text{Bi}^m$										
* $^{191}\text{Po}(\alpha)^{187}\text{Pb}$	$E_\alpha=7334(10), 6960(15)$ to ground state, 375(1) superseded by 02An19										
* $^{191}\text{Po}^m(\alpha)^{187}\text{Pb}^m$	$E_\alpha=7376(5), 6888(5)$ to $^{187}\text{Pb}^m$ and 494(1) above										
* $^{191}\text{Po}^m(\alpha)^{187}\text{Pb}^m$	$E_\alpha=7378(10), 6888(15)$ superseded by 02An19										
* $^{191}\text{Ir}(\text{d},\text{t})^{190}\text{Ir}$	Feeds ground state										
* $^{191}\text{Os}(\beta^-)^{191}\text{Ir}$	$E_{\beta^-}=142(3) 143(2) 145(3) 143(3) 147(3)$ respectively, to $11/2^-$ level at 171.29 keV										
* $^{191}\text{Pt}(\epsilon)^{191}\text{Ir}$	$pL=0.73(0.12)$ to $(1/2^+, 3/2, 5/2^+)$ at 935.46 keV , no K capture										
* $^{191}\text{Au}(\beta^+)^{191}\text{Pt}$	$E_{\beta^+}=850(30)$ to ground state and $(5/2^-, 7/2^-)$ level at 9.547 keV; also $E_{\beta^+}=470(60)$ to $(3/2^-, 5/2^-)$ level at 277.88 and $5/2^-$ level at 293.458 keV										
*	Reassigned by evaluator to mainly ground state, partly $3/2^+$ 207.9 level										
* $^{191}\text{Hg}(\beta^+)^{191}\text{Au}$	$E_{\beta^+}=3820(200)$ to level( $5/2^-$ ) at 336.32 keV										
$^{192}\text{Re-u}$	-33912	82				2			GS3	1.0	12Sh.1
$^{192}\text{Hg-u}$	-34440	104	-34365	17	0.7	U			GS1	1.0	00Ra23
	-34342	30			-0.8	R			GS2	1.0	05Li24
$^{192}\text{Hg}-^{208}\text{Pb}_{.923}$	-12826	20	-12816	17	0.5	2			MA6	1.0	01Sc41
$^{192}\text{Tl-u}$	-27815	121	-27780	30	0.3	U			GS1	1.0	00Ra23
	-27775	34				2			GS2	1.0	05Li24
$^{192}\text{Pb-u}$	-24280	104	-24225	13	0.5	U			GS1	1.0	00Ra23
	-24185	30			-1.3	R			GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{193}\text{Hg}(\beta^+)^{193}\text{Au}$	$E_{\beta^+}=1287(15)$ reinterpreted by AHW as going to ground state and $1/2^+$ level at 38.22keV										Ens062 **
$^{194}\text{Au-u}$	-34768	114	-34582.2	2.3	1.6	U		GS2	1.0	05Li24	*
$^{194}\text{Hg-u}$	-34527	30	-34551	3	-0.8	U		GS2	1.0	05Li24	
$^{194}\text{Hg}-^{133}\text{Cs}_{1.459}$	103394.7	3.1			2			MA8	1.0	10El11	
$^{194}\text{Hg}-^{208}\text{Pb}_{.933}$	-12766	19	-12768	3	-0.1	U		MA6	1.0	01Sc41	
$^{194}\text{Tl-u}$	-28803	135	-28919	15	-0.9	o		GS1	1.0	00Ra23	*
	-28778	87		-1.6	U			GS2	1.0	05Li24	*
$^{194}\text{Tl}-^{133}\text{Cs}_{1.459}$	109027	15			2			MA8	1.0	12Bo.A	
$^{194}\text{Tl}^m-^{133}\text{Cs}_{1.459}$	109306.4	4.1			2			MA8	1.0	12Bo.A	
$^{194}\text{Pb-u}$	-25980	104	-25988	19	-0.1	U		GS1	1.0	00Ra23	
$^{194}\text{Bi-u}$	-17162	128	-17220#	50#	-0.4	o		GS1	1.0	00Ra23	*
	-17178	76		-0.5	U			GS2	1.0	05Li24	*
$^{194}\text{Bi}^m-^{133}\text{Cs}_{1.459}$	120900	54			2			MA8	1.0	08We02	*
$^{194}\text{Pt}-^{197}\text{Au}_{.985}$	-4396.4	3.2	-4389.4	0.7	2.2	U		CP1	1.0	05Sh52	
$^{194}\text{Au}-^{197}\text{Au}_{.985}$	-1652.5	2.2			2			MA8	1.0	10El11	
$^{194}\text{Pb}(\alpha)^{190}\text{Hg}$	4737.9	20.	4738	17	0.0	1	67	40 $^{194}\text{Pb}$	ORa	87El09	
$^{194}\text{Bi}(\alpha)^{190}\text{Tl}$	5918.3	5.			4			Lvn		91Va04	*
$^{194}\text{Bi}^n(\alpha)^{190}\text{Tl}^m$	6015.7	5.			3			Lvn		91Va04	*
$^{194}\text{Po}(\alpha)^{190}\text{Pb}$	6991.5	10.	6987	3	-0.4	3				67Si09	Z
	6990.9	7.		-0.5	3					67Tr06	Z
	6984.4	5.		0.5	3			Ora		77De32	Z
	6990.0	5.		-0.6	o			Lvn		85Va03	Z
	6986.3	6.		0.1	3			Lvn		93Wa04	
	6993.4	4.		-1.6	o			Jya		96En02	
	6987.3	14.		0.0	3			Jya		05Uu02	
$^{194}\text{At}(\alpha)^{190}\text{Bi}$	7290.6	20.	7462	15	8.6	B		Jya		95Le15	
	7462.5	15.			4			Anv		09An11	*
$^{194}\text{At}^m(\alpha)^{190}\text{Bi}^m$	7362.1	20.	7339	11	-1.2	o				80Ya.A	
	7351.9	20.		-0.7	5			Jya		84Ya.A	
	7341.7	20.		-0.2	5			Anv		95Le15	
	7329.2	15.		0.6	5			Anv		09An11	
$^{194}\text{Rn}(\alpha)^{190}\text{Po}$	7862.5	10.			4					06An36	
$^{193}\text{Ir}(n,\gamma)^{194}\text{Ir}$	6067.0	0.4	6066.79	0.11	-0.5	2				82Ra.A	
	6066.9	0.2		-0.6	2					98Ba85	
	6066.71	0.14		0.6	2			Bdn		06Fi.A	
$^{194}\text{Pt}(t,\alpha)^{193}\text{Ir}$	12286	20	12300.6	2.1	0.7	U		Tal		78Ya07	
$^{194}\text{Pt}(d,t)^{193}\text{Pt}$	-2126	20	-2095.0	2.1	1.6	U		Pit		64Co11	
$^{194}\text{Pt}(p,d)^{193}\text{Pt}-^{196}\text{Pt}(\text{t})^{195}\text{Pt}$	-445	3	-430.3	2.1	4.9	B		Ors		78Be09	
$^{194}\text{Os}(\beta^-)^{194}\text{Ir}$	96.6	2.			3					64Wi07	*
$^{194}\text{Ir}(\beta^-)^{194}\text{Pt}$	2254	4	2228.8	2.1	-6.3	B				76Ra33	
$^{194}\text{Ir}^n(\beta^-)^{194}\text{Pt}$	2600	70			2					68Su02	*
$^{194}\text{Au}(\beta^+)^{194}\text{Pt}$	2465	20	2549.4	2.2	4.2	B				56Th11	
	2509	15			2.7	U				60Ba17	
	2485	30			2.1	U				70Ag03	*
$^{194}\text{Hg}(\epsilon)^{194}\text{Au}$	40	20	29	4	-0.5	U				81Ho18	
* $^{194}\text{Au-u}$	M-A=-32192(29) keV for mixture gs+m+n at 107.4 and 475.8 keV									Nub127	**
* $^{194}\text{Tl-u}$	M-A=-26700(100) keV for mixture gs+m at 260(15) keV									Nub126	**
* $^{194}\text{Tl-u}$	M-A=-26677(28) keV for mixture gs+m at 260(15) keV									Nub126	**
* $^{194}\text{Bi-u}$	M-A=-15870(100) keV for mixture gs+m+n at 160#70 and 190#50 keV									Nub127	**
* $^{194}\text{Bi-u}$	M-A=-15885(28) keV for mixture gs+m+n at 160#70 and 190#50 keV									Nub127	**
* $^{194}\text{Bi}^m-^{133}\text{Cs}_{1.459}$	Original error 16 $\mu\text{u}$ increased to include possible $3^+$ and $10^-$ contam.									08We02	**
* $^{194}\text{Bi}(\alpha)^{190}\text{Tl}$	$E_\alpha=5799(5)$ , 5645(5) to ground state, 151.3 level									91Va04	**
* $^{194}\text{Bi}^n(\alpha)^{190}\text{Tl}^m$	$E_\alpha=5892(5)$ , 5781(5) to levels 0, 112.2 above $^{190}\text{Tl}^m$									91Va04	**
* $^{194}\text{At}(\alpha)^{190}\text{Bi}$	$E_\alpha=7190(15)$ to 121(15); further $E_\alpha$ : 7310(15), 7266(15), 7145(15) keV									09An11	**
* $^{194}\text{Os}(\beta^-)^{194}\text{Ir}$	$E_{\beta^-}=54.5(2.0)$ to $0^-$ level at 43.119 keV, and other $E_{\beta^-}$									Ens066	**
* $^{194}\text{Ir}^n(\beta^-)^{194}\text{Pt}$	$E_{\beta^-}<250$ to $10^+$ level at 2438.41 keV									Ens066	**
* $^{194}\text{Au}(\beta^+)^{194}\text{Pt}$	$E_{\beta^+}=1230(30)$ to $2^+$ level at 328.464 keV, and other $E^+$									Ens066	**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{195}\text{At}(\alpha)^{191}\text{Bi}^m$	Correlated with $E_\alpha=6313$ of $^{191}\text{Bi}^m$									03Ke04 **
* $^{195}\text{At}^m(\alpha)^{191}\text{Bi}$	$E_\alpha=7190(30)$ to $148.7(0.5)$ level									03Ke04 **
*	correlated with $\alpha$ of $12\text{ s }^{191}\text{Bi}$ ground state									95Le15 **
* $^{195}\text{At}^m(\alpha)^{191}\text{Bi}$	$E_\alpha=7105(30)$ to $148.7(0.5)$ level									03Ke04 **
* $^{195}\text{At}^m(\alpha)^{191}\text{Bi}$	$E_\alpha=7221(4)$ and $7075(4)$ to $148.7(0.5)$ level									03Ke04 **
* $^{195}\text{Ir}(\beta^-)^{195}\text{Pt}$	$E_{\beta^-}=980(30)$ to $3/2^-$ level at $98.882$ keV and $5/2^-$ level at $129.777$ keV, and $E_{\beta^-}=410(20)$ from $^{195}\text{Ir}^m$ at $100(5)$ to $9/2^-$ at $814.52$ , and other $E_{\beta^-}$									Ens074 **
*	$pK=0.179(0.006)$ to $5/2^-$ level at $129.777$ from the following references:									Ens074 **
* $^{195}\text{Au}(\varepsilon)^{195}\text{Pt}$	$pK=0.195(0.015)$ to $129.78$ level									65De20 **
*	$pK=0.166(0.020)$ to $129.78$ level									68Ja11 **
*	$pK=0.160(0.017)$ to $129.78$ level									73Go05 **
*	$pK=0.183(0.009)$ to $129.78$ level									80Sa11 **
*	$pK=0.176(0.012)$ to $129.78$ level									82Be.A **
* $^{195}\text{Hg}(\beta^+)^{195}\text{Au}$	Assuming $511\gamma$ is annihilation of $\beta^+$ to ground state and $1/2^+$ level at $61.44$ keV									Ens074 **
* $^{195}\text{Tl}(\beta^+)^{195}\text{Hg}$	$K/\beta^+=6(1)$ to ground state and $3/2^-$ level at $37.08$ keV									Ens074 **
$^{196}\text{Hg}-^{208}\text{Pb}_{.942}$	-12178	20	-12174	3	0.2	U	MA6	1.0	01Sc41	
$^{196}\text{Tl-u}$	-29188	126	-29519	13	-2.6	U	GS2	1.0	05Li24	*
$^{196}\text{Tl}-^{133}\text{Cs}_{1.474}$	109845	13			2		MA8	1.0	08We02	*
$^{196}\text{Pb}-^{208}\text{Pb}_{.942}$	-5228	22	-5232	15	-0.2	2	MA6	1.0	01Sc41	
$^{196}\text{Pb-u}$	-27200	104	-27226	15	-0.2	U	GS1	1.0	00Ra23	
	-27232	30			0.2	R	GS2	1.0	05Li24	
$^{196}\text{Bi-u}$	-19309	137	-19333	26	-0.2	o	GS1	1.0	00Ra23	*
	-19325	30			-0.3	2	GS2	1.0	05Li24	
	-19361	54			0.5	2	MA8	1.0	08We02	*
$^{196}\text{Pt}-^{197}\text{Au}_{.995}$	-1781.1	3.0	-1783.9	0.7	-0.9	U	CP1	1.0	05Sh52	
$^{196}\text{Bi}(\alpha)^{192}\text{Tl}^p$	5260.6	5.			3		Lvn		91Va04	
$^{196}\text{Po}(\alpha)^{192}\text{Pb}$	6662.2	8.	6658.0	2.4	-0.5	3			67Si09	Z
	6653.7	5.			0.8	3			67Tr06	Z
	6658.4	8.			0.0	3			71Ho01	Z
	6656.7	5.			0.3	o	Lvn		85Va03	Z
	6656.7	5.			0.3	3	Lvn		93Wa04	
	6653.1	18.			0.3	o	Ara		95Le04	
	6657.1	10.			0.1	o	Jya		96Le09	
	6654.0	5.0			0.8	3	Ara		96Ta18	*
	6669.4	6.			-1.8	3	Jya		05Uu02	
	6658.2	25.			0.0	U	Anv		10He25	
$^{196}\text{At}(\alpha)^{192}\text{Bi}$	7202.3	7.	7198	4	-0.6	4			67Tr06	
	7187.0	25.			0.4	U	Jya		95Le15	
	7200.2	30.			-0.1	U	Rla		95Mo14	
	7191.0	7.			1.0	o	Jya		96En01	
	7195.1	5.			0.6	4	Jya		00Sm06	
	7202.3	12.			-0.3	4	Anv		05De01	
$^{196}\text{At}^m(\alpha)^{192}\text{Bi}^m$	7023.6	15.			3		Jya		96En01	*
$^{196}\text{Rn}(\alpha)^{192}\text{Po}$	7583.1	35.	7617	9	0.9	o	Rla		95Mo14	
	7648.4	30.			-1.1	U	Rla		97Pu01	
	7616.7	9.			4		Jya		01Ke06	
$^{196}\text{Pt}(\text{t},\alpha)^{195}\text{Ir}$	11565	20	11572.3	2.1	0.4	U	Tal		78Ya07	
	11545	20			1.4	U	LAl		81Fl.A	
$^{195}\text{Pt}(\text{n},\gamma)^{196}\text{Pt}$	7921.96	0.20	7921.93	0.13	-0.1	-	ILn		81Ho.B	Z
	7921.92	0.17			0.1	-	Bdn		06Fi.A	
$^{196}\text{Pt}(\gamma,\text{n})^{195}\text{Pt}$	-8290	140	-7921.93	0.13	2.6	U	Phi		60Ge01	
$^{195}\text{Pt}(\text{d},\text{n})^{196}\text{Pt}$	5712	25	5697.37	0.13	-0.6	U	Pit		64Co11	
$^{196}\text{Pt}(\text{d,t})^{195}\text{Pt}$	-1686	20	-1664.70	0.13	1.1	U	Pit		64Co11	
$^{195}\text{Pt}(\text{n},\gamma)^{196}\text{Pt}$	ave.	7921.94	0.13	7921.93	0.13	0.0	1	100	98 $^{195}\text{Pt}$	average
$^{196}\text{Os}(\beta^-)^{196}\text{Ir}$	900	40	1160	60	6.5	B			77Ha32	*
$^{196}\text{Ir}(\beta^-)^{196}\text{Pt}$	3150	60	3210	40	1.0	2			66Vo05	*
	3250	50			-0.8	2			67Mo10	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{196}\text{Ir}^m(\beta^-)^{196}\text{Pt}$	3418	20				2					65Bi04 *
	3630	100	3418	20	-2.1	U					68Ja06 *
$^{196}\text{Au}(\beta^+)^{196}\text{Pt}$	1498	7	1507.0	3.0	1.3	1	18	17	$^{196}\text{Au}$		63Ik01 *
$^{196}\text{Au}(\epsilon)^{196}\text{Pt}$	1490	10			1.7	U					62Wa16 *
$^{196}\text{Au}(\beta^-)^{196}\text{Hg}$	685	4	687	3	0.5	1	61	31	$^{196}\text{Au}$		62Li03 *
$^{196}\text{Tl-u}$	M-A=-26991(28) keV for mixture gs+m at 394.2 keV										
$^{196}\text{Tl}-^{133}\text{Cs}_{1.474}$	Q=110268(13) $\mu\text{eV}$ M-A=-27103(12) keV for $^{196}\text{Tl}^m$ at 394.2 keV										
$^{196}\text{Bi-u}$	M-A=-17850(100) keV for mixture gs+n at 272(3) keV										
$^{196}\text{Bi-u}$	Q=120182(15) $\mu\text{eV}$ for $^{196}\text{Bi}^m-^{133}\text{Cs}_{1.474}$ , M( $^{196}\text{Bi}^m$ )=-17868(14) keV at 167(3) keV; error increased to include possible 3 <sup>+</sup> and 10 <sup>-</sup> contam.										
*	Including systematic uncertainty 5 keV										
$^{196}\text{Po}(\alpha)^{192}\text{Pb}$	Correlated with E $\alpha$ =7550 of $^{200}\text{Fr}(\alpha)$										
$^{196}\text{At}^m(\alpha)^{192}\text{Bi}^m$	$E_{\beta^-}=435(20)$ to (0,1) <sup>+</sup> levels at 407.88, 522.37 keV										
$^{196}\text{Os}(\beta^-)^{196}\text{Ir}$	Original value 3170(60) recalibrated using $^{62}\text{Cu}$										
$^{196}\text{Ir}(\beta^-)^{196}\text{Pt}$	$E_{\beta^-}=950(20)$ to (10 <sup>-</sup> ,11 <sup>-</sup> ) level at 2468.0 keV										
$^{196}\text{Ir}^m(\beta^-)^{196}\text{Pt}$	$E_{\beta^-}=1160(100)$ to (10 <sup>-</sup> ,11 <sup>-</sup> ) level at 2468.0 keV										
$^{196}\text{Au}(\beta^+)^{196}\text{Pt}$	KL/ $\beta^+=2.0(0.4)\times 10^6$ to 2 <sup>+</sup> level at 355.68 keV, recalculated										
$^{196}\text{Au}(\epsilon)^{196}\text{Pt}$	pL=0.64(0.06) to 3 <sup>-</sup> level at 1447.043 keV										
$^{196}\text{Au}(\beta^-)^{196}\text{Hg}$	$E_{\beta^-}=259(4)$ to 2 <sup>+</sup> level at 425.98 keV										
$^{197}\text{Hg-u}$	-32766	30	-32787	3	-0.7	U			GS2	1.0	05Li24
	-32765	30			-0.7	U			GS2	1.0	05Li24 *
$^{197}\text{Hg}-^{208}\text{Pb}_{.947}$	-10664	30	-10677	4	-0.4	U			MA6	1.0	01Sc41
$^{197}\text{Tl-u}$	-30450	30	-30424	18	0.9	R			GS2	1.0	05Li24
$^{197}\text{Pb-u}$	-26520	110	-26569	6	-0.4	U			GS1	1.0	00Ra23
	-26609	30			1.3	U			GS2	1.0	05Li24
	-26543	30			-0.9	U			GS2	1.0	05Li24 *
$^{197}\text{Pb}^m-^{133}\text{Cs}_{1.481}$	113799.6	6.0			2				MA8	1.0	08We02
$^{197}\text{Bi}-^{208}\text{Pb}_{.947}$	982	22	975	9	-0.3	R			MA6	1.0	01Sc41
$^{197}\text{Bi-u}$	-21373	188	-21135	9	1.3	U			GS1	1.0	00Ra23 *
	-21187	31			1.7	U			GS2	1.0	05Li24
$^{197}\text{Bi}-^{133}\text{Cs}_{1.481}$	118870	26	118891	9	0.8	R			MA8	1.0	08We02 *
$^{197}\text{Po-u}$	-14434	145	-14340	50	0.6	o			GS1	1.0	00Ra23 *
	-14305	90			-0.4	R			GS2	1.0	05Li24 *
$^{197}\text{Au-C}_{16}$	-33432.5	7.3	-33431.2	0.7	0.1	o			TG1	1.5	09Ke.A
	-33432.9	5.4			0.2	U			TG1	1.5	10Ke09
$^{197}\text{Au}(\alpha, ^8\text{He})^{193}\text{Au}$	-26919	9	-26920	9	-0.1	1	93		93	$^{193}\text{Au}$	89Ka04
$^{197}\text{Bi}^m(\alpha)^{193}\text{Tl}$	5890.8	10.	5898	5	0.7	o			Ora		72Ga27
	5889.7	10.			0.8	3			Ora		74Le02 Z
	5899.6	5.			-0.4	3			Lvn		85Co06 Z
$^{197}\text{Po}(\alpha)^{193}\text{Pb}$	6420.7	10.	6412	3	-0.9	3					67Si09 Z
	6410.1	5.			0.3	3					67Tr06 Z
	6409.4	9.			0.2	3					71Ho01 Z
	6411.4	5.0			0.0	3			Ara		96Ta18 *
$^{197}\text{Po}^m(\alpha)^{193}\text{Pb}^m$	6510.1	5.	6514.7	2.1	0.9	4					67Tr06 Z
	6511.4	9.			0.4	U					71Ho01 Z
	6518.0	3.			-1.1	4			Bka		82Bo04 Z
	6512.4	5.0			0.4	4			Ara		96Ta18 *
	6517.6	10.			-0.3	o			Anv		02Va13
	6516.6	30.			-0.1	U			Anv		10He25
	6512.9	4.7			0.4	4			Tex		12Fo09
$^{197}\text{At}(\alpha)^{193}\text{Bi}$	7103.0	5.	7100	50	0.0	3					67Tr06 Z
	7100.5	5.			0.1	o			Jya		96En01
	7104.5	5.			0.0	3			Jya		99Sm07
	7103.5	6.			0.0	3			Jya		05Uu02
$^{197}\text{At}^m(\alpha)^{193}\text{Bi}^m$	6846.2	10.	6846	4	0.0	o			Lvn		86Co12
	6846.2	5.			0.0	5			Jya		99Sm07
	6845.2	9.			0.1	5			Jya		05Uu02

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{197}\text{Rn}(\alpha)^{193}\text{Po}$	7410.8	20.	7411	7	0.0	o			Ria		95No.A	
	7411.8	30.			0.0	U			Ria		95Mo14	
	7410.8	7.			4				Jya		96En02	
$^{197}\text{Rn}^m(\alpha)^{193}\text{Po}^m$	7523.1	30.	7509	6	-0.5	U			Ria		95Mo14	
	7508.7	7.			0.1	5			Jya		96En02	
	7510.7	14.			-0.1	5			Jya		05Uu02	
$^{196}\text{Pt}(\text{n},\gamma)^{197}\text{Pt}$	5846.4	0.4	5846.35	0.27	-0.1	-				78Ya07	Z	
	5846.0	0.9			0.4	-			ILn	81Ho.B	Z	
	5846.6	0.5			-0.5	-			BNn	83Ca04	Z	
	5846.0	0.7			0.5	-			Bdn	06Fi.A		
$^{196}\text{Pt}(\text{d},\text{p})^{197}\text{Pt}$	3627	20	3621.79	0.27	-0.3	U			Pit	64Co11		
	3606	20			0.8	U			Tal	78Ya07		
$^{196}\text{Pt}(\text{n},\gamma)^{197}\text{Pt}$	ave.	5846.36	0.27	5846.35	0.27	0.0	1	100	$^{97}\text{Pt}$	average		
$^{197}\text{Au}(\gamma,\text{n})^{196}\text{Au}$		-8057	22	-8072.4	2.9	-0.7	U		Phi	60Ge01		
		-8080	5			1.5	-		McM	79Ba06		
		-8072	7			-0.1	-			79Be.A		
$^{197}\text{Au}(\text{d},\text{l})^{196}\text{Au}$		-1820	30	-1815.1	2.9	0.2	U		Pit	64Co11		
$^{197}\text{Au}(\gamma,\text{n})^{196}\text{Au}$	ave.	-8077	4	-8072.4	2.9	1.2	1	52	$^{52}\text{Au}$	average		
$^{196}\text{Hg}(\text{n},\gamma)^{197}\text{Hg}$		6785.3	1.5	6785.6	1.5	0.2	1	97	$^{84}\text{Hg}$	BNn	78Zg.A	Z
$^{197}\text{Ir}(\beta^-)^{197}\text{Pt}$		2000	200	2156	20	0.8	U			61Ho10		
$^{197}\text{Pt}(\beta^-)^{197}\text{Au}$		719.0	0.6	719.0	0.6	0.0	1	97	$^{96}\text{Pt}$	71Pr03		
$^{197}\text{Hg}(\epsilon)^{197}\text{Au}$		415	20	600	3	9.2	B			65De20	*	
		610	100			-0.1	U			92Da14	*	
$^{197}\text{Tl}(\beta^+)^{197}\text{Hg}$		2220	100	2201	17	-0.2	U			61Ju05		
$^{197}\text{Pb}^m(\text{IT})^{197}\text{Pb}$		319.31	0.11			3				Ens01		
* $^{197}\text{Hg-u}$		M-A=-30221(28) keV for $^{197}\text{Hg}^m$ at 298.93 keV								Nub127	**	
* $^{197}\text{Pb-u}$		M-A=-24405(28) keV for $^{197}\text{Pb}^m$ at 319.31 keV								Nub127	**	
* $^{197}\text{Bi-u}$		M-A=-19650(90) keV for mixture gs+m at 517(12) keV								Nub127	**	
* $^{197}\text{Bi}-^{133}\text{Cs}_{1.481}$		Q=118887(12) $\mu\text{A}$ M=-19690(11) keV corrected by -16(22) keV due to possible contamination from $^{197}\text{Bi}^m$								08We02	**	
*										08We02	**	
* $^{197}\text{Po-u}$		M-A=-13330(110) keV for mixture gs+m at 230#80 keV								Nub127	**	
* $^{197}\text{Po-u}$		M-A=-13210(32) keV for mixture gs+m at 230#80 keV								Nub127	**	
* $^{197}\text{Po}(\alpha)^{193}\text{Pb}$		Also E $\alpha$ =6283(5) keV from uncorrelated decays								96Ta18	**	
* $^{197}\text{Po}^m(\alpha)^{193}\text{Pb}^m$		Also E $\alpha$ =6381(5) keV from uncorrelated decays								96Ta18	**	
* $^{197}\text{Hg}(\epsilon)^{197}\text{Au}$		pK=0.54(0.06) to 3/2 <sup>+</sup> level at 268.788 keV								Ens053	**	
* $^{197}\text{Hg}(\epsilon)^{197}\text{Au}$		pK=0.746(0.033) to 268.75 level -> Q=574(+139-62) keV								Ens053	**	
$^{198}\text{Hg}-^{161}\text{Dy}^{37}\text{Cl}$	74130	60	73925.5	2.1	-0.9	U			R04	4.0	64De15	
$^{198}\text{Hg}-^{163}\text{Dy}^{35}\text{Cl}$	68979	37	69177.6	2.1	1.3	U			R04	4.0	64De15	
$^{198}\text{Hg-u}$	-33231.6	0.6	-33231.4	0.5	0.3	1	74	$^{74}\text{Hg}$	ST2	1.0	02Bf02	
$^{198}\text{Pb}-^{208}\text{Pb}_{.952}$	-5748	23	-5739	16	0.4	2			MA6	1.0	01Sc41	
$^{198}\text{Pb-u}$	-27990	104	-27966	16	0.2	U			GS1	1.0	00Ra23	
	-27951	30			-0.5	R			GS2	1.0	05Li24	
$^{198}\text{Bi-u}$	-21063	162	-20790	30	1.7	o			GS1	1.0	00Ra23	
	-20794	30			2				GS2	1.0	05Li24	
	-20222	30			2				GS2	1.0	05Li24	
$^{198}\text{Bi}^n-u$	5616	24	5616	19	0.0	1	61	$^{61}\text{Po}$	MA6	1.0	01Sc41	
$^{198}\text{Po}-^{208}\text{Pb}_{.952}$	-16600	104	-16611	19	-0.1	U			GS1	1.0	00Ra23	
$^{198}\text{Hg}^{35}\text{Cl}-^{196}\text{Hg}^{37}\text{Cl}$	3885.91	1.66	3886	3	0.1	1	57	$^{57}\text{Hg}$	H33	2.5	80Ko25	
$^{198}\text{Pt}-^{197}\text{Au}_{1.005}$	1494.7	3.0	1493.3	2.2	-0.5	1	55	$^{54}\text{Pt}$	CP1	1.0	05Sh52	
$^{198}\text{Po}(\alpha)^{194}\text{Pb}$	6312.8	5.	6309.6	1.4	-0.6	U				67Si09	Z	
	6305.7	5.			0.8	U				67Tr06	Z	
	6301.2	8.			1.0	U				71Ho01	Z	
	6311.1	3.			-0.5	-			Bka	82Bo04	Z	
	6307.7	5.			0.4	U			Lvn	93Wa04		
	6309.7	5.0			0.0	U			Ara	96Ta18	*	
	6309.3	1.7			0.2	-			Tex	12Fo09		
ave.	6309.6	1.4			0.0	1	100	$^{60}\text{Pb}$		average		
$^{198}\text{At}(\alpha)^{194}\text{Bi}$	6887.5	5.	6889.8	2.1	0.5	5				67Tr06	Z	
	6904.9	7.			-2.2	U			Ora	75Ba.B	Z	
	6889.4	15.			0.0	U				80Ew03	Z	
	6893.3	3.5			-1.0	5			Lvn	92Hu04	*	
	6892.5	4.			-0.6	o			Jya	96En01		
	6887.4	6.			0.4	5			Jya	05Uu02		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{198}\text{At}(\alpha)^{194}\text{Bi}$	6888.4	3.6	6889.8	2.1	0.4	5			Tex	12Fo09		
$^{198}\text{At}^m(\alpha)^{194}\text{Bi}^n$	6990.0	5.	6994.9	2.3	1.0	4				67Tr06	Z	
	6997.5	10.			-0.3	4				80Ew03	Z	
	6997.6	4.			-0.7	4			Lvn	92Hu04		
	6996.6	4.			-0.4	4			Jya	96En01		
	6991.5	6.			0.6	4			Jya	05Uu02		
$^{198}\text{Rn}(\alpha)^{194}\text{Po}$	7344.7	10.	7349	4	0.5	4				84Ca32		
	7353.8	5.			-0.9	4			Lvn	95Bi17		
	7344.7	6.			0.8	4			Jya	96En02		
$^{198}\text{Pt}(^{14}\text{C}, ^{16}\text{O})^{196}\text{Os}$	6130	40				2			BNL	83Bo29		
$^{198}\text{Pt}(\text{t}, \alpha)^{197}\text{Ir}$	10885	20				2			LAI	83Ci01		
$^{198}\text{Pt}(\text{p,d})^{197}\text{Pt}$	-5332	3	-5330.5	2.1	0.5	1	48	46 $^{198}\text{Pt}$	Ors	78Be09	*	
$^{198}\text{Pt}(\text{d,t})^{197}\text{Pt}$	-1305	20	-1297.8	2.1	0.4	U			Pit	64Co11		
	-1311	20			0.7	U			Tal	78Ya07		
$^{197}\text{Au}(\text{n}, \gamma)^{198}\text{Au}$	6512.35	0.11	6512.34	0.09	-0.1	-			ILn	79Br26	Z	
	6512.32	0.16			0.1	-			Bdn	06Fi.A		
$^{197}\text{Au}(\text{d,p})^{198}\text{Au}$	4282	30	4287.77	0.09	0.2	U			Pit	64Co11		
	4298	5			-2.0	U			MIT	67Sp09		
$^{197}\text{Au}(\text{n}, \gamma)^{198}\text{Au}$	ave.	6512.34	0.09	6512.34	0.09	0.0	1	100	99 $^{197}\text{Au}$	average		
$^{198}\text{Au}(\beta^-)^{198}\text{Hg}$		1372.3	0.7	1372.9	0.5	0.8	-			65Ke04	*	
		1372.8	1.2			0.0	-			65Pa08	*	
$^{198}\text{Tl}(\beta^+)^{198}\text{Hg}$	ave.	1372.4	0.6			0.7	1	78	66 $^{198}\text{Au}$	average		
$^{198}\text{Bi}^n(\text{IT})^{198}\text{Bi}^m$		3460	80				2			Lvn	61Gu02	
		248.5	0.5				3				92Hu04	
$^{198}\text{Bi-u}$	M-A=-19350(100) keV for mixture gs+m+n at 280(40) and 530(40) keV											
$^{198}\text{Po}(\alpha)^{194}\text{Pb}$	Also $E_\alpha=6182(5)$ keV from uncorrelated decays											
$^{198}\text{At}(\alpha)^{194}\text{Bi}$	$E_\alpha=6755(4), 6539(10), 6360(10)$ to ground state, 218, 396 levels											
$^{198}\text{Pt}(\text{p,d})^{197}\text{Pt}$	$Q-Q(^{196}\text{Pt}(\text{p,d}))=365(3)$ keV											
$^{198}\text{Au}(\beta^-)^{198}\text{Hg}$	$E_{\beta^-}=960.5(0.7)$ 961.0(1.2) respectively, to $2^+$ level at 411.803 keV											

