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EVALUATION OF NEUTRON NUCLEAR DATA OF ^{7}Li FOR JENDL-3

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Evaluation of Neutron Nuclear Data of ^{7}Li for JENDL-3

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Neutron nuclear data of ^{7}Li have been evaluated for JENDL-3 in the energy range from 10^{-5} eV to 20 MeV. Evaluated quantities are the total, elastic and inelastic scattering, radiative capture, photon-production, (n,2n), (n,d) and (n,n')αt reaction cross sections and the angular and energy distributions of secondary neutrons. For the inelastic scattering two discrete levels were taken into consideration. The energy-angle distributions of neutrons from the inelastic scattering to continuum and the (n,2n) reaction were calculated with the three-body phase-space model.

Keywords: Evaluation, Neutron Nuclear Data, Lithium-7, Cross Section, JENDL-3, Phase-space Model, 10^{-5} eV ∿ 20 MeV

JENDL－3のための ^{7}Li の中性子核データの評価

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（1984年10月18日受理）

JENDL－3のために ^{7}Li の中性子核データを 10^{-5} eV から 20 MeV のエネルギー範囲で評価した。評価した量は全断面積，弾性散乱断面積，非弾性散乱断面積，放射性捕獲断面積，光子生成断面積，（n，2n）反応断面積，（n，d）反応断面積，（n，n′）αt 反応断面積，2次中性子の角度分布およびエネルギー分布である。非弾性散乱では2本の離散準位を考慮した。連続準位への非弾性散乱および（n，2n）反応のエネルギー・角度分布は3体位相空間模型により計算した。

Contents

目　　次

1. Introduction

The second version of Japanese Evaluated Nuclear Data Library (JENDL-2) was released in December 1982. The data of ^{7}Li were included[1] in the library. However there exist some problems in them:

1) For the inelastic scattering, only the first excited level was treated as discrete.
2) As for the (n,n')αt reaction the activation data measured by Liskien et al.[2], which were published after the release of JENDL-2, could not be taken into consideration.
3) The cross sections for the (n,2n) and (n,d) reactions were taken from ENDF/B-IV without any examinations.
4) The evaporation spectra were taken also from ENDF/B-IV for the (n,2n) and (n,n')αt reactions.

These problems had to be resolved in the next evaluation for the third version (JENDL-3). In addition to such a situation, at the beginning of 1983, we were requested to prepare the evaluated data set for the analysis of Japan-USA joint mock-up experiment on fusion blankets using the Fusion Neutronics Source (FNS) facility at JAERI. Thus, we decided to re-evaluate the whole data of ^{7}Li both for that analysis and for JENDL-3 with high priority.

This report describes the procedure and the results of the re-evaluation for each reaction. The status of the presently evaluated quantities is given in Table 1. The evaluated data are compiled in the ENDF/B-V format, and they are listed in Appendix.

2. Total Cross Section

Above 100 keV, we relied on the same experimental data[3-6] as those used for the JENDL-2 evaluation. As a result the total cross sections remain the JENDL-2 data in this energy region. Below 100 keV, the cross section was given by the following expression:

$$\sigma_{tot} = 0.97 + \sigma_{n,\gamma} \text{ barns},$$

where $\sigma_{n,\gamma}$ is the radiative capture cross section. The value of 0.97 is the thermal scattering cross-section value recommended by Mughabghab et al.[7] The presently evaluated total cross section is shown in Fig. 1 by comparing with ENDF/B-IV.

3. Elastic Scattering

As for the thermal cross section, the value of 970 mb was recommended by Mughabghab et al.[7] We adopted this value in the energy range from 10^{-5} eV to 100 keV.

Above 100 keV the cross section was given by the difference between the total and reaction cross sections. The (n,2n) reaction cross section was slightly adjusted so that the evaluated elastic scattering cross section might be consistent with experimental data. Figure 2 shows the present result, and a sum of the (n,n_0) and (n,n_1) cross sections is also shown by a dashed line. In most experiments the inelastically scattered neutrons for the first excited level (0.478 MeV) cannot be separated from the elastic ones. The recent measurements[8-12] include the (n,n_1) contribution, while Knitter and Coppola[13] deduced the pure elastic scattering cross sections using the time-of-flight method. As seen in Fig. 2, the present result is consistent with these measurements. In particular, the agreement between our evaluation and the experimental data of Knox et al.[9] is excellent around the

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resonance at 4.4 MeV.

The elastic angular distribution was assumed to be isotropic in the center-of-mass system below 10 keV. Between 10 keV and 4 MeV, it was obtained from the R-matrix calculations using the parameters of Knox and Lane[14], and the result is shown in Fig. 3 by comparing with experimental data. Above 4 MeV the JENDL-2 data were adopted.

4. Inelastic Scattering

In the present evaluation two discrete levels (0.478 and 4.63 MeV) were considered for the inelastic scattering. The first excited level decays by emitting γ-rays, and so the (n,n'γ) data are useful to estimate the cross section for this level. It is well-known[15] that the second excited level (4.63 MeV) decays through the process $^{7}Li^{*} \rightarrow \alpha + t$, and so it contributes to the (n,n')αt reaction. Standing on the particle emissions, the (n,n')αt is considered to be one of the inelastic scattering process. In the present data file, the cross section for the inelastic scattering to continuum (MT=91) was defined as the difference between the (n,n')αt and (n,n_2) cross sections.

4.1 First Level (0.478 MeV)

There is inconsistency among existing experimental data. The JENDL-2 evaluation[1] was based on the measurements of Presser and Bass[16] and of Benveniste et al.[17] From re-examination of experimental data, however, it was found that the reliability of the data measured by Morgan[18] was high as compared with the above data. Moreover, the most recent data of Olsen et al.[19], which were measured between 0.5 to 5.5 MeV, are consistent with those of Morgan[18]. Thus, we adopted Morgan's data in the present work, and obtained the evaluated data with the

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spline-function fitting. Figure 4 shows the present result together with other evaluated data and measured data. It is obvious that ENDF/B-IV gives too large width to the resonance around 4 MeV.

The angular distribution was assumed to be isotropic in the center-of-mass system.

4.2 Second Level (4.63 MeV)

The evaluated data were obtained from the following experimental data with the eye-guide method:

Hogue et al.[10]	(1979),	9 MeV ∿ 14 MeV,
Baba et al.[11]	(1980),	6.6 MeV, 15.4 MeV,
Lisowski et al.[12]	(1980),	5.96 MeV, 9.83 MeV.

In Fig. 5 is shown the evaluated result.

The angular distribution was also assumed to be isotropic in the center-of-mass system.

5. The (n,n')αt Reaction

After the JENDL-2 evaluation, the activation data of Liskien et al.[2] were published. They provided the cross section in the energy range from 5 to 8 MeV and from 13 to 16 MeV. At this time two reliable activation data of Liskien et al.[2] and of Smith et al.[20] were employed for the evaluation. Figure 6 shows the result together with JENDL-2 and ENDF/B-IV. The 14-MeV value of the present evaluation as well as those of other evaluated data is given as follows:

Present work	286.2 mb,
JENDL-2	319.1 mb,
ENDF/B-IV	335.0 mb.

It is found that the present value is about 15% smaller than that of

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As described previously, the cross section for the inelastic scattering to continuum (MT=91) was given by the difference between the evaluated (n,n')αt and (n,n_2) cross sections in the present data file. For users' convenience, however, it was required to store the (n,n')αt cross section itself. Accordingly the (n,n')αt cross section was given as the total tritium-production cross section (MT=205) in this work.

6. The (n,d) Reaction

There are a few experimental data only at 14 MeV. Thus, the cross section was calculated with DWBA by assuming the proton pickup mechanism. As the optical potentials, the neutron parameters of Watson et al.[23] and the deuteron parameters of Bingham et al.[24] were used in the calculations, and they are listed in Table 2. The bound state wave-function for the p + ^{6}He system was calculated by the conventional separation-energy method, and the form factor parameters are given in Table 3. Normalization was taken so that the cross section at 14.1 MeV might give a value of 9.8 mb which was obtained by Battat and Ribe[25] using the activation method. From the normalization factor we deduced the spectroscopic factor for the p + ^{6}He system in the $1p_{3/2}$ state. The value is 0.81, and it is in good agreement with the theoretical value of 0.89 calculated by Cohen and Kurath[26]. The presently evaluated curve is shown in Fig. 7.

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Figure 8 shows the present result by comparing with ENDF/B-IV. In ENDF/B-IV the (n,2n) cross section consists of two components, i.e., $(n,2n)^6Li$ (MT=16) and $(n,2n)\alpha d$ (MT=24). However, this division is quite arbitrary. Hence, in the present evaluation, the cross section was not divided into these two components.

8. Radiative Capture Reaction

We adopted the JENDL-2 data[1] for this reaction, i.e.,

$$\sigma_{n,\gamma} = 7.22 \times 10^{-3} \, [E_n(eV)]^{-1/2} \text{ barns.}$$

9. Photon Production

9.1 The $(n,n_1\gamma)$ Reaction

The first excited level (0.478 MeV) of ^7Li is known[15] to decay by emitting γ-rays, which have isotropic angular distributions, with a probability of 100%. Therefore, we gave a value of 1.0 to the multiplicity.

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The capture γ-ray intensities were measured by Jurney[30] for thermal neutrons. We deduced the γ-ray multiplicities from his data.

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The result is the following:

Transition	Multiplicity
cap. → g.s.	0.894
cap. → 0.98 MeV	0.106
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The angular distribution of the γ-rays was assumed to be isotropic.

10. Energy-Angle Distributions of Secondary Neutrons

The double differential cross sections for the inelastic scattering to continuum and for the (n,2n) reaction were calculated with the phase-space model as done[31] in the case of ^{6}Li. They are given in File 6 of the ENDF/B format. The energy- and angle-integrated distributions were also calculated, and given in File 4 and File 5, respectively.

11. Concluding Remarks

Evaluation of neutron nuclear data for ^{7}Li has been performed for JENDL-3 in the energy range from 10^{-5} eV to 20 MeV.

In the present evaluation, two discrete levels were considered for the inelastic scattering. Moreover, the (n,n')αt reaction cross section was evaluated by taking account of the activation data measured by Liskien et al.[2]

The present evaluated data of ^{7}Li have been stored in JENDL-3PR1 (JENDL-3 Preliminary Version 1) together with ^{6}Li, ^{12}C, ^{16}O, Cr, Fe and Ni. The JENDL-3PR1 data are employed for the analyses of the FNS experiment and of the universities cooperation program of integral experiments using the OKTAVIAN facility at Osaka University.

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References

1) Shibata K.: "Neutron Nuclear Data of ^{7}Li Adopted in JENDL-2", JAERI-M 84-163 (1984).

2) Liskien H., Wölfle R. and Qaim S.M.: "Determination of ^{7}Li(n,n't)^{4}He Cross Sections", Proc. Int. Conf. Nuclear Data for Science and Technology, Antwerp 1982, D. Reidel Publishing Company, 349 (1983).

3) Meadows J.W. and Whalen J.F.: Nucl. Sci. Eng., 41, 351 (1970).

4) Foster, Jr. D.G. and Glasgow D.W.: Phys. Rev., C3, 576 (1971).

5) Goulding C.A., Clement J.M. and Stoler P.: taken from EXFOR10251.002 (1972).

6) Lamaze G.P., Kellie J.D. and Schwartz R.B.: Bull. Am. Phys. Soc., 24, 862 (1979).

7) Mughabghab S.F., Divadeenam M. and Holden N.E.: "Neutron Cross Sections Vol. 1", Academic Press, 1981.

8) Birjukov N.S., Zhuravljov B.V., Kornilov N.V., Popov V.I., Rudenko A.P., Salnikov O.A. and Trykova V.I.: "Scattering of 9.1 ± 0.2 MeV Neutrons by Li-7 Nuclei", Proc. Fourth All Union Conf. Neutron Physics, Kiev 1977, Vol. 2, 27 (1977).

9) Knox H.D., White R.M. and Lane R.O.: Nucl. Sci. Eng., 69, 223 (1979).

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10) Hogue H.H., von Behren P.L., Glasgow D.W., Glendinning S.G., Lisowski P.W., Nelson C.E., Purser F.O., Tornow W., Gould C.R. and Seagondollar L.W.: Nucl. Sci. Eng., 69, 22 (1979).

11) Baba M., Hayashi N., Sakase T., Iwasaki T., Kamata S. and Momota T.: "Neutron Scattering from ^{7}Li at Incident Energies of 5.1, 6.6 and 15.4 MeV", Proc. Int. Conf. Nuclear Cross Sections for Technology, Knoxville 1979, 43 (1980).

12) Lisowski P.W., Auchampaugh G.F., Drake D.M., Drosg M., Haouat G., Hill N.W. and Nilsson L.: "Cross Sections for Neutron-Induced, Neutron-Producing Reactions in ^{6}Li and ^{7}Li at 5.96 and 9.83 MeV", LA-8342 (1980).

13) Knitter H.-H. and Coppola M.: "Measurements of Neutron Scattering from ^{7}Li", EUR 3903e (1968).

14) Knox H.D. and Lane R.O.: Nucl. Phys., A359, 131 (1981).

15) Ajzenberg-Selove F.: Nucl. Phys., A413, 1 (1984).

16) Presser G. and Bass R.: Nucl. Phys., A182, 321 (1972).

17) Benveniste J., Mitchell A.C., Schrader C.D. and Zenger J.H.: Nucl. Phys., 38, 300 (1962).

18) Morgan G.L.: "Cross Sections for the ^{7}Li(n,xn) and ^{7}Li(n,n'γ) Reactions between 1 and 20 MeV", ORNL/TM-6247 (1978).

19) Olsen D.K., Morgan G.L. and McConnell J.W.: Nucl. Sci. Eng., 74, 219 (1980).

20) Smith D.L., Bretscher M.M. and Meadows J.W.: Nucl. Sci. Eng., 78, 359 (1981).

21) Young P.G.: "Variance-Covariance Analysis of n + ^{7}Li Reactions", LA-8874-PR, 2 (1981).

22) Maekawa H., Tsuda K., Iguchi T., Ikeda Y., Oyama Y., Fukumoto T., Seki Y. and Nakamura T.: "Measurements of Tritium Production-Rate Distribution in Simulated Blanket Assemblies at the FNS", JAERI-M 83-196 (1983).

23) Watson B.A., Singh P.P. and Segel R.E.: Phys. Rev., 182, 977 (1969).

24) Bingham H.G., Zander A.R., Kemper K.W. and Fletcher N.R.: Nucl. Phys., A173, 265 (1971).

25) Battat M.E. and Ribe F.L.: Phys. Rev., 89, 80 (1953).

26) Cohen S. and Kurath D.: Nucl. Phys., A101, 1 (1967).

27) Ashby V.J., Catron H.C., Goldberg M.D., Hill R.W., LeBlanc J.M., Newkirk L.L., Stoering J.P., Taylor C.J. and Williamson M.A.: Phys. Rev., 129, 1771 (1963).

28) Mather D.S. and Pain L.F.: "Measurement of (n,2n) and (n,3n) Cross Sections at 14 MeV Incident Energy", AWRE-O-47/69 (1969).

29) McTaggart M.H.: "Shell Transmission Measurements on Lithium", AKO/UK-1337 (1961).

30) Jurney E.T.: "Thermal Capture Cross Sections for ^{6}Li and ^{7}Li", USNDC-9, 109 (1973).

31) Shibata K.: "Evaluation of Neutron Nuclear Data of ^{6}Li for JENDL-3", JAERI-M 84-198 (1984).

Table 1 Status of presently evaluated quantities.

Quantities	Energy range(eV)* min	max	Comments
a) Cross sections			
Total	1.0 -5	2.0+7	Fig. 1
Elastic scattering	1.0 -5	2.0+7	Fig. 2
Nonelastic scattering	1.0 -5	2.0+7	
Total inelastic scattering	5.46+5	2.0+7	
Inelastic scattering			
to the 1st level	5.46+5	2.0+7	Fig. 4
to the 2nd level	5.3 +6	2.0+7	Fig. 5
to the continuum levels	2.82+6	2.0+7	
(n,n')αt	2.82+6	2.0+7	Fig. 6
(n,γ)	1.0 -5	2.0+7	
(n,d)	8.87+6	2.0+7	Fig. 7
(n,2n)	8.3 +6	2.0+7	Fig. 8
b) Angular distributions of secondary neutrons			
Elastic scattering	1.0 -5	2.0+7	Fig. 3
Inelastic scattering	5.46+5	2.0+7	
(n,2n)	8.3 +6	2.0+7	
c) Energy distributions of secondary neutrons			
Inelastic scattering to the continuum levels	2.82+6	2.0+7	
(n,2n)	8.3 +6	2.0+7	
d) Energy-angle distributions of secondary neutrons			Phase-space model
Inelastic scattering to the continuum levels	2.82+6	2.0+7	
(n,2n)	8.3 +6	2.0+7	
e) Photon-production cross sections and photon angular distributions			
(n,γ)	1.0 -5	2.0+7	
$(n,n_1\gamma)$	5.46+5	2.0+7	

* 2.0+7 denotes 2.0×10^7.

Table 2 Optical potential parameters used in the DWBA calculations.

V (MeV)	W_s (MeV)	V_{so} (MeV)	r_0 (fm)	r_s (fm)	r_c (fm)	a (fm)	b (fm)	Ref.
Neutron potential for ^{7}Li								
56.14-0.3×E	8.17-0.06×E	5.5	1.15-0.001×E	1.15-0.001×E	0.00	0.57	0.5	23)
Deuteron potential for ^{6}He								
92.5	18.1	8.6	2.17	2.35	2.17	0.61	0.25	24)

$r_{so} = r_0$ and $a_{so} = a$.

The symbol E stands for the center-of-mass energy in MeV unit.

Table 3 Form-factor parameters for the p + ^{6}He system.

r_0(fm)	r_c(fm)	a(fm)
1.25	1.25	0.65

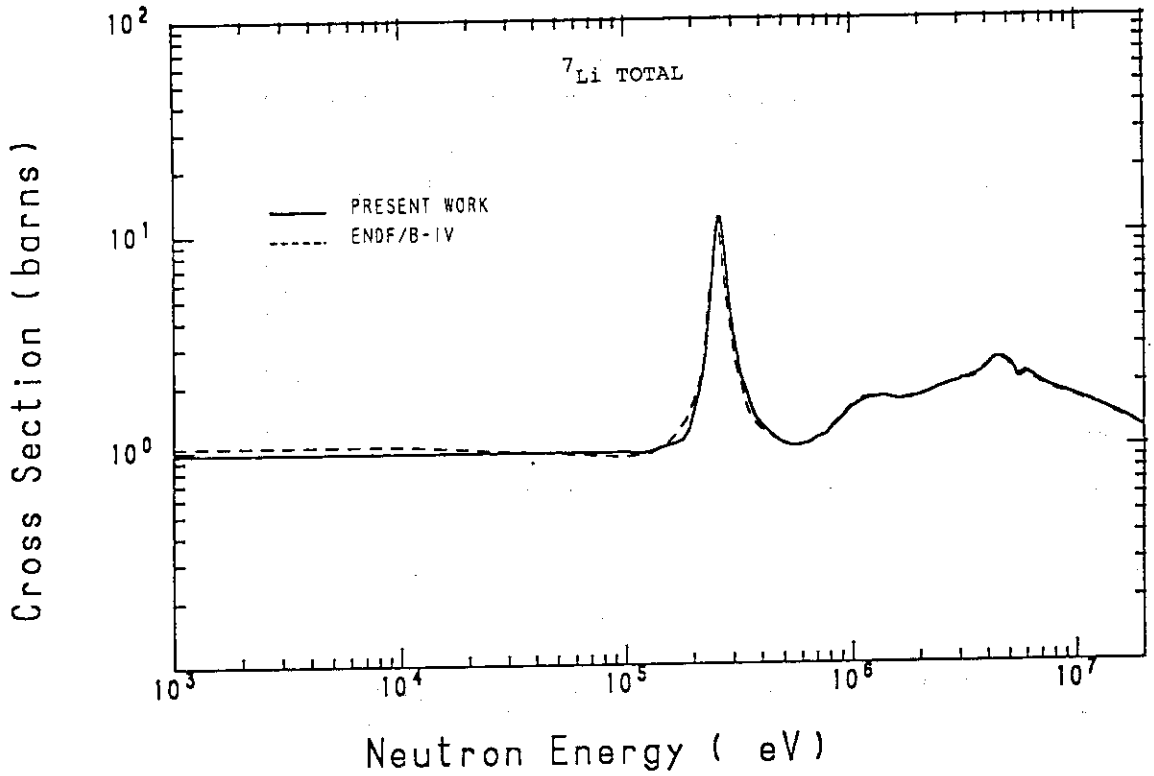

Fig. 1 Evaluated total cross sections from 1 keV to 20 MeV.

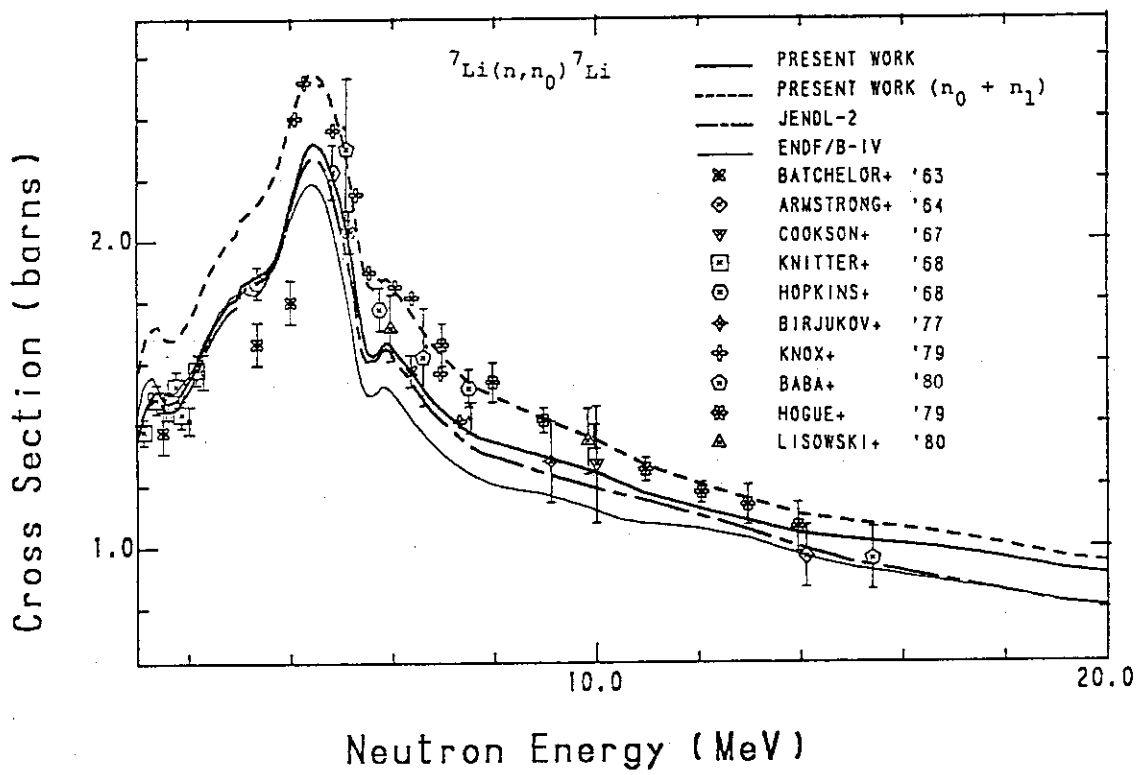

Fig. 2 Measured and evaluated elastic scattering cross sections from 1 MeV to 20 MeV.

