Adopted Levels, Gammas

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

Q(β^-)=1427.3 *10*; S(n)=5367.2 *16*; S(p)=5164.4 *26*; Q(α)=5138 *17* 2017Wa10

Other reaction not included in XREF: ^{243}Am(n,γ):resonances. See dataset for listing of 356 *s*-wave neutron resonances up to 400 eV.

Identification:
1950St61: Produced from the ^{243}Am(n,γ) reaction with thermal neutrons in the uranium-heavy water pile at the Argonne National Laboratory. An approximately 25 min half-life activity was observed. The cross section was ≈ 0.5 $\times10^{-22}$cm^2.
1976Ga31: ^{244}Am isomeric state was produced from ^{243}Am(n,γ) at the Sm-2 reactor with neutron flux of 2 $\times10^{19}$ neutrons/cm^2. The irradiation was followed by a cooling period of 160 days with the α decay of ^{244}Cm. The target was then dissolved and Pu extracted for mass spectrometry analysis the electron capture by ^{244}Cm was calculated.

Theoretical calculations:
1994No15, 1988Qu03, 1986Ho36:
Calculations of Gallagher-Moszkowski splitting.
1994No15, 1988Fr16, 1986Ho36: Studies of Newby shifts.
1995Mo29: Calculated deformation parameters.
1969Vo17: Studied dependence of level densities on excitation energies.
1993Pa13: Calculated level density.
1986Vo05: Deduced nuclear level density parameters.
1974No17: Studied gamma width at high excited levels.
2015Er03, 1971Ba30: Fission probability and fission-barrier parameters deduced from measurements of fission cross sections.
1984Oh09: Deduced fission barrier heights from analysis of fast neutron-induced fission cross sections and observed their systematic trends.
2012Ro24, 2001YaZU, 1990Bh02, 1980Ku14, 1973Ba19, 1972We09, 1972Ma11 : Calculated fission barriers heights.
2005Re16, 1990Bh02, 1972We09. Calculated spontaneous fission half-lives.
1977VaYN: Review of properties of spontaneously fissioning isomers.

^{244}Am Levels

Cross Reference (XREF) Flags

A	^{243}Am(d,p)	D	^{243}Am(n,γ):resonances
B	^{243}Am(n,γ)E=th:secondary γ's	E	^{244}Pu(^{3}He,t)
C	^{243}Am(n,γ)E=th:primary γ's		

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0‡	(6$^-$)	10.1 h *1*	AB	%β^-=100 E(level): Ground state in (d,p) measurement was not resolved due to contamination. T$_{1/2}$: From decay measurement in 1962Va08. J$^\pi$: Coupling of the 5/2$^-$[523] proton state (in analogy to ^{241,243}Am isotopes: the 95 th. proton is probably in the 5/2[523] state) and the 7/2$^+$[624] neutron state (in analogy to ^{243}Pu, ^{245}Cm: the 149 th. neutron is probably in the 7/2[624] state). Gallagher-Moszkowski (1958Ga27) rule gives 6$^-$, (π 5/2[523]+ν 7/2[624]) for probable configuration of the ground state. Another possibility, analogy to ^{245}Am which has probable configuration of π 5/2[642], yielding J^π=1$^+$, (π 5/2[642]-ν 7/2[624]), is not consistent with the ^{244}Am beta decay to ^{244}Cm.
89.5# *16*	1$^+$	26 min	ABC	%β^-=99.9636 *13*; %ε=0.0364 *13* XREF: A(80).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{244}Am Levels (continued)

E(level)[†]	J^π	XREF	Comments
			E(level): The level observed in (d,p) at 80 keV is assumed to be the same state identified in (n,γ). J^π: log*ft* values of 6.4 and 6.8 for the β^- transition to 0^+ and 2^+ states in ^{244}Cm permit J=1. Its band assignment with the configuration of 1^+, (π 5/2[642]-ν 7/2[624]) is consistent with its beta decay and with the systematics of Nilsson orbitals. 1^-, (π 5/2[523]-ν 7/2[624]) state was assigned earlier by 1962Va08 from isomer′s beta decay. %ε: Weighted average of ε/β ratio of 0.000361 *13* (1976Ga31) and 0.00038 *3* (1955Fi36). Current adopted $T_{1/2}$(^{244}Cm)= 18.11 y *3* has been used by the evaluator to adjust the original ratio. 1976Ga31: %ε=0.0361 *13* was determined from the ratio of ^{244}Pu/^{240}Pu amounts (mass-spectrometric analysis) in chemically separated Pu fraction from ^{243}Am(n,γ) reaction. The products were cooled for 160 days before chemical separation in order to accumulate enough ^{240}Pu, the alpha-decay product of ^{244}Cm; $T_{1/2}$(^{244}Cm)=18.099 y *150* was used in calculations. 1955Fi36: %ε=0.039 *3* was determined from the ratio of ^{244}Pu/^{244}Cm amounts following irradiation of ^{243}Am with neutrons; $T_{1/2}$(^{244}Cm)=18.4 y *5* was used in calculations. $T_{1/2}$: From decay measurement in 1954Gh24. Uncertainty was not provided by the authors. Other: ≈25 min (1950St61). E(level): Level energy is deduced from S(n)=5367.2 *16* (2017Wa10) and E_γ=5277.6 *4* (recoil correction applied from neutron- capture state).
101.8[#] *16*	2^+	BC	XREF: C(99.2). J^π: M1 353.693γ from 1^+ level; M1 22.975γ from 3^+.
124.8[#] *16*	3^+	BC	J^π: strong primary (n,γ) from 3^- capture state; 35.31γ to 1^+ level is E2.
149.8[#] *16*	4^+	BC	J^π: M1 25.034γ to 3^+ level; band member level.
177.2[@] *16*	1^-	B	J^π: 75.3475 and 87.6553 γ′s to 2^+ and 1^+ levels of K=1 band are E1+M2. The relative intensities of these γ′s agree well with the Alaga rule for K=J=1, but not for J=2. Additional information 1.
185.0[#] *16*	5^+	B	J^π: 35.23γ to 4^+ is M1; band member.
198.8[@] *16*	2^-	AB	XREF: A(211). J^π: 21.636γ to 1^- level is M1, 74.0144γ to 3^+ level is E1+M2.
229.8[@] *16*	3^-	AB	XREF: A(241). J^π: 31.000 and 52.640 γ′s to the 2^- and 1^- band members are M1 and E2, respectively; 80.0156γ to $(4)^+$ level is E1+M2; energy fit to band.
263.2[&] *16*	2^-	B	J^π: 33.396γ to 3^- level is M1, 86.0376γ to 1^- level is M1+E2.
273.7[@] *16*	4^-	AB	XREF: A(?). E(level): 274 keV level in (d,p) measurement was not resolved due to contamination. J^π: 43.904γ to 3^- level is M1, 74.918γ to 2^- is E2; energy fit to band.
290.7[a] *16*	1^-	BC	J^π: 91.9252 and 113.5625 γ′s to the 2^- and 1^- members of the K=−1, (π 5/2[523]-ν 7/2[624]) band are M1 and M1+E2, respectively. 53.43γ from the 3^- state of the (π 5/2[523]-ν 5/2[622]) band is E2. The I(188.910γ)/I(201.219γ) ratio does not agree with the Alaga rule for J=2, but in fair agreement for K=0, J=1. Additional information 2.
298.2[&] *16*	3^-	BC	J^π: 34.975γ to 2^- of the (π 3/2[521]-ν 7/2[624]) band is E2; rotational band parameter calculated from the level energy fits the local trend. As pointed out by 1984Vo07, non-observation of γ transitions to lower bands is surprising.
324.3[@] *16*	5^-	AB	J^π: 50.550γ to 4^- level is M1; 94.454γ to 3^- of the π 5/2[523]-ν 7/2[624] band; energy fit to the band.
337.1[a] *16*	$(0)^-$	B	J^π: 46.375γ to 1^- state of the π 5/2[523]-ν 5/2[622] band is M1.
344.1[a] *16*	3^-	ABC	XREF: A(351). J^π: 70.4522 and 145.356 γ′s to 4^- and 2^- of the K=1, (π 5/2[523]-ν 7/2[624]) band are M1.
345.2[&] *16*	4^-	B	J^π: 220.380γ to 3^+ level is E1; fit to a band.
349.9[b] *16*	3^+	BC	J^π: 248.097, 225.120, 200.117γ′s to 2^+, 3^+, $(4)^+$ states of the (π 5/2[642]-ν 7/2[624]) band are M1+E2.
363.3[a] *16*	2^-	ABC	XREF: A(370). J^π: 72.6184γ to 1^- member of the band is M1; energy fit to the band.

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Adopted Levels, Gammas (continued)

^{244}Am Levels (continued)

E(level)[†]	J^π	XREF	Comments
370	(5^-)	A C	XREF: C(?). E(level),J^π: Level observed in (d,p) was assigned by 1976Gr19 to a doublet: J^π=(5^-) state of the K=5, (π5/2[523]+ν5/2[622]) band and J^π=(2^-) state of the K=0, (π5/2[523]-ν5/2[622]) band which was seen also in (n,γ) at 369.1 keV. The primary gamma populating this level in (n,γ) was however considered questionable.
378.6[c] *16*	$(0)^+$	BC	XREF: C(?). J^π: 289.0570γ to 1^+ state of the (π 5/2[642]-ν 7/2[624]) band is M1; 201.393γ to 1^- level; no γ's to higher-spin states.
391.5[b] *16*	$(4)^+$	B	J^π: 41.630γ to 3^+ state is M1; γ decay pattern is similar to that of 3^+ member of the (π 1/2[400]-ν 7/2[624]) band; the band parameter obtained from the level's energy is consistent with expected value.
400.2[&] *16*	5^-	B	J^π: 126.541 and 250.43γ's to 4^- and $(4)^+$ levels; energy fit to the band.
416.2[c] *16*	2^+	BC	J^π: 326.6902 and 291.4059 γ's to 1^+ and 3^+ levels are M1.
420.5[d] *16*	2^+	B	J^π: 330.9556γ to 1^+ level is M1, 122.299γ to 3^- level is E1. The 122.299-keV γ to the (π 3/2[521]-ν 7/2[624]) band requires configuration mixing.
421.6[e] *16*	2^+	B	J^π: 332.134 and 296.848 γ's to 1^+ and 3^+ levels are M1.
422.7[f] *16*	$(3)^-$	B	J^π: 72.7992γ to 3^+ is E1+M2, and 320.887 γ's to 2^+; relative photon intensity agree with the Alaga rule.
432.5 *16*		C	
436		A	E(level): The authors of 1976Gr19 assigned the level they observed at 436 keV in (d,p) reaction to 6^- state of the (π5/2[523]+ν5/2[622]) band. If this assignment is correct, then the level seen in (d,p) and the level populated by primary γ at 432.5 keV in thermal neutron capture are not the same level.
436.5[a] *16*	$(4)^-$	AB	XREF: A(452). J^π: 112.285γ to 5^- level is M1; 206.718γ to 3^-; Band member favors J=4. From (d,p) data, 1976Gr19 assigned 4−(and 5^-) of the (π5/2[523]+ν5/2[622]) band to a level they observed at 452 keV.
438.8[a] *16*	(5^-)	AB	XREF: A(452). E(level): 1976Gr19 in (d,p) data proposed 4−(and 5^-) of (π5/2[523]+ν5/2[622]) band assignment. The 4^- member was assigned from (n,γ) work to a level 436.5-keV. This level may be the 5^- member of the band. J^π: Relative intensities of the 165.110γ to 4^- and 114.557γ to a 5^- of the (π 5/2[523]-ν 7/2[624]) band agrees with the Alaga rule for K=0, J=5.
445.9[e] *16*	$(3)^+$	BC	J^π: 344.054γ to 2^+ and 296.103γ to $(4)^+$ are M1.
455.5[c] *16*	$(1)^+$	B	J^π: 33.888γ to 2^+ and 365.9998γ to 1^+ of the are M1; no γ to higher spin states.
458.4[d] *16*	$(4)^+$	BC	J^π: 333.585γ to 3^+ and 308.5818γ $(4)^+$ states are M1; relative photon intensity agree with the Alaga rule.
467.8[f] *16*	$(4)^-$	B	J^π: 45.074γ to $(3)^-$ member of the band is M1; 194.079γ to 4^-; no γ's to J=2, 1 states.
479.6 *16*	$(2)^+$	Bc	E(level): 479.2 in the (n,γ): primary γ dataset is a doublet. J^π: 354.8132- and 377.790-keV γ's to 3^+ and 2^+ levels are M1. 1984Vo07 suggested that this level might be the J^π=2^+ of K=0, ((π 5/2[642])-(ν 5/2[622])) state, based on its expected energy.
479.8[e] *16*	$(4)^+$	Bc	E(level): 479.2 in the (n,γ) dataset is a doublet. J^π: 355.068γ to 3^+ level is M1; decay pattern is similar to those of 2^+ and 3^+ band members.
486.2[g] *17*	2^-	BC	J^π: 287.5004γ to 2^- level is M1; band member.
496.9[c] *16*	$(4)^+$	BC	XREF: C(?). J^π: 372.113γ to 3^+ is M1; 311.899γ to $(5)^+$; level-energy calculations by 1984Vo07 for the 4^+ member of the band, including Coriolis interaction, agreed with the experimental energy.
513[a]	(7^-)	A	J^π: Band member.
515.6[c] *16*	$(3)^+$	B	J^π: 390.858γ to 3^+, and 413.836γ to 2^+ are M1; decay pattern corresponds to a K=0.
517.8[e] *16*	(5^+)	B	J^π: 193.522γ to 5-levels and the 244.11 γ to 4^-; decay pattern support K=2 band.
518.3[h] *16*	2^-	B	J^π: 288.5229- and 341.1649-keV γ's to 3^-, 1^- states are M1.
525.8[g] *16*	$(3)^-$	B	J^π: 252.052γ to $(4)^-$ level is M1(+E2). Level's decay pattern is similar to the decay of the 2^- band head; energy spacing from the band head suggests that this level is the 3^- member of the band.

