LA-8365-MS

Informal Report

PEFPYD - A Library of Aggregate Fission-Product

Decay Data Derived from ENDF/B-IV

LOS ALAMOS SCIENTIFIC LABORATORY

Post Office Box 1663   Los Alamos. New Mexico 87545

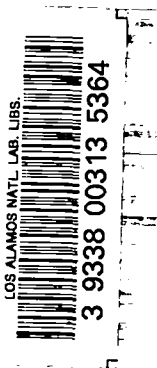This report was not edited by the Technical Information staff.

This work was supported by the US Department of Energy, Division of Reactor Research and Technology.

PEFPYD - A Library of Aggregate Fission-Product

Decay Data Derived from ENDF/B-IV

R. J. LaBauve
D. C. George

PEFPYD - A LIBRARY OF AGGREGATE FISSION-PRODUCT
DECAY DATA DERIVED FROM ENDF/B-IV

by

R. J. LaBauve and D. C. George

ABSTRACT

Results from summation calculations by the CINDER-10
and peripheral codes and fission-product decay, cross sec-
tion and yield data from the ENDF/B-IV have been incorporated
into a processed ENDF/B fission-product and energy-yield data
(PEFPYD) library. The organization and content of this basic
fine-group source-term library is described. The library con-
tains aggregate beta and gamma spectra produced by neutrons of
one or more energies incident upon six important nuclides.
Although the PEFPYD library is described in other Los Alamos
Scientific Laboratory reports, it is the purpose here to pro-
vide concise documentation for the library alone.

I. INTRODUCTION

The ENDF/B-IV fission-product files contain neutron cross sections, decay
constants, decay energies, and other decay data for 824 important fission prod-
ucts. They also contain fission yields for these fission products produced by
one or more fission-neutron energies (14 MeV, fast, and thermal fission) of
six important nuclides: ^{232}Th, ^{233}U, ^{235}U, ^{238}U, ^{239}Pu, and ^{241}Pu. Also, spec-
tral data (i.e., beta end-point energies and intensities, gamma-line energies
and intensities) exist for the most important decay-heat contributors among
the 824 nuclides. In ENDF/B-IV, beta-spectral data exist for 163 fission prod-
ucts, and gamma-spectral data exist for 172 nuclides (nuclides emitting both
beta and gamma radiation are included separately in both types of radiation
counts). The contents of the ENDF/B-IV fission-product file are detailed in
Refs. 1-3 and summarized in Table I.

In recent years, great emphasis has been placed on obtaining experimental and computational information on delayed energy release at short cooling times for nuclear reactor safety studies of the hypothetical loss-of-coolant-accident (LOCA). There is, however, also interest in long cooling times. A computer code system[4,5] has been developed at the Los Alamos Scientific Laboratory (LASL) that uses the ENDF/B-IV fission-product data to calculate cumulative delayed beta and gamma spectra on arbitrary energy grids for arbitrary irradiation histories and cooling times. This code system is shown in Fig. 1.

It can be noted in the figure that the basic ENDF/B-IV fission-product data library is accessed along three paths. The center path, after the preparation of an input library, proceeds via the CINDER-10 code. CINDER-10 is the latest and most versatile version of CINDER, a well-known fission-product and depletion code. The most recent documentation on CINDER is Ref. 4 (for Version 7), but the additional features of Version 10 are discussed in Ref. 6. CINDER-10 calculates fission-product and actinide concentrations, activities, gaseous contents, energy releases, effective group absorption cross sections, etc. for any fissionable nuclide mixture irradiated in arbitrary neutron fluxes for arbitrary intervals of time followed by arbitrary cooling times. The neutron cross sections[7,8] used in CINDER-10 are generated by spectrum collapse of multigroup data generated with the NJOY code.[9] This input path to CINDER-10 is the lower path shown in the figure. Spectrum collapse is achieved with the TOAFEW[8] code.

The ENDF/B-IV data is also accessed by the FPDCYS code along the upper processing path shown in Fig. 1. This code is used to generate multigroup beta and gamma spectra for individual nuclides for which spectral data exist on the ENDF/B-IV file. FPDCYS incorporates four options for calculating beta spectra and two options for calculating gamma spectra. The differences among the four beta-spectrum options are mainly in the ways in which the Fermi function $F(Z,W)$ is represented and calculated. The first of the two gamma-spectrum options consists of incorporating the unbroadened lines weighted by their intensities into an arbitrary number of energy groups. Alternatively, gamma lines are broadened according to detector resolutions before multigrouping in the second option.

The output of FPDCYS and the output of CINDER-10 are input to the FPSPEC code. Actually, only a small portion of the CINDER-10 output is utilized, namely, fission-product activities and total decay energies at the instant of time when corresponding spectra are sought. FPSPEC combines the individual

TABLE I

SUMMARY OF ENDF/B-IV FISSION-PRODUCT DATA FILE CONTENT

824   Nuclides (total)

181   Have differential cross sections

180   Have individual β and γ "lines" (spectral data consisting of energies and intensities)

712   Are unstable and each has an average β, γ, and α energy and branching fraction

10   Yield sets for 6 fissionable nuclides ($\sim$10 000 yields)

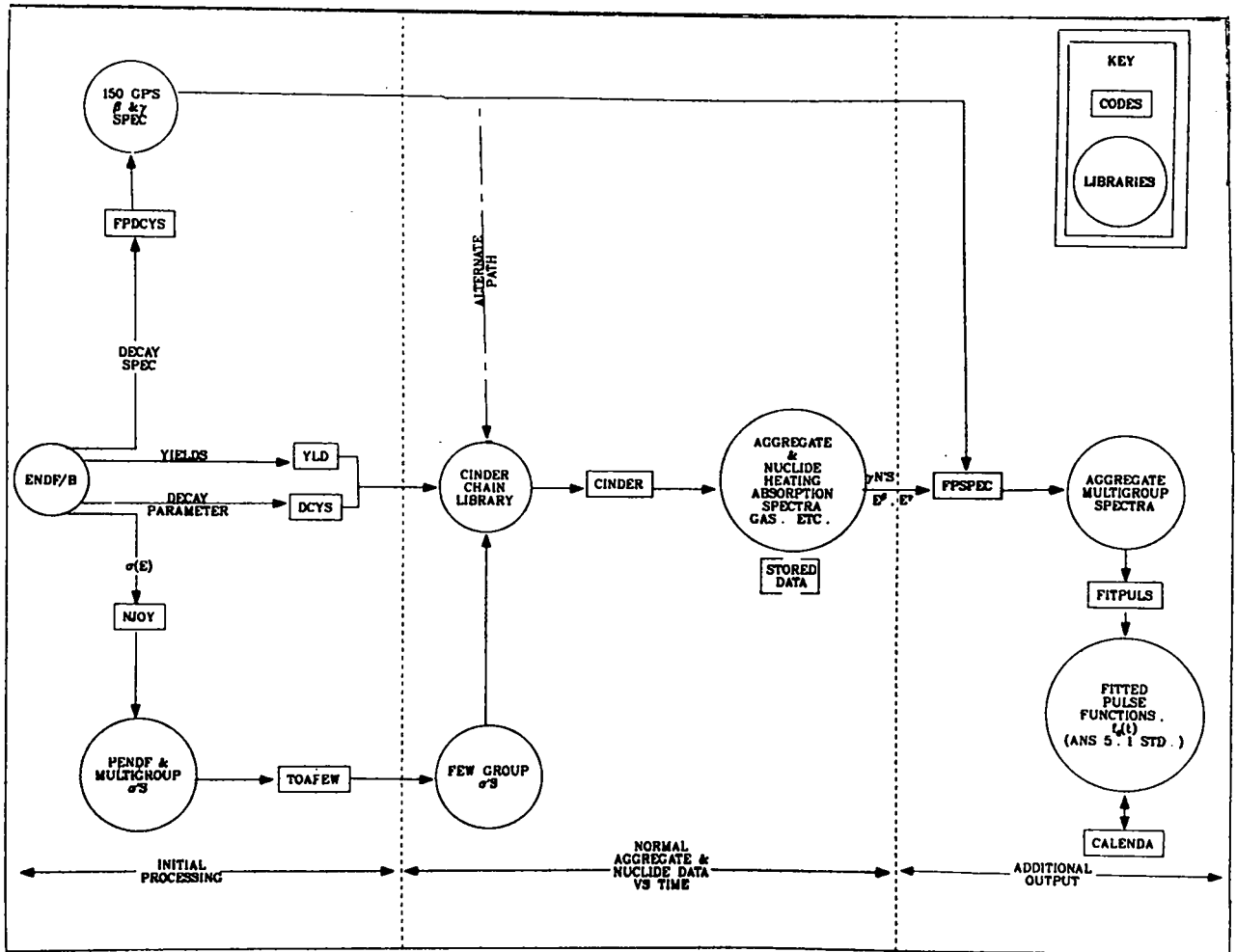($\sim$310 000 Data entries required in ENDF/B-IV)

Fig. 1.
LASL nuclide processing codes and libraries.

3

spectra from FPDCYS and the nuclide activities from CINDER-10 to generate aggregate fission-product spectra for each irradiation and shutdown time. Note that CINDER-10 also incorporates a spectral subroutine capable of utilizing the multigroup data produced by the FPDCYS code. Plots of sample output from FPSPEC are shown in Figs. 2-5. In these illustrations, the calculated spectra are compared with the LASL experiment cited in Ref. 10.

As indicated above, spectral data are not available for all 824 fission products in ENDF/B-IV, and missing spectra must be approximately constructed. This is done for a particular nuclide by assuming that the shape of the beta (or gamma) spectrum for the nuclide is approximated by the spectrum shape of the aggregate 181 nuclides from a pulse after a cooling time approximately equal to the half-life of the nuclide in question. This shape is then normalized to the average beta- (gamma-) decay energy of the nuclide. Figures 6 and 7, respectively, compare the gamma spectra of ^{139}Cs with those constructed for a hypothetical nuclide having the same half-life and average gamma- and beta-decay energies as ^{139}Cs. The nuclide ^{139}Cs is a relatively important nuclide in the 0.1-s cooling time bin for 20 000-h thermal irradiation of ^{235}U. *However, it should be noted that such constructed individual spectra are used only in the aggregate.*

The libraries used in the CINDER-10 and auxiliary codes FPDCYS and FPSPEC are extensive and the codes are designed to use the libraries for any specified irradiation history. However, for many users the scope of application is unnecessary and aggregate results, rather than the detailed nuclide-by-nuclide output, are needed. The purpose of this report and the codes described in Ref. 11 is to eliminate the need for extensive summation code calculations for a wide range of problems. The summation codes and libraries have been used to produce multigroup beta and gamma spectra vs time following fission pulses, including the components of the spectra due to halogens and noble gases for a wide range of applications.

