^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108, 681 (2007)	1-Jun-2006

Parent: ^{234}Pa: E=0.0; J$^\pi$=4$^+$; $T_{1/2}$=6.70 h *5*; Q(β^-)=2195 *4*; %β^- decay=100.0

Additional information 1.

^{234}U Levels

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βγ(t):
   (Eβ>100)(131γ)(t)     T1/2(1552 level)=2.20 Ns 25  (1968Lo12)
γγ(t):
   (126γ)(Eγ>200)(t)     T1/2(1421 level)=33.5 μs 20  (1963Ha30)
   (≈ 700γ)(≈ 900γ)(t)   T1/2(989 level)=0.76 Ns 4     (1969Be14)
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E(level)[†]	J$^\pi$	$T_{1/2}$	E(level)[†]	J$^\pi$	$T_{1/2}$	E(level)[†]	J$^\pi$
0.0[‡]	0$^+$		1214.7[b] *5*	4$^+$		1737.4 *7*	3$^+$
43.5[‡] *17*	2$^+$		1237.2[c] *4*	1$^-$		1738.2 *6*	(3$^+$)
143.4[‡] *23*	4$^+$		1261.8[&] *4*	7$^+$		1761.9[g] *6*	(4$^-$)
296.0[‡] *3*	6$^+$		1274.3[b] *9*	(5$^+$)		1770.8 *9*	(3$^+$)[m]
497.0[‡] *4*	8$^+$		1277.5[a] *3*	7$^-$		1782.6[f] *3*	5$^+$
786.3[#] *21*	1$^-$		1312.2[c] *9*	3$^-$		1784.2 *13*	4$^+$
809.9[@] *8*	0$^+$		1341.3[b] *8*	(6$^+$)		1793.1 *6*	4$^+$
849.3[#] *25*	3$^-$		1421.3 *25*	6$^-$[h]	33.5 μs *20*	1811.6 *6*	4$^+$[m]
851.7[@] *5*	2$^+$		1447.5[c] *8*	5$^-$		1843.9 *17*	3,4,5$^-$
926.7[&] *22*	2$^+$		1456.8[d] *6*	(2$^-$)		1863.1 *15*	(5$^+$)[m]
947.6[@] *5*	4$^+$		1486.2[d] *12*	(3$^-$)		1881.7 *7*	4$^+$[l]
962.6[#] *3*	5$^-$		1496.1[e] *3*	3$^+$		1916.3 *9*	3,4$^+$
968.4[&] *3*	3$^+$		1502.4 *8*	3,4$^+$		1927.5 *7*	4$^+$
989.4[a] *21*	2$^-$	0.76 ns *4*	1533.3[d] *7*	(4$^-$)		1940.5 *9*	4$^+$
1023.8[a] *3*	3$^-$		1537.3[e] *3*	4$^+$		1958.8 *4*	3$^-$
1023.9[&] *4*	4$^+$		1543.7 *6*	4$^+$[i]		1968.8 *10*	4$^+$,5
1069.3[a] *24*	4$^-$		1548.1 *8*	(5)		1981.2 *7*	4$^+$
1085.0 *10*	2$^+$		1552.6 *3*	5$^+$[j]	2.20 ns *25*	2000.4 *13*	(4$^+$)
1090.9[&] *4*	5$^+$		1581.7[d] *10*	(5$^-$)		2019.8 *13*	4$^+$
1096.1[@] *9*	6$^+$		1588.8[e] *3*	5$^+$		2033.5 *5*	3$^+$,4$^+$
1125.3[#] *5*	7$^-$		1619.5 *9*	(6$^+$)[j]		2037.1 *17*	4$^+$,5
1126.6[b] *3*	2$^+$		1650.0[d] *12*	(6$^-$)		2066.2 *10*	
1127.5[a] *3*	5$^-$		1653.7 *7*	(3$^+$)		2068.8 *11*	3,4,5$^+$
1165.4[b] *4*	3$^+$		1693.4 *3*	5$^-$[k]		2101.4 *9*	5$^+$
1172.0[&] *3*	6$^+$		1722.9[g] *4*	3$^-$		2115.7 *11*	4$^+$
1194.8[a] *24*	6$^-$		1723.4[f] *25*	4$^+$		2144.0 *9*	3$^+$,4$^+$

[†] Deduced by evaluators from a least-squares fit to γ-ray energies.
[‡] Band(A): K$^\pi$=0$^+$ g.s. rotational band.
[#] Band(B): K$^\pi$=0$^-$ octupole-vibrational band.
[@] Band(C): K$^\pi$=0$^+$ β-vibrational band.

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^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06 (continued)

^{234}U Levels (continued)

[&] Band(D): $K^\pi=2^+$: $\nu\nu$ 5/2[633]−1/2[631] component In γ-vib band.
[a] Band(E): $K^\pi=2^-$: $\nu\nu$ 7/2[743]−3/2[631]; $\pi\pi$ 5/2[642]−1/2[530] component in octupole-vibrational band.
[b] Band(F): $K^\pi=2^+$: $\nu\nu$ 5/2[633]−1/2[631] component In K=2 collective band.
[c] Band(G): $K^\pi=0^-$ band.
[d] Band(H): $K^\pi=1^-$: $\nu\nu$ 7/2[743]−5/2[633] band.
[e] Band(I): $K^\pi=3^+$: $\nu\nu$ 5/2[633]+1/2[631] band.
[f] Band(J): $K^\pi=4^+$: $\nu\nu$ 5/2[633]+3/2[631]; $\pi\pi$ 3/2[651]+5/2[642] band.
[g] Band(K): $K^\pi=3^-$: $\pi\pi$ 5/2[642]+1/2[530] band.
[h] $K^\pi=6^-$: $\nu\nu$ 7/2[743]+5/2[633] state.
[i] $K^\pi=(4^+)$?
[j] $K^\pi=5^+$: $\nu\nu$ 5/2[622]+5/2[633] state.
[k] $K^\pi=5^-$: $\nu\nu$ 7/2[743]+3/2[631] state.
[l] $K^\pi=4^+$: $\nu\nu$ 7/2[743]+1/2[501] state.
[m] $K^\pi=3$ with $\pi\pi$ 1/2[530]+5/2[523] configuration was suggested by 1986Ar05.

β^- radiations

β^- measurements:

1956On07; s Eβ	Iβ	1959De30; s Eβ	Iβ	1968Bj06; s Eβ	Iβ	1968Bj06; βγ Eβ
155	28%	141 10	35.5%			
		274 10	21.4%	280 70	12%	
320 20	32%					
		363 10	10.3%			
		477 10	16.0%			
530 20	27%			550 100	63%	512 30
		576 10	13.2%			
				790 100	19%	680 20
		1042 20	3.6%			
1130 50	13%					
				1190 100	5%	
				1510 200	≤ 1%	

E(decay)	E(level)	Iβ$^-$ [†‡]	Log *ft*	Comments
(51 *4*)	2144.0	0.43 *5*	5.0	av Eβ=13.0 *11*
(79 *4*)	2115.7	0.22 *3*	5.9	av Eβ=20.4 *11*
(94 *4*)	2101.4	0.067 *11*	6.6	av Eβ=24.2 *11*
(126 *4*)	2068.8	0.42 *7*	6.2	av Eβ=33.1 *11*
(129 *4*)	2066.2	0.146 *25*	6.7	av Eβ=33.8 *11*
(158 *4*)	2037.1	0.057 *8*	7.4	av Eβ=41.9 *12*
(162 *4*)	2033.5	0.94 *10*	6.2	av Eβ=42.9 *12*
(175 *4*)	2019.8	0.117 *16*	7.2	av Eβ=46.7 *12*
(195 *4*)	2000.4	0.126 *17*	7.3	av Eβ=52.2 *12*
(214 *4*)	1981.2	0.61 *8*	6.7	av Eβ=57.8 *12*
(226 *4*)	1968.8	0.045 *12*	7.9	av Eβ=61.3 *12*
(236 *4*)	1958.8	0.46 *6*	7.0	av Eβ=64.3 *12*
(255 *4*)	1940.5	0.37 *5*	7.2	av Eβ=69.7 *12*
(268 *4*)	1927.5	0.23 *4*	7.5	av Eβ=73.5 *12*
(279 *4*)	1916.3	0.21 *3*	7.6	av Eβ=76.9 *12*
(313 *4*)	1881.7	0.26 *3*	7.6	av Eβ=87.3 *13*

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^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^- [†‡]	Log *ft*	Comments
(332 *4*)	1863.1	0.029 *7*	8.7	av Eβ=93.0 *13*
(351 *4*)	1843.9	0.17 *3*	8.0	av Eβ=98.9 *13*
(383 *4*)	1811.6	1.64 *16*	7.1	av Eβ=108.9 *13*
(402 *4*)	1793.1	0.42 *8*	7.8	av Eβ=114.8 *13*
(411 *4*)	1784.2	0.063 *12*	8.6	av Eβ=117.6 *13*
(412 *4*)	1782.6	8 *3*	6.5	av Eβ=118.1 *13*
(424 *4*)	1770.8	0.134 *18*	8.3	av Eβ=121.8 *13*
(433 *4*)	1761.9	3.0 *3*	7.0	av Eβ=124.7 *13*
(457 *4*)	1738.2	0.81 *11*	7.7	av Eβ=132.3 *14*
(458 *4*)	1737.4	1.20 *14*	7.5	av Eβ=132.5 *14*
(472 *5*)	1723.4	34 *4*	6.1	av Eβ=137.1 *13*
(472 *4*)	1722.9	12.9 *12*	6.5	av Eβ=137.2 *13*
(502 *4*)	1693.4	7.3 *8*	6.9	av Eβ=146.8 *14*
(541 *4*)	1653.7	0.99 *13*	7.8	av Eβ=160.1 *14*
(545 *4*)	1650.0	0.19 *4*	8.6[1u]	av Eβ=164.6 *13*
(576[#] *4*)	1619.5	0.036 *21*	9.3	av Eβ=171.4 *14*
(606 *4*)	1588.8	<0.8	>8.1	av Eβ=181.7 *14* Intensity balance at the 1588.85 level yields Iβ=−0.1% 8.
(613 *4*)	1581.7	0.05 *3*	9.3	av Eβ=184.1 *14*
(642 *4*)	1552.6	20.4 *18*	6.8	av Eβ=194.0 *14*
(651 *4*)	1543.7	0.10 *10*	9.1	av Eβ=197.1 *14*
(658[#] *4*)	1537.3	<1.0	>8.1	av Eβ=199.3 *14* Intensity balance at the 1537.2 level yields Iβ^-=−0.4% 8.
(662 *4*)	1533.3	0.26 *4*	8.7	av Eβ=200.6 *14*
(693 *4*)	1502.4	0.26 *4*	8.8	av Eβ=211.3 *14*
(699[#] *4*)	1496.1	<2.8	>7.7	av Eβ=213.5 *14*
(709 *4*)	1486.2	0.12 *3*	9.1	av Eβ=216.9 *14*
(748 *4*)	1447.5	0.11 *3*	9.3	av Eβ=230.4 *14*
(883 *4*)	1312.2	0.120 *19*	9.5	av Eβ=278.7 *15*
(980 *4*)	1214.7	0.18 *13*	9.4	av Eβ=314.2 *15*
(1000 *5*)	1194.8	<3.4	>8.7[1u]	av Eβ=312.6 *14*
(1068 *4*)	1127.5	3.0 *12*	8.4	av Eβ=346.5 *15*
(1104 *4*)	1090.9	1.18 *22*	8.8	av Eβ=360.1 *15*
(1110[#] *4*)	1085.0			Intensity balance at the 1085.3 level yields Iβ^-=0.12% 2; however, some disagreement exists between the γ-ray branchings obtained in ^{234}Pa(6.70-h) β^- decay and those measured in ^{238}Pu α decay, ^{234}Np ε decay and ^{234}Pa(1.159-min) β^- decay. No intensity has been adopted for this possible β branch. The log *ft* value corresponding to β intensity of 0.12% is 9.8, which is too low for a second-forbidden β transition, and it casts some doubt on the accuracy on this beta intensity.
(1126[#] *5*)	1069.3	<7.9	>8.0	av Eβ=368.3 *15*
(1171 *4*)	1023.9	4.8 *8*	8.3	av Eβ=385.4 *16*
(1171[#] *4*)	1023.8	<5.4		
(1206 *5*)	989.4	2.0 *19*	9.0[1u]	av Eβ=383.6 *14*
(1227[#] *4*)	968.4	<2.1	>8.7	av Eβ=406.4 *16*
(1232 *4*)	962.6	<0.4	>9.4	av Eβ=408.7 *16*
(1247[#] *4*)	947.6	<0.8	>9.2	av Eβ=414.4 *16*

† The β-branch intensities have been deduced by the evaluators from intensity balance at each level. Σ [β^-]=110% (instead of 100%). This result (which does not include Iγ limits) suggests that the γ-ray intensity balance for some levels may be incomplete.

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^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06 (continued)

β^- radiations (continued)

‡ Absolute intensity per 100 decays.
\# Existence of this branch is questionable.

$\gamma(^{234}U)$

Iγ normalization: Normalization factor of 1.08 *9* has been deduced by evaluators from Σ [Ti(g.s.) + Ti(43.5-keV level)]=100%, excluding the 43.5-keV transition.
$\beta\gamma$: 1962Bj01, 1967Wa26.
$\gamma\gamma$: 1986Ar05, 1968Bj06, 1962Bj01
Thirty γ transitions with total photon intensity of 3.2% 4 have not been placed on the decay scheme.
Ice′s measured by 1968Bj06 and 1967Wa26 are in fair agreement. Only the measurements of 1968Bj06 are given here. The intensities were normalized by 1968Bj06 to the integral of the β^- continuum, which is defined as 100%. The uncertainties on ce intensities are 20-30% on an absolute scale; the relative intensities of the stronger lines may be accurate to within 10%, and the weaker ones may be uncertain by as much as a factor of 2 (1968Bj06).

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ	α[d]	Comments
34.30 *4*	≈0.0033	1023.8	3⁻	989.4	2⁻	(E2)		2269	α: E2, theory. E_γ: measured by 1968Bj06 (s ce). If the transition were E2, the measured Ice′s and α(M2)(E2 theory)=223.8, α(M3)(E2 theory)=219.5 would yield Iγ≈0.0036%. Ice(M2)=Ice(M3)=0.8%; M2:M3:N2:N3=8:8:3:3 (1968Bj06).
(41.82 *11*)		851.7	2⁺	809.9	0⁺				E_γ: from level scheme. This intraband transition was not observed. It is expected from intensity balance at the 809.88- and 851.70-keV levels. I(γ+ce)=0.15 *7*% assuming no β feeding to the 0⁺, 809.88-keV level.
43.49 *2*	0.12 *3*	43.5	2⁺	0.0	0⁺	E2		713	α(L)=520 *8*; α(M)=143.7 *21*; α(N+..)=49.3 *7* α(N)=38.9 *6*; α(O)=8.92 *13*; α(P)=1.442 *21*; α(Q)=0.00339 *5* E_γ: 43.498 *1* from ^{238}Pu α decay. Mult.: Ice(L2)=33%; L1:L2:L3:M1:M2:M3:(N+O+P)=1.5:33:27:0.5:11:9:7.8. Additional information 2.
45.45 *5*	0.026 *8*	1069.3	4⁻	1023.8	3⁻	M1+E2	0.8 *4*	2.5×10² *14*	α(L)=1.9×10² *10*; α(M)=5.E1 3; α(N+..)=17 *10* α(N)=14 *8*; α(O)=3.1 *17*; α(P)=0.5 *3*; α(Q)=0.0063 *15* Ice(L3)=2%; L2:L3:M2:M3:N=≤2.5:2:0.8:≤1.0:0.6.
54.96[e] *10*	≤0.009	1023.8	3⁻	968.4	3⁺	[E1]		0.603	α(L)=0.453 *7*; α(M)=0.1123 *17*; α(N+..)=0.0376 *6* α(N)=0.0297 *5*; α(O)=0.00678 *10*; α(P)=0.001104 *17*; α(Q)=4.25×10⁻⁵ *7*
54.96[e] *10*	<0.009	1023.9	4⁺	968.4	3⁺	[M1+E2]		1.3×10² *11*	α(L)=9.E1 8; α(M)=26 *21*; α(N+..)=9 *8* α(N)=7 *6*; α(O)=1.6 *13*; α(P)=0.26 *21*; α(Q)=0.0031 *19* Iγ≈0.009 was measured, and placed by 1986Ar05 to deexcite the 3⁻ state at 1023.8 keV only.
[x]55.45 *5*	0.026 *8*								1986Ar05 placed this transition between the 5⁺ state at 1588 keV and the 3⁻ state at 1533 keV.
58.20 *6*	0.0083 *26*	1127.5	5⁻	1069.3	4⁻	(E2)		174	α(L)=126.9 *19*; α(M)=35.1 *6*; α(N+..)=12.06 *18* α(N)=9.52 *15*; α(O)=2.18 *4*; α(P)=0.354 *6*; α(Q)=0.000954 *14* E_γ: From 1968Bj06 (s ce).

γ(^{234}U) (continued)

Eγ[†]	Iγ[‡#c]	Ei(level)	J^π_i	Ef	J^π_f	Mult.[@]	δ	α[d]	Comments
									Iγ=0.0083 *26* from α(L2)(E2 theory)=69.8 and measured Ice(L2). Iγ<0.009 was reported by 1986Ar05. Ice(L2)=0.6%; Ice(L3)=0.4% (corrected for the contribution from M3(45.19γ); Ice(L3 58γ)+Ice(M3 45γ)=1.0 was measured).
59.19 *5*	0.031 *10*	1782.6	5$^+$	1723.4	4$^+$	[M1+E2]		9.×10^1 *7*	α(L)=7.E1 5; α(M)=18 *15*; α(N+..)=6 *5* α(N)=5 *4*; α(O)=1.1 *9*; α(P)=0.19 *14*; α(Q)=0.0024 *16*
62.70 *1*	1.5 *4*	989.4	2$^-$	926.7	2$^+$	E1		0.426	α(L)=0.320 *5*; α(M)=0.0791 *11*; α(N+..)=0.0266 *4* α(N)=0.0209 *3*; α(O)=0.00481 *7*; α(P)=0.000795 *12*; α(Q)=3.22×10^{-5} *5* Ice(L1)=0.2%.
67.25 *10*	0.035 *10*	1194.8	6$^-$	1127.5	5$^-$	M1+E2	1.2 *3*	57 *11*	α(L)=42 *8*; α(M)=11.5 *22*; α(N+..)=3.9 *8* α(N)=3.1 *6*; α(O)=0.72 *14*; α(P)=0.119 *21*; α(Q)=0.0014 *4* Ice(L2)=1.2%; L1:L2:L3:M2:M3=0.3:1.2:1:0.3:0.3.
69.46 *5*	0.017 *7*	1194.8	6$^-$	1125.3	7$^-$	[E2,M1]		4.×10^1 *3*	α(L)=32 *23*; α(M)=9 *7*; α(N+..)=3.0 *22* α(N)=2.4 *18*; α(O)=0.5 *4*; α(P)=0.09 *6*; α(Q)=0.0015 *10*
(75.0 *3*)		1312.2	3$^-$	1237.2	1$^-$				Eγ: from level scheme. This in-band transition was not observed; it is added in the level scheme with I(γ+ce)=0.036% 7 for an intensity balance at the 1237-keV level.
79.84 *2*	0.06 *2*	1069.3	4$^-$	989.4	2$^-$	E2		38.4	α(L)=28.0 *4*; α(M)=7.76 *11*; α(N+..)=2.67 *4* α(N)=2.11 *3*; α(O)=0.483 *7*; α(P)=0.0788 *11*; α(Q)=0.000258 *4* Ice(L2)=2%; L2:L3:M2:M3=2:1.5:0.6:0.5.
97.17 *10*	0.23 *8*	1023.8	3$^-$	926.7	2$^+$	[E1]		0.1343	α(L)=0.1012 *15*; α(M)=0.0248 *4*; α(N+..)=0.00839 *12* α(N)=0.00658 *10*; α(O)=0.001534 *22*; α(P)=0.000265 *4*; α(Q)=1.254×10^{-5} *18*
99.86 *2*	3.1 *5*	143.4	4$^+$	43.5	2$^+$	E2		13.42	α(L)=9.77 *14*; α(M)=2.71 *4*; α(N+..)=0.933 *13* α(N)=0.736 *11*; α(O)=0.1691 *24*; α(P)=0.0277 *4*; α(Q)=0.0001099 *16* Ice(L2)=28%; L1:L2:L3:M1:M2:M3:(N+O+p)=≤2:28:18.5:0.4:6:4:4.1.
100.89 *2*	0.12 *2*	1069.3	4$^-$	968.4	3$^+$	[E1]		0.1218	α(L)=0.0917 *13*; α(M)=0.0224 *4*; α(N+..)=0.00761 *11* α(N)=0.00596 *9*; α(O)=0.001391 *20*; α(P)=0.000241 *4*; α(Q)=1.155×10^{-5} *17*
103.77 *2*	0.23 *3*	1127.5	5$^-$	1023.8	3$^-$	(E2)		11.22	α(L)=8.17 *12*; α(M)=2.27 *4*; α(N+..)=0.780 *11* α(N)=0.615 *9*; α(O)=0.1414 *20*; α(P)=0.0232 *4*; α(Q)=9.56×10^{-5} *14* Ice(L3)=0.4%.
106.68 *5*	0.035 *10*	1069.3	4$^-$	962.6	5$^-$	[M1]		3.83	α(L)=2.89 *4*; α(M)=0.699 *10*; α(N+..)=0.244 *4* α(N)=0.189 *3*; α(O)=0.0459 *7*; α(P)=0.00884 *13*; α(Q)=0.000708 *10*
125.46 *1*	0.76 *9*	1194.8	6$^-$	1069.3	4$^-$	E2		4.89	α(K)=0.216 *3*; α(L)=3.41 *5*; α(M)=0.945 *14*; α(N+..)=0.325 *5* α(N)=0.257 *4*; α(O)=0.0590 *9*; α(P)=0.00971 *14*; α(Q)=4.98×10^{-5} *7* Ice(L3)=2.0%; L1:L2:L3:M2:M3=2:33:20:4:3.
131.30 *1*	17.5	1552.6	5$^+$	1421.3	6$^-$	E1		0.265	α(K)=0.204 *3*; α(L)=0.0463 *7*; α(M)=0.01128 *16*; α(N+..)=0.00384 *6* α(N)=0.00300 *5*; α(O)=0.000706 *10*; α(P)=0.0001246 *18*; α(Q)=6.48×10^{-6} *9* Ice(L1)=0.8%; L1:L2:L3:M2:M3=8:4:3:2:2. Additional information 15.
134.61 *2*	0.11 *2*	1723.4	4$^+$	1588.8	5$^+$	M1		9.50	α(K)=7.54 *11*; α(L)=1.480 *21*; α(M)=0.358 *5*; α(N+..)=0.1249 *18* α(N)=0.0965 *14*; α(O)=0.0235 *4*; α(P)=0.00453 *7*; α(Q)=0.000362 *5* Ice(L1)=0.3%; L1:L2:L3=10:<7:<4.