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Adopted Levels, Gammas (continued)

^{244}Am Levels (continued)

E(level)[†]	J^{π}	XREF	Comments
537.3[h] *16*	3^-	BC	J^{π}: 263.554- and 338.460-keV γ's to 4^- and 2^- levels are M1.
563.1[h] *16*	4^-	B	J^{π}: 238.784- and 333.256-keV γ's to 5^- and 3^- levels are M1.
572		A	
580.3[g] *16*	(4^-)	B	J^{π}: γ transitions to 3^+, 3^-, 5^-,4^- levels; level spacing from the 2^-, 3^- members of the band.
585.5 *16*	2^-	BC	J^{π}: 222.205γ to 2^- level is M1, 460.733γ to 3^+, 408.386γ to 1^-.
612.4[c] *17*	$(5)^+$	BC	J^{π}: 462.604γ to $(4)^+$ level is M1, 427.371γ $(5)^+$ level is (M1); no γ to 3^- state.
616.7[i] *16*	$(2)^+$	BC	J^{π}: 527.252γ and the 514.925γ to 1^+ and 2^+ levels are M1; relative photon intensities of γ's deexciting the levels agree with the Alaga rule.
623		A	
644.6 *16*	$(3)^+$	B	J^{π}: 519.831γ to 3^+ level is M1; 542.809γ to 2^+ is (M1); 459.603γ to $(5)^+$.
651.7[i] *16*	$(3)^+$	B	J^{π}: 549.880 γ to 2^+ is (M1) and 526.910-keV γ to 3^+ level is M1; γ's to $(4)^+$ and 2^- states; relative photon intensities of γ's deexciting the level agree with the Alaga rule.
672.3 *16*	$(2)^+$	BC	J^{π}: 250.615γ to 2^+ level is M1, 495.121γ to 1^-, 213.952γ to $(4)^+$. 1984Vo07 proposed J^{π}=$(1,2)^+$ with configuration of K=1, ((π 5/2[523])-(ν 7/2[743])), based on the strong 250.615γ to the 2^+,(π 5/2[523]-ν 9/2[734]) state, and on their prediction for the level energy. However, the strong 570.468 and 582.743 γ's to the K=1, (π 5/2[642]-ν 7/2[624]) band require large admixture of configurations involving either or both of these π or ν states.
682.1[j] *16*	$(1)^-$	B	J^{π}: 504.915 and 483.276 γ's to 1^-, 2^- levels are M1; the I(504.915γ)/I(483.276γ) ratio agrees well with the Alaga rule for J=1, but not for J=2.
698.3[i] *16*	(4^+)	BC	J^{π}: 573.522γ to 3^+ and 548.560γ to $(4)^+$ are (M1); the I(573.522γ)/I(548.560γ) ratio agrees well with the Alaga rule for K=2,J=4, but not for K=2,J=3.
701.3[j] *16*	2^-	B	J^{π}: 524.120 and 471.482 γ's to 1^-, 3^- levels are M1.
712.1 *19*		C	
732.6[j] *16*	3^-	BC	J^{π}: 533.855 and 458.933 γ's to 2^- and 4^- levels are M1.
754		A	
758.2[i] *16*	(5^+)	B	J^{π}: 573.187γ to $(5)^+$ level is (M1); relative photon intensities of γ's deexciting the level agree with the Alaga rule.
772.6? *16*		C	XREF: C(?).
776.4 *16*	$(1)^+$	B	J^{π}: 686.922γ to 1^+ level is M1; 674.596γ to 2^+ is (M1); 439.347γ to $(0)^-$ level.
781.4[j] *16*	(4^-)	Bc	E(level): 781.3 in the (n,γ):primary γ's dataset is a doublet. J^{π}: 507.731γ to 4^- level is (M1). Assignment to the band is tentative.
781.7 *16*	$(2)^-$	Bc	E(level): 781.3 in the (n,γ):primary γ's dataset is a doublet. J^{π}: 483.492γ to $(3)^-$ level is M1, 692.18 γ to 1^+.
784.4 *16*	$(2)^-$	B	J^{π}: 258.70γ to $(3)^-$ level is M1; 447.285γ to $(0)^-$ level.
791	(2^-)	A	J^{π}: J^{π}=2^- of K=2, (π5/2[523]-ν1/2[620]) band was assigned tentatively by 1976Gr19 from their (d,p) data. This level may be the same as either the 781.7 or the 784.4 level observed in (n,γ).
796.5 *16*	(4^-)	B	J^{π}: 396.262γ to (5^-) is M1; 597.66γ to 2^-.
800.5 *16*	$(2)^-$	BC	J^{π}: 502.358γ to 3^- level is M1; 509.775γ to 1^- level is (M1).
810.3 *16*	$(3)^-$	ABC	J^{π}: 373.760γ to $(4)^-$ level is M1; 519.593γ to 1^- level. J^{π}=(3^-) of K=2, (π5/2[523]-ν1/2[620]) band was assigned by 1976Gr19 from their (d,p) data.
827.0 *16*	$(2)^-$	BC	J^{π}: 404.318γ to $(3)^-$ level is M1; 489.952γ to $(0)^-$ level.
833.8 *16*		C	
838		A	
842.1 *16*	$(2)^+$	B	J^{π}: 396.262 γ to $(3)^+$ level is M1; 665.10γ to 1^-.
844.3 *16*	$(1,2,3)^+$	BC	J^{π}: 422.618γ to 2^+ level is M1.
860.7 *17*	(3^+)	BC	J^{π}: 363.801γ to $(4)^+$ level is (M1); 497.35γ to 2^-.
865		A	
876.6 *16*	(2^+)	BC	J^{π}: 751.804γ to 3^+ level is (M1); 699.44γ to 1^-.
882.3 *16*	$(1,2)^-$	BC	J^{π}: 100.872γ to $(2)^-$ level is M1; 792.75γ to 1^+.
890		A	E(level): Level might be the same state observed in (n,γ) at 892.3 keV.
892.3 *16*		C	
899.3 *17*		A C	E(level): Level seen in (d,p) at 902 keV is assumed to be the same state from energy consideration only.

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Adopted Levels, Gammas (continued)

^{244}Am Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
912.8 *16*			C	
921			A	
931.8 *16*			C	
941			A	
949.9 *16*			C	
961			A	
987			A	
998.2 *16*			C	
1014.4 *18*			A C	E(level): Level seen in (d,p) at 1017 keV is assumed to be the same state from energy consideration only.
1029.1 *16*			C	
1045.0 *17*			A C	E(level): Level seen in (d,p) at 1045 keV is assumed to be the same state from energy consideration only.
1051.0 *16*			C	
1061.8 *17*			C	
1069.9? *21*			C	XREF: C(?).
1074			A	
1102			A	
1130			A	
1147			A	
1149.9 *16*			C	
1162			A	
1184			A	
1208			A	
1257			A	
1286			A	
1340			A	
1362			A	
0.0+x		0.90 ms *15*		%SF≤100 Only SF decay observed. $T_{1/2}$: Weighted average of 1.10 ms *15* (^{243}Am(d,p): 1968Bj04); 0.60 ms *15* (^{243}Am(n,γ): 1969Bo25); 1.1 ms *2* (^{242}Pu(α,pn): 1972Wo07); 0.9 ms *3* (^{243}Am(n,γ): 1967Fl08). Other: 1.0 ms (^{209}Bi(^{56}Fe, X)): 1980Vi04 1970Da05, 1969Bo25: Studied ratio of isomer formation to prompt fission. Theoretical calculations: $T_{1/2}$(SF)=0.4 ms (2005Re16).
0.0+y		≈6.5 μs		%SF≤100 Only SF decay observed. $T_{1/2}$(SF)≈6.5 μs (^{243}Am(d,p), 1969SlZZ).
19464 *27*	0^+		E	%p≤100 (1991Ja04) Γ_p=337 keV *90* (1991Ja04) Jπ: Identified by 1991Ja04 as the isomeric analog state of the g.s. in ^{244}Pu g.s.

† Energies are from (n,γ) and (d,p) reactions. Levels observed in secondary (n,γ) are relative to 89.5 *16* keV. The uncertainties for the level energies above 89.5 keV seen in (n,γ) include the uncertainty on the 89.5 level energy. The evaluator notes that when the 89.5 keV energy is kept fixed and its uncertainty is not considered, during a least-square adjustment to E(γ's), smaller uncertainties are obtained, but the fit shows energy-mismatch by as much as five standard deviations. There are a number of levels populated in (d,p), (n,γ) reactions that are close in energy. Because of insufficient evidence about their structures, they are listed as separate levels. Therefore, some of these levels, particularly those above 830 keV, may actually be the same.

‡ 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. Energies of the 3^+ and 4^+ band members give A=3.1, of the 2^+ and 3^+ members give A=3.8 for the rotational-band parameter. The odd-even level staggering and small rotational band parameter explained by 1984Vo07 by Coriolis interaction with the 0^+, (π 7/2[633]-ν7/2[624]) band.