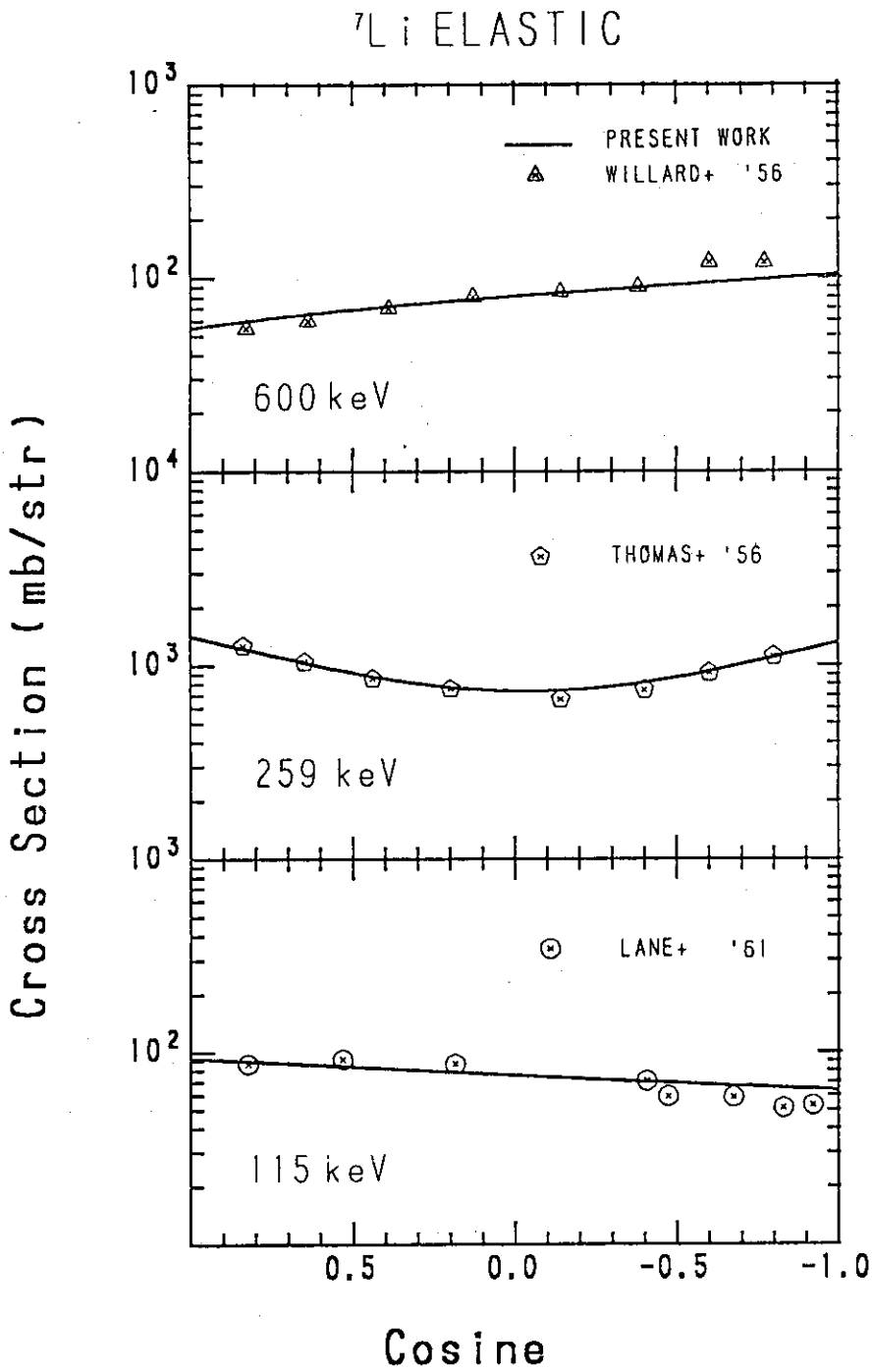

Fig. 3 Measured and evaluated elastic angular distributions.

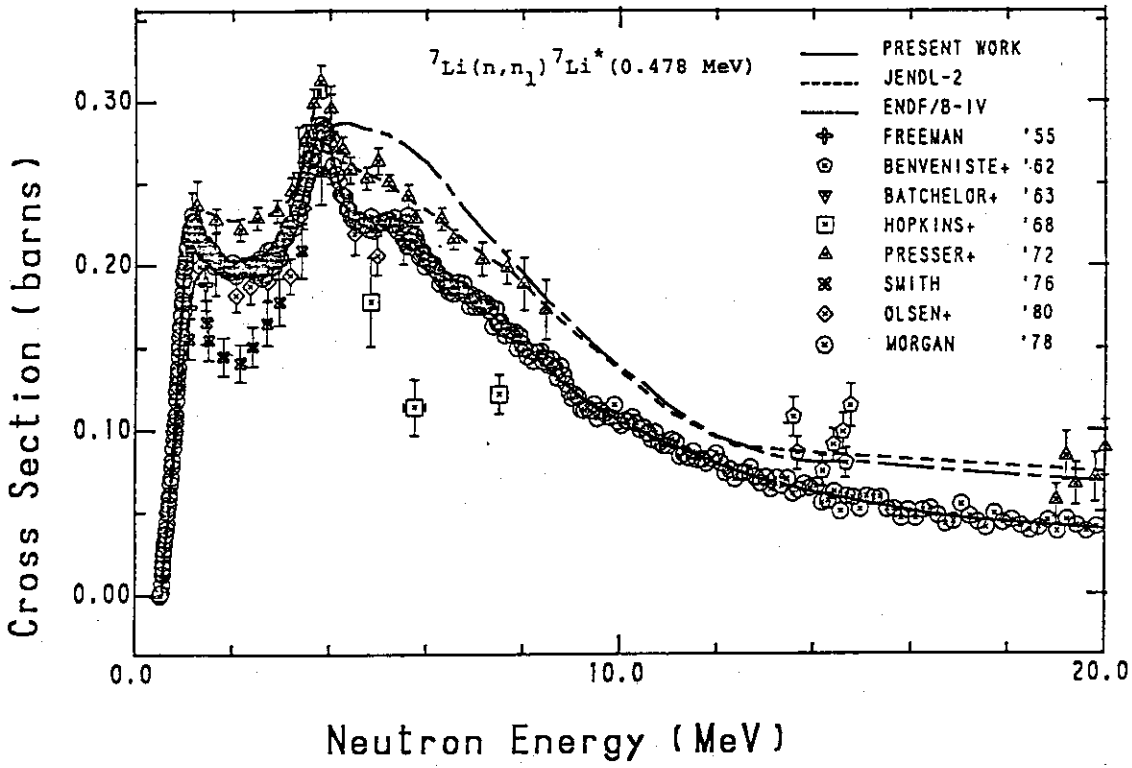

Fig. 4 Measured and evaluated (n,n$_1$) cross sections.

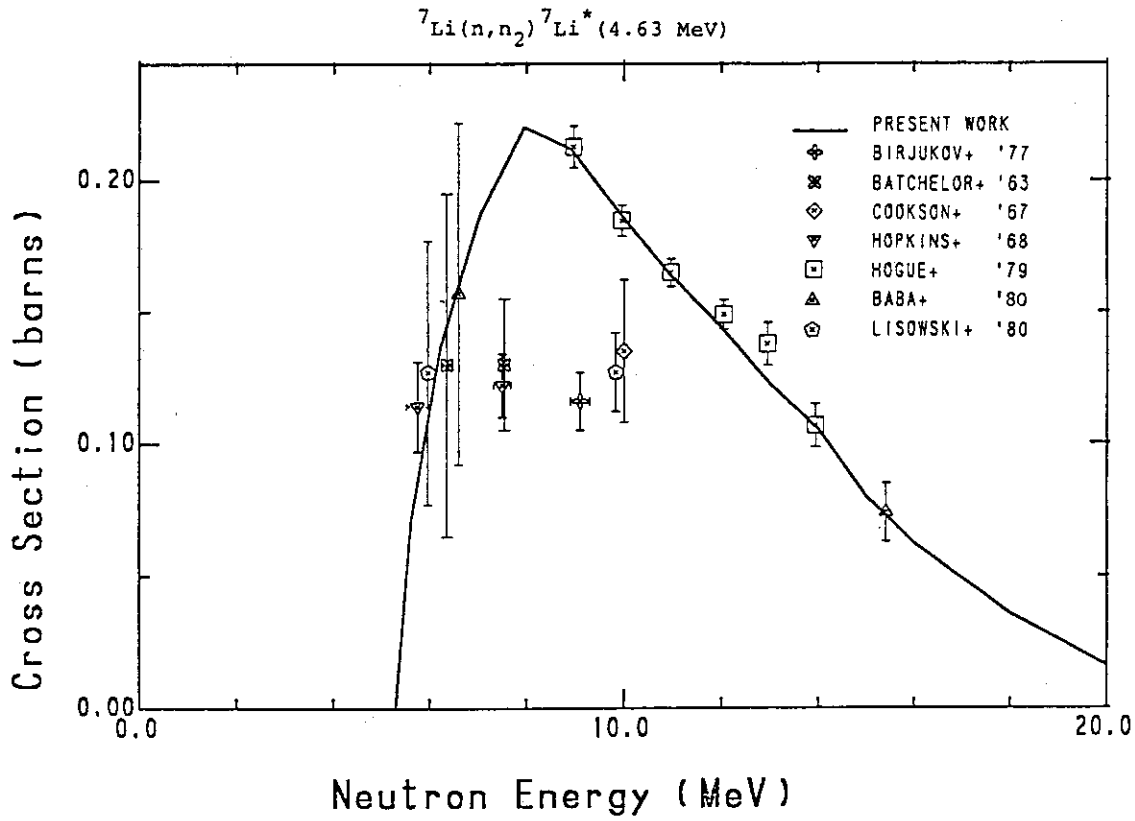

Fig. 5 Measured and evaluated (n,n$_2$) cross sections.

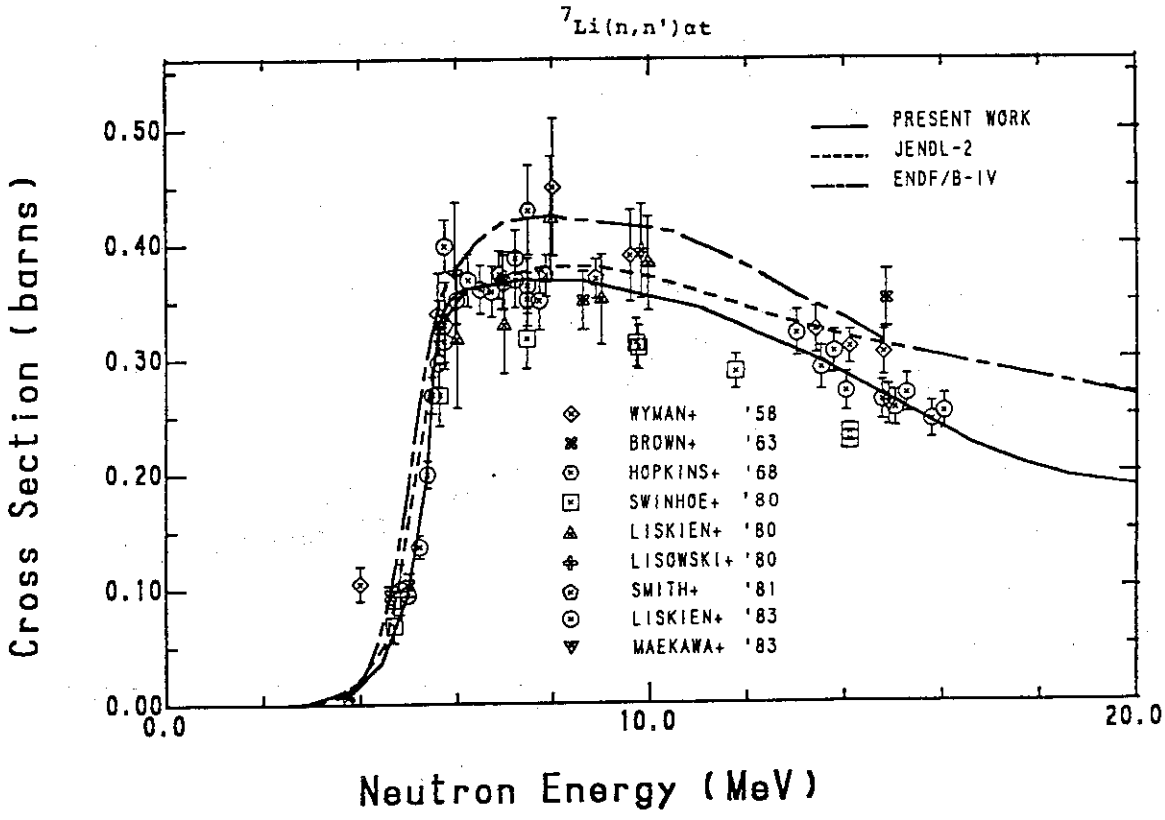

Fig. 6 Measured and evaluated (n,n')αt cross sections.

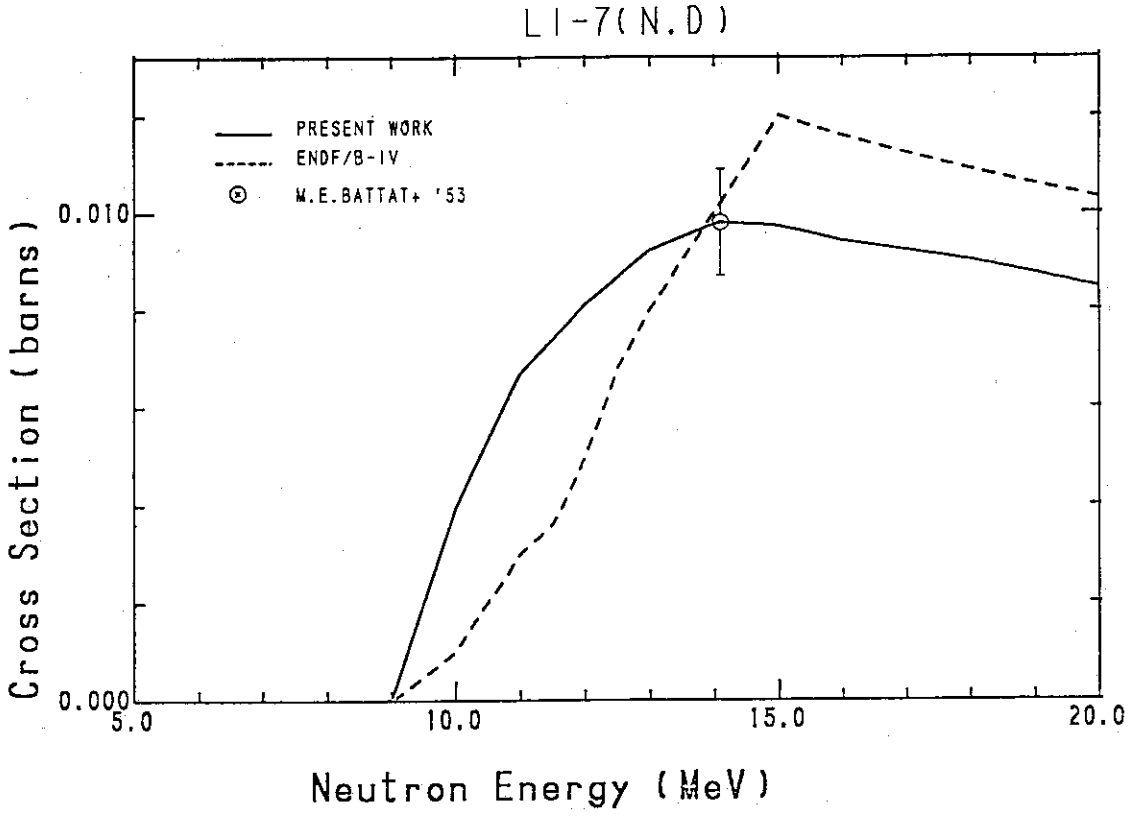

Fig. 7 Measured and evaluated (n,d) cross sections.

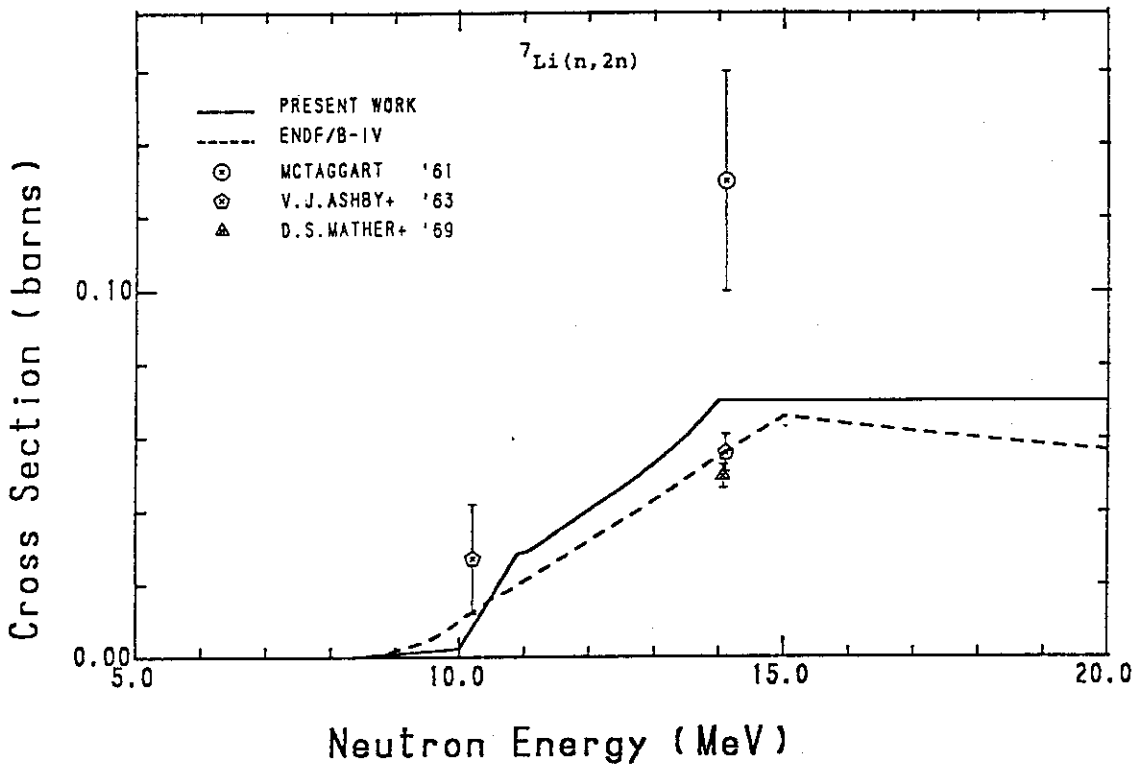

Fig. 8 Measured and evaluated (n,2n) cross sections.