^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06 (continued)

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ	α[d]	Comments
137.23 *5*	0.026 *8*	1126.6	2^+	989.4	2^-	[E1]		0.239	α(K)=0.184 *3*; α(L)=0.0413 *6*; α(M)=0.01006 *15*; α(N+..)=0.00343 *5* α(N)=0.00268 *4*; α(O)=0.000630 *9*; α(P)=0.0001116 *16*; α(Q)=5.88×10^{-6} *9*
140.15 *2*	0.49 *5*	989.4	2^-	849.3	3^-	M1+E2	1.2 *6*	5.3 *18*	α(K)=2.9 *22*; α(L)=1.76 *25*; α(M)=0.47 *9*; α(N+..)=0.16 *3* α(N)=0.127 *23*; α(O)=0.030 *5*; α(P)=0.0051 *6*; α(Q)=0.00015 *10* Ice(L1)=0.4%; L1:L2:L3=4:6:≤4. Contributions from conversion electrons of 140.91γ [E1] are expected to be negligible: Ice(L1)=0.006, Ice(L2)=Ice(L3)=0.003.
140.91 *3*	0.30 *3*	1693.4	5^-	1552.6	5^+	[E1]		0.224	α(K)=0.1732 *25*; α(L)=0.0386 *6*; α(M)=0.00940 *14*; α(N+..)=0.00320 *5* α(N)=0.00250 *4*; α(O)=0.000589 *9*; α(P)=0.0001045 *15*; α(Q)=5.55×10^{-6} *8*
143.78 *2*	0.31 *3*	1421.3	6^-	1277.5	7^-	(M1+E2)	≈1.0	≈5.31	α(K)≈3.24; α(L)≈1.532; α(M)≈0.403; α(N+..)≈0.1394 α(N)≈0.1091; α(O)≈0.0256; α(P)≈0.00450; α(Q)≈0.0001658 Ice(L3 140.15γ)+Ice(L1 143.78γ)=0.4%; Ice(L3 140.15γ)=0.22 *18* from α(L3)(140.15γ; δ=1.2 *6*)=0.45 *+11−25*, and therefore, Ice(L1 143.78γ)≈0.2.
149.88 *3*	0.07 *2*	1277.5	7^-	1127.5	5^-	[E2]		2.31	α(K)=0.220 *3*; α(L)=1.526 *22*; α(M)=0.422 *6*; α(N+..)=0.1455 *21* α(N)=0.1147 *16*; α(O)=0.0264 *4*; α(P)=0.00437 *7*; α(Q)=2.84×10^{-5} *4*
152.71 *2*	5.8 *4*	296.0	6^+	143.4	4^+	E2		2.14	α(K)=0.217 *3*; α(L)=1.404 *20*; α(M)=0.388 *6*; α(N+..)=0.1338 *19* α(N)=0.1055 *15*; α(O)=0.0243 *4*; α(P)=0.00402 *6*; α(Q)=2.69×10^{-5} *4* Ice(L2)=6.0%; K:L1:L2:L3:M2:M3:(N+O)=8:6:60:30:15:10:11. Iγ(152.7γ)=0.0083 *3* per 100 ^{234}Th decay (1990Sc09).
159.48 *2*	0.63 *7*	1421.3	6^-	1261.8	7^+	[E1]		0.1676	α(K)=0.1303 *19*; α(L)=0.0282 *4*; α(M)=0.00684 *10*; α(N+..)=0.00234 *4* α(N)=0.00182 *3*; α(O)=0.000431 *6*; α(P)=7.70×10^{-5} *11*; α(Q)=4.23×10^{-6} *6* Because of the coincidence observed with a 946-keV γ-ray gate, 1986Ar05 placed this transition also between the 4^+ level at 1882 keV and the 3^- level at 1722 keV. Considering the main configurations of the 1882- and 1722- keV levels, a γ-ray transition between them should be forbidden. Although probable configuration mixings in either or both levels would permit the transition, its intensity (being proportional to the square of mixing amplitude) would be quite weak. An alternative explanation for the observed 159γ-946γ coincidence may be a possible 67.2γ connecting the 1261-keV and 1194-keV levels.
164.94 *5*	0.05 *2*	1127.5	5^-	962.6	5^-	[E2,M1]		3.5 *19*	α(K)=2.2 *21*; α(L)=0.91 *9*; α(M)=0.24 *4*; α(N+..)=0.082 *13* α(N)=0.064 *11*; α(O)=0.0152 *21*; α(P)=0.00270 *17*; α(Q)=0.00011 *9*
165.61 *5*	0.07 *2*	1927.5	4^+	1761.9	(4^-)	[E1]		0.1533	α(K)=0.1194 *17*; α(L)=0.0256 *4*; α(M)=0.00622 *9*; α(N+..)=0.00212 *3* α(N)=0.001658 *24*; α(O)=0.000392 *6*; α(P)=7.02×10^{-5} *10*; α(Q)=3.90×10^{-6} *6* Placed by 1986Ar05 between 4^+ state at 1927.6 keV and 4^- state (K=3) at 1761.7 keV. No γ ray decaying to the 3^- bandhead of this K=3 band was observed.
170.85 *2*	0.49 *5*	1723.4	4^+	1552.6	5^+	M1		4.83	α(K)=3.84 *6*; α(L)=0.749 *11*; α(M)=0.181 *3*; α(N+..)=0.0632 *9* α(N)=0.0488 *7*; α(O)=0.01188 *17*; α(P)=0.00229 *4*; α(Q)=0.000183 *3* Ice(K)=2%, Ice(L1)=0.4%.
174.55 *3*	0.16 *2*	1023.8	3^-	849.3	3^-	[M1+E2]		2.9 *17*	α(K)=1.9 *18*; α(L)=0.74 *4*; α(M)=0.193 *23*; α(N+..)=0.067 *8* α(N)=0.052 *7*; α(O)=0.0123 *12*; α(P)=0.00220 *6*; α(Q)=0.00010 *8*

$^{234}_{92}U_{142}$-7

$\gamma(^{234}$U) (continued)

E_γ [†]	I_γ [‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ	α [d]	Comments
179.80 *8*	0.043 *15*	1723.4	4^+	1543.7	4^+	[M1]		4.19	α(K)=3.33 *5*; α(L)=0.648 *10*; α(M)=0.1567 *22*; α(N+..)=0.0546 *8* α(N)=0.0422 *6*; α(O)=0.01027 *15*; α(P)=0.00198 *3*; α(Q)=0.0001581 *23*
186.15 *2*	1.71 *10*	1723.4	4^+	1537.3	4^+	M1		3.79	α(K)=3.02 *5*; α(L)=0.587 *9*; α(M)=0.1420 *20*; α(N+..)=0.0495 *7* α(N)=0.0383 *6*; α(O)=0.00931 *13*; α(P)=0.00180 *3*; α(Q)=0.0001433 *20* Ice(K)=7.5%; K:L1:L2:M1:N1=75:12:3:3:1.
193.73 *3*	0.48 *6*	1782.6	5^+	1588.8	5^+	(M1+E2)		2.1 *13*	α(K)=1.4 *13*; α(L)=0.510 *16*; α(M)=0.132 *6*; α(N+..)=0.0457 *16* α(N)=0.0356 *16*; α(O)=0.00844 *18*; α(P)=0.00152 *9*; α(Q)=7.E−5 *6* Ice(L1)=0.3%.
196.80 *5*	0.07[a] *2*	1165.4	3^+	968.4	3^+	E0+E2+M1			ce(K)/(γ+ce)=0.45 *23*; ce(L)/(γ+ce)=0.16 *7*; ce(M)/(γ+ce)=0.041 *17*; ce(N+)/(γ+ce)=0.014 *6* ce(N)/(γ+ce)=0.011 *5*; ce(O)/(γ+ce)=0.0026 *11*; ce(P)/(γ+ce)=0.00048 *20*; ce(Q)/(γ+ce)=2.2×10^{-5} *21* Ice(K)=1%; K:L1:M1=10:3:1,Ti≈1.5%.
199.95 *5*	0.07 *2*	1126.6	2^+	926.7	2^+	(E0+E2+M1)			ce(K)/(γ+ce)=0.45 *22*; ce(L)/(γ+ce)=0.16 *7*; ce(M)/(γ+ce)=0.040 *17*; ce(N+)/(γ+ce)=0.014 *6* ce(N)/(γ+ce)=0.011 *5*; ce(O)/(γ+ce)=0.0026 *11*; ce(P)/(γ+ce)=0.00046 *19*; ce(Q)/(γ+ce)=2.2×10^{-5} *20* Ice(K)=2%; K:L2:M1=2:<0.1:0.3, I(γ+ce)≈3%. The ratio of Iγ(199γ)/Iγ(1083γ)=0.64 *20* obtained in ^{234}Pa(1.159-min) β^- decay does not agree with the ratio of 0.14 *5* deduced here.
200.97 *3*	0.87 *9*	497.0	8^+	296.0	6^+	E2		0.734	α(K)=0.1534 *22*; α(L)=0.424 *6*; α(M)=0.1166 *17*; α(N+..)=0.0402 *6* α(N)=0.0317 *5*; α(O)=0.00731 *11*; α(P)=0.001223 *18*; α(Q)=1.237×10^{-5} *18* Ice(K)=0.2%; K:L1:L2:L3:M2:M3=2:<3:3:2:1.5:1.5.
203.12 *3*	1.19 *10*	989.4	2^-	786.3	1^-	M1+E2	1.5 *4*	1.4 *4*	α(K)=0.8 *4*; α(L)=0.422 *10*; α(M)=0.1113 *16*; α(N+..)=0.0385 *6* α(N)=0.0301 *5*; α(O)=0.00708 *11*; α(P)=0.00124 *4*; α(Q)=4.3×10^{-5} *15* Ice(K)=1%; K:L1:L2:L3:M1=10:3:2:1:1.
220.00 *8*	0.14 *2*	1069.3	4^-	849.3	3^-	(M1)		2.37	α(K)=1.89 *3*; α(L)=0.366 *6*; α(M)=0.0886 *13*; α(N+..)=0.0309 *5* α(N)=0.0239 *4*; α(O)=0.00581 *9*; α(P)=0.001120 *16*; α(Q)=8.93×10^{-5} *13* Ice(L1)=0.1%.
221.15 *10*	0.05 *2*	1958.8	3^-	1738.2	(3^+)	[E1]		0.0780	α(K)=0.0615 *9*; α(L)=0.01248 *18*; α(M)=0.00302 *5*; α(N+..)=0.001035 *15* α(N)=0.000807 *12*; α(O)=0.000192 *3*; α(P)=3.48×10^{-5} *5*; α(Q)=2.08×10^{-6} *3*
221.83 *10*	0.07 *2*	1496.1	3^+	1274.3	(5^+)	[E2]		0.513	α(K)=0.1301 *19*; α(L)=0.280 *4*; α(M)=0.0767 *11*; α(N+..)=0.0265 *4* α(N)=0.0208 *3*; α(O)=0.00481 *7*; α(P)=0.000809 *12*; α(Q)=9.55×10^{-6} *14*
226.50 *3*	4.1 *3*	1421.3	6^-	1194.8	6^-	M1+E2	1.0 *+3−1*	1.33 *22*	α(K)=0.93 *21*; α(L)=0.297 *12*; α(M)=0.0759 *18*; α(N+..)=0.0263 *7*

From ENSDF

$^{234}_{92}$U$_{142}$-8

$\gamma(^{234}U)$ (continued)

E_γ [†]	I_γ [‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	δ	α [d]	Comments
									α(N)=0.0205 *5*; α(O)=0.00488 *14*; α(P)=0.00089 *4*; α(Q)=4.6×10^{-5} *10* Ice(K)=5%; K:L1:L3:M1:N1=50:12:2:4:1. Additional information 7.
227.25 *3*	5.6 *3*	1723.4	4$^+$	1496.1	3$^+$	M1		2.17	α(K)=1.724 *25*; α(L)=0.335 *5*; α(M)=0.0809 *12*; α(N+..)=0.0282 *4* α(N)=0.0218 *3*; α(O)=0.00530 *8*; α(P)=0.001022 *15*; α(Q)=8.15×10^{-5} *12* Ice(K)=10%; K:L1:L2:L3:M1:N1=100:25:2:1:8:2.
232.21 *3*	0.17 *2*	1194.8	6$^-$	962.6	5$^-$	[E2,M1]		1.2 *8*	α(K)=0.9 *8*; α(L)=0.27 *5*; α(M)=0.070 *7*; α(N+..)=0.0242 *24* α(N)=0.0188 *17*; α(O)=0.0045 *5*; α(P)=0.00082 *15*; α(Q)=4.E−5 *4*
(233.6[b] *2*)		1085.0	2$^+$	851.7	2$^+$				Total ce intensity is Ice≈0.018 from Ice(233.6γ)/Iγ(942γ)≈0.4, which disagrees with Ice≈0.1 from Ice(233.6γ)/Iγ(1085γ)≈5 from ^{234}Np ε decay.
235.11 *3*	0.11 *2*	1958.8	3$^-$	1723.4	4$^+$	[E1]		0.0678	α(K)=0.0536 *8*; α(L)=0.01075 *15*; α(M)=0.00260 *4*; α(N+..)=0.000892 *13* α(N)=0.000695 *10*; α(O)=0.0001652 *24*; α(P)=3.01×10^{-5} *5*; α(Q)=1.83×10^{-6} *3*
(235.9[b] *3*)		1085.0	2$^+$	849.3	3$^-$				α(K)=0.0537; α(L)=0.0108; α(M)=0.00259; α(N+..)=0.00092 Iγ=0.0015 *6* from adopted γ branching for 235.9γ and Iγ(942γ); Iγ=0.0044 *25* if Iγ(1085) is used.
240.20 *10*	0.05 *2*	1793.1	4$^+$	1552.6	5$^+$	[M1,E2]		1.1 *8*	α(K)=0.8 *7*; α(L)=0.24 *5*; α(M)=0.062 *8*; α(N+..)=0.022 *3* α(N)=0.0168 *19*; α(O)=0.0040 *6*; α(P)=0.00073 *15*; α(Q)=4.E−5 *3*
245.37 *2*	0.73 *8*	1782.6	5$^+$	1537.3	4$^+$	M1		1.749	α(K)=1.392 *20*; α(L)=0.270 *4*; α(M)=0.0652 *10*; α(N+..)=0.0227 *4* α(N)=0.01757 *25*; α(O)=0.00427 *6*; α(P)=0.000824 *12*; α(Q)=6.57×10^{-5} *10* Ice(K)=1.5%, K/L=5.
(247.79[b] *7*)	3.6×10^{-4} *3*	1237.2	1$^-$	989.4	2$^-$				
249.22 *1*	2.4 *3*	1421.3	6$^-$	1172.0	6$^+$	E1		0.0594	α(K)=0.0470 *7*; α(L)=0.00935 *13*; α(M)=0.00226 *4*; α(N+..)=0.000775 *11* α(N)=0.000604 *9*; α(O)=0.0001437 *21*; α(P)=2.63×10^{-5} *4*; α(Q)=1.616×10^{-6} *23* Ice(K)=0.1%. Additional information 8.
257.2 *1*	0.05 *2*	1981.2	4$^+$	1723.4	4$^+$	[M1,E2]		0.9 *7*	α(K)=0.7 *6*; α(L)=0.19 *5*; α(M)=0.049 *8*; α(N+..)=0.017 *3* α(N)=0.0133 *21*; α(O)=0.0032 *6*; α(P)=0.00058 *14*; α(Q)=3.E−5 *3*
267.12 *5*	0.17 *2*	1214.7	4$^+$	947.6	4$^+$	[E2,M1]		0.8 *6*	α(K)=0.6 *5*; α(L)=0.17 *5*; α(M)=0.044 *8*; α(N+..)=0.015 *3* α(N)=0.0118 *21*; α(O)=0.0028 *6*; α(P)=0.00052 *14*; α(Q)=2.9×10^{-5} *23*
272.28 *5*	1.05 *10*	1693.4	5$^-$	1421.3	6$^-$	M1+E2	<1.0	1.0 *3*	α(K)=0.80 *24*; α(L)=0.182 *21*; α(M)=0.045 *4*; α(N+..)=0.0156 *15* α(N)=0.0121 *11*; α(O)=0.0029 *3*; α(P)=0.00055 *7*; α(Q)=3.8×10^{-5} *11* Ice(K)=0.9%; K:L1:M1=9:3:0.8. Additional information 17.
275.04[e] *10*	0.09 *2*	1126.6	2$^+$	851.7	2$^+$	[M1,E2]		0.8 *6*	α(K)=0.6 *5*; α(L)=0.16 *4*; α(M)=0.040 *8*; α(N+..)=0.014 *3* α(N)=0.0107 *21*; α(O)=0.0026 *6*; α(P)=0.00047 *13*; α(Q)=2.7×10^{-5} *21* Iγ(275γ)/Iγ(1083γ)=0.35 *10* and Iγ(275γ)/Iγ(1126γ)=0.58 *19*, from ^{234}Pa (1.159-min) β^- decay, yield Iγ(275γ)=0.17 *5* for the 275γ deexciting the 1126-keV level, which compares with Iγ(275γ)≈0.3, measured by 1968Bj06 in a coincidence experiment. The 275.04γ was

$^{234}_{92}U_{142}$-9

$\gamma(^{234}U)$ (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ	α[d]	Comments
									placed by 1986Ar05 to deexcite only the level at 1447 keV. Its measured intensity of Iγ(275γ)=0.09 *2* suggests that this 275γ deexciting the 1447-keV level is probably weaker.
275.04[e] *10*		1447.5	5^-	1172.0	6^+				
278.3 *1*	0.04 *1*	1127.5	5^-	849.3	3^-	[E2]		0.238	α(K)=0.0863 *13*; α(L)=0.1112 *16*; α(M)=0.0303 *5*; α(N+..)=0.01044 *15* α(N)=0.00821 *12*; α(O)=0.00190 *3*; α(P)=0.000324 *5*; α(Q)=5.44×10^{-6} *8*
293.79 *5*	2.9 *2*	1421.3	6^-	1127.5	5^-	M1+E2	1.7 *+6−3*	0.42 *9*	α(K)=0.28 *8*; α(L)=0.109 *8*; α(M)=0.0283 *16*; α(N+..)=0.0098 *6* α(N)=0.0076 *4*; α(O)=0.00181 *11*; α(P)=0.000323 *24*; α(Q)=1.4×10^{-5} *4* Ice(K)=1.8%; K:L1:L2:L3:M1:N1=18:3:3:1:2:0.8. Additional information 9.
295.91 *8*	0.14 *2*	1421.3	6^-	1125.3	7^-	[M1+E2]		0.6 *5*	α(K)=0.5 *4*; α(L)=0.12 *4*; α(M)=0.031 *8*; α(N+..)=0.011 *3* α(N)=0.0084 *20*; α(O)=0.0020 *6*; α(P)=0.00037 *12*; α(Q)=2.2×10^{-5} *18*
298.7 *2*	0.013 *5*	1085.0	2^+	786.3	1^-	[E1]		0.0396	α(K)=0.0315 *5*; α(L)=0.00610 *9*; α(M)=0.001470 *21*; α(N+..)=0.000506 *8* α(N)=0.000393 *6*; α(O)=9.39×10^{-5} *14*; α(P)=1.730×10^{-5} *25*; α(Q)=1.107×10^{-6} *16* Iγ(299γ)/Iγ(942γ)=0.085 *10* was measured in ^{234}Np ε decay, 0.10 *3* in ^{238}Pu α decay, 0.26 *6* in 1.17- min ^{234}Pa β^- decay; this ratio is 0.30 *13* here.
308.6 *2*	0.020 *5*	1927.5	4^+	1619.5	(6^+)	[E2]		0.1726	α(K)=0.0711 *10*; α(L)=0.0744 *11*; α(M)=0.0201 *3*; α(N+..)=0.00695 *10* α(N)=0.00546 *8*; α(O)=0.001270 *18*; α(P)=0.000217 *3*; α(Q)=4.26×10^{-6} *6* Placed by 1986Ar05 between 4^+ state at 1927.6 keV and 6^+ state at 1619.5 keV (K=5); no γ ray decaying to the 5^+ bandhead of this K=5 band was observed.
310.2 *1*	0.07 *1*	2033.5	$3^+,4^+$	1723.4	4^+	[M1,E2]		0.5 *4*	α(K)=0.4 *4*; α(L)=0.11 *4*; α(M)=0.027 *7*; α(N+..)=0.009 *3* α(N)=0.0072 *19*; α(O)=0.0017 *5*; α(P)=0.00032 *11*; α(Q)=1.9×10^{-5} *15*
(310.52[b] *10*)	1.30×10^{-4} *14*	1237.2	1^-	926.7	2^+				
313.5 *1*	0.10 *1*	1165.4	3^+	851.7	2^+	[E2,M1]		0.5 *4*	α(K)=0.4 *4*; α(L)=0.10 *4*; α(M)=0.026 *7*; α(N+..)=0.0090 *25* α(N)=0.0070 *19*; α(O)=0.0017 *5*; α(P)=0.00031 *11*; α(Q)=1.9×10^{-5} *15*
316.7 *1*	0.10 *1*	1126.6	2^+	809.9	0^+	[E2]		0.1597	α(K)=0.0677 *10*; α(L)=0.0674 *10*; α(M)=0.0182 *3*; α(N+..)=0.00629 *9* α(N)=0.00494 *7*; α(O)=0.001150 *17*; α(P)=0.000197 *3*; α(Q)=4.01×10^{-6} *6*
320.4 *1*	0.050 *6*	1447.5	5^-	1127.5	5^-	[E2,M1]		0.5 *4*	α(K)=0.4 *3*; α(L)=0.10 *4*; α(M)=0.024 *7*; α(N+..)=0.0084 *24*

