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R. Malaroda: KINEMATICS OF SOME NUCLEAR REACTIONS
FOR NEUTRON PRODUCTION FROM DEUTERONS. -

R. Malaroda: KINEMATICS OF SOME NUCLEAR REACTIONS FOR NEUTRON PRODUCTION FROM DEUTERONS(x).

The kinematics of the two bodies nuclear reactions, of the type $A(d, n) B$ for neutron production, has been programmed. We are interested in the incident deuteron energy range from 0. to 5 MeV., where the non-relativistic formulation is satisfactory.

The numerical values reported in the tables concern the reactions:

table I	$d + d \longrightarrow n + He^3$
table II	$d + t \longrightarrow n + He^4$
table III	$d + Li^7 \longrightarrow n + Be^8$
table IV	$d + Be^9 \longrightarrow n + B^{10}$
table V	$d + N^{14} \longrightarrow n + O^{15}$
table VI	$d + O^{16} \longrightarrow n + F^{17}$
table VII	$d + Li^6 \longrightarrow n + Be^7$
table VIII	$d + C^{12} \longrightarrow n + N^{13}$

and are calculated, for each laboratory deuteron energy $E_d = E_{1L}$, versus the LAB-neutron emission angles ϑ_{3L} in the angular region from 0 to 180 degrees. The other symbols in the tables indicate in order, the kinetic energies E_{1CM} , E_{2CM} , E_{3CM} , E_{4CM} of the particles in the center of mass frame and the ratios $\rho_{3,4}$ of the LAB-velocity of the Center of mass to the CM-velocities of the product particles after the collision; $E_n = E_{3L}$ and E_{4L} are the LAB-kinetic energies of the reaction products with their ϑ_{3L} and ϑ_{4L} LAB-emission angles, while ϑ_{3CM} and ϑ_{4CM} are the corresponding CM-angles; σ_L / σ_{CM} is the cross sections ratio. On the head of the tables are reported also the mass-values in a. m. u. (8), the Q-energy and the threshold energy E_{THR} of the reaction. The energies are all measured in MeV, and the angles in integer and decimal degrees.

The calculation has been carried out with the IBM 1620 of the Centro di Calcolo dell'Università di Trieste. The expressions adopted are suitable parametrizations of the well known non relativistic relations (1-7) listed below:

(x) - This work has been done under Contract CNEN-EURATOM.

2.

$$Q = (m_1 + m_2 - m_3 - m_4) \cdot 931,162$$

$$E_{\text{THR}} = -Q \frac{m_1 + m_2}{m_2}$$

$$E_{3L} = \left[\sqrt{A^2 + B} \pm A \right]^2$$

with

$$A = \frac{\sqrt{m_1 m_3 E_{1L}}}{m_3 + m_4} \cos \vartheta_{3L}$$

$$B = \frac{m_4 Q + E_{1L} (m_4 - m_1)}{m_3 + m_4}$$

$$E_{4L} = E_{1L} + Q - E_{3L}$$

$$E_{1CM} = \left[\frac{m_2}{m_1 + m_2} \right]^2 E_{1L}$$

$$E_{2CM} = \frac{m_1 m_2}{(m_1 + m_2)^2} E_{1L}$$

$$E_{3CM} = \frac{E_{1L} (m_2 m_4) + Q m_4 (m_1 + m_2)}{(m_1 + m_2) (m_3 + m_4)}$$

$$E_{4CM} = \frac{m_3}{m_4} E_{3CM}$$

$$\vartheta_3 = \left[\frac{m_1 m_3}{m_2 m_4} \frac{E_{1L}}{E_{1L} - E_{\text{THR}}} \right]^{1/2} \quad \vartheta_4 = \frac{m_4}{m_3} \vartheta_3$$

$$\cos \vartheta_{3CM} = \frac{-\vartheta_3 C \pm \sqrt{\Delta}}{C + 1}$$

with

$$C = \tan^2 \vartheta_{3L}$$

$$\Delta = C - \vartheta_3^2 C + 1$$

$$\vartheta_{3CM} + \vartheta_{4CM} = 180^\circ$$

$$\tan \vartheta_{4L} = \frac{\sin \vartheta_{4CM}}{\vartheta_4 + \cos \vartheta_{4CM}}$$

$$\frac{\sigma_L(\vartheta_{3L})}{\sigma_{CM}(\vartheta_{3CM})} = \frac{\left[1 + \vartheta_3^2 + 2\vartheta_3 \cos \vartheta_{3CM} \right]^{3/2}}{\left| 1 + \vartheta_3 \cos \vartheta_{3CM} \right|}$$

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TABLE I

$$D_1^2 + D_1^2 - N_0^1 + He_2^3$$

$$2,0147400 + 2,0147400 - 1,0089861 + 3,016986$$

$$Q = 3,2664232 \text{ MeV,}$$

$$E_{THR} = 6,5385437 \text{ MeV,}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_{1L}	E_{1CM}	E_{2CM}	E_{3CM}	E_{4CM}	ρ_3	ρ_4
1.0000000	2.5000000E-02	2.5000000E-02	2.4852637	.83115946	7.1007794E-02	.21232158
.00000000	2.8508702	180.00000	5.1555300	.00000000	180.00000	1.1470575
10.000000	2.8447228	166.44005	5.2170040	10.706491	169.29350	1.1446723
20.000000	2.8265434	153.09498	5.3987980	21.391637	158.60836	1.1376096
30.000000	2.7971000	140.14513	5.6932320	32.034649	147.96535	1.1261425
40.000000	2.7576146	127.71468	6.0880860	42.616060	137.38394	1.1107099
50.000000	2.7096831	115.86794	6.6567401	53.118148	126.88185	1.0918916
60.000000	2.6551738	104.61867	7.1112494	63.525596	116.47440	1.0703779
70.000000	2.5961201	93.945129	7.7030310	73.825928	106.17407	1.0469346
80.000000	2.5346095	83.804349	8.3181370	84.009909	95.990090	1.0223650
90.000000	2.4726889	74.142991	8.9373430	94.071873	85.928126	.99747585
100.00000	2.4122808	64.904299	9.5414240	104.00991	75.990092	.97304359
110.00000	2.3551261	56.032041	1.0112971	113.82592	66.174076	.94979030
120.00000	2.3027456	47.472310	1.0636776	123.52559	56.474405	.92836258
130.00000	2.2564225	39.174155	1.1100007	133.11815	46.881848	.90932001
140.00000	2.2172023	31.089514	1.1492209	142.61604	37.383955	.89312953
150.00000	2.1859034	23.172743	1.1805198	152.03463	27.965365	.88016436
160.00000	2.1631335	15.380205	1.2032897	161.39161	18.608386	.87070775
170.00000	2.1493096	7.6697231	1.2171136	170.70647	9.2935302	.86495645
180.00000	2.1446753	.00000000	1.2217479	180.00000	.00000000	.86302657
.15000000	3.7500000E-02	3.7500000E-02	2.5039982	.83742494	8.6640479E-02	.25906513
.00000000	2.9568415	180.00000	4.5958170	.00000000	180.00000	1.1807873
10.000000	2.9490640	165.39167	4.6735920	10.862030	169.13797	1.1778161
20.000000	2.9260826	151.11234	4.9034060	21.698085	158.30191	1.1690229
30.000000	2.8889264	137.42213	5.2749680	32.482843	147.51716	1.1547620
40.000000	2.8392237	124.47622	5.7719950	43.192534	136.80747	1.1356006
50.000000	2.7790874	112.32919	6.3733580	53.805545	126.19445	1.1122860
60.000000	2.7109702	100.96255	7.0545300	64.303105	115.69689	1.0857032
70.000000	2.6375082	90.315710	7.7891500	74.669923	105.33008	1.0568267
80.000000	2.5613727	80.309879	8.5505050	84.894670	95.105328	1.0266701
90.000000	2.4851363	70.862682	9.3128690	94.970368	85.029630	.99623961
100.00000	2.4111689	61.895462	1.0052543	104.89466	75.105337	.96649050
110.00000	2.3415668	53.336059	1.0748564	114.66992	65.330075	.93829568
120.00000	2.2781151	45.119265	1.1383081	124.30310	55.696901	.91242260
130.00000	2.2222768	37.186007	1.1941464	133.80554	46.194459	.88952050
140.00000	2.1752079	29.482315	1.2412153	143.19252	36.807474	.87011899
150.00000	2.1377844	21.958099	1.2786388	152.48283	27.517164	.85463062
160.00000	2.1106383	14.566214	1.3057849	161.69806	18.301939	.84336131
170.00000	2.0541907	7.2614729	1.3222325	170.86203	9.1379722	.83651935
180.00000	2.0886819	.00000000	1.3277413	180.00000	.00000000	.83422552
.20000000	5.0000000E-02	5.0000000E-02	2.5227327	.84369041	9.9671641E-02	.29802982
.00000000	3.0508529	180.00000	4.1557030	.00000000	180.00000	1.2092775
10.000000	3.0416229	164.41588	4.2480030	10.991726	169.00827	1.2058010
20.000000	3.0143689	149.29254	4.5205430	21.953574	158.04643	1.1955175
30.000000	2.9703664	134.97168	4.9605680	32.856562	147.14344	1.1788537
40.000000	2.9116290	121.62602	5.5479420	43.673329	136.32667	1.1564930
50.000000	2.8407542	109.28260	6.2566900	54.378960	125.62104	1.1293328
60.000000	2.7607364	97.877602	7.0568680	64.951825	115.04817	1.0984320
70.000000	2.6747657	87.306215	7.9165750	75.374237	104.62576	1.0649506
80.000000	2.5860364	77.454252	8.8038680	85.633075	94.366923	1.0300873
90.000000	2.4975832	68.213812	9.6884000	95.720261	84.279738	.99502041
100.00000	2.4121556	59.488913	1.0542676	105.63307	74.366926	.96085635
110.00000	2.3321379	51.196015	1.1342853	115.37423	64.625767	.92859200
120.00000	2.2595140	43.262456	1.2069092	124.95182	55.048181	.89908898
130.00000	2.1958685	35.624268	1.2705547	134.37896	45.621037	.87306219
140.00000	2.1424168	28.224153	1.3240064	143.67332	36.326682	.85108153
150.00000	2.1000517	21.009627	1.3663715	152.85655	27.143452	.83358117
160.00000	2.0693962	13.931645	1.3970270	161.95356	18.046435	.82087478
170.00000	2.0508534	6.9435249	1.4155698	170.99171	9.0082889	.81317167
180.00000	2.0446486	.00000000	1.4217746	180.00000	.00000000	.81059122
.25000000	6.2500000E-02	6.2500000E-02	2.5414673	.84995592	.11102478	.33197703
.00000000	3.1373085	180.00000	3.7911470	.00000000	180.00000	1.2343759
10.000000	3.1267367	163.47806	3.8968650	11.104668	168.89533	1.2304472
20.000000	3.0955422	147.56836	4.2088100	22.176204	157.82380	1.2188294
30.000000	3.0452382	132.69542	4.7118500	33.182266	146.81774	1.2000176
40.000000	2.9782103	119.03421	5.3821290	44.092416	135.90758	1.1748018
50.000000	2.8975219	106.56730	6.1890130	54.878894	125.12111	1.1442188
60.000000	2.8066830	95.175854	7.0974020	65.517524	114.48247	1.1094874
70.000000	2.7094052	84.708574	8.0701800	75.988511	104.01149	1.0719380
80.000000	2.6093695	75.018047	9.0705370	86.277154	93.722844	1.0329370
90.000000	2.5100306	65.974704	1.0063926	96.374395	83.625603	.99381772
100.00000	2.4144738	57.469163	1.1019494	106.27716	73.722841	.95582008
110.00000	2.3253273	49.409811	1.1910959	115.98851	64.011487	.92004738
120.00000	2.2447330	41.719161	1.2716902	125.51752	54.482477	.88743804
130.00000	2.1743593	34.330343	1.3420639	134.87890	45.121103	.85875755
140.00000	2.1154492	27.184195	1.4009740	144.09240	35.907598	.83460247
150.00000	2.0688867	20.226951	1.4475365	153.18225	26.817748	.81541673
160.00000	2.0352666	13.408624	1.4811566	162.17617	17.823829	.80151299
170.00000	2.0149612	6.6816872	1.5014620	171.10462	8.8953818	.79309511
180.00000	2.0081716	.00000000	1.5082516	180.00000	.00000000	.79027700

.30000000	7.5000000E-02	7.5000000E-02	2.5602018	.85622140	.12117575	.36232962
.00000000	3.2184561	180.00000	.34796710	.00000000	180.00000	1.2570349
10.000000	3.2066212	162.56019	.35980200	11.205684	168.79432	1.2526919
20.000000	3.1717170	145.90622	.39470620	22.375276	157.62472	1.2398536
30.000000	3.1154929	130.54446	.45093030	33.473564	146.52643	1.2190782
40.000000	3.0406955	116.63499	.52572770	44.467312	135.53269	1.1912567
50.000000	2.9508410	104.10001	.61558220	55.326207	124.67380	1.1575560
60.000000	2.8499385	92.758694	.71648470	66.023778	113.97622	1.1193453
70.000000	2.7421992	82.413190	.82422400	76.538327	103.46167	1.0781136
80.000000	2.6317638	72.885967	.93465940	86.853710	93.146288	1.0353837
90.000000	2.5224777	64.029524	1.0439455	96.959964	83.040034	.99263094
100.00000	2.4177296	55.724327	1.1486936	106.85371	73.146291	.95121613
110.00000	2.3203615	47.873190	1.2460617	116.53833	63.461671	.91233571
120.00000	2.2326423	40.395670	1.3337809	126.02378	53.976223	.87699397
130.00000	2.1562984	33.223284	1.4101248	135.32620	44.673800	.84599500
140.00000	2.0925787	26.295928	1.4738445	144.46730	35.532700	.81995280
150.00000	2.0423391	19.559245	1.5240841	153.47355	26.526451	.79931318
160.00000	2.0061354	12.962766	1.5602878	162.37526	17.624738	.78438191
170.00000	1.9842985	6.4584949	1.5821247	171.20570	8.7942949	.77535282
180.00000	1.9770019	.00000000	1.5894213	180.00000	.00000000	.77233196
.35000000	8.7500000E-02	8.7500000E-02	2.5789363	.86248637	.13040851	.38993664
.00000000	3.2956267	180.00000	.32079650	.00000000	180.00000	1.2778231
10.000000	3.2825863	161.65157	.33383690	11.297585	168.70242	1.2730957
20.000000	3.2441456	144.28682	.37227760	22.556365	157.44364	1.2591244
30.000000	3.1822846	128.49085	.43413860	33.738578	146.26142	1.2365279
40.000000	3.1001057	114.38963	.51631750	44.808458	135.19154	1.2062928
50.000000	3.0015708	101.83051	.61485240	55.733337	124.26666	1.1697093
60.000000	2.8911731	90.565978	.72525010	66.484648	113.51535	1.1282894
70.000000	2.7736071	80.353155	.84281610	77.038937	102.96106	1.0836720
80.000000	2.6534530	70.987930	.96297020	87.378723	92.621275	1.0375261
90.000000	2.5349254	62.308296	1.0814978	97.493199	82.506800	.99146028
100.00000	2.4216915	54.187240	1.1947317	107.37872	72.621278	.94694561
110.00000	2.3167832	46.523973	1.2996400	117.03894	62.961061	.90526280
120.00000	2.2225741	39.236387	1.3938491	126.48465	53.515353	.86747253
130.00000	2.1408278	32.255275	1.4755954	135.73333	44.266668	.83440960
140.00000	2.0727824	25.520215	1.5436408	144.80845	35.191549	.80669809
150.00000	2.0192555	18.976664	1.5971677	153.73858	26.261423	.78477978
160.00000	1.9807511	12.573998	1.6356721	162.55634	17.443660	.76894894
170.00000	1.9575555	6.2640050	1.6588677	171.29755	8.7024440	.75938669
180.00000	1.9498098	.00000000	1.6666134	180.00000	.00000000	.75618926
.40000000	.10000000	.10000000	2.5976708	.86875235	.13890892	.41535386
.00000000	3.3696825	180.00000	.29674070	.00000000	180.00000	1.2971133
10.000000	3.3554817	160.74523	.31094150	11.382166	168.61784	1.2920253
20.000000	3.3136381	142.69814	.35278510	22.723119	157.27688	1.2769916
30.000000	3.2463614	126.51706	.42006180	33.982656	146.01734	1.2526890
40.000000	3.1571053	112.27307	.50931790	45.122705	134.87730	1.2201949
50.000000	3.0502675	99.725379	.61615570	56.108430	123.89157	1.1809180
60.000000	2.9308197	88.557349	.73560350	66.909336	113.09066	1.1365057
70.000000	2.8039245	78.483674	.86249870	77.500312	102.49969	1.0887399
80.000000	2.6745878	69.277279	.99183540	87.862632	92.137367	1.0394286
90.000000	2.5473721	60.764742	1.1190511	97.984716	82.015282	.99030507
100.00000	2.4262081	52.813816	1.2402151	107.86263	72.137369	.94294376
110.00000	2.3142938	45.321562	1.3521294	117.50031	62.499686	.89870139
120.00000	2.2140925	38.205192	1.4523307	126.90933	53.090671	.85868800
130.00000	2.1273888	31.395380	1.5390344	136.10842	43.891576	.82376250
140.00000	2.0553973	24.831799	1.6110259	145.12269	34.877305	.79455346
150.00000	1.9988859	18.460000	1.6675373	153.98264	26.017361	.77149450
160.00000	1.9583022	12.229343	1.7081210	162.72310	17.276895	.75486517
170.00000	1.9338818	6.0916237	1.7325414	171.38214	8.6178583	.74483110
180.00000	1.9257321	.00000000	1.7406911	180.00000	.00000000	.74147776
.45000000	.11250000	.11250000	2.6164053	.87501782	.14680673	.43896923
.00000000	3.4412213	180.00000	.27520190	.00000000	180.00000	1.3151655
10.000000	3.4258956	159.83604	.29052760	11.460758	168.53924	1.3097369
20.000000	3.3807577	141.13223	.33566550	22.878089	157.12191	1.2937001
30.000000	3.3082419	124.61163	.40818130	34.209487	145.79052	1.2677868
40.000000	3.2121529	110.26789	.50427030	45.414801	134.58520	1.2331625
50.000000	3.0973188	97.760816	.61910440	56.457172	123.54283	1.1913489
60.000000	2.9691798	86.703905	.74724340	67.304258	112.69574	1.1441237
70.000000	2.8333588	76.772758	.88306440	77.929417	102.07058	1.0934058
80.000000	2.6952725	67.720936	1.0211507	88.312747	91.687251	1.0411358
90.000000	2.5598195	59.366306	1.1566037	98.441919	81.558079	.98916526
100.00000	2.4311736	51.573212	1.2852496	108.31274	71.687254	.93916503
110.00000	2.3126885	44.237728	1.4037347	117.92942	62.070581	.89256266
120.00000	2.2068977	37.277066	1.5095255	127.30425	52.695748	.85051050
130.00000	2.1155961	30.622252	1.6008271	136.45717	43.542833	.81388680
140.00000	2.0399638	24.213312	1.6764594	145.41479	34.585203	.78332074
150.00000	1.9807126	17.996045	1.7357106	154.20947	25.790527	.75923357
160.00000	1.9382272	11.919957	1.7781960	162.87807	17.121933	.74188739
170.00000	1.9126898	5.9368741	1.8037334	171.46078	8.5392141	.73143131
180.00000	1.9041718	.00000000	1.8122514	180.00000	.00000000	.72793882
.50000000	.12500000	.12500000	2.6351399	.88128333	.15419681	.46106643
.00000000	3.5106745	180.00000	.25574870	.00000000	180.00000	1.3321701
10.000000	3.4942545	158.92012	.27216870	11.534341	168.46566	1.3264176
20.000000	3.4459098	139.58384	.32051340	23.023090	156.97691	1.3094279
30.000000	3.3683022	122.76656	.39812100	34.421805	145.57819	1.2819857
40.000000	3.2655815	108.36134	.50084170	45.688255	134.31175	1.2453406
50.000000	3.1430042	95.918946	.62341900	56.783705	123.21629	1.2011237
60.000000	3.0064720	84.983903	.75995120	67.674103	112.32590	1.1512381
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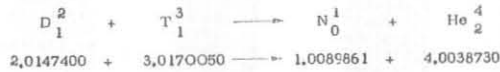
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130.00000	2.0511095	18.588573	3.9653173	143.95273	36.047272	.60802520
140.00000	1.8940798	14.601705	4.1223434	151.67293	28.327068	.55644310
150.00000	1.7765784	10.793503	4.2398448	159.05488	20.945120	.51759878
160.00000	1.6952959	7.1203609	4.3211273	166.18012	13.819880	.49062671
170.00000	1.6476259	3.5375723	4.3687973	173.13320	6.8668018	.47477708
180.00000	1.6319227	.00000000	4.3845005	180.00000	.00000000	.46955165

3.0000000	.75000000	.75000000	3.5718658	1.1945574	.32441825	.97004839
.00000000	6.2653905	180.00000	1.0327000E-03	.00000000	180.00000	1.7540837
10.000000	6.2038500	90.854451	6.2573200E-02	13.229424	166.77057	1.7396271
20.000000	6.0240887	80.527775	.24233450	26.370514	153.62949	1.6970449
30.000000	5.7400560	72.768173	.52636720	39.335149	140.66485	1.6286599
40.000000	5.3730155	65.765821	.89340770	52.036343	127.96366	1.5382028
50.000000	4.9488861	59.188340	1.3175371	64.389874	115.61012	1.4305852
60.000000	4.4951391	52.949888	1.7712841	76.317171	103.68283	1.3115554
70.000000	4.0377579	47.031255	2.2286653	87.749341	92.250658	1.1872412
80.000000	3.5987566	41.432763	2.6676666	98.632061	81.367937	1.0636080
90.000000	3.1946297	36.156952	3.0717935	108.93034	71.069663	.94591378
100.00000	2.8358840	31.200845	3.4305392	118.63206	61.367940	.83826973
110.00000	2.5275556	26.552543	3.7388676	127.74934	52.250657	.74341111
120.00000	2.2703766	22.190555	3.9960466	136.31717	43.682830	.66271908
130.00000	2.0622132	18.084823	4.2042100	144.38987	35.610124	.59645724
140.00000	1.8994281	14.198729	4.3669951	152.03633	27.963670	.54412800
150.00000	1.7779716	10.491248	4.4884516	159.33513	20.664869	.50484241
160.00000	1.6941415	6.9188470	4.5722817	166.37050	13.629497	.47763141
170.00000	1.6450522	3.4368377	4.6213710	173.22938	6.7706194	.46166885
180.00000	1.6288942	.00000000	4.6375290	180.00000	.00000000	.45641068
3.2500000	.81250000	.81250000	3.6655384	1.2251848	.33332281	.99667406
.00000000	6.5164126	180.00000	1.0600000E-05	.00000700	180.00000	1.7777493
10.000000	6.4506557	84.158339	6.5767500E-02	13.318174	166.68183	1.7627759
20.000000	6.2586465	77.131510	.25777670	26.546133	153.45387	1.7186732
30.000000	5.9554892	70.468257	.56093400	39.593757	140.40624	1.6478560
40.000000	5.5641846	64.008141	.95223860	52.371871	127.62813	1.5542060
50.000000	5.1127333	57.753533	1.4036899	64.793735	115.20626	1.4428420
60.000000	4.6307442	51.731409	1.8856790	76.778164	103.22189	1.3197636
70.000000	4.1461190	45.971668	2.3703042	88.253446	91.746552	1.1913716
80.000000	3.6823518	40.499712	2.8340714	99.163130	80.836868	1.0638961
90.000000	3.2568656	35.332194	3.2595576	109.47058	70.529415	.94281265
100.00000	2.8805432	30.474472	3.6358800	119.16315	60.836871	.83237263
110.00000	2.5583382	25.919566	3.9580850	128.25344	51.746556	.73535934
120.00000	2.2905984	21.648757	4.2258248	136.77810	43.221897	.65311812
130.00000	2.0746582	17.633413	4.4417650	144.79374	35.206263	.58581910
140.00000	1.9063303	13.837534	4.6100929	152.37186	27.628134	.53284603
150.00000	1.7810745	10.220303	4.7353483	159.59375	20.406253	.49319214
160.00000	1.6948033	6.7382083	4.8216199	166.54610	13.453903	.46578960
170.00000	1.6443559	3.3464879	4.8720673	173.31816	6.6818339	.44974059
180.00000	1.6277629	.00000000	4.8886603	180.00000	.00000000	.44445836
3.5000000	.87500000	.87500000	3.7592110	1.2572122	.34156856	1.0213298
.00000000	6.7658175	.00000000	6.0570000E-04	.00000000	180.00000	1.7998060
10.000000	6.6958601	78.166960	7.0563100E-02	13.400355	166.59964	1.7843486
20.000000	6.4916543	74.100409	.27476890	26.708801	153.29120	1.7388231
30.000000	6.1694611	68.415069	.59696210	39.833415	140.16659	1.6657287
40.000000	5.7540241	62.437595	1.0123991	52.682959	127.31704	1.5690896
50.000000	5.2754308	56.469919	1.4909924	65.168386	114.83161	1.4542177
60.000000	4.7654287	50.639776	2.0009945	77.205932	102.79407	1.3273498
70.000000	4.2538345	45.020992	2.5125887	88.721558	91.278440	1.1951462
80.000000	3.7656144	39.661375	3.0008088	99.656435	80.343563	1.0640875
90.000000	3.3191017	34.590208	3.4473215	109.97247	70.027533	.93985678
100.00000	2.9255359	29.820297	3.8408873	119.65643	60.343566	.82683683
110.00000	2.5897670	25.349034	4.1765652	128.72156	51.278440	.72785303
120.00000	2.3117417	21.160130	4.4546815	137.20593	42.794069	.64421283
130.00000	2.0882542	17.226154	4.6781690	145.16838	34.831617	.57599383
140.00000	1.9145623	13.511603	4.8518609	152.68295	27.317052	.52246300
150.00000	1.7856405	9.9757797	4.9807827	159.83341	20.166590	.48250087
160.00000	1.6970153	6.5751652	5.0694079	166.70878	13.291217	.45494552
170.00000	1.6452611	3.2649816	5.1211621	173.40032	6.5996832	.43883137
180.00000	1.6282492	.00000000	5.1381740	180.00000	.00000000	.43353185
3.7500000	.93750000	.93750000	3.8528836	1.2885396	.34923271	1.0442465
.00000000	7.0138287	.00000000	2.5945000E-03	.00000000	180.00000	1.8204286
10.000000	6.9396845	72.880650	7.6738700E-02	13.476742	166.52326	1.8045174
20.000000	6.7233254	71.390656	.29309780	26.860050	153.13995	1.7576565
30.000000	6.3821700	66.573789	.63425320	40.056331	139.94367	1.6824250
40.000000	5.9427138	61.026509	1.0737094	52.972448	127.02755	1.5829789
50.000000	5.4371313	55.314753	1.5792919	65.517203	114.48280	1.4648135
60.000000	4.8993126	49.655838	2.1171106	77.604475	102.39552	1.3343886
70.000000	4.3609881	44.162793	2.6554351	89.157820	90.842178	1.1986107
80.000000	3.8485863	38.903505	3.1678369	100.11631	79.883684	1.0642000
90.000000	3.3813381	33.918602	3.6350851	110.44039	69.559609	.93703593
100.00000	2.9708176	29.227567	4.0456056	120.11631	59.883687	.82162558
110.00000	2.6217562	24.831693	4.3946670	129.15782	50.842178	.72083238
120.00000	2.3336840	20.716817	4.6827392	137.60447	42.395531	.63592336
130.00000	2.1028460	16.856536	4.9135772	145.51720	34.482795	.56688382
140.00000	1.9239440	13.215737	5.0924792	152.97244	27.027560	.51286815
150.00000	1.7914669	9.7538004	5.2249563	160.05632	19.943681	.47264770
160.00000	1.7005644	6.4271507	5.3158588	166.86004	13.139962	.44497105
170.00000	1.6475455	3.1909612	5.3688777	173.47673	6.5232678	.42880921
180.00000	1.6301294	.00000000	5.3862938	180.00000	.00000000	.42349796
4.0000000	1.0000000	1.0000000	3.9465562	1.3198670	.35637979	1.0656171
.00000000	7.2606293	.00000000	5.7939000E-03	.00000000	180.00000	1.8397658
10.000000	7.1823110	68.253592	8.4112200E-02	13.547975	166.45203	1.8234277
20.000000	6.9538349	68.962364	.31258930	27.001143	152.99886	1.7753105
30.000000	6.5937822	64.915236	.67264100	40.264342	139.73566	1.6980680
40.000000	6.1304022	59.752262	1.1360210	53.242705	126.75729	1.5959803
50.000000	5.5979622	54.269640	1.6684610	65.843027	114.15697	1.4747141
60.000000	5.0324990	48.764156	2.2339242	77.979621	102.02308	1.3409417
70.000000	4.4676520	43.383852	2.7987712	89.565686	90.434313	1.2018035
80.000000	3.9313047	38.214661	3.3351185	100.54639	79.453611	1.0642476
90.000000	3.4435746	33.307425	3.8228486	110.87803	69.121967	.93434126
100.00000	3.0163537	28.687639	4.2500595	120.54638	59.453614	.81670892
110.00000	2.6542372	24.360091	4.6121860	129.56569	50.434312	.71424747
120.00000	2.3563257	20.312491	4.9100975	137.97692	42.023080	.62818239
130.00000	2.1183079	16.519325	5.1481153	145.84302	34.156977	.55840842
140.00000	1.9343277	12.945772	5.3320955	153.24270	26.757301	.50396954
150.00000	1.7983918	9.5512357	5.4680314	160.26433	19.735669	.46353241
160.00000	1.7052758	6.2920908	5.5611474	167.00111	12.998888	.43576092
170.00000	1.6510292	3.1234475	5.6153940	173.54793	6.4520721	.41956552
180.00000	1.6332198	.00000000	5.6332034	180.00000	.00000000	.41424695