Appendix

List with ENDF/B-V format

File 6 is not included in this listing.

```
........10........20........30........40........50........60......MAT MF MT   SEQ
 3.00700+ 3 6.95573+ 0          0          0          0          0 307 1451    1
 0.0     + 0 0.0    + 0          0          0          0          0 307 1451    2
 0.0     + 0 0.0    + 0          0          0        104         25 307 1451    3
  3-LI-  7 JAERI       EVAL-DEC83 K.SHIBATA                          307 1451    4
                       DIST-JUL84                                    307 1451    5
HISTORY                                                              307 1451    6
83-12  NEWLY EVALUATED BY K.SHIBATA                                  307 1451    7
84-07  DATA OF MF=4 (MT=16,91) AND MF=5 (MT=16,91) WERE REVISED.     307 1451    8
       COMMENT WAS ALSO MODIFIED.                                    307 1451    9
                                                                     307 1451   10
MF=1          GENERAL INFORMATION                                    307 1451   11
  MT=451    DESCRIPTIVE DATA                                         307 1451   12
                                                                     307 1451   13
MF=2          RESONANCE PARAMETERS                                   307 1451   14
  MT=151    SCATTERING RADIUS ONLY.                                  307 1451   15
                                                                     307 1451   16
MF=3          CROSS SECTIONS                                         307 1451   17
  MT=1      SIG-T                                                    307 1451   18
        BELOW 100 KEV, SIG-T = 0.97 + SIG-CAP (BARNS).               307 1451   19
        ABOVE 100 KEV, BASED ON THE EXPERIMENTAL DATA /1/-/4/.       307 1451   20
  MT=2      SIG-EL                                                   307 1451   21
        BELOW 100 KEV, SIG-EL = 0.97 (BARNS).                        307 1451   22
        ABOVE 100 KEV, SIG-EL = SIG-T - SIG-CAP.                     307 1451   23
  MT=3      NON-ELASTIC                                              307 1451   24
        SUM OF MT=4, 16, 102 AND 104.                                307 1451   25
  MT=4      TOTAL INELASTIC                                          307 1451   26
        SUM OF MT=51, 52 AND 91.                                     307 1451   27
  MT=16     (N,2N)                                                   307 1451   28
        BASED ON THE EXPERIMENTAL DATA /5/,/6/.                      307 1451   29
  MT=51     SIG-IN    0.478 MEV                                      307 1451   30
        BASED ON THE (N,N'GAMMA) DATA OF MORGAN /7/.                 307 1451   31
  MT=52     SIG-IN    4.63 MEV                                       307 1451   32
        BASED ON THE EXPERIMENTAL DATA /8/-/10/.                     307 1451   33
  MT=91     SIG-IN CONTINUUM                                         307 1451   34
        THIS CROSS SECTION WAS OBTAINED BY SUBTRACTING THE           307 1451   35
        CONTRIBUTION OF MT=52 FROM THE (N,N')ALPHA-T CROSS           307 1451   36
        SECTION (MT=205).                                            307 1451   37
  MT=102    CAPTURE                                                  307 1451   38
        1/V NORMALIZED TO THE THERMAL MEASUREMENT /11/.              307 1451   39
  MT=104    (N,D)                                                    307 1451   40
        THE (N,D) CROSS SECTION WAS CALCULATED WITH DWBA.            307 1451   41
        NORMALIZATION WAS TAKEN SO THAT THE CALCULATED CROSS         307 1451   42
        SECTION MIGHT BE CONSISTENT WITH THE ACTIVATION DATA /12/.   307 1451   43
  MT=205    (N,N')ALPHA-T                                            307 1451   44
        BASED ON THE EXPERIMENTAL DATA OF SMITH ET AL. /13/ AND      307 1451   45
        LISKIEN ET AL./14/.                                          307 1451   46
  MT=251    MU-BAR                                                   307 1451   47
        CALCULATED FROM THE DATA IN FILE4.                           307 1451   48
                                                                     307 1451   49
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........10........20........30........40........50........60......MAT MF MT  SEQ
MF=4          ANGULAR DISTRIBUTIONS OF SECONDARY NEUTRONS          307 1451   50
  MT=2                                                             307 1451   51
        BELOW 4 MEV, R-MATRIX CALCULATION.                         307 1451   52
        BETWEEN 4 MEV AND 14 MEV, BASED ON THE EXPERIMENTAL        307 1451   53
        DATA /8/,/15/.                                             307 1451   54
        ABOVE 14 MEV, OPTICAL MODEL CALCULATION.  THE POTENTIAL    307 1451   55
        PARAMETERS WERE TAKEN FROM WATSON ET AL./16/.              307 1451   56
                                                                   307 1451   57
  MT=16                                                            307 1451   58
        CALCULATED WITHE THE 3-BODY PHASE-SPACE MODEL.             307 1451   59
        ANGULAR DISTRIBUTIONS ARE GIVEN IN THE LABORATORY SYSTEM.  307 1451   60
  MT=51,52                                                         307 1451   61
        ASSUMED TO BE ISOTROPIC IN THE CENTER-OF-MASS SYSTEM.      307 1451   62
  MT=91                                                            307 1451   63
        CALCULATED WITHE THE 3-BODY PHASE-SPACE MODEL.             307 1451   64
        ANGULAR DISTRIBUTIONS ARE GIVEN IN THE LABORATORY SYSTEM.  307 1451   65
                                                                   307 1451   66
MF=5          ENERGY DISTRIBUTION OF SECONDARY NEUTRONS            307 1451   67
  MT=16, 91                                                        307 1451   68
        PHASE-SPACE FACTORS WERE CALCULATED.                       307 1451   69
                                                                   307 1451   70
MF=6          ENERGY-ANGULAR DISTRIBUTIONS FOR SECONDARY NEUTRONS  307 1451   71
        USE OF FILE6 IS RECOMMENDED FOR TRANSPORT CALCULATIONS.    307 1451   72
  MT=16 91                                                         307 1451   73
        PHASE-SPACE FACTORS                                        307 1451   74
                                                                   307 1451   75
MF=12         PHOTON-PRODUCTION MULTIPLICITIES                     307 1451   76
  MT=51                                                            307 1451   77
        M=1.0                                                      307 1451   78
  MT=102                                                           307 1451   79
        MULTIPLICITIES WERE OBTAINED FROM REF./17/.                307 1451   80
                                                                   307 1451   81
MF=14         PHOTON ANGULAR DISTRIBUTIONS                         307 1451   82
  MT=51                                                            307 1451   83
        ISOTROPIC                                                  307 1451   84
  MT=102                                                           307 1451   85
        ASSUMED TO BE ISOTROPIC.                                   307 1451   86
                                                                   307 1451   87
REFERENCES                                                         307 1451   88
 1) MEADOWS J.W. AND WHALEN J.F.: NUCL. SCI. ENG. 41 (1970) 351.   307 1451   89
 2) FOSTER, JR. D.G. AND GLASGOW D.W.: PHYS. REV. C3 (1971) 576.   307 1451   90
 3) GOULDING C.A. ET AL.: USNDC-3 (1972), P.161.                   307 1451   91
 4) LAMAZE G.P. ET AL.: BULL. AM. PHYS. SOC. 24 (1979) 862.        307 1451   92
 5) MATHER D.S. AND PAIN L.F.: AWRE-O-47/69 (1969).                307 1451   93
 6) ASHBY V.J. ET AL.: PHYS. REV. 129 (1963) 1771.                 307 1451   94
 7) MORGAN G.L.: ORNL/TM-6247 (1978).                              307 1451   95
 8) HOGUE H.H. ET AL.: NUCL. SCI. ENG. 69 (1979) 22.               307 1451   96
 9) BABA M. ET AL.: PROC. INT. CONF. NUCLEAR CROSS SECTIONS        307 1451   97
    FOR TECHNOLOGY, KNOXVILLE, 1979, (1980) P.143.                 307 1451   98
10) LISOWSKI P.W. ET AL.: LA-8342 (1980).                          307 1451   99
11) JURNEY E.T.: USNDC-9 (1973), P.109.                            307 1451  100
12) BATTAT M.E. AND RIBE F.L.: PHYS. REV. 89 (1953) 80.            307 1451  101
13) SMITH D.L. ET AL.: NUCL. SCI. ENG. 78 (1981) 359.              307 1451  102
14) LISKIEN H. ET AL.: PROC. INT. CONF. NUCLEAR DATA FOR
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15) KNOX H.D. ET AL.: NUCL. SCI. ENG. 69 (1979) 223.               307 1451  104
16) WATSON B.A. ET AL.: PHYS. REV. 182 (1969) 977.                 307 1451  105
17) AJZENBERG-SELOVE F. AND LAURITSEN T.: NUCL. PHYS. A227(1974)1. 307 1451  106
                                                                   307 1451  107
                                 1        451        132           307 1451  108
                                 2        151          4           307 1451  109
                                 3          1         77           307 1451  110
                                 3          2        116           307 1451  111
                                 3          3         87           307 1451  112
                                 3          4         41           307 1451  113
                                 3         16         14           307 1451  114
                                 3         51         30           307 1451  115
                                 3         52          8           307 1451  116
                                 3         91         15           307 1451  117
                                 3        102          8           307 1451  118
                                 3        104          8           307 1451  119
                                 3        205         10           307 1451  120
                                 3        251         22           307 1451  121
                                 4          2        133           307 1451  122
                                 4         16        115           307 1451  123
                                 4         51         10           307 1451  124
                                 4         52         10           307 1451  125
                                 4         91        169           307 1451  126
                                 5         16        117           307 1451  127
                                 5         91        171           307 1451  128
                                12         51          4           307 1451  129
                                12        102         13           307 1451  130
                                14         51          1           307 1451  131
                                14        102          1           307 1451  132
                                                                   307 1  0  133
                                                                   307 0  0  134
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3.00700+ 3 1.00000+ 0           0          0          1         0 307 2151  136
1.00000- 5 1.00000+ 5           0          0          0         0 307 2151  137
1.50000+ 0 3.70000- 1           0          0          0         0 307 2151  138
                                                                   307 2  0  139
                                                                   307 0  0  140
3.00700+ 3 6.95573+ 0           0         99          0         0 307 3  1  141
0.0    + 0 0.0    + 0           0          0          2       222 307 3  1  142
        12          5         222          2          0         0 307 3  1  143
1.00000- 5 3.25358+ 0 1.00000- 4 1.69213+ 0 1.00000- 3 1.19836+ 0 307 3  1  144
1.00000- 2 1.04221+ 0 2.53000- 2 1.01540+ 0 1.00000- 1 9.92836- 1 307 3  1  145
1.00000+ 0 9.77221- 1 1.00000+ 1 9.72284- 1 1.00000+ 2 9.70722- 1 307 3  1  146
1.00000+ 3 9.70228- 1 1.00000+ 4 9.70072- 1 1.00000+ 5 9.70000- 1 307 3  1  147
1.20000+ 5 9.58032- 1 1.31000+ 5 9.83367- 1 1.45000+ 5 1.02390+ 0 307 3  1  148
1.60000+ 5 1.04894+ 0 1.70000+ 5 1.07028+ 0 1.80000+ 5 1.10298+ 0 307 3  1  149
1.90000+ 5 1.22796+ 0 2.00000+ 5 1.47772+ 0 2.10000+ 5 1.82240+ 0 307 3  1  150
2.15109+ 5 2.06423+ 0 2.18045+ 5 2.18972+ 0 2.20981+ 5 2.37640+ 0 307 3  1  151
2.23918+ 5 2.63618+ 0 2.26854+ 5 2.98093+ 0 2.29791+ 5 3.42261+ 0 307 3  1  152
2.32727+ 5 3.97311+ 0 2.35663+ 5 4.64435+ 0 2.38719+ 5 5.43440+ 0 307 3  1  153
2.41774+ 5 6.29896+ 0 2.44829+ 5 7.27571+ 0 2.47884+ 5 8.40237+ 0 307 3  1  154
2.51352+ 5 9.80158+ 0 2.54820+ 5 1.10518+ 1 2.58288+ 5 1.18663+ 1 307 3  1  155
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2.75991+ 5	7.75242+ 0	2.80736+ 5	6.36439+ 0	2.85242+ 5	5.39258+ 0	307	3	1	157
2.89748+ 5	4.55663+ 0	2.94254+ 5	3.89766+ 0	2.98760+ 5	3.45675+ 0	307	3	1	158
3.06707+ 5	2.93736+ 0	3.14654+ 5	2.51159+ 0	3.22602+ 5	2.19455+ 0	307	3	1	159
3.30549+ 5	2.00135+ 0	3.42232+ 5	1.80932+ 0	3.53914+ 5	1.62273+ 0	307	3	1	160
3.65597+ 5	1.46909+ 0	3.77279+ 5	1.37589+ 0	3.96196+ 5	1.29600+ 0	307	3	1	161
4.15112+ 5	1.22903+ 0	4.34029+ 5	1.17263+ 0	4.52946+ 5	1.12442+ 0	307	3	1	162
4.69963+ 5	1.09023+ 0	4.86981+ 5	1.06593+ 0	5.03998+ 5	1.04783+ 0	307	3	1	163
5.21016+ 5	1.03224+ 0	5.45928+ 5	1.01994+ 0	5.46130+ 5	1.01996+ 0	307	3	1	164
5.70840+ 5	1.02284+ 0	5.95752+ 5	1.03230+ 0	6.20664+ 5	1.03967+ 0	307	3	1	165
6.48197+ 5	1.05558+ 0	6.75729+ 5	1.08591+ 0	7.03262+ 5	1.11600+ 0	307	3	1	166
7.30794+ 5	1.13114+ 0	7.64051+ 5	1.15915+ 0	7.97307+ 5	1.21947+ 0	307	3	1	167
8.30563+ 5	1.28660+ 0	8.63819+ 5	1.33502+ 0	8.91489+ 5	1.37066+ 0	307	3	1	168
9.19160+ 5	1.42079+ 0	9.46830+ 5	1.47659+ 0	9.74501+ 5	1.52923+ 0	307	3	1	169
9.89130+ 5	1.55151+ 0	1.00000+ 6	1.55551+ 0	1.00450+ 6	1.55717+ 0	307	3	1	170
1.05795+ 6	1.60492+ 0	1.06140+ 6	1.60778+ 0	1.11141+ 6	1.64879+ 0	307	3	1	171
1.16486+ 6	1.68256+ 0	1.21832+ 6	1.70001+ 0	1.26410+ 6	1.70795+ 0	307	3	1	172
1.28178+ 6	1.71095+ 0	1.34524+ 6	1.72089+ 0	1.40871+ 6	1.72128+ 0	307	3	1	173
1.47217+ 6	1.70352+ 0	1.53665+ 6	1.68282+ 0	1.60113+ 6	1.67644+ 0	307	3	1	174
1.66561+ 6	1.67736+ 0	1.73009+ 6	1.67860+ 0	1.79467+ 6	1.68476+ 0	307	3	1	175
1.85923+ 6	1.70061+ 0	1.92384+ 6	1.71940+ 0	1.93970+ 6	1.72311+ 0	307	3	1	176
1.98842+ 6	1.73439+ 0	2.09089+ 6	1.76165+ 0	2.19335+ 6	1.80250+ 0	307	3	1	177
2.29436+ 6	1.84658+ 0	2.29582+ 6	1.84721+ 0	2.39828+ 6	1.88603+ 0	307	3	1	178
2.48015+ 6	1.91166+ 0	2.53815+ 6	1.92952+ 0	2.66594+ 6	1.96554+ 0	307	3	1	179
2.67802+ 6	1.96889+ 0	2.81789+ 6	2.00107+ 0	2.81910+ 6	2.00127+ 0	307	3	1	180
2.85173+ 6	2.00647+ 0	2.95776+ 6	2.02306+ 0	2.99530+ 6	2.04308+ 0	307	3	1	181
3.05044+ 6	2.07241+ 0	3.13886+ 6	2.08821+ 0	3.20745+ 6	2.10025+ 0	307	3	1	182
3.28243+ 6	2.11384+ 0	3.36446+ 6	2.12847+ 0	3.42600+ 6	2.14292+ 0	307	3	1	183
3.51889+ 6	2.16444+ 0	3.52147+ 6	2.16503+ 0	3.61179+ 6	2.19555+ 0	307	3	1	184
3.67848+ 6	2.21786+ 0	3.70468+ 6	2.23065+ 0	3.76380+ 6	2.25949+ 0	307	3	1	185
3.77642+ 6	2.26563+ 0	3.79758+ 6	2.27839+ 0	3.87435+ 6	2.32469+ 0	307	3	1	186
3.89047+ 6	2.33506+ 0	3.97229+ 6	2.38776+ 0	3.98337+ 6	2.39452+ 0	307	3	1	187
4.07022+ 6	2.44752+ 0	4.07627+ 6	2.45084+ 0	4.16162+ 6	2.49764+ 0	307	3	1	188
4.16916+ 6	2.50119+ 0	4.25303+ 6	2.54051+ 0	4.27050+ 6	2.54629+ 0	307	3	1	189
4.34443+ 6	2.57066+ 0	4.37184+ 6	2.57428+ 0	4.43583+ 6	2.58268+ 0	307	3	1	190
4.47318+ 6	2.58285+ 0	4.50697+ 6	2.58299+ 0	4.51724+ 6	2.58304+ 0	307	3	1	191
4.57453+ 6	2.58038+ 0	4.59864+ 6	2.57928+ 0	4.68005+ 6	2.56725+ 0	307	3	1	192
4.68431+ 6	2.56597+ 0	4.76145+ 6	2.54286+ 0	4.77721+ 6	2.53666+ 0	307	3	1	193
4.85531+ 6	2.50646+ 0	4.94917+ 6	2.46872+ 0	5.01370+ 6	2.43932+ 0	307	3	1	194
5.04304+ 6	2.42620+ 0	5.13690+ 6	2.37549+ 0	5.21635+ 6	2.30969+ 0	307	3	1	195
5.22421+ 6	2.30333+ 0	5.31153+ 6	2.21504+ 0	5.39884+ 6	2.14675+ 0	307	3	1	196
5.48615+ 6	2.13462+ 0	5.56466+ 6	2.15666+ 0	5.64316+ 6	2.17492+ 0	307	3	1	197
5.65549+ 6	2.17779+ 0	5.72166+ 6	2.19318+ 0	5.80016+ 6	2.21518+ 0	307	3	1	198
5.88316+ 6	2.22746+ 0	5.96615+ 6	2.21836+ 0	6.04915+ 6	2.19861+ 0	307	3	1	199
6.09464+ 6	2.18781+ 0	6.12840+ 6	2.17988+ 0	6.13214+ 6	2.17900+ 0	307	3	1	200
6.33886+ 6	2.13327+ 0	6.54558+ 6	2.08148+ 0	6.75231+ 6	2.03239+ 0	307	3	1	201
6.80402+ 6	2.02281+ 0	6.90540+ 6	2.00430+ 0	6.95903+ 6	1.99471+ 0	307	3	1	202
7.14430+ 6	1.96562+ 0	7.32958+ 6	1.93402+ 0	7.51485+ 6	1.90536+ 0	307	3	1	203
7.70012+ 6	1.88507+ 0	7.78370+ 6	1.87815+ 0	7.81743+ 6	1.87542+ 0	307	3	1	204
8.21694+ 6	1.84383+ 0	8.30000+ 6	1.83678+ 0	8.69570+ 6	1.80450+ 0	307	3	1	205
8.73375+ 6	1.80150+ 0	8.86462+ 6	1.79076+ 0	8.88000+ 6	1.78951+ 0	307	3	1	206
9.00000+ 6	1.77987+ 0	9.25057+ 6	1.76032+ 0	9.76738+ 6	1.72247+ 0	307	3	1	207
1.00000+ 7	1.70611+ 0	1.01145+ 7	1.69819+ 0	1.05000+ 7	1.67267+ 0	307	3	1	208

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........10........20........30........40........50........60......MAT MF MT   SEQ
1.06168+ 7 1.66519+ 0 1.10000+ 7 1.63972+ 0 1.10270+ 7 1.63792+ 0 307 3  1   209
1.13981+ 7 1.61448+ 0 1.14663+ 7 1.61039+ 0 1.15000+ 7 1.60825+ 0 307 3  1   210
1.20000+ 7 1.57753+ 0 1.23157+ 7 1.55909+ 0 1.23780+ 7 1.55546+ 0 307 3  1   211
1.25000+ 7 1.54853+ 0 1.27493+ 7 1.53445+ 0 1.30000+ 7 1.52100+ 0 307 3  1   212
1.31652+ 7 1.51225+ 0 1.35000+ 7 1.49466+ 0 1.40000+ 7 1.46956+ 0 307 3  1   213
1.40668+ 7 1.46625+ 0 1.42690+ 7 1.45647+ 0 1.45000+ 7 1.44574+ 0 307 3  1   214
1.46600+ 7 1.43837+ 0 1.50000+ 7 1.42198+ 0 1.54518+ 7 1.40109+ 0 307 3  1   215
1.61547+ 7 1.37024+ 0 1.69381+ 7 1.33465+ 0 1.76495+ 7 1.30432+ 0 307 3  1   216
1.83231+ 7 1.27296+ 0 1.91443+ 7 1.23704+ 0 2.00000+ 7 1.21500+ 0 307 3  1   217
                                                                  307 3  0   218
3.00700+ 3 6.95573+ 0           0           0           0           0 307 3  2   219
0.0    + 0 0.0    + 0           0           0           1         337 307 3  2   220
        337            2           0           0           0           0 307 3  2   221
1.00000- 5 9.70000- 1 1.00000- 4 9.70000- 1 1.00000- 3 9.70000- 1 307 3  2   222
1.00000- 2 9.70000- 1 2.53000- 2 9.70000- 1 1.00000- 1 9.70000- 1 307 3  2   223
1.00000+ 0 9.70000- 1 1.00000+ 1 9.70000- 1 1.00000+ 2 9.70000- 1 307 3  2   224
1.00000+ 3 9.70000- 1 1.00000+ 4 9.70000- 1 1.00000+ 5 9.69977- 1 307 3  2   225
1.20000+ 5 9.58011- 1 1.31000+ 5 9.83347- 1 1.45000+ 5 1.02388+ 0 307 3  2   226
1.60000+ 5 1.04892+ 0 1.70000+ 5 1.07026+ 0 1.80000+ 5 1.10296+ 0 307 3  2   227
1.90000+ 5 1.22794+ 0 2.00000+ 5 1.47770+ 0 2.10000+ 5 1.82238+ 0 307 3  2   228
2.15109+ 5 2.06421+ 0 2.18045+ 5 2.18970+ 0 2.20981+ 5 2.37638+ 0 307 3  2   229
2.23918+ 5 2.63616+ 0 2.26854+ 5 2.98092+ 0 2.29791+ 5 3.42260+ 0 307 3  2   230
2.32727+ 5 3.97309+ 0 2.35663+ 5 4.64433+ 0 2.38719+ 5 5.43438+ 0 307 3  2   231
2.41774+ 5 6.29894+ 0 2.44829+ 5 7.27569+ 0 2.47884+ 5 8.40236+ 0 307 3  2   232
2.51352+ 5 9.80157+ 0 2.54820+ 5 1.10518+ 1 2.58288+ 5 1.18663+ 1 307 3  2   233
2.61755+ 5 1.19579+ 1 2.66500+ 5 1.10052+ 1 2.71245+ 5 9.45138+ 0 307 3  2   234
2.75991+ 5 7.75241+ 0 2.80736+ 5 6.36438+ 0 2.85242+ 5 5.39257+ 0 307 3  2   235
2.89748+ 5 4.55662+ 0 2.94254+ 5 3.89765+ 0 2.98760+ 5 3.45674+ 0 307 3  2   236
3.06707+ 5 2.93735+ 0 3.14654+ 5 2.51158+ 0 3.22602+ 5 2.19454+ 0 307 3  2   237
3.30549+ 5 2.00134+ 0 3.42232+ 5 1.80931+ 0 3.53914+ 5 1.62272+ 0 307 3  2   238
3.65597+ 5 1.46908+ 0 3.77279+ 5 1.37588+ 0 3.96196+ 5 1.29599+ 0 307 3  2   239
4.15112+ 5 1.22902+ 0 4.34029+ 5 1.17262+ 0 4.52946+ 5 1.12441+ 0 307 3  2   240
4.69963+ 5 1.09022+ 0 4.86981+ 5 1.06592+ 0 5.03998+ 5 1.04782+ 0 307 3  2   241
5.21016+ 5 1.03223+ 0 5.45928+ 5 1.01993+ 0 5.46130+ 5 1.01995+ 0 307 3  2   242
5.47000+ 5 1.02005+ 0 5.55415+ 5 1.00989+ 0 5.70840+ 5 1.00651+ 0 307 3  2   243
5.82439+ 5 1.00703+ 0 5.95752+ 5 1.00731+ 0 6.09464+ 5 1.00644+ 0 307 3  2   244
6.20664+ 5 1.00576+ 0 6.48197+ 5 1.01184+ 0 6.63512+ 5 1.02324+ 0 307 3  2   245
6.75729+ 5 1.03283+ 0 6.90536+ 5 1.04431+ 0 7.03262+ 5 1.05483+ 0 307 3  2   246
7.17561+ 5 1.05888+ 0 7.30794+ 5 1.06234+ 0 7.37406+ 5 1.06600+ 0 307 3  2   247
7.57253+ 5 1.07510+ 0 7.64051+ 5 1.07752+ 0 7.96944+ 5 1.12115+ 0 307 3  2   248
7.97307+ 5 1.12160+ 0 8.30563+ 5 1.17012+ 0 8.36636+ 5 1.17557+ 0 307 3  2   249
8.63819+ 5 1.20011+ 0 8.76328+ 5 1.20930+ 0 8.91489+ 5 1.22040+ 0 307 3  2   250
9.04197+ 5 1.23636+ 0 9.19160+ 5 1.25498+ 0 9.32065+ 5 1.27368+ 0 307 3  2   251
9.46830+ 5 1.29607+ 0 9.59934+ 5 1.31445+ 0 9.74501+ 5 1.33700+ 0 307 3  2   252
9.87803+ 5 1.35254+ 0 9.89130+ 5 1.35423+ 0 1.00000+ 6 1.35556+ 0 307 3  2   253
1.00450+ 6 1.35611+ 0 1.02918+ 6 1.37208+ 0 1.05795+ 6 1.39170+ 0 307 3  2   254
1.06140+ 6 1.39383+ 0 1.07056+ 6 1.39941+ 0 1.11141+ 6 1.42671+ 0 307 3  2   255
1.11194+ 6 1.42696+ 0 1.15333+ 6 1.45032+ 0 1.16486+ 6 1.45788+ 0 307 3  2   256
1.21832+ 6 1.47662+ 0 1.22342+ 6 1.47762+ 0 1.26410+ 6 1.48776+ 0 307 3  2   257
1.28178+ 6 1.49209+ 0 1.29351+ 6 1.49482+ 0 1.34524+ 6 1.50718+ 0 307 3  2   258
1.36361+ 6 1.50880+ 0 1.40871+ 6 1.51104+ 0 1.43370+ 6 1.50514+ 0 307 3  2   259
1.47217+ 6 1.49520+ 0 1.53665+ 6 1.47588+ 0 1.56376+ 6 1.47378+ 0 307 3  2   260
1.60113+ 6 1.47132+ 0 1.66561+ 6 1.47439+ 0 1.69381+ 6 1.47587+ 0 307 3  2   261
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1.73009+ 6	1.47751+ 0	1.79467+ 6	1.48535+ 0	1.82386+ 6	1.49328+ 0	307	3	2	262
1.85925+ 6	1.50196+ 0	1.92384+ 6	1.52074+ 0	1.93970+ 6	1.52444+ 0	307	3	2	263
1.95392+ 6	1.52773+ 0	1.98295+ 6	1.53483+ 0	1.98842+ 6	1.53626+ 0	307	3	2	264
1.99747+ 6	1.53893+ 0	2.01199+ 6	1.54296+ 0	2.09089+ 6	1.56359+ 0	307	3	2	265
2.16189+ 6	1.59157+ 0	2.19335+ 6	1.60400+ 0	2.29436+ 6	1.64773+ 0	307	3	2	266
2.29582+ 6	1.64836+ 0	2.31179+ 6	1.65435+ 0	2.39828+ 6	1.68698+ 0	307	3	2	267
2.46169+ 6	1.70673+ 0	2.48015+ 6	1.71252+ 0	2.53815+ 6	1.73043+ 0	307	3	2	268
2.61159+ 6	1.75119+ 0	2.66594+ 6	1.76550+ 0	2.67802+ 6	1.76863+ 0	307	3	2	269
2.78471+ 6	1.79118+ 0	2.81789+ 6	1.79719+ 0	2.81910+ 6	1.79733+ 0	307	3	2	270
2.82200+ 6	1.79765+ 0	2.85173+ 6	1.80056+ 0	2.95776+ 6	1.81064+ 0	307	3	2	271
2.95784+ 6	1.81067+ 0	2.99530+ 6	1.82786+ 0	3.05044+ 6	1.85308+ 0	307	3	2	272
3.13096+ 6	1.86147+ 0	3.13886+ 6	1.86232+ 0	3.20745+ 6	1.86954+ 0	307	3	2	273
3.28243+ 6	1.87785+ 0	3.30409+ 6	1.88019+ 0	3.36446+ 6	1.88462+ 0	307	3	2	274
3.42600+ 6	1.89261+ 0	3.42865+ 6	1.89295+ 0	3.51889+ 6	1.90023+ 0	307	3	2	275
3.52147+ 6	1.90043+ 0	3.55322+ 6	1.90636+ 0	3.61179+ 6	1.91801+ 0	307	3	2	276
3.67778+ 6	1.93092+ 0	3.67848+ 6	1.93110+ 0	3.70468+ 6	1.94209+ 0	307	3	2	277
3.76380+ 6	1.96686+ 0	3.77642+ 6	1.97213+ 0	3.79758+ 6	1.98343+ 0	307	3	2	278
3.80235+ 6	1.98598+ 0	3.87435+ 6	2.03196+ 0	3.89047+ 6	2.04291+ 0	307	3	2	279
3.89892+ 6	2.04865+ 0	3.96280+ 6	2.09022+ 0	3.97229+ 6	2.09699+ 0	307	3	2	280
3.98337+ 6	2.10452+ 0	4.07022+ 6	2.16354+ 0	4.07627+ 6	2.16727+ 0	307	3	2	281
4.12326+ 6	2.19629+ 0	4.16162+ 6	2.22023+ 0	4.16916+ 6	2.22435+ 0	307	3	2	282
4.25303+ 6	2.27002+ 0	4.27050+ 6	2.27712+ 0	4.28371+ 6	2.28247+ 0	307	3	2	283
4.34443+ 6	2.30405+ 0	4.37184+ 6	2.30837+ 0	4.43583+ 6	2.31841+ 0	307	3	2	284
4.43940+ 6	2.31852+ 0	4.44417+ 6	2.31834+ 0	4.47318+ 6	2.31566+ 0	307	3	2	285
4.50697+ 6	2.31252+ 0	4.51724+ 6	2.31158+ 0	4.57453+ 6	2.30336+ 0	307	3	2	286
4.59864+ 6	2.29992+ 0	4.68005+ 6	2.27999+ 0	4.68431+ 6	2.27829+ 0	307	3	2	287
4.69119+ 6	2.27557+ 0	4.76145+ 6	2.24673+ 0	4.77721+ 6	2.23878+ 0	307	3	2	288
4.85531+ 6	2.19993+ 0	4.93821+ 6	2.15740+ 0	4.94917+ 6	2.15179+ 0	307	3	2	289
4.97989+ 6	2.13439+ 0	5.01370+ 6	2.11021+ 0	5.04304+ 6	2.08947+ 0	307	3	2	290
5.13690+ 6	2.01441+ 0	5.18523+ 6	1.96184+ 0	5.21635+ 6	1.92842+ 0	307	3	2	291
5.22421+ 6	1.92013+ 0	5.31153+ 6	1.81039+ 0	5.38525+ 6	1.73462+ 0	307	3	2	292
5.39884+ 6	1.71488+ 0	5.43224+ 6	1.68784+ 0	5.48615+ 6	1.64508+ 0	307	3	2	293
5.52037+ 6	1.63230+ 0	5.56466+ 6	1.62916+ 0	5.59692+ 6	1.62531+ 0	307	3	2	294
5.62172+ 6	1.62256+ 0	5.64316+ 6	1.62575+ 0	5.65549+ 6	1.62759+ 0	307	3	2	295
5.72166+ 6	1.63743+ 0	5.72306+ 6	1.63771+ 0	5.76160+ 6	1.64702+ 0	307	3	2	296
5.80016+ 6	1.65654+ 0	5.85818+ 6	1.66319+ 0	5.88316+ 6	1.66703+ 0	307	3	2	297
5.92628+ 6	1.66255+ 0	5.96615+ 6	1.65853+ 0	6.02708+ 6	1.64456+ 0	307	3	2	298
6.04915+ 6	1.63974+ 0	6.09096+ 6	1.63062+ 0	6.09464+ 6	1.62978+ 0	307	3	2	299
6.12840+ 6	1.62213+ 0	6.13214+ 6	1.62128+ 0	6.16220+ 6	1.61489+ 0	307	3	2	300
6.30631+ 6	1.58697+ 0	6.33886+ 6	1.58017+ 0	6.52166+ 6	1.53661+ 0	307	3	2	301
6.54558+ 6	1.53082+ 0	6.73701+ 6	1.48699+ 0	6.75231+ 6	1.48361+ 0	307	3	2	302
6.80402+ 6	1.47487+ 0	6.90540+ 6	1.45801+ 0	6.95236+ 6	1.45038+ 0	307	3	2	303
6.95903+ 6	1.44932+ 0	6.97755+ 6	1.44677+ 0	7.00275+ 6	1.44315+ 0	307	3	2	304
7.02794+ 6	1.43946+ 0	7.05314+ 6	1.43580+ 0	7.14430+ 6	1.42312+ 0	307	3	2	305
7.32958+ 6	1.39483+ 0	7.38670+ 6	1.38701+ 0	7.51485+ 6	1.37042+ 0	307	3	2	306
7.62402+ 6	1.36122+ 0	7.70012+ 6	1.35520+ 0	7.78370+ 6	1.35081+ 0	307	3	2	307
7.81743+ 6	1.34911+ 0	8.19491+ 6	1.33072+ 0	8.21694+ 6	1.32964+ 0	307	3	2	308
8.30000+ 6	1.32509+ 0	8.61130+ 6	1.30860+ 0	8.69570+ 6	1.30489+ 0	307	3	2	309
8.73375+ 6	1.30332+ 0	8.76580+ 6	1.30190+ 0	8.86462+ 6	1.29693+ 0	307	3	2	310
8.86786+ 6	1.29677+ 0	8.88000+ 6	1.29616+ 0	8.93000+ 6	1.29371+ 0	307	3	2	311
9.00000+ 6	1.29029+ 0	9.25057+ 6	1.27772+ 0	9.33668+ 6	1.27381+ 0	307	3	2	312
9.76738+ 6	1.25155+ 0	9.95000+ 6	1.24265+ 0	1.00000+ 7	1.24021+ 0	307	3	2	313
1.00009+ 7	1.24014+ 0	1.00285+ 7	1.23808+ 0	1.00571+ 7	1.23594+ 0	307	3	2	314

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 1.03054+ 7 1.21758+ 0 1.04022+ 7 1.21045+ 0 1.05000+ 7 1.20324+ 0 307 3  2   316
 1.06168+ 7 1.19474+ 0 1.06651+ 7 1.19119+ 0 1.07575+ 7 1.18426+ 0 307 3  2   317
 1.09000+ 7 1.17355+ 0 1.09300+ 7 1.17203+ 0 1.10000+ 7 1.16849+ 0 307 3  2   318
 1.10270+ 7 1.16715+ 0 1.10600+ 7 1.16557+ 0 1.13293+ 7 1.15357+ 0 307 3  2   319
 1.13981+ 7 1.15045+ 0 1.14663+ 7 1.14745+ 0 1.15000+ 7 1.14592+ 0 307 3  2   320
 1.19935+ 7 1.12392+ 0 1.20000+ 7 1.12362+ 0 1.20300+ 7 1.12229+ 0 307 3  2   321
 1.23157+ 7 1.11033+ 0 1.23780+ 7 1.10773+ 0 1.25000+ 7 1.10271+ 0 307 3  2   322
 1.27493+ 7 1.09249+ 0 1.29157+ 7 1.08585+ 0 1.30000+ 7 1.08226+ 0 307 3  2   323
 1.31652+ 7 1.07530+ 0 1.35000+ 7 1.06126+ 0 1.35090+ 7 1.06089+ 0 307 3  2   324
 1.38379+ 7 1.04802+ 0 1.40000+ 7 1.04143+ 0 1.40668+ 7 1.04006+ 0 307 3  2   325
 1.41000+ 7 1.03942+ 0 1.42690+ 7 1.03624+ 0 1.45000+ 7 1.03232+ 0 307 3  2   326
 1.46600+ 7 1.02968+ 0 1.47601+ 7 1.02781+ 0 1.50000+ 7 1.02325+ 0 307 3  2   327
 1.54518+ 7 1.01566+ 0 1.56823+ 7 1.01233+ 0 1.59580+ 7 1.00807+ 0 307 3  2   328
 1.60000+ 7 1.00744+ 0 1.61547+ 7 1.00510+ 0 1.66000+ 7 9.97687- 1 307 3  2   329
 1.67088+ 7 9.95080- 1 1.69381+ 7 9.89174- 1 1.70000+ 7 9.87753- 1 307 3  2   330
 1.75800+ 7 9.74447- 1 1.76495+ 7 9.72606- 1 1.77353+ 7 9.69996- 1 307 3  2   331
 1.80000+ 7 9.61760- 1 1.83231+ 7 9.51724- 1 1.85933+ 7 9.44092- 1 307 3  2   332
 1.87618+ 7 9.38114- 1 1.90000+ 7 9.29646- 1 1.91443+ 7 9.24519- 1 307 3  2   333
 2.00000+ 7 9.09501- 1                                             307 3  2   334
                                                                   307 3  0   335
 3.00700+ 3 6.95573+ 0          0          99          0          0 307 3  3   336
 0.0    + 0 2.03300+ 6          0           0          1        250 307 3  3   337
        250         2           0           0          0          0 307 3  3   338
 1.00000- 5 2.28358+ 0 1.28125- 5 2.01743+ 0 1.56250- 5 1.82686+ 0 307 3  3   339
 2.12500- 5 1.56652+ 0 2.68750- 5 1.39297+ 0 3.25000- 5 1.26670+ 0 307 3  3   340
 4.37500- 5 1.09176+ 0 5.50000- 5 9.73721- 1 6.62500- 5 8.87203- 1 307 3  3   341
 7.75000- 5 8.20286- 1 1.00000- 4 7.22131- 1 1.28125- 4 6.37968- 1 307 3  3   342
 1.56250- 4 5.77705- 1 2.12500- 4 4.95378- 1 2.68750- 4 4.40496- 1 307 3  3   343
 3.25000- 4 4.00566- 1 4.37500- 4 3.45245- 1 5.50000- 4 3.07918- 1 307 3  3   344
 6.62500- 4 2.80558- 1 7.75000- 4 2.59397- 1 1.00000- 3 2.28358- 1 307 3  3   345
 1.28125- 3 2.01743- 1 1.56250- 3 1.82686- 1 2.12500- 3 1.56652- 1 307 3  3   346
 2.68750- 3 1.39297- 1 3.25000- 3 1.26670- 1 4.37500- 3 1.09176- 1 307 3  3   347
 5.50000- 3 9.73721- 2 6.62500- 3 8.87203- 2 7.75000- 3 8.20286- 2 307 3  3   348
 1.00000- 2 7.22131- 2 1.38250- 2 6.14163- 2 1.76500- 2 5.43555- 2 307 3  3   349
 2.14750- 2 4.92776- 2 2.53000- 2 4.54000- 2 3.46375- 2 3.88010- 2 307 3  3   350
 4.39750- 2 3.44360- 2 5.33125- 2 3.12753- 2 6.26500- 2 2.88507- 2 307 3  3   351
 8.13250- 2 2.53224- 2 1.00000- 1 2.28358- 2 1.28125- 1 2.01743- 2 307 3  3   352
 1.56250- 1 1.82686- 2 2.12500- 1 1.56652- 2 2.68750- 1 1.39297- 2 307 3  3   353
 3.25000- 1 1.26670- 2 4.37500- 1 1.09176- 2 5.50000- 1 9.73721- 3 307 3  3   354
 6.62500- 1 8.87203- 3 7.75000- 1 8.20286- 3 1.00000+ 0 7.22131- 3 307 3  3   355
 1.28125+ 0 6.37968- 3 1.56250+ 0 5.77705- 3 2.12500+ 0 4.95378- 3 307 3  3   356
 2.68750+ 0 4.40496- 3 3.25000+ 0 4.00566- 3 4.37500+ 0 3.45245- 3 307 3  3   357
 5.50000+ 0 3.07918- 3 6.62500+ 0 2.80558- 3 7.75000+ 0 2.59397- 3 307 3  3   358
 1.00000+ 1 2.28358- 3 1.28125+ 1 2.01743- 3 1.56250+ 1 1.82686- 3 307 3  3   359
 2.12500+ 1 1.56652- 3 2.68750+ 1 1.39297- 3 3.25000+ 1 1.26670- 3 307 3  3   360
 4.37500+ 1 1.09176- 3 5.50000+ 1 9.73721- 4 6.62500+ 1 8.87203- 4 307 3  3   361
 7.75000+ 1 8.20286- 4 1.00000+ 2 7.22131- 4 1.28125+ 2 6.37968- 4 307 3  3   362
 1.56250+ 2 5.77705- 4 2.12500+ 2 4.95378- 4 2.68750+ 2 4.40496- 4 307 3  3   363
 3.25000+ 2 4.00566- 4 4.37500+ 2 3.45245- 4 5.50000+ 2 3.07918- 4 307 3  3   364
 6.62500+ 2 2.80558- 4 7.75000+ 2 2.59397- 4 1.00000+ 3 2.28358- 4 307 3  3   365
 1.28125+ 3 2.01743- 4 1.56250+ 3 1.82686- 4 2.12500+ 3 1.56652- 4 307 3  3   366
 2.68750+ 3 1.39297- 4 3.25000+ 3 1.26670- 4 4.37500+ 3 1.09176- 4 307 3  3   367
```

