^{243}Am(n,γ)E=th:secondary γ's **1984Vo07**

		History	
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 146, 387 (2017)	31-Aug-2017

1984Vo07: Thermal neutrons with a flux of 5.5 $\times10^{14}$ n/cm^{2}s from the high-flux reactor at the Institut Laue-Langevin at Grenoble impinged a ^{243}AmO$_2$ target that was encased in Al. Secondary gamma rays from 30 to 400 keV were measured with the GAMS 1 curved- crystal spectrometer and, in the energy range 200-1200 keV, with the GAMS 2/3 curved-crystal spectrometer. For the conversion coefficient measurement, the neutrons that impinged a 4 mg ^{243}Am target that was deposited on a Ni foil had a flux of 3$\times10^{14}$ n/cm^{2}s. The conversion electron spectrum of secondary transitions was scanned with the electron spectrometer BILL with an energy resolution of 270 eV at 200 keV. The intensities of lines below 140 keV were corrected for the efficiency of the spectrometer and losses in the target. Above 140 keV a constant efficiency was assumed. Multipolarities were deduced from the experimental conversion coefficient data.

The level scheme is presented as constructed by 1984Vo07, except as noted. The level scheme is incomplete due to a large number of unplaced γ's.

^{244}Am Levels

E(level)[†]	J^{π}[‡]	Comments
0[#]	(6$^-$)	
89.5[@] *16*	1$^+$	E(level): Deduced by the evaluator from the primary capture-gamma of 5277.6 keV *4* (1984Vo07) with recoil energy considered and S(n)= 5367.2 keV *16* (2017Wa10). Authors′ original value was 85.0 keV *30* with S(n)=5363 keV *3*(1984Vo07).
101.8[@] *16*	2$^+$	
124.8[@] *16*	3$^+$	
149.8[@] *16*	4$^+$	
177.2[&] *16*	1$^-$	
185.0[@] *16*	5$^+$	
198.8[&] *16*	2$^-$	
229.8[&] *16*	3$^-$	
263.2[a] *16*	2$^-$	
273.7[&] *16*	4$^-$	
290.7[b] *16*	1$^-$	
298.2[a] *16*	3$^-$	
324.3[&] *16*	5$^-$	
337.1[b] *16*	(0)$^-$	
344.1[b] *16*	3$^-$	
345.2[a] *16*	4$^-$	
349.9[c] *16*	3$^+$	
363.3[b] *16*	2$^-$	
378.6[d] *16*	(0)$^+$	
391.5[c] *16*	(4)$^+$	
400.2[a] *16*	5$^-$	
416.2[d] *16*	2$^+$	
420.5[e] *16*	2$^+$	
421.6[f] *16*	2$^+$	
422.7[g] *16*	(3)$^-$	
436.5[b] *16*	(4)$^-$	
438.8[b] *16*	(5$^-$)	
445.9[f] *16*	(3)$^+$	
455.5[d] *16*	(1)$^+$	

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^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)

^{244}Am Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	Comments
458.4[e] *16*	(4)$^+$	
467.8[g] *16*	(4)$^-$	
479.6 *16*	(2)$^+$	
479.8[f] *16*	(4)$^+$	
486.2[h] *16*	2$^-$	
496.9[d] *16*	(4)$^+$	
515.6[d] *16*	(3)$^+$	
517.8[f] *16*	(5$^+$)	
518.3[i] *16*	2$^-$	
525.8[h] *16*	(3)$^-$	
537.3[i] *16*	3$^-$	
563.1[i] *16*	4$^-$	
580.3[h] *16*	(4$^-$)	
585.5 *16*	2$^-$	
612.4[d] *16*	(5)$^+$	
616.7[j] *16*	(2)$^+$	
644.6 *16*	(3)$^+$	
651.7[j] *16*	(3)$^+$	
672.3 *16*	(2)$^+$	
682.1[k] *16*	(1)$^-$	
698.3[j] *16*	(4$^+$)	
701.3[k] *16*	2$^-$	
732.6[k] *16*	3$^-$	
758.2[j] *16*	(5$^+$)	
776.4 *16*	(1)$^+$	
781.4[k] *16*	(4$^-$)	
781.7 *16*	(2)$^-$	
784.4 *16*	(2)$^-$	
796.5 *16*	(4$^-$)	
800.5 *16*	(2)$^-$	
810.3 *16*	(3)$^-$	
827.0 *16*	(2)$^-$	
842.1 *16*	(2)$^+$	
844.3 *16*	(1,2,3)$^+$	J$^{\pi}$: (2)$^+$ in 1984Vo07.
860.7 *16*	(3$^+$)	
876.6 *16*	(2$^+$)	
882.3 *16*	(1,2)$^-$	

[†] From measurements of 1984Vo07. Evaluator has increased level energies for E>89.5 keV by 4.5 keV to take into consideration that these levels are given relative to the 89.5 keV level. A systematic error of 1.6 keV is also included.

[‡] From Adopted Levels.

[#] Band(A): K=6, (π 5/2[523]+ν 7/2[624]) state.

[@] Band(B): K=1, (π 5/2[642]-ν 7/2[624]) band. The odd-even level staggering and small rotational band parameter explained by Coriolis interaction with the 0$^+$, (π 7/2[633]-ν7/2[624]) band (1984Vo07).

[&] Band(C): K=1, (π 5/2[523]-ν 7/2[624]) band. The weak staggering of this band is probably caused by the Coriolis mixing with the K=0, (π 5/2[523]-ν 5/2[622]) band (1984Vo07).

[a] Band(D): K=2, (π 3/2[521]-ν 7/2[624]) band.

[b] Band(E): K=0, (π 5/2[523]-ν 5/2[622]) band. The γ transitions to the (π 5/2[642]-ν 7/2[624]) band, which are forbidden

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^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)

^{244}Am Levels (continued)

because of changes in both π and ν orbitals, can be explained by Coriolis mixing of this K=0, (π 5/2[523]-ν 5/2[622]) band with the K=1, (π 5/2[523]-ν 7/2[624]) band (1984Vo07).

[c] Band(F): K=3, (π 1/2[400]-ν 7/2[624]) + (π 5/2[642]+ν 1/2[631]) band. The main assignment was based on the predicted band-head energy. From strong γ transitions from the $(3)^-$ at 422.7 keV and 2^- state at 486.2 keV states to the 3^+ at 349.9 keV state, 1984Vo07 suggested that this band might have a (π 5/2[642]+ν 1/2[631]) admixture. This admixture explains also the existence of γ transitions from the K=2, (π 5/2[523]-ν 1/2[631]) band. Since M1 transitions from K=3 to K=1 band are K-forbidden, 1984Vo07 also suggested that the γ's may proceed via a small K=2 component, based on the agreement of relative gamma intensities with those calculated using Alaga rule for dipole transitions from K=2 to K=1 band. Mixing of the (π 5/2[642]+ν 1/2[631]) in the 3^+, (π 1/2[400]-ν 7/2[624]) state at 349 keV was also suggested because of the strong 72.7992γ feeding from the 422-keV level.

[d] Band(G): K=0, (π 7/2[633]-ν 7/2[624]) band. The configuration assignment was made by 1984Vo07 from γ de excitation patterns of the band members, and from expected level energies. Calculated level energies, which included the Coriolis interaction the (π 5/2[642]-ν 7/2[624]) band, agree with experimental energies.

[e] Band(H): K=2, (π 5/2[642]-ν 1/2[631]) band. This configuration was very tentatively proposed by 1984Vo07.

[f] Band(I): K=2, (π 5/2[523]-ν 9/2[734])(+ ?). Levels were assigned to a band based on their energy spacings and similar decay patterns. The configuration assignment was made from the predicted band-head energy and rotational band parameter. The authors of 1984Vo07 pointed out that relative intensities of γ's from the 2^+ and 5^+ states are in better agreement with the Alaga rule for K=2. The relative intensities from the 3^+ state agree with the Alaga rule for K=1, and those from the 4^+ state agree for K=0.

[g] Band(J): K=3, (π 5/2[523]+ν 1/2[631])+(π 5/2[642]-ν 9/2[734])(+?). The main configuration was proposed by 1984Vo07 from its expected energy. The authors suggested that this band is mixed with the K=2, (π 5/2[642]-ν 9/2[734]) band so that the E1 transitions to the K=1, (π 5/2[642]-ν 7/2[624]) are allowed.

[h] Band(K): K=2, (π 5/2[523]-ν 1/2[631]) band. The assignment was tentatively suggested by 1984Vo07 from model-dependent considerations.

[i] Band(L): K=2, (π 5/2[642]-ν 9/2[734]) band (+ ?).

[j] Band(M): K=2, (π 3/2[651]-ν 7/2[624]) band. The assignment was suggested by 1984Vo07 for the levels at 616.7 and 651.7 keV from the agreement of the deduced rotational band parameter with its predicted value. Based on calculations of Coriolis interactions with the 1^+, (π 5/2[642]-ν 7/2[624]) and 0^+, (π 7/2[633]-ν 7/2[624]) bands, 1984Vo07 tentatively identified the 4^+ and 5^+ members.

[k] Band(N): K=1, ((π 3/2[521]-ν 5/2[622])+ (π 5/2[642]-ν 7/2[743])). From the γ transitions to the levels of (π 5/2[523]-ν 5/2[622]) and (π 5/2[642]-ν 9/2[734]) bands, 1984Vo07 assumed that this band has a mixed configuration.

γ(^{244}Am)

Iγ normalization: Normalization for intensities per 100 neutron capture was obtained by using I(158γ in ^{244}Cm from 10-h ^{244}Am decay) =0.92. For calculation of the absolute intensity of the 158γ, the isomer's production ratio and the β branching were taken as 5.17% and 17.8 per isomer decay, respectively (1984Vo07). The systematic error from this calibration might be as much as 20% (1984Vo07).

K-X rays were measured by 1982Ba56 following ^{243}Am(n,γ) by using curved crystal spectrometer:

E(X-ray)	I(X-ray; relative)		
102.032 *3*	63 *1*	Kα_2	x ray
106.474 *3*	100	Kα_1	x ray
119.240 *2*	10 *1*	Kβ_3	x ray
120.280 *2*	22 *1*	Kβ_1	x ray

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[b]	α[†]	Comments
21.636[@] *10*	0.190[a] *40*	198.8	2$^-$	177.2	1$^-$	M1[c]	142.4	α(L)=2.16 *3*; α(M)=103.3 *15* α(N)=28.3 *4*; α(O)=7.12 *10*; α(P)=1.363 *20*; α(Q)=0.0875 *13*
22.975[@] *10*	0.051[a] *10*	124.8	3$^+$	101.8	2$^+$	M1[c]		
25.034[@] *20*	0.041[a] *11*	149.8	4$^+$	124.8	3$^+$	M1[c]	361	α(L)=270 *4*; α(M)=67.0 *10* α(N)=18.3 *3*; α(O)=4.62 *7*; α(P)=0.884 *13*; α(Q)=0.0568 *8*
31.000[@] *10*	0.053[a] *10*	229.8	3$^-$	198.8	2$^-$	M1[c]	193	α(L)=145.1 *21*; α(M)=35.6 *5* α(N)=9.73 *14*; α(O)=2.45 *4*; α(P)=0.469 *7*; α(Q)=0.0301 *5*
^{x}32.1996 *12*	0.060 *21*					E1+M2	1.6×10^2 *16*	α(L)=1.1×10^2 *12*; α(M)=34 *34* α(N)=9.6 *95*; α(O)=2.4 *24*; α(P)=0.42 *42*; α(Q)=0.021 *22* Mult.: from α(M1)exp=1.5 *12*. Listed as E1(+M2) by authors.
33.396[@] *10*	0.029[a] *5*	263.2	2$^-$	229.8	3$^-$	M1[c]	155.3	α(L)=116.6 *17*; α(M)=28.6 *4* α(N)=7.81 *11*; α(O)=1.97 *3*; α(P)=0.376 *6*; α(Q)=0.0242 *4*
33.888[@] *10*	0.062[a] *12*	455.5	(1)$^+$	421.6	2$^+$	M1[c]	148.7	α(L)=111.7 *16*; α(M)=27.3 *4* α(N)=7.48 *11*; α(O)=1.88 *3*; α(P)=0.360 *5*; α(Q)=0.0231 *4*
34.975[@] *15*	0.0013[a] *5*	298.2	3$^-$	263.2	2$^-$	E2[c]	2.63×10^3	α(L)=1.91×10^3 *3*; α(M)=535 *8* α(N)=147.8 *21*; α(O)=35.2 *5*; α(P)=5.50 *8*; α(Q)=0.01065 *15*
35.23[@] *3*	0.021[a] *4*	185.0	5$^+$	149.8	4$^+$	M1[c]	132.7	α(L)=99.6 *15*; α(M)=24.4 *4* α(N)=6.67 *10*; α(O)=1.680 *24*; α(P)=0.321 *5*; α(Q)=0.0206 *3*
35.31[@] *3*	0.0005[a] *1*	124.8	3$^+$	89.5	1$^+$	E2[c]	2.52×10^3	α(L)=1.82×10^3 *3*; α(M)=511 *8* α(N)=141.1 *21*; α(O)=33.6 *5*; α(P)=5.25 *8*; α(Q)=0.01021 *15*
41.630[@] *20*	0.020[a] *10*	391.5	(4)$^+$	349.9	3$^+$	M1[c]	81.1	α(L)=60.9 *9*; α(M)=14.90 *21* α(N)=4.07 *6*; α(O)=1.026 *15*; α(P)=0.196 *3*; α(Q)=0.01259 *18*
43.904[@] *10*	0.045[a] *10*	273.7	4$^-$	229.8	3$^-$	M1[c]	69.4	α(L)=52.1 *8*; α(M)=12.74 *18* α(N)=3.48 *5*; α(O)=0.877 *13*; α(P)=0.1679 *24*; α(Q)=0.01076 *15*

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	δ[‡d]	α[†]	Comments
45.074[@] *10*	0.036[a] *10*	467.8	(4)$^-$	422.7	(3)$^-$	M1[c]		64.2	α(L)=48.2 *7*; α(M)=11.79 *17* α(N)=3.22 *5*; α(O)=0.812 *12*; α(P)=0.1553 *22*; α(Q)=0.00995 *14*
46.375[@] *20*	0.0110[a] *20*	337.1	(0)$^-$	290.7	1$^-$	M1[c]		59.1	α(L)=44.3 *7*; α(M)=10.84 *16* α(N)=2.97 *5*; α(O)=0.747 *11*; α(P)=0.1429 *20*; α(Q)=0.00915 *13*
50.550[@] *10*	0.0150[a] *30*	324.3	5$^-$	273.7	4$^-$	M1[c]		45.8	α(L)=34.4 *5*; α(M)=8.41 *12* α(N)=2.30 *4*; α(O)=0.580 *9*; α(P)=0.1109 *16*; α(Q)=0.00710 *10*
^{x}51.493 *4*	0.010 *5*					E1,E2(+M1)			Mult.: from α(L1)exp<13. Only E1 was listed by the authors.
52.640[@] *10*	0.0046[a] *10*	229.8	3$^-$	177.2	1$^-$	E2[c]		362	α(L)=262 *4*; α(M)=73.6 *11* α(N)=20.3 *3*; α(O)=4.85 *7*; α(P)=0.763 *11*; α(Q)=0.00180 *3* Mult.: from L2:L3:M2:M3=100 *20*:71 *6*:26 *7*:21 *3*.
53.430[@] *10*	0.0140[a] *30*	344.1	3$^-$	290.7	1$^-$	E2[c]		337	α(L)=244 *4*; α(M)=68.5 *10* α(N)=18.9 *3*; α(O)=4.51 *7*; α(P)=0.710 *10*; α(Q)=0.001691 *24* Mult.: from L1:L2:L3:M2:M3=2 *4*:100 *6*:63 *10*:20 *7*:27 *6*.
^{x}58.5593 *5*	0.192 *30*					E1		0.550	α(L)=0.412 *6*; α(M)=0.1029 *15* α(N)=0.0277 *4*; α(O)=0.00656 *10*; α(P)=0.001023 *15*; α(Q)=3.19×10^{-5} *5* Mult.: from α(L1)exp<0.7.
59.139[@] *10*	0.0300[a] *30*	479.6	(2)$^+$	420.5	2$^+$	M1[c]		28.9	α(L)=21.7 *3*; α(M)=5.31 *8* α(N)=1.452 *21*; α(O)=0.366 *6*; α(P)=0.0699 *10*; α(Q)=0.00448 *7*
64.4013 *20*	0.199 *31*	263.2	2$^-$	198.8	2$^-$	M1+E2	0.185 *+26−20*	26.3 *12*	α(L)=19.7 *9*; α(M)=4.92 *24* α(N)=1.35 *7*; α(O)=0.336 *16*; α(P)=0.0623 *25*; α(Q)=0.00340 *6* Mult.: from α(L1)exp=18 *3* and subshell ratio. δ: from subshell ratio. L1:L3:M1:M2:M3:N1=100 *6*:5.9 *12*:28 *3*:7.3 *7*:3.0 *4*:8 *3*.
^{x}67.1992 *9*	0.024 *4*					M1		19.9	α(L)=14.95 *21*; α(M)=3.65 *6* α(N)=0.999 *14*; α(O)=0.251 *4*; α(P)=0.0481 *7*; α(Q)=0.00308 *5* Mult.: from α(L1)exp=20 *4*.
^{x}68.7020 *19*	0.040 *8*					E1,E2(+M1)			Mult.: from α(L1)exp<2.9. Only E1 was listed by the authors.
70.4522 *24*	0.0089 *36*	344.1	3$^-$	273.7	4$^-$	M1		17.34	α(L)=13.02 *19*; α(M)=3.18 *5* α(N)=0.870 *13*; α(O)=0.219 *3*; α(P)=0.0419 *6*; α(Q)=0.00268 *4* Mult.: from α(L1)exp=22 *11*.
72.6184 *12*	0.101 *16*	363.3	2$^-$	290.7	1$^-$	M1		15.87	α(L)=11.92 *17*; α(M)=2.91 *4*

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	δ[‡d]	α[†]	Comments
									α(N)=0.796 *12*; α(O)=0.200 *3*; α(P)=0.0384 *6*; α(Q)=0.00245 *4* Mult.: from α(L1)exp=15 *3*.
72.7992 *7*	0.65 *10*	422.7	$(3)^-$	349.9	3^+	E1+M2		4.1 *39*	α(L)=3.0 *28*; α(M)=0.84 *79* α(N)=0.24 *23*; α(O)=0.059 *56*; α(P)=0.011 *10*; α(Q)=5.6×10^{-4} *54* Mult.: from α(L1)exp=0.3 *1*. Listed as E1(+M2) by authors.
74.0144 *7*	0.40 *6*	198.8	2^-	124.8	3^+	E1+M2		3.9 *36*	α(L)=2.8 *26*; α(M)=0.78 *73* α(N)=0.22 *21*; α(O)=0.055 *52*; α(P)=0.0098 *93*; α(Q)=5.2×10^{-4} *50* Mult.: from α(L1)exp=0.6 *3*.
74.918[@] *10*	0.0170[a] *30*	273.7	4^-	198.8	2^-	E2[c]		66.8	α(L)=48.4 *7*; α(M)=13.61 *19* α(N)=3.76 *6*; α(O)=0.898 *13*; α(P)=0.1423 *20*; α(Q)=0.000410 *6*
75.3475 *13*	15.3 *23*	177.2	1^-	101.8	2^+	E1+M2	0.025 *6*	0.49 *12*	α(L)=0.36 *8*; α(M)=0.095 *23* α(N)=0.026 *7*; α(O)=0.0064 *17*; α(P)=0.00109 *29*; α(Q)=4.8×10^{-5} *16* Mult.: from α(L1)exp=0.18 *3* and subshell ratio. δ: from subshell ratio. L1:L2:L3:M1:M2:M3:N1=100 *7*:48 *5*:55 *10*:22.3 *13*:7.8 *14*:10.1 *9*:10.2 *7*.
80.0156 *11*	0.065 *10*	229.8	3^-	149.8	4^+	E1+M2		2.8 *26*	α(L)=2.0 *19*; α(M)=0.56 *52* α(N)=0.16 *15*; α(O)=0.039 *37*; α(P)=0.0070 *66*; α(Q)=3.7×10^{-4} *36* Mult.: from α(L1)exp=2.1 *8*.
^{x}80.5402 *10*	0.039 *6*					M1+E2		30 *18*	α(L)=22 *13*; α(M)=5.9 *38* α(N)=1.6 *11*; α(O)=0.39 *25*; α(P)=0.065 *37*; α(Q)=0.00106 *76* Mult.: from α(L1)exp=4.8 *10*.
^{x}80.732 *5*	0.0076 *20*								
^{x}80.9529 *10*	0.030 *5*					M1		11.56	α(L)=8.69 *13*; α(M)=2.12 *3* α(N)=0.580 *9*; α(O)=0.1460 *21*; α(P)=0.0279 *4*; α(Q)=0.001785 *25* Mult.: from α(L1)exp=9.4 *30*.
^{x}81.0001 *12*	0.0222 *38*								
81.3663 *10*	0.029 *5*	344.1	3^-	263.2	2^-	M1		11.39	α(L)=8.56 *12*; α(M)=2.09 *3* α(N)=0.571 *8*; α(O)=0.1439 *21*; α(P)=0.0275 *4*; α(Q)=0.001759 *25* Mult.: from α(L1)exp=11 *3*.
^{x}82.0511 *13*	0.023 *5*								
^{x}85.4280 *17*	0.023 *5*								
86.0376 *10*	0.34 *5*	263.2	2^-	177.2	1^-	M1+E2	0.26 *3*	11.3 *4*	α(L)=8.4 *3*; α(M)=2.11 *9* α(N)=0.579 *23*; α(O)=0.144 *6*; α(P)=0.0266 *9*; α(Q)=0.00142 *3* Mult.: from α(L1)exp=6.7 *11* and subshell ratio. δ: from subshell ratio. L1:L2:L3:M1:N1=100 *9*:28 *3*:10.3 *12*:22.2 *11*:3.0 *6*.
87.6553 *15*	22.9 *35*	177.2	1^-	89.5	1^+	E1+M2	0.032 *7*	0.37 *9*	α(L)=0.27 *7*; α(M)=0.071 *18* α(N)=0.020 *5*; α(O)=0.0048 *13*; α(P)=8.3×10^{-4} *22*; α(Q)=3.8×10^{-5} *12* Mult.: from α(L1)exp=0.12 *2* and subshell ratio. δ: from subshell ratio. L1:L2:L3:M1:M2:M3:N1=100 *5*:43 *5*:43 *4*:19 *2*:6.9 *6*:8.3 *7*:6.1 *5*.