4.2500000	1.0625000	1.0625000	4.0402288	1.3511944	.36306442	1.0856049
.00000000	7.5063709	.00000000	1.0052300E-02	.00000000	180.00000	1.8579444
10.000000	7.4238871	64.217385	9.2536100E-02	13.614631	166.38537	1.8412036
20.000000	7.1833246	66.780013	.33309860	27.133141	152.86686	1.7919021
30.000000	6.8044308	63.414981	.71199240	40.459020	139.54098	1.7127629
40.000000	6.3172092	58.596199	1.1992140	53.495754	126.50425	1.6081831
50.000000	5.7580269	53.319522	1.7533963	66.148242	113.85176	1.4839920
60.000000	5.1650685	47.952125	2.3513547	78.325978	101.67402	1.3470619
70.000000	4.5738811	42.673399	2.9425421	89.948101	90.051898	1.2047563
80.000000	4.0137991	37.585519	3.5026241	100.94973	79.050271	1.0644415
90.000000	3.5058110	32.748563	4.0106122	111.28851	68.711489	.93176394
100.00000	3.0621140	28.193468	4.4543092	120.94972	59.050280	.81205969
110.00000	2.6871511	23.928153	4.8292721	129.94810	50.051897	.70805507
120.00000	2.3795333	19.942003	5.1368399	138.32598	41.674023	.62093318
130.00000	2.1345347	16.210245	5.3818885	146.14824	33.851762	.55049884
140.00000	1.9455315	12.698294	5.5708317	153.49574	26.504260	.49568952
150.00000	1.8062804	9.3655378	5.7101428	160.445900	19.541001	.45507116
160.00000	1.7110055	6.1682694	5.8054177	167.13310	12.866896	.42722656
170.00000	1.6555621	3.0615248	5.8608611	173.61458	6.3854141	.41100917
180.00000	1.6373703	.00000000	5.8790529	180.00000	.00000000	.40568687
4.5000000	1.1250000	1.1250000	4.1339014	1.3825218	.36933326	1.1043495
.00000000	7.7511772	.00000000	1.5246000E-02	.00000000	180.00000	1.8750734
10.000000	7.6645380	60.697006	.10188520	13.677123	166.32288	1.8579524
20.000000	7.4119164	64.812482	.35450660	27.256951	152.74305	1.8075321
30.000000	7.0142286	62.052447	.75219460	40.641699	139.35830	1.7266007
40.000000	6.5032380	57.542839	1.26319852	53.733304	122.26670	1.6196651
50.000000	5.9174148	52.451958	1.8430084	66.434892	113.56511	1.4927083
60.000000	5.2970924	47.209355	2.4632308	78.653968	101.34603	1.3527932
70.000000	4.6797263	42.022555	3.0866969	90.307574	89.692424	1.2074959
80.000000	4.0960943	37.008394	3.6503289	101.32897	78.671031	1.0641912
90.000000	3.5680471	32.235328	4.1983761	111.67450	68.325498	.92929708
100.00000	3.1080734	27.739230	4.6803498	121.32897	58.671033	.80765501
110.00000	2.7204498	23.530862	5.0459734	130.30757	49.692424	.70221838
120.00000	2.4033867	19.601087	5.3630365	138.65397	41.346033	.61412686
130.00000	2.1514392	15.925767	5.6149840	146.43489	33.565111	.54309716
140.00000	1.9576342	12.470478	5.8087890	153.73330	26.266700	.48796260
150.00000	1.8150192	9.1345810	5.9514040	160.64169	19.358307	.44719280
160.00000	1.7176338	6.0542715	6.0487894	167.25695	12.743051	.41929327
170.00000	1.6610209	3.0045243	6.1054023	173.67709	6.3229044	.40306356
180.00000	1.6424550	.00000000	6.1239682	180.00000	.00000000	.39774047
4.7500000	1.1875000	1.1875000	4.2275739	1.4138492	.37522642	1.1219707
.00000000	7.9951561	.00000000	2.1267100E-02	.00000000	180.00000	1.8912474
10.000000	7.9043686	57.620320	.11205460	13.735898	166.26410	1.8737667
20.000000	7.6397109	63.032818	.37671230	27.373388	152.62661	1.8222872
30.000000	7.2232706	60.810309	.79315260	40.813530	139.18647	1.7396590
40.000000	6.6885748	56.579268	1.2718484	53.956837	126.04316	1.6304929
50.000000	6.0761999	51.656599	1.9402233	66.704755	113.29524	1.5009164
60.000000	5.4286293	46.527230	2.5877939	78.962878	101.03712	1.3581742
70.000000	4.7852276	41.423949	3.2311956	90.646267	89.353731	1.2100451
80.000000	4.1782111	36.476901	3.8382121	101.68638	78.313620	1.0641040
90.000000	3.6302832	31.762160	4.3861400	112.03831	67.961693	.92693327
100.00000	3.1542105	27.320103	4.8622127	121.68638	58.313622	.80387458
110.00000	2.7540923	23.164054	5.2623309	130.64627	49.353731	.69670527
120.00000	2.4276772	19.286200	5.5897460	138.96288	41.037123	.60772150
130.00000	2.1689475	15.662944	5.8474757	146.70476	33.295242	.53615300
140.00000	1.9703686	12.259992	6.0460546	153.95683	26.043172	.48073272
150.00000	1.8245139	9.0366285	6.1919093	160.81352	19.186483	.43983685
160.00000	1.7250598	5.9489555	6.2913634	167.37337	12.626632	.41189751
170.00000	1.6673005	2.9518602	6.3491227	173.73586	6.2641419	.39566336
180.00000	1.6483676	.00000000	6.3680556	180.00000	.00000000	.39034197
5.0000000	1.2500000	1.2500000	4.3212465	1.4451766	.38077876	1.1385728
.00000000	8.2383965	.00000000	2.8026700E-02	.00000000	180.00000	1.9065499
10.000000	8.1434673	54.922132	.12295590	13.791227	166.20877	1.8887280
20.000000	7.8667948	61.417707	.39962840	27.483121	152.51688	1.8362444
30.000000	7.4316381	59.673847	.83478510	40.975515	139.02449	1.7520070
40.000000	6.8732931	55.694574	1.3931301	54.167645	125.83236	1.6407246
50.000000	6.2344442	50.924741	2.0319790	66.959361	113.04064	1.5086625
60.000000	5.5597297	45.898482	2.7066935	79.254451	100.74555	1.3632378
70.000000	4.8904213	40.871384	3.3760019	90.966063	89.033935	1.2124239
80.000000	4.2601687	35.985676	4.0662545	102.02393	77.976067	1.0639866
90.000000	3.6925197	31.324384	4.5739035	112.38193	67.618067	.92466606
100.00000	3.2005078	26.932011	5.0659154	122.02393	57.976070	.79950054
110.00000	2.7880424	22.824212	5.4783808	130.96606	49.033941	.69148797
120.00000	2.4524036	18.994351	5.8140196	139.25445	40.745550	.60168658
130.00000	2.1869953	15.419303	6.0794279	146.95936	33.040637	.52962315
140.00000	1.9837221	12.064847	6.2827011	154.16763	25.832370	.47395106
150.00000	1.8346833	8.8901817	6.4317399	160.97550	19.024497	.43295089
160.00000	1.7331967	5.8513098	6.5322265	167.48309	12.516905	.40498473
170.00000	1.6743118	2.9030509	6.5921114	173.79119	6.2088056	.38875261
180.00000	1.6550187	.00000000	6.6114045	180.00000	.00000000	.38343485

TABLE II



$$Q = 17,585834 \text{ MeV.}$$

$$E_{\text{THR}} = 29,403534 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_{1L}	E_{10L}	E_{2L}	E_{3L}	E_{4L}	E_{5L}	E_{6L}
1.0000000	3.5951317E-02	2.4008099E-02	14.094054	3.5517371	2.3912888E-02	9.4891463E-02
10.000000	14.777346	180.00000	2.9084860	10.000000	180.00000	1.0483974
20.000000	14.766592	168.69638	2.9192400	10.2378E5	169.76211	1.0476451
30.000000	14.734705	157.44555	2.9511270	20.468618	159.53138	1.0454129
40.000000	14.682782	146.29664	3.0030500	30.685075	149.31493	1.0417755
50.000000	14.612603	135.29160	3.0732290	40.880720	139.11928	1.0368539
60.000000	14.526542	124.46314	3.1592900	51.049620	128.95038	1.0308102
70.000000	14.427476	113.83387	3.2583560	61.186628	118.81337	1.0238413
80.000000	14.318650	103.41637	3.3671820	71.287581	108.71242	1.0161716
90.000000	14.203566	93.214103	3.4822660	81.349414	98.650585	1.0080446
100.00000	14.085842	83.222842	3.5999900	91.370239	88.629759	.99971406
110.00000	13.969094	73.432214	3.7167380	101.34941	78.650588	.99143508
120.00000	13.856819	63.827075	3.8290130	111.28758	68.712417	.98345701
130.00000	13.752297	54.388867	3.9335350	121.18662	58.813379	.97601572
140.00000	13.658508	45.096548	4.0273240	131.04962	48.950380	.96932672
150.00000	13.578069	35.927489	4.1077630	140.88071	39.119290	.96358083
160.00000	13.513170	26.857914	4.1726620	150.68506	29.314939	.95893919
170.00000	13.465552	17.863411	4.2202800	160.46859	19.531404	.95552997
180.00000	13.436473	8.9191602	4.2493590	170.23787	9.7621295	.95344684
	13.426697	.00000000	4.2591350	180.00000	.00000000	.95274607
.15000000	5.3926976E-02	3.6012149E-02	14.117999	3.5577713	2.9262340E-02	.11611923
.00000000	14.957752	180.00000	2.7780800	.00000000	180.00000	1.0593806
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II. 2

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40.000000	16.522527	120.46348	2.3133050	43.056043	136.94396	1.1296915
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60.000000	15.806435	96.806119	3.0293970	64.118985	115.88101	1.0820810
70.000000	15.395667	86.354779	3.4401650	74.470047	105.52995	1.0544994
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130.000000	13.064537	35.373473	5.7712950	133.64277	46.357225	.89420215
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70.000000	15.581971	84.192172	3.5038610	74.877741	105.12226	1.0592361
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120.000000	13.367747	41.688941	5.7180850	124.49453	55.505470	.90849101
130.000000	13.025151	34.339180	6.0606810	133.97476	46.025236	.88465809
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II. 4

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30.000000	19.776662	116.73110	1.5591700	33.960030	146.03997	1.2511871
40.000000	19.235142	102.56473	2.1006900	45.093569	134.90643	1.2189041
50.000000	18.586877	90.692768	2.7489550	56.073648	123.92635	1.1798783
60.000000	17.861992	80.416168	3.4738400	66.869956	113.13004	1.1357449
70.000000	17.091792	71.272260	4.2440400	77.457523	102.54248	1.0882722
80.000000	16.306624	62.960877	5.0292080	87.817758	92.182241	1.0392552
90.000000	15.534186	55.283633	5.8016460	97.939132	82.060867	.99041538
100.00000	14.798336	48.104259	6.5374960	107.81775	72.182244	.94331751
110.00000	14.118527	41.324425	7.2173050	117.45752	62.542475	.89931181
120.00000	13.509741	34.869027	7.8260910	126.86995	53.130050	.85950313
130.00000	12.982866	28.677229	8.3529660	136.07365	43.926348	.82474865
140.00000	12.545317	22.696991	8.7905150	145.09355	34.906446	.79567697
150.00000	12.201805	16.881626	9.1340270	153.96001	26.039992	.77272230
160.00000	11.955083	11.187764	9.3807490	162.70764	17.292359	.75616570
170.00000	11.806612	5.5739893	9.5292200	171.37431	8.6256849	.74617468
180.00000	11.757060	.00000000	9.5787720	180.00000	.00000000	.74283547
4.0000000	1.4380527	.96032396	15.961795	4.0224126	.14211474	.56394174
.00000000	20.825226	180.00000	.76060600	.00000000	180.00000	1.3044259
10.000000	20.735301	154.57378	.85053100	11.414079	168.58592	1.2992003
20.000000	20.470376	132.75064	1.1154560	22.786025	157.21398	1.2837615
30.000000	20.044574	115.26036	1.5412580	34.074714	145.92529	1.2588079
40.000000	19.479964	101.16756	2.1058680	45.241252	134.75875	1.2254528
50.000000	18.804604	89.423180	2.7812280	56.249961	123.75004	1.1851502
60.000000	18.050168	79.281477	3.5356640	67.069598	112.93040	1.1395998
70.000000	17.249479	70.264829	4.3363530	77.674439	102.32556	1.0906390
80.000000	16.434275	62.070123	5.1515570	88.045279	91.954719	1.0401286
90.000000	15.633386	54.499877	5.9524460	98.170234	81.829764	.98985033
100.00000	14.871529	47.419801	6.7143030	108.04528	71.954722	.94141698
110.00000	14.168706	40.733513	7.4171260	117.67444	62.325559	.89621464
120.00000	13.540197	34.367545	8.0456350	127.06960	52.930403	.85537052
130.00000	12.996964	28.262336	8.5888680	136.24995	43.750043	.81975197
140.00000	12.546365	22.366756	9.0394670	145.24124	34.758754	.78998812
150.00000	12.192963	16.634813	9.3928690	154.07470	25.925298	.76650819
160.00000	11.939338	11.023587	9.6464940	162.78600	17.214001	.74958487
170.00000	11.786796	5.4920154	9.7990360	171.41404	8.5859560	.73937766
180.00000	11.735898	.00000000	9.8499340	180.00000	.00000000	.73596723

II. 6

4.2500000	1.5279310	1.0203442	16.081523	4.0525843	.14594220	.57912992
.00000000	21.122243	180.00000	.71358900	.00000000	180.00000	1.3131834
10.000000	21.028583	153.65605	.80724900	11.452178	168.54782	1.3077922
20.000000	20.752711	131.38438	1.0831210	22.861112	157.13889	1.2918660
30.000000	20.309485	113.82480	1.5263470	34.184653	145.81535	1.2661302
40.000000	19.722120	99.822249	2.1137120	45.382823	134.61718	1.2317406
50.000000	19.020082	88.211471	2.8157500	56.418983	123.58102	1.1902062
60.000000	18.236579	78.204586	3.5992530	67.261012	112.73899	1.1432905
70.000000	17.405957	69.312189	4.4298750	77.882423	102.11758	1.0928971
80.000000	16.561309	61.229766	5.2745230	88.263450	91.736548	1.0409517
90.000000	15.732587	53.761587	6.1032450	98.391843	81.608156	.98929322
100.00000	14.945336	46.775679	6.8904960	108.26345	71.736551	.93958154
110.00000	14.220094	40.177773	7.6157380	117.88242	62.117575	.89323663
120.00000	13.572411	33.896103	8.2634210	127.26101	52.738989	.85140630
130.00000	13.013319	27.872390	8.8225130	136.41898	43.581021	.81496708
140.00000	12.550089	22.056436	9.2857430	145.38281	34.617188	.78454793
150.00000	12.187130	16.402899	9.6487020	154.18464	25.815359	.76057180
160.00000	11.926844	10.869332	9.9089880	162.86109	17.138904	.74330293
170.00000	11.770377	5.4149923	10.065455	171.45213	8.5478715	.73289235
180.00000	11.718183	.00000000	10.117649	180.00000	.00000000	.72941470
4.5000000	1.6178093	1.0803645	16.201249	4.0827556	.14961737	.59371378
.00000000	21.416151	180.00000	.66968100	.00000000	180.00000	1.3216199
10.000000	21.318798	152.72150	.76703400	11.488722	168.51128	1.3160686
20.000000	21.032109	130.02449	1.0537230	22.933225	157.06678	1.2996711
30.000000	20.571678	112.42346	1.5141540	34.290731	145.70977	1.2731787
40.000000	19.961858	98.526012	2.1239740	45.518789	134.48121	1.2377891
50.000000	19.233516	87.053535	2.8523160	56.581335	123.41867	1.1950648
60.000000	18.421398	77.180808	3.6644340	67.444835	112.55511	1.1468310
70.000000	17.561341	68.409488	4.5244910	78.082216	101.91776	1.0950563
80.000000	16.687785	60.435130	5.3980470	88.47305	91.526943	1.0417291
90.000000	15.831790	53.064395	6.2540420	98.604754	81.395245	.98874388
100.00000	15.019699	46.167926	7.0661330	108.47305	71.526946	.93780624
110.00000	14.272577	39.653692	7.8132550	118.08221	61.917762	.89036790
120.00000	13.606218	33.451669	8.4796140	127.44481	52.555121	.84759663
130.00000	13.031705	27.504853	9.0541270	136.58131	43.418668	.81037622
140.00000	12.556224	21.763985	9.5296080	145.51876	34.481219	.77933498
150.00000	12.184009	16.184358	9.9018230	154.29022	25.709780	.75488891
160.00000	11.917281	10.723983	10.168551	162.93320	17.066797	.73729388
170.00000	11.757021	5.3424100	10.328811	171.48870	8.5112938	.72669147
180.00000	11.703576	.00000000	10.382256	180.00000	.00000000	.72315054
4.7500000	1.7076876	1.1403847	16.320977	4.1129273	.15315238	.60774146
.00000000	21.707235	180.00000	.62859700	.00000000	180.00000	1.3297603
10.000000	21.606233	151.76908	.72959900	11.523910	168.47609	1.3240539
20.000000	21.308848	128.67120	1.0269840	23.002595	156.99740	1.3071996
30.000000	20.831411	111.05549	1.5044210	34.391789	145.60821	1.2799748
40.000000	20.199407	97.276305	2.1364250	45.649602	134.35040	1.2436169
50.000000	19.445107	85.945727	2.8907250	56.737547	123.26246	1.1997414
60.000000	18.604771	76.206000	3.7310610	67.621815	112.37818	1.1502335
70.000000	17.715730	67.552527	4.6201020	78.274515	101.72548	1.0971248
80.000000	16.813757	59.682161	5.5220750	88.674776	91.325222	1.0424649
90.000000	15.930991	52.404534	6.4048410	98.809655	81.190343	.98820265
100.00000	15.094572	45.593132	7.2412600	108.67477	71.325225	.93608652
110.00000	14.326054	39.158256	8.0097780	118.27452	61.725483	.88760006
120.00000	13.641475	33.031635	8.6943570	127.62181	52.378186	.84392887
130.00000	13.051946	27.157555	9.2838860	136.73754	43.262456	.80596385
140.00000	12.564552	21.487664	9.7712800	145.64959	34.350407	.77433109
150.00000	12.183355	15.977883	10.152477	154.39178	25.608217	.74943956
160.00000	11.910382	10.586661	10.425450	163.00256	16.997435	.73153512
170.00000	11.746448	5.2738504	10.589384	171.52387	8.4761314	.72075136
180.00000	11.691790	.00000000	10.644042	180.00000	.00000000	.71715086
5.0000000	1.7975659	1.2004050	16.440703	4.1430986	.15655785	.62125509
.00000000	21.995747	180.00000	.59008500	.00000000	180.00000	1.3376260
10.000000	21.891130	150.79809	.69470200	11.557816	168.44218	1.3317690
20.000000	21.583155	127.32488	1.0026770	23.069413	156.93059	1.3144721
30.000000	21.088895	109.72009	1.4969370	34.489643	145.51036	1.2865369
40.000000	20.434954	96.070802	2.1508780	45.775649	134.22435	1.2492406
50.000000	19.655005	84.884758	2.9308270	56.888079	123.11192	1.2042496
60.000000	18.786821	75.276485	3.7990110	67.792333	112.20767	1.1535083
70.000000	17.869209	66.737575	4.7166230	78.459838	101.54016	1.0991095
80.000000	16.939266	58.967304	5.6465660	88.869204	91.130794	1.0431626
90.000000	16.030193	51.778714	6.5556390	99.007159	80.992839	.98766870
100.00000	15.169906	45.048341	7.4159260	108.86920	71.130797	.93441893
110.00000	14.380437	38.688857	8.2053950	118.45984	61.540160	.88492605
120.00000	13.678050	32.633765	8.9077820	127.79233	52.207668	.84039292
130.00000	13.073874	26.828624	9.5119580	136.88808	43.111923	.80171609
140.00000	12.574879	21.225970	10.010953	145.77564	34.224356	.76951972
150.00000	12.184948	15.782351	10.400884	154.48963	25.510367	.74420470
160.00000	11.905906	10.456604	10.679926	163.06941	16.930588	.72600708
170.00000	11.738410	5.2088942	10.847422	171.55779	8.4422066	.71505164
180.00000	11.682578	.00000000	10.903254	180.00000	.00000000	.71139454

TABLE III

$$D_1^2 + Li_3^7 \rightarrow N_0^1 + Ba_4^8$$

$$2,0147400 + 7,0182230 \rightarrow 1,0089861 + 8,0078500$$

$$Q = 15,016756 \text{ MeV.}$$

$$E_{THR} = 19,337585 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_D	E_{KM}	E_{2CM}	E_{3CM}	E_{4CM}	β_3	β_4
1.0000000	6.0366202E-02	1.7329487E-02	13.405378	1.6890725	1.3644899E-02	1.0829317
10.000000	13.774000	180.00000	1.3427560	0.0000000	180.00000	1.0274757
20.000000	13.768282	168.64223	1.3484740	10.135748	169.86425	1.0270528
30.000000	13.751329	157.34165	1.3654270	20.267372	159.73263	1.0257972
40.000000	13.723686	146.15092	1.3930700	30.390898	149.60910	1.0237497
50.000000	13.686257	135.11455	1.4304990	40.502538	139.49746	1.0209757
60.000000	13.640257	124.26646	1.4764990	50.598901	129.40110	1.0175635
70.000000	13.587157	113.62903	1.5295990	60.677068	119.32293	1.0136213
80.000000	13.528648	103.21362	1.5881080	70.734660	109.26534	1.0092729
90.000000	13.466569	93.02180	1.6501870	80.769941	99.230057	1.0046539
100.00000	13.402842	83.04714	1.7139140	90.781817	89.218181	99990685
110.00000	13.339417	73.277028	1.7773390	100.76994	79.230060	99517638
120.00000	13.278203	63.694366	1.8385530	110.73466	69.265338	99060595
130.00000	13.221026	54.278986	1.8957300	120.67706	59.322939	98633175
140.00000	13.169561	45.008720	1.9471950	130.59890	49.401103	98248079
150.00000	13.125295	35.860227	1.9914610	140.50253	39.497470	97916556
160.00000	13.089500	26.809491	2.0272560	150.39090	29.609101	97648263
170.00000	13.063188	17.832188	2.0535680	160.26738	19.732615	97450938
180.00000	13.047097	8.9038467	2.0696590	170.13576	9.8642420	97330254
	13.041687	.00000000	2.0750650	180.00000	.00000000	97289640
15000000	9.0549303E-02	2.5994231E-02	13.439879	1.6934196	1.6690058E-02	1.13246117
10.000000	13.892600	180.00000	1.2741560	.00000000	180.00000	1.0336585
20.000000	13.885551	168.29395	1.2812050	10.166034	169.83397	1.0331387
30.000000	13.864634	156.66535	1.3021220	20.327070	159.67293	1.0315965
40.000000	13.830553	145.18464	1.3362030	30.478141	149.52186	1.0290819
50.000000	13.784428	133.90923	1.3823280	40.614688	139.38531	1.0256763
60.000000	13.727777	122.88055	1.4389790	50.732566	129.26743	1.0214894
70.000000	13.662437	112.12336	1.5043190	60.828179	119.17182	1.0166550
80.000000	13.590506	101.64716	1.5762500	70.898635	109.10136	1.0113261
90.000000	13.514261	91.448826	1.6524950	80.941783	99.058216	1.0056694
100.00000	13.436074	81.515629	1.7306820	90.956317	89.043681	99986063
110.00000	13.358338	71.828098	1.8084180	100.94178	79.058218	99407688
120.00000	13.283393	62.362337	1.8833630	110.89863	69.101369	98849293
130.00000	13.213461	53.091888	1.9532950	120.82817	59.171827	98327509
140.00000	13.150570	43.988941	2.0161860	130.73256	49.267438	97857714
150.00000	13.096523	35.025240	2.0702330	140.61467	39.385325	97453524
160.00000	13.052847	26.172448	2.1139090	150.47812	29.521874	97126616
170.00000	13.020758	17.402485	2.1459980	160.32705	19.672953	96886256
180.00000	13.001150	8.6875334	2.1656060	170.16603	9.8339669	96739296
	12.994551	.00000000	2.1722050	180.00000	.00000000	96689838
20000000	1.12073240	3.4658974E-02	13.474380	1.6977668	1.9247328E-02	1.15275703
10.000000	13.998462	180.00000	1.2182940	.00000000	180.00000	1.0388649
20.000000	13.990271	167.98644	1.264850	10.141513	169.80849	1.0382633
30.000000	13.965972	156.07051	1.2507840	20.377169	159.62283	1.0364783
40.000000	13.926387	146.33936	1.2903630	30.551466	149.44859	1.0335687
50.000000	13.872840	132.86226	1.3432160	40.708881	139.29112	1.0296293
60.000000	13.807108	121.68648	1.4095480	50.844818	129.15518	1.0247880
70.000000	13.731348	110.83697	1.4854080	60.955084	119.04491	1.0192008
80.000000	13.648008	100.32018	1.5687480	71.036334	109.96366	1.0130456
90.000000	13.559703	90.127184	1.6570130	81.086099	99.813899	1.0065158
100.00000	13.469307	80.238597	1.7474490	91.102857	89.897141	99981473
110.00000	13.379476	70.628222	1.8372800	101.08610	79.913902	99314705
120.00000	13.292945	61.265948	1.9238110	111.03633	69.963665	986711383
130.00000	13.212266	52.119876	2.0045960	120.95508	59.044917	98070637
140.00000	13.137770	43.157578	2.0769860	130.84481	49.155184	97530053
150.00000	13.077511	34.346906	2.1392450	140.70887	39.291125	97065227
160.00000	13.027229	25.656322	2.1895270	150.55139	29.448604	96689816
170.00000	12.980304	17.055013	2.2261520	160.37716	19.622842	96413230
180.00000	12.967743	8.5127990	2.2490130	170.19148	9.8085219	96244384
	12.960155	.00000000	2.2566010	180.00000	.00000000	96187582
25000000	1.15091551	4.3323718E-02	13.508881	1.7021139	2.1491671E-02	1.17056933
10.000000	14.096214	180.00000	1.1705420	.00000000	180.00000	1.0434450
20.000000	14.087006	167.70456	1.1797500	10.213812	169.78619	1.0427711
30.000000	14.059690	155.52689	1.2070660	20.421153	159.57885	1.0407717
40.000000	14.015198	143.57091	1.2515580	30.615700	149.38430	1.0375130
50.000000	13.955040	131.91659	1.3117160	40.791544	139.20846	1.0331026
60.000000	13.881224	120.61556	1.3855320	50.943340	129.05666	1.0276043
70.000000	13.796202	109.69217	1.4705540	61.066461	119.93354	1.0214338
80.000000	13.702735	99.148010	1.5640210	71.157193	109.84281	1.0145510
90.000000	13.603814	88.967919	1.6629420	81.212763	99.787235	1.0075335
100.00000	13.502539	79.125650	1.7642170	91.231475	89.780524	99976097
110.00000	13.402020	69.588486	1.8647360	101.21276	79.787238	99232592
120.00000	13.305270	60.320619	1.9614860	111.15719	69.842805	98514896
130.00000	13.215129	51.285338	2.0516270	121.06646	59.933540	97845057
140.00000	13.134184	42.446288	2.1325720	130.94333	49.056664	97242602
150.00000	13.064715	33.768181	2.2020410	140.79153	39.208465	96724850
160.00000	13.008634	25.216924	2.2581220	150.61569	29.384307	96306399
170.00000	12.967470	16.759641	2.2992860	160.42113	19.578868	95998971
180.00000	12.942326	8.3643995	2.3244300	170.21380	9.7861937	95811067
	12.933866	.00000000	2.3328900	180.00000	.00000000	95747841