.....10	20	30	40	50	60	MAT	MF	MT	SEQ
5.50000+ 3	9.73721- 5	6.62500+ 3	8.87203- 5	7.75000+ 3	8.20286- 5	307	3	3	368
1.00000+ 4	7.22131- 5	1.28125+ 4	6.37968- 5	1.56250+ 4	5.77705- 5	307	3	3	369
2.12500+ 4	4.95378- 5	2.68750+ 4	4.40496- 5	3.25000+ 4	4.00566- 5	307	3	3	370
4.37500+ 4	3.45245- 5	5.50000+ 4	3.07918- 5	6.62500+ 4	2.80558- 5	307	3	3	371
7.75000+ 4	2.59397- 5	1.00000+ 5	2.28358- 5	1.27892+ 5	2.01927- 5	307	3	3	372
1.55784+ 5	1.82959- 5	2.11568+ 5	1.56997- 5	2.67352+ 5	1.39661- 5	307	3	3	373
3.23137+ 5	1.27035- 5	4.34705+ 5	1.09526- 5	5.46274+ 5	9.77036- 6	307	3	3	374
5.55415+ 5	1.11520- 2	5.82439+ 5	2.02156- 2	6.09464+ 5	2.99157- 2	307	3	3	375
6.63512+ 5	4.92043- 2	6.90536+ 5	5.77827- 2	7.17561+ 5	6.49770- 2	307	3	3	376
7.37406+ 5	7.07038- 2	7.57253+ 5	7.83208- 2	7.96944+ 5	9.76623- 2	307	3	3	377
8.36636+ 5	1.19875- 1	8.76328+ 5	1.41832- 1	9.04197+ 5	1.57320- 1	307	3	3	378
9.32065+ 5	1.73130- 1	9.59934+ 5	1.87070- 1	9.87803+ 5	1.96949- 1	307	3	3	379
1.00000+ 6	1.99952- 1	1.02918+ 6	2.07135- 1	1.07056+ 6	2.15881- 1	307	3	3	380
1.11194+ 6	2.22162- 1	1.15333+ 6	2.24952- 1	1.22342+ 6	2.23272- 1	307	3	3	381
1.29351+ 6	2.17966- 1	1.36361+ 6	2.12203- 1	1.43370+ 6	2.09148- 1	307	3	3	382
1.56376+ 6	2.06359- 1	1.69381+ 6	2.02035- 1	1.82386+ 6	1.98647- 1	307	3	3	383
1.95392+ 6	1.98668- 1	1.98295+ 6	1.98293- 1	1.99747+ 6	1.97867- 1	307	3	3	384
2.01199+ 6	1.97702- 1	2.16189+ 6	1.98388- 1	2.31179+ 6	1.98906- 1	307	3	3	385
2.46169+ 6	1.99152- 1	2.61159+ 6	1.99024- 1	2.78471+ 6	2.02254- 1	307	3	3	386
2.82200+ 6	2.04085- 1	2.95784+ 6	2.12426- 1	3.13096+ 6	2.25329- 1	307	3	3	387
3.30409+ 6	2.37514- 1	3.42865+ 6	2.50584- 1	3.55322+ 6	2.69394- 1	307	3	3	388
3.67778+ 6	2.86707- 1	3.80235+ 6	2.95289- 1	3.89892+ 6	2.91851- 1	307	3	3	389
3.96280+ 6	2.91427- 1	4.12326+ 6	2.80310- 1	4.28371+ 6	2.68171- 1	307	3	3	390
4.43940+ 6	2.64172- 1	4.44417+ 6	2.64371- 1	4.69119+ 6	2.88342- 1	307	3	3	391
4.93821+ 6	3.15720- 1	4.97989+ 6	3.20336- 1	5.18523+ 6	3.73626- 1	307	3	3	392
5.30000+ 6	4.01815- 1	5.38525+ 6	4.22755- 1	5.43224+ 6	4.54267- 1	307	3	3	393
5.52037+ 6	5.11926- 1	5.59692+ 6	5.38849- 1	5.62000+ 6	5.46782- 1	307	3	3	394
5.62172+ 6	5.47373- 1	5.72306+ 6	5.55862- 1	5.76160+ 6	5.57356- 1	307	3	3	395
5.85818+ 6	5.60569- 1	5.92628+ 6	5.60179- 1	6.02708+ 6	5.59299- 1	307	3	3	396
6.09096+ 6	5.58065- 1	6.16220+ 6	5.57460- 1	6.23000+ 6	5.55595- 1	307	3	3	397
6.30631+ 6	5.53496- 1	6.52166+ 6	5.50861- 1	6.73701+ 6	5.49032- 1	307	3	3	398
6.95236+ 6	5.45525- 1	6.97755+ 6	5.45030- 1	7.00275+ 6	5.44695- 1	307	3	3	399
7.02794+ 6	5.44428- 1	7.05314+ 6	5.44133- 1	7.07000+ 6	5.43832- 1	307	3	3	400
7.38670+ 6	5.38172- 1	7.62402+ 6	5.32184- 1	7.95000+ 6	5.22284- 1	307	3	3	401
8.19491+ 6	5.14846- 1	8.30000+ 6	5.11694- 1	8.61130+ 6	5.02786- 1	307	3	3	402
8.76580+ 6	4.96970- 1	8.86786+ 6	4.93730- 1	8.93000+ 6	4.91779- 1	307	3	3	403
9.00000+ 6	4.89580- 1	9.33668+ 6	4.80199- 1	9.95000+ 6	4.66980- 1	307	3	3	404
1.00000+ 7	4.65903- 1	1.00009+ 7	4.65906- 1	1.00285+ 7	4.66063- 1	307	3	3	405
1.00571+ 7	4.66225- 1	1.01145+ 7	4.66551- 1	1.01619+ 7	4.66902- 1	307	3	3	406
1.02095+ 7	4.67255- 1	1.03054+ 7	4.67969- 1	1.04022+ 7	4.68693- 1	307	3	3	407
1.05000+ 7	4.69428- 1	1.06168+ 7	4.70450- 1	1.06651+ 7	4.70789- 1	307	3	3	408
1.07575+ 7	4.71582- 1	1.09000+ 7	4.72812- 1	1.09300+ 7	4.72338- 1	307	3	3	409
1.10000+ 7	4.71232- 1	1.10270+ 7	4.70768- 1	1.10600+ 7	4.70270- 1	307	3	3	410
1.13293+ 7	4.65260- 1	1.13981+ 7	4.64029- 1	1.14663+ 7	4.62939- 1	307	3	3	411
1.15000+ 7	4.62329- 1	1.19935+ 7	4.54005- 1	1.20000+ 7	4.53908- 1	307	3	3	412
1.20300+ 7	4.53489- 1	1.23157+ 7	4.48759- 1	1.23780+ 7	4.47729- 1	307	3	3	413
1.25000+ 7	4.45819- 1	1.27493+ 7	4.41964- 1	1.29157+ 7	4.39674- 1	307	3	3	414
1.30000+ 7	4.38745- 1	1.31652+ 7	4.36952- 1	1.35000+ 7	4.33405- 1	307	3	3	415
1.35090+ 7	4.33323- 1	1.38379+ 7	4.29679- 1	1.40000+ 7	4.28129- 1	307	3	3	416
1.41000+ 7	4.25223- 1	1.47601+ 7	4.05738- 1	1.50000+ 7	3.98728- 1	307	3	3	417
1.56823+ 7	3.78644- 1	1.59580+ 7	3.70806- 1	1.60000+ 7	3.69592- 1	307	3	3	418
1.66000+ 7	3.52323- 1	1.67088+ 7	3.49987- 1	1.70000+ 7	3.44258- 1	307	3	3	419
1.75800+ 7	3.32836- 1	1.77353+ 7	3.30329- 1	1.80000+ 7	3.26242- 1	307	3	3	420