$^{199}\text{Hg}-\text{C}_2\ ^{35}\text{Cl}_5$	124023.43	0.53	124017.2	0.4	-4.7	B			H34	2.5	80Ko25
	124017.21	0.37			0.0	1	63	60 $^{199}\text{Hg}$	H48	1.5	03Ba49
$^{199}\text{Hg}-^{183}\text{W O}$	23144.4	0.9	23143.3	0.9	-0.8	1	45	39 $^{183}\text{W}$	H48	1.5	03Ba49
$^{199}\text{Hg}-^{162}\text{Dy} ^{37}\text{Cl}$	75661	41	75572.5	2.1	-0.5	U			R04	4.0	64De15
$^{199}\text{Hg}-^{164}\text{Dy} ^{35}\text{Cl}$	70087	31	70246.1	2.1	1.3	U			R04	4.0	64De15
$^{199}\text{Hg}-^{164}\text{Er} ^{35}\text{Cl}$	70310	80	70219.2	2.1	-0.3	U			R04	4.0	64De15
$^{199}\text{Tl-u}$	-30123	30				2			GS2	1.0	05Li24
$^{199}\text{Pb-u}$	-27028	137	-27087	11	-0.4	U			GS2	1.0	05Li24
$^{199}\text{Bi-u}$	-22328	31	-22327	11	0.0	-			GS2	1.0	05Li24
	-22263	30			-2.1	-			GS2	1.0	05Li24
$^{199}\text{Po-u}$	ave.	-22294	22		-1.5	1	28	28 $^{199}\text{Bi}$	average		
	-16248	144	-16333	25	-0.6	U			GS1	1.0	00Ra23
	-16327	38			-0.2	R			GS2	1.0	05Li24
	-16338	38			0.1	R			GS2	1.0	05Li24
$^{199}\text{Bi}^m(\alpha)^{195}\text{Tl}$	5598.7	6.	5599	6	0.1	1	93	56 $^{195}\text{Tl}$		66Ma51	
$^{199}\text{Po}(\alpha)^{195}\text{Pb}$	6074.1	2.	6074.2	1.9	0.1	3			Dba	68Go.B	Z
	6075.3	5.0			-0.2	3			Ara	96Ta18	
$^{199}\text{Po}^m(\alpha)^{195}\text{Pb}^m$	6190.7	5.	6181.2	1.6	-1.9	4				67Si09	Z
	6177.5	5.			0.7	4				67Tr06	Z
	6182.2	3.			-0.3	4			Dba	68Go.B	Z
	6183.5	3.			-0.7	4			Bka	82Bo04	Z
	6183.5	5.0			-0.4	4			Ara	96Ta18	*
$^{199}\text{At}(\alpha)^{195}\text{Bi}$	6173.3	3.6			2.3	4			Tex	12Fo09	
	6775.1	5.	6777.2	1.2	0.4	-				67Tr06	Z
	6781.3	3.			-1.3	-			Ora	75Ba.B	Z
	6775.4	5.0			0.4	-			Ara	96Ta18	
	6779.4	6.			-0.4	U			Jya	05Uu02	
	6776.8	1.5			0.3	-			Tex	12Fo09	
$^{199}\text{Rn}(\alpha)^{195}\text{Po}$	ave.	6777.3	1.2		-0.1	1	100	89 $^{199}\text{At}$	average		
	7133.7	15.	7140	50	0.1	4				80Di07	
	7132.7	10.			0.1	4				82Hi14	
	7138.8	10.			-0.1	4				84Ca32	
	7112.2	15.			0.5	o			Jya	96Le09	
	7137.0	6.			0.0	4			Jya	05Uu02	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{199}\text{Rn}^m(\alpha)^{195}\text{Po}^m$	7205.1	15.	7205	4	0.0	4					80Di07	
	7205.1	10.			0.0	4					82Hi14	
	7204.1	10.			0.1	4					84Ca32	
	7205.1	15.			0.0	o					Jya 96Le09	
	7205.1	6.			0.0	4					Jya 05Uu02	
$^{199}\text{Fr}(\alpha)^{195}\text{At}$	7812.3	40.				4					99Ta20	
$^{199}\text{Hg}(\text{p},\text{l})^{197}\text{Hg}$	-6734	29	-6666	3	2.3	U			Pri		81Ko13	
	-6658	8			-1.0	1	16	16	$^{197}\text{Hg}$	Ors	82Be21	
$^{198}\text{Pt}({}^{18}\text{O}, {}^{17}\text{F})^{199}\text{Ir}$	-8240	41				2					95Zh10	
$^{198}\text{Pt}(\text{n},\gamma)^{199}\text{Pt}$	5602	3	5556.0	0.5	-15.3	B					68Sa13	
	5556.0	0.5				2					83Ca04 Z	
$^{198}\text{Pt}(\text{d},\text{p})^{199}\text{Pt}$	3347	20	3331.4	0.5	-0.8	U			Pit		64Co11	
$^{198}\text{Au}(\text{n},\gamma)^{199}\text{Au}$	7584.27	0.15	7584.27	0.06	0.0	o			ILn		79Br26 Z	
	7584.28	0.06			-0.1	1	100	67	$^{199}\text{Au}$	ILn	91Ma65	
$^{198}\text{Hg}(\text{n},\gamma)^{199}\text{Hg}$	6665.2	0.5	6662.9	0.5	-4.7	B			CRn		75Lo03	
$^{199}\text{Hg}(\gamma,\text{n})^{198}\text{Hg}$	-6590	90	-6662.9	0.5	-0.8	U			Phi		60Ge01	
$^{199}\text{Pt}(\beta^-)^{199}\text{Au}$	1690	50	1704.6	2.1	0.3	U					64Jo09	
$^{199}\text{Au}(\beta^-)^{199}\text{Hg}$	453.0	1.0	451.4	0.6	-1.6	1	42	33	$^{199}\text{Au}$		68Be06	
$^{199}\text{Tl}(\beta^+)^{199}\text{Hg}$	1420	150	1487	28	0.4	U					75Ma05 *	
$^{199}\text{Pb}(\beta^+)^{199}\text{Tl}$	2870	110	2828	30	-0.4	U					70Do.A *	
$^{199}\text{Bi}^m(\text{IT})^{199}\text{Bi}$	667	5	667	3	-0.1	-					80Br23	
	667	5			-0.1	-					85St02	
	ave.	667	4		-0.1	1	98	64	$^{199}\text{Bi}^m$		average	
* $^{199}\text{Pb-u}$	M-A=-24961(28) keV for mixture gs+m at 429.5(2.7) keV											
* $^{199}\text{Bi-u}$	M-A=-20071(28) keV for $^{199}\text{Bi}^m$ at 667(3) keV											
* $^{199}\text{Po-u}$	M-A=-14980(100) keV for mixture gs+m at 309.9(2.6) keV											
* $^{199}\text{Po-u}$	M-A=-14909(35) keV for $^{199}\text{Po}^m$ at 309.9(2.6) keV											
* $^{199}\text{Po}^m(\alpha)^{195}\text{Pb}^m$	Also E $\alpha$ =6059(5) keV from uncorrelated decays											
* $^{199}\text{Tl}(\beta^+)^{199}\text{Hg}$	KL+<500(100) giving Q<1620, (1/2-,3/2-) level at 1221.17 fed. Reanalyzed											
* $^{199}\text{Pb}(\beta^+)^{199}\text{Tl}$	p <sup>+</sup> =0.04(0.01) to 3/2 <sup>+</sup> level at 366.89 keV, recalculated											
$^{200}\text{Au-u}$	-29237	34	-29244	29	-0.2	1	71	71	$^{200}\text{Au}$	GS3	1.0	08Ch.A
$^{200}\text{Au}^m\text{-u}$	-28135	33	-28163	28	-0.8	1	73	73	$^{200}\text{Au}^m$	GS3	1.0	08Ch.A
$^{200}\text{Hg-C}^{13}\text{C}^{35}\text{Cl}_5$	120707.97	1.22	120708.3	0.5	0.1	U			H34	2.5	80Ko25	
$^{200}\text{Hg-}^{165}\text{Ho}^{35}\text{Cl}$	69116	33	69145.1	2.2	0.2	U			R04	4.0	64De15	
$^{200}\text{Hg-}^{163}\text{Dy}^{37}\text{Cl}$	73527	42	73685.7	2.1	0.9	U			R04	4.0	64De15	
$^{200}\text{Pb-u}$	-28179	30	-28181	12	-0.1	R			GS2	1.0	05Li24	
$^{200}\text{Bi-u}$	-21888	57	-21869	24	0.3	R			GS2	1.0	05Li24 *	
$^{200}\text{Po-u}$	-18170	104	-18201	15	-0.3	U			GS1	1.0	00Ra23	
	-18204	30			0.1	R			GS2	1.0	05Li24	
$^{200}\text{Hg-}^{208}\text{Pb}_{962}$	-9205	28	-9213.1	1.3	-0.3	U			MA6	1.0	01Sc41	
$^{200}\text{Hg}^{35}\text{Cl-}^{198}\text{Hg}^{37}\text{Cl}$	4525	2	4508.1	0.6	-2.1	U			H17	4.0	64Mc07	
	4508.80	0.48			-0.6	1	25	13	$^{198}\text{Hg}$	H33	2.5	80Ko25
$^{200}\text{Po}(\alpha)^{196}\text{Pb}$	5979.8	5.	5981.4	1.9	0.3	3					67Si09 Z	
	5980.0	3.			0.5	3					67Tr06 Z	
	5983.4	3.			-0.6	3					70Ra14 Z	
	5981.8	5.0			-0.1	3			Ara		96Ta18 *	
$^{200}\text{At}(\alpha)^{196}\text{Bi}$	6594.9	5.	6596.1	1.3	0.3	3					67Tr06 Z	
	6596.9	2.			-0.4	3			Ora		75Ba.B Z	
	6593.1	5.			0.6	o			Lvn		87Va09	
	6596.1	2.			0.0	3			Lvn		92Hu04	
	6593.1	5.0			0.6	3			Ara		96Ta18	
	6599.1	6.			-0.5	U			Jya		05Uu02	
$^{200}\text{At}^m(\alpha)^{196}\text{Bi}$	6708.3	5.	6709.0	2.6	0.2	3			Ora		75Ba.B Z	
	6705.4	5.			0.7	o			Lvn		87Va09	
	6709.5	3.			-0.1	3			Lvn		92Hu04	
$^{200}\text{At}^m(\alpha)^{196}\text{Bi}^m$	6542.8	5.	6542.6	1.3	0.0	4					67Tr06 Z	
	6542.9	2.			-0.1	4			Ora		75Ba.B Z	
	6540.0	5.			0.5	o			Lvn		87Va09	
	6542.1	2.			0.3	4			Lvn		92Hu04	
	6545.1	5.0			-0.5	4			Ara		96Ta18	
	6544.1	6.			-0.2	U			Jya		05Uu02	
$^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	6439.5	5.	6437.5	2.0	-0.4	4					67Tr06 *	
	6438.5	5.			-0.2	4			Ora		75Ba.B *	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	6433.8	5.	6437.5	2.0	0.7	o		Lvn	87Va09	*	
	6439.2	3.			-0.6	4		Lvn	92Hu04	*	
	6430.5	5.0			1.4	4		Ara	96Ta18	*	
	6436.7	6.			0.1	4		Jya	05Uu02	*	
$^{200}\text{Rn}(\alpha)^{196}\text{Po}$	7020.6	10.	7043.3	2.1	2.3	U			67Va.A		
	7050.3	8.			-0.9	U			71Ho01		
	7040.1	10.			0.3	U		Lvn	84Co.A		
	7043.5	2.5			-0.1	4		Lvn	93Wa04		
	7042.1	12.			0.1	o		Ara	95Le04		
	7039.0	10.			0.4	o		Jya	96Le09		
	7042.0	5.0			0.2	4		Ara	96Ta18		
	7044.1	6.			-0.1	4		Jya	05Uu02		
	7055.4	30.			-0.4	U		Anv	10He25		
$^{200}\text{Fr}(\alpha)^{196}\text{At}$	7653.4	30.	7620	50	-0.6	U		Rla	95Mo14		
	7620.7	9.			0.0	5		Jya	96En01		
	7625.8	12.			-0.1	5		Anv	05De01		
$^{200}\text{Fr}^m(\alpha)^{196}\text{At}^m$	7704.4	15.				4		Jya	96En01	*	
$^{198}\text{Pt}(\text{t},\text{p})^{200}\text{Pt}$	4356	20				2			81Ci01		
$^{199}\text{Hg}(\text{n},\gamma)^{200}\text{Hg}$	8029.1	0.3	8028.52	0.11	-1.9	-		BNn	67Sc30	Z	
	8029.6	0.5			-2.2	U		CRn	75Lo03	Z	
	8028.51	0.18			0.0	-		ILn	79Br25	Z	
	8028.37	0.17			0.9	-		Bdn	06Fi.A		
	ave.	8028.53	0.11		-0.1	1	98	$^{78}\text{Hg}$	average		
$^{200}\text{Au}(\beta^-)^{200}\text{Hg}$	2273	100	2263	27	-0.1	-			59Ro53	*	
	2200	100			0.6	-			60Gi01		
	2260	70			0.0	-			72He36	*	
	ave.	2250	50		0.3	1	29	$^{29}\text{Au}$	average		
$^{200}\text{Au}^m(\beta^-)^{200}\text{Hg}$	3202	50	3270	26	1.4	1	27	$^{27}\text{Au}^m$	72Cu07	*	
$^{200}\text{Tl}(\beta^+)^{200}\text{Hg}$	2450	10	2456	6	0.6	2			57He43	*	
	2459	7			-0.4	2			62Va10	*	
$^{200}\text{At}^n(\text{IT})^{200}\text{At}^m$	230.9	0.2				4		Lvn	92Hu04		
* $^{200}\text{Bi-u}$	M—A=—20338(28) keV for mixture gs+m at 100#70 keV										
* $^{200}\text{Po}(\alpha)^{196}\text{Pb}$	Also $E_\alpha=5863(5)$ keV from uncorrelated decays										
* $^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	$E_\alpha=6536.7(5,Z)$ from $^{200}\text{At}^n$ 230.9 above $^{200}\text{At}^m$										
* $^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	$E_\alpha=6535.8(5,Z)$ from $^{200}\text{At}^n$ 230.9 above $^{200}\text{At}^m$										
* $^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	$E_\alpha=6301(5); 6535(5)$ from $^{200}\text{At}^n$ 230.9 above $^{200}\text{At}^m$										
* $^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	$E_\alpha=6306(5); 6538(3)$ from $^{200}\text{At}^n$ 230.9 above $^{200}\text{At}^m$										
* $^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	$E_\alpha=6528(5)$ from $^{200}\text{At}^n$ 230.9 above $^{200}\text{At}^m$										
* $^{200}\text{At}^m(\alpha)^{196}\text{Bi}^n$	$E_\alpha=6534(6)$ from $^{200}\text{At}^n$ 230.9 above $^{200}\text{At}^m$										
* $^{200}\text{Fr}^m(\alpha)^{196}\text{At}^m$	Correlated with $^{196}\text{At}^m$ $E_\alpha=6880(15)$ ; two events only										
* $^{200}\text{Au}(\beta^-)^{200}\text{Hg}$	$E_{\beta^-}=2250(200)$ to ground state, and 700(100) to levels $1^+$ at 1570.275,										
	$2^+$ at 1573.663, $2^+$ at 1593.423 keV										
* $^{200}\text{Au}(\beta^-)^{200}\text{Hg}$	$E_{\beta^-}=2260(100), 670(70)$ to ground state, $2^+$ level at 1593.423 keV										
* $^{200}\text{Au}^m(\beta^-)^{200}\text{Hg}$	$E_{\beta^-}=560(50)$ to $11^-$ level at 2641.54 keV										
* $^{200}\text{Tl}(\beta^+)^{200}\text{Hg}$	$E_{\beta^+}=1052(10) 1069(7)$ respectively, to $2^+$ level at 367.943 keV, and other $E_{\beta^+}$										
$^{201}\text{Hg}-^{185}\text{Re O}$	22440	5	22433.7	1.4	-0.8	U		H48	1.5	03Ba49	
$^{201}\text{Hg}-\text{C}_2\ ^{35}\text{Cl}_4\ ^{37}\text{Cl}$	128995.43	0.61	128989.5	0.7	-3.9	B		H34	2.5	80Ko25	
$^{201}\text{Hg}-^{164}\text{Dy}\ ^{37}\text{Cl}$	75086	42	75218.4	2.1	0.8	U		R04	4.0	64De15	
$^{201}\text{Hg}-^{166}\text{Er}\ ^{35}\text{Cl}$	71186	35	71150.6	2.3	-0.3	U		R04	4.0	64De15	
$^{201}\text{Pb-u}$	-27418	198	-27117	23	1.5	U		GS2	1.0	05Li24	*
$^{201}\text{Bi-u}$	-22935	30	-22990	16	-1.8	R		GS2	1.0	05Li24	
	-22995	30			0.2	R		GS2	1.0	05Li24	*
$^{201}\text{Po-u}$	-17760	190	-17740	6	0.1	U		GS1	1.0	00Ra23	*
	-17649	30			-3.0	U		GS2	1.0	05Li24	
$^{201}\text{Po}^m-u$	-17305	30	-17285	6	0.7	U		GS2	1.0	05Li24	
$^{201}\text{At-u}$	-11573	31	-11583	9	-0.3	U		GS2	1.0	05Li24	
$^{201}\text{Hg}\ ^{35}\text{Cl}-^{199}\text{Hg}\ ^{37}\text{Cl}$	4981	2	4972.3	0.6	-1.1	U		H17	4.0	64Mc07	
	4972.65	0.37			-0.4	1	40	36 $^{201}\text{Hg}$	H33	2.5	80Ko25
	4971.8	1.0			0.3	1	15	14 $^{201}\text{Hg}$	H48	1.5	03Ba49

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{201}\text{Bi}(\alpha)^{197}\text{Tl}$	4500.3	6.					5			66Ma51	*	
$^{201}\text{Po}(\alpha)^{197}\text{Pb}$	5793.9	5.	5798.9	1.7	1.0	4				67Tr06	Z	
	5799.4	2.			-0.2	4				68Go.B	Z	
	5800.4	4.			-0.4	4				70Ra14	Z	
$^{201}\text{Po}^m(\alpha)^{197}\text{Pb}^m$	5898.9	5.	5903.7	1.7	0.9	3				67Tr06	Z	
	5904.4	2.			-0.4	3				68Go.B	Z	
	5903.8	4.			0.0	3				70Ra14	Z	
$^{201}\text{At}(\alpha)^{197}\text{Bi}$	6470.7	3.	6472.8	1.6	0.7	4				67Tr06	Z	
	6476.2	5.			-0.7	U				74Ho27	Z	
	6474.0	2.			-0.6	4				Ora	75Ba.B	Z
	6471.0	5.0			0.4	U				Ara	96Ta18	
	6472.0	4.			0.2	4				Anv	05De01	
$^{201}\text{Rn}(\alpha)^{197}\text{Po}$	6862.8	8.	6860.7	2.3	-0.3	U				67V.A		
	6858.8	8.			0.2	U				71Ho01		
	6866.9	20.			-0.3	U				GSa	87He10	
	6860.5	2.5			0.1	4				Lvn	93Wa04	
	6863.8	7.			-0.4	o				Ara	95Le04	
	6861.8	5.0			-0.2	4				Ara	96Ta18	
$^{201}\text{Rn}^m(\alpha)^{197}\text{Po}^m$	6906.8	5.	6909.4	2.1	0.5	5				67Va17	Z	
	6909.0	8.			0.1	U				71Ho01	Z	
	6907.7	20.			0.1	U				GSa	87He10	
	6909.9	2.5			-0.1	5				Lvn	93Wa04	
	6915.9	7.			-0.9	o				Ara	95Le04	
	6910.7	5.0			-0.3	5				Ara	96Ta18	
	6925.1	30.			-0.5	U				Anv	10He25	
$^{201}\text{Fr}(\alpha)^{197}\text{At}$	7538.0	15.	7520	50	-0.3	4				80Ew03		
	7510.8	7.			0.2	4				Jya	96En01	
	7529.1	7.			-0.2	4				Anv	05De01	
	7519.0	8.			0.0	4				Jya	05Uu02	
$^{201}\text{Fr}^m(\alpha)^{197}\text{At}^m$	7605.7	8.				6				Jya	05Uu02	
$^{201}\text{Ra}^m(\alpha)^{197}\text{Rn}^m$	8065.8	20.				6				Jya	05Uu02	
$^{201}\text{Hg}(\gamma,\text{n})^{200}\text{Hg}$	-6210	70	-6230.5	0.6	-0.3	U				Phi	60Ge01	
$^{201}\text{Pt}(\beta^-)^{201}\text{Au}$	2660	50				2					63Go06	
$^{201}\text{Au}(\beta^-)^{201}\text{Hg}$	1270	100	1262	3	-0.1	U					72Pa24	
$^{201}\text{Tl}(\epsilon)^{201}\text{Hg}$	470	70	484	14	0.2	U					60Gu05 *	
$^{201}\text{Pb}(\beta^+)^{201}\text{Tl}$	1900	40	1920	24	0.5	1	35		26 $^{201}\text{Pb}$		79Do09 *	
* $^{201}\text{Pb-u}$	M-A=-25225(28) keV for mixture gs+m at 629.1 keV											
* $^{201}\text{Bi-u}$	M-A=-20573(28) keV for $^{201}\text{Bi}^m$ at 846.35 keV											
* $^{201}\text{Po-u}$	M-A=-16330(100) keV for mixture gs+m at 424.1(2.4) keV											
* $^{201}\text{Bi}(\alpha)^{197}\text{Tl}$	$E_\alpha=5240(6)$ from $^{201}\text{Bi}^m$ at 846.35 keV											
* $^{201}\text{Tl}(\epsilon)^{201}\text{Hg}$	$pK=0.70(0.04)$ to 1/2 <sup>-</sup> level at 167.47 keV, recalculated											
* $^{201}\text{Pb}(\beta^+)^{201}\text{Tl}$	$p^+=10(2)\times 10^{-3}$ to 3/2 <sup>+</sup> level at 331.16 keV											
$^{202}\text{Pt-u}$	-24425	34	-24361	27	1.9	o				GS3	1.0	08Ch.A
	-24361	27				2				GS3	1.0	12Ch19
$^{202}\text{Au-u}$	-26202	34	-26144	25	1.7	o				GS3	1.0	08Ch.A
	-26144	25				2				GS3	1.0	12Ch19
$^{202}\text{Hg-C}^{13}\text{C}^{35}\text{Cl}_4^{37}\text{Cl}$	125976.01	1.32	125975.2	0.7	-0.2	U				H34	2.5	80Ko25
$\text{C}_{16}\text{H}_{10}-^{202}\text{Hg}$	107663	40	107606.9	0.7	-0.9	U				R08	1.5	69De19
$\text{C}_{15}^{13}\text{C H}_0-^{202}\text{Hg}$	103102	60	103136.7	0.7	0.4	U				R08	1.5	69De19
$^{202}\text{Hg}-^{167}\text{Er}^{35}\text{Cl}$	69740	60	69736.1	2.3	0.0	U				R04	4.0	64De15
$^{202}\text{Hg}-^{165}\text{Ho}^{37}\text{Cl}$	74470	50	74412.0	2.2	-0.3	U				R04	4.0	64De15
$^{202}\text{Pb-u}$	-27823	30	-27848	4	-0.8	U				GS2	1.0	05Li24
$^{202}\text{Pb-}^{133}\text{Cs}_{1.519}$	115773.4	3.6	115771	4	-0.8	o				MA8	1.0	10Bo.A
	115769.2	4.4			0.3	1	84	84 $^{202}\text{Pb}$		MA8	1.0	12Bo.A
$^{202}\text{Bi-u}$	-22282	30	-22266	17	0.5	1	30	30 $^{202}\text{Bi}$		GS2	1.0	05Li24
$^{202}\text{Po-u}$	-19270	104	-19242	16	0.3	U				GS1	1.0	00Ra23
	-19243	30			0.0	R				GS2	1.0	05Li24

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{202}\text{Hg}^{35}\text{Cl}_2 - ^{198}\text{Hg}^{37}\text{Cl}_2$	9774.87	1.06	9775.0	0.8	0.0	U			H33	2.5	80Ko25
$^{202}\text{Hg}^{35}\text{Cl} - ^{200}\text{Hg}^{37}\text{Cl}$	5271	3	5266.9	0.6	-0.3	U			H17	4.0	64Mc07
	5266.76	0.43			0.1	1	30	27	$^{202}\text{Hg}$	2.5	80Ko25
$^{202}\text{Po}(\alpha)^{198}\text{Pb}$	5700.9	2.	5701.0	1.7	0.1	3			Dba	68Go.B	Z
	5701.6	3.			-0.2	3				70Ra14	Z
$^{202}\text{At}(\alpha)^{198}\text{Bi}$	6355.8	3.	6353.8	1.3	-0.6	3				63Ho18	Z
	6351.7	3.			0.7	3				67Tr06	Z
	6353.2	5.			0.1	3				74Ho27	Z
	6353.9	2.			0.0	3			Ora	75Ba.B	Z
	6354	5			0.0	3			Lvn	92Hu04	*
	6355.0	6.0			-0.2	3			Ara	96Ta18	
$^{202}\text{At}^m(\alpha)^{198}\text{Bi}^m$	6259.9	2.	6258.9	1.3	-0.5	4				63Ho18	Z
	6256.8	3.			0.7	4				67Tr06	Z
	6257.2	5.			0.3	U				74Ho27	Z
	6259.0	2.			0.0	4			Ora	75Ba.B	*
	6260.0	5.			-0.2	U			Lvn	92Hu04	*
	6257.1	6.0			0.3	U			Ara	96Ta18	
$^{202}\text{Rn}(\alpha)^{198}\text{Po}$	6771.0	3.	6773.7	1.8	0.9	2				67Va17	Z
	6772.3	10.			0.1	U			GSa	87He10	
	6775.3	2.5			-0.6	2			Lvn	93Wa04	
	6773.4	7.			0.1	o			Ara	95Le04	
	6775.4	5.0			-0.3	2			Ara	96Ta18	
$^{202}\text{Fr}(\alpha)^{198}\text{At}$	7397.7	15.	7389	4	-0.6	6				80Ew03	*
	7382.5	11.			0.6	6			Lvn	92Hu04	*
	7389.6	6.			-0.2	6			Jya	96En01	*
	7387.6	8.			0.1	6			Jya	05Uu02	
$^{202}\text{Fr}^m(\alpha)^{198}\text{At}^m$	7382.5	11.	7385	4	0.3	5			Lvn	92Hu04	*
	7388.6	6.			-0.5	5			Jya	96En01	
	7381.5	8.			0.5	5			Jya	05Uu02	
$^{202}\text{Ra}(\alpha)^{198}\text{Rn}$	8019.1	60.	7897	20	-2.0	o			Jya	96Le09	
	7896.7	20.				5			Jya	05Uu02	
$^{202}\text{Hg}(\text{t},\alpha)^{201}\text{Au}$	11567	15	11580	3	0.9	U			LAI	81Fl05	
$^{202}\text{Hg}(\text{d},^3\text{He})^{201}\text{Au} - ^{206}\text{Pb}(\text{t},\alpha)^{205}\text{Tl}$	-979.9	3.1	-980	3	0.0	1	100	100	$^{201}\text{Au}$	94Gr07	
$^{201}\text{Hg}(\text{n},\gamma)^{202}\text{Hg}$	7754.9	0.5	7754.09	0.20	-1.6	-			BNn	75Br02	Z
	7756.4	0.5			-4.6	B			CRn	75Lo03	Z
	7753.93	0.22			0.7	-			Bdn	06Fi.A	
$^{202}\text{Hg}(\gamma,\text{n})^{201}\text{Hg}$	-7600	130	-7754.09	0.20	-1.2	U			Phi	60Ge01	
$^{201}\text{Hg}(\text{n},\gamma)^{202}\text{Hg}$	ave.	7754.09	0.20	7754.09	0.20	0.0	1	96	49	$^{201}\text{Hg}$	average
$^{202}\text{Au}(\beta^-)^{202}\text{Hg}$	3500	300	2993	23	-1.7	U				67Wa23	
	2700	300			1.0	U				72Bu05	
$^{202}\text{Tl}(\varepsilon)^{202}\text{Hg}$	1245	25	1359	14	4.6	B				66Le06	*
$^{202}\text{Pb}(\varepsilon)^{202}\text{Tl}$	55	20	46	14	-0.4	1	51	49	$^{202}\text{Tl}$	54Hu61	
$^{202}\text{At}^n(\text{IT})^{202}\text{At}^m$	391.7	0.2				5			Lvn	92Hu04	
* $^{202}\text{Pb-u}$	M-A=-23747(28) keV for $^{202}\text{Pb}^m$ at 2169.85 keV									Nub127	**
* $^{202}\text{At}(\alpha)^{198}\text{Bi}$	$E_\alpha=6228(5)$ , 6070(10), 5929(10) to ground state, 164, 303 levels									92Hu04	**
* $^{202}\text{At}^m(\alpha)^{198}\text{Bi}^m$	Assignment to $^{202}\text{At}^m$ in reference; Z recalibrated									92Hu04	**
* $^{202}\text{At}^m(\alpha)^{198}\text{Bi}^m$	$E_\alpha=6135(5)$ ; and 6277(5) from $^{202}\text{At}^n(\alpha)^{198}\text{Bi}^n$ , with $^{202}\text{At}^n(\text{IT})^{202}\text{At}^m=391.7(0.2)$ and $^{198}\text{Bi}^n(\text{IT})^{198}\text{Bi}^m=248.5(0.5)$ keV									92Hu04	**
*	$E_\alpha=7251(10)$ has a doublet structure									Nub12	**
* $^{202}\text{Fr}(\alpha)^{198}\text{At}$	$E_\alpha=7237(8)$ , is a doublet									92Hu04	**
* $^{202}\text{Fr}(\alpha)^{198}\text{At}$	$^{202}\text{Fr}$ $E_\alpha$ 's in correlation with At daughters									96En01	**
* $^{202}\text{Fr}^m(\alpha)^{198}\text{At}^m$	$E_\alpha=7237(8)$ , is a doublet									92Hu04	**
* $^{202}\text{Tl}(\varepsilon)^{202}\text{Hg}$	$pK=0.305(0.020)$ to $2^+$ level at 959.94 keV									Ens083	**
C <sub>16</sub> H <sub>11</sub> - <sup>203</sup> Tl	113735	43	113730.8	1.4	-0.1	U			R08	1.5	69De19
C <sub>15</sub> <sup>13</sup> C H <sub>10</sub> - <sup>203</sup> Tl	109216	95	109260.6	1.4	0.3	U			R08	1.5	69De19
C <sub>14</sub> N <sub>2</sub> H <sub>7</sub> - <sup>203</sup> Tl	88540	48	88578.6	1.4	0.5	U			R08	1.5	69De19
<sup>203</sup> Tl- <sup>166</sup> Er- <sup>37</sup> Cl	76190	48	76142.5	2.6	-0.7	U			R08	1.5	69De19

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{203}\text{Tl}-^{168}\text{Er}$ $^{35}\text{Cl}$	71069	36	71115.2	2.6	0.9	U			R08	1.5	69De19
$^{203}\text{Pb-u}$	-26594	30	-26609	7	-0.5	U			GS2	1.0	05Li24
$^{203}\text{Po-u}$	-18581	30	-18584	9	-0.1	U			GS2	1.0	05Li24
$^{203}\text{At-u}$	-13042	30	-13057	11	-0.5	1	14	14 $^{203}\text{At}$	GS2	1.0	05Li24
$^{203}\text{Fr}-^{133}\text{Cs}_{1.526}$	145205	17	145221	7	0.9	1	15	15 $^{203}\text{Fr}$	MA8	1.0	08We02
$^{203}\text{At}-^{208}\text{Pb}_{.976}$	9690	25	9730	11	1.6	1	21	21 $^{203}\text{At}$	MA6	1.0	01Sc41
$^{203}\text{Tl}$ $^{35}\text{Cl}$ - $^{201}\text{Hg}$ $^{37}\text{Cl}$	4997	3	4991.8	1.3	-0.4	U			H17	4.0	64Mc07
	4995.23	1.49			-0.9	1	11	11 $^{203}\text{Tl}$	H36	2.5	85De40
$^{202}\text{Hg}$ H - $^{203}\text{Tl}$	6154	34	6123.8	1.2	-0.6	U			R08	1.5	69De19
$^{203}\text{Tl}-^{167}\text{Er}$ $^{35}\text{Cl}$	71436	36	71437.3	2.6	0.0	U			R08	1.5	69De19
$^{167}\text{Er}$ $^{37}\text{Cl}$ - $^{203}\text{Tl}$	-74404	33	-74387.4	2.6	0.3	U			R08	1.5	69De19
$^{169}\text{Tm}$ $^{35}\text{Cl}$ - $^{203}\text{Tl}$	-69257	29	-69274.0	2.6	-0.4	U			R08	1.5	69De19
$^{203}\text{Tl}$ - $^{202}\text{Hg}$	1722	20	1701.2	1.2	-0.7	U			R08	1.5	69De19
$^{203}\text{Tl}$ - $^{201}\text{Hg}$	1999	29	2041.8	1.3	1.0	U			R08	1.5	69De19
$^{203}\text{Po}(\alpha)^{199}\text{Pb}$	5496	5				5			Dba	68Go.B	*
$^{203}\text{At}(\alpha)^{199}\text{Bi}$	6210.3	1.	6210.0	0.8	-0.2	-				63Ho18	Z
	6208.7	3.			0.5	-				67Tr06	Z
	6209.4	2.			0.3	-			Dba	68Go.B	Z
	6211.7	3.			-0.5	-			Ora	75Ba.B	
	6210.6	5.0			-0.1	U			Ara	96Ta18	
ave.	6210.1	0.8			0.0	1	100	61 $^{203}\text{At}$		average	
$^{203}\text{Rn}(\alpha)^{199}\text{Po}$	6628.6	5.	6629.8	2.1	0.3	4				67Va17	Z
	6630.2	2.5			-0.1	4			Lvn	93Wa04	
	6630	10			0.0	U			Jya	95Uu01	
	6629.8	5.0			0.0	4			Ara	96Ta18	
$^{203}\text{Rn}^m(\alpha)^{199}\text{Po}^m$	6679.5	3.	6680.4	1.6	0.3	5				67Va17	Z
	6681.9	10.			-0.2	U			Gsa	87He10	
	6680.9	2.5			-0.2	5			Lvn	93Wa04	
	6683.9	7.			-0.5	o			Ara	95Le04	
	6679.8	3.			0.2	5			Jya	96Le09	
	6682.9	5.0			-0.5	5			Ara	96Ta18	
$^{203}\text{Fr}(\alpha)^{199}\text{At}$	7275.6	5.	7275	4	-0.1	-				67Va20	Z
	7281.7	10.			-0.7	-				80Ew03	Z
	7263.4	25.			0.5	o			Jya	94Le05	
	7273.6	6.			0.2	-			Jya	05Uu02	
ave.	7276	4			-0.2	1	95	85 $^{203}\text{Fr}$		average	
$^{203}\text{Ra}(\alpha)^{199}\text{Rn}$	7729.6	20.	7740	50	0.2	o			Jya	96Le09	
	7741.8	8.				5			Jya	05Uu02	
$^{203}\text{Ra}^m(\alpha)^{199}\text{Rn}^m$	7768.4	20.	7765	8	-0.2	o			Jya	96Le09	
	7765.3	8.				5			Jya	05Uu02	
$^{203}\text{Tl}(\text{p},\text{t})^{201}\text{Tl}$	-6240	15	-6243	14	-0.2	1	91	91 $^{201}\text{Tl}$	Yal	71Ki01	
$^{202}\text{Hg}(\text{d},\text{p})^{203}\text{Hg}-^{204}\text{Hg}(\text{d},\text{p})^{205}\text{Hg}$	325	5	326	4	0.2	1	53	47 $^{205}\text{Hg}$	Pit	72Mo12	
$^{203}\text{Tl}(\text{p},\text{d})^{202}\text{Tl}$	-5630	20	-5621	14	0.4	1	51	51 $^{202}\text{Tl}$	Yal	71Ki01	
$^{203}\text{Au}(\beta^-)^{203}\text{Hg}$	2040	60	2125	3	1.4	U				94We02	
$^{203}\text{Hg}(\beta^-)^{203}\text{Tl}$	489.2	2.	492.1	1.2	1.4	-				54Th17	*
	493.2	2.			-0.6	-				55Ma40	*
	493.2	3.			-0.4	-				58Ni28	*
ave.	491.6	1.3			0.4	1	92	84 $^{203}\text{Hg}$		average	
$^{203}\text{Pb}(\varepsilon)^{203}\text{Tl}$	940	50	975	6	0.7	U				55Ha.A	*
	980	20			-0.3	1	10	10 $^{203}\text{Pb}$		65Le07	*
$^{203}\text{Bi}(\beta^+)^{203}\text{Pb}$	3260	50	3262	14	0.0	U				58No30	*
$^{203}\text{At}(\beta^+)^{203}\text{Po}$	5060	200	5148	14	0.4	U				87Se04	
$*^{203}\text{Po}(\alpha)^{199}\text{Pb}$	$E_\alpha=5383.8(3,Z)$ to 4(4) level (this is level $x < 9.3$ in Ensdif)										
$*^{203}\text{Hg}(\beta^-)^{203}\text{Tl}$	$E_{\beta^-}=210(2)$ 214(2) 214(3) respectively, to 3/2 <sup>+</sup> level at 279.1958 keV										
$*^{203}\text{Pb}(\varepsilon)^{203}\text{Tl}$	$pK=0.36(0.07)$ 0.71(0.01) respectively, to 5/2 <sup>+</sup> level at 680.5164 keV										
$*^{203}\text{Bi}(\beta^+)^{203}\text{Pb}$	$E_{\beta^+}=1350(50)$ , 740(50) to levels around 840, 1550 keV										
$^{204}\text{Hg}-\text{C}$ $^{13}\text{C}$ $^{35}\text{Cl}_3$ $^{37}\text{Cl}_2$	131776.05	1.25	131775.9	0.5	0.0	U			H34	2.5	80Ko25
$^{204}\text{Hg}-^{169}\text{Tm}$ $^{35}\text{Cl}$	70420	100	70423.4	2.3	0.0	U			R04	4.0	64De15
$^{204}\text{Hg}-^{167}\text{Er}$ $^{37}\text{Cl}$	75430	60	75536.8	2.2	0.4	U			R04	4.0	64De15