.30000000	.18109861	5.1988461E-02	13.543382	1.7064610	2.3512942E-02	.18661121
.00000000	14.188230	180.00000	1.1285260	.00000000	180.00000	1.0475784
10.000000	14.178089	167.44040	1.1386670	10.233921	169.76608	1.0468391
20.000000	14.148013	155.01912	1.1687710	20.460773	159.53923	1.0446455
30.000000	14.099040	142.85668	1.2177110	30.673612	149.32639	1.0410710
40.000000	14.032840	131.04304	1.2839160	40.865991	139.13401	1.0362340
50.000000	13.951653	119.63307	1.3651030	51.032066	128.96794	1.0302936
60.000000	13.858185	108.64903	1.4585710	61.166780	118.83322	1.0234436
70.000000	13.755496	98.087081	1.5612600	71.266044	108.73395	1.0159042
80.000000	13.646889	87.925204	1.6698670	81.326845	98.673154	1.0079143
90.000000	13.535775	78.130216	1.7809810	91.347315	88.652683	.99972342
100.00000	13.425563	68.663137	1.8911930	101.32684	78.673156	.99158255
110.00000	13.319557	59.482863	1.9971990	111.26604	68.733954	.98373681
120.00000	13.220862	50.548405	2.0958940	121.16677	58.833226	.97641794
130.00000	13.132289	41.820033	2.1844670	131.03206	48.967936	.96983856
140.00000	13.056313	33.259830	2.2604430	140.86598	39.134020	.96418639
150.00000	12.995010	24.831635	2.3217460	150.67360	29.326398	.95961994
160.00000	12.950026	16.500958	2.3667300	160.46075	19.539253	.95626595
170.00000	12.922556	8.2345386	2.3942000	170.23390	9.7660943	.95421638
180.00000	12.913318	.00000000	2.4034380	180.00000	.00000000	.95352702
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20.000000	14.232267	154.53813	1.1344890	20.497056	159.50294	1.0482002
30.000000	14.179127	142.18331	1.1876290	30.726667	149.27333	1.0443347
40.000000	14.107323	130.22426	1.2594330	40.934195	139.06581	1.0391053
50.000000	14.019295	118.71807	1.3474610	51.113352	128.88665	1.0326849
60.000000	13.918000	107.68379	1.4487560	61.258677	118.74132	1.0252840
70.000000	13.806776	97.111414	1.5599800	71.365761	108.63424	1.0171413
80.000000	13.689209	86.971694	1.6775470	81.431352	98.568646	1.0085163
90.000000	13.569005	77.224519	1.7977510	91.453438	88.546560	.99967822
100.00000	13.449856	67.824877	1.9169000	101.43135	78.568649	.99089830
110.00000	13.335328	58.726776	2.0314280	111.36576	68.634237	.98244081
120.00000	13.228760	49.885375	2.1379960	121.25867	58.741330	.97455491
130.00000	13.131178	41.258000	2.2335780	131.11335	48.886650	.96746896
140.00000	13.051230	32.804510	2.3155260	140.93419	39.065810	.96138395
150.00000	12.985136	24.487066	2.3816200	150.72665	29.273348	.95646931
160.00000	12.936654	16.269852	2.4301020	160.49704	19.502962	.95286059
170.00000	12.907051	8.1185840	2.4597050	170.25233	9.7476680	.95065570
180.00000	12.897101	.00000000	2.4696550	180.00000	.00000000	.94991414
.40000000	.24164681	6.9317948E-02	13.612383	1.7151551	2.7081506E-02	.21493323
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10.000000	14.348361	166.94848	1.0683950	10.269417	169.73058	1.0540403
20.000000	14.313313	154.07796	1.1034430	20.530711	159.46929	1.0515012
30.000000	14.256260	141.54211	1.1604960	30.775856	149.22414	1.0473648
40.000000	14.179187	129.44901	1.2375690	40.997436	139.00256	1.0417701
50.000000	14.084741	117.85697	1.3320150	51.188724	128.81128	1.0349030
60.000000	13.976108	106.78091	1.4406480	61.343893	118.65611	1.0269897
70.000000	13.856887	96.203992	1.5598690	71.458231	108.54177	1.0182867
80.000000	13.730938	86.089476	1.6858180	81.528262	98.447136	1.0090716
90.000000	13.602238	76.390361	1.8145180	91.551844	88.448154	.99963324
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120.00000	13.238369	49.280774	2.1783870	121.34389	58.656108	.97282688
130.00000	13.136266	40.746642	2.2804900	131.18872	48.811283	.96527266
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40.000000	14.248920	128.70949	1.2178360	41.056610	139.94339	1.0442653
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60.000000	14.032823	105.92961	1.4339330	61.423626	118.57637	1.0285848
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140.00000	13.048430	32.011368	2.4183260	141.05660	38.943397	.95636048
150.00000	12.973715	23.887955	2.4930410	150.82186	29.178160	.95082538
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170.00000	12.885515	7.9173864	2.5812410	170.28540	9.7146026	.94428150
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40.000000	14.316876	128.00004	1.1998800	41.112362	138.88764	1.0466182
50.000000	14.210563	116.26138	1.3061930	51.325701	128.67430	1.0389356
60.000000	14.088380	105.12197	1.4283760	61.498758	118.50124	1.0300873
70.000000	13.954409	94.549697	1.5623470	71.626280	108.37372	1.0203629
80.000000	13.813023	84.492316	1.7037330	81.704384	98.295615	1.0100739
90.000000	13.668705	74.889314	1.8480510	91.730687	88.269311	.99954385
100.00000	13.525891	65.679144	1.9908650	101.70438	78.295617	.98909622
110.00000	13.388847	56.803072	2.1279090	111.62628	68.373719	.97904492
120.00000	13.261532	48.206818	2.2552240	121.49875	58.501249	.96968448
130.00000	13.147508	39.840841	2.3692480	131.32570	48.674301	.96128289
140.00000	13.049876	31.660046	2.4668800	141.11235	38.887649	.95407543
150.00000	12.971221	23.622991	2.5455350	150.86524	29.134755	.94825952
160.00000	12.913574	15.691266	2.6031820	160.59183	19.408166	.94399175
170.00000	12.878399	7.8285602	2.6383570	170.30046	9.6995338	.94138530
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70.000000	14.187700	91.061799	1.5790560	71.979468	108.02053	1.06247052
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70.000000	14.411648	88.178996	1.6051080	72.271740	107.72826	1.0282770
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90.000000	14.001034	69.328249	2.0157220	92.417623	87.582375	.99910994
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130.00000	13.260782	36.626833	2.7559740	131.85178	48.148222	.94598408
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70.000000	14.629741	85.699710	1.6370150	72.524657	107.47544	1.0313505
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90.000000	14.167196	67.248899	2.0955600	92.686701	87.313297	.99890086
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1.7500000	1.0564085	.30326602	14.543904	1.8325264	5.4800994E-02	.43492983
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70.000000	15.054707	81.566244	1.7120690	72.951812	107.04819	1.0365108
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III. 4

2.0000000	1.2073240	.34658974	14.716407	1.8542617	5.8240351E-02	.46222640
.00000000	16.481372	180.00000	.53538400	.00000000	180.00000	1.1198725
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40.000000	16.298931	110.59024	.96782500	42.262419	137.73758	1.0955275
50.000000	16.053577	98.481746	1.2131790	52.696538	127.30347	1.0794054
60.000000	15.773870	87.803766	1.4928860	63.048786	116.95121	1.0609430
70.000000	15.469994	78.194931	1.7967620	73.308404	106.69159	1.0407849
80.000000	15.152504	69.389183	2.1142520	83.467438	96.532560	1.0196121
90.000000	14.831857	61.194964	2.4348990	93.520997	86.479002	.99811240
100.00000	14.517990	53.473530	2.7487660	103.46744	76.532563	.97695445
110.00000	14.220038	46.122288	3.0467180	113.30840	66.691595	.95676553
120.00000	13.946096	39.063142	3.3206600	123.04878	56.951215	.93811463
130.00000	13.703109	32.234516	3.5636470	132.69653	47.303465	.92150016
140.00000	13.496831	25.586021	3.7699250	142.26241	37.737590	.90734343
150.00000	13.331843	19.074747	3.9349130	151.75965	28.240345	.89598585
160.00000	13.211603	12.662789	4.0551530	161.20357	18.796431	.88768943
170.00000	13.138518	6.3154881	4.1282380	170.51099	9.3890079	.88263878
180.00000	13.114001	.00000000	4.1527550	180.00000	.00000000	.88094313
2.5000000	1.5091551	.43323718	15.061415	1.8977326	6.4364589E-02	.51083161
.00000000	17.063556	180.00000	.45320000	.00000000	180.00000	1.1328718
10.000000	17.030185	158.63374	.48657100	10.640376	169.35962	1.1307290
20.000000	16.931453	139.26739	.58529700	21.261418	158.73858	1.1243825
30.000000	16.771449	122.69487	.74530700	31.844228	148.15577	1.1140733
40.000000	16.556632	108.68857	.96012400	42.371162	137.62884	1.1001891
50.000000	16.295495	96.685832	1.2212610	52.826180	127.17382	1.0832428
60.000000	15.998022	86.161692	1.5187340	63.195400	116.80460	1.0638471
70.000000	15.675123	76.719491	1.8416330	73.467525	106.53247	1.0426825
80.000000	15.338076	68.078284	2.1786800	83.634226	96.365772	1.0204676
90.000000	14.998019	60.041216	2.5187370	93.690369	86.309630	.99792658
100.00000	14.665499	52.468460	2.8512570	103.63422	76.365775	.97576076
110.00000	14.350165	45.258032	3.1665910	113.46753	66.532473	.95462677
120.00000	14.060525	38.333048	3.4562310	123.19539	56.804606	.93511813
130.00000	13.803852	31.633237	3.7129040	132.82618	47.173822	.91775207
140.00000	13.586135	25.109421	3.9306210	142.37116	37.628843	.90296479
150.00000	13.412116	18.719764	4.1046400	151.84422	28.155782	.89110810
160.00000	13.285362	12.427271	4.2313940	161.26138	18.738613	.88245097
170.00000	13.208348	6.1980650	4.3084080	170.64033	9.3596667	.87718233
180.00000	13.182518	.00000000	4.3342380	180.00000	.00000000	.87541366
2.7500000	1.6600706	.47656089	15.233919	1.9194680	6.7122855E-02	.53272267
.00000000	17.348552	180.00000	.41820400	.00000000	180.00000	1.1387510
10.000000	17.313173	157.63912	.45358300	10.667827	169.33217	1.1365080
20.000000	17.208520	137.65614	.55823600	21.315473	158.68453	1.1298654
30.000000	17.038947	120.86520	.72780900	31.923287	148.07671	1.1190777
40.000000	16.811400	106.87833	.95535600	42.472838	137.52716	1.1045532
50.000000	16.534951	95.000150	1.2318050	52.947400	127.05260	1.0868323
60.000000	16.220256	84.635728	1.5465000	63.332486	116.66751	1.0665600
70.000000	15.878940	75.358005	1.8878160	73.616317	106.38368	1.0444513
80.000000	15.522985	66.874660	2.2437710	83.790191	96.209808	1.0212602
90.000000	15.164184	58.985654	2.6025720	93.848752	86.151247	.99774461
100.00000	14.813679	51.551264	2.9530770	103.79019	76.209810	.97463738
110.00000	14.481606	44.470791	3.2851500	113.61632	66.383681	.95262214
120.00000	14.176873	37.668896	3.5898830	123.33248	56.667520	.93231434
130.00000	13.907059	31.086784	3.8596970	132.94740	47.052601	.91424964
140.00000	13.678369	24.676582	4.0883870	142.47283	37.527172	.89887689
150.00000	13.495700	18.397528	4.2710560	151.92327	28.076731	.88655742
160.00000	13.362715	12.213536	4.4040410	161.31545	18.684549	.87756617
170.00000	13.281939	6.0914925	4.4848170	170.66781	9.3321877	.87209570
180.00000	13.254852	.00000000	4.5119040	180.00000	.00000000	.87025966
3.0000000	1.8109861	.51988461	15.406422	1.9412033	6.9713942E-02	.55328692
.00000000	17.630298	180.00000	.38645800	.00000000	180.00000	1.1442877
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20.000000	17.482519	136.05384	.53423700	21.366267	158.63373	1.1350275
30.000000	17.303622	119.08800	.71313400	31.997558	148.00244	1.1237875
40.000000	17.063667	105.15197	.95308900	42.568355	137.43165	1.1086581
50.000000	16.772304	93.413413	1.2444520	53.061278	126.93873	1.0902062
60.000000	16.440855	83.212254	1.5759010	63.461276	116.53872	1.0691069
70.000000	16.081633	74.095888	1.9351230	73.756113	106.24389	1.0461086
80.000000	15.707320	65.763741	2.3094360	83.936725	96.063274	1.0219987
90.000000	15.330351	58.014384	2.6864050	93.997554	86.002444	.99756707
100.00000	14.962424	50.709155	3.0543320	103.93672	76.063276	.97357600
110.00000	14.614160	43.749120	3.4025960	113.75611	66.243885	.95073453
120.00000	14.294854	37.060741	3.7219020	123.46127	56.538725	.92967913
130.00000	14.012359	30.586808	4.0043970	133.06127	46.938726	.91096147
140.00000	13.773099	24.280764	4.2436570	142.56835	37.431648	.89504238
150.00000	13.582102	18.102960	4.4346540	151.99755	28.002453	.88229140
160.00000	13.443123	12.018201	4.5736330	161.36625	18.633751	.87298908
170.00000	13.358732	5.9941567	4.6580240	170.69355	9.3064447	.86733096
180.00000	13.330438	.00000000	4.6863180	180.00000	.00000000	.86543221

3.2500000	1.9619016	.56320833	15.578926	1.9629388	7.2157725E-02	.57268208
.00000000	17.909239	180.00000	.35751700	.00000000	180.00000	1.1495220
10.000000	17.869978	155.59450	.35677800	10.717919	169.28208	1.1470944
20.000000	17.753880	134.45956	.51287600	21.414166	158.58583	1.1399065
30.000000	17.565867	117.36064	.70088900	32.067614	147.93239	1.1282373
40.000000	17.313784	103.50323	.95297200	42.658448	137.34155	1.1125343
50.000000	17.007852	91.916211	1.2589040	53.168701	126.83130	1.0933897
60.000000	16.660043	81.880058	1.6067130	63.582771	116.41723	1.0715073
70.000000	16.283364	72.921273	1.9833920	73.887979	106.11202	1.0476676
80.000000	15.891168	64.733798	2.3755880	84.074957	95.925042	1.0226892
90.000000	15.496512	57.116314	2.7702440	94.137929	85.862069	.99739333
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130.00000	14.119474	30.126720	4.1472820	133.16869	46.831307	.90786156
140.00000	13.869987	23.916700	4.3967690	142.65844	37.341555	.89143048
150.00000	13.670940	17.832106	4.5958160	152.06760	27.932397	.87827573
160.00000	13.526166	11.83636	4.7405900	161.41414	18.585857	.86868238
170.00000	13.438287	5.9046355	4.8284690	170.71791	9.2820882	.86284866
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.00000000	18.185736	180.00000	.33102000	.00000000	180.00000	1.1544865
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40.000000	17.562018	101.92675	.95473800	42.743725	137.25628	1.1162070
50.000000	17.241820	90.500604	1.2749360	53.270367	126.72964	1.0964037
60.000000	16.878003	80.629779	1.6387530	63.697758	116.30224	1.0737777
70.000000	16.484253	71.824340	2.0325030	74.012798	105.98720	1.0491393
80.000000	16.074588	63.775222	2.4421680	84.205797	95.794201	1.0233379
90.000000	15.662679	56.282411	2.8540770	94.270798	85.729200	.99722328
100.00000	15.261324	49.211482	3.2554320	104.20579	75.794210	.97161146
110.00000	14.882047	42.468043	3.6347090	114.01279	65.987206	.94725805
120.00000	14.534865	35.982585	3.9818910	123.69775	56.302248	.92483707
130.00000	14.228168	29.701244	4.2885880	133.27036	46.729636	.90492919
140.00000	13.968750	23.580152	4.5480060	142.74371	37.256289	.88801643
150.00000	13.761099	17.581792	4.7548570	152.13390	27.866101	.87448223
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170.00000	13.520252	5.8219726	4.9965040	170.74088	9.2591184	.85861726
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.00000000	18.460081	180.00000	.30667500	.00000000	180.00000	1.1592086
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40.000000	17.808602	100.41792	.95815400	42.824668	137.17533	1.1196967
50.000000	17.474396	89.159699	1.2923600	53.366877	126.63312	1.0992658
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70.000000	16.684402	70.796872	2.0823540	74.131280	105.86872	1.0505331
80.000000	16.257630	62.880022	2.5091260	84.329997	95.670001	1.0239490
90.000000	15.828843	55.505223	2.9379130	94.396929	85.603070	.99705698
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130.00000	14.338249	29.306089	4.4285070	133.36687	46.633127	.90214742
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.00000000	18.732521	180.00000	.28423500	.00000000	180.00000	1.1637109
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70.000000	16.883893	69.831862	2.1328630	74.244049	105.75595	1.0518564
80.000000	16.440338	62.041463	2.5764180	84.448210	95.551788	1.0245263
90.000000	15.995006	54.778505	3.0217500	94.516975	85.483023	.99689402
100.00000	15.561739	47.914688	3.4550170	104.44821	75.551791	.96982428
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120.00000	14.779230	35.052124	4.2375260	123.91079	56.089211	.92047121
130.00000	14.449565	28.937708	4.5671910	133.45871	46.541288	.89950106
140.00000	14.171057	22.976460	4.8456990	142.90168	37.098319	.88170330
150.00000	13.949207	17.132912	5.0675490	152.25672	27.743281	.86747307
160.00000	13.788045	11.375216	5.2287110	161.54345	18.456546	.85710597
170.00000	13.690300	5.6737184	5.3264560	170.78353	9.2164674	.85080640
180.00000	13.657548	.00000000	5.3592080	180.00000	.00000000	.84869342
4.2500000	2.5655636	.73650320	16.268941	2.0498804	8.0746687E-02	.64084865
.00000000	19.003249	180.00000	.26350700	.00000000	180.00000	1.1680132
10.000000	18.956637	151.23375	.31011900	10.803398	169.19660	1.1652654
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50.000000	17.935984	86.678826	1.3307720	53.546326	126.45368	1.1045900
60.000000	17.525854	77.296144	1.7409020	64.009883	115.99012	1.0799326
70.000000	17.082794	68.923317	2.1839620	74.351611	105.64839	1.0531160
80.000000	16.622748	61.253818	2.6440080	84.560974	95.439025	1.0250733
90.000000	16.161172	54.096990	3.1055840	94.631486	85.368512	.99673468
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120.00000	14.902751	34.631986	4.3640050	124.00988	55.990118	.91843936
130.00000	14.561982	28.593120	4.7047740	133.54632	46.453677	.89697828
140.00000	14.274253	22.704109	4.9925030	142.97515	37.024848	.87877230
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III. 6

4.5000000	2.7164791	.77982692	16.441446	2.0716159	8.2650625E-02	.65595931
.00000000	19.272451	180.00000	.24430500	.00000000	180.00000	1.1721322
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70.000000	17.281169	68.056052	2.2355870	74.454422	105.54558	1.0543172
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130.00000	14.675388	28.269831	4.8413680	133.63005	46.369950	.89456820
140.00000	14.378625	22.448638	5.1381310	143.04536	36.954638	.87597402
150.00000	14.142457	16.740556	5.4242990	152.36843	27.631572	.86111837
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170.00000	13.867090	5.5441567	5.6496660	170.82234	9.177628	.84373289
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4.7500000	2.8673946	.82315063	16.613950	2.0933514	8.4473450E-02	.67042622
.00000000	19.540273	180.00000	.22648200	.00000000	180.00000	1.1760825
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40.000000	18.781711	94.982773	.98504500	43.112606	136.88739	1.1321389
50.000000	18.393597	84.433474	1.3731590	53.710227	126.28978	1.1094553
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70.000000	17.479065	67.255546	2.2876910	74.552874	105.54471	1.0554648
80.000000	16.966789	59.812308	2.7799670	84.771954	95.228044	1.0260867
90.000000	16.493501	52.852152	3.2732550	94.945750	85.154249	.99642568
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120.00000	15.152033	33.866697	4.6147230	124.19528	55.804720	.91463569
130.00000	14.789689	27.965691	4.9770670	133.71022	46.289776	.89226158
140.00000	14.484064	22.208333	5.2826920	143.11259	36.887407	.87329748
150.00000	14.240948	16.561954	5.5258080	152.42069	27.579307	.85815192
160.00000	14.064524	10.996884	5.7022320	161.65557	18.344424	.84712800
170.00000	13.957605	5.4852318	5.8091510	170.84042	9.1595784	.84043354
180.00000	13.921790	.00000000	5.8449660	180.00000	.00000000	.83818873
5.0000000	3.0183101	.86647435	16.786453	2.1150867	8.6221472E-02	.68429946
.00000000	19.806836	180.00000	.20992000	.00000000	180.00000	1.1798769
10.000000	19.754962	147.68444	.26179400	10.857867	169.14213	1.1769216
20.000000	19.601683	123.52987	.41507300	21.689869	158.31013	1.1681757
30.000000	19.353848	106.53307	.66290800	32.470833	147.52917	1.1539908
40.000000	19.022308	93.757875	.99444800	43.177084	136.82292	1.1349311
50.000000	18.621141	83.388840	1.3956150	53.787114	126.21289	1.1117386
60.000000	18.166690	74.470012	1.8500660	64.282256	115.71774	1.0852933
70.000000	17.676529	66.487834	2.3402270	74.647291	105.35271	1.0565636
80.000000	17.168466	59.150479	2.8482900	84.870938	95.129060	1.0265577
90.000000	16.659665	52.281592	3.3570910	94.946269	85.053729	.99627608
100.00000	16.165942	45.767852	3.8508140	104.87094	75.129063	.96666911
110.00000	15.701298	39.531744	4.3154580	114.64729	65.352707	.93860595
120.00000	15.277654	33.516745	4.7391020	124.28225	55.717745	.91285059
130.00000	14.904799	27.678869	5.1119570	133.78711	46.212891	.89005051
140.00000	14.590468	21.981734	5.4262880	143.17707	36.822926	.87073330
150.00000	14.340529	16.393547	5.6762270	152.47082	27.529178	.85531116
160.00000	14.159215	10.885310	5.8575410	161.68984	18.310156	.84408911
170.00000	14.049351	5.4296358	5.9674050	170.85783	9.1421720	.83727556
180.00000	14.012557	.00000000	6.0041990	180.00000	.00000000	.83499118