@ Band(C): K=1, (π 5/2[523]-ν 7/2[624]) band. The authors of 1984Vo07 pointed out that weak staggering of this band is

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Adopted Levels, Gammas (continued)

^{244}Am Levels (continued)

probably caused by the Coriolis mixing with the K=0, (π 5/2[523]-ν 5/2[622]) band.

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

[a] 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 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.

[b] Band(F): K=3, (π 1/2[400]-ν 7/2[624])+(π 5/2[642]+ν 1/2[631]) band. The main assignment, made by 1984Vo07, 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^+ 349.9 level, 1984Vo07 suggested that this band might have (π 5/2[642]+ν 1/2[631]) admixture. This admixture explains also 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. E2 transitions from K=3 to K=1 are not K-forbidden; one can use the Alaga rule for the E2 components of the 200-, 225- and 248-keV transitions from K=3, J=3 state to 4^+, 3^+ and 2^+ of K=1 band, without involving K=2 admixture, and compare them with measurements.

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

[d] Band(H): K=2 (π 5/2[642]-ν 1/2[631]) band. This configuration was very tentatively proposed by 1984Vo07. The γ transitions to the K=1, (π 5/2[642]-ν 7/2[624]) band are consistent with the assignment; however, γ transition to a level with (π 3/2[521]-ν 7/2[624]) configuration is forbidden. 3^+ member of this band and its decay have not been proposed.

[e] 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 predicted band-head energy and rotational band parameter. Coriolis interaction with adjacent bands is indicated by the strong γ's decaying to the (π 5/2[642]-ν 7/2[624]) and (π 3/2[521]-ν 7/2[624]) bands, which are forbidden because of changes in both proton and neutron orbitals. 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; Iγ's from the 3^+ state agree with the Alaga rule for K=1, and those from 4^+ state agree for K=0.

[f] 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 in 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]) band are allowed. Mixing of the (π 5/2[642]+ν 1/2[631]) in the 3^+ (π 1/2[400]-ν 7/2[624]) state at 349.9 keV was suggested because of the strong 72.7992γ feeding from the 422.7-keV level. There must be some additional mixing in either this band or in the K=2, (π 3/2[521]-ν 7/2[624]) band in order to explain the 159.506-keV γ transition to the 2^- state of that band.

[g] Band(K): K=2, (π 5/2[523]-ν 1/2[631]) band. This assignment is tentative; it was suggested by 1984Vo07 from model-depended considerations.

[h] Band(L): K=2, (π 5/2[642]-ν 9/2[734]) band (+ ?). This configuration was proposed by 1984Vo07 from predicted level energies and the rotational band parameter. However, γ transitions to the K=2, (π 3/2[521]-ν 7/2[624]) and K=1, (π 5/2[523]-ν 7/2[624]) bands are not allowed because of changes in both neutron and proton orbitals. Coriolis interactions with some K=1 bands could account for these transitions. This band is considered not well established.

[i] 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 agreement of the deduced rotational band parameter with the prediction. 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 identified the 4^+ and 5^+ members.

[j] Band(N): K=1 band. 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 of 1^+, ((π 3/2[521]-ν 5/2[622])+ (π 5/2[642]-ν 7/2[743])). The strongest γ's that populate the (π 5/2[523]-ν 7/2[724]) band, and the transitions to the K=2, (π 5/2[523]-ν 9/2[734]) band suggest additional mixtures.

$\gamma(^{244}Am)$

E_i(level)	J^{π}_i	E_{γ}†	I_{γ}‡	E_f	J^{π}_f	Mult.#	δ@	α&	Comments
124.8	3^+	22.975 *10*	100 *20*	101.8	2^+	M1			
		35.31 *3*	0.98 *20*	89.5	1^+	E2		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*
149.8	4^+	25.034 *20*		124.8	3^+	M1		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*
177.2	1^-	75.3475 *13*	67 *10*	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*
		87.6553 *15*	100 *16*	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*
185.0	5^+	35.23 *3*		149.8	4^+	M1		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*
198.8	2^-	21.636 *10*	48 *10*	177.2	1^-	M1		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*
		74.0144 *7*	100 *15*	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*
		96.9851 *10*	63 *10*	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*
229.8	3^-	31.000 *10*	35 *6*	198.8	2^-	M1		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*
		52.640 *10*	2.9 *6*	177.2	1^-	E2		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*
		80.0156 *11*	41 *6*	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*
		105.011 *6*	3.8 *16*	124.8	3^+				
		127.9891 *24*	100 *16*	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*
263.2	2^-	33.396 *10*	8.5 *15*	229.8	3^-	M1		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*
		64.4013 *20*	59 *9*	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*
		86.0376 *10*	100 *15*	177.2	1^-	M1+E2	0.26 *3*	11.3 *4*	α(L)=8.4 *3*; α(M)=2.11 *9*

Adopted Levels, Gammas (continued)

$\gamma(^{244}Am)$ (continued)

E_i(level)	J^π_i	E_γ †	I_γ ‡	E_f	J^π_f	Mult.#	δ@	α&	Comments
									α(N)=0.579 *23*; α(O)=0.144 *6*; α(P)=0.0266 *9*; α(Q)=0.00142 *3*
263.2	2^-	138.4157 *17*	22 *5*	124.8	3^+				
		161.391 *4*	6.5 *15*	101.8	2^+				
		173.698 *4*	67 *11*	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 suggested by 1984Vo07 from the $^{243}Am(n,\gamma)$ measurement with α(K)<0.3. (E1) is adopted by the evaluator from its level assignment.
273.7	4^-	43.904 *10*	78 *17*	229.8	3^-	M1		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*
		74.918 *10*	29 *5*	198.8	2^-	E2		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*
		148.9208 *19*	100 *21*	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*
290.7	1^-	91.9252 *13*	55 *9*	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*
		113.5625 *12*	100 *17*	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*
		188.910 *5*	35 *5*	101.8	2^+	E1		0.1194	α(K)=0.0923 *13*; α(L)=0.0203 *3*; α(M)=0.00497 *7* α(N)=0.001348 *19*; α(O)=0.000330 *5*; α(P)=5.82×10^{-5} *9*; α(Q)=2.63×10^{-6} *4*
		201.219 *4*	20 *4*	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*
298.2	3^-	34.975 *15*		263.2	2^-	E2		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*
324.3	5^-	50.550 *10*	54 *11*	273.7	4^-	M1		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*
		94.454 *4*	31 *7*	229.8	3^-				
		174.466 *5*	100 *18*	149.8	4^+				
337.1	$(0)^-$	46.375 *20*	100	290.7	1^-	M1		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*
344.1	3^-	53.430 *10*	14 *3*	290.7	1^-	E2		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*
		70.4522 *24*	9 *4*	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*
		81.3663 *10*	29 *5*	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*
		114.3510 *17*	100 *15*	229.8	3^-	M1		4.25	α(L)=3.19 *5*; α(M)=0.779 *11*

$^{244}_{95}Am_{149}$-8

Adopted Levels, Gammas (continued)

γ(^{244}Am) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[@]	α[&]	Comments
									α(N)=0.213 *3*; α(O)=0.0536 *8*; α(P)=0.01026 *15*; α(Q)=0.000654 *10*
344.1	3^-	145.356 *4*	26 *4*	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*
		194.363 *8*	28 *7*	149.8	4^+				
		219.365 *13*	25 *10*	124.8	3^+				
345.2	4^-	115.362 *4*	71 *14*	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*
		220.380 *5*	100 *22*	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*
349.9	3^+	200.117 *3*	17 *4*	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*
		225.120 *5*	60 *10*	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*
		248.097 *5*	100 *15*	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*
		260.39[a] *4*	≤2.0	89.5	1^+				
363.3	2^-	72.6184 *12*	100	290.7	1^-	M1		15.87	α(L)=11.92 *17*; α(M)=2.91 *4* α(N)=0.796 *12*; α(O)=0.200 *3*; α(P)=0.0384 *6*; α(Q)=0.00245 *4*
378.6	$(0)^+$	201.393 *9*	10 *3*	177.2	1^-				
		289.0570 *22*	100 *24*	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*
391.5	$(4)^+$	41.630 *20*	24 *12*	349.9	3^+	M1		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*
		206.559 *20*	100 *28*	185.0	5^+				
		241.721 *13*	30 *12*	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*
		266.732 *4*	91 *16*	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*
400.2	5^-	126.541 *5*	41 *14*	273.7	4^-				
		250.43 *5*	100 *25*	149.8	4^+				
416.2	2^+	266.37 *3*	1.5 *5*	149.8	4^+				
		291.4059 *19*	76 *19*	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*
		314.382 *3*	100 *18*	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*
		326.6902 *22*	38 *7*	89.5	1^+	M1		1.032	α(K)=0.814 *12*; α(L)=0.1636 *23*; α(M)=0.0398 *6*

From ENSDF

$^{244}_{95}Am_{149}$-9

Adopted Levels, Gammas (continued)

γ(^{244}Am) (continued)

E_i(level)	J^{π}_i	E_{γ} †	I_{γ} ‡	E_f	J^{π}_f	Mult. #	δ @	α &	Comments
									α(N)=0.01089 *16*; α(O)=0.00274 *4*; α(P)=0.000524 *8*; α(Q)=3.32×10^{-5} *5*

γ(^{244}Am) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	α[&]	Comments
420.5	2^+	122.299 *3*	22 *4*	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*
		318.6478 *24*	100 *19*	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*
		330.9556 *23*	84 *15*	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*
421.6	2^+	158.4352 *10*	7.1 *11*	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*
		191.829 *4*	1.0 *2*	229.8	3^-			
		222.834 *3*	28 *5*	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*
		244.471 *3*	100 *20*	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*
		296.848 *3*	29 *5*	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*
		319.821 *3*	5.8 *20*	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*
		332.134 *3*	5.1 *11*	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*
422.7	$(3)^-$	72.7992 *7*	100 *16*	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*
		159.506 *10*	6.5 *12*	263.2	2^-			
		192.907 *4*	5.4 *14*	229.8	3^-			
		297.920 *6*	5.2 *14*	124.8	3^+			
		320.887 *4*	6.5 *23*	101.8	2^+			
436.5	$(4)^-$	112.285 *3*	79 *16*	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*
		162.819[a] *6*	≤130	273.7	4^-			
		206.718 *18*	100 *19*	229.8	3^-			
		251.509 *13*	54 *13*	185.0	5^+			
		286.74[a] *3*	≤54	149.8	4^+			
438.8	(5^-)	94.666 *5*	55 *12*	344.1	3^-			
		114.557 *3*	100 *19*	324.3	5^-			
		165.110 *6*	62 *17*	273.7	4^-			
445.9	$(3)^+$	216.087[a] *5*	80 *15*	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*
		296.103 *5*	100 *17*	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*