We have used the summation codes and libraries to produce secondary aggregate libraries and pulse functions shown as "additional output" in Fig. 1, which can be used directly or incorporated into neutronics codes. In particular, we have

- Used the summation codes to produce beta- and gamma-temporal spectra in 150 groups following fission pulses for each fuel and fission neutron energy in ENDF/B-IV and stored the results in formats similar to ENDF/B. These files delineate the noble gas and halogen spectra. Users can readily collapse the results to other multigroup spectra.
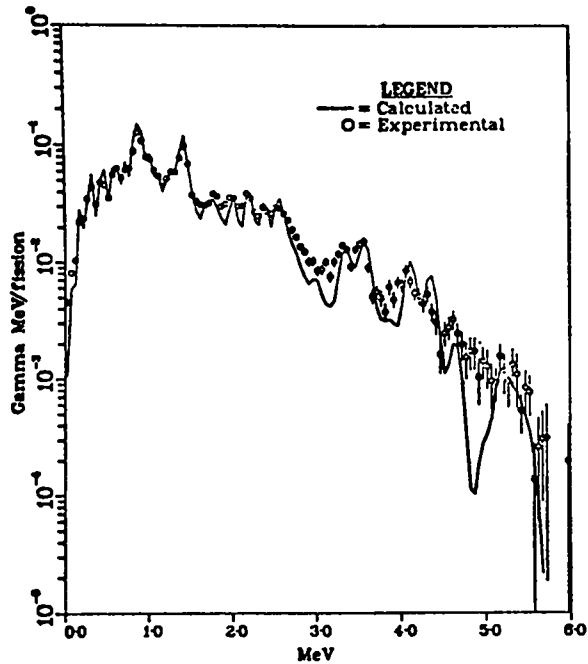
4

Fig. 2.

Gamma spectrum 5.56-h irradiation of ^{235}U, 70-s cooling.
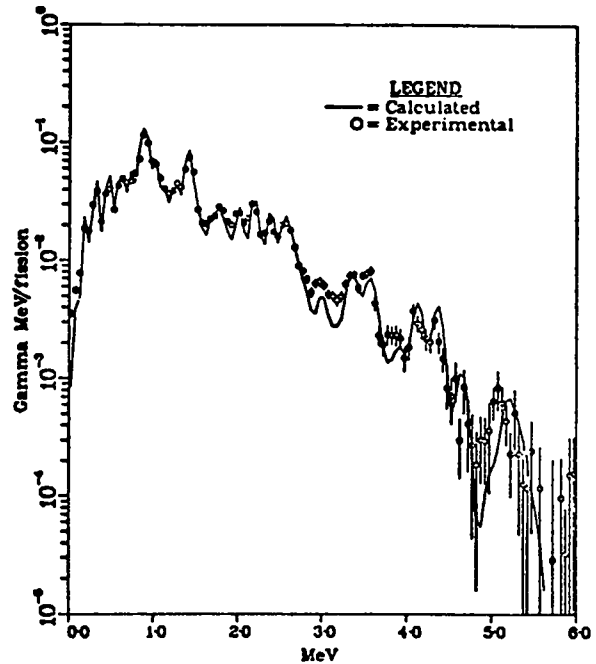
Fig. 3.

Gamma spectrum, 5.56-h irradiation of ^{235}U, 199-s cooling.
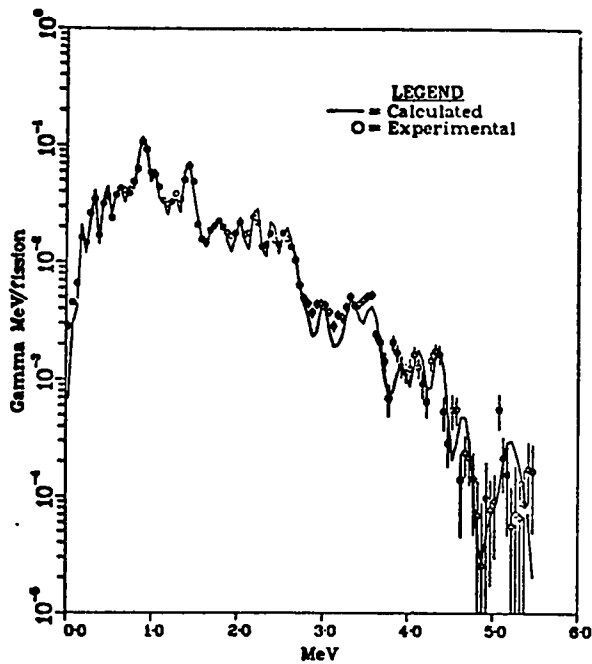
Fig. 4.

Gamma spectrum, 5.56-h irradiation of ^{235}U, 388-s cooling.
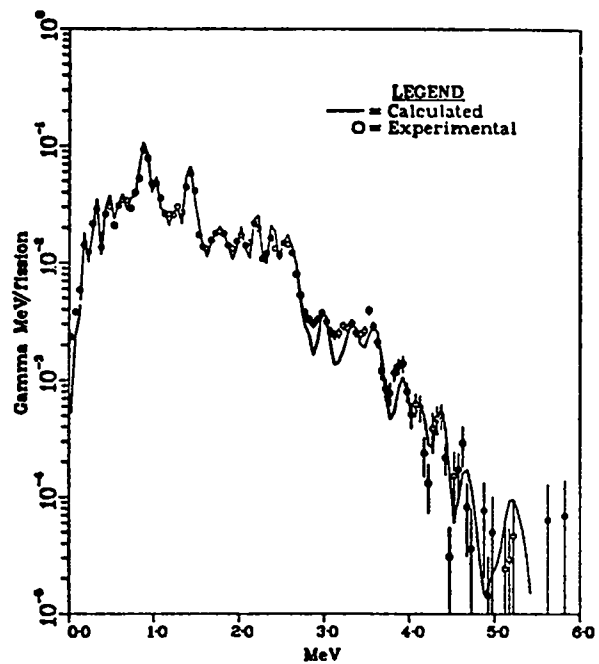
Fig. 5

Gamma spectrum, 5.56-h irradiation of ^{235}U, 660-s cooling.

5
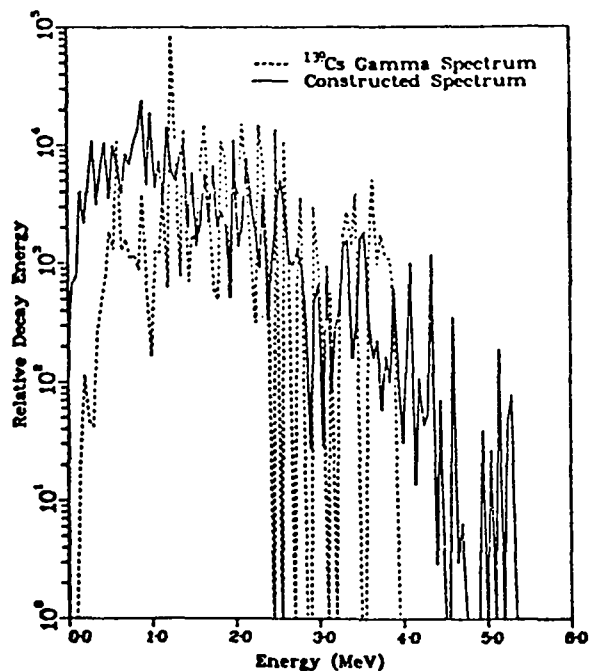
Fig. 6.

139Cs gamma spectrum compared with
constructed spectrum.
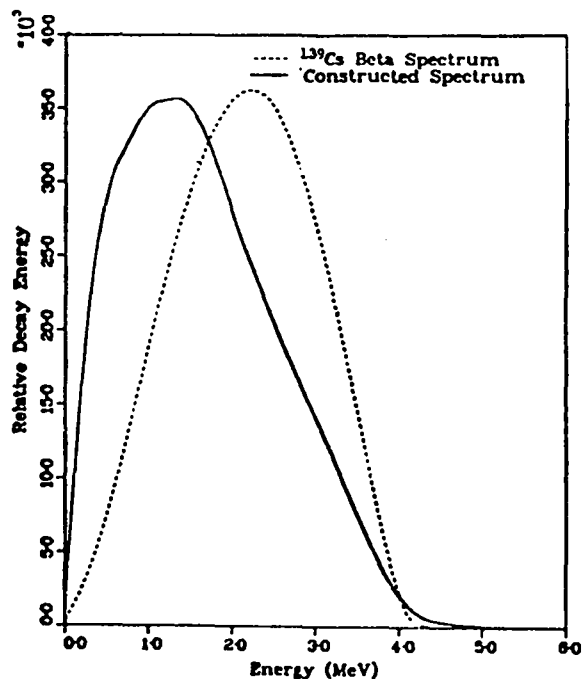
Fig. 7.

139Cs beta spectrum compared with
constructed spectrum.

● Collapsing and exponential fitting and folding codes have been developed,
the latter being useful for generation of spectra following finite power
histories.[11,12]

● For immediate use, exponential fits to a particular few-group spectra have
been made available.[11,12]

Because the spectra are based on fission pulses, the libraries have a gen-
eral utility. The exponential fits, for example, can be folded into any power
(fission) history that can be described analytically or by a histogram repre-
sentation. The effects of neutron absorption are also treated and approxi-
mately accounted for in the methodology.[11]

II. LIBRARY FOR PROCESSED ENDF/B AGGREGATE FISSION PRODUCT SPECTRA

Of particular interest is the application of the LASL code system to pro-
duce delayed beta- and gamma-spectral data on a fine energy grid (150 groups in
0.05 MeV steps from 0 to 7.5 MeV) for irradiation of the ENDF/B-IV fissionable
nuclides with very short pulses (typically 10^{-4}-s irradiation time; shorter
pulses do not alter the calculated spectra) of thermal, fast, and 14-MeV neu-
trons. The results can then be further processed into broad groups and fit with

6

functions of the type $f_c(t) = \sum_{i=1}^{n} \alpha_i e^{-\lambda_i t}$, as described in Refs. 11 and 12.

The fine-group results from the LASL code system are assembled into a single library in an ENDF-like format.[13] Definitions for the format for this processed ENDF/B fission-product and energy-yield data (PEFPYD) library are as follows.

MAT: Mat-No. of target nucleus, same as in ENDF/B.

MF: File No., used to identify energy type of incident neutron, defined as follows:

MF=80 – fission induced by thermal neutrons

MF=81 – fission induced by fast neutrons

MF=82 – fission induced by high-energy (14-MeV) neutrons.

Fission nuclide and energy combinations available in ENDF/B-IV are given in Table II.

MT: Section number used to describe data contents of the section. MT numbers are as follows:

MT=801 – delayed energy/fission for β^- + γ summed over all fission products

MT=802 – delayed energy/fission for β^- summed over all fission products

MT=803 – delayed energy/fission for γ summed over all fission products

MT=811 – delayed energy/fission for β^- + γ summed over all gaseous fission products (halogens plus noble gases)

MT=812 – delayed energy/fission for β^- summed over all gaseous fission products

MT=813 – delayed energy/fission for γ summed over all gaseous fission products

MT=821 – delayed energy/fission for γ + β^- summed over the noble gas fission products

MT=822 – delayed energy/fission for β^- summed over noble gas fission products

MT=823 – delayed energy/fission for γ summed over noble gas fission products

MT=831 – delayed energy/fission for β^- + γ summed over halogen fission products

MT=832 – delayed energy/fission for β^- summed over halogen fission products

MT=833 – delayed energy/fission for γ summed over halogen fission products

Other MT-numbers can be defined as needed; for example, MT-numbers could be assigned to any of the above spectra summed over energy.

