

# Short Alpha Catalog

This catalogue lists only the strongest lines of each nuclide which are normally detected and identified in high-resolution alpha spectrometry.

Data are taken from the complete publication of evaluated data :

W. Westmeier and A.Merklin

“Catalog of Alpha Particles from Radioactive Decay”

Physik Daten / Physics Data, Vol. 29-1 (1985)

Fachinformationszentrum Energie Physik Mathematik GmbH, Karlsruhe

The short catalogue is arranged in two parts.

The first part lists alpha decaying nuclides in the order of rising nuclear charge  $Z$  and mass  $A$ . In the first line for each nuclide the name and half-life are listed. Following are the most prominent alpha line energies in keV, followed by the line intensity in percent (%). Up to three energy/intensity pairs are listed in one line. Lines are ordered by falling intensity, i.e. the strongest line comes first. Line intensities listed relate to 100% of all decays of that nuclide.

The second part lists the alpha line energies in the order of rising energy. Also given is the line intensity in percent (%), the name of the nuclide emitting alpha particles, and the half-life of the nuclide. Units for half-life are Y (year), H (hour), M (minute), and S (second).

The short catalogue lists data only for elements up to  $Z=105$  (Db). No responsibility is taken for the completeness nor the correctness of information listed in this short catalogue.

W. Westmeier (2006)

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2				
	Energy	Intensit.	Energy	Intensit.	Energy
					Intensit.
=====					
TE-108	2.1000E+00	S			
	3320.0	6.800E+01			
TE-109	4.6000E+00	S			
	3080.0	3.900E+00			
ND-144	2.4000E+15	Y			
	1830.0	1.000E+02			
SM-146	1.0300E+08	Y			
	2460.0	1.000E+02			
SM-147	1.0600E+11	Y			
	2233.0	1.000E+02			
SM-148	7.0000E+15	Y			
	1960.0	1.000E+02			
GD-148	7.4600E+01	Y			
	3182.8	1.000E+02			
GD-150	1.7900E+06	Y			
	2726.0	1.000E+02			
GD-152	1.0800E+14	Y			
	2140.0	1.000E+02			
TB-149	4.1500E+00	H			
	3963.0	1.580E+01			
DY-150	7.1700E+00	M			
	4232.0	3.800E+01			
DY-151	1.6900E+01	M			
	4068.0	5.600E+00			
DY-154	1.0000E+07	Y			
	2872.0	1.000E+02			
HO-151B	4.7000E+01	S			
	4606.0	1.300E+01			
HO-151A	3.5600E+01	S			
	4519.0	1.800E+01			
HO-152B	5.2300E+01	S			
	4452.0	1.050E+01			
HO-152A	2.3500E+00	M			
	4388.0	1.200E+01			
ER-152	1.0100E+01	S			
	4801.0	9.000E+01			

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
ER-153	3.6000E+01 S						
		4672.0	5.300E+01				
TM-153	1.5900E+00 S						
		5110.0	8.550E+01				
TM-154B	3.5000E+00 S						
		5036.0	8.600E+01				
TM-154A	5.0000E+00 S						
		4959.0	4.400E+01				
YB-154	4.2000E-01 S						
		5332.0	9.300E+01				
YB-156	2.5000E+01 S						
		4686.0	2.100E+01				
LU-157	5.5000E+00 S						
		4996.0	6.000E+00				
LU-158	9.0000E+00 S						
		4666.0	1.500E+00				
HF-158	2.9000E+00 S						
		5268.0	4.600E+01				
HF-159	5.6000E+00 S						
		5095.0	1.200E+01				
HF-160	1.2000E+01 S						
		4777.0	2.300E+00				
HF-174	2.0000E+15 Y						
		2500.0	1.000E+02				
W-162	1.3900E+00 S						
		5536.0	4.600E+01				
W-163	2.5000E+00 S						
		5385.0	4.100E+01				
W-164	6.4000E+00 S						
		5148.0	2.600E+00				
W-180	6.0000E+14 Y						
		2550.0	1.000E+02				
RE-165	2.4000E+00 S						
		5506.0	1.300E+01				
RE-169M	1.2900E+01 S						
		5050.0	1.000E+02				

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
OS-168	2.0000E+00 S	5662.0	4.900E+01				
OS-169	3.5000E+00 S	5570.0	8.250E+00	5505.0	2.750E+00		
OS-170	6.9000E+00 S	5399.0	1.200E+01				
OS-171	8.0000E+00 S	5245.0	1.700E+00				
OS-173	1.6000E+01 S	4940.0	2.100E+00				
OS-186	2.0000E+15 Y	2760.0	1.000E+02				
PT-175	2.5500E+00 S	5964.0	5.502E+01	6038.0	4.799E+00	5831.0	4.702E+00
PT-176	6.3300E+00 S	5757.0	3.799E+01				
PT-177	1.1000E+01 S	5527.0	5.000E+00				
PT-178	2.1000E+01 S	5458.0	7.200E+00				
PT-190	6.0000E+11 Y	3175.0	1.000E+02				
HG-179	1.0900E+00 S	6288.0	5.300E+01				
HG-180	2.1400E+00 S	6120.0	4.900E+01				
HG-181	3.6000E+00 S	6006.0	2.290E+01	5938.0	1.579E+00	5916.0	1.316E+00
HG-182	1.1200E+01 S	5867.0	1.505E+01				
HG-183	8.8000E+00 S	5905.0	2.111E+01	5835.0	1.206E+00		
HG-184	3.0600E+01 S	5535.0	1.110E+00				
HG-185	5.0000E+01 S	5653.0	5.280E+00				

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
TL-184	1.1000E+01 S						
		6155.0	1.134E+00				
PB-185	4.1000E+00 S						
		6406.0	5.049E+01	6485.0	1.782E+01	6340.0	1.485E+01
		6290.0	1.188E+01	6535.0	2.970E+00		
PB-186	4.7000E+00 S						
		6335.0	1.000E+02				
PB-187B	1.8300E+01 S						
		6073.0	2.000E+00				
PB-188	2.4500E+01 S						
		5980.0	2.200E+01				
PB-204	1.4000E+17 Y						
		2600.0	1.000E+02				
BI-189	1.5000E+00 S						
		6672.0	9.600E+01	7116.0	4.000E+00		
BI-190	5.4000E+00 S						
		6450.0	9.000E+01				
BI-191	1.3000E+01 S						
		6311.0	3.920E+01				
BI-192	4.2000E+01 S						
		6065.0	2.000E+01				
BI-193M	3.5000E+00 S						
		6480.0	2.400E+01				
BI-193	6.7000E+01 S						
		5899.0	5.760E+01	6174.0	2.520E+00		
BI-195M	8.7000E+01 S						
		6106.0	4.000E+00				
BI-210M	3.0000E+06 Y						
		4946.0	5.700E+01	4908.0	3.800E+01	4571.0	4.000E+00
BI-211	2.1400E+00 M						
		6623.1	8.377E+01	6278.8	1.596E+01		
BI-212M	2.5000E+01 M						
		6336.0	3.216E+01	6297.0	2.345E+01	6013.0	4.690E+00
		10100.0	2.881E+00	10220.0	2.881E+00		
BI-212	6.0550E+01 M						
		6051.0	2.523E+01	6090.1	9.632E+00		
BI-213	4.5590E+01 M						
		5869.0	2.000E+00				

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
PO-196	5.5000E+00 S						
		6520.0	9.500E+01				
PO-197M	2.6000E+01 S						
		6385.0	8.400E+01				
PO-197	5.6000E+01 S						
		6281.0	4.400E+01				
PO-198	1.7600E+00 M						
		6182.0	7.000E+01				
PO-199M	4.2000E+00 M						
		6059.0	3.900E+01				
PO-199	5.2000E+00 M						
		5952.0	1.200E+01				
PO-200	1.1500E+01 M						
		5863.0	1.500E+01				
PO-201M	8.9000E+00 M						
		5786.0	2.900E+00				
PO-201	1.5300E+01 M						
		5683.0	1.600E+00				
PO-202	4.4700E+01 M						
		5588.0	2.000E+00				
PO-206	8.8000E+00 D						
		5223.5	5.450E+00				
PO-208	2.8980E+00 Y						
		5114.0	9.999E+01				
PO-209	1.0200E+02 Y						
		4882.0	9.917E+01				
PO-210	1.3838E+02 D						
		5304.4	1.000E+02				
PO-211M	2.5200E+01 S						
		7270.0	9.087E+01	8885.0	7.026E+00	7990.0	1.657E+00
PO-211	5.1600E-01 S						
		7450.4	9.892E+01				
PO-212M3	4.5100E+01 S						
		11650.0	9.259E+01	8520.0	4.826E+00		
PO-212M2	3.4000E-11 S						
		10549.0	2.700E+01				