From ENSDF

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
^{x}90.992 *3*	0.022 *6*					M1	8.23	α(L)=6.19 *9*; α(M)=1.510 *22* α(N)=0.413 *6*; α(O)=0.1039 *15*; α(P)=0.0199 *3*; α(Q)=0.001270 *18* Mult.: from α(L1)exp=7.4 *22*. E$_\gamma$: This transition was placed by 1984Vo07 between the 2$^+$ state at 616 keV and the 3$^-$ state at 525 keV, presumably from energy fit. Because of its multipolarity, this transition is not placed on the level scheme by the evaluator.
91.369 *5*	0.0145 *36*	537.3	3$^-$	445.9	(3)$^+$	(E1)	0.1719	α(L)=0.1290 *18*; α(M)=0.0319 *5* α(N)=0.00860 *12*; α(O)=0.00207 *3*; α(P)=0.000343 *5*; α(Q)=1.249×10^{-5} *18* Mult.: from α(L1)exp<3. α(L1) allows E1 or E2. The level scheme requires Δπ=yes.
^{x}91.717 *3*	0.0081 *23*							
91.9252 *13*	0.62 *10*	290.7	1$^-$	198.8	2$^-$	M1	7.99	α(L)=6.00 *9*; α(M)=1.465 *21* α(N)=0.401 *6*; α(O)=0.1009 *15*; α(P)=0.0193 *3*; α(Q)=0.001233 *18* Mult.: from L1:L2:M1:M2:N1=100 *9*:8.9 *5*:21.6 *15*:3.5 *5*:4.8 *7* and α(L1)exp=5.9 *12*.
92.181 *3*	0.0112 *28*	876.6	(2$^+$)	784.4	(2)$^-$			
^{x}94.3170 *14*	0.126 *19*					M1	7.42	α(L)=5.57 *8*; α(M)=1.360 *19* α(N)=0.372 *6*; α(O)=0.0937 *14*; α(P)=0.0179 *3*; α(Q)=0.001144 *16* Mult.: from α(L1)exp=4.4 *7*.
94.454 *4*	0.0087 *20*	324.3	5$^-$	229.8	3$^-$			
94.666 *5*	0.0097 *22*	438.8	(5$^-$)	344.1	3$^-$			
^{x}94.818 *3*	0.025 *4*							
^{x}95.8731 *19*	0.0194 *38*							
^{x}96.1338 *20*	0.0102 *24*							
96.6925 *19*	0.054 *9*	518.3	2$^-$	421.6	2$^+$			
96.9851 *10*	0.25 *4*	198.8	2$^-$	101.8	2$^+$	E1	0.1472	α(L)=0.1105 *16*; α(M)=0.0273 *4* α(N)=0.00737 *11*; α(O)=0.001777 *25*; α(P)=0.000296 *5*; α(Q)=1.100×10^{-5} *16* Mult.: from α(L1)exp<0.1.
99.246 *5*	0.0090 *26*	585.5	2$^-$	486.2	2$^-$			
100.872 *3*	0.0106 *38*	882.3	(1,2)$^-$	781.7	(2)$^-$	M1	6.11	α(L)=4.59 *7*; α(M)=1.120 *16* α(N)=0.306 *5*; α(O)=0.0771 *11*; α(P)=0.01475 *21*; α(Q)=0.000941 *14* Mult.: from α(L1)exp=4.8 *30*.
^{x}101.337 *4*	0.0128 *28*					M1	6.03	α(L)=4.53 *7*; α(M)=1.105 *16* α(N)=0.302 *5*; α(O)=0.0761 *11*; α(P)=0.01455 *21*; α(Q)=0.000929 *13* Mult.: from α(L1)exp=5.6 *20*.
^{x}102.948 *3*	0.056 *24*					(E1,E2)		Mult.: from α(L1)exp<0.4. Only E1 was listed by the authors.
^{x}103.513 *7*	0.0113 *28*							
105.011 *6*	0.0059 *25*	229.8	3$^-$	124.8	3$^+$			
^{x}107.966 *3*	0.0106 *28*							
^{x}110.115 *4*	0.0105 *28*							
^{x}110.2446 *13*	0.027 *5*					M1	4.72	α(L)=3.55 *5*; α(M)=0.866 *13* α(N)=0.237 *4*; α(O)=0.0596 *9*; α(P)=0.01141 *16*; α(Q)=0.000727 *11* Mult.: from α(L1)exp=5.2 *10*.
^{x}111.083 *7*	0.0172 *35*					M1	4.62	α(L)=3.47 *5*; α(M)=0.847 *12*

γ(^{244}Am) (continued)

E_{γ}[#]	I_{γ}[&f]	E_i(level)	J^{π}_i	E_f	J^{π}_f	Mult.[b]	δ[‡d]	α[†]	Comments
									α(N)=0.232 *4*; α(O)=0.0583 *9*; α(P)=0.01116 *16*; α(Q)=0.000712 *10* Mult.: from α(L1)exp=3.7 *11*.
112.285 *3*	0.0130 *26*	436.5	$(4)^-$	324.3	5^-	M1		4.48	α(L)=3.37 *5*; α(M)=0.821 *12* α(N)=0.225 *4*; α(O)=0.0565 *8*; α(P)=0.01082 *16*; α(Q)=0.000690 *10* Mult.: from α(L1)exp=5.9 *20*.
^{x}112.601 *6*	0.0115 *26*								
113.5625 *12*	1.13 *19*	290.7	1^-	177.2	1^-	M1+E2	0.28 *4*	4.71 *13*	α(L)=3.52 *9*; α(M)=0.88 *3* α(N)=0.241 *8*; α(O)=0.0601 *18*; α(P)=0.0112 *3*; α(Q)=0.000625 *15* Mult.: from α(L1)exp=1.8 *4* and subshell ratio. δ: from subshell ratio. L1:L2:L3:M1:M2:N1=100 *7*:29 *6*:7.4 *9*:28 *2*:5.6 *7*:1.4 *3*.
114.3510 *17*	0.099 *15*	344.1	3^-	229.8	3^-	M1		4.25	α(L)=3.19 *5*; α(M)=0.779 *11* α(N)=0.213 *3*; α(O)=0.0536 *8*; α(P)=0.01026 *15*; α(Q)=0.000654 *10* Mult.: from α(M1)exp=0.8 *2*.
114.557 *3*	0.0176 *34*	438.8	(5^-)	324.3	5^-				
115.362 *4*	0.055 *11*	345.2	4^-	229.8	3^-	M1		4.14	α(L)=3.11 *5*; α(M)=0.760 *11* α(N)=0.208 *3*; α(O)=0.0523 *8*; α(P)=0.01001 *14*; α(Q)=0.000638 *9* Mult.: from α(L1)exp=2.6 *13*.
^{x}115.410 *3*	0.041 *10*					M1		4.14	α(L)=3.11 *5*; α(M)=0.759 *11* α(N)=0.207 *3*; α(O)=0.0522 *8*; α(P)=0.00999 *14*; α(Q)=0.000637 *9* Mult.: from α(L1)exp=3.4 *17*.
115.6262 *20*	0.029 *6*	537.3	3^-	421.6	2^+				
^{x}115.813 *5*	0.023 *5*								
^{x}116.4343 *14*	0.023 *5*					M1		4.03	α(L)=3.03 *5*; α(M)=0.740 *11* α(N)=0.202 *3*; α(O)=0.0509 *8*; α(P)=0.00974 *14*; α(Q)=0.000621 *9* Mult.: from α(L1)exp=4.3 *11*.
116.801 *7*	0.0066 *19*	537.3	3^-	420.5	2^+				
117.185 *3*	0.0155 *27*	563.1	4^-	445.9	$(3)^+$				
^{x}117.342 *3*	0.0161 *27*								
^{x}118.801 *3*	0.023 *8*					M1		3.81	α(L)=2.86 *4*; α(M)=0.698 *10* α(N)=0.191 *3*; α(O)=0.0481 *7*; α(P)=0.00919 *13*; α(Q)=0.000586 *9* Mult.: from α(L1)exp=6.5 *23*.
^{x}121.305 *4*	0.024 *5*					M1		3.58	α(L)=2.69 *4*; α(M)=0.657 *10* α(N)=0.180 *3*; α(O)=0.0452 *7*; α(P)=0.00866 *13*; α(Q)=0.000552 *8* Mult.: from α(L1)exp=4.1 *10*.
^{x}122.200 *5*	0.049 *9*								
122.299 *3*	0.155 *28*	420.5	2^+	298.2	3^-	E1		0.0809	α(L)=0.0607 *9*; α(M)=0.01495 *21* α(N)=0.00404 *6*; α(O)=0.000981 *14*; α(P)=0.0001672 *24*; α(Q)=6.68×10^{-6} *10* Mult.: from α(L12)exp<0.3.
^{x}122.407 *10*	0.028 *6*								
^{x}125.6167 *12*	0.238 *36*					M1+E2	0.35 *5*		Mult.: α(L1)exp=2.4 *4* and subshell ratio. δ: from subshell ratio. L1:L2:L3:N1=100 *6*:27 *3*:10 *3*:16 *8*.

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J^π_i	E$_f$	J^π_f	Mult.[b]	α[†]	Comments
126.541 *5*	0.0116 *38*	400.2	5^-	273.7	4^-			
^{x}126.978 *12*	0.027 *11*					(M1)	14.51	α(K)=11.37 *16*; α(L)=2.36 *4*; α(M)=0.576 *8*; α(N)=0.1575 *22*; α(O)=0.0397 *6*; α(P)=0.00759 *11*; α(Q)=0.000484 *7* Mult.: from α(L1)exp=1.7 *8*.
127.9891 *24*	0.157 *24*	229.8	3^-	101.8	2^+	E1+M2	1.08 *79*	α(K)=0.67 *45*; α(L)=0.30 *25*; α(M)=0.082 *69*; α(N)=0.023 *20*; α(O)=0.0057 *48*; α(P)=1.03×10^{-3} *88*; α(Q)=5.5×10^{-5} *50* Mult.: from α(L1)exp=0.3 *2*.
136.3836 *15*	0.79 *13*	486.2	2^-	349.9	3^+	E1+M2	0.88 *63*	α(K)=0.56 *37*; α(L)=0.24 *20*; α(M)=0.064 *53*; α(N)=0.018 *15*; α(O)=0.0044 *37*; α(P)=8.0×10^{-4} *68*; α(Q)=4.3×10^{-5} *39* Mult.: from α(L1)exp=0.13 *5*. Listed as E1 by authors.
^{x}137.453 *12*	0.0094 *30*							
^{x}137.892 *7*	0.0214 *4*							
138.4157 *17*	0.075 *16*	263.2	2^-	124.8	3^+			
^{x}139.143 *4*	0.0121 *33*							
145.356 *4*	0.026 *4*	344.1	3^-	198.8	2^-	M1	9.98	α(K)=7.85 *11*; α(L)=1.603 *23*; α(M)=0.391 *6*; α(N)=0.1069 *15*; α(O)=0.0269 *4*; α(P)=0.00515 *8*; α(Q)=0.000328 *5* Mult.: from α(L1)exp=4.8 *20*.
^{x}145.6642 *13*	0.065 *11*					M1	9.92	α(K)=7.80 *11*; α(L)=1.593 *23*; α(M)=0.389 *6*; α(N)=0.1062 *15*; α(O)=0.0267 *4*; α(P)=0.00512 *8*; α(Q)=0.000326 *5* Mult.: from α(L1)exp=3.9 20.
145.816 *6*	0.0134 *26*	758.2	(5^+)	612.4	$(5)^+$			
^{x}146.552 *3*	0.032 *7*							
148.9208 *19*	0.058 *12*	273.7	4^-	124.8	3^+	E1	0.207	α(K)=0.1577 *22*; α(L)=0.0368 *6*; α(M)=0.00903 *13*; α(N)=0.00244 *4*; α(O)=0.000596 *9*; α(P)=0.0001033 *15*; α(Q)=4.37×10^{-6} *7* Mult.: from α(L1)exp<0.3. α(L1) allows E1 or E2. The level scheme requires $\Delta\pi$=yes.
^{x}149.718 *4*	0.0170 *36*							
^{x}157.396 *4*	0.037 *7*					M1	7.97	α(K)=6.27 *9*; α(L)=1.277 *18*; α(M)=0.311 *5*; α(N)=0.0851 *12*; α(O)=0.0214 *3*; α(P)=0.00410 *6*; α(Q)=0.000261 *4* Mult.: from α(L1)exp=5.4 *20*.
158.4352 *10*	0.32 *5*	421.6	2^+	263.2	2^-	E1	0.179	α(K)=0.1372 *20*; α(L)=0.0315 *5*; α(M)=0.00772 *11*; α(N)=0.00209 *3*; α(O)=0.000510 *8*; α(P)=8.89×10^{-5} *13*; α(Q)=3.83×10^{-6} *6* Mult.: from α(L12)exp<0.1.
158.616 *7*	0.020 *8*	810.3	$(3)^-$	651.7	$(3)^+$			
^{x}159.275 *8*	0.029 *13*							
159.506 *10*	0.042 *8*	422.7	$(3)^-$	263.2	2^-			
^{x}161.207 *6*	0.0125 *36*							
161.391 *4*	0.022 *5*	263.2	2^-	101.8	2^+			
^{x}161.692 *3*	0.038 *13*							
162.374 *5*	0.019 *4*	860.7	(3^+)	698.3	(4^+)			
162.819[g] *6*	≤0.0214[g]	436.5	$(4)^-$	273.7	4^-			I$_\gamma$: 0.0214 *37* was measured for the doubly placed 162.819-keV transition.
162.819[g] *6*	≤0.0214[g]	563.1	4^-	400.2	5^-			I$_\gamma$: 0.0214 *37* was measured for the doubly placed 162.819-keV transition.
^{x}163.629 *11*	0.022 *6*							

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	α[†]	Comments
163.743 *5*	0.061 *12*	682.1	(1)$^-$	518.3	2$^-$	M1	7.12	α(K)=5.61 *8*; α(L)=1.141 *16*; α(M)=0.278 *4* α(N)=0.0760 *11*; α(O)=0.0191 *3*; α(P)=0.00366 *6*; α(Q)=0.000233 *4* Mult.: from α(K)exp=3.4 *15* and the level scheme.
^{x}163.910 *3*	0.076 *13*					M1	7.10	α(K)=5.59 *8*; α(L)=1.137 *16*; α(M)=0.277 *4* α(N)=0.0758 *11*; α(O)=0.0191 *3*; α(P)=0.00365 *6*; α(Q)=0.000232 *4* Mult.: from α(K)exp=5.2 *10*.
164.020 *3*	0.060 *10*	701.3	2$^-$	537.3	3$^-$	M1+E2	4.5 *26*	α(K)=2.9 *27*; α(L)=1.23 *10*; α(M)=0.32 *5* α(N)=0.089 *14*; α(O)=0.022 *3*; α(P)=0.00381 *18*; α(Q)=1.3×10^{-4} *11* Mult.: from α(K)exp=2.7 *15*.
165.110 *6*	0.011 *3*	438.8	(5$^-$)	273.7	4$^-$			
165.422 *16*	0.0058 *32*	651.7	(3)$^+$	486.2	2$^-$			
^{x}165.894 *10*	0.018 *4*							
^{x}168.504 *12*	0.008 *5*							
169.597[g] *7*	≤0.029[g]	467.8	(4)$^-$	298.2	3$^-$	(M1)	6.45	α(K)=5.08 *8*; α(L)=1.032 *15*; α(M)=0.252 *4* α(N)=0.0688 *10*; α(O)=0.01732 *25*; α(P)=0.00331 *5*; α(Q)=0.000211 *3* I_γ: 0.029 *8* was measured for the doubly placed 169.597-keV transition. Mult.: from α(L1)exp=2.2 *10*. M1 was listed by the authors.
169.597[g] *7*	≤0.029[g]	732.6	3$^-$	563.1	4$^-$	(M1)	6.45	α(K)=5.08 *8*; α(L)=1.032 *15*; α(M)=0.252 *4* α(N)=0.0688 *10*; α(O)=0.01732 *25*; α(P)=0.00331 *5*; α(Q)=0.000211 *3* I_γ: 0.029 *8* was measured for the doubly placed 169.597-keV transition. Mult.: from α(L1)exp=2.2 *10*. M1 was listed by the authors.
^{x}170.088 *5*	0.040 *13*					M1+E2	4.1 *24*	α(K)=2.6 *25*; α(L)=1.07 *6*; α(M)=0.28 *4* α(N)=0.078 *10*; α(O)=0.0190 *19*; α(P)=0.00334 *7*; α(Q)=1.15×10^{-4} *94* Mult.: from α(K)exp=3.0 *10*. Listed as M1 by authors.
173.698 *4*	0.229 *36*	263.2	2$^-$	89.5	1$^+$	(E1)	0.1448	α(K)=0.1115 *16*; α(L)=0.0250 *4*; α(M)=0.00613 *9* α(N)=0.001660 *24*; α(O)=0.000406 *6*; α(P)=7.12×10^{-5} *10*; α(Q)=3.14×10^{-6} *5* Mult.: E1,E2 was listed by the authors with α(K)<0.3. (E1) is assigned by the evaluator from its level scheme.
174.466 *5*	0.028 *5*	324.3	5$^-$	149.8	4$^+$			
175.840 *8*	0.0125 *39*	525.8	(3)$^-$	349.9	3$^+$			
^{x}176.959 *8*	0.012 *5*							
^{x}179.962 *5*	0.042 *7*					M1	5.46	α(K)=4.30 *6*; α(L)=0.872 *13*; α(M)=0.213 *3* α(N)=0.0581 *9*; α(O)=0.01463 *21*; α(P)=0.00280 *4*; α(Q)=0.0001780 *25* Mult.: from α(K)exp=3.3 *10*.
^{x}182.355 *7*	0.0134 *24*							
^{x}182.733 *12*	0.018 *5*							
182.960 *4*	0.031 *5*	701.3	2$^-$	518.3	2$^-$			
^{x}184.885 *4*	0.019 *4*							
^{x}186.452 *7*	0.0100 *23*							
^{x}188.165 *5*	0.193 *29*					M1+E2	3.0 *19*	α(K)=2.0 *19*; α(L)=0.746 *25*; α(M)=0.195 *8* α(N)=0.0536 *25*; α(O)=0.0132 *4*; α(P)=0.00233 *14*; α(Q)=8.7×10^{-5} *71* Mult.: from α(K)exp=1.5 *5*.
188.910 *5*	0.40 *6*	290.7	1$^-$	101.8	2$^+$	E1	0.1194	α(K)=0.0923 *13*; α(L)=0.0203 *3*; α(M)=0.00497 *7*

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
								α(N)=0.001348 *19*; α(O)=0.000330 *5*; α(P)=5.82×10^{-5} *9*; α(Q)=2.63×10^{-6} *4* Mult.: from α(K)exp=0.3 *2*. α(K)exp allow E2 but level scheme requires Δπ=yes.
^{x}189.395 *5*	0.0136 *28*							
^{x}189.600 *4*	0.0149 *31*							
^{x}190.409 *5*	0.0145 *33*							
191.829 *4*	0.047 *8*	421.6	2^+	229.8	3^-			
192.907 *4*	0.035 *9*	422.7	$(3)^-$	229.8	3^-			
193.522 *6*	0.035 *7*	517.8	(5^+)	324.3	5^-			
194.079 *13*	0.0087 *21*	467.8	$(4)^-$	273.7	4^-			
194.363 *8*	0.028 *7*	344.1	3^-	149.8	4^+			
^{x}195.284 *9*	0.0091 *27*							
^{x}196.938 *10*	0.023 *4*							
^{x}197.152 *14*	0.043 *10*							
^{x}199.846 *6*	0.0148 *31*							
200.117 *3*	0.189 *39*	349.9	3^+	149.8	4^+	M1+E2	2.5 *16*	α(K)=1.7 *16*; α(L)=0.60 *5*; α(M)=0.1563 *25* α(N)=0.0430 *6*; α(O)=0.0106 *3*; α(P)=0.00188 *20*; α(Q)=7.3×10^{-5} *59* Mult.: from α(K)exp=1.6 *4*.
201.219 *4*	0.23 *4*	290.7	1^-	89.5	1^+	E1	0.1033	α(K)=0.0801 *12*; α(L)=0.01741 *25*; α(M)=0.00426 *6* α(N)=0.001154 *17*; α(O)=0.000283 *4*; α(P)=5.01×10^{-5} *7*; α(Q)=2.30×10^{-6} *4* Mult.: from α(L12)exp<0.07.
201.393 *9*	0.0127 *39*	378.6	$(0)^+$	177.2	1^-			
^{x}201.860 *5*	0.0100 *34*							
^{x}202.925 *8*	0.017 *6*							
204.052 *8*	0.028 *4*	784.4	$(2)^-$	580.3	(4^-)			
^{x}204.439 *10*	0.039 *6*					M1	3.81	α(K)=3.00 *5*; α(L)=0.607 *9*; α(M)=0.1481 *21* α(N)=0.0405 *6*; α(O)=0.01019 *15*; α(P)=0.00195 *3*; α(Q)=0.0001239 *18* Mult.: from α(K)exp=2.9 *6*.
^{x}204.820 *10*	0.019 *6*							
206.147 *10*	0.036 *8*	479.8	$(4)^+$	273.7	4^-			
206.559 *20*	0.082 *23*	391.5	$(4)^+$	185.0	5^+			
206.718 *18*	0.0165 *32*	436.5	$(4)^-$	229.8	3^-			
^{x}210.585 *11*	0.035 *7*					M1	3.50	α(K)=2.76 *4*; α(L)=0.559 *8*; α(M)=0.1362 *19* α(N)=0.0372 *6*; α(O)=0.00937 *14*; α(P)=0.00179 *3*; α(Q)=0.0001139 *16* Mult.: from α(K)exp=4.2 *11*.
^{x}211.774 *25*	0.0099 *23*							
213.952 *24*	0.0101 *31*	672.3	$(2)^+$	458.4	$(4)^+$			
^{x}214.361 *16*	0.015 *5*							
^{x}214.424 *5*	0.018 *6*							
216.087[g] *5*	≤0.083[g]	445.9	$(3)^+$	229.8	3^-	(E1)	0.0878	α(K)=0.0683 *10*; α(L)=0.01464 *21*; α(M)=0.00358 *5* α(N)=0.000970 *14*; α(O)=0.000238 *4*; α(P)=4.24×10^{-5} *6*; α(Q)=1.98×10^{-6} *3* Mult.: from α(K)exp<0.6. α(K)exp allows (E1,E2) as listed by authors. Level scheme requires Δπ=yes. I$_\gamma$: 0.083 *16* was measured for the doubly placed 216.087-keV transition. Mult.: from α(K)<0.6.

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	δ[‡d]	α[†]	Comments
216.087[g] *5*	≤0.083[g]	860.7	(3$^+$)	644.6	(3)$^+$	(E2)		0.687	α(K)=0.1332 *19*; α(L)=0.402 *6*; α(M)=0.1120 *16* α(N)=0.0309 *5*; α(O)=0.00743 *11*; α(P)=0.001224 *18*; α(Q)=1.106×10^{-5} *16* Mult.: from α(K)exp<0.6. α(K)exp allows (E1,E2) as listed by authors. (E2) is assigned by the evaluator from its level scheme. I$_\gamma$: 0.083 *16* was measured for the doubly placed 216.087-keV transition.
218.332 *16*	0.026 *7*	781.4	(4$^-$)	563.1	4$^-$				
219.365 *13*	0.025 *10*	344.1	3$^-$	124.8	3$^+$				
220.380 *5*	0.078 *17*	345.2	4$^-$	124.8	3$^+$	E1		0.0840	α(K)=0.0654 *10*; α(L)=0.01396 *20*; α(M)=0.00341 *5* α(N)=0.000924 *13*; α(O)=0.000227 *4*; α(P)=4.04×10^{-5} *6*; α(Q)=1.90×10^{-6} *3* Mult.: from α(L1)exp<0.02.
[x]220.617 *12*	0.0086 *26*								
[x]221.234 *10*	0.021 *5*								
[x]221.759 *24*	0.014 *5*								
222.205 *9*	0.026 *7*	585.5	2$^-$	363.3	2$^-$	M1		3.01	α(K)=2.38 *4*; α(L)=0.480 *7*; α(M)=0.1171 *17* α(N)=0.0320 *5*; α(O)=0.00805 *12*; α(P)=0.001540 *22*; α(Q)=9.78×10^{-5} *14* Mult.: from α(K)exp=2.2 *10*.
222.834 *3*	1.24 *21*	421.6	2$^+$	198.8	2$^-$	E1		0.0819	α(K)=0.0638 *9*; α(L)=0.01360 *19*; α(M)=0.00332 *5* α(N)=0.000900 *13*; α(O)=0.000221 *3*; α(P)=3.94×10^{-5} *6*; α(Q)=1.85×10^{-6} *3* Mult.: from α(L1)exp=0.01 *1*.
224.21 *3*	0.011 *4*	644.6	(3)$^+$	420.5	2$^+$				
225.120 *5*	0.66 *11*	349.9	3$^+$	124.8	3$^+$	M1+E2	0.64 *+12−9*	2.23 *18*	α(K)=1.66 *17*; α(L)=0.427 *12*; α(M)=0.1074 *21* α(N)=0.0294 *6*; α(O)=0.00733 *16*; α(P)=0.00135 *4*; α(Q)=7.0×10^{-5} *7* Mult.: from α(K)exp=1.6 *3* and subshell ratio. δ: from subshell ratio. L1:L2:L3:M1:N1=100 *6*:24 *3*:12 *3*:31 *5*:25 *7*.
[x]225.967 *13*	0.0095 *33*								
[x]227.429 *10*	0.049 *8*					(M1)		2.82	α(K)=2.23 *4*; α(L)=0.450 *7*; α(M)=0.1096 *16* α(N)=0.0300 *5*; α(O)=0.00754 *11*; α(P)=0.001443 *21*; α(Q)=9.16×10^{-5} *13* Mult.: from α(L1)exp=0.7 *2*.
[x]227.780 *14*	0.0075 *26*								
[x]229.539 *5*	0.065 *15*					M1		2.75	α(K)=2.17 *3*; α(L)=0.438 *7*; α(M)=0.1068 *15* α(N)=0.0292 *4*; α(O)=0.00735 *11*; α(P)=0.001406 *20*; α(Q)=8.93×10^{-5} *13* Mult.: from α(K)exp=2.1 *5*.
230.49[g] *7*	≤0.010[g]	580.3	(4$^-$)	349.9	3$^+$				I$_\gamma$: 0.010 *5* was measured for the doubly placed 230.49-keV transition.
230.49[g] *7*	≤0.010[g]	882.3	(1,2)$^-$	651.7	(3)$^+$				I$_\gamma$: 0.010 *5* was measured for the doubly placed 230.49-keV transition.