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........10........20........30........40........50........60......MAT MF MT   SEQ
 1.85933+ 7 3.17049- 1 1.87618+ 7 3.15657- 1 1.90000+ 7 3.13706- 1 307 3  3   421
 2.00000+ 7 3.05499- 1                                             307 3  3   422
                                                                   307 3  0   423
 3.00700+ 3 6.95573+ 0           0          99           0           0 307 3  4   424
 0.0    + 0-4.77610+ 5           0           0           1         112 307 3  4   425
        112           2           0           0           0           0 307 3  4   426
 5.46274+ 5 0.0    + 0 5.55415+ 5 1.11423- 2 5.82439+ 5 2.02061- 2 307 3  4   427
 6.09464+ 5 2.99064- 2 6.63512+ 5 4.91954- 2 6.90536+ 5 5.77740- 2 307 3  4   428
 7.17561+ 5 6.49685- 2 7.37406+ 5 7.06954- 2 7.57253+ 5 7.83125- 2 307 3  4   429
 7.96944+ 5 9.76542- 2 8.36636+ 5 1.19867- 1 8.76328+ 5 1.41824- 1 307 3  4   430
 9.04197+ 5 1.57312- 1 9.32065+ 5 1.73123- 1 9.59934+ 5 1.87063- 1 307 3  4   431
 9.87803+ 5 1.96942- 1 1.02918+ 6 2.07128- 1 1.07056+ 6 2.15874- 1 307 3  4   432
 1.11194+ 6 2.22155- 1 1.15333+ 6 2.24945- 1 1.22342+ 6 2.23265- 1 307 3  4   433
 1.29351+ 6 2.17960- 1 1.36361+ 6 2.12197- 1 1.43370+ 6 2.09142- 1 307 3  4   434
 1.56376+ 6 2.06353- 1 1.69381+ 6 2.02029- 1 1.82386+ 6 1.98642- 1 307 3  4   435
 1.95392+ 6 1.98663- 1 1.98295+ 6 1.98288- 1 1.99747+ 6 1.97862- 1 307 3  4   436
 2.01199+ 6 1.97697- 1 2.16189+ 6 1,98383- 1 2.31179+ 6 1.98901- 1 307 3  4   437
 2.46169+ 6 1.99147- 1 2.61159+ 6 1.99020- 1 2.78471+ 6 2.02250- 1 307 3  4   438
 2.82200+ 6 2.04081- 1 2.95784+ 6 2.12422- 1 3.13096+ 6 2.25325- 1 307 3  4   439
 3.30409+ 6 2.37510- 1 3.42865+ 6 2.50580- 1 3.55322+ 6 2.69390- 1 307 3  4   440
 3.67778+ 6 2.86703- 1 3.80235+ 6 2.95285- 1 3.89892+ 6 2.91847- 1 307 3  4   441
 3.96280+ 6 2.91423- 1 4.12326+ 6 2.80306- 1 4.28371+ 6 2.68168- 1 307 3  4   442
 4.43940+ 6 2.64169- 1 4.44417+ 6 2.64368- 1 4.69119+ 6 2.88339- 1 307 3  4   443
 4.93821+ 6 3.15717- 1 4.97989+ 6 3.20333- 1 5.18523+ 6 3.73623- 1 307 3  4   444
 5.30000+ 6 4.01812- 1 5.38525+ 6 4.22752- 1 5.43224+ 6 4.54264- 1 307 3  4   445
 5.52037+ 6 5.11923- 1 5.59692+ 6 5.38846- 1 5.62000+ 6 5.46779- 1 307 3  4   446
 5.62172+ 6 5.47370- 1 5.72306+ 6 5.55859- 1 5.76160+ 6 5.57353- 1 307 3  4   447
 5.85818+ 6 5.60566- 1 5.92628+ 6 5.60176- 1 6.02708+ 6 5.59296- 1 307 3  4   448
 6.09096+ 6 5.58062- 1 6.16220+ 6 5.57457- 1 6.23000+ 6 5.55592- 1 307 3  4   449
 6.30631+ 6 5.53493- 1 6.52166+ 6 5.50858- 1 6.73701+ 6 5.49029- 1 307 3  4   450
 6.95236+ 6 5.45522- 1 6.97755+ 6 5.45027- 1 7.00275+ 6 5.44692- 1 307 3  4   451
 7.02794+ 6 5.44425- 1 7.05314+ 6 5.44130- 1 7.07000+ 6 5.43829- 1 307 3  4   452
 7.38670+ 6 5.38169- 1 7.62402+ 6 5.32181- 1 7.95000+ 6 5.22281- 1 307 3  4   453
 8.19491+ 6 5.14843- 1 8.61130+ 6 5.02355- 1 8.76580+ 6 4.96326- 1 307 3  4   454
 8.93000+ 6 4.90888- 1 9.33668+ 6 4.77417- 1 9.95000+ 6 4.60970- 1 307 3  4   455
 1.00009+ 7 4.59606- 1 1.06651+ 7 4.43425- 1 1.09300+ 7 4.37389- 1 307 3  4   456
 1.10600+ 7 4.34428- 1 1.13293+ 7 4.25947- 1 1.19935+ 7 4.05494- 1 307 3  4   457
 1.20000+ 7 4.05306- 1 1.29157+ 7 3.78784- 1 1.30000+ 7 3.76573- 1 307 3  4   458
 1.35090+ 7 3.63220- 1 1.38379+ 7 3.53043- 1 1.40000+ 7 3.48273- 1 307 3  4   459
 1.47601+ 7 3.25905- 1 1.50000+ 7 3.18917- 1 1.56823+ 7 2.99041- 1 307 3  4   460
 1.59580+ 7 2.91286- 1 1.60000+ 7 2.90085- 1 1.66000+ 7 2.72931- 1 307 3  4   461
 1.67088+ 7 2.70616- 1 1.75800+ 7 2.53644- 1 1.77353+ 7 2.51170- 1 307 3  4   462
 1.80000+ 7 2.47139- 1 1.85933+ 7 2.38105- 1 1.87618+ 7 2.36758- 1 307 3  4   463
 2.00000+ 7 2.26949- 1                                             307 3  4   464
                                                                   307 3  0   465
 3.00700+ 3 6.95573+ 0           0          99           0           0 307 3 16   466
 0.0    + 0-7.25053+ 6           0           0           1          33 307 3 16   467
         33           2           0           0           0           0 307 3 16   468
 8.30000+ 6 0.0    + 0 9.00000+ 6 9.63600- 4 1.00000+ 7 2.34191- 3 307 3 16   469
 1.00285+ 7 3.11851- 3 1.00571+ 7 3.89826- 3 1.01145+ 7 5.46379- 3 307 3 16   470
 1.01619+ 7 6.83784- 3 1.02095+ 7 8.21868- 3 1.03054+ 7 1.10030- 2 307 3 16   471
 1.04022+ 7 1.38164- 2 1.05000+ 7 1.66624- 2 1.06168+ 7 2.02063- 2 307 3 16   472
 1.07575+ 7 2.42306- 2 1.09000+ 7 2.83124- 2 1.10000+ 7 2.87330- 2 307 3 16   473
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 1.10270+ 7 2.88456- 2 1.10600+ 7 2.90525- 2 1.13981+ 7 3.29335- 2 307 3 16   474
 1.14663+ 7 3.38471- 2 1.15000+ 7 3.42275- 2 1.20000+ 7 4.04846- 2 307 3 16   475
 1.20300+ 7 4.09019- 2 1.23157+ 7 4.41300- 2 1.23780+ 7 4.48360- 2 307 3 16   476
 1.25000+ 7 4.63242- 2 1.27493+ 7 4.94142- 2 1.30000+ 7 5.29476- 2 307 3 16   477
 1.31652+ 7 5.53998- 2 1.35000+ 7 6.04542- 2 1.35090+ 7 6.06036- 2 307 3 16   478
 1.40000+ 7 7.00908- 2 1.70000+ 7 7.00908- 2 2.00000+ 7 7.00908- 2 307 3 16   479
                                                                   307 3  0   480
 3.00700+ 3 6.95573+ 0           0           1           0           0 307 3 51   481
 0.0    + 0-4.77610+ 5           0           0           1          79 307 3 51   482
         79           2           0           0           0           0 307 3 51   483
 5.46274+ 5 0.0    + 0 5.55415+ 5 1.11423- 2 5.82439+ 5 2.02061- 2 307 3 51   484
 6.09464+ 5 2.99064- 2 6.63512+ 5 4.91954- 2 6.90536+ 5 5.77740- 2 307 3 51   485
 7.17561+ 5 6.49685- 2 7.37406+ 5 7.06954- 2 7.57253+ 5 7.83125- 2 307 3 51   486
 7.96944+ 5 9.76542- 2 8.36636+ 5 1.19867- 1 8.76328+ 5 1.41824- 1 307 3 51   487
 9.04197+ 5 1.57312- 1 9.32065+ 5 1.73123- 1 9.59934+ 5 1.87063- 1 307 3 51   488
 9.87803+ 5 1.96942- 1 1.02918+ 6 2.07128- 1 1.07056+ 6 2.15874- 1 307 3 51   489
 1.11194+ 6 2.22155- 1 1.15333+ 6 2.24945- 1 1.22342+ 6 2.23265- 1 307 3 51   490
 1.29351+ 6 2.17960- 1 1.36361+ 6 2.12197- 1 1.43370+ 6 2.09142- 1 307 3 51   491
 1.56376+ 6 2.06353- 1 1.69381+ 6 2.02029- 1 1.82386+ 6 1.98642- 1 307 3 51   492
 1.95392+ 6 1.98663- 1 1.98295+ 6 1.98288- 1 1.99747+ 6 1.97862- 1 307 3 51   493
 2.01199+ 6 1.97697- 1 2.16189+ 6 1.98383- 1 2.31179+ 6 1.98901- 1 307 3 51   494
 2.46169+ 6 1.99147- 1 2.61159+ 6 1.99020- 1 2.78471+ 6 2.02250- 1 307 3 51   495
 2.95784+ 6 2.10751- 1 3.13096+ 6 2.21525- 1 3.30409+ 6 2.31580- 1 307 3 51   496
 3.42865+ 6 2.43118- 1 3.55322+ 6 2.60396- 1 3.67778+ 6 2.76177- 1 307 3 51   497
 3.80235+ 6 2.83226- 1 3.96280+ 6 2.75541- 1 4.12326+ 6 2.57805- 1 307 3 51   498
 4.28371+ 6 2.39049- 1 4.44417+ 6 2.28308- 1 4.69119+ 6 2.25416- 1 307 3 51   499
 4.93821+ 6 2.25930- 1 5.18523+ 6 2.26428- 1 5.43224+ 6 2.23493- 1 307 3 51   500
 5.59692+ 6 2.18839- 1 5.76160+ 6 2.12871- 1 5.92628+ 6 2.06000- 1 307 3 51   501
 6.09096+ 6 1.98633- 1 6.30631+ 6 1.91331- 1 6.52166+ 6 1.87317- 1 307 3 51   502
 6.73701+ 6 1.84109- 1 6.95236+ 6 1.79223- 1 6.97755+ 6 1.78567- 1 307 3 51   503
 7.00275+ 6 1.78071- 1 7.02794+ 6 1.77642- 1 7.05314+ 6 1.77186- 1 307 3 51   504
 7.62402+ 6 1.63328- 1 8.19491+ 6 1.46535- 1 8.76580+ 6 1.29959- 1 307 3 51   505
 9.33668+ 6 1.16750- 1 1.00009+ 7 1.05571- 1 1.06651+ 7 9.60221- 2 307 3 51   506
 1.13293+ 7 8.75207- 2 1.19935+ 7 7.94848- 2 1.29157+ 7 7.00136- 2 307 3 51   507
 1.38379+ 7 6.30599- 2 1.47601+ 7 5.75022- 2 1.56823+ 7 5.22193- 2 307 3 51   508
 1.67088+ 7 4.73672- 2 1.77353+ 7 4.43551- 2 1.87618+ 7 4.20695- 2 307 3 51   509
 2.00000+ 7 3.93964- 2                                             307 3 51   510
                                                                   307 3  0   511
 3.00700+ 3 6.95573+ 0           0           2           0           0 307 3 52   512
-2.46668+ 6-4.63000+ 6           0          33           1          15 307 3 52   513
         15           2           0           0           0           0 307 3 52   514
 5.30000+ 6 0.0    + 0 5.62000+ 6 7.16624- 2 6.23000+ 6 1.36521- 1 307 3 52   515
 7.07000+ 6 1.87191- 1 7.95000+ 6 2.20296- 1 8.93000+ 6 2.11513- 1 307 3 52   516
 9.95000+ 6 1.86515- 1 1.09300+ 7 1.64220- 1 1.20000+ 7 1.43952- 1 307 3 52   517
 1.30000+ 7 1.22333- 1 1.40000+ 7 1.05443- 1 1.50000+ 7 7.97697- 2 307 3 52   518
 1.60000+ 7 6.22039- 2 1.80000+ 7 3.58553- 2 2.00000+ 7 1.62628- 2 307 3 52   519
                                                                   307 3  0   520
 3.00700+ 3 6.95573+ 0           0          98           0           0 307 3 91   521
-2.46668+ 6-2.46668+ 6           0          33           1          34 307 3 91   522
         34           2           0           0           0           0 307 3 91   523
 2.82200+ 6 0.0    + 0 3.89892+ 6 1.32467- 2 4.43940+ 6 3.55416- 2 307 3 91   524
 4.97989+ 6 9.43193- 2 5.30000+ 6 1.76748- 1 5.38525+ 6 1.79609- 1 307 3 91   525
 5.52037+ 6 2.41570- 1 5.62000+ 6 2.57114- 1 5.62172+ 6 2.57585- 1 307 3 91   526
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........10........20........30........40........50........60......MAT MF MT   SEQ
5.72306+ 6 2.58971- 1 5.85818+ 6 2.54738- 1 6.02708+ 6 2.42860- 1 307 3 91   527
6.16220+ 6 2.31928- 1 6.23000+ 6 2.25153- 1 7.07000+ 6 1.79861- 1 307 3 91   528
7.38670+ 6 1.69975- 1 7.95000+ 6 1.48246- 1 8.61130+ 6 1.53541- 1 307 3 91   529
8.93000+ 6 1.53215- 1 9.95000+ 6 1.68028- 1 1.09300+ 7 1.80538- 1 307 3 91   530
1.10600+ 7 1.81703- 1 1.20000+ 7 1.81936- 1 1.30000+ 7 1.84862- 1 307 3 91   531
1.35090+ 7 1.83944- 1 1.40000+ 7 1.80747- 1 1.50000+ 7 1.83019- 1 307 3 91   532
1.59580+ 7 1.77428- 1 1.60000+ 7 1.77164- 1 1.66000+ 7 1.70750- 1 307 3 91   533
1.75800+ 7 1.67445- 1 1.80000+ 7 1.67518- 1 1.85933+ 7 1.65617- 1 307 3 91   534
2.00000+ 7 1.71290- 1                                             307 3 91   535
                                                                  307 3  0   536
3.00700+ 3 6.95573+ 0           0          99           0           0 307 3102  537
0.0    + 0 2.03300+ 6           0           0           1          15 307 3102  538
        15           5           0           0           0           0 307 3102  539
1.00000- 5 2.28358+ 0 1.00000- 4 7.22131- 1 1.00000- 3 2.28358- 1 307 3102  540
1.00000- 2 7.22131- 2 2.53000- 2 4.54000- 2 1.00000- 1 2.28358- 2 307 3102  541
1.00000+ 0 7.22131- 3 1.00000+ 1 2.28358- 3 1.00000+ 2 7.22131- 4 307 3102  542
1.00000+ 3 2.28358- 4 1.00000+ 4 7.22131- 5 1.00000+ 5 2.28358- 5 307 3102  543
1.00000+ 6 7.22131- 6 1.00000+ 7 2.28358- 6 2.00000+ 7 1.61473- 6 307 3102  544
                                                                  307 3  0   545
3.00700+ 3 6.95573+ 0           0          99           0           0 307 3104  546
0.0    + 0-7.75321+ 6           0           0           1          14 307 3104  547
        14           2           0           0           0           0 307 3104  548
8.86786+ 6 0.0    + 0 9.00000+ 6 4.43664- 5 1.00000+ 7 3.92914- 3 307 3104  549
1.10000+ 7 6.70240- 3 1.20000+ 7 8.11501- 3 1.30000+ 7 9.22206- 3 307 3104  550
1.40000+ 7 9.76306- 3 1.41000+ 7 9.80000- 3 1.50000+ 7 9.71797- 3 307 3104  551
1.60000+ 7 9.41429- 3 1.70000+ 7 9.22237- 3 1.80000+ 7 9.01073- 3 307 3104  552
1.90000+ 7 8.74211- 3 2.00000+ 7 8.45720- 3                       307 3104  553
                                                                  307 3  0   554
3.00700+ 3 6.95573+ 0           0          99           0           0 307 3205  555
0.0    + 0-2.46668+ 6           0           0           1          20 307 3205  556
        20           2           0           0           0           0 307 3205  557
2.82200+ 6 0.0    + 0 3.89892+ 6 1.32467- 2 4.43940+ 6 3.55416- 2 307 3205  558
4.97989+ 6 9.43193- 2 5.38525+ 6 1.98700- 1 5.52037+ 6 2.90921- 1 307 3205  559
5.62172+ 6 3.29430- 1 5.72306+ 6 3.41591- 1 5.85818+ 6 3.51725- 1 307 3205  560
6.02708+ 6 3.57805- 1 6.16220+ 6 3.61240- 1 7.38670+ 6 3.69080- 1 307 3205  561
8.61130+ 6 3.67910- 1 1.10600+ 7 3.43460- 1 1.35090+ 7 2.97680- 1 307 3205  562
1.59580+ 7 2.40370- 1 1.66000+ 7 2.25049- 1 1.75800+ 7 2.08834- 1 307 3205  563
1.85933+ 7 1.95660- 1 2.00000+ 7 1.87553- 1                       307 3205  564
                                                                  307 3  0   565
3.00700+ 3 6.95573+ 0           0           0           0           0 307 3251  566
0.0    + 0 0.0    + 0           0           0           1          56 307 3251  567
        56           2           0           0           0           0 307 3251  568
1.00000- 5 9.56665- 2 1.00000- 4 9.56665- 2 1.00000- 3 9.56665- 2 307 3251  569
2.53000- 2 9.56665- 2 1.00000- 1 9.56665- 2 1.00000+ 0 9.56665- 2 307 3251  570
1.00000+ 1 9.56665- 2 1.00000+ 2 9.56665- 2 1.00000+ 3 9.56665- 2 307 3251  571
1.00000+ 4 9.88159- 2 5.00000+ 4 1.14383- 1 1.00000+ 5 1.43847- 1 307 3251  572
1.50000+ 5 1.93160- 1 2.00000+ 5 2.56832- 1 2.20000+ 5 2.53708- 1 307 3251  573
2.40000+ 5 1.97599- 1 2.60000+ 5 1.01059- 1 2.80000+ 5 1.86985- 2 307 3251  574
3.00000+ 5-2.66753- 2 3.50000+ 5-5.06394- 2 4.00000+ 5-4.16799- 2 307 3251  575
5.00000+ 5-1.99451- 2 6.00000+ 5-2.13212- 3 7.00000+ 5 1.51327- 2 307 3251  576
8.00000+ 5 3.59853- 2 9.00000+ 5 5.89554- 2 1.00000+ 6 8.03609- 2 307 3251  577
2.00000+ 6 1.62282- 1 3.00000+ 6 2.49090- 1 4.00000+ 6 2.16305- 1 307 3251  578
4.00000+ 6 2.06686- 1 4.26000+ 6 2.19447- 1 4.57000+ 6 2.57713- 1 307 3251  579
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........10........20........30........40........50........60......MAT MF MT   SEQ
 4.83000+ 6 3.16061- 1 5.05000+ 6 3.19910- 1 5.29000+ 6 3.44803- 1 307 3251  580
 5.54000+ 6 3.79034- 1 5.74000+ 6 4.37308- 1 6.05000+ 6 4.74042- 1 307 3251  581
 6.37000+ 6 5.06844- 1 6.66000+ 6 5.14650- 1 6.94000+ 6 5.29589- 1 307 3251  582
 6.97000+ 6 5.23785- 1 7.97000+ 6 5.53646- 1 8.96000+ 6 5.89747- 1 307 3251  583
 9.96000+ 6 6.32777- 1 1.09500+ 7 6.51730- 1 1.20400+ 7 6.72309- 1 307 3251  584
 1.29400+ 7 7.03481- 1 1.39400+ 7 7.19514- 1 1.50000+ 7 7.50406- 1 307 3251  585
 1.60000+ 7 7.62380- 1 1.70000+ 7 7.73449- 1 1.80000+ 7 7.84974- 1 307 3251  586
 1.90000+ 7 7.94312- 1 2.00000+ 7 8.02947- 1                       307 3251  587
                                                                   307 3  0  588
                                                                   307 0  0  589
 3.00700+ 3 6.95573+ 0           1           1           0           0 307 4  2  590
 0.0    + 0 6.95573+ 0           0           2          64           7 307 4  2  591
 1.00000+ 0 9.58442- 2 4.14598- 3 1.49254- 7 0.0    + 0 0.0    + 0 307 4  2  592
 0.0    + 0 0.0    + 0 0.0    + 0 9.87599- 1 1.71497- 1 1.41708- 2 307 4  2  593
 5.69168- 4 1.00478- 5 4.81292- 7 0.0    + 0 0.0    + 0-9.41462- 2 307 4  2  594
 9.67702- 1 2.42494- 1 2.93112- 2 2.05765- 3 8.12324- 5 1.62608- 6 307 4  2  595
 0.0    + 0 1.21639- 2-1.67003- 1 9.37454- 1 3.09450- 1 4.92167- 2 307 4  2  596
 4.80732- 3 2.98944- 4 0.0    + 0-1.66448- 3 2.74451- 2-2.33648- 1 307 4  2  597
 8.97764- 1 3.71860- 1 7.35006- 2 9.13468- 3 0.0    + 0 2.32577- 4 307 4  2  598
-4.38472- 3 4.68295- 2-2.94963- 1 8.49296- 1 4.28965- 1 1.01692- 1 307 4  2  599
 0.0    + 0-3.28229- 5 6.87726- 4-8.58421- 3 7.00325- 2-3.50548- 1 307 4  2  600
 7.92806- 1 4.79991- 1 0.0    + 0 4.65780- 6-1.06022- 4 1.49703- 3 307 4  2  601
-1.45220- 2 9.65690- 2-3.99784- 1 7.29168- 1                       307 4  2  602
 0.0    + 0 0.0    + 0           0           0           1          56 307 4  2  603
         56          2           0           0           0           0 307 4  2  604
 0.0    + 0 1.00000- 5           0           0           2           0 307 4  2  605
 0.0    + 0 0.0    + 0                                                   307 4  2  606
 0.0    + 0 1.00000- 4           0           0           2           0 307 4  2  607
 0.0    + 0 0.0    + 0                                                   307 4  2  608
 0.0    + 0 1.00000- 3           0           0           2           0 307 4  2  609
 0.0    + 0 0.0    + 0                                                   307 4  2  610
 0.0    + 0 2.53000- 2           0           0           2           0 307 4  2  611
 0.0    + 0 0.0    + 0                                                   307 4  2  612
 0.0    + 0 1.00000- 1           0           0           2           0 307 4  2  613
 0.0    + 0 0.0    + 0                                                   307 4  2  614
 0.0    + 0 1.00000+ 0           0           0           2           0 307 4  2  615
 0.0    + 0 0.0    + 0                                                   307 4  2  616
 0.0    + 0 1.00000+ 1           0           0           2           0 307 4  2  617
 0.0    + 0 0.0    + 0                                                   307 4  2  618
 0.0    + 0 1.00000+ 2           0           0           2           0 307 4  2  619
 0.0    + 0 0.0    + 0                                                   307 4  2  620
 0.0    + 0 1.00000+ 3           0           0           2           0 307 4  2  621
 0.0    + 0 0.0    + 0                                                   307 4  2  622
 0.0    + 0 1.00000+ 4           0           0           4           0 307 4  2  623
 3.18930- 3 8.10900- 6 3.78220- 9-4.75260-13                           307 4  2  624
 0.0    + 0 5.00000+ 4           0           0           4           0 307 4  2  625
 1.89780- 2 3.01730- 4 5.98750- 7-3.87530-10                           307 4  2  626
 0.0    + 0 1.00000+ 5           0           0           4           0 307 4  2  627
 4.89830- 2 2.11740- 3 6.69270- 6-8.83560- 9                           307 4  2  628
 0.0    + 0 1.50000+ 5           0           0           4           0 307 4  2  629