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
PO-212M1	1.4200E-08 S	10376.0	6.000E+00				
PO-212	2.9800E-07 S	8784.4	1.000E+02				
PO-213	4.2000E-06 S	8375.0	1.000E+02				
PO-214	1.6430E-04 S	7686.9	9.999E+01				
PO-215	1.7800E-03 S	7386.4	1.000E+02				
PO-216	1.5000E-01 S	6778.5	1.000E+02				
PO-217	1.0000E+01 S	6539.0	9.500E+01				
PO-218	3.1100E+00 M	6002.4	9.996E+01				
AT-198M	1.5000E+00 S	6853.0	2.600E+01				
AT-198	4.9000E+00 S	6748.0	1.000E+02				
AT-199	7.0000E+00 S	6636.0	9.200E+01				
AT-200M	4.3000E+00 S	6536.0	2.000E+01				
AT-200	4.3000E+01 S	6412.0	2.114E+01	6465.0	1.365E+01		
AT-201	8.9000E+01 S	6344.0	7.100E+01				
AT-202	3.0200E+00 M	6135.0	7.680E+00	6228.0	4.320E+00		
AT-203	7.3700E+00 M	6088.0	3.100E+01				
AT-204	9.2000E+00 M	5951.0	4.400E+00				
AT-205	2.6200E+01 M	5902.0	1.000E+01				

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
AT-207	1.8000E+00 H	5758.0	8.700E+00				
AT-209	5.4100E+00 H	5647.0	4.096E+00				
AT-211	7.2140E+00 H	5867.0	4.170E+01				
AT-212M	1.1900E-01 S	7837.0	6.530E+01	7897.0	3.310E+01		
AT-212	3.1400E-01 S	7681.0	8.350E+01	7618.0	1.510E+01		
AT-213	1.1000E-07 S	9080.0	1.000E+02				
AT-214M2	7.6000E-07 S	8782.0	9.918E+01				
AT-214M1	2.6500E-07 S	8877.0	1.000E+02				
AT-214	5.5800E-07 S	8819.0	9.895E+01				
AT-215	1.0000E-04 S	8026.0	9.995E+01				
AT-216	3.0000E-04 S	7800.0	9.700E+01	7697.0	2.100E+00		
AT-217	3.2300E-02 S	7067.0	9.989E+01				
AT-218	1.6000E+00 S	6694.0	8.991E+01	6654.0	6.394E+00	6757.0	3.596E+00
AT-219	5.4000E+01 S	6275.0	9.700E+01				
RN-200	1.0000E+00 S	6909.0	9.800E+01				
RN-201M	3.8000E+00 S	6770.0	9.000E+01				
RN-201	7.0000E+00 S	6721.0	8.000E+01				
RN-202	9.8500E+00 S	6636.0	8.500E+01				

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
RN-203M	2.8000E+01 S	6548.0	1.000E+02				
RN-203	4.5000E+01 S	6498.0	6.600E+01				
RN-204	1.2400E+00 S	6417.0	6.800E+01				
RN-205	1.7000E+02 S	6262.0	2.300E+01				
RN-206	5.6700E+00 M	6258.0	6.800E+01				
RN-207	9.3000E+00 M	6133.0	2.283E+01				
RN-208	2.4350E+01 M	6139.0	5.197E+01				
RN-209	2.8500E+01 M	6039.0	1.694E+01				
RN-210	2.4000E+00 H	6040.0	9.599E+01				
RN-211	1.4600E+01 H	5784.0	1.638E+01	5851.0	8.840E+00		
RN-212	2.4000E+01 M	6264.0	9.995E+01				
RN-215	2.3000E-06 S	8674.0	1.000E+02				
RN-216	4.5000E-05 S	8050.0	1.000E+02				
RN-217	5.4000E-04 S	7742.0	9.990E+01				
RN-218	3.5000E-02 S	7133.0	9.984E+01				
RN-219	3.9600E+00 S	6819.3	8.090E+01	6552.8	1.220E+01	6424.7	7.500E+00
RN-220	5.5600E+01 S	6288.3	9.990E+01				
RN-221	2.5000E+01 M	6037.0	1.804E+01	5788.0	2.156E+00	5778.0	1.804E+00

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2					
	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====						
RN-222	3.8230E+00	D				
	5489.5	9.992E+01				
FR-204	2.1000E+00	S				
	7027.0	5.600E+01	6967.0	2.400E+01		
FR-205	3.9600E+00	S				
	6917.0	1.000E+02				
FR-206	1.5900E+01	S				
	6790.0	9.300E+01				
FR-207	1.4800E+01	S				
	6767.0	9.500E+01				
FR-208	5.9100E+01	S				
	6636.0	9.000E+01				
FR-209	5.0000E+01	S				
	6646.0	8.900E+01				
FR-210	3.1800E+00	M				
	6543.0	6.000E+01				
FR-211	3.1000E+00	M				
	6534.0	7.000E+01				
FR-212	2.0000E+01	M				
	6262.0	1.634E+01	6383.0	1.032E+01	6405.0	9.460E+00
	6335.0	4.386E+00	6342.5	1.333E+00		
FR-213	3.4600E+01	S				
	6775.0	1.000E+02				
FR-216	7.0000E-07	S				
	9006.0	1.000E+02				
FR-217	2.2000E-05	S				
	8315.0	1.000E+02				
FR-218M	2.2000E-02	S				
	7616.0	4.110E+01	7681.0	1.610E+01	7657.0	1.190E+01
	7240.0	9.600E+00	7725.0	4.500E+00	7398.0	3.400E+00
	7952.0	2.400E+00	7106.0	1.610E+00	7810.0	1.600E+00
	7875.0	1.400E+00	7750.0	1.300E+00		
FR-218	1.3000E-03	S				
	7867.0	9.300E+01	7572.0	5.000E+00		
FR-219	2.1000E-02	S				
	7313.2	9.860E+01				

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Nuclide	T1/2					
	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====						
FR-220		2.7400E+01				S
	6686.0	6.109E+01	6642.0	1.216E+01	6582.0	9.766E+00
	6630.0	6.477E+00	6527.0	2.990E+00	6535.0	2.491E+00
	6482.0	1.295E+00	6413.0	1.246E+00		
FR-221		4.9000E+00				M
	6341.0	8.340E+01	6126.4	1.510E+01	6243.0	1.340E+00
RA-207		1.3000E+00				S
	7133.0	8.910E+01				
RA-208		1.4000E+00				S
	7131.0	1.000E+02				
RA-209		4.6000E+00				S
	7008.0	1.000E+02				
RA-210		3.7000E+00				S
	7018.0	1.000E+02				
RA-211		1.3000E+01				S
	6912.0	9.300E+01				
RA-212		1.3000E+01				S
	6901.0	9.400E+01				
RA-214		2.4600E+00				S
	7136.0	9.994E+01				
RA-219		1.0000E-02				S
	7680.0	6.500E+01	7982.0	3.500E+01		
RA-220		2.3000E-02				S
	7455.0	9.900E+01				
RA-221		2.8000E+01				S
	6610.0	3.400E+01	6758.0	3.000E+01	6665.0	2.000E+01
	6588.0	8.000E+00	6578.0	3.000E+00		
RA-222		3.8000E+01				S
	6556.0	9.690E+01	6235.0	3.050E+00		
RA-223		1.1434E+01				D
	5716.4	5.250E+01	5606.9	2.420E+01	5747.2	9.500E+00
	5540.0	9.160E+00	5433.6	2.270E+00		
RA-224		3.6650E+00				D
	5685.6	9.498E+01	5444.6	5.000E+00		
RA-226		1.6000E+03				Y
	4784.5	9.445E+01	4601.9	5.550E+00		
AC-214		8.2000E+00				S
	7214.0	4.628E+01	7082.0	3.916E+01	7000.0	3.560E+00

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
AC-220	2.6100E-02 S						
		7850.0	2.400E+01	7610.0	2.300E+01	7680.0	2.100E+01
		7790.0	1.300E+01	8060.0	6.000E+00	8005.0	5.000E+00
		7985.0	4.000E+00	8195.0	3.000E+00		
AC-221	5.2000E-02 S						
		7645.0	7.000E+01	7440.0	2.000E+01	7375.0	8.000E+00
		7170.0	2.000E+00				
AC-222M	6.6000E+01 S						
		6810.0	2.376E+01	6750.0	1.320E+01	6890.0	1.320E+01
		7000.0	1.320E+01	6840.0	8.800E+00	6710.0	7.040E+00
		6970.0	7.040E+00	6460.0	1.760E+00		
AC-222	4.2000E+00 S						
		7013.0	9.400E+01	6967.0	6.000E+00		
AC-223	2.2000E+00 M						
		6646.0	4.415E+01	6660.9	3.148E+01	6563.0	1.356E+01
		6528.4	3.069E+00	6473.0	3.069E+00		
AC-224	2.9000E+00 H						
		6137.9	2.560E+00	6056.0	2.190E+00	6210.0	2.040E+00
		6203.2	1.190E+00				
AC-225	1.0000E+01 D						
		5829.0	5.160E+01	5792.5	1.810E+01	5731.0	1.000E+01
		5790.6	8.600E+00	5637.0	4.500E+00	5723.0	2.900E+00
		5681.0	1.400E+00	5608.0	1.100E+00		
TH-215	1.2000E+00 S						
		7395.0	5.200E+01	7524.0	4.000E+01	7333.0	8.000E+00
TH-223	6.6000E-01 S						
		7287.0	6.000E+01	7317.0	4.000E+01		
TH-224	1.0400E+00 S						
		7170.0	7.900E+01	7000.0	1.900E+01	6770.0	1.200E+00
TH-225	8.0000E+00 M						
		6478.0	3.870E+01	6441.0	1.350E+01	6501.0	1.260E+01
		6798.0	8.100E+00	6744.0	6.300E+00	6627.0	2.700E+00
		6650.0	2.700E+00	6345.0	1.800E+00	6312.0	1.800E+00
		6700.0	1.800E+00				
TH-226	3.0900E+01 M						
		6337.5	7.550E+01	6234.0	2.280E+01	6099.5	1.270E+00
TH-227	1.8718E+01 D						
		6038.2	2.450E+01	5977.9	2.340E+01	5757.1	2.030E+01
		5709.0	8.200E+00	5713.2	4.890E+00	5700.8	3.630E+00
		5959.7	3.000E+00	6008.8	2.900E+00	5866.6	2.420E+00
		5668.0	2.060E+00	5693.0	1.500E+00	5807.5	1.270E+00