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ	α[d]	Comments
									α(N)=0.0065 *19*; α(O)=0.0016 *5*; α(P)=0.00029 *11*; α(Q)=1.8×10^{-5} *14*
330.40[f] *5*	≈0.3[f]	1421.3	6$^-$	1090.9	5$^+$	[E1]		0.0318	α(K)=0.0254 *4*; α(L)=0.00484 *7*; α(M)=0.001165 *17*; α(N+..)=0.000401 *6* α(N)=0.000312 *5*; α(O)=7.45×10^{-5} *11*; α(P)=1.379×10^{-5} *20*; α(Q)=9.01×10^{-7} *13* I$_\gamma$: measured by 1968Bj06 in delay coincidence with 131γ.
330.40[f] *5*	≈0.45[f]	1496.1	3$^+$	1165.4	3$^+$	M1+E2	≈0.7	≈0.562	α(K)≈0.431; α(L)≈0.0980; α(M)≈0.0242; α(N+..)≈0.00842 α(N)≈0.00653; α(O)≈0.001574; α(P)≈0.000297; α(Q)≈2.04×10^{-5} Iγ(330.40γ)=0.75 *5* was measured by 1986Ar05 for this doubly placed γ ray. Ice(K)=0.2%; Ice(L1+L2)≤0.08%.
331.4 *1*	0.07 *1*	2068.8	3,4,5$^+$	1737.4	3$^+$			0.42 *39*	α: covers E1, E2, and/or M1 multipolarities.
340.2 *1*	0.039 *8*	1126.6	2$^+$	786.3	1$^-$	[E1]		0.0298	α(K)=0.0239 *4*; α(L)=0.00453 *7*; α(M)=0.001090 *16*; α(N+..)=0.000375 *6* α(N)=0.000292 *4*; α(O)=6.97×10^{-5} *10*; α(P)=1.292×10^{-5} *19*; α(Q)=8.49×10^{-7} *12*
343.8 *2*	0.033 *7*	1312.2	3$^-$	968.4	3$^+$	[E1]		0.0292	α(K)=0.0233 *4*; α(L)=0.00442 *7*; α(M)=0.001064 *15*; α(N+..)=0.000366 *6* α(N)=0.000285 *4*; α(O)=6.81×10^{-5} *10*; α(P)=1.262×10^{-5} *18*; α(Q)=8.31×10^{-7} *12*
351.9 *1*	0.40 *3*	1421.3	6$^-$	1069.3	4$^-$	E2		0.1175	α(K)=0.0555 *8*; α(L)=0.0455 *7*; α(M)=0.01222 *18*; α(N+..)=0.00422 *6* α(N)=0.00331 *5*; α(O)=0.000773 *11*; α(P)=0.0001335 *19*; α(Q)=3.15×10^{-6} *5* Ice(K)=0.03%.
357.9 *1*	0.035 *10*	1619.5	(6$^+$)	1261.8	7$^+$	[M1,E2]		0.4 *3*	α(K)=0.27 *22*; α(L)=0.07 *3*; α(M)=0.017 *6*; α(N+..)=0.0060 *20* α(N)=0.0046 *16*; α(O)=0.0011 *4*; α(P)=0.00021 *9*; α(Q)=1.3×10^{-5} *10*
360.6 *3*	0.017 *6*	1782.6	5$^+$	1421.3	6$^-$	[E1]		0.0264	α(K)=0.0211 *3*; α(L)=0.00397 *6*; α(M)=0.000955 *14*; α(N+..)=0.000329 *5* α(N)=0.000256 *4*; α(O)=6.12×10^{-5} *9*; α(P)=1.136×10^{-5} *16*; α(Q)=7.55×10^{-7} *11*
365.0[e] *3*	0.017 *6*	1214.7	4$^+$	849.3	3$^-$	[E1]		0.0257	α(K)=0.0206 *3*; α(L)=0.00387 *6*; α(M)=0.000930 *14*; α(N+..)=0.000320 *5* α(N)=0.000249 *4*; α(O)=5.96×10^{-5} *9*; α(P)=1.106×10^{-5} *16*; α(Q)=7.37×10^{-7} *11*
365.0[e] *3*		1312.2	3$^-$	947.6	4$^+$				
369.50 *5*	2.40 *15*	1496.1	3$^+$	1126.6	2$^+$	M1		0.565	α(K)=0.450 *7*; α(L)=0.0866 *13*; α(M)=0.0209 *3*; α(N+..)=0.00729 *11* α(N)=0.00563 *8*; α(O)=0.001370 *20*; α(P)=0.000264 *4*; α(Q)=2.11×10^{-5} *3* Ice(K)=1.4%; K:L1:M1=14:2.8:1.5. Additional information 11.
372.0 *1*	1.18 *8*	1537.3	4$^+$	1165.4	3$^+$	M1(+E2)	<0.5	0.51 *5*	α(K)=0.40 *4*; α(L)=0.080 *5*; α(M)=0.0195 *11*; α(N+..)=0.0068 *4* α(N)=0.0052 *3*; α(O)=0.00127 *8*; α(P)=0.000244 *16*; α(Q)=1.89×10^{-5} *18* Ice(K)=0.5%; K:L1:M1=5:1.2:1. Additional information 14.
379.1 *1*	0.04 *1*	1341.3	(6$^+$)	962.6	5$^-$	[E1]		0.0237	α(K)=0.0190 *3*; α(L)=0.00356 *5*; α(M)=0.000854 *12*; α(N+..)=0.000294 *5* α(N)=0.000229 *4*; α(O)=5.48×10^{-5} *8*; α(P)=1.019×10^{-5} *15*; α(Q)=6.84×10^{-7} *10*

$^{234}_{92}$U$_{142}$-11

$\gamma(^{234}U)$ (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ	α[d]	Comments
385.4 *1*	0.04 *1*	1312.2	3^-	926.7	2^+	[E1]		0.0229	α(K)=0.0184 *3*; α(L)=0.00343 *5*; α(M)=0.000824 *12*; α(N+..)=0.000284 *4* α(N)=0.000220 *3*; α(O)=5.28×10^{-5} *8*; α(P)=9.83×10^{-6} *14*; α(Q)=6.62×10^{-7} *10*
(387.94[b] *6*)	6.9×10^{-4} *4*	1237.2	1^-	849.3	3^-				
394.1 *1*	0.09 *1*	1588.8	5^+	1194.8	6^-	[E1]		0.0219	α(K)=0.01755 *25*; α(L)=0.00326 *5*; α(M)=0.000784 *11*; α(N+..)=0.000270 *4* α(N)=0.000210 *3*; α(O)=5.03×10^{-5} *7*; α(P)=9.37×10^{-6} *14*; α(Q)=6.33×10^{-7} *9*
397.7 *3*	0.026 *6*	1421.3	6^-	1023.9	4^+	[M2]		1.349	α(K)=0.986 *14*; α(L)=0.270 *4*; α(M)=0.0687 *10*; α(N+..)=0.0242 *4* α(N)=0.0187 *3*; α(O)=0.00454 *7*; α(P)=0.000864 *13*; α(Q)=6.46×10^{-5} *10*
[x]401.8 *2*	0.035 *10*								
409.8 *1*	0.33 *3*	1537.3	4^+	1127.5	5^-	[E1]		0.0202	α(K)=0.01620 *23*; α(L)=0.00300 *5*; α(M)=0.000720 *10*; α(N+..)=0.000248 *4* α(N)=0.000193 *3*; α(O)=4.62×10^{-5} *7*; α(P)=8.61×10^{-6} *12*; α(Q)=5.87×10^{-7} *9*
416.1 *1*	0.035 *10*	1693.4	5^-	1277.5	7^-	[E2]		0.0746	α(K)=0.0405 *6*; α(L)=0.0251 *4*; α(M)=0.00666 *10*; α(N+..)=0.00230 *4* α(N)=0.00180 *3*; α(O)=0.000423 *6*; α(P)=7.39×10^{-5} *11*; α(Q)=2.17×10^{-6} *3*
[x]425.3 *2*	0.035 *10*								1986Ar05 placed the 425.3γ deexciting the 1588-keV level, although the energy fit is poor.
426.95 *5*	0.44 *3*	1496.1	3^+	1069.3	4^-	[E1]		0.0185	α(K)=0.01491 *21*; α(L)=0.00274 *4*; α(M)=0.000658 *10*; α(N+..)=0.000227 *4* α(N)=0.0001762 *25*; α(O)=4.23×10^{-5} *6*; α(P)=7.90×10^{-6} *11*; α(Q)=5.42×10^{-7} *8*
(427.4[b] *4*)	3.0×10^{-5} *8*	1237.2	1^-	809.9	0^+				
433.1 *1*	0.09 *1*	1981.2	4^+	1548.1	(5)				
446.6[e] *1*	0.11 *1*	1537.3	4^+	1090.9	5^+	[M1]		0.338	α(K)=0.269 *4*; α(L)=0.0516 *8*; α(M)=0.01245 *18*; α(N+..)=0.00434 *6* α(N)=0.00335 *5*; α(O)=0.000815 *12*; α(P)=0.0001572 *22*; α(Q)=1.253×10^{-5} *18*
446.6[eg] *1*		1619.5	(6^+)	1172.0	6^+				
(450.93[b] *4*)	3.8×10^{-3} *18*	1237.2	1^-	786.3	1^-	M1+E2	0.70	0.241	α(K)=0.187 *3*; α(L)=0.0400 *6*; α(M)=0.00980 *14*; α(N+..)=0.00341 *5* α(N)=0.00264 *4*; α(O)=0.000638 *9*; α(P)=0.0001213 *17*; α(Q)=8.79×10^{-6} *13* Mult.: from 1.17-min ^{234}Pa and ^{234}Np decays.
452.4 *3*	0.026 *8*	1548.1	(5)	1096.1	6^+				
458.68 *5*	1.10 *6*	1421.3	6^-	962.6	5^-	M1+E2	1.4 *4*	0.14 *5*	α(K)=0.11 *4*; α(L)=0.028 *5*; α(M)=0.0071 *11*; α(N+..)=0.0025 *4* α(N)=0.0019 *3*; α(O)=0.00046 *8*; α(P)=8.5×10^{-5} *15*; α(Q)=5.1×10^{-6} *16* Ice(K)=0.17%; K/L=17/6. Additional information 10.

From ENSDF

$^{234}_{92}U_{142}$-12

$\gamma(^{234}$U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	α[d]	Comments
461.5[e] *1*	0.033 *10*	1552.6	5+	1090.9	5+	[E2,M1]	0.18 *13*	α(K)=0.14 *11*; α(L)=0.032 *15*; α(M)=0.008 *4*; α(N+..)=0.0028 *12* α(N)=0.0022 *9*; α(O)=0.00052 *23*; α(P)=0.00010 *5*; α(Q)=7.E−6 *5*
461.5[e] *1*		1588.8	5+	1127.5	5−			
464.2 *1*	0.030 *10*	1533.3	(4−)	1069.3	4−	[M1]	0.304	α(K)=0.243 *4*; α(L)=0.0464 *7*; α(M)=0.01120 *16*; α(N+..)=0.00390 *6* α(N)=0.00302 *5*; α(O)=0.000734 *11*; α(P)=0.0001415 *20*; α(Q)=1.128×10^{-5} *16*
468.0[e] *1*		1456.8	(2−)	989.4	2−			a 468.0γ with Iγ=(1.00 *9*)[Iγ(1414γ)] observed in ^{234}Pa(1.159-min) β^- decay has been placed elsewhere. The intensity of the 468.0-keV γ ray seen in ^{234}Pa(6.70-h) decay has been assigned by the evaluators mostly to the 468.0γ deexciting the 1537-keV level.
468.0[e] *1*	0.21 *2*	1537.3	4+	1069.3	4−	[E1]	0.01539	α(K)=0.01241 *18*; α(L)=0.00226 *4*; α(M)=0.000541 *8*; α(N+..)=0.000186 *3* α(N)=0.0001447 *21*; α(O)=3.48×10^{-5} *5*; α(P)=6.51×10^{-6} *10*; α(Q)=4.54×10^{-7} *7*
472.3 *1*	0.35 *2*	1496.1	3+	1023.9	4+	[M1]	0.290	α(K)=0.231 *4*; α(L)=0.0443 *7*; α(M)=0.01069 *15*; α(N+..)=0.00372 *6* α(N)=0.00288 *4*; α(O)=0.000700 *10*; α(P)=0.0001350 *19*; α(Q)=1.076×10^{-5} *15*
474.2 *2*	0.035 *10*	1543.7	4+	1069.3	4−	[E1]	0.01499	α(K)=0.01209 *17*; α(L)=0.00219 *3*; α(M)=0.000526 *8*; α(N+..)=0.000181 *3* α(N)=0.0001408 *20*; α(O)=3.38×10^{-5} *5*; α(P)=6.34×10^{-6} *9*; α(Q)=4.43×10^{-7} *7*
478.6[e] *1*		1548.1	(5)	1069.3	4−			Placement uncertain.
478.6[e] *1*	0.12 *1*	1693.4	5−	1214.7	4+	[E1]	0.01472	α(K)=0.01187 *17*; α(L)=0.00215 *3*; α(M)=0.000516 *8*; α(N+..)=0.0001779 *25* α(N)=0.0001380 *20*; α(O)=3.32×10^{-5} *5*; α(P)=6.22×10^{-6} *9*; α(Q)=4.35×10^{-7} *6*
481.0 *1*	0.30 *2*	2033.5	3+,4+	1552.6	5+	[M1,E2]	0.16 *12*	α(K)=0.13 *10*; α(L)=0.029 *14*; α(M)=0.007 *3*; α(N+..)=0.0025 *11* α(N)=0.0019 *9*; α(O)=0.00046 *21*; α(P)=9.E−5 *5*; α(Q)=6.E−6 *5*
498.0[e] *1*	0.06 *1*	1588.8	5+	1090.9	5+	[M1]	0.252	α(K)=0.201 *3*; α(L)=0.0384 *6*; α(M)=0.00925 *13*; α(N+..)=0.00322 *5* α(N)=0.00249 *4*; α(O)=0.000606 *9*; α(P)=0.0001169 *17*; α(Q)=9.32×10^{-6} *13*
498.0[e] *1*		1693.4	5−	1194.8	6−			
502.0 *1*	0.026 *8*	1958.8	3−	1456.8	(2−)	[E2,M1]	0.15 *10*	α(K)=0.11 *9*; α(L)=0.026 *12*; α(M)=0.006 *3*; α(N+..)=0.0022 *10* α(N)=0.0017 *8*; α(O)=0.00041 *19*; α(P)=8.E−5 *4*; α(Q)=5.E−6 *4*
506.75 *5*	1.25 *8*	1496.1	3+	989.4	2−	[E1]	0.01314	α(K)=0.01061 *15*; α(L)=0.00191 *3*; α(M)=0.000457 *7*; α(N+..)=0.0001578 *22* α(N)=0.0001225 *18*; α(O)=2.94×10^{-5} *5*; α(P)=5.53×10^{-6} *8*; α(Q)=3.91×10^{-7} *6*
513.4[f] *1*	≈0.73[f]	1537.3	4+	1023.8	3−	[E1]	0.01280	α(K)=0.01035 *15*; α(L)=0.00186 *3*; α(M)=0.000445 *7*; α(N+..)=0.0001536 *22* α(N)=0.0001192 *17*; α(O)=2.87×10^{-5} *4*; α(P)=5.38×10^{-6} *8*; α(Q)=3.81×10^{-7} *6* I_γ: this transition is assumed to be a doublet, feeding the 4+ and 3− levels at 1023.7 and 1023.83 keV. The measured intensity of Iγ(513.4 doublet)=1.10 *7* has been divided by the evaluators by using the theoretical K- conversion coefficients of α(K)(M1 theory)=0.1974, α(K)(E1 theory)=0.01035, and the measured electron intensity of Ice(K 513γ)=0.08. The ratio of the theoretical γ-ray reduced transition probabilities of the 513.4-and 409.8-keV E1 transitions to the 3−, 4− members of the K=2− band, respectively, yields Iγ(513.4γ; E1)=1.47 *14*.
513.4[f] *1*	≈0.37[f]	1537.3	4+	1023.9	4+	[M1]	0.232	α(K)=0.185 *3*; α(L)=0.0353 *5*; α(M)=0.00852 *12*; α(N+..)=0.00297 *5* α(N)=0.00229 *4*; α(O)=0.000558 *8*; α(P)=0.0001076 *15*; α(Q)=8.58×10^{-6} *12* The ratio of the theoretical reduced transition probabilities of the 568.9- and 513.4-keV γ rays to the 3+ and 4+ members of the K=2+ band, respectively, and Iγ(568.9γ)=3.5 *4* yield Iγ(513.4γ; M1)=1.5 *2*.

$^{234}_{92}U_{142}$-13

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	α[d]	Comments
519.6 *1*	0.38 *3*	1588.8	5^+	1069.3	4^-	[E1]	0.01251	α(K)=0.01011 *15*; α(L)=0.00181 *3*; α(M)=0.000434 *6*; α(N+..)=0.0001498 *21* α(N)=0.0001163 *17*; α(O)=2.80×10^{-5} *4*; α(P)=5.25×10^{-6} *8*; α(Q)=3.73×10^{-7} *6*
521.4 *1*	0.72 *5*	1693.4	5^-	1172.0	6^+	[E1]	0.01242	α(K)=0.01004 *14*; α(L)=0.00180 *3*; α(M)=0.000431 *6*; α(N+..)=0.0001488 *21* α(N)=0.0001154 *17*; α(O)=2.78×10^{-5} *4*; α(P)=5.22×10^{-6} *8*; α(Q)=3.70×10^{-7} *6*
527.9 *1*	0.38 *3*	1496.1	3^+	968.4	3^+	(M1)	0.215	α(K)=0.1716 *24*; α(L)=0.0327 *5*; α(M)=0.00790 *11*; α(N+..)=0.00275 *4* α(N)=0.00213 *3*; α(O)=0.000517 *8*; α(P)=9.98×10^{-5} *14*; α(Q)=7.96×10^{-6} *12* Ice(K)=0.07%.
529.1[e] *3*	0.09 *3*	1552.6	5^+	1023.9	4^+	[E2,M1]	0.13 *9*	α(K)=0.10 *8*; α(L)=0.022 *11*; α(M)=0.0054 *25*; α(N+..)=0.0019 *9* α(N)=0.0015 *7*; α(O)=0.00035 *17*; α(P)=7.E−5 *4*; α(Q)=5.E−6 *4*
529.1[eg] *3*		1619.5	(6^+)	1090.9	5^+			
534.1 *1*	0.08 *1*	2115.7	4^+	1581.7	(5^-)	[E1]	0.01185	α(K)=0.00958 *14*; α(L)=0.001715 *24*; α(M)=0.000410 *6*; α(N+..)=0.0001416 *20* α(N)=0.0001098 *16*; α(O)=2.64×10^{-5} *4*; α(P)=4.97×10^{-6} *7*; α(Q)=3.54×10^{-7} *5*
537.2 *1*	0.08 *1*	2033.5	3^+,4^+	1496.1	3^+	[M1,E2]	0.12 *9*	α(K)=0.09 *7*; α(L)=0.021 *11*; α(M)=0.0052 *24*; α(N+..)=0.0018 *9* α(N)=0.0014 *7*; α(O)=0.00034 *16*; α(P)=6.E−5 *4*; α(Q)=4.E−6 *4*
543.8 *1*	0.13 *2*	1533.3	(4^-)	989.4	2^-	[E2]	0.0389	α(K)=0.0247 *4*; α(L)=0.01049 *15*; α(M)=0.00273 *4*; α(N+..)=0.000946 *14* α(N)=0.000739 *11*; α(O)=0.0001743 *25*; α(P)=3.11×10^{-5} *5*; α(Q)=1.236×10^{-6} *18*
553.7 *1*	0.043 *15*	1650.0	(6^-)	1096.1	6^+	[E1]	0.01105	α(K)=0.00894 *13*; α(L)=0.001594 *23*; α(M)=0.000381 *6*; α(N+..)=0.0001315 *19* α(N)=0.0001020 *15*; α(O)=2.46×10^{-5} *4*; α(P)=4.62×10^{-6} *7*; α(Q)=3.31×10^{-7} *5*
558.0[e] *2*	0.09 *2*	1581.7	(5^-)	1023.8	3^-	[E2]	0.0367	α(K)=0.0236 *4*; α(L)=0.00970 *14*; α(M)=0.00252 *4*; α(N+..)=0.000873 *13* α(N)=0.000682 *10*; α(O)=0.0001609 *23*; α(P)=2.88×10^{-5} *4*; α(Q)=1.173×10^{-6} *17*
558.0[e] *2*		1723.4	4^+	1165.4	3^+			
559.2 *2*	0.07 *2*	1486.2	(3^-)	926.7	2^+	[E1]	0.01084	α(K)=0.00877 *13*; α(L)=0.001562 *22*; α(M)=0.000373 *6*; α(N+..)=0.0001289 *18* α(N)=0.0001000 *14*; α(O)=2.41×10^{-5} *4*; α(P)=4.53×10^{-6} *7*; α(Q)=3.25×10^{-7} *5*
562.8 *3*	0.035 *10*	2115.7	4^+	1552.6	5^+	[M1,E2]	0.11 *8*	
565.2[e] *1*	1.00 *6*	1588.8	5^+	1023.9	4^+	(M1)	0.179	α(K)=0.1429 *20*; α(L)=0.0272 *4*; α(M)=0.00656 *10*; α(N+..)=0.00229 *4* α(N)=0.001768 *25*; α(O)=0.000430 *6*; α(P)=8.29×10^{-5} *12*; α(Q)=6.62×10^{-6} *10* Ice(K)=0.15%.
565.2[e] *1*		1693.4	5^-	1127.5	5^-			
568.9 *2*	3.5 *4*	1537.3	4^+	968.4	3^+	M1	0.1759	α(K)=0.1404 *20*; α(L)=0.0268 *4*; α(M)=0.00645 *9*; α(N+..)=0.00225 *4* α(N)=0.001737 *25*; α(O)=0.000422 *6*; α(P)=8.15×10^{-5} *12*; α(Q)=6.50×10^{-6} *10* I_γ: 2.5 was deduced by 1968Bj06 from γγ coincidence data. Ice(K)=0.5%.
569.5 *1*	8.0 *8*	1496.1	3^+	926.7	2^+	M1	0.1754	α(K)=0.1401 *20*; α(L)=0.0267 *4*; α(M)=0.00643 *9*; α(N+..)=0.00224 *4* α(N)=0.001732 *25*; α(O)=0.000421 *6*; α(P)=8.12×10^{-5} *12*; α(Q)=6.48×10^{-6} *9* Ice(K 568.9γ+569.5γ)=1.5%, Ice(L1)<0.50. Additional information 12.
575.5 *1*	0.026 *8*	1543.7	4^+	968.4	3^+	[E2,M1]	0.10 *7*	α(K)=0.08 *6*; α(L)=0.017 *9*; α(M)=0.0043 *20*; α(N+..)=0.0015 *7* α(N)=0.0012 *6*; α(O)=0.00028 *14*; α(P)=5.E−5 *3*; α(Q)=4.E−6 *3*
584.1 *1*	0.17 *2*	1552.6	5^+	968.4	3^+	[E2]	0.0331	α(K)=0.0217 *3*; α(L)=0.00845 *12*; α(M)=0.00219 *3*; α(N+..)=0.000758 *11* α(N)=0.000592 *9*; α(O)=0.0001399 *20*; α(P)=2.51×10^{-5} *4*; α(Q)=1.069×10^{-6} *15*
586.3 *1*	0.07 *1*	1927.5	4^+	1341.3	(6^+)	[E2]	0.0328	α(K)=0.0216 *3*; α(L)=0.00836 *12*; α(M)=0.00216 *3*; α(N+..)=0.000749 *11* α(N)=0.000585 *9*; α(O)=0.0001383 *20*; α(P)=2.49×10^{-5} *4*; α(Q)=1.060×10^{-6} *15*