TABLE IV

$$D_1^2 + B_4^9 \rightarrow N_0^1 + B_5^{10}$$

$$2.0147400 + 9.0150430 \rightarrow 1.0089861 + 10.016114$$

$$Q = 4.3606316 \text{ MeV.}$$

$$E_{\text{THR}} = 5.3356801 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_0	E_{1CM}	E_{2CM}	E_{3CM}	E_{4CM}	P_3	P_4
1.0000000	6.6803876E-02	1.4929762E-02	4.0358125	4.0655274	2.0352224E-02	2.20203469
10.0000000	4.2017875	180.000000	25884410	700000000	180.000000	1.0411185
20.0000000	4.1991891	167.23998	26144250	10.202464	169.79754	1.0404814
30.0000000	4.1914827	154.63635	26914890	20.398835	159.60117	1.0385910
40.0000000	4.1789303	142.32376	28170130	30.583059	149.41694	1.0355099
50.0000000	4.1619533	130.39989	29867830	40.749576	139.25043	1.0313388
60.0000000	4.1411180	118.92103	31951360	50.893317	129.10668	1.0262137
70.0000000	4.1171109	107.90605	34352070	61.009916	118.99008	1.0203003
80.0000000	4.0907105	97.345169	36992110	71.095835	108.90416	1.0137871
90.0000000	4.0627599	87.209586	39787170	81.148454	98.851544	1.0068797
100.000000	4.0341329	77.459683	42649870	91.166175	88.833824	.99979289
110.000000	4.0057072	68.051000	45492440	101.14845	78.851547	.99274346
120.000000	3.9783370	58.938089	48229460	111.09584	68.904163	.98594384
130.000000	3.9528267	50.076696	50780490	121.70991	58.990085	.97959609
140.000000	3.9299109	41.424765	53072070	130.39332	49.106683	.97388536
150.000000	3.9102373	32.947798	55039430	140.44956	39.250434	.96897614
160.000000	3.8943518	24.593662	56627980	150.18305	29.416948	.96500784
170.000000	3.8826886	16.342308	57794300	160.39881	19.601190	.96209192
180.000000	3.8755635	8.1552499	58506810	170.20244	9.7975612	.96030946
	3.8731673	.00000000	58746430	180.00000	.00000000	.95970982
1.5000000	1.0020581	2.2394643E-02	4.0729393	4.1029275	2.4812411E-02	2.24631057
10.0000000	4.2775977	180.00000	23303390	.00000000	180.00000	1.0502403
20.0000000	4.2743735	166.44319	23625810	10.246856	169.75315	1.0494585
30.0000000	4.2648127	153.11984	24581890	20.486248	159.51375	1.0471396
40.0000000	4.2492459	140.22192	26138570	30.710846	149.28916	1.0433609
50.0000000	4.2282089	127.87496	28242270	40.913856	139.08615	1.0382488
60.0000000	4.2024155	116.13571	30821610	51.089110	128.91089	1.0319717
70.0000000	4.1727311	105.00540	33790050	61.231272	118.76873	1.0247353
80.0000000	4.1401306	94.448530	37050100	71.336031	108.66397	1.0167727
90.0000000	4.1056652	84.409753	40496640	81.400189	98.599809	1.0083371
100.000000	4.0704196	74.826008	44021200	91.421794	88.599206	.99969206
110.000000	4.0354763	65.633909	47515530	101.40018	78.599818	.99110278
120.000000	4.0018822	56.773500	50874940	111.33603	68.663973	.98282745
130.000000	3.9706166	48.189821	54001500	121.23127	58.768728	.97511060
140.000000	3.9425692	39.833111	56806240	131.08911	48.910892	.96817554
150.000000	3.9185188	31.658344	59211280	140.91385	39.086150	.96221927
160.000000	3.8991190	23.624477	61151260	150.71083	29.289173	.95740849
170.000000	3.8848871	15.693606	62574450	160.48621	19.513785	.95387555
180.000000	3.8761971	7.8301639	63443450	170.24682	9.7531799	.95171689
	3.8732751	.00000000	63735650	180.00000	.00000000	.95099083
2.0000000	1.3360775	2.9859524E-02	4.1100660	4.1403276	2.8521209E-02	2.28312747
10.0000000	4.3478935	180.00000	21273810	.00000000	180.00000	1.0578556
20.0000000	4.3441268	165.70850	21650480	10.283746	169.71625	1.0569522
30.0000000	4.3329586	151.73625	22767300	20.558923	159.44108	1.0542728
40.0000000	4.3147835	138.33401	24584810	30.817097	149.18290	1.0499085
50.0000000	4.2902373	125.64820	27039430	41.050467	138.94553	1.0440061
60.0000000	4.2601662	113.72556	30046540	51.251931	128.74807	1.0367633
70.0000000	4.2255913	102.54083	33504030	61.415347	118.58465	1.0284194
80.0000000	4.1876629	92.027863	37296870	71.535775	108.46422	1.0192454
90.0000000	4.1476121	82.103816	41301950	81.609531	98.390468	1.0095351
100.000000	4.1067067	72.683794	45392490	91.634367	88.365631	.99959314
110.000000	4.0662049	63.688310	49442670	101.60953	78.390470	.98972473
120.000000	4.0273153	55.046127	53331630	111.52578	68.464223	.98022628
130.000000	3.9911661	46.694607	56946550	121.41534	58.584654	.97137720
140.000000	3.9587748	38.578864	60185680	131.25192	48.748075	.96343126
150.000000	3.9310271	30.650560	62960450	141.05046	38.949539	.95661236
160.000000	3.9086638	22.866493	65196780	150.81709	29.182912	.95110836
170.000000	3.8922689	15.187405	66836270	160.55889	19.441106	.94706846
180.000000	3.8822630	7.5768146	67836860	170.28373	9.7162699	.94460090
	3.8788991	.00000000	68173250	180.00000	.00000000	.94377105
2.5000000	1.6700969	3.7324405E-02	4.1471928	4.1777278	3.1744627E-02	3.31512605
10.0000000	4.4147128	180.00000	19591880	.00000000	180.00000	1.0644968
20.0000000	4.4104561	165.00852	20017550	10.315811	169.68419	1.0634867
30.0000000	4.3978376	150.43209	21279400	20.622089	159.37791	1.0604912
40.0000000	4.3773109	136.58154	23332070	30.909458	149.09054	1.0556132
50.0000000	4.3496018	123.61686	26102980	41.169205	138.83080	1.0490188
60.0000000	4.3156813	111.56484	29495030	51.393446	128.60655	1.0409307
70.0000000	4.2767129	100.36649	33391870	61.575351	118.42465	1.0316185
80.0000000	4.2340050	89.922197	37662660	71.709393	108.29061	1.0213873
90.0000000	4.1889547	80.121892	42167690	81.791491	98.208508	1.0105663
100.000000	4.1429936	70.860888	46763800	91.819140	88.180858	.99949607
110.000000	4.0975371	62.046213	51309450	101.79149	78.208511	.98851688
120.000000	4.0539382	53.597832	55669340	111.70939	68.290605	.97795839
130.000000	4.0134557	45.447558	59717590	121.57534	58.424656	.96812946
140.000000	3.9772157	37.537121	63341590	131.39344	48.605560	.95931067
150.000000	3.9461993	29.816173	66443230	141.16920	38.830800	.95174776
160.000000	3.9212198	22.240405	68941180	150.90944	29.090563	.94564667
170.000000	3.9029171	14.769939	70771450	160.62208	19.377920	.94117060
180.000000	3.8917512	7.3681061	71888040	170.31577	9.6842244	.93843742
	3.8879984	.00000000	72263320	180.00000	.00000000	.93751856

IV. 2

.30000000	.20041163	4.4789286E-02	4.1843197	.42151280	3.4619877E-02	.34366840
.00000000	4.4790973	180.00000	.18153430	.00000000	180.00000	1.0704381
10.000000	4.4743871	164.32926	.18624450	10.344424	169.65558	1.0693320
20.000000	4.4604278	149.18040	.20020380	20.678438	159.32156	1.0660522
30.000000	4.4377277	134.92515	.22290390	30.991835	149.00817	1.0607125
40.000000	4.4071000	121.72882	.25353160	41.275120	138.72488	1.0534964
50.000000	4.3696292	109.58877	.29100240	51.519682	128.48032	1.0446499
60.000000	4.3266151	98.406516	.33401650	61.718075	118.28192	1.0344699
70.000000	4.2795131	88.047365	.38111850	71.864275	108.13572	1.0232922
80.000000	4.2298738	78.375155	.43075780	81.953815	98.046183	1.0114779
90.000000	4.1792807	69.267579	.48135090	91.983969	88.016030	.99940061
100.00000	4.1292926	60.620471	.53133900	101.95381	78.046186	.98743148
110.00000	4.0813955	52.347006	.57923610	111.86427	68.135729	.97592950
120.00000	4.0369638	44.375017	.62366780	121.71807	58.281926	.96523028
130.00000	3.9972237	36.644044	.66340790	131.51968	48.480314	.95563727
140.00000	3.9632385	29.102626	.69739310	141.27511	38.724888	.94741516
150.00000	3.9358858	21.705943	.72474580	150.99182	29.008183	.94078585
160.00000	3.9158541	14.414020	.74477750	160.67842	19.321575	.93592416
170.00000	3.9036382	7.1902594	.75699340	170.34439	9.6556052	.93295654
180.00000	3.8995333	.00000000	.76109830	180.00000	.00000000	.93195880
.35000000	.23381357	5.2254167E-02	4.2214465	.42525282	3.7228943E-02	.36956837
.00000000	4.5416601	180.00000	.16897150	.00000000	180.00000	1.0758436
10.000000	4.5365247	163.66252	.17410690	10.370373	169.62963	1.0746497
20.000000	4.5213069	147.96553	.18932470	20.729574	159.27043	1.0711101
30.000000	4.4965665	133.34195	.21406510	31.066594	148.93341	1.0653485
40.000000	4.4632017	119.95340	.24742990	41.371235	138.62877	1.0575650
50.000000	4.4224059	107.75861	.28822570	51.634241	128.36576	1.0480264
60.000000	4.3756055	96.615026	.33502610	61.847603	118.15240	1.0370555
70.000000	4.3243976	86.352326	.38623400	72.004827	107.99517	1.0250159
80.000000	4.2704760	76.809829	.44015560	82.101123	97.898876	1.0122986
90.000000	4.2155678	67.849760	.49506380	92.133557	87.866442	.99930675
100.00000	4.1613650	59.358812	.54926660	102.10112	77.898878	.98643992
110.00000	4.1094774	51.244934	.60115420	112.00483	67.995171	.97408400
120.00000	4.0613833	43.433238	.64924830	121.84759	58.152409	.96259778
130.00000	4.0184039	35.861894	.69222770	131.63424	48.365763	.95230544
140.00000	3.9816734	28.478921	.72895820	141.37122	38.628775	.94348909
150.00000	3.9521293	21.239435	.75850230	151.00658	28.933418	.93638391
160.00000	3.9305033	14.103665	.78012830	160.77954	19.270456	.93117525
170.00000	3.9173185	7.0352554	.79331310	170.37038	9.6296215	.92799659
180.00000	3.9128887	.00000000	.79774290	180.00000	.00000000	.92692812
.40000000	.26721550	5.9719048E-02	4.2585733	.42899283	3.9625546E-02	.39335923
.00000000	4.6028008	180.00000	.15783080	.00000000	180.00000	1.0808210
10.000000	4.5972613	163.00278	.16337030	10.394244	169.60576	1.0795460
20.000000	4.5808490	146.77754	.17978260	20.776537	159.22347	1.0757662
30.000000	4.5541737	131.81753	.20645790	31.135258	148.86474	1.0696147
40.000000	4.5182132	118.27082	.24241840	41.459527	138.54047	1.0613069
50.000000	4.4742665	106.04891	.28636510	51.739476	128.26052	1.0511296
60.000000	4.4238835	94.961556	.33674810	61.966584	118.03341	1.0394291
70.000000	4.3687939	84.803100	.39183770	72.133943	107.86606	1.0265955
80.000000	4.3108311	75.390194	.44980050	82.236450	97.763549	1.0130472
90.000000	4.2518551	66.571703	.50877650	92.270969	87.729029	.99921451
100.00000	4.1936851	58.226865	.56694650	102.23645	77.763551	.98552387
110.00000	4.1380453	50.259793	.62258630	112.13394	67.866055	.97238485
120.00000	4.0865156	42.593735	.67411600	121.96658	58.033417	.96017827
130.00000	4.0404988	35.166181	.72013280	131.73947	48.260528	.94924660
140.00000	4.0011989	27.925029	.75943270	141.45952	38.540476	.93988744
150.00000	3.9696052	20.825631	.79102640	151.13526	28.864743	.93234808
160.00000	3.9464890	13.828579	.81414260	160.77651	19.223490	.92682310
170.00000	3.9323997	6.8979455	.82823190	170.39422	9.6057750	.92345203
180.00000	3.9276672	.00000000	.83296440	180.00000	.00000000	.92231910
.45000000	.30061744	6.7183929E-02	4.2957001	.43273285	4.1847221E-02	.41541360
.00000000	4.6627946	180.00000	.14783700	.00000000	180.00000	1.0854453
10.000000	4.6568686	162.34636	.15376300	10.416337	169.58367	1.0840947
20.000000	4.6393128	145.60970	.17131880	20.820078	159.17992	1.0800907
30.000000	4.6107861	130.34213	.19984550	31.198920	148.80108	1.0735760
40.000000	4.5723457	116.66746	.23828590	41.541378	138.45862	1.0647795
50.000000	4.5253891	104.44172	.28524250	51.837037	128.16297	1.0540075
60.000000	4.4715873	93.424448	.33904430	62.076895	117.92310	1.0416282
70.000000	4.4127981	83.375553	.39783350	72.253651	107.74635	1.0280565
80.000000	4.3509867	74.091001	.45964490	82.361910	97.638088	1.0137364
90.000000	4.2881422	65.408238	.52248940	92.398372	87.601627	.99912397
100.00000	4.2262051	57.200605	.58442650	102.36191	77.638091	.98466979
110.00000	4.1670073	49.369404	.64362430	112.25365	67.746353	.97080624
120.00000	4.1122227	41.836782	.69840890	122.07689	57.923111	.95793383
130.00000	4.0633327	34.539993	.74729890	131.83703	48.162964	.94641218
140.00000	4.0216043	27.427163	.78902730	141.54137	38.458629	.93655242
150.00000	3.9880749	20.454046	.82255670	151.19890	28.801099	.92861320
160.00000	3.9635530	13.581702	.84707860	160.82006	19.179940	.92279704
170.00000	3.9486113	6.7747716	.86202030	170.41632	9.5836760	.91924899
180.00000	3.9435927	.00000000	.86703890	180.00000	.00000000	.91805670
.50000000	.33401938	7.4648810E-02	4.3328268	.43647285	4.3921449E-02	.43600427
.00000000	4.7218403	180.00000	.13879130	.00000000	180.00000	1.0897717
10.000000	4.7155417	161.69039	.14508990	10.436972	169.56303	1.0883501
20.000000	4.6968854	144.45730	.16374620	20.860737	159.13926	1.0841358
30.000000	4.6665772	128.90896	.19405440	31.258357	148.74164	1.0772798
40.000000	4.6257501	115.13345	.23488150	41.617799	138.38220	1.0680251
50.000000	4.5759011	102.92377	.28473050	51.928124	128.07188	1.0566953
60.000000	4.5188160	91.987596	.34181560	62.179884	117.82011	1.0436802
70.000000	4.4564772	82.051740	.40415440	72.365412	107.63459	1.0294176
80.000000	4.3909769	72.893548	.46965470	82.479057	97.520941	1.0143758
90.000000	4.3244292	64.340863	.53620240	92.517324	87.482675	.99903491
100.00000	4.2588899	56.262419	.60174170	102.47905	77.520950	.98386842
110.00000	4.1962941	48.557602	.66433750	112.36542	67.634580	.96932957
120.00000	4.1384046	41.148034	.72222700	122.17988	57.820117	.95583754
130.00000	4.0867768	33.971099	.77385480	131.92812	48.071876	.94376696
140.00000	4.0427363	26.975355	.81789530	141.61778	38.382214	.93344222
150.00000	4.0073666	20.117096	.85326500	151.25834	28.741660	.92513173
160.00000	3.9815082	13.357970	.87912340	160.86071	19.139289	.91904539
170.00000	3.9657560	6.6631640	.89487560	170.43697	9.5630266	.91533348
180.00000	3.9604662	.00000000	.90016540	180.00000	.00000000	.91408619

.75000000	.50102907	.11197322	.5184609	.45517254	.5.2675993E-02	.52290984
.00000000	5.0070766	180.00000	.10355500	.00000000	180.00000	1.1081266
10.000000	4.9990677	158.35531	.11156390	10.524068	169.47593	1.1064006
20.000000	4.9753560	138.83506	.12527560	21.032315	158.96769	1.1012865
30.000000	4.9368738	122.24117	.17375780	31.509230	148.49077	1.0929721
40.000000	4.8851105	108.29173	.22552110	41.940379	138.05963	1.0817599
50.000000	4.8220282	96.376945	.28860340	52.312634	127.68736	1.0680516
60.000000	4.7499513	85.945612	.36068030	62.614668	117.38533	1.0523291
70.000000	4.6714438	76.588776	.43918780	72.837249	107.16275	1.0351315
80.000000	4.5891879	68.020290	.52144370	82.973594	97.026404	1.0170313
90.000000	4.5058646	60.041445	.60476700	93.019510	86.980489	.99861161
100.00000	4.4240543	52.512143	.68657730	102.97359	77.026407	.98044303
110.00000	4.3461538	45.330968	.76447780	112.83725	67.162749	.96306666
120.00000	4.2743206	38.422064	.83631100	122.61466	57.385339	.94697738
130.00000	4.2104303	31.726527	.90020130	132.31263	47.687364	.93261398
140.00000	4.1560604	25.196801	.95457120	141.94037	38.059633	.92035148
150.00000	4.1124843	18.792843	.99814730	151.50921	28.490791	.91049740
160.00000	4.0806755	12.479607	1.0299561	161.03230	18.967699	.90328975
170.00000	4.0613200	6.2253189	1.0493116	170.52406	9.4759428	.89889794
180.00000	4.0548234	.00000000	1.0558082	180.00000	.00000000	.89742277
1.0000000	.66803876	.14929762	.4.7040949	.47387302	.5.9612770E-02	.59177061
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30.000000	5.1979782	116.23018	.16265340	31.708038	148.29196	1.1054742
40.000000	5.1363346	102.51425	.22429700	42.196017	137.80398	1.0926843
50.000000	5.0613238	91.107716	.29930780	52.617385	127.38261	1.0770630
60.000000	4.9757686	81.246379	.38486300	62.959273	117.04073	1.0591686
70.000000	4.8827719	72.441914	.47785970	73.211253	106.78875	1.0396235
80.000000	4.7855500	64.384712	.57508160	83.365606	96.634392	1.0190857
90.000000	4.6872999	56.873794	.67333170	93.417589	86.582409	.99822148
100.00000	4.5910664	49.773976	.76956520	103.36560	76.634395	.97767924
110.00000	4.4996536	42.990604	.86097800	113.21125	66.788745	.95806859
120.00000	4.4155546	36.454333	.94507700	122.95927	57.040728	.93994329
130.00000	4.3409164	30.111950	1.0197152	132.61738	47.382619	.92378975
140.00000	4.2775211	23.920652	1.0831105	142.19600	37.803996	.91002035
150.00000	4.2267939	17.844315	1.1338377	151.70802	28.291974	.89896970
160.00000	4.1898123	11.851197	1.1708193	161.16826	18.831742	.89089540
170.00000	4.1673282	5.9122427	1.1933034	170.59310	9.4068956	.88597886
180.00000	4.1597846	.00000000	1.2008470	180.00000	.00000000	.88432803
1.2500000	.83504845	.18662203	.4.8897289	.49257310	.6.5371726E-02	.64893925
.00000000	5.5499750	180.00000	6.0656600E-02	.00000000	180.00000	1.1350167
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70.000000	5.0919105	69.146386	.51872110	73.521853	106.47815	1.0433289
80.000000	4.9808009	61.527417	.62983070	83.691172	96.308826	1.0207578
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120.00000	4.5599857	34.937813	1.0506459	123.24553	56.754553	.93409451
130.00000	4.4755086	28.869959	1.1351230	132.87044	47.129561	.91647294
140.00000	4.4038718	22.940283	1.2067598	142.40828	37.591721	.90147143
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170.00000	4.2796099	5.6721894	1.3310217	170.65039	9.3496113	.87532327
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70.000000	5.2995829	66.448368	.56104870	73.787161	106.21284	1.0464759
80.000000	5.1753070	59.205368	.68532460	83.969275	96.030724	1.0221616
90.000000	5.0501708	52.405542	.81046080	94.030603	85.969396	.99752657
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130.00000	4.6128528	27.873924	1.2477788	133.08656	46.913435	.91023136
140.00000	4.5334978	22.154631	1.3271338	142.58956	37.410437	.89419146
150.00000	4.4701588	16.533161	1.3904728	152.01404	27.985958	.88134522
160.00000	4.4240732	10.983154	1.4365584	161.37752	18.622481	.88197411
170.00000	4.3960922	5.4800053	1.4645394	170.69928	9.3007151	.86627448
180.00000	4.3867112	.00000000	1.4739204	180.00000	.00000000	.86436191
1.7500000	1.1690678	.26127084	5.2609969	.52997326	.7.4569691E-02	.74024662
.00000000	6.0749191	180.00000	3.5712500E-02	.00000000	180.00000	1.1546998
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30.000000	5.9546717	101.32503	.15595990	32.136761	147.86324	1.1326363
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70.000000	5.5062035	64.191321	.60442810	74.018149	105.98185	1.0492026
80.000000	5.3692782	57.272539	.74135340	84.211412	95.788586	1.0233657
90.000000	5.2316063	50.748040	.87902530	94.276499	85.723500	.99721506
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120.00000	4.8546701	32.714703	1.2559615	123.70268	56.297315	.92473595
130.00000	4.7521689	27.051739	1.3584627	133.27472	46.725276	.90480348
140.00000	4.6654713	21.506361	1.4451603	142.74737	37.252628	.88787005
150.00000	4.5963407	16.052103	1.5142909	152.13674	27.863259	.87431959
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IV. 4

2.0000000	1.3360775	.29859524	5.4466310	.54867335	7.8348083E-02	.77775438
.00000000	6.3335735	180.00000	2.7058100E-02	.00000000	180.00000	1.1628344
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80.000000	5.5628487	55.633966	.79778290	84.425212	95.574787	1.0244144
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2.2500000	1.5030872	.33591965	5.6322650	.56737342	8.1719756E-02	.81122467
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130.00000	5.0349077	25.763874	1.5757239	133.58911	46.410888	.89574649
140.00000	4.9343043	20.491126	1.6763273	143.01103	36.988964	.87734184
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70.000000	6.1219848	59.172286	.73864680	74.568068	105.43193	1.0556419
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90.000000	5.7759124	47.094003	1.0847192	94.861924	85.138074	.99640179
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60.000000	6.5042826	64.201537	.60634900	64.346198	115.65380	1.0865504
70.000000	6.3263191	57.901563	.78431250	74.716705	105.28329	1.0573700
80.000000	6.1419288	51.918318	.96870280	84.943715	95.056283	1.0269020
90.000000	5.9573475	46.173383	1.1532841	95.020175	84.979823	.99616386
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130.00000	5.3213659	24.793420	1.7892657	133.84364	46.156357	.88842542
140.00000	5.2075623	19.726094	1.9030693	143.22447	36.775526	.86884973
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170.00000	5.0117392	4.8861653	2.0988924	170.87064	9.1293606	.83495771
180.00000	4.9984274	.00000000	2.1122042	180.00000	.00000000	.83264433
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.00000000	7.3535973	180.00000	7.0343000E-03	.00000000	180.00000	1.1881356
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40.000000	7.0499707	76.396262	.31066090	43.317070	136.68293	1.1410006
50.000000	6.8949044	69.323092	.46572720	53.954062	126.04594	1.1166983
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70.000000	6.5303257	56.773752	.83030590	74.852313	105.14769	1.0589420
80.000000	6.3345717	50.961282	1.0260599	85.085883	94.914115	1.0275704
90.000000	6.1878227	45.357121	1.2218489	95.164555	84.835444	.99594023
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130.00000	5.4655800	24.390994	1.8950516	133.95406	46.045943	.88525272
140.00000	5.3453643	19.408805	2.0152673	143.31706	36.682936	.86517439
150.00000	5.2498591	14.495660	2.1077725	152.57964	27.420362	.84915687
160.00000	5.1806253	9.6346361	2.1800063	161.76424	18.235757	.83750891
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3.2500000	2.1711260	.48521727	6.3743011	.64217375	9.2317861E-02	.91643111
.00000000	7.6061685	180.00000	4.4631000E-03	.00000000	180.00000	1.1931581
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30.000000	7.4201836	82.146421	.19044800	32.645657	147.35434	1.1652318
40.000000	7.2842410	74.552129	32639060	43.401976	136.59803	1.1446867
50.000000	7.1199556	67.858137	49067600	54.055320	125.94468	1.1197076
60.000000	6.9341320	61.654190	67649960	64.585665	115.41433	1.0912539
70.000000	6.7340572	55.765595	87657440	74.976685	105.02331	1.0603798
80.000000	6.5270756	50.106126	1.0835560	85.216266	94.783733	1.0281780
90.000000	6.3202181	44.627860	1.2904135	95.296965	84.703033	.99572953
100.00000	6.1199170	39.300823	1.4907146	105.21626	74.783735	.96405503
110.00000	5.9318122	34.103663	1.6788194	114.97669	65.023313	.93408153
120.00000	5.7606581	29.019064	1.8499735	124.58566	55.414336	.90661851
130.00000	5.6103110	24.031335	2.0003206	134.05531	45.944684	.88234473
140.00000	5.4837776	19.125199	2.1268540	143.40197	36.598029	.86180866
150.00000	5.3833113	14.285160	2.2273203	152.64565	27.354352	.84543364
160.00000	5.3105119	9.4952887	2.3001197	161.80937	18.190631	.83352989
170.00000	5.2664361	4.7391774	2.3441955	170.91849	9.0815129	.82630746
180.00000	5.2516794	.00000000	2.3589522	180.00000	.00000000	.82388671
3.5000000	2.3381357	.52254167	6.5604351	.66087383	9.4437623E-02	.93747379
.00000000	7.8580654	180.00000	2.5662000E-03	.00000000	180.00000	1.1977935
10.000000	7.8355419	103.15503	2.5089700E-02	10.939600	169.06040	1.1945218
20.000000	7.7690207	88.565794	9.1610900E-02	21.850944	158.14906	1.1848420
30.000000	7.6615594	79.923075	.19907220	32.706450	147.29355	1.1691513
40.000000	7.5179915	72.886833	34264010	43.480187	136.51981	1.1480857
50.000000	7.3445694	66.538271	.51606220	54.148597	125.85141	1.1224808
60.000000	7.1485150	60.571638	.71211660	64.691193	115.30881	1.0933245
70.000000	6.9375546	54.858720	.92307700	75.091253	104.90875	1.0617009
80.000000	6.7194604	49.337017	1.1411712	85.336386	94.663612	1.0287336
90.000000	6.5016534	43.971988	1.3589782	95.418954	84.581045	.99553071
100.00000	6.2909077	38.741745	1.5697239	105.33638	74.663615	.96313808
110.00000	6.0931407	33.630113	1.7674909	115.09125	64.908745	.93250287
120.00000	5.9133259	28.623209	1.9473057	124.69119	55.308808	.90444943
130.00000	5.7554774	23.707701	2.1051542	134.14859	45.851406	.87966771
140.00000	5.6227108	18.869971	2.2379208	143.48017	36.519826	.85871224
150.00000	5.5173495	14.095705	2.3432821	152.70643	27.293567	.84201003
160.00000	5.4410335	9.3698614	2.4195981	161.35092	18.149074	.82987283
170.00000	5.3948405	4.6767149	2.4657911	170.03958	9.0604223	.82251043
180.00000	5.3793784	.00000000	2.4812532	180.00000	.00000000	.82004323
3.7500000	2.5051454	.55986608	6.7460691	.67957391	9.6397908E-02	.95693337
.00000000	8.1093833	180.00000	1.2483000E-03	.00000000	180.00000	1.2020882
10.000000	8.0856583	97.441105	2.4973300E-02	10.959156	169.04085	1.1987400
20.000000	8.0155932	85.547842	9.5018000E-02	21.889387	158.11062	1.1888349
30.000000	7.9024328	77.900070	.20819880	32.762675	147.27373	1.1727812
40.000000	7.7512980	71.376865	.35933360	43.552516	136.44748	1.1512319
50.000000	7.5688087	65.343253	.54182290	54.234865	125.76514	1.1250462
60.000000	7.3626069	59.592120	.74802470	64.788796	115.21120	1.0952382
70.000000	7.1408527	54.038361	.96977890	75.197222	104.80278	1.0629202
80.000000	6.9117425	48.641308	1.1988891	85.447483	94.552516	1.0292435
90.000000	6.6830895	43.378659	1.4275421	95.531781	84.468218	.99534283
100.00000	6.4619994	38.235908	1.6486322	105.44748	74.663615	.96228638
110.00000	6.2546699	33.201583	1.8559617	115.19722	64.802776	.93104024
120.00000	6.0662862	28.264927	2.0443454	124.78879	55.211211	.90244256
130.00000	5.9010185	23.414737	2.2096131	134.23486	45.765142	.87719296
140.00000	5.7620906	18.638886	2.3485410	143.55251	36.447490	.85585191
150.00000	5.6518900	13.924152	2.4587416	152.76266	27.237342	.83884928
160.00000	5.5720986	9.2562771	2.5385330	161.88936	18.110640	.82649748
170.00000	5.5238151	4.6201369	2.5868165	170.95910	9.0408959	.81900667
180.00000	5.5076547	.00000000	2.6029769	180.00000	.00000000	.81649673
4.0000000	2.6721550	.59719048	6.9317030	.69827397	9.8217162E-02	.97499294
.00000000	8.3602015	180.00000	4.3010000E-04	.00000000	180.00000	1.2060808
10.000000	8.3352823	92.018169	2.5349300E-02	10.977222	169.02278	1.2026616
20.000000	8.2616965	82.777448	9.8935100E-02	21.925056	158.07494	1.1925463
30.000000	8.1428720	76.054814	.21775960	32.814846	147.18515	1.1761541
40.000000	7.9842194	70.002471	.37641220	43.619651	136.38035	1.1541546
50.000000	7.7927246	64.256432	.56790700	54.314939	125.68506	1.1274281
60.000000	7.5764462	58.701561	.78418540	64.879386	115.12061	1.0970135
70.000000	7.3439786	53.292538	1.0166530	75.295587	104.70441	1.0640495
80.000000	7.1039382	48.008760	1.2566934	85.550609	94.449389	1.0297136
90.000000	6.8645247	42.839108	1.4961069	95.636517	84.363481	.99516506
100.00000	6.6331736	37.775835	1.7274520	105.55061	74.449392	.96149298
110.00000	6.4163727	32.811747	1.9442589	115.29558	64.704417	.92968074
120.00000	6.2194988	27.938931	2.1411328	124.87938	55.120620	.90057938
130.00000	6.0468836	23.148123	2.3137480	134.31493	45.685065	.87489713
140.00000	5.9018541	18.428565	2.4587775	143.61964	36.380362	.85319489
150.00000	5.7868647	13.767994	2.5737669	152.81483	27.185169	.83592006
160.00000	5.7036344	9.1528679	2.6569972	161.92504	18.074956	.82337078
170.00000	5.6532818	4.5686414	2.7073498	170.97720	9.0228019	.81576167
180.00000	5.6364301	.00000000	2.7242015	180.00000	.00000000	.81321230
4.2500000	2.8391647	.63451489	7.1173370	.71697405	9.9910949E-02	.99180701
.00000000	8.6105848	180.00000	4.6800000E-05	.00000000	180.00000	1.2098039
10.000000	8.5844769	86.950391	2.6154700E-02	10.994082	169.00592	1.2063180
20.000000	8.5073903	80.235498	.10324130	21.958275	158.04173	1.1960066
30.000000	8.3829329	74.367361	.22769870	32.863430	147.13657	1.1792979
40.000000	8.2168045	68.746909	.39382710	43.682161	136.31784	1.1568777
50.000000	8.0163588	63.263920	.59427280	54.389493	125.61051	1.1295461
60.000000	7.7900656	57.888316	.82056600	64.963743	115.03626	1.0986652
70.000000	7.5469529	52.611409	1.0636787	75.387175	104.61282	1.0650987
80.000000	7.2960568	47.430976	1.3145748	85.646643	94.353356	1.0301486
90.000000	7.0459599	42.346177	1.5646717	95.734041	84.265958	.99499631
100.00000	6.8044361	37.355416	1.8061955	105.64664	74.353358	.96075129
110.00000	6.5782252	32.455438	2.0324054	115.38717	64.612824	.92841265
120.00000	6.3729316	27.640910	2.2377000	124.96374	55.036258	.89884351
130.00000	6.1930309	22.904351	2.4176007	134.38949	45.610512	.87276030
140.00000	6.0419533	18.236226	2.5686783	143.68215	36.317853	.85073309
150.00000	5.9222177	13.625169	2.6884139	152.86342	27.136582	.83319655
160.00000	5.8358804	9.0582858	2.7750512	161.95826	18.041742	.82046443
170.00000	5.7831770	4.5215212	2.8274546	170.99408	9.0059226	.81274586
180.00000	5.7656423	.00000000	2.8449893	180.00000	.00000000	.81016013