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Nuclide	T1/2					
	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====						
TH-228		1.9130E+00	Y			
	5423.3	7.240E+01		5339.0	2.700E+01	
TH-229		7.3400E+03	Y			
	4845.3	5.620E+01		4901.0	1.020E+01	9.300E+00
	4967.5	5.970E+00		5050.0	5.200E+00	4.800E+00
	4978.5	3.170E+00		5052.0	1.600E+00	1.270E+00
TH-230		7.5381E+04	Y			
	4687.7	7.630E+01		4621.2	2.340E+01	
TH-232		1.4050E+10	Y			
	4010.0	7.700E+01		3946.0	2.300E+01	
PA-224		9.5000E-01	S			
	7490.0	1.000E+02				
PA-225		1.8000E+00	S			
	7245.0	7.000E+01		7195.0	3.000E+01	
PA-226		1.8000E+00	M			
	6863.0	3.848E+01		6823.0	3.404E+01	
PA-227		3.8300E+01	M			
	6465.0	4.310E+01		6415.0	1.292E+01	1.003E+01
	6401.0	8.160E+00		6356.0	6.800E+00	2.210E+00
PA-231		3.2760E+04	Y			
	5011.0	2.540E+01		4950.0	2.280E+01	2.000E+01
	5057.3	1.100E+01		4736.0	8.400E+00	3.000E+00
	5030.5	2.500E+00		4680.0	1.500E+00	1.400E+00
	4984.0	1.400E+00				
U-227		1.1000E+00	M			
	6870.0	1.000E+02				
U-228		9.1000E+00	M			
	6684.0	6.650E+01		6590.0	2.755E+01	
U-229		5.8000E+01	M			
	6360.0	1.280E+01		6332.0	4.000E+00	2.200E+00
U-230		2.0800E+01	D			
	5888.3	6.740E+01		5817.5	3.200E+01	
U-232		6.8900E+01	Y			
	5320.2	6.800E+01		5263.4	3.170E+01	
U-233		1.5920E+05	Y			
	4824.2	8.270E+01		4783.5	1.490E+01	1.850E+00
U-234		2.4540E+05	Y			
	4774.9	7.138E+01		4722.6	2.842E+01	

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
U-235	7.0370E+08 Y						
		4400.0	5.500E+01	4365.4	1.700E+01	4218.0	5.700E+00
		4599.0	5.000E+00	4325.0	4.400E+00	4556.0	4.200E+00
		4414.0	2.100E+00	4502.0	1.700E+00	4344.0	1.500E+00
U-236	2.3416E+07 Y						
		4494.0	7.380E+01	4445.0	2.590E+01		
U-238	4.4680E+09 Y						
		4196.0	7.700E+01	4147.0	2.300E+01		
NP-229	4.0000E+00 M						
		6890.0	5.000E+01				
NP-230	4.6000E+00 M						
		6660.0	3.000E+00				
NP-231	4.8800E+01 M						
		6258.0	1.600E+00				
NP-237	2.1400E+06 Y						
		4788.1	4.700E+01	4771.1	2.500E+01	4766.1	8.000E+00
		4639.5	6.180E+00	4664.1	3.320E+00	4873.1	2.600E+00
		4817.4	2.500E+00	4803.4	1.560E+00	4708.3	1.010E+00
PU-232	3.4100E+01 M						
		6600.0	1.240E+01	6542.0	7.600E+00		
PU-234	8.8000E+00 H						
		6202.0	4.080E+00	6151.0	1.920E+00		
PU-236	2.8510E+00 Y						
		5767.7	6.926E+01	5721.0	3.056E+01		
PU-238	8.7740E+01 Y						
		5499.2	7.090E+01	5456.5	2.900E+01		
PU-239	2.4090E+04 Y						
		5156.7	7.310E+01	5143.8	1.500E+01	5105.5	1.180E+01
PU-240	6.5630E+03 Y						
		5168.2	7.300E+01	5123.7	2.700E+01		
PU-242	3.7630E+05 Y						
		4900.6	7.750E+01	4856.3	2.240E+01		
PU-244	8.0800E+07 Y						
		4589.0	8.050E+01	4546.0	1.938E+01		
AM-241	4.3220E+02 Y						
		5485.6	8.400E+01	5442.9	1.310E+01	5388.0	1.650E+00
AM-243	7.3800E+03 Y						
		5275.4	8.790E+01	5233.5	1.060E+01	5181.0	1.100E+00

List of the nuclides in the library: alpha.lib

=====

Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
CM-238	2.4000E+00 H	6520.0	1.000E+01				
CM-240	2.7000E+01 D	6290.7	7.074E+01	6247.9	2.876E+01		
CM-242	1.6294E+02 D	6112.9	7.410E+01	6069.6	2.590E+01		
CM-243	2.8500E+01 Y	5785.1	7.332E+01	5742.2	1.057E+01	5992.2	6.484E+00
		6058.0	4.689E+00	5686.0	1.596E+00	6067.0	1.496E+00
CM-244	1.8099E+01 Y	5805.0	7.640E+01	5762.8	2.360E+01		
CM-245	8.5000E+03 Y	5362.0	9.318E+01	5303.8	4.970E+00		
CM-246	4.7300E+03 Y	5386.0	7.898E+01	5343.0	2.099E+01		
CM-247	1.5600E+07 Y	4868.0	7.100E+01	5265.0	1.380E+01	5210.0	5.700E+00
		4818.0	4.700E+00	4983.0	2.000E+00	4941.0	1.600E+00
		5145.0	1.200E+00				
CM-248	3.4000E+05 Y	5078.6	7.513E+01	5035.1	1.654E+01		
BK-247	1.3800E+03 Y	5530.0	4.500E+01	5709.0	1.700E+01	5687.0	1.300E+01
		5500.0	7.000E+00	5653.0	5.500E+00	5793.0	5.500E+00
		5753.0	4.300E+00	5455.0	1.500E+00		
CF-240	1.0600E+00 M	7590.0	7.000E+01	7546.0	3.000E+01		
CF-241	3.7800E+00 M	7335.0	1.000E+01				
CF-242	3.6800E+00 M	7385.0	6.400E+01	7351.0	1.600E+01		
CF-243	1.0700E+01 M	7060.0	1.008E+01	7170.0	3.920E+00		
CF-244	1.9400E+01 M	7210.0	7.425E+01	7168.0	2.475E+01		
CF-246	3.5700E+01 H	6750.2	7.800E+01	6708.4	2.180E+01		
CF-248	3.3350E+02 D	6258.0	8.000E+01	6217.0	1.960E+01		

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
CF-249	3.5060E+02 Y						
		5811.9	8.440E+01	5945.2	4.000E+00	5758.2	3.700E+00
		5903.0	2.790E+00	6194.0	2.170E+00	6140.0	1.110E+00
		5848.8	1.040E+00				
CF-250	1.3080E+01 Y						
		6030.8	8.453E+01	5989.1	1.509E+01		
CF-251	8.9800E+02 Y						
		5677.0	3.500E+01	5852.0	2.700E+01	6014.0	1.160E+01
		5632.0	4.500E+00	5814.0	4.200E+00	5762.0	3.800E+00
		5648.0	3.500E+00	6074.0	2.700E+00	5793.0	2.000E+00
		5566.0	1.500E+00				
CF-252	2.6450E+00 Y						
		6118.2	8.160E+01	6075.7	1.521E+01		
ES-243	2.1000E+01 S						
		7890.0	3.000E+01				
ES-244	3.7000E+01 S						
		7570.0	4.000E+00				
ES-245	1.3300E+00 M						
		7730.0	4.000E+01				
ES-246	7.7000E+00 M						
		7350.0	9.900E+00				
ES-247	4.7000E+00 M						
		7320.0	7.000E+00				
ES-252	4.7170E+02 D						
		6632.0	6.095E+01	6562.0	1.034E+01	6482.0	1.664E+00
ES-253	2.0470E+01 D						
		6632.7	8.980E+01	6592.0	6.600E+00		
ES-254	2.7570E+02 D						
		6428.8	9.310E+01	6358.6	2.600E+00	6415.8	1.800E+00
ES-255	3.9800E+01 D						
		6299.5	7.016E+00				
FM-245	4.2000E+00 S						
		8150.0	1.000E+02				
FM-246	1.1000E+00 S						
		8240.0	7.084E+01	8200.0	2.116E+01		
FM-247M	9.2000E+00 S						
		8180.0	1.000E+02				
FM-247	3.5000E+01 S						
		7870.0	3.500E+01	7930.0	1.500E+01		