$^{234}_{92}U_{142}$-14

γ(^{234}U) (continued)

E_γ [†]	I_γ [‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [@]	δ	α [d]	Comments
590.3 *10*	0.035 *10*	1537.3	4^+	947.6	4^+	[E2,M1]		0.10 *7*	α(K)=0.07 *6*; α(L)=0.016 *8*; α(M)=0.0040 *19*; α(N+..)=0.0014 *7* α(N)=0.0011 *5*; α(O)=0.00026 *13*; α(P)=4.9×10^{-5} *25*; α(Q)=3.5×10^{-6} *25* Because of a poor fit to the level scheme, the uncertainty on Eγ has been increased to 1.0 keV. Uncertainty=0.1 keV is listed in 1986Ar05. Eγ=589.4 *4* from adopted level energies.
595.4 *2*	0.09 *2*	1722.9	3^-	1127.5	5^-	[E2]		0.0317	α(K)=0.0210 *3*; α(L)=0.00799 *12*; α(M)=0.00207 *3*; α(N+..)=0.000715 *10* α(N)=0.000558 *8*; α(O)=0.0001321 *19*; α(P)=2.38×10^{-5} *4*; α(Q)=1.028×10^{-6} *15*
596.9[e] *1*		1723.4	4^+	1126.6	2^+				
596.9[e] *1*	0.19 *2*	1811.6	4^+	1214.7	4^+	[M1]		0.1547	α(K)=0.1235 *18*; α(L)=0.0235 *4*; α(M)=0.00566 *8*; α(N+..)=0.00197 *3* α(N)=0.001525 *22*; α(O)=0.000371 *6*; α(P)=7.16×10^{-5} *10*; α(Q)=5.71×10^{-6} *8*
602.6 *1*	0.52 *3*	1693.4	5^-	1090.9	5^+	[E1]		0.00939	α(K)=0.00762 *11*; α(L)=0.001345 *19*; α(M)=0.000321 *5*; α(N+..)=0.0001109 *16* α(N)=8.60×10^{-5} *12*; α(O)=2.07×10^{-5} *3*; α(P)=3.91×10^{-6} *6*; α(Q)=2.84×10^{-7} *4*
604.6 *3*	0.05 *2*	1552.6	5^+	947.6	4^+	[E2,M1]		0.09 *6*	α(K)=0.07 *5*; α(L)=0.015 *8*; α(M)=0.0037 *18*; α(N+..)=0.0013 *7* α(N)=0.0010 *5*; α(O)=0.00024 *12*; α(P)=4.6×10^{-5} *24*; α(Q)=3.3×10^{-6} *23*
612.0 *1*	0.37 *3*	1738.2	(3^+)	1126.6	2^+	(M1)		0.1447	α(K)=0.1156 *17*; α(L)=0.0220 *3*; α(M)=0.00530 *8*; α(N+..)=0.00185 *3* α(N)=0.001426 *20*; α(O)=0.000347 *5*; α(P)=6.69×10^{-5} *10*; α(Q)=5.34×10^{-6} *8* Ice(K)=0.09.
617.0[e] *2*	0.05 *2*	1543.7	4^+	926.7	2^+	[E2]		0.0294	α(K)=0.0197 *3*; α(L)=0.00720 *11*; α(M)=0.00186 *3*; α(N+..)=0.000643 *9* α(N)=0.000502 *7*; α(O)=0.0001188 *17*; α(P)=2.14×10^{-5} *3*; α(Q)=9.57×10^{-7} *14*
617.0[eg] *2*		1782.6	5^+	1165.4	3^+				
619.0 *2*	0.035 *10*	1581.7	(5^-)	962.6	5^-	[M1+E2]		0.08 *6*	α(K)=0.07 *5*; α(L)=0.014 *7*; α(M)=0.0035 *17*; α(N+..)=0.0012 *6* α(N)=0.0009 *5*; α(O)=0.00023 *11*; α(P)=4.3×10^{-5} *22*; α(Q)=3.1×10^{-6} *22*
624.2 *1*	0.34 *3*	1693.4	5^-	1069.3	4^-	(M1+E2)	≈0.7	≈0.1015	α(K)≈0.0799; α(L)≈0.01627; α(M)≈0.00396; α(N+..)≈0.001378 α(N)≈0.001067; α(O)≈0.000258; α(P)≈4.94×10^{-5}; α(Q)≈3.71×10^{-6} Ice(K)=0.05%.
628.1 *1*	0.23 *4*	1125.3	7^-	497.0	8^+	[E1]		0.00868	α(K)=0.00705 *10*; α(L)=0.001239 *18*; α(M)=0.000296 *5*; α(N+..)=0.0001021 *15* α(N)=7.91×10^{-5} *11*; α(O)=1.91×10^{-5} *3*; α(P)=3.60×10^{-6} *5*; α(Q)=2.63×10^{-7} *4*
629.4 *1*	0.34 *5*	1653.7	(3^+)	1023.9	4^+	(M1)		0.1342	α(K)=0.1072 *15*; α(L)=0.0204 *3*; α(M)=0.00491 *7*; α(N+..)=0.001711 *24* α(N)=0.001322 *19*; α(O)=0.000322 *5*; α(P)=6.20×10^{-5} *9*; α(Q)=4.95×10^{-6} *7* Ice(K)=0.05%.
632.6 *2*	0.035 *10*	1723.4	4^+	1090.9	5^+	[E2,M1]		0.08 *6*	α(K)=0.06 *5*; α(L)=0.013 *7*; α(M)=0.0033 *16*; α(N+..)=0.0011 *6* α(N)=0.0009 *5*; α(O)=0.00021 *11*; α(P)=4.1×10^{-5} *21*; α(Q)=2.9×10^{-6} *20*
634.3[e] *2*		1581.7	(5^-)	947.6	4^+				

From ENSDF

$^{234}_{92}U_{142}$-15

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[d]	Comments
634.3[e] 2	0.13 2	1761.9	(4⁻)	1127.5	5⁻	[M1]	0.1315	α(K)=0.1050 15; α(L)=0.0200 3; α(M)=0.00481 7; α(N+..)=0.001675 24 α(N)=0.001295 19; α(O)=0.000315 5; α(P)=6.07×10^{-5} 9; α(Q)=4.85×10^{-6} 7
[x]643.2 2	0.026 8							
646.5 1	0.11 1	1496.1	3⁺	849.3	3⁻	[E1]	0.00822	α(K)=0.00668 10; α(L)=0.001170 17; α(M)=0.000279 4; α(N+..)=9.64×10^{-5} 14 α(N)=7.48×10^{-5} 11; α(O)=1.80×10^{-5} 3; α(P)=3.41×10^{-6} 5; α(Q)=2.50×10^{-7} 4
653.7[e] 1	0.45 6	1722.9	3⁻	1069.3	4⁻	M1	0.1213	α(K)=0.0969 14; α(L)=0.0184 3; α(M)=0.00443 7; α(N+..)=0.001545 22 α(N)=0.001194 17; α(O)=0.000290 4; α(P)=5.60×10^{-5} 8; α(Q)=4.47×10^{-6} 7 Ice(K)=0.05%.
653.7[eg] 1		1927.5	4⁺	1274.3	(5⁺)			
655.2 2	0.13 2	1782.6	5⁺	1127.5	5⁻	[E1]	0.00802	α(K)=0.00651 10; α(L)=0.001140 16; α(M)=0.000272 4; α(N+..)=9.39×10^{-5} 14 α(N)=7.28×10^{-5} 11; α(O)=1.756×10^{-5} 25; α(P)=3.32×10^{-6} 5; α(Q)=2.44×10^{-7} 4
657.4[g] 1	0.38 3	1619.5	(6⁺)	962.6	5⁻			Placement of 657.4γ between 1619-keV level (J^π=6⁺, K=5) and the 962-keV level (J^π=5⁻, K=0 octupole band) was suggested by 1986Ar05 from (99γ)(γ) coincidences observed. No analogous transition was seen from the 5⁺ member of the K=5 band to any of the K=0 octupole-vibrational band states.
[x]659.8 1	0.26 2							
663.9 1	0.52 7	1653.7	(3⁺)	989.4	2⁻	[E1]	0.00782	α(K)=0.00636 9; α(L)=0.001111 16; α(M)=0.000265 4; α(N+..)=9.15×10^{-5} 13 α(N)=7.09×10^{-5} 10; α(O)=1.711×10^{-5} 24; α(P)=3.24×10^{-6} 5; α(Q)=2.38×10^{-7} 4
666.5 1	1.13 7	962.6	5⁻	296.0	6⁺	[E1]	0.00777	α(K)=0.00631 9; α(L)=0.001103 16; α(M)=0.000263 4; α(N+..)=9.08×10^{-5} 13 α(N)=7.04×10^{-5} 10; α(O)=1.698×10^{-5} 24; α(P)=3.21×10^{-6} 5; α(Q)=2.36×10^{-7} 4
669.7[f] 1	<0.0005[f]	1456.8	(2⁻)	786.3	1⁻			I_γ: from γ-ray branching measured in ^{234}Pa (1.159-min) β^- decay.
669.7[f] 1	0.96[f] 5	1693.4	5⁻	1023.9	4⁺	[E1]	0.00770	α(K)=0.00626 9; α(L)=0.001092 16; α(M)=0.000260 4; α(N+..)=9.00×10^{-5} 13 α(N)=6.98×10^{-5} 10; α(O)=1.683×10^{-5} 24; α(P)=3.18×10^{-6} 5; α(Q)=2.34×10^{-7} 4
675.1 1	0.097 10	1172.0	6⁺	497.0	8⁺	[E2]	0.0242	α(K)=0.01674 24; α(L)=0.00558 8; α(M)=0.001427 20; α(N+..)=0.000495 7 α(N)=0.000386 6; α(O)=9.15×10^{-5} 13; α(P)=1.662×10^{-5} 24; α(Q)=8.00×10^{-7} 12
683.9 2	0.15 3	1811.6	4⁺	1127.5	5⁻	[E1]	0.00740	α(K)=0.00602 9; α(L)=0.001049 15; α(M)=0.000250 4; α(N+..)=8.64×10^{-5} 13 α(N)=6.70×10^{-5} 10; α(O)=1.615×10^{-5} 23; α(P)=3.06×10^{-6} 5; α(Q)=2.26×10^{-7} 4
685.1[e] 2		1537.3	4⁺	851.7	2⁺			
685.1[e] 2	0.14 3	1811.6	4⁺	1126.6	2⁺	[E2]	0.0235	α(K)=0.01630 23; α(L)=0.00535 8; α(M)=0.001369 20; α(N+..)=0.000474 7 α(N)=0.000370 6; α(O)=8.78×10^{-5} 13; α(P)=1.596×10^{-5} 23; α(Q)=7.77×10^{-7} 11
692.6 1	1.20 7	1761.9	(4⁻)	1069.3	4⁻	(M1)	0.1040	α(K)=0.0831 12; α(L)=0.01575 22; α(M)=0.00379 6; α(N+..)=0.001322 19 α(N)=0.001022 15; α(O)=0.000249 4; α(P)=4.79×10^{-5} 7; α(Q)=3.83×10^{-6} 6 Ice(K)=0.15%.
699.03[e] 5	3.5 2	1722.9	3⁻	1023.8	3⁻	M1	0.1015	α(K)=0.0811 12; α(L)=0.01537 22; α(M)=0.00370 6; α(N+..)=0.001290 18 α(N)=0.000997 14; α(O)=0.000242 4; α(P)=4.68×10^{-5} 7; α(Q)=3.74×10^{-6} 6 Ice(K)=0.3%, Ice(L1)=0.17%.
699.03[e] 5		1723.4	4⁺	1023.9	4⁺			
705.9 1	2.2 1	849.3	3⁻	143.4	4⁺	[E1]	0.00698	α(K)=0.00568 8; α(L)=0.000987 14; α(M)=0.000235 4; α(N+..)=8.12×10^{-5} 12 α(N)=6.30×10^{-5} 9; α(O)=1.519×10^{-5} 22; α(P)=2.88×10^{-6} 4; α(Q)=2.13×10^{-7} 3
(708.3 2)	0.022 8	851.7	2⁺	143.4	4⁺	[E2]	0.0219	α(K)=0.01537 22; α(L)=0.00489 7; α(M)=0.001246 18; α(N+..)=0.000432 6 α(N)=0.000337 5; α(O)=8.00×10^{-5} 12; α(P)=1.458×10^{-5} 21; α(Q)=7.28×10^{-7} 11

$\gamma(^{234}U)$ (continued)

E_γ [†]	I_γ [‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [@]	α [d]	Comments
								E_γ: from Adopted Gammas; this transition was not observed in ^{234}Pa(6.70-h) β^- decay. I_γ: calculated by the evaluators from adopted branching for 708.3γ.
[x]711.5 *1*	0.15 *2*							
713.7[e] *1*	0.14 *2*	1737.4	3^+	1023.8	3^-	[E1]	0.00684	α(K)=0.00557 *8*; α(L)=0.000966 *14*; α(M)=0.000230 *4*; α(N+..)=7.95×10^{-5} *12* α(N)=6.16×10^{-5} *9*; α(O)=1.488×10^{-5} *21*; α(P)=2.82×10^{-6} *4*; α(Q)=2.09×10^{-7} *3*
713.7[eg] *1*		1927.5	4^+	1214.7	4^+			
716.5 *2*	0.030 *8*	1881.7	4^+	1165.4	3^+	[M1,E2]	0.06 *4*	α(K)=0.05 *3*; α(L)=0.010 *5*; α(M)=0.0023 *12*; α(N+..)=0.0008 *4* α(N)=0.0006 *3*; α(O)=0.00015 *8*; α(P)=2.9×10^{-5} *15*; α(Q)=2.1×10^{-6} *14*
727.8 *2*	0.11 *1*	1023.9	4^+	296.0	6^+	[E2]	0.0207	α(K)=0.01464 *21*; α(L)=0.00454 *7*; α(M)=0.001156 *17*; α(N+..)=0.000400 *6* α(N)=0.000312 *5*; α(O)=7.42×10^{-5} *11*; α(P)=1.355×10^{-5} *19*; α(Q)=6.91×10^{-7} *10*
730.9 *2*	0.61 *8*	1693.4	5^-	962.6	5^-	[M1,E2]	0.06 *4*	α(K)=0.04 *3*; α(L)=0.009 *5*; α(M)=0.0022 *11*; α(N+..)=0.0008 *4* α(N)=0.0006 *3*; α(O)=0.00014 *7*; α(P)=2.7×10^{-5} *14*; α(Q)=2.0×10^{-6} *14*
733.39 *5*	6.7 *4*	1722.9	3^-	989.4	2^-	M1	0.0893	α(K)=0.0714 *10*; α(L)=0.01351 *19*; α(M)=0.00325 *5*; α(N+..)=0.001134 *16* α(N)=0.000876 *13*; α(O)=0.000213 *3*; α(P)=4.11×10^{-5} *6*; α(Q)=3.29×10^{-6} *5* Ice(K)=0.6%, Ice(L1)≤0.15%.
738.0 *1*	1.12 *7*	1761.9	(4^-)	1023.8	3^-	(M1)	0.0878	α(K)=0.0702 *10*; α(L)=0.01329 *19*; α(M)=0.00320 *5*; α(N+..)=0.001115 *16* α(N)=0.000862 *12*; α(O)=0.000210 *3*; α(P)=4.04×10^{-5} *6*; α(Q)=3.23×10^{-6} *5* Ice(K)=0.15%.
742.81[&] *3*	2.0 *1*	786.3	1^-	43.5	2^+	E1	0.00636	α(K)=0.00518 *8*; α(L)=0.000895 *13*; α(M)=0.000213 *3*; α(N+..)=7.37×10^{-5} *11* α(N)=5.71×10^{-5} *8*; α(O)=1.378×10^{-5} *20*; α(P)=2.61×10^{-6} *4*; α(Q)=1.95×10^{-7} *3* Mult.: from ^{234}Np ε decay.
745.9 *1*	0.31 *3*	1693.4	5^-	947.6	4^+	[E1]	0.0063 *1*	α(K)=0.0051 *1*; α(L)=0.0009 *1*; α(M)=0.00021 *1*; α(N+..)=7.1×10^{-5} α(N)=0.000057 *1*; α(O)=0.000014 *1*; α(P)=2.6×10^{-6} *4*; α(Q)=1.9×10^{-7} *3*
748.1 *3*	0.10 *2*	1737.4	3^+	989.4	2^-	[E1]	0.00628	α(K)=0.00511 *8*; α(L)=0.000883 *13*; α(M)=0.000210 *3*; α(N+..)=7.27×10^{-5} *11* α(N)=5.63×10^{-5} *8*; α(O)=1.360×10^{-5} *19*; α(P)=2.58×10^{-6} *4*; α(Q)=1.93×10^{-7} *3*
755.0[e] *1*	1.18 *6*	1723.4	4^+	968.4	3^+	(E2,M1)	0.05 *4*	α(K)=0.04 *3*; α(L)=0.008 *5*; α(M)=0.0020 *10*; α(N+..)=0.0007 *4* α(N)=0.0005 *3*; α(O)=0.00013 *7*; α(P)=2.5×10^{-5} *13*; α(Q)=1.8×10^{-6} *12* Ice(K)=0.04%. Additional information 18.
755.0[e] *1*		1881.7	4^+	1126.6	2^+			
758.9 *1*	0.24 *2*	1782.6	5^+	1023.9	4^+	[M1,E2]	0.05 *4*	α(K)=0.04 *3*; α(L)=0.008 *5*; α(M)=0.0020 *10*; α(N+..)=0.0007 *4* α(N)=0.0005 *3*; α(O)=0.00013 *7*; α(P)=2.5×10^{-5} *13*; α(Q)=1.8×10^{-6} *12*
761.0 *2*	0.07 *2*	1722.9	3^-	962.6	5^-	[E2]	0.0189	α(K)=0.01353 *19*; α(L)=0.00403 *6*; α(M)=0.001023 *15*; α(N+..)=0.000355 *5* α(N)=0.000276 *4*; α(O)=6.57×10^{-5} *10*; α(P)=1.204×10^{-5} *17*; α(Q)=6.33×10^{-7} *9* Eγ=760.3 *2* from level scheme.
764.8 *2*	0.19 *4*	1261.8	7^+	497.0	8^+	[M1,E2]	0.05 *3*	α(K)=0.04 *3*; α(L)=0.008 *4*; α(M)=0.0020 *10*; α(N+..)=0.0007 *4* α(N)=0.0005 *3*; α(O)=0.00013 *7*; α(P)=2.4×10^{-5} *13*; α(Q)=1.8×10^{-6} *12* Ice(K 765γ+766γ)=0.04%.
766.4 *2*	0.07 *3*	809.9	0^+	43.5	2^+	(E2)	0.0187	α(K)=0.01336 *19*; α(L)=0.00396 *6*; α(M)=0.001003 *14*; α(N+..)=0.000348 *5* α(N)=0.000271 *4*; α(O)=6.45×10^{-5} *9*; α(P)=1.182×10^{-5} *17*; α(Q)=6.25×10^{-7} *9* I_γ: From Ice(810γ)/Iγ(766γ)=2.7 *10*, average of 3.5 (from ^{238}Pu α decay), 1.7