^{243}Am(n,γ)E=th:secondary γ's **1984Vo07** (continued)

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	δ[‡d]	α[†]	Comments
^{x}230.759 *5*	0.027 *5*								
^{x}230.817 *9*	0.036 *18*								
^{x}233.164 *15*	0.06 *5*								
236.203 *6*	0.049 *10*	580.3	(4^-)	344.1	3^-				
^{x}236.449 *5*	0.0103 *20*								
^{x}237.87 *3*	0.014 *5*								
238.784 *12*	0.152 *29*	563.1	4^-	324.3	5^-	M1		2.46	α(K)=1.94 *3*; α(L)=0.392 *6*; α(M)=0.0956 *14* α(N)=0.0261 *4*; α(O)=0.00658 *10*; α(P)=0.001258 *18*; α(Q)=7.99×10^{-5} *12* Mult.: from α(K)exp=1.7 *3*.
239.090 *20*	0.033 *8*	537.3	3^-	298.2	3^-				
^{x}239.386 *4*	0.23 *4*					(M1+E2)		1.46 *99*	α(K)=1.02 *91*; α(L)=0.33 *7*; α(M)=0.084 *11* α(N)=0.023 *3*; α(O)=0.0057 *9*; α(P)=0.00103 *23*; α(Q)=4.4×10^{-5} *36* Mult.: from α(K)exp=0.5 *1*.
^{x}240.16 *3*	0.013 *4*								
^{x}240.685 *4*	0.026 *10*								
241.721 *13*	0.025 *10*	391.5	$(4)^+$	149.8	4^+	(M1)		2.38	α(K)=1.88 *3*; α(L)=0.379 *6*; α(M)=0.0924 *13* α(N)=0.0252 *4*; α(O)=0.00635 *9*; α(P)=0.001215 *17*; α(Q)=7.72×10^{-5} *11* Mult.: from α(K)exp=1.9 *10*.
^{x}242.271 *6*	0.042 *11*								
244.11[g] *5*	≤0.018[g]	517.8	(5^+)	273.7	4^-				I_γ: 0.018 *21* was measured for the doubly placed 244.11-keV transition.
244.11[g] *5*	≤0.018[g]	781.4	(4^-)	537.3	3^-				I_γ: 0.018 *21* was measured for the doubly placed 244.11-keV transition.
244.471 *3*	4.5 *9*	421.6	2^+	177.2	1^-	E1+M2		0.148 *82*	α(K)=0.107 *55*; α(L)=0.031 *20*; α(M)=0.0079 *52* α(N)=0.0022 *15*; α(O)=5.4×10^{-4} *37*; α(P)=9.9×10^{-5} *68*; α(Q)=5.5×10^{-6} *40* Mult.: from α(K)exp=0.11 *4*.
^{x}244.813 *9*	0.071 *14*					M1		2.30	α(K)=1.81 *3*; α(L)=0.366 *6*; α(M)=0.0891 *13* α(N)=0.0244 *4*; α(O)=0.00613 *9*; α(P)=0.001173 *17*; α(Q)=7.44×10^{-5} *11* Mult.: from α(K)exp=2.7 *6*.
^{x}246.191 *4*	0.024 *6*								
247.107 *5*	0.33 *7*	784.4	$(2)^-$	537.3	3^-	(M1+E2)		1.33 *91*	α(K)=0.94 *83*; α(L)=0.29 *7*; α(M)=0.075 *12* α(N)=0.021 *3*; α(O)=0.0051 *9*; α(P)=0.00092 *22*; α(Q)=4.0×10^{-5} *33* Mult.: from α(K)exp=0.55 *15*.
248.097 *5*	1.10 *17*	349.9	3^+	101.8	2^+	M1+E2	0.52 *+14−12*	1.83 *17*	α(K)=1.40 *15*; α(L)=0.326 *13*; α(M)=0.0810 *24* α(N)=0.0222 *7*; α(O)=0.00554 *18*; α(P)=0.00104 *5*; α(Q)=5.8×10^{-5} *6* Mult.: from α(K)exp=1.34 *25* and subshell ratio.

γ(^{244}Am) (continued)

$E_{\gamma}^{\#}$	$I_{\gamma}^{\&f}$	E_i(level)	J^{π}_i	E_f	J^{π}_f	Mult.^{b}	$\alpha^{\dagger}$	Comments
								δ: from subshell ratio. L1:L2:M1:M2:N1=100 *5*:25 *3*:19 *6*:8 *4*:9 *8*.
^{x}249.318 *5*	0.089 *17*					M1	2.18	α(K)=1.722 *25*; α(L)=0.348 *5*; α(M)=0.0847 *12* α(N)=0.0231 *4*; α(O)=0.00583 *9*; α(P)=0.001114 *16*; α(Q)=7.07×10^{-5} *10* Mult.: from α(K)exp=2.0 *4*.
250.044 *4*	0.097 *20*	479.8	(4)$^+$	229.8	3$^-$			
250.43 *5*	0.028 *7*	400.2	5$^-$	149.8	4$^+$			
250.615 *5*	0.077 *12*	672.3	(2)$^+$	421.6	2$^+$	M1	2.15	α(K)=1.697 *24*; α(L)=0.342 *5*; α(M)=0.0835 *12* α(N)=0.0228 *4*; α(O)=0.00574 *8*; α(P)=0.001098 *16*; α(Q)=6.97×10^{-5} *10* Mult.: from α(K)exp=1.5 *5*.
251.509 *13*	0.0089 *21*	436.5	(4)$^-$	185.0	5$^+$			
252.052 *3*	0.30 *5*	525.8	(3)$^-$	273.7	4$^-$	M1(+E2)	1.26 *86*	α(K)=0.89 *79*; α(L)=0.27 *7*; α(M)=0.071 *12* α(N)=0.019 *3*; α(O)=0.0048 *9*; α(P)=0.00087 *22*; α(Q)=3.8×10^{-5} *31* Mult.: from α(K)exp=1.6 *3*.
^{x}253.500 *7*	0.056 *10*					M1	2.09	α(K)=1.644 *23*; α(L)=0.332 *5*; α(M)=0.0808 *12* α(N)=0.0221 *3*; α(O)=0.00556 *8*; α(P)=0.001063 *15*; α(Q)=6.75×10^{-5} *10* Mult.: from α(K)exp=1.9 *5*.
^{x}253.857 *14*	0.0129 *39*							
^{x}254.490 *7*	0.072 *12*							
255.127 *6*	0.126 *21*	518.3	2$^-$	263.2	2$^-$	M1	2.05	α(K)=1.615 *23*; α(L)=0.326 *5*; α(M)=0.0794 *12* α(N)=0.0217 *3*; α(O)=0.00546 *8*; α(P)=0.001045 *15*; α(Q)=6.63×10^{-5} *10* Mult.: from α(K)exp=1.5 *3*.
^{x}255.530 *15*	0.0082 *25*							
256.06^g *4*	≤0.018^g	580.3	(4$^-$)	324.3	5$^-$			I_{γ}: 0.018 *6* was measured for the doubly placed 256.06-keV transition.
256.06^g *4*	≤0.018^g	672.3	(2)$^+$	416.2	2$^+$			I_{γ}: 0.018 *6* was measured for the doubly placed 256.06-keV transition.
^{x}257.25 *3*	0.022 *7*							
^{x}257.484 *5*	0.110 *18*					(E1,E2)		Mult.: from α(K)exp<0.5.
^{x}258.70 *3*	≤0.12					M1	1.97	α(K)=1.554 *22*; α(L)=0.313 *5*; α(M)=0.0764 *11* α(N)=0.0209 *3*; α(O)=0.00525 *8*; α(P)=0.001005 *14*; α(Q)=6.38×10^{-5} *9* Mult.: from α(K)exp=1.7 *6*. E_{γ}: This transition was placed by 1984Vo07 to de excite the positive parity level at 844.3 keV to the 2$^-$ level at 585.5 keV. The adopted J^{π} would require this transition to be E1. I_{γ}: 0.12 *4* was measured for the doubly placed 258.70-keV transition.
258.70 *3*	≤0.12	784.4	(2)$^-$	525.8	(3)$^-$	M1	1.97	α(K)=1.554 *22*; α(L)=0.313 *5*; α(M)=0.0764 *11* α(N)=0.0209 *3*; α(O)=0.00525 *8*; α(P)=0.001005 *14*; α(Q)=6.38×10^{-5} *9* Mult.: from α(K)exp=1.7 *6*. I_{γ}: 0.12 *4* was measured for the doubly placed 258.70-keV transition.
259.16 *4*	0.023 *19*	796.5	(4$^-$)	537.3	3$^-$			
259.88 *3*	0.024 *8*	876.6	(2$^+$)	616.7	(2)$^+$			
260.39^g *4*	≤0.022^g	349.9	3$^+$	89.5	1$^+$			I_{γ}: 0.022 *7* was measured for the doubly placed 260.39-keV transition.
260.39^g *4*	≤0.022^g	682.1	(1)$^-$	421.6	2$^+$			I_{γ}: 0.022 *7* was measured for the doubly placed 260.39-keV transition.
263.554 *4*	0.45 *10*	537.3	3$^-$	273.7	4$^-$	M1	1.87	α(K)=1.475 *21*; α(L)=0.297 *5*; α(M)=0.0725 *11*

γ(^{244}Am) (continued)

E$_{\gamma}$$^{\#}$	I$_{\gamma}$$^{\&f}$	E$_{i}$(level)	J$^{\pi}_{i}$	E$_{f}$	J$^{\pi}_{f}$	Mult.^{b}	α†	Comments
								α(N)=0.0198 *3*; α(O)=0.00499 *7*; α(P)=0.000954 *14*; α(Q)=6.05×10^{-5} *9* Mult.: from α(K)exp=1.3 *3*.
^{x}264.264 *11*	0.045 *13*					M1	1.86	α(K)=1.464 *21*; α(L)=0.295 *5*; α(M)=0.0719 *10* α(N)=0.0197 *3*; α(O)=0.00495 *7*; α(P)=0.000946 *14*; α(Q)=6.01×10^{-5} *9* Mult.: from α(K)exp=1.9 *8*.
^{x}265.38 *3*	0.023 *8*							
^{x}266.025 *16*	≤0.044							E$_{\gamma}$: This doubly placed transition was placed by 1984Vo07 to de excite the (2)$^{-}$ states at 781.7-keV and 784.4 keV with their multipolarity assigned as M1. Due to α(K)exp which is inconsistent with the α(K)theory for a M1 transition, the evaluator has not included the transitions in the level scheme. I$_{\gamma}$: 0.044 *14* was measured for the doubly placed 266.025-keV transition.
266.37 *3*	0.014 *5*	416.2	2^{+}	149.8	4^{+}			
^{x}266.499 *4*	0.131 *22*					(M1)	1.81	α(K)=1.430 *20*; α(L)=0.288 *4*; α(M)=0.0703 *10* α(N)=0.0192 *3*; α(O)=0.00483 *7*; α(P)=0.000924 *13*; α(Q)=5.87×10^{-5} *9* Mult.: from α(K)exp=0.7 *5*.
^{x}266.594 *4*	0.097 *16*					M1	1.81	α(K)=1.429 *20*; α(L)=0.288 *4*; α(M)=0.0702 *10* α(N)=0.0192 *3*; α(O)=0.00483 *7*; α(P)=0.000923 *13*; α(Q)=5.86×10^{-5} *9* Mult.: from α(K)exp=1.3 *4*.
266.732 *4*	0.075 *13*	391.5	(4)$^{+}$	124.8	3^{+}	(M1)	1.81	α(K)=1.427 *20*; α(L)=0.288 *4*; α(M)=0.0701 *10* α(N)=0.0192 *3*; α(O)=0.00482 *7*; α(P)=0.000922 *13*; α(Q)=5.85×10^{-5} *9* Mult.: from α(K)exp=1.3 *6*.
267.230 *6*	0.018 *6*	612.4	(5)$^{+}$	344.1	3^{-}			
^{x}268.396 *14*	0.032 *8*					(M1)	1.779	α(K)=1.402 *20*; α(L)=0.283 *4*; α(M)=0.0689 *10* α(N)=0.0188 *3*; α(O)=0.00474 *7*; α(P)=0.000906 *13*; α(Q)=5.75×10^{-5} *8* Mult.: from α(K)exp=2.8 *12*. Listed as M1 by authors.
^{x}270.237 *8*	0.012 *7*							
^{x}271.452 *20*	0.029 *8*							
^{x}272.715 *8*	0.021 *4*							
274.054 *3*	0.032 *9*	537.3	3^{-}	263.2	2^{-}			
^{x}274.843 *13*	0.020 *6*							
^{x}275.3907 *19*	0.28 *7*					E1,E2		Mult.: from α(K)exp<0.1.
^{x}275.91 *5*	0.012 *7*							
^{x}276.951 *3*	0.033 *10*							
^{x}277.6334 *23*	0.099 *18*					M1	1.619	α(K)=1.277 *18*; α(L)=0.257 *4*; α(M)=0.0627 *9* α(N)=0.01713 *24*; α(O)=0.00431 *6*; α(P)=0.000824 *12*; α(Q)=5.23×10^{-5} *8* Mult.: from α(K)exp=1.5 *3*.
278.205 *16*	0.036 *12*	796.5	(4^{-})	518.3	2^{-}			
^{x}278.303 *4*	0.033 *14*							
^{x}281.616 *5*	0.0139 *37*							
^{x}282.819 *8*	0.0123 *36*							
^{x}284.416 *8*	0.021 *6*							
^{x}285.520 *3*	0.083 *22*					M1(+E2)	0.88 *62*	α(K)=0.63 *55*; α(L)=0.184 *55*; α(M)=0.047 *12* α(N)=0.013 *3*; α(O)=0.00318 *81*; α(P)=5.8×10^{-4} *19*; α(Q)=2.7×10^{-5} *22* Mult.: from α(K)exp=0.9 *3*.

γ(^{244}Am) (continued)

E$_{\gamma}$[#]	I$_{\gamma}$[&f]	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Mult.[b]	α[†]	Comments
^{x}285.972 *4*	0.071 *11*					M1	1.491	α(K)=1.176 *17*; α(L)=0.237 *4*; α(M)=0.0577 *8* α(N)=0.01577 *22*; α(O)=0.00397 *6*; α(P)=0.000759 *11*; α(Q)=4.82×10^{-5} *7* Mult.: from α(K)exp=1.0 *3*.
^{x}286.423 *12*	0.010 *5*							
286.74[g] *3*	≤0.0089[g]	436.5	(4)$^{-}$	149.8	4^{+}			I$_{\gamma}$: 0.089 *36* was measured for the doubly placed 286.74-keV transition.
286.74[g] *3*	≤0.0089[g]	732.6	3^{-}	445.9	(3)$^{+}$			I$_{\gamma}$: 0.089 *36* was measured for the doubly placed 286.74-keV transition.
^{x}287.055 *10*	0.0123 *36*							
287.5004 *19*	0.67 *11*	486.2	2^{-}	198.8	2^{-}	M1	1.469	α(K)=1.159 *17*; α(L)=0.233 *4*; α(M)=0.0569 *8* α(N)=0.01554 *22*; α(O)=0.00391 *6*; α(P)=0.000748 *11*; α(Q)=4.74×10^{-5} *7* Mult.: from α(K)exp=1.2 *2*.
^{x}288.189 *4*	0.061 *18*					M1	1.460	α(K)=1.151 *17*; α(L)=0.232 *4*; α(M)=0.0565 *8* α(N)=0.01543 *22*; α(O)=0.00388 *6*; α(P)=0.000743 *11*; α(Q)=4.71×10^{-5} *7* Mult.: from α(K)exp=1.6 *5*.
288.5229 *19*	0.58 *13*	518.3	2^{-}	229.8	3^{-}	M1	1.455	α(K)=1.148 *16*; α(L)=0.231 *4*; α(M)=0.0563 *8* α(N)=0.01538 *22*; α(O)=0.00387 *6*; α(P)=0.000740 *11*; α(Q)=4.70×10^{-5} *7* Mult.: from α(K)exp=1.2 *3*.
289.0570 *22*	0.122 *29*	378.6	(0)$^{+}$	89.5	1^{+}	M1	1.448	α(K)=1.142 *16*; α(L)=0.230 *4*; α(M)=0.0560 *8* α(N)=0.01530 *22*; α(O)=0.00385 *6*; α(P)=0.000737 *11*; α(Q)=4.67×10^{-5} *7* Mult.: from α(K)exp=1.1 *4*.
289.3540 *22*	0.110 *25*	563.1	4^{-}	273.7	4^{-}	(M1)	1.444	α(K)=1.139 *16*; α(L)=0.229 *4*; α(M)=0.0558 *8* α(N)=0.01526 *22*; α(O)=0.00384 *6*; α(P)=0.000735 *11*; α(Q)=4.66×10^{-5} *7* Mult.: from α(K)exp=3.0 *10*. Listed as M1 by authors.
291.4059 *19*	0.71 *18*	416.2	2^{+}	124.8	3^{+}	M1	1.416	α(K)=1.117 *16*; α(L)=0.225 *4*; α(M)=0.0548 *8* α(N)=0.01496 *21*; α(O)=0.00377 *6*; α(P)=0.000720 *10*; α(Q)=4.57×10^{-5} *7* Mult.: from α(K)exp=1.1 *2*.
^{x}292.837 *5*	0.015 *7*							
^{x}293.635 *8*	0.034 *8*							
^{x}294.198 *3*	0.102 *24*					M1	1.379	α(K)=1.087 *16*; α(L)=0.219 *3*; α(M)=0.0533 *8* α(N)=0.01457 *21*; α(O)=0.00367 *6*; α(P)=0.000701 *10*; α(Q)=4.45×10^{-5} *7* Mult.: from α(K)exp=1.1 *2*.
^{x}294.309 *6*	0.031 *9*							
294.8242 *22*	0.28 *8*	585.5	2^{-}	290.7	1^{-}	(E2)	0.238	α(K)=0.0808 *12*; α(L)=0.1142 *16*; α(M)=0.0314 *5* α(N)=0.00868 *13*; α(O)=0.00209 *3*; α(P)=0.000351 *5*; α(Q)=4.98×10^{-6} *7* Mult.: E1,E2 was listed by 1984Vo07 with α(K)exp<0.2. (E2) is listed by the evaluator from its level scheme.
^{x}294.984 *5*	0.051 *11*							
295.953 *3*	0.058 *11*	525.8	(3)$^{-}$	229.8	3^{-}			
296.103[g] *5*	≤0.104[g]	445.9	(3)$^{+}$	149.8	4^{+}	M1	1.354	α(K)=1.068 *15*; α(L)=0.215 *3*; α(M)=0.0524 *8* α(N)=0.01431 *20*; α(O)=0.00360 *5*; α(P)=0.000689 *10*; α(Q)=4.37×10^{-5} *7* I$_{\gamma}$: 0.104 *18* was measured for the doubly placed 266.103-keV transition. Mult.: from α(K)exp=1.3 *2*.
296.103[g] *5*	≤0.104[g]	732.6	3^{-}	436.5	(4)$^{-}$	M1	1.354	α(K)=1.068 *15*; α(L)=0.215 *3*; α(M)=0.0524 *8*

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	α[†]	Comments
								α(N)=0.01431 *20*; α(O)=0.00360 *5*; α(P)=0.000689 *10*; α(Q)=4.37×10^{-5} *7* I_γ: 0.104 *18* was measured for the doubly placed 266.103-keV transition. Mult.: from α(K)exp=1.3 *2*.
296.848 *3*	1.31 *21*	421.6	2^+	124.8	3^+	M1	1.345	α(K)=1.061 *15*; α(L)=0.213 *3*; α(M)=0.0520 *8* α(N)=0.01421 *20*; α(O)=0.00358 *5*; α(P)=0.000684 *10*; α(Q)=4.34×10^{-5} *6* Mult.: from α(K)exp=1.0 *2*.
^{x}297.671 *10*	0.016 *7*							
297.920 *6*	0.034 *9*	422.7	$(3)^-$	124.8	3^+			
^{x}298.784 *5*	0.021 *7*							
^{x}299.492 *4*	0.015 *5*							
^{x}300.896 *7*	0.020 *5*							
^{x}301.746 *12*	0.019 *7*							
302.069 *6*	0.024 *8*	781.7	$(2)^-$	479.6	$(2)^+$			
^{x}304.448 *5*	0.024 *5*							
^{x}305.242 *3*	0.20 *8*					M1	1.245	α(K)=0.982 *14*; α(L)=0.198 *3*; α(M)=0.0481 *7* α(N)=0.01315 *19*; α(O)=0.00331 *5*; α(P)=0.000633 *9*; α(Q)=4.01×10^{-5} *6* Mult.: from α(K)exp=1.1 *4*.
306.646 *11*	0.015 *7*	580.3	(4^-)	273.7	4^-			
307.4550 *20*	0.91 *14*	537.3	3^-	229.8	3^-	M1	1.220	α(K)=0.963 *14*; α(L)=0.194 *3*; α(M)=0.0472 *7* α(N)=0.01289 *18*; α(O)=0.00324 *5*; α(P)=0.000620 *9*; α(Q)=3.93×10^{-5} *6* Mult.: from α(K)exp=1.05 *17*.
308.5818 *21*	0.42 *7*	458.4	$(4)^+$	149.8	4^+	M1	1.208	α(K)=0.953 *14*; α(L)=0.192 *3*; α(M)=0.0467 *7* α(N)=0.01276 *18*; α(O)=0.00321 *5*; α(P)=0.000614 *9*; α(Q)=3.89×10^{-5} *6* Mult.: from α(K)exp=1.10 *18*.
^{x}308.953 *11*	0.020 *5*							
309.138 *7*	0.031 *6*	486.2	2^-	177.2	1^-			
^{x}310.338 *3*	0.18 *4*					M1	1.189	α(K)=0.938 *14*; α(L)=0.189 *3*; α(M)=0.0460 *7* α(N)=0.01256 *18*; α(O)=0.00316 *5*; α(P)=0.000604 *9*; α(Q)=3.83×10^{-5} *6* Mult.: from α(K)exp=1.02 *28*.
311.899 *11*	0.028 *7*	496.9	$(4)^+$	185.0	5^+			
^{x}313.095 *4*	0.040 *11*							
^{x}313.439 *3*	0.022 *6*							
314.382 *3*	0.94 *17*	416.2	2^+	101.8	2^+	M1	1.147	α(K)=0.905 *13*; α(L)=0.182 *3*; α(M)=0.0443 *7* α(N)=0.01211 *17*; α(O)=0.00305 *5*; α(P)=0.000583 *9*; α(Q)=3.70×10^{-5} *6* Mult.: from α(K)exp=1.16 *21*.
^{x}314.641 *11*	0.020 *7*							
^{x}316.546 *13*	0.017 *7*							
^{x}317.2151 *21*	1.60 *26*					M1	1.119	α(K)=0.883 *13*; α(L)=0.1776 *25*; α(M)=0.0432 *6* α(N)=0.01182 *17*; α(O)=0.00297 *5*; α(P)=0.000569 *8*; α(Q)=3.61×10^{-5} *5* Mult.: from α(K)exp=0.78 *12*.
318.6478 *24*	0.72 *14*	420.5	2^+	101.8	2^+	M1	1.106	α(K)=0.872 *13*; α(L)=0.1753 *25*; α(M)=0.0427 *6* α(N)=0.01167 *17*; α(O)=0.00294 *5*; α(P)=0.000562 *8*; α(Q)=3.56×10^{-5} *5* Mult.: from α(K)exp=1.04 *20*.