 9.96230- 2 9.54120- 3 3.33070- 5-6.68540- 8                           307 4  2  630
 0.0    + 0 2.00000+ 5           0           0           4           0 307 4  2  631
 1.66870- 1 3.84030- 2 1.04970- 4-2.95180- 7                           307 4  2  632
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........10........20........30........40........50........60......MAT MF MT  SEQ
 0.0     + 0 2.20000+ 5           0           0           4           0 307 4  2  633
 1.65910- 1 6.12460- 2 1.27360- 4-4.02290- 7                           307 4  2  634
 0.0     + 0 2.40000+ 5           0           0           4           0 307 4  2  635
 1.11180- 1 8.29120- 2 9.87190- 5-3.43560- 7                           307 4  2  636
 0.0     + 0 2.60000+ 5           0           0           4           0 307 4  2  637
 1.40100- 2 8.90920- 2 2.06010- 6 1.04080- 8                           307 4  2  638
 0.0     + 0 2.80000+ 5           0           0           4           0 307 4  2  639
-7.03700- 2 7.89270- 2-1.15990- 4 5.43630- 7                           307 4  2  640
 0.0     + 0 3.00000+ 5           0           0           4           0 307 4  2  641
-1.17780- 1 6.36430- 2-2.13450- 4 1.09040- 6                           307 4  2  642
 0.0     + 0 3.50000+ 5           0           0           4           0 307 4  2  643
-1.44760- 1 3.51900- 2-3.69270- 4 2.40970- 6                           307 4  2  644
 0.0     + 0 4.00000+ 5           0           0           4           0 307 4  2  645
-1.37110- 1 2.02540- 2-4.86330- 4 4.12260- 6                           307 4  2  646
 0.0     + 0 5.00000+ 5           0           0           4           0 307 4  2  647
-1.16670- 1 3.77400- 3-7.68890- 4 1.21270- 5                           307 4  2  648
 0.0     + 0 6.00000+ 5           0           0           4           0 307 4  2  649
-9.91710- 2-1.86790- 3-9.64320- 4 2.10820- 5                           307 4  2  650
 0.0     + 0 7.00000+ 5           0           0           4           0 307 4  2  651
-8.21610- 2-6.80000- 3-1.07350- 3 1.12440- 5                           307 4  2  652
 0.0     + 0 8.00000+ 5           0           0           4           0 307 4  2  653
-6.15420- 2-1.19760- 2-1.23940- 3 3.61500- 6                           307 4  2  654
 0.0     + 0 9.00000+ 5           0           0           4           0 307 4  2  655
-3.83830- 2-1.29910- 2-1.39160- 3-3.56920- 6                           307 4  2  656
 0.0     + 0 1.00000+ 6           0           0           4           0 307 4  2  657
-1.61100- 2-6.71380- 3-1.57330- 3-8.09880- 6                           307 4  2  658
 0.0     + 0 2.00000+ 6           0           0           4           0 307 4  2  659
 7.62540- 2 8.93480- 2-1.31000- 2 6.19850- 4                           307 4  2  660
 0.0     + 0 3.00000+ 6           0           0           4           0 307 4  2  661
 1.71870- 1 1.69500- 1-1.14820- 2 6.89430- 3                           307 4  2  662
 0.0     + 0 4.00000+ 6           0           0           4           0 307 4  2  663
 1.47150- 1 2.66290- 1 5.61250- 2 3.60250- 2                           307 4  2  664
 0.0     + 0 4.08000+ 6           0           0           4           0 307 4  2  665
 1.32046- 1 2.09190- 1 4.32900- 2 3.01518- 2                           307 4  2  666
 0.0     + 0 4.26000+ 6           0           0           4           0 307 4  2  667
 1.45365- 1 2.14938- 1 5.58305- 2 3.35275- 2                           307 4  2  668
 0.0     + 0 4.57000+ 6           0           0           4           0 307 4  2  669
 1.85408- 1 2.32106- 1 8.32671- 2 3.78551- 2                           307 4  2  670
 0.0     + 0 4.83000+ 6           0           0           4           0 307 4  2  671
 2.45571- 1 2.44539- 1 1.00001- 1 5.34423- 2                           307 4  2  672
 0.0     + 0 5.05000+ 6           0           0           4           0 307 4  2  673
 2.48950- 1 2.41999- 1 1.08894- 1 3.55290- 2                           307 4  2  674
 0.0     + 0 5.29000+ 6           0           0           4           0 307 4  2  675
 2.73461- 1 2.34592- 1 1.05923- 1 3.26698- 2                           307 4  2  676
 0.0     + 0 5.54000+ 6           0           0           4           0 307 4  2  677
 3.08415- 1 2.38876- 1 1.17067- 1 3.83134- 2                           307 4  2  678
 0.0     + 0 5.74000+ 6           0           0           4           0 307 4  2  679
 3.69159- 1 2.58880- 1 1.28136- 1 3.57284- 2                           307 4  2  680
 0.0     + 0 6.05000+ 6           0           0           4           0 307 4  2  681
 4.09533- 1 2.90556- 1 1.29278- 1 5.02029- 2                           307 4  2  682
 0.0     + 0 6.37000+ 6           0           0           4           0 307 4  2  683
 4.42804- 1 2.95634- 1 1.50549- 1 3.99168- 2                           307 4  2  684
 0.0     + 0 6.66000+ 6           0           0           4           0 307 4  2  685
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........10........20........30........40........50........60......MAT MF MT  SEQ
 4.50496- 1 2.92324- 1 1.43388- 1 3.92226- 2                        307 4  2  686
 0.0    + 0 6.94000+ 6          0          0          4          0 307 4  2  687
 4.66897- 1 3.06669- 1 1.54929- 1 4.62866- 2                        307 4  2  688
 0.0    + 0 6.97000+ 6          0          0          6          0 307 4  2  689
 4.61771- 1 3.15216- 1 1.59079- 1 4.77753- 2 3.85383- 3 1.97985- 3 307 4  2  690
 0.0    + 0 7.97000+ 6          0          0          6          0 307 4  2  691
 4.92375- 1 3.20425- 1 1.67250- 1 5.17429- 2 3.63933- 3 0.0    + 0 307 4  2  692
 0.0    + 0 8.96000+ 6          0          0          6          0 307 4  2  693
 5.31612- 1 3.48709- 1 1.76186- 1 5.70891- 2 0.0    + 0-1.16446- 3 307 4  2  694
 0.0    + 0 9.96000+ 6          0          0          6          0 307 4  2  695
 5.76852- 1 3.69630- 1 2.01323- 1 6.72840- 2 7.57576- 3 3.06268- 3 307 4  2  696
 0.0    + 0 1.09500+ 7          0          0          8          0 307 4  2  697
 5.96985- 1 3.80302- 1 2.08758- 1 6.90117- 2 5.93878- 3 1.54619- 4 307 4  2  698
-1.20603- 3 0.0    + 0                                              307 4  2  699
 0.0    + 0 1.20400+ 7          0          0          8          0 307 4  2  700
 6.20014- 1 4.07265- 1 2.35958- 1 8.98623- 2 1.90365- 2 8.13609- 3 307 4  2  701
 1.99430- 3 0.0    + 0                                              307 4  2  702
 0.0    + 0 1.29400+ 7          0          0          6          0 307 4  2  703
 6.53392- 1 4.27434- 1 2.47946- 1 9.52557- 2 1.90064- 2 4.76515- 3 307 4  2  704
 0.0    + 0 1.39400+ 7          0          0          6          0 307 4  2  705
 6.70996- 1 4.42975- 1 2.60584- 1 1.05208- 1 2.23248- 2 6.26646- 3 307 4  2  706
 0.0    + 0 1.50000+ 7          0          0          6          0 307 4  2  707
 7.04626- 1 4.67632- 1 2.55400- 1 1.00161- 1 2.64489- 2 5.98540- 3 307 4  2  708
 0.0    + 0 1.60000+ 7          0          0          6          0 307 4  2  709
 7.17631- 1 4.78343- 1 2.68029- 1 1.09354- 1 3.11370- 2 7.46669- 3 307 4  2  710
 0.0    + 0 1.70000+ 7          0          0          8          0 307 4  2  711
 7.29635- 1 4.89039- 1 2.80047- 1 1.18827- 1 3.62237- 2 9.15646- 3 307 4  2  712
 1.89916- 3 0.0    + 0                                              307 4  2  713
 0.0    + 0 1.80000+ 7          0          0          8          0 307 4  2  714
 7.42211- 1 4.99881- 1 2.89938- 1 1.26401- 1 4.05877- 2 1.06253- 2 307 4  2  715
 2.27914- 3 0.0    + 0                                              307 4  2  716
 0.0    + 0 1.90000+ 7          0          0          8          0 307 4  2  717
 7.52553- 1 5.10666- 1 3.01441- 1 1.36314- 1 4.62499- 2 1.26687- 2 307 4  2  718
 2.84769- 3 0.0    + 0                                              307 4  2  719
 0.0    + 0 2.00000+ 7          0          0          8          0 307 4  2  720
 7.62176- 1 5.21351- 1 3.12649- 1 1.46325- 1 5.21684- 2 1.49034- 2 307 4  2  721
 3.49192- 3 0.0    + 0                                              307 4  2  722
                                                                    307 4  0  723
 3.00700+ 3 6.95573+ 0          0          2          0          0 307 4 16  724
 0.0    + 0 6.95573+ 0          0          1          0          0 307 4 16  725
 0.0    + 0 0.0    + 0          0          0          1         13 307 4 16  726
         13         2          0          0          0          0 307 4 16  727
 0.0    + 0 8.30000+ 6          0          0          1          3 307 4 16  728
          3         2          0          0          0          0 307 4 16  729
-1.00000+ 0 0.0    + 0 9.00000- 1 0.0    + 0 1.00000+ 0 2.00000+ 1 307 4 16  730
 0.0    + 0 9.00000+ 6          0          0          1         21 307 4 16  731
         21         2          0          0          0          0 307 4 16  732
-1.00000+ 0 3.61670- 2-9.00000- 1 4.63260- 2-8.00000- 1 5.35320- 2 307 4 16  733
-7.00000- 1 5.95570- 2-6.00000- 1 8.10910- 2-5.00000- 1 9.63570- 2 307 4 16  734
-4.00000- 1 1.14320- 1-3.00000- 1 1.45360- 1-2.00000- 1 1.77200- 1 307 4 16  735
-1.00000- 1 2.15150- 1 0.0    + 0 2.70080- 1 1.00000- 1 3.33120- 1 307 4 16  736
 2.00000- 1 4.09010- 1 3.00000- 1 5.03280- 1 4.00000- 1 6.18610- 1 307 4 16  737
 5.00000- 1 7.55120- 1 6.00000- 1 9.18030- 1 7.00000- 1 1.13220+ 0 307 4 16  738
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 8.00000- 1 1.38110+ 0 9.00000- 1 1.66770+ 0 1.00000+ 0 2.00940+ 0 307 4 16  739
 0.0    + 0 1.00000+ 7           0           0           1          21 307 4 16  740
         21           2           0           0           0           0 307 4 16  741
-1.00000+ 0 1.10730- 1-9.00000- 1 1.23580- 1-8.00000- 1 1.43900- 1 307 4 16  742
-7.00000- 1 1.57550- 1-6.00000- 1 1.83280- 1-5.00000- 1 2.03830- 1 307 4 16  743
-4.00000- 1 2.34250- 1-3.00000- 1 2.61140- 1-2.00000- 1 3.01100- 1 307 4 16  744
-1.00000- 1 3.32180- 1 0.0    + 0 3.84370- 1 1.00000- 1 4.40060- 1 307 4 16  745
 2.00000- 1 5.00290- 1 3.00000- 1 5.66170- 1 4.00000- 1 6.38120- 1 307 4 16  746
 5.00000- 1 7.23630- 1 6.00000- 1 8.29750- 1 7.00000- 1 9.46440- 1 307 4 16  747
 8.00000- 1 1.07480+ 0 9.00000- 1 1.21560+ 0 1.00000+ 0 1.36920+ 0 307 4 16  748
 0.0    + 0 1.10000+ 7           0           0           1          21 307 4 16  749
         21           2           0           0           0           0 307 4 16  750
-1.00000+ 0 1.51920- 1-9.00000- 1 1.69520- 1-8.00000- 1 1.82580- 1 307 4 16  751
-7.00000- 1 2.06810- 1-6.00000- 1 2.25770- 1-5.00000- 1 2.51970- 1 307 4 16  752
-4.00000- 1 2.77110- 1-3.00000- 1 3.09270- 1-2.00000- 1 3.38860- 1 307 4 16  753
-1.00000- 1 3.80150- 1 0.0    + 0 4.15930- 1 1.00000- 1 4.64270- 1 307 4 16  754
 2.00000- 1 5.18530- 1 3.00000- 1 5.75570- 1 4.00000- 1 6.33630- 1 307 4 16  755
 5.00000- 1 7.02270- 1 6.00000- 1 7.81720- 1 7.00000- 1 8.68530- 1 307 4 16  756
 8.00000- 1 9.63570- 1 9.00000- 1 1.06750+ 0 1.00000+ 0 1.18090+ 0 307 4 16  757
 0.0    + 0 1.20000+ 7           0           0           1          21 307 4 16  758
         21           2           0           0           0           0 307 4 16  759
-1.00000+ 0 1.72670- 1-9.00000- 1 1.95310- 1-8.00000- 1 2.10160- 1 307 4 16  760
-7.00000- 1 2.31520- 1-6.00000- 1 2.52910- 1-5.00000- 1 2.73610- 1 307 4 16  761
-4.00000- 1 3.03070- 1-3.00000- 1 3.29020- 1-2.00000- 1 3.62630- 1 307 4 16  762
-1.00000- 1 3.98410- 1 0.0    + 0 4.32840- 1 1.00000- 1 4.78760- 1 307 4 16  763
 2.00000- 1 5.23690- 1 3.00000- 1 5.70490- 1 4.00000- 1 6.29580- 1 307 4 16  764
 5.00000- 1 6.92180- 1 6.00000- 1 7.58880- 1 7.00000- 1 8.30220- 1 307 4 16  765
 8.00000- 1 9.05990- 1 9.00000- 1 9.91130- 1 1.00000+ 0 1.08650+ 0 307 4 16  766
 0.0    + 0 1.30000+ 7           0           0           1          21 307 4 16  767
         21           2           0           0           0           0 307 4 16  768
-1.00000+ 0 1.94960- 1-9.00000- 1 2.06600- 1-8.00000- 1 2.30350- 1 307 4 16  769
-7.00000- 1 2.46680- 1-6.00000- 1 2.70390- 1-5.00000- 1 2.92350- 1 307 4 16  770
-4.00000- 1 3.17930- 1-3.00000- 1 3.45400- 1-2.00000- 1 3.76370- 1 307 4 16  771
-1.00000- 1 4.07300- 1 0.0    + 0 4.46170- 1 1.00000- 1 4.79060- 1 307 4 16  772
 2.00000- 1 5.26660- 1 3.00000- 1 5.74440- 1 4.00000- 1 6.17920- 1 307 4 16  773
 5.00000- 1 6.77310- 1 6.00000- 1 7.39840- 1 7.00000- 1 8.06000- 1 307 4 16  774
 8.00000- 1 8.76250- 1 9.00000- 1 9.50830- 1 1.00000+ 0 1.02930+ 0 307 4 16  775
 0.0    + 0 1.40000+ 7           0           0           1          21 307 4 16  776
         21           2           0           0           0           0 307 4 16  777
-1.00000+ 0 2.02670- 1-9.00000- 1 2.25040- 1-8.00000- 1 2.39430- 1 307 4 16  778
-7.00000- 1 2.61640- 1-6.00000- 1 2.81490- 1-5.00000- 1 3.02830- 1 307 4 16  779
-4.00000- 1 3.29580- 1-3.00000- 1 3.52220- 1-2.00000- 1 3.85320- 1 307 4 16  780
-1.00000- 1 4.15850- 1 0.0    + 0 4.49950- 1 1.00000- 1 4.89330- 1 307 4 16  781
 2.00000- 1 5.24190- 1 3.00000- 1 5.72410- 1 4.00000- 1 6.20590- 1 307 4 16  782
 5.00000- 1 6.65520- 1 6.00000- 1 7.25110- 1 7.00000- 1 7.87540- 1 307 4 16  783
 8.00000- 1 8.53110- 1 9.00000- 1 9.21890- 1 1.00000+ 0 9.91260- 1 307 4 16  784
 0.0    + 0 1.50000+ 7           0           0           1          21 307 4 16  785
         21           2           0           0           0           0 307 4 16  786
-1.00000+ 0 2.18430- 1-9.00000- 1 2.31920- 1-8.00000- 1 2.51100- 1 307 4 16  787
-7.00000- 1 2.70700- 1-6.00000- 1 2.86220- 1-5.00000- 1 3.14380- 1 307 4 16  788
-4.00000- 1 3.34020- 1-3.00000- 1 3.64750- 1-2.00000- 1 3.88370- 1 307 4 16  789
-1.00000- 1 4.23450- 1 0.0    + 0 4.50410- 1 1.00000- 1 4.91380- 1 307 4 16  790
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 0.0    + 0 1.60000+ 7          0          0          1         21 307 4 16  794
         21          2          0          0          0          0 307 4 16  795
-1.00000+ 0 2.24320- 1-9.00000- 1 2.35700- 1-8.00000- 1 2.59830- 1 307 4 16  796
-7.00000- 1 2.75240- 1-6.00000- 1 2.98930- 1-5.00000- 1 3.19250- 1 307 4 16  797
-4.00000- 1 3.43280- 1-3.00000- 1 3.69110- 1-2.00000- 1 3.95780- 1 307 4 16  798
-1.00000- 1 4.26150- 1 0.0    + 0 4.58760- 1 1.00000- 1 4.91360- 1 307 4 16  799
 2.00000- 1 5.31390- 1 3.00000- 1 5.65380- 1 4.00000- 1 6.13240- 1 307 4 16  800
 5.00000- 1 6.60690- 1 6.00000- 1 7.04450- 1 7.00000- 1 7.62220- 1 307 4 16  801
 8.00000- 1 8.22020- 1 9.00000- 1 8.83650- 1 1.00000+ 0 9.42840- 1 307 4 16  802
 0.0    + 0 1.70000+ 7          0          0          1         21 307 4 16  803
         21          2          0          0          0          0 307 4 16  804
-1.00000+ 0 2.27940- 1-9.00000- 1 2.48530- 1-8.00000- 1 2.64530- 1 307 4 16  805
-7.00000- 1 2.79370- 1-6.00000- 1 3.04740- 1-5.00000- 1 3.22130- 1 307 4 16  806
-4.00000- 1 3.50010- 1-3.00000- 1 3.71540- 1-2.00000- 1 4.02050- 1 307 4 16  807
-1.00000- 1 4.27440- 1 0.0    + 0 4.62330- 1 1.00000- 1 4.90810- 1 307 4 16  808
 2.00000- 1 5.31530- 1 3.00000- 1 5.67500- 1 4.00000- 1 6.09790- 1 307 4 16  809
 5.00000- 1 6.57030- 1 6.00000- 1 6.97870- 1 7.00000- 1 7.53460- 1 307 4 16  810
 8.00000- 1 8.11370- 1 9.00000- 1 8.70680- 1 1.00000+ 0 9.26690- 1 307 4 16  811
 0.0    + 0 1.80000+ 7          0          0          1         21 307 4 16  812
         21          2          0          0          0          0 307 4 16  813
-1.00000+ 0 2.35060- 1-9.00000- 1 2.53540- 1-8.00000- 1 2.67460- 1 307 4 16  814
-7.00000- 1 2.89270- 1-6.00000- 1 3.08120- 1-5.00000- 1 3.26950- 1 307 4 16  815
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 2.00000- 1 5.30810- 1 3.00000- 1 5.69140- 1 4.00000- 1 6.06460- 1 307 4 16  818
 5.00000- 1 6.53340- 1 6.00000- 1 6.97760- 1 7.00000- 1 7.45960- 1 307 4 16  819
 8.00000- 1 8.02360- 1 9.00000- 1 8.59800- 1 1.00000+ 0 9.13300- 1 307 4 16  820
 0.0    + 0 1.90000+ 7          0          0          1         21 307 4 16  821
         21          2          0          0          0          0 307 4 16  822
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-7.00000- 1 2.93540- 1-6.00000- 1 3.10230- 1-5.00000- 1 3.33990- 1 307 4 16  824
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 2.00000- 1 5.29610- 1 3.00000- 1 5.68720- 1 4.00000- 1 6.03220- 1 307 4 16  827
 5.00000- 1 6.49690- 1 6.00000- 1 6.94450- 1 7.00000- 1 7.39310- 1 307 4 16  828
 8.00000- 1 7.94440- 1 9.00000- 1 8.50350- 1 1.00000+ 0 9.01780- 1 307 4 16  829
 0.0    + 0 2.00000+ 7          0          0          1         21 307 4 16  830
         21          2          0          0          0          0 307 4 16  831
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 5.00000- 1 6.46820- 1 6.00000- 1 6.91550- 1 7.00000- 1 7.34070- 1 307 4 16  837
 8.00000- 1 7.88180- 1 9.00000- 1 8.42830- 1 1.00000+ 0 8.92600- 1 307 4 16  838
                                                                   307 4  0  839
 3.00700+ 3 6.95573+ 0          0          2          0          0 307 4 51  840
 0.0    + 0 6.95573+ 0          0          2          0          0 307 4 51  841
 0.0    + 0 0.0    + 0          0          0          1          2 307 4 51  842
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         2          2          0          0          0          0 307 4 51  848
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                       307 4 51  849
                                                                   307 4  0  850
 3.00700+ 3 6.95573+ 0          0          2          0          0 307 4 52  851
 0.0    + 0 6.95573+ 0          0          2          0          0 307 4 52  852
 0.0    + 0 0.0    + 0          0          0          1          2 307 4 52  853