$^{234}_{92}U_{142}$-17

$\gamma(^{234}U)$ (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	α[d]	Comments
								(from ^{234}Pa(1.159 min) β^- decay),≈2.9 (from ^{234}Np ε decay). Mult.: from 1.17-min ^{234}Pa β^- decay.
769.1 *1*	0.18 *1*	1793.1	4^+	1023.9	4^+	[M1,E2]	0.05 *3*	α(K)=0.038 *25*; α(L)=0.008 *4*; α(M)=0.0019 *10*; α(N+..)=0.0007 *4* α(N)=0.0005 *3*; α(O)=0.00013 *7*; α(P)=2.4×10^{-5} *13*; α(Q)=1.8×10^{-6} *12*
772.4 *2*	0.07 *2*	1761.9	(4^-)	989.4	2^-	[E2]	0.0184	α(K)=0.01318 *19*; α(L)=0.00388 *6*; α(M)=0.000982 *14*; α(N+..)=0.000341 *5* α(N)=0.000265 *4*; α(O)=6.32×10^{-5} *9*; α(P)=1.158×10^{-5} *17*; α(Q)=6.15×10^{-7} *9*
^{x}778.6 *2*	0.044 *8*							
780.4 *2*	0.87 *4*	1277.5	7^-	497.0	8^+	[E1]	0.00581	α(K)=0.00474 *7*; α(L)=0.000815 *12*; α(M)=0.000194 *3*; α(N+..)=6.71×10^{-5} *10* α(N)=5.19×10^{-5} *8*; α(O)=1.255×10^{-5} *18*; α(P)=2.38×10^{-6} *4*; α(Q)=1.79×10^{-7} *3*
783.4 *1*	0.29 *3*	926.7	2^+	143.4	4^+	[E2]	0.0179	α(K)=0.01285 *18*; α(L)=0.00374 *6*; α(M)=0.000946 *14*; α(N+..)=0.000328 *5* α(N)=0.000255 *4*; α(O)=6.08×10^{-5} *9*; α(P)=1.116×10^{-5} *16*; α(Q)=5.99×10^{-7} *9*
786.27[&] *3*	1.16 *6*	786.3	1^-	0.0	0^+	(E1)	0.00573	α(K)=0.00467 *7*; α(L)=0.000804 *12*; α(M)=0.000191 *3*; α(N+..)=6.61×10^{-5} *10* α(N)=5.12×10^{-5} *8*; α(O)=1.237×10^{-5} *18*; α(P)=2.35×10^{-6} *4*; α(Q)=1.766×10^{-7} *25* Mult.: from 1.17-min ^{234}Pa β^- decay.
792.8 *3*	0.043 *10*	1761.9	(4^-)	968.4	3^+	[E1]	0.00565	α(K)=0.00460 *7*; α(L)=0.000791 *11*; α(M)=0.000188 *3*; α(N+..)=6.51×10^{-5} *10* α(N)=5.04×10^{-5} *7*; α(O)=1.218×10^{-5} *17*; α(P)=2.31×10^{-6} *4*; α(Q)=1.741×10^{-7} *25*
794.9 *2*	0.65 *8*	1090.9	5^+	296.0	6^+	[E2]	0.01735	α(K)=0.01252 *18*; α(L)=0.00360 *5*; α(M)=0.000910 *13*; α(N+..)=0.000315 *5* α(N)=0.000246 *4*; α(O)=5.85×10^{-5} *9*; α(P)=1.075×10^{-5} *15*; α(Q)=5.82×10^{-7} *9*
796.1 *1*	2.5 *2*	1723.4	4^+	926.7	2^+	[E2]	0.01730	α(K)=0.01249 *18*; α(L)=0.00359 *5*; α(M)=0.000906 *13*; α(N+..)=0.000314 *5* α(N)=0.000245 *4*; α(O)=5.83×10^{-5} *9*; α(P)=1.071×10^{-5} *15*; α(Q)=5.80×10^{-7} *9*
(799.7[b] 2)		1096.1	6^+	296.0	6^+	E0+E2		E_γ: from (α,2nγ); this transition was not seen in ^{234}Pa β^- decay. Mult.: determined in (α,2nγ).
802.3 *2*	0.030 *8*	1770.8	(3^+)	968.4	3^+	[M1]	0.0703	α(K)=0.0563 *8*; α(L)=0.01062 *15*; α(M)=0.00256 *4*; α(N+..)=0.000891 *13* α(N)=0.000689 *10*; α(O)=0.0001675 *24*; α(P)=3.23×10^{-5} *5*; α(Q)=2.59×10^{-6} *4*
804.1 *1*	0.6 *2*	947.6	4^+	143.4	4^+	E0+E2	0.37	α: calculated from Iγ and Ice. Total ce intensity has been deduced from measured Ice(K) by assuming K/(L+M+N)=3.5, as measured for the 809.8 E0 transition in ^{238}Pu α decay. (Ice(K) from the E2 component is expected to be 0.005; therefore, the observed ce intensity is all due to the E0 component of the transition.). Ice(K)=0.18%, Ice(L)<0.14%.
805.80 *5*	2.45 *15*	849.3	3^-	43.5	2^+	[E1]	0.00549	α(K)=0.00447 *7*; α(L)=0.000768 *11*; α(M)=0.000183 *3*; α(N+..)=6.31×10^{-5} *9* α(N)=4.89×10^{-5} *7*; α(O)=1.181×10^{-5} *17*; α(P)=2.24×10^{-6} *4*; α(Q)=1.692×10^{-7} *24*
808.4 *3*	0.035 *10*	851.7	2^+	43.5	2^+	E0+E2	4.2	α(K)=3.3; α(L)=0.93 α: deduced in ^{234}Np ε decay. Ice(K)=0.18%.
810.0 *7*		809.9	0^+	0.0	0^+	E0		ce(K)/(γ+ce)=0.78; ce(L)/(γ+ce)=0.15 Ice(K)=0.15%; total Ice=0.19% 6 from K/LMN=3.5, as measured in ^{238}Pu α and ^{234}Np ε decays. E_γ: measured by 1968Bj06 (s ce).
811.5 *1*	0.12 *1*	1738.2	(3^+)	926.7	2^+	[M1,E2]	0.04 *3*	α(K)=0.033 *22*; α(L)=0.007 *4*; α(M)=0.0017 *9*; α(N+..)=0.0006 *3* α(N)=0.00045 *22*; α(O)=0.00011 *6*; α(P)=2.1×10^{-5} *11*; α(Q)=1.5×10^{-6} *10*
814.2 *1*	0.30 *2*	1782.6	5^+	968.4	3^+	[E2]	0.01654	α(K)=0.01201 *17*; α(L)=0.00338 *5*; α(M)=0.000854 *12*; α(N+..)=0.000296 *5* α(N)=0.000230 *4*; α(O)=5.50×10^{-5} *8*; α(P)=1.011×10^{-5} *15*; α(Q)=5.56×10^{-7} *8*

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	δ	α[d]	Comments
819.2 *1*	1.83 *10*	962.6	5⁻	143.4	4⁺	[E1]		0.00533	α(K)=0.00434 *6*; α(L)=0.000744 *11*; α(M)=0.0001770 *25*; α(N+..)=6.12×10⁻⁵ *9* α(N)=4.74×10⁻⁵ *7*; α(O)=1.146×10⁻⁵ *16*; α(P)=2.18×10⁻⁶ *3*; α(Q)=1.645×10⁻⁷ *23*
ˣ824.2 *2*	1.2 *1*								Ice(K)=0.15%.
825.1 *2*	1.83 *10*	968.4	3⁺	143.4	4⁺	[E2]		0.01611	α(K)=0.01173 *17*; α(L)=0.00327 *5*; α(M)=0.000825 *12*; α(N+..)=0.000286 *4* α(N)=0.000223 *4*; α(O)=5.31×10⁻⁵ *8*; α(P)=9.78×10⁻⁶ *14*; α(Q)=5.42×10⁻⁷ *8*
829.3 *2*	0.35 *10*	1125.3	7⁻	296.0	6⁺	[E1]		0.00521	α(K)=0.00425 *6*; α(L)=0.000727 *11*; α(M)=0.0001729 *25*; α(N+..)=5.98×10⁻⁵ *9* α(N)=4.63×10⁻⁵ *7*; α(O)=1.120×10⁻⁵ *16*; α(P)=2.13×10⁻⁶ *3*; α(Q)=1.610×10⁻⁷ *23*
831.5 *1*	4.0 *2*	1127.5	5⁻	296.0	6⁺	[E1]		0.00518	α(K)=0.00423 *6*; α(L)=0.000724 *11*; α(M)=0.0001721 *24*; α(N+..)=5.95×10⁻⁵ *9* α(N)=4.61×10⁻⁵ *7*; α(O)=1.114×10⁻⁵ *16*; α(P)=2.12×10⁻⁶ *3*; α(Q)=1.603×10⁻⁷ *23*
839.5 *1*	0.030 *7*	2101.4	5⁺	1261.8	7⁺				
844.1 *1*	0.41 *3*	1693.4	5⁻	849.3	3⁻	[E2]		0.01540	α(K)=0.01127 *16*; α(L)=0.00309 *5*; α(M)=0.000777 *11*; α(N+..)=0.000269 *4* α(N)=0.000210 *3*; α(O)=5.01×10⁻⁵ *7*; α(P)=9.23×10⁻⁶ *13*; α(Q)=5.19×10⁻⁷ *8*
ˣ846.1 *2*	0.05 *1*								1986Ar05 placed this weak transition between the 989-keV (Jπ=2⁻) and 143-keV (Jπ=4⁺) states based only on energy fit, since it was not seen in coincidence with 99.86γ.
848.9 *2*	0.026 *7*	1811.6	4⁺	962.6	5⁻	[E1]		0.00500	α(K)=0.00408 *6*; α(L)=0.000696 *10*; α(M)=0.0001655 *24*; α(N+..)=5.73×10⁻⁵ *8* α(N)=4.43×10⁻⁵ *7*; α(O)=1.072×10⁻⁵ *15*; α(P)=2.04×10⁻⁶ *3*; α(Q)=1.547×10⁻⁷ *22*
851.8 *1*	0.07 *2*	851.7	2⁺	0.0	0⁺	[E2]		0.01513	α(K)=0.01109 *16*; α(L)=0.00302 *5*; α(M)=0.000759 *11*; α(N+..)=0.000263 *4* α(N)=0.000205 *3*; α(O)=4.89×10⁻⁵ *7*; α(P)=9.02×10⁻⁶ *13*; α(Q)=5.10×10⁻⁷ *8*
857.7 *2*	0.035 *7*	1784.2	4⁺	926.7	2⁺	[E2]		0.01493	α(K)=0.01095 *16*; α(L)=0.00297 *5*; α(M)=0.000746 *11*; α(N+..)=0.000259 *4* α(N)=0.000201 *3*; α(O)=4.80×10⁻⁵ *7*; α(P)=8.87×10⁻⁶ *13*; α(Q)=5.03×10⁻⁷ *7*
863.2 *2*	0.07 *2*	1811.6	4⁺	947.6	4⁺	[E2,M1]		0.036 *22*	α(K)=0.029 *18*; α(L)=0.006 *3*; α(M)=0.0014 *7*; α(N+..)=0.00049 *24* α(N)=0.00038 *19*; α(O)=9.E−5 *5*; α(P)=1.8×10⁻⁵ *9*; α(Q)=1.3×10⁻⁶ *9*
869.7 *1*	0.19 *2*	2144.0	3⁺,4⁺	1274.3	(5⁺)				
874.0 *3*	0.035 *7*	1722.9	3⁻	849.3	3⁻	[E2,M1]		0.035 *21*	α(K)=0.028 *18*; α(L)=0.006 *3*; α(M)=0.0014 *7*; α(N+..)=0.00048 *24* α(N)=0.00037 *18*; α(O)=9.E−5 *5*; α(P)=1.7×10⁻⁵ *9*; α(Q)=1.3×10⁻⁶ *8*
876.0 *1*	2.45 *2*	1172.0	6⁺	296.0	6⁺	(E2)		0.01432	α(K)=0.01055 *15*; α(L)=0.00282 *4*; α(M)=0.000706 *10*; α(N+..)=0.000245 *4* α(N)=0.000191 *3*; α(O)=4.55×10⁻⁵ *7*; α(P)=8.42×10⁻⁶ *12*; α(Q)=4.83×10⁻⁷ *7* Ice(K)=0.06%.
880.5[f] *1*	≈4.1[f]	1023.8	3⁻	143.4	4⁺	[E1]		0.00468	α(K)=0.00382 *6*; α(L)=0.000651 *10*; α(M)=0.0001547 *22*; α(N+..)=5.35×10⁻⁵ *8* α(N)=4.14×10⁻⁵ *6*; α(O)=1.002×10⁻⁵ *14*; α(P)=1.91×10⁻⁶ *3*; α(Q)=1.453×10⁻⁷ *21*
880.5[f] *1*	≈6.0[f]	1023.9	4⁺	143.4	4⁺	[E2]		0.01418	α(K)=0.01046 *15*; α(L)=0.00278 *4*; α(M)=0.000697 *10*; α(N+..)=0.000242 *4* α(N)=0.000188 *3*; α(O)=4.49×10⁻⁵ *7*; α(P)=8.31×10⁻⁶ *12*; α(Q)=4.79×10⁻⁷ *7*

$^{234}_{92}U_{142}$-19

γ(^{234}U) (continued)

E$_\gamma$[†]	I$_\gamma$[‡#c]	E$_i$(level)	J$^\pi_i$	E$_f$	J$^\pi_f$	Mult.[@]	α[d]	Comments
								I$_\gamma$: 880γ is a doublet comprised of the following components: IG1([E2], 1023.94 (4$^+$) to 143 (4$^+$)) and IG2([E1], 1023.78 (3$^-$) to 143 (4$^+$)). IG1 + IG2 = 10.1 *6* (1986Ar05). Using Ice(K)=0.080% 24 (1968Bj06), α(K) (theory, E2)=0.01046 and α(K) (theory, E1)=0.00382 one obtains IG1≈6 and IG2≈4. Other measured intensities for the doublet are: 20 *3* (1967Wa26), 10.8 *5* (1968Go20), 13.3 (1975Ar24).
883.24[&] *4*	9.3 *6*	926.7	2$^+$	43.5	2$^+$	E2	0.01409	α(K)=0.01040 *15*; α(L)=0.00276 *4*; α(M)=0.000692 *10*; α(N+..)=0.000240 *4* α(N)=0.000187 *3*; α(O)=4.46$\times10^{-5}$ *7*; α(P)=8.25$\times10^{-6}$ *12*; α(Q)=4.76$\times10^{-7}$ *7* I$_\gamma$: other measured intensities are Iγ=4 *1* (1967Wa26), 16.3 *5* (1968Go20), 12.4 (1975Ar24).
890.1 *4*	0.026 *7*	1958.8	3$^-$	1069.3	4$^-$			
898.67 *5*	3.15 *20*	1194.8	6$^-$	296.0	6$^+$	[E1]	0.00451	α(K)=0.00369 *6*; α(L)=0.000627 *9*; α(M)=0.0001489 *21*; α(N+..)=5.15$\times10^{-5}$ *8* α(N)=3.99$\times10^{-5}$ *6*; α(O)=9.65$\times10^{-6}$ *14*; α(P)=1.84$\times10^{-6}$ *3*; α(Q)=1.403$\times10^{-7}$ *20* Additional information 6.
904.2 *1*	0.33 *2*	947.6	4$^+$	43.5	2$^+$	[E2]	0.01346	α(K)=0.00998 *14*; α(L)=0.00260 *4*; α(M)=0.000652 *10*; α(N+..)=0.000226 *4* α(N)=0.0001758 *25*; α(O)=4.20$\times10^{-5}$ *6*; α(P)=7.79$\times10^{-6}$ *11*; α(Q)=4.55$\times10^{-7}$ *7*
916.5[g] *2*	0.023 *6*	1940.5	4$^+$	1023.9	4$^+$			Placed by 1986Ar05 between 4$^+$ state at 1940 keV and 4$^+$ state (K=2) at 1023.7 keV; no γ rays decaying to the 3$^+$, 2$^+$ band members of this K=2 band were observed.
918.4 *1*	0.096 *10*	1214.7	4$^+$	296.0	6$^+$	[E2]	0.01306	α(K)=0.00971 *14*; α(L)=0.00251 *4*; α(M)=0.000627 *9*; α(N+..)=0.000217 *3* α(N)=0.0001691 *24*; α(O)=4.04$\times10^{-5}$ *6*; α(P)=7.50$\times10^{-6}$ *11*; α(Q)=4.42$\times10^{-7}$ *7*
^{x}920.5 *2*	0.028 *7*							1986Ar05 placed the 920.5-keV γ ray between the 2115.5-keV (J$^\pi$=4$^+$) and 1194.7-keV (J$^\pi$=6$^-$) states.
925.0 *1*	7.6 *5*	968.4	3$^+$	43.5	2$^+$	(E2)	0.01288	α(K)=0.00959 *14*; α(L)=0.00246 *4*; α(M)=0.000616 *9*; α(N+..)=0.000214 *3* α(N)=0.0001661 *24*; α(O)=3.97$\times10^{-5}$ *6*; α(P)=7.37$\times10^{-6}$ *11*; α(Q)=4.36$\times10^{-7}$ *7* Icek=0.11%. Additional information 3.
926.0 *2*	1.7 *12*	1069.3	4$^-$	143.4	4$^+$	[E1]	0.00428	α(K)=0.00350 *5*; α(L)=0.000594 *9*; α(M)=0.0001409 *20*; α(N+..)=4.88$\times10^{-5}$ *7* α(N)=3.78$\times10^{-5}$ *6*; α(O)=9.13$\times10^{-6}$ *13*; α(P)=1.740$\times10^{-6}$ *25*; α(Q)=1.333$\times10^{-7}$ *19* E$_\gamma$: from level scheme. Iγ(926.0γ+926.72γ)=8.7 *5* (1986Ar05); Iγ≈4 was deduced by 1968Bj06 from $\gamma\gamma$-coincidence data. See 926.72γ for the method used to obtain Iγ(926.0γ).
926.72 *15*	7.0 *9*	926.7	2$^+$	0.0	0$^+$	(E2)	0.01284	α(K)=0.00956 *14*; α(L)=0.00245 *4*; α(M)=0.000613 *9*; α(N+..)=0.000213 *3* α(N)=0.0001653 *24*; α(O)=3.95$\times10^{-5}$ *6*; α(P)=7.34$\times10^{-6}$ *11*; α(Q)=4.34$\times10^{-7}$ *6* E$_\gamma$: from ^{238}Pu α decay. Eγ=926.7 *1* (1986Ar05), Eγ=927.1 (1968Bj06). I$_\gamma$: from Iγ(926.7γ)/Iγ(883.2γ)=0.75 *8* in ^{238}Pu α decay. Excess of measured intensity, Iγ(926.7γ)=8.7 *5*, has been assigned to the 926-keV γ ray from the 1069-keV level. Ice(K)=0.11%; Ice(L)(926.7γ+926.0γ)=0.07%.
935.8 *2*	0.064 *7*	1958.8	3$^-$	1023.9	4$^+$			
942.0 *3*	0.044 *7*	1085.0	2$^+$	143.4	4$^+$	[E2]	0.01244	α(K)=0.00929 *13*; α(L)=0.00236 *4*; α(M)=0.000589 *9*; α(N+..)=0.000204 *3* α(N)=0.0001587 *23*; α(O)=3.80$\times10^{-5}$ *6*; α(P)=7.05$\times10^{-6}$ *10*; α(Q)=4.21$\times10^{-7}$ *6*
946.00[&] *3*	13.0 *8*	989.4	2$^-$	43.5	2$^+$	(E1)	0.00412	α(K)=0.00337 *5*; α(L)=0.000571 *8*; α(M)=0.0001355 *19*; α(N+..)=4.69$\times10^{-5}$ *7* α(N)=3.63$\times10^{-5}$ *5*; α(O)=8.78$\times10^{-6}$ *13*; α(P)=1.675$\times10^{-6}$ *24*; α(Q)=1.285$\times10^{-7}$ *18* Ice(K)=0.11%, Ice(L)<0.04%.

$\gamma(^{234}U)$ (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	α[d]	Comments
947.7 *2*	1.57 *15*	1090.9	5^+	143.4	4^+	[E2]	0.01230	α(K)=0.00919 *13*; α(L)=0.00232 *4*; α(M)=0.000580 *9*; α(N+..)=0.000201 *3* α(N)=0.0001563 *22*; α(O)=3.74×10^{-5} *6*; α(P)=6.95×10^{-6} *10*; α(Q)=4.16×10^{-7} *6* Additional information 4.
952.7 *1*	0.08 *1*	1096.1	6^+	143.4	4^+			
960.0 *1*	0.07 *1*	1811.6	4^+	851.7	2^+	[E2]	0.01199	α(K)=0.00899 *13*; α(L)=0.00225 *4*; α(M)=0.000562 *8*; α(N+..)=0.000195 *3* α(N)=0.0001514 *22*; α(O)=3.63×10^{-5} *5*; α(P)=6.74×10^{-6} *10*; α(Q)=4.06×10^{-7} *6*
965.8 *1*	0.46 *3*	1261.8	7^+	296.0	6^+	[M1,E2]	0.027 *16*	α(K)=0.022 *13*; α(L)=0.0043 *22*; α(M)=0.0011 *5*; α(N+..)=0.00037 *18* α(N)=0.00028 *14*; α(O)=7.E−5 *4*; α(P)=1.3×10^{-5} *7*; α(Q)=1.0×10^{-6} *6*
975.1 *1*	0.026[a] *7*	2066.2		1090.9	5^+			
978.2 *3*	0.087[a] *20*	1274.3	(5^+)	296.0	6^+			
980.3[f] *1*	≈2.6[f]	1023.8	3^-	43.5	2^+	[E1]	0.00387	α(K)=0.00317 *5*; α(L)=0.000535 *8*; α(M)=0.0001270 *18*; α(N+..)=4.40×10^{-5} *7* α(N)=3.40×10^{-5} *5*; α(O)=8.23×10^{-6} *12*; α(P)=1.571×10^{-6} *22*; α(Q)=1.210×10^{-7} *17* I_γ: from 1968Bj06, determined from $\gamma\gamma$-coincidence data.
980.3[f] *1*	≈1.7[f]	1023.9	4^+	43.5	2^+	[E2]	0.01152	α(K)=0.00866 *13*; α(L)=0.00214 *3*; α(M)=0.000534 *8*; α(N+..)=0.000185 *3* α(N)=0.0001439 *21*; α(O)=3.45×10^{-5} *5*; α(P)=6.41×10^{-6} *9*; α(Q)=3.91×10^{-7} *6* I_γ: determined by 1968Bj06 from $\gamma\gamma$ coincidence data. Iγ(980.3γ)=1.92 *10* is reported in 1986Ar05, which does not agree well with the other measured intensities for the doublet: 3.7 (1967Wa09), 3.2 *2* (1968Go20), 3.4 (1975Ar24).
981.6 *3*	0.7 *2*	1277.5	7^-	296.0	6^+	[E1]	0.00387	α(K)=0.00316 *5*; α(L)=0.000534 *8*; α(M)=0.0001267 *18*; α(N+..)=4.38×10^{-5} *7* α(N)=3.39×10^{-5} *5*; α(O)=8.21×10^{-6} *12*; α(P)=1.567×10^{-6} *22*; α(Q)=1.207×10^{-7} *17*
984.2 *1*	1.57 *15*	1127.5	5^-	143.4	4^+	[E1]	0.00385	α(K)=0.00315 *5*; α(L)=0.000531 *8*; α(M)=0.0001261 *18*; α(N+..)=4.36×10^{-5} *7* α(N)=3.38×10^{-5} *5*; α(O)=8.18×10^{-6} *12*; α(P)=1.560×10^{-6} *22*; α(Q)=1.202×10^{-7} *17* Additional information 5.
989.5 *1*	0.10 *1*	1916.3	$3,4^+$	926.7	2^+			
[x]992.0 *2*	0.08 *2*							1986Ar05 placed this transition between the 1981-keV ($J^\pi=4^+$) and 989.5-keV ($J^\pi=2^-$) states.
994.6 *3*	0.06 *2*	1843.9	$3,4,5^-$	849.3	3^-			
997.7 *3*	0.044 *10*	2066.2		1069.3	4^-			
1009.9[e] *3*	0.064 *10*	2033.5	$3^+,4^+$	1023.9	4^+			
1009.9[e] *3*		2101.4	5^+	1090.9	5^+			
1019.5 *4*	0.026[a] *7*	2115.7	4^+	1096.1	6^+			
1021.8 *2*	0.14 *3*	1165.4	3^+	143.4	4^+	[M1]	0.0370	α(K)=0.0297 *5*; α(L)=0.00557 *8*; α(M)=0.001340 *19*; α(N+..)=0.000467 *7* α(N)=0.000361 *5*; α(O)=8.78×10^{-5} *13*; α(P)=1.694×10^{-5} *24*; α(Q)=1.358×10^{-6} *19*
[x]1023.6 *2*	0.06 *2*							
[x]1025.3 *2*	0.05 *2*							1986Ar05 placed this transition between the 1069-keV ($J^\pi=4^-$) and 43.5 keV ($J^\pi=2^+$) states.