List of the nuclides in the library: alpha.lib

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
FM-248	3.6000E+01 S						
		7870.0	7.920E+01	7830.0	1.980E+01		
FM-249	2.6000E+00 M						
		7530.0	1.500E+01				
FM-250	3.0000E+01 M						
		7430.0	7.470E+01	7390.0	1.530E+01		
FM-251	5.3000E+00 H						
		6833.0	1.566E+00				
FM-252	2.5390E+01 H						
		7039.0	8.400E+01	6998.0	1.500E+01		
FM-253	3.0000E+00 D						
		6943.0	5.124E+00	6674.0	2.784E+00	6901.0	1.176E+00
		6847.0	1.008E+00				
FM-254	3.2400E+00 H						
		7192.0	8.495E+01	7150.0	1.419E+01		
FM-255	2.0070E+01 H						
		7022.0	9.340E+01	6963.0	5.040E+00		
FM-256	1.5760E+02 M						
		6915.0	6.885E+00	6870.0	1.134E+00		
FM-257	1.0050E+02 D						
		6520.0	9.340E+01	6695.0	3.493E+00	6441.0	1.996E+00
MD-247	2.9000E+00 S						
		8428.0	1.000E+02				
MD-248	7.0000E+00 S						
		8320.0	1.500E+01	8360.0	5.000E+00		
MD-249	2.4000E+01 S						
		8030.0	1.500E+01				
MD-250	5.2000E+01 S						
		7750.0	4.200E+00	7820.0	1.800E+00		
MD-251	4.0000E+00 M						
		7550.0	6.000E+00				
MD-255	2.7000E+01 M						
		7326.0	7.200E+00				
MD-256	7.6000E+01 M						
		7210.0	5.859E+00	7140.0	1.488E+00		
MD-257	5.2000E+00 H						
		7064.0	1.000E+01				

List of the nuclides in the library: alpha.lib

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=====
Nuclide          T1/2
Energy    Intensit.    Energy    Intensit.    Energy    Intensit.
=====
MD-258          5.5000E+01 D
  6716.0    7.200E+01    6790.0    2.800E+01

NO-251          8.0000E-01 S
  8600.0    7.920E+01    8680.0    1.980E+01

NO-252          2.3000E+00 S
  8415.0    5.483E+01    8372.0    1.827E+01

NO-253          1.7000E+00 M
  8010.0    8.000E+01

NO-254          5.5000E+01 S
  8100.0    8.415E+01    8057.0    1.485E+01

NO-255          3.1000E+00 M
  8121.0    2.794E+01    8077.0    7.307E+00    7927.0    7.307E+00
  7771.0    5.465E+00    8007.0    3.868E+00    8266.0    3.070E+00
  7879.0    2.579E+00    7620.0    1.719E+00    7717.0    1.474E+00
  8312.0    1.167E+00

NO-256          3.3000E+00 S
  8430.0    7.980E+01    8386.0    1.995E+01

NO-257          2.5000E+01 S
  8220.0    5.500E+01    8270.0    2.600E+01    8320.0    1.900E+01

NO-259          6.0000E+01 M
  7500.0    3.042E+01    7533.0    1.794E+01    7605.0    1.092E+01
  7455.0    1.014E+01    7685.0    8.580E+00

LR-255          2.2000E+01 S
  8360.0    4.200E+01    8410.0    2.800E+01

LR-256          2.8000E+01 S
  8430.0    3.700E+01    8390.0    2.000E+01    8520.0    1.910E+01
  8475.0    1.330E+01    8319.0    6.600E+00    8635.0    4.000E+00

LR-257          6.4600E-01 S
  8864.0    6.970E+01    8800.0    1.530E+01

LR-258          4.2000E+00 S
  8595.0    4.600E+01    8621.0    2.500E+01    8565.0    2.000E+01
  8654.0    9.000E+00

LR-259          5.4000E+00 S
  8450.0    9.000E+01

LR-260          1.8000E+02 S
  8030.0    6.000E+01

Rf-255          1.4000E+00 S
  8715.0    3.500E+01    8766.0    1.000E+01    8625.0    5.000E+00
  
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List of the nuclides in the library: alpha.lib

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Nuclide	T1/2	Energy	Intensit.	Energy	Intensit.	Energy	Intensit.
=====							
Rf-256	7.4000E-03 S						
		8812.0	2.200E+00				
Rf-257	4.3000E+00 S						
		9877.0	2.378E+01	9012.0	1.476E+01	8714.0	1.476E+01
		8942.0	9.840E+00	8597.0	9.840E+00	8897.0	4.920E+00
		8778.0	4.920E+00				
Rf-259	3.1000E+00 S						
		8770.0	5.622E+01	8870.0	3.748E+01		
Rf-261	6.5000E+01 S						
		8280.0	8.000E+01				
Db-258	1.8000E+00 S						
		9181.0	5.250E+01	9104.0	1.750E+01		
Db-260	1.5200E+00 S						
		9047.0	4.791E+01	9082.0	2.531E+01	9128.0	1.718E+01
Db-261	1.8000E+00 S						
		8930.0	5.000E+01				

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2
1830.0	(100.00)	ND-144	2.4000E+15 Y
1960.0	(100.00)	SM-148	7.0000E+15 Y
2140.0	(100.00)	GD-152	1.0800E+14 Y
2233.0	(100.00)	SM-147	1.0600E+11 Y
2460.0	(100.00)	SM-146	1.0300E+08 Y
2500.0	(100.00)	HF-174	2.0000E+15 Y
2550.0	(100.00)	W-180	6.0000E+14 Y
2600.0	(100.00)	PB-204	1.4000E+17 Y
2726.0	(100.00)	GD-150	1.7900E+06 Y
2760.0	(100.00)	OS-186	2.0000E+15 Y
2872.0	(100.00)	DY-154	1.0000E+07 Y
3080.0	( 3.90)	TE-109	4.6000E+00 S
3175.0	(100.00)	PT-190	6.0000E+11 Y
3182.8	(100.00)	GD-148	7.4600E+01 Y
3320.0	( 68.00)	TE-108	2.1000E+00 S
3946.0	( 23.00)	TH-232	1.4050E+10 Y
3963.0	( 15.80)	TB-149	4.1500E+00 H
4010.0	( 77.00)	TH-232	1.4050E+10 Y
4068.0	( 5.60)	DY-151	1.6900E+01 M
4147.0	( 23.00)	U-238	4.4680E+09 Y
4196.0	( 77.00)	U-238	4.4680E+09 Y
4218.0	( 5.70)	U-235	7.0370E+08 Y
4232.0	( 38.00)	DY-150	7.1700E+00 M
4325.0	( 4.40)	U-235	7.0370E+08 Y
4344.0	( 1.50)	U-235	7.0370E+08 Y
4365.4	( 17.00)	U-235	7.0370E+08 Y
4388.0	( 12.00)	HO-152A	2.3500E+00 M
4400.0	( 55.00)	U-235	7.0370E+08 Y
4414.0	( 2.10)	U-235	7.0370E+08 Y
4445.0	( 25.90)	U-236	2.3416E+07 Y
4452.0	( 10.50)	HO-152B	5.2300E+01 S
4494.0	( 73.80)	U-236	2.3416E+07 Y
4502.0	( 1.70)	U-235	7.0370E+08 Y
4519.0	( 18.00)	HO-151A	3.5600E+01 S
4546.0	( 19.38)	PU-244	8.0800E+07 Y
4556.0	( 4.20)	U-235	7.0370E+08 Y
4571.0	( 4.00)	BI-210M	3.0000E+06 Y
4589.0	( 80.50)	PU-244	8.0800E+07 Y
4599.0	( 5.00)	U-235	7.0370E+08 Y
4601.9	( 5.55)	RA-226	1.6000E+03 Y
4606.0	( 13.00)	HO-151B	4.7000E+01 S
4621.2	( 23.40)	TH-230	7.5381E+04 Y
4639.5	( 6.18)	NP-237	2.1400E+06 Y
4664.1	( 3.32)	NP-237	2.1400E+06 Y
4666.0	( 1.50)	LU-158	9.0000E+00 S
4672.0	( 53.00)	ER-153	3.6000E+01 S
4680.0	( 1.50)	PA-231	3.2760E+04 Y
4686.0	( 21.00)	YB-156	2.5000E+01 S
4687.7	( 76.30)	TH-230	7.5381E+04 Y
4708.3	( 1.01)	NP-237	2.1400E+06 Y
4722.6	( 28.42)	U-234	2.4540E+05 Y
4729.0	( 1.85)	U-233	1.5920E+05 Y
4736.0	( 8.40)	PA-231	3.2760E+04 Y
4766.1	( 8.00)	NP-237	2.1400E+06 Y
4771.1	( 25.00)	NP-237	2.1400E+06 Y
4774.9	( 71.38)	U-234	2.4540E+05 Y
4777.0	( 2.30)	HF-160	1.2000E+01 S