$^{244}_{95}Am_{149}$-11

γ(^{244}Am) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	α[&]	Comments
445.9	$(3)^+$	321.098 9	23 6	124.8	3^+			
		344.054 9	87 38	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
455.5	$(1)^+$	33.888 10	6.8 13	421.6	2^+	M1	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
		353.693 4	54 10	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
		365.9998 24	100 18	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
458.4	$(4)^+$	308.5818 21	100 17	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
		333.585 3	34 8	124.8	3^+	M1	0.974	α(K)=0.769 11; α(L)=0.1544 22; α(M)=0.0376 6 α(N)=0.01028 15; α(O)=0.00259 4; α(P)=0.000495 7; α(Q)=3.14×10^{-5} 5
467.8	$(4)^-$	45.074 10	100 28	422.7	$(3)^-$	M1	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
		169.597[a] 7	≤80	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
		194.079 13	24 6	273.7	4^-			
479.6	$(2)^+$	59.139 10	7.9 8	420.5	2^+	M1	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 If the suggested structure for the 479.6-keV level is correct, then this M1 transition is K-forbidden.
		354.8132 24	79 18	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
		377.790 3	100 18	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
		390.100 3	24 4	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
479.8	$(4)^+$	206.147 10	37 8	273.7	4^-			
		250.044 4	100 20	229.8	3^-			
		330.067 7	15 4	149.8	4^+			
		355.068 4	92 21	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
		378.051 7	≤33	101.8	2^+	[E2]	0.1139	α(K)=0.0523 8; α(L)=0.0450 7; α(M)=0.01221 17 α(N)=0.00337 5; α(O)=0.000816 12; α(P)=0.0001397 20; α(Q)=2.78×10^{-6} 4
486.2	2^-	136.3836 15	100 16	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
		287.5004 19	85 14	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
		309.138 7	3.9 8	177.2	1^-			

γ(^{244}Am) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	α[&]	Comments
496.9	(4)$^+$	311.899 *11*	11 *3*	185.0	5$^+$			
		347.110 *3*	92 *23*	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*
		372.113 *3*	100 *19*	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*
515.6	(3)$^+$	390.858 *4*	100 *25*	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*
		413.836 *4*	38 *13*	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*
517.8	(5$^+$)	193.522 *6*	100 *20*	324.3	5$^-$			
		244.11[a] *5*	≤51	273.7	4$^-$			
		332.738 *13*	47 *11*	185.0	5$^+$			
		367.93 *4*	40 *17*	149.8	4$^+$			
518.3	2$^-$	96.6925 *19*	2.4 *4*	421.6	2$^+$			
		255.127 *6*	5.7 *10*	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*
		288.5229 *19*	26 *6*	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*
		319.5279 *21*	70 *11*	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*
		341.1649 *22*	100 *18*	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*
		393.549 *14*	0.8 *3*	124.8	3$^+$			
		428.825 *5*	14.1 *23*	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*
525.8	(3)$^-$	175.840 *8*	4.2 *13*	349.9	3$^+$			
		252.052 *3*	100 *17*	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*
		295.953 *3*	19 *4*	229.8	3$^-$			
537.3	3$^-$	91.369 *5*	1.6 *4*	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*
		115.6262 *20*	3.2 *7*	421.6	2$^+$			
		116.801 *7*	0.7 *2*	420.5	2$^+$			
		239.090 *20*	3.6 *9*	298.2	3$^-$			
		263.554 *4*	50 *11*	273.7	4$^-$	M1	1.87	α(K)=1.475 *21*; α(L)=0.297 *5*; α(M)=0.0725 *11* α(N)=0.0198 *3*; α(O)=0.00499 *7*; α(P)=0.000954 *14*; α(Q)=6.05×10^{-5} *9*
		274.054 *3*	3.5 *10*	263.2	2$^-$			
		307.4550 *20*	100 *15*	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*
		338.460 *3*	59 *10*	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*

Adopted Levels, Gammas (continued)

γ(^{244}Am) (continued)

E_i(level)	J^{π}_i	E_γ[†]	I_γ[‡]	E_f	J^{π}_f	Mult.[#]	α[&]	Comments
537.3	3⁻	435.450 7	13 4	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
563.1	4⁻	117.185 3	8.2 14	445.9	(3)⁺			
		162.819[a] 6	≤11	400.2	5⁻			
		238.784 12	80 15	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
		289.3540 22	58 13	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
		333.256 6	26 6	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
		378.051 7	≤17	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
		413.282[b] 4	100 26	149.8	4⁺			
		438.282 13	16 4	124.8	3⁺			
580.3	(4⁻)	230.49[a] 7	≤20.4	349.9	3⁺			
		236.203 6	100 20	344.1	3⁻			
		256.06[a] 4	≤37	324.3	5⁻			
		306.646 11	31 14	273.7	4⁻			
		455.524 22	88 22	124.8	3⁺			
585.5	2⁻	99.246 5	3.2 9	486.2	2⁻			
		222.205 9	9.3 25	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
		294.8242 22	100 29	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 suggested by 1984Vo07 with α(K)<0.2. (E2) is adopted by the evaluator from its level assignment.
		386.746 3	39 8	198.8	2⁻			
		408.386 6	30 6	177.2	1⁻			
		460.733 22	9.3 25	124.8	3⁺			
		483.708 12	61 21	101.8	2⁺			
		496.029 6	93 28	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.
612.4	(5)⁺	267.230 6	28 9	344.1	3⁻			
		427.371 9	50 12	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
		462.604 6	100 25	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
616.7	(2)⁺	514.925 4	39 12	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

$\gamma(^{244}Am)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	α[&]	Comments
616.7	(2)$^+$	527.252 *4*	100 *33*	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*
644.6	(3)$^+$	224.21 *3*	3.9 *14*	420.5	2$^+$			
		459.603[a] *15*	≤12.1	185.0	5$^+$			
		494.870 *15*	21 *6*	149.8	4$^+$			
		519.831 *7*	100 *29*	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*
		542.809 *7*	39 *14*	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*
651.7	(3)$^+$	165.422 *16*	1.6 *9*	486.2	2$^-$			
		388.481[a] *6*	≤12	263.2	2$^-$			
		501.893 *10*	14 *5*	149.8	4$^+$			
		526.910 *5*	100 *31*	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*
		549.880 *5*	61 *19*	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*
672.3	(2)$^+$	213.952 *24*	6.7 *21*	458.4	(4)$^+$			
		250.615 *5*	51 *8*	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*
		256.06[a] *4*	≤12	416.2	2$^+$			
		495.121 *10*	29 *11*	177.2	1$^-$			
		570.468 *9*	100 *33*	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*
		582.743 *14*	41 *13*	89.5	1$^+$			
682.1	(1)$^-$	163.743 *5*	27 *5*	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*
		260.39[a] *4*	≤9.6	421.6	2$^+$			
		345.000[a] *6*	≤13	337.1	(0)$^-$			
		391.360 *4*	34 *7*	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*
		483.276 *5*	100 *30*	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*
		504.915 *4*	100 *35*	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*
698.3	(4$^+$)	513.34[a] *8*	≤42	185.0	5$^+$			
		548.560 *9*	100 *33*	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*
		573.522 *17*	78 *24*	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*

From ENSDF

$^{244}_{95}Am_{149}$-15

$\gamma(^{244}Am)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	α[&]	Comments
701.3	2^-	164.020 *3*	14.0 *23*	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*
		182.960 *4*	7.2 *12*	518.3	2^-			
		410.561 *8*	27 *8*	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*
		471.482 *6*	47 *16*	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*
		524.120 *4*	100 *33*	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*
732.6	3^-	169.597[a] *7*	≤17	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*
		286.74[a] *3*	≤5.2	445.9	$(3)^+$			
		296.103 *5*	61 *11*	436.5	$(4)^-$	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*
		388.481[a] *6*	≤26	344.1	3^-			
		458.933 *5*	51 *10*	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*
		533.855 *6*	100 *29*	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*
758.2	(5^+)	145.816 *6*	20 *4*	612.4	$(5)^+$			
		573.187 *18*	79 *26*	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*
		608.437 *15*	100 *32*	149.8	4^+			
776.4	$(1)^+$	439.347 *7*	5.4 *19*	337.1	$(0)^-$			
		513.34[ab] *8*	≤17	263.2	2^-			
		674.596 *7*	78 *24*	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*
		686.922 *7*	100 *30*	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*
781.4	(4^-)	218.332 *16*	31 *8*	563.1	4^-			
		244.11[a] *5*	≤22	537.3	3^-			
		358.70 *3*	10 *6*	422.7	$(3)^-$			
		389.873 *5*	71 *13*	391.5	$(4)^+$			
		436.269 *7*	67 *16*	345.2	4^-			
		507.731 *7*	100 *34*	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*
781.7	$(2)^-$	302.069 *6*	12 *4*	479.6	$(2)^+$			
		326.165 *16*	7.5 *18*	455.5	$(1)^+$			
		360.053 *12*	6.5 *20*	421.6	2^+			
		361.187[b] *3*	26 *6*	420.5	2^+			

γ(^{244}Am) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	α[&]	Comments
781.7	(2)⁻	483.492 *5*	100 *35*	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*
		679.86 *6*	41 *14*	101.8	2⁺			
		692.18 *7*	38 *16*	89.5	1⁺			
784.4	(2)⁻	204.052 *8*	8.5 *12*	580.3	(4⁻)			
		247.107 *5*	100 *21*	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*
		258.70 *3*	≤36	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*
		347.836[b] *6*	9.1 *30*	436.5	(4)⁻			
		440.233 *10*	7.9 *21*	344.1	3⁻			
		447.285 *8*	6.7 *21*	337.1	(0)⁻			
		554.52 *3*	12 *4*	229.8	3⁻			
		659.620[b] *13*	39 *12*	124.8	3⁺			
796.5	(4⁻)	259.16 *4*	19 *16*	537.3	3⁻			
		278.205 *16*	30 *10*	518.3	2⁻			
		396.262 *4*	100 *25*	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*
		451.360 *11*	19 *6*	345.2	4⁻			
		472.272 *13*	75 *50*	324.3	5⁻			
		597.66 *3*	30 *10*	198.8	2⁻			
		611.489[a] *10*	≤94	185.0	5⁺			
800.5	(2)⁻	345.000[a] *6*	≤12.5	455.5	(1)⁺			
		502.358 *7*	79 *25*	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*
		509.775 *12*	27 *11*	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*
		601.73 *3*	18 *6*	198.8	2⁻			
		675.716 *19*	100 *33*	124.8	3⁺			
810.3	(3)⁻	158.616 *7*	16 *6*	651.7	(3)⁺			
		351.942 *5*	56 *11*	458.4	(4)⁺			
		373.760 *6*	100 *19*	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*
		446.944 *17*	23 *6*	363.3	2⁻			
		460.379[a] *9*	≤23	349.9	3⁺			
		519.593 *13*	67 *21*	290.7	1⁻			
		547.16 *3*	18 *6*	263.2	2⁻			
		611.489[a] *10*	≤91	198.8	2⁻			
827.0	(2)⁻	404.318 *5*	36 *7*	422.7	(3)⁻	M1	0.575	α(K)=0.454 *7*; α(L)=0.0909 *13*; α(M)=0.0221 *3* α(N)=0.00604 *9*; α(O)=0.001521 *22*; α(P)=0.000291 *4*; α(Q)=1.84×10⁻⁵ *3*

$^{244}_{95}Am_{149}$-17

Adopted Levels, Gammas (continued)

$\gamma(^{244}Am)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	α[&]	Comments
827.0	(2)$^-$	489.952 *5*	80 *17*	337.1	(0)$^-$			
		528.90 *3*	48 *16*	298.2	3$^-$			
		563.88[b] *4*	100 *30*	263.2	2$^-$			
		702.18 *5*	48 *16*	124.8	3$^+$			
842.1	(2)$^+$	383.786 *4*	36 *7*	458.4	(4)$^+$			
		396.262 *4*	94 *22*	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*
		643.43 *5*	64 *24*	198.8	2$^-$			
		665.10 *5*	28 *10*	177.2	1$^-$			
		740.41 *3*	100 *32*	101.8	2$^+$			
		752.66 *6*	50 *18*	89.5	1$^+$			
844.3	(1,2,3)$^+$	388.735 *12*	11 *4*	455.5	(1)$^+$			
		398.371 *11*	13 *4*	445.9	(3)$^+$			
		422.618 *3*	100 *20*	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*
		423.811 *6*	64 *15*	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*
		553.61 *3*	15 *5*	290.7	1$^-$			
860.7	(3$^+$)	162.374 *5*	6.8 *14*	698.3	(4$^+$)			
		216.087[a] *5*	30 *6*	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*
		363.801 *3*	100 *36*	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*
		380.836 *15*	11 *4*	479.8	(4)$^+$			
		469.145 *8*	22 *5*	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*
		497.35 *3*	8 *3*	363.3	2$^-$			
		735.93 *3*	28 *9*	124.8	3$^+$			
		758.89 *5*	37 *12*	101.8	2$^+$			
876.6	(2$^+$)	92.181 *3*	7.5 *19*	784.4	(2)$^-$			
		259.88 *3*	16 *5*	616.7	(2)$^+$			
		339.319 *8*	5.0 *21*	537.3	3$^-$			
		454.879 *24*	14 *3*	421.6	2$^+$			
		460.379[a] *9*	≤19	416.2	2$^+$			
		699.44 *4*	33 *11*	177.2	1$^-$			
		726.793 *23*	87 *27*	149.8	4$^+$			
		751.804 *20*	100 *33*	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*
		774.75 *5*	87 *33*	101.8	2$^+$			
882.3	(1,2)$^-$	100.872 *3*	10 *4*	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*

Adopted Levels, Gammas (continued)

γ(^{244}Am) (continued)

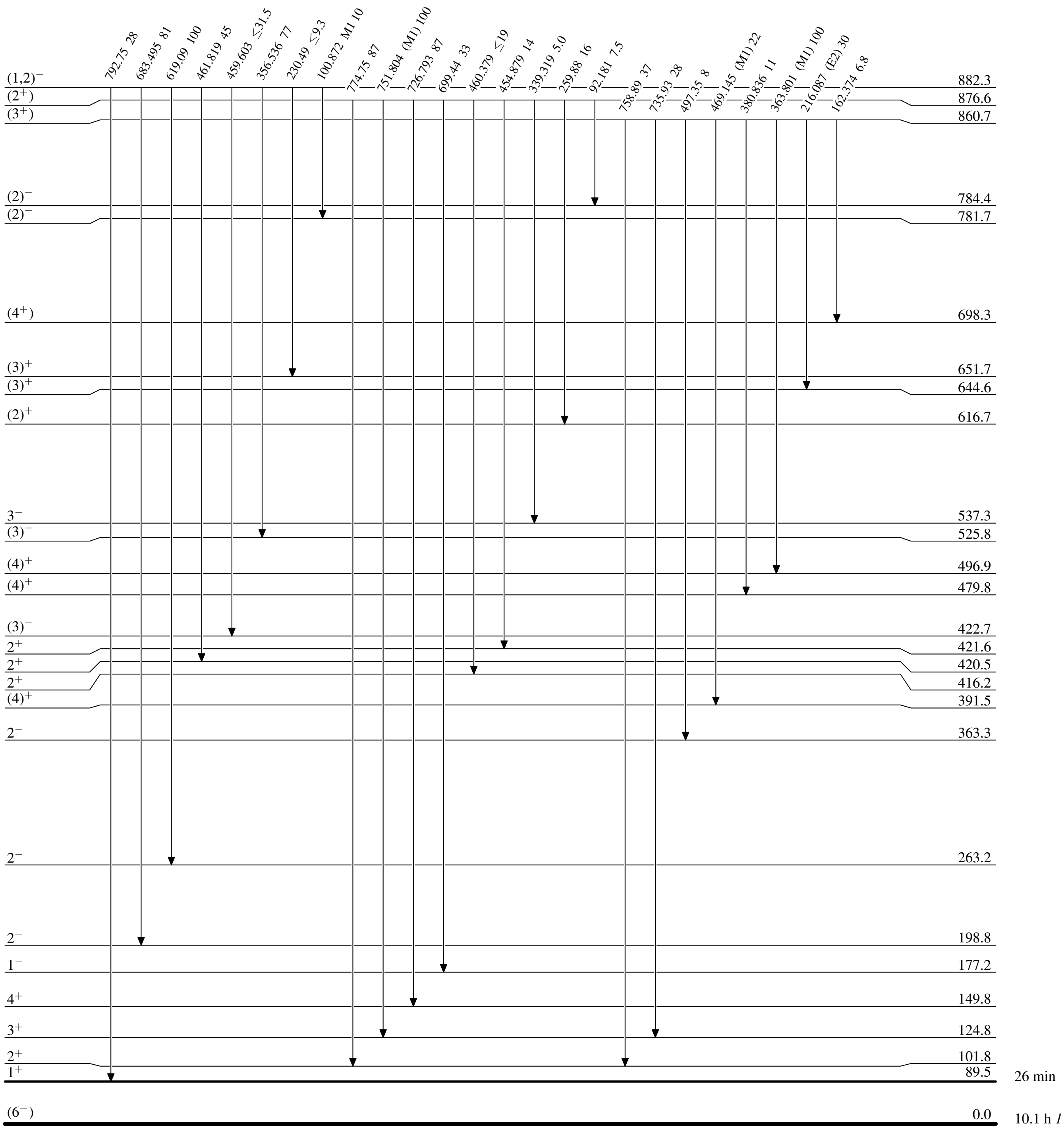
E_i(level)	E_γ[†]	I_γ[‡]	E_f	J^π_f	Comments
882.3	230.49[a] *7*	≤9.3	651.7	(3)$^+$	
	356.536 *6*	77 *12*	525.8	(3)$^-$	
	459.603[a] *15*	≤31.5	422.7	(3)$^-$	
	461.819 *15*	45 *13*	420.5	2$^+$	
	619.09 *4*	100 *31*	263.2	2$^-$	
	683.495 *17*	81 *26*	198.8	2$^-$	
	792.75 *13*	28 *10*	89.5	1$^+$	

† Measured by 1984Vo07 in ^{243}Am(n,γ).
‡ Relative photon intensity, normalized to 100 at the strongest gamma ray deexciting each level. Intensities are from ^{243}Am(n,γ) work of 1984Vo07.
# From conversion electron data measured in ^{243}Am(n,γ) (1984Vo07).
@ From conversion electron subshells ratios measured by 1984Vo07 in ^{243}Am(n,γ).
& Additional information 3.
a Multiply placed.
b Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