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[d]	Comments
1028.7 *1*	0.55 *3*	1172.0	6^+	143.4	4^+	[E2]	0.01051	α(K)=0.00796 *12*; α(L)=0.00191 *3*; α(M)=0.000475 *7*; α(N+..)=0.0001648 *23* α(N)=0.0001280 *18*; α(O)=3.07×10^{-5} *5*; α(P)=5.73×10^{-6} *8*; α(Q)=3.57×10^{-7} *5*
1032.8 *2*	0.017 *4*	2101.4	5^+	1069.3	4^-			
[x]1035.9 *2*	0.025 *9*							
1037.9 *2*	0.017[a] *6*	2000.4	(4^+)	962.6	5^-			
1041.1 *2*	0.031[a] *10*	1085.0	2^+	43.5	2^+	[E2,M1]	0.023 *13*	α(K)=0.018 *11*; α(L)=0.0036 *18*; α(M)=0.0009 *4*; α(N+..)=0.00030 *15* α(N)=0.00023 *11*; α(O)=6.E−5 *3*; α(P)=1.1×10^{-5} *6*; α(Q)=8.E−7 *5*
1044.4 *2*	≈0.030[a]	1341.3	(6^+)	296.0	6^+			
1051.4 *2*	0.06[a] *1*	2019.8	4^+	968.4	3^+			
1057.8 *3*	≈0.017[a]	2019.8	4^+	962.6	5^-			
1065.1 *1*	0.026 *7*	2033.5	$3^+,4^+$	968.4	3^+			
1073.6 *2*	0.10 *1*	2000.4	(4^+)	926.7	2^+			
1083.2 *1*	0.49 *3*	1126.6	2^+	43.5	2^+	(M1)	0.0317	α(K)=0.0254 *4*; α(L)=0.00477 *7*; α(M)=0.001147 *16*; α(N+..)=0.000400 *6* α(N)=0.000309 *5*; α(O)=7.51×10^{-5} *11*; α(P)=1.450×10^{-5} *21*; α(Q)=1.163×10^{-6} *17* Ice(K)=0.015%, Ice(L)=0.0019%.
1085.3 *3*	0.026 *7*	1085.0	2^+	0.0	0^+	[E2]	0.00950	α(K)=0.00725 *11*; α(L)=0.001690 *24*; α(M)=0.000418 *6*; α(N+..)=0.0001451 *21* α(N)=0.0001127 *16*; α(O)=2.71×10^{-5} *4*; α(P)=5.06×10^{-6} *7*; α(Q)=3.23×10^{-7} *5* Iγ(1085γ)/Iγ(942γ)=0.077 *17* measured in ^{234}Np ε decay, 0.16 *4* in ^{234}Pa(1.159-min) β^- decay, and 0.20 *3* in ^{238}Pu α decay; this ratio is 0.59 *19* in ^{234}Pa (6.70-h) β^- decay.
1106.9 *2*	0.08 *1*	2033.5	$3^+,4^+$	926.7	2^+			
1110.6 *1*	0.06 *1*	1958.8	3^-	849.3	3^-			
1121.7 *1*	0.24 *3*	1165.4	3^+	43.5	2^+	M1	0.0289	α(K)=0.0232 *4*; α(L)=0.00434 *6*; α(M)=0.001045 *15*; α(N+..)=0.000365 *6* α(N)=0.000281 *4*; α(O)=6.84×10^{-5} *10*; α(P)=1.321×10^{-5} *19*; α(Q)=1.060×10^{-6} *15*; α(IPF)=6.86×10^{-7} *1* Ice(K 1121.7γ+K 1125.2γ+K 1126.8γ)=0.009%; Ice(L 1121.8γ+L 1125.2γ+L 1126.8γ)≤0.0038%. α(K)exp(1121.7γ)=0.024 from measured Ice(K) and α(K)(1126.8γ; E2)=0.00687 and α(K)(1125.2; E1)=0.00306.
1125.2 *1*	0.35 *7*	1421.3	6^-	296.0	6^+	[E1]	0.00305	α(K)=0.00250 *4*; α(L)=0.000418 *6*; α(M)=9.91×10^{-5} *14*; α(N+..)=3.56×10^{-5} *5* α(N)=2.66×10^{-5} *4*; α(O)=6.43×10^{-6} *9*; α(P)=1.230×10^{-6} *18*; α(Q)=9.60×10^{-8} *14*; α(IPF)=1.278×10^{-6} *19*
1126.8 *1*	0.29 *3*	1126.6	2^+	0.0	0^+	[E2]	0.00885	α(K)=0.00679 *10*; α(L)=0.001552 *22*; α(M)=0.000383 *6*; α(N+..)=0.0001333 *19* α(N)=0.0001032 *15*; α(O)=2.48×10^{-5} *4*; α(P)=4.65×10^{-6} *7*; α(Q)=3.01×10^{-7} *5*; α(IPF)=3.03×10^{-7} *5*
1151.4[e] *3*	0.031 *9*	1447.5	5^-	296.0	6^+	[E1]	0.00294	α(K)=0.00240 *4*; α(L)=0.000402 *6*; α(M)=9.51×10^{-5} *14*; α(N+..)=3.62×10^{-5} *5* α(N)=2.55×10^{-5} *4*; α(O)=6.18×10^{-6} *9*; α(P)=1.181×10^{-6} *17*; α(Q)=9.24×10^{-8} *13*; α(IPF)=3.26×10^{-6} *6*
1151.4[e] *3*		2000.4	(4^+)	849.3	3^-			
1153.5 *3*	0.044 *7*	2115.7	4^+	962.6	5^-			
1171.3 *1*	0.087 *10*	1214.7	4^+	43.5	2^+	[E2]	0.00824	α(K)=0.00634 *9*; α(L)=0.001423 *20*; α(M)=0.000350 *5*; α(N+..)=0.0001231 *18*

From ENSDF

$^{234}_{92}U_{142}$-22

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[d]	Comments
								α(N)=9.44×10^{-5} *14*; α(O)=2.27×10^{-5} *4*; α(P)=4.26×10^{-6} *6*; α(Q)=2.80×10^{-7} *4*; α(IPF)=1.449×10^{-6} *21*
1173.1 *1*	0.044 *7*	1958.8	3$^-$	786.3	1$^-$			
1182.1 *2*	≈0.009	2033.5	3$^+$,4$^+$	851.7	2$^+$			
1194.0 *2*	0.020 *5*	1237.2	1$^-$	43.5	2$^+$	E1	0.00277	α(K)=0.00226 *4*; α(L)=0.000377 *6*; α(M)=8.92×10^{-5} *13*; α(N+..)=4.12×10^{-5} *6* α(N)=2.39×10^{-5} *4*; α(O)=5.79×10^{-6} *9*; α(P)=1.109×10^{-6} *16*; α(Q)=8.70×10^{-8} *13*; α(IPF)=1.032×10^{-5} *16* Mult.: from ^{234}Np ε decay.
1217.3 *1*	0.21 *2*	2144.0	3$^+$,4$^+$	926.7	2$^+$			
^{x}1220.4 *2*	0.06 *1*							
1237.3 *3*	<0.009	1237.2	1$^-$	0.0	0$^+$	E1	0.00262	α(K)=0.00213 *3*; α(L)=0.000354 *5*; α(M)=8.38×10^{-5} *12*; α(N+..)=5.11×10^{-5} *8* α(N)=2.25×10^{-5} *4*; α(O)=5.44×10^{-6} *8*; α(P)=1.042×10^{-6} *15*; α(Q)=8.20×10^{-8} *12*; α(IPF)=2.21×10^{-5} *4* Mult.: from ^{234}Np ε decay.
1241.2 *1*	0.22 *2*	1537.3	4$^+$	296.0	6$^+$	(E2)	0.00740	α(K)=0.00573 *8*; α(L)=0.001252 *18*; α(M)=0.000307 *5*; α(N+..)=0.0001132 *16* α(N)=8.28×10^{-5} *12*; α(O)=1.99×10^{-5} *3*; α(P)=3.75×10^{-6} *6*; α(Q)=2.52×10^{-7} *4*; α(IPF)=6.51×10^{-6} *10* Ice(K)=0.0025%.
1247.8 *2*	0.021 *5*	1543.7	4$^+$	296.0	6$^+$	[E2]	0.00733	α(K)=0.00567 *8*; α(L)=0.001237 *18*; α(M)=0.000304 *5*; α(N+..)=0.0001126 *16* α(N)=8.18×10^{-5} *12*; α(O)=1.97×10^{-5} *3*; α(P)=3.71×10^{-6} *6*; α(Q)=2.49×10^{-7} *4*; α(IPF)=7.16×10^{-6} *11*
1252.6 *2*	0.017 *7*	1548.1	(5)	296.0	6$^+$			
1256.5 *1*	0.057 *6*	1552.6	5$^+$	296.0	6$^+$	[M1,E2]	0.014 *8*	α(K)=0.011 *6*; α(L)=0.0022 *10*; α(M)=0.00054 *24*; α(N+..)=0.00020 *9* α(N)=0.00014 *7*; α(O)=3.5×10^{-5} *16*; α(P)=7.E−6 *3*; α(Q)=5.E−7 *3*; α(IPF)=1.5×10^{-5} *7*
1277.7 *2*	0.043[a] *7*	1421.3	6$^-$	143.4	4$^+$	[M2]	0.0473	α(K)=0.0370 *6*; α(L)=0.00771 *11*; α(M)=0.00188 *3*; α(N+..)=0.000665 *10* α(N)=0.000509 *8*; α(O)=0.0001237 *18*; α(P)=2.38×10^{-5} *4*; α(Q)=1.86×10^{-6} *3*; α(IPF)=6.70×10^{-6} *10*
1292.8 *1*	0.45 *3*	1588.8	5$^+$	296.0	6$^+$	M1	0.0199	α(K)=0.01592 *23*; α(L)=0.00297 *5*; α(M)=0.000715 *10*; α(N+..)=0.000281 *4* α(N)=0.000193 *3*; α(O)=4.68×10^{-5} *7*; α(P)=9.04×10^{-6} *13*; α(Q)=7.27×10^{-7} *11*; α(IPF)=3.16×10^{-5} *5* Ice(K)=0.0074%. Additional information 16.
^{x}1296.4 *2*	0.028 *6*							
^{x}1301.2 *2*	0.017 *4*							
^{x}1327.0 *2*	0.017 *4*							
1342.9 *2*	0.012 *4*	1486.2	(3$^-$)	143.4	4$^+$	[E1]	0.00232	α(K)=0.00185 *3*; α(L)=0.000307 *5*; α(M)=7.26×10^{-5} *11*; α(N+..)=8.73×10^{-5} *13* α(N)=1.95×10^{-5} *3*; α(O)=4.72×10^{-6} *7*; α(P)=9.05×10^{-7} *13*; α(Q)=7.17×10^{-8} *10*; α(IPF)=6.22×10^{-5} *9*
1352.9 *1*	1.12 *5*	1496.1	3$^+$	143.4	4$^+$	M1	0.01766	α(K)=0.01412 *20*; α(L)=0.00263 *4*; α(M)=0.000633 *9*; α(N+..)=0.000276 *4* α(N)=0.0001705 *24*; α(O)=4.15×10^{-5} *6*; α(P)=8.01×10^{-6} *12*; α(Q)=6.44×10^{-7} *9*;

$^{234}_{92}$U$_{142}$-23

$\gamma(^{234}U)$ (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[d]	Comments
								α(IPF)=5.49×10^{-5} 8 Ice(K)=0.02%.
1354.6 2	0.13 3	1650.0	(6$^-$)	296.0	6$^+$	[E1]	0.00229	α(K)=0.00183 3; α(L)=0.000302 5; α(M)=7.15×10^{-5} 10; α(N+..)=9.27×10^{-5} 13 α(N)=1.92×10^{-5} 3; α(O)=4.65×10^{-6} 7; α(P)=8.91×10^{-7} 13; α(Q)=7.06×10^{-8} 10; α(IPF)=6.80×10^{-5} 10
1359.0 1	0.15 2	1502.4	3,4$^+$	143.4	4$^+$			
1389.6 2	0.07 2	1533.3	(4$^-$)	143.4	4$^+$	[E1]	0.00222	α(K)=0.001749 25; α(L)=0.000289 4; α(M)=6.84×10^{-5} 10; α(N+..)=0.0001104 16 α(N)=1.83×10^{-5} 3; α(O)=4.45×10^{-6} 7; α(P)=8.53×10^{-7} 12; α(Q)=6.78×10^{-8} 10; α(IPF)=8.67×10^{-5} 13
1393.9 1	2.0 1	1537.3	4$^+$	143.4	4$^+$	M1	0.01634	α(K)=0.01304 19; α(L)=0.00243 4; α(M)=0.000585 9; α(N+..)=0.000279 4 α(N)=0.0001574 22; α(O)=3.83×10^{-5} 6; α(P)=7.39×10^{-6} 11; α(Q)=5.95×10^{-7} 9; α(IPF)=7.52×10^{-5} 11 Ice(K 1394γ)+ Ice(L 1293γ)=0.035%; Ice(L 1394γ)+ Ice(K 1493γ)=0.0047%; Ice(M 1394γ)=0.0021%.
1397.5 2	0.08 2	1693.4	5$^-$	296.0	6$^+$	[E1]	0.00220	α(K)=0.001733 25; α(L)=0.000286 4; α(M)=6.78×10^{-5} 10; α(N+..)=0.0001146 16 α(N)=1.82×10^{-5} 3; α(O)=4.41×10^{-6} 7; α(P)=8.45×10^{-7} 12; α(Q)=6.71×10^{-8} 10; α(IPF)=9.11×10^{-5} 13
1400.3 1	0.17 2	1543.7	4$^+$	143.4	4$^+$	[E2,M1]	0.011 6	α(K)=0.009 5; α(L)=0.0017 8; α(M)=0.00041 18; α(N+..)=0.00020 9 α(N)=0.00011 5; α(O)=2.7×10^{-5} 12; α(P)=5.1×10^{-6} 22; α(Q)=3.9×10^{-7} 20; α(IPF)=5.5×10^{-5} 24
1409.1 2	0.043 8	1552.6	5$^+$	143.4	4$^+$			
1414.4 2	<0.0026	1456.8	(2$^-$)	43.5	2$^+$			
1426.9 1	0.16 2	1723.4	4$^+$	296.0	6$^+$			
1442.8 2	0.030 6	1486.2	(3$^-$)	43.5	2$^+$	[E1]	0.00212	α(K)=0.001643 23; α(L)=0.000271 4; α(M)=6.41×10^{-5} 9; α(N+..)=0.0001397 20 α(N)=1.719×10^{-5} 24; α(O)=4.17×10^{-6} 6; α(P)=8.00×10^{-7} 12; α(Q)=6.37×10^{-8} 9; α(IPF)=0.0001175 17
1445.4 1	0.31 3	1588.8	5$^+$	143.4	4$^+$	[M1]	0.01488	α(K)=0.01185 17; α(L)=0.00221 3; α(M)=0.000531 8; α(N+..)=0.000289 4 α(N)=0.0001429 20; α(O)=3.48×10^{-5} 5; α(P)=6.71×10^{-6} 10; α(Q)=5.40×10^{-7} 8; α(IPF)=0.0001043 1
1452.7 1	0.78 5	1496.1	3$^+$	43.5	2$^+$	[M1]	0.01468	α(K)=0.01169 17; α(L)=0.00218 3; α(M)=0.000524 8; α(N+..)=0.000291 4 α(N)=0.0001410 20; α(O)=3.43×10^{-5} 5; α(P)=6.62×10^{-6} 10; α(Q)=5.33×10^{-7} 8; α(IPF)=0.0001087 1 Additional information 13.
1458.9 1	0.09 2	1502.4	3,4$^+$	43.5	2$^+$			
1475.8 2	0.008 3	1619.5	(6$^+$)	143.4	4$^+$			
1485.4 2	0.029 6	1782.6	5$^+$	296.0	6$^+$	[M1]	0.01387	α(K)=0.01102 16; α(L)=0.00205 3; α(M)=0.000494 7; α(N+..)=0.000301 5 α(N)=0.0001329 19; α(O)=3.23×10^{-5} 5; α(P)=6.24×10^{-6} 9; α(Q)=5.03×10^{-7} 7; α(IPF)=0.0001289 18
1488.0 2	0.013 5	1784.2	4$^+$	296.0	6$^+$			
1493.6 1	0.10 1	1537.3	4$^+$	43.5	2$^+$	[E2]	0.00531	α(K)=0.00414 6; α(L)=0.000842 12; α(M)=0.000205 3; α(N+..)=0.0001264 18 α(N)=5.52×10^{-5} 8; α(O)=1.331×10^{-5} 19; α(P)=2.52×10^{-6} 4; α(Q)=1.79×10^{-7} 3; α(IPF)=5.52×10^{-5} 8

$^{234}_{92}U_{142}$-24

γ(^{234}U) (continued)

E_γ[†]	I_γ[‡#c]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[@]	α[d]	Comments
1496.0 *2*	0.035[a] *8*	1793.1	4^+	296.0	6^+			
1500.0 *2*	0.011 *3*	1543.7	4^+	43.5	2^+	[E2]	0.00528	α(K)=0.00411 *6*; α(L)=0.000835 *12*; α(M)=0.000203 *3*; α(N+..)=0.0001276 *18* α(N)=5.47×10^{-5} *8*; α(O)=1.320×10^{-5} *19*; α(P)=2.50×10^{-6} *4*; α(Q)=1.780×10^{-7} *25*; α(IPF)=5.70×10^{-5} *8*
^{x}1507.3 *2*	0.019 *4*							1986Ar05 placed this transition between the 1650-keV (J^π=(6$^-$)) and 143-keV (J^π=4$^+$) states.
1510.1 *2*	<0.009	1653.7	(3^+)	143.4	4^+			
1515.6 *2*	0.07 *1*	1811.6	4^+	296.0	6^+			
^{x}1520.7 *2*	≈0.009							
^{x}1538.8 *2*	0.013 *3*							
1550.1 *1*	0.07 *1*	1693.4	5^-	143.4	4^+	[E1]	0.00196	α(K)=0.001460 *21*; α(L)=0.000240 *4*; α(M)=5.68×10^{-5} *8*; α(N+..)=0.000205 *3* α(N)=1.521×10^{-5} *22*; α(O)=3.69×10^{-6} *6*; α(P)=7.09×10^{-7} *10*; α(Q)=5.68×10^{-8} *8*; α(IPF)=0.000185 *3*
1567.0 *2*	0.011 *2*	1863.1	(5^+)	296.0	6^+			
1579.9 *1*	0.07[a] *2*	1723.4	4^+	143.4	4^+			
1585.9 *1*	0.14 *1*	1881.7	4^+	296.0	6^+			
1594.0 *1*	0.30 *2*	1737.4	3^+	143.4	4^+	M1,E2	0.008 *4*	α(K)=0.006 *3*; α(L)=0.0012 *5*; α(M)=0.00029 *12*; α(N+..)=0.00025 *10* α(N)=8.E−5 *4*; α(O)=1.9×10^{-5} *8*; α(P)=3.7×10^{-6} *15*; α(Q)=2.9×10^{-7} *13*; α(IPF)=0.00015 *6* Ice(K)=0.0033%. α(K)(M1 theory)=0.0099, α(K)(E2 theory)=0.00373.
1618.3 *2*	0.009[a] *3*	1761.9	(4^-)	143.4	4^+			
1627.3 *1*	0.073 *8*	1770.8	(3^+)	143.4	4^+			
1638.1 *1*	0.20 *1*	1782.6	5^+	143.4	4^+	(M1)	0.01083	α(K)=0.00850 *12*; α(L)=0.001581 *23*; α(M)=0.000380 *6*; α(N+..)=0.000371 *6* α(N)=0.0001023 *15*; α(O)=2.49×10^{-5} *4*; α(P)=4.81×10^{-6} *7*; α(Q)=3.88×10^{-7} *6*; α(IPF)=0.000238 *4* Mult.: Ice(K)=0.0023%.
1640.5 *3*	0.010 *3*	1784.2	4^+	143.4	4^+			
1644.9 *2*	0.010 *3*	1940.5	4^+	296.0	6^+			
1650.2 *2*	<0.005	1793.1	4^+	143.4	4^+			
^{x}1655.7 *1*	0.025 *3*							
^{x}1664.8 *3*	0.017 *6*							
1668.4 *1*	0.74 *5*	1811.6	4^+	143.4	4^+	(M1)	0.01035	α(K)=0.00809 *12*; α(L)=0.001505 *21*; α(M)=0.000362 *5*; α(N+..)=0.000389 *6* α(N)=9.74×10^{-5} *14*; α(O)=2.37×10^{-5} *4*; α(P)=4.58×10^{-6} *7*; α(Q)=3.69×10^{-7} *6*; α(IPF)=0.000263 *4* Ice(K)=0.0113%.
1672.8 *1*	0.033 *10*	1968.8	4^+,5	296.0	6^+			
1679.5 *1*	0.074[a] *16*	1722.9	3^-	43.5	2^+			
1685.7 *1*	0.30 *2*	1981.2	4^+	296.0	6^+			
1693.8 *2*	0.67 *7*	1737.4	3^+	43.5	2^+			
1695.0 *3*	0.26 *6*	1738.2	(3^+)	43.5	2^+			
1700.5 *2*	0.10 *1*	1843.9	3,4,5$^-$	143.4	4^+			
1719.7 *2*	0.017 *5*	1863.1	(5^+)	143.4	4^+			

γ(^{234}U) (continued)

E_γ [†]	I_γ [‡#c]	E_i(level)	J_i^π	E_f	J_f^π
1723.2 *2*	0.015 *3*	2019.8	4+	296.0	6+
1727.8 *2*	0.019 *4*	1770.8	(3+)	43.5	2+
1737.7 *2*	0.072 *8*	1881.7	4+	143.4	4+
1741.1 *2*	0.047 *6*	2037.1	4+,5	296.0	6+
[x]1743.2 *2*	0.032 *7*				
1750.0 *1*	0.062 *7*	1793.1	4+	43.5	2+
[x]1757.5 *1*	0.023 *5*				
1768.0 *3*	0.019 *4*	1811.6	4+	43.5	2+
1770.8 *2*	0.065 *15*	2066.2		296.0	6+
1773.0 *2*	0.065 *15*	1916.3	3,4+	143.4	4+
1783.7 *2*	0.024 *6*	1927.5	4+	143.4	4+
1797.1 *1*	0.23 *2*	1940.5	4+	143.4	4+
1805.8 *3*	0.005 *2*	2101.4	5+	296.0	6+
1815.3 *3*	0.009 *3*	1958.8	3−	143.4	4+
1819.8 *3*	0.004 *1*	2115.7	4+	296.0	6+
1825.1 *3*	0.009 *3*	1968.8	4+,5	143.4	4+
[x]1830.8 *3*	0.004 *1*				
1838.0[eg] *2*		1881.7	4+	43.5	2+
1838.0[e] *2*	0.040 *9*	1981.2	4+	143.4	4+
[x]1849.8 *2*	0.027 *6*				
1872.8 *2*	0.034 *8*	1916.3	3,4+	43.5	2+
1884.1 *3*	0.015 *4*	1927.5	4+	43.5	2+
1890.1 *2*	0.14 *1*	2033.5	3+,4+	143.4	4+
1893.4 *3*	≈0.006	2037.1	4+,5	143.4	4+
1896.7 *2*	0.10 *2*	1940.5	4+	43.5	2+
1915.5 *3*	0.019 *4*	1958.8	3−	43.5	2+
1925.4 *2*	0.29 *4*	2068.8	3,4,5+	143.4	4+
[x]1927.9 *4*	0.052 *10*				
[x]1935.2 *4*	≈0.009				
1937.7 *3*	0.04 *1*	1981.2	4+	43.5	2+
1958.0 *4*	0.0096 *25*	2101.4	5+	143.4	4+
1971.2 *4*	≈0.0026	2115.7	4+	143.4	4+
1977.4 *4*	0.016 *4*	2019.8	4+	43.5	2+
1989.6 *4*	0.007 *3*	2033.5	3+,4+	43.5	2+
2072.2 *4*	0.004 *2*	2115.7	4+	43.5	2+

† Measurements of 1986Ar05, unless otherwise noted. See also 1968Bj06 (s ce, pc, semi γ), 1968Go20 (semi γ), 1975Ar24 (semi γ), 1967Wa09 (semi γ), 1967Wa26 ($\beta\gamma$, s ce, semi γ), and 1964Br24 (s ce). Early measurements: 1954Jo19, 1956On07, 1959De30, 1962Fo11.