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	α[†]	Comments
319.5279 *21*	1.53 *25*	518.3	2^-	198.8	2^-	M1	1.097	α(K)=0.866 *13*; α(L)=0.1740 *25*; α(M)=0.0424 *6* α(N)=0.01158 *17*; α(O)=0.00291 *4*; α(P)=0.000557 *8*; α(Q)=3.53×10^{-5} *5* Mult.: from α(K)exp=1.02 *16*.
319.821 *3*	0.26 *9*	421.6	2^+	101.8	2^+	M1+E2	0.64 *46*	α(K)=0.47 *40*; α(L)=0.129 *45*; α(M)=0.0326 *97* α(N)=0.0089 *27*; α(O)=0.00222 *70*; α(P)=4.1×10^{-4} *15*; α(Q)=2.0×10^{-5} *16* Mult.: from α(K)exp=0.34 *13*.
^{x}320.464 *8*	0.012 *6*							
320.887 *4*	0.042 *15*	422.7	$(3)^-$	101.8	2^+			
321.098 *9*	0.024 *6*	445.9	$(3)^+$	124.8	3^+			
^{x}321.3403 *22*	0.24 *5*					M1	1.080	α(K)=0.852 *12*; α(L)=0.1713 *24*; α(M)=0.0417 *6* α(N)=0.01140 *16*; α(O)=0.00287 *4*; α(P)=0.000549 *8*; α(Q)=3.48×10^{-5} *5* Mult.: from α(K)exp=0.88 *20*.
^{x}322.003 *4*	0.049 *15*							
^{x}322.411 *5*	0.054 *13*					M1	1.070	α(K)=0.845 *12*; α(L)=0.1697 *24*; α(M)=0.0413 *6* α(N)=0.01129 *16*; α(O)=0.00284 *4*; α(P)=0.000544 *8*; α(Q)=3.45×10^{-5} *5* Mult.: from α(K)exp=0.76 *30*.
^{x}324.121 *4*	0.025 *7*							
^{x}324.629 *6*	0.024 *5*							
^{x}325.524 *9*	0.0150 *37*							
326.165 *16*	0.0150 *37*	781.7	$(2)^-$	455.5	$(1)^+$			
326.6902 *22*	0.36 *7*	416.2	2^+	89.5	1^+	M1	1.032	α(K)=0.814 *12*; α(L)=0.1636 *23*; α(M)=0.0398 *6* α(N)=0.01089 *16*; α(O)=0.00274 *4*; α(P)=0.000524 *8*; α(Q)=3.32×10^{-5} *5* Mult.: from α(K)exp=0.71 *15*.
^{x}327.418 *4*	0.064 *14*							
^{x}327.663 *6*	0.042 *9*							
^{x}328.560 *7*	0.016 *4*							
^{x}329.526 *4*	0.092 *22*					M1	1.008	α(K)=0.795 *12*; α(L)=0.1598 *23*; α(M)=0.0389 *6* α(N)=0.01063 *15*; α(O)=0.00268 *4*; α(P)=0.000512 *8*; α(Q)=3.24×10^{-5} *5* Mult.: from α(K)exp=1.4 *4*.
330.067 *7*	0.0150 *37*	479.8	$(4)^+$	149.8	4^+			
330.9556 *23*	0.61 *11*	420.5	2^+	89.5	1^+	M1	0.996	α(K)=0.786 *11*; α(L)=0.1579 *23*; α(M)=0.0384 *6* α(N)=0.01050 *15*; α(O)=0.00264 *4*; α(P)=0.000506 *7*; α(Q)=3.21×10^{-5} *5* Mult.: from α(K)exp=0.90 *17*.
^{x}331.607 *12*	0.0150 *37*							
332.134 *3*	0.23 *5*	421.6	2^+	89.5	1^+	M1	0.986	α(K)=0.778 *11*; α(L)=0.1563 *22*; α(M)=0.0381 *6* α(N)=0.01040 *15*; α(O)=0.00262 *4*; α(P)=0.000501 *7*; α(Q)=3.17×10^{-5} *5* Mult.: from α(K)exp=0.56 *12*.
332.738 *13*	0.0165 *39*	517.8	(5^+)	185.0	5^+			
333.256 *6*	0.048 *11*	563.1	4^-	229.8	3^-	M1	0.977	α(K)=0.771 *11*; α(L)=0.1549 *22*; α(M)=0.0377 *6* α(N)=0.01030 *15*; α(O)=0.00259 *4*; α(P)=0.000496 *7*; α(Q)=3.14×10^{-5} *5* Mult.: from α(K)exp=1.0 *4*.
333.585 *3*	0.141 *32*	458.4	$(4)^+$	124.8	3^+	M1	0.974	α(K)=0.769 *11*; α(L)=0.1544 *22*; α(M)=0.0376 *6*

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
								α(N)=0.01028 *15*; α(O)=0.00259 *4*; α(P)=0.000495 *7*; α(Q)=3.14×10^{-5} *5* Mult.: from α(K)exp=0.96 *25*.
^{x}334.611 *4*	0.032 *8*							
^{x}334.985 *14*	0.0060 *31*							
338.460 *3*	0.54 *10*	537.3	3$^-$	198.8	2$^-$	M1	0.936	α(K)=0.739 *11*; α(L)=0.1484 *21*; α(M)=0.0361 *5* α(N)=0.00987 *14*; α(O)=0.00248 *4*; α(P)=0.000475 *7*; α(Q)=3.01×10^{-5} *5* Mult.: from α(K)exp=1.08 *20*.
339.319 *8*	0.0075 *32*	876.6	(2$^+$)	537.3	3$^-$			
^{x}339.854 *10*	0.028 *7*							
341.1649 *22*	2.2 *4*	518.3	2$^-$	177.2	1$^-$	M1	0.916	α(K)=0.723 *11*; α(L)=0.1451 *21*; α(M)=0.0353 *5* α(N)=0.00966 *14*; α(O)=0.00243 *4*; α(P)=0.000465 *7*; α(Q)=2.95×10^{-5} *5* Mult.: from α(K)exp=0.89 *17*.
^{x}343.228 *3*	0.073 *14*					M1	0.901	α(K)=0.711 *10*; α(L)=0.1427 *20*; α(M)=0.0348 *5* α(N)=0.00950 *14*; α(O)=0.00239 *4*; α(P)=0.000457 *7*; α(Q)=2.90×10^{-5} *4* Mult.: from α(K)exp=0.53 *20*.
344.054 *9*	0.09 *4*	445.9	(3)$^+$	101.8	2$^+$	M1	0.895	α(K)=0.706 *10*; α(L)=0.1418 *20*; α(M)=0.0345 *5* α(N)=0.00943 *14*; α(O)=0.00237 *4*; α(P)=0.000454 *7*; α(Q)=2.88×10^{-5} *4* Mult.: from α(K)exp=1.1 *5*.
^{x}344.673 *4*	0.042 *9*					M1	0.891	α(K)=0.703 *10*; α(L)=0.1411 *20*; α(M)=0.0344 *5* α(N)=0.00939 *14*; α(O)=0.00236 *4*; α(P)=0.000452 *7*; α(Q)=2.86×10^{-5} *4* Mult.: from α(K)exp=0.96 *32*.
345.000^{g} *6*	≤0.03^{g}	682.1	(1)$^-$	337.1	(0)$^-$			I$_\gamma$: 0.030 *10* was measured for the doublet.
345.000^{g} *6*	≤0.03^{g}	800.5	(2)$^-$	455.5	(1)$^+$			
^{x}345.583 *3*	0.143 *24*					M1	0.884	α(K)=0.698 *10*; α(L)=0.1401 *20*; α(M)=0.0341 *5* α(N)=0.00932 *13*; α(O)=0.00235 *4*; α(P)=0.000448 *7*; α(Q)=2.84×10^{-5} *4* Mult.: from α(K)exp=1.15 *25*.
^{x}346.030 *9*	0.025 *6*							
347.110 *3*	0.24 *6*	496.9	(4)$^+$	149.8	4$^+$	M1	0.873	α(K)=0.689 *10*; α(L)=0.1384 *20*; α(M)=0.0337 *5* α(N)=0.00921 *13*; α(O)=0.00232 *4*; α(P)=0.000443 *7*; α(Q)=2.81×10^{-5} *4* Mult.: from α(K)exp=0.91 *24*.
347.836^{h} *6*	0.03 *1*	784.4	(2)$^-$	436.5	(4)$^-$			α(K)exp=1.9 *10* allows M2. Authors suggest (M1) for 347.836γ which is placed in the decay scheme from (2)$^-$ to (4)$^-$ state. Either the placement is incorrect, or possibly the K conversion line had an impurity. Its placement on the level scheme is questioned here by the evaluator; this γ ray is not included in the Adopted Gammas.
^{x}348.047 *13*	0.027 *7*							
^{x}348.709 *8*	0.027 *6*							
^{x}348.989 *16*	0.0112 *25*							
^{x}349.348 *8*	0.018 *5*							
^{x}349.597 *6*	0.021 *7*							
^{x}349.994 *4*	0.036 *8*							
351.942 *5*	0.070 *14*	810.3	(3)$^-$	458.4	(4)$^+$			
^{x}352.358 *17*	0.030 *7*							

γ(^{244}Am) (continued)

E$_{\gamma}$$^{\#}$	I$_{\gamma}$$^{\&f}$	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Mult.^{b}	α†	Comments
^{x}353.345 *9*	0.083 *15*							
^{x}353.569 *7*	0.095 *16*							
353.693 *4*	0.49 *9*	455.5	(1)$^{+}$	101.8	2^{+}	M1	0.830	α(K)=0.655 *10*; α(L)=0.1314 *19*; α(M)=0.0320 *5* α(N)=0.00874 *13*; α(O)=0.00220 *3*; α(P)=0.000421 *6*; α(Q)=2.67×10^{-5} *4* Mult.: from α(K)exp=0.74 *15*.
354.8132 *24*	0.30 *7*	479.6	(2)$^{+}$	124.8	3^{+}	M1	0.822	α(K)=0.649 *9*; α(L)=0.1302 *19*; α(M)=0.0317 *5* α(N)=0.00866 *13*; α(O)=0.00218 *3*; α(P)=0.000417 *6*; α(Q)=2.64×10^{-5} *4* Mult.: from α(K)exp=0.85 *20*.
355.068 *4*	0.089 *20*	479.8	(4)$^{+}$	124.8	3^{+}	M1	0.821	α(K)=0.648 *9*; α(L)=0.1300 *19*; α(M)=0.0316 *5* α(N)=0.00865 *13*; α(O)=0.00218 *3*; α(P)=0.000416 *6*; α(Q)=2.64×10^{-5} *4* Mult.: from α(K)exp=0.94 *30*.
^{x}355.723 *8*	0.036 *7*							
356.536 *6*	0.083 *13*	882.3	(1,2)$^{-}$	525.8	(3)$^{-}$			
358.70 *3*	0.009 *5*	781.4	(4^{-})	422.7	(3)$^{-}$			
^{x}359.265 *3*	0.052 *13*					(M1)	0.795	α(K)=0.627 *9*; α(L)=0.1258 *18*; α(M)=0.0306 *5* α(N)=0.00837 *12*; α(O)=0.00211 *3*; α(P)=0.000403 *6*; α(Q)=2.55×10^{-5} *4* α(K)exp=0.7 *3* is consistent with M1 multipolarity, and not with pure E2. Authors placed this γ between the (2)$^{-}$ state at 827.0 keV and the (4)$^{-}$ state at 467.8 keV. Therefore, either the placement is incorrect or the observed conversion electron line possibly included some impurity.
360.053 *12*	0.013 *4*	781.7	(2)$^{-}$	421.6	2^{+}			
361.187^{h} *3*	0.053 *12*	781.7	(2)$^{-}$	420.5	2^{+}			α(K)exp=0.8 *3* suggests M1 (or E1+M2 with a mixing ratio of E1/M2=1.0 *+5−3*). The M1 multipolarity is not consistent with its placement in the decay scheme, and E1+M2 with a large M2 admixture is unlikely. The placement is questioned here by the evaluator; this γ ray is not shown in the Adopted Gammas.
^{x}361.684 *3*	0.058 *13*							
^{x}362.689 *4*	0.058 *13*							
363.801 *3*	0.28 *10*	860.7	(3^{+})	496.9	(4)$^{+}$	(M1)	0.768	α(K)=0.606 *9*; α(L)=0.1215 *17*; α(M)=0.0296 *5* α(N)=0.00808 *12*; α(O)=0.00203 *3*; α(P)=0.000389 *6*; α(Q)=2.47×10^{-5} *4* Mult.: from α(K)exp=0.57 *22*.
^{x}364.095 *3*	0.133 *40*					(M1)	0.766	α(K)=0.605 *9*; α(L)=0.1213 *17*; α(M)=0.0295 *5* α(N)=0.00807 *12*; α(O)=0.00203 *3*; α(P)=0.000388 *6*; α(Q)=2.46×10^{-5} *4* Mult.: from α(K)exp=0.63 *22*.
^{x}364.960 *14*	0.028 *8*							
^{x}365.859 *3*	0.38 *8*					M2	2.20	α(K)=1.563 *22*; α(L)=0.471 *7*; α(M)=0.1217 *17* α(N)=0.0337 *5*; α(O)=0.00847 *12*; α(P)=0.001593 *23*; α(Q)=9.47×10^{-5} *14* α(K)exp=1.5 *4* allows M2. Authors suggest M1 for 365.859γ which is placed in the decay scheme from (3)$^{+}$ at 515.6 keV to the 4^{+} state at 149.8 keV. Either the placement is incorrect, or possibly the K conversion line had an impurity.
365.9998 *24*	0.91 *16*	455.5	(1)$^{+}$	89.5	1^{+}	M1	0.755	α(K)=0.596 *9*; α(L)=0.1195 *17*; α(M)=0.0291 *4* α(N)=0.00795 *12*; α(O)=0.00200 *3*; α(P)=0.000383 *6*; α(Q)=2.43×10^{-5} *4* Mult.: from α(K)exp=0.63 *12*.
^{x}366.402 *4*	0.094 *20*					E1,E2		Mult.: from α(K)<0.2.

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
^{x}367.004 *22*	0.020 *5*							
^{x}367.335 *3*	0.080 *19*					M1	0.748	α(K)=0.590 *9*; α(L)=0.1183 *17*; α(M)=0.0288 *4* α(N)=0.00787 *11*; α(O)=0.00198 *3*; α(P)=0.000379 *6*; α(Q)=2.40×10^{-5} *4* Mult.: from α(K)exp=0.39 *24*.
367.93 *4*	0.014 *6*	517.8	(5$^+$)	149.8	4$^+$			
^{x}369.139 *3*	0.28 *5*					M1	0.738	α(K)=0.582 *9*; α(L)=0.1168 *17*; α(M)=0.0284 *4* α(N)=0.00777 *11*; α(O)=0.00195 *3*; α(P)=0.000374 *6*; α(Q)=2.37×10^{-5} *4* Mult.: from α(K)exp=0.55 *11*.
^{x}369.599 *4*	0.21 *5*					M1	0.735	α(K)=0.580 *9*; α(L)=0.1164 *17*; α(M)=0.0283 *4* α(N)=0.00774 *11*; α(O)=0.00195 *3*; α(P)=0.000372 *6*; α(Q)=2.36×10^{-5} *4* Mult.: from α(K)exp=1.1 *3*.
^{x}369.737 *3*	0.24 *6*					M1	0.734	α(K)=0.580 *9*; α(L)=0.1162 *17*; α(M)=0.0283 *4* α(N)=0.00773 *11*; α(O)=0.00195 *3*; α(P)=0.000372 *6*; α(Q)=2.36×10^{-5} *4* Mult.: from α(K)exp=0.97 *3*.
^{x}369.956 *8*	0.059 *14*							
^{x}371.659 *9*	0.048 *10*					(M1)	0.724	α(K)=0.572 *8*; α(L)=0.1146 *16*; α(M)=0.0279 *4* α(N)=0.00762 *11*; α(O)=0.00192 *3*; α(P)=0.000367 *6*; α(Q)=2.33×10^{-5} *4* Mult.: from α(K)exp=0.68 *60*.
372.113 *3*	0.26 *5*	496.9	(4)$^+$	124.8	3$^+$	M1	0.722	α(K)=0.570 *8*; α(L)=0.1142 *16*; α(M)=0.0278 *4* α(N)=0.00760 *11*; α(O)=0.00191 *3*; α(P)=0.000366 *6*; α(Q)=2.32×10^{-5} *4* Mult.: from α(K)exp=0.59 *12*.
^{x}372.938 *3*	0.123 *23*					M1	0.717	α(K)=0.566 *8*; α(L)=0.1135 *16*; α(M)=0.0276 *4* α(N)=0.00755 *11*; α(O)=0.00190 *3*; α(P)=0.000363 *5*; α(Q)=2.30×10^{-5} *4* Mult.: from α(K)exp=0.50 *13*.
^{x}373.621 *8*	0.058 *10*							
373.760 *6*	0.124 *24*	810.3	(3)$^-$	436.5	(4)$^-$	M1	0.713	α(K)=0.563 *8*; α(L)=0.1128 *16*; α(M)=0.0275 *4* α(N)=0.00750 *11*; α(O)=0.00189 *3*; α(P)=0.000361 *5*; α(Q)=2.29×10^{-5} *4* Mult.: from α(K)exp=0.63 *15*.
^{x}374.923 *8*	0.027 *8*							
^{x}375.777 *3*	0.56 *10*					E1	0.0264	α(K)=0.0209 *3*; α(L)=0.00409 *6*; α(M)=0.000990 *14* α(N)=0.000269 *4*; α(O)=6.66×10^{-5} *10*; α(P)=1.219×10^{-5} *17*; α(Q)=6.44×10^{-7} *9* Mult.: from α(K)exp<0.04.
^{x}375.971 *5*	0.085 *16*					M1	0.702	α(K)=0.554 *8*; α(L)=0.1110 *16*; α(M)=0.0270 *4* α(N)=0.00738 *11*; α(O)=0.00186 *3*; α(P)=0.000355 *5*; α(Q)=2.25×10^{-5} *4* Mult.: from α(K)exp=0.74 *17*.
^{x}376.620 *6*	0.045 *11*					M1	0.698	α(K)=0.551 *8*; α(L)=0.1105 *16*; α(M)=0.0269 *4* α(N)=0.00735 *11*; α(O)=0.00185 *3*; α(P)=0.000354 *5*; α(Q)=2.24×10^{-5} *4* Mult.: from α(K)exp=0.94 *33*.
377.790 *3*	0.38 *7*	479.6	(2)$^+$	101.8	2$^+$	M1	0.692	α(K)=0.547 *8*; α(L)=0.1095 *16*; α(M)=0.0267 *4* α(N)=0.00729 *11*; α(O)=0.00183 *3*; α(P)=0.000351 *5*; α(Q)=2.22×10^{-5} *4* Mult.: from α(K)exp=0.57 *12*.
378.051[g] *7*	≤0.032[g]	479.8	(4)$^+$	101.8	2$^+$	[E2]	0.1139	α(K)=0.0523 *8*; α(L)=0.0450 *7*; α(M)=0.01221 *17*

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	α[†]	Comments
								α(N)=0.00337 *5*; α(O)=0.000816 *12*; α(P)=0.0001397 *20*; α(Q)=2.78×10^{-6} *4* I_γ: 0.032 *8* was measured for the doubly placed 378.051-keV transition.
378.051[g] *7*	≤0.032[g]	563.1	4^-	185.0	5^+	[E1]	0.0260	α(K)=0.0207 *3*; α(L)=0.00403 *6*; α(M)=0.000977 *14* α(N)=0.000265 *4*; α(O)=6.58×10^{-5} *10*; α(P)=1.203×10^{-5} *17*; α(Q)=6.36×10^{-7} *9* I_γ: 0.032 *8* was measured for the doubly placed 378.051-keV transition.
^{x}378.314 *3*	0.147 *37*					M1	0.690	α(K)=0.545 *8*; α(L)=0.1091 *16*; α(M)=0.0266 *4* α(N)=0.00726 *11*; α(O)=0.00183 *3*; α(P)=0.000349 *5*; α(Q)=2.21×10^{-5} *4* Mult.: from α(K)exp=0.74 *22*.
^{x}378.735 *14*	0.022 *6*							
^{x}378.992 *3*	0.129 *24*					M1	0.686	α(K)=0.542 *8*; α(L)=0.1086 *16*; α(M)=0.0264 *4* α(N)=0.00722 *11*; α(O)=0.00182 *3*; α(P)=0.000348 *5*; α(Q)=2.20×10^{-5} *3* Mult.: from α(K)exp=0.99 *30*.
^{x}379.714 *6*	0.043 *8*					M1	0.683	α(K)=0.539 *8*; α(L)=0.1080 *16*; α(M)=0.0263 *4* α(N)=0.00718 *10*; α(O)=0.00181 *3*; α(P)=0.000346 *5*; α(Q)=2.19×10^{-5} *3* Mult.: from α(K)exp=0.99 *35*.
380.836 *15*	0.030 *12*	860.7	(3^+)	479.8	$(4)^+$			
^{x}381.122 *4*	0.115 *29*					M1	0.676	α(K)=0.534 *8*; α(L)=0.1069 *15*; α(M)=0.0260 *4* α(N)=0.00711 *10*; α(O)=0.00179 *3*; α(P)=0.000342 *5*; α(Q)=2.17×10^{-5} *3* Mult.: from α(K)exp=0.69 *20*.
^{x}381.963 *6*	0.049 *12*							
^{x}382.271 *5*	0.051 *10*							
^{x}383.328 *15*	0.009 *6*							
383.786 *4*	0.044 *9*	842.1	$(2)^+$	458.4	$(4)^+$			
^{x}384.919 *6*	0.030 *7*							
^{x}385.896 *4*	0.081 *21*							α(K)exp=1.14 *33* is consistent with a M2 but is listed as M1 by authors (1984Vo07). E_γ: This transition was placed by 1984Vo07 to de-excite the positive parity level at 844.3 keV to the $(4)^+$ level at 458.4 keV. Since α(K)exp=1.14 *33* allows a M2 with a change of parity, the evaluator has not placed this transition in the level scheme.
386.746 *3*	0.108 *22*	585.5	2^-	198.8	2^-			
^{x}386.984 *3*	0.23 *6*					M1	0.648	α(K)=0.512 *8*; α(L)=0.1025 *15*; α(M)=0.0250 *4* α(N)=0.00682 *10*; α(O)=0.001716 *24*; α(P)=0.000328 *5*; α(Q)=2.08×10^{-5} *3* Mult.: from α(K)exp=0.78 *23*.
^{x}387.444 *4*	0.141 *26*					M1	0.646	α(K)=0.510 *8*; α(L)=0.1022 *15*; α(M)=0.0249 *4* α(N)=0.00680 *10*; α(O)=0.001710 *24*; α(P)=0.000327 *5*; α(Q)=2.07×10^{-5} *3* Mult.: from α(K)exp=0.68 *35*. Listed as (M1) by authors.
388.481[g] *6*	≤0.044[g]	651.7	$(3)^+$	263.2	2^-			I_γ: 0.044 *9* was measured for the doubly placed 388.481-keV transition.
388.481[g] *6*	≤0.044[g]	732.6	3^-	344.1	3^-			I_γ: 0.044 *9* was measured for the doubly placed 388.481-keV transition.
388.735 *12*	0.018 *7*	844.3	$(1,2,3)^+$	455.5	$(1)^+$			
^{x}389.147 *16*	0.0145 *37*							
389.873 *5*	0.059 *11*	781.4	(4^-)	391.5	$(4)^+$			

γ(^{244}Am) (continued)

E$_{\gamma}$$^{\#}$	I$_{\gamma}$$^{\&f}$	E$_{i}$(level)	J$^{\pi}_{i}$	E$_{f}$	J$^{\pi}_{f}$	Mult.^{b}	$\alpha^{\dagger}$	Comments
390.100 *3*	0.091 *15*	479.6	(2)$^{+}$	89.5	1^{+}	(M1)	0.634	α(K)=0.501 *7*; α(L)=0.1003 *14*; α(M)=0.0244 *4* α(N)=0.00667 *10*; α(O)=0.001678 *24*; α(P)=0.000321 *5*; α(Q)=2.03×10^{-5} *3* Mult.: from α(K)exp=1.03 *30*. Listed as M1 by authors.
390.858 *4*	0.24 *6*	515.6	(3)$^{+}$	124.8	3^{+}	M1	0.631	α(K)=0.498 *7*; α(L)=0.0997 *14*; α(M)=0.0243 *4* α(N)=0.00663 *10*; α(O)=0.001670 *24*; α(P)=0.000319 *5*; α(Q)=2.02×10^{-5} *3* Mult.: from α(K)exp=0.54 *15*.
391.360 *4*	0.077 *17*	682.1	(1)$^{-}$	290.7	1^{-}	M1	0.629	α(K)=0.496 *7*; α(L)=0.0994 *14*; α(M)=0.0242 *4* α(N)=0.00661 *10*; α(O)=0.001664 *24*; α(P)=0.000318 *5*; α(Q)=2.02×10^{-5} *3* Mult.: from α(K)exp=0.75 *28*.
^{x}391.816 *4*	0.107 *24*					M1	0.627	α(K)=0.495 *7*; α(L)=0.0991 *14*; α(M)=0.0241 *4* α(N)=0.00659 *10*; α(O)=0.001658 *24*; α(P)=0.000317 *5*; α(Q)=2.01×10^{-5} *3* Mult.: from α(K)exp=0.73 *26*.
^{x}392.141 *7*	0.023 *7*							
^{x}392.693 *4*	0.064 *12*							
^{x}393.265 *7*	0.033 *8*							
393.549 *14*	0.018 *7*	518.3	2^{-}	124.8	3^{+}			
^{x}393.759 *5*	0.073 *18*							
^{x}394.495 *8*	0.033 *7*							
^{x}395.237 *8*	0.025 *7*							
396.262^{g} *4*	≤0.12^{g}	796.5	(4^{-})	400.2	5^{-}	M1	0.608	α(K)=0.480 *7*; α(L)=0.0961 *14*; α(M)=0.0234 *4* α(N)=0.00639 *9*; α(O)=0.001608 *23*; α(P)=0.000307 *5*; α(Q)=1.95×10^{-5} *3* Mult.: from α(K)exp=0.5 *2*. I$_{\gamma}$: 0.115 *27* was measured for the doubly placed 396.262-keV transition.
396.262^{g} *4*	≤0.115^{g}	842.1	(2)$^{+}$	445.9	(3)$^{+}$	M1	0.608	α(K)=0.480 *7*; α(L)=0.0961 *14*; α(M)=0.0234 *4* α(N)=0.00639 *9*; α(O)=0.001608 *23*; α(P)=0.000307 *5*; α(Q)=1.95×10^{-5} *3* I$_{\gamma}$: 0.115 *27* was measured for the doubly placed 396.262-keV transition. Mult.: from α(K)exp=0.5 *2*.
^{x}396.915 *5*	0.056 *10*							
^{x}398.002 *13*	0.021 *7*							
398.371 *11*	0.023 *7*	844.3	(1,2,3)$^{+}$	445.9	(3)$^{+}$			
^{x}399.074 *12*	0.021 *7*							
^{x}400.051 *13*	0.015 *6*							
^{x}401.387 *4*	0.072 *15*					M1	0.587	α(K)=0.463 *7*; α(L)=0.0927 *13*; α(M)=0.0226 *4* α(N)=0.00617 *9*; α(O)=0.001552 *22*; α(P)=0.000297 *5*; α(Q)=1.88×10^{-5} *3* Mult.: from α(K)exp=0.50 *17*.
^{x}401.958 *18*	0.017 *5*							
^{x}402.253 *12*	0.020 *7*							
^{x}402.597 *10*	0.020 *7*							
^{x}403.780 *3*	0.076 *17*					M1	0.577	α(K)=0.456 *7*; α(L)=0.0912 *13*; α(M)=0.0222 *4* α(N)=0.00607 *9*; α(O)=0.001527 *22*; α(P)=0.000292 *4*; α(Q)=1.85×10^{-5} *3* Mult.: from α(K)exp=0.38 *19*. Listed as (M1) by authors.
404.318 *5*	0.041 *8*	827.0	(2)$^{-}$	422.7	(3)$^{-}$	M1	0.575	α(K)=0.454 *7*; α(L)=0.0909 *13*; α(M)=0.0221 *3*