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value			Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{204}\text{Hg-u}$	-26505.8	0.6	-26506.0	0.5	-0.4	1	77	77	$^{204}\text{Hg}$	ST2	1.0	02Bf02
$^{204}\text{Po-u}$	-19689	30	-19690	12	0.0	R			$^{204}\text{Po}$	GS2	1.0	05Li24
$^{204}\text{At-u}$	-12748	30	-12749	24	0.0	-			$^{204}\text{At}$	GS2	1.0	05Li24
	ave.	-12752	27		0.1	1	81	81	$^{204}\text{At}$			average
$^{204}\text{Hg}^{35}\text{Cl}_2 - ^{200}\text{Hg}^{37}\text{Cl}_2$	11066.85	0.55	11067.6	0.6	0.5	1	20	12	$^{204}\text{Hg}$	H33	2.5	80Ko25
$^{204}\text{Pb} - ^{208}\text{Pb}_{98}$	-4047	21	-4052.10	0.18	-0.2	U			$^{204}\text{Pb}$	MA6	1.0	01Sc41
$^{204}\text{Hg}^{35}\text{Cl} - ^{202}\text{Hg}^{37}\text{Cl}$	5807	2	5800.7	0.8	-0.8	U			$^{202}\text{Hg}$	H17	4.0	64Mc07
		5800.67	0.53		0.0	1	32	22	$^{202}\text{Hg}$	H33	2.5	80Ko25
$^{204}\text{Hg} - ^{203}\text{Tl}$	1161	25	1149.4	1.4	-0.3	U			$^{203}\text{Tl}$	R08	1.5	69De19
$^{204}\text{Pb}(\alpha)^{200}\text{Hg}$	2650	100	1969.3	1.2	-6.8	B			$^{200}\text{Hg}$			58Ri23
$^{204}\text{Pb}(\alpha,^8\text{He})^{200}\text{Pb}$	-28043	13	-28044	11	0.0	2			$^{200}\text{Pb}$	INS	90Ka10	
$^{204}\text{Po}(\alpha)^{200}\text{Pb}$	5484.6	1.5	5484.8	1.4	0.2	3			$^{200}\text{Pb}$	Dba	69Go23	*
		5486.3	3.		-0.5	3			$^{200}\text{Pb}$		70Ra14	Z
$^{204}\text{At}(\alpha)^{200}\text{Bi}$	6069.9	3.	6070.3	1.2	0.2	2			$^{200}\text{Bi}$		63Ho18	Z
		6066.2	3.		1.4	2			$^{200}\text{Bi}$		67Tr06	Z
		6071.3	3.		-0.3	2			$^{200}\text{Bi}$	Ora	75Ba.B	
		6071.1	2.		-0.4	2			$^{200}\text{Bi}$		79Sc.A	
		6072.0	3.		-0.5	2			$^{200}\text{Bi}$	Dba	81Va27	
$^{204}\text{Rn}(\alpha)^{200}\text{Po}$	6544.3	3.	6546.4	1.8	0.7	4			$^{200}\text{Po}$		67Va17	Z
		6547.5	2.5		-0.4	4			$^{200}\text{Po}$	Lvn	93Wa04	
		6537.4	7.		1.3	o			$^{200}\text{Po}$	Ara	95Le04	
		6548.6	5.0		-0.4	4			$^{200}\text{Po}$	Ara	96Ta18	
$^{204}\text{Fr}(\alpha)^{200}\text{At}$	71170.4	5.	71170.4	2.5	0.0	4			$^{200}\text{At}$		67Va20	Z
		71169.4	5.		0.2	4			$^{200}\text{At}$		74Ho27	Z
		71170.6	5.		0.0	4			$^{200}\text{At}$	Lvn	92Hu04	*
		71179.0	6.		-1.4	o			$^{200}\text{At}$	Jya	94Le05	
		71167.8	7.		0.4	4			$^{200}\text{At}$	Ara	95Le04	
		71173.9	6.		-0.6	4			$^{200}\text{At}$	Jya	05Uu02	
$^{204}\text{Fr}^m(\alpha)^{200}\text{At}$	7218.8	8.	7222	4	0.3	o			$^{200}\text{At}$	Lvn	92Hu04	
$^{204}\text{Fr}^m(\alpha)^{200}\text{At}^m$	7108.2	5.	7108.6	2.1	0.1	4			$^{200}\text{At}^m$		74Ho27	Z
		7105.5	3.		1.1	4			$^{200}\text{At}^m$	Bka	82Bo04	
		7108.4	5.		0.0	4			$^{200}\text{At}^m$	Lvn	92Hu04	*
		71115.6	7.		-1.0	o			$^{200}\text{At}^m$	Jya	94Le05	
		71114.7	7.		-0.8	4			$^{200}\text{At}^m$	Ara	95Le04	
		71117.7	6.		-1.5	4			$^{200}\text{At}^m$	Jya	05Uu02	
$^{204}\text{Fr}^n(\alpha)^{200}\text{At}^n$	71157.5	6.	71153.8	2.1	-0.6	o			$^{200}\text{At}^n$	Jya	05Uu02	
$^{204}\text{Ra}(\alpha)^{200}\text{Rn}$	7638.1	12.	7637	7	-0.1	5			$^{200}\text{Rn}$	Ara	95Le04	
		7638.1	25.		-0.1	o			$^{200}\text{Rn}$	Jya	95Le15	
		7634.0	10.		0.3	o			$^{200}\text{Rn}$	Jya	96Le09	
		7636.1	8.		0.1	5			$^{200}\text{Rn}$	Jya	05Uu02	
		7638.1	25.		-0.1	U			$^{200}\text{Rn}$	Anv	10He25	
$^{204}\text{Pb(p,t)}^{202}\text{Pb}$	-6835	10	-6830	4	0.5	1	15	14	$^{202}\text{Pb}$	Yal	71Ki01	
$^{204}\text{Hg(t,}\alpha^{203}\text{Au}$	10962	15	10978	3	1.1	U			$^{203}\text{Au}$	LAL	81Fl05	
$^{204}\text{Hg(d,}^3\text{He)}^{203}\text{Au} - ^{206}\text{Pb}(\beta)^{205}\text{Tl}$	-1582.0	3.0	-1582.0	3.0	0.0	1	100	100	$^{203}\text{Au}$		94Gr07	
$^{204}\text{Hg(d,t)}^{203}\text{Hg}$	-1242	5	-1235.5	1.7	1.3	1	12	11	$^{203}\text{Hg}$	Ald	70An14	
$^{203}\text{Tl(n,}\gamma^{204}\text{Tl}$	6656.0	0.3	6656.09	0.29	0.3	1	94	76	$^{203}\text{Tl}$	MMn	74Co21	
		6654.88	0.14		8.7	C			$^{203}\text{Tl}$	Bdn	06Fi.A	
$^{204}\text{Pb(p,d)}^{203}\text{Pb}$	-6165	10	-6170	6	-0.5	-			$^{203}\text{Pb}$	Yal	71Ki01	
$^{204}\text{Pb(d,t)}^{203}\text{Pb}$	-2160	20	-2137	6	1.1	-			$^{203}\text{Pb}$	Ald	67Bj01	
$^{204}\text{Pb(p,d)}^{203}\text{Pb}$	ave.	-6171	9	-6170	6	0.0	1	52	52	$^{203}\text{Pb}$		average
$^{204}\text{Au}(\beta^-)^{204}\text{Hg}$	4500	300	4040#	200#	-1.5	F			$^{204}\text{Hg}$		67Wa23	
$^{204}\text{Tl}(\epsilon)^{204}\text{Hg}$	314	20	344.6	1.3	1.5	U			$^{204}\text{Hg}$		64Ch17	
		332	20		0.6	U			$^{204}\text{Hg}$		66Ki02	
		385	20		-2.0	U			$^{204}\text{Hg}$		73La17	
$^{204}\text{Tl}(\beta^-)^{204}\text{Pb}$	764.24	0.31	763.75	0.18	-1.6	-			$^{204}\text{Pb}$		67Pa08	
		763.47	0.22		1.3	-			$^{204}\text{Pb}$		68Wo02	
$^{204}\text{At}(\beta^+)^{204}\text{Po}$	ave.	763.73	0.18		0.1	1	97	79	$^{204}\text{At}$		average	
		6220	160	6465	25	1.5	U		$^{204}\text{At}$		86Ve.B	
									$^{204}\text{At}$		*	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value	$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{204}\text{Fr}^n(\text{IT})^{204}\text{Fr}^m$	276.1	0.5		5					Nub127
* $^{204}\text{Po}(\alpha)^{200}\text{Pb}$	Printing error in reference: $^{204}\text{Po}$ not $^{206}\text{Po}$ ; Z recalibrated								
* $^{204}\text{Fr}(\alpha)^{200}\text{At}$	$E_\alpha=7031(5)$ , 6916(8) to ground state, 113 level								
* $^{204}\text{Fr}^m(\alpha)^{200}\text{At}^m$	$E_\alpha=6969(5)$ ; and 7013(5) from $^{204}\text{Fr}^n$ 276.1 above $^{204}\text{Fr}^m$ to $^{200}\text{At}^m$								
*	230.9 above $^{200}\text{At}^m$								
* $^{204}\text{Fr}^m(\alpha)^{200}\text{At}^m$	$E_\alpha=7020(7)$ from $^{204}\text{Fr}^n$ 276.1 above $^{204}\text{Fr}^m$ to $^{200}\text{At}^m$ 230.9 above $^{200}\text{At}^m$								
* $^{204}\text{Fr}^m(\alpha)^{200}\text{At}^m$	$E_\alpha=6976(6)$ ; and 7017(6) from $^{204}\text{Fr}^n$ 276.1 above $^{204}\text{Fr}^m$ to $^{200}\text{At}^m$								
* $^{204}\text{Au}(\beta^-)^{204}\text{Hg}$	F : reported 4 s activity does not exist								
* $^{204}\text{At}(\beta^+)^{204}\text{Po}$	$E_{\beta^+}=2950(160)$ to 8 <sup>+</sup> level at 2248.17 keV								
$\text{C}_{16}\text{H}_{13}-^{205}\text{Tl}$	127345	29	127297.6	1.4	-1.1	U	R08	1.5	69De19
$\text{C}_{14}\text{N}_2\text{H}_9-^{205}\text{Tl}$	102091	36	102145.5	1.4	1.0	U	R08	1.5	69De19
$^{205}\text{Tl}-^{168}\text{Er}^{37}\text{Cl}$	76198	44	76148.5	2.6	-0.7	U	R08	1.5	69De19
$^{205}\text{Tl}-^{170}\text{Er}^{35}\text{Cl}$	70034	23	70104.9	2.9	2.1	U	R08	1.5	69De19
$^{205}\text{Tl}-^{133}\text{Cs}_{1.541}$	120129	11	120126.3	1.4	-0.2	U	MA8	1.0	08We02
$^{205}\text{Bi-u}$	-22559	30	-22613	5	-1.8	U	GS2	1.0	05Li24
$^{205}\text{Po-u}$	-18773	30	-18797	22	-0.8	-	GS2	1.0	05Li24
	ave.	18790	25		-0.3	1	79	$^{79}\text{Po}$	average
$^{205}\text{Fr}-^{133}\text{Cs}_{1.541}$	144293.8	9.7	144292	8	-0.1	2	MA8	1.0	08We02
$^{205}\text{Tl}^{35}\text{Cl}-^{203}\text{Tl}^{37}\text{Cl}$	5040	4	5033.3	0.6	-0.4	U	H17	4.0	64Mc07
		5031.43	1.07		0.7	-	H36	2.5	85De40
		5032.88	1.01		0.3	-	H42	1.5	93Si05
	ave.	5032.5	1.3		0.6	1	19	$^{14}\text{Tl}$	average
$^{205}\text{Tl}-^{167}\text{Er}^{37}\text{Cl}$	76426	47	76470.6	2.6	0.6	U	R08	1.5	69De19
$^{205}\text{Tl}-^{169}\text{Tm}^{35}\text{Cl}$	71355	25	71357.2	2.6	0.1	U	R08	1.5	69De19
$^{169}\text{Tm}^{37}\text{Cl}-^{205}\text{Tl}$	-74316	32	-74307.3	2.6	0.2	U	R08	1.5	69De19
$^{205}\text{Tl}-^{204}\text{Hg}$	938	27	933.8	1.5	-0.1	U	R08	1.5	69De19
$^{205}\text{Tl}-^{203}\text{Tl}$	2092	20	2083.2	0.6	-0.3	U	R08	1.5	69De19
$^{205}\text{Po}(\alpha)^{201}\text{Pb}$	5324.1	10.	5325	10	0.1	1	96	$^{74}\text{Pb}$	67Ti04
$^{205}\text{At}(\alpha)^{201}\text{Bi}$	6016.3	4.	6019.5	1.7	0.8	4			63Ho18
		6020.5	2.		-0.5	4			Dba
		6018.9	5.		0.1	4			68Go.B
$^{205}\text{Rn}(\alpha)^{201}\text{Po}$	6386.6	3.	6390	50	0.0	5			74Ho27
		6386.6	6.		0.0	5			Z
		6385.7	2.5		0.0	5			71Ho01
	ave.	6385.7	2.5		0.0	5			Z
$^{205}\text{Fr}(\alpha)^{201}\text{At}$	7056.5	5.	7054.6	2.4	-0.3	3			Lvn
		7052.2	5.		0.5	3			93Wa04
		7057.3	5.		-0.5	3			67Va20
		7052.9	7.		0.3	3			Z
		7053.9	5.		0.2	3			74Ho27
$^{205}\text{Ra}(\alpha)^{201}\text{Rn}$	7506.7	20.	7490	50	-0.4	F			ORa
		7496.6	25.		-0.2	o			81Ri04
		7486.4	20.			5			Z
$^{205}\text{Ra}^m(\alpha)^{201}\text{Rn}^m$	7501.7	10.	7505	9	0.3	6			Ara
		7522.1	25.		-0.7	o			95Le04
		7517.0	20.		-0.6	6			Jya
		7526.1	30.		-0.7	U			96Le09
		3443	5	3444	4	0.2	1	53	Anv
$^{205}\text{Tl}(\gamma,\text{n})^{204}\text{Tl}$	-7515	29	-7546.0	0.5	-1.1	U			10He25
		-7548	3		0.7	U			Ald
		-1288.7	0.6	-1288.8	0.5	-0.2	1	64	Phi
$^{204}\text{Pb}(\text{n},\gamma)^{205}\text{Pb}$	6731.53	0.15	6731.66	0.11	0.9	-			McM
		6731.80	0.16		-0.8	-			79Ba06
$^{204}\text{Pb}(\text{d,p})^{205}\text{Pb}$	4516	20	4507.10	0.11	-0.4	U			Mun
$^{204}\text{Pb}(\text{n},\gamma)^{205}\text{Pb}$	ave.	6731.66	0.11	6731.66	0.11	0.1	1	99	ILn
$^{205}\text{Hg}(\beta^-)^{205}\text{Tl}$	1620	200	1533	4	-0.4	U			Bdn
		1750	200		-1.1	U			Ald