TABLE II

FISSION YIELD DATA IN ENDF/B-IV

| Nuclide | Incident Neutron Energy Type | | |
	Thermal	Fast	High Energy (14 MeV)
^{232}Th	--	Yes	No
^{233}U	Yes	No	No
^{235}U	Yes	Yes	Yes
^{238}U	--	Yes	Yes
^{239}Pu	Yes	Yes	No
^{241}Pu	Yes	No	No

The data are given in a TAB2 record with tables of spectra (decay energy/ fission vs energy) given for a number of cooling times. Standard ENDF/B interpolation schemes between cooling times (TAB2 interpolation) are not recommended and, in any case, would be of interest only for fission pulses. However, when the pulse data are placed on a broad-group mesh and fitted with parameters as described in Refs. 11 and 12, calculations for any irradiation-cooling time combinations are possible, precluding the need for interpolation on the fine grid. Histogram interpolation is assigned for TAB1 interpolations.

File 1 (MF=1) information is also included, giving some processing information and a "dictionary" of the data to follow. The structure of MF=1 is as described in ENDF-102.[13] The structure of a section containing the processed data is

```
[MAT,MF,MT/ZA,AWR,0,0,0,0] HEAD
[MAT,MF,MT/0.0,0.0,0,0,1,NTS/TS_int] TAB2
[MAT,MF,MT/0.0,TS_1,0,0,1,NP/E'_int/DE(E',TS_1)] TAB1
[MAT,MF,MT/0.0,TS_2,0,0,1,NP/E'_int/DE(E',TS_2)] TAB1
- - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -
[MAT,MF,MT/0.0,TD_NFS,0,0,1,NP/E'_int/DE(E',TS_NTS)] TAB1
[MAT,MF,MT/0.0,0.0,0,0,0,0] SEND
```

where

TS = cooling time step in seconds

DE = decay energy in MeV/fission   (MeV/s)/(fiss/s)

E' = energy of particle (β^-) [photon (γ)] in MeV

NTS = number of cooling time steps given for a particular MT

NP = number of DE,E' pairs given in a particular TAB1 record.

Other quantities are defined in ENDF-102. Note that interpolation along cooling-time steps (the TAB2 records) is always set to zero, meaning that interpolation is not recommended, and that interpolation is always set to one (histogram) for the TAB1 records. A sample PEFPYD listing is given in Appendix A.

REFERENCES

1. Fission-Product Decay Library of the Evaluated Data File, Version IV (ENDF/B-IV). [Available from and maintained by the National Nuclear Data Center (NNDC) at the Brookhaven National Laboratory; these data were compiled by a two-year task force chaired by R. E. Schenter.]

2. T. R. England and R. E. Schenter, "ENDF/B-IV Fission-Product Files: Summary of Major Nuclide Data," Los Alamos Scientific Laboratory report LA-6116-MS (ENDF-223) (October 1975).

3. C. W. Reich, R. G. Helmer, and M. H. Putnam, "Radioactive-Nuclide Decay Data for ENDF/B," Aerojet Nuclear Company report ANCR=1157 (ENDF-120) (August 1974).

4. T. R. England, R. Wilczynski, and N. L. Whittemore, "CINDER-7: An Interim Report for Users," Los Alamos Scientific Laboratory report LA-5885-MS (April 1975).

5. M. G. Stamatelatos and T. R. England, "FPDCYS and FPSPEC, Computer Programs for Calculating Fission-Product Beta and Gamma Multigroup Spectra from ENDF/B IV Data," Los Alamos Scientific Laboratory report LA-NUREG-6818-MS (May 1977).

6. T. R. England, M. G. Stamatelatos, and N. L. Whittemore in "Applied Nuclear Data Research and Development," Los Alamos Scientific Laboratory report LA-6472-PR (1976) p. 60, and "Applied Nuclear Data Research and Development," Los Alamos Scientific Laboratory report LA-6266-PR (1976), p. 13.

7. W. B. Wilson, T. R. England, M. G. Stamatelatos, and R. J. LaBauve, "ENDF/B-IV Fission Product Cross Sections: Absorption Buildup in Thermal Reactors," Trans. Am. Nucl. Soc. 26, 592 (June 1977).

8. W. B. Wilson, T. R. England, and R. J. LaBauve, "Multigroup and Few-Group Cross Sections for ENDF/B-IV Fission Products; The TOAFEW Collapsing Code and Data File of 154-Group Fission-Product Cross Sections," Los Alamos Scientific Laboratory report LA-7174-MS (March 1978).

9. R. E. MacFarlane and R. M. Boicourt, "NJOY: A Neutron and Photon Cross Section Processing System," Trans. Am. Nucl. Soc. 22, 720 (November 1975).

10. E. T. Jurney, P. J. Bendt, and T. R. England, "Fission Product Gamma Spectra," Los Alamos Scientific Laboratory report LA-7620-MS (1979).

11. R. J. LaBauve, T. R. England, D. C. George, and M. G. Stamatelatos, "The Application of a Library of Processed ENDF/B-IV Fission-Product Aggregate Decay Data in the Calculation of Decay-Energy Spectra," Los Alamos Scientific Laboratory report LA-7483-MS (1978).

12. R. J. LaBauve, D. C. George, and T. R. England, "FITPULS, A Code for Obtaining Analytic Fits to Aggregate Fission Product Decay-Energy Spectra," Los Alamos Scientific Laboratory report LA-8277-MS (1980).

13. D. Garber, C. Dunford, and S. Pearlstein, Eds., "ENDF-102 Data Formats and Procedures for the Evaluated Nuclear Data File, ENDF," Brookhaven National Laboratory report BNL-NCS-50496 (ENDF-102) (General Reactor Technology TID-4500) (October 1975).