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2	
=====				
4783.5	( 14.90)	U-233	1.5920E+05	Y
4784.5	( 94.45)	RA-226	1.6000E+03	Y
4788.1	( 47.00)	NP-237	2.1400E+06	Y
4797.8	( 1.27)	TH-229	7.3400E+03	Y
4801.0	( 90.00)	ER-152	1.0100E+01	S
4803.4	( 1.56)	NP-237	2.1400E+06	Y
4814.6	( 9.30)	TH-229	7.3400E+03	Y
4817.4	( 2.50)	NP-237	2.1400E+06	Y
4818.0	( 4.70)	CM-247	1.5600E+07	Y
4824.2	( 82.70)	U-233	1.5920E+05	Y
4837.0	( 4.80)	TH-229	7.3400E+03	Y
4845.3	( 56.20)	TH-229	7.3400E+03	Y
4851.0	( 1.40)	PA-231	3.2760E+04	Y
4856.3	( 22.40)	PU-242	3.7630E+05	Y
4868.0	( 71.00)	CM-247	1.5600E+07	Y
4873.1	( 2.60)	NP-237	2.1400E+06	Y
4882.0	( 99.17)	PO-209	1.0200E+02	Y
4900.6	( 77.50)	PU-242	3.7630E+05	Y
4901.0	( 10.20)	TH-229	7.3400E+03	Y
4908.0	( 38.00)	BI-210M	3.0000E+06	Y
4933.0	( 3.00)	PA-231	3.2760E+04	Y
4940.0	( 2.10)	OS-173	1.6000E+01	S
4941.0	( 1.60)	CM-247	1.5600E+07	Y
4946.0	( 57.00)	BI-210M	3.0000E+06	Y
4950.0	( 22.80)	PA-231	3.2760E+04	Y
4959.0	( 44.00)	TM-154A	5.0000E+00	S
4967.5	( 5.97)	TH-229	7.3400E+03	Y
4978.5	( 3.17)	TH-229	7.3400E+03	Y
4983.0	( 2.00)	CM-247	1.5600E+07	Y
4984.0	( 1.40)	PA-231	3.2760E+04	Y
4996.0	( 6.00)	LU-157	5.5000E+00	S
5011.0	( 25.40)	PA-231	3.2760E+04	Y
5028.0	( 20.00)	PA-231	3.2760E+04	Y
5030.5	( 2.50)	PA-231	3.2760E+04	Y
5035.1	( 16.54)	CM-248	3.4000E+05	Y
5036.0	( 86.00)	TM-154B	3.5000E+00	S
5050.0	( 5.20)	TH-229	7.3400E+03	Y
5050.0	(100.00)	RE-169M	1.2900E+01	S
5052.0	( 1.60)	TH-229	7.3400E+03	Y
5057.3	( 11.00)	PA-231	3.2760E+04	Y
5078.6	( 75.13)	CM-248	3.4000E+05	Y
5095.0	( 12.00)	HF-159	5.6000E+00	S
5105.5	( 11.80)	PU-239	2.4090E+04	Y
5110.0	( 85.50)	TM-153	1.5900E+00	S
5114.0	( 99.99)	PO-208	2.8980E+00	Y
5123.7	( 27.00)	PU-240	6.5630E+03	Y
5143.8	( 15.00)	PU-239	2.4090E+04	Y
5145.0	( 1.20)	CM-247	1.5600E+07	Y
5148.0	( 2.60)	W-164	6.4000E+00	S
5156.7	( 73.10)	PU-239	2.4090E+04	Y
5168.2	( 73.00)	PU-240	6.5630E+03	Y
5181.0	( 1.10)	AM-243	7.3800E+03	Y
5210.0	( 5.70)	CM-247	1.5600E+07	Y
5223.5	( 5.45)	PO-206	8.8000E+00	D
5233.5	( 10.60)	AM-243	7.3800E+03	Y
5245.0	( 1.70)	OS-171	8.0000E+00	S
5263.4	( 31.70)	U-232	6.8900E+01	Y

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2
5265.0	( 13.80)	CM-247	1.5600E+07 Y
5268.0	( 46.00)	HF-158	2.9000E+00 S
5275.4	( 87.90)	AM-243	7.3800E+03 Y
5303.8	( 4.97)	CM-245	8.5000E+03 Y
5304.4	(100.00)	PO-210	1.3838E+02 D
5320.2	( 68.00)	U-232	6.8900E+01 Y
5332.0	( 93.00)	YB-154	4.2000E-01 S
5339.0	( 27.00)	TH-228	1.9130E+00 Y
5343.0	( 20.99)	CM-246	4.7300E+03 Y
5362.0	( 93.18)	CM-245	8.5000E+03 Y
5385.0	( 41.00)	W-163	2.5000E+00 S
5386.0	( 78.98)	CM-246	4.7300E+03 Y
5388.0	( 1.65)	AM-241	4.3220E+02 Y
5399.0	( 12.00)	OS-170	6.9000E+00 S
5423.3	( 72.40)	TH-228	1.9130E+00 Y
5433.6	( 2.27)	RA-223	1.1434E+01 D
5442.9	( 13.10)	AM-241	4.3220E+02 Y
5444.6	( 5.00)	RA-224	3.6650E+00 D
5455.0	( 1.50)	BK-247	1.3800E+03 Y
5456.5	( 29.00)	PU-238	8.7740E+01 Y
5458.0	( 7.20)	PT-178	2.1000E+01 S
5485.6	( 84.00)	AM-241	4.3220E+02 Y
5489.5	( 99.92)	RN-222	3.8230E+00 D
5499.2	( 70.90)	PU-238	8.7740E+01 Y
5500.0	( 7.00)	BK-247	1.3800E+03 Y
5505.0	( 2.75)	OS-169	3.5000E+00 S
5506.0	( 13.00)	RE-165	2.4000E+00 S
5527.0	( 5.00)	PT-177	1.1000E+01 S
5530.0	( 45.00)	BK-247	1.3800E+03 Y
5535.0	( 1.11)	HG-184	3.0600E+01 S
5536.0	( 46.00)	W-162	1.3900E+00 S
5540.0	( 9.16)	RA-223	1.1434E+01 D
5566.0	( 1.50)	CF-251	8.9800E+02 Y
5570.0	( 8.25)	OS-169	3.5000E+00 S
5588.0	( 2.00)	PO-202	4.4700E+01 M
5606.9	( 24.20)	RA-223	1.1434E+01 D
5608.0	( 1.10)	AC-225	1.0000E+01 D
5632.0	( 4.50)	CF-251	8.9800E+02 Y
5637.0	( 4.50)	AC-225	1.0000E+01 D
5647.0	( 4.10)	AT-209	5.4100E+00 H
5648.0	( 3.50)	CF-251	8.9800E+02 Y
5653.0	( 5.50)	BK-247	1.3800E+03 Y
5653.0	( 5.28)	HG-185	5.0000E+01 S
5662.0	( 49.00)	OS-168	2.0000E+00 S
5668.0	( 2.06)	TH-227	1.8718E+01 D
5677.0	( 35.00)	CF-251	8.9800E+02 Y
5681.0	( 1.40)	AC-225	1.0000E+01 D
5683.0	( 1.60)	PO-201	1.5300E+01 M
5685.6	( 94.98)	RA-224	3.6650E+00 D
5686.0	( 1.60)	CM-243	2.8500E+01 Y
5687.0	( 13.00)	BK-247	1.3800E+03 Y
5693.0	( 1.50)	TH-227	1.8718E+01 D
5700.8	( 3.63)	TH-227	1.8718E+01 D
5709.0	( 17.00)	BK-247	1.3800E+03 Y
5709.0	( 8.20)	TH-227	1.8718E+01 D
5713.2	( 4.89)	TH-227	1.8718E+01 D
5716.4	( 52.50)	RA-223	1.1434E+01 D