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{206}\text{Fr}^n(\alpha)^{202}\text{At}^n$	E $_{\alpha}$ =6930(5) and 6792(7) combined with E( $\gamma$ )'s 531, 391.7 keV									92Hu04 **
* $^{206}\text{Hg}(\beta^-)^{206}\text{Tl}$	E $_{\beta^-}$ =935(62) to 1 $^-$ level at 304.896 keV									Ens085 **
* $^{206}\text{Bi}(\beta^+)^{206}\text{Pb}$	E $_{\beta^+}$ =977(33) to 4 $^+$ level at 1683.99 keV									Ens085 **
* $^{206}\text{Bi}(\epsilon)^{206}\text{Pb}$	LK=0.509(0.015) to 5 $^-$ level at 3562.92 keV, original error 22, recalculated									Ens085 **
* $^{206}\text{At}(\beta^+)^{206}\text{Po}$	E $_{\beta^+}$ =3092(150) to 6 $^+$ level at 1573.38 keV									Ens085 **
* $^{206}\text{Fr}^x(\text{IT})^{206}\text{Fr}$	Assuming a 0.15(0.20)% isomeric mixture									AHW **
$^{207}\text{Hg-u}$	-17721 33 -17700 30 0.6 o						GS3	1.0	08Ch.A	
	-17700 32				2		GS3	1.0	12Ch19	
$^{207}\text{Fr}-^{133}\text{Cs}_{1.556}$	144062 20 144063 19 0.1 1				88	88	$^{207}\text{Fr}$	MA8	1.0	12Bo.A
$^{207}\text{Pb}^{35}\text{Cl}-^{205}\text{Tl}^{37}\text{Cl}$	4413 4 4419.6 0.6 0.4 U							H17	4.0	64Mc07
	4415.60 2.40				0.7	U		H36	2.5	85De40
	4417.32 1.40				1.1	U		H42	1.5	93Si05
$^{206}\text{Pb H}-^{207}\text{Pb}$	6394.2 1.1 6393.42 0.10 -0.3 U							C4	2.5	71Ke02
$^{206}\text{Fr}^x-^{207}\text{Fr}_{.498}^{205}\text{Fr}_{.502}$	930 90 930 100 0.0 U							P24	2.5	82Au01
$^{207}\text{Po}(\alpha)^{203}\text{Pb}$	5216.0 2.5 5215.8 2.5 0.0 1				96	59	$^{207}\text{Po}$	Dba	70Af.A	
$^{207}\text{At}(\alpha)^{203}\text{Bi}$	5872.5 3. 5215.8 2.5 0.0 1					3		Dba	69Go23 Z	
$^{207}\text{Rn}(\alpha)^{203}\text{Po}$	6256.3 3. 6251.1 1.6 -1.6 4							Dba	67Va20 Z	
	6247.3 3. 6251.1 1.6 -1.6 4							Dba	71Go35 Z	
	6250.4 2.5 6251.1 1.6 -1.6 4							Lvn	93Wa04	
$^{207}\text{Fr}(\alpha)^{203}\text{At}$	6907.8 5. 6893 20 -0.3 -								67Va20 Z	
	6895.8 5. 6893 20 -0.3 -								74Ho27 Z	
	6900.9 5. 6893 20 -0.3 -							ORa	81Ri04 Z	
	ave. 6901.5 2.9 6893 20 -0.3 -				1	16	12	$^{207}\text{Fr}$	average	
$^{207}\text{Ra}(\alpha)^{203}\text{Rn}$	7273.8 5. 7270 50 0.0 5								67Vu22 Z	
	7268.7 10. 7270 50 0.0 5							GSa	87He10	
	7276.7 12. 7270 50 0.0 5							Jya	95Uu01	
$^{207}\text{Ra}^m(\alpha)^{203}\text{Rn}^m$	7464.4 10.2 7468 8 0.3 6							GSa	87He10	
	7474.7 15. 7468 8 0.3 6							Jya	95Le15	
	7475.7 15. 7468 8 0.3 6							Jya	96Le09	
$^{207}\text{Ac}(\alpha)^{203}\text{Fr}$	7864.3 25. 7840 50 -0.4 o							Jya	94Le05	
	7844.9 25. 7840 50 -0.4 o							Jya	98Es02	
$^{205}\text{Tl(t,p)}^{207}\text{Tl}$	4880 15 4874 5 -0.4 1				13	13	$^{207}\text{Tl}$	Ald	69Ha11	
$^{207}\text{Pb(t,}\alpha^{206}\text{Tl}$	12321 25 12326.2 0.6 0.2 U							Ald	67Ha.A	
$^{206}\text{Pb(n,}\gamma^{207}\text{Pb}$	6737.85 0.15 6737.78 0.10 -0.5 -							MMn	81Ke11 Z	
	6737.72 0.18 6737.78 0.10 -0.5 -							ILn	83Hu13 Z	
	6737.74 0.17 6737.78 0.10 -0.5 -							Bdn	06Fi.A	
$^{207}\text{Pb}(\gamma,n)^{206}\text{Pb}$	-6742 3 -6737.78 0.10 1.4 U							McM	79Ba06	
$^{206}\text{Pb(d,p)}^{207}\text{Pb}$	4480 30 4513.21 0.10 1.1 U							MIT	53Ha66	
	4510 20 4513.21 0.10 1.1 U								58Mc64	
	4526 30 4513.21 0.10 1.1 U							Pit	64Co11	
$^{206}\text{Pb(n,}\gamma^{207}\text{Pb}$	ave. 6737.78 0.10 6737.78 0.10 0.0 1				100	89	$^{207}\text{Pb}$		average	
$^{207}\text{Hg}(\beta^-)^{207}\text{Tl}$	4815 150 4550 30 -1.8 U								81Jo.B *	
$^{207}\text{Tl}(\beta^-)^{207}\text{Pb}$	1431 8 1418 5 -1.6 1				46	45	$^{207}\text{Tl}$		67Da10	
$^{207}\text{Bi}(\epsilon)^{207}\text{Pb}$	2392 10 2397.4 2.1 0.5 U								Averag *	
$^{207}\text{Po}(\beta^+)^{207}\text{Bi}$	2907 10 2909 7 0.2 1				44	41	$^{207}\text{Po}$		58Ar56 *	
$^{207}\text{Rn}(\beta^+)^{207}\text{At}$	4617 70 4592 15 -0.4 U								75Ze.A *	
* $^{207}\text{Hg}(\beta^-)^{207}\text{Tl}$	E $_{\beta^-}$ =1800(150), 14%, 32%, 16%, 7% to (7/2 $^-, 9/2$ ) level at 2911.83 keV (9/2) $^+$ at 2985.23 and 3104.43, (7/2 $^-, 9/2, 11/2$ ) at 3143.1 keV								81Jo.B **	
* $^{207}\text{Bi}(\epsilon)^{207}\text{Pb}$	Average pL=0.61(0.05) to 7/2 $^-$ level at 2339.921 keV from two references: pL=0.663(0.014)								Ens112 **	
*	pL=0.56(0.04); original error 0.08 is 2 $\sigma$								82Ta18 **	
* $^{207}\text{Po}(\beta^+)^{207}\text{Bi}$	E $_{\beta^+}$ =893(10) to 7/2 $^-$ level at 992.43 keV, and other E $_{\beta^+}$								Ens112 **	
* $^{207}\text{Rn}(\beta^+)^{207}\text{At}$	E $_{\beta^+}$ =3250(70) to 7/2 $^-$ level at 344.55 keV								Ens112 **	
$^{208}\text{Hg-u}$	-14241 33 -14240 30 0.0 o						GS3	1.0	08Ch.A	
	-14241 33 -14240 30 0.0 o				2		GS3	1.0	09Ch08	
$^{208}\text{Pb}-^{133}\text{Cs}_{1.564}$	124532.0 5.6 124525.6 1.3 -1.1 U						MA8	1.0	08We02	
	124524.3 5.5 124525.6 1.3 -1.1 U				0.2	U	MA8	1.0	12Bo.A	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{208}\text{Po-u}$	-18710	31	-18753.9	1.9	-1.4	U			GS2	1.0	05Li24	
$^{208}\text{Fr}-^{133}\text{Cs}_{1.564}$	144984	20	145011	12	1.4	-			MA8	1.0	12Bo.A	
	145030	16			-1.2	-			MA8	1.0	12Bo.A	
	ave.	145012	12		-0.1	1	96	96	$^{208}\text{Fr}$		average	
$^{208}\text{Pb}^{35}\text{Cl}-^{206}\text{Pb}^{37}\text{Cl}$	5136	2	5136.88	0.14	0.1	U			H17	4.0	64Mc07	
	5136.23	1.08			0.2	U			H36	2.5	85De40	
	5136.93	0.41			-0.1	U			H42	1.5	93Si05	
$^{207}\text{Fr}-^{208}\text{Fr}_{.498}$	-890	60	-940	60	-0.4	U			P24	2.5	82Au01	
$^{208}\text{Po}(\alpha)^{204}\text{Pb}$	5216.3	2.	5215.3	1.3	-0.5	2			Dba	69Go23	Z	
	5214.0	3.			0.5	2				70Ra14	Z	
	5215.1	2.			0.1	2				89Ma05		
$^{208}\text{At}(\alpha)^{204}\text{Bi}$	5750.6	3.	5751.0	2.2	0.2	3			Dba	69Go23	Z	
	5751.6	3.			-0.2	3			Dba	81Va27	Z	
$^{208}\text{Rn}(\alpha)^{204}\text{Po}$	6269.3	4.	6260.7	1.7	-2.1	4			Dba	55Mo69	Z	
	6260.0	3.			0.2	4				71Go35	Z	
	6257.5	5.			0.6	4				74Ho27		
	6258.7	2.5			0.8	4			Lvn	93Wa04		
$^{208}\text{Fr}(\alpha)^{204}\text{At}$	6778.3	5.	6785	24	0.1	-				67Va20	Z	
	6767.7	5.			0.3	-				74Ho27	Z	
	ave.	6771.2	2.9		0.3	1	23	19	$^{204}\text{At}$	ORa	81Ri04	Z
	7273.1	5.			5					average	67Va22	Z
$^{208}\text{Ac}(\alpha)^{204}\text{Rn}$	7720.8	15.	7730	50	0.1	5			Jya	94Le05		
	7769.7	40.			-0.9	5			JAA	96Ik01		
$^{208}\text{Ac}^m(\alpha)^{204}\text{Fr}^n$	7892.1	20.	7899	14	0.3	6			Dbb	94An01		
	7910.4	20.			-0.6	6			Jya	94Le05		
	7871.7	50.			0.5	6			JAA	96Ik01		
$^{208}\text{Th}(\alpha)^{204}\text{Ra}$	8202.0	30.			6				Anv	10He25		
$^{206}\text{Pb(t,p)}^{208}\text{Pb}$	5622	30	5623.85	0.11	0.1	U			Ald	67Ha.A		
$^{207}\text{Pb(n,}\gamma^{208}\text{Pb}$	7367.95	0.15	7367.87	0.05	-0.5	-			MMn	81Ke11	Z	
	7367.96	0.10			-0.9	-				81Su.A	Z	
	7367.81	0.11			0.5	-			ILn	83Hu13	Z	
	7367.774	0.098			1.0	-				98Be19	Z	
	7367.92	0.16			-0.3	-			Bdn	06Fi.A		
$^{208}\text{Pb}(\gamma,\text{n})^{207}\text{Pb}$	-7370	3	-7367.87	0.05	0.7	U			McM	79Ba06		
$^{208}\text{Pb(d,t)}^{207}\text{Pb}$	-1114	25	-1110.64	0.05	0.1	U			Pit	64Co11		
$^{207}\text{Pb(n,}\gamma^{208}\text{Pb}$	ave.	7367.87	0.05	7367.87	0.05	0.0	1	100	90	$^{208}\text{Pb}$	average	
$^{208}\text{Tl}(\beta^-)^{208}\text{Pb}$	4989.7	7.	4998.9	1.7	1.3	U				48Ma29	*	
	4997.7	10.			0.1	U				54El24	*	
$^{208}\text{Bi}(\varepsilon)^{208}\text{Pb}$	2810	4	2878.4	2.0	17.1	B				59Mi19	*	
$*^{208}\text{Tl}(\beta^-)^{208}\text{Pb}$	$E_{\beta^-}=1792(7)$ 1800(10) respectively, to $5^-$ level at 3197.711 keV								Ens077	**		
$*^{208}\text{Bi}(\varepsilon)^{208}\text{Pb}$	pK=0.24(0.01) to $3^-$ level at 2614.522 keV, recalculated								Ens077	**		
$^{209}\text{Bi}-^{133}\text{Cs}_{1.571}$	128937.6	4.7	128934.0	1.6	-0.8	U			MA8	1.0	08We02	
$^{209}\text{Fr}-^{226}\text{Ra}_{.925}$	-27584	36	-27550	16	1.0	2			MA3	1.0	92Bo28	
$^{209}\text{Bi}^{35}\text{Cl}-^{207}\text{Pb}^{37}\text{Cl}$	7444	3	7451.9	0.8	0.7	U			H17	4.0	64Mc07	
	7454.13	1.51			-0.6	U			H36	2.5	85De40	
$^{208}\text{Fr}-^{209}\text{Fr}_{.498}$	720	60	638	16	-0.5	U			P24	2.5	82Au01	
$^{209}\text{Bi}(\alpha)^{205}\text{Tl}$	3137.0	2.2	3137.3	0.8	0.1	1	12	10	$^{209}\text{Bi}$	03De11		
$^{209}\text{Po}(\alpha)^{205}\text{Pb}$	4974	5	4979.2	1.4	1.0	2				66Ha29	*	
	4980.0	2.			-0.4	2			Dba	69Go23	*	
	4979.3	2.			0.0	2				89Ma05	*	
$^{209}\text{At}(\alpha)^{205}\text{Bi}$	5757.2	2.	5756.9	2.0	-0.1	1	96	49	$^{205}\text{Bi}$	Dba	69Go23	Z
$^{209}\text{Rn}(\alpha)^{205}\text{Po}$	6157.5	3.	6155.5	2.0	-0.6	2			Dba	71Go35	Z	
	6154.2	2.5			0.5	2			Lvn	93Wa04		
$^{209}\text{Fr}(\alpha)^{205}\text{At}$	6777.7	5.	6777	4	0.0	3				67Va20	Z	
	6777.3	5.			0.0	3				74Ho27	Z	
$^{209}\text{Ra}(\alpha)^{205}\text{Rn}$	7147.0	5.	7143.0	2.7	-0.8	6				67Va22	Z	
	7141	5			0.4	6			GSa	03He06	*	
	7142.0	4.			0.3	6				08Ha12		
$^{209}\text{Ac}(\alpha)^{205}\text{Fr}$	7733.3	15.	7730	50	-0.1	3				68Va04		
	7738.4	20.			-0.2	3			Dbb	94An01		
	7729.2	15.			0.0	3			Jya	94Le05		
	7728.2	40.			0.0	U			JAA	96Ik01		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{210}\text{Th}(\alpha)^{206}\text{Ra}$	F : Low energy; may be escape									96Ik01 **
* $^{210}\text{Tl}(\beta^-)^{210}\text{Pb}$	$E_{\beta^-}=1870(100)$ to 3625(19) level, and other $E_{\beta^-}$									Ens037 **
* $^{210}\text{Pb}(\beta^-)^{210}\text{Bi}$	$E_{\beta^-}=17.0(0.5)$ to $0^-$ level at 46.539 keV									Ens037 **
* $^{210}\text{At}(\epsilon)^{210}\text{Po}$	$pK=0.46(0.10)$ to $6^-$ level at 3727.28 keV									Ens037 **
$^{211}\text{Tl-u}$	-6525	45			2					GS3 1.0 08Ch.A
$^{211}\text{Fr}-^{133}\text{Cs}_{1.586}$	145517	15	145509	13	-0.5	1	74	74 $^{211}\text{Fr}$	MA8 1.0	09Ko35
$^{211}\text{Fr}-^{226}\text{Ra}_{.934}$	-28200	25	-28178	13	0.9	1	27	26 $^{211}\text{Fr}$	MA3 1.0	92Bo28
$^{211}\text{Ra}-^{133}\text{Cs}_{1.586}$	150846.4	8.5				2				MA8 1.0 09Ko35
$^{207}\text{Fr}-^{211}\text{Fr}_{.327} \ ^{205}\text{Fr}_{.673}$	-930	100	-609	19	1.3	U			P24 2.5	82Au01
$^{208}\text{Fr}-^{211}\text{Fr}_{.394} \ ^{206}\text{Fr}_{.606}$	-260	50	-340	60	-0.7	U			P24 2.5	82Au01
$^{210}\text{Fr}-^{211}\text{Fr}_{.498} \ ^{209}\text{Fr}_{.502}$	580	50	621	18	0.3	U			P24 2.5	82Au01
$^{211}\text{Bi}(\alpha)^{207}\text{Tl}$	6749.5	0.7	6750.3	0.5	1.2	-				61Ry02 Z
	6751.1	0.6			-1.2	-				71Gr17 Z
ave.	6750.4	0.5			-0.1	1	100	58 $^{211}\text{Bi}$		average
$^{211}\text{Po}(\alpha)^{207}\text{Pb}$	7594.5	0.5				2			Orm	62Wa18 Z
	7594.3	3.	7594.5	0.5	0.1	U			Dba	69Go23 Z
	7600.6	2.			-3.1	B				85La17 Z
$^{211}\text{Po}^m(\alpha)^{207}\text{Pb}$	9056.8	5.				2			Bka	82Bo04
$^{211}\text{At}(\alpha)^{207}\text{Bi}$	5979.4	2.	5982.4	1.3	1.5	2			Dba	69Go23 Z
	5981.6	3.			0.3	2			Bka	82Bo04 *
	5985.9	2.			-1.7	2				85La17 Z
$^{211}\text{Rn}(\alpha)^{207}\text{Po}$	5967.9	2.	5965.4	1.4	-1.2	2				55Mo69 Z
	5963.1	2.			1.2	2			Dba	71Go35 Z
$^{211}\text{Fr}(\alpha)^{207}\text{At}$	6660.3	5.	6662	3	0.4	2				67Va20 Z
	6663.5	4.			-0.3	2			GSa	05Ku06
$^{211}\text{Ra}(\alpha)^{207}\text{Rn}$	7045.3	5.	7042	3	-0.7	3				67Va22 Z
	7040	5			0.4	3			GSa	03He06 *
	7039.7	6.			0.4	3			Jya	07Le14
$^{211}\text{Ac}(\alpha)^{207}\text{Fr}$	7624.8	8.	7620	50	-0.1	2				68Va04
	7616.7	10.			0.1	2			GSa	00He17
$^{211}\text{Th}(\alpha)^{207}\text{Ra}$	7942.9	14.				6			Jya	95Uu01
$^{211}\text{Pb}(\beta^-)^{211}\text{Bi}$	1378	8	1367	6	-1.4	1	47	42 $^{211}\text{Bi}$		65Co06
* $^{211}\text{At}(\alpha)^{207}\text{Bi}$	Recalibrated as in reference									91Ry01 **
* $^{211}\text{Ra}(\alpha)^{207}\text{Rn}$	Average of $E_{\alpha}=6907(5)$ and several branches to known levels									03He06 **
$^{212}\text{Bi}^n\text{-u}$	-7127	32			2					GS3 1.0 08Ch.A
$^{212}\text{Fr}-^{133}\text{Cs}_{1.594}$	146938	10	146935	9	-0.3	1	89	89 $^{212}\text{Fr}$	MA8 1.0	09Ko35
$^{212}\text{Fr}-^{226}\text{Ra}_{.938}$	-27631	28	-27609	10	0.8	1	12	11 $^{212}\text{Fr}$	MA3 1.0	92Bo28
$^{209}\text{Fr}-^{212}\text{Fr}_{.563} \ ^{205}\text{Fr}_{.437}$	-1270	70	-1216	16	0.3	U			P24 2.5	82Au01
$^{206}\text{Fr}^x-^{212}\text{Fr}_{.139} \ ^{205}\text{Fr}_{.861}$	340	130	470	100	0.4	U			P24 2.5	82Au01
$^{207}\text{Fr}-^{212}\text{Fr}_{.163} \ ^{206}\text{Fr}^x_{.837}$	-1150	70	-1320	90	-0.9	U			P24 2.5	82Au01
$^{212}\text{Bi}(\alpha)^{208}\text{Tl}$	6207.12	0.04	6207.262	0.028	3.5	B			BIP	61Ry02 Z
	6207.09	0.08			2.1	o			BIP	69Gr28 *
	6207.262	0.028				2			BIP	72Go.A *
$^{212}\text{Bi}^m(\alpha)^{208}\text{Tl}$	6458.1	30.				3				78Ba44
$^{212}\text{Po}(\alpha)^{208}\text{Pb}$	8953.6	0.8	8954.12	0.11	0.6	U				61Ry02 Z
	8953.85	0.31			1.1	-				71De52 Z
	8953.3	0.6			1.4	U				71Gr17 Z
	8954.25	0.12			-0.4	-				74Hu15 Z
ave.	8954.12	0.11			0.0	1	100	92 $^{212}\text{Po}$		average
$^{212}\text{Po}^m(\alpha)^{208}\text{Pb}$	11874.6	20.	11877	4	0.1	2				62Pe15
	11859.3	15.			1.2	o				75Fr.B
	11884.6	10.			-0.7	2				76Fr.A
	11875.5	5.1			0.3	2			GSa	12Ho12
$^{212}\text{At}(\alpha)^{208}\text{Bi}$	7829.0	9.	7817.0	0.6	-1.3	U				70Re02 *
	7817.0	0.6				3				76Fr.A *
	7828.0	10.			-1.1	U				96Li37 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{212}\text{At}^m(\alpha)^{208}\text{Bi}$	8049.3	10.	8039.9	0.6	-0.9	U					68Va18
	8054.3	9.			-1.6	U					70Re02 *
	8039.9	0.6				3					76Fr.A *
	8051.2	10.			-1.1	U					96Li37 *
$^{212}\text{Rn}(\alpha)^{208}\text{Po}$	6392.3	5.	6385.0	2.6	-1.4	3					55Mo69 Z
	6382.5	3.			0.9	3					Dba 71Go35 Z
$^{212}\text{Fr}(\alpha)^{208}\text{At}$	6531.3	3.	6528.9	1.6	-0.7	2					66Va.A Z
	6528.0	3.			0.3	2					Dba 81Va27
	6527.5	3.			0.5	2					Bka 82Bo04 *
	6529.5	4.			-0.1	2					GSa 05Ku06
$^{212}\text{Ra}(\alpha)^{208}\text{Rn}$	7030.0	5.	7031.6	1.7	0.3	5					67Va22 Z
	7034.0	5.			-0.4	5					74Ho27 Z
	7032.2	2.			-0.3	5					Bka 82Bo04 Z
	7028	5			0.7	5					GSa 03He06 *
$^{212}\text{Ac}(\alpha)^{208}\text{Fr}$	7521.2	8.	7520	50	0.0	2					68Va04
	7515.1	10.			0.1	2					00He17
$^{212}\text{Th}(\alpha)^{208}\text{Ra}$	7952.3	10.	7958	5	0.6	6					80Ve01
	7959.5	5.			-0.3	6					Anv 10He25
$^{212}\text{Pa}(\alpha)^{208}\text{Ac}$	8429.4	30.				6					JAA 97Mi03
$^{210}\text{Pb}(\text{t},\text{p})^{212}\text{Pb}$	515	25	480.1	2.3	-1.4	U					71El05
$^{212}\text{Pb}(\beta^-)^{212}\text{Bi}$	569.3	2.5	569.8	1.9	0.2	-					48Ma30 *
	576.6	5.			-1.4	-					58Se71 *
	ave.	570.8	2.2		-0.4	1	72	44	$^{212}\text{Pb}$		average
$^{212}\text{Bi}(\beta^-)^{212}\text{Po}$	2256	3	2252.0	1.7	-1.3	-					48Fe09
	2250.5	2.5			0.6	-					48Ma30
	ave.	2252.8	1.9		-0.4	1	80	72	$^{212}\text{Bi}$		average
$^{*212}\text{Bi}(\alpha)^{208}\text{Tl}$	$E_\alpha=6089.86(0.08,Z)$ , 6050.57(0.07,Z) to ground state, $4^+$ level at 39.858 keV										
$^{*212}\text{Bi}(\alpha)^{208}\text{Tl}$	$E_\alpha=6089.883(0.037,Z)$ , 6050.837(0.028,Z) to ground state, $4^+$ level at 39.858 keV										
$^{*212}\text{At}(\alpha)^{208}\text{Bi}$	Original $E_\alpha=7679(8)$ ; calibration $^{211}\text{Po}$ 7448(1), now 7450.3(0.5) keV										
$^{*212}\text{At}(\alpha)^{208}\text{Bi}$	Original $E_\alpha=7669.0(0.2)$ ; calibration $^{211}\text{Po}$ 7450(2), now 7450.3(0.5)										
$^{*212}\text{At}(\alpha)^{208}\text{Bi}$	$E_\alpha=7679(10)$ to ground state, 7618(10) to 63.3 level										
*	error estimated by the evaluators										
$^{*212}\text{At}^m(\alpha)^{208}\text{Bi}$	Original $E_\alpha=7900(8)$ ; calibration $^{211}\text{Po}$ 7448(1), now 7450.3(0.5) keV										
$^{*212}\text{At}^m(\alpha)^{208}\text{Bi}$	Original $E_\alpha=7887.7(0.2)$ ; calibration $^{211}\text{Po}$ 7450(2), now 7450.3(0.5)										
$^{*212}\text{At}^m(\alpha)^{208}\text{Bi}$	$E_\alpha=7897(10)$ to ground state, 7837(10) to 63.3 level										
*	error estimated by the evaluators										
$^{*212}\text{Fr}(\alpha)^{208}\text{At}$	$E_\alpha=6341(3)$ (recalibrated as in reference) to 63.70 level										
$^{*212}\text{Ra}(\alpha)^{208}\text{Rn}$	$E_\alpha=6898(5)$ to ground state, 6269(5) to 635.1 level										
$^{*212}\text{Pb}(\beta^-)^{212}\text{Bi}$	$E_\beta=330.7(2.5)$ 338(5) respectively to $0^-$ level at 238.63 keV										
$^{213}\text{Tl-u}$	1893	65	1915	29	0.3	o					10Ch19
	1915	29				2					12Ch19
$^{213}\text{Fr}-^{133}\text{Cs}_{1.602}$	147649.1	7.4	147652	5	0.4	1	55	55	$^{213}\text{Fr}$	MA8	1.0
$^{207}\text{Fr}-^{213}\text{Fr}_{.324}^{204}\text{Fr}_{.676}$	-2540	330	-2104	24	0.5	U				P24	2.5
$^{208}\text{Fr}-^{213}\text{Fr}_{.279}^{206}\text{Fr}_{.721}$	-700	60	-850	80	-1.0	U				P24	2.5
$^{209}\text{Fr}-^{213}\text{Fr}_{.327}^{207}\text{Fr}_{.673}$	-670	60	-692	19	-0.1	U				P24	2.5
$^{209}\text{Fr}-^{213}\text{Fr}_{.196}^{208}\text{Fr}_{.804}$	-980	60	-928	17	0.3	U				P24	2.5
$^{211}\text{Fr}-^{213}\text{Fr}_{.330}^{210}\text{Fr}_{.670}$	-830	60	-735	16	0.6	U				P24	2.5
$^{212}\text{Fr}-^{213}\text{Fr}_{.498}^{211}\text{Fr}_{.502}$	270	50	332	11	0.5	U				P24	2.5
$^{213}\text{Bi}(\alpha)^{209}\text{Tl}$	5982.6	6.				2					64Gr11
$^{213}\text{Po}(\alpha)^{209}\text{Pb}$	8537.1	5.	8536.1	2.6	-0.2	-					64Va20 Z
	8536.5	3.			-0.1	-					82Bo04 Z
	ave.	8536.6	2.6		-0.2	1	95	93	$^{213}\text{Po}$	Bka	average
$^{213}\text{At}(\alpha)^{209}\text{Bi}$	9254.2	12.	9254	5	0.0	2					70Bo13
	9254.2	5.			0.0	2					Lvn 87De.A
$^{213}\text{Rn}(\alpha)^{209}\text{Po}$	8245.1	8.	8243	5	-0.3	3					67Va20
	8240.0	10.			0.3	3					70Va13
	8242	10			0.1	3					GSa 00He17 *
	8218.6	44.			0.5	U					05Li17
$^{213}\text{Fr}(\alpha)^{209}\text{At}$	6904.0	5.	6904.8	1.2	0.2	-					67Va20 Z
	6908.0	5.			-0.6	-					74Ho27 Z
	6904.6	2.			0.1	-					Bka 82Bo04 Z
	6904.9	1.7			0.0	-					GSa 05Ku06
	ave.	6904.9	1.2		-0.1	1	99	53	$^{209}\text{At}$		average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{213}\text{Ra}(\alpha)^{209}\text{Rn}$	6860.3	5.	6861.8	2.3	0.3	3				67Va22	*
	6862.4	5.		-0.1	3					76Ra37	*
	6862.2	3.		-0.1	3					06Ku26	*
$^{213}\text{Ra}^m(\alpha)^{209}\text{Rn}$	8630.4	5.	8630	4	-0.1	3				76Ra37	
	8629.3	5.		0.1	3					06Ku26	*
$^{213}\text{Ac}(\alpha)^{209}\text{Fr}$	7505.2	8.	7500	50	-0.1	3				68Va04	*
	7497.0	10.		0.0	0					00He17	
	7497.0	5.		0.0	3					02He.A	
$^{213}\text{Th}(\alpha)^{209}\text{Ra}$	7841.5	10.	7840	50	-0.1	7				68Va18	*
	7836.5	10.		0.0	7					80Ve01	
$^{213}\text{Pa}(\alpha)^{209}\text{Ac}$	8393.9	15.				4				00He17	
$^{213}\text{Bi}(\beta^-)^{213}\text{Po}$	1430	10	1423	6	-0.7	1	31	24 $^{213}\text{Bi}$		68Va17	*
* $^{207}\text{Fr}-^{213}\text{Fr}_{324}^{324}\text{Fr}$	$D_M=-2470(330)$ keV for $^{204}\text{Fr}^\alpha$ at estimated 100(70) keV									Nub127	**
* $^{213}\text{Rn}(\alpha)^{209}\text{Po}$	$E_\alpha=8088(10), 7550(15)$ to ground state, 540.3 level									00He17	**
* $^{213}\text{Ra}(\alpha)^{209}\text{Rn}$	$E_\alpha=6730.7, 6623.7, 6520.7(3,Z)$ to ground state, $1/2^-$ at 110.1, $3/2^-$ at 214.7 keV									Ens91b	**
* $^{213}\text{Ra}(\alpha)^{209}\text{Rn}$	$E_\alpha=6731.9, 6624.9, 6523.9(5,Z)$ to ground state, $1/2^-$ at 110.1, $3/2^-$ at 214.7 keV									Ens91b	**
* $^{213}\text{Ra}(\alpha)^{209}\text{Rn}$	$E_\alpha=6733(3), 6625(3)$ to ground state and $1/2^-$ level at 110.1 keV									Ens91b	**
* $^{213}\text{Ra}^m(\alpha)^{209}\text{Rn}$	$E_\alpha=8467(5)$ 8358(10) to ground state and $1/2^-$ level at 110.1 keV									Ens91b	**
* $^{213}\text{Ac}(\alpha)^{209}\text{Fr}$	Original Q increased by 2 keV, as in reference									91Ry01	**
* $^{213}\text{Th}(\alpha)^{209}\text{Ra}$	Original Q increased by 2 keV, as in reference									91Ry01	**
* $^{213}\text{Bi}(\beta^-)^{213}\text{Po}$	$E_{\beta^-}=1420(10)$ 1018(15) to ground state and $7/2^+$ level at 440.45 keV									Ens074	**
$^{214}\text{Ra}-^{133}\text{Cs}_{1.609}$	152235	22	152228	6	-0.3	U				MA8	1.0
$^{214}\text{Bi}(\alpha)^{210}\text{Tl}$	5621.3	3.0			2					91Ry01	*
$^{214}\text{Po}(\alpha)^{210}\text{Pb}$	7833.54	0.06	7833.46	0.06	0.0	1	100	98 $^{214}\text{Po}$		71Gr17	Z
$^{214}\text{At}(\alpha)^{210}\text{Bi}$	8987.2	4.			2					82Bo04	Z
$^{214}\text{At}^m(\alpha)^{210}\text{Bi}$	9046.4	8.			2					82Ew01	
$^{214}\text{At}^n(\alpha)^{210}\text{Bi}$	9220.8	5.			2					82Ew01	*
$^{214}\text{Rn}(\alpha)^{210}\text{Po}$	9212.6	20.	9208	9	-0.2	2				70To07	
	9207.5	10.			0.1	2				70Va13	
$^{214}\text{Fr}(\alpha)^{210}\text{At}$	8585.5	8.	8589	4	0.4	4				68Va18	*
	8590.9	5.			-0.5	4				70To18	*
	8583.8	10.			0.5	4				89An.A	
	8590.8	20.			-0.1	U				90Ni05	
	8578.7	48.			0.2	U				05Li17	
$^{214}\text{Fr}^m(\alpha)^{210}\text{At}$	8711.7	8.	8710	3	-0.2	4				68Va04	Z
	8711.7	5.			-0.3	4				70To18	*
	8708.1	5.			0.4	4				05Ku06	
$^{214}\text{Ra}(\alpha)^{210}\text{Rn}$	7271.7	5.	7272.5	2.6	0.2	4				67Va22	Z
	7275.6	5.			-0.6	4				74Ho27	Z
	7273.2	10.			-0.1	4				00He17	*
	7271.2	4.			0.3	4				06Ku26	*
$^{214}\text{Ra}(\alpha)^{210}\text{Rn}^m$	5563.9	30.			5					06Ku26	*
$^{214}\text{Ac}(\alpha)^{210}\text{Fr}$	7351.7	5.	7352.1	2.5	0.1	2				68Va04	Z
	7347.6	10.			0.5	2				89An13	
	7347.6	10.			0.5	o				00He17	*
	7349.6	5.			0.5	o				02He.A	
	7352.7	3.			-0.2	2				04Ku24	*
$^{214}\text{Th}(\alpha)^{210}\text{Ra}$	7828.6	10.	7827	5	-0.1	6				68Va18	
	7823.5	10.			0.4	6				80Ve01	
	7828.6	8.			-0.2	6				Jya	
$^{214}\text{Pa}(\alpha)^{210}\text{Ac}$	8270.9	15.			6					00He17	
$^{214}\text{Pb}(\beta^-)^{214}\text{Bi}$	1024	20	1019	11	-0.2	1	32	31 $^{214}\text{Bi}$		52Be78	*
$^{214}\text{Bi}(\beta^-)^{214}\text{Po}$	3260	30	3270	11	0.3	-				56Da06	
	3275	15			-0.3	-				60Lu07	
	ave.	3272	13		-0.2	1	69	69 $^{214}\text{Bi}$		average	
* $^{214}\text{Bi}(\alpha)^{210}\text{Tl}$	$E_\alpha=5516(3)$ recommended in place of the following $E_\alpha$ :									91Ry01	**
*	$E_\alpha=5510.5(1.0)$ keV									34Le01	**
*	$E_\alpha=5515.8(3.0)$ keV									60Wa14	**
$^{214}\text{At}^n(\alpha)^{210}\text{Bi}$	$E_\alpha=8782(5)$ to $9^-$ level at 271.31 keV									Ens092	**
$^{214}\text{Fr}(\alpha)^{210}\text{At}$	$E_\alpha=8425.5, 8352.5(8,Z)$ to ground state, $4^+$ level at 72.65 keV									Ens092	**
$^{214}\text{Fr}(\alpha)^{210}\text{At}$	$E_\alpha=8428.3, 8360.3(5,Z)$ to ground state, $4^+$ level at 72.65 keV									Ens092	**
$^{214}\text{Fr}^m(\alpha)^{210}\text{At}$	$E_\alpha=8546.8, 8477.8(5,Z)$ to ground state, $4^+$ level at 72.65 keV									Ens092	**
$^{214}\text{Ra}(\alpha)^{210}\text{Rn}$	$E_\alpha=7137(10), 6505(15)$ to ground state, 641.9 level									00He17	**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value	Adjusted value			$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{214}\text{Ra}(\alpha)^{210}\text{Rn}$	Also $E_\alpha=8950(30)$ keV $Q_\alpha=9120.9$ keV from $^{214}\text{Ra}^n$ at 1865.2 keV										Nub127 **
* $^{214}\text{Ra}(\alpha)^{210}\text{Rn}^m$	$E_\alpha=7290(30)$ $Q_\alpha=7429.1$ from $^{214}\text{Ra}^n$ at 1865.2 keV										Nub127 **
* $^{214}\text{Ac}(\alpha)^{210}\text{Fr}$	$E_\alpha=7210(10)$ , 7080(15) to ground state, 138.6 level										00He17 **
* $^{214}\text{Ac}(\alpha)^{210}\text{Fr}$	Also $E_\alpha=7081(4)$ keV to 139.0(1) level										04Ku24 **
* $^{214}\text{Pb}(\beta^-)^{214}\text{Bi}$	$E_{\beta^-}=670(20)$ to $(0^-, 1^-)$ level at 351.9324 keV, and another branch										Ens092 **
$^{215}\text{Bi}-^{133}\text{Cs}_{1,617}$	154654	16				2			MA8	1.0	08We02
$^{215}\text{Po}(\alpha)^{211}\text{Pb}$	7526.45	0.8	7526.3	0.8	-0.1	1	99	94 $^{211}\text{Pb}$			71Gr17 Z
$^{215}\text{At}(\alpha)^{211}\text{Bi}$	8178.5	4.				2			Bka		82Bo04 Z
$^{215}\text{Rn}(\alpha)^{211}\text{Po}$	8834.7	20.	8839	8	0.2	3			ORa		69Ha32
	8839.8	8.			-0.1	3					70Va13
$^{215}\text{Fr}(\alpha)^{211}\text{At}$	9543.0	15.	9540	7	-0.2	3					70Bo13
	9532.7	10.			0.8	3					74No02
	9546.9	10.			-0.6	3					84De16
$^{215}\text{Ra}(\alpha)^{211}\text{Rn}$	8862.7	5.	8864	3	0.3	3					68Va18 Z
	8865.5	5.			-0.2	3					70To18 Z
	8865.3	10.			-0.1	3			GSa		00He17
	8865.3	46.			0.0	U					05Li17
$^{215}\text{Ac}(\alpha)^{211}\text{Fr}$	7748.4	5.	7746	3	-0.5	2					68Va04 Z
	7746	10.			0.0	o			GSa		00He17 *
	7740.3	5.			1.1	o			GSa		02He.A
	7744.4	4.			0.4	2			GSa		04Ku24
$^{215}\text{Th}(\alpha)^{211}\text{Ra}$	7664.9	8.	7665	4	0.0	3					68Va18
	7667.0	10.			-0.2	o			GSa		89He03
	7664	15.			0.0	o			GSa		00He17 *
	7665	5			-0.1	3			GSa		05Ku31 *
	7662.8	10.			0.2	3			Jya		07Le14 *
$^{215}\text{Pa}(\alpha)^{211}\text{Ac}$	8238.6	15.	8240	50	0.1	3					79Sc09
	8244.7	15.			-0.1	3			GSa		00He17
* $^{215}\text{Ac}(\alpha)^{211}\text{Fr}$	$E_\alpha=7602(10)$ 7026(15) 6960(15) to ground state, $11/2^-$ at 583.2, $13/2^-$ at 652.62										
* $^{215}\text{Th}(\alpha)^{211}\text{Ra}$	$E_\alpha=7520(15)$ , 7387(15), 7336(15) to ground state, 133.6, 192.4 levels										
* $^{215}\text{Th}(\alpha)^{211}\text{Ra}$	$E_\alpha=7523(5)$ , 7392(4), 7335(5), 7236(7) to ground state, 133.9, 194.5, 295.1 levels										
* $^{215}\text{Th}(\alpha)^{211}\text{Ra}$	Also $E_\alpha=7399(20)$ keV to 133.9 level										
$^{216}\text{Bi}-^{133}\text{Cs}_{1,624}$	159852	12				2			MA8	1.0	08We02
$^{216}\text{Po}(\alpha)^{212}\text{Pb}$	6906.44	0.5	6906.3	0.5	-0.1	1	99	56 $^{212}\text{Pb}$			71Gr17 Z
$^{216}\text{At}(\alpha)^{212}\text{Bi}$	7949.7	3.				2			Bka		82Bo04 Z
$^{216}\text{At}^m(\alpha)^{212}\text{Bi}$	8110.5	10.				2					71Br13
$^{216}\text{Rn}(\alpha)^{212}\text{Po}$	8199.2	10.	8197	6	-0.2	2					61Ru06
	8201.2	10.			-0.4	2					70Va13
	8192.1	10.			0.5	2					71Br13
$^{216}\text{Fr}(\alpha)^{212}\text{At}$	9175.3	12.	9174	3	-0.1	4					70Bo13
	9174.1	5.			0.0	4					96Li37 *
	9174.3	5.			0.0	4			GSa		07Ku30
$^{216}\text{Fr}^m(\alpha)^{212}\text{At}^m$	9170.2	5.				4			GSa		07Ku30
$^{216}\text{Ra}(\alpha)^{212}\text{Rn}$	9525.8	8.				4					73No09
$^{216}\text{Ac}(\alpha)^{212}\text{Fr}$	9243.3	8.	9235	6	-1.0	2					70To18 Z
	9223.1	10.			1.2	2			GSa		00He17
	9241.4	50.9			-0.1	U					05Li17
$^{216}\text{Ac}^m(\alpha)^{212}\text{Fr}$	9280.0	5.	9279	4	-0.2	2					70To18 Z
	9284	10.			-0.5	o			GSa		00He17 *
	9278.2	5.			0.2	o			GSa		02He.A
	9277.2	7.			0.3	2			GSa		04Ku24 *
$^{216}\text{Th}(\alpha)^{212}\text{Ra}$	8070.7	8.	8072	4	0.2	6					68Va18
	8071	10.			0.1	o			GSa		00He17 *
	8073	5			-0.1	6			GSa		05Ku31 *
	8069.7	44.			0.1	U					05Li17
$^{216}\text{Th}^m(\alpha)^{212}\text{Ra}$	10099.4	20.	10116	8	0.8	6					83Hi08
	10107.4	40.			0.2	U			Dbb		93An07
	10120.8	15.			-0.3	6			GSa		00He17
	10117.5	10.			-0.2	6					05Ku31 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{216}\text{Pa}(\alpha)^{212}\text{Ac}$	8013.7	20.	8097	15	4.2	B					79Sc09
	8110.5	50.		-0.3	U			JAA			98Ik01
	8097	15			3			GSA			00He17 *
$*^{216}\text{Fr}(\alpha)^{212}\text{At}$	$E_\alpha=9004(5)$ ; and $E_\alpha=8933(8)$ from 133.3 level to 205.6 keV										
$*^{216}\text{Ac}^m(\alpha)^{212}\text{Fr}$	$E_\alpha=9110(10)$ , 9026(15), 8586(15) to ground state, 82.4, 542.2 levels										
$*^{216}\text{Ac}^m(\alpha)^{212}\text{Fr}$	Also $E_\alpha=9029(7)$ keV to 82.6(1) level										
$*^{216}\text{Th}(\alpha)^{212}\text{Ra}$	$E_\alpha=7923(10)$ , 7302(15) to ground state, 618.3 level										
$*^{216}\text{Th}(\alpha)^{212}\text{Ra}$	$E_\alpha=7923(5)$ , 7304(4) to ground state, 629.3(1) level										
$*^{216}\text{Th}^m(\alpha)^{212}\text{Ra}$	$E_\alpha=9930(10)$ , 9312(12) to ground state, 629.3(1) level										
$*^{216}\text{Pa}(\alpha)^{212}\text{Ac}$	$E_\alpha=7948(15)$ , 7815(15) to ground state, 133.6 level										
$^{217}\text{Bi-u}$	9420	32	9372	19	-1.5	o		GS3	1.0	08Ch.A	
	9372	19			2			GS3	1.0	12Ch19	
$^{217}\text{Po}(\alpha)^{213}\text{Pb}$	6660.3	4.	6662.1	2.4	0.5	4		Dba	77Vy02	Z	
	6660.0	4.			0.5	4		Orm	97Li23		
	6666.0	4.		-1.0	4			Anv	03Ku25		
$^{217}\text{At}(\alpha)^{213}\text{Bi}$	7200.3	3.	7201.3	1.2	0.4	-			60Vo05	Z	
	7200.3	2.		0.5	-			Orm	62Wa28	Z	
	7204.6	5.		-0.6	-				64Va20	Z	
	7193.1	5.		1.6	-			Dba	77Vy02	Z	
	7204.0	2.		-1.3	-			Bka	82Bo04		
ave.	7201.4	1.2		-0.1	1	99	76 $^{213}\text{Bi}$		average		
$^{217}\text{Rn}(\alpha)^{213}\text{Po}$	7887.5	4.	7887.1	2.9	-0.1	2			61Ru06	Z	
	7886.9	4.		0.1	2			Bka	82Bo04	Z	
$^{217}\text{Fr}(\alpha)^{213}\text{At}$	8471.5	8.	8469	4	-0.3	3			70Bo13		
	8468.4	5.		0.2	3			Lvn	87De.A		
$^{217}\text{Ra}(\alpha)^{213}\text{Rn}$	9159.1	8.	9161	6	0.2	4			70To07		
	9163.2	10.		-0.2	4				70Va13		
$^{217}\text{Ac}(\alpha)^{213}\text{Fr}$	9831.6	10.			2				73No09		
$^{217}\text{Ac}^m(\alpha)^{213}\text{Fr}$	11843.8	17.			2				85De14		
$^{217}\text{Th}(\alpha)^{213}\text{Ra}$	9424.1	10.	9435	4	1.1	4			68Va18		
	9424.1	20.		0.6	U				73Ha32		
	9421.1	15.		0.9	U				00Ni02		
	9442	15		-0.4	o			GSA	00He17	*	
	9435.6	5.		-0.1	4			GSA	02He29	*	
	9443.5	9.		-0.9	4			GSA	05Ku31		
	9424.1	47.		0.2	U				05Li17		
$^{217}\text{Pa}(\alpha)^{213}\text{Ac}$	8486.7	10.	8489	4	0.2	4			68Va18		
	8489.8	15.		-0.1	U				79Sc09		
	8486.7	50.		0.0	U			JAA	98Ik01		
	8490.8	15.		-0.1	U			GSA	00He17		
	8489.3	5.		-0.1	4			GSA	02He29	*	
$^{217}\text{Pa}^m(\alpha)^{213}\text{Ac}$	10351	20	10349	5	-0.1	U			79Sc09		
	10330.8	50.		0.4	U			JAA	98Ik01		
	10346.1	15.		0.2	o			GSA	00He17		
	10349.1	5.		4				GSA	02He29	*	
$^{217}\text{U}(\alpha)^{213}\text{Th}^p$	8155.6	20.	8170	50	0.3	9			00Ma65		
	8174.8	14.		-0.1	9			Jya	05Le42	*	
$*^{217}\text{Th}(\alpha)^{213}\text{Ra}$	$E_\alpha=9268(15)$ , 8731(15), 8459(15) to ground state, 546.35, 822.7 levels										
$*^{217}\text{Th}(\alpha)^{213}\text{Ra}$	$E_\alpha=9261(5)$ , 8725(5), 8455(5) to ground state, 546.35, 822.7 levels										
$*^{217}\text{Pa}(\alpha)^{213}\text{Ac}$	$E_\alpha=8337(5)$ , 7873(5), 7728(5), 7710(5) to ground state, 466.1, 612.5, 634.3 levels										
$*^{217}\text{Pa}^m(\alpha)^{213}\text{Ac}$	Average of 5 $E_\alpha$ 's to known levels										
$*^{217}\text{U}(\alpha)^{213}\text{Th}^p$	Only one event. Not reported in later publication 07Le14										
$^{218}\text{Bi-u}$	14178	34	14188	29	0.3	o		GS3	1.0	08Ch.A	
	14188	29			2			GS3	1.0	12Ch19	
$^{218}\text{Po}(\alpha)^{214}\text{Pb}$	6114.76	0.09	6114.68	0.09	0.0	1	100	99 $^{214}\text{Pb}$		71Gr17	Z