APPENDIX A

SAMPLE PEFPYD-LIB LISTING

```
U-233 (MAT 1260) THERMAL                                           850
9.2233E+04 2.3104E+02         0          0          0       01260 1451      1
               0          0          0          0          0       01260 1451      2
               0          0          0          0          6     131260 1451      3
92 U 233 LASL PROCESSED MARCH 78, R.J. LABAUVE, D.C. GEORGE         1260 1451      4
THERMAL BURST                                                       1260 1451      5
                                                                    1260 1451      6
U-233  FISSION PRODUCT DECAY SPECTRA PROCESSED FROM ENDF/B-IV       1260 1451      7
IN  150 ENERGY GROUPS                                               1260 1451      8
                                                                    1260 1451      9
                               1        451         22             1260 1451     10
                              80        801       1202             1260 1451     11
                              80        802       1208             1260 1451     12
                              80        803       1029             1260 1451     13
                              80        811        866             1260 1451     14
                              80        812        858             1260 1451     15
                              80        813        750             1260 1451     16
                              80        821        793             1260 1451     17
                              80        822        725             1260 1451     18
                              80        823        705             1260 1451     19
                              80        831        816             1260 1451     20
                              80        832        817             1260 1451     21
                              80        833        711             1260 1451     22
                                                                    1260   1   0   23
                                                                    1260   0   0   24
9.2233E+04 2.3104E+02         0          0          0     0126080801     25
0.          0.                0          0          1   24126080801     26
          24          0           0          0          0     0126080801     27
0.          0.                0          0          1  151126080801     28
         151          1           0          0          0     0126080801     29
0.00000+ 0 3.52841- 9 5.00000- 2 3.22830- 8 1.00000- 1 1.59743- 6126080801     30
1.50000- 1 1.29132- 7 2.00000- 1 2.00277- 1 2.50000- 1 5.24900- 7126080801     31
3.00000- 1 1.46303- 7 3.50000- 1 5.16394- 7 4.00000- 1 4.57273- 7126080801     32
4.50000- 1 1.79141- 6 5.00000- 1 3.13850- 6 5.50000- 1 2.24957- 6126080801     33
6.00000- 1 1.02391- 6 6.50000- 1 2.94562- 7 7.00000- 1 5.01967- 7126080801     34
7.50000- 1 4.02570- 7 8.00000- 1 8.84510- 6 8.50000- 1 3.83292- 7126080801     35
9.00000- 1 4.63775- 7 9.50000- 1 7.17263- 7 1.00000+ 0 4.42816- 7126080801     36
1.05000+ 0 5.85547- 7 1.10000+ 0 1.16917- 6 1.15000+ 0 4.29634- 7126080801     37
1.20000+ 0 1.46699- 6 1.25000+ 0 9.80709- 7 1.30000+ 0 1.04599- 6126080801     38
1.35000+ 0 6.24308- 7 1.40000+ 0 1.37299- 6 1.45000+ 0 7.48766- 7126080801     39
1.50000+ 0 8.40361- 7 1.55000+ 0 7.56328- 7 1.60000+ 0 6.60622- 7126080801     40
1.65000+ 0 6.75008- 7 1.70000+ 0 7.09880- 7 1.75000+ 0 8.13122- 7126080801     41
1.80000+ 0 6.81674- 7 1.85000+ 0 7.67507- 7 1.90000+ 0 7.07847- 7126080801     42
1.95000+ 0 8.24278- 7 2.00000+ 0 7.69455- 7 2.05000+ 0 7.30857- 7126080801     43
2.10000+ 0 7.91940- 7 2.15000+ 0 7.33980- 7 2.20000+ 0 7.74519- 7126080801     44
2.25000+ 0 7.99570- 7 2.30000+ 0 8.16737- 7 2.35000+ 0 7.56370- 7126080801     45
2.40000+ 0 8.13900- 7 2.45000+ 0 1.01530- 6 2.50000+ 0 8.09945- 7126080801     46
2.55000+ 0 9.88650- 7 2.60000+ 0 8.04170- 7 2.65000+ 0 7.30580- 7126080801     47
2.70000+ 0 9.72319- 7 2.75000+ 0 8.17771- 7 2.80000+ 0 7.95744- 7126080801     48
2.85000+ 0 7.95623- 7 2.90000+ 0 7.35827- 7 2.95000+ 0 6.62025- 7126080801     49
3.00000+ 0 6.55776- 7 3.05000+ 0 6.49929- 7 3.10000+ 0 6.56404- 7126080801     50
3.15000+ 0 6.18492- 7 3.20000+ 0 5.86942- 7 3.25000+ 0 5.67708- 7126080801     51
3.30000+ 0 5.66665- 7 3.35000+ 0 5.71881- 7 3.40000+ 0 5.52659- 7126080801     52
3.45000+ 0 5.03448- 7 3.50000+ 0 5.11400- 7 3.55000+ 0 6.72931- 7126080801     53
3.60000+ 0 5.00557- 7 3.65000+ 0 4.40259- 7 3.70000+ 0 4.35109- 7126080801     54
3.75000+ 0 4.14150- 7 3.80000+ 0 4.19857- 7 3.85000+ 0 3.61260- 7126080801     55
3.90000+ 0 3.53650- 7 3.95000+ 0 3.33614- 7 4.00000+ 0 3.15213- 7126080801     56
4.05000+ 0 3.98422- 7 4.10000+ 0 3.80571- 7 4.15000+ 0 2.71014- 7126080801     57
4.20000+ 0 2.65225- 7 4.25000+ 0 2.97022- 7 4.30000+ 0 2.32238- 7126080801     58
4.35000+ 0 2.50161- 7 4.40000+ 0 2.34331- 7 4.45000+ 0 2.08048- 7126080801     59
4.50000+ 0 2.02252- 7 4.55000+ 0 1.78017- 7 4.60000+ 0 2.25345- 7126080801     60
4.65000+ 0 1.62566- 7 4.70000+ 0 1.56367- 7 4.75000+ 0 1.51789- 7126080801     61
4.80000+ 0 1.93194- 7 4.85000+ 0 1.43603- 7 4.90000+ 0 1.64057- 7126080801     62
4.95000+ 0 1.37519- 7 5.00000+ 0 1.32088- 7 5.05000+ 0 1.48632- 7126080801     63
5.10000+ 0 1.24321- 7 5.15000+ 0 1.83454- 7 5.20000+ 0 1.68122- 7126080801     64
5.25000+ 0 1.13946- 7 5.30000+ 0 1.30808- 7 5.35000+ 0 1.19694- 7126080801     65
5.40000+ 0 1.14889- 7 5.45000+ 0 1.18455- 7 5.50000+ 0 1.04031- 7126080801     66
5.55000+ 0 1.53411- 7 5.60000+ 0 1.37958- 7 5.65000+ 0 8.42803- 8126080801     67
5.70000+ 0 9.90772- 8 5.75000+ 0 7.79808- 8 5.80000+ 0 7.49872- 8126080801     68
5.85000+ 0 9.05274- 8 5.90000+ 0 9.39758- 8 5.95000+ 0 6.67026- 8126080801     69
6.00000+ 0 1.01889- 7 6.05000+ 0 6.16226- 8 6.10000+ 0 8.19061- 8126080801     70
```

```
6.15000+ 0 5.65372- 8 6.20000+ 0 5.74158- 8 6.25000+ 0 5.13914- 8126080801   71
6.30000+ 0 4.88171- 8 6.35000+ 0 4.62415- 8 6.40000+ 0 4.36638- 8126080801   72
6.45000+ 0 4.11090- 8 6.50000+ 0 3.85459- 8 6.55000+ 0 3.60262- 8126080801   73
6.60000+ 0 3.35521- 8 6.65000+ 0 3.11016- 8 6.70000+ 0 2.86899- 8126080801   74
6.75000+ 0 2.63316- 8 6.80000+ 0 2.40447- 8 6.85000+ 0 2.18150- 8126080801   75
6.90000+ 0 1.96579- 8 6.95000+ 0 1.75811- 8 7.00000+ 0 1.55985- 8126080801   76
7.05000+ 0 1.37119- 8 7.10000+ 0 1.19289- 8 7.15000+ 0 1.02689- 8126080801   77
7.20000+ 0 8.73188- 9 7.25000+ 0 7.32971- 9 7.30000+ 0 6.07581- 9126080801   78
7.35000+ 0 4.97810- 9 7.40000+ 0 4.04345- 9 7.45000+ 0 3.28865- 9126080801   79
7.50000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0126080801   80
0.            1.0000E-01                0              0              1        151126080801   81
          151                         1              0              0            0126080801   82
0.00000+ 0 3.26427- 9 5.00000- 2 3.00945- 8 1.00000- 1 1.35166- 6126080801   83
1.50000- 1 1.17927- 7 2.00000- 1 1.83238- 7 2.50000- 1 4.80269- 7126080801   84
3.00000- 1 1.31992- 7 3.50000- 1 4.71329- 7 4.00000- 1 4.03604- 7126080801   85
4.50000- 1 1.56042- 6 5.00000- 1 2.77795- 6 5.50000- 1 1.96015- 6126080801   86
6.00000- 1 9.32578- 7 6.50000- 1 2.68349- 7 7.00000- 1 4.57189- 7126080801   87
7.50000- 1 3.66561- 7 8.00000- 1 7.44415- 8 8.50000- 1 3.44860- 7126080801   88
9.00000- 1 4.22588- 7 9.50000- 1 6.51400- 7 1.00000+ 0 3.97354- 7126080801   89
1.05000+ 0 5.30506- 7 1.10000+ 0 1.06085- 6 1.15000+ 0 3.87395- 7126080801   90
1.20000+ 0 1.26719- 6 1.25000+ 0 8.84027- 7 1.30000+ 0 9.51841- 7126080801   91
1.35000+ 0 5.58925- 7 1.40000+ 0 1.25644- 6 1.45000+ 0 6.77143- 7126080801   92
1.50000+ 0 7.59974- 7 1.55000+ 0 6.81808- 7 1.60000+ 0 5.94550- 7126080801   93
1.65000+ 0 6.06114- 7 1.70000+ 0 6.36427- 7 1.75000+ 0 7.31142- 7126080801   94
1.80000+ 0 6.10315- 7 1.85000+ 0 6.86816- 7 1.90000+ 0 6.33232- 7126080801   95
1.95000+ 0 7.40153- 7 2.00000+ 0 6.87971- 7 2.05000+ 0 6.51582- 7126080801   96
2.10000+ 0 7.08404- 7 2.15000+ 0 6.54507- 7 2.20000+ 0 6.91587- 7126080801   97
2.25000+ 0 7.14390- 7 2.30000+ 0 7.30416- 7 2.35000+ 0 6.73448- 7126080801   98
2.40000+ 0 7.25535- 7 2.45000+ 0 9.02309- 7 2.50000+ 0 7.23584- 7126080801   99
2.55000+ 0 8.89761- 7 2.60000+ 0 7.17790- 7 2.65000+ 0 6.49278- 7126080801  100
2.70000+ 0 8.65183- 7 2.75000+ 0 7.29565- 7 2.80000+ 0 7.05783- 7126080801  101
2.85000+ 0 7.10765- 7 2.90000+ 0 6.54981- 7 2.95000+ 0 5.86755- 7126080801  102
3.00000+ 0 5.81519- 7 3.05000+ 0 5.75780- 7 3.10000+ 0 5.81924- 7126080801  103
3.15000+ 0 5.46665- 7 3.20000+ 0 5.19562- 7 3.25000+ 0 5.02102- 7126080801  104
3.30000+ 0 5.01930- 7 3.35000+ 0 5.08229- 7 3.40000+ 0 4.90639- 7126080801  105
3.45000+ 0 4.45334- 7 3.50000+ 0 4.53535- 7 3.55000+ 0 6.06356- 7126080801  106
3.60000+ 0 4.45248- 7 3.65000+ 0 3.88778- 7 3.70000+ 0 3.85434- 7126080801  107
3.75000+ 0 3.66869- 7 3.80000+ 0 3.72868- 7 3.85000+ 0 3.19040- 7126080801  108
3.90000+ 0 3.12778- 7 3.95000+ 0 2.94852- 7 4.00000+ 0 2.78479- 7126080801  109
4.05000+ 0 3.57605- 7 4.10000+ 0 3.41549- 7 4.15000+ 0 2.39684- 7126080801  110
4.20000+ 0 2.34814- 7 4.25000+ 0 2.65876- 7 4.30000+ 0 2.05854- 7126080801  111
4.35000+ 0 2.24058- 7 4.40000+ 0 2.08020- 7 4.45000+ 0 1.85383- 7126080801  112
4.50000+ 0 1.79894- 7 4.55000+ 0 1.58358- 7 4.60000+ 0 2.01107- 7126080801  113
4.65000+ 0 1.44771- 7 4.70000+ 0 1.39300- 7 4.75000+ 0 1.35261- 7126080801  114
4.80000+ 0 1.72003- 7 4.85000+ 0 1.27919- 7 4.90000+ 0 1.46056- 7126080801  115
4.95000+ 0 1.22569- 7 5.00000+ 0 1.17626- 7 5.05000+ 0 1.32343- 7126080801  116
5.10000+ 0 1.10689- 7 5.15000+ 0 1.63524- 7 5.20000+ 0 1.49543- 7126080801  117
5.25000+ 0 1.01508- 7 5.30000+ 0 1.16525- 7 5.35000+ 0 1.06498- 7126080801  118
5.40000+ 0 1.02971- 7 5.45000+ 0 1.05369- 7 5.50000+ 0 9.30944- 8126080801  119
5.55000+ 0 1.36378- 7 5.60000+ 0 1.22646- 7 5.65000+ 0 7.49731- 8126080801  120
5.70000+ 0 8.80978- 8 5.75000+ 0 6.93523- 8 5.80000+ 0 6.66790- 8126080801  121
5.85000+ 0 8.04596- 8 5.90000+ 0 8.35016- 8 5.95000+ 0 5.92657- 8126080801  122
6.00000+ 0 9.04858- 8 6.05000+ 0 5.47146- 8 6.10000+ 0 7.27049- 8126080801  123
6.15000+ 0 5.01629- 8 6.20000+ 0 5.11212- 8 6.25000+ 0 4.55597- 8126080801  124
6.30000+ 0 4.32583- 8 6.35000+ 0 4.09564- 8 6.40000+ 0 3.86528- 8126080801  125
6.45000+ 0 3.63701- 8 6.50000+ 0 3.40807- 8 6.55000+ 0 3.18309- 8126080801  126
6.60000+ 0 2.96220- 8 6.65000+ 0 2.74348- 8 6.70000+ 0 2.52832- 8126080801  127
6.75000+ 0 2.31802- 8 6.80000+ 0 2.11409- 8 6.85000+ 0 1.91540- 8126080801  128
6.90000+ 0 1.72328- 8 6.95000+ 0 1.53840- 8 7.00000+ 0 1.36197- 8126080801  129
7.05000+ 0 1.19424- 8 7.10000+ 0 1.03587- 8 7.15000+ 0 8.88554- 9126080801  130
7.20000+ 0 7.52338- 9 7.25000+ 0 6.28258- 9 7.30000+ 0 5.17496- 9126080801  131
7.35000+ 0 4.20781- 9 7.40000+ 0 3.38746- 9 7.45000+ 0 2.72853- 9126080801  132
7.50000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0126080801  133
0.            5.0000E-01                0              0              1        151126080801  134
          151                         1              0              0            0126080801  135
0.00000+ 0 2.63077- 9 5.00000- 2 2.47622- 8 1.00000- 1 7.81174- 7126080801  136
1.50000- 1 9.11359- 8 2.00000- 1 1.42424- 7 2.50000- 1 3.71510- 7126080801  137
3.00000- 1 9.83881- 8 3.50000- 1 3.62260- 7 4.00000- 1 2.78953- 7126080801  138
4.50000- 1 1.02792- 6 5.00000- 1 1.93354- 6 5.50000- 1 1.29272- 6126080801  139
6.00000- 1 7.12655- 7 6.50000- 1 2.05551- 7 7.00000- 1 3.49458- 7126080801  140
7.50000- 1 2.79559- 7 8.00000- 1 4.18924- 8 8.50000- 1 2.53794- 7126080801  141
9.00000- 1 3.23443- 7 9.50000- 1 4.92805- 7 1.00000+ 0 2.89703- 7126080801  142
1.05000+ 0 3.98011- 7 1.10000+ 0 8.02091- 7 1.15000+ 0 2.86120- 7126080801  143
1.20000+ 0 8.08981- 7 1.25000+ 0 6.51911- 7 1.30000+ 0 7.26538- 7126080801  144
1.35000+ 0 4.03648- 7 1.40000+ 0 9.75694- 7 1.45000+ 0 5.04917- 7126080801  145
```

```
1.50000+ 0 5.66813- 7 1.55000+ 0 5.02920- 7 1.60000+ 0 4.35995- 7126080801  146
1.65000+ 0 4.40911- 7 1.70000+ 0 4.60458- 7 1.75000+ 0 5.34549- 7126080801  147
1.80000+ 0 4.39172- 7 1.85000+ 0 4.93761- 7 1.90000+ 0 4.54248- 7126080801  148
1.95000+ 0 5.38394- 7 2.00000+ 0 4.92727- 7 2.05000+ 0 4.61637- 7126080801  149
2.10000+ 0 5.07979- 7 2.15000+ 0 4.63842- 7 2.20000+ 0 4.92530- 7126080801  150
2.25000+ 0 5.10027- 7 2.30000+ 0 5.23134- 7 2.35000+ 0 4.74446- 7126080801  151
2.40000+ 0 5.13710- 7 2.45000+ 0 6.32814- 7 2.50000+ 0 5.15984- 7126080801  152
2.55000+ 0 6.51948- 7 2.60000+ 0 5.09995- 7 2.65000+ 0 4.53874- 7126080801  153
2.70000+ 0 6.09057- 7 2.75000+ 0 5.17803- 7 2.80000+ 0 4.90450- 7126080801  154
2.85000+ 0 5.06331- 7 2.90000+ 0 4.60618- 7 2.95000+ 0 4.05879- 7126080801  155
3.00000+ 0 4.03010- 7 3.05000+ 0 3.97749- 7 3.10000+ 0 4.03107- 7126080801  156
3.15000+ 0 3.74443- 7 3.20000+ 0 3.57603- 7 3.25000+ 0 3.44476- 7126080801  157
3.30000+ 0 3.46412- 7 3.35000+ 0 3.55180- 7 3.40000+ 0 3.41514- 7126080801  158
3.45000+ 0 3.05710- 7 3.50000+ 0 3.14559- 7 3.55000+ 0 4.45890- 7126080801  159
3.60000+ 0 3.12349- 7 3.65000+ 0 2.65416- 7 3.70000+ 0 2.66305- 7126080801  160
3.75000+ 0 2.53515- 7 3.80000+ 0 2.60270- 7 3.85000+ 0 2.18023- 7126080801  161
3.90000+ 0 2.15051- 7 3.95000+ 0 2.02274- 7 4.00000+ 0 1.90847- 7126080801  162
4.05000+ 0 2.59938- 7 4.10000+ 0 2.48693- 7 4.15000+ 0 1.65216- 7126080801  163
4.20000+ 0 1.62644- 7 4.25000+ 0 1.91800- 7 4.30000+ 0 1.43424- 7126080801  164
4.35000+ 0 1.62265- 7 4.40000+ 0 1.46022- 7 4.45000+ 0 1.31976- 7126080801  165
4.50000+ 0 1.27368- 7 4.55000+ 0 1.12258- 7 4.60000+ 0 1.44314- 7126080801  166
4.65000+ 0 1.03180- 7 4.70000+ 0 9.94552- 8 4.75000+ 0 9.66990- 8126080801  167
4.80000+ 0 1.22519- 7 4.85000+ 0 9.13387- 8 4.90000+ 0 1.04046- 7126080801  168
4.95000+ 0 8.76978- 8 5.00000+ 0 8.39033- 8 5.05000+ 0 9.43336- 8126080801  169
5.10000+ 0 7.89059- 8 5.15000+ 0 1.16959- 7 5.20000+ 0 1.06166- 7126080801  170
5.25000+ 0 7.25074- 8 5.30000+ 0 8.31927- 8 5.35000+ 0 7.57192- 8126080801  171
5.40000+ 0 7.51120- 8 5.45000+ 0 7.48414- 8 5.50000+ 0 6.75483- 8126080801  172
5.55000+ 0 9.66006- 8 5.60000+ 0 8.68936- 8 5.65000+ 0 5.32864- 8126080801  173
5.70000+ 0 6.24912- 8 5.75000+ 0 4.92499- 8 5.80000+ 0 4.73248- 8126080801  174
5.85000+ 0 5.69817- 8 5.90000+ 0 5.90706- 8 5.95000+ 0 4.19484- 8126080801  175
6.00000+ 0 6.38761- 8 6.05000+ 0 3.86347- 8 6.10000+ 0 5.12524- 8126080801  176
6.15000+ 0 3.53311- 8 6.20000+ 0 3.64562- 8 6.25000+ 0 3.19966- 8126080801  177
6.30000+ 0 3.03333- 8 6.35000+ 0 2.86708- 8 6.40000+ 0 2.70078- 8126080801  178
6.45000+ 0 2.53607- 8 6.50000+ 0 2.37110- 8 6.55000+ 0 2.20914- 8126080801  179
6.60000+ 0 2.05022- 8 6.65000+ 0 1.89296- 8 6.70000+ 0 1.73852- 8126080801  180
6.75000+ 0 1.58779- 8 6.80000+ 0 1.44168- 8 6.85000+ 0 1.29962- 8126080801  181
6.90000+ 0 1.16249- 8 6.95000+ 0 1.03078- 8 7.00000+ 0 9.05254- 9126080801  182
7.05000+ 0 7.86258- 9 7.10000+ 0 6.74297- 9 7.15000+ 0 5.70479- 9126080801  183
7.20000+ 0 4.74928- 9 7.25000+ 0 3.88349- 9 7.30000+ 0 3.11546- 9126080801  184
7.35000+ 0 2.45098- 9 7.40000+ 0 1.89511- 9 7.45000+ 0 1.45745- 9126080801  185
7.50000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0126080801  186
0.          1.0000E+00           0           0           1         151126080801  187
      151                1           0           0           0            0126080801  188
0.00000+ 0 2.26492- 9 5.00000- 2 2.15502- 8 1.00000- 1 4.84493- 7126080801  189
1.50000- 1 7.56923- 8 2.00000- 1 1.18797- 7 2.50000- 1 3.05972- 7126080801  190
3.00000- 1 7.99345- 8 3.50000- 1 2.97594- 7 4.00000- 1 2.12042- 7126080801  191
4.50000- 1 7.47052- 7 5.00000- 1 1.46985- 6 5.50000- 1 9.40471- 7126080801  192
6.00000- 1 5.83778- 7 6.50000- 1 1.69459- 7 7.00000- 1 2.86716- 7126080801  193
7.50000- 1 2.28526- 7 8.00000- 1 2.49908- 6 8.50000- 1 2.02954- 7126080801  194
9.00000- 1 2.65891- 7 9.50000- 1 4.00354- 7 1.00000+ 0 2.29798- 7126080801  195
1.05000+ 0 3.21108- 7 1.10000+ 0 6.53882- 7 1.15000+ 0 2.28254- 7126080801  196
1.20000+ 0 5.73030- 7 1.25000+ 0 5.17760- 7 1.30000+ 0 5.97338- 7126080801  197
1.35000+ 0 3.16793- 7 1.40000+ 0 8.11975- 7 1.45000+ 0 4.05593- 7126080801  198
1.50000+ 0 4.55505- 7 1.55000+ 0 4.00287- 7 1.60000+ 0 3.45367- 7126080801  199
1.65000+ 0 3.46689- 7 1.70000+ 0 3.60276- 7 1.75000+ 0 4.22214- 7126080801  200
1.80000+ 0 3.41701- 7 1.85000+ 0 3.84276- 7 1.90000+ 0 3.52331- 7126080801  201
1.95000+ 0 4.23325- 7 2.00000+ 0 3.81795- 7 2.05000+ 0 3.53866- 7126080801  202
2.10000+ 0 3.93804- 7 2.15000+ 0 3.55441- 7 2.20000+ 0 3.79168- 7126080801  203
2.25000+ 0 3.93734- 7 2.30000+ 0 4.04943- 7 2.35000+ 0 3.61324- 7126080801  204
2.40000+ 0 3.93488- 7 2.45000+ 0 4.81048- 7 2.50000+ 0 3.97479- 7126080801  205
2.55000+ 0 5.15620- 7 2.60000+ 0 3.91242- 7 2.65000+ 0 3.42648- 7126080801  206
2.70000+ 0 4.64253- 7 2.75000+ 0 3.97334- 7 2.80000+ 0 3.68800- 7126080801  207
2.85000+ 0 3.89169- 7 2.90000+ 0 3.49909- 7 2.95000+ 0 3.03171- 7126080801  208
3.00000+ 0 3.01567- 7 3.05000+ 0 2.96855- 7 3.10000+ 0 3.01729- 7126080801  209
3.15000+ 0 2.77193- 7 3.20000+ 0 2.65702- 7 3.25000+ 0 2.55153- 7126080801  210
3.30000+ 0 2.58275- 7 3.35000+ 0 2.68215- 7 3.40000+ 0 2.56780- 7126080801  211
3.45000+ 0 2.26613- 7 3.50000+ 0 2.35814- 7 3.55000+ 0 3.53666- 7126080801  212
3.60000+ 0 2.36872- 7 3.65000+ 0 1.95900- 7 3.70000+ 0 1.99009- 7126080801  213
3.75000+ 0 1.89504- 7 3.80000+ 0 1.96659- 7 3.85000+ 0 1.61249- 7126080801  214
3.90000+ 0 1.60147- 7 3.95000+ 0 1.50372- 7 4.00000+ 0 1.41816- 7126080801  215
4.05000+ 0 2.04587- 7 4.10000+ 0 1.96194- 7 4.15000+ 0 1.23773- 7126080801  216
4.20000+ 0 1.22564- 7 4.25000+ 0 1.50287- 7 4.30000+ 0 1.08897- 7126080801  217
4.35000+ 0 1.27949- 7 4.40000+ 0 1.11911- 7 4.45000+ 0 1.02566- 7126080801  218
4.50000+ 0 9.85953- 8 4.55000+ 0 8.71000- 8 4.60000+ 0 1.13265- 7126080801  219
4.65000+ 0 8.05929- 8 4.70000+ 0 7.78551- 8 4.75000+ 0 7.58134- 8126080801  220
```