         2          2          0          0          0          0 307 4 52  854
 0.0    + 0 5.30000+ 6          0          0          1          2 307 4 52  855
         2          2          0          0          0          0 307 4 52  856
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                       307 4 52  857
 0.0    + 0 2.00000+ 7          0          0          1          2 307 4 52  858
         2          2          0          0          0          0 307 4 52  859
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                       307 4 52  860
                                                                   307 4  0  861
 3.00700+ 3 6.95573+ 0          0          2          0          0 307 4 91  862
 0.0    + 0 6.95573+ 0          0          1          0          0 307 4 91  863
 0.0    + 0 0.0    + 0          0          0          1         19 307 4 91  864
        19          2          0          0          0          0 307 4 91  865
 0.0    + 0 2.82200+ 6          0          0          1          3 307 4 91  866
         3          2          0          0          0          0 307 4 91  867
-1.00000+ 0 0.0    + 0 9.00000- 1 0.0    + 0 1.00000+ 0 2.00000+ 1 307 4 91  868
 0.0    + 0 3.00000+ 6          0          0          1         21 307 4 91  869
        21          2          0          0          0          0 307 4 91  870
-1.00000+ 0 1.92040- 2-9.00000- 1 2.25850- 2-8.00000- 1 2.55210- 2 307 4 91  871
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 2.00000- 1 3.40080- 1 3.00000- 1 4.38590- 1 4.00000- 1 5.82890- 1 307 4 91  875
 5.00000- 1 7.44330- 1 6.00000- 1 9.50140- 1 7.00000- 1 1.20120+ 0 307 4 91  876
 8.00000- 1 1.52420+ 0 9.00000- 1 1.91390+ 0 1.00000+ 0 2.37980+ 0 307 4 91  877
 0.0    + 0 4.00000+ 6          0          0          1         21 307 4 91  878
        21          2          0          0          0          0 307 4 91  879
-1.00000+ 0 1.70320- 1-9.00000- 1 1.89110- 1-8.00000- 1 2.06940- 1 307 4 91  880
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 2.00000- 1 5.16650- 1 3.00000- 1 5.73330- 1 4.00000- 1 6.33210- 1 307 4 91  884
 5.00000- 1 6.96860- 1 6.00000- 1 7.64840- 1 7.00000- 1 8.37330- 1 307 4 91  885
 8.00000- 1 9.16200- 1 9.00000- 1 1.00760+ 0 1.00000+ 0 1.10660+ 0 307 4 91  886
 0.0    + 0 5.00000+ 6          0          0          1         21 307 4 91  887
        21          2          0          0          0          0 307 4 91  888
-1.00000+ 0 2.15540- 1-9.00000- 1 2.30110- 1-8.00000- 1 2.44340- 1 307 4 91  889
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 2.00000- 1 5.27170- 1 3.00000- 1 5.69840- 1 4.00000- 1 6.18250- 1 307 4 91  893
 5.00000- 1 6.64480- 1 6.00000- 1 7.16750- 1 7.00000- 1 7.77310- 1 307 4 91  894
 8.00000- 1 8.40600- 1 9.00000- 1 9.06610- 1 1.00000+ 0 9.71310- 1 307 4 91  895
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        21          2          0          0          0          0 307 4 91  897
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 2.00000- 1 5.31170- 1 3.00000- 1 5.69140- 1 4.00000- 1 6.07720- 1 307 4 91   902
 5.00000- 1 6.54840- 1 6.00000- 1 6.99230- 1 7.00000- 1 7.48750- 1 307 4 91   903
 8.00000- 1 8.05790- 1 9.00000- 1 8.64080- 1 1.00000+ 0 9.18210- 1 307 4 91   904
 0.0    + 0 7.00000+ 6           0           0           1          21 307 4 91   905
         21          2           0           0           0           0 307 4 91   906
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 2.00000- 1 5.28330- 1 3.00000- 1 5.68050- 1 4.00000- 1 5.99610- 1 307 4 91   911
 5.00000- 1 6.45640- 1 6.00000- 1 6.90480- 1 7.00000- 1 7.31780- 1 307 4 91   912
 8.00000- 1 7.85500- 1 9.00000- 1 8.39740- 1 1.00000+ 0 8.88520- 1 307 4 91   913
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         21          2           0           0           0           0 307 4 91   915
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 5.00000- 1 6.39650- 1 6.00000- 1 6.83890- 1 7.00000- 1 7.21340- 1 307 4 91   921
 8.00000- 1 7.73070- 1 9.00000- 1 8.24860- 1 1.00000+ 0 8.70430- 1 307 4 91   922
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 5.00000- 1 6.34330- 1 6.00000- 1 6.77960- 1 7.00000- 1 7.15420- 1 307 4 91   930
 8.00000- 1 7.63290- 1 9.00000- 1 8.13360- 1 1.00000+ 0 8.56700- 1 307 4 91   931
 0.0    + 0 1.00000+ 7           0           0           1          21 307 4 91   932
         21          2           0           0           0           0 307 4 91   933
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 5.00000- 1 6.30760- 1 6.00000- 1 6.73920- 1 7.00000- 1 7.12810- 1 307 4 91   939
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 2.00000- 1 5.32730- 1 3.00000- 1 5.59370- 1 4.00000- 1 5.97090- 1 307 4 91   956
 5.00000- 1 6.26300- 1 6.00000- 1 6.68830- 1 7.00000- 1 7.08000- 1 307 4 91   957
 8.00000- 1 7.48120- 1 9.00000- 1 7.95380- 1 1.00000+ 0 8.35090- 1 307 4 91   958
 0.0     + 0 1.30000+ 7          0          0          1         21 307 4 91   959
         21          2          0          0          0          0 307 4 91   960
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 2.00000- 1 5.32460- 1 3.00000- 1 5.58220- 1 4.00000- 1 5.95940- 1 307 4 91   965
 5.00000- 1 6.24310- 1 6.00000- 1 6.66590- 1 7.00000- 1 7.05690- 1 307 4 91   966
 8.00000- 1 7.44660- 1 9.00000- 1 7.91330- 1 1.00000+ 0 8.30290- 1 307 4 91   967
 0.0     + 0 1.40000+ 7          0          0          1         21 307 4 91   968
         21          2          0          0          0          0 307 4 91   969
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 5.00000- 1 6.24980- 1 6.00000- 1 6.64940- 1 7.00000- 1 7.03960- 1 307 4 91   975
 8.00000- 1 7.42030- 1 9.00000- 1 7.88240- 1 1.00000+ 0 8.26590- 1 307 4 91   976
 0.0     + 0 1.50000+ 7          0          0          1         21 307 4 91   977
         21          2          0          0          0          0 307 4 91   978
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 5.00000- 1 6.25560- 1 6.00000- 1 6.63360- 1 7.00000- 1 7.02290- 1 307 4 91   984
 8.00000- 1 7.39630- 1 9.00000- 1 7.85430- 1 1.00000+ 0 8.23270- 1 307 4 91   985
 0.0     + 0 1.60000+ 7          0          0          1         21 307 4 91   986
         21          2          0          0          0          0 307 4 91   987
-1.00000+ 0 2.76960- 1-9.00000- 1 2.88510- 1-8.00000- 1 3.09270- 1 307 4 91   988
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 5.00000- 1 6.25620- 1 6.00000- 1 6.62170- 1 7.00000- 1 7.01010- 1 307 4 91   993
 8.00000- 1 7.37750- 1 9.00000- 1 7.83220- 1 1.00000+ 0 8.20630- 1 307 4 91   994
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 5.00000- 1 6.25010- 1 6.00000- 1 6.60610- 1 7.00000- 1 6.99340- 1 307 4 91  1002
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-1.00000+ 0 2.78180- 1-9.00000- 1 2.89240- 1-8.00000- 1 3.11030- 1 307 4 91 1006
-7.00000- 1 3.25700- 1-6.00000- 1 3.43800- 1-5.00000- 1 3.64440- 1 307 4 91 1007
-4.00000- 1 3.80680- 1-3.00000- 1 4.06080- 1-2.00000- 1 4.26210- 1 307 4 91 1008
-1.00000- 1 4.51410- 1 0.0    + 0 4.76070- 1 1.00000- 1 5.01530- 1 307 4 91 1009
 2.00000- 1 5.31080- 1 3.00000- 1 5.58700- 1 4.00000- 1 5.92040- 1 307 4 91 1010
 5.00000- 1 6.24650- 1 6.00000- 1 6.59530- 1 7.00000- 1 6.98180- 1 307 4 91 1011
 8.00000- 1 7.33950- 1 9.00000- 1 7.78830- 1 1.00000+ 0 8.15520- 1 307 4 91 1012
 0.0    + 0 1.90000+ 7           0           0           1          21 307 4 91 1013
          21          2           0           0           0           0 307 4 91 1014
-1.00000+ 0 2.78700- 1-9.00000- 1 2.91280- 1-8.00000- 1 3.11730- 1 307 4 91 1015
-7.00000- 1 3.26090- 1-6.00000- 1 3.45130- 1-5.00000- 1 3.64880- 1 307 4 91 1016
-4.00000- 1 3.80840- 1-3.00000- 1 4.06570- 1-2.00000- 1 4.26310- 1 307 4 91 1017
-1.00000- 1 4.51950- 1 0.0    + 0 4.76020- 1 1.00000- 1 5.02140- 1 307 4 91 1018
 2.00000- 1 5.30810- 1 3.00000- 1 5.59060- 1 4.00000- 1 5.91450- 1 307 4 91 1019
 5.00000- 1 6.24270- 1 6.00000- 1 6.58550- 1 7.00000- 1 6.97120- 1 307 4 91 1020
 8.00000- 1 7.32510- 1 9.00000- 1 7.77160- 1 1.00000+ 0 8.13570- 1 307 4 91 1021
 0.0    + 0 2.00000+ 7           0           0           1          21 307 4 91 1022
          21          2           0           0           0           0 307 4 91 1023
-1.00000+ 0 2.79140- 1-9.00000- 1 2.93730- 1-8.00000- 1 3.12330- 1 307 4 91 1024
-7.00000- 1 3.26430- 1-6.00000- 1 3.46140- 1-5.00000- 1 3.65260- 1 307 4 91 1025
-4.00000- 1 3.80980- 1-3.00000- 1 4.06980- 1-2.00000- 1 4.26380- 1 307 4 91 1026
-1.00000- 1 4.52370- 1 0.0    + 0 4.75960- 1 1.00000- 1 5.02560- 1 307 4 91 1027
 2.00000- 1 5.30560- 1 3.00000- 1 5.59250- 1 4.00000- 1 5.90930- 1 307 4 91 1028
 5.00000- 1 6.23900- 1 6.00000- 1 6.57680- 1 7.00000- 1 6.96180- 1 307 4 91 1029
 8.00000- 1 7.31230- 1 9.00000- 1 7.75680- 1 1.00000+ 0 8.11830- 1 307 4 91 1030
                                                                     307 4  0 1031
                                                                     307 0  0 1032
 3.00700+ 3 6.95573+ 0           0           0           1           0 307 5 16 1033
 0.0    + 0 0.0    + 0           0           1           1           2 307 5 16 1034
          2           2           0           0           0           0 307 5 16 1035
 8.30000+ 6 1.00000+ 0 2.00000+ 7 1.00000+ 0                         307 5 16 1036
 0.0    + 0 0.0    + 0           0           0           1          13 307 5 16 1037
          13          2           0           0           0           0 307 5 16 1038
 0.0    + 0 8.30000+ 6           0           0           1           3 307 5 16 1039
          3           2           0           0           0           0 307 5 16 1040
 0.0    + 0 0.0    + 0 6.55110+ 4 1.52650- 5 1.31020+ 5 0.0    + 0 307 5 16 1041
 0.0    + 0 9.00000+ 6           0           0           1          21 307 5 16 1042
          21          2           0           0           0           0 307 5 16 1043
 0.0    + 0 0.0    + 0 6.19030+ 4 1.25430- 6 1.23810+ 5 1.54250- 6 307 5 16 1044
 1.85710+ 5 1.53960- 6 2.47610+ 5 1.48830- 6 3.09510+ 5 1.41800- 6 307 5 16 1045
 3.71420+ 5 1.32590- 6 4.33320+ 5 1.23000- 6 4.95220+ 5 1.12170- 6 307 5 16 1046
 5.57130+ 5 1.01000- 6 6.19030+ 5 8.97140- 7 6.80930+ 5 7.80680- 7 307 5 16 1047
 7.42840+ 5 6.58330- 7 8.04740+ 5 5.36680- 7 8.66640+ 5 4.54010- 7 307 5 16 1048
 9.28540+ 5 3.40150- 7 9.90450+ 5 2.55750- 7 1.05240+ 6 1.71640- 7 307 5 16 1049
 1.11430+ 6 8.17010- 8 1.17620+ 6 4.80400- 8 1.23810+ 6 0.0    + 0 307 5 16 1050
 0.0    + 0 1.00000+ 7           0           0           1          21 307 5 16 1051
          21          2           0           0           0           0 307 5 16 1052
 0.0    + 0 0.0    + 0 1.18650+ 5 5.26980- 7 2.37300+ 5 6.97610- 7 307 5 16 1053
 3.55940+ 5 7.90140- 7 4.74590+ 5 8.27400- 7 5.93240+ 5 8.00320- 7 307 5 16 1054
 7.11890+ 5 7.39950- 7 8.30540+ 5 6.76570- 7 9.49180+ 5 6.10110- 7 307 5 16 1055
 1.06780+ 6 5.38980- 7 1.18650+ 6 4.78670- 7 1.30510+ 6 4.15540- 7 307 5 16 1056
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1.77970+ 6 1.77430- 7 1.89840+ 6 1.31170- 7 2.01700+ 6 8.81970- 8 307 5 16 1058
2.13570+ 6 4.94730- 8 2.25430+ 6 1.67030- 8 2.37300+ 6 0.0    + 0 307 5 16 1059
0.0    + 0 1.10000+ 7           0           0           1          21 307 5 16 1060
         21           2           0           0           0           0 307 5 16 1061
0.0    + 0 0.0    + 0 1.72270+ 5 3.27250- 7 3.44540+ 5 4.37960- 7 307 5 16 1062
5.16820+ 5 5.03760- 7 6.89090+ 5 5.40610- 7 8.61360+ 5 5.52950- 7 307 5 16 1063
1.03360+ 6 5.37160- 7 1.20590+ 6 4.90320- 7 1.37820+ 6 4.41900- 7 307 5 16 1064
1.55050+ 6 3.93060- 7 1.72270+ 6 3.44040- 7 1.89500+ 6 2.95420- 7 307 5 16 1065
2.06730+ 6 2.51400- 7 2.23950+ 6 2.08630- 7 2.41180+ 6 1.64530- 7 307 5 16 1066
2.58410+ 6 1.24980- 7 2.75640+ 6 9.03620- 8 2.92860+ 6 5.89530- 8 307 5 16 1067
3.10090+ 6 3.16550- 8 3.27320+ 6 9.84900- 9 3.44540+ 6 0.0    + 0 307 5 16 1068
0.0    + 0 1.20000+ 7           0           0           1          21 307 5 16 1069
         21           2           0           0           0           0 307 5 16 1070
0.0    + 0 0.0    + 0 2.24660+ 5 2.35940- 7 4.49320+ 5 3.17260- 7 307 5 16 1071
6.73980+ 5 3.67180- 7 8.98640+ 5 3.97450- 7 1.12330+ 6 4.11950- 7 307 5 16 1072
1.34800+ 6 4.11290- 7 1.57260+ 6 3.90200- 7 1.79730+ 6 3.51810- 7 307 5 16 1073
2.02190+ 6 3.11480- 7 2.24660+ 6 2.72930- 7 2.47130+ 6 2.36080- 7 307 5 16 1074
2.69590+ 6 1.98820- 7 2.92060+ 6 1.64650- 7 3.14520+ 6 1.30430- 7 307 5 16 1075
3.36990+ 6 1.01190- 7 3.59460+ 6 7.33960- 8 3.81920+ 6 4.76960- 8 307 5 16 1076
4.04390+ 6 2.44970- 8 4.26860+ 6 6.92210- 9 4.49320+ 6 0.0    + 0 307 5 16 1077
0.0    + 0 1.30000+ 7           0           0           1          21 307 5 16 1078
         21           2           0           0           0           0 307 5 16 1079
0.0    + 0 0.0    + 0 2.76390+ 5 1.84090- 7 5.52780+ 5 2.48190- 7 307 5 16 1080
8.29170+ 5 2.88220- 7 1.10560+ 6 3.13400- 7 1.38190+ 6 3.26930- 7 307 5 16 1081
1.65830+ 6 3.29800- 7 1.93470+ 6 3.21030- 7 2.21110+ 6 2.93750- 7 307 5 16 1082
2.48750+ 6 2.61400- 7 2.76390+ 6 2.28740- 7 3.04030+ 6 1.97150- 7 307 5 16 1083
3.31670+ 6 1.66480- 7 3.59310+ 6 1.36000- 7 3.86950+ 6 1.10030- 7 307 5 16 1084
4.14580+ 6 8.22680- 8 4.42220+ 6 6.03910- 8 4.69860+ 6 4.01850- 8 307 5 16 1085
4.97500+ 6 2.23220- 8 5.25140+ 6 7.72620- 9 5.52780+ 6 0.0    + 0 307 5 16 1086
0.0    + 0 1.40000+ 7           0           0           1          21 307 5 16 1087
         21           2           0           0           0           0 307 5 16 1088
0.0    + 0 0.0    + 0 3.27710+ 5 1.50840- 7 6.55430+ 5 2.03720- 7 307 5 16 1089
9.83140+ 5 2.37090- 7 1.31090+ 6 2.58540- 7 1.63860+ 6 2.70750- 7 307 5 16 1090
1.96630+ 6 2.74710- 7 2.29400+ 6 2.70170- 7 2.62170+ 6 2.53560- 7 307 5 16 1091
2.94940+ 6 2.25800- 7 3.27710+ 6 1.97250- 7 3.60490+ 6 1.69210- 7 307 5 16 1092
3.93260+ 6 1.43500- 7 4.26030+ 6 1.18490- 7 4.58800+ 6 9.37160- 8 307 5 16 1093
4.91570+ 6 7.26840- 8 5.24340+ 6 5.08790- 8 5.57110+ 6 3.41290- 8 307 5 16 1094
5.89890+ 6 1.92830- 8 6.22660+ 6 7.11460- 9 6.55430+ 6 0.0    + 0 307 5 16 1095
0.0    + 0 1.50000+ 7           0           0           1          21 307 5 16 1096
         21           2           0           0           0           0 307 5 16 1097
0.0    + 0 0.0    + 0 3.78770+ 5 1.27700- 7 7.57540+ 5 1.72680- 7 307 5 16 1098
1.13630+ 6 2.01270- 7 1.51510+ 6 2.19900- 7 1.89390+ 6 2.30900- 7 307 5 16 1099
2.27260+ 6 2.35160- 7 2.65140+ 6 2.32680- 7 3.03020+ 6 2.22130- 7 307 5 16 1100
3.40890+ 6 1.99320- 7 3.78770+ 6 1.73510- 7 4.16650+ 6 1.49610- 7 307 5 16 1101
4.54520+ 6 1.26200- 7 4.92400+ 6 1.03430- 7 5.30280+ 6 8.33600- 8 307 5 16 1102
5.68160+ 6 6.36040- 8 6.06030+ 6 4.59150- 8 6.43910+ 6 2.95380- 8 307 5 16 1103
6.81790+ 6 1.68330- 8 7.19660+ 6 6.38990- 9 7.57540+ 6 0.0    + 0 307 5 16 1104
0.0    + 0 1.60000+ 7           0           0           1          21 307 5 16 1105
         21           2           0           0           0           0 307 5 16 1106
0.0    + 0 0.0    + 0 4.29640+ 5 1.10680- 7 8.59270+ 5 1.49800- 7 307 5 16 1107
1.28890+ 6 1.74800- 7 1.71850+ 6 1.91250- 7 2.14820+ 6 2.01190- 7 307 5 16 1108
2.57780+ 6 2.05450- 7 3.00750+ 6 2.04120- 7 3.43710+ 6 1.96450- 7 307 5 16 1109
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5.15560+ 6 1.13290- 7 5.58530+ 6 9.34890- 8 6.01490+ 6 7.45870- 8 307 5 16 1111
6.44450+ 6 5.62910- 8 6.87420+ 6 4.12920- 8 7.30380+ 6 2.59930- 8 307 5 16 1112
7.73350+ 6 1.48920- 8 8.16310+ 6 5.74820- 9 8.59270+ 6 0.0    + 0 307 5 16 1113
0.0    + 0 1.70000+ 7           0           0           1          21 307 5 16 1114
         21          2           0           0           0           0 307 5 16 1115
0.0    + 0 0.0    + 0 4.80360+ 5 9.76710- 8 9.60730+ 5 1.32280- 7 307 5 16 1116
1.44110+ 6 1.54490- 7 1.92150+ 6 1.69220- 7 2.40180+ 6 1.78270- 7 307 5 16 1117
2.88220+ 6 1.82400- 7 3.36250+ 6 1.81760- 7 3.84290+ 6 1.75860- 7 307 5 16 1118
4.32330+ 6 1.61970- 7 4.80360+ 6 1.41090- 7 5.28400+ 6 1.21610- 7 307 5 16 1119
5.76440+ 6 1.02750- 7 6.24470+ 6 8.45720- 8 6.72510+ 6 6.71570- 8 307 5 16 1120
7.20550+ 6 5.14860- 8 7.68580+ 6 3.72750- 8 8.16620+ 6 2.33330- 8 307 5 16 1121
8.64650+ 6 1.33380- 8 9.12690+ 6 5.20580- 9 9.60730+ 6 0.0    + 0 307 5 16 1122
0.0    + 0 1.80000+ 7           0           0           1          21 307 5 16 1123
         21          2           0           0           0           0 307 5 16 1124
0.0    + 0 0.0    + 0 5.30980+ 5 8.73530- 8 1.06200+ 6 1.18380- 7 307 5 16 1125
1.59300+ 6 1.38350- 7 2.12390+ 6 1.51670- 7 2.65490+ 6 1.59960- 7 307 5 16 1126
3.18590+ 6 1.63910- 7 3.71690+ 6 1.63710- 7 4.24790+ 6 1.59000- 7 307 5 16 1127
4.77890+ 6 1.47950- 7 5.30980+ 6 1.29690- 7 5.84080+ 6 1.11220- 7 307 5 16 1128
6.37180+ 6 9.35330- 8 6.90280+ 6 7.69240- 8 7.43380+ 6 6.13430- 8 307 5 16 1129
7.96480+ 6 4.74210- 8 8.49580+ 6 3.38800- 8 9.02670+ 6 2.22050- 8 307 5 16 1130
9.55770+ 6 1.20650- 8 1.00890+ 7 4.74620- 9 1.06200+ 7 0.0    + 0 307 5 16 1131
0.0    + 0 1.90000+ 7           0           0           1          21 307 5 16 1132
         21          2           0           0           0           0 307 5 16 1133
0.0    + 0 0.0    + 0 5.81520+ 5 7.89580- 8 1.16300+ 6 1.07050- 7 307 5 16 1134
1.74460+ 6 1.25180- 7 2.32610+ 6 1.37330- 7 2.90760+ 6 1.44970- 7 307 5 16 1135
3.48910+ 6 1.48730- 7 4.07070+ 6 1.48810- 7 4.65220+ 6 1.44960- 7 307 5 16 1136
5.23370+ 6 1.35970- 7 5.81520+ 6 1.19160- 7 6.39670+ 6 1.02860- 7 307 5 16 1137
6.97830+ 6 8.67030- 8 7.55980+ 6 7.12870- 8 8.14130+ 6 5.70320- 8 307 5 16 1138
8.72280+ 6 4.36600- 8 9.30440+ 6 3.10030- 8 9.88590+ 6 2.06090- 8 307 5 16 1139