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{218}\text{At}(\alpha)^{214}\text{Bi}$	6874	3				2			Orm	58Wa.A	*
$^{218}\text{Rn}(\alpha)^{214}\text{Po}$	7265.0	5.	7262.5	1.9	-0.5	-				56As38	Z
	7262.4	2.			0.1	-			Bka	82Bo04	Z
	ave.	7262.7	1.9		-0.1	1	96	94 $^{218}\text{Rn}$		average	
$^{218}\text{Fr}(\alpha)^{214}\text{At}$	8014.0	2.				3			Bka	82Bo04	Z
$^{218}\text{Fr}^m(\alpha)^{214}\text{At}$	8099.9	5.	8100	4	0.1	3				82Ew01	Z
	8100.9	5.			-0.1	3				99Sh03	
$^{218}\text{Ra}(\alpha)^{214}\text{Rn}$	8549.1	8.	8546	6	-0.4	3				70To07	
	8541.0	10.			0.5	3				70Va13	
$^{218}\text{Ac}(\alpha)^{214}\text{Fr}$	9377.4	15.				5				70Bo13	
$^{218}\text{Th}(\alpha)^{214}\text{Ra}$	9861.2	20.	9849	9	-0.6	5				73Ha32	
	9846.1	10.			0.3	5				73No09	
$^{218}\text{Pa}(\alpha)^{214}\text{Ac}$	9794.1	20.	9815	10	1.0	F				79Sc09	*
	9815	10				3			GSa	00He17	*
$^{218}\text{U}(\alpha)^{214}\text{Th}$	8786.6	25.	8775	9	-0.5	7			Dbb	92An04	
	8773.2	9.			0.2	7			Jya	07Le14	
$^{218}\text{U}^m(\alpha)^{214}\text{Th}$	10878.1	17.				7			Jya	07Le14	
* $^{218}\text{At}(\alpha)^{214}\text{Bi}$	$E_\alpha=6696.3(3.0,Z)$ to $2^-$ level at 53.2282 keV										
* $^{218}\text{Pa}(\alpha)^{214}\text{Ac}$	$E_\alpha=9614(20)$ ; F : probably piled-up with $e^-$										
* $^{218}\text{Pa}(\alpha)^{214}\text{Ac}$	$E_\alpha=9544(10)$ to 91.8 level										
$^{219}\text{Po-u}$	13601	32	13614	17	0.4	o			GS3	1.0	08Ch.A
	13614	17				2			GS3	1.0	12Ch19
$^{219}\text{At}(\alpha)^{215}\text{Bi}$	6390.9	50.	6324	15	-1.3	U				53Hy83	
$^{219}\text{Rn}(\alpha)^{215}\text{Po}$	6946.21	0.3	6946.1	0.3	-0.1	1	100	95 $^{215}\text{Po}$		71Gr17	Z
$^{219}\text{Fr}(\alpha)^{215}\text{At}$	7448.7	2.0	7448.5	1.8	-0.1	3			Orm	68Ba73	Z
	7448.2	4.			0.1	3			Bka	82Bo04	Z
$^{219}\text{Ra}(\alpha)^{215}\text{Rn}$	8139.0	20.	8138	3	-0.1	U			ORa	69Ha32	
	8128.7	10.			0.9	U				70Va13	
	8128.7	20.			0.5	U			Dbb	89An13	
	8138.0	3.				4				94Sh02	
$^{219}\text{Ac}(\alpha)^{215}\text{Fr}$	8826.5	10.				4				70Bo13	
$^{219}\text{Th}(\alpha)^{215}\text{Ra}$	9514.1	20.				4				73Ha32	
$^{219}\text{Pa}(\alpha)^{215}\text{Ac}$	10084.6	50.				3				87Fa.A	
$^{219}\text{U}(\alpha)^{215}\text{Th}$	9860.4	40.	9940	50	1.6	4			Dbb	93An07	
	9956.2	18.			-0.3	4			Jya	07Le14	
$^{220}\text{Po-u}$	16420	32	16386	19	-1.1	o			GS3	1.0	08Ch.A
	16386	19				2			GS3	1.0	12Ch19
$^{220}\text{At-u}$	15427	32	15433	15	0.2	o			GS3	1.0	08Ch.A
	15433	15				2			GS3	1.0	12Ch19
$^{220}\text{Rn}-^{133}\text{Cs}_{1.654}$	167777	11	167776.6	2.3	0.0	U			MA8	1.0	09Ne03
$^{210}\text{Fr}-^{220}\text{Fr}_{159}$ $^{208}\text{Fr}_{841}$	-2930	60	-2916	18	0.1	U			P24	2.5	82Au01
$^{211}\text{Fr}-^{220}\text{Fr}_{240}$ $^{208}\text{Fr}_{761}$	-4850	70	-4867	15	-0.1	U			P24	2.5	82Au01
$^{212}\text{Fr}-^{220}\text{Fr}_{321}$ $^{208}\text{Fr}_{679}$	-5450	60	-5392	12	0.4	U			P24	2.5	82Au01
$^{212}\text{Fr}-^{220}\text{Fr}_{263}$ $^{209}\text{Fr}_{738}$	-3730	60	-3755	14	-0.2	U			P24	2.5	82Au01
$^{213}\text{Fr}-^{220}\text{Fr}_{352}$ $^{209}\text{Fr}_{649}$	-5170	50	-5149	11	0.2	U			P24	2.5	82Au01
$^{212}\text{Fr}-^{220}\text{Fr}_{193}$ $^{210}\text{Fr}_{808}$	-3160	60	-3039	15	0.8	U			P24	2.5	82Au01
$^{220}\text{At}(\alpha)^{216}\text{Bi}^m$	6053.3	6.				3				89Bu09	
$^{220}\text{Rn}(\alpha)^{216}\text{Po}$	6404.75	0.10	6404.66	0.10	0.0	1	100	57 $^{216}\text{Po}$		71Gr17	Z
$^{220}\text{Fr}(\alpha)^{216}\text{At}$	6799.0	2.	6800.7	1.9	0.9	3			Orm	68Ba73	*
	6811.6	5.			-2.2	3				74Ho27	*
$^{220}\text{Ra}(\alpha)^{216}\text{Rn}$	7593.3	10.	7592	6	-0.1	3				61Ru06	
	7595.3	10.			-0.3	3				70Va13	
	7598.3	20.			-0.3	3			Dbb	90An19	
	7587.2	10.			0.5	3			GSa	00He17	
$^{220}\text{Ac}(\alpha)^{216}\text{Fr}$	8347.1	10.	8348	4	0.1	5				70Bo13	
	8348	5			0.0	5				97Sh09	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{220}\text{Th}(\alpha)^{216}\text{Ra}$	8953.1 20.				5				73Ha32			
$^{220}\text{Pa}(\alpha)^{216}\text{Ac}$	9829.1 50. 9650# 50#		−3.6 D				87Fa.A *					
* $^{220}\text{Fr}(\alpha)^{216}\text{At}$	$E_\alpha=6675.2, 6631.0, 6570.2(2,Z)$ to ground state, $2^-$ at 44.59, $0^-$ at 105.89 keV				Ens114 **							
* $^{220}\text{Fr}(\alpha)^{216}\text{At}$	$E_\alpha=6687.5, 6642.5, 6583.5(2,Z)$ to ground state, $2^-$ at 44.59, $0^-$ at 105.89 keV				Ens114 **							
* $^{220}\text{Ac}(\alpha)^{216}\text{Fr}$	$E_\alpha=7792, 7855$ to levels at 409.3, 349.3 keV				Ens114 **							
* $^{220}\text{Pa}(\alpha)^{216}\text{Ac}$	Trends from Mass Surface TMS suggest $^{220}\text{Pa}$ 180 more bound				GAu **							
$^{221}\text{Po-u}$	21238	62	21228	21	−0.2	o			GS3 1.0	10Ch19		
	21228	21				2			GS3 1.0	12Ch19		
$^{221}\text{At-u}$	18028	32	18017	15	−0.3	o			GS3 1.0	08Ch.A		
	18017	15				2			GS3 1.0	12Ch19		
$^{221}\text{Fr}^{226}\text{Ra}_{.978}$	−10590	34	−10596	5	−0.2	U			MA3 1.0	92Bo28		
$^{211}\text{Fr}^{221}\text{Fr}_{.159}^{209}\text{Fr}_{.841}$	−3080	60	−3082	17	0.0	U			P24 2.5	82Au01		
$^{221}\text{Rn}(\alpha)^{217}\text{Po}$	6161.6	3.	6162.4	2.1	0.3	3			Dba	77Vy02 *		
	6163.3	3.			−0.3	3			Orm	97Li23 *		
$^{221}\text{Fr}(\alpha)^{217}\text{At}$	6457.3	2.0	6457.8	1.4	0.2	−			Orm	62Wa28 *		
	6458.5	2.0			−0.4	−			Orm	68Le07 *		
	ave.	6457.9	1.4		−0.1	1	99	77 $^{217}\text{At}$		average		
$^{221}\text{Ra}(\alpha)^{217}\text{Rn}$	6883.7	5.	6880.4	2.0	−0.7	3			61Ru06	*		
	6881.3	3.			−0.3	3			95Ch74	*		
	6878.3	3.			0.7	3			97Li12	*		
$^{221}\text{Ac}(\alpha)^{217}\text{Fr}$	7786.2	10.	7780	50	−0.1	4			Lvn	70Bo13		
	7782.1	5.			0.0	4			Dbb	87De.A		
	7791.3	15.			−0.2	4			92An.A	92An.A		
$^{221}\text{Th}(\alpha)^{217}\text{Ra}$	8628.5	5.	8626	4	−0.5	5			70To07	Z		
	8626.0	10.			0.0	5			70Va13	Z		
	8626.4	10.			−0.1	5			Dbb	90An19		
	8614.2	10.			1.1	5			GSa	00He17		
	8596.9	66.			0.4	U				05Li17		
$^{221}\text{Pa}(\alpha)^{217}\text{Ac}$	9247.7	30.				3				89Mi17		
* $^{221}\text{Rn}(\alpha)^{217}\text{Po}$	$E_\alpha=5786.3(3,Z), 5776.3(3,Z)$ to 273.5 level								04Li28	**		
* $^{221}\text{Rn}(\alpha)^{217}\text{Po}$	$E_\alpha=5788(2), 5778(2)$ to 273.5 level								04Li28	**		
* $^{221}\text{Fr}(\alpha)^{217}\text{At}$	$E_\alpha=6341.1(2,Z), 6125.1(3,Z)$ to ground state, $5/2^-$ level at 218.12 keV								Ens039	**		
* $^{221}\text{Fr}(\alpha)^{217}\text{At}$	$E_\alpha=6341.3(2,Z), 6127.2(3,Z)$ to ground state, $5/2^-$ level at 218.12 keV								Ens039	**		
* $^{221}\text{Ra}(\alpha)^{217}\text{Rn}$	$E_\alpha=6761.2, 6668.2, 6613.2, 6591.2(5,Z)$ to ground state, levels at 88.9 149.18 174.3keV								Ens039	**		
* $^{221}\text{Ra}(\alpha)^{217}\text{Rn}$	$E_\alpha=6610(3,Z)$ to 149.2 level								97Li12	**		
* $^{221}\text{Ra}(\alpha)^{217}\text{Rn}$	$E_\alpha=6754, 6662, 6607(..)$ to ground state, 93.02, 149.2 level								97Li12	**		
$^{222}\text{Po-u}$	24133	72	24140	40	0.1	o			GS3 1.0	10Ch19		
	24140	43				2			GS3 1.0	12Ch19		
$^{222}\text{At-u}$	22459	32	22494	17	1.1	o			GS3 1.0	08Ch.A		
	22494	17				2			GS3 1.0	12Ch19		
$^{222}\text{Fr}^{226}\text{Ra}_{.982}$	−7410	25	−7401	23	0.4	1	82	82 $^{222}\text{Fr}$		MA3 1.0	92Bo28	
$^{213}\text{Fr}^{222}\text{Fr}_{.240}^{210}\text{Fr}_{.761}$	−4810	60	−4941	14	−0.9	U			P24 2.5	82Au01		
$^{213}\text{Fr}^{222}\text{Fr}_{.096}^{212}\text{Fr}_{.904}$	−1940	60	−1944	10	0.0	U			P24 2.5	82Au01		
$^{221}\text{Fr}^{222}\text{Fr}_{.498}^{220}\text{Fr}_{.502}$	−610	90	−628	12	−0.1	U			P34 2.5	86Au02		
$^{222}\text{Rn}(\alpha)^{218}\text{Po}$	5590.39	0.3	5590.3	0.3	0.0	1	100	99 $^{218}\text{Po}$		71Gr17	Z	
$^{222}\text{Ra}(\alpha)^{218}\text{Rn}$	6680.0	5.	6679	4	−0.2	1	71	65 $^{222}\text{Ra}$		56As38	Z	
$^{222}\text{Ac}(\alpha)^{218}\text{Fr}$	7137.5	2.				4			Bka	82Bo04		
$^{222}\text{Ac}^m(\alpha)^{218}\text{Fr}^p$	7140.3	20.				5				72Es03 *		
$^{222}\text{Th}(\alpha)^{218}\text{Ra}$	8127.7	10.	8127	5	−0.1	4				70To07		
	8130.7	8.			−0.5	4				70Va13		
	8126.7	15.			0.0	4			Dbb	92An.A		
	8120.6	10.			0.6	4			GSa	00He17		
	8116.4	48.			0.2	U				05Li17		
$^{222}\text{Pa}(\alpha)^{218}\text{Ac}^m$	8697.0	30.	8736	13	1.3	7				70Bo13		
	8745.5	15.			−0.6	7			GSa	95Ho.C *		
* $^{222}\text{Ac}^m(\alpha)^{218}\text{Fr}^p$	$E_\alpha=7011.4(20,Z)$ not to ground state								AHW	**		
* $^{222}\text{Pa}(\alpha)^{218}\text{Ac}^m$	$E_\alpha=8210(15)$ to $^{218}\text{Ac}^n$ at 384.49 keV								Nub127	**		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{223}\text{At-u}$	25172	32	25151	15	-0.7	o			GS3	1.0	08Ch.A
	25151	15				2			GS3	1.0	12Ch19
$^{223}\text{Rn}-^{133}\text{Cs}_{1.677}$	180453	11	180446	8	-0.6	1	58	58 $^{223}\text{Rn}$	MA8	1.0	09Ne03
$^{223}\text{Rn-u}$	21899	32	21889	8	-0.3	o			GS3	1.0	08Ch.A
	21880	13			0.7	1	42	42 $^{223}\text{Rn}$	GS3	1.0	12Ch19
$^{213}\text{Fr}-^{223}\text{Fr}_{.087} \ ^{212}\text{Fr}_{.913}$	-1900	60	-1942	9	-0.3	U			P24	2.5	82Au01
$^{222}\text{Fr}-^{223}\text{Fr}_{.498} \ ^{221}\text{Fr}_{.502}$	790	100	529	21	-1.0	U			P34	2.5	86Au02
$^{223}\text{Fr}(\alpha)^{219}\text{At}$	5431.6	80.	5562	3	1.6	U					55Ad10
		5562	3			3					01Li44
$^{223}\text{Ra}(\alpha)^{219}\text{Rn}$	5978.9	0.3	5978.99	0.21	0.3	-			Orm	62Wa18	*
	5979.1	0.3			-0.4	-			BIP	71Gr17	*
ave.	5979.00	0.21			0.0	1	100	95 $^{219}\text{Rn}$			average
$^{223}\text{Ac}(\alpha)^{219}\text{Fr}$	6783.2	1.0				4			Orm	69Le.A	*
$^{223}\text{Th}(\alpha)^{219}\text{Ra}$	7602	23	7567	4	-1.5	U			ORa	69Ha32	*
	7589	14			-1.6	U				70Va13	*
	7570	25			-0.1	U				84Mi.A	
	7568	10			-0.1	5				87El02	*
	7567.4	10.			-0.1	5			Dbb	90An19	*
	7566.1	5.			0.1	5				92Li09	*
$^{223}\text{Pa}(\alpha)^{219}\text{Ac}$	8345.0	10.	8330	50	-0.4	5				70Bo13	
	8340.1	10.			-0.3	o			Dbb	89An.A	
	8350.0	15.			-0.5	U			Dbb	90An19	
	8339.9	15.			-0.3	U			GSa	95Ho.C	
	8321.6	5.			0.1	5			Jya	99Ho28	
$^{223}\text{U}(\alpha)^{219}\text{Th}$	8940.9	40.				5			Dbb	91An10	
$^{223}\text{Fr}(\beta^-)^{223}\text{Ra}$	1170	10	1149.2	0.8	-2.1	U				75We23	*
$*^{223}\text{Ra}(\alpha)^{219}\text{Rn}$	$E_\alpha=5747.0(0.4,Z), 5715.7(0.3,Z), 5606.7(0.3,Z) \text{ keV}$									62Wa18	**
*	$\text{to } 11/2^+$ level at 126.77, 7/2 <sup>+</sup> at 158.64, 3/2 <sup>+</sup> at 269.48 keV									Ens01a	**
$*^{223}\text{Ra}(\alpha)^{219}\text{Rn}$	$E_\alpha=5747.0(0.40,Z), 5716.23(0.29,Z), 5606.73(0.30,Z) \text{ keV}$									71Gr17	**
*	$\text{to } 11/2^+$ level at 126.77, 7/2 <sup>+</sup> at 158.64, 3/2 <sup>+</sup> at 269.48 keV									Ens01a	**
$*^{223}\text{Ac}(\alpha)^{219}\text{Fr}$	$E_\alpha=6661.6, 6646.7, 6563.7(1.0,Z) \text{ to ground state}, 5/2^+ \text{ at } 15.0, 7/2^- \text{ at } 98.58$									Ens01a	**
$*^{223}\text{Th}(\alpha)^{219}\text{Ra}$	$E_\alpha=7330(20) \text{ to mixture of excited states at } 138(10) \text{ keV}$									GAu	**
$*^{223}\text{Th}(\alpha)^{219}\text{Ra}$	$E_\alpha=7317(10) \text{ to mixture of excited states at } 138(10) \text{ keV}$									GAu	**
$*^{223}\text{Th}(\alpha)^{219}\text{Ra}$	$E_\alpha=7324(10) \text{ to } 113.8, 7285(10) 55\% \text{ to } 140.0, 26\% \text{ to } 152.0 \text{ level}$									92Li09	**
$*^{223}\text{Th}(\alpha)^{219}\text{Ra}$	$E_\alpha=7290(10) 55\% \text{ to } 140.0, 26\% \text{ to } 152.0 \text{ level}$									92Li09	**
$*^{223}\text{Th}(\alpha)^{219}\text{Ra}$	$E_\alpha=7318(5), 7293(5), 7281(5) \text{ to } 113.8, 140.0, 152.0 \text{ levels}$									92Li09	**
$*^{223}\text{Fr}(\beta^-)^{223}\text{Ra}$	$E_\beta^- = 1120(10) \text{ to } 3/2^- \text{ level at } 50.128 \text{ keV}$									Ens01a	**
$^{224}\text{At-u}$	29744	63	29749	24	0.1	o			GS3	1.0	10Ch19
	29749	24				2			GS3	1.0	12Ch19
$^{224}\text{Rn}-^{133}\text{Cs}_{1.684}$	183304	16	183315	11	0.7	1	43	43 $^{224}\text{Rn}$	MA8	1.0	09Ne03
$^{224}\text{Rn-u}$	24073	32	24096	11	0.7	o			GS3	1.0	08Ch.A
	24104	14			-0.6	1	57	57 $^{224}\text{Rn}$	GS3	1.0	12Ch19
$^{224}\text{Fr-u}$	23399	32	23398	14	0.0	o			GS3	1.0	08Ch.A
	23398	14				2			GS3	1.0	12Ch19
$^{224}\text{Ra}-^{133}\text{Cs}_{1.684}$	179430	30	179430.9	2.3	0.0	U			MA8	1.0	12Bo.A
$^{223}\text{Fr}_{.747} \ ^{220}\text{Fr}_{.253}$	-620	70	-802	10	-1.0	U			P34	2.5	86Au02
$^{222}\text{Fr}_{.496} \ ^{220}\text{Fr}_{.505}$	10	70	-310#	50#	-1.8	U			P24	2.5	82Au01
$^{223}\text{Fr}_{.747} \ ^{220}\text{Fr}_{.253}$	-410	70	-880#	80#	-2.7	B			P24	2.5	82Au01
$^{223}\text{Fr}_{.664} \ ^{221}\text{Fr}_{.336}$	780	110	-550	9	-4.8	F			P34	2.5	86Au02
$^{223}\text{Fr}_{.664} \ ^{221}\text{Fr}_{.336}$	-110	70	-620#	70#	-2.9	B			P24	2.5	82Au01
$^{224}\text{Ra}(\alpha)^{220}\text{Rn}$	5788.93	0.15	5788.85	0.15	0.0	1	100	57 $^{220}\text{Rn}$			71Gr17 Z
$^{224}\text{Ac}(\alpha)^{220}\text{Fr}$	6326.9	0.7				4			Orm	69Le.A	*
$^{224}\text{Th}(\alpha)^{220}\text{Ra}$	7304.7	10.	7298	6	-0.6	4				61Ru06	
	7304.7	10.			-0.6	4				70Va13	
	7300.7	20.			-0.1	U			Dbb	89An13	
	7286.4	10.			1.2	4			GSa	00He17	
$^{224}\text{Pa}(\alpha)^{220}\text{Ac}$	7695.2	10.	7694	4	-0.2	6				70Bo13	*
	7692.6	10.			0.1	F			Dbb	90An19	*
	7680	15			0.9	U			GSa	95Ho.C	
	7693.3	5.			0.1	6				96Li05	*
$^{224}\text{U}(\alpha)^{220}\text{Th}$	8624.3	15.	8620	12	-0.3	6			Dbb	91An10	
	8612.1	20.			0.4	6			ORa	92To02	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{224}\text{Fr}(\beta^-)^{224}\text{Ra}$	2830	50	2968	13	2.8	U				75We23	*	
$*^{223}\text{Fr}-^{224}\text{Fr}_{.664}^{221}\text{Fr}$	F : rejection based on line-shape analysis									86Au02	**	
$*^{224}\text{Ac}(\alpha)^{220}\text{Fr}$	$E_\alpha=6213.8, 6207.0, 6141.7, 6059.8(0.7,Z) \text{ keV}$									69Le.A	**	
$*^{224}\text{Pa}(\alpha)^{220}\text{Ac}$	$E_\alpha=7490(10) \text{ to } 5^- \text{ level at } 68.71 \text{ keV}$									Ens114	**	
$*^{224}\text{Pa}(\alpha)^{220}\text{Ac}$	F : intensities in contradiction with reference									Ens114	**	
$*^{224}\text{Pa}(\alpha)^{220}\text{Ac}$	$E_\alpha=7488(5), 7375(5) \text{ to } (5^-) \text{ level at } 68.71 \text{ keV and } 184.21 \text{ level}$									96Li05	**	
$*^{224}\text{Fr}(\beta^-)^{224}\text{Ra}$	$E_{\beta^-}=1780(50) \text{ to } 1^- \text{ level at } 1052.95 \text{ keV, and other } E_{\beta^-}$									Ens979	**	
$^{225}\text{Rn}-^{133}\text{Cs}_{1.692}$	188484	23	188461	12	-1.0	1	27	27	$^{225}\text{Rn}$	MA8	1.0	09Ne03
$^{225}\text{Rn-u}$	28498	32	28486	12	-0.4	o				GS3	1.0	08Ch.A
$^{225}\text{Fr-u}$	28477	14			0.6	1	73	73	$^{225}\text{Rn}$	GS3	1.0	12Ch19
$^{221}\text{Fr}-^{225}\text{Fr}_{.655}^{213}\text{Fr}_{.346}$	25574	14	25573	13	-0.1	1	84	84	$^{225}\text{Fr}$	GS3	1.0	12Ch19
$^{224}\text{Fr}^x-^{225}\text{Fr}_{.747}^{221}\text{Fr}_{.253}$	-1110	60	-1095	9	0.1	U				P24	2.5	82Au01
$^{224}\text{Fr}^x-^{225}\text{Fr}_{.498}^{223}\text{Fr}_{.502}$	50	80	740#	100#	3.5	B				P24	2.5	82Au01
$^{225}\text{Ra}(\alpha)^{221}\text{Rn}$	190	80	800#	100#	3.1	B				P24	2.5	82Au01
$^{225}\text{Ra}(\alpha)^{221}\text{Rn}$	5096.7	5.1					2					00Li37
$^{225}\text{Ac}(\alpha)^{221}\text{Fr}$	5936.1	2.	5935.1	1.4	-0.5	-				Orm	67Ba51	Z
		5934.5	2.		0.3	-					67Dz02	Z
	ave.	5935.2	1.4		-0.1	1	99	78	$^{221}\text{Fr}$			average
$^{225}\text{Th}(\alpha)^{221}\text{Ra}$	6920.7	3.	6921.4	2.1	0.2	4				61Ru06	*	
		6922.1	3.		-0.2	4				87Li.A	*	
$^{225}\text{Pa}(\alpha)^{221}\text{Ac}$	7381.5	20.	7390	50	0.2	B				ORa	68Ha14	
		7376.4	10.		0.3	F					70Bo13	*
		7392.5	5.			5				Lvn	87De.A	
		7383.5	19.		0.2	U					00Sa52	
$^{225}\text{U}(\alpha)^{221}\text{Th}$	8012.7	20.	8015	7	0.1	o				Dbb	89An13	
		8022.9	20.		-0.4	6				GSa	89He13	
		8021.9	15.		-0.5	6				ORa	92To02	
		8012.6	20.4		0.1	6				Dbb	94Ye08	
		8010	10		0.5	6				GSa	00He17	
$^{225}\text{Np}(\alpha)^{221}\text{Pa}$	8786.5	20.			4					Dbb	94Ye08	
$^{225}\text{Fr}(\beta^-)^{225}\text{Ra}$	1820	30	1826	12	0.2	1	17	16	$^{225}\text{Fr}$		75We23	
$^{225}\text{Ra}(\beta^-)^{225}\text{Ac}$	360	10	356	5	-0.4	1	25	20	$^{225}\text{Ac}$		55Ma.A	
		360	30		-0.1	U					55Pe24	
$*^{225}\text{Th}(\alpha)^{221}\text{Ra}$	$E_\alpha=6800.2, 6746.2, 6503.2, 6480.2, 6443.2(3,Z) \text{ keV}$									61Ru06	**	
$*^{225}\text{Th}(\alpha)^{221}\text{Ra}$	to ground state, $7/2^+$ 53.14, $7/2^+$ 299.16, $3/2^+$ 321.39, $5/2^+$ 359.02 levels									Ens075	**	
$*^{225}\text{Th}(\alpha)^{221}\text{Ra}$	$E_\alpha=6799.3, 6745.3, 6504.3, 6483.3, 6447.3(3,Z) \text{ keV}$									87Li.A	**	
$*^{225}\text{Pa}(\alpha)^{221}\text{Ac}$	to ground state, $7/2^+$ 53.14, $7/2^+$ 299.16, $3/2^+$ 321.39, $5/2^+$ 359.02 levels									Ens075	**	
$*^{225}\text{U}(\alpha)^{221}\text{Th}$	F : average of two branches									87De.A	**	
$*^{225}\text{Fr}(\beta^-)^{225}\text{Ra}$	$E_\alpha=7868(15), 7621(15) \text{ to ground state, 250.9 level}$									00He17	**	
$*^{225}\text{Ra}(\beta^-)^{225}\text{Ac}$	$E_{\beta^-}=1640(10).$ 28% to 225.2 level (reference) but lower levels also fed directly									89An02	**	
$*^{225}\text{Ra}(\beta^-)^{225}\text{Ac}$	$E_{\beta^-}=320(10) \text{ 320(30) respectively, to } 3/2^+ \text{ level at } 40.09 \text{ keV}$									Ens906	**	
										Ens095	**	
$^{226}\text{Rn}-^{133}\text{Cs}_{1.699}$	191490	17	191498	11	0.5	1	44	44	$^{226}\text{Rn}$	MA8	1.0	09Ne03
$^{226}\text{Rn-u}$	30864	32	30861	11	-0.1	o				GS3	1.0	08Ch.A
$^{226}\text{Fr-u}$	30868	15			-0.4	1	56	56	$^{226}\text{Rn}$	GS3	1.0	12Ch19
	29565	32	29566	13	0.0	o				GS3	1.0	08Ch.A
	29566	13					2			GS3	1.0	12Ch19
$^{133}\text{Cs}-^{226}\text{Ra}_{.588}$	-109487	9	-109489.3	1.5	-0.3	U				MA3	1.0	92Bo28
	-109499	13			0.7	U				MA4	1.0	99Am05
$^{223}\text{Fr}-^{226}\text{Fr}_{.493}^{220}\text{Fr}_{.507}$	-800	80	-1015	7	-1.1	U				P24	2.5	82Au01
$^{225}\text{Fr}-^{226}\text{Fr}_{.796}^{221}\text{Fr}_{.204}$	-570	100	-810	15	-1.0	U				P24	2.5	82Au01
$^{225}\text{Fr}-^{226}\text{Fr}_{.498}^{224}\text{Fr}_{.502}$	-260	90	-890#	50#	-2.8	B				P24	2.5	82Au01
$^{226}\text{Ra}(\alpha)^{222}\text{Rn}$	4870.70	0.25	4870.62	0.25	0.0	1	100	99	$^{222}\text{Rn}$		71Gr17	Z
$^{226}\text{Ac}(\alpha)^{222}\text{Fr}$	5496.1	5.	5536	21	0.8	1	18	18	$^{222}\text{Fr}$	Dba	75Va.A	Z
$^{226}\text{Th}(\alpha)^{222}\text{Ra}$	6448.5	3.0	6450.9	2.2	0.8	-					56As38	*
		6454.8	3.6		-1.1	-				Dba	75Va.A	*
	ave.	6451.1	2.3		-0.1	1	94	59	$^{226}\text{Th}$			average

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{226}\text{Pa}(\alpha)^{222}\text{Ac}$	6986.9	10.				5					64Mc21
$^{226}\text{U}(\alpha)^{222}\text{Th}$	7747.4	30.	7701	4	-1.5	U					73Vi10 *
	7706.6	15.			-0.4	5					90An22
	7701.6	5.			-0.1	5					99Gr28
	7691.4	10.			0.9	o					00He17
	7696.5	10.			0.4	5					01Ca.B
$^{226}\text{Np}(\alpha)^{222}\text{Pa}$	8189.1	20.	8200	50	0.2	8					90Ni05
	8205.5	20.			-0.2	8					94Ye08
$^{226}\text{Ra}(\text{p},\text{t})^{224}\text{Ra}$	-2816	15	-2818.6	1.9	-0.2	U					74Fr01
$^{226}\text{Ra}(\text{d},\text{t})^{225}\text{Ra}$	-146	10	-138.8	2.9	0.7	U					83Ny01
$^{226}\text{Fr}(\beta^-)^{226}\text{Ra}$	3804	330	3871	12	0.2	U					75We23 *
	3704	100			1.7	U					87Ve.A *
$^{226}\text{Ac}(\beta^-)^{226}\text{Th}$	1115	7	1113	5	-0.3	-					68Va17 *
	ave.	1115	6		-0.3	1	55	41 $^{226}\text{Th}$			average
* $^{226}\text{Th}(\alpha)^{222}\text{Ra}$	$E_\alpha=6334.6(3,Z), 6224.6(3,Z)$ to ground state, $2^+$ level at 111.12 keV										
* $^{226}\text{Th}(\alpha)^{222}\text{Ra}$	$E_\alpha=6337.1(1.0,Z), 6233.6(1.0,Z)$ to ground state, $2^+$ level at 111.12 keV										
* $^{226}\text{U}(\alpha)^{222}\text{Th}$	$E_\alpha=7430(30)$ to $2^+$ level at 183.3(0.3) keV										
* $^{226}\text{Fr}(\beta^-)^{226}\text{Ra}$	$E_{\beta^-}=3550(330), 3450(100)$ respectively, to $1^-$ level at 253.73 keV										
* $^{226}\text{Ac}(\beta^-)^{226}\text{Th}$	$E_{\beta^-}=885(7)$ to $1^-$ level at 230.37 keV										
$^{227}\text{Rn}-^{133}\text{Cs}_{1.707}$	196686	19	196698	15	0.6	1	63	63 $^{227}\text{Rn}$	MA8	1.0	09Ne03
$^{227}\text{Rn-u}$	35288	33	35304	15	0.5	o			GS3	1.0	08Ch.A
	35325	25			-0.8	1	37	37 $^{227}\text{Rn}$	GS3	1.0	12Ch19
$^{227}\text{Fr-u}$	31868	32	31869	14	0.0	o			GS3	1.0	08Ch.A
	31869	14			2				GS3	1.0	12Ch19
$^{225}\text{Fr}-^{227}\text{Fr}_{.708}$ $^{220}\text{Fr}_{.292}$	-410	130	-550	15	-0.4	U			P24	2.5	82Au01
$^{224}\text{Fr}^x-^{227}\text{Fr}_{.493}$ $^{221}\text{Fr}_{.507}$	-220	80	530#	100#	3.7	B			P24	2.5	82Au01
$^{227}\text{Ac}(\alpha)^{223}\text{Fr}$	5043.0	2.0	5042.19	0.14	-0.4	U					66Ba19 Z
	5042.27	0.14			2						86Ry04 Z
$^{227}\text{Th}(\alpha)^{223}\text{Ra}$	6146.60	0.10	6146.60	0.10	0.0	1	100	95 $^{223}\text{Ra}$	BIP	71Gr17 *	
$^{227}\text{Pa}(\alpha)^{223}\text{Ac}$	6581.5	3.	6580.4	2.1	-0.4	5					63Su.A *
	6579.3	3.			0.4	5					90Sh15 *
$^{227}\text{U}(\alpha)^{223}\text{Th}$	7230	30	7211	14	-0.6	6			ORa	69Ha32 *	
	7206	16			0.3	6					91Ho05
$^{227}\text{Np}(\alpha)^{223}\text{Pa}$	7818.0	10.	7816	14	0.0	o			Dbb	90An19	
	7815.0	20.			0.1	6			GSa	90Ni05	
	7818.0	20.			-0.1	6			Dbb	94Ye08	
$^{226}\text{Ra}(\text{n},\gamma)^{227}\text{Ra}$	4561.43	0.27			2				ILn	81Vo03 Z	
$^{227}\text{Fr}(\beta^-)^{227}\text{Ra}$	2476	100	2506	13	0.3	U					75We23 *
$^{227}\text{Ra}(\beta^-)^{227}\text{Ac}$	1345	20	1328.4	2.3	-0.8	U					53Bu63 *
	1335	15			-0.4	U					71Lo15 *
$^{227}\text{Ac}(\beta^-)^{227}\text{Th}$	45.5	1.0	44.8	0.8	-0.7	-					55Be20
	43.5	1.5			0.8	-					59No41
	ave.	44.9	0.8		-0.1	1	99	95 $^{227}\text{Th}$			average
* $^{227}\text{Th}(\alpha)^{223}\text{Ra}$	$E_\alpha=6038.01(0.15,Z), 5977.72(0.10,Z), 5756.89(0.15,Z)$ keV										
*	to ground state, $7/2^+$ at 61.424, $1/2^+$ at 286.182 keV										
* $^{227}\text{Pa}(\alpha)^{223}\text{Ac}$	$E_\alpha=6465.8(3,Z), 6423.8(3,Z), 6415.8(3,Z), 6401.7(3,Z), 6356.7(3,Z)$										
*	to ground state, $7/2^-$ at 42.4, $5/2^-$ at 50.7, $5/2^+$ at 64.62, $7/2^+$ at 110.06										
* $^{227}\text{Pa}(\alpha)^{223}\text{Ac}$	$E_\alpha=6463, 6421, 6355$ keV (all errors 3 keV, estimated by evaluator)										
*	to ground state, $7/2^-$ at 42.4, $5/2^-$ at 50.7, $7/2^+$ at 110.06 keV										
* $^{227}\text{U}(\alpha)^{223}\text{Th}$	$E_\alpha=6860(30)$ to $3/2^+$ level at 247(1) keV										
* $^{227}\text{Fr}(\beta^-)^{227}\text{Ra}$	$E_{\beta^-}=1800(100)$ to $1/2^-$ level at 675.862 keV										
* $^{227}\text{Ra}(\beta^-)^{227}\text{Ac}$	$E_{\beta^-}=1310(20), 1300(15)$ respectively, to $3/2^+$ level at 27.37 and $5/2^+$ at 46.35 keV										
$^{228}\text{Rn}-^{133}\text{Cs}_{1.714}$	199897	24	199891	19	-0.3	1	63	63 $^{228}\text{Rn}$	MA8	1.0	09Ne03
$^{228}\text{Rn-u}$	37856	33	37835	19	-0.6	o			GS3	1.0	08Ch.A
	37825	31			0.3	1	37	37 $^{228}\text{Rn}$	GS3	1.0	12Ch19
$^{228}\text{Fr-u}$	35833	34	35823	14	-0.3	2			MA8	1.0	11Kr.A
	35852	32			-0.9	o			GS3	1.0	08Ch.A
	35821	16			0.1	2			GS3	1.0	12Ch19