‡ Relative photon intensities, normalized to I(131.3γ)=17.5, measured by 1986Ar05 are given here. See also 1990Sc09, 1968Bj06, 1975Ar24, 1968Go20, 1967Wa09, 1967Wa26. Relative intensities in 1968Bj06 were normalized by the authors using experimental Ice and Iγ and theoretical conversion coefficients.

When the photon intensity of a transition is expected to be much weaker than the other component(s) of a multiply placed γ ray, and its intensity could not be estimated realistically, then no intensity is given for such weak component.

@ From ce measurements of 1968Bj06, 1967Wa26, 1964Br24. See also ^{234}Np ε decay, 1.159-min ^{234}Pa β^- decay and ^{238}Pu α decay. Multipolarities in square brackets have not been experimentally determined, they are expected from decay scheme. If M1 and E2 admixtures are expected, the multipolarity is presented as [M1+E2]; however, if M1 and/or E2 multipolarities are possible, then the γ-ray multipolarity is presented as [M1,E2].

& Measurement of 1972Sa06 (semi γ).

a Intensity may be lower than value given due to possible residual summing effects (1986Ar05).

b From Adopted Gammas. This transition was not observed in 6.70-h ^{234}Pa β^- decay.

c For absolute intensity per 100 decays, multiply by 1.08 *9*.

d Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

e Multiply placed.

f Multiply placed with intensity suitably divided.

g Placement of transition in the level scheme is uncertain.

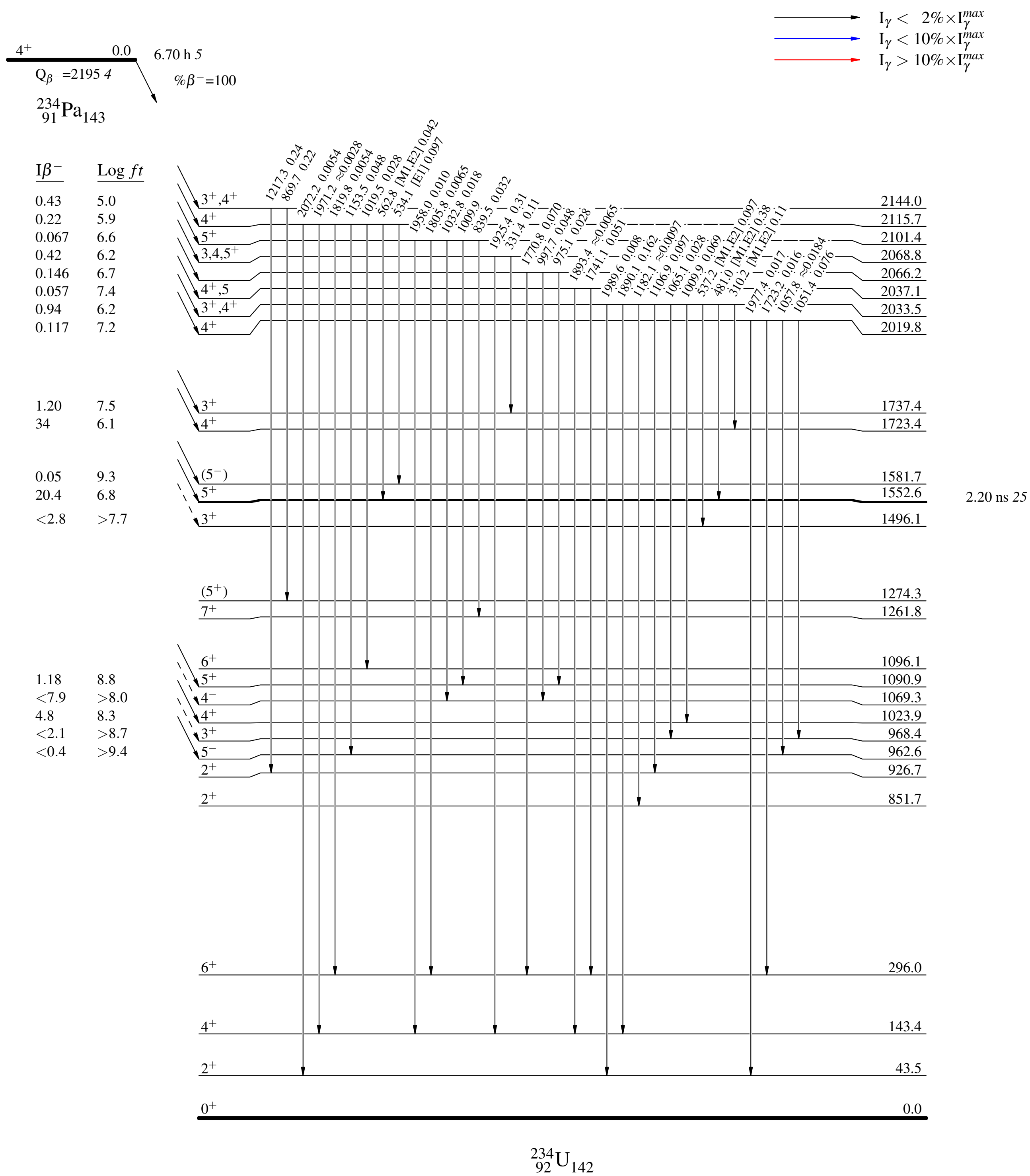
x γ ray not placed in level scheme.

$^{234}_{92}U_{142}$-26

^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme

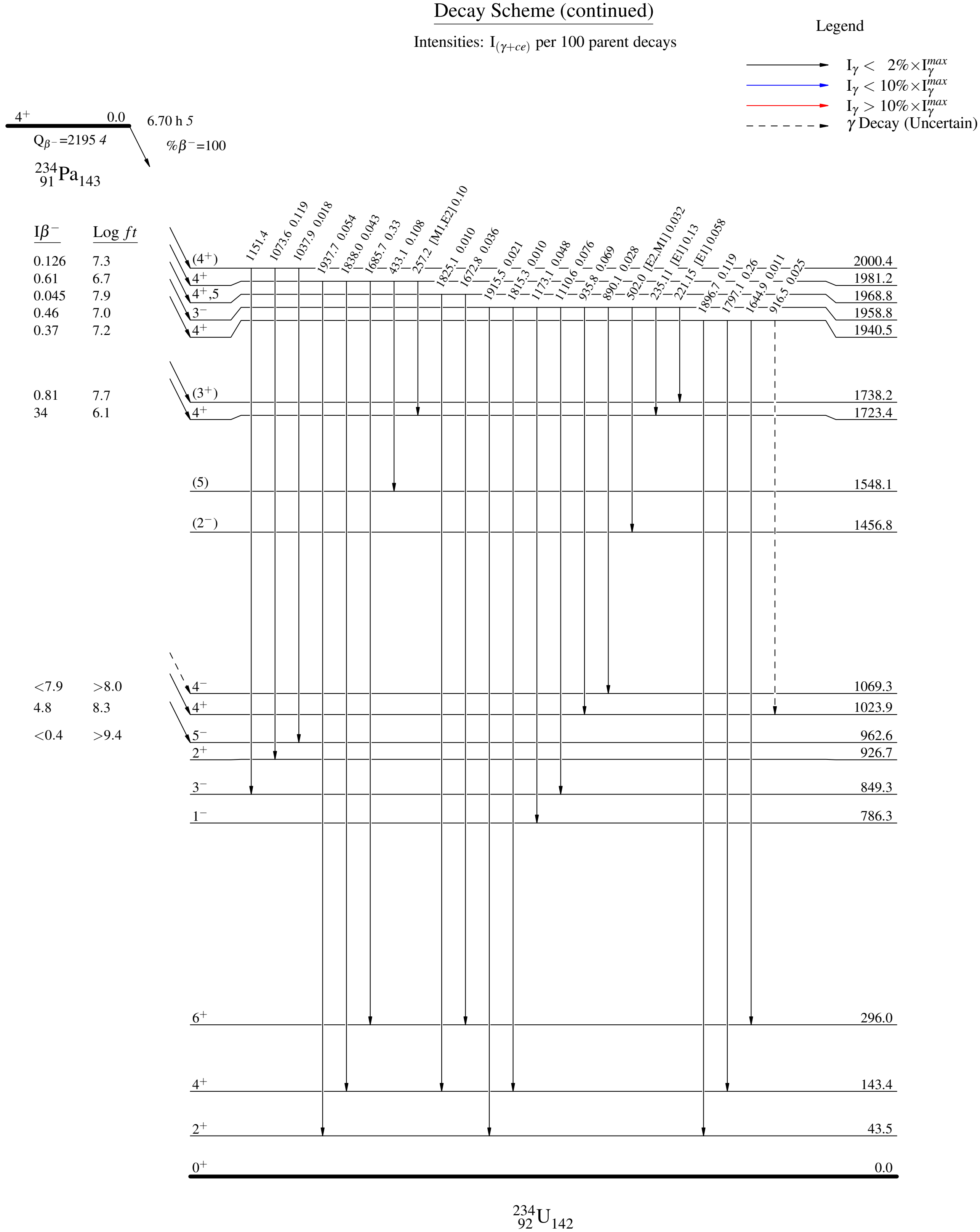
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

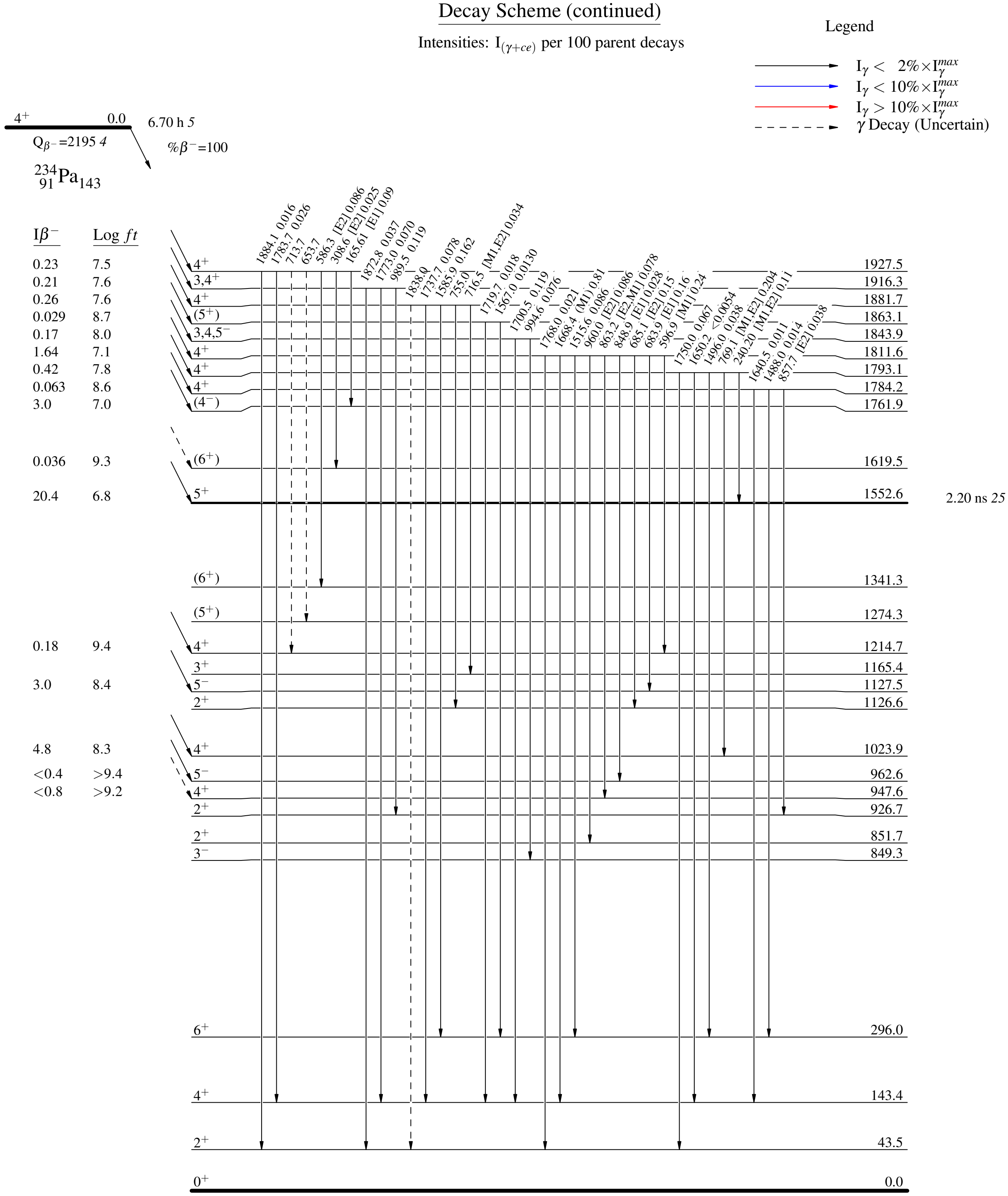
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

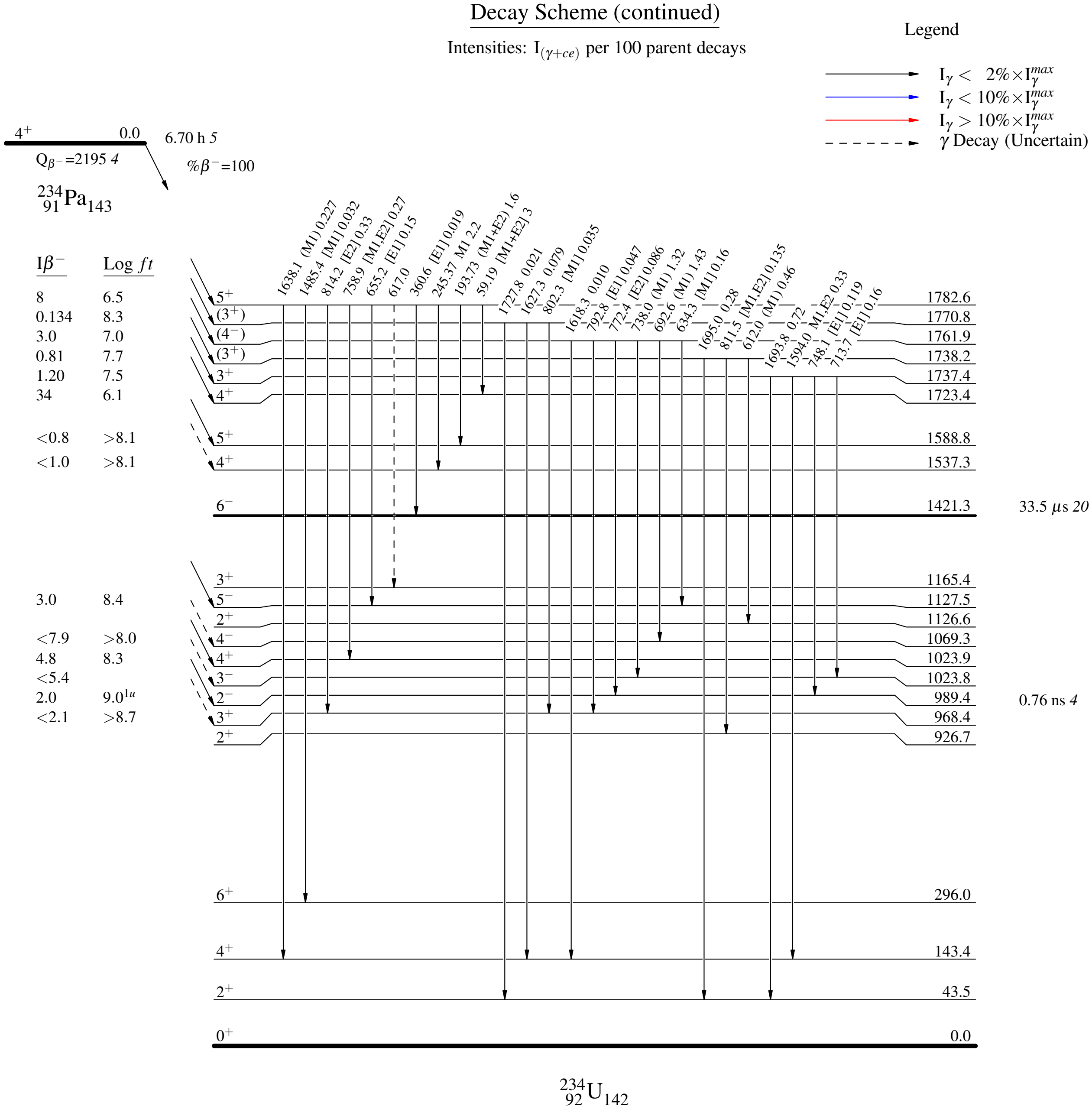
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