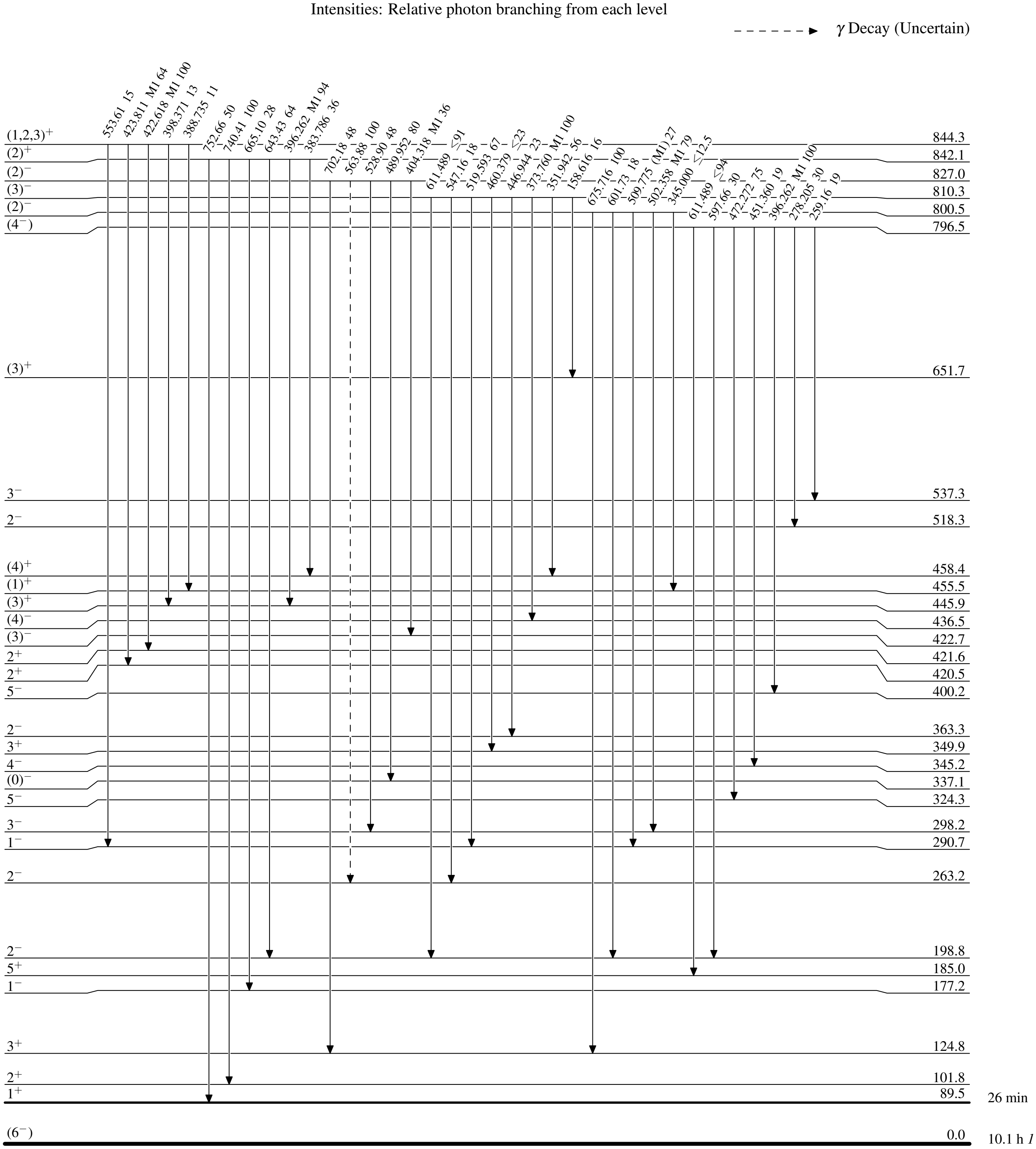


$^{244}_{95}Am_{149}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

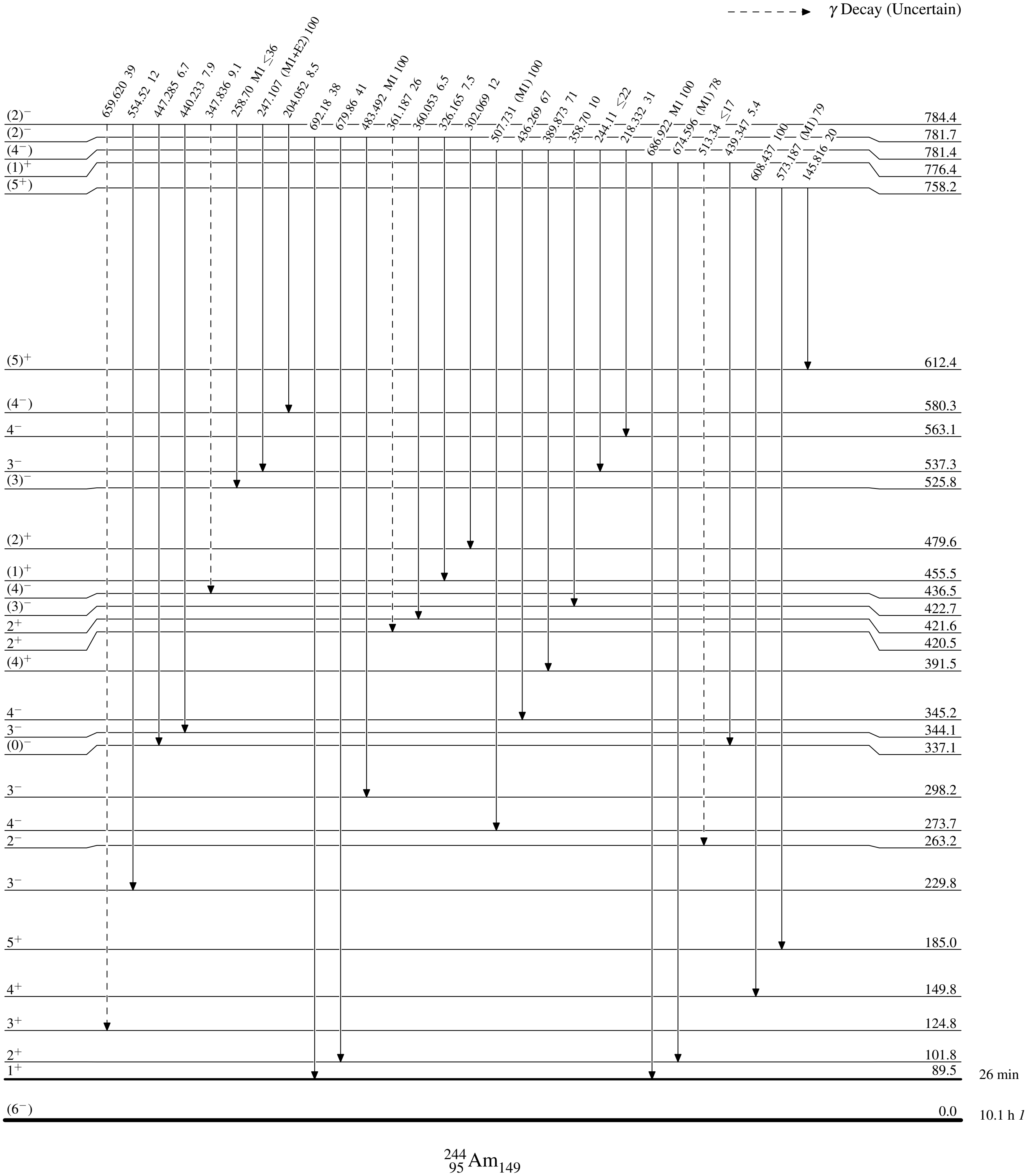


$^{244}_{95}Am_{149}$

Adopted Levels, Gammas

Level Scheme (continued)

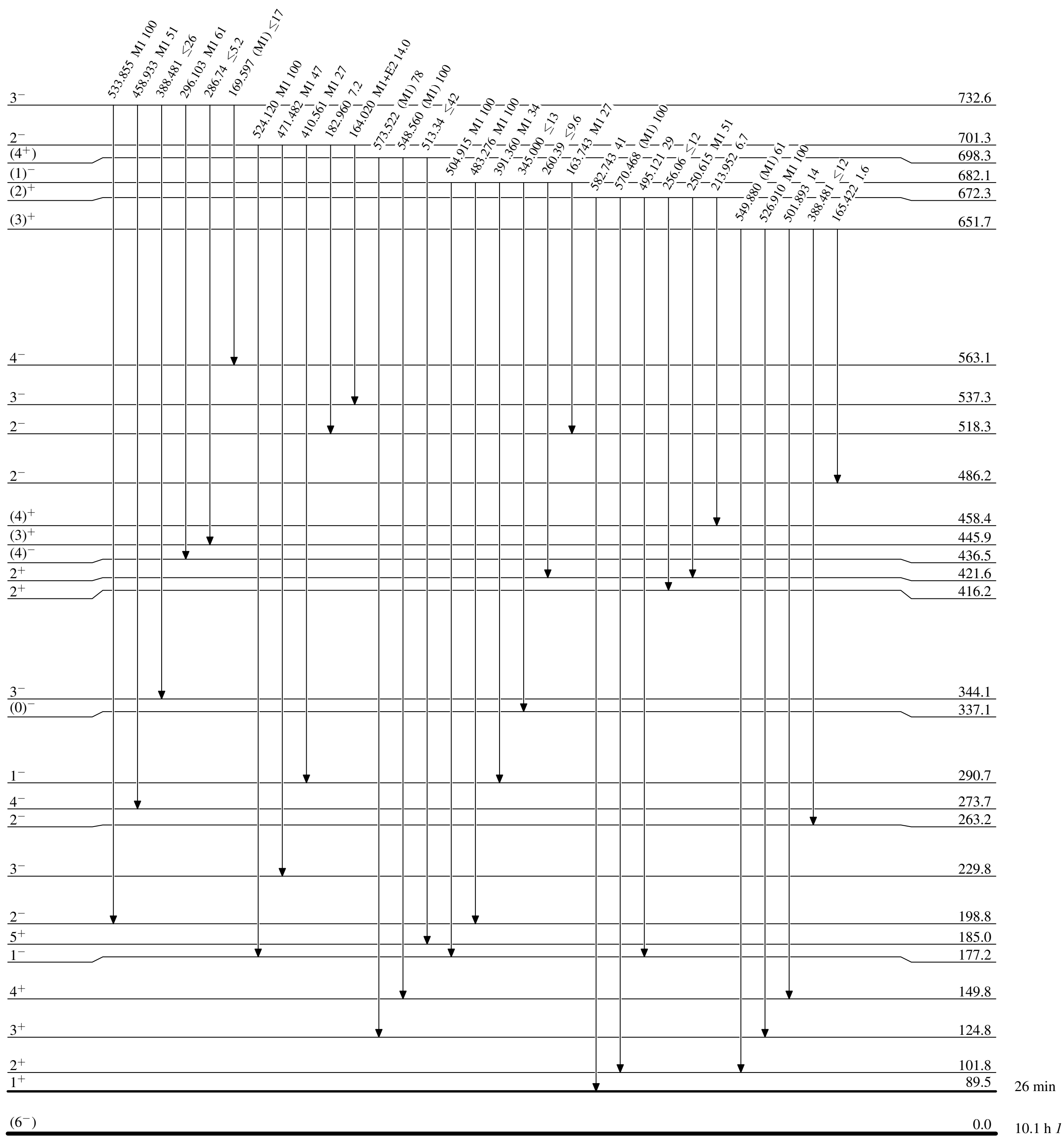
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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

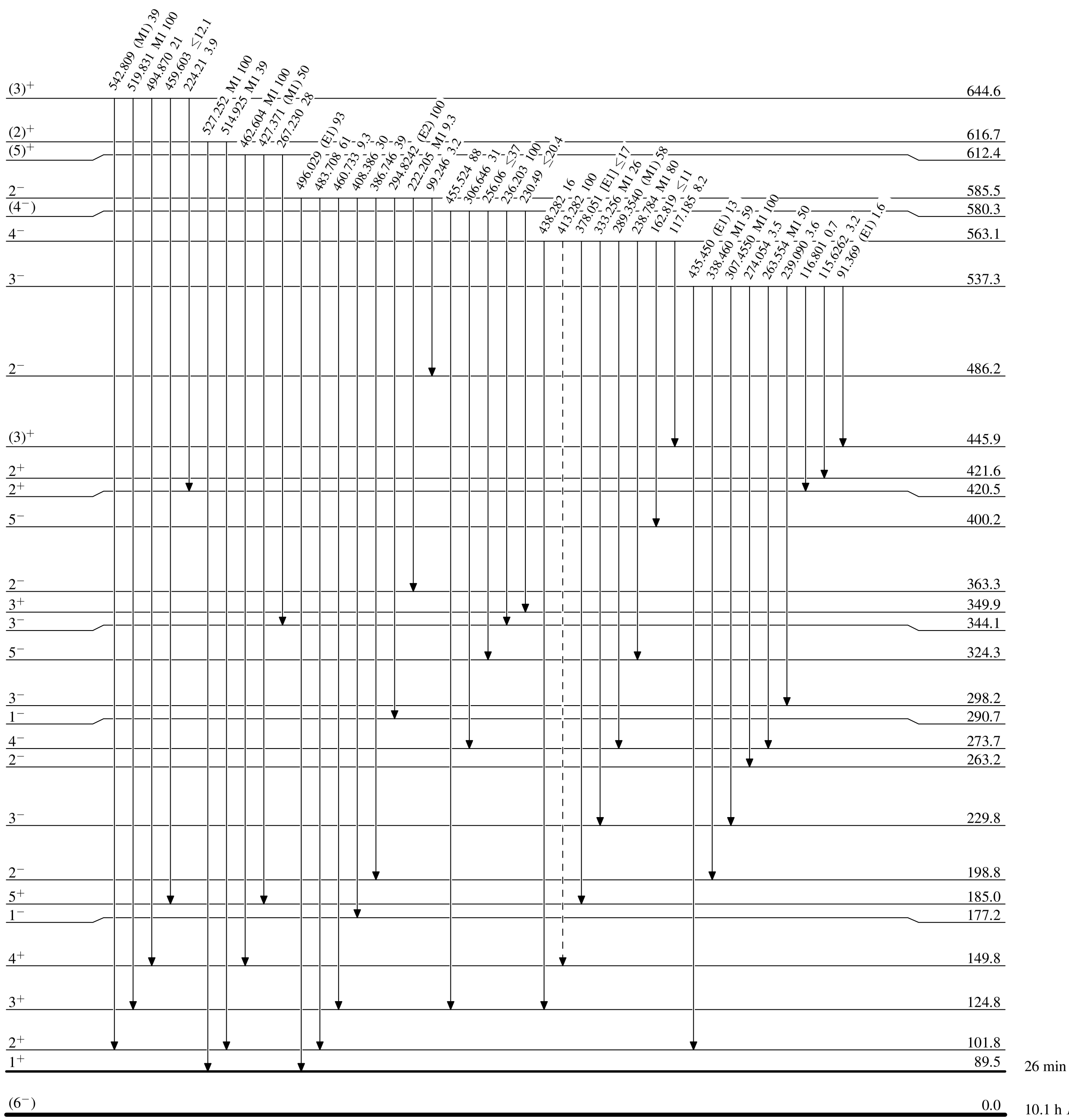
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