IV. 6

4.5000000	3.0061744	.67183929	7.3029711	.73567414	.10149246	1.0075065
.00000000	8.8605863	.00000000	4.5300000E-05	.00000000	180.00000	1.2132855
10.000000	8.8332958	82.273211	2.7335800E-02	11.009834	168.99017	1.2097373
20.000000	8.7527223	77.902763	.10790930	21.989276	158.01073	1.1992419
30.000000	8.6226617	72.820243	.23796990	32.908794	147.09120	1.1822370
40.000000	8.4490956	67.596009	.41153600	43.740525	136.25948	1.1594226
50.000000	8.2397438	62.354098	.62088780	54.459119	125.54088	1.1317180
60.000000	8.0034917	57.142726	.85713990	65.042519	114.95748	1.1002072
70.000000	7.7497941	51.986811	1.1108375	75.472712	104.52729	1.0660770
80.000000	7.4881072	46.901031	1.3725244	85.736322	94.263676	1.0305524
90.000000	7.2273956	41.893945	1.6332360	95.825118	84.174881	.99483633
100.00000	6.9757600	36.969624	1.8848716	105.73632	74.263679	.96005668
110.00000	6.7402098	32.128399	2.1204218	115.47271	64.527292	.92722735
120.00000	6.5265575	27.367318	2.3340741	125.04251	54.957488	.89722246
130.00000	6.3394256	22.680514	2.5212060	134.45911	45.540886	.87076590
140.00000	6.1823471	18.059594	2.6782845	143.74051	36.259485	.84843189
150.00000	6.0579027	13.493990	2.8027289	152.90879	27.091209	.83065699
160.00000	5.9678845	8.9714162	2.8927471	161.98926	18.010739	.81775518
170.00000	5.9134494	4.4782456	2.9471822	171.00982	8.9901777	.80993532
180.00000	5.8952360	.00000000	2.9653956	180.00000	.00000000	.80731576
4.7500000	3.1731841	.70916370	7.4886052	.75437423	.10297307	1.0222044
.00000000	9.1102502	.00000000	3.8140000E-04	.00000000	180.00000	1.2165494
10.000000	9.0817825	77.996551	2.8849100E-02	11.024541	168.97546	1.2129427
20.000000	8.9977399	75.760457	.11289170	22.018296	157.98171	1.2022743
30.000000	8.8620973	71.398128	.24853430	32.951264	147.04874	1.1849913
40.000000	8.6811268	66.537612	.42950480	43.795175	136.20483	1.1618068
50.000000	8.4629117	61.517144	.64771990	54.524304	125.47570	1.1336582
60.000000	8.2167477	56.456633	.89388390	65.116276	114.88372	1.1016501
70.000000	7.9525196	51.411899	1.1581120	75.552800	104.44720	1.0666912
80.000000	7.6800998	46.413103	1.4305318	85.820289	94.179709	1.0309282
90.000000	7.4088316	41.477463	1.7018000	95.910397	84.089601	.99468421
100.00000	7.1471440	36.614237	1.9634876	105.82029	74.179706	.95940405
110.00000	6.9023128	31.827065	2.2083188	115.55279	64.447204	.92611588
120.00000	6.6803531	27.115179	2.4302785	125.11627	54.883731	.89570415
130.00000	6.4860390	22.474195	2.6245926	134.52430	45.475701	.86889915
140.00000	6.3230009	17.896757	2.7876307	143.79517	36.204831	.84627907
150.00000	6.1938815	13.373051	2.9167501	152.95125	27.048748	.82828221
160.00000	6.1005083	8.8913156	3.0101233	162.01829	17.981713	.81522241
170.00000	6.0440541	4.4383627	3.0665775	171.02452	8.9754813	.80730813
180.00000	6.0251657	.00000000	3.0854659	180.00000	.00000000	.80465725
5.0000000	3.3401938	.74648810	7.6742392	.77307431	.10436254	1.0359975
.00000000	9.3596157	.00000000	1.0159000E-03	.00000000	180.00000	1.2196163
10.000000	9.3299739	74.111696	3.0657700E-02	11.038376	168.96162	1.2159546
20.000000	9.2424737	73.790937	.11815790	22.045558	157.95444	1.2051236
30.000000	9.1012729	70.087619	.25935870	32.991134	147.00886	1.1875784
40.000000	8.9129278	65.561361	.44770380	43.846462	136.15354	1.1640457
50.000000	8.6858829	60.744722	.67474870	54.585482	125.41452	1.1354794
60.000000	8.4298512	55.823193	.93078040	65.185501	114.81450	1.1030038
70.000000	8.1551401	50.880920	1.2054915	75.627966	104.37203	1.0678479
80.000000	7.8720395	45.962323	1.4885921	85.899105	94.100893	1.0312791
90.000000	7.5902669	41.092577	1.7703647	95.990439	84.009559	.99453936
100.00000	7.3185810	36.285730	2.0420506	105.89910	74.100896	.95878986
110.00000	7.0645185	31.548457	2.2961131	115.62796	64.372038	.92507176
120.00000	6.8343020	26.882006	2.5263296	125.18549	54.814506	.89427896
130.00000	6.6328469	22.283365	2.7277847	134.58547	45.414526	.86714796
140.00000	6.4638857	17.746129	2.8967459	143.84645	36.153551	.84426053
150.00000	6.3301201	13.261157	3.0305115	152.99111	27.008887	.82605615
160.00000	6.2334125	8.8172035	3.1272191	162.04552	17.954475	.81284896
170.00000	6.1749526	4.4014453	3.1856790	171.03834	8.9616616	.80484655
180.00000	6.1553962	.00000000	3.2052354	180.00000	.00000000	.80216651

TABLE V



$$Q = 5.123222 \text{ MeV.}$$

$$E_{\text{THR}} = 5.8590801 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_D	E_{1CM}	E_{2CM}	E_{3CM}	E_{4CM}	ρ_3	ρ_4
1.0000000	7.6431944E-02	1.0993420E-02	4.8815560	3.32819152	1.2738664E-02	1.8947626
10.000000	5.0067338	180.00000	2.1558840	180.00000	180.00000	1.0256394
20.000000	5.0047958	167.52810	2.1752640	10.126733	169.87327	1.0252450
30.000000	4.9990453	155.19022	2.2327690	20.249637	159.75036	1.0240744
40.000000	4.9896699	143.10312	2.3265230	30.364940	149.63506	1.0221652
50.000000	4.9769742	131.35401	2.4534800	40.469156	139.53084	1.0195782
60.000000	4.9613664	119.99605	2.6095580	50.559125	129.44088	1.0163956
70.000000	4.9433461	109.05063	2.7897610	60.632096	119.36790	1.0127181
80.000000	4.9234853	98.513722	2.9883690	70.685867	109.31413	1.0086610
90.000000	4.9026049	88.363483	3.1991730	80.718799	99.281199	1.0043500
100.00000	4.8807591	78.567188	3.4156310	90.729890	89.270108	99991883
110.00000	4.8592087	69.086501	3.6311350	100.71880	79.281202	99550197
120.00000	4.8384038	59.881115	3.8391840	110.68587	69.314131	99123344
130.00000	4.8189641	50.911007	4.0335810	120.63209	59.367905	98724111
140.00000	4.8014613	42.137558	4.2086090	130.55912	49.440878	98364287
150.00000	4.7864036	33.524111	4.3591860	140.46915	39.530851	98054487
160.00000	4.7742246	25.035942	4.4809760	150.36493	29.635073	97803728
170.00000	4.7652711	16.640089	4.5705110	160.24962	19.750382	97619291
180.00000	4.7597961	8.3050067	4.6252610	170.12670	9.8733005	97506468
	4.7579536	0.0000000	4.6436860	180.10000	0.0000000	97468488
1.15000000	1.1464792	1.6490130E-02	4.9225150	3.3094523	1.5536569E-02	2.3109260
10.000000	5.0766813	180.00000	1.9564090	0.0000000	180.00000	1.0313143
20.000000	5.0742847	166.82646	1.9803750	10.154583	169.84542	1.0308312
30.000000	5.0671748	153.84995	2.0514740	20.304458	159.69554	1.0293981
40.000000	5.0555868	141.23546	2.1673540	30.445101	149.55490	1.0270608
50.000000	5.0399015	129.09595	2.3242070	40.572210	139.42779	1.0238950
60.000000	5.0206312	117.48837	2.5169100	50.681935	129.31807	1.0200021
70.000000	4.9983992	106.42221	2.7392300	60.770935	119.22906	1.0155061
80.000000	4.9739151	95.873504	2.9840710	70.836520	109.16348	1.0105490
90.000000	4.9479536	85.798471	3.2436860	80.876689	99.123309	1.0052858
100.00000	4.9213199	76.144063	3.5100230	90.890215	89.109783	99987930
110.00000	4.8948297	66.854853	3.7749250	100.87669	79.123312	99449436
120.00000	4.8692795	57.877017	4.0304270	110.83652	69.163478	98929390
130.00000	4.8454294	49.160235	4.2689280	120.77093	59.229066	98443323
140.00000	4.8239731	40.658258	4.4834910	130.68193	49.318070	98005540
150.00000	4.8055282	32.328853	4.6679400	140.57220	39.427799	97628837
160.00000	4.7906187	24.133261	4.8170350	150.44508	29.554917	97324068
170.00000	4.7796628	16.035571	4.9265940	160.30443	19.695573	97099982
180.00000	4.7729661	8.0019504	4.9935610	170.15454	9.8454547	96961275
	4.7707130	0.0000000	5.0160920	180.00000	0.0000000	96916818
1.20000000	1.15286389	2.1986840E-02	4.9634739	3.3369893	1.7865911E-02	2.6573948
10.000000	5.1424343	180.00000	1.7988790	0.0000000	180.00000	1.0360508
20.000000	5.1396431	166.18376	1.8267910	10.177752	169.82225	1.0354935
30.000000	5.1313625	152.63337	1.9095970	20.350095	159.64991	1.0338398
40.000000	5.1178710	139.56300	2.0445120	30.511837	149.48816	1.0311439
50.000000	5.0996158	127.10643	2.2270640	40.657999	139.34200	1.0274933
60.000000	5.0771996	115.31642	2.4512260	50.784182	129.21582	1.0230060
70.000000	5.0513542	104.18347	2.7096800	60.886529	119.11347	1.0178257
80.000000	5.0229115	93.659349	2.9941070	70.961947	109.03805	1.0121171
90.000000	4.9927735	83.677009	3.2954870	81.008143	99.00593	1.0060593
100.00000	4.9618805	74.163973	3.6044170	91.023697	89.976301	99984036
110.00000	4.9311785	65.049870	3.9114370	101.00813	79.991864	99364902
120.00000	4.9015910	56.269943	4.2073120	110.96195	69.038052	98767536
130.00000	4.8739914	47.766171	4.4833080	120.88653	59.113471	98209411
140.00000	4.8491805	39.487033	4.7314170	130.70417	49.215825	97707021
150.00000	4.8278668	31.386724	4.9445640	140.65799	39.342010	97274909
160.00000	4.8106447	23.424105	5.1167750	150.51183	29.488173	96925480
170.00000	4.7979959	15.561734	5.2432630	160.35008	19.649914	96668615
180.00000	4.7902663	7.7647505	5.3205590	170.17771	9.8222843	96511574
	4.7876661	0.0000000	5.3465610	180.00000	0.0000000	96458733
1.25000000	1.9107986	2.7483550E-02	5.0044329	3.3645264	1.9892784E-02	2.9588741
10.000000	5.2055407	180.00000	1.6678150	0.0000000	180.00000	1.0401811
20.000000	5.2023949	165.57504	1.6992730	10.197911	169.80209	1.0395587
30.000000	5.1930639	151.49151	1.7925830	20.389821	159.61018	1.0377124
40.000000	5.1778634	138.01394	1.9445880	30.569898	149.43010	1.0347025
50.000000	5.1573025	125.29170	2.2150190	40.732649	139.26735	1.0306278
60.000000	5.1320666	113.36607	2.4025560	50.873150	129.12685	1.0256208
70.000000	5.1029857	102.20268	2.6933650	60.987118	119.01288	1.0198432
80.000000	5.0710018	91.726206	3.0132040	71.071089	108.92891	1.0134788
90.000000	5.0371339	81.846042	3.3518830	81.122528	98.877470	1.0067285
100.00000	5.0024413	72.471656	3.6988090	91.139847	88.860151	99980217
110.00000	4.9679872	63.519712	4.0433500	101.12253	78.877473	99291138
120.00000	4.9348077	54.916636	4.3751450	111.07110	68.928930	98626414
130.00000	4.9038778	46.598576	4.6844440	120.98711	59.012889	98005780
140.00000	4.8760894	38.510277	4.9623280	130.87314	49.126857	97447373
150.00000	4.8522305	30.603628	5.2009170	140.73264	39.267359	96957299
160.00000	4.8329630	22.836121	5.3935920	150.56909	29.430109	96579208
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30.000000	5.2362473	136.55200	.18607490	30.621752	149.37825	1.0378846
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70.000000	5.1184569	89.998475	.30386530	71.168567	108.83143	1.0146925
80.000000	5.0811715	80.225786	.34115070	81.224681	98.775318	1.0073229
90.000000	5.0430019	70.986349	.37932030	91.243575	88.756423	.99976447
100.00000	5.0051193	62.185734	.41720290	101.22468	78.775320	.99224851
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140.00000	4.8780173	29.931611	.54430490	140.79931	39.200690	.96692858
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150.00000	4.8820180	21.891624	.59030420	150.66885	29.331148	.95990220
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140.00000	5.1402648	26.210509	.73205740	141.22009	38.779910	.94966487
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60.000000	6.5199527	75.005510	.35236950	62.340668	117.65933	1.0468810
70.000000	6.4234186	67.187755	.44890360	72.539895	107.46010	1.0315365
80.000000	6.3220947	59.952110	.55022750	82.661928	97.338070	1.0153660
90.000000	6.2192634	53.150493	.65305880	92.703025	87.296973	.99888737
100.00000	6.1181043	46.662256	.75421790	102.66193	77.338073	.98260979
110.00000	6.0215967	40.412085	.85072550	112.53990	67.460097	.96701912
120.00000	5.9324406	34.546316	.93988160	122.34066	57.659339	.95256290
130.00000	5.8530086	28.424542	1.0193136	132.07032	47.929679	.93963987
140.00000	5.7853093	22.614690	1.0870129	141.73709	38.262913	.92859404
150.00000	5.7309803	16.889900	1.1413419	151.35113	28.648870	.91970820
160.00000	5.6912835	11.226658	1.1810387	160.92415	19.075845	.91320369
170.00000	5.6671111	5.6034642	1.2052111	170.46917	9.5308321	.90923796
180.00000	5.6589954	.00000000	1.2133268	180.00000	.00000000	.90790548

2.0000000	1.5286389	.21986840	6.4379970	.43283248	4.9606964E-02	.73785933
.00000000	7.0926071	180.00000	2.9715100E-02	.00000000	180.00000	1.1016746
10.000000	7.0819226	143.42060	4.0399600E-02	10.493573	169.50643	1.1000561
20.000000	7.0502857	118.69298	7.2036500E-02	20.972148	159.02785	1.0952597
30.000000	6.9989237	102.49189	.12339850	31.421277	148.57872	1.0874601
40.000000	6.9298009	90.627084	.19252130	41.827284	138.17272	1.0769384
50.000000	6.8455066	81.032837	.27681560	52.177829	127.82217	1.0640684
60.000000	6.7491177	72.738414	.37320450	62.462232	117.53777	1.0492992
70.000000	6.6440336	65.253379	.47828860	72.671824	107.32817	1.0331341
80.000000	6.5338236	58.308907	.58849860	82.800206	97.199793	1.0161083
90.000000	6.4220662	51.746446	.70025600	92.843434	87.156564	.99876892
100.00000	6.3122206	45.466082	.81010160	102.80020	77.199801	.98165197
110.00000	6.2075139	39.400886	.91480830	112.67182	67.328174	.96526797
120.00000	6.1108636	33.503262	1.0114586	122.46222	57.537774	.95008559
130.00000	6.0248182	27.737243	1.0975040	132.17783	47.822169	.93652174
140.00000	5.9515325	22.074102	1.1707897	141.82728	38.172723	.92493400
150.00000	5.8927538	16.489538	1.2295684	151.42126	28.578734	.91561680
160.00000	5.8498243	10.962049	1.2724979	160.97214	19.027860	.90879882
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180.00000	5.8149189	.00000000	1.3074033	180.00000	.00000000	.90324688
2.2500000	1.7197187	.24735195	6.6427918	.44660102	5.1798712E-02	.77045962
.00000000	7.3488183	180.00000	2.3503900E-02	.00000000	180.00000	1.1062804
10.000000	7.3372594	139.37621	3.5062800E-02	10.515355	169.48465	1.1045852
20.000000	7.3030366	114.44658	6.9285600E-02	21.015109	158.98489	1.0995623
30.000000	7.2474907	98.957977	.12483150	31.484098	148.51590	1.0913954
40.000000	7.1727633	87.750120	.19955890	41.908051	138.09195	1.0803810
50.000000	7.0816783	78.663210	.29064390	52.274100	127.72590	1.0669129
60.000000	6.9775825	70.758398	.39473970	62.571088	117.42891	1.0514634
70.000000	6.8641710	63.580480	.50815120	72.789963	107.21004	1.0345613
80.000000	6.7453102	56.885919	.62701200	82.924028	97.075971	1.0167684
90.000000	6.6248706	50.533199	.74745160	92.969175	87.030823	.99865763
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110.00000	6.3939120	38.529222	.97841020	112.78996	67.210041	.96369662
120.00000	6.2899868	32.777005	1.0823354	122.57109	57.428912	.94786617
130.00000	6.1975281	27.145430	1.1747941	132.27409	47.725907	.93373074
140.00000	6.1188281	21.608749	1.2534941	141.90803	38.091965	.92166076
150.00000	6.0557384	16.144951	1.3165838	151.48408	28.515921	.91195966
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170.00000	5.9816490	5.3585627	1.3906732	170.11533	9.4846689	.90053840
180.00000	5.9722396	.00000000	1.4000826	180.00000	.00000000	.89908573
2.5000000	1.9107986	.27483550	6.8475867	.46036957	5.3777955E-02	.79989910
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30.000000	7.4950900	95.716898	.12723220	31.540808	148.45919	1.0949542
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60.000000	7.2054885	69.013437	.41683370	62.669402	117.33060	1.0534165
70.000000	7.0839251	62.111903	.53839710	72.896653	107.10335	1.0358471
80.000000	6.9566014	55.639733	.66572080	83.035858	97.964141	1.0173607
90.000000	6.8276739	49.472398	.79464830	93.082736	86.917263	.99855288
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120.00000	6.4696695	32.143358	1.1526527	122.66939	57.330604	.94586080
130.00000	6.3709571	26.629214	1.2513651	132.36104	47.638960	.93121134
140.00000	6.2869790	21.202908	1.3353432	141.98098	38.019022	.91870785
150.00000	6.2196889	15.844478	1.4026324	151.54079	28.459209	.90866213
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170.00000	6.1407036	5.2597932	1.4816186	170.53503	9.4649649	.89583955
180.00000	6.1306755	.00000000	1.4916467	180.00000	.00000000	.89533603
2.7500000	2.1018785	.30231905	7.0523815	.47413812	5.5577814E-02	.82667039
.00000000	7.8581007	180.00000	1.4221500E-02	.00000000	180.00000	1.1142443
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30.000000	7.7419011	92.745922	.13042110	31.592397	148.40760	1.0981947
40.000000	7.6562790	82.844627	.21604320	42.047313	137.95269	1.0863253
50.000000	7.5519992	74.685387	.32032300	52.440110	127.55989	1.0718199
60.000000	7.4329385	67.463638	.43938370	62.758812	117.24119	1.0551917
70.000000	7.3033673	60.811380	.56895490	72.993689	107.00631	1.0370143
80.000000	7.1677350	54.538209	.70458720	83.137563	96.862435	1.0178960
90.000000	7.0304782	48.535733	.84184400	93.186017	86.813981	.99845435
100.00000	6.8958497	42.736996	.97647250	103.13756	76.862438	.97929222
110.00000	6.7677851	37.097336	1.1045371	112.99369	67.006309	.96097970
120.00000	6.6498082	31.584669	1.2225140	122.75880	57.241194	.94403621
130.00000	6.5449710	26.174148	1.3273512	132.44011	47.559892	.92892112
140.00000	6.4558273	20.845181	1.4164949	142.04730	37.952696	.91602529
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3.0000000	2.2929583	.32980260	7.2571764	.48790667	5.7224213E-02	.85115911
.00000000	8.1115341	180.00000	1.0788100E-02	.00000000	180.00000	1.1177229
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50.000000	7.7863807	73.001510	.33594150	52.512440	127.48756	1.0738189
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70.000000	7.5225503	59.650946	.59977190	73.082458	106.91754	1.0386803
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90.000000	7.2328112	47.701743	.88906100	93.280498	86.719501	.99836143
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140.00000	6.6252541	20.527006	1.4970681	142.10798	37.892014	.91357365
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3.2500000	2.4840382	.35728615	7.4619713	.50167522	5.8737830E-02	.87367281
.00000000	8.3643350	180.00000	7.9872000E-03	.00000000	180.00000	1.1209255
10.000000	8.3494166	120.75743	2.2905600E-02	10.584399	169.41560	1.1189849
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70.000000	7.7415160	58.608667	.63080620	73.164070	106.83593	1.0390588
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130.00000	6.8943793	25.406626	1.4779429	132.57893	47.421064	.92490232
140.00000	6.7951669	20.241852	1.5771553	142.16376	37.836237	.91132152
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50.000000	8.2539813	70.105294	.36834090	52.640349	127.35965	1.0777426
60.000000	8.1132504	63.703253	.50907180	62.985245	117.01475	1.0596834
70.000000	7.9602974	57.667034	.66202480	73.239442	106.76056	1.0399606
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140.00000	6.9654922	19.984576	1.6568300	142.21528	37.784722	.90924339
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.00000000	8.8683976	180.00000	3.9246000E-03	.00000000	180.00000	1.1266357
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70.000000	8.1789205	56.811906	.69340170	73.309309	106.69069	1.0407958
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130.00000	7.2451854	24.782364	1.6271368	132.69727	47.302726	.92147882
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.00000000	9.1197972	180.00000	2.5250000E-03	.00000000	180.00000	1.1291954
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70.000000	8.3974036	56.031698	.72491860	73.374305	106.62569	1.0415713
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140.00000	7.3071599	19.538165	1.8151623	142.30745	37.692550	.90552906
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160.00000	7.1498102	9.7213395	1.9725120	161.22749	18.772504	.88551802
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4.2500000	3.2483576	.46722035	8.2811507	.55674941	6.3760566E-02	.94838153
.00000000	9.3708481	180.00000	1.4741000E-03	.00000000	180.00000	1.1315864
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50.000000	8.9532273	66.655172	.41909490	52.799635	127.20037	1.0824570
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70.000000	8.6157695	55.316842	.75655270	73.434947	106.56505	1.0422945
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90.000000	8.2473007	44.595911	1.1250215	93.655693	86.344305	.99796525
100.00000	8.0662890	39.394286	1.3060332	103.60008	76.399923	.97600567
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120.00000	7.7368507	29.238594	1.6354715	123.16538	56.834623	.93573177
130.00000	7.5970348	24.263333	1.7752874	132.79963	47.200372	.91851917
140.00000	7.4784162	19.343046	1.8939060	142.34888	37.651114	.90386063
150.00000	7.3835938	14.467440	1.9887284	151.82691	28.173091	.89210574
160.00000	7.3145182	9.6258389	2.0578040	161.24955	18.750445	.88352237
170.00000	7.2725436	4.8071803	2.0997786	170.63432	9.3656828	.87829810
180.00000	7.2584642	.00000000	2.1138580	180.00000	.00000000	.87654427