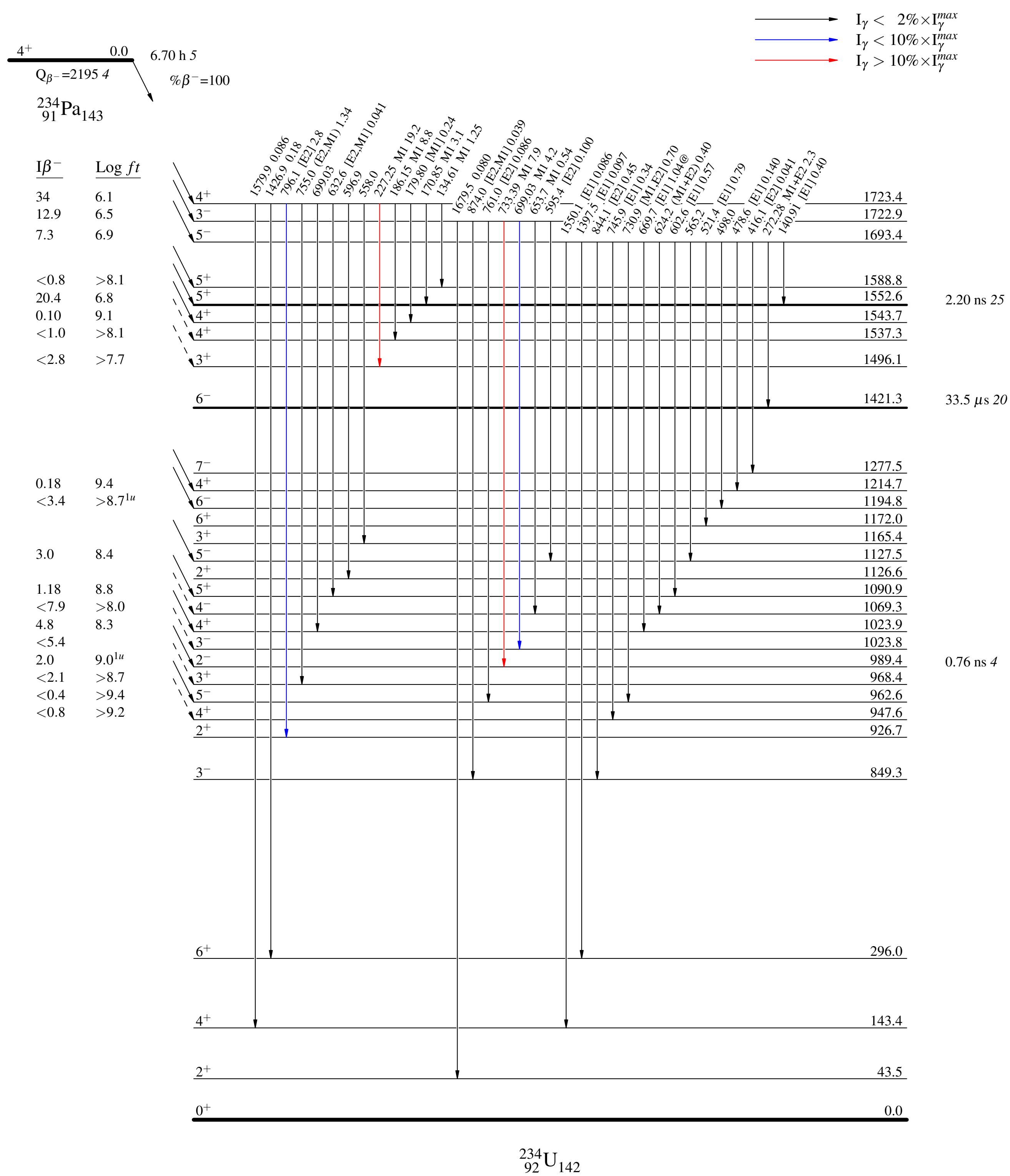


^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided

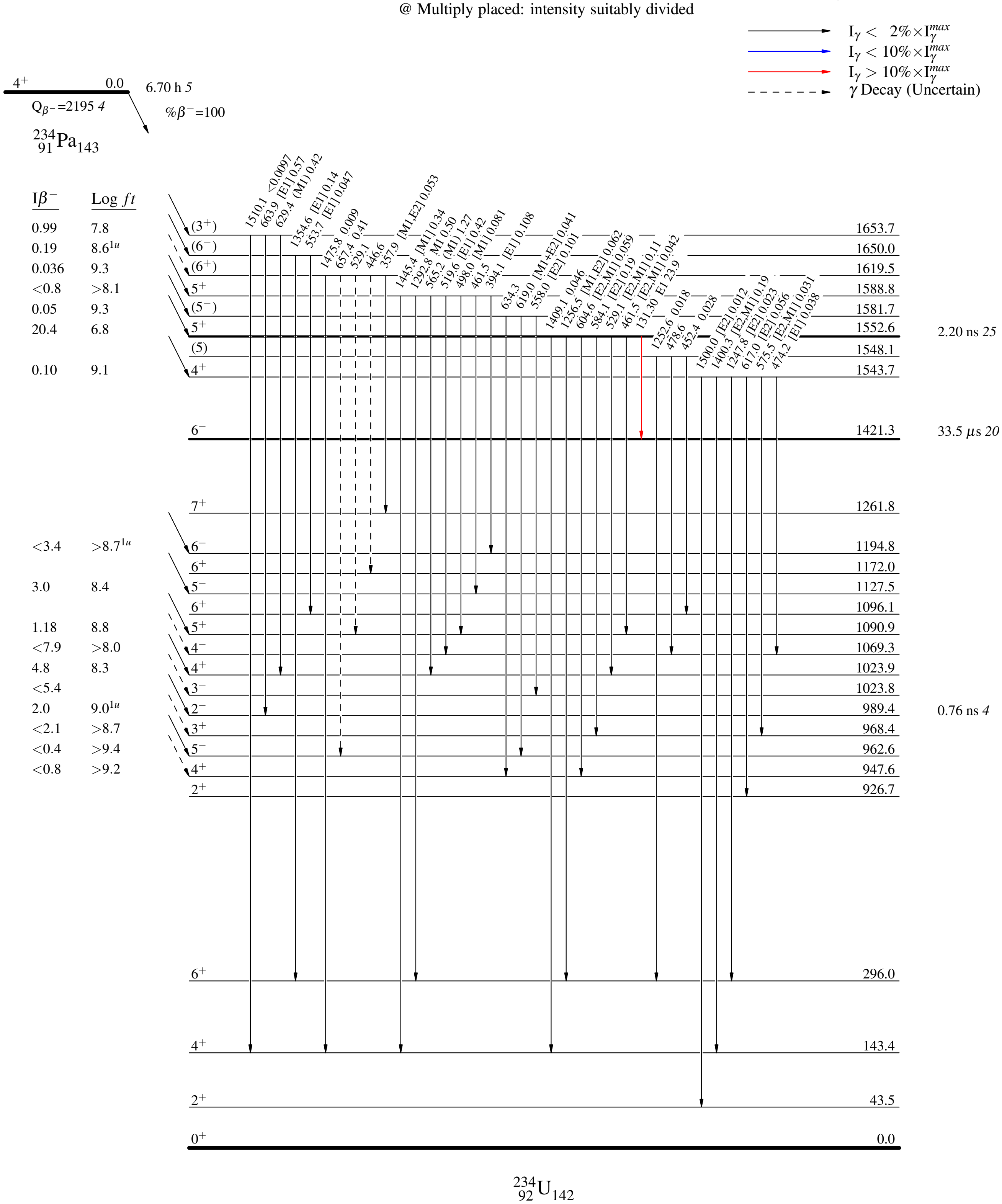
Legend



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided

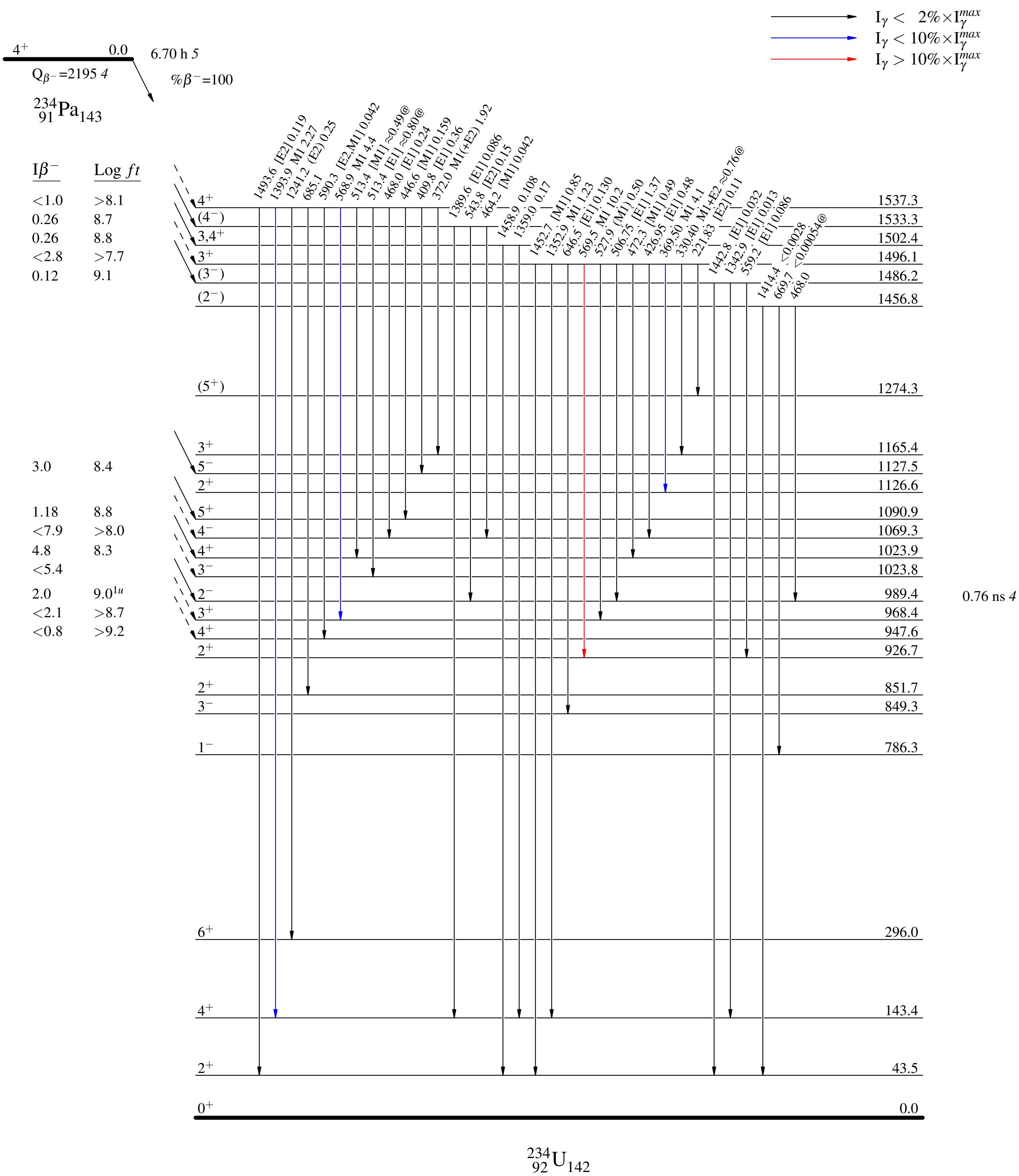


^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

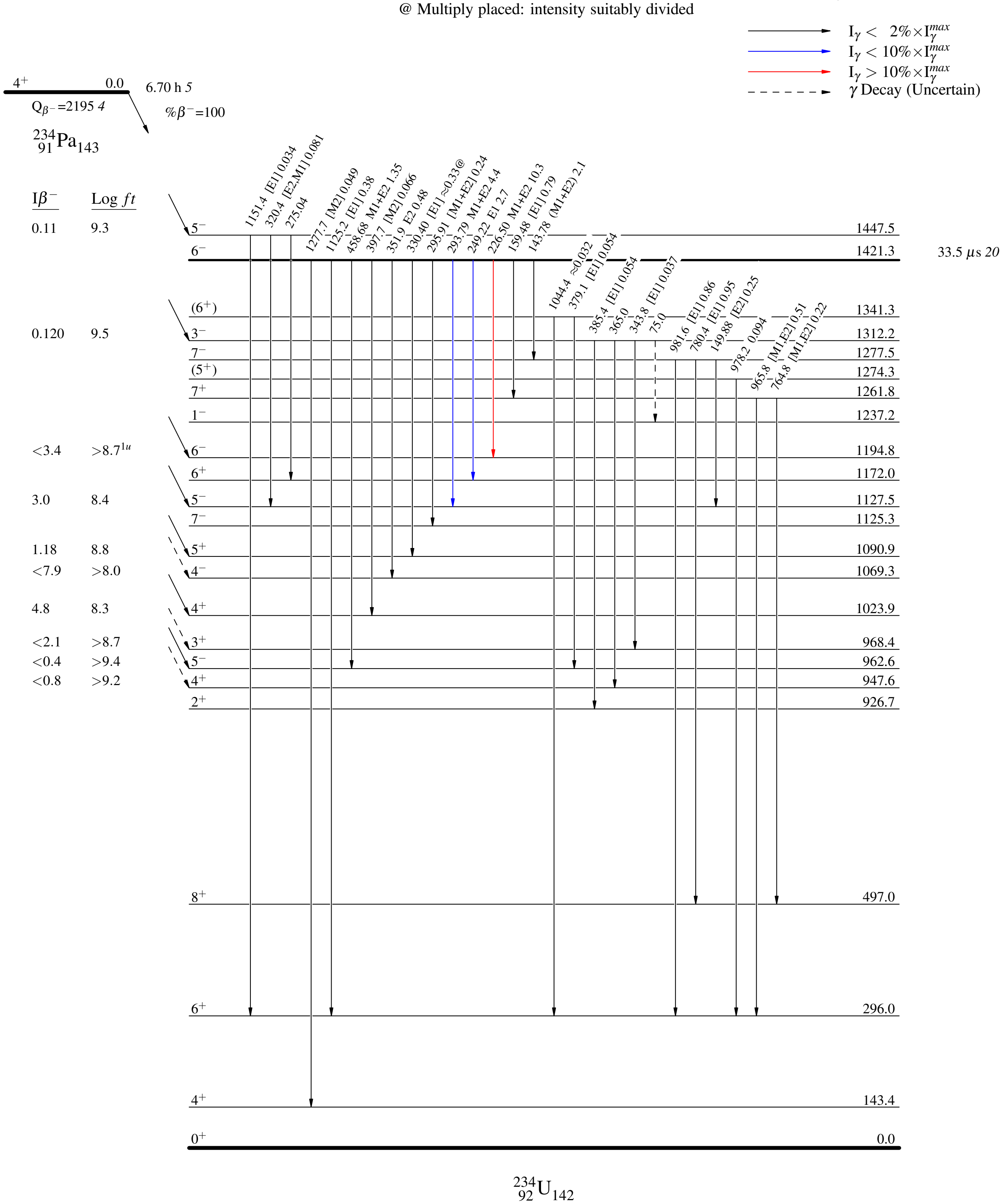
@ Multiply placed: intensity suitably divided



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

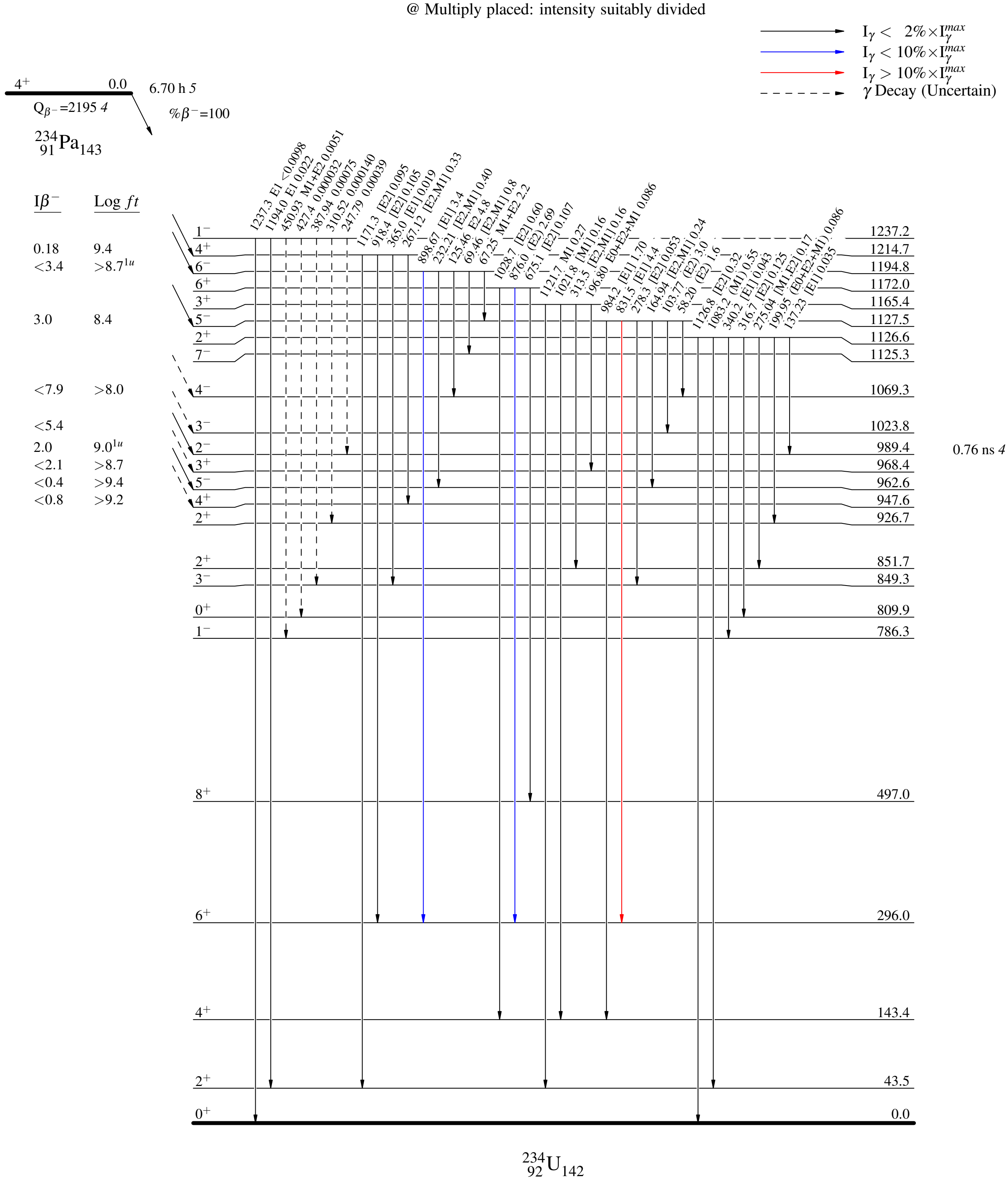
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

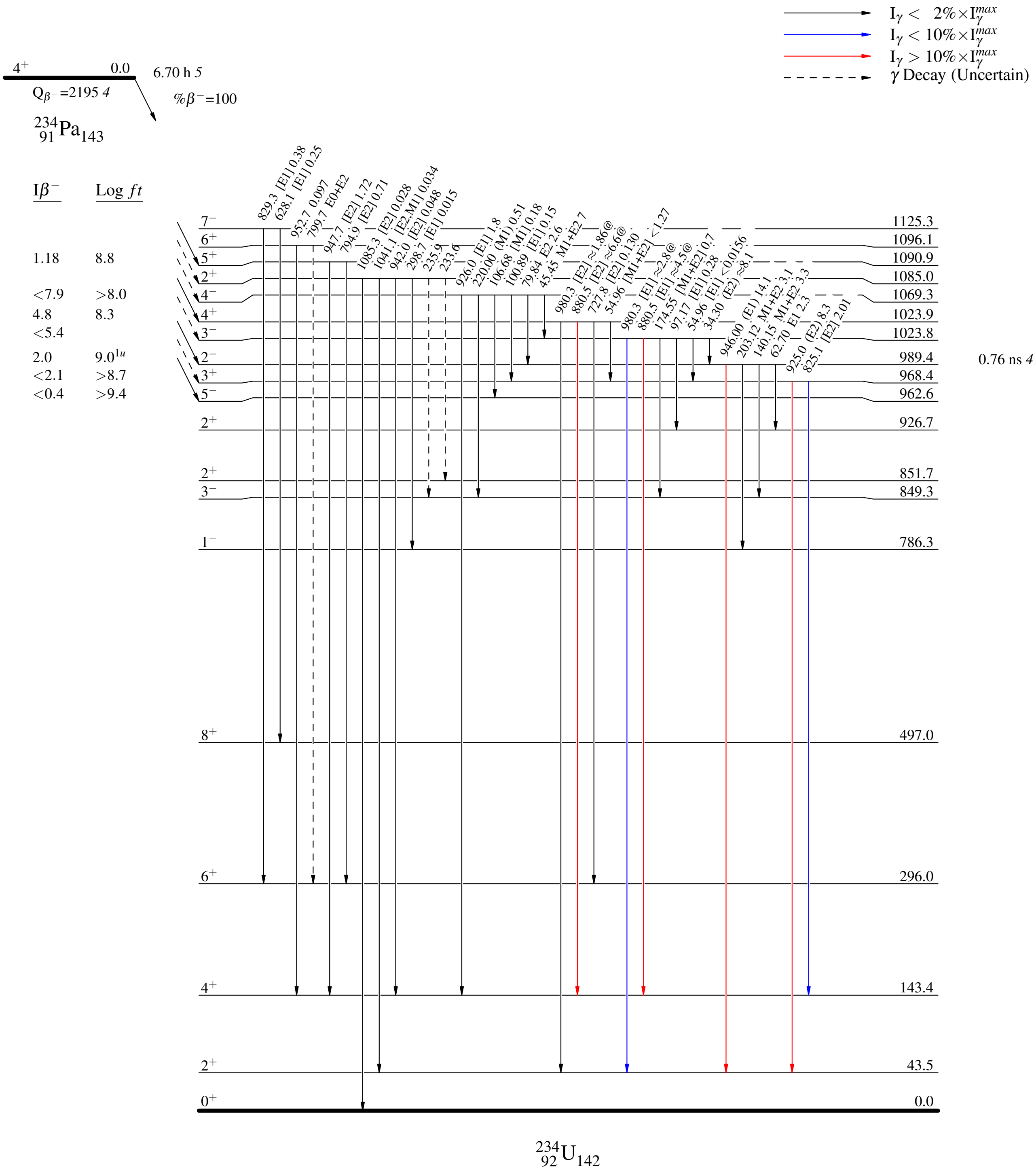
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided



^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

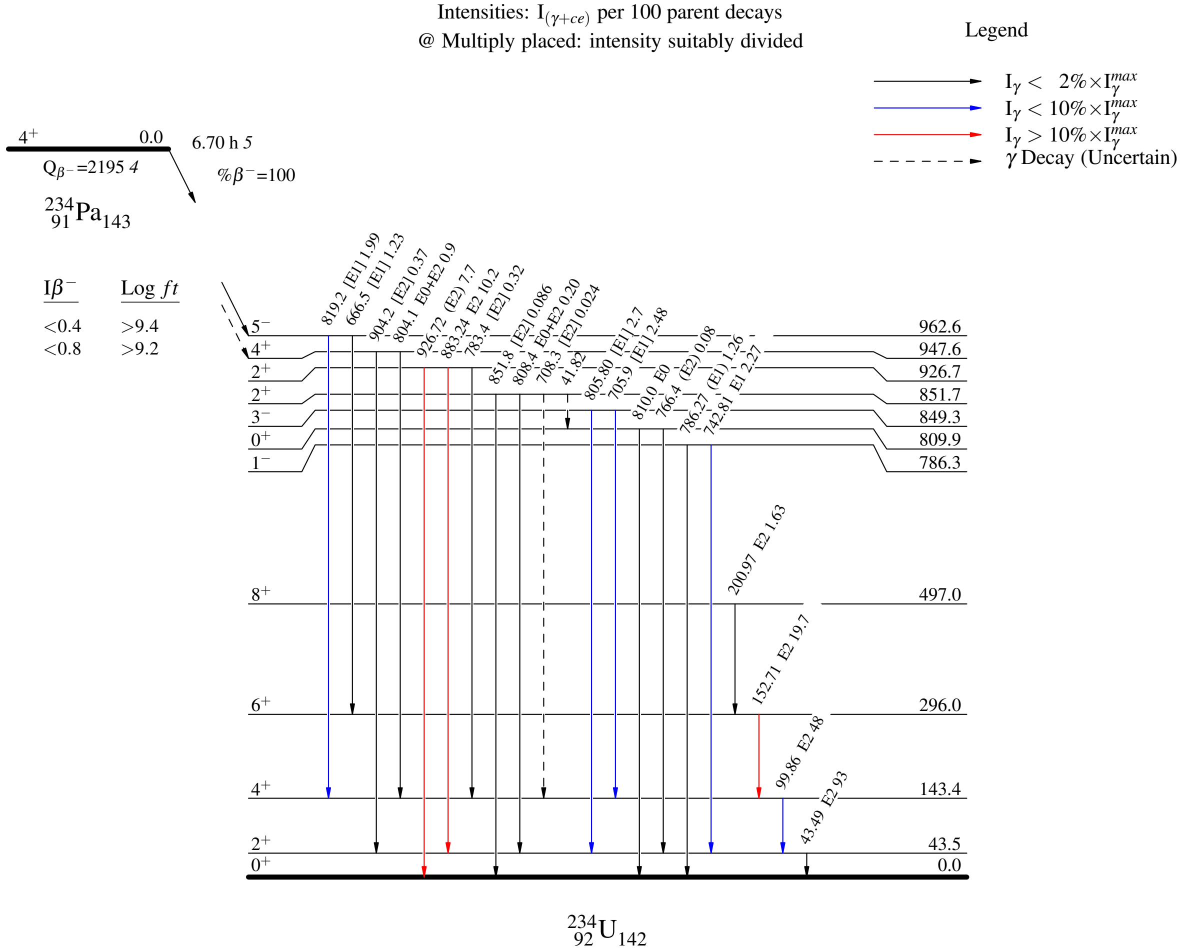
Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided