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value			Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{224}\text{Fr}^x - ^{228}\text{Fr}_{.491}$ $^{220}\text{Fr}_{.509}$	-540	320	-330#	100#	0.3	U			P24	2.5	82Au01		
$^{228}\text{Th}(\alpha)^{224}\text{Ra}$	5520.17	0.22	5520.08	0.22	0.0	1	100	58	$^{224}\text{Ra}$		71Gr17	Z	
$^{228}\text{Pa}(\alpha)^{224}\text{Ac}$	6266.7	3.	6264.5	1.5	-0.7	5					58Hi.A	*	
	6264.7	3.			-0.1	5					93Sh07	*	
	6263.5	2.			0.5	5					94Ah03	*	
$^{228}\text{U}(\alpha)^{224}\text{Th}$	6803.6	10.				5					61Ru06		
$^{228}\text{Np}(\alpha)^{224}\text{Pa}$	7308.5	36.				7					03Ni10		
$^{228}\text{Pu}(\alpha)^{224}\text{U}$	7949.7	20.	7940	18	-0.5	7					94An02		
	7911.0	35.			0.8	7					03Ni10		
$^{228}\text{Ra}(\beta^-)^{228}\text{Ac}$	46.7	2.	45.8	0.7	-0.4	3					61To10	*	
	45.7	1.			0.1	3					72He.A	*	
	45.7	1.0			0.1	3					95So11	*	
$^{228}\text{Ac}(\beta^-)^{228}\text{Th}$	2240	20	2124.1	2.6	-5.8	B					53Ky19	*	
	2158	20			-1.7	U					57Bj56	*	
$^{228}\text{Pa}(\varepsilon)^{228}\text{Th}$	2109	15	2152	4	2.9	B					73Ku09	*	
* $^{228}\text{Pa}(\alpha)^{224}\text{Ac}$	$E_\alpha=6119.2(3,Z), 6106.2(3,Z), 6079.2(3,Z) \text{ to } 37.2, 51.9, 78.4 \text{ levels}$												
* $^{228}\text{Pa}(\alpha)^{224}\text{Ac}$	$E_\alpha=6118(3) \text{ to } 37.2 \text{ level}$												
* $^{228}\text{Pa}(\alpha)^{224}\text{Ac}$	$E_\alpha=6117(2) \text{ to } 37.1 \text{ level}$												
* $^{228}\text{Ra}(\beta^-)^{228}\text{Ac}$	$E_{\beta^-}=40(2) 39(1) \text{ respectively, to } 1^+ \text{ level at } 6.67 \text{ keV, and other } E_{\beta^-}$												
* $^{228}\text{Ra}(\beta^-)^{228}\text{Ac}$	$E_{\beta^-}=39.0(1.0) \text{ to } 1^+ \text{ level at } 6.67 \text{ keV}$												
* $^{228}\text{Ac}(\beta^-)^{228}\text{Th}$	$E_{\beta^-}=2180(20) \text{ to } 2^+ \text{ level at } 57.759 \text{ keV, and other } E_{\beta^-}$												
* $^{228}\text{Ac}(\beta^-)^{228}\text{Th}$	$E_{\beta^-}=2100(20), 1760, 1180 \text{ to } 2^+ \text{ at } 57.759, 3^- \text{ at } 396.078, 2^+ \text{ at } 968.968$												
* $^{228}\text{Pa}(\varepsilon)^{228}\text{Th}$	$pK=0.33(0.08) \text{ to } 3^+ \text{ level at } 1944.895 \text{ keV, recalculated}$												
$^{229}\text{Rn}-^{133}\text{Cs}_{1.722}$	205069	14				2					MA8	1.0	09Ne03
$^{229}\text{Fr}-^{133}\text{Cs}_{1.722}$	201262	40	201110	15	-3.8	B					MA8	1.0	08We02
$^{229}\text{Fr-u}$	38343	32	38298	15	-1.4	o					GS3	1.0	08Ch.A
	38298	15				2					GS3	1.0	12Ch19
$^{229}\text{Ra}-^{133}\text{Cs}_{1.722}$	197782	21	197754	16	-1.3	-					MA8	1.0	08We02
	197746	27			0.3	-					MA8	1.0	05He26
ave.	197768	17			-0.9	1	88	88	$^{229}\text{Ra}$				average
$^{229}\text{Ac-u}$	32947	13	32956	13	0.7	1	93	93	$^{229}\text{Ac}$		GS3	1.0	12Ch19
$^{229}\text{Th}(\alpha)^{225}\text{Ra}$	5167.4	1.2	5167.6	1.0	0.1	-					Kum	71Bb10	*
	5168.2	2.			-0.3	-						87He28	Z
ave.	5167.6	1.0			-0.1	1	99	94	$^{225}\text{Ra}$				average
$^{229}\text{Pa}(\alpha)^{225}\text{Ac}$	5835.6	5.	5835	4	-0.1	1	73	59	$^{225}\text{Ac}$				63Su.A
$^{229}\text{U}(\alpha)^{225}\text{Th}$	6475.5	3.				5							61Ru06
$^{229}\text{Np}(\alpha)^{225}\text{Pa}$	7012.7	20.	7010	50	0.0	6					ORa		68Ha14
	7015.8	23.			0.0	6							00Sa52
$^{229}\text{Pu}(\alpha)^{225}\text{U}$	7592.9	30.	7590	50	0.0	7					Dbb		94An02
	7598.0	10.			-0.1	o					GSa		01Ca.B
	7589.8	20.			0.0	7					GSa		10Kh06
$^{229}\text{Ra}(\beta^-)^{229}\text{Ac}$	1760	40	1850	18	2.3	1	19	12	$^{229}\text{Ra}$				75We23
$^{229}\text{Ac}(\beta^-)^{229}\text{Th}$	1140	150	1111	12	-0.2	U							73Ch24
	1090	50			0.4	U							75We23
* $^{229}\text{Fr}-^{133}\text{Cs}_{1.722}$	Could be influenced by $^{229}\text{Rn}$ contaminant												08We02
* $^{229}\text{Th}(\alpha)^{225}\text{Ra}$	$E_\alpha=4978.3(1.2,Z), 4967.3(1.2,Z), 4845.1(1.2,Z) \text{ keV}$												71Gr17
*	to 100.60, 111.60, 236.25 levels												71Gr17
* $^{229}\text{Th}(\alpha)^{225}\text{Ra}$	$E_\alpha=4979.3(2,Z), 4968.3(2,Z), 4845.1(2,Z) \text{ keV}$												87He28
*	to 9/2 <sup>+</sup> level at 100.50, 7/2 <sup>+</sup> at 111.60, 5/2 <sup>+</sup> at 236.25 keV												Ens095
*	calibrated with 71BaB2 value for 4845 level												AHW
* $^{229}\text{Pa}(\alpha)^{225}\text{Ac}$	$E_\alpha=5670.2, 5630.2, 5615.2, 5580.2, 5536.2 \text{ (all 3,Z) keV to }$												63Su.A
*	$5/2^+ 64.70, 7/2^+ 105.06, 5/2^- 120.80, 5/2^+ 155.65, 7/2^+ 199.85$												Ens095
$^{230}\text{Fr}-^{133}\text{Cs}_{1.729}$	205878	32	205890	17	0.4	1	28	28	$^{230}\text{Fr}$		MA8	1.0	05He26
$^{230}\text{Fr-u}$	42401	34	42416	17	0.5	o					GS3	1.0	08Ch.A
	42421	20			-0.2	1	72	72	$^{230}\text{Fr}$		GS3	1.0	12Ch19
$^{230}\text{Ra}-^{133}\text{Cs}_{1.729}$	200530	13	200528	11	-0.1	2					MA8	1.0	08We02
	200524	21			0.2	2					MA8	1.0	05He26

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{232}\text{Ra}-^{133}\text{Cs}_{1.744}$	208368	13	208367	10	-0.1	1	57	57 $^{232}\text{Ra}$	MA8	1.0	05He26
$^{232}\text{Ra-u}$	43518	32	43475	10	-1.3	o		GS3	1.0	08Ch.A	
	43474	15			0.1	1	43	43 $^{232}\text{Ra}$	GS3	1.0	12Ch19
$^{232}\text{Ac-u}$	42052	32	42034	14	-0.6	o		GS3	1.0	08Ch.A	
	42034	14			2			GS3	1.0	12Ch19	
$\text{C}_{18} \text{H}_{16}-^{232}\text{Th}$	87142.4	2.	87144.8	2.1	0.5	1	18	18 $^{232}\text{Th}$	M20	2.5	73Br06
$\text{C}_{24} \text{H}_{16}-^{232}\text{Th} \ ^{37}\text{Cl} \ ^{35}\text{Cl}$	152393.4	1.8	152389.5	2.1	-0.9	1	22	22 $^{232}\text{Th}$	M20	2.5	73Br06
$^{232}\text{Th}(\alpha)^{228}\text{Ra}$	4082.5	5.	4081.6	1.4	-0.2	U					57Ha08 Z
	4084.6	5.			-0.6	U					61Ko11 Z
	4083.5	5.			-0.4	U					62Ko12 Z
	4081.6	1.4			2						89Sa01 *
$^{232}\text{U}(\alpha)^{228}\text{Th}$	5413.63	0.09	5413.63	0.09	0.0	1	100	99 $^{232}\text{U}$	BIP	72Go33 *	
$^{232}\text{Pu}(\alpha)^{228}\text{U}$	6716.0	10.			6						73Ja06
$^{232}\text{Th}(\text{p},\text{t})^{230}\text{Th}$	-3070	15	-3076.4	1.1	-0.4	U					74Fr01
$^{232}\text{Th}(\text{p},\text{t})^{230}\text{Th}-^{184}\text{W} \ (^{182}\text{W})$	2056.4	1.6	2044.3	1.1	-7.6	B					09Le03
	2056.5	1.8			-6.8	B					09Le.A
$^{232}\text{Th}(\text{d},\text{t})^{231}\text{Th}$	-174	6	-182.9	1.1	-1.5	U					ANL 67Er02
	-187	10			0.4	U					MIT 72Gr19
$^{232}\text{Ac}(\beta^-)^{232}\text{Th}$	3700	100	3706	13	0.1	U					90Be.B
$^{232}\text{Pa}(\beta^-)^{232}\text{U}$	1344	20	1337	7	-0.3	2					63Bj01 *
	1336	8			0.1	2					71Ka42 *
$*^{232}\text{Th}(\alpha)^{228}\text{Ra}$	$E_\alpha=4012.3(1.4), 3947.2(2.0) \text{ to ground state, } 2^+ \text{ level at } 63.823 \text{ keV}$										
$*^{232}\text{U}(\alpha)^{228}\text{Th}$	$E_\alpha=5320.12(0.14,Z), 5263.36(0.09,Z) \text{ to ground state, } 2^+ \text{ level at } 57.759 \text{ level}$										
$*^{232}\text{Pa}(\beta^-)^{232}\text{U}$	$E_\beta=1295(20) \text{ to } 2^+ \text{ level at } 47.573 \text{ keV, and other } E_{\beta^-}$										
$*^{232}\text{Pa}(\beta^-)^{232}\text{U}$	$E_\beta=314(8) \text{ to } 2^- \text{ level at } 1016.85 \text{ keV, and other } E_{\beta^-}$										
$^{233}\text{Ra-u}$	47602	32	47582	17	-0.6	o			GS3	1.0	08Ch.A
	47582	17			2				GS3	1.0	12Ch19
$^{233}\text{Ac-u}$	44363	32	44346	14	-0.5	o			GS3	1.0	08Ch.A
	44346	14			2				GS3	1.0	12Ch19
$^{233}\text{U}(\alpha)^{229}\text{Th}$	4908.4	1.2	4908.6	1.2	0.2	1	93	68 $^{229}\text{Th}$	Kum	68Ba25 Z	
$^{233}\text{Np}(\alpha)^{229}\text{Pa}$	5626.7	50.9			2						50Ma14
$^{233}\text{Pu}(\alpha)^{229}\text{U}$	6416.3	20.			6						57Th10
$^{233}\text{Am}(\alpha)^{229}\text{Np}^p$	6898.6	17.3			8						00Sa52
$^{233}\text{Cm}(\alpha)^{229}\text{Pu}$	7468.5	10.	7470	50	0.1	o			GSa	01Ca.B	
	7473.5	20.			8				GSa	10Kh06	
$^{232}\text{Th}(\text{n},\gamma)^{233}\text{Th}$	4786.69	0.25	4786.39	0.09	-1.2	-					74Ke13 Z
	4786.34	0.10			0.5	-			Bdn	06Fi.A	
$^{232}\text{Th}(\text{d},\text{p})^{233}\text{Th}$	2555	10	2561.82	0.09	0.7	U			MIT	72Gr19	
	2567	7			-0.7	U			ANL	72Vo08	
$^{232}\text{Th}(\text{n},\gamma)^{233}\text{Th}$	ave.	4786.39	0.09	4786.39	0.09	0.0	1	100	93 $^{233}\text{Th}$	average	
$^{233}\text{Th}(\beta^-)^{233}\text{Pa}$	1245	3	1243.6	1.3	-0.5	1	20	13 $^{233}\text{Pa}$	57Fr.A	*	
$^{233}\text{Pa}(\beta^-)^{233}\text{U}$	568	4	569.8	2.0	0.4	-			54Br37	*	
	568	5			0.4	-			55On05	*	
	566	5			0.8	-			63Bi03	*	
	ave.	567.4	2.6		0.9	1	58	48 $^{233}\text{U}$	average		
$*^{233}\text{Th}(\beta^-)^{233}\text{Pa}$	PrvCom to reference										
$*^{233}\text{Pa}(\beta^-)^{233}\text{U}$	$E_{\beta^-}=568(5), 256(4) \text{ to ground state, } 3/2^+ \text{ level at } 311.904 \text{ keV}$										
$*^{233}\text{Pa}(\beta^-)^{233}\text{U}$	$E_{\beta^-}=568(5), 257(5) \text{ to ground state, } 3/2^+ \text{ level at } 311.904 \text{ keV}$										
$*^{233}\text{Pa}(\beta^-)^{233}\text{U}$	$E_{\beta^-}=254(5) \text{ to } 3/2^+ \text{ level at } 311.904 \text{ keV}$										
$^{234}\text{Ra-u}$	50358	33	50340	30	-0.5	o			GS3	1.0	08Ch.A
	50342	33			2				GS3	1.0	12Ch19
$^{234}\text{Ac-u}$	48137	32	48139	15	0.1	o			GS3	1.0	08Ch.A
	48139	15			2				GS3	1.0	12Ch19
$^{234}\text{U}(\alpha)^{230}\text{Th}$	4857.4	1.0	4857.7	0.7	0.4	-					55Go.A Z
	4860.4	2.			-1.3	-			Kum	67Ba43	
	ave.	4857.9	0.9		-0.3	1	57	36 $^{234}\text{U}$	average		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{236}\text{Ac-u}$	55037	73	54990	40	-0.7	o		GS3	1.0	10Ch19	
	54988	41				2		GS3	1.0	12Ch19	
$^{236}\text{Th-u}$	49665	32	49657	15	-0.3	o		GS3	1.0	08Ch.A	
	49657	15				2		GS3	1.0	12Ch19	
$^{236}\text{Pa-u}$	48666	32	48668	15	0.1	o		GS3	1.0	08Ch.A	
	48668	15				2		GS3	1.0	12Ch19	
$^{236}\text{U}(\alpha)^{232}\text{Th}$	4572.2	3.	4572.9	0.9	0.2	o				60Ko04	Z
	4569.9	3.			1.0	-				61Ko11	Z
	4573.1	1.0			-0.2	-			Kum	78Ba.C	
	ave.	4572.8	1.0		0.1	1	80	71 $^{232}\text{Th}$		average	
$^{236}\text{Pu}(\alpha)^{232}\text{U}$	5867.15	0.08	5867.07	0.08	0.0	1	100	99 $^{236}\text{Pu}$		84Ry02	Z
$^{236}\text{Am}(\alpha)^{232}\text{Np}$	6256.2	40.				3			JAA	04Sa05	
$^{236}\text{Cm}(\alpha)^{232}\text{Pu}$	7074.1	20.	7067	5	-0.4	U			GSa	10Kh06	
	7066.9	5.				7			JAA	10As.A	
$^{236}\text{U}(\text{p},\text{t})^{234}\text{U}$	-3330	15	-3361.1	0.3	-2.1	U			ANL	74Fr01	
$^{235}\text{U}(\text{n},\gamma)^{236}\text{U}$	6545	2	6545.46	0.26	0.2	U				70Ka22	
	6545.1	0.5			0.7	-				74Ju.B	Z
	6545.4	0.5			0.1	-				75We.A	Z
$^{236}\text{U}(\text{d},\text{t})^{235}\text{U}$	-281	6	-288.22	0.26	-1.2	U			ANL	70Br01	
$^{235}\text{U}(\text{n},\gamma)^{236}\text{U}$	ave.	6545.3	0.4	6545.46	0.26	0.6	1	54	32 $^{236}\text{U}$	average	
$^{236}\text{Pa}(\beta^-)^{236}\text{U}$	3350	100	2887	14	-4.6	B				63Wo04	
	2900	200			-0.1	U				68Tr07	*
$^{236}\text{Np}^m(\text{IT})^{236}\text{Np}$	60	50				3				Ens06a	
$^{236}\text{Np}^m(\beta^-)^{236}\text{Pu}$	525	10	537	6	1.2	2				56Gr11	*
	544	8			-0.9	2				69Le05	*
$*^{236}\text{Pa}(\beta^-)^{236}\text{U}$	$E_{\beta^-}=2000(200)$ to $1^-$ level at 687.59 keV, and other $E_{\beta^-}$ , reinterpreted									Ens06a	**
$*^{236}\text{Np}^m(\beta^-)^{236}\text{Pu}$	$E_{\beta^-}=518(10)$ 537(8) respectively, to ground state and $2^+$ level at 44.63 keV									Ens06a	**
$^{237}\text{Th-u}$	53690	32	53629	17	-1.9	o		GS3	1.0	08Ch.A	
	53629	17				2		GS3	1.0	12Ch19	
$^{237}\text{Pa-u}$	51038	32	51023	14	-0.5	o		GS3	1.0	08Ch.A	
	51023	14				2		GS3	1.0	12Ch19	
$^{237}\text{Np}(\alpha)^{233}\text{Pa}$	4959.9	3.	4958.5	1.1	-0.5	-				61Ba44	*
	4956.7	1.5			1.2	-			Kum	68Ba25	*
	4959.9	3.			-0.5	-				69Va06	*
	ave.	4957.8	1.2		0.6	1	80	78 $^{233}\text{Pa}$		average	
$^{237}\text{Pu}(\alpha)^{233}\text{U}$	5753.3	20.	5748.3	2.3	-0.3	U				57Th10	
	5747	5			0.3	1	21	15 $^{233}\text{U}$	Dba	93Dm02	
$^{237}\text{Am}(\alpha)^{233}\text{Np}^p$	6146.2	5.				4				75Ah05	Z
$^{237}\text{Cm}(\alpha)^{233}\text{Pu}$	6774.5	10.	6770	50	-0.1	o			JAA	02As08	
	6770.4	10.				7			JAA	06As03	
$^{237}\text{Cf}(\alpha)^{233}\text{Cm}$	8220	20				9			GSa	10Kh06	
$^{235}\text{U}(\text{t},\text{p})^{237}\text{U}$	3206	20	3189.4	0.5	-0.8	U			Ald	64Mi.A	*
	3178	20			0.6	U			LAI	69Br11	
$^{237}\text{Np}(\text{p},\text{t})^{235}\text{Np}$	-3816	15	-3832.2	0.9	-1.1	U			ANL	74Fr01	
$^{236}\text{U}(\text{n},\gamma)^{237}\text{U}$	5125.9	0.5	5125.8	0.5	-0.2	1	85	85 $^{237}\text{U}$	BNn	79Vo05	Z
$^{236}\text{U}(\text{d},\text{p})^{237}\text{U}$	2898	8	2901.2	0.5	0.4	U			ANL	67Er02	
$^{237}\text{Pa}(\beta^-)^{237}\text{U}$	2250	100	2136	13	-1.1	U				74Ka05	
$^{237}\text{U}(\beta^-)^{237}\text{Np}$	520	5	518.6	0.5	-0.3	U				53Wa05	*
	524	5			-1.1	U				56Ba39	*
	523	5			-0.9	U				57Ra04	*
$^{237}\text{Pu}(\varepsilon)^{237}\text{Np}$	222	8	220.0	1.3	-0.2	U				58Ho02	*
	207	18			0.7	U				59Gi54	*
$*^{237}\text{Np}(\alpha)^{233}\text{Pa}$	$E_{\alpha}=4876.7$ 4774.2 4769.1(3,Z) to ground state, $7/2^+$ at 103.635, $9/2^+$ 109.07 keV									Ens057	**
$*^{237}\text{Np}(\alpha)^{233}\text{Pa}$	$E_{\alpha}=4787.9(1.5,Z)$ to $5/2^+$ level at 86.48 keV									Ens057	**
$*^{237}\text{Np}(\alpha)^{233}\text{Pa}$	$E_{\alpha}=4791.0(3,Z)$ , 4774.0(3,Z), 4770.0(3,Z) keV									69Va06	**
*	to $5/2^+$ at 86.468, $7/2^+$ at 103.635, $9/2^+$ at 109.07 keV									Ens057	**
$*^{235}\text{U}(\text{t},\text{p})^{237}\text{U}$	$Q=2980(20)$ to $7/2^+$ level at 426.15 keV									Ens068	**
$*^{237}\text{U}(\beta^-)^{237}\text{Np}$	$E_{\beta^-}=245(5)$ , 249(5), 248(5) respectively, to $53\%$ $3/2^-$ level at 267.556, and $43\%$ $1/2^-$ level at 281.356 keV									Ens068	**
$*^{237}\text{Pu}(\varepsilon)^{237}\text{Np}$	$LK=2.8(0.8)$ capture to $5/2^-$ level at 59.541 keV, recalculated									Ens068	**
$*^{237}\text{Pu}(\varepsilon)^{237}\text{Np}$	$pK=0.38(0.06)$ to ground state, $7/2^+$ level at 33.196, $5/2^-$ at 59.541 keV									Ens068	**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{238}\text{Pa-u}$	54648	32	54637	17	-0.3	o			GS3	1.0	08Ch.A
	54637	17				2			GS3	1.0	12Ch19
$^{238}\text{U}-^{206}\text{Pb} \ ^{32}\text{S}$	104253.9	10.	104251.6	2.2	-0.1	U			C4	2.5	71Ke02
$\text{C}_{18}\text{H}_{22}-^{238}\text{U}$	121366.0	2.4	121362.3	2.0	-0.6	1	11	$^{11}\ ^{238}\text{U}$	M20	2.5	73Br06
$\text{C}_{24}\text{H}_{20}-^{238}\text{U} \ ^{35}\text{Cl}_2$	168010.8	1.4	168006.9	2.0	-1.1	1	33	$^{33}\ ^{238}\text{U}$	M20	2.5	73Br06
$^{238}\text{U}-^{235}\text{U}$	6858.6	10.	6858.3	1.3	0.0	U			C4	2.5	71Ke02
$^{238}\text{U}(\alpha)^{234}\text{Th}$	4271.5	5.	4269.7	2.9	-0.3	2				57Ha08	Z
	4265.1	5.			0.9	2				60Vo07	Z
	4272.9	5.			-0.6	2				61Ko11	Z
$^{238}\text{Pu}(\alpha)^{234}\text{U}$	5593.20	0.2	5593.20	0.19	0.4	1	90	$^{75}\ ^{238}\text{Pu}$		71Gr17	Z
$^{238}\text{Am}(\alpha)^{234}\text{Np}$	6041.7	30.				3				72Ah04	
$^{238}\text{Cm}(\alpha)^{234}\text{Pu}$	6611.5	50.	6670	10	1.2	U				48St.A	*
	6632.0	50.			0.8	U				52Hi.A	
	6672.3	10.			-0.2	o			JAA	02As08	
	6670.3	10.				4			JAA	06As03	
$^{238}\text{U}(\text{n},\alpha)^{235}\text{Th}$	8700	50	8938	13	4.8	B				81Wa11	
$^{236}\text{U}(\text{t,p})^{238}\text{U}$	2900	20	2798.2	1.2	-5.1	F			Ald	64Mi.A	*
	2782	10			1.6	U			ANL	67Er02	
	2780	20			0.9	U			LAI	69Br11	
$^{238}\text{U}(\text{p,t})^{236}\text{U}$	-2765	15	-2798.2	1.2	-2.2	U			ANL	74Fr01	
$^{238}\text{U}(\text{p,d})^{237}\text{U}$	-3951	20	-3929.7	1.3	1.1	U			Ald	64Mi.A	
$^{238}\text{U}(\text{d,t})^{237}\text{U}$	116	6	103.0	1.3	-2.2	U			ANL	67Er02	
$^{237}\text{Np}(\text{n},\gamma)^{238}\text{Np}$	5488.32	0.20				2			BNn	79Io01	Z
$^{238}\text{Pu}(\text{d,t})^{237}\text{Pu}$	-746	10	-742.6	1.3	0.3	U			Kop	73Gr26	
$^{238}\text{Pa}(\beta^-)^{238}\text{U}$	3600	300	3585	16	-0.1	U				68Tr07	*
	3460	60			2.1	U				85Ba57	*
$^{238}\text{Np}(\beta^-)^{238}\text{Pu}$	1295	10	1291.5	0.4	-0.3	U				55Ra27	*
	1300	15			-0.6	U				56Ba95	*
* $^{238}\text{Cm}(\alpha)^{234}\text{Pu}$	PrvCom to reference									58St50	**
* $^{236}\text{U}(\text{t,p})^{238}\text{U}$	F : authors not satisfied with target material									AHW	**
* $^{238}\text{Pa}(\beta^-)^{238}\text{U}$	$E_{\beta^-}=1700(300)$ to $3^-$ level at 1992.2 keV, and other $E_{\beta^-}$ , reinterpreted									Ens02b	**
* $^{238}\text{Pa}(\beta^-)^{238}\text{U}$	Reports result from thesis									82Gi.A	**
* $^{238}\text{Np}(\beta^-)^{238}\text{Pu}$	$E_{\beta^-}=270(10)$ 280(10) respectively, to $2^+$ level at 1028.544 keV, and other $E_{\beta^-}$									Ens02b	**
$^{239}\text{Pu}(\alpha)^{235}\text{U}$	5244.60	0.25	5244.50	0.21	-0.4	1	68	$^{44}\ ^{239}\text{Pu}$		79Ry.A	*
$^{239}\text{Am}(\alpha)^{235}\text{Np}$	5924.6	2.0	5922.4	1.4	-1.1	2			Bka	71Go01	*
	5920.2	2.0			1.1	2				75Ah05	*
$^{239}\text{Cm}(\alpha)^{235}\text{Pu}$	6539.7	140.				4			JAA	02Sh.C	*
$^{239}\text{Cf}(\alpha)^{235}\text{Cm}^p$	7760.1	25.				10			GSA	81Mu12	
$^{238}\text{U}(\text{n},\gamma)^{239}\text{U}$	4806.55	0.30	4806.38	0.17	-0.6	2			ANL	72Bo46	Z
	4806.30	0.21			0.4	2			ILN	79Br25	Z
$^{238}\text{U}(\text{d,p})^{239}\text{U}$	2588	20	2581.82	0.17	-0.3	U			Ald	64Mi.A	
	2579	7			0.4	U			Tal	66Sh16	
	2585	6			-0.5	U			ANL	67Er02	
$^{238}\text{Pu}(\text{n},\gamma)^{239}\text{Pu}$	5646.7	0.5	5646.2	0.3	-1.0	1	38	$^{24}\ ^{238}\text{Pu}$		75Ma.A	Z
$^{238}\text{Pu}(\text{d,p})^{239}\text{Pu}$	3432	10	3421.6	0.3	-1.0	U			Kop	73Gr26	
$^{239}\text{Pu}(\text{d,t})^{238}\text{Pu}$	604	10	611.0	0.3	0.7	U			ANL	73Fr01	
$^{239}\text{U}(\beta^-)^{239}\text{Np}$	1290	20	1261.5	1.6	-1.4	U				64Bi11	*
$^{239}\text{Np}(\beta^-)^{239}\text{Pu}$	722.5	1.0	722.5	1.0	0.0	1	98	$^{98}\ ^{239}\text{Np}$		59Co63	*
* $^{239}\text{Pu}(\alpha)^{235}\text{U}$	$E_{\alpha}=5156.59(0.25,Z)$ to $1/2^+$ level at 0.0765 keV									Ens035	**
* $^{239}\text{Am}(\alpha)^{235}\text{Np}$	$E_{\alpha}=5824.6(4,Z)$ 5775.6(2,Z) 5733.6(2,Z) to ground state, $5/2^-$ 49.10, $7/2^-$ 91.6									Ens035	**
* $^{239}\text{Am}(\alpha)^{235}\text{Np}$	$E_{\alpha}=5772.7(2,Z)$ to $5/2^-$ level at 49.10 keV									Ens035	**
* $^{239}\text{Cm}(\alpha)^{235}\text{Pu}$	Private communication to reference									08Qi03	**
* $^{239}\text{U}(\beta^-)^{239}\text{Np}$	$E_{\beta^-}=1211(20)$ to $5/2^-$ level at 74.664 keV, and other $E_{\beta^-}$									Ens035	**
* $^{239}\text{Np}(\beta^-)^{239}\text{Pu}$	$E_{\beta^-}=437(1)$ to $5/2^+$ level at 285.46 keV, and other $E_{\beta^-}$									Ens035	**
$^{240}\text{Pu}(\alpha)^{236}\text{U}$	5255.88	0.15	5255.76	0.14	-0.3	1	90	$^{59}\ ^{236}\text{U}$		72Go33	Z
$^{240}\text{Am}(\alpha)^{236}\text{Np}^p$	5468.9	1.0				3				70Go42	Z
$^{240}\text{Cm}(\alpha)^{236}\text{Pu}$	6397.8	0.6	6397.8	0.6	0.0	1	100	$^{99}\ ^{240}\text{Cm}$	Kum	71Bb10	*
$^{240}\text{Cf}(\alpha)^{236}\text{Cm}$	7718.9	10.	7711	4	-0.8	8				70Si19	
	7713.8	20.			-0.1	U				10Kh06	
	7709.6	4.2			0.3	8			JAA	10As.A	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference		
$^{238}\text{U}(\text{t},\text{p})^{240}\text{U}$	2242    20		2254    5		0.6	U			Ald		64Mi.A		
	2253    20		0.0			U			LAl		69Br11		
$^{240}\text{Pu}(\text{p},\text{t})^{238}\text{Pu}$	−3692    15		−3698.6    0.4		−0.4	U			ANL		74Fr01		
$^{239}\text{Pu}(\text{n},\gamma)^{240}\text{Pu}$	6534.1    1.0		6534.20    0.23		0.1	−					70Ch.A		
	6534.3    0.4		−0.2			−					74Ju.B		
	6534.2    0.4		0.0			−					75We.A		
$^{239}\text{Pu}(\text{d},\text{p})^{240}\text{Pu}$	4300    10		4309.64    0.23		1.0	U			ANL		73Fr01		
$^{239}\text{Pu}(\text{n},\gamma)^{240}\text{Pu}$	ave.    6534.24		0.27		6534.20	0.23	−0.1	1	73	41 $^{239}\text{Pu}$	average		
$^{240}\text{U}(\beta^-)^{240}\text{Np}^m$	386    20		381    13		−0.3	1	45	41	$^{240}\text{Np}^m$		53Kn23 *		
$^{240}\text{Np}^m(\text{IT})^{240}\text{Np}$	20    15		18    14		−0.1	1	83	68	$^{240}\text{Np}$		81Hs02 *		
$^{240}\text{Np}(\beta^-)^{240}\text{Pu}$	2199    30		2191    17		−0.3	1	32	32	$^{240}\text{Np}$		51Or.A *		
$^{240}\text{Np}^m(\beta^-)^{240}\text{Pu}$	2210    20		2208    13		−0.1	1	44	44	$^{240}\text{Np}^m$		59Bu20 *		
$^{240}\text{Am}(\epsilon)^{240}\text{Pu}$	1395    35		1385    14		−0.3	R					72Ah07 *		
* $^{240}\text{Cm}(\alpha)^{236}\text{Pu}$	$E_\alpha=6290.5, 6247.7(0.6,Z)$ to ground state, $2^+$ level at 44.63 keV												
* $^{240}\text{U}(\beta^-)^{240}\text{Np}^m$	$E_{\beta^-}=360(20)$ to $^{240}\text{Np}^m$ , and $1^+$ level at 44.17 keV above												
* $^{240}\text{Np}^m(\text{IT})^{240}\text{Np}$	From fraction IT=0.0012(0.0001)												
* $^{240}\text{Np}(\beta^-)^{240}\text{Pu}$	$E_{\beta^-}=890(30)$ to $5^-$ level at 1308.74 keV												
* $^{240}\text{Np}^m(\beta^-)^{240}\text{Pu}$	$E_{\beta^-}=2180(20)$ to ground state and $2^+$ level at 42.824 keV, and other $E_{\beta^-}$												
* $^{240}\text{Am}(\epsilon)^{240}\text{Pu}$	$pK=0.635(0.020)$ to $3^+$ level at 1030.55 keV, recalculated												
$^{241}\text{Pu}(\alpha)^{237}\text{U}$	5139.6	3.	5140.0	0.5	0.1	U					68Ah01 *		
	5139.3	1.2			0.6	1	16	15 $^{237}\text{U}$	Kum		68Ba25 *		
$^{241}\text{Am}(\alpha)^{237}\text{Np}$	5637.81	0.12	5637.82	0.12	0.1	1	100	98 $^{237}\text{Np}$			71Gr17 *		
$^{241}\text{Cm}(\alpha)^{237}\text{Pu}$	6182.8	2.0	6185.2	0.6	1.2	U			Kum		67Ba42 *		
	6185.2	0.6			0.0	−			Kum		71Bb10 *		
	6185.0	2.0			0.1	−					75Ah05 *		
ave.	6185.2	0.6			0.0	1	99	94 $^{237}\text{Pu}$			average		
$^{241}\text{Cf}(\alpha)^{237}\text{Cm}^p$	7459.0	5.	7455	3	−0.9	9					70Si19		
	7451.8	4.			0.7	9			JAA		10As.A		
$^{241}\text{Es}(\alpha)^{237}\text{Bk}$	8064.1	30.	8250	20	6.2	C			GSA		85Hi.A *		
	8250.2	20.				10			GSA		96Ni09		
$^{239}\text{Pu}(\text{t},\text{p})^{241}\text{Pu}$	3242	20	3293.93	0.23	2.6	U			LAl		69Br11		
$^{240}\text{Pu}(\text{n},\gamma)^{241}\text{Pu}$	5241.3	0.7	5241.521	0.030	0.3	U					75Ma.A		
	5241.52	0.03			0.0	1	100	62 $^{241}\text{Pu}$	ILn		98Wh01 Z		
$^{240}\text{Pu}(\text{d},\text{p})^{241}\text{Pu}$	3018	6	3016.955	0.030	−0.2	U			ANL		67Er02		
$^{241}\text{Am}(\text{d},\text{t})^{240}\text{Am}$	−388	15	−390	14	−0.1	2			Kop		76Gr19		
$^{241}\text{Np}(\beta^-)^{241}\text{Pu}$	1360	100	1300	70	−0.6	2					59Va32		
	1250	100			0.5	2					66Qa02		
$^{241}\text{Pu}(\beta^-)^{241}\text{Am}$	20.8	0.2	20.78	0.13	−0.1	−					56Sh31		
	20.7	0.3			0.3	−					99Dr13		
	20.78	0.20			0.0	−					99Ya.A		
	21.6	0.5			−1.6	U					10Lo14 *		
ave.	20.77	0.13			0.1	1	100	96 $^{241}\text{Am}$			average		
$^{241}\text{Cm}(\epsilon)^{241}\text{Am}$	767.5	1.2	767.4	1.2	−0.1	1	95	93 $^{241}\text{Cm}$			89Su.A *		
* $^{241}\text{Pu}(\alpha)^{237}\text{U}$	$E_\alpha=4896.6(3,Z), 4853.6(3,Z)$ to $5/2^+$ at 159.962, $11/2^+$ at 204.06 keV												
* $^{241}\text{Pu}(\alpha)^{237}\text{U}$	$E_\alpha=4896.3(1.2,Z), 4853.3(1.2,Z)$ to $5/2^+$ at 159.962, $11/2^+$ at 204.06 keV												
* $^{241}\text{Am}(\alpha)^{237}\text{Np}$	$E_\alpha=5485.56(0.12,Z), 5442.80(0.13,Z)$ to $5/2^-$ at 59.54, $7/2^-$ at 102.96												
* $^{241}\text{Cm}(\alpha)^{237}\text{Pu}$	$E_\alpha=6080.6(2,Z), 5926.6(2,Z)$ to ground state, $3/2^+$ level at 155.456 keV												
* $^{241}\text{Cm}(\alpha)^{237}\text{Pu}$	$E_\alpha=5939.0(0.6,Z), 5884.7(0.6,Z)$ to $1/2^+$ at 145.543, $5/2^+$ at 201.179 keV												
* $^{241}\text{Cm}(\alpha)^{237}\text{Pu}$	$E_\alpha=5938.7(2,Z), 5884.7(2,Z)$ to $1/2^+$ at 145.543, $5/2^+$ at 201.179 keV												
* $^{241}\text{Es}(\alpha)^{237}\text{Bk}$	C : new data from same group (next item) is more reliable												
* $^{241}\text{Pu}(\beta^-)^{241}\text{Am}$	No quoted uncertainty, estimated by evaluator												
* $^{241}\text{Cm}(\epsilon)^{241}\text{Am}$	$Q(\epsilon)=5.5(1.2)$ to $3/2^-$ level at 636.86 keV												
$^{242}\text{Pu}(\alpha)^{238}\text{U}$	4987.3	2.0	4984.5	1.0	−1.4	−					53As.A *		
	4989.5	3.0			−1.7	U					56Ko67 *		
	4982.9	1.2			1.4	−			Kum		68Ba25 *		
ave.	4984.1	1.0			0.5	1	93	55 $^{238}\text{U}$			average		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference											
$^{242}\text{Am}(\alpha)^{238}\text{Np}$	5587.5	0.8	5588.50	0.25	1.2	U			Kum	79Ba67	*											
	5589.9	0.8		-1.8	U					90Ho02	*											
$^{242}\text{Cm}(\alpha)^{238}\text{Pu}$	6215.63	0.08	6215.56	0.08	0.0	1	100	99 $^{242}\text{Cm}$		71Gr17	Z											
$^{242}\text{Cf}(\alpha)^{238}\text{Cm}$	7516.9	4.			5					70Si19	Z											
$^{242}\text{Es}(\alpha)^{238}\text{Bk}$	8160.2	20.		9					GSA	10An08												
$^{240}\text{Pu}(\text{t},\text{p})^{242}\text{Pu}$	3043	20	3069.4	0.7	1.3	U			LAI	69Br11												
$^{242}\text{Pu}(\text{p},\text{t})^{240}\text{Pu}$	-3045	15	-3069.4	0.7	-1.6	U			ANL	74Fr01												
$^{241}\text{Pu}(\text{n},\gamma)^{242}\text{Pu}$	6309.5	0.7	6309.7	0.7	0.3	1	96	62 $^{242}\text{Pu}$		72Ma.A												
$^{242}\text{Pu}(\text{d},\text{t})^{241}\text{Pu}$	-49	7	-52.5	0.7	-0.5	U			ANL	67Er02												
$^{241}\text{Am}(\text{n},\gamma)^{242}\text{Am}$	5541.5	1.5	5537.64	0.10	-2.6	U				75J.A												
	5537.64	0.1		2					ILN	88Sa18	Z											
$^{241}\text{Am}(\text{d},\text{p})^{242}\text{Am}$	3308	15	3313.07	0.10	0.3	U			Kop	76Gr19												
$^{242}\text{Np}(\beta^-)^{242}\text{Pu}$	2700	200		2						79Ha26												
$^{242}\text{Am}(\beta^-)^{242}\text{Cm}$	651	5	664.5	0.4	2.7	U				50Ok52	*											
	667	5		-0.5	U					55Ba.A												
* $^{242}\text{Pu}(\alpha)^{238}\text{U}$	$E_\alpha=4904.6, 4860.6(2,Z)$ to ground state, $2^+$ level at 44.916 keV																					
* $^{242}\text{Pu}(\alpha)^{238}\text{U}$	$E_\alpha=4905.2(3,Z), 4863.2(3,Z)$ to ground state, $2^+$ level at 44.916 keV																					
* $^{242}\text{Pu}(\alpha)^{238}\text{U}$	$E_\alpha=4900.4(1.2,Z), 4856.1(1.2,Z)$ to ground state, $2^+$ level at 44.916 keV																					
* $^{242}\text{Am}(\alpha)^{238}\text{Np}$	$E_\alpha=5206.6(0.5,Z), 5141.4(0.5,Z)$ from $^{242}\text{Am}^m$ at 48.60 to $5^-$ at 342.439, and $6^-$ at 407.59 keV; error increased due to conflict with next item																					
*																						
* $^{242}\text{Am}(\alpha)^{238}\text{Np}$	$E_\alpha=5208.3(0.8,Z), 5144.3(0.9,Z)$ from $^{242}\text{Am}^m$ to $5^- 6^-$ levels (see above)																					
* $^{242}\text{Am}(\beta^-)^{242}\text{Cm}$	$E_{\beta^-}=628(5)$ to ground state and $2^+$ level at 42.13 keV																					
Ens02b **																						
Ens02b **																						
Ens02b **																						
Ens02b **																						
GAu **																						
Ens02b **																						
Ens02b **																						
Ens026 **																						
$^{243}\text{Am}(\alpha)^{239}\text{Np}$	5438.8	1.0	5438.8	1.0	0.0	1	98	96 $^{243}\text{Am}$	Kum	68Ba25	*											
$^{243}\text{Cm}(\alpha)^{239}\text{Pu}$	6165.4	3.0	6168.8	1.0	1.1	U				57As.A	*											
	6165.7	3.0		1.0	U					63Dz07	*											
	6165.4	3.0		1.1	o				Kum	66Ba07	*											
	6168.8	1.0		2						69Ba57	*											
$^{243}\text{Bk}(\alpha)^{239}\text{Am}$	6874.4	4.		3					Bka	66Ah.A	Z											
$^{243}\text{Cf}(\alpha)^{239}\text{Cm}^p$	7178	10		6						67Fi04	*											
$^{243}\text{Es}(\alpha)^{239}\text{Bk}$	8072.1	10.		9					RIa	89Ha27												
$^{243}\text{Es}(\alpha)^{239}\text{Bk}^p$	8022.3	20.	8030.9	2.9	0.4	U				73Es02												
	8031.4	3.		-0.2	10				RIa	89Ha27												
	8027.3	20.		0.2	o				GSA	93Ho.A												
	8025.4	10.		0.6	10				GSA	10An08												
$^{243}\text{Fm}(\alpha)^{239}\text{Cf}$	8689.1	25.	8690	50	0.1	o			GSA	81Mu12												
	8693.2	20.		11					GSA	08Kh10												
									ANL	74Fr01												
$^{243}\text{Am}(\text{p},\text{t})^{241}\text{Am}$	-3407	15	-3420.7	1.4	-0.9	U				76Ca25												
$^{242}\text{Pu}(\text{n},\gamma)^{243}\text{Pu}$	5034.2	3.	5033.9	2.6	-0.1	1	77	76 $^{243}\text{Pu}$		67Er02												
$^{242}\text{Pu}(\text{d},\text{p})^{243}\text{Pu}$	2807	8	2809.3	2.6	0.3	U			Kop	76Gr19												
$^{243}\text{Am}(\text{d},\text{t})^{242}\text{Am}$	-111	15	-107.6	1.4	0.2	U				69Ho10												
$^{243}\text{Pu}(\beta^-)^{243}\text{Am}$	578	10	579.7	2.9	0.2	-				77Dr07												
	580	10		0.0	-					average												
	ave.	579	7		0.1	1	17	14 $^{243}\text{Pu}$														
* $^{243}\text{Am}(\alpha)^{239}\text{Np}$	$E_\alpha=5275.2(1.0,Z) 5233.3(1.0,Z)$ to $5/2^-$ level at 74.66, $7/2^-$ at 117.84																					
* $^{243}\text{Cm}(\alpha)^{239}\text{Pu}$	$E_\alpha=6063.7, 5989.7, 5782.7, 5738.7(3,Z)$ to ground state, $7/2^+$ level at 75.705, $5/2^+$ at 285.46, and $7/2^+$ at 330.124 keV																					
*																						
* $^{243}\text{Cm}(\alpha)^{239}\text{Pu}$	$E_\alpha=5990.5, 5783.5, 5738.5(3,Z)$ to $7/2^+$ level at 75.705, $5/2^+$ at 285.46, and $7/2^+$ at 330.124 keV																					
*																						
* $^{243}\text{Cm}(\alpha)^{239}\text{Pu}$	$E_\alpha=6067.4, 5992.4(2,Z)$ to ground state, $7/2^+$ at 75.705 keV																					
* $^{243}\text{Cm}(\alpha)^{239}\text{Pu}$	$E_\alpha=5785.7(1.0,Z), 5742.8(1.0,Z)$ to $5/2^+$ at 285.46, $7/2^+$ at 330.124 keV																					
* $^{243}\text{Cf}(\alpha)^{239}\text{Cm}^p$	Unhindered $E_\alpha=7060(10)$ ; there is a weaker $E_\alpha=7170(10)$ keV																					
Ens035 **																						
Ens035 **																						
Ens035 **																						
Ens035 **																						
Ens035 **																						
Ens035 **																						
AHW **																						
$^{244}\text{Pu}(\alpha)^{240}\text{U}$	4665.6	1.0	4665.5	1.0	0.0	1	100	96 $^{240}\text{U}$		69Be06	Z											
$^{244}\text{Cm}(\alpha)^{240}\text{Pu}$	5901.74	0.05			2				BIP	71Gr17	*											
$^{244}\text{Bk}(\alpha)^{240}\text{Am}$	6778.8	4.			3					66Ah.B	*											
$^{244}\text{Cf}(\alpha)^{240}\text{Cm}$	7327.1	2.	7328.9	1.8	0.9	-				67Fi04	Z											
	7336.4	4.		-1.8	-					67Si08	Z											
	7330.4	20.		-0.1	U				GSA	08Kh10												
ave.	7328.9	1.8		0.0	1	99		98 $^{244}\text{Cf}$		average												