4.5000000	3.4394375	.49470390	8.4859456	.57051796	6.4812560E-02	.96402900
.00000000	9.6215894	180.00000	7.3280000E-04	.00000000	180.00000	1.1338256
10.000000	9.6026556	95.799621	1.9666600E-02	10.644858	169.35514	1.1316665
20.000000	9.5466453	84.935591	7.5676900E-02	21.270191	158.72981	1.1252719
30.000000	9.4558661	77.743309	.16645610	31.857068	148.14293	1.1148854
40.000000	9.3339996	71.510446	.28832260	42.387674	137.61233	1.1008973
50.000000	9.1858717	65.687922	.43645050	52.845868	127.15414	1.0838257
60.000000	9.0171496	60.095796	.60517260	63.217660	116.78234	1.0642877
70.000000	8.8340257	54.659355	.78829650	73.491693	106.50831	1.0429702
80.000000	8.6429062	49.342483	.97941600	83.659557	96.340442	1.0205967
90.000000	8.4501037	44.125281	1.1722185	93.716089	86.283910	.99789742
100.00000	8.2616016	38.995054	1.3607206	103.65955	76.340445	.97557871
110.00000	8.0828645	33.942226	1.5394577	113.49169	66.508311	.95430158
120.00000	7.9187164	28.958333	1.7036058	123.21766	56.782341	.93466279
130.00000	7.7732680	24.035014	1.8490542	132.84586	47.154135	.91718303
140.00000	7.6499080	19.163524	1.9724142	142.38766	37.612336	.90230036
150.00000	7.5513193	14.334502	2.0710029	151.85704	28.142954	.89036834
160.00000	7.4795128	9.5379660	2.1428094	161.27019	18.729813	.88165669
170.00000	7.4358844	4.7634532	2.1864378	170.64481	9.3551862	.87635511
180.00000	7.4212531	.00000000	2.2010691	180.00000	.00000000	.87457549
4.7500000	3.6305173	.52218745	8.6907404	.58428650	6.5799326E-02	.97870627
.00000000	9.8720609	180.00000	2.6130000E-04	.00000000	180.00000	1.1359280
10.000000	9.8523391	91.255831	1.9983100E-02	10.654669	169.34533	1.1337331
20.000000	9.7929975	82.632163	7.8324700E-02	21.289539	158.71046	1.1272328
30.000000	9.6994537	76.214732	.17286850	31.885357	148.11464	1.1166752
40.000000	9.5725557	70.376229	.29976650	42.424048	137.57595	1.1024502
50.000000	9.4183442	64.794869	.45397300	52.889228	127.11077	1.0851097
60.000000	9.2427346	59.367481	.62958760	63.266699	116.73330	1.0652583
70.000000	9.0521920	54.052514	.82013020	73.544921	106.45508	1.0436033
80.000000	8.8533914	48.830507	1.0189300	83.715351	96.284647	1.0208807
90.000000	8.6529070	43.690871	1.2194152	93.772749	86.227250	.99783296
100.00000	8.4569642	38.626513	1.4153580	103.71535	76.284650	.97517729
110.00000	8.2712351	33.631437	1.6010871	113.54492	66.455078	.95358470
120.00000	8.1007212	28.699569	1.7716010	123.26670	56.733302	.93365990
130.00000	7.9496795	23.824193	1.9226427	132.88923	47.110773	.91592999
140.00000	7.8216098	18.997737	2.0507124	142.42404	37.575959	.90083767
150.00000	7.7192810	14.211717	2.1530412	151.88534	28.114661	.88873983
160.00000	7.6447644	9.4568169	2.2275578	161.28952	18.710476	.87990857
170.00000	7.5994963	4.7238815	2.2728259	170.65463	9.3453714	.87453449
180.00000	7.5843144	.00000000	2.2880078	180.00000	.00000000	.87273091
5.0000000	3.8215972	.54967100	8.8955353	.59805505	6.6727059E-02	.99250547
.00000000	10.122290	180.00000	3.2000000E-05	.00000000	180.00000	1.1379066
10.000000	10.101783	86.975934	2.0539000E-02	10.663888	169.33611	1.1356779
20.000000	10.041124	80.491593	8.1198000E-02	21.307731	158.69227	1.1290778
30.000000	9.9428329	74.797739	.17949000	31.911948	148.08805	1.1183591
40.000000	9.8109280	69.325642	.31139600	42.458246	137.54176	1.1039266
50.000000	9.6506597	63.967896	.47166300	52.930002	127.07000	1.0863174
60.000000	9.4681979	58.693121	.65412500	63.312811	116.68719	1.0661708
70.000000	9.2702730	53.490616	.85204400	73.594968	106.40503	1.0441979
80.000000	9.0638340	48.356417	1.0584880	83.767811	96.232187	1.0211470
90.000000	8.8557106	43.288567	1.2666120	93.826022	86.173976	.99777137
100.00000	8.6523687	38.285173	1.4699540	103.76781	76.232190	.97479911
110.00000	8.4596870	33.343557	1.6626350	113.59496	66.405036	.95291022
120.00000	8.2828472	28.459847	1.8394750	123.31281	56.687190	.93271701
130.00000	8.1262465	23.628864	1.9960760	132.93000	47.070002	.91475223
140.00000	7.9934986	18.844123	2.1288240	142.45824	37.541759	.89346326
150.00000	7.8874521	14.097944	2.2348700	151.91193	28.088070	.88720988
160.00000	7.8102441	9.3816190	2.3120780	161.30770	18.692301	.87826448
170.00000	7.7633451	4.6856584	2.3589770	170.66387	9.3361239	.87282477
180.00000	7.7476173	.00000000	2.3747050	180.00000	.00000000	.87099835

TABLE VI



$$Q = -1.6127726 \text{ MeV.}$$

$$E_{\text{THR}} = 1.8158549 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_D	E_{EM}	E_{2CM}	E_{3CM}	E_{4CM}	P_3	P_4
1.8500000	1.4593373	18376158	2.8627826E-02	1.6983744E-03	.63620180	10.723827
.00000000	7.6669241E-02	.00000000	.16055816	.00000000	180.00000	2.6771562
10.000000	7.5197486E-02	1.6506711	.16202992	16.342700	163.65730	2.6419172
20.000000	7.0941460E-02	3.1182502	.16628594	12.567742	147.43226	2.5378873
30.000000	6.4356961E-02	4.2601268	.17287054	48.548112	131.45189	2.3701870
40.000000	5.6131878E-02	4.9988922	.18109553	64.138426	115.86157	2.1475550
50.000000	4.7088401E-02	5.3258538	.19013900	79.167132	100.83287	1.8826051
60.000000	3.8059800E-02	5.2885694	.19916760	93.433369	86.566630	1.5919809
70.000000	2.9763171E-02	4.9709354	.20746423	106.71493	73.285073	1.2958719
80.000000	2.2691900E-02	4.4718254	.21453550	119.79505	61.204951	1.0160020
90.000000	1.7060662E-02	3.8853086	.22016674	121.50918	50.490823	.77152276
100.00000	1.2826881E-02	3.2852803	.22440052	131.79504	41.204959	.57410112
110.00000	9.7794121E-03	2.7180986	.22744799	141.71493	33.285072	.42549656
120.00000	7.6476057E-03	2.2044833	.22957980	153.43336	26.566638	.31957745
130.00000	6.1812742E-03	1.7472773	.23104613	159.16712	20.832877	.24683479
140.00000	5.1854012E-03	1.3398278	.23204200	164.13842	15.861580	.19811961
150.00000	4.5226916E-03	.97187239	.23270471	168.54809	11.451908	.16631968
160.00000	4.1029072E-03	.63260047	.23312450	172.56768	7.4323169	.14655088
170.00000	3.8706925E-03	.31179768	.23335671	176.34265	3.6573501	.13577155
180.00000	3.7963897E-03	.00000000	.23343102	180.00000	.00000000	.13234908
2.0000000	1.5776620	.19866117	.15439109	9.1594057E-03	.28484401	4.8013352
.00000000	.25489330	.00000000	.13233410	.00000000	180.00000	1.6508239
10.000000	.25269567	3.3227215	.13453173	12.835155	167.16484	1.6385950
20.000000	.24626541	6.3208853	.14096199	25.590758	154.40925	1.6025619
30.000000	.23607034	8.7531038	.15115706	38.188018	141.81198	1.5446491
40.000000	.22282622	10.500932	.16440118	50.550038	129.44996	1.4679330
50.000000	.20741166	11.558521	.17981574	62.603518	117.39648	1.3764428
60.000000	.19076815	11.995556	.19645925	74.281257	105.71874	1.2748712
70.000000	.17380184	11.918497	.21342556	85.525411	94.474588	1.1682011
80.000000	.15730173	11.442194	.22992567	96.291036	83.708963	1.0613232
90.000000	.14188600	10.673135	.24534140	106.54952	73.450474	.95857395
100.00000	.12798102	9.7014527	.25924638	116.29103	63.708965	.86347288
110.00000	.11583100	8.5984023	.27139640	125.52541	54.474587	.77851768
120.00000	.10552935	7.4169932	.28169805	134.28125	45.718744	.70518340
130.00000	9.7061265E-02	6.1942325	.29016614	142.60351	37.396486	.64406624
140.00000	9.0346797E-02	4.9540538	.29688061	150.55004	29.449962	.59512039
150.00000	8.5278145E-02	3.7103182	.30194926	158.18801	21.811988	.55792063
160.00000	8.1747730E-02	2.4695535	.30547967	165.59073	14.409264	.53189895
170.00000	7.9667512E-02	1.2332902	.30755989	172.83513	7.1648659	.51652883
180.00000	7.8980643E-02	.00000000	.30824676	180.00000	.00000000	.51144808
2.2500000	1.7748697	.22349381	.36399645	2.1594453E-02	.19676412	3.3166591
.00000000	.52135110	.00000000	.11587630	.00000000	180.00000	1.4322442
10.000000	.51824285	5.0635961	.11898455	11.958054	168.04195	1.4245363
20.000000	.50911085	9.5581708	.12811655	23.858765	156.14123	1.4017933
30.000000	.49451323	13.101532	.14271417	35.646013	144.35399	1.3651326
40.000000	.47531190	15.558732	.16191350	47.266089	132.73391	1.3163330
50.000000	.45259400	16.984045	.18463340	58.669234	121.33076	1.2577113
60.000000	.42754681	17.528690	.20968059	69.811230	110.18877	1.1919612
70.000000	.40137154	17.370827	.23585586	80.655166	99.344832	1.1219607
80.000000	.37518011	16.677983	.26204729	91.173159	88.826839	1.0505714
90.000000	.34992824	15.592215	.28729916	101.34780	78.652203	.98045093
100.00000	.32637598	14.227152	.31085142	111.17316	68.826842	.91390064
110.00000	.30507844	12.670157	.33214896	120.65517	59.344832	.85277167
120.00000	.28640095	10.986198	.35082645	129.81123	50.188771	.79843321
130.00000	.27055110	9.2219947	.36667630	138.66923	41.330764	.75180131
140.00000	.25761880	7.4098638	.37960860	147.26608	32.733916	.71341285
150.00000	.24761682	5.5710880	.38961058	155.64599	24.354012	.68352194
160.00000	.24051696	3.7188011	.39671044	163.85876	16.141235	.66220236
170.00000	.23627882	1.8604829	.40094858	171.95803	8.0419727	.64943713
180.00000	.23487010	.00000000	.40235730	180.00000	.00000000	.64518794
2.5000000	1.9720775	.24832646	.57360180	3.4029500E-02	.16522203	2.7849852
.00000000	.77882256	.00000000	.10840484	.00000000	180.00000	1.3577422
10.000000	.77492196	6.3782046	.11230544	11.644058	168.35594	1.3514981
20.000000	.76344441	11.938843	.12378299	23.239469	156.76053	1.3330613
30.000000	.74503983	16.185587	.14218757	34.738671	145.26133	1.3032986
40.000000	.72071985	19.008172	.16650755	46.096462	133.90354	1.2635896
50.000000	.69176182	20.547509	.19546558	57.271280	122.72872	1.2157336
60.000000	.65959308	21.041189	.22763432	68.226486	111.77351	1.1618276
70.000000	.62567342	20.730611	.26155398	78.931749	101.06825	1.1041248
80.000000	.59138913	19.823332	.29583827	89.364343	90.635656	1.0448888
90.000000	.55797047	18.488819	.32925693	99.510130	80.489868	.98625649
100.00000	.52644024	16.841859	.36078716	109.36434	70.635659	.93012692
110.00000	.49759346	14.989155	.38963394	118.93175	61.068249	.87808806
120.00000	.47200472	12.996033	.41522268	128.22648	51.773521	.83138375
130.00000	.45005525	10.912049	.43717215	137.27128	42.728723	.79092315
140.00000	.43197227	8.7716814	.45525513	146.09645	33.903546	.75732015
150.00000	.41787168	6.5980818	.46935572	154.73865	25.261348	.73095288
160.00000	.40779787	4.4061306	.47942953	163.23944	16.760563	.71202992
170.00000	.40175786	2.2049411	.48546954	171.64403	8.3559650	.70065060
180.00000	.39974575	.00000000	.48748165	180.00000	.00000000	.69685433

VI. 2

2.7500000	2.1692852	.27315911	.78320716	4.6464547E-02	.14829661	2.4996900
.00000000	1.0327446	.00000000	.10448280	.00000000	180.00000	1.3185848
10.000000	1.0281011	7.4585257	.10912630	11.475607	168.52439	1.3130913
20.000000	1.0144257	13.851722	.12280170	22.907308	157.09269	1.2968634
30.000000	.99245909	18.592923	.14476840	34.252292	145.74771	1.2706436
40.000000	.96335778	21.623211	.17386970	45.469920	134.53008	1.2356141
50.000000	.92858925	23.179019	.20863820	56.52985	123.47702	1.1933184
60.000000	.88980570	23.577794	.24742170	67.378794	112.62120	1.1455590
70.000000	.84871365	23.112334	.28851380	78.010416	101.98958	1.0942813
80.000000	.80695509	22.019244	.33027240	88.397717	91.602281	1.0414511
90.000000	.76601267	20.479140	.37121480	98.528224	81.471774	.98894285
100.00000	.72714757	18.626231	.41007990	108.39771	71.602284	.93844555
110.00000	.69137073	16.558680	.44585720	118.01042	61.989582	.89139982
120.00000	.65944217	14.347321	.47778530	127.37879	52.621206	.84896591
130.00000	.63189987	12.042421	.50532760	136.52298	43.477018	.81202561
140.00000	.60909395	9.6788844	.52813350	145.46991	34.530087	.78120718
150.00000	.59123377	7.2802287	.54599370	154.25228	25.747721	.75692928
160.00000	.57843101	4.8617417	.55879640	162.90730	17.092695	.73945075
170.00000	.57073702	2.4330141	.56649040	171.47556	8.5244375	.72891693
180.00000	.56817087	.00000000	.56905660	180.00000	.00000000	.72539857
3.0000000	2.3664930	.29799175	.99281251	5.8899594E-02	.13757205	2.3189167
.00000000	1.2847889	.00000000	.10243850	.00000000	180.00000	1.2940700
10.000000	1.2794291	8.3776451	.10779830	11.368861	168.63114	1.2890391
20.000000	1.2636357	15.447099	.12359170	22.696906	157.30309	1.2741737
30.000000	1.2382382	20.552177	.14898920	33.944264	146.05574	1.2501412
40.000000	1.2045368	23.702328	.18269060	45.073271	134.92673	1.2180048
50.000000	1.1641851	25.229832	.22304230	56.049425	123.95057	1.1791539
60.000000	1.1190551	25.522688	.26817230	66.842523	113.15748	1.1352146
70.000000	1.0710919	24.914724	.31613550	77.427718	102.57228	1.0879461
80.000000	1.0221839	23.663650	.36504350	87.786491	92.213507	1.0391339
90.000000	.97405483	21.960005	.41317260	97.907373	82.092626	.99049166
100.00000	.92819203	19.942193	.45930350	107.78649	72.213510	.94357757
110.00000	.88580899	17.709847	.50141850	117.42772	62.572280	.89973656
120.00000	.84784288	15.334076	.53938460	126.84252	53.157483	.86007079
130.00000	.81497592	12.865004	.57225150	136.04942	43.950579	.82543576
140.00000	.78767446	10.337311	.59955300	145.07325	34.926745	.79645978
150.00000	.76623606	7.7743446	.62099140	153.94424	26.055754	.77357795
160.00000	.75083587	5.1913279	.63639160	162.69687	17.303125	.75707214
170.00000	.74156737	2.5978636	.64566010	171.36882	8.6311738	.74711119
180.00000	.73847386	.00000000	.64875360	180.00000	.00000000	.74378184
3.2500000	2.5637007	.32282440	1.2024179	7.1334643E-02	.13011195	2.1931691
.00000000	1.5356917	.00000000	.10153570	.00000000	180.00000	1.2771529
10.000000	1.5296322	9.1754241	.10759520	11.294631	168.70537	1.2724379
20.000000	1.5117691	16.807247	.12545830	22.550549	157.44965	1.2585033
30.000000	1.4830217	22.188752	.15420570	33.730066	146.26993	1.2359658
40.000000	1.4448307	25.404837	.19239670	44.797499	135.20250	1.2058087
50.000000	1.3990348	26.882781	.23819260	55.720258	124.27974	1.1693187
60.000000	1.3477209	27.070782	.28950650	66.469837	113.53016	1.1280025
70.000000	1.2930694	26.335396	.34415800	77.022849	102.97715	1.0834945
80.000000	1.2372086	24.949827	.40001880	87.361849	92.638149	1.0374586
90.000000	1.1820969	23.111182	.45513050	97.476061	82.523937	.99149935
100.00000	1.1294401	20.960174	.50778730	107.36185	72.638152	.94708411
110.00000	1.0806478	18.596854	.55657960	117.02285	62.977149	.90549101
120.00000	1.0368265	16.092022	.60040090	126.46983	53.530164	.86777883
130.00000	.99879796	13.495290	.63842950	135.72025	44.279749	.83478147
140.00000	.96713948	10.840853	.67008800	144.79749	35.202510	.80712289
150.00000	.94223364	8.1516958	.69499380	153.73005	26.269949	.78524496
160.00000	.92431649	5.4427790	.71291100	162.55055	17.449453	.76944255
170.00000	.91352229	2.7235563	.72370520	171.29461	8.7053890	.75989711
180.00000	.90991777	.00000000	.72730970	180.00000	.00000000	.75670519
3.5000000	2.7509085	.34765704	1.4120232	8.3769687E-02	.12459950	2.1002511
.00000000	1.7858404	.00000000	.10138700	.00000000	180.00000	1.2647239
10.000000	1.7790918	9.8773083	.10813560	11.239765	168.76023	1.2602393
20.000000	1.7591919	17.984724	.12803550	22.442428	157.55757	1.2469833
30.000000	1.7271482	23.577897	.16007920	33.571832	146.42817	1.2255365
40.000000	1.6845410	26.828647	.20268640	44.593797	135.40621	1.1968248
50.000000	1.6333924	28.247456	.25383500	55.477150	124.52285	1.1620602
60.000000	1.5760028	28.336275	.31122460	66.194634	113.80536	1.1226644
70.000000	1.5147837	27.487904	.37244370	76.723908	103.27609	1.0801814
80.000000	1.4520992	25.987064	.43512820	87.048327	92.951672	1.0361875
90.000000	1.3901391	24.035233	.49708830	97.157629	82.842370	.99220718
100.00000	1.3308225	21.774288	.55640490	107.04833	72.951669	.94964172
110.00000	1.2757513	19.304133	.61147610	116.72391	63.276090	.90971948
120.00000	1.2261948	16.694971	.66103260	126.19463	53.805367	.87346576
130.00000	1.1831122	13.995756	.70411520	135.47714	44.522855	.84169632
140.00000	1.1471886	11.240115	.74003880	144.59378	35.406214	.81502992
150.00000	1.1188886	8.4505827	.76833880	153.57181	26.428188	.79391123
160.00000	1.0985080	5.6418079	.78871940	162.44241	17.557593	.77864257
170.00000	1.0862209	2.8230078	.80100650	171.23974	8.7602555	.76941321
180.00000	1.0821159	.00000000	.80511150	180.00000	.00000000	.76632599
3.7500000	2.9581162	.37248969	1.6216285	9.6204731E-02	.12034918	2.0286077
.00000000	2.0354609	.00000000	.10176650	.00000000	180.00000	1.2551822
10.000000	2.0280309	10.501163	.10919650	11.197491	168.80251	1.2508733
20.000000	2.0061170	19.015986	.13111040	22.359067	157.64093	1.2381353
30.000000	1.9708142	24.775909	.16641320	33.449835	146.55017	1.2175212
40.000000	1.9238428	28.038889	.21338460	44.436775	135.56322	1.1899138
50.000000	1.8674056	29.395108	.26982180	55.289770	124.71023	1.1564689
60.000000	1.8040154	29.391979	.33321200	65.982536	114.01746	1.1185435
70.000000	1.7363127	28.443505	.40091470	76.493539	103.50646	1.0776134
80.000000	1.6668963	26.843064	.47033110	86.806739	93.193259	1.0351881
90.000000	1.5981812	24.795038	.53904620	96.912254	83.087745	.99273167
100.00000	1.5322989	22.441764	.60492850	106.80674	73.193262	.95159465
110.00000	1.4710386	19.882682	.66618880	116.49354	63.506459	.91296625
120.00000	1.4158320	17.187278	.72139540	125.98254	54.017459	.87784538
130.00000	1.3677707	14.403799	.76945670	135.28977	44.710229	.84703330
140.00000	1.3276464	11.565280	.80958100	144.43677	35.563233	.82114282
150.00000	1.2960040	8.6938004	.84122340	153.44983	26.550171	.80061961
160.00000	1.2731976	5.8036712	.86402980	162.35905	17.640952	.78577051
170.00000	1.2594399	2.9038573	.87778750	171.19746	8.8025398	.77679025
180.00000	1.2548427	.00000000	.88238470	180.00000	.00000000	.77378558