13

```
4.80000+ 0 9.56352- 8 4.85000+ 0 7.15442- 8 4.90000+ 0 8.12660- 8126080801  221
4.95000+ 0 6.88224- 8 5.00000+ 0 6.56673- 8 5.05000+ 0 7.37341- 8126080801  222
5.10000+ 0 6.17259- 8 5.15000+ 0 9.16173- 8 5.20000+ 0 8.26073- 8126080801  223
5.25000+ 0 5.68298- 8 5.30000+ 0 6.51236- 8 5.35000+ 0 5.90620- 8126080801  224
5.40000+ 0 5.99468- 8 5.45000+ 0 5.83105- 8 5.50000+ 0 5.36706- 8126080801  225
5.55000+ 0 7.49781- 8 5.60000+ 0 6.74761- 8 5.65000+ 0 4.15881- 8126080801  226
5.70000+ 0 4.86349- 8 5.75000+ 0 3.84118- 8 5.80000+ 0 3.68935- 8126080801  227
5.85000+ 0 4.42823- 8 5.90000+ 0 4.58454- 8 5.95000+ 0 3.26280- 8126080801  228
6.00000+ 0 4.94515- 8 6.05000+ 0 2.99906- 8 6.10000+ 0 3.96562- 8126080801  229
6.15000+ 0 2.73685- 8 6.20000+ 0 2.85558- 8 6.25000+ 0 2.47263- 8126080801  230
6.30000+ 0 2.34107- 8 6.35000+ 0 2.20964- 8 6.40000+ 0 2.07825- 8126080801  231
6.45000+ 0 1.94814- 8 6.50000+ 0 1.81798- 8 6.55000+ 0 1.69027- 8126080801  232
6.60000+ 0 1.5 504- 8 6.65000+ 0 1.44118- 8 6.70000+ 0 1.31969- 8126080801  233
6.75000+ 0 1.20126- 8 6.80000+ 0 1.08651- 8 6.85000+ 0 9.75117- 9126080801  234
6.90000+ 0 8.67737- 9 6.95000+ 0 7.64753- 9 7.00000+ 0 6.66728- 9126080801  235
7.05000+ 0 5.74013- 9 7.10000+ 0 4.87027- 9 7.15000+ 0 4.06578- 9126080801  236
7.20000+ 0 3.32824- 9 7.25000+ 0 2.66288- 9 7.30000+ 0 2.07576- 9126080801  237
7.35000+ 0 1.57180- 9 7.40000+ 0 1.15524- 9 7.45000+ 0 8.33118-10126080801  238
7.50000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0126080801  239
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••

                 CARDS 241 THROUGH 2614 HAVE BEEN DELETED

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
   0.           1.0000E+10          0           0           1         128126080802 2391
          128           1           0           0           0           0126080802 2392
0.00000+ 0 2.62687-20 5.00000- 2 7.59349-20 1.00000- 1 1.18238-19126080802 2393
1.50000- 1 1.48846-19 2.00000- 1 1.64537-19 2.50000- 1 1.63824-19126080802 2394
3.00000- 1 1.47501-19 3.50000- 1 1.19179-19 4.00000- 1 8.56247-20126080802 2395
4.50000- 1 5.71523-20 5.00000- 1 4.64209-20 5.50000- 1 4.98998-20126080802 2396
6.00000- 1 5.50279-20 6.50000- 1 5.99656-20 7.00000- 1 6.46032-20126080802 2397
7.50000- 1 6.89034-20 8.00000- 1 7.28429-20 8.50000- 1 7.63553-20126080802 2398
9.00000- 1 7.94316-20 9.50000- 1 8.20473-20 1.00000+ 0 8.41913-20126080802 2399
1.05000+ 0 8.59344-20 1.10000+ 0 8.72411-20 1.15000+ 0 8.82190-20126080802 2400
1.20000+ 0 8.86887-20 1.25000+ 0 8.84739-20 1.30000+ 0 8.75936-20126080802 2401
1.35000+ 0 8.59763-20 1.40000+ 0 8.36650-20 1.45000+ 0 8.06610-20126080802 2402
1.50000+ 0 7.69882-20 1.55000+ 0 7.26689-20 1.60000+ 0 6.77931-20126080802 2403
1.65000+ 0 6.23855-20 1.70000+ 0 5.65152-20 1.75000+ 0 5.02984-20126080802 2404
1.80000+ 0 4.38504-20 1.85000+ 0 3.72642-20 1.90000+ 0 3.06780-20126080802 2405
1.95000+ 0 2.42776-20 2.00000+ 0 1.82263-20 2.05000+ 0 1.27069-20126080802 2406
2.10000+ 0 7.93938-21 2.15000+ 0 4.15731-21 2.20000+ 0 1.61147-21126080802 2407
2.25000+ 0 5.60890-22 2.30000+ 0 4.72857-22 2.35000+ 0 4.46707-22126080802 2408
2.40000+ 0 4.22678-22 2.45000+ 0 4.00006-22 2.50000+ 0 3.78048-22126080802 2409
2.55000+ 0 3.56966-22 2.60000+ 0 3.36820-22 2.65000+ 0 3.17824-22126080802 2410
2.70000+ 0 2.99892-22 2.75000+ 0 2.83290-22 2.80000+ 0 2.68235-22126080802 2411
2.85000+ 0 2.54542-22 2.90000+ 0 2.41618-22 2.95000+ 0 2.29227-22126080802 2412
3.00000+ 0 2.17305-22 3.05000+ 0 2.05657-22 3.10000+ 0 1.94060-22126080802 2413
3.15000+ 0 1.82617-22 3.20000+ 0 1.71378-22 3.25000+ 0 1.60396-22126080802 2414
3.30000+ 0 1.49924-22 3.35000+ 0 1.40013-22 3.40000+ 0 1.30714-22126080802 2415
3.45000+ 0 1.21927-22 3.50000+ C 1.13704-22 3.55000+ 0 1.05940-22126080802 2416
3.60000+ 0 9.87862-23 3.65000+ 0 9.20381-23 3.70000+ 0 8.55944-23126080802 2417
3.75000+ 0 7.96074-23 3.80000+ 0 7.41277-23 3.85000+ 0 6.91554-23126080802 2418
3.90000+ 0 6.46398-23 3.95000+ 0 6.03271-23 4.00000+ 0 5.61159-23126080802 2419
4.05000+ 0 5.19046-23 4.10000+ 0 4.78405-23 4.15000+ 0 4.38881-23126080802 2420
4.20000+ 0 4.00574-23 4.25000+ 0 3.63891-23 4.30000+ 0 3.29287-23126080802 2421
4.35000+ 0 2.96460-23 4.40000+ 0 2.66018-23 4.45000+ 0 2.37909-23126080802 2422
4.50000+ 0 2.12134-23 4.55000+ 0 1.87780-23 4.60000+ 0 1.64694-23126080802 2423
4.65000+ 0 1.43080-23 4.70000+ 0 1.22887-23 4.75000+ 0 1.04063-23126080802 2424
4.80000+ 0 8.68122-24 4.85000+ 0 7.12864-24 4.90000+ 0 5.70799-24126080802 2425
4.95000+ 0 4.41113-24 5.00000+ 0 3.24721-24 5.05000+ 0 2.23652-24126080802 2426
5.10000+ 0 1.39326-24 5.15000+ 0 7.34174-25 5.20000+ 0 2.77078-25126080802 2427
5.25000+ 0 3.99661-26 5.30000+ 0 1.72721-29 5.35000+ 0 1.54251-29126080802 2428
5.40000+ 0 1.38065-29 5.45000+ 0 1.24466-29 5.50000+ 0 1.12796-29126080802 2429
5.55000+ 0 1.01582-29 5.60000+ 0 9.06223-30 5.65000+ 0 7.99668-30126080802 2430
5.70000+ 0 6.97680-30 5.75000+ 0 5.99244-30 5.80000+ 0 5.06541-30126080802 2431
5.85000+ 0 4.19268-30 5.90000+ 0 3.38286-30 5.95000+ 0 2.64256-30126080802 2432
6.00000+ 0 1.97786-30 6.05000+ 0 1.39739-30 6.10000+ 0 9.06734-31126080802 2433
6.15000+ 0 5.15019-31 6.20000+ 0 2.28692-31 6.25000+ 0 5.62260-32126080802 2434
6.30000+ 0 1.35725-33 6.35000+ 0 0.00000+ 0 0.00000+ 0 0.00000+ 0126080802 2435
                                                                  126080   0 2436
9.2233E+04 2.3104E+02          0           0           0           0126080803 2437
0.          0.                   0           0           1          24126080803 2438
           24           0           0           0           0           0126080803 2439
0.          0.                   0           0           1         126126080803 2440
          126           1           0           0           0           0126080803 2441
```