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{244}\text{Es}(\alpha)^{240}\text{Bk}^p$	7696.4	20.				4					73Es02
$^{242}\text{Pu}(\text{t},\text{p})^{244}\text{Pu}$	2576	20	2573	5	-0.2	U			LAI		69Br11
$^{244}\text{Pu}(\text{p},\text{t})^{242}\text{Pu}$	-2560	15	-2573	5	-0.8	U			ANL		72Ma15
$^{244}\text{Pu}(\text{t},\alpha)^{243}\text{Np}^p$	12405	10				2					79Fl02
$^{244}\text{Pu}(\text{d},\text{t})^{243}\text{Pu}$	234	5	237	4	0.6	1	72	70	$^{244}\text{Pu}$	ANL	76Ca25
$^{243}\text{Am}(\text{n},\gamma)^{244}\text{Am}^m$	5277.90	0.07				2			ILn		84Vo07 Z
$^{244}\text{Cm}(\text{d},\text{t})^{243}\text{Cm}$	-530	7	-544.0	1.0	-2.0	U			ANL		67Er02
$^{244}\text{Am}^m(\text{IT})^{244}\text{Am}$	85.0	1.0	88.6	1.7	3.6	F					84Ho02 *
$^{244}\text{Am}(\beta^-)^{244}\text{Cm}$	1427.3	1.0				3					62Va08 *
$^{244}\text{Cm}(\alpha)^{240}\text{Pu}$			$E_\alpha=5804.77(0.05,Z), 5762.16(0.03,Z)$ to ground state, $2^+$ level at 42.824 keV								Ens08a **
$*^{244}\text{Bk}(\alpha)^{240}\text{Am}$			$E_\alpha=6667.5(4,Z), 6625.5(3,Z)$ to ground state, $2^+$ level at 42.824 keV								Ens08a **
$*^{244}\text{Am}^m(\text{IT})^{244}\text{Am}$			F : value in Fig. 1 only, no source no error								AHW **
$*^{244}\text{Am}(\beta^-)^{244}\text{Cm}$			$E_{\beta^-}=387(1)$ to $6^+$ level at 1040.188 keV; also $E_{\beta^-}=1498(10)$ from $^{244}\text{Am}^m$ at 88.6(1.7) to ground state and $2^+$ at 42.965 keV, not used								Ens036 **
*											Nub127 **
$^{245}\text{Cm}(\alpha)^{241}\text{Pu}$	5623	1	5623.0	1.0	0.0	1	100	100	$^{245}\text{Cm}$	Kum	75Ba65 *
$^{245}\text{Bk}(\alpha)^{241}\text{Am}$	6454.7	4.	6454.5	1.4	0.0	2					74Po08 *
	6454.5	1.5			0.0	2					75Ba25 *
$^{245}\text{Cf}(\alpha)^{241}\text{Cm}$	7257.5	2.0	7258.4	1.8	0.5	-					67Fi04 *
	7265	5			-1.3	-					96Ma72 *
	7260.8	11.			-0.2	U					GSa 04He28
ave.	7258.5	1.9			-0.1	1	98	96	$^{245}\text{Cf}$		average
$^{245}\text{Es}(\alpha)^{241}\text{Bk}$	7858.5	20.	7909	3	1.0	U					73Es01
	7884.0	20.			0.5	U					85He22
	7909.4	3.			3						Ria 89Ha27
$^{245}\text{Es}(\alpha)^{241}\text{Bk}^p$	7827.9	30.	7858.4	1.0	1.0	U					67Mi06
	7858.5	1.			4						Ria 89Ha27
$^{245}\text{Fm}(\alpha)^{241}\text{Cf}^p$	8285.5	20.			11						67Nu01
$^{245}\text{Md}(\alpha)^{241}\text{Es}^p$	8824.3	20.			12						96Ni09 *
$^{244}\text{Pu}(\text{d},\text{p})^{245}\text{Pu}$	2469	15	2474	13	0.3	2			ANL		75Er.A *
$^{244}\text{Cm}(\text{d},\text{p})^{245}\text{Cm}$	3297	7	3295.7	1.0	-0.2	U			ANL		67Er02
$^{245}\text{Pu}(\beta^-)^{245}\text{Am}$	1257	30	1277	15	0.7	R					68Da02 *
$^{245}\text{Am}(\beta^-)^{245}\text{Cm}$	905	5	897.4	2.4	-1.5	1	24	24	$^{245}\text{Am}$		55Br02
$^{245}\text{Es}^p(\text{IT})^{245}\text{Es}$	283	15			4						Nub127
$*^{245}\text{Cm}(\alpha)^{241}\text{Pu}$			$E_\alpha=5529.0, 5488.5, 5436.1(0.5,Z), 5361.8, 5303.6(1.2,Z)$ keV to ground state, $7/2^+$ 41.97, $9/2^+$ 95.78, $7/2^+$ 175.05, $9/2^+$ 231.935 levels								75Ba65 **
*			Q $\alpha$ differing rather much; unweighted average 5613.2(0.82) keV								AHW **
$*^{245}\text{Bk}(\alpha)^{241}\text{Am}$			$E_\alpha=6349.0, 6309.0, 6146.0, 5886.0$ (all 4,Z)								91Ry01 **
*			to ground state, $7/2^-$ at 41.176, $5/2^+$ at 205.88, $3/2^-$ at 471.81 keV								Ens05c **
$*^{245}\text{Bk}(\alpha)^{241}\text{Am}$			$E_\alpha=6347.8, 6307.8, 6146.8, 5885.8$ recalibrated as in reference								91Ry01 **
*			to ground state, $7/2^-$ at 41.176, $5/2^+$ at 205.88, $3/2^-$ at 471.81 keV								Ens929 **
$*^{245}\text{Cf}(\alpha)^{241}\text{Cm}$			$E_\alpha=7136.8(2.0,Z), 7083.8(2.0,Z)$ to gs+5.6 and 56.1 level								96Ma72 **
$*^{245}\text{Cf}(\alpha)^{241}\text{Cm}$			$E_\alpha=7145(5), 7090(5)$ to gs+5.6 and 56.1 level								96Ma72 **
$*^{245}\text{Md}(\alpha)^{241}\text{Es}^p$			Second E $\alpha$ 8635(20) keV								96Ni09 **
$*^{244}\text{Pu}(\text{d},\text{p})^{245}\text{Pu}$			Q=2252(15) to 217 level (estimated energy for $15/2^-$ level)								06Ma.A **
$*^{245}\text{Pu}(\beta^-)^{245}\text{Am}$			$E_{\beta^-}=1210(40), 930(30)$ to $(9/2^+)$ level at 47.07, $7/2^+$ at 327.428 keV								Ens112 **
$^{246}\text{Cm}(\alpha)^{242}\text{Pu}$	5475.2	4.	5475.1	0.9	0.0	U					63Dz07 Z
	5474.9	2.			0.1	-					66Ba07 *
	5475.2	1.			-0.1	-					84Sh31 *
ave.	5475.1	0.9			0.0	1	99	99	$^{246}\text{Cm}$		average
$^{246}\text{Cf}(\alpha)^{242}\text{Cm}$	6871.0	1.0	6861.6	1.0	-9.4	B					63Fr04 *
	6861.6	1.			0.0	1	100	99	$^{246}\text{Cf}$	Kum	77Ba69 *
$^{246}\text{Es}(\alpha)^{242}\text{Bk}^p$	7451.2	30.	7492	4	1.4	U					67Mi06
	7481.9	30.			0.3	U					73Es01
	7492.0	4.			4						Ria 89Ha27
$^{246}\text{Fm}(\alpha)^{242}\text{Cf}$	8371.4	20.	8377	8	0.3	6					66Ak01
	8376.5	20.			0.0	6					67Nu01
	8386.7	20.			-0.5	o					96Ni09
	8378.4	10.			-0.2	6					10An08

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{246}\text{Md}(\alpha)^{242}\text{Es}$	8884.7	20.	8890	40	0.1	o			GSa	96Ni09	*
	8888.8	40.				10			GSa	10An08	
$^{246}\text{Md}^m(\alpha)^{242}\text{Es}$	8944.5	50.				10			GSa	10An08	*
$^{244}\text{Pu}(\text{t},\text{p})^{246}\text{Pu}$	2085	20	2072	15	-0.7	1	57	54 $^{246}\text{Pu}$	LAI	79Br19	
$^{246}\text{Cm}(\text{d},\text{t})^{245}\text{Cm}$	-196	6	-200.4	1.5	-0.7	U			ANL	67Er02	
$^{246}\text{Pu}(\beta^-)^{246}\text{Am}^m$	374	10	371	9	-0.3	1	89	46 $^{246}\text{Pu}$		56Ho23	*
$^{246}\text{Am}^m(\beta^-)^{246}\text{Cm}$	2300	100	2407	15	1.1	U				55En16	*
		2420			-0.7	1	57	57 $^{246}\text{Am}^m$		56Sm85	*
$^{246}\text{Bk}(\varepsilon)^{246}\text{Cm}$	1350	60				2				89Sc.A	
* $^{246}\text{Cm}(\alpha)^{242}\text{Pu}$	$E_\alpha=5385.3(2,Z), 5342.3(2,Z)$ to ground state, $2^+$ level at 44.54 keV										
* $^{246}\text{Cm}(\alpha)^{242}\text{Pu}$	$E_\alpha=5385.6(1,Z), 5342.6(1,Z)$ to ground state, $2^+$ level at 44.54 keV										
* $^{246}\text{Cf}(\alpha)^{242}\text{Cm}$	$E_\alpha=6757.4(1.0,Z), 6718.4(0.7,Z)$ to ground state, $2^+$ level at 42.13 keV										
* $^{246}\text{Cf}(\alpha)^{242}\text{Cm}$	$E_\alpha=6750.0(1.0,Z), 6708.2(1.0,Z)$ to ground state, $2^+$ level at 42.13 keV										
* $^{246}\text{Md}(\alpha)^{242}\text{Es}$	Also a lower $E_\alpha=8530(30)$ keV										
* $^{246}\text{Md}^m(\alpha)^{242}\text{Es}$	$E_\alpha=8178(10)$ to level at 531+x; x estimated to be 100#50 keV										
* $^{246}\text{Pu}(\beta^-)^{246}\text{Am}^m$	$E_{\beta^-}=150(10)$ to $1^+$ level at 223.74 keV above $^{246}\text{Am}^m$										
* $^{246}\text{Am}^m(\beta^-)^{246}\text{Cm}$	$E_{\beta^-}=1222(100)$ 1350(20) respectively, to $1^-$ level at 1078.845, $2^-$ level at 1104.854										
$^{247}\text{Cm}(\alpha)^{243}\text{Pu}$	5354.6	4.	5354	3	-0.3	1	71	64 $^{247}\text{Cm}$		71Fi01	*
$^{247}\text{Bk}(\alpha)^{243}\text{Am}$	5889.6	5.				2				69Fr01	*
$^{247}\text{Cf}(\alpha)^{243}\text{Cm}^p$	6399.6	5.				5				84Ah02	Z
$^{247}\text{Es}(\alpha)^{243}\text{Bk}^p$	7450.7	30.	7443.7	1.0	-0.2	U				67Mi06	
	7430.5	30.			0.4	U				73Es01	
	7443.8	1.				5				89Ha27	
$^{247}\text{Fm}(\alpha)^{243}\text{Cf}$	8060.8	50.	8258	10	3.9	B			Dba	67Fl15	
	8213	18			2.5	o			GSa	89He03	*
	8287.3	20.			-1.5	o			GSa	04He28	*
	8268.1	10.			-1.1	o			GSa	06He27	*
$^{247}\text{Fm}^m(\alpha)^{243}\text{Cf}$	8314.9	30.	8307	5	-0.3	U			Dba	67Fl15	*
	8260.0	30.			1.5	o			GSa	97He29	*
	8304.8	11.			0.2	o			GSa	04He28	
	8306.8	5.				7			GSa	06He27	
$^{247}\text{Md}(\alpha)^{243}\text{Es}$	8776.6	25.	8764	10	-0.5	o			GSa	81Mu12	*
	8772.5	20.			-0.4	o			GSa	93Ho.A	*
	8770.5	10.			-0.6	o			GSa	05He27	*
	8764.4	10.				10			GSa	10An08	*
$^{247}\text{Md}^m(\alpha)^{243}\text{Es}$	9027.9	40.				10			GSa	10An08	*
$^{246}\text{Cm}(\text{d},\text{p})^{247}\text{Cm}$	2931	8	2931	4	0.0	1	25	24 $^{247}\text{Cm}$	ANL	67Er02	
$^{247}\text{Cf}(\varepsilon)^{247}\text{Bk}$	646	6	613	16	-5.5	C				56Ch.A	*
* $^{247}\text{Cm}(\alpha)^{243}\text{Pu}$	$E_\alpha=5267.3(4,Z)$ 5212.3(4,Z) 4870.3(4,Z) to ground state, $9/2^+$ 58.1, $9/2^-$ 402.6										
* $^{247}\text{Bk}(\alpha)^{243}\text{Am}$	$E_\alpha=5794, 5710, 5688(5,Z)$ to ground state, $5/2^+$ level at 84.0, $7/2^+$ at 109.2 keV										
* $^{247}\text{Fm}(\alpha)^{243}\text{Cf}$	$E_\alpha=8060(15)$ summed with $e^-$										
* $^{247}\text{Fm}(\alpha)^{243}\text{Cf}$	$E_\alpha=7840(20)$ to 318 level										
* $^{247}\text{Fm}^m(\alpha)^{243}\text{Cf}$	$E_\alpha=7824(10)$ to 315 level										
* $^{247}\text{Fm}^m(\alpha)^{243}\text{Cf}$	Only one event										
* $^{247}\text{Fm}^m(\alpha)^{243}\text{Cf}$	Not observed in later work on $^{251}\text{No}$ decay										
* $^{247}\text{Md}(\alpha)^{243}\text{Es}$	$E_\alpha=8428(25)$ to 209.6 level										
* $^{247}\text{Md}(\alpha)^{243}\text{Es}$	$E_\alpha=8424(20)$ to 209.6 level										
* $^{247}\text{Md}(\alpha)^{243}\text{Es}$	$E_\alpha=8422(10)$ to 209.6 level										
* $^{247}\text{Md}(\alpha)^{243}\text{Es}$	$E_\alpha=8616(20), 8416(10)$ to ground state, 209.6 level										
* $^{247}\text{Md}^m(\alpha)^{243}\text{Es}$	$E_\alpha=8783(40)$ to $1/2^-$ level at 100 keV										
* $^{247}\text{Cf}(\varepsilon)^{247}\text{Bk}$	LMK=10(3) assuming first-forbidden to $(5/2^-)$ level at 447.8 keV, yields 646.8 contradicts LMK=75 allowed to $(5/2)^+$ level at 334.9 keV, yields 550; both conflict with 613 from Shiptrap data to $^{255}\text{No}$ plus $\alpha$ chain										
										Ens048	**
										WgM10a**	
										WgM10a**	
$^{248}\text{Cm}(\alpha)^{244}\text{Pu}$	5161.81	0.25	5161.73	0.25	0.0	1	100	76 $^{248}\text{Cm}$	Kum	77Ba69	Z
$^{248}\text{Cf}(\alpha)^{244}\text{Cm}$	6364.7	5.	6361	5	-0.7	o				78Gr10	
	6361.2	5.				3				84Ah02	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{248}\text{Es}(\alpha)^{244}\text{Bk}$	7165.8	20.	7160#	50#	-0.3	F					84Li.A *
$^{248}\text{Es}(\alpha)^{244}\text{Bk}^p$	6982.8	15.	7020	5	2.5	U					56Ch67
	6982.8	10.			3.8	B					70Ah01
	7020.4	5.				5					RIa 89Ha27
$^{248}\text{Fm}(\alpha)^{244}\text{Cf}$	8009.4	30.	7994	8	-0.5	-					66Ak01
	7999.3	20.			-0.2	-					67Nu01
	8002.3	15.			-0.5	o					GSa 85He.A
	7992.2	11.			0.2	-					GSa 04He28
	ave.	7995	9		-0.1	1	79	77	$^{248}\text{Fm}$		average
$^{248}\text{Md}(\alpha)^{244}\text{Es}^p$	8497.3	30.				6					73Es01
$^{248}\text{Cm}(\text{p},\text{t})^{246}\text{Cm}$	-2894	15	-2886	5	0.5	U					74Fr01
$^{248}\text{Cm}(\text{d},\text{t})^{247}\text{Cm}$	49	8	45	5	-0.5	1	36	24	$^{248}\text{Cm}$	ANL	67Er02
$^{248}\text{Bk}^m(\beta^-)^{248}\text{Cf}$	870	20				4					78Gr10
$*^{248}\text{Cf}(\alpha)^{244}\text{Cm}$	$E_\alpha=6257.8(5,Z), 6216.8(5,Z)$ to ground state, $2^+$ level at 42.965 keV										
$*^{248}\text{Es}(\alpha)^{244}\text{Bk}$	F : this line is not observed in more recent works										
$^{249}\text{Bk}(\alpha)^{245}\text{Am}$	5520.4	2.0	5523.4	2.1	1.5	-					Bka 66Ah.A *
	5526.1	1.0			-2.7	-					Kum 71Bb10 *
	ave.	5525.0	2.3		-0.7	1	84	76	$^{245}\text{Am}$		average
$^{249}\text{Cf}(\alpha)^{245}\text{Cm}$	6296.0	0.7	6296.1	0.7	0.2	1	99	99	$^{249}\text{Cf}$	Kum	71Bb10 *
$^{249}\text{Es}(\alpha)^{245}\text{Bk}^p$	6881.3	5.	6886.0	1.9	0.9	4					70Ah01 Z
	6886.8	2.			-0.4	4					RIa 89Ha27
$^{249}\text{Fm}(\alpha)^{245}\text{Cf}$	7718.3	20.	7709	6	-0.5	-					73Es01 *
	7705.1	23.			0.2	o					GSa 85He06 *
	7705.0	14.			0.3	-					GSa 04He28 *
	7710.2	8.1			-0.2	-					Orm 11Lo06 *
	ave.	7710	7		-0.2	1	80	76	$^{249}\text{Fm}$		average
$^{249}\text{Md}(\alpha)^{245}\text{Es}^p$	8161.3	20.	8158	9	-0.2	5					73Es01
	8157.3	20.			0.0	o					GSa 85He22
	8165	20			-0.3	o					GSa 01He35 *
	8157.3	10.			0.1	o					GSa 05He27
	8157.3	10.			0.1	5					GSa 09He20
$^{249}\text{Md}^m(\alpha)^{245}\text{Es}^q$	8212.2	20.				7					GSa 01He35
$^{248}\text{Cm}(\text{n},\gamma)^{249}\text{Cm}$	4713.37	0.25				2					ILn 82Ho07 Z
$^{248}\text{Cm}(\text{d},\text{p})^{249}\text{Cm}$	2488	6	2488.80	0.25	0.1	U					ANL 67Er02
$^{249}\text{Cm}(\beta^-)^{249}\text{Bk}$	870	100	901	5	0.3	U					58Ea06 *
	885	15			1.1	U					ANB 05Ah03 *
$^{249}\text{Bk}(\beta^-)^{249}\text{Cf}$	125	2	124.6	1.4	-0.2	-					59Va02
	123	2			0.8	-					74Gl10
	ave.	124.0	1.4		0.4	1	94	92	$^{249}\text{Bk}$		average
$*^{249}\text{Bk}(\alpha)^{245}\text{Am}$	$E_\alpha=5431.8, 5412.8, 5384.8(2, Z)$ to ground state, $7/2^+$ level at 19.20, $9/2^+$ level at 47.07 keV										
$*^{249}\text{Bk}(\alpha)^{245}\text{Am}$	$E_\alpha=5437.1(1.0, Z)$ to gs. Energies of higher branches										
*	rather different from reference, calibrated with same ground state $\alpha$										
$*^{249}\text{Cf}(\alpha)^{245}\text{Cm}$	$E_\alpha=6193.8(0.7, Z), 5813.3(1.0, Z)$ to ground state, $9/2^-$ level at 388.181 keV										
$*^{249}\text{Fm}(\alpha)^{245}\text{Cf}$	$E_\alpha=7540(20)$ to corresponding $7/2^+$ [624] level at 55(10) keV										
$*^{249}\text{Fm}(\alpha)^{245}\text{Cf}$	$E_\alpha=7527(23)$ to corresponding $7/2^+$ [624] level at 55(10) keV										
$*^{249}\text{Fm}(\alpha)^{245}\text{Cf}$	Also $E_\alpha=7530(10)$ keV to $7/2^+$ [624] level at 57(4) keV										
$*^{249}\text{Fm}(\alpha)^{245}\text{Cf}$	$E_\alpha=7530(7)$ to $7/2^+$ [624] level at 57(4) keV										
$*^{249}\text{Md}(\alpha)^{245}\text{Es}^p$	$E_\alpha=8022(20)$ partly summed with conversion electrons										
$*^{249}\text{Cm}(\beta^-)^{249}\text{Bk}$	$E_{\beta^-}=860(100), 876(15)$ respectively, to $3/2^-$ level at 8.777 keV										
$^{250}\text{Cf}(\alpha)^{246}\text{Cm}$	6129.1	0.6	6128.44	0.19	-1.1	2					Kum 71Bb10 *
	6128.44	0.2			0.4	2					86Ry04 Z
$^{250}\text{Fm}(\alpha)^{246}\text{Cf}$	7550.9	50.	7557	8	0.1	U					57Am47
	7540.7	30.			0.5	-					66Ak01
	7561.1	30.			-0.2	-					73Es01
	7560.1	15.			-0.2	-					ORb 77Be36
	7556.0	35.			0.0	o					GSa 81Mu06
	7555.0	12.			0.1	-					GSa 04He28
	7544.8	35.			0.3	U					Bka 06Fo02
	ave.	7556	9		0.1	1	81	80	$^{250}\text{Fm}$		average
$^{250}\text{Md}(\alpha)^{246}\text{Es}^p$	7947.4	30.	7955	24	0.2	6					73Es01
	7964.7	20.			-0.5	o					GSa 85He22

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{253}\text{No}-^{133}\text{Cs}_{1,902}$	270390	13	270394	7	0.3	1	33	33 $^{253}\text{No}$	SH1	1.0	10Dw01
$^{253}\text{Cf}(\alpha)^{249}\text{Cm}$	6127.3	5.	6126	4	-0.3	3					66Rg01 *
	6124.6	5.			0.3	3					68Be21 *
$^{253}\text{Es}(\alpha)^{249}\text{Bk}$	6739.24	0.05				2					71Gr17 Z
$^{253}\text{Fm}(\alpha)^{249}\text{Cf}$	7199	3	7198.0	2.7	-0.3	2					67Ah02 *
	7194.2	6.			0.6	2					Orm 11Lo06 *
$^{253}\text{Md}(\alpha)^{249}\text{Es}$	7567.5	15.	7573	8	0.4	o					GSa 05He27 *
	7574.0	10.			-0.1	5					Orm 11Lo06 *
	7571	15			0.1	5					GSa 12He09 *
$^{253}\text{No}(\alpha)^{249}\text{Fm}$	8419	20	8414	4	-0.2	U					Bka 67Gh01 *
	8419	30			-0.2	U					Dba 67Mi03 *
	8430	20			-0.8	o					GSa 85He.A *
	8420	10			-0.6	o					GSa 01He.A *
	8412.5	11.			0.2	o					GSa 04He28 *
	8411.5	5.			0.6	o					Orm 06Lo12 *
	8415.6	5.0			-0.2	-					Orm 11Lo06 *
	8412.4	11.			0.2	-					GSa 12He09 *
ave.	8415	5			-0.1	1	91	67 $^{253}\text{No}$			average
$^{253}\text{Lr}(\alpha)^{249}\text{Md}$	8941.6	20.	8918	20	-1.2	o					GSa 85He22
	8935.6	10.			-1.7	o					GSa 01He35
	8927.4	15.			-0.6	o					GSa 09He20
	8918.3	20.				6					GSa 10He11
$^{253}\text{Lr}^m(\alpha)^{249}\text{Md}^m$	8862.4	20.	8850	20	-0.6	o					GSa 85He22
	8862.4	10.			-1.2	o					GSa 01He35
	8859.4	15.			-0.6	o					GSa 09He20
	8850.2	20.				7					GSa 10He11
$^{253}\text{Cf}(\beta^-)^{253}\text{Es}$	270	50	288	6	0.4	U					59Gh.A
$*^{253}\text{Cf}(\alpha)^{249}\text{Cm}$	$E_\alpha=5981(5,Z)$ to $7/2^+$ level at 48.76 keV										Ens118 **
$*^{253}\text{Cf}(\alpha)^{249}\text{Cm}$	$E_\alpha=5978.4(5,Z)$ , $5920.4(5,Z)$ to $7/2^+$ at 48.76, $7/2^+$ at 110.173 keV										Ens118 **
$*^{253}\text{Fm}(\alpha)^{249}\text{Cf}$	$E_\alpha=7083.2(4,Z)$ , $6943.2(3,Z)$ , $6846.2(3,Z)$ , $6673.2(3,Z)$ keV										67Ah02 **
*	to ground state and levels $5/2^+$ at 144.98, $9/2^+$ at 243.13, $1/2^+$ at 416.8 keV										Ens118 **
$*^{253}\text{Fm}(\alpha)^{249}\text{Cf}$	$E_\alpha=6670(6)$ to 416.8 level										11Lo06 **
$*^{253}\text{Md}(\alpha)^{249}\text{Es}$	$E_\alpha=7100(15)$ to 353.2(0.4) level										05He27 **
$*^{253}\text{Md}(\alpha)^{249}\text{Es}$	$E_\alpha=7105(10)$ to 354.6(0.6) level										11Lo06 **
$*^{253}\text{Md}(\alpha)^{249}\text{Es}$	$E_\alpha=7103(15)$ to 353.2(0.4) level										12He09 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8010(20)$ to 279.7 level										04He28 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8010(30)$ to 279.7 level										04He28 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8021(20)$ to 279.7 level										04He28 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8011(10)$ to 279.7 level										04He28 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8004(11)$ to 279.7(5) level										04He28 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8003(5)$ to 279.7(5) level; and 8280(10) to ground state										04He28 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8007(4)$ to 279.8(0.2) level; also $E_\alpha=7615(30)$ to 669(3) and										11Lo06 **
*	$E_\alpha=8080(10)$ to 209.5(0.5) levels										11Lo06 **
$*^{253}\text{No}(\alpha)^{249}\text{Fm}$	$E_\alpha=8004(10)$ to 279.5(5) level										12He09 **
$^{254}\text{No}-^{133}\text{Cs}_{1,910}$	271552	15	271542	11	-0.6	o					SH1 1.0 10Dw01
	271544	16			-0.1	1	45				SH1 1.0 10Mi.A
$^{254}\text{Cf}(\alpha)^{250}\text{Cm}$	5926.9	5.				3					68Be21 Z
$^{254}\text{Es}(\alpha)^{250}\text{Bk}$	6615.7	1.5				6					Kum 72Bb24 *
$^{254}\text{Es}(\alpha)^{250}\text{Bk}^n$	6531.6	1.5				7					Kum 72Bb24
$^{254}\text{Es}^m(\alpha)^{250}\text{Bk}$	6699.9	2.0				5					73Ah04 *
$^{254}\text{Fm}(\alpha)^{250}\text{Cf}$	7306.8	5.	7307.5	1.9	0.2	3					Bka 64As01 Z
	7307.6	2.			-0.1	3					84Ah02 *
$^{254}\text{No}(\alpha)^{250}\text{Fm}$	8229.8	20.	8226	9	-0.2	o					Bka 67Gh01
	8240.0	30.			-0.5	U					Dba 67Mi03
	8215.6	20.			0.5	o					GSa 85He22
	8177.0	30.			1.6	U					Bka 06Fo02
	8225.7	10.			0.1	1	75				GSa 10He10
								$55 \text{ }^{254}\text{No}$			