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2	
=====				
5721.0	( 30.56)	PU-236	2.8510E+00	Y
5723.0	( 2.90)	AC-225	1.0000E+01	D
5731.0	( 10.00)	AC-225	1.0000E+01	D
5742.2	( 10.57)	CM-243	2.8500E+01	Y
5747.2	( 9.50)	RA-223	1.1434E+01	D
5753.0	( 4.30)	BK-247	1.3800E+03	Y
5757.0	( 37.99)	PT-176	6.3300E+00	S
5757.1	( 20.30)	TH-227	1.8718E+01	D
5758.0	( 8.70)	AT-207	1.8000E+00	H
5758.2	( 3.70)	CF-249	3.5060E+02	Y
5762.0	( 3.80)	CF-251	8.9800E+02	Y
5762.8	( 23.60)	CM-244	1.8099E+01	Y
5767.7	( 69.26)	PU-236	2.8510E+00	Y
5778.0	( 1.80)	RN-221	2.5000E+01	M
5784.0	( 16.38)	RN-211	1.4600E+01	H
5785.1	( 73.32)	CM-243	2.8500E+01	Y
5786.0	( 2.90)	PO-201M	8.9000E+00	M
5788.0	( 2.16)	RN-221	2.5000E+01	M
5790.6	( 8.60)	AC-225	1.0000E+01	D
5792.5	( 18.10)	AC-225	1.0000E+01	D
5793.0	( 2.00)	CF-251	8.9800E+02	Y
5793.0	( 5.50)	BK-247	1.3800E+03	Y
5805.0	( 76.40)	CM-244	1.8099E+01	Y
5807.5	( 1.27)	TH-227	1.8718E+01	D
5811.9	( 84.40)	CF-249	3.5060E+02	Y
5814.0	( 4.20)	CF-251	8.9800E+02	Y
5817.5	( 32.00)	U-230	2.0800E+01	D
5829.0	( 51.60)	AC-225	1.0000E+01	D
5831.0	( 4.70)	PT-175	2.5500E+00	S
5835.0	( 1.21)	HG-183	8.8000E+00	S
5848.8	( 1.04)	CF-249	3.5060E+02	Y
5851.0	( 8.84)	RN-211	1.4600E+01	H
5852.0	( 27.00)	CF-251	8.9800E+02	Y
5863.0	( 15.00)	PO-200	1.1500E+01	M
5866.6	( 2.42)	TH-227	1.8718E+01	D
5867.0	( 41.70)	AT-211	7.2140E+00	H
5867.0	( 15.05)	HG-182	1.1200E+01	S
5869.0	( 2.00)	BI-213	4.5590E+01	M
5888.3	( 67.40)	U-230	2.0800E+01	D
5899.0	( 57.60)	BI-193	6.7000E+01	S
5902.0	( 10.00)	AT-205	2.6200E+01	M
5903.0	( 2.79)	CF-249	3.5060E+02	Y
5905.0	( 21.11)	HG-183	8.8000E+00	S
5916.0	( 1.32)	HG-181	3.6000E+00	S
5938.0	( 1.58)	HG-181	3.6000E+00	S
5945.2	( 4.00)	CF-249	3.5060E+02	Y
5951.0	( 4.40)	AT-204	9.2000E+00	M
5952.0	( 12.00)	PO-199	5.2000E+00	M
5959.7	( 3.00)	TH-227	1.8718E+01	D
5964.0	( 55.02)	PT-175	2.5500E+00	S
5977.9	( 23.40)	TH-227	1.8718E+01	D
5980.0	( 22.00)	PB-188	2.4500E+01	S
5989.1	( 15.09)	CF-250	1.3080E+01	Y
5992.2	( 6.48)	CM-243	2.8500E+01	Y
6002.4	( 99.96)	PO-218	3.1100E+00	M
6006.0	( 22.90)	HG-181	3.6000E+00	S
6008.8	( 2.90)	TH-227	1.8718E+01	D

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2	
=====				
6013.0	( 4.69)	BI-212M	2.5000E+01	M
6014.0	( 11.60)	CF-251	8.9800E+02	Y
6030.8	( 84.53)	CF-250	1.3080E+01	Y
6037.0	( 18.04)	RN-221	2.5000E+01	M
6038.0	( 4.80)	PT-175	2.5500E+00	S
6038.2	( 24.50)	TH-227	1.8718E+01	D
6039.0	( 16.94)	RN-209	2.8500E+01	M
6040.0	( 95.99)	RN-210	2.4000E+00	H
6051.0	( 25.23)	BI-212	6.0550E+01	M
6056.0	( 2.19)	AC-224	2.9000E+00	H
6058.0	( 4.69)	CM-243	2.8500E+01	Y
6059.0	( 39.00)	PO-199M	4.2000E+00	M
6065.0	( 20.00)	BI-192	4.2000E+01	S
6067.0	( 1.50)	CM-243	2.8500E+01	Y
6069.6	( 25.90)	CM-242	1.6294E+02	D
6073.0	( 2.00)	PB-187B	1.8300E+01	S
6074.0	( 2.70)	CF-251	8.9800E+02	Y
6075.7	( 15.21)	CF-252	2.6450E+00	Y
6088.0	( 31.00)	AT-203	7.3700E+00	M
6090.1	( 9.63)	BI-212	6.0550E+01	M
6099.5	( 1.27)	TH-226	3.0900E+01	M
6106.0	( 4.00)	BI-195M	8.7000E+01	S
6112.9	( 74.10)	CM-242	1.6294E+02	D
6118.2	( 81.60)	CF-252	2.6450E+00	Y
6120.0	( 49.00)	HG-180	2.1400E+00	S
6126.4	( 15.10)	FR-221	4.9000E+00	M
6133.0	( 22.83)	RN-207	9.3000E+00	M
6135.0	( 7.68)	AT-202	3.0200E+00	M
6137.9	( 2.56)	AC-224	2.9000E+00	H
6139.0	( 51.97)	RN-208	2.4350E+01	M
6140.0	( 1.11)	CF-249	3.5060E+02	Y
6151.0	( 1.92)	PU-234	8.8000E+00	H
6155.0	( 1.13)	TL-184	1.1000E+01	S
6174.0	( 2.52)	BI-193	6.7000E+01	S
6182.0	( 70.00)	PO-198	1.7600E+00	M
6194.0	( 2.17)	CF-249	3.5060E+02	Y
6202.0	( 4.08)	PU-234	8.8000E+00	H
6203.2	( 1.19)	AC-224	2.9000E+00	H
6210.0	( 2.04)	AC-224	2.9000E+00	H
6217.0	( 19.60)	CF-248	3.3350E+02	D
6228.0	( 4.32)	AT-202	3.0200E+00	M
6234.0	( 22.80)	TH-226	3.0900E+01	M
6235.0	( 3.05)	RA-222	3.8000E+01	S
6243.0	( 1.34)	FR-221	4.9000E+00	M
6247.9	( 28.76)	CM-240	2.7000E+01	D
6258.0	( 80.00)	CF-248	3.3350E+02	D
6258.0	( 1.60)	NP-231	4.8800E+01	M
6258.0	( 68.00)	RN-206	5.6700E+00	M
6262.0	( 16.34)	FR-212	2.0000E+01	M
6262.0	( 23.00)	RN-205	1.7000E+02	S
6264.0	( 99.95)	RN-212	2.4000E+01	M
6275.0	( 97.00)	AT-219	5.4000E+01	S
6278.8	( 15.96)	BI-211	2.1400E+00	M
6281.0	( 44.00)	PO-197	5.6000E+01	S
6288.0	( 53.00)	HG-179	1.0900E+00	S
6288.3	( 99.90)	RN-220	5.5600E+01	S
6290.0	( 11.88)	PB-185	4.1000E+00	S

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2	
=====				
6290.7	( 70.74)	CM-240	2.7000E+01	D
6297.0	( 2.20)	U-229	5.8000E+01	M
6297.0	( 23.45)	BI-212M	2.5000E+01	M
6299.5	( 7.02)	ES-255	3.9800E+01	D
6311.0	( 39.20)	BI-191	1.3000E+01	S
6312.0	( 1.80)	TH-225	8.0000E+00	M
6332.0	( 4.00)	U-229	5.8000E+01	M
6335.0	( 4.39)	FR-212	2.0000E+01	M
6335.0	(100.00)	PB-186	4.7000E+00	S
6336.0	( 32.16)	BI-212M	2.5000E+01	M
6337.5	( 75.50)	TH-226	3.0900E+01	M
6340.0	( 14.85)	PB-185	4.1000E+00	S
6341.0	( 83.40)	FR-221	4.9000E+00	M
6342.5	( 1.33)	FR-212	2.0000E+01	M
6344.0	( 71.00)	AT-201	8.9000E+01	S
6345.0	( 1.80)	TH-225	8.0000E+00	M
6356.0	( 6.80)	PA-227	3.8300E+01	M
6358.6	( 2.60)	ES-254	2.7570E+02	D
6360.0	( 12.80)	U-229	5.8000E+01	M
6376.0	( 2.21)	PA-227	3.8300E+01	M
6383.0	( 10.32)	FR-212	2.0000E+01	M
6385.0	( 84.00)	PO-197M	2.6000E+01	S
6401.0	( 8.16)	PA-227	3.8300E+01	M
6405.0	( 9.46)	FR-212	2.0000E+01	M
6406.0	( 50.49)	PB-185	4.1000E+00	S
6412.0	( 21.14)	AT-200	4.3000E+01	S
6413.0	( 1.25)	FR-220	2.7400E+01	S
6415.0	( 12.92)	PA-227	3.8300E+01	M
6415.8	( 1.80)	ES-254	2.7570E+02	D
6417.0	( 68.00)	RN-204	1.2400E+00	S
6423.0	( 10.03)	PA-227	3.8300E+01	M
6424.7	( 7.50)	RN-219	3.9600E+00	S
6428.8	( 93.10)	ES-254	2.7570E+02	D
6441.0	( 2.00)	FM-257	1.0050E+02	D
6441.0	( 13.50)	TH-225	8.0000E+00	M
6450.0	( 90.00)	BI-190	5.4000E+00	S
6460.0	( 1.76)	AC-222M	6.6000E+01	S
6465.0	( 43.10)	PA-227	3.8300E+01	M
6465.0	( 13.65)	AT-200	4.3000E+01	S
6473.0	( 3.07)	AC-223	2.2000E+00	M
6478.0	( 38.70)	TH-225	8.0000E+00	M
6480.0	( 24.00)	BI-193M	3.5000E+00	S
6482.0	( 1.66)	ES-252	4.7170E+02	D
6482.0	( 1.30)	FR-220	2.7400E+01	S
6485.0	( 17.82)	PB-185	4.1000E+00	S
6498.0	( 66.00)	RN-203	4.5000E+01	S
6501.0	( 12.60)	TH-225	8.0000E+00	M
6520.0	( 93.40)	FM-257	1.0050E+02	D
6520.0	( 10.00)	CM-238	2.4000E+00	H
6520.0	( 95.00)	PO-196	5.5000E+00	S
6527.0	( 2.99)	FR-220	2.7400E+01	S
6528.4	( 3.07)	AC-223	2.2000E+00	M
6534.0	( 70.00)	FR-211	3.1000E+00	M
6535.0	( 2.49)	FR-220	2.7400E+01	S
6535.0	( 2.97)	PB-185	4.1000E+00	S
6536.0	( 20.00)	AT-200M	4.3000E+00	S
6539.0	( 95.00)	PO-217	1.0000E+01	S