14

```
0.00000+ 0 1.00278- 9 5.00000- 2 2.39510- 8 1.00000- 1 1.58209- 6126080803 2442
1.50000- 1 1.05556- 7 2.00000- 1 1.67180- 7 2.50000- 1 4.81025- 7126080803 2443
3.00000- 1 9.04815- 8 3.50000- 1 4.47521- 7 4.00000- 1 3.74279- 7126080803 2444
4.50000- 1 1.69324- 6 5.00000- 1 3.02416- 6 5.50000- 1 2.11812- 6126080803 2445
6.00000- 1 8.74489- 7 6.50000- 1 1.26381- 7 7.00000- 1 3.14333- 7126080803 2446
7.50000- 1 1.94761- 7 8.00000- 1 8.61656- 6 8.50000- 1 1.33535- 7126080803 2447
9.00000- 1 1.92402- 7 9.50000- 1 4.23937- 7 1.00000+ 0 1.27350- 7126080803 2448
1.05000+ 0 2.47845- 7 1.10000+ 0 8.09259- 7 1.15000+ 0 4.74744- 8126080803 2449
1.20000+ 0 1.06273- 6 1.25000+ 0 5.54597- 7 1.30000+ 0 5.98311- 7126080803 2450
1.35000+ 0 1.55368- 7 1.40000+ 0 8.83268- 7 1.45000+ 0 2.38739- 7126080803 2451
1.50000+ 0 3.10599- 7 1.55000+ 0 2.07555- 7 1.60000+ 0 9.34039- 8126080803 2452
1.65000+ 0 9.01150- 8 1.70000+ 0 1.08041- 7 1.75000+ 0 1.95199- 7126080803 2453
1.80000+ 0 4.85068- 8 1.85000+ 0 1.20048- 7 1.90000+ 0 4.69788- 8126080803 2454
1.95000+ 0 1.50992- 7 2.00000+ 0 8.49840- 8 2.05000+ 0 3.64497- 8126080803 2455
2.10000+ 0 8.8952 - 8 2.15000+ 0 2.36484- 8 2.20000+ 0 5.82171- 8126080803 2456
2.25000+ 0 7.86127- 8 2.30000+ 0 9.24277- 8 2.35000+ 0 3.00445- 8126080803 2457
2.40000+ 0 8.69120- 8 2.45000+ 0 2.88929- 7 2.50000+ 0 8.53716- 8126080803 2458
2.55000+ 0 2.67171- 7 2.60000+ 0 8.69149- 8 2.65000+ 0 1.88152- 8126080803 2459
2.70000+ 0 2.67302- 7 2.75000+ 0 1.20867- 7 2.80000+ 0 1.08168- 7126080803 2460
2.85000+ 0 1.18599- 7 2.90000+ 0 7.04789- 8 2.95000+ 0 9.35042- 9126080803 2461
3.00000+ 0 1.67824- 8 3.05000+ 0 2.54355- 8 3.10000+ 0 4.73117- 8126080803 2462
3.15000+ 0 2.53853- 8 3.20000+ 0 1.03002- 8 3.25000+ 0 8.00246- 9126080803 2463
3.30000+ 0 2.40287- 8 3.35000+ 0 4.64227- 8 3.40000+ 0 4.42268- 8126080803 2464
3.45000+ 0 1.18195- 8 3.50000+ 0 3.61110- 8 3.55000+ 0 2.14223- 7126080803 2465
3.60000+ 0 5.85414- 8 3.65000+ 0 1.51213-- 8 3.70000+ 0 2.67114- 8126080803 2466
3.75000+ 0 2.24004- 8 3.80000+ 0 4.43683- 8 3.85000+ 0 1.58340- 9126080803 2467
3.90000+ 0 9.40291- 9 3.95000+ 0 4.61386- 9 4.00000+ 0 1.32360- 9126080803 2468
4.05000+ 0 9.95371- 8 4.10000+ 0 9.62682- 8 4.15000+ 0 9.59363-10126080803 2469
4.20000+ 0 8.96530- 9 4.25000+ 0 5.39655- 8 4.30000+ 0 1.78966- 9126080803 2470
4.35000+ 0 3.16658- 8 4.40000+ 0 2.71796- 8 4.45000+ 0 1.15920- 8126080803 2471
4.50000+ 0 1.56279- 8 4.55000+ 0 3.59493-10 4.60000+ 0 5.57777- 8126080803 2472
4.65000+ 0 1.41135-10 4.70000+ 0 8.09831-11 4.75000+ 0 5.02067-10126080803 2473
4.80000+ 0 4.58343- 8 4.85000+ 0 1.52613-13 4.90000+ 0 2.42415- 8126080803 2474
4.95000+ 0 1.54002- 9 5.00000+ 0 0.00000+ 0 5.05000+ 0 2.04265- 8126080803 2475
5.10000+ 0 0.00000+ 0 5.15000+ 0 6.30125- 8 5.20000+ 0 5.15273- 8126080803 2476
5.25000+ 0 1.18260- 9 5.30000+ 0 2.18161- 8 5.35000+ 0 1.44444- 8126080803 2477
5.40000+ 0 1.33185- 8 5.45000+ 0 2.05113- 8 5.50000+ 0 9.64536- 9126080803 2478
5.55000+ 0 6.24788- 8 5.60000+ 0 5.04117- 8 5.65000+ 0 0.00000+ 0126080803 2479
5.70000+ 0 1.79852- 8 5.75000+ 0 0.00000+ 0 5.80000+ 0 0.00000+ 0126080803 2480
5.85000+ 0 1.84244- 8 5.90000+ 0 2.46557- 8 5.95000+ 0 0.00000+ 0126080803 2481
6.00000+ 0 3.77199- 8 6.05000+ 0 0.00000+ 0 6.10000+ 0 2.28129- 8126080803 2482
6.15000+ 0 0.00000+ 0 6.20000+ 0 3.45399- 9 6.25000+ 0 0.00000+ 0126080803 2483
0.            1.0000E-01            0            0            1            126126080803 2484
          126            1            0            0            0            0126080803 2485
0.00000+ 0 9.47900-10 5.00000- 2 2.24606- 8 1.00000- 1 1.33762- 6126080803 2486
1.50000- 1 9.63787- 8 2.00000- 1 1.53026- 7 2.50000- 1 4.40267- 7126080803 2487
3.00000- 1 8.11603- 8 3.50000- 1 4.08685- 7 4.00000- 1 3.28200- 7126080803 2488
4.50000- 1 1.47133- 6 5.00000- 1 2.67428- 6 5.50000- 1 1.84107- 6126080803 2489
6.00000- 1 7.97344- 7 6.50000- 1 1.16271- 7 7.00000- 1 2.87655- 7126080803 2490
7.50000- 1 1.78941- 7 8.00000- 1 7.23796- 6 8.50000- 1 1.19678- 7126080803 2491
9.00000- 1 1.78072- 7 9.50000- 1 3.87274- 7 1.00000+ 0 1.13461- 7126080803 2492
1.05000+ 0 2.26787- 7 1.10000+ 0 7.37350- 7 1.15000+ 0 4.40893- 8126080803 2493
1.20000+ 0 9.04235- 7 1.25000+ 0 5.01665- 7 1.30000+ 0 5.50340- 7126080803 2494
1.35000+ 0 1.38586- 7 1.40000+ 0 8.17702- 7 1.45000+ 0 2.20448- 7126080803 2495
1.50000+ 0 2.85848- 7 1.55000+ 0 1.90908- 7 1.60000+ 0 8.74013- 8126080803 2496
1.65000+ 0 8.34035- 8 1.70000+ 0 9.88193- 8 1.75000+ 0 1.79412- 7126080803 2497
1.80000+ 0 4.52166- 8 1.85000+ 0 1.09195- 7 1.90000+ 0 4.38746- 8126080803 2498
1.95000+ 0 1.39948- 7 2.00000+ 0 7.80210- 8 2.05000+ 0 3.30073- 8126080803 2499
2.10000+ 0 8.24105- 8 2.15000+ 0 2.22096- 8 2.20000+ 0 5.42050- 8126080803 2500
2.25000+ 0 7.30974- 8 2.30000+ 0 8.63695- 8 2.35000+ 0 2.78345- 8126080803 2501
2.40000+ 0 7.95526- 8 2.45000+ 0 2.57096- 7 2.50000+ 0 8.01738- 8126080803 2502
2.55000+ 0 2.49300- 7 2.60000+ 0 8.12703- 8 2.65000+ 0 1.78124- 8126080803 2503
2.70000+ 0 2.39891- 7 2.75000+ 0 1.11649- 7 2.80000+ 0 9.63202- 8126080803 2504
2.85000+ 0 1.10834- 7 2.90000+ 0 6.55727- 8 2.95000+ 0 8.74601- 9126080803 2505
3.00000+ 0 1.57947- 8 3.05000+ 0 2.30595- 8 3.10000+ 0 4.29939- 8126080803 2506
3.15000+ 0 2.20378- 8 3.20000+ 0 9.64940- 9 3.25000+ 0 7.30503- 9126080803 2507
3.30000+ 0 2.23519- 8 3.35000+ 0 4.39480- 8 3.40000+ 0 4.15002- 8126080803 2508
3.45000+ 0 1.11143- 8 3.50000+ 0 3.38102- 8 3.55000+ 0 2.01320- 7126080803 2509
3.60000+ 0 5.49951- 8 3.65000+ 0 1.34546- 8 3.70000+ 0 2.49056- 8126080803 2510
3.75000+ 0 2.10434- 8 3.80000+ 0 4.13932- 8 3.85000+ 0 1.50789- 9126080803 2511
3.90000+ 0 8.83334- 9 3.95000+ 0 4.32790- 9 4.00000+ 0 1.24189- 9126080803 2512
4.05000+ 0 9.35422- 8 4.10000+ 0 9.03821- 8 4.15000+ 0 9.00380-10126080803 2513
4.20000+ 0 8.10373- 9 4.25000+ 0 5.07110- 8 4.30000+ 0 1.69697- 9126080803 2514
4.35000+ 0 3.03356- 8 4.40000+ 0 2.42044- 8 4.45000+ 0 1.09112- 8126080803 2515
4.50000+ 0 1.40228- 8 4.55000+ 0 3.37754-10 4.60000+ 0 5.01850- 8126080803 2516
```