4.0000000	3.1553240	.39732234	1.8312339	.10863978	.11696644	1.9715882
.00000000	2.2846951	.00000000	.10253230	.00000000	180.00000	1.2476138
10.000000	2.2765894	11.060116	.11063800	11.163801	168.86320	1.2434438
20.000000	2.2526783	19.927711	.13454910	22.292730	157.70727	1.2311147
30.000000	2.2141440	25.820012	.17308340	33.352759	146.64724	1.2111583
40.000000	2.1628458	29.081199	.22438160	44.311828	135.68818	1.1844237
50.000000	2.1011677	30.374668	.28605970	55.140682	124.85932	1.1520222
60.000000	2.0318322	30.287063	.35539520	65.813795	114.18620	1.1152607
70.000000	1.9577078	29.249681	.42951960	76.310267	103.68973	1.0755611
80.000000	1.8816245	27.562471	.50560290	86.614552	93.385446	1.0343807
90.000000	1.8062234	25.431717	.58100400	96.717059	83.282940	.99313597
100.00000	1.7338437	22.999777	.65338370	106.61455	73.385449	.95313682
110.00000	1.6664608	20.365464	.72076660	116.31027	63.689731	.91554171
120.00000	1.6056656	17.597495	.78156180	125.81379	54.186212	.88132797
130.00000	1.5526807	14.743410	.83454670	135.14068	44.859318	.85128407
140.00000	1.5084028	11.835673	.87882460	144.31182	35.688178	.82601789
150.00000	1.4734556	8.8959210	.91377180	153.35274	26.647259	.80597502
160.00000	1.4482507	5.9381272	.93897670	162.29269	17.707312	.79146494
170.00000	1.4330396	2.9710047	.95418780	171.16378	8.8362182	.78268616
180.00000	1.4279552	.00000000	.95927220	180.00000	.00000000	.77974830
4.2500000	3.3525317	.42215498	2.0408392	.12107482	.11420714	1.9250774
.00000000	2.5336381	.00000000	.10358930	.00000000	180.00000	1.2414573
10.000000	2.5248606	11.564358	.11236680	11.136351	168.86365	1.2373997
20.000000	2.4989653	20.740100	.13826210	22.238612	157.76139	1.2254020
30.000000	2.4572205	26.738568	.18000690	33.273578	146.72643	1.2059790
40.000000	2.4016243	29.988765	.23560310	44.209923	135.79008	1.1795918
50.000000	2.3347400	31.221073	.30248740	55.019097	124.98091	1.1483971
60.000000	2.2595005	31.056143	.37772690	65.676187	114.32381	1.1125805
70.000000	2.1790008	29.939493	.45822660	76.160822	103.83918	1.0738814
80.000000	2.0963012	28.176108	.54092620	86.457837	93.542162	1.0337143
90.000000	2.0142655	25.973471	.62296190	96.557897	83.442102	.99345690
100.00000	1.9354399	23.473691	.70178750	106.45783	73.542165	.95438697
110.00000	1.8619844	20.774865	.77524300	116.16082	63.839176	.91763698
120.00000	1.7956469	17.944942	.84158050	125.67618	54.323814	.88416647
130.00000	1.7377804	15.030788	.89944700	135.01909	44.980906	.85475370
140.00000	1.6893841	12.064315	.94784330	144.20991	35.790084	.83000116
150.00000	1.6511508	9.0667358	.98606660	153.27356	26.726436	.81035409
160.00000	1.6235785	6.0517058	1.0136489	162.23859	17.761405	.79612385
170.00000	1.6069264	3.0277088	1.0303010	171.13634	8.8636572	.78751153
180.00000	1.6013597	.00000000	1.0358677	180.00000	.00000000	.78462900
4.5000000	3.5497395	.44698763	2.2504446	.13350987	.11191165	1.8863845
.00000000	2.7823551	.00000000	.10487230	.00000000	180.00000	1.2363474
10.000000	2.7729097	12.021807	.11431770	11.113485	168.88651	1.2323828
20.000000	2.7450393	21.468878	.14218810	22.193598	157.80640	1.2206594
30.000000	2.7000997	27.553212	.18712770	33.207702	146.79230	1.2016776
40.000000	2.6402275	30.786401	.24699990	44.125153	135.87485	1.1762363
50.000000	2.5681655	31.960050	.31905190	55.019097	124.98091	1.1453830
60.000000	2.4870548	31.724405	.40017260	65.561739	114.43826	1.1103496
70.000000	2.4002155	30.536776	.48701190	76.036525	103.96347	1.0724802
80.000000	2.3109381	28.706027	.57628930	86.327506	93.672493	1.0331545
90.000000	2.2230708	26.440365	.66491960	96.425526	83.574472	.99371822
100.00000	2.1370768	23.881468	.75015060	106.32750	73.672493	.95542172
110.00000	2.0575868	21.126692	.82964060	116.03653	63.963473	.91937633
120.00000	1.9857432	18.243232	.90148420	125.56173	54.438268	.88652668
130.00000	1.9230270	15.277312	.96420040	134.91796	45.082039	.85764152
140.00000	1.8705401	12.260334	1.0166873	144.12515	35.874847	.83331940
150.00000	1.8290626	9.2131144	1.0581648	153.20770	26.792303	.81400460
160.00000	1.7991190	6.1490158	1.0881084	162.19356	17.806434	.80000949
170.00000	1.7810360	3.0762922	1.1061914	171.11347	8.8865296	.79153714
180.00000	1.7749900	.00000000	1.1122374	180.00000	.00000000	.78870086
4.7500000	3.7469472	.47182027	2.4600499	.14594492	.10997096	1.8536722
.00000000	3.0308930	.00000000	.10633440	.00000000	180.00000	1.2320355
10.000000	3.0207823	12.438971	.11644510	11.094218	168.90578	1.2281491
20.000000	2.9909447	22.126510	.14628270	22.155542	157.84446	1.2166566
30.000000	2.9428239	28.280795	.19440350	33.152025	146.84798	1.1980463
40.000000	2.8786932	31.493109	.25853420	44.053504	135.94650	1.1730982
50.000000	2.8014745	32.611017	.33575290	55.019097	124.98091	1.1428357
60.000000	2.7145182	32.310652	.42270920	65.464995	114.53500	1.1084626
70.000000	2.6213679	31.059179	.51585950	76.036525	103.96347	1.0712930
80.000000	2.5255433	29.168474	.61168410	86.217343	93.782655	1.0326774
90.000000	2.4303500	26.847108	.70687740	96.313639	83.686360	.99393485
100.00000	2.3387450	24.236234	.79848240	106.21733	73.782664	.95629261
110.00000	2.2532511	21.432452	.88397630	115.93147	64.068531	.92084405
120.00000	2.1759300	18.502248	.96129740	125.46499	54.535011	.88852097
130.00000	2.1083900	15.491238	1.0288374	134.83247	45.167530	.86008398
140.00000	2.0518339	12.430344	1.0853935	144.05350	35.946501	.83612787
150.00000	2.0071202	9.3400269	1.1301072	153.15200	26.847995	.81709597
160.00000	1.9748279	6.2333506	1.1623995	162.15553	17.844473	.80330111
170.00000	1.9553218	3.1183810	1.1819056	171.09418	8.9058211	.79494825
180.00000	1.9487987	.00000000	1.1884287	180.00000	.00000000	.79215166
5.0000000	3.9441550	.49665292	2.6696553	.15837997	.10830801	1.8256415
.00000000	3.2792875	.00000000	.10793990	.00000000	180.00000	1.2283465
10.000000	3.2685129	12.820967	.11871450	11.077655	168.92235	1.2245270
20.000000	3.2367148	22.723039	.15051260	22.122929	157.87707	1.2132315
30.000000	3.1854225	28.934643	.20180490	33.104310	146.89569	1.1949384
40.000000	3.1170475	32.123689	.27017990	44.053504	136.00789	1.1704115
50.000000	3.0346901	33.188924	.35253730	55.019097	124.98091	1.1406538
60.000000	2.9419083	32.829238	.44531910	65.382105	114.61789	1.1068448
70.000000	2.8424706	31.520088	.54475680	76.036525	103.96347	1.0702736
80.000000	2.7401230	29.575691	.64710440	86.217343	93.877039	1.0322659
90.000000	2.6383921	27.204742	.74883530	96.313639	83.782210	.99411748
100.00000	2.5404385	24.547805	.84678890	106.21733	73.877041	.95703613
110.00000	2.4489662	21.700742	.93826120	115.93147	64.158542	.92209964
120.00000	2.3661897	18.729356	1.0210377	125.46499	54.617896	.89022900
130.00000	2.2938466	15.578703	1.0933808	134.83247	45.240771	.86217772
140.00000	2.2332391	12.579264	1.1539883	144.05350	36.007900	.83853681
150.00000	2.1853029	9.4511555	1.2019245	153.10429	26.895705	.81974859
160.00000	2.1506727	6.3071951	1.2365547	162.12290	17.877103	.80612677
170.00000	2.1297494	3.1552284	1.2574780	171.07763	8.9223682	.79787692
180.00000	2.1227520	.00000000	1.2644754	180.00000	.00000000	.79511462

TABLE VII

$$D_1^2 + Li_3^6 \longrightarrow N_0^1 + Be_4^7$$

$$2.0147400 + 6.0170210 \longrightarrow 1.0089861 + 7.0191500$$

$$Q = 3.3753691 \text{ MeV.}$$

$$E_{THR} = 4.5055780 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_0	E_{1CM}	E_{2CM}	E_{3CM}	E_{4CM}	E_{5CM}	E_{6CM}	E_{7CM}
1.0000000	5.6123080E-02	1.8792258E-02	3.0166483	4.3363598	3.2327863E-02	2.2489322	
10.000000	3.2148791	180.00000	26049000	26364670	180.00000	1.0657006	
20.000000	3.2117224	166.71632	26364670	26364670	169.67835	1.0646710	
30.000000	3.2023650	153.63457	27300410	27300410	159.36648	1.0616180	
40.000000	3.1871433	140.92405	28822580	28822580	149.07383	1.0566465	
50.000000	3.1665989	128.70090	30877020	30877020	138.80931	1.0499264	
60.000000	3.1414514	117.02421	33391770	33391770	128.58095	1.0416849	
70.000000	3.1125661	105.90483	36280300	36280300	118.39570	1.0321971	
80.000000	3.0809148	95.319540	39445430	39445430	108.25919	1.0217740	
90.000000	3.0475334	85.224872	42783570	42783570	98.175580	1.0107517	
100.00000	3.0134842	75.567794	46188490	46188490	88.147426	1.00047730	
110.00000	2.9798148	66.292541	49555430	49555430	78.175583	1.00029721	
120.00000	2.9475289	57.344642	52784020	52784020	68.259190	1.0001719	
130.00000	2.9175557	48.672781	55781340	55781340	58.395704	1.0000949	
140.00000	2.8907290	40.229361	58464010	58464010	48.580949	1.0000629	
150.00000	2.8677729	31.970484	60759620	60759620	38.809320	1.0000382	
160.00000	2.8492866	23.855384	62608250	62608250	29.073844	1.0000269	
170.00000	2.8357438	15.845900	63962530	63962530	19.366495	1.0000182	
180.00000	2.8274816	7.9057634	64788750	64788750	9.6783631	1.0000116	
	2.8247048	.00000000	65066430	65066430	.00000000	.00000000	
150.00000	8.4184620E-02	2.8188387E-02	3.0493983	4.3834372	3.9380198E-02	2.7395375	
10.000000	3.2943393	180.00000	23102980	.00000000	180.00000	1.0803109	
20.000000	3.2903990	165.73849	23497010	10.391790	169.60821	1.0790443	
30.000000	3.2787247	151.78686	24664440	20.771725	159.22828	1.0752891	
40.000000	3.2597494	138.39014	26561970	31.128235	148.87177	1.0691776	
50.000000	3.2341688	125.69422	29120030	41.450492	138.54951	1.0609237	
60.000000	3.2029047	113.74912	32246440	51.728701	128.27130	1.0508118	
70.000000	3.1670598	102.53455	35830930	61.954402	118.04560	1.0391860	
80.000000	3.1278643	91.989435	39750480	72.120725	107.87927	1.0264346	
90.000000	3.0866203	82.035107	43874880	82.222596	97.77403	1.0129708	
100.00000	3.0446516	72.589760	48071750	92.256903	87.743096	1.0002420	
110.00000	3.0032543	63.575925	52211480	102.22259	77.77406	1.0001782	
120.00000	2.9636535	54.923453	56171560	112.12073	67.879273	1.0001086	
130.00000	2.9269745	46.570062	59839460	121.95440	58.045598	1.0000600	
140.00000	2.8942179	38.460636	63115120	131.72870	48.271299	1.0000364	
150.00000	2.8662405	30.546112	65912860	141.45048	38.549518	1.0000258	
160.00000	2.8437480	22.782211	68162110	151.12823	28.871773	1.0000173	
170.00000	2.8272899	15.128331	69807920	160.77170	19.228303	1.0000116	
180.00000	2.8172585	7.5464088	70811060	170.39175	9.6082502	1.0000080	
	2.8138885	.00000000	71148060	180.00000	.00000000	.00000000	
200.00000	1.1224616	3.7584516E-02	3.0821482	4.4305144	4.5230105E-02	3.1464944	
10.000000	3.3673098	180.00000	20805930	.00000000	180.00000	1.0925058	
20.000000	3.3626838	164.82566	21268530	10.450005	169.54999	1.0910390	
30.000000	3.3489845	150.00561	22638460	20.886380	159.11362	1.0866916	
40.000000	3.3267323	136.10269	24863680	31.295861	148.70414	1.0796196	
50.000000	3.2967625	123.04031	27860660	41.666013	138.33399	1.0700746	
60.000000	3.2601816	110.92266	31518750	51.985597	128.01440	1.0583918	
70.000000	3.2183036	99.686017	35706550	62.244869	117.75513	1.0449742	
80.000000	3.1725901	89.226140	40277900	72.435938	107.56406	1.0302749	
90.000000	3.1245780	79.429392	45079110	82.552969	97.447030	1.0147772	
100.00000	3.0758201	70.188528	49954900	92.592381	87.407617	1.0000763	
110.00000	3.0278227	61.408735	54754640	102.55297	77.447032	1.0000602	
120.00000	2.9820019	53.008519	59336720	112.43594	67.564060	1.0000366	
130.00000	2.9396443	44.918401	63572480	122.24486	57.755137	1.0000258	
140.00000	2.9018840	37.078770	67348510	131.98560	48.014402	1.0000173	
150.00000	2.8696841	29.437861	70568500	141.66600	38.333994	1.0000116	
160.00000	2.8438326	21.949741	73153650	151.29585	28.704149	1.0000080	
170.00000	2.8249364	14.572834	75043270	160.88636	19.113643	1.0000058	
180.00000	2.8134272	7.2685300	76194190	170.44996	9.5500434	1.0000034	
	2.8095623	.00000000	76580680	180.00000	.00000000	.00000000	
250.00000	1.4030770	4.6980645E-02	3.1148982	4.4775917	5.0302248E-02	3.4993449	
10.000000	3.4362000	180.00000	18916910	.00000000	180.00000	1.1031347	
20.000000	3.4309512	163.94633	19441790	10.500464	169.49954	1.1014920	
30.000000	3.4154089	148.46980	20996020	20.985790	159.01421	1.0966239	
40.000000	3.3901784	133.97245	23519070	31.441210	148.55879	1.0887079	
50.000000	3.3562269	120.62116	26914220	41.852906	138.14709	1.0780301	
60.000000	3.3148309	108.39856	31053820	52.208367	127.79164	1.0649706	
70.000000	3.2675024	97.188041	35786670	62.496764	117.50323	1.0499860	
80.000000	3.2159163	86.839958	40945280	72.709302	107.29070	1.0335871	
90.000000	3.1618249	77.207548	46354420	82.839482	97.160516	1.0163183	
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90.000000	3.5745068	53.231828	.80086230	95.365067	84.634931	.99561908
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170.00000	3.2126196	4.8953934	1.9127495	171.15452	8.8454829	.78430626
180.00000	3.2013086	.00000000	1.9240605	180.00000	.00000000	.78138683

2.0000000	1.1226416	.37584516	4.2611461	.61252957	.12164411	.84623396
.00000000	5.3609257	180.00000	1.4443400E-02	.00000000	180.00000	1.2580852
10.000000	5.3411407	124.71380	3.4228400E-02	11.210342	168.78966	1.2537231
20.000000	5.2827910	101.63525	9.2578100E-02	22.384470	157.61553	1.2408276
30.000000	5.1888034	88.730921	.18656570	33.487000	146.51300	1.2199606
40.000000	5.0637772	79.268947	.31159190	44.484611	135.51539	1.1920178
50.000000	4.9135966	71.350693	.46177250	55.346851	124.65315	1.1581719
60.000000	4.7443682	64.278182	.63040090	66.047149	113.95285	1.1197995
70.000000	4.5649378	57.742126	.81043130	76.563709	103.43629	1.0783969
80.000000	4.3804276	51.586021	.99444150	86.880330	93.119669	1.0354943
90.000000	4.1978658	45.721714	1.1775033	96.986996	83.013002	.99257377
100.00000	4.0229123	40.094124	1.3524568	106.88033	73.119671	.95100144
110.00000	3.8603105	34.664848	1.5150586	116.56372	63.436283	.91197817
120.00000	3.7138447	29.403936	1.6615244	126.04714	53.952858	.87651135
130.00000	3.5863913	24.285519	1.7889778	135.34685	44.653151	.84540660
140.00000	3.4800261	19.285557	1.8953430	144.48460	35.515397	.81927875
150.00000	3.3961732	14.380581	1.9791959	153.48698	26.513015	.79857331
160.00000	3.3357512	9.5471294	2.0396179	162.38446	17.615542	.78359554
170.00000	3.2993097	4.7615885	2.0760594	171.21031	8.7896883	.77453901
180.00000	3.2871333	.00000000	2.0882358	180.00000	.00000000	.77150898
2.2500000	1.2627693	.42282581	4.4248959	.63606821	.12661322	.88080226
.00000000	5.6163649	180.00000	9.0042000E-03	.00000000	180.00000	1.2692572
10.000000	5.5947912	117.10722	3.0577900E-02	11.259797	168.74020	1.2646888
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30.000000	5.4287840	85.029344	.19658510	33.629633	146.37037	1.2293419
40.000000	5.2926720	76.435504	.33269710	44.668204	135.33180	1.2001039
50.000000	5.1293390	69.076176	.49603010	55.565945	124.43406	1.1647109
60.000000	4.9461707	62.395179	.67919840	66.295154	113.70484	1.1246153
70.000000	4.7508950	56.152432	.87447410	76.833091	103.16691	1.0813940
80.000000	4.5510773	50.228545	1.0729218	87.162833	92.837166	1.0366552
90.000000	4.3537055	44.565876	1.2716636	97.273928	82.762071	.99195223
100.00000	4.1648932	39.095589	1.4604759	107.16283	72.737169	.94871075
110.00000	3.9897222	33.814795	1.6356469	116.83309	63.166907	.90817714
120.00000	3.8320772	28.690209	1.7931619	126.29515	53.704853	.87138924
130.00000	3.6953592	23.699816	1.9300099	135.56594	44.434063	.83916934
140.00000	3.5813204	18.822221	2.0440487	144.66819	35.331804	.81213870
150.00000	3.4915273	14.035823	2.1338418	153.62962	26.370383	.79074107
160.00000	3.4268881	9.3185009	2.1984810	162.48192	17.518082	.77527583
170.00000	3.3879280	4.6476114	2.2374411	171.25977	8.7402306	.76593024
180.00000	3.3749147	.00000000	2.2504544	180.00000	.00000000	.76280452
2.5000000	1.4030770	.46980645	4.5886456	.65960684	.13105906	.91173035
.00000000	5.8702559	180.00000	5.1132000E-03	.00000000	180.00000	1.2792944
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20.000000	5.7781213	91.744134	9.7247800E-02	22.569131	157.43087	1.2604876
30.000000	5.6674168	81.774038	.20795230	33.757257	146.24275	1.2377615
40.000000	5.5203688	73.970456	.35500030	44.832505	135.16749	1.2073546
50.000000	5.3440729	67.106823	.53129620	55.762036	124.23796	1.1705663
60.000000	5.1465854	60.768523	.72878370	66.517135	113.48286	1.1289187
70.000000	4.9363113	54.780598	.93905780	77.074232	102.92577	1.0840616
80.000000	4.7214523	49.057574	1.1539168	87.415736	92.584262	1.0376742
90.000000	4.5095453	43.552119	1.3658238	97.530796	82.469202	.99137448
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120.00000	3.9513576	28.074137	1.9240115	126.51713	53.482866	.86680095
130.00000	3.8053362	23.194104	2.07000329	135.76203	44.237969	.83359400
140.00000	3.6838119	18.422067	2.1915572	144.83250	35.167502	.80576655
150.00000	3.5882304	13.738018	2.2871387	153.75725	26.242751	.78375979
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170.00000	3.4780721	4.5491365	2.3972970	171.30401	8.6959868	.75826782
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2.7500000	1.5433847	.51678710	4.7523953	.68314547	.13506704	.93961242
.00000000	6.1228964	180.00000	2.4727000E-03	.00000000	180.00000	1.2883770
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60.000000	5.3463627	59.348888	.77900640	66.717343	113.28266	1.1327945
70.000000	5.1212908	53.583918	1.0040783	77.291726	102.70827	1.0864554
80.000000	4.8916041	48.036164	1.2337650	87.643854	92.356145	1.0385771
90.000000	4.6653849	42.675539	1.4599842	97.762495	82.237504	.99083658
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120.00000	4.0711452	27.536145	2.0542239	126.71734	53.282658	.86266063
130.00000	3.9161299	22.752352	2.2092392	135.93887	44.061131	.82857242
140.00000	3.7872710	18.072429	2.3380981	144.98065	35.019347	.80003546
150.00000	3.6860229	13.477763	2.4393462	153.87231	26.127689	.77748779
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3.0000000	1.6836924	.56376774	4.9161450	.70668409	.13870357	.96491044
.00000000	6.3745100	180.00000	8.5910000E-04	.00000000	180.00000	1.2966457
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70.000000	5.3059095	52.530327	1.0694596	77.489162	102.51084	1.0886180
80.000000	5.0615726	47.136719	1.3137965	87.850938	92.149061	1.0393834
90.000000	4.8212245	41.903386	1.5541446	97.972833	82.027165	.99033388
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130.00000	4.0275942	22.352676	2.3477749	136.09936	43.900634	.82401947
140.00000	3.8915271	17.763930	2.4838420	145.11510	34.884902	.79484621
150.00000	3.7847115	13.248068	2.5906576	153.97674	26.023256	.77181436
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.00000000	6.6252670	180.00000	1.0210000E-04	.00000000	180.00000	1.3042125
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40.000000	6.1982989	68.211743	.42707020	45.237802	134.76220	1.2252993
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70.000000	5.4902282	51.595250	1.1351409	77.669369	102.33063	1.0905834
80.000000	5.2313881	46.338173	1.3939810	88.039956	91.960042	1.0401083
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130.00000	4.1396187	22.016059	2.4857504	136.24583	43.754169	.81986858
140.00000	3.9964460	17.489444	2.6289231	145.23779	34.762209	.79012106
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3.5000000	1.9643078	.65772903	5.2436444	.75376135	.14506303	1.0091508
.00000000	6.8753009	.00000000	6.8200000E-05	.00000000	180.00000	1.3111690
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80.000000	5.4010745	45.624112	1.4742946	88.213328	91.786671	1.0407637
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130.00000	4.2521162	21.705497	2.6232529	136.38015	43.619850	.81606576
140.00000	4.1019264	17.243451	2.7734427	145.35029	34.649709	.78579651
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70.000000	5.8581396	50.007785	1.2672295	77.986868	102.01313	1.0940269
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70.000000	6.0418004	49.327960	1.3335687	78.127609	101.87239	1.0955453
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130.00000	4.4782660	21.171583	2.8971031	136.61819	43.381803	.80933456
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70.000000	6.2252985	48.710049	1.4000706	78.258174	101.74182	1.0969493
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60.000000	6.7338978	52.904348	1.1414713	67.718570	112.28143	1.1520923
70.000000	6.4086548	48.145873	1.4667143	78.379670	101.62033	1.0982521
80.000000	6.0788554	43.388251	1.7965137	88.785094	91.214905	1.0428622
90.000000	5.7562628	38.680688	2.1191063	98.921720	81.078279	.98790120
100.00000	5.4507895	34.051175	2.4245796	108.78510	71.214902	.93514157
110.00000	5.1702833	29.514064	2.7050858	118.37967	61.620328	.88608368
120.00000	4.9205621	25.074028	2.9548070	127.71857	52.281431	.84192267
130.00000	4.7056321	20.728451	3.1697370	136.82296	43.177040	.80355293
140.00000	4.5280265	16.469108	3.3473426	145.72112	34.278879	.77159962
150.00000	4.3891771	12.283444	3.4861920	154.44731	25.552692	.74646714
160.00000	4.2897804	8.1556784	3.5855887	163.04049	16.959511	.72839588
170.00000	4.2301017	4.0677242	3.6452674	171.54312	8.4568743	.71751433
180.00000	4.2102066	.00000000	3.6651625	180.00000	.00000000	.71388154
4.7500000	2.6658463	.89263226	6.0623930	.87145450	.15716799	1.0933607
.00000000	8.1177258	.00000000	7.6433000E-03	.00000000	180.00000	1.3390375
10.000000	8.0790348	60.447214	4.6334300E-02	11.563887	168.43611	1.3331537
20.000000	7.9651385	66.138570	.16023060	23.081402	156.91860	1.3157769
30.000000	7.7823552	64.574659	.34301390	34.507186	145.49281	1.2877140
40.000000	7.5405325	61.073692	.58483660	45.798238	134.20176	1.2502491
50.000000	7.2521321	56.838453	.87323700	56.915052	123.08495	1.2050578
60.000000	6.9311309	52.293057	1.1942382	67.822894	112.17710	1.1540948
70.000000	6.5918863	47.828651	1.5334828	78.493053	101.50695	1.0994644
80.000000	6.2481171	42.945109	1.8772520	88.904051	91.095947	1.0432864
90.000000	5.9121028	38.298981	2.2132663	99.042551	80.957447	.98757185
100.00000	5.5941578	33.722681	2.5312113	108.90405	71.095950	.93411890
110.00000	5.3024218	29.233373	2.8229473	118.49305	61.506945	.88444614
120.00000	5.0428945	24.837557	3.0824746	127.82289	52.177113	.83975894
130.00000	4.8196797	20.533828	3.3056894	136.91505	43.084948	.80095546
140.00000	4.6353435	16.314777	3.4900256	145.79823	34.201770	.76865853
150.00000	4.4913083	12.168398	3.6340608	154.50716	25.492835	.74326830
160.00000	4.3882419	8.0792814	3.7371272	163.08137	16.918630	.72501876
170.00000	4.3263780	4.0296151	3.7989911	171.56385	8.4361504	.71403286
180.00000	4.3057574	.00000000	3.8196117	180.00000	.00000000	.71036573
5.0000000	2.8061540	.93961290	6.2261427	.89499313	.15911635	1.1069147
.00000000	8.3650817	.00000000	1.0287400E-02	.00000000	180.00000	1.3435506
10.000000	8.3247189	57.629637	5.0650200E-02	11.583287	168.41672	1.3375801
20.000000	8.2059120	64.506866	.16945710	23.119640	156.88036	1.3199484
30.000000	8.0152852	63.454635	.36008390	34.563171	145.43683	1.2914766
40.000000	7.7531601	60.226327	.61220900	45.870366	134.12963	1.2534717
50.000000	7.4625897	56.160172	.91277940	57.001203	122.99880	1.2076389
60.000000	7.1282021	51.730957	1.2471670	67.920486	112.07951	1.1559670
70.000000	6.7750062	47.152701	1.6003629	78.599130	101.40087	1.1005958
80.000000	6.4173231	42.537094	1.9580460	89.015343	90.984656	1.0436798
90.000000	6.0679425	37.947355	2.3074266	99.155607	80.844391	.98725985
100.00000	5.7375828	33.419950	2.6377863	109.01535	70.984653	.93315889
110.00000	5.4346697	28.974606	2.9406994	118.59913	61.400868	.88291204
120.00000	5.1653871	24.619490	3.2099820	127.92048	52.079515	.83773446
130.00000	4.9339333	20.354310	3.4414358	137.00120	42.998798	.79852698
140.00000	4.7429039	16.172399	3.6324652	145.87035	34.129647	.76591101
150.00000	4.5937135	12.062242	3.7816556	154.56316	25.436840	.74028155
160.00000	4.4869996	8.0087772	3.8883695	163.11962	16.880380	.72186678
170.00000	4.4229627	3.9944247	3.9524064	171.58328	8.4167214	.71078420
180.00000	4.4016212	.00000000	3.9737479	180.00000	.00000000	.70708527

TABLE VIII



$$Q = -0,27934860 \text{ MeV.}$$

$$E_{\text{THR}} = 0,32623379 \text{ MeV.}$$

The termination E-02 which appears in the numbers means multiplication by 10^{-2} .