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Energy	Intensity	Nuclide	T1/2	
=====				
6542.0	( 7.60)	PU-232	3.4100E+01	M
6543.0	( 60.00)	FR-210	3.1800E+00	M
6548.0	(100.00)	RN-203M	2.8000E+01	S
6552.8	( 12.20)	RN-219	3.9600E+00	S
6556.0	( 96.90)	RA-222	3.8000E+01	S
6562.0	( 10.34)	ES-252	4.7170E+02	D
6563.0	( 13.56)	AC-223	2.2000E+00	M
6578.0	( 3.00)	RA-221	2.8000E+01	S
6582.0	( 9.77)	FR-220	2.7400E+01	S
6588.0	( 8.00)	RA-221	2.8000E+01	S
6590.0	( 27.55)	U-228	9.1000E+00	M
6592.0	( 6.60)	ES-253	2.0470E+01	D
6600.0	( 12.40)	PU-232	3.4100E+01	M
6610.0	( 34.00)	RA-221	2.8000E+01	S
6623.1	( 83.77)	BI-211	2.1400E+00	M
6627.0	( 2.70)	TH-225	8.0000E+00	M
6630.0	( 6.48)	FR-220	2.7400E+01	S
6632.0	( 60.95)	ES-252	4.7170E+02	D
6632.7	( 89.80)	ES-253	2.0470E+01	D
6636.0	( 90.00)	FR-208	5.9100E+01	S
6636.0	( 85.00)	RN-202	9.8500E+00	S
6636.0	( 92.00)	AT-199	7.0000E+00	S
6642.0	( 12.16)	FR-220	2.7400E+01	S
6646.0	( 44.15)	AC-223	2.2000E+00	M
6646.0	( 89.00)	FR-209	5.0000E+01	S
6650.0	( 2.70)	TH-225	8.0000E+00	M
6654.0	( 6.39)	AT-218	1.6000E+00	S
6660.0	( 3.00)	NP-230	4.6000E+00	M
6660.9	( 31.48)	AC-223	2.2000E+00	M
6665.0	( 20.00)	RA-221	2.8000E+01	S
6672.0	( 96.00)	BI-189	1.5000E+00	S
6674.0	( 2.78)	FM-253	3.0000E+00	D
6684.0	( 66.50)	U-228	9.1000E+00	M
6686.0	( 61.09)	FR-220	2.7400E+01	S
6694.0	( 89.91)	AT-218	1.6000E+00	S
6695.0	( 3.49)	FM-257	1.0050E+02	D
6700.0	( 1.80)	TH-225	8.0000E+00	M
6708.4	( 21.80)	CF-246	3.5700E+01	H
6710.0	( 7.04)	AC-222M	6.6000E+01	S
6716.0	( 72.00)	MD-258	5.5000E+01	D
6721.0	( 80.00)	RN-201	7.0000E+00	S
6744.0	( 6.30)	TH-225	8.0000E+00	M
6748.0	(100.00)	AT-198	4.9000E+00	S
6750.0	( 13.20)	AC-222M	6.6000E+01	S
6750.2	( 78.00)	CF-246	3.5700E+01	H
6757.0	( 3.60)	AT-218	1.6000E+00	S
6758.0	( 30.00)	RA-221	2.8000E+01	S
6767.0	( 95.00)	FR-207	1.4800E+01	S
6770.0	( 1.20)	TH-224	1.0400E+00	S
6770.0	( 90.00)	RN-201M	3.8000E+00	S
6775.0	(100.00)	FR-213	3.4600E+01	S
6778.5	(100.00)	PO-216	1.5000E-01	S
6790.0	( 28.00)	MD-258	5.5000E+01	D
6790.0	( 93.00)	FR-206	1.5900E+01	S
6798.0	( 8.10)	TH-225	8.0000E+00	M
6810.0	( 23.76)	AC-222M	6.6000E+01	S
6819.3	( 80.90)	RN-219	3.9600E+00	S

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Energy	Intensity	Nuclide	T1/2	
=====				
6823.0	( 34.04)	PA-226	1.8000E+00	M
6833.0	( 1.57)	FM-251	5.3000E+00	H
6840.0	( 8.80)	AC-222M	6.6000E+01	S
6847.0	( 1.01)	FM-253	3.0000E+00	D
6853.0	( 26.00)	AT-198M	1.5000E+00	S
6863.0	( 38.48)	PA-226	1.8000E+00	M
6870.0	( 1.13)	FM-256	1.5760E+02	M
6870.0	(100.00)	U-227	1.1000E+00	M
6890.0	( 50.00)	NP-229	4.0000E+00	M
6890.0	( 13.20)	AC-222M	6.6000E+01	S
6901.0	( 1.18)	FM-253	3.0000E+00	D
6901.0	( 94.00)	RA-212	1.3000E+01	S
6909.0	( 98.00)	RN-200	1.0000E+00	S
6912.0	( 93.00)	RA-211	1.3000E+01	S
6915.0	( 6.89)	FM-256	1.5760E+02	M
6917.0	(100.00)	FR-205	3.9600E+00	S
6943.0	( 5.12)	FM-253	3.0000E+00	D
6963.0	( 5.04)	FM-255	2.0070E+01	H
6967.0	( 6.00)	AC-222	4.2000E+00	S
6967.0	( 24.00)	FR-204	2.1000E+00	S
6970.0	( 7.04)	AC-222M	6.6000E+01	S
6998.0	( 15.00)	FM-252	2.5390E+01	H
7000.0	( 19.00)	TH-224	1.0400E+00	S
7000.0	( 13.20)	AC-222M	6.6000E+01	S
7000.0	( 3.56)	AC-214	8.2000E+00	S
7008.0	(100.00)	RA-209	4.6000E+00	S
7013.0	( 94.00)	AC-222	4.2000E+00	S
7018.0	(100.00)	RA-210	3.7000E+00	S
7022.0	( 93.40)	FM-255	2.0070E+01	H
7027.0	( 56.00)	FR-204	2.1000E+00	S
7039.0	( 84.00)	FM-252	2.5390E+01	H
7060.0	( 10.08)	CF-243	1.0700E+01	M
7064.0	( 10.00)	MD-257	5.2000E+00	H
7067.0	( 99.89)	AT-217	3.2300E-02	S
7082.0	( 39.16)	AC-214	8.2000E+00	S
7106.0	( 1.61)	FR-218M	2.2000E-02	S
7116.0	( 4.00)	BI-189	1.5000E+00	S
7131.0	(100.00)	RA-208	1.4000E+00	S
7133.0	( 89.10)	RA-207	1.3000E+00	S
7133.0	( 99.84)	RN-218	3.5000E-02	S
7136.0	( 99.94)	RA-214	2.4600E+00	S
7140.0	( 1.49)	MD-256	7.6000E+01	M
7150.0	( 14.19)	FM-254	3.2400E+00	H
7168.0	( 24.75)	CF-244	1.9400E+01	M
7170.0	( 3.92)	CF-243	1.0700E+01	M
7170.0	( 79.00)	TH-224	1.0400E+00	S
7170.0	( 2.00)	AC-221	5.2000E-02	S
7192.0	( 84.95)	FM-254	3.2400E+00	H
7195.0	( 30.00)	PA-225	1.8000E+00	S
7210.0	( 5.86)	MD-256	7.6000E+01	M
7210.0	( 74.25)	CF-244	1.9400E+01	M
7214.0	( 46.28)	AC-214	8.2000E+00	S
7240.0	( 9.60)	FR-218M	2.2000E-02	S
7245.0	( 70.00)	PA-225	1.8000E+00	S
7270.0	( 90.87)	PO-211M	2.5200E+01	S
7287.0	( 60.00)	TH-223	6.6000E-01	S
7313.2	( 98.60)	FR-219	2.1000E-02	S