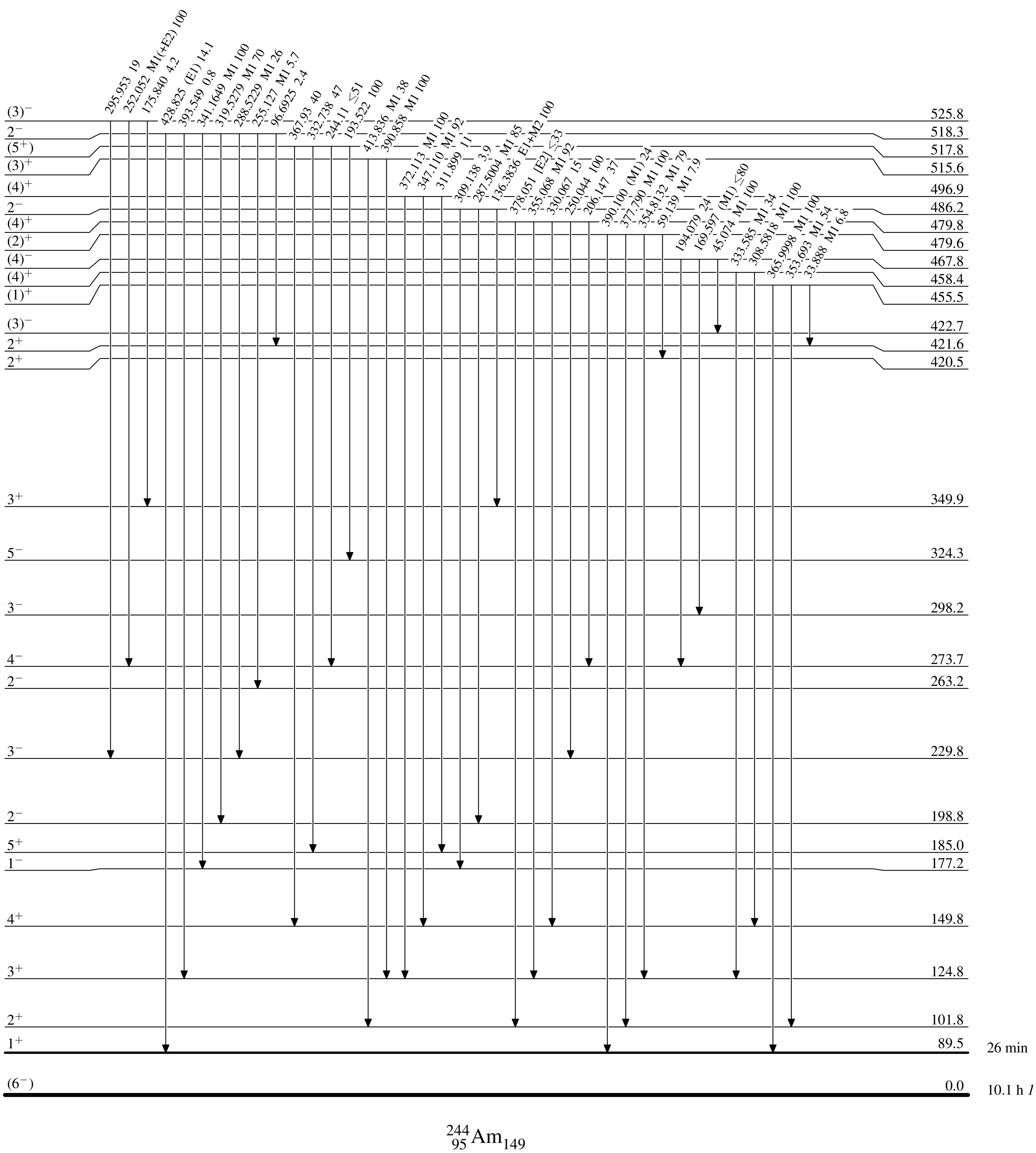


$^{244}_{95}Am_{149}$

Adopted Levels, Gammas

Level Scheme (continued)

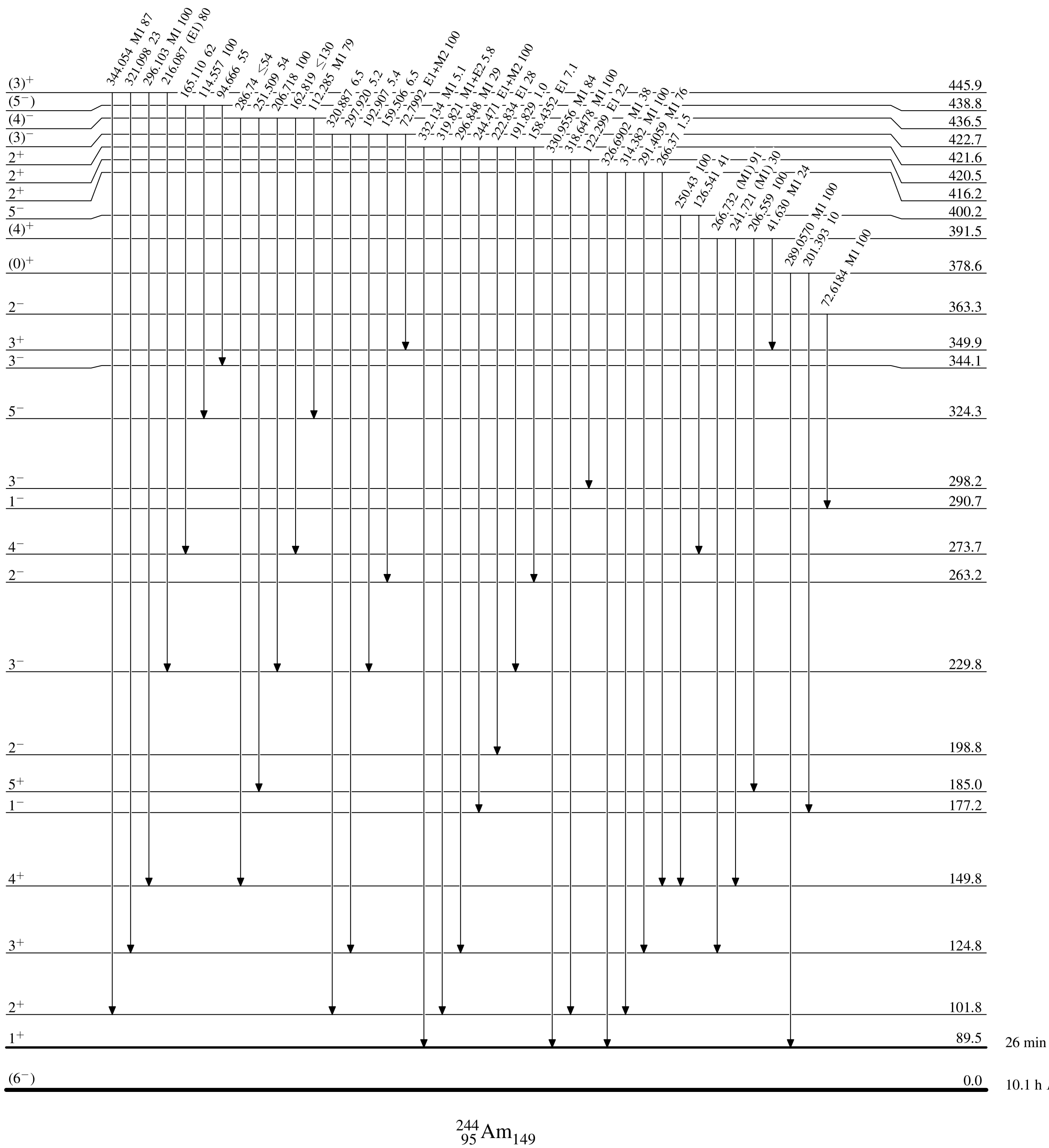
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

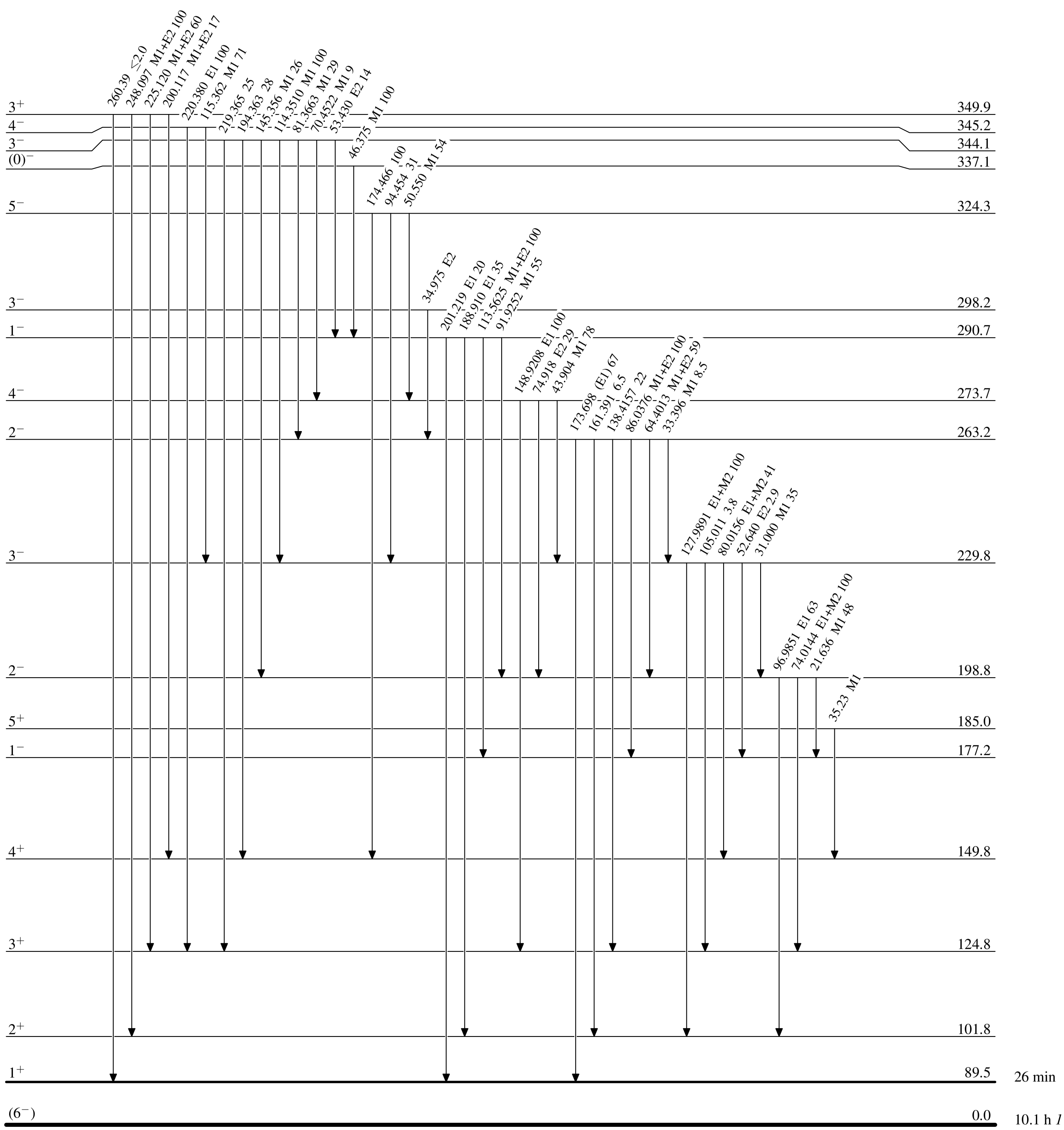
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