15

```
4.65000+ 0 1.32383-10 4.70000+ 0 7.59928-11 4.75000+ 0 4.71706-10126080803 2517
4.80000+ 0 4.07213- 8 4.85000+ 0 1.45534-13 4.90000+ 0 2.15235- 8126080803 2518
4.95000+ 0 1.46631- 9 5.00000+ 0 0.00000+ 0 5.05000+ 0 1.81852- 8126080803 2519
5.10000+ 0 0.00000+ 0 5.15000+ 0 5.62981- 8 5.20000+ 0 4.57501- 8126080803 2520
5.25000+ 0 1.13364- 9 5.30000+ 0 1.95142- 0 5.35000+ 0 1.28249- 8126080803 2521
5.40000+ 0 1.25797- 8 5.45000+ 0 1.82116- 8 5.50000+ 0 9.11029- 9126080803 2522
5.55000+ 0 5.54737- 8 5.60000+ 0 4.47597- 8 5.65000+ 0 0.00000+ 0126080803 2523
5.70000+ 0 1.59689- 8 5.75000+ 0 0.00000+ 0 5.80000+ 0 0.00000+ 0126080803 2524
5.85000+ 0 1.63587- 8 5.90000+ 0 2.18914- 8 5.95000+ 0 0.00000+ 0126080803 2525
6.00000+ 0 3.34905- 8 6.05000+ 0 0.00000+ 0 6.10000+ 0 2.02551- 8126080803 2526
6.15000+ 0 0.00000+ 0 6.20000+ 0 3.26238- 9 6.25000+ 0 0.00000+ 0126080803 2527
0.          5.0000E-01            0           0         .         1         126126080803 2528
          126            1            0           0         0           0126080803 2529
0.00000+ 0 8.15100-10 5.00C 0- 2 1.87991- 8 1.00000- 1 7.70253- 7126080803 2530
1.50000- 1 7.44405- 8 2.00000- 1 1.19118- 7 2.50000- 1 3.40783- 7126080803 2531
3.00000- 1 5.95032- 8 3.50000- 1 3.14531- 7 4.00000- 1 2.21722- 7126080803 2532
4.50000- 1 9.60548- 7 5.00000- 1 1.85542- 6 5.50000- 1 1.20328- 6126080803 2533
6.00000- 1 6.11400- 7 6.50000- 1 9.20274- 8 7.00000- 1 2.23260- 7126080803 2534
7.50000- 1 1.40279- 7 8.00000- 1 4.03656- 6 8.50000- 1 8.74589- 8126080803 2535
9.00000- 1 1.43242- 7 9.50000- 1 2.98603- 7 1.00000+ 0 8.14227- 8126080803 2536
1.05000+ 0 1.75682- 7 1.10000+ 0 5.65783- 7 1.15000+ 0 3.58770- 8126080803 2537
1.20000+ 0 5.44968- 7 1.25000+ 0 3.74354- 7 1.30000+ 0 4.35672- 7126080803 2538
1.35000+ 0 9.97454- 8 1.40000+ 0 6.59104- 7 1.45000+ 0 1.76010- 7126080803 2539
1.50000+ 0 2.26002- 7 1.55000+ 0 1.50706- 7 1.60000+ 0 7.27988- 8126080803 2540
1.65000+ 0 6.72331- 8 1.70000+ 0 7.67980- 8 1.75000+ 0 1.41484- 7126080803 2541
1.80000+ 0 3.72471- 8 1.85000+ 0 8.35688- 8 1.90000+ 0 3.63455- 8126080803 2542
1.95000+ 0 1.13419- 7 2.00000+ 0 6.14774- 8 2.05000+ 0 2.49227- 8126080803 2543
2.10000+ 0 6.66550- 8 2.15000+ 0 1.87239- 8 2.20000+ 0 4.44710- 8126080803 2544
2.25000+ 0 5.98587- 8 2.30000+ 0 7.16689- 8 2.35000+ 0 2.25146- 8126080803 2545
2.40000+ 0 6.21398- 8 2.45000+ 0 1.82387- 7 2.50000+ 0 6.74070- 8126080803 2546
2.55000+ 0 2.05992- 7 2.60000+ 0 6.73208- 8 2.65000+ 0 1.52325- 8126080803 2547
2.70000+ 0 1.75228- 7 2.75000+ 0 8.96036- 8 2.80000+ 0 6.86210- 8126080803 2548
2.85000+ 0 9.16054- 8 2.90000+ 0 5.36608- 8 2.95000+ 0 7.27793- 9126080803 2549
3.00000+ 0 1.33531- 8 3.05000+ 0 1.75105- 8 3.10000+ 0 3.27997- 8126080803 2550
3.15000+ 0 1.43989- 8 3.20000+ 0 8.06604- 9 3.25000+ 0 5.67863- 9126080803 2551
3.30000+ 0 1.83771- 8 3.35000+ 0 3.79060- 8 3.40000+ 0 3.48333- 8126080803 2552
3.45000+ 0 9.39279- 9 3.50000+ 0 2.82651- 8 3.55000+ 0 1.69700- 7126080803 2553
3.60000+ 0 4.63088- 8 3.65000+ 0 9.57858- 9 3.70000+ 0 2.05425- 8126080803 2554
3.75000+ 0 1.77222- 8 3.80000+ 0 3.41796- 8 3.85000+ 0 1.32272- 9126080803 2555
3.90000+ 0 7.44450- 9 3.95000+ 0 3.63133- 9 4.00000+ 0 1.04277- 9126080803 2556
4.05000+ 0 7.88514- 8 4.10000+ 0 7.60458- 8 4.15000+ 0 7.56604-10126080803 2557
4.20000+ 0 6.07230- 9 4.25000+ 0 4.27353- 8 4.30000+ 0 1.47011- 9126080803 2558
4.35000+ 0 2.70584- 8 4.40000+ 0 1.72268- 8 4.45000+ 0 9.24326- 9126080803 2559
4.50000+ 0 1.02458- 8 4.55000+ 0 2.84693-10 4.60000+ 0 3.70362- 8126080803 2560
4.65000+ 0 1.11065-10 4.70000+ 0 6.38434-11 4.75000+ 0 3.97601-10126080803 2561
4.80000+ 0 2.87408- 8 4.85000+ 0 1.28770-13 4.90000+ 0 1.51566- 8126080803 2562
4.95000+ 0 1.28539- 9 5.00000+ 0 0.00000+ 0 5.05000+ 0 1.29313- 8126080803 2563
5.10000+ 0 0.00000+ 0 5.15000+ 0 4.05441- 8 5.20000+ 0 3.22168- 8126080803 2564
5.25000+ 0 1.01298- 9 5.30000+ 0 1.41115- 8 5.35000+ 0 9.03131- 9126080803 2565
5.40000+ 0 1.07773- 8 5.45000+ 0 1.28243- 8 5.50000+ 0 7.80498- 9126080803 2566
5.55000+ 0 3.90640- 8 5.60000+ 0 3.15198- 8 5.65000+ 0 0.00000+ 0126080803 2567
5.70000+ 0 1.12456- 8 5.75000+ 0 0.00000+ 0 5.80000+ 0 0.00000+ 0126080803 2568
5.85000+ 0 1.15197- 8 5.90000+ 0 1.54160- 8 5.95000+ 0 0.00000+ 0126080803 2569
6.00000+ 0 2.35831- 8 6.05000+ 0 0.00000+ 0 6.10000+ 0 1.42635- 8126080803 2570
6.15000+ 0 0.00000+ 0 6.20000+ 0 2.79495- 9 6.25000+ 0 0.00000+ 0126080803 2571
0.          1.0000E+00            0           0         1         126126080803 2572
          126            1            0           0         0           0126080803 2573
0.00000+ 0 7.35883-10 5.00000- 2 1.65434- 8 1.00000- 1 4.75355- 7126080803 2574
1.50000- 1 6.17738- 8 2.00000- 1 9.94398- 8 2.50000- 1 2.80547- 7126080803 2575
3.00000- 1 4.78762- 8 3.50000- 1 2.58384- 7 4.00000- 1 1.65188- 7126080803 2576
4.50000- 1 6.92076- 7 5.00000- 1 1.40630- 6 5.50000- 1 8.67935- 7126080803 2577
6.00000- 1 5.01897- 7 6.50000- 1 7.79116- 8 7.00000- 1 1.85215- 7126080803 2578
7.50000- 1 1.16787- 7 8.00000- 1 2.37689- 6 8.50000- 1 7.01330- 8126080803 2579
9.00000- 1 1.22312- 7 9.50000- 1 2.45959- 7 1.00000+ 0 6.45606- 8126080803 2580
1.05000+ 0 1.45101- 7 1.10000+ 0 4.67193- 7 1.15000+ 0 3.09628- 8126080803 2581
1.20000+ 0 3.65307- 7 1.25000+ 0 2.99822- 7 1.30000+ 0 3.69399- 7126080803 2582
1.35000+ 0 7.91064- 8 1.40000+ 0 5.64842- 7 1.45000+ 0 1.49342- 7126080803 2583
1.50000+ 0 1.90486- 7 1.55000+ 0 1.26910- 7 1.60000+ 0 6.39902- 8126080803 2584
1.65000+ 0 5.77124- 8 1.70000+ 0 6.41032- 8 1.75000+ 0 1.19309- 7126080803 2585
1.80000+ 0 3.24894- 8 1.85000+ 0 6.92114- 8 1.90000+ 0 3.18362- 8126080803 2586
1.95000+ 0 9.78978- 8 2.00000+ 0 5.20592- 8 2.05000+ 0 2.04573- 8126080803 2587
2.10000+ 0 5.73782- 8 2.15000+ 0 1.66398- 8 2.20000+ 0 3.86391- 8126080803 2588
2.25000+ 0 5.21162- 8 2.30000+ 0 6.28514- 8 2.35000+ 0 1.93871- 8126080803 2589
2.40000+ 0 5.23239- 8 2.45000+ 0 1.41236- 7 2.50000+ 0 5.95396- 8126080803 2590
2.55000+ 0 1.80112- 7 2.60000+ 0 5.86366- 8 2.65000+ 0 1.34909- 8126080803 2591
```