1.04670+ 7 1.10030- 8 1.10490+ 7 4.35460- 9 1.16300+ 7 0.0    + 0 307 5 16 1140
0.0    + 0 2.00000+ 7           0           0           1          21 307 5 16 1141
         21          2           0           0           0           0 307 5 16 1142
0.0    + 0 0.0    + 0 6.32000+ 5 7.20680- 8 1.26400+ 6 9.77440- 8 307 5 16 1143
1.89600+ 6 1.14350- 7 2.52800+ 6 1.25520- 7 3.16000+ 6 1.32600- 7 307 5 16 1144
3.79200+ 6 1.36190- 7 4.42400+ 6 1.36450- 7 5.05600+ 6 1.33230- 7 307 5 16 1145
5.68800+ 6 1.25620- 7 6.32000+ 6 1.11090- 7 6.95200+ 6 9.52780- 8 307 5 16 1146
7.58400+ 6 8.05550- 8 8.21600+ 6 6.63600- 8 8.84790+ 6 5.29670- 8 307 5 16 1147
9.47990+ 6 4.03970- 8 1.01120+ 7 2.85740- 8 1.07440+ 7 1.91570- 8 307 5 16 1148
1.13760+ 7 1.01150- 8 1.20080+ 7 4.02210- 9 1.26400+ 7 0.0    + 0 307 5 16 1149
                                                                    307 5  0 1150
3.00700+ 3 6.95573+ 0           0           0           1           0 307 5 91 1151
0.0    + 0 0.0    + 0           0           1           1           2 307 5 91 1152
          2          2           0           0           0           0 307 5 91 1153
2.82200+ 6 1.00000+ 0 2.00000+ 7 1.00000+ 0                           307 5 91 1154
0.0    + 0 0.0    + 0           0           0           1          19 307 5 91 1155
         19          2           0           0           0           0 307 5 91 1156
0.0    + 0 2.82200+ 6           0           0           1           3 307 5 91 1157
          3          2           0           0           0           0 307 5 91 1158
0.0    + 0 0.0    + 0 2.22870+ 4 4.48680- 5 4.45750+ 4 0.0    + 0 307 5 91 1159
0.0    + 0 3.00000+ 6           0           0           1          21 307 5 91 1160
         21          2           0           0           0           0 307 5 91 1161
0.0    + 0 0.0    + 0 1.72500+ 4 4.74370- 6 3.45000+ 4 5.30520- 6 307 5 91 1162
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........10........20........30........40........50........60......MAT MF MT  SEQ
5.17500+ 4 5.35600- 6 6.90000+ 4 5.24240- 6 8.62500+ 4 5.05790- 6 307 5 91 1163
1.03500+ 5 4.69680- 6 1.20750+ 5 4.36780- 6 1.38000+ 5 3.97800- 6 307 5 91 1164
1.55250+ 5 3.67640- 6 1.72500+ 5 3.28140- 6 1.89750+ 5 2.82940- 6 307 5 91 1165
2.07000+ 5 2.42690- 6 2.24250+ 5 2.06490- 6 2.41500+ 5 1.57830- 6 307 5 91 1166
2.58750+ 5 1.32260- 6 2.76000+ 5 8.78050- 7 2.93250+ 5 6.76040- 7 307 5 91 1167
3.10500+ 5 2.82730- 7 3.27750+ 5 2.06280- 7 3.45000+ 5 0.0     + 0 307 5 91 1168
0.0     + 0 4.00000+ 6           0           0           1          21 307 5 91 1169
         21           2           0           0           0           0 307 5 91 1170
0.0     + 0 0.0     + 0 7.20940+ 4 7.45190- 7 1.44190+ 5 1.00110- 6 307 5 91 1171
2.16280+ 5 1.15730- 6 2.88370+ 5 1.25080- 6 3.60470+ 5 1.29350- 6 307 5 91 1172
4.32560+ 5 1.28630- 6 5.04660+ 5 1.21030- 6 5.76750+ 5 1.08360- 6 307 5 91 1173
6.48840+ 5 9.64300- 7 7.20940+ 5 8.43730- 7 7.93030+ 5 7.24320- 7 307 5 91 1174
8.65120+ 5 6.18500- 7 9.37220+ 5 5.02160- 7 1.00930+ 6 4.07260- 7 307 5 91 1175
1.08140+ 6 3.14990- 7 1.15350+ 6 2.27190- 7 1.22560+ 6 1.45190- 7 307 5 91 1176
1.29770+ 6 7.30540- 8 1.36980+ 6 2.20850- 8 1.44190+ 6 0.0     + 0 307 5 91 1177
0.0     + 0 5.00000+ 6           0           0           1          21 307 5 91 1178
         21           2           0           0           0           0 307 5 91 1179
0.0     + 0 0.0     + 0 1.23530+ 5 3.93670- 7 2.47060+ 5 5.32150- 7 307 5 91 1180
3.70590+ 5 6.20020- 7 4.94120+ 5 6.77070- 7 6.17650+ 5 7.10430- 7 307 5 91 1181
7.41180+ 5 7.22830- 7 8.64710+ 5 7.14110- 7 9.88240+ 5 6.79400- 7 307 5 91 1182
1.11180+ 6 6.05260- 7 1.23530+ 6 5.30330- 7 1.35880+ 6 4.57140- 7 307 5 91 1183
1.48240+ 6 3.85870- 7 1.60590+ 6 3.16710- 7 1.72940+ 6 2.53410- 7 307 5 91 1184
1.85290+ 6 1.94830- 7 1.97650+ 6 1.39540- 7 2.10000+ 6 9.08420- 8 307 5 91 1185
2.22350+ 6 5.18130- 8 2.34710+ 6 1.97950- 8 2.47060+ 6 0.0     + 0 307 5 91 1186
0.0     + 0 6.00000+ 6           0           0           1          21 307 5 91 1187
         21           2           0           0           0           0 307 5 91 1188
0.0     + 0 0.0     + 0 1.74280+ 5 2.67100- 7 3.48560+ 5 3.61890- 7 307 5 91 1189
5.22840+ 5 4.22850- 7 6.97120+ 5 4.63440- 7 8.71390+ 5 4.88600- 7 307 5 91 1190
1.04570+ 6 5.00430- 7 1.22000+ 6 4.99450- 7 1.39420+ 6 4.84510- 7 307 5 91 1191
1.56850+ 6 4.48500- 7 1.74280+ 6 3.93680- 7 1.91710+ 6 3.36590- 7 307 5 91 1192
2.09130+ 6 2.84580- 7 2.26560+ 6 2.34160- 7 2.43990+ 6 1.85700- 7 307 5 91 1193
2.61420+ 6 1.44090- 7 2.78850+ 6 1.03320- 7 2.96270+ 6 6.74350- 8 307 5 91 1194
3.13700+ 6 3.69560- 8 3.31130+ 6 1.46420- 8 3.48560+ 6 0.0     + 0 307 5 91 1195
0.0     + 0 7.00000+ 6           0           0           1          21 307 5 91 1196
         21           2           0           0           0           0 307 5 91 1197
0.0     + 0 0.0     + 0 2.24750+ 5 2.01800- 7 4.49500+ 5 2.73760- 7 307 5 91 1198
6.74250+ 5 3.20350- 7 8.98990+ 5 3.51750- 7 1.12370+ 6 3.71750- 7 307 5 91 1199
1.34850+ 6 3.81990- 7 1.57320+ 6 3.83030- 7 1.79800+ 6 3.74420- 7 307 5 91 1200
2.02270+ 6 3.53890- 7 2.24750+ 6 3.14030- 7 2.47220+ 6 2.68780- 7 307 5 91 1201
2.69700+ 6 2.27520- 7 2.92170+ 6 1.87580- 7 3.14650+ 6 1.49710- 7 307 5 91 1202
3.37120+ 6 1.14070- 7 3.59600+ 6 8.05880- 8 3.82070+ 6 5.43440- 8 307 5 91 1203
4.04550+ 6 2.85750- 8 4.27020+ 6 1.14860- 8 4.49500+ 6 0.0     + 0 307 5 91 1204
0.0     + 0 8.00000+ 6           0           0           1          21 307 5 91 1205
         21           2           0           0           0           0 307 5 91 1206
0.0     + 0 0.0     + 0 2.75070+ 5 1.62230- 7 5.50150+ 5 2.20240- 7 307 5 91 1207
8.25220+ 5 2.57970- 7 1.10030+ 6 2.83580- 7 1.37540+ 6 3.00140- 7 307 5 91 1208
1.65040+ 6 3.09010- 7 1.92550+ 6 3.10690- 7 2.20060+ 6 3.04990- 7 307 5 91 1209
2.47570+ 6 2.90620- 7 2.75070+ 6 2.61960- 7 3.02580+ 6 2.25060- 7 307 5 91 1210
3.30090+ 6 1.89730- 7 3.57600+ 6 1.55100- 7 3.85100+ 6 1.23640- 7 307 5 91 1211
4.12610+ 6 9.38710- 8 4.40120+ 6 6.88310- 8 4.67630+ 6 4.49790- 8 307 5 91 1212
4.95130+ 6 2.32850- 8 5.22640+ 6 9.43260- 9 5.50150+ 6 0.0     + 0 307 5 91 1213
0.0     + 0 9.00000+ 6           0           0           1          21 307 5 91 1214
         21           2           0           0           0           0 307 5 91 1215
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0.0     + 0 0.0     + 0 3.25320+ 5 1.35420- 7 6.50630+ 5 1.83940- 7 307 5 91 1216
9.75950+ 5 2.15590- 7 1.30130+ 6 2.37180- 7 1.62660+ 6 2.51280- 7 307 5 91 1217
1.95190+ 6 2.59040- 7 2.27720+ 6 2.60910- 7 2.60250+ 6 2.56810- 7 307 5 91 1218
2.92780+ 6 2.45880- 7 3.25320+ 6 2.24170- 7 3.57850+ 6 1.92560- 7 307 5 91 1219
3.90380+ 6 1.62660- 7 4.22910+ 6 1.34100- 7 4.55440+ 6 1.06940- 7 307 5 91 1220
4.87970+ 6 8.18830- 8 5.20510+ 6 5.90190- 8 5.53040+ 6 3.82160- 8 307 5 91 1221
5.85570+ 6 2.03570- 8 6.18100+ 6 7.98350- 9 6.50630+ 6 0.0     + 0 307 5 91 1222
0.0     + 0 1.00000+ 7           0           0           1          21 307 5 91 1223
         21           2           0           0           0           0 307 5 91 1224
0.0     + 0 0.0     + 0 3.75510+ 5 1.16280- 7 7.51010+ 5 1.58010- 7 307 5 91 1225
1.12650+ 6 1.85280- 7 1.50200+ 6 2.03950- 7 1.87750+ 6 2.16220- 7 307 5 91 1226
2.25300+ 6 2.23110- 7 2.62850+ 6 2.25010- 7 3.00400+ 6 2.21880- 7 307 5 91 1227
3.37950+ 6 2.13120- 7 3.75510+ 6 1.96220- 7 4.13060+ 6 1.69250- 7 307 5 91 1228
4.50610+ 6 1.41910- 7 4.88160+ 6 1.17300- 7 5.25710+ 6 9.37430- 8 307 5 91 1229
5.63260+ 6 7.17330- 8 6.00810+ 6 5.15290- 8 6.38360+ 6 3.32130- 8 307 5 91 1230
6.75910+ 6 1.84070- 8 7.13460+ 6 6.92210- 9 7.51010+ 6 0.0     + 0 307 5 91 1231
0.0     + 0 1.10000+ 7           0           0           1          21 307 5 91 1232
         21           2           0           0           0           0 307 5 91 1233
0.0     + 0 0.0     + 0 4.25660+ 5 1.01910- 7 8.51310+ 5 1.38520- 7 307 5 91 1234
1.27700+ 6 1.62480- 7 1.70260+ 6 1.78930- 7 2.12830+ 6 1.89800- 7 307 5 91 1235
2.55390+ 6 1.95980- 7 2.97960+ 6 1.97840- 7 3.40530+ 6 1.95360- 7 307 5 91 1236
3.83090+ 6 1.88070- 7 4.25660+ 6 1.74220- 7 4.68220+ 6 1.50370- 7 307 5 91 1237
5.10790+ 6 1.27020- 7 5.53350+ 6 1.04090- 7 5.95920+ 6 8.32690- 8 307 5 91 1238
6.38480+ 6 6.37090- 8 6.81050+ 6 4.56890- 8 7.23620+ 6 2.93640- 8 307 5 91 1239
7.66180+ 6 1.65510- 8 8.08750+ 6 6.11060- 9 8.51310+ 6 0.0     + 0 307 5 91 1240
0.0     + 0 1.20000+ 7           0           0           1          21 307 5 91 1241
         21           2           0           0           0           0 307 5 91 1242
0.0     + 0 0.0     + 0 4.75780+ 5 9.07360- 8 9.51570+ 5 1.23360- 7 307 5 91 1243
1.42730+ 6 1.44740- 7 1.90310+ 6 1.59440- 7 2.37890+ 6 1.69200- 7 307 5 91 1244
2.85470+ 6 1.74800- 7 3.33050+ 6 1.76590- 7 3.80630+ 6 1.74560- 7 307 5 91 1245
4.28200+ 6 1.68340- 7 4.75780+ 6 1.56570- 7 5.23360+ 6 1.35360- 7 307 5 91 1246
5.70940+ 6 1.14640- 7 6.18520+ 6 9.35250- 8 6.66100+ 6 7.48620- 8 307 5 91 1247
7.13670+ 6 5.72750- 8 7.61250+ 6 4.10320- 8 8.08830+ 6 2.63190- 8 307 5 91 1248
8.56410+ 6 1.49880- 8 9.03990+ 6 5.47070- 9 9.51570+ 6 0.0     + 0 307 5 91 1249
0.0     + 0 1.30000+ 7           0           0           1          21 307 5 91 1250
         21           2           0           0           0           0 307 5 91 1251
0.0     + 0 0.0     + 0 5.25890+ 5 8.17080- 8 1.05180+ 6 1.11100- 7 307 5 91 1252
1.57770+ 6 1.30390- 7 2.10360+ 6 1.43680- 7 2.62940+ 6 1.52520- 7 307 5 91 1253
3.15530+ 6 1.57640- 7 3.68120+ 6 1.59340- 7 4.20710+ 6 1.57650- 7 307 5 91 1254
4.73300+ 6 1.52230- 7 5.25890+ 6 1.42000- 7 5.78480+ 6 1.23790- 7 307 5 91 1255
6.31070+ 6 1.04220- 7 6.83660+ 6 8.57600- 8 7.36240+ 6 6.79200- 8 307 5 91 1256
7.88830+ 6 5.19620- 8 8.41420+ 6 3.72000- 8 8.94010+ 6 2.38250- 8 307 5 91 1257
9.46600+ 6 1.36660- 8 9.99190+ 6 4.94820- 9 1.05180+ 7 0.0     + 0 307 5 91 1258
0.0     + 0 1.40000+ 7           0           0           1          21 307 5 91 1259
         21           2           0           0           0           0 307 5 91 1260
0.0     + 0 0.0     + 0 5.75980+ 5 7.43370- 8 1.15200+ 6 1.01100- 7 307 5 91 1261
1.72790+ 6 1.18670- 7 2.30390+ 6 1.30790- 7 2.87990+ 6 1.38880- 7 307 5 91 1262
3.45590+ 6 1.43590- 7 4.03190+ 6 1.45210- 7 4.60790+ 6 1.43760- 7 307 5 91 1263
5.18380+ 6 1.38970- 7 5.75980+ 6 1.29930- 7 6.33580+ 6 1.13640- 7 307 5 91 1264
6.91180+ 6 9.55160- 8 7.48780+ 6 7.88310- 8 8.06370+ 6 6.21610- 8 307 5 91 1265
8.63970+ 6 4.75560- 8 9.21570+ 6 3.40280- 8 9.79170+ 6 2.21370- 8 307 5 91 1266
1.03680+ 7 1.25530- 8 1.09440+ 7 4.51810- 9 1.15200+ 7 0.0     + 0 307 5 91 1267
0.0     + 0 1.50000+ 7           0           0           1          21 307 5 91 1268
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         21          2          0          0          0           0 307 5 91 1269
0.0    + 0 0.0    + 0 6.26060+ 5 6.81670- 8 1.25210+ 6 9.27190- 8 307 5 91 1270
1.87820+ 6 1.08850- 7 2.50420+ 6 1.19990- 7 3.13030+ 6 1.27440- 7 307 5 91 1271
3.75640+ 6 1.31800- 7 4.38240+ 6 1.33340- 7 5.00850+ 6 1.32090- 7 307 5 91 1272
5.63460+ 6 1.27800- 7 6.26060+ 6 1.19700- 7 6.88670+ 6 1.04930- 7 307 5 91 1273
7.51270+ 6 8.81040- 8 8.13880+ 6 7.28380- 8 8.76490+ 6 5.79100- 8 307 5 91 1274
9.39090+ 6 4.38210- 8 1.00170+ 7 3.13420- 8 1.06430+ 7 2.06860- 8 307 5 91 1275
1.12690+ 7 1.15990- 8 1.18950+ 7 4.15550- 9 1.25210+ 7 0.0    + 0 307 5 91 1276
0.0    + 0 1.60000+ 7          0          0          1          21 307 5 91 1277
         21          2          0          0          0           0 307 5 91 1278
0.0    + 0 0.0    + 0 6.76130+ 5 6.29580- 8 1.35230+ 6 8.56420- 8 307 5 91 1279
2.02840+ 6 1.00550- 7 2.70450+ 6 1.10860- 7 3.38070+ 6 1.17770- 7 307 5 91 1280
4.05680+ 6 1.21830- 7 4.73290+ 6 1.23300- 7 5.40910+ 6 1.22200- 7 307 5 91 1281
6.08520+ 6 1.18320- 7 6.76130+ 6 1.10980- 7 7.43750+ 6 9.74520- 8 307 5 91 1282
8.11360+ 6 8.17640- 8 8.78970+ 6 6.76760- 8 9.46590+ 6 5.39620- 8 307 5 91 1283
1.01420+ 7 4.07210- 8 1.08180+ 7 2.90540- 8 1.14940+ 7 1.93250- 8 307 5 91 1284
1.21700+ 7 1.07800- 8 1.28470+ 7 3.84770- 9 1.35230+ 7 0.0    + 0 307 5 91 1285
0.0    + 0 1.70000+ 7          0          0          1          21 307 5 91 1286
         21          2          0          0          0           0 307 5 91 1287
0.0    + 0 0.0    + 0 7.26200+ 5 5.84410- 8 1.45240+ 6 7.95060- 8 307 5 91 1288
2.17860+ 6 9.33600- 8 2.90480+ 6 1.02950- 7 3.63100+ 6 1.09380- 7 307 5 91 1289
4.35720+ 6 1.13180- 7 5.08340+ 6 1.14570- 7 5.80960+ 6 1.13590- 7 307 5 91 1290
6.53580+ 6 1.10060- 7 7.26200+ 6 1.03360- 7 7.98820+ 6 9.08770- 8 307 5 91 1291
8.71440+ 6 7.66770- 8 9.44060+ 6 6.31310- 8 1.01670+ 7 5.04220- 8 307 5 91 1292
1.08930+ 7 3.83600- 8 1.16190+ 7 2.74530- 8 1.23450+ 7 1.80930- 8 307 5 91 1293
1.30720+ 7 1.00590- 8 1.37980+ 7 3.57940- 9 1.45240+ 7 0.0    + 0 307 5 91 1294
0.0    + 0 1.80000+ 7          0          0          1          21 307 5 91 1295
         21          2          0          0          0           0 307 5 91 1296
0.0    + 0 0.0    + 0 7.76260+ 5 5.45530- 8 1.55250+ 6 7.42220- 8 307 5 91 1297
2.32880+ 6 8.71630- 8 3.10500+ 6 9.61250- 8 3.88130+ 6 1.02150- 7 307 5 91 1298
4.65750+ 6 1.05710- 7 5.43380+ 6 1.07040- 7 6.21010+ 6 1.06160- 7 307 5 91 1299
6.98630+ 6 1.02920- 7 7.76260+ 6 9.67510- 8 8.53880+ 6 8.51600- 8 307 5 91 1300
9.31510+ 6 7.20460- 8 1.00910+ 7 5.91750- 8 1.08680+ 7 4.73150- 8 307 5 91 1301
1.16440+ 7 3.60830- 8 1.24200+ 7 2.58740- 8 1.31960+ 7 1.70030- 8 307 5 91 1302
1.39730+ 7 9.43130- 9 1.47490+ 7 3.34750- 9 1.55250+ 7 0.0    + 0 307 5 91 1303
0.0    + 0 1.90000+ 7          0          0          1          21 307 5 91 1304
         21          2          0          0          0           0 307 5 91 1305
0.0    + 0 0.0    + 0 8.26310+ 5 5.11470- 8 1.65260+ 6 6.95940- 8 307 5 91 1306
2.47890+ 6 8.17350- 8 3.30520+ 6 9.01480- 8 4.13160+ 6 9.58070- 8 307 5 91 1307
4.95790+ 6 9.91690- 8 5.78420+ 6 1.00440- 7 6.61050+ 6 9.96450- 8 307 5 91 1308
7.43680+ 6 9.66420- 8 8.26310+ 6 9.09340- 8 9.08940+ 6 8.03170- 8 307 5 91 1309
9.91570+ 6 6.78860- 8 1.07420+ 7 5.56780- 8 1.15680+ 7 4.45560- 8 307 5 91 1310
1.23950+ 7 3.40270- 8 1.32210+ 7 2.44260- 8 1.40470+ 7 1.60310- 8 307 5 91 1311
1.48740+ 7 8.87640- 9 1.57000+ 7 3.14370- 9 1.65260+ 7 0.0    + 0 307 5 91 1312
0.0    + 0 2.00000+ 7          0          0          1          21 307 5 91 1313
         21          2          0          0          0           0 307 5 91 1314
0.0    + 0 0.0    + 0 8.76360+ 5 4.81420- 8 1.75270+ 6 6.55080- 8 307 5 91 1315
2.62910+ 6 7.69430- 8 3.50540+ 6 8.48700- 8 4.38180+ 6 9.02080- 8 307 5 91 1316
5.25820+ 6 9.33870- 8 6.13450+ 6 9.46000- 8 7.01090+ 6 9.38790- 8 307 5 91 1317
7.88730+ 6 9.10880- 8 8.76360+ 6 8.57740- 8 9.64000+ 6 7.60630- 8 307 5 91 1318
1.05160+ 7 6.41590- 8 1.13930+ 7 5.25660- 8 1.22690+ 7 4.20950- 8 307 5 91 1319
1.31450+ 7 3.21790- 8 1.40220+ 7 2.31160- 8 1.48980+ 7 1.51600- 8 307 5 91 1320
1.57750+ 7 8.38250- 9 1.66510+ 7 2.96330- 9 1.75270+ 7 0.0    + 0 307 5 91 1321
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........10........20........30........40........50........60......MAT MF MT  SEQ
                                                                   307 5  0 1322
                                                                   307 0  0 1323
3.00700+ 3 6.95573+ 0           1           0           1           0 30712 51 1324
4.77610+ 5 4.77610+ 5           0           2           1           2 30712 51 1325
         2          2           0           0           0           0 30712 51 1326
5.46274+ 5 1.00000+ 0 2.00000+ 7 1.00000+ 0                           30712 51 1327
                                                                      30712  0 1328
3.00700+ 3 6.95573+ 0           1           0           3           0 30712102 1329
0.0    + 0 0.0     + 0           0           0           1           2 30712102 1330
         2          2           0           0           0           0 30712102 1331
1.00000- 5 1.10600+ 0 2.00000+ 7 1.10600+ 0                           30712102 1332
2.03270+ 6 0.0     + 0           2           2           1           2 30712102 1333
         2          2           0           0           0           0 30712102 1334
1.00000- 5 8.94000- 1 2.00000+ 7 8.94000- 1                           30712102 1335
1.05190+ 6 0.0     + 0           2           2           1           2 30712102 1336
         2          2           0           0           0           0 30712102 1337
1.00000- 5 1.06000- 1 2.00000+ 7 1.06000- 1                           30712102 1338
9.80800+ 5 9.80800+ 5           1           2           1           2 30712102 1339
         2          2           0           0           0           0 30712102 1340
1.00000- 5 1.06000- 1 2.00000+ 7 1.06000- 1                           30712102 1341
                                                                      30712  0 1342
                                                                      307 0  0 1343
3.00700+ 3 6.95573+ 0           1           0           1           0 30714 51 1344
                                                                      30714  0 1345
3.00700+ 3 6.95573+ 0           1           0           3           0 30714102 1346
                                                                      30714  0 1347
                                                                      307 0  0 1348
                                                                        0 0  0 1349
                                                                       -1 0  0    0
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