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2	
=====				
7317.0	( 40.00)	TH-223	6.6000E-01	S
7320.0	( 7.00)	ES-247	4.7000E+00	M
7326.0	( 7.20)	MD-255	2.7000E+01	M
7333.0	( 8.00)	TH-215	1.2000E+00	S
7335.0	( 10.00)	CF-241	3.7800E+00	M
7350.0	( 9.90)	ES-246	7.7000E+00	M
7351.0	( 16.00)	CF-242	3.6800E+00	M
7375.0	( 8.00)	AC-221	5.2000E-02	S
7385.0	( 64.00)	CF-242	3.6800E+00	M
7386.4	(100.00)	PO-215	1.7800E-03	S
7390.0	( 15.30)	FM-250	3.0000E+01	M
7395.0	( 52.00)	TH-215	1.2000E+00	S
7398.0	( 3.40)	FR-218M	2.2000E-02	S
7430.0	( 74.70)	FM-250	3.0000E+01	M
7440.0	( 20.00)	AC-221	5.2000E-02	S
7450.4	( 98.92)	PO-211	5.1600E-01	S
7455.0	( 10.14)	NO-259	6.0000E+01	M
7455.0	( 99.00)	RA-220	2.3000E-02	S
7490.0	(100.00)	PA-224	9.5000E-01	S
7500.0	( 30.42)	NO-259	6.0000E+01	M
7524.0	( 40.00)	TH-215	1.2000E+00	S
7530.0	( 15.00)	FM-249	2.6000E+00	M
7533.0	( 17.94)	NO-259	6.0000E+01	M
7546.0	( 30.00)	CF-240	1.0600E+00	M
7550.0	( 6.00)	MD-251	4.0000E+00	M
7570.0	( 4.00)	ES-244	3.7000E+01	S
7572.0	( 5.00)	FR-218	1.3000E-03	S
7590.0	( 70.00)	CF-240	1.0600E+00	M
7605.0	( 10.92)	NO-259	6.0000E+01	M
7610.0	( 23.00)	AC-220	2.6100E-02	S
7616.0	( 41.10)	FR-218M	2.2000E-02	S
7618.0	( 15.10)	AT-212	3.1400E-01	S
7620.0	( 1.72)	NO-255	3.1000E+00	M
7645.0	( 70.00)	AC-221	5.2000E-02	S
7657.0	( 11.90)	FR-218M	2.2000E-02	S
7680.0	( 21.00)	AC-220	2.6100E-02	S
7680.0	( 65.00)	RA-219	1.0000E-02	S
7681.0	( 16.10)	FR-218M	2.2000E-02	S
7681.0	( 83.50)	AT-212	3.1400E-01	S
7685.0	( 8.58)	NO-259	6.0000E+01	M
7686.9	( 99.99)	PO-214	1.6430E-04	S
7697.0	( 2.10)	AT-216	3.0000E-04	S
7717.0	( 1.47)	NO-255	3.1000E+00	M
7725.0	( 4.50)	FR-218M	2.2000E-02	S
7730.0	( 40.00)	ES-245	1.3300E+00	M
7742.0	( 99.90)	RN-217	5.4000E-04	S
7750.0	( 4.20)	MD-250	5.2000E+01	S
7750.0	( 1.30)	FR-218M	2.2000E-02	S
7771.0	( 5.46)	NO-255	3.1000E+00	M
7790.0	( 13.00)	AC-220	2.6100E-02	S
7800.0	( 97.00)	AT-216	3.0000E-04	S
7810.0	( 1.60)	FR-218M	2.2000E-02	S
7820.0	( 1.80)	MD-250	5.2000E+01	S
7830.0	( 19.80)	FM-248	3.6000E+01	S
7837.0	( 65.30)	AT-212M	1.1900E-01	S
7850.0	( 24.00)	AC-220	2.6100E-02	S
7867.0	( 93.00)	FR-218	1.3000E-03	S

List of the energies in the library: alpha.lib

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Energy	Intensity	Nuclide	T1/2	
=====				
7870.0	( 79.20)	FM-248	3.6000E+01	S
7870.0	( 35.00)	FM-247	3.5000E+01	S
7875.0	( 1.40)	FR-218M	2.2000E-02	S
7879.0	( 2.58)	NO-255	3.1000E+00	M
7890.0	( 30.00)	ES-243	2.1000E+01	S
7897.0	( 33.10)	AT-212M	1.1900E-01	S
7927.0	( 7.31)	NO-255	3.1000E+00	M
7930.0	( 15.00)	FM-247	3.5000E+01	S
7952.0	( 2.40)	FR-218M	2.2000E-02	S
7982.0	( 35.00)	RA-219	1.0000E-02	S
7985.0	( 4.00)	AC-220	2.6100E-02	S
7990.0	( 1.66)	PO-211M	2.5200E+01	S
8005.0	( 5.00)	AC-220	2.6100E-02	S
8007.0	( 3.87)	NO-255	3.1000E+00	M
8010.0	( 80.00)	NO-253	1.7000E+00	M
8026.0	( 99.95)	AT-215	1.0000E-04	S
8030.0	( 60.00)	LR-260	1.8000E+02	S
8030.0	( 15.00)	MD-249	2.4000E+01	S
8050.0	(100.00)	RN-216	4.5000E-05	S
8057.0	( 14.85)	NO-254	5.5000E+01	S
8060.0	( 6.00)	AC-220	2.6100E-02	S
8077.0	( 7.31)	NO-255	3.1000E+00	M
8100.0	( 84.15)	NO-254	5.5000E+01	S
8121.0	( 27.94)	NO-255	3.1000E+00	M
8150.0	(100.00)	FM-245	4.2000E+00	S
8180.0	(100.00)	FM-247M	9.2000E+00	S
8195.0	( 3.00)	AC-220	2.6100E-02	S
8200.0	( 21.16)	FM-246	1.1000E+00	S
8220.0	( 55.00)	NO-257	2.5000E+01	S
8240.0	( 70.84)	FM-246	1.1000E+00	S
8266.0	( 3.07)	NO-255	3.1000E+00	M
8270.0	( 26.00)	NO-257	2.5000E+01	S
8280.0	( 80.00)	Rf-261	6.5000E+01	S
8312.0	( 1.17)	NO-255	3.1000E+00	M
8315.0	(100.00)	FR-217	2.2000E-05	S
8319.0	( 6.60)	LR-256	2.8000E+01	S
8320.0	( 19.00)	NO-257	2.5000E+01	S
8320.0	( 15.00)	MD-248	7.0000E+00	S
8360.0	( 42.00)	LR-255	2.2000E+01	S
8360.0	( 5.00)	MD-248	7.0000E+00	S
8372.0	( 18.27)	NO-252	2.3000E+00	S
8375.0	(100.00)	PO-213	4.2000E-06	S
8386.0	( 19.95)	NO-256	3.3000E+00	S
8390.0	( 20.00)	LR-256	2.8000E+01	S
8410.0	( 28.00)	LR-255	2.2000E+01	S
8415.0	( 54.83)	NO-252	2.3000E+00	S
8428.0	(100.00)	MD-247	2.9000E+00	S
8430.0	( 37.00)	LR-256	2.8000E+01	S
8430.0	( 79.80)	NO-256	3.3000E+00	S
8450.0	( 90.00)	LR-259	5.4000E+00	S
8475.0	( 13.30)	LR-256	2.8000E+01	S
8520.0	( 19.10)	LR-256	2.8000E+01	S
8520.0	( 4.83)	PO-212M3	4.5100E+01	S
8565.0	( 20.00)	LR-258	4.2000E+00	S
8595.0	( 46.00)	LR-258	4.2000E+00	S
8597.0	( 9.84)	Rf-257	4.3000E+00	S
8600.0	( 79.20)	NO-251	8.0000E-01	S

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Energy	Intensity	Nuclide	T1/2
8621.0	( 25.00)	LR-258	4.2000E+00 S
8625.0	( 5.00)	Rf-255	1.4000E+00 S
8635.0	( 4.00)	LR-256	2.8000E+01 S
8654.0	( 9.00)	LR-258	4.2000E+00 S
8674.0	(100.00)	RN-215	2.3000E-06 S
8680.0	( 19.80)	NO-251	8.0000E-01 S
8714.0	( 14.76)	Rf-257	4.3000E+00 S
8715.0	( 35.00)	Rf-255	1.4000E+00 S
8766.0	( 10.00)	Rf-255	1.4000E+00 S
8770.0	( 56.22)	Rf-259	3.1000E+00 S
8778.0	( 4.92)	Rf-257	4.3000E+00 S
8782.0	( 99.18)	AT-214M2	7.6000E-07 S
8784.4	(100.00)	PO-212	2.9800E-07 S
8800.0	( 15.30)	LR-257	6.4600E-01 S
8812.0	( 2.20)	Rf-256	7.4000E-03 S
8819.0	( 98.95)	AT-214	5.5800E-07 S
8864.0	( 69.70)	LR-257	6.4600E-01 S
8870.0	( 37.48)	Rf-259	3.1000E+00 S
8877.0	(100.00)	AT-214M1	2.6500E-07 S
8885.0	( 7.03)	PO-211M	2.5200E+01 S
8897.0	( 4.92)	Rf-257	4.3000E+00 S
8930.0	( 50.00)	Db-261	1.8000E+00 S
8942.0	( 9.84)	Rf-257	4.3000E+00 S
9006.0	(100.00)	FR-216	7.0000E-07 S
9012.0	( 14.76)	Rf-257	4.3000E+00 S
9047.0	( 47.91)	Db-260	1.5200E+00 S
9080.0	(100.00)	AT-213	1.1000E-07 S
9082.0	( 25.31)	Db-260	1.5200E+00 S
9104.0	( 17.50)	Db-258	1.8000E+00 S
9128.0	( 17.18)	Db-260	1.5200E+00 S
9181.0	( 52.50)	Db-258	1.8000E+00 S
9877.0	( 23.78)	Rf-257	4.3000E+00 S
10100.0	( 2.88)	BI-212M	2.5000E+01 M
10220.0	( 2.88)	BI-212M	2.5000E+01 M
10376.0	( 6.00)	PO-212M1	1.4200E-08 S
10549.0	( 27.00)	PO-212M2	3.4000E-11 S
11650.0	( 92.59)	PO-212M3	4.5100E+01 S