E_0	E_{CH}	E_{2CM}	E_{3CM}	E_{4CM}	S_3	S_4
.35000000	.25662562	4.3072502E-02	1.8884893E-02	1.4646274E-03	.43784593	5.6455816
.00000000	3.9043835E-02	.00000000	3.1607565E-02	.00000000	180.00000	2.0674008
10.000000	3.8527122E-02	3.0356661	3.2124278E-02	14.360468	165.63953	2.0459615
20.000000	3.7024271E-02	5.7357453	3.3627129E-02	28.612563	151.38744	1.9828186
30.000000	3.4670656E-02	7.8558210	3.5980744E-02	42.645784	137.35422	1.8814696
40.000000	3.1671061E-02	9.2852235	3.8980339E-02	56.346286	123.65371	1.7476353
50.000000	2.8271672E-02	10.034280	4.2379728E-02	69.597436	110.40256	1.5890362
60.000000	2.4727081E-02	10.192986	4.5924319E-02	82.283243	97.716755	1.4149617
70.000000	2.1267888E-02	9.8884105	4.9383537E-02	94.295355	85.704643	1.2355456
80.000000	1.8074969E-02	9.2532582	5.2576431E-02	105.54336	74.456634	1.0607284
90.000000	1.5265571E-02	8.4067061	5.5385829E-02	115.96652	64.033477	.89905011
100.00000	1.2892844E-02	7.4447197	5.7758556E-02	125.54336	54.456642	.75660393
110.00000	1.0957266E-02	6.4371247	5.9694134E-02	134.25536	45.704643	.63653717
120.00000	9.4243924E-03	5.4292724	6.1227088E-02	142.28125	37.716752	.53927002
130.00000	8.2427987E-03	4.4464134	6.2408602E-02	149.59743	30.407568	.46326868
140.00000	7.3580660E-03	3.4990022	6.3293334E-02	156.34628	23.653721	.40599775
150.00000	6.7214681E-03	2.5876240	6.3929932E-02	162.64177	17.354233	.36472716
160.00000	6.2941850E-03	1.7068346	6.4357215E-02	168.61252	11.387479	.33705659
170.00000	6.0486660E-03	.8478079	6.4602734E-02	174.36041	5.6395892	.32118551
180.00000	5.9686178E-03	.00000000	6.4682783E-02	180.00000	.00000000	.31601717
.40000000	.29328642	4.9225716E-02	5.8617426E-02	4.5461040E-03	.26568139	3.4256935
.00000000	9.3903206E-02	.00000000	2.6748200E-02	.00000000	180.00000	1.6019493
10.000000	9.3147809E-02	5.1056938	2.7503609E-02	12.644270	167.35573	1.5907564
20.000000	9.0935726E-02	9.5912471	2.5715680E-02	25.213569	154.78643	1.5577689
30.000000	8.7427464E-02	13.052858	3.3228940E-02	37.633772	142.36623	1.5047243
40.000000	8.2846621E-02	15.366320	3.7804780E-02	49.832981	130.16702	1.4343966
50.000000	7.7502056E-02	16.612911	4.3149350E-02	61.743096	118.25690	1.3504114
60.000000	7.1705555E-02	16.972241	4.8945850E-02	73.802175	106.69782	1.2569846
70.000000	6.5764674E-02	16.645428	5.4886730E-02	84.457320	95.42678	1.1585976
80.000000	5.9850822E-02	15.816207	6.0700580E-02	95.167700	84.832298	1.0596395
90.000000	5.4481068E-02	14.636764	6.6170340E-02	105.40744	74.592557	.96406103
100.00000	4.9510366E-02	13.225831	7.1141040E-02	115.16769	64.832306	.87509929
110.00000	4.5133456E-02	11.671792	7.5517950E-02	124.45732	55.542678	.79512419
120.00000	4.1394100E-02	10.037450	7.9257300E-02	133.30218	46.697820	.72562202
130.00000	3.8298165E-02	8.3649988	8.2353240E-02	141.74308	38.256914	.66730490
140.00000	3.5827498E-02	6.6806748	8.4823910E-02	149.83297	30.167030	.62030190
150.00000	3.3952219E-02	4.9988137	8.6699190E-02	157.63376	22.366239	.58437719
160.00000	3.2640496E-02	3.3252609	8.8010910E-02	165.21352	14.786477	.55913387
170.00000	3.1865335E-02	1.6601262	8.8786670E-02	172.64421	7.4557927	.54417633
180.00000	3.1609014E-02	.00000000	8.9042390E-02	180.00000	.00000000	.53922388
.45000000	.32994722	5.5378931E-02	9.8349968E-02	7.6275813E-03	.21755228	2.8051172
.00000000	.14579834	.00000000	2.4853060E-02	.00000000	180.00000	1.4824332
10.000000	.14483741	6.5774209	2.5813990E-02	12.164991	167.83501	1.4737149
20.000000	.14201718	12.246457	2.8634220E-02	24.267157	155.73285	1.4480010
30.000000	.13751800	16.479395	3.3133400E-02	36.244774	143.75523	1.4065862
40.000000	.13161832	19.190234	3.9033080E-02	48.038582	131.96142	1.3515327
50.000000	.12466474	20.563391	4.5986660E-02	59.593369	120.40663	1.2855274
60.000000	.11703694	20.874855	5.3614440E-02	70.859760	109.14024	1.2116913
70.000000	.10911231	20.392823	6.1539090E-02	81.796263	98.203735	1.1333508
80.000000	.10123553	19.341511	6.9415870E-02	92.371363	87.628636	1.0537955
90.000000	.93696561E-02	17.895760	7.6954840E-02	102.56531	77.434691	.97604859
100.00000	.86719000E-02	16.186691	8.3932400E-02	112.37136	67.628638	.90268539
110.00000	.80458797E-02	14.309791	9.0192610E-02	121.79626	58.203740	.83572195
120.00000	.75010917E-02	12.332533	9.5640490E-02	130.85975	49.140247	.77658697
130.00000	.70421263E-02	10.300784	1.0023014	139.59337	40.406628	.72616798
140.00000	.6700810E-02	8.2440514	1.0395059	148.03857	31.961425	.68491402
150.00000	.63839259E-02	6.1797040	1.06881215	156.24475	23.755249	.65296325
160.00000	.61816802E-02	4.1163931	1.08883460	164.26715	15.732848	.63027205
170.00000	.60613106E-02	2.0568349	1.1003830	172.16495	7.8350489	.61672638
180.00000	.60213636E-02	.00000000	1.1043777	180.00000	.00000000	.61224355
.50000000	.36660803	6.1532145E-02	.13808251	1.0709059E-02	.19353529	2.4954423
.00000000	.19670322	.00000000	2.3948180E-02	.00000000	180.00000	1.4245263
10.000000	.19554961	7.7569800	2.5101790E-02	11.925903	168.07410	1.4169722
20.000000	.19215981	14.321085	2.8491590E-02	23.795352	156.20465	1.3946812
30.000000	.18673948	19.071363	3.3911920E-02	35.553065	144.44694	1.3587442
40.000000	.17960709	21.990718	4.1064310E-02	47.146232	132.85377	1.3108972
50.000000	.17116152	23.374084	4.9489880E-02	58.525909	121.47409	1.2534018
60.000000	.16184368	23.583988	5.8807720E-02	69.648676	110.35132	1.1888875
70.000000	.15209729	22.941374	6.8554110E-02	80.478329	99.521670	1.1201654
80.000000	.14233486	21.698739	7.8316540E-02	90.987515	89.012484	1.0500332
90.000000	.13291207	20.044871	8.7739330E-02	101.15917	78.840827	.98109338
100.00000	.12411305	18.117342	9.6538350E-02	110.98751	69.012492	.91560533
110.00000	.11614680	16.014521	1.0450460	120.47833	59.521669	.85539366
120.00000	.10415234	13.805258	1.1149906	129.64867	50.351325	.80181712
130.00000	.10321019	11.536286	1.1744121	138.52590	41.474100	.75579368
140.00000	.9357028E-02	9.2378886	1.2229438	147.14622	32.853778	.71787083
150.00000	.84600332E-02	6.9282676	1.2605107	155.55305	24.446952	.68831863
160.00000	.9131877E-02	4.6169531	1.2871953	163.79534	16.204662	.66722667
170.00000	.9038279E-02	2.3075623	1.3031313	171.92587	8.0741270	.65459209
180.00000	.89808456E-02	.00000000	1.3084295	180.00000	.00000000	.65038542

.75000000	.54991204	9.2298718E-02	.33674521	2.6116444E-02	.15178345	1.9570944
.00000000	.44672919	.00000000	2.3922210E-02	.00000000	180.00000	1.3266050
10.000000	.44467333	11.541054	2.5978070E-02	11.510293	168.48971	1.3209588
20.000000	.43861977	20.637533	3.2031630E-02	22.975737	157.02426	1.3042818
30.000000	.42889955	26.505308	4.1751850E-02	34.352461	145.64754	1.2773411
40.000000	.41602902	29.605062	5.4622380E-02	45.598943	134.40106	1.2413590
50.000000	.40066287	30.692006	6.9988530E-02	56.677050	123.32295	1.1979301
60.000000	.38353696	30.400794	8.7114440E-02	67.553289	112.44671	1.1489164
70.000000	.36540977	29.184377	.10524163	78.200042	101.79996	1.0963248
80.000000	.34700901	27.351686	.12364739	88.596648	91.403350	1.0421815
90.000000	.32898954	25.112100	.14166186	98.730295	81.269704	.98841380
100.00000	.31190587	22.608162	.15874553	108.59665	71.403353	.93675398
110.00000	.29619938	19.937178	.17445202	118.20004	61.799956	.88867298
120.00000	.28220000	17.165228	.18845140	127.55329	52.446712	.84534959
130.00000	.27013765	14.336384	.20051375	136.67704	43.322955	.80767223
140.00000	.26016004	11.478997	.21049136	145.59892	34.401074	.77626767
150.00000	.25235311	8.6101182	.21829829	154.35244	25.647556	.75154808
160.00000	.24676067	5.7388198	.22389073	162.97570	17.024295	.73376280
170.00000	.24340144	2.8687103	.22724996	171.51028	8.4897163	.72304888
180.00000	.24228133	.00000000	.22837007	180.00000	.00000000	.71947128
1.0000000	.73321605	.12306429	.53540791	4.1523830E-02	.13899593	1.7922123
.00000000	.69459250	.00000000	2.6058900E-02	.00000000	180.00000	1.2973115
10.000000	.69166486	13.663458	2.8986540E-02	11.383039	168.61696	1.2922197
20.000000	.68303845	23.946513	3.7612950E-02	22.724833	157.27517	1.2771752
30.000000	.66916850	30.132461	5.1482900E-02	33.985154	146.01485	1.2528549
40.000000	.65076752	33.110117	6.9083880E-02	45.125915	134.87409	1.2203374
50.000000	.62874201	33.915492	9.1909390E-02	56.112277	123.88773	1.1810328
60.000000	.60411680	33.306423	.11653460	66.913685	113.08631	1.1365896
70.000000	.57795660	31.780070	.14269480	77.505039	102.49496	1.0887915
80.000000	.55129306	29.657396	.16935834	87.867594	92.132405	1.0394476
90.000000	.52506712	27.148032	.19558428	97.989747	82.010252	.99029285
100.00000	.50008877	24.391073	.22056263	107.86759	72.132413	.94290238
110.00000	.47701766	21.479767	.24363374	117.50504	62.494960	.89863407
120.00000	.45636117	18.476604	.26429023	126.91368	53.086316	.85859803
130.00000	.43848745	15.422806	.28216395	136.11227	43.887731	.82365354
140.00000	.42364661	12.344606	.29700479	145.12591	34.874091	.79442952
150.00000	.41199706	9.2575599	.30865434	153.98514	26.014857	.77135906
160.00000	.40363099	6.1697041	.31702041	162.72482	17.275176	.75472156
170.00000	.39859688	3.0839494	.32205452	171.38303	8.6169702	.74468279
180.00000	.39691676	.00000000	.32373464	180.00000	.00000000	.74132800
1.2500000	.91652006	.15383036	.73407058	5.6931214E-02	.13271824	1.7112678
.00000000	.94185156	.00000000	2.8799840E-02	.00000000	180.00000	1.2830504
10.000000	.93806076	15.036661	3.2590640E-02	11.320558	168.67944	1.2782256
20.000000	.92688722	25.997388	4.3764180E-02	22.601681	157.39832	1.2639674
30.000000	.90891022	32.292770	6.1741180E-02	33.804896	146.19510	1.2409102
40.000000	.88501732	35.137426	8.5614080E-02	44.893835	135.10617	1.2100648
50.000000	.85642572	35.742298	.11422568	55.835235	124.16477	1.1727531
60.000000	.82438766	34.929663	.14626374	66.600007	113.39999	1.1305738
70.000000	.79029109	33.215190	.18036031	77.164255	102.83574	1.0850539
80.000000	.75564899	30.922327	.21518241	87.510154	92.489845	1.0380498
90.000000	.72114467	28.258303	.24950673	97.626698	82.373301	.99115389
100.00000	.68837966	25.358814	.28227174	107.51015	72.489847	.94586485
110.00000	.65804810	22.313965	.31260330	117.16426	62.835743	.90348480
120.00000	.63083141	19.183687	.33981999	126.60000	53.399994	.86508751
130.00000	.60723250	16.007243	.36341890	135.83523	44.164768	.83151481
140.00000	.58760185	12.809434	.38304955	144.89382	35.106179	.80339259
150.00000	.57216828	9.6047764	.39848312	153.80489	26.195109	.78116078
160.00000	.56107109	6.4005878	.40958031	162.60165	17.398351	.76511038
170.00000	.55438798	3.1992261	.41626342	171.32053	8.6794684	.75541800
180.00000	.55215652	.00000000	.41849488	180.00000	.00000000	.75217773
1.5000000	1.0998241	.18459644	.93273330	7.2338601E-02	.12897674	1.6630249
.00000000	1.1888531	.00000000	3.1798300E-02	.00000000	180.00000	1.2745881
10.000000	1.1842027	15.999942	3.6448700E-02	11.283335	168.71667	1.2699208
20.000000	1.1704931	27.394200	5.0158300E-02	22.528246	157.47170	1.2561266
30.000000	1.1484273	33.727133	7.2224100E-02	33.697483	146.30252	1.2338148
40.000000	1.1191078	36.459916	.10154360	44.755545	135.24445	1.2039566
50.000000	1.0839413	36.920015	.13671010	55.670185	124.32981	1.1678231
60.000000	1.045269	35.967737	.17612450	66.413154	113.58684	1.1269037
70.000000	1.0025354	34.127717	.21811600	76.961267	103.08773	1.0828137
80.000000	.95959921	31.723234	.26105220	87.297266	92.702733	1.0371991
90.000000	.91722199	28.959014	.30342950	97.410464	82.589535	.99164752
100.00000	.87671657	25.968031	.34393490	107.29726	72.702736	.94761293
110.00000	.83916873	22.838068	.38148270	116.96127	63.038731	.90636333
120.00000	.80543280	19.627223	.41521860	126.41315	53.586852	.86895038
130.00000	.77614553	16.373392	.44450590	135.67018	44.329819	.83620471
140.00000	.75175645	13.100368	.46889500	144.75554	35.244462	.80874907
150.00000	.73256375	9.8219532	.48808770	153.69745	26.302545	.78702634
160.00000	.71875375	6.5449181	.50189770	162.52826	17.471741	.77133294
170.00000	.71043269	3.2712579	.51021880	171.28332	8.7166820	.76185197
180.00000	.70765358	.00000000	.51299790	180.00000	.00000000	.75868148
1.7500000	1.2831281	.21536251	1.1313960	8.7745987E-02	.12649000	1.6309609
.00000000	1.4357206	.00000000	3.4930800E-02	.00000000	180.00000	1.2689796
10.000000	1.4302127	16.713439	4.0438700E-02	11.258573	168.74143	1.2644163
20.000000	1.4139728	28.406865	5.6678600E-02	22.479508	157.52049	1.2509283
30.000000	1.3878275	34.748841	8.2823900E-02	33.626093	146.37391	1.2291088
40.000000	1.3530738	37.390884	.11757760	44.663655	135.33635	1.1999031
50.000000	1.3113692	37.742718	.15928220	55.560511	124.43949	1.1645486
60.000000	1.2645979	36.689156	.20605350	66.289000	113.71100	1.1244960
70.000000	1.2147324	34.759578	.25591900	76.826410	103.17359	1.0813199
80.000000	1.1637050	32.276327	.30694640	87.155825	92.844173	1.0366267
90.000000	1.1132993	29.441930	.35735210	97.266812	82.733187	.99196793
100.00000	1.0650768	26.387228	.40557460	107.15582	72.844176	.94876784
110.00000	1.0203359	23.198244	.45031550	116.82641	63.173588	.90827163
120.00000	.98010238	19.931730	.49054910	126.28900	53.711001	.87151618
130.00000	.94514581	16.624576	.52550560	135.56050	44.439495	.83932402
140.00000	.91601438	13.299834	.55463710	144.66364	35.336359	.81231556
150.00000	.89307584	9.9707766	.57757560	153.62607	26.373924	.79093481
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170.00000	.86660907	3.3206027	.60404240	171.25856	8.7414338	.76614315
180.00000	.86328442	.00000000	.60736700	180.00000	.00000000	.76301973

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10.000000	1.6761453	17.263296	4.4506100E-02	11.240903	168.75910	1.2604977
20.000000	1.6573784	29.174686	6.3273000E-02	22.444734	157.55526	1.2472274
30.000000	1.6271594	35.513534	9.3492000E-02	33.575190	146.42481	1.2257574
40.000000	1.5869799	38.081807	.13367150	44.598125	135.40187	1.1970152
50.000000	1.5387462	38.350000	.18190520	55.482311	124.51769	1.1622144
60.000000	1.4846292	37.219758	.23602220	66.200478	113.79952	1.1227779
70.000000	1.4269024	35.223146	.29374900	76.730251	103.26375	1.0802521
80.000000	1.3677974	32.681361	.35285400	87.054985	92.945014	1.0362147
90.000000	1.3093767	29.795079	.41127470	97.164390	82.835609	.99219251
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110.00000	1.2015308	23.461126	.51912060	116.73025	63.269747	.90963003
120.00000	1.1548122	20.153830	.56583920	126.20047	53.799528	.87334508
130.00000	1.1141978	16.807682	.60645360	135.48231	44.517692	.84154949
140.00000	1.0803334	13.445181	.64031800	144.59811	35.401888	.81486184
150.00000	1.0536567	10.079191	.66699470	153.57517	26.424831	.79372698
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170.00000	1.0228634	3.3565501	.69778800	171.24088	8.7591153	.76921063
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.00000000	1.9292485	.00000000	4.1402900E-02	.00000000	180.00000	1.2619995
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30.000000	1.8664478	36.107329	.10420360	33.537047	146.46296	1.2232488
40.000000	1.8208469	38.614931	.14980450	44.549022	135.45098	1.1948529
50.000000	1.7660906	38.816711	.20456080	55.423719	124.57628	1.1604655
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70.000000	1.6390549	35.577813	.33159650	76.658213	103.34179	1.0794506
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90.000000	1.5054542	30.064631	.46519720	97.037653	82.912345	.99235864
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120.00000	1.3295471	20.323028	.64110430	126.13415	53.865848	.87471501
130.00000	1.2832821	16.947121	.68736930	135.42372	44.576283	.84321752
140.00000	1.2446914	13.555831	.72596000	144.54901	35.450985	.81677151
150.00000	1.2142810	10.161705	.75637040	153.53703	26.462373	.79582174
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170.00000	1.1791671	3.3838839	.79148430	171.22768	8.7723162	.77151309
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.00000000	2.1759533	.00000000	4.4698100E-02	.00000000	180.00000	1.2596795
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50.000000	1.9934128	39.186617	.22723860	55.378171	124.62183	1.1591064
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70.000000	1.8511956	35.857955	.36945580	76.602212	103.39779	1.0788766
80.000000	1.7759576	33.235017	.44469380	86.920706	93.079292	1.0356617
90.000000	1.7015316	30.277156	.51911980	97.028008	82.971990	.99248654
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70.000000	2.0633277	36.084828	.40732370	76.557435	103.44256	1.0783270
80.000000	1.9800309	33.432613	.49062050	86.873747	93.126252	1.0354671
90.000000	1.8976090	30.449029	.57304240	96.980315	83.019683	.99258807
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3.0000000	2.1996482	.36919287	2.1247095	.16478292	.12085242	1.5582700
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70.000000	2.2754540	36.272321	.44519740	76.520806	103.47919	1.0779181
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70.000000	2.4875753	36.429869	.48307610	76.490290	103.50971	1.0775771
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70.000000	2.6996932	36.564122	.52095820	76.464467	103.53553	1.0772883
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70.000000	2.9118081	36.679889	.55884330	76.442339	103.55766	1.0770408
80.000000	2.7962980	33.950223	.67435340	86.753047	93.246951	1.0349635
90.000000	2.6819191	30.898813	.78873230	96.857725	83.142273	.99284567
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170.00000	2.1174461	3.4680563	1.3532053	171.18805	8.8119535	.77843482
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.00000000	3.6558419	.00000000	6.4809500E-02	.00000000	180.00000	1.2522733
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70.000000	3.1239205	36.780744	.59673090	76.423163	103.57684	1.0768262
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130.00000	2.4672499	17.416023	1.2534015	135.23252	44.767479	.84866504
140.00000	2.3956434	13.927717	1.3250080	144.38879	35.611207	.82301344
150.00000	2.3391561	10.438918	1.3814953	153.41254	26.587459	.80267417
160.00000	2.2984319	6.9546718	1.4222195	162.33357	17.666426	.78795457
170.00000	2.2738622	3.4756989	1.4467892	171.18453	8.8154714	.77905135
180.00000	2.2656511	.00000000	1.4550003	180.00000	.00000000	.77607228
4.2500000	3.1161682	.52302323	3.1180230	.24181985	.11874062	1.5310405
.00000000	3.9024612	.00000000	6.8190200E-02	.00000000	180.00000	1.2515803
10.000000	3.8884058	19.420663	8.2245600E-02	11.181434	168.81857	1.2473377
20.000000	3.8469468	32.082969	.12370460	22.327512	157.67249	1.2347945
30.000000	3.7801462	38.334781	.19050520	33.403675	146.59632	1.2144939
40.000000	3.6912434	40.589257	.27940800	44.377357	135.62265	1.1873021
50.000000	3.5843899	40.531348	.38626150	55.218873	124.78113	1.1543541
60.000000	3.4643245	39.112878	.50632690	65.902288	114.09771	1.1169828
70.000000	3.3360314	36.869392	.63462000	76.406381	103.59362	1.0766384
80.000000	3.2044229	34.114860	.76622850	86.715341	93.284657	1.0348054
90.000000	3.0740739	31.041747	.89657750	96.819423	83.180575	.99292542
100.00000	2.9490266	27.772291	1.0216248	106.71534	73.284660	.95232931
110.00000	2.8326863	24.385827	1.1379651	116.40638	63.593618	.91419167
120.00000	2.7277845	20.934105	1.2428669	125.90229	54.097713	.87950167
130.00000	2.6364124	17.450341	1.3342390	135.21887	44.781133	.84905430
140.00000	2.5600938	13.954924	1.4105576	144.37734	35.622654	.82345996
150.00000	2.4998848	10.459185	1.4707666	153.40366	26.596334	.80316450
160.00000	2.4564754	6.9681329	1.5141760	162.32749	17.672511	.78847601
170.00000	2.4302836	3.4824183	1.5403678	171.18143	8.8185711	.77959110
180.00000	2.4215306	.00000000	1.5491208	180.00000	.00000000	.77661813

4.5000000	3.2994722	.55378931	3.3166857	.25722723	.11846733	1.5275167
.00000000	4.1490757	.00000000	7.1575700E-02	.00000000	180.00000	1.2509690
10.000000	4.1341670	19.532429	8.6404400E-02	11.178738	168.82127	1.2467375
20.000000	4.0901883	32.229172	.13046310	22.322157	157.67784	1.2342273
30.000000	4.0193261	38.473549	.20132530	33.395832	146.60417	1.2139798
40.000000	3.9250144	40.710962	.29563700	44.367266	135.63274	1.1868585
50.000000	3.8116533	40.636356	.40899810	55.206826	124.79318	1.1539948
60.000000	3.6842664	39.203525	.53638500	65.888657	114.11134	1.1167176
70.000000	3.5481400	36.947926	.67251140	76.391575	103.60842	1.0764726
80.000000	3.4084843	34.183064	.81216710	86.699814	93.300185	1.0347402
90.000000	3.2701511	31.100942	.95050030	96.803655	83.196343	.99295795
100.00000	3.1374325	27.823435	1.0832189	106.63981	73.300187	.95245387
110.00000	3.0139415	24.429611	1.2067099	116.39157	63.608429	.91440002
120.00000	2.9025824	20.971014	1.3180690	125.88865	54.111344	.87978307
130.00000	2.8055774	17.480718	1.4150740	135.20682	44.793182	.84939777
140.00000	2.7245474	13.979003	1.4961040	144.36725	35.632750	.82385388
150.00000	2.6606174	10.477128	1.5630340	153.39582	26.604178	.80359720
160.00000	2.6145221	6.9800458	1.6061293	162.32212	17.677880	.78893605
170.00000	2.5867099	3.4883591	1.6339415	171.17871	8.8212927	.78006759
180.00000	2.5774145	.00000000	1.6432369	180.00000	.00000000	.77709993
4.7500000	3.4827762	.58455538	3.5153483	.27263461	.11822439	1.5243842
.00000000	4.3956871	.00000000	7.4964300E-02	.00000000	180.00000	1.2504256
10.000000	4.3799236	19.632863	9.0727800E-02	11.176327	168.82367	1.2462041
20.000000	4.3334262	32.360183	.13722520	22.317386	157.68262	1.2337232
30.000000	4.2585036	38.597672	.21214780	33.388857	146.61115	1.2135230
40.000000	4.1587824	40.819691	.31186900	44.358289	135.64171	1.1864643
50.000000	4.0389146	40.730106	.43173680	55.196122	124.80388	1.1536754
60.000000	3.9042077	39.284415	.56644370	65.876539	114.12346	1.1164818
70.000000	3.7602484	37.017989	.71040300	76.378415	103.62158	1.0763251
80.000000	3.6125449	34.243895	.85810650	86.686011	93.313987	1.0346822
90.000000	3.4662285	31.153727	1.0044229	96.789641	83.210358	.99298695
100.00000	3.3258387	27.869039	1.1448127	106.68601	73.313990	.95256462
110.00000	3.1951992	24.468646	1.2754522	116.37841	63.621589	.91458487
120.00000	3.0773832	21.003916	1.3932682	125.87654	54.123462	.88003324
130.00000	2.9747453	17.507792	1.4959061	135.19612	44.803879	.84970308
140.00000	2.8890042	14.000463	1.5816472	144.35828	35.641717	.82420394
150.00000	2.8213535	10.493122	1.6492979	153.38884	26.611157	.80398195
160.00000	2.7725730	6.9906490	1.6980784	162.31739	17.682612	.78934518
170.00000	2.7431392	3.4936473	1.7275122	171.17631	8.8236934	.78049111
180.00000	2.7333024	.00000000	1.7373490	180.00000	.00000000	.77752829
5.0000000	3.6660803	.61532145	3.7140111	.28804200	.11800704	1.5215817
.00000000	4.6422951	.00000000	7.8356300E-02	.00000000	180.00000	1.2499394
10.000000	4.6256782	19.723567	9.4973200E-02	11.174157	168.82584	1.2457269
20.000000	4.5766614	32.478264	.14399000	22.313137	157.68686	1.2332723
30.000000	4.4976777	38.709331	.22297370	33.382621	146.61738	1.2131142
40.000000	4.3925487	40.917405	.32810270	44.350262	135.64974	1.1861116
50.000000	4.2661738	40.814302	.45447760	55.186541	124.81346	1.1533897
60.000000	4.1241466	39.357034	.59650480	65.865699	114.13430	1.1162708
70.000000	3.9723551	37.080870	.74829630	76.366635	103.63336	1.0761931
80.000000	3.8166053	34.298478	.90440610	86.673664	93.326334	1.0346301
90.000000	3.6623062	31.201086	1.0583452	96.777099	83.222900	.99301269
100.00000	3.5142451	27.909947	1.2064063	106.67366	73.326337	.95266357
110.00000	3.3764570	24.503657	1.3441944	116.36664	63.633358	.91475019
120.00000	3.2521848	21.033429	1.4684666	125.86569	54.134308	.88025692
130.00000	3.1439152	17.532079	1.5767362	135.18653	44.813465	.84997618
140.00000	3.0534634	14.019714	1.6671880	144.35025	35.649749	.82451723
150.00000	2.9820917	10.507465	1.7385597	153.38260	26.617396	.80432610
160.00000	2.9306266	7.0001686	1.7900248	162.31312	17.686875	.78971113
170.00000	2.8995721	3.4984006	1.8210793	171.17413	8.8258706	.78087019
180.00000	2.8891929	.00000000	1.8314585	180.00000	.00000000	.77791161