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
								α(N)=0.00604 *9*; α(O)=0.001521 *22*; α(P)=0.000291 *4*; α(Q)=1.84×10^{-5} *3* Mult.: from α(K)exp=0.61 *30* Listed as (M1) by authors.
^{x}406.742 *5*	0.020 *7*							
^{x}407.462 *18*	0.029 *6*							
408.386 *6*	0.083 *16*	585.5	2$^-$	177.2	1$^-$			
^{x}408.737 *4*	0.090 *20*							
^{x}409.289 *5*	0.058 *12*							
^{x}409.891 *20*	0.0142 *35*							
410.561 *8*	0.117 *34*	701.3	2$^-$	290.7	1$^-$	M1	0.552	α(K)=0.436 *6*; α(L)=0.0871 *13*; α(M)=0.0212 *3* α(N)=0.00579 *9*; α(O)=0.001458 *21*; α(P)=0.000279 *4*; α(Q)=1.768×10^{-5} *25* Mult.: from α(K)exp=0.47 *20*. Listed as (M1) by authors.
^{x}410.997 *12*	0.026 *6*							
^{x}411.894 *6*	0.047 *10*							
^{x}412.445 *4*	0.15 *5*					M1	0.545	α(K)=0.430 *6*; α(L)=0.0861 *12*; α(M)=0.0209 *3* α(N)=0.00572 *8*; α(O)=0.001440 *21*; α(P)=0.000275 *4*; α(Q)=1.746×10^{-5} *25* Mult.: from α(K)exp=0.37 *10*. Listed as (M1) by authors.
^{x}412.561 *7*	0.09 *5*					M1	0.544	α(K)=0.430 *6*; α(L)=0.0860 *12*; α(M)=0.0209 *3* α(N)=0.00572 *8*; α(O)=0.001439 *21*; α(P)=0.000275 *4*; α(Q)=1.744×10^{-5} *25* Mult.: from α(K)exp=0.37 *10*. Listed as (M1) by authors.
^{x}412.822 *9*	0.050 *8*							
413.282[h] *4*	0.19 *5*	563.1	4$^-$	149.8	4$^+$			Mult.: α(K)exp=0.38 *11* suggests M1 multipolarity. Either the placement of this γ in the level scheme is incorrect (from 4$^-$ to (4)$^+$), or the γ's multipolarity is E1+M2. The placement is questioned here and no multipolarity is adopted for 413.282γ.
413.836 *4*	0.090 *32*	515.6	(3)$^+$	101.8	2$^+$	M1	0.540	α(K)=0.426 *6*; α(L)=0.0853 *12*; α(M)=0.0207 *3* α(N)=0.00567 *8*; α(O)=0.001427 *20*; α(P)=0.000273 *4*; α(Q)=1.730×10^{-5} *25* Mult.: from α(K)exp=0.33 *17*. Listed as (M1) by authors.
^{x}415.699 *11*	0.0221 *39*							
^{x}416.25 *3*	0.0139 *37*							
^{x}416.520 *4*	0.106 *24*							(E1,E2) was listed by the authors with α(K)exp=0.2. However neither has been adopted by the evaluator as the α(K) for either E1 or E2 transition is not consistent with α(K)theory. E$_\gamma$: α(K)exp=0.2 is inconsistent with (E1,E2) multipolarity as suggested by the authors who placed this γ between the 2$^-$ state at 518.3 keV and the 2$^+$ state at 101.8 keV. Therefore, either the placement is incorrect or the observed conversion electron line possibly included some impurity.
^{x}417.714 *15*	0.023 *7*							
^{x}420.818 *6*	0.064 *11*							
^{x}421.408 *4*	0.134 *26*					M1	0.514	α(K)=0.406 *6*; α(L)=0.0811 *12*; α(M)=0.0197 *3* α(N)=0.00539 *8*; α(O)=0.001357 *19*; α(P)=0.000260 *4*; α(Q)=1.646×10^{-5} *23* Mult.: from α(K)exp=0.7 *2*.
422.618 *3*	0.172 *34*	844.3	(1,2,3)$^+$	421.6	2$^+$	M1	0.510	α(K)=0.403 *6*; α(L)=0.0805 *12*; α(M)=0.0196 *3* α(N)=0.00535 *8*; α(O)=0.001347 *19*; α(P)=0.000258 *4*; α(Q)=1.633×10^{-5} *23* Mult.: from α(K)exp=0.63 *16*.

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
423.811 *6*	0.110 *25*	844.3	(1,2,3)$^+$	420.5	2$^+$	M1	0.506	α(K)=0.400 *6*; α(L)=0.0799 *12*; α(M)=0.0194 *3* α(N)=0.00531 *8*; α(O)=0.001336 *19*; α(P)=0.000256 *4*; α(Q)=1.620×10^{-5} *23* Mult.: from α(K)exp=0.59 *14*.
^{x}424.118 *7*	0.035 *8*							
^{x}425.126 *21*	0.0128 *27*							
^{x}425.938 *5*	0.061 *14*							
427.371 *9*	0.032 *8*	612.4	(5)$^+$	185.0	5$^+$	(M1)	0.494	α(K)=0.391 *6*; α(L)=0.0781 *11*; α(M)=0.0190 *3* α(N)=0.00519 *8*; α(O)=0.001306 *19*; α(P)=0.000250 *4*; α(Q)=1.583×10^{-5} *23* Mult.: from α(K)exp=0.9 *4*.
^{x}427.857 *25*	0.0146 *36*							
^{x}428.352 *18*	0.0175 *38*							
428.825 *5*	0.31 *5*	518.3	2$^-$	89.5	1$^+$	(E1)	0.0202	α(K)=0.01607 *23*; α(L)=0.00308 *5*; α(M)=0.000744 *11* α(N)=0.000202 *3*; α(O)=5.02×10^{-5} *7*; α(P)=9.23×10^{-6} *13*; α(Q)=5.00×10^{-7} *7* Mult.: E1,E2 was listed by authors with α(K)exp<0.1. (E1) is assigned by the evaluator from its levels scheme.
^{x}430.196 *16*	0.021 *5*							
^{x}430.911 *10*	0.020 *5*							
^{x}431.407 *8*	0.020 *6*							
^{x}432.607 *7*	0.065 *11*							
^{x}433.018 *7*	0.034 *7*							
^{x}434.056 *3*	0.145 *36*					M1	0.474	α(K)=0.374 *6*; α(L)=0.0748 *11*; α(M)=0.0182 *3* α(N)=0.00497 *7*; α(O)=0.001252 *18*; α(P)=0.000239 *4*; α(Q)=1.517×10^{-5} *22* Mult.: from α(K)exp=0.36 *10*.
^{x}435.101 *7*	0.045 *10*							
435.450 *7*	0.116 *34*	537.3	3$^-$	101.8	2$^+$	(E1)	0.0195	α(K)=0.01559 *22*; α(L)=0.00298 *5*; α(M)=0.000720 *10* α(N)=0.000196 *3*; α(O)=4.86×10^{-5} *7*; α(P)=8.94×10^{-6} *13*; α(Q)=4.86×10^{-7} *7* Mult.: E1,E2 was listed by 1984Vo07 with α(K)exp<0.04. (E1) is listed by the evaluator from its level scheme.
436.269 *7*	0.056 *13*	781.4	(4$^-$)	345.2	4$^-$			
^{x}436.63 *3*	0.012 *5*							
^{x}437.790 *10*	0.020 *5*							
438.282 *13*	0.029 *7*	563.1	4$^-$	124.8	3$^+$			
439.347 *7*	0.020 *7*	776.4	(1)$^+$	337.1	(0)$^-$			
^{x}439.942 *8*	0.029 *7*							
440.233 *10*	0.026 *7*	784.4	(2)$^-$	344.1	3$^-$			
^{x}441.055 *25*	0.021 *5*							
^{x}441.568 *4*	0.087 *16*					(M1)	0.452	α(K)=0.357 *5*; α(L)=0.0714 *10*; α(M)=0.01736 *25* α(N)=0.00474 *7*; α(O)=0.001194 *17*; α(P)=0.000228 *4*; α(Q)=1.448×10^{-5} *21* Mult.: from α(K)exp=0.70 *28*.
^{x}442.658 *4*	0.046 *9*							
^{x}443.848 *12*	0.015 *5*							
^{x}444.375 *12*	0.035 *8*							
^{x}445.557 *4*	0.087 *14*					M1	0.441	α(K)=0.349 *5*; α(L)=0.0696 *10*; α(M)=0.01694 *24*

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
								α(N)=0.00463 *7*; α(O)=0.001165 *17*; α(P)=0.000223 *4*; α(Q)=1.412×10^{-5} *20* Mult.: from α(K)exp=0.51 *14*.
446.944 *17*	0.029 *7*	810.3	(3)$^-$	363.3	2$^-$			
447.285 *8*	0.022 *7*	784.4	(2)$^-$	337.1	(0)$^-$			
^{x}448.369 *24*	0.012 *6*							
^{x}449.223 *13*	0.032 *7*							
^{x}449.456 *11*	0.029 *10*							
^{x}450.177 *10*	0.012 *6*							
^{x}450.845 *6*	0.126 *31*					M1	0.427	α(K)=0.338 *5*; α(L)=0.0674 *10*; α(M)=0.01640 *23* α(N)=0.00448 *7*; α(O)=0.001128 *16*; α(P)=0.000216 *3*; α(Q)=1.368×10^{-5} *20* Mult.: from α(K)exp=0.40 *12*.
451.360 *11*	0.023 *7*	796.5	(4$^-$)	345.2	4$^-$			
^{x}452.392 *8*	0.038 *8*					(M1)	0.424	α(K)=0.335 *5*; α(L)=0.0668 *10*; α(M)=0.01625 *23* α(N)=0.00444 *7*; α(O)=0.001117 *16*; α(P)=0.000214 *3*; α(Q)=1.355×10^{-5} *19* Mult.: from α(K)exp=0.8 *4*.
^{x}453.272 *21*	0.034 *6*							
^{x}453.596 *17*	0.014 *6*							
454.879 *24*	0.021 *4*	876.6	(2$^+$)	421.6	2$^+$			
455.524 *22*	0.043 *11*	580.3	(4$^-$)	124.8	3$^+$			
^{x}455.978 *23*	0.038 *13*							
^{x}457.690 *14*	0.035 *8*							
^{x}458.69 *3*	0.017 *6*							
458.933 *5*	0.087 *17*	732.6	3$^-$	273.7	4$^-$	M1	0.407	α(K)=0.322 *5*; α(L)=0.0642 *9*; α(M)=0.01562 *22* α(N)=0.00427 *6*; α(O)=0.001074 *15*; α(P)=0.000205 *3*; α(Q)=1.303×10^{-5} *19* Mult.: from α(K)exp=0.32 *13*.
459.603[g] *15*	≤0.034[g]	644.6	(3)$^+$	185.0	5$^+$			I$_\gamma$: 0.034 *7* was measured for the doubly placed 459.603-keV transition.
459.603[g] *15*	≤0.034[g]	882.3	(1,2)$^-$	422.7	(3)$^-$			I$_\gamma$: 0.034 *7* was measured for the doubly placed 459.603-keV transition.
^{x}460.061 *8*	0.043 *11*							
460.379[g] *9*	≤0.029[g]	810.3	(3)$^-$	349.9	3$^+$			I$_\gamma$: 0.029 *7* was measured for the doubly placed 460.379-keV transition.
460.379[g] *9*	≤0.029[g]	876.6	(2$^+$)	416.2	2$^+$			I$_\gamma$: 0.029 *7* was measured for the doubly placed 460.379-keV transition.
460.733 *22*	0.026 *7*	585.5	2$^-$	124.8	3$^+$			
^{x}461.593 *15*	0.043 *13*							
461.819 *15*	0.049 *14*	882.3	(1,2)$^-$	420.5	2$^+$			
^{x}461.960 *20*	0.049 *16*							
^{x}462.066 *10*	0.055 *14*					(M1)	0.400	α(K)=0.316 *5*; α(L)=0.0630 *9*; α(M)=0.01534 *22* α(N)=0.00419 *6*; α(O)=0.001055 *15*; α(P)=0.000202 *3*; α(Q)=1.279×10^{-5} *18* Mult.: from α(K)exp=0.7 *3*.
462.604 *6*	0.064 *16*	612.4	(5)$^+$	149.8	4$^+$	M1	0.399	α(K)=0.315 *5*; α(L)=0.0628 *9*; α(M)=0.01529 *22* α(N)=0.00418 *6*; α(O)=0.001051 *15*; α(P)=0.000201 *3*; α(Q)=1.275×10^{-5} *18* Mult.: from α(K)exp=0.5 *2*.
^{x}462.869 *5*	0.084 *18*					M1	0.398	α(K)=0.315 *5*; α(L)=0.0627 *9*; α(M)=0.01526 *22* α(N)=0.00417 *6*; α(O)=0.001050 *15*; α(P)=0.000201 *3*; α(Q)=1.273×10^{-5} *18* Mult.: from α(K)exp=0.42 *14*.

E$_\gamma$$^{\#}$	I$_\gamma$$^{\&f}$	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.^{b}	$\alpha^\dagger$	Comments
^{x}463.291 *14*	0.029 *7*							
^{x}463.830 *18*	0.032 *7*							
^{x}465.89 *3*	0.040 *8*							
^{x}467.722 *13*	0.033 *11*							
^{x}468.392 *12*	0.078 *15*					M1	0.385	α(K)=0.305 *5*; α(L)=0.0607 *9*; α(M)=0.01478 *21* α(N)=0.00404 *6*; α(O)=0.001016 *15*; α(P)=0.000194 *3*; α(Q)=1.232×10^{-5} *18* Mult.: from α(K)exp=0.67 *25*.
469.145 *8*	0.061 *13*	860.7	(3$^+$)	391.5	(4)$^+$	(M1)	0.384	α(K)=0.303 *5*; α(L)=0.0605 *9*; α(M)=0.01471 *21* α(N)=0.00402 *6*; α(O)=0.001012 *15*; α(P)=0.000193 *3*; α(Q)=1.227×10^{-5} *18* Mult.: from α(K)exp=0.41 *22*.
^{x}469.386 *14*	0.099 *34*							
471.482 *6*	0.20 *7*	701.3	2$^-$	229.8	3$^-$	M1	0.379	α(K)=0.299 *5*; α(L)=0.0597 *9*; α(M)=0.01451 *21* α(N)=0.00396 *6*; α(O)=0.000998 *14*; α(P)=0.000191 *3*; α(Q)=1.210×10^{-5} *17* Mult.: from α(K)exp=0.34 *11*.
472.272 *13*	0.09 *6*	796.5	(4$^-$)	324.3	5$^-$			
^{x}474.879 *8*	0.115 *34*					M1	0.371	α(K)=0.293 *5*; α(L)=0.0585 *9*; α(M)=0.01423 *20* α(N)=0.00389 *6*; α(O)=0.000978 *14*; α(P)=0.000187 *3*; α(Q)=1.187×10^{-5} *17* Mult.: from α(K)exp=0.53 *16*.
483.276 *5*	0.23 *7*	682.1	(1)$^-$	198.8	2$^-$	M1	0.354	α(K)=0.280 *4*; α(L)=0.0558 *8*; α(M)=0.01356 *19* α(N)=0.00371 *6*; α(O)=0.000933 *13*; α(P)=0.0001784 *25*; α(Q)=1.131×10^{-5} *16* Mult.: from α(K)exp=0.38 *14*.
483.492 *5*	0.20 *7*	781.7	(2)$^-$	298.2	3$^-$	M1	0.354	α(K)=0.280 *4*; α(L)=0.0557 *8*; α(M)=0.01355 *19* α(N)=0.00370 *6*; α(O)=0.000932 *13*; α(P)=0.0001782 *25*; α(Q)=1.130×10^{-5} *16* Mult.: from α(K)exp=0.40 *16*.
483.708 *12*	0.17 *6*	585.5	2$^-$	101.8	2$^+$			
^{x}484.671 *15*	0.12 *5*							
^{x}486.165 *13*	0.115 *34*					M1	0.348	α(K)=0.275 *4*; α(L)=0.0549 *8*; α(M)=0.01335 *19* α(N)=0.00365 *6*; α(O)=0.000918 *13*; α(P)=0.0001755 *25*; α(Q)=1.113×10^{-5} *16* Mult.: from α(K)exp=0.38 *13*.
^{x}486.697 *23*	0.023 *9*							
^{x}487.732 *4*	0.029 *7*							
^{x}488.629 *21*	0.026 *7*							
^{x}489.24 *5*	0.023 *7*							
489.952 *5*	0.092 *20*	827.0	(2)$^-$	337.1	(0)$^-$			
^{x}491.446 *9*	0.043 *16*							
^{x}492.006 *9*	0.072 *18*							
^{x}493.203 *17*	0.012 *6*							
494.870 *15*	0.058 *17*	644.6	(3)$^+$	149.8	4$^+$			
495.121 *10*	0.043 *16*	672.3	(2)$^+$	177.2	1$^-$			
496.029 *6*	0.26 *8*	585.5	2$^-$	89.5	1$^+$	(E1)	0.01511	α(K)=0.01210 *17*; α(L)=0.00227 *4*; α(M)=0.000548 *8* α(N)=0.0001488 *21*; α(O)=3.70×10^{-5} *6*; α(P)=6.85×10^{-6} *10*; α(Q)=3.81×10^{-7} *6* Mult.: E1,E2 was listed by authors with α(K)exp<0.1. (E1) is adopted by the evaluator from its levels scheme.

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	α[†]	Comments
[x]496.386 *14*	0.099 *34*					(M1)	0.329	α(K)=0.260 *4*; α(L)=0.0518 *8*; α(M)=0.01261 *18* α(N)=0.00344 *5*; α(O)=0.000867 *13*; α(P)=0.0001658 *24*; α(Q)=1.051×10^{-5} *15* Mult.: from α(K)exp=0.45 *18*.
497.35 *3*	0.021 *8*	860.7	(3$^+$)	363.3	2$^-$			
[x]498.871 *11*	0.030 *10*							
[x]499.649 *21*	0.024 *10*							
[x]500.543 *6*	0.19 *6*							
[x]501.035 *22*	0.033 *10*							
501.893 *10*	0.052 *17*	651.7	(3)$^+$	149.8	4$^+$			
502.358 *7*	0.19 *6*	800.5	(2)$^-$	298.2	3$^-$	M1	0.319	α(K)=0.252 *4*; α(L)=0.0502 *7*; α(M)=0.01220 *17* α(N)=0.00333 *5*; α(O)=0.000839 *12*; α(P)=0.0001605 *23*; α(Q)=1.018×10^{-5} *15* Mult.: from α(K)exp=0.37 *12*.
[x]503.529 *15*	0.032 *13*							
504.915 *4*	0.23 *8*	682.1	(1)$^-$	177.2	1$^-$	M1	0.314	α(K)=0.249 *4*; α(L)=0.0495 *7*; α(M)=0.01204 *17* α(N)=0.00329 *5*; α(O)=0.000828 *12*; α(P)=0.0001583 *23*; α(Q)=1.004×10^{-5} *14* Mult.: from α(K)exp=0.41 *13*.
[x]506.543 *7*	0.118 *36*					M1	0.312	α(K)=0.246 *4*; α(L)=0.0491 *7*; α(M)=0.01193 *17* α(N)=0.00326 *5*; α(O)=0.000820 *12*; α(P)=0.0001569 *22*; α(Q)=9.95×10^{-6} *14* Mult.: from α(K)exp=0.43 *14*.
[x]507.17 *3*	0.021 *8*							
507.731 *7*	0.083 *28*	781.4	(4$^-$)	273.7	4$^-$	(M1)	0.310	α(K)=0.245 *4*; α(L)=0.0487 *7*; α(M)=0.01185 *17* α(N)=0.00324 *5*; α(O)=0.000815 *12*; α(P)=0.0001559 *22*; α(Q)=9.89×10^{-6} *14* Mult.: from α(K)exp=0.39 *16*.
509.775 *12*	0.064 *26*	800.5	(2)$^-$	290.7	1$^-$	(M1)	0.306	α(K)=0.242 *4*; α(L)=0.0482 *7*; α(M)=0.01173 *17* α(N)=0.00320 *5*; α(O)=0.000806 *12*; α(P)=0.0001542 *22*; α(Q)=9.78×10^{-6} *14* Mult.: α(K)exp=0.7 *4* rules out E1 and E2 multipolarities.
513.34[g] *8*	≤0.063[g]	698.3	(4$^+$)	185.0	5$^+$	(M1)	0.301	α(K)=0.238 *4*; α(L)=0.0473 *7*; α(M)=0.01150 *17* α(N)=0.00314 *5*; α(O)=0.000791 *11*; α(P)=0.0001513 *22*; α(Q)=9.59×10^{-6} *14* I_γ: 0.063 *38* was measured for the doubly placed 513.34-keV transition. Mult.: from α(K)exp=0.3 *2*.
513.34[gh] *8*	≤0.063[g]	776.4	(1)$^+$	263.2	2$^-$			α(K)exp=0.3 *2* allows M1. Authors list (M1) for 513.34γ which is placed in the decay scheme from (1)$^+$ to 2$^-$ state. Either the placement is incorrect, or possibly the K conversion line had an impurity. Its placement on the level scheme is questioned here by the evaluator. (M1) was listed by authors with α(K)exp=0.3 *2*. I_γ: 0.063 *38* was measured for the doubly placed 513.34-keV transition.
[x]514.524 *8*	0.18 *6*					M1	0.299	α(K)=0.236 *4*; α(L)=0.0470 *7*; α(M)=0.01143 *16* α(N)=0.00312 *5*; α(O)=0.000786 *11*; α(P)=0.0001503 *21*; α(Q)=9.53×10^{-6} *14* Mult.: from α(K)exp=0.44 *15*.
514.925 *4*	0.26 *8*	616.7	(2)$^+$	101.8	2$^+$	M1	0.298	α(K)=0.236 *4*; α(L)=0.0469 *7*; α(M)=0.01141 *16* α(N)=0.00312 *5*; α(O)=0.000784 *11*; α(P)=0.0001500 *21*; α(Q)=9.51×10^{-6} *14* Mult.: from α(K)exp=0.25 *10*.
[x]515.721 *14*	0.046 *16*							