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
* $^{255}\text{Lr}(\alpha)^{251}\text{Md}$	As interpreted from Fig. 1										08Ha31 **
* $^{255}\text{Lr}(\alpha)^{251}\text{Md}^p$	This is the most intense $\alpha$ from long-lived isomer to $1/2^-$										06Ch52 **
* $^{255}\text{Lr}(\alpha)^{251}\text{Md}^p$	F : one event in a questionable $^{267}\text{Ds}$ decay chain										AHW **
* $^{255}\text{Lr}(\alpha)^{251}\text{Md}^p$	No $\gamma$ observed in coincidence										08An16 **
* $^{255}\text{Lr}^m(\alpha)^{251}\text{Md}$	Original error 2 keV increased for calibration										GAU **
* $^{255}\text{Rf}(\alpha)^{251}\text{No}$	$E_\alpha=8700(20)$ to 203 level										01He35 **
* $^{255}\text{Rf}(\alpha)^{251}\text{No}$	$E_\alpha=8766(15)$ , 8715(15) to 142, 203 levels,										01He35 **
* $^{255}\text{Rf}(\alpha)^{251}\text{No}$	$E_\alpha=8905(20)$ , 8739(20) to ground state, 203 level										01He35 **
* $^{255}\text{Rf}(\alpha)^{251}\text{No}$	$E_\alpha=8722(10)$ to 203(3) level										01He35 **
* $^{255}\text{Rf}(\alpha)^{251}\text{No}$	$E_\alpha=8716(4)$ to 203.6(0.2) level										06He27 **
* $^{255}\text{Rf}^m(\alpha)^{251}\text{No}^m$	Tentative assignment; correlated with $^{251}\text{No}^m$										97He29 **
*	not found in later work on $^{251}\text{No}$ decay										01He35 **
$^{256}\text{Lr}-^{133}\text{Cs}_{1.925}$	280499	89				2					10Mi.A
$^{256}\text{Fm}(\alpha)^{252}\text{Cf}$	7027.3	5.				3					68Ho13 Z
$^{256}\text{Md}^m(\alpha)^{252}\text{Es}$	7834.6	20.	7900	50	1.2	B					71Ho16 *
	7896.6	16.				4					93Mo18 *
	7798.0	8.				2.0	B				00Ah02
$^{256}\text{No}(\alpha)^{252}\text{Fm}$	8553.9	30.	8581	5	0.9	U					67Fl05 *
	8553.9	20.				1.4	U				Bka 67Gh01 *
	8578.3	12.				0.3	5				81Be03
	8582.3	6.				-0.1	5				90Ho03
$^{256}\text{Lr}(\alpha)^{252}\text{Md}^p$	8787.6	20.	8771	11	-0.8	3					71Es01
	8761.1	25.				0.4	o				ORb 76Be.A
	8777.4	20.				-0.3	3				ORb 76Di.A
	8767.2	35.				0.1	3				RIa 04Mo26
	8749.9	20.				1.0	3				Bka 04Fo08
$^{256}\text{Rf}(\alpha)^{252}\text{No}$	8952.1	23.	8926	15	-1.1	o					GSa 85He06
	8929.8	20.				-0.2	o				GSa 97He29
	8925.8	15.				2					GSa 10St14
$^{256}\text{Db}(\alpha)^{252}\text{Lr}$	9336.2	20.				8					Bka 08Ne01
$^{256}\text{Db}(\alpha)^{252}\text{Lr}^p$	9157.4	20.	9168	14	0.6	9					GSa 01He35
	9179.7	20.				-0.6	9				Bka 08Ne01 *
* $^{256}\text{Md}^m(\alpha)^{252}\text{Es}$	Also $E_\alpha=7210(5,Z)$ keV to 520(20) level										70Fl12 **
* $^{256}\text{Md}^m(\alpha)^{252}\text{Es}$	Very weak line; more precise $E_\alpha$ to excited levels										93Mo18 **
*	$\alpha$ summed with electrons										WgM129**
* $^{256}\text{No}(\alpha)^{252}\text{Fm}$	Probably mixture of two branches										AHW **
* $^{256}\text{Db}(\alpha)^{252}\text{Lr}^p$	5 events $E_\alpha=9030$ 9060 9020 9040 9030 keV										08Ne01 **
$^{257}\text{Fm}(\alpha)^{253}\text{Cf}$	6862.7	2.	6863.5	1.4	0.4	4					Bka 67As02 *
	6864.4	2.			-0.4	4					82Ah01 *
$^{257}\text{Md}(\alpha)^{253}\text{Es}$	7549.3	5.	7557.6	1.0	1.7	U					70Fl12 *
	7557.6	1.				3					93Mo18 *
$^{257}\text{No}(\alpha)^{253}\text{Fm}$	8474.1	30.	8477	6	0.1	U					70Es02 *
	8480	30			-0.1	U					GSa 96Ho13 *
	8476.6	6.				3					JAA 05As05 *
$^{257}\text{Lr}(\alpha)^{253}\text{Md}^p$	9020.6	20.	9008	9	-0.6	7					71Es01
	9001.3	12.				0.5	o				ORb 76Be.A
	9001.3	12.				0.5	7				ORb 77Be36
	9015.5	15.2				-0.5	o				GSa 97He29
	9030.8	50.				-0.5	U				Lnz 04Ga29
	9010.4	15.				-0.2	7				GSa 10St14
$^{257}\text{Rf}(\alpha)^{253}\text{No}$	9079.8	15.	9083	8	0.2	2					ORb 73Be33 *
	9083.7	15.			-0.1	o					GSa 85He06
	9044.0	15.				2.6	U				GSa 97He29
	9084.1	20.				-0.1	o				GSa 07St12 *
	9084.1	10.				-0.1	2				GSa 10St14 *
	9106.2	100.				-0.2	U				Ara 09Qi04 *
$^{257}\text{Rf}^m(\alpha)^{253}\text{No}$	9142.5	20.	9156	7	0.7	2					Bka 69Gh01
	9158.8	15.			-0.2	o					ORb 73Be33
	9155.8	8.				0.0	2				ORb 90Be.A
	9163.9	15.				-0.5	2				GSa 97He29
	9144.0	100.				0.1	U				Ara 09Qi04 *

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{260}\text{Lr}(\alpha)^{256}\text{Md}^p$	8155.6	20.3				6					71Es01
$^{260}\text{Db}(\alpha)^{256}\text{Lr}$	9191.5	30.	9500#	40#	10.3	F			RIa	04Mo26	*
	9516.5	30.			-0.5	F			RIa	04Mo26	*
	9563.2	20.			-3.1	F			Bka	04Fo08	*
$^{260}\text{Db}(\alpha)^{256}\text{Lr}^p$	9283.1	20.	9271	13	-0.6	4			Bka	70Gh02	
	9262.8	17.			0.5	4			ORb	77Be36	
	9316.5	60.			-0.8	U			GSa	95Ho04	*
	9285.1	60.			-0.2	U			GSa	02Ho11	*
	9181.3	60.			1.5	U			Lnz	04Ga29	*
	9310.4	60.			-0.7	U			RIa	04Mo26	*
$^{260}\text{Sg}(\alpha)^{256}\text{Rf}$	9923.0	30.	9901	10	-0.7	o			GSa	85Mu11	
	9900.6	10.				3			GSa	09He20	
$^{260}\text{Bh}(\alpha)^{256}\text{Db}$	10400.4	30.				9				08Ne01	*
* $^{260}\text{Db}(\alpha)^{256}\text{Lr}$	Highest energy event; other two $E_\alpha=8810$ and $8500$ keV										
* $^{260}\text{Db}(\alpha)^{256}\text{Lr}$	F : not observed in experiments with greater statistics										
* $^{260}\text{Db}(\alpha)^{256}\text{Lr}^p$	Two events $E_\alpha=9200$ and $9146$ ; error estimated by evaluator										
* $^{260}\text{Db}(\alpha)^{256}\text{Lr}^p$	Two events $E_\alpha=9156$ and $9129$ ; error estimated by evaluator										
* $^{260}\text{Db}(\alpha)^{256}\text{Lr}^p$	Eight events out of 14, $E_\alpha=9170$ 9050 9340 9400 9010 9100 9140 9130 keV										
* $^{260}\text{Db}(\alpha)^{256}\text{Lr}^p$	Two longer-lived $\alpha$ -escapes are assigned to the daughter										
* $^{260}\text{Bh}(\alpha)^{256}\text{Db}$	Other events $E_\alpha=10170$ , 10170 and 10190; 10080 and 10030										
$^{261}\text{Rf}(\alpha)^{257}\text{No}$	8652.9	20.	8650	50	-0.1	o			GSa	96Ho13	
	8652.9	20.			-0.1	o			GSa	02Ho11	
	8659	52			-0.3	o			GSa	03Tu05	*
	8642.6	50.			0.1	4			GSa	08Dv02	
	8652.9	50.			-0.1	4			RIm	11Ha13	*
	8642.6	60.			0.1	4			RIm	12Ha05	*
$^{261}\text{Rf}^m(\alpha)^{257}\text{No}^p$	8409.1	20.	8415	15	0.3	6			Bka	70Gh01	
	8388.8	30.			0.9	o			GSa	98Tu01	*
	8429.5	30.			-0.5	6			Dba	00La34	
	8470.0	50.			-1.1	U			GSa	08Ga08	*
	8419.3	50.			-0.1	6			GSa	08Dv02	
	8409.1	50.			0.1	6			RIm	11Ha13	
$^{261}\text{Db}(\alpha)^{257}\text{Lr}^p$	9069.2	20.	9068	14	-0.1	9			Bka	71Gh01	
	9069.2	40.			0.0	9			Lnz	04Ga29	
	9066.2	20.			0.1	9			GSa	10St14	
$^{261}\text{Sg}(\alpha)^{257}\text{Rf}$	9709.0	30.	9714	15	0.2	o			GSa	85Mu11	
	9713.1	20.			0.0	F			GSa	95Ho03	*
	9769.8	20.			-2.8	o			GSa	07St12	
	9713.7	15.				3			GSa	10St14	*
$^{261}\text{Bh}(\alpha)^{257}\text{Db}$	10562.1	25.	10500	50	-1.2	o			GSa	89Mu09	
	10507.3	75.			-0.1	o			Bka	06Fo02	*
	10492.1	75.			0.2	8			Bka	08Ne08	*
	10504.3	40.			-0.1	8			GSa	10He11	*
* $^{261}\text{Rf}(\alpha)^{257}\text{No}$	Two events with $E_\alpha=8500(+70-30)$ keV										
* $^{261}\text{Rf}(\alpha)^{257}\text{No}$	From direct production (fusion-evaporation)										
* $^{261}\text{Rf}(\alpha)^{257}\text{No}$	Decay chain of $^{265}\text{Sg}$ , observation is independent of previous item										
* $^{261}\text{Rf}^m(\alpha)^{257}\text{No}^p$	In addition 60% $E_\alpha=8380(30)$ keV										
* $^{261}\text{Rf}^m(\alpha)^{257}\text{No}^p$	Single event, decay time 103.2 s										
* $^{261}\text{Sg}(\alpha)^{257}\text{Rf}$	F : $\alpha$ 's to 157 level summed with conversion electron										
* $^{261}\text{Sg}(\alpha)^{257}\text{Rf}$	$E_\alpha=9410(15)$ to 157(1) level										
* $^{261}\text{Bh}(\alpha)^{257}\text{Db}$	$E_\alpha=10346(75)$ one event; error estimated by evaluator										
* $^{261}\text{Bh}(\alpha)^{257}\text{Db}$	Highest $E_\alpha$ ; error estimated; others 10054, 10285, 10113, 10165, 9989										
* $^{261}\text{Bh}(\alpha)^{257}\text{Db}$	Average of 2 highest 10331, 10355 as read from graph; error estimated										
$^{262}\text{Db}(\alpha)^{258}\text{Lr}^p$	8794.5	20.	8808	11	0.7	7			Bka	71Gh01	
	8815.8	20.			-0.4	7				88Gr30	
	8804.7	20.			0.2	7			GSa	99Dr09	
	8875.8	20.			-1.3	7			RIa	09Mo12	
$^{262}\text{Sg}(\alpha)^{258}\text{Rf}$	9599.7	15.				3			GSa	10Ac.A	
$^{262}\text{Bh}(\alpha)^{258}\text{Db}$	10216.2	25.	10319	15	4.1	F			GSa	89Mu09	*
	10300.5	25.4			0.7	o			GSa	97Ho14	
	10231.4	25.4			3.5	B			Bka	06Fo02	
	10239.2	30.			2.7	U			Bka	08Ne08	*
	10319.5	15.				9			GSa	09He20	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{262}\text{Bh}^m(\alpha)^{258}\text{Db}$	10531.7	25.	10530	50	0.1	o		GSa		89Mu09	
	10605.3	25.			-1.4	o		GSa		97Ho14	
	10509.3	75.			0.5	o		Bka		06Fo02	*
	10544.9	75.			-0.2	9		Bka		08Ne08	
	10534.1	15.			0.0	9		GSa		09He20	
$*^{262}\text{Bh}(\alpha)^{258}\text{Db}$	F : not highest line, see reference										
$*^{262}\text{Bh}(\alpha)^{258}\text{Db}$	$E_\alpha=10096, 10025, 10125 \text{ keV}$										
$*^{262}\text{Bh}(\alpha)^{258}\text{Db}$	$E_\alpha=10008(15) \text{ to } 156.5 \text{ level}$										
$*^{262}\text{Bh}^m(\alpha)^{258}\text{Db}$	Single event, error estimated by evaluator										
$^{263}\text{Rf}(\alpha)^{259}\text{No}^p$	8022	40	8022	29	0.0	7				93Gr.C	
	8022	40			0.0	7				99Ga.A	
$^{263}\text{Db}(\alpha)^{259}\text{Lr}^p$	8484.3	27.				8		Bka		92Kr01	
$^{263}\text{Sg}(\alpha)^{259}\text{Rf}$	9393.1	40.	9400	60	0.3	o		Bka		74Gh04	
	9403.3	60.				5		Bka		06Gr24	*
$^{263}\text{Sg}(\alpha)^{259}\text{Rf}^q$	9200.2	40.	9200	60	-0.1	o		Bka		74Gh04	
	9149.2	60.			0.8	o		Bka		94Gr08	
	9198.0	60.				6		Bka		06Gr24	*
$^{263}\text{Sg}^m(\alpha)^{259}\text{Rf}^p$	9391.1	20.	9390	13	-0.1	8		GSa		98Ho13	
	9382.9	50.8			0.1	o		Bka		03Gi05	
	9393.1	35.			-0.1	8		Ria		04Mo40	*
	9388.0	20.			0.1	8		Bka		04Fo08	
	9198.1	11.			17.4	F		GSa		10Ni14	*
$^{263}\text{Hs}(\alpha)^{259}\text{Sg}$	10733.5	60.				12		Bka		09Dr02	
$^{263}\text{Hs}^m(\alpha)^{259}\text{Sg}$	11058.5	60.				12		Bka		09Dr02	*
$*^{263}\text{Sg}(\alpha)^{259}\text{Rf}$	Two events $E_\alpha=9290$ and $9230 \text{ keV}$										
$*^{263}\text{Sg}(\alpha)^{259}\text{Rf}^q$	Four events $E_\alpha=9010, 9100, 9060$ and $9060 \text{ keV}$										
$*^{263}\text{Sg}^m(\alpha)^{259}\text{Rf}^p$	Also lower $E_\alpha=9130, 9040, 9150 \text{ keV}$										
$*^{263}\text{Sg}^m(\alpha)^{259}\text{Rf}^p$	F : the $\alpha$ chain originating from $^{267}\text{Hs}$ is in conflict with other data										
$*^{263}\text{Hs}^m(\alpha)^{259}\text{Sg}$	Assignment assumed by evaluator										
$^{264}\text{Bh}(\alpha)^{260}\text{Db}^p$	9767.3	20.	9760	18	-0.4	6		GSa		95Ho04	*
	9636.0	60.			2.1	U		Lnz		04Ga29	*
	9737.9	35.			0.6	6		Ria		04Mo26	*
$^{264}\text{Hs}(\alpha)^{260}\text{Sg}$	10870	210	10591	20	-1.3	o		GSa		87Mu15	*
	10590.8	20.				4		GSa		95Ho.B	
	10966.4	80.			-4.7	B		Ria		11Sa41	*
$*^{264}\text{Bh}(\alpha)^{260}\text{Db}^p$	Three more events in reference $E_\alpha=9365, 9514$ and $9113 \text{ keV}$										
$*^{264}\text{Bh}(\alpha)^{260}\text{Db}^p$	Three more events $E_\alpha=9501, 9481, 9440 \text{ keV}$										
$*^{264}\text{Bh}(\alpha)^{260}\text{Db}^p$	Six events; also two $E_\alpha=9830 \text{ keV}$										
$*^{264}\text{Hs}(\alpha)^{260}\text{Sg}$	$Q_\alpha=11000(+100-300)$ derived from T(1/2), one event only										
$*^{264}\text{Hs}(\alpha)^{260}\text{Sg}$	Also $E_\alpha=10610(40) \text{ keV}$										
$^{265}\text{Sg}(\alpha)^{261}\text{Rf}^m$	8945.3	60.	8980	50	0.7	F		Dba		94La22	*
	8904.7	30.			1.5	F		GSa		96Ho13	*
	8975.7	30.			0.1	o		GSa		98Tu01	
	9077.3	30.			-1.9	F		GSa		98Tu01	*
	9036.6	50.8			-1.1	o		GSa		03Tu05	
	8985.9	50.			-0.1	6		GSa		08Du09	
	8975.6	50.			0.1	6		RIm		12Ha05	
$^{265}\text{Sg}^m(\alpha)^{261}\text{Rf}^p$	8823.5	50.	8820	40	0.0	o		GSa		03Tu05	
	8813.3	40.			0.3	o		GSa		06Dv01	
	8823.5	50.			0.0	6		GSa		08Dv02	
	8843.8	40.			-0.5	o		Ria		08Mo09	
	8823.5	50.			0.0	6		RIm		12Ha05	
$^{265}\text{Bh}(\alpha)^{261}\text{Db}^p$	9381.9	50.				11		Lnz		04Ga29	
$^{265}\text{Hs}(\alpha)^{261}\text{Sg}$	10524.2	25.	10470	15	-2.1	o		GSa		87Mu15	
	10468.3	20.			0.1	o		GSa		95Ho03	
	10459.2	15.			0.7	o		GSa		99He11	*
	10470.2	15.				4		GSa		09He20	*

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{269}\text{Sg}(\alpha)^{265}\text{Rf}$	8699.6	100.				7					10El06
$^{269}\text{Hs}(\alpha)^{265}\text{Sg}^m$	9369.6	30.	9300	40	-2.4	o		GSa	96Ho13	*	
	9349.3	30.			-1.8	o		GSa	02Ho11	*	
	9278.3	50.			0.3	o		GSa	03Tu05	*	
	9207.0	30.			2.9	o		GSa	06Dv01		
	9267.9	30.			0.5	7		GSa	08Dv02		
	9349.2	71.1			-0.8	7		Ria	08Mo09		
$^{269}\text{Ds}(\alpha)^{265}\text{Hs}^m$	11280.1	20.				5		GSa	95Ho03		
$*^{269}\text{Hs}(\alpha)^{265}\text{Sg}^m$	Event number 2 only; first event rejected, see reference								02Ho11	**	
$*^{269}\text{Hs}(\alpha)^{265}\text{Sg}^m$	Two events $E_\alpha=9230, 9180$ both following $300\ \mu\text{s}^{273}\text{Ds}$								02Ho11	**	
$*^{269}\text{Hs}(\alpha)^{265}\text{Sg}^m$	Three events $E_\alpha=9180, 9100, 8880$ ; latter probably due to energy loss								03Tu05	**	
$^{270}\text{Bh}(\alpha)^{266}\text{Db}$	9064	80				10		Dba	07Og02		
$^{270}\text{Hs}(\alpha)^{266}\text{Sg}$	9324.3	52.8	9050	40	-5.3	B		GSa	03Tu05	*	
	9024	52			0.7	o		GSa	06Dv01		
	9013.8	50.			0.6	7		GSa	08Dv02		
	9123.4	77.			-1.0	7		GSa	10Gr04	*	
$^{270}\text{Mt}(\alpha)^{266}\text{Bh}$	10181.1	70.				10		Ria	08Mo09		
$^{270}\text{Ds}(\alpha)^{266}\text{Hs}$	11196	50	11117	28	-1.6	o		GSa	01Ho06		
	11116.9	28.				5		GSa	11Ac.A		
$^{270}\text{Ds}^m(\alpha)^{266}\text{Hs}$	12333	50	12510	50	3.5	B		GSa	01Ho06		
	12508.6	20.				5		GSa	11Ac.A		
$^{270}\text{Ds}^m(\alpha)^{266}\text{Hs}^m$	11318	50	11410	50	1.7	o		GSa	01Ho06		
	11405.2	52.				6		GSa	11Ac.A		
$*^{270}\text{Hs}(\alpha)^{266}\text{Sg}$	Symmetrized from $E_\alpha=9160(+70-30)$ ; also $E_\alpha=8970$ keV							GAu	**		
$*^{270}\text{Hs}(\alpha)^{266}\text{Sg}$	Symmetrized from $E_\alpha=9020(+50-100)$ ; independent from previous item							GAu	**		
$^{271}\text{Sg}(\alpha)^{267}\text{Rf}^p$	8658	80	8670	50	0.2	o		Dba	04Og12		
	8668	80				10		Dba	06Og05		
$^{271}\text{Bh}(\alpha)^{267}\text{Db}$	9490.2	162.				8		Dba	12St.A		
$^{271}\text{Hs}(\alpha)^{267}\text{Sg}^p$	9440	50				11		GSa	08Dv02		
$^{271}\text{Ds}(\alpha)^{267}\text{Hs}$	10869.8	20.	10870	18	0.0	7		GSa	98Ho13		
	10870.8	35.			0.0	7		Ria	04Mo40	*	
$^{271}\text{Ds}^m(\alpha)^{267}\text{Hs}$	10937.8	20.				7		Bka	04Fo08	*	
	10803.8	50.	10938	20	2.7	F			12Zh04	*	
$^{271}\text{Ds}^m(\alpha)^{267}\text{Hs}^m$	10899.2	20.	10899	13	0.0	8		GSa	98Ho13		
	10880.8	50.			0.3	o		Bka	03Gi05		
	10883.0	35.			0.4	8		Ria	04Mo40	*	
	10903.3	20.			-0.2	8		Bka	04Fo08	*	
$*^{271}\text{Ds}(\alpha)^{267}\text{Hs}$	Decay chain number 6 for the long-lived isomer, GAu interpretation								04Mo40	**	
$*^{271}\text{Ds}^m(\alpha)^{267}\text{Hs}$	Decay chain number 6, GAu interpretation								04Fo08	**	
$*^{271}\text{Ds}^m(\alpha)^{267}\text{Hs}$	F : $\alpha$ escaped ?								BPF126	**	
$*^{271}\text{Ds}^m(\alpha)^{267}\text{Hs}^m$	GAu : average of decay chains number 2, 5, 10, 13 for short-lived isomer								04Mo40	**	
$*^{271}\text{Ds}^m(\alpha)^{267}\text{Hs}^m$	Decay chains number 5 and 7, GAu interpretation								04Fo08	**	
$^{272}\text{Bh}(\alpha)^{268}\text{Db}^p$	9154.9	60.	9140	50	-0.2	o		Dba	04Og03		
	9144.6	60.				9		Dba	12Og02		
$^{272}\text{Rg}(\alpha)^{268}\text{Mt}$	10981.9	20.	11197	13	10.8	B		GSa	95Ho04	*	
	11191.9	20.			0.3	9		GSa	02Ho11	*	
	11184.7	35.			0.4	9		Ria	04Mo26	*	
	11207.2	20.			-0.5	9		Bka	04Fo08	*	
$*^{272}\text{Rg}(\alpha)^{268}\text{Mt}$	B : one event only; E(K) in coincidence may explain disagreement							GAu	**		
$*^{272}\text{Rg}(\alpha)^{268}\text{Mt}$	Two events $E_\alpha=11008$ and $11046$ keV							02Ho11	**		
$*^{272}\text{Rg}(\alpha)^{268}\text{Mt}$	Also others up to $E_\alpha=11560$ keV							04Mo26	**		
$*^{272}\text{Rg}(\alpha)^{268}\text{Mt}$	One event only							04Fo08	**		

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference	
$^{282}\text{Rg}(\alpha)^{278}\text{Mt}^p$	9129.8	100.					9			Dba	11Og04	
$^{282}\text{Cn}(\alpha)^{278}\text{Ds}$	9667.4	100.	10110#	200#			8.9	F			Dba	04Mo15 *
$^{282}\text{Ed}(\alpha)^{278}\text{Rg}$	10783	80					14			Dba	07Og02	
* $^{282}\text{Cn}(\alpha)^{278}\text{Ds}$	F : non tracable information										GAu	**
$^{283}\text{Cn}(\alpha)^{279}\text{Ds}^p$	9677	70	9660	50	-0.4	o			Dba	04Og07		
	9677.1	60.			-0.4	o			Dba	04Og12		
	9677.1	60.			-0.4	15			Dba	06Og05		
	9606.1	60.			1.0	15					07Ei02	
	9657	15			0.0	15			GSa	07Ho18		
	9788.6	100.			-2.7	U			Bka	09St21		
$^{283}\text{Ed}(\alpha)^{279}\text{Rg}^p$	10265.4	90.					12			Dba	04Og03	
$^{284}\text{Cn}(\alpha)^{280}\text{Ds}$	9301.3	50.	9540#	200#	4.8	F			Dba	01Og01 *		
	9269.0	100.			2.7	F			Dba	04Mo15 *		
$^{284}\text{Ed}(\alpha)^{280}\text{Rg}^p$	10150	60	10110	50	-0.7	o			Dba	04Og03		
	10112.6	50.					15			Dba	12Og02 *	
* $^{284}\text{Cn}(\alpha)^{280}\text{Ds}$	F : no $\alpha$ observed in later work by same group; re-assigned to $^{285}\text{Cn}$										04Og07 **	
* $^{284}\text{Cn}(\alpha)^{280}\text{Ds}$	F : non tracable information										GAu **	
* $^{284}\text{Ed}(\alpha)^{280}\text{Rg}^p$	Also $E_\alpha=9886(62)$ keV										12Og02 **	
$^{285}\text{Cn}(\alpha)^{281}\text{Ds}$	8793.7	50.	9320	50	10.5	F			Dba	99Og10 *		
	8793.7	100.			10.5	F			Dba	04Mo15 *		
	9290.7	60.			0.5	o			Dba	04Og07		
	9280.5	50.			0.7	6			Dba	07Og01		
	9341.2	30.			-0.5	o			GSt	10Du06		
	9341.2	30.			-0.5	6			GSt	11Ga19		
	9314.9	15.			0.1	6			GSa	12Ho12		
$^{285}\text{Cn}^m(\alpha)^{281}\text{Ds}^m$	9845.3	15.					6			GSa	12Ho12 *	
$^{285}\text{Ed}(\alpha)^{281}\text{Rg}$	9879.0	80.	10030	50	3.0	B			Dba	11Og04 *		
	10026.9	62.					11			Dba	12Og02 *	
* $^{285}\text{Cn}(\alpha)^{281}\text{Ds}$	F : one event at 15.4 m, later work yields much shorter half-lives										GAu **	
* $^{285}\text{Cn}(\alpha)^{281}\text{Ds}$	F : non tracable information										GAu **	
* $^{285}\text{Cn}^m(\alpha)^{281}\text{Ds}^m$	Assignment of $^{293}\text{Lv}^m - ^{289}\text{Fl}^m - ^{285}\text{Cn}^m - ^{281}\text{Ds}^m - ^{277}\text{Hs}^m$ chain is tentative										12Ho12 **	
* $^{285}\text{Ed}(\alpha)^{281}\text{Rg}$	And $E_\alpha=9480(110)$ keV										11Og04 **	
* $^{285}\text{Ed}(\alpha)^{281}\text{Rg}$	Also $E_\alpha=9740(80)$ and 9480(110) keV										12Og02 **	
$^{286}\text{Ed}(\alpha)^{282}\text{Rg}$	9766.9	100.					10			Dba	11Og04	
$^{286}\text{Fl}(\alpha)^{282}\text{Cn}$	10142.1	100.	10370	30	2.3	F			Dba	04Mo15 *		
	10172.4	314.4			0.6	o			Dba	04Og07		
	10345	60			0.4	o			Dba	04Og12		
	10334.7	60.9			0.6	11			Dba	06Og05		
	10375.4	40.			-0.1	11			Bka	09St21		
	10456.5	100.			-0.8	11			Bka	10El06		
* $^{286}\text{Fl}(\alpha)^{282}\text{Cn}$	F : non tracable information										GAu **	
$^{287}\text{Fl}(\alpha)^{283}\text{Cn}$	10435.8	20.	10160	50	-5.5	F			Dba	99Og07 *		
	10182.2	70.			-0.4	o			Dba	04Og07		
	10162	60			0.0	o			Dba	04Og12		
	10162	60					16			Dba	06Og05	
$^{287}\text{Ef}(\alpha)^{283}\text{Ed}$	10740	90	10740	60	0.0	o			Dba	04Og03		
	10740	60					13			Dba	12St.A	
* $^{287}\text{Fl}(\alpha)^{283}\text{Cn}$	F : 2 evts at 1.32 s, 14.4 s, later work yields T=1.7 s										GAu **	

**Table I. Comparison of input data and adjusted values (continued, Explanation of Table on page 1335)**

Item	Input value		Adjusted value		$v_i$	Dg	Signf.	Main infl.	Lab	F	Reference
$^{288}\text{Fl}(\alpha)^{284}\text{Cn}$	9968.8	50.	10072	13	2.1	F			Dba	01Og01	*
	9958.8	100.			1.1	F			Dba	04Mo15	*
	10090.3	80.			-0.2	o			Dba	04Og07	
	10090.3	70.			-0.3	o			Dba	04Og12	
	10080.2	60.8			-0.1	11			Dba	07Og01	
	10090.3	30.			-0.6	o			GSt	10Du06	
	10090.3	30.			-0.6	11			GSt	11Ga19	
	10067.0	15.			0.3	11			GSa	12Ho12	
$^{288}\text{Ef}(\alpha)^{284}\text{Ed}$	10607.7	60.	10630	50	0.4	o			Dba	04Og03	
	10627.8	60.				16			Dba	12Og02	
* $^{288}\text{Fl}(\alpha)^{284}\text{Cn}$	F : T=1800(+2100–600) ms, later work yields shorter half-lives								GAu	**	
*	re-assigned to $^{289}\text{Fl}$									04Og07	**
* $^{288}\text{Fl}(\alpha)^{284}\text{Cn}$	F : non traceable information								GAu	**	
$^{289}\text{Fl}(\alpha)^{285}\text{Cn}$	9846.6	50.	9970	50	2.4	F			Dba	99Og10	*
	9846.6	100.			2.4	F			Dba	04Mo15	*
	9958.1	60.			0.2	o			Dba	04Og07	
	9958.1	50.			0.2	7			Dba	07Og01	
	10008.8	30.			-0.9	o			GSt	10Du06	
	10008.8	30.			-0.9	7			GSt	11Ga19	
	9955.9	15.			0.2	7			GSa	12Ho12	
$^{289}\text{Fl}^m(\alpha)^{285}\text{Cn}^m$	10169.9	15.				7			GSa	12Ho12	*
$^{289}\text{Ef}(\alpha)^{285}\text{Ed}$	10455.0	90.	10520	50	1.4	o			Dba	11Og04	
	10522.8	62.				12			Dba	12Og02	*
* $^{289}\text{Fl}(\alpha)^{285}\text{Cn}$	F : one event at 30.4 s, later work yields much shorter half-lives								GAu	**	
* $^{289}\text{Fl}(\alpha)^{285}\text{Cn}$	F : non traceable information								GAu	**	
* $^{289}\text{Fl}^m(\alpha)^{285}\text{Cn}^m$	Assignment of $^{293}\text{Lv}^m - ^{289}\text{Fl}^m - ^{285}\text{Cn}^m - ^{281}\text{Ds}^m - ^{277}\text{Hs}^m$ chain is tentative									12Ho12	**
* $^{289}\text{Ef}(\alpha)^{285}\text{Ed}$	Also $E_\alpha = 10310(90)$ keV									12Og02	**
$^{290}\text{Ef}(\alpha)^{286}\text{Ed}^p$	10089.5	400.				12			Dba	11Og04	
$^{290}\text{Lv}(\alpha)^{286}\text{Fl}$	10920.9	100.	10990	80	1.4	F			Dba	04Mo15	*
	11000	80			-0.2	o			Dba	04Og07	
	10991.8	81.1				12			Dba	06Og05	
* $^{290}\text{Lv}(\alpha)^{286}\text{Fl}$	F : non traceable information								GAu	**	
$^{291}\text{Lv}(\alpha)^{287}\text{Fl}$	10890	70	10890	50	0.0	o			Dba	04Og07	
	10890	70				17			Dba	06Og05	
$^{292}\text{Lv}(\alpha)^{288}\text{Fl}$	10707.0	50.	10774	15	1.3	F			Dba	01Og01	*
	10676.5	100.			1.0	F			Dba	04Mo15	*
	10808.2	70.			-0.5	12			Dba	04Og12	
	10772.7	15.			0.1	12			GSa	12Ho12	
* $^{292}\text{Lv}(\alpha)^{288}\text{Fl}$	F : daughter and grand-daughter re-assigned to $^{289}\text{Fl}$ and $^{285}\text{Cn}$								GAu	**	
* $^{292}\text{Lv}(\alpha)^{288}\text{Fl}$	F : non traceable information								GAu	**	
$^{293}\text{Lv}(\alpha)^{289}\text{Fl}$	10676	60	10680	50	0.1	o			Dba	04Og07	
	10686	60			-0.1	8			Dba	07Og01	
	10678.9	15.			0.0	8			GSa	12Ho12	
$^{293}\text{Lv}^m(\alpha)^{289}\text{Fl}^m$	10647	15				8			GSa	12Ho12	*
$^{293}\text{Eh}(\alpha)^{289}\text{Ef}$	11182.8	80.				13			Dba	11Og04	
* $^{293}\text{Lv}^m(\alpha)^{289}\text{Fl}^m$	Assignment of $^{293}\text{Lv}^m - ^{289}\text{Fl}^m - ^{285}\text{Cn}^m - ^{281}\text{Ds}^m - ^{277}\text{Hs}^m$ chain is tentative									12Ho12	**
$^{294}\text{Eh}(\alpha)^{290}\text{Ef}^p$	10959.4	100.				14			Dba	11Og04	
$^{294}\text{Ei}(\alpha)^{290}\text{Lv}$	11800.9	100.	11810	60	0.1	F			Dba	04Mo15	*
	11810.9	60.			0.0	o			Dba	04Og12	
	11810.9	60.				13			Dba	06Og05	
* $^{294}\text{Ei}(\alpha)^{290}\text{Lv}$	F : non traceable information								GAu	**	
$^{295}\text{Ei}(\alpha)^{291}\text{Lv}$	11810.9	70.	11700#	200#	-2.2	F			Dba	04Og05	*