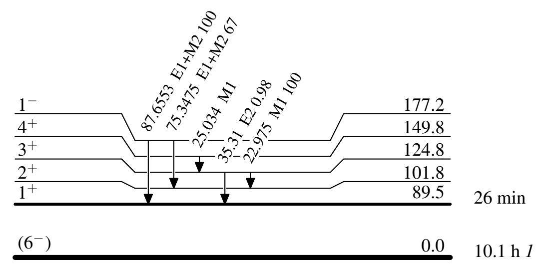


$^{244}_{95}Am_{149}$

Adopted Levels, Gammas

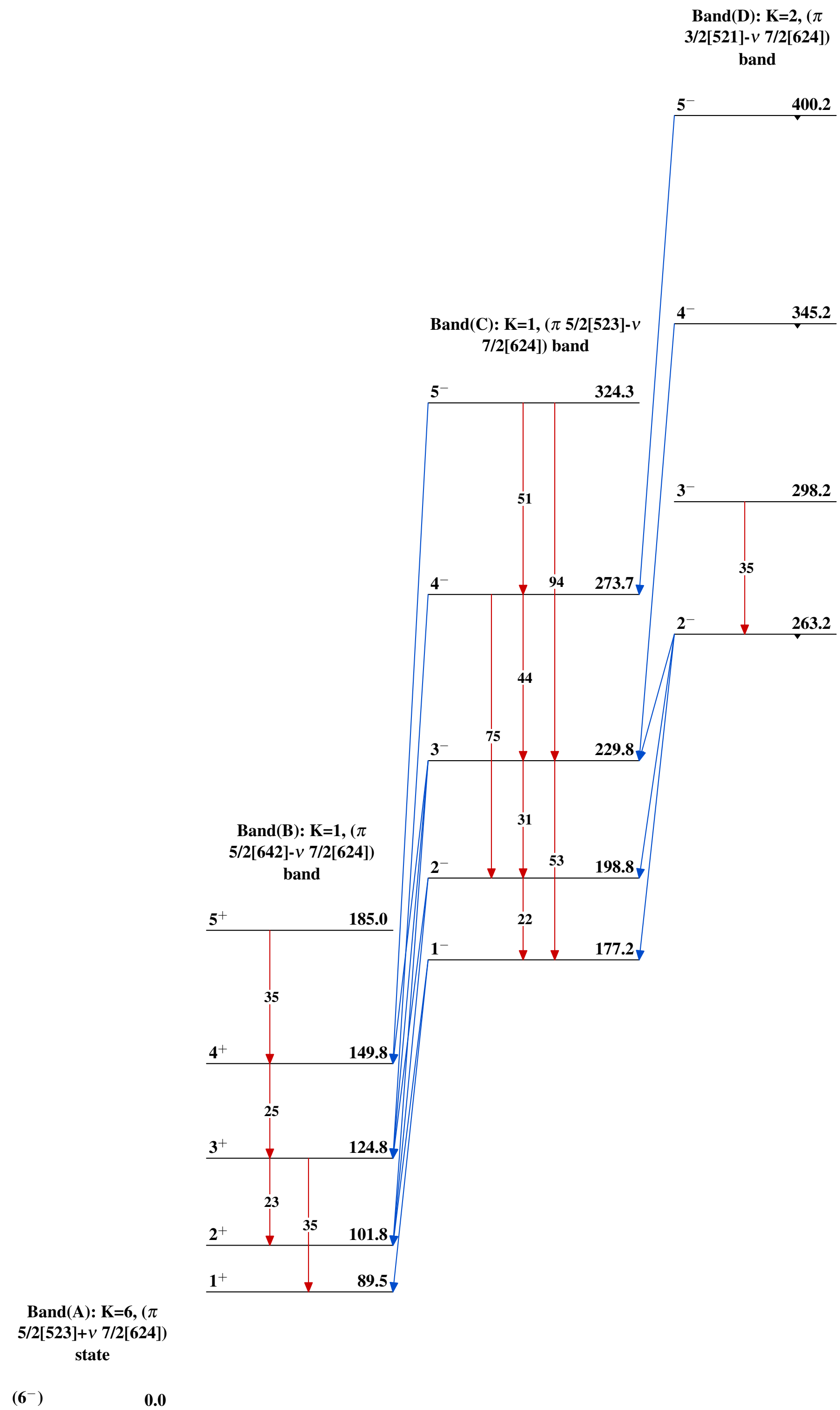
Level Scheme (continued)

Intensities: Relative photon branching from each level



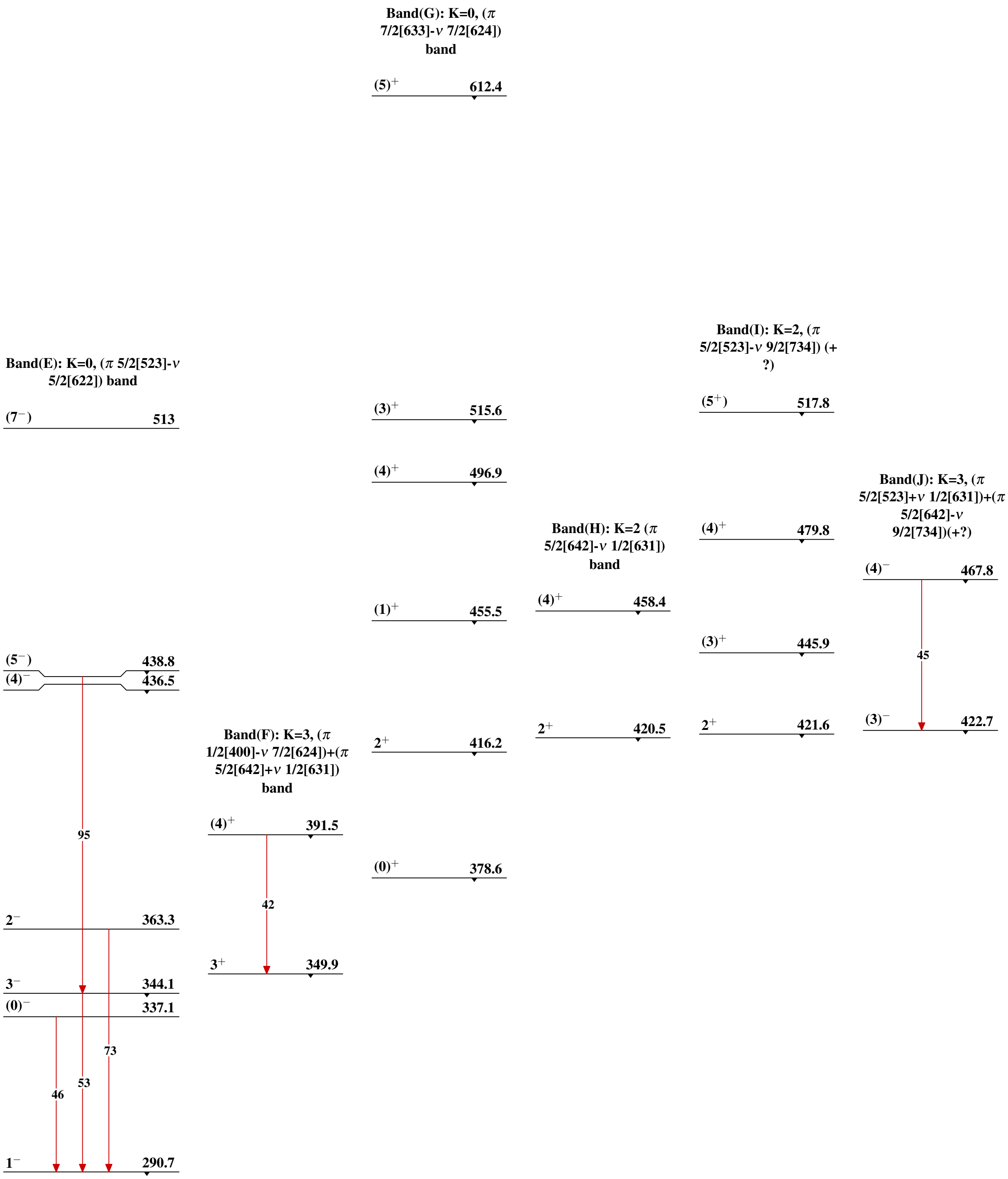
$^{244}_{95}Am_{149}$

Adopted Levels, Gammas



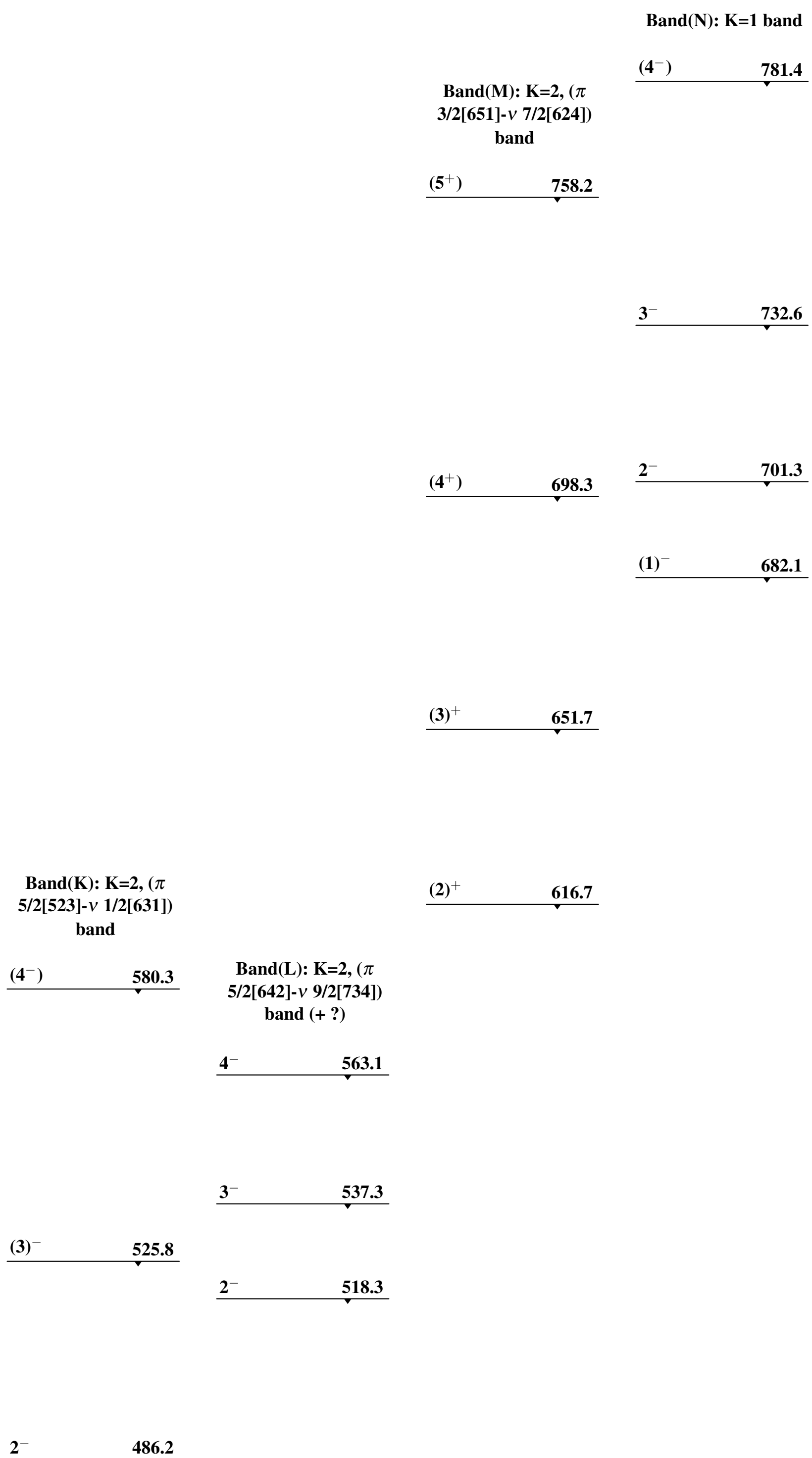
$^{244}_{95}Am_{149}$

Adopted Levels, Gammas (continued)



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

Adopted Levels, Gammas (continued)



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