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
^{x}517.354 *9*	0.077 *26*					M1	0.294	α(K)=0.233 *4*; α(L)=0.0463 *7*; α(M)=0.01126 *16* α(N)=0.00308 *5*; α(O)=0.000774 *11*; α(P)=0.0001481 *21*; α(Q)=9.39×10^{-6} *14* Mult.: from α(K)exp=0.24 *18*. Listed as (M1) by authors.
^{x}517.848 *8*	0.085 *29*							
^{x}518.846 *8*	0.111 *36*					M1	0.292	α(K)=0.231 *4*; α(L)=0.0460 *7*; α(M)=0.01117 *16* α(N)=0.00305 *5*; α(O)=0.000768 *11*; α(P)=0.0001470 *21*; α(Q)=9.32×10^{-6} *13* Mult.: from α(K)exp=0.28 *12*. Listed as (M1) by authors.
519.593 *13*	0.083 *26*	810.3	$(3)^-$	290.7	1^-			
519.831 *7*	0.28 *8*	644.6	$(3)^+$	124.8	3^+	M1	0.291	α(K)=0.230 *4*; α(L)=0.0457 *7*; α(M)=0.01112 *16* α(N)=0.00304 *5*; α(O)=0.000764 *11*; α(P)=0.0001462 *21*; α(Q)=9.27×10^{-6} *13* Mult.: from α(K)exp=0.28 *9*.
^{x}520.025 *8*	0.121 *38*							
^{x}521.659 *22*	0.036 *12*							
^{x}523.014 *15*	0.057 *19*							
^{x}523.503 *8*	0.066 *23*					M1	0.285	α(K)=0.225 *4*; α(L)=0.0449 *7*; α(M)=0.01091 *16* α(N)=0.00298 *5*; α(O)=0.000750 *11*; α(P)=0.0001434 *20*; α(Q)=9.10×10^{-6} *13* Mult.: from α(K)exp=0.50 *25*.
524.120 *4*	0.43 *14*	701.3	2^-	177.2	1^-	M1	0.284	α(K)=0.225 *4*; α(L)=0.0447 *7*; α(M)=0.01087 *16* α(N)=0.00297 *5*; α(O)=0.000747 *11*; α(P)=0.0001430 *20*; α(Q)=9.07×10^{-6} *13* Mult.: from α(K)exp=0.21 *7*.
^{x}524.92 *3*	0.019 *8*							
^{x}526.439 *10*	0.098 *31*					M1	0.281	α(K)=0.222 *4*; α(L)=0.0442 *7*; α(M)=0.01074 *15* α(N)=0.00293 *5*; α(O)=0.000739 *11*; α(P)=0.0001413 *20*; α(Q)=8.96×10^{-6} *13* Mult.: from α(K)exp=0.21 *14*. Listed as (M1) by authors.
526.910 *5*	0.36 *11*	651.7	$(3)^+$	124.8	3^+	M1	0.280	α(K)=0.222 *4*; α(L)=0.0441 *7*; α(M)=0.01072 *15* α(N)=0.00293 *4*; α(O)=0.000737 *11*; α(P)=0.0001409 *20*; α(Q)=8.94×10^{-6} *13* Mult.: from α(K)exp=0.26 *9*.
527.252 *4*	0.67 *22*	616.7	$(2)^+$	89.5	1^+	M1	0.280	α(K)=0.221 *3*; α(L)=0.0440 *7*; α(M)=0.01070 *15* α(N)=0.00292 *4*; α(O)=0.000735 *11*; α(P)=0.0001407 *20*; α(Q)=8.92×10^{-6} *13* Mult.: from α(K)exp=0.22 *7*.
^{x}528.289 *23*	0.023 *22*							
528.90 *3*	0.055 *18*	827.0	$(2)^-$	298.2	3^-			
^{x}530.062 *6*	0.21 *7*					M1	0.276	α(K)=0.218 *3*; α(L)=0.0434 *6*; α(M)=0.01054 *15* α(N)=0.00288 *4*; α(O)=0.000725 *11*; α(P)=0.0001386 *20*; α(Q)=8.79×10^{-6} *13* Mult.: from α(K)exp=0.21 *7*.
^{x}530.56 *6*	0.058 *25*							
^{x}532.29 *4*	0.023 *8*							
533.855 *6*	0.17 *5*	732.6	3^-	198.8	2^-	M1	0.270	α(K)=0.214 *3*; α(L)=0.0425 *6*; α(M)=0.01034 *15* α(N)=0.00282 *4*; α(O)=0.000711 *10*; α(P)=0.0001360 *19*; α(Q)=8.62×10^{-6} *12* Mult.: from α(K)exp=0.32 *11*.
^{x}535.585 *13*	0.061 *20*							
^{x}536.185 *6*	0.091 *28*					M1	0.267	α(K)=0.211 *3*; α(L)=0.0420 *6*; α(M)=0.01022 *15*

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[b]	α[†]	Comments
								α(N)=0.00279 *4*; α(O)=0.000703 *10*; α(P)=0.0001344 *19*; α(Q)=8.52×10^{-6} *12* Mult.: from α(K)exp=0.34 *17*. Listed as (M1) by authors.
^{x}537.487 *7*	0.081 *25*					M1	0.266	α(K)=0.210 *3*; α(L)=0.0417 *6*; α(M)=0.01015 *15* α(N)=0.00277 *4*; α(O)=0.000698 *10*; α(P)=0.0001335 *19*; α(Q)=8.47×10^{-6} *12* Mult.: from α(K)exp=0.35 *15*.
^{x}540.69 *3*	0.046 *15*					(M1)	0.261	α(K)=0.207 *3*; α(L)=0.0411 *6*; α(M)=0.00999 *14* α(N)=0.00273 *4*; α(O)=0.000687 *10*; α(P)=0.0001313 *19*; α(Q)=8.33×10^{-6} *12* Mult.: from α(K)exp=0.56 *30*.
^{x}541.526 *15*	0.119 *37*					(M1)	0.260	α(K)=0.206 *3*; α(L)=0.0409 *6*; α(M)=0.00995 *14* α(N)=0.00272 *4*; α(O)=0.000684 *10*; α(P)=0.0001308 *19*; α(Q)=8.30×10^{-6} *12* Mult.: from α(K)exp=0.58 *30*.
^{x}541.896 *6*	0.20 *6*					(M1)	0.260	α(K)=0.205 *3*; α(L)=0.0408 *6*; α(M)=0.00993 *14* α(N)=0.00271 *4*; α(O)=0.000683 *10*; α(P)=0.0001306 *19*; α(Q)=8.28×10^{-6} *12* Mult.: from α(K)exp=0.21 *9*.
542.809 *7*	0.11 *4*	644.6	(3)$^+$	101.8	2$^+$	(M1)	0.259	α(K)=0.205 *3*; α(L)=0.0406 *6*; α(M)=0.00988 *14* α(N)=0.00270 *4*; α(O)=0.000679 *10*; α(P)=0.0001300 *19*; α(Q)=8.24×10^{-6} *12* Mult.: from α(K)exp=0.52 *20*.
^{x}544.12 *3*	0.020 *7*							
^{x}545.056 *22*	0.020 *9*							
^{x}546.289 *21*	0.029 *9*							
547.16 *3*	0.022 *8*	810.3	(3)$^-$	263.2	2$^-$			
548.560 *9*	0.15 *5*	698.3	(4$^+$)	149.8	4$^+$	(M1)	0.251	α(K)=0.199 *3*; α(L)=0.0395 *6*; α(M)=0.00960 *14* α(N)=0.00262 *4*; α(O)=0.000660 *10*; α(P)=0.0001263 *18*; α(Q)=8.01×10^{-6} *12* Mult.: from α(K)exp=0.27 *12*.
^{x}548.875 *7*	0.13 *4*					(M1)	0.251	α(K)=0.198 *3*; α(L)=0.0394 *6*; α(M)=0.00959 *14* α(N)=0.00262 *4*; α(O)=0.000659 *10*; α(P)=0.0001261 *18*; α(Q)=8.00×10^{-6} *12* Mult.: from α(K)exp=0.30 *14*.
549.880 *5*	0.22 *7*	651.7	(3)$^+$	101.8	2$^+$	(M1)	0.250	α(K)=0.198 *3*; α(L)=0.0392 *6*; α(M)=0.00954 *14* α(N)=0.00261 *4*; α(O)=0.000656 *10*; α(P)=0.0001255 *18*; α(Q)=7.96×10^{-6} *12* Mult.: from α(K)exp=0.23 *8*. Listed as M1 by authors.
^{x}550.599 *8*	0.16 *5*					(E1,E2)		Mult.: from α(K)exp<0.09.
^{x}552.447 *12*	0.106 *33*					(M1)	0.247	α(K)=0.195 *3*; α(L)=0.0387 *6*; α(M)=0.00942 *14* α(N)=0.00257 *4*; α(O)=0.000648 *9*; α(P)=0.0001239 *18*; α(Q)=7.86×10^{-6} *11* Mult.: from α(K)exp=0.16 *12*.
553.61 *3*	0.025 *9*	844.3	(1,2,3)$^+$	290.7	1$^-$			
554.52 *3*	0.039 *13*	784.4	(2)$^-$	229.8	3$^-$			
^{x}555.70 *3*	0.023 *8*							
^{x}556.56 *3*	0.051 *16*					(M1)	0.242	α(K)=0.191 *3*; α(L)=0.0380 *6*; α(M)=0.00923 *13* α(N)=0.00252 *4*; α(O)=0.000635 *9*; α(P)=0.0001214 *17*; α(Q)=7.70×10^{-6} *11* Mult.: from α(K)exp=0.44 *22*.
^{x}557.546 *9*	0.104 *32*					M1	0.241	α(K)=0.190 *3*; α(L)=0.0378 *6*; α(M)=0.00919 *13* α(N)=0.00251 *4*; α(O)=0.000632 *9*; α(P)=0.0001208 *17*; α(Q)=7.66×10^{-6} *11* Mult.: from α(K)exp=0.28 *12*.

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
^{x}558.658 *8*	0.18 *6*					M1	0.239	α(K)=0.189 *3*; α(L)=0.0376 *6*; α(M)=0.00914 *13* α(N)=0.00250 *4*; α(O)=0.000628 *9*; α(P)=0.0001202 *17*; α(Q)=7.62×10^{-6} *11* Mult.: from α(K)exp=0.24 *9*.
^{x}559.125 *8*	0.081 *26*					(M1)	0.239	α(K)=0.189 *3*; α(L)=0.0375 *6*; α(M)=0.00912 *13* α(N)=0.00249 *4*; α(O)=0.000627 *9*; α(P)=0.0001199 *17*; α(Q)=7.60×10^{-6} *11* Mult.: from α(K)exp=0.45 *22*.
^{x}559.764 *15*	0.034 *11*							
^{x}560.268 *17*	0.040 *14*							
^{x}561.46 *3*	0.094 *39*							
^{x}562.903 *15*	0.120 *36*					M1	0.234	α(K)=0.185 *3*; α(L)=0.0368 *6*; α(M)=0.00895 *13* α(N)=0.00245 *4*; α(O)=0.000615 *9*; α(P)=0.0001177 *17*; α(Q)=7.47×10^{-6} *11* Mult.: from α(K)exp=0.27 *11*.
563.88[h] *4*	0.115 *35*	827.0	(2)$^-$	263.2	2$^-$			α(K)exp=0.42 *15* allows M2. Authors list M1 for 563.88γ which is placed in the decay scheme from (2)$^-$ to 2$^-$ state. Either the placement is incorrect, or possibly the K conversion line had an impurity. Its placement on the level scheme is questioned here by the evaluator.
^{x}564.76 *3*	0.044 *14*							
^{x}566.298 *15*	0.112 *35*					(M1)	0.231	α(K)=0.182 *3*; α(L)=0.0362 *5*; α(M)=0.00881 *13* α(N)=0.00241 *4*; α(O)=0.000605 *9*; α(P)=0.0001158 *17*; α(Q)=7.35×10^{-6} *11* Mult.: from α(K)exp=0.26 *14*.
^{x}566.790 *23*	0.119 *37*					(M1)	0.230	α(K)=0.182 *3*; α(L)=0.0361 *5*; α(M)=0.00879 *13* α(N)=0.00240 *4*; α(O)=0.000604 *9*; α(P)=0.0001155 *17*; α(Q)=7.33×10^{-6} *11* Mult.: from α(K)exp=0.31 *15*.
^{x}569.108 *19*	0.067 *22*							Mult.: from α(K)exp=0.54 *27*.
570.468 *9*	0.15 *5*	672.3	(2)$^+$	101.8	2$^+$	(M1)	0.226	α(K)=0.179 *3*; α(L)=0.0355 *5*; α(M)=0.00863 *12* α(N)=0.00236 *4*; α(O)=0.000594 *9*; α(P)=0.0001135 *16*; α(Q)=7.20×10^{-6} *10* Mult.: from α(K)exp=0.33 *13*.
^{x}570.964 *6*	0.31 *9*					M1	0.226	α(K)=0.1785 *25*; α(L)=0.0354 *5*; α(M)=0.00861 *12* α(N)=0.00235 *4*; α(O)=0.000592 *9*; α(P)=0.0001133 *16*; α(Q)=7.18×10^{-6} *10* Mult.: from α(K)exp=0.21 *7*.
^{x}571.463 *6*	0.37 *11*					M1	0.225	α(K)=0.1781 *25*; α(L)=0.0353 *5*; α(M)=0.00859 *12* α(N)=0.00235 *4*; α(O)=0.000591 *9*; α(P)=0.0001130 *16*; α(Q)=7.17×10^{-6} *10* Mult.: from α(K)exp=0.21 *7*.
573.187 *18*	0.052 *17*	758.2	(5$^+$)	185.0	5$^+$	(M1)	0.223	α(K)=0.1766 *25*; α(L)=0.0351 *5*; α(M)=0.00852 *12* α(N)=0.00233 *4*; α(O)=0.000586 *9*; α(P)=0.0001121 *16*; α(Q)=7.11×10^{-6} *10* Mult.: from α(K)exp=0.33 *21*.
573.522 *17*	0.117 *36*	698.3	(4$^+$)	124.8	3$^+$	(M1)	0.223	α(K)=0.1763 *25*; α(L)=0.0350 *5*; α(M)=0.00851 *12* α(N)=0.00232 *4*; α(O)=0.000585 *9*; α(P)=0.0001119 *16*; α(Q)=7.10×10^{-6} *10* Mult.: from α(K)exp=0.19 *10*.
^{x}576.709 *10*	0.051 *16*							
^{x}577.934 *20*	0.048 *16*							
^{x}578.54 *3*	0.022 *9*							
^{x}580.068 *24*	0.027 *9*							

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
^{x}581.59 *3*	0.022 *7*							
582.743 *14*	0.062 *19*	672.3	(2)$^+$	89.5	1$^+$			
^{x}585.01 *3*	0.031 *10*							
^{x}586.39 *5*	0.032 *11*							
^{x}586.724 *16*	0.041 *15*							
^{x}588.277 *8*	0.24 *7*					E1,E2		Mult.: from α(K)exp<0.04.
^{x}590.49 *4*	0.053 *16*							
^{x}593.20 *3*	0.086 *27*					(M1)	0.204	α(K)=0.1610 *23*; α(L)=0.0319 *5*; α(M)=0.00776 *11* α(N)=0.00212 *3*; α(O)=0.000534 *8*; α(P)=0.0001021 *15*; α(Q)=6.48×10^{-6} *9* Mult.: from α(K)=0.36 *20*.
^{x}594.328 *11*	0.17 *5*					(M1)	0.202	α(K)=0.1602 *23*; α(L)=0.0318 *5*; α(M)=0.00772 *11* α(N)=0.00211 *3*; α(O)=0.000531 *8*; α(P)=0.0001016 *15*; α(Q)=6.44×10^{-6} *9* Mult.: from α(K)exp=0.22 *10*.
597.66 *3*	0.036 *12*	796.5	(4$^-$)	198.8	2$^-$			
^{x}598.357 *24*	0.076 *26*							
^{x}600.38 *6*	0.022 *8*							
601.73 *3*	0.043 *14*	800.5	(2)$^-$	198.8	2$^-$			
^{x}603.38 *7*	0.030 *14*							
^{x}604.949 *18*	0.062 *19*					(M1)	0.193	α(K)=0.1528 *22*; α(L)=0.0303 *5*; α(M)=0.00736 *11* α(N)=0.00201 *3*; α(O)=0.000506 *7*; α(P)=9.68×10^{-5} *14*; α(Q)=6.14×10^{-6} *9* Mult.: from α(K)exp=0.42 *20*.
^{x}605.658 *23*	0.050 *16*					(M1)	0.192	α(K)=0.1523 *22*; α(L)=0.0302 *5*; α(M)=0.00734 *11* α(N)=0.00200 *3*; α(O)=0.000505 *7*; α(P)=9.65×10^{-5} *14*; α(Q)=6.12×10^{-6} *9* Mult.: from α(K)exp=0.48 *30*.
608.437 *15*	0.066 *21*	758.2	(5$^+$)	149.8	4$^+$			
^{x}609.02 *3*	0.045 *15*							
^{x}610.92 *4*	0.039 *13*							
611.489[g] *10*	≤0.113[g]	796.5	(4$^-$)	185.0	5$^+$			I$_\gamma$: 0.113 *35* was measured for the doubly placed 611.489-keV transition.
611.489[g] *10*	≤0.113[g]	810.3	(3)$^-$	198.8	2$^-$			I$_\gamma$: 0.113 *35* was measured for the doubly placed 611.489-keV transition.
^{x}612.71 *3*	0.067 *22*							
^{x}613.52 *4*	0.079 *28*					(M1)	0.186	α(K)=0.1471 *21*; α(L)=0.0292 *4*; α(M)=0.00709 *10* α(N)=0.00194 *3*; α(O)=0.000487 *7*; α(P)=9.32×10^{-5} *13*; α(Q)=5.91×10^{-6} *9* Mult.: from α(K)exp=0.33 *16*.
^{x}615.978 *14*	0.21 *6*					M1	0.184	α(K)=0.1455 *21*; α(L)=0.0288 *4*; α(M)=0.00701 *10* α(N)=0.00191 *3*; α(O)=0.000482 *7*; α(P)=9.22×10^{-5} *13*; α(Q)=5.85×10^{-6} *9* Mult.: from α(K)exp=0.19 *7*.
619.09 *4*	0.108 *34*	882.3	(1,2)$^-$	263.2	2$^-$			
^{x}620.70 *5*	0.053 *17*							
^{x}623.96 *4*	0.055 *18*							
^{x}627.077 *12*	0.059 *18*					(M1)	0.1753	α(K)=0.1387 *20*; α(L)=0.0275 *4*; α(M)=0.00668 *10* α(N)=0.00182 *3*; α(O)=0.000459 *7*; α(P)=8.78×10^{-5} *13*; α(Q)=5.57×10^{-6} *8* Mult.: from α(K)exp=0.5 *3*.
^{x}632.07 *4*	0.052 *21*							

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	α[†]	Comments
^{x}636.56 *6*	0.068 *21*							
^{x}637.823 *13*	0.20 *6*					M1	0.1674	α(K)=0.1325 *19*; α(L)=0.0262 *4*; α(M)=0.00638 *9* α(N)=0.001742 *25*; α(O)=0.000438 *7*; α(P)=8.39×10^{-5} *12*; α(Q)=5.32×10^{-6} *8* Mult.: from α(K)exp=0.18 *8*.
^{x}641.57 *6*	0.11 *4*							
643.43 *5*	0.079 *29*	842.1	(2)$^+$	198.8	2$^-$			
^{x}646.522 *24*	0.12 *8*							
^{x}647.317 *15*	0.104 *32*							
^{x}650.075 *7*	0.13 *4*					(M1)	0.1591	α(K)=0.1260 *18*; α(L)=0.0249 *4*; α(M)=0.00606 *9* α(N)=0.001655 *24*; α(O)=0.000416 *6*; α(P)=7.97×10^{-5} *12*; α(Q)=5.06×10^{-6} *7* Mult.: from α(K)exp=0.30 *15*.
^{x}651.749 *16*	0.15 *4*					(M1)	0.1580	α(K)=0.1251 *18*; α(L)=0.0248 *4*; α(M)=0.00602 *9* α(N)=0.001643 *23*; α(O)=0.000414 *6*; α(P)=7.91×10^{-5} *11*; α(Q)=5.02×10^{-6} *7* Mult.: from α(K)exp=0.22 *11*.
^{x}653.585 *17*	0.063 *24*							
^{x}653.87 *10*	0.043 *14*							
^{x}654.22 *3*	0.039 *14*							
^{x}655.69 *4*	0.041 *14*							
^{x}656.115 *9*	0.18 *5*					(M1)	0.1552	α(K)=0.1229 *18*; α(L)=0.0243 *4*; α(M)=0.00591 *9* α(N)=0.001614 *23*; α(O)=0.000406 *6*; α(P)=7.77×10^{-5} *11*; α(Q)=4.93×10^{-6} *7* Mult.: from α(K)exp=0.19 *8*.
^{x}658.299 *15*	0.14 *4*							
659.620[h] *13*	0.13 *4*	784.4	(2)$^-$	124.8	3$^+$			α(K)exp=0.25 *13* suggests (M1). However, the evaluator considers this transition questionable as the suggested multipolarity is not consistent with the level assignment.
^{x}661.02 *3*	0.074 *24*							
^{x}662.383 *21*	0.061 *19*							
^{x}664.68 *6*	0.040 *13*							
665.10 *5*	0.034 *12*	842.1	(2)$^+$	177.2	1$^-$			
^{x}665.80 *5*	0.027 *10*							
^{x}670.516 *22*	0.113 *37*							
^{x}671.00 *5*	0.046 *19*							
674.596 *7*	0.29 *9*	776.4	(1)$^+$	101.8	2$^+$	(M1)	0.1440	α(K)=0.1141 *16*; α(L)=0.0226 *4*; α(M)=0.00548 *8* α(N)=0.001497 *21*; α(O)=0.000377 *6*; α(P)=7.21×10^{-5} *10*; α(Q)=4.57×10^{-6} *7* Mult.: from α(K)exp=0.12 *10*.
675.716 *19*	0.24 *8*	800.5	(2)$^-$	124.8	3$^+$			
^{x}675.98 *4*	0.11 *10*					(M1)	0.1433	α(K)=0.1134 *16*; α(L)=0.0224 *4*; α(M)=0.00545 *8* α(N)=0.001489 *21*; α(O)=0.000375 *6*; α(P)=7.17×10^{-5} *10*; α(Q)=4.55×10^{-6} *7* Mult.: from α(K)exp=0.18 *16*.
^{x}676.73 *4*	0.068 *22*							
^{x}678.626 *21*	0.083 *30*							
^{x}679.070 *23*	0.18 *9*					(M1)	0.1415	α(K)=0.1121 *16*; α(L)=0.0222 *4*; α(M)=0.00538 *8* α(N)=0.001470 *21*; α(O)=0.000370 *6*; α(P)=7.08×10^{-5} *10*; α(Q)=4.49×10^{-6} *7* Mult.: from α(K)exp=0.13 *9*.

γ(^{244}Am) (continued)

E$_\gamma$[#]	I$_\gamma$[&f]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[b]	α[†]	Comments
679.86 *6*	0.082 *27*	781.7	(2)$^-$	101.8	2$^+$			
^{x}681.519 *22*	0.14 *4*					(M1)	0.1402	α(K)=0.1110 *16*; α(L)=0.0219 *3*; α(M)=0.00533 *8* α(N)=0.001456 *21*; α(O)=0.000367 *6*; α(P)=7.01×10^{-5} *10*; α(Q)=4.45×10^{-6} *7* Mult.: from α(K)exp=0.19 *11*.
683.495 *17*	0.088 *28*	882.3	(1,2)$^-$	198.8	2$^-$			
^{x}684.631 *17*	0.12 *4*							
^{x}686.151 *9*	0.21 *7*					(M1)	0.1376	α(K)=0.1090 *16*; α(L)=0.0215 *3*; α(M)=0.00523 *8* α(N)=0.001430 *20*; α(O)=0.000360 *5*; α(P)=6.88×10^{-5} *10*; α(Q)=4.37×10^{-6} *7* Mult.: from α(K)exp=0.10 *6*.
686.922 *7*	0.37 *11*	776.4	(1)$^+$	89.5	1$^+$	M1	0.1372	α(K)=0.1087 *16*; α(L)=0.0215 *3*; α(M)=0.00522 *8* α(N)=0.001425 *20*; α(O)=0.000359 *5*; α(P)=6.86×10^{-5} *10*; α(Q)=4.36×10^{-6} *6* Mult.: from α(K)exp=0.12 *4*.
^{x}688.43 *5*	0.051 *27*							
^{x}689.36 *4*	0.076 *24*							
^{x}690.36 *3*	0.12 *4*					(M1)	0.1354	α(K)=0.1072 *15*; α(L)=0.0212 *3*; α(M)=0.00515 *8* α(N)=0.001406 *20*; α(O)=0.000354 *5*; α(P)=6.77×10^{-5} *10*; α(Q)=4.30×10^{-6} *6* Mult.: from α(K)exp=0.23 *12*.
692.18 *7*	0.077 *33*	781.7	(2)$^-$	89.5	1$^+$			
^{x}693.48 *3*	0.17 *7*							
^{x}697.342 *20*	0.20 *8*							
^{x}698.24 *3*	0.071 *24*							
^{x}698.82 *4*	0.074 *24*							
699.44 *4*	0.049 *17*	876.6	(2$^+$)	177.2	1$^-$			
^{x}699.92 *6*	0.069 *23*							
702.18 *5*	0.055 *18*	827.0	(2)$^-$	124.8	3$^+$			
^{x}703.543 *19*	0.14 *4*							
^{x}704.36 *7*	0.038 *14*							
^{x}706.055 *8*	0.25 *8*							
^{x}707.54 *3*	0.062 *20*							
^{x}709.156 *13*	0.25 *7*					(M1)	0.1260	α(K)=0.0998 *14*; α(L)=0.0197 *3*; α(M)=0.00479 *7* α(N)=0.001308 *19*; α(O)=0.000329 *5*; α(P)=6.30×10^{-5} *9*; α(Q)=4.00×10^{-6} *6* Mult.: from α(K)exp=0.10 *5*.
^{x}712.079 *16*	0.13 *4*					(M1)	0.1246	α(K)=0.0987 *14*; α(L)=0.0195 *3*; α(M)=0.00474 *7* α(N)=0.001293 *19*; α(O)=0.000326 *5*; α(P)=6.23×10^{-5} *9*; α(Q)=3.95×10^{-6} *6* Mult.: from α(K)exp=0.11 *9*.
^{x}714.00 *5*	0.066 *24*							
^{x}714.66 *3*	0.14 *4*							
^{x}715.477 *10*	0.23 *7*							
^{x}718.76 *11*	0.096 *33*							
^{x}720.56 *3*	0.093 *30*							
^{x}722.568 *22*	0.15 *5*							
^{x}724.324 *18*	0.097 *31*							
726.793 *23*	0.13 *4*	876.6	(2$^+$)	149.8	4$^+$			