16

```
2.70000+ 0 1.39131- 7 2.75000+ 0 7.68465- 8 2.80000+ 0 5.34918- 8126080803 2592
2.85000+ 0 7.95785- 8 2.90000+ 0 4.65150- 8 2.95000+ 0 6.39501- 9126080803 2593
3.00000+ 0 1.18287- 8 3.05000+ 0 1.44865- 8 3.10000+ 0 2.70875- 8126080803 2594
3.15000+ 0 1.05018- 8 3.20000+ 0 7.11011- 9 3.25000+ 0 4.79522- 9126080803 2595
3.30000+ 0 1.61231- 8 3.35000+ 0 3.42213- 8 3.40000+ 0 3.07637- 8126080803 2596
3.45000+ 0 8.34446- 9 3.50000+ 0 2.49882- 8 3.55000+ 0 1.50303- 7126080803 2597
3.60000+ 0 4.09861- 8 3.65000+ 0 7.49189- 9 3.70000+ 0 1.79534- 8126080803 2598
3.75000+ 0 1.56906- 8 3.80000+ 0 2.98617- 8 3.85000+ 0 1.20852- 9126080803 2599
3.90000+ 0 6.60155- 9 3.95000+ 0 3.21000- 9 4.00000+ 0 9.22213-10126080803 2600
4.05000+ 0 6.98402- 8 4.10000+ 0 6.73739- 8 4.15000+ 0 6.69447-10126080803 2601
4.20000+ 0 4.93708- 9 4.25000+ 0 3.78431- 8 4.30000+ 0 1.33103- 9126080803 2602
4.35000+ 0 2.50117- 8 4.40000+ 0 1.33827- 8 4.45000+ 0 8.22019- 9126080803 2603
4.50000+ 0 8.14649- 9 4.55000+ 0 2.52396-10 4.60000+ 0 2.97419- 8126080803 2604
4.65000+ 0 9.81695-11 4.70000+ 0 5.65034-11 4.75000+ 0 3.52494-10126080803 2605
4.80000+ 0 2.21571- 8 4.85000+ 0 1.19310-13 4.90000+ 0 1.16600- 8126080803 2606
4.95000+ 0 1.17353- 9 ˉ.00000+ 0 0.00000+ 0 5.05000+ 0 1.00406- 8126080803 2607
5.10000+ 0 0.00000+ 0 5.15000+ 0 3.18536- 8 5.20000+ 0 2.47845- 8126080803 2608
5.25000+ 0 9.37530-10 5.30000+ 0 1.11285- 8 5.35000+ 0 6.94788- 9126080803 2609
5.40000+ 0 9.68201- 9 5.45000+ 0 9.86578- 9 5.50000+ 0 7.01173- 9126080803 2610
5.55000+ 0 3.00521- 8 5.60000+ 0 2.42486- 8 5.65000+ 0 0.00000+ 0126080803 2611
5.70000+ 0 8.65154- 9 5.75000+ 0 0.00000+ 0 5.80000+ 0 0.00000+ 0126080803 2612
5.85000+ 0 8.86221- 9 5.90000+ 0 1.18598- 8 5.95000+ 0 0.00000+ 0126080803 2613
6.00000+ 0 1.81423- 8 6.05000+ 0 0.00000+ 0 6.10000+ 0 1.09730- 8126080803 2614
6.15000+ 0 0.00000+ 0 6.20000+ 0 2.51089- 9 6.25000+ 0 0.00000+ 0126080803 2615
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••

              REMAINING CARDS IN THE FILE HAVE BEEN DELETED

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
```