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	α[†]	Comments
^{x}729.648 *12*	0.16 *5*							
^{x}730.74 *3*	0.089 *28*							
^{x}732.43 *3*	0.14 *5*					(M1)	0.1155	α(K)=0.0915 *13*; α(L)=0.0181 *3*; α(M)=0.00439 *7* α(N)=0.001199 *17*; α(O)=0.000302 *5*; α(P)=5.77×10^{-5} *8*; α(Q)=3.66×10^{-6} *6* Mult.: from α(K)exp=0.11 *10*.
735.93 *3*	0.077 *25*	860.7	(3$^+$)	124.8	3$^+$			
740.41 *3*	0.123 *39*	842.1	(2)$^+$	101.8	2$^+$			
^{x}741.45 *5*	0.080 *27*							
^{x}746.60 *6*	0.069 *23*							
^{x}749.09 *6*	0.073 *24*							
751.804 *20*	0.15 *5*	876.6	(2$^+$)	124.8	3$^+$	(M1)	0.1077	α(K)=0.0854 *12*; α(L)=0.01684 *24*; α(M)=0.00409 *6* α(N)=0.001117 *16*; α(O)=0.000281 *4*; α(P)=5.38×10^{-5} *8*; α(Q)=3.42×10^{-6} *5* Mult.: from α(K)exp=0.13 *10*.
^{x}752.459 *14*	0.095 *31*					(M1)	0.1075	α(K)=0.0852 *12*; α(L)=0.01680 *24*; α(M)=0.00408 *6* α(N)=0.001114 *16*; α(O)=0.000280 *4*; α(P)=5.37×10^{-5} *8*; α(Q)=3.41×10^{-6} *5* Mult.: from α(K)exp=0.16 *10*.
752.66 *6*	0.062 *22*	842.1	(2)$^+$	89.5	1$^+$			
^{x}753.97 *7*	0.051 *17*							
^{x}757.075 *24*	0.16 *5*					(M1)	0.1058	α(K)=0.0838 *12*; α(L)=0.01653 *24*; α(M)=0.00401 *6* α(N)=0.001096 *16*; α(O)=0.000276 *4*; α(P)=5.28×10^{-5} *8*; α(Q)=3.35×10^{-6} *5* Mult.: from α(K)exp=0.09 *6*.
758.89 *5*	0.104 *33*	860.7	(3$^+$)	101.8	2$^+$			
^{x}759.71 *3*	0.123 *39*							
^{x}763.86 *6*	0.020 *7*							
^{x}771.319 *14*	0.31 *9*					M1	0.1006	α(K)=0.0797 *12*; α(L)=0.01572 *22*; α(M)=0.00382 *6* α(N)=0.001042 *15*; α(O)=0.000262 *4*; α(P)=5.02×10^{-5} *7*; α(Q)=3.19×10^{-6} *5* Mult.: from α(K)exp=0.10 *4*.
774.75 *5*	0.13 *5*	876.6	(2$^+$)	101.8	2$^+$			
^{x}780.07 *4*	0.13 *6*							
^{x}782.921 *24*	0.124 *38*					(M1)	0.0967	α(K)=0.0766 *11*; α(L)=0.01510 *22*; α(M)=0.00367 *6* α(N)=0.001001 *14*; α(O)=0.000252 *4*; α(P)=4.82×10^{-5} *7*; α(Q)=3.06×10^{-6} *5* Mult.: from α(K)exp=0.12 *9*. Listed as M1 by authors.
^{x}784.88 *8*	0.109 *35*							
^{x}787.51 *4*	0.067 *27*							
^{x}788.88 *5*	0.100 *32*							
^{x}790.50 *6*	0.051 *17*							
792.75 *13*	0.030 *11*	882.3	(1,2)$^-$	89.5	1$^+$			
^{x}794.34 *4*	0.069 *24*							
^{x}799.010 *15*	0.17 *6*					(M1)	0.0916	α(K)=0.0726 *11*; α(L)=0.01429 *20*; α(M)=0.00347 *5* α(N)=0.000948 *14*; α(O)=0.000239 *4*; α(P)=4.56×10^{-5} *7*; α(Q)=2.90×10^{-6} *4* Mult.: from α(K)exp=0.13 *6*.
^{x}803.08 *6*	0.068 *33*							
^{x}806.00 *6*	0.028 *12*							

γ(^{244}Am) (continued)

E_γ[#]	I_γ[&f]	E_i(level)	Mult.[b]	α[†]	Comments
^{x}807.971 *16*	0.15 *5*				
^{x}809.40 *3*	0.083 *26*				Mult.: (M1) listed by authors from α(K)exp=0.23 *12* is inconsistent with α(K)theory.
^{x}811.396 *20*	0.33 *10*		M1	0.0879	α(K)=0.0696 *10*; α(L)=0.01371 *20*; α(M)=0.00333 *5* α(N)=0.000909 *13*; α(O)=0.000229 *4*; α(P)=4.38×10^{-5} *7*; α(Q)=2.78×10^{-6} *4* Mult.: from α(K)exp=0.07 *3*.
^{x}818.02 *6*	0.089 *32*				
^{x}821.84 *6*	0.085 *27*				
^{x}824.95 *6*	0.084 *33*				
^{x}827.81 *3*	0.079 *25*				
^{x}830.899 *21*	0.35 *11*		(M1)	0.0825	α(K)=0.0654 *10*; α(L)=0.01287 *18*; α(M)=0.00312 *5* α(N)=0.000853 *12*; α(O)=0.000215 *3*; α(P)=4.11×10^{-5} *6*; α(Q)=2.61×10^{-6} *4* Mult.: from α(K)exp=0.06 *4*.
^{x}840.06 *5*	0.122 *39*				
^{x}847.13 *3*	0.108 *34*				
^{x}849.83 *7*	0.095 *30*				
^{x}857.532 *18*	0.19 *6*				
^{x}864.863 *24*	0.19 *6*				
^{x}869.875 *21*	0.20 *6*		(M1)	0.0730	α(K)=0.0578 *8*; α(L)=0.01137 *16*; α(M)=0.00276 *4* α(N)=0.000754 *11*; α(O)=0.000190 *3*; α(P)=3.63×10^{-5} *5*; α(Q)=2.31×10^{-6} *4* Mult.: from α(K)exp=0.06 *5*.
^{x}874.86 *7*	0.078 *26*				
^{x}877.32 *9*	0.053 *18*				
^{x}878.98 *7*	0.063 *20*				
^{x}881.26 *6*	0.055 *18*				
^{x}884.44 *4*	0.15 *5*				
^{x}887.73 *3*	0.19 *6*				
^{x}888.82 *5*	0.12 *4*				
^{x}891.19 *6*	0.118 *39*				
^{x}893.21 *9*	0.078 *27*				
^{x}904.6 *3*	0.038 *14*				
^{x}906.62 *9*	0.064 *21*				
^{x}909.24 *12*	0.060 *21*				
^{x}912.76 *7*	0.083 *27*				
^{x}915.85 *8*	0.085 *28*				
^{x}919.76 *14*	0.043 *16*				
^{x}925.12 *12*	0.051 *18*				
^{x}927.81 *4*	0.13 *4*				
^{x}931.70 *6*	0.080 *26*				
^{x}934.19 *8*	0.056 *23*				
^{x}940.28 *6*	0.32 *10*				
^{x}941.949[e] *18*	0.51 *16*				
^{x}946.80 *14*	0.066 *23*				
^{x}953.36 *15*	0.046 *19*				
^{x}956.28 *14*	0.070 *28*				

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)

γ(^{244}Am) (continued)

E_{γ}[#]	I_{γ}[&][f]	E_i(level)
^{x}959.96 *17*	0.079 *32*	
^{x}969.53 *8*	0.096 *31*	
^{x}974.35 *8*	0.087 *38*	
^{x}977.92[e] *7*	0.12 *4*	
^{x}982.36 *7*	0.46 *14*	
^{x}983.14 *4*	0.56 *21*	
^{x}1013.16 *12*	0.35 *11*	
^{x}1014.53 *9*	0.32 *10*	
^{x}1020.26 *11*	0.066 *22*	
^{x}1026.54 *18*	0.042 *16*	
^{x}1041.278[e] *22*	0.27 *9*	
^{x}1046.22 *16*	0.043 *16*	
^{x}1062.953[e] *18*	0.40 *12*	
^{x}1084.181[e] *14*	0.52 *16*	
^{x}1090.33 *12*	0.072 *24*	
^{x}1099.75 *7*	0.103 *35*	
^{x}1103.01 *7*	0.118 *39*	
^{x}1105.43[e] *19*	0.047 *18*	
^{x}1120.22 *14*	0.046 *20*	
^{x}1126.50 *14*	0.074 *29*	
^{x}1134.33 *18*	0.069 *26*	
^{x}1139.85 *20*	0.047 *21*	
^{x}1152.61 *17*	0.045 *19*	
^{x}1194.26 *13*	0.11 *4*	
^{x}1204.56 *22*	0.060 *26*	
^{x}1211.0 *11*	0.033 *18*	
^{x}1266.33 *15*	0.17 *5*	
^{x}1285.28 *15*	0.12 *4*	
^{x}1309.1 *3*	0.071 *28*	
^{x}1313.34 *15*	0.16 *5*	
^{x}1407.04 *12*	0.37 *12*	
^{x}1408.32 *14*	0.55 *19*	
^{x}1409.94 *15*	0.3 *1*	

[†] Additional information 1.

[‡] If No value given it was assumed δ=1.00 for E2/M1,

[#] Measured by 1984Vo07. Some of the unplaced gammas above 800 keV might belong to ^{244}Cm following the decay of ^{244}Am (1984Vo07).

[@] Taken from conversion electron measurements (1984Vo07).

[&] Only statistical errors are given. The systematic calibration error was about 20% (1984Vo07).

[a] Deduced by 1984Vo07 from conversion electron intensities.

[b] Given by the authors (1984Vo07) except where noted otherwise. Authors′ conversion coefficient data with only statistical errors are given in the comments. The Hager Seltzer (HSIcc) theoretical conversion coefficients of the transitions were used to calibrate the electron intensities relative to the gamma intensities in 1984Vo07. Further information on this calibration was not documented in 1984Vo07.

[c] From conversion electron subshell ratios. These conversion electron subshell data have only been provided for 52.640 γ and 53.430 γ by the authors in Table II (1984Vo07).

[d] Since detail of the normalization of the authors′ conversion coefficient data was not provided in 1984Vo07, only mixing ratios using the conversion electron subshells ratios provided in Table II (1984Vo07) were used by the evaluator to deduce δ. The calculation of the δ using subshell ratios were performed using the BrIccMixing code.

[e] γ′s are likely to be from ^{244}Am (26 min) decay: their relative photon intensity agree very well with those assigned to the 26-min ^{244}Am beta decay to ^{244}Cm.

[f] Intensity per 100 neutron captures.

[g] Multiply placed with undivided intensity.

[h] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

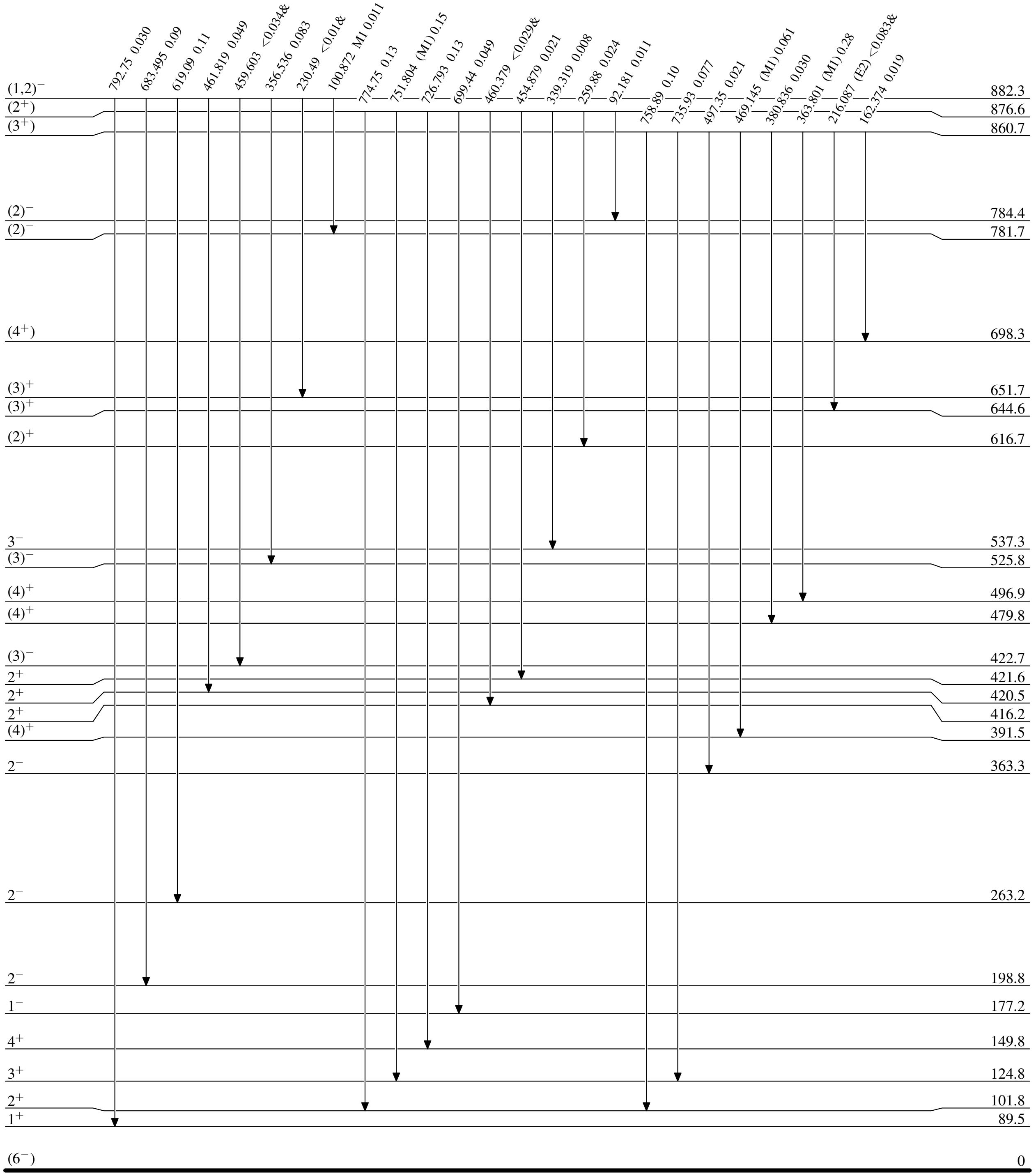
^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

Legend

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$



$^{244}_{95}$Am$_{149}$

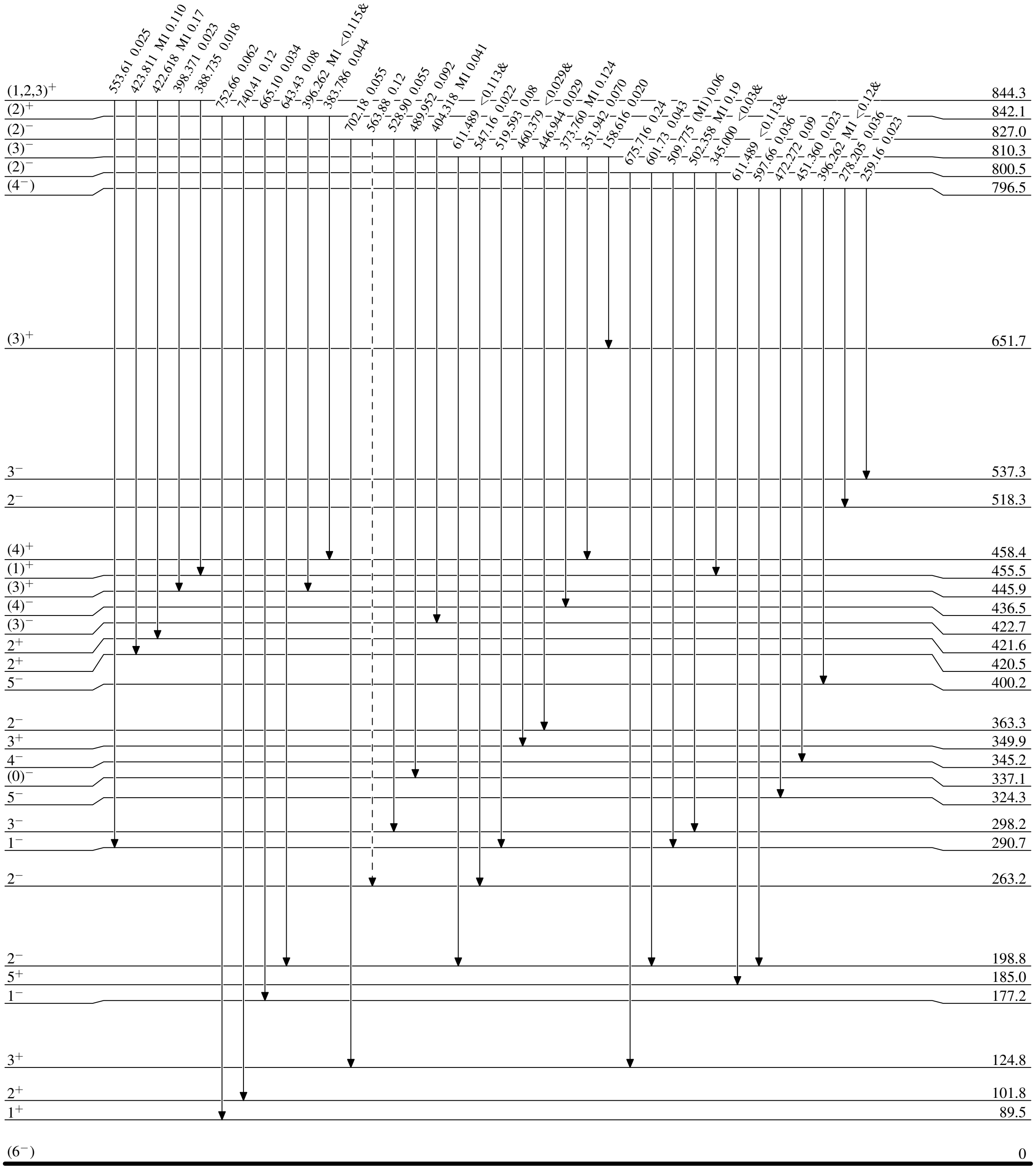
^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Legend

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$
- - - → γ Decay (Uncertain)



$^{244}_{95}$Am$_{149}$

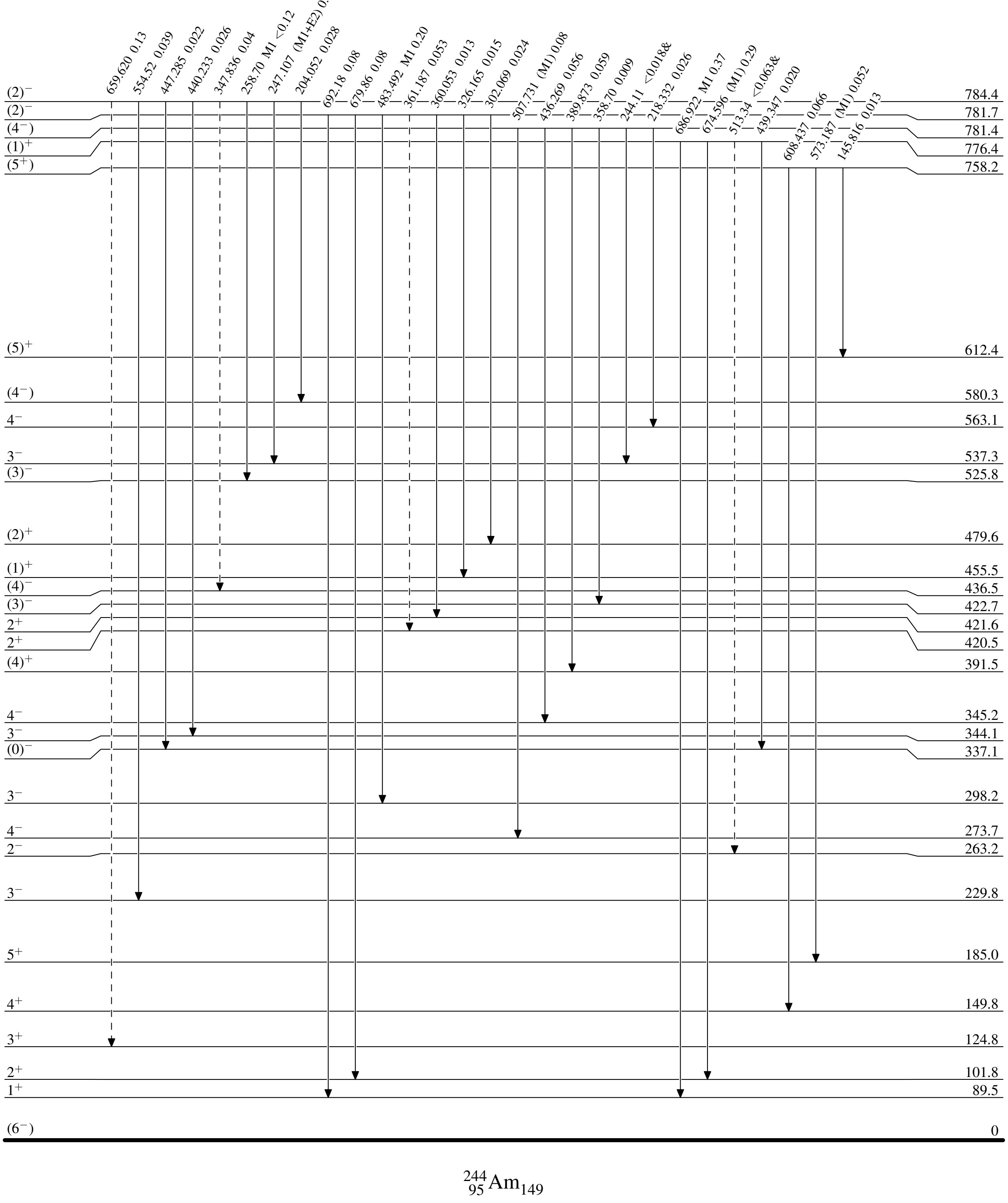
^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



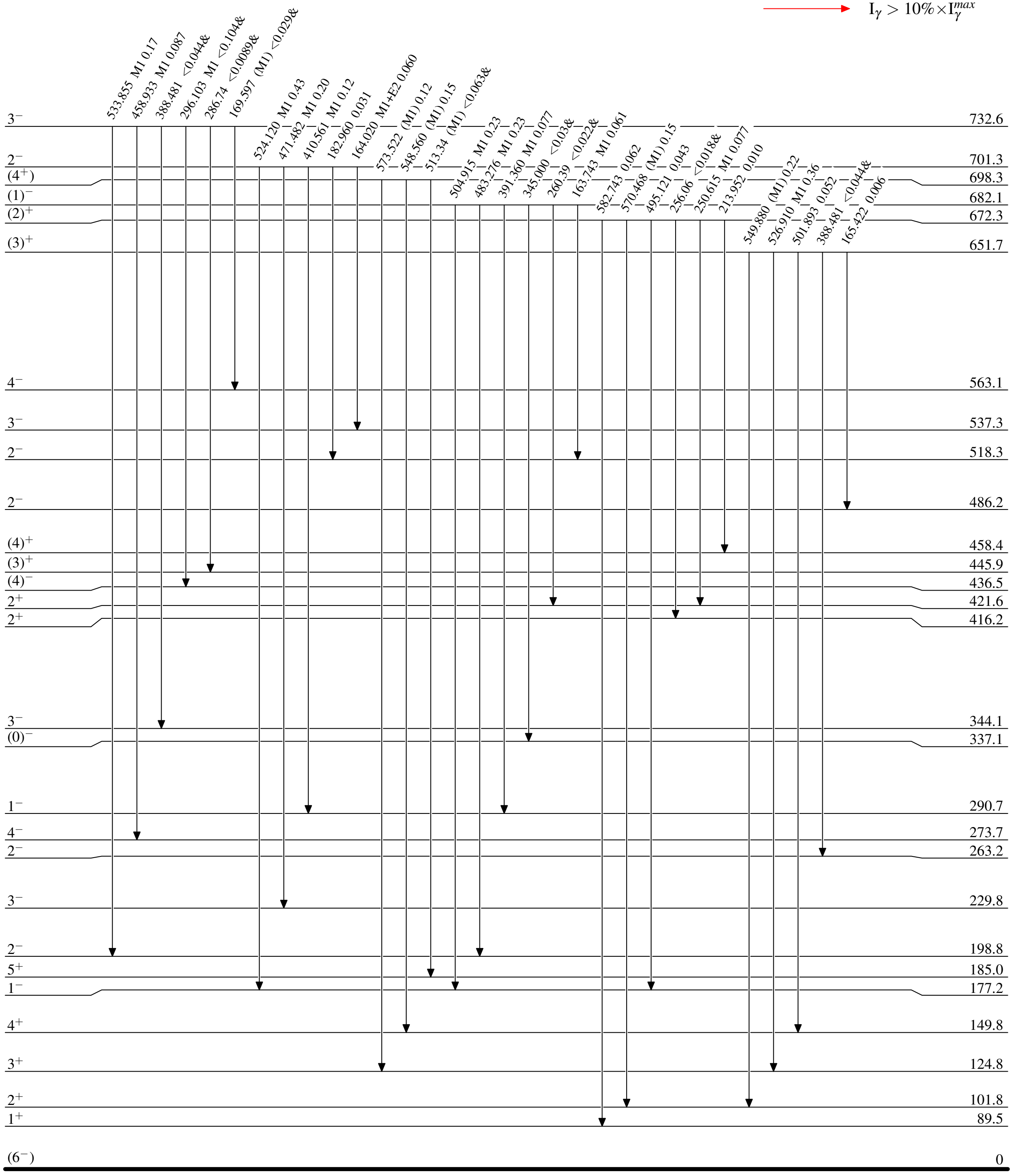
^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

Legend

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$



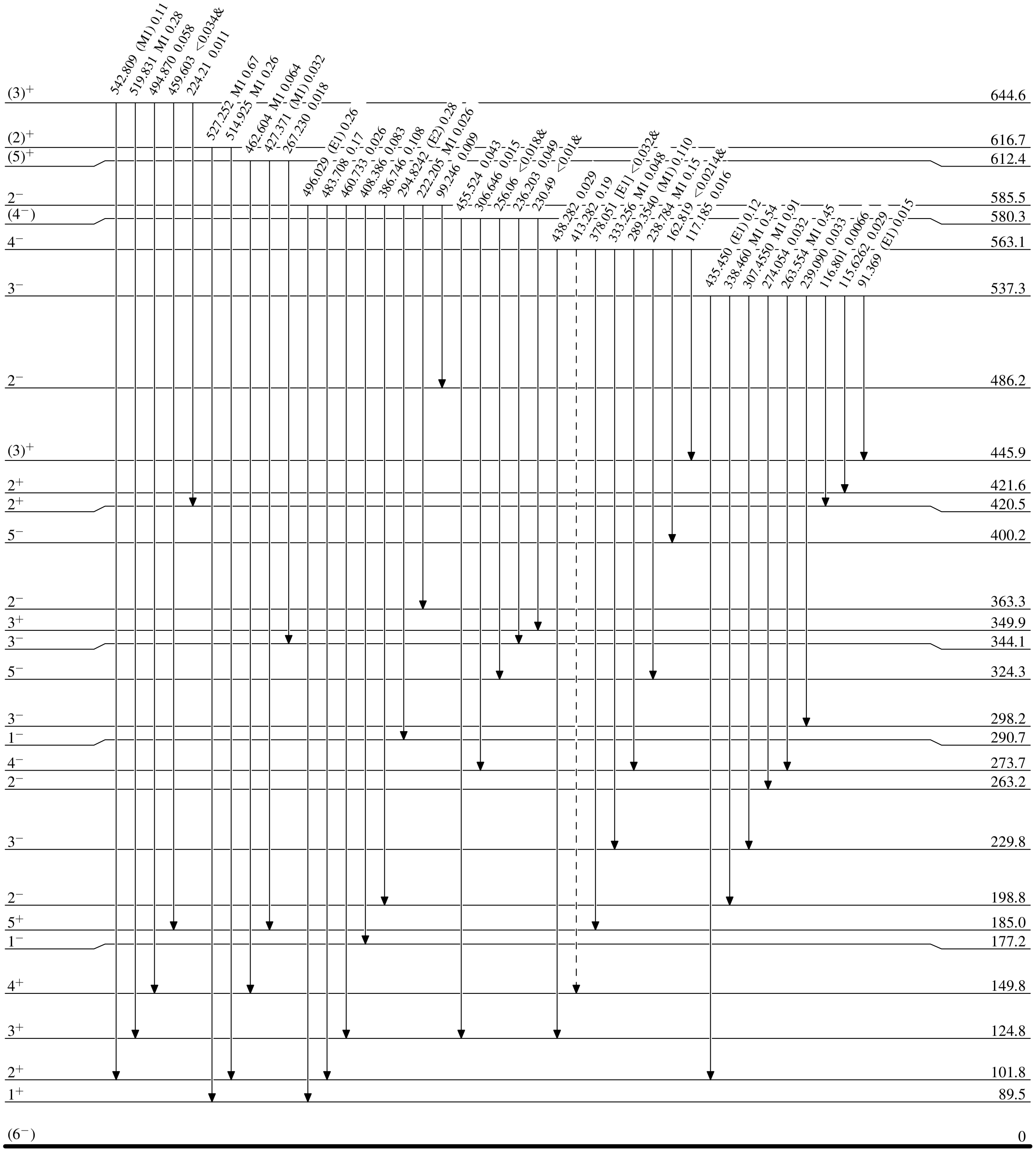
$^{244}_{95}Am_{149}$

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

Legend
- → $I_\gamma < 2\% \times I_\gamma^{max}$
- → $I_\gamma < 10\% \times I_\gamma^{max}$
- → $I_\gamma > 10\% \times I_\gamma^{max}$
- - - → γ Decay (Uncertain)

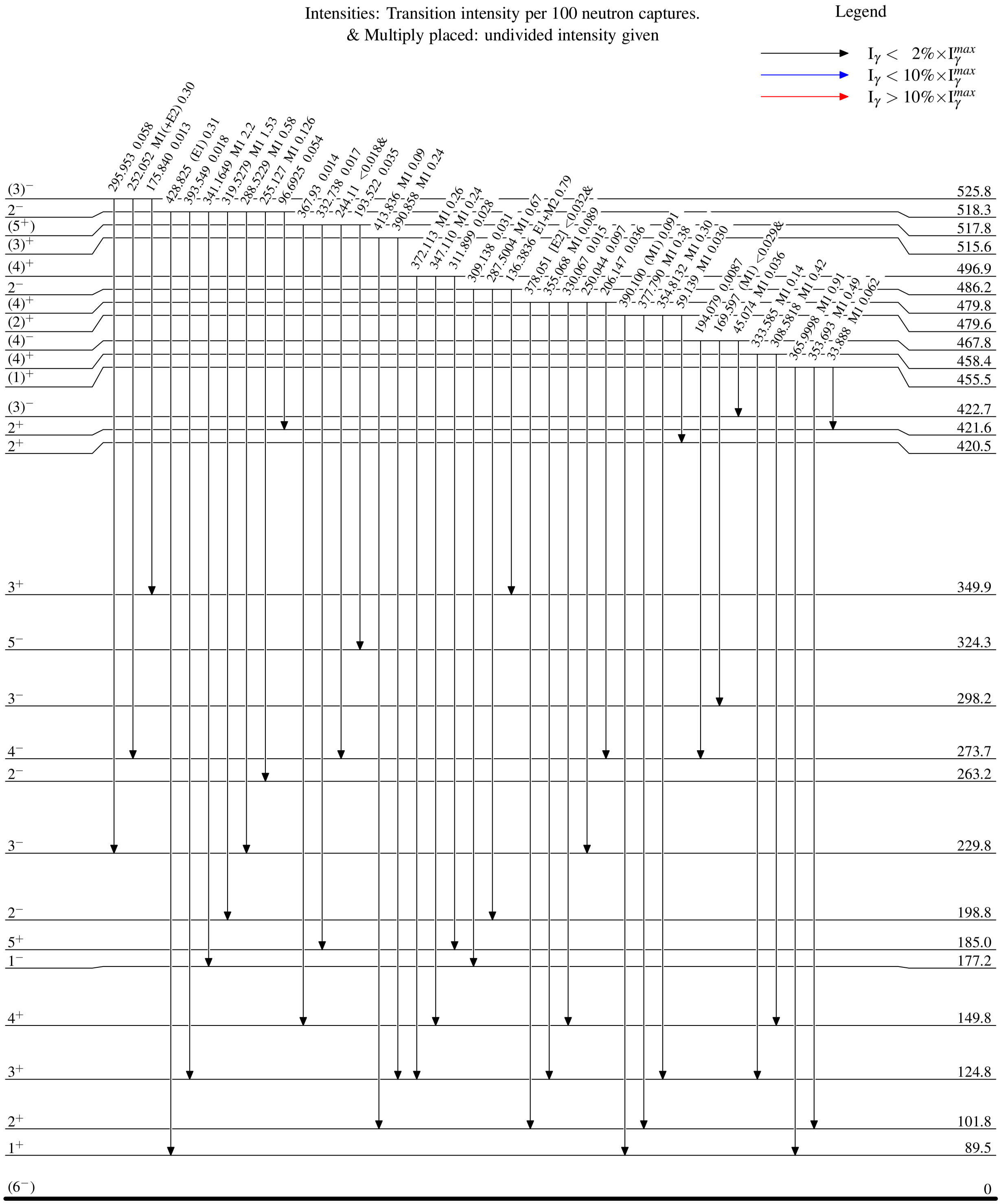


$^{244}_{95}Am_{149}$

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

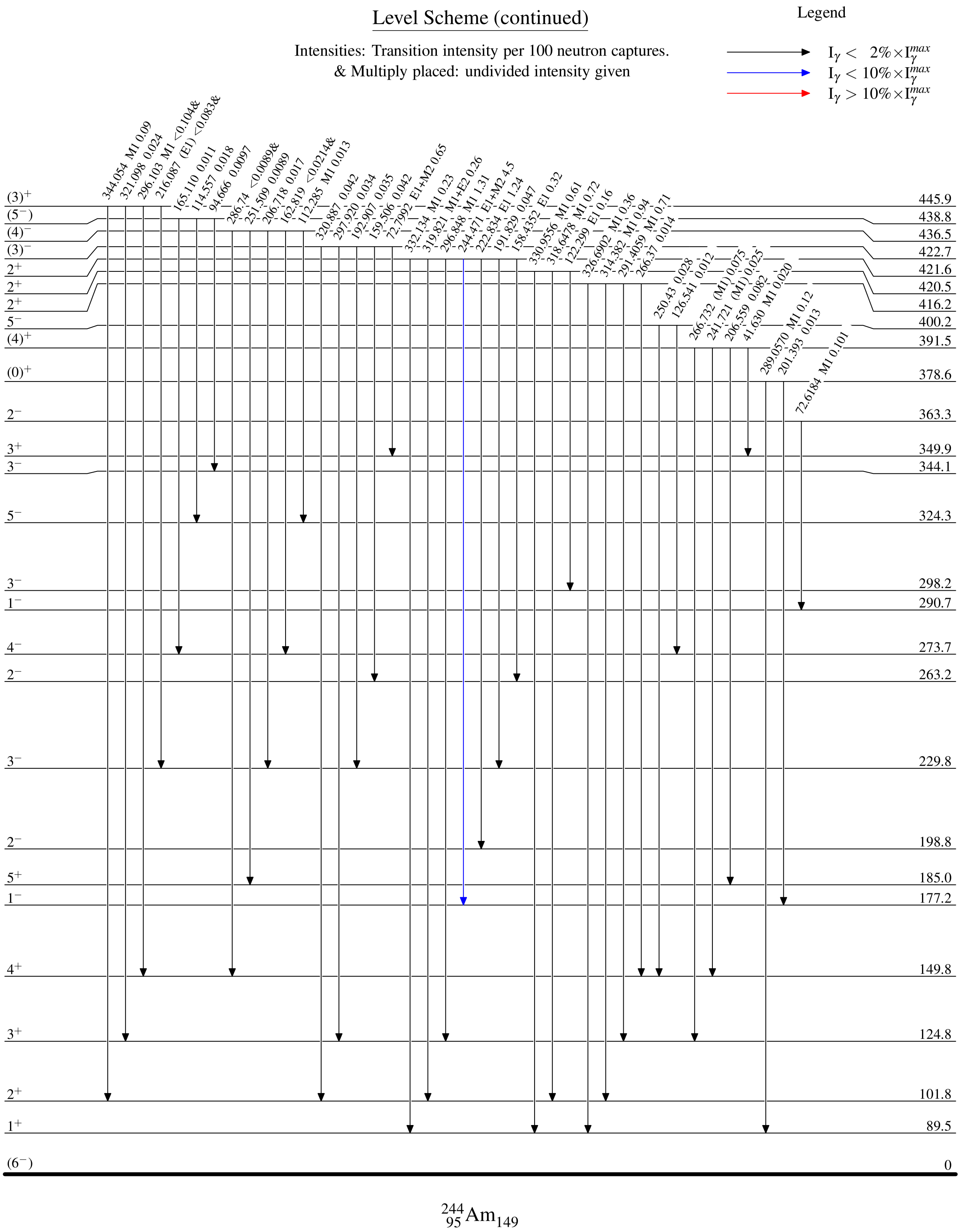
Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given



^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given



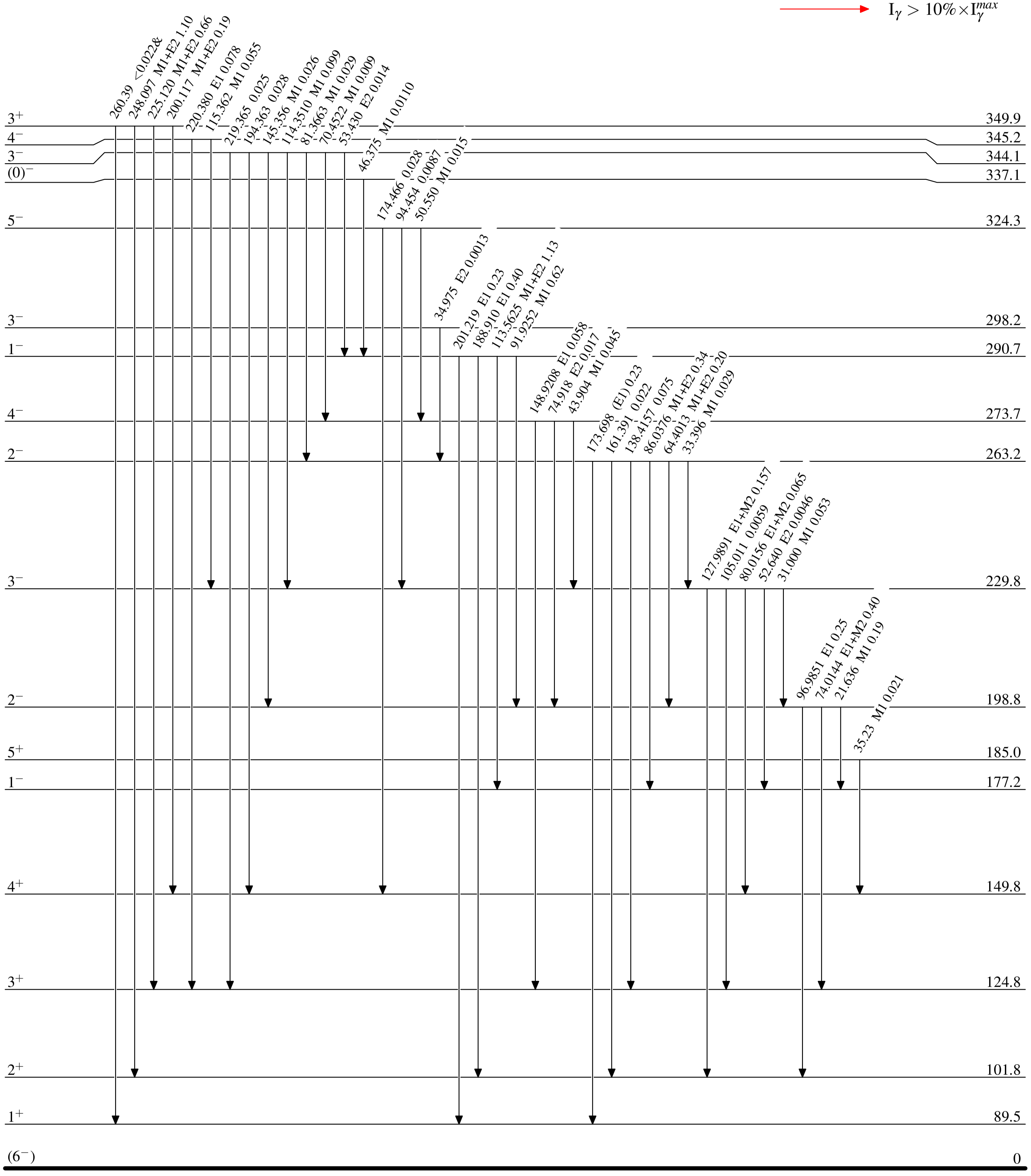
^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

Legend

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$



$^{244}_{95}$Am$_{149}$

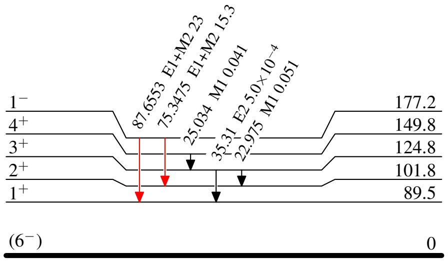
^{243}Am(n,γ)E=th:secondary γ's 1984Vo07

Level Scheme (continued)

Intensities: Transition intensity per 100 neutron captures.
& Multiply placed: undivided intensity given

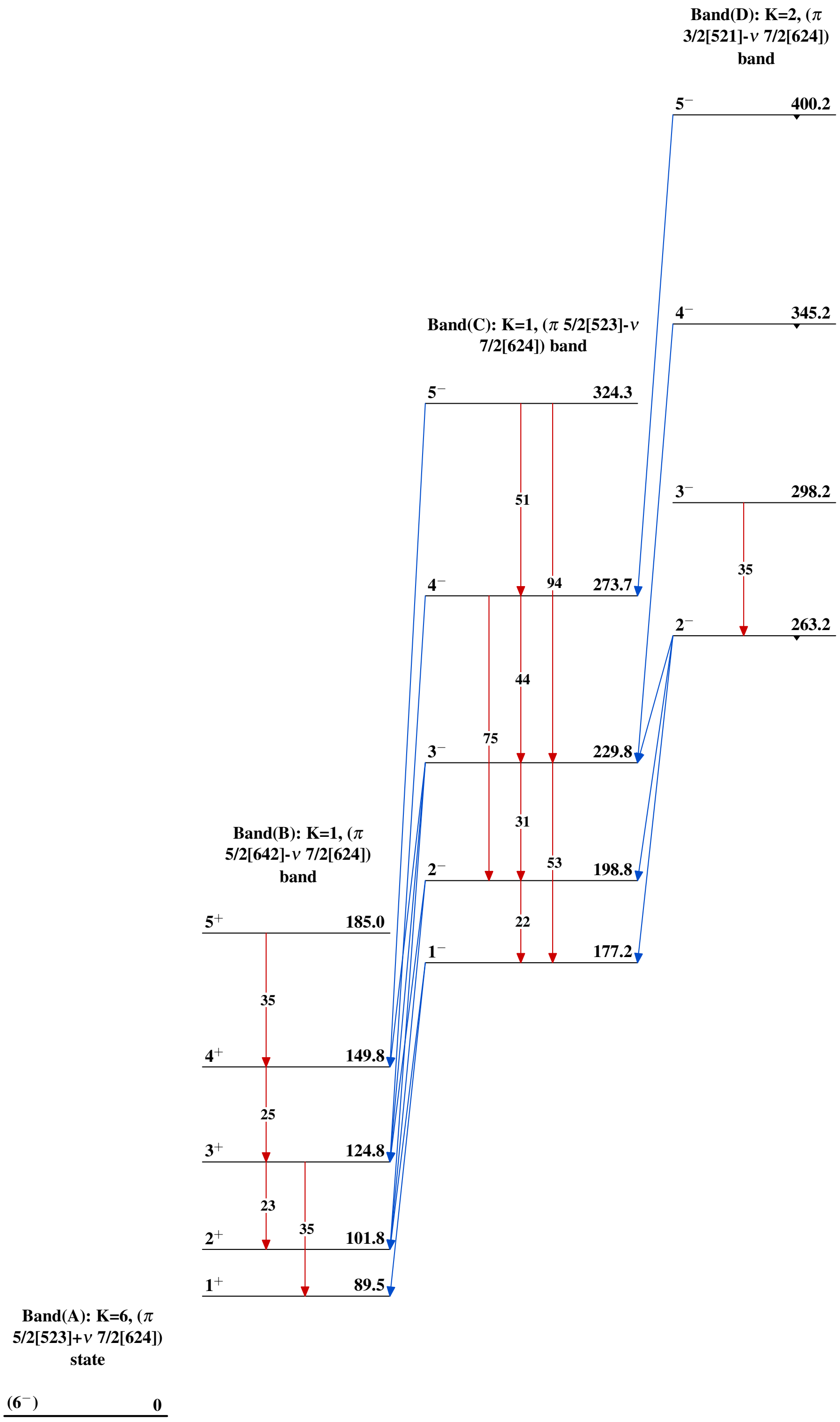
Legend

→ $I_\gamma < 2\% \times I_\gamma^{max}$
→ $I_\gamma < 10\% \times I_\gamma^{max}$
→ $I_\gamma > 10\% \times I_\gamma^{max}$



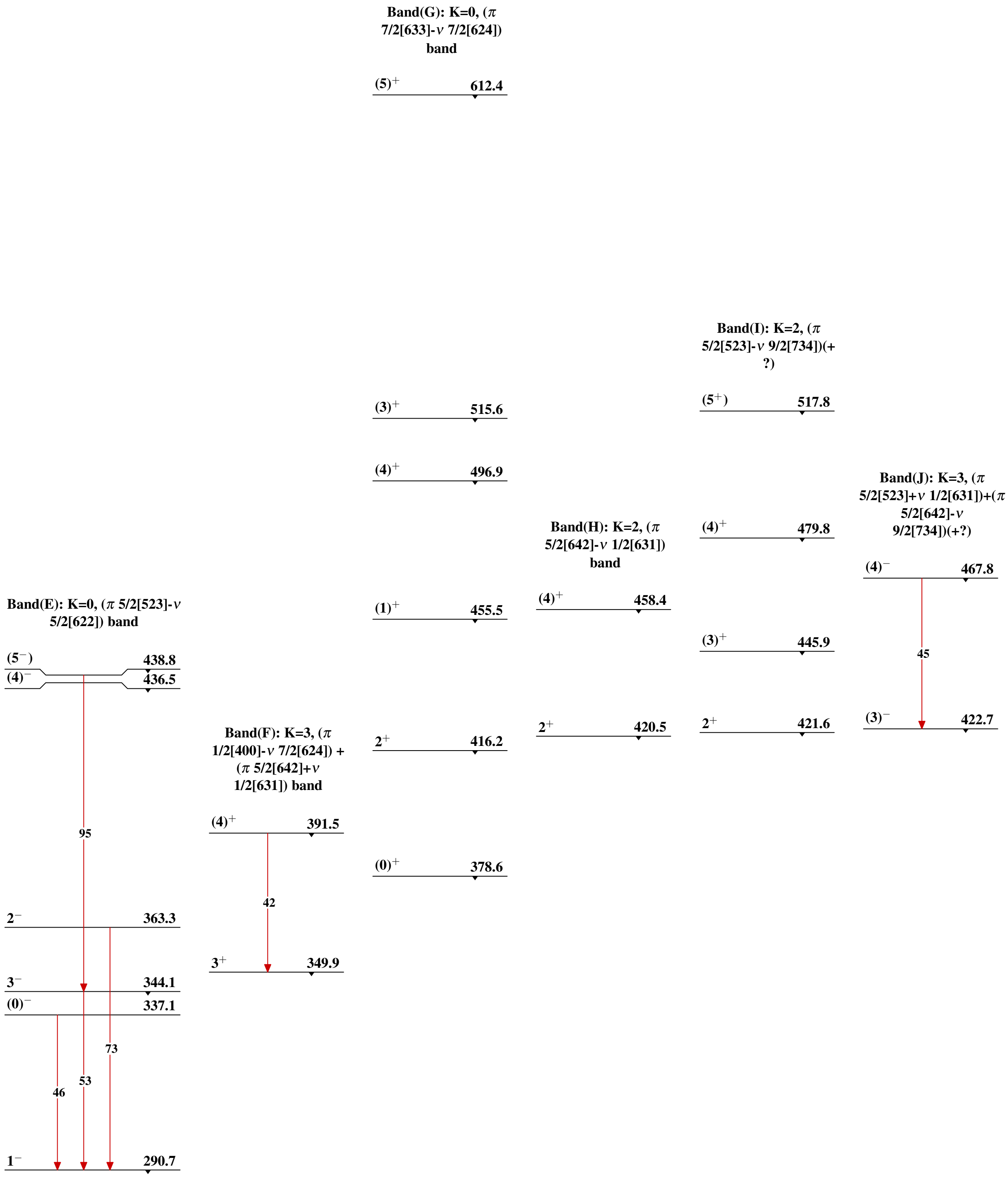
${}^{244}_{95}$Am$_{149}$

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07



$^{244}_{95}\mathrm{Am}_{149}$

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)



$^{244}_{95}$Am$_{149}$

^{243}Am(n,γ)E=th:secondary γ's 1984Vo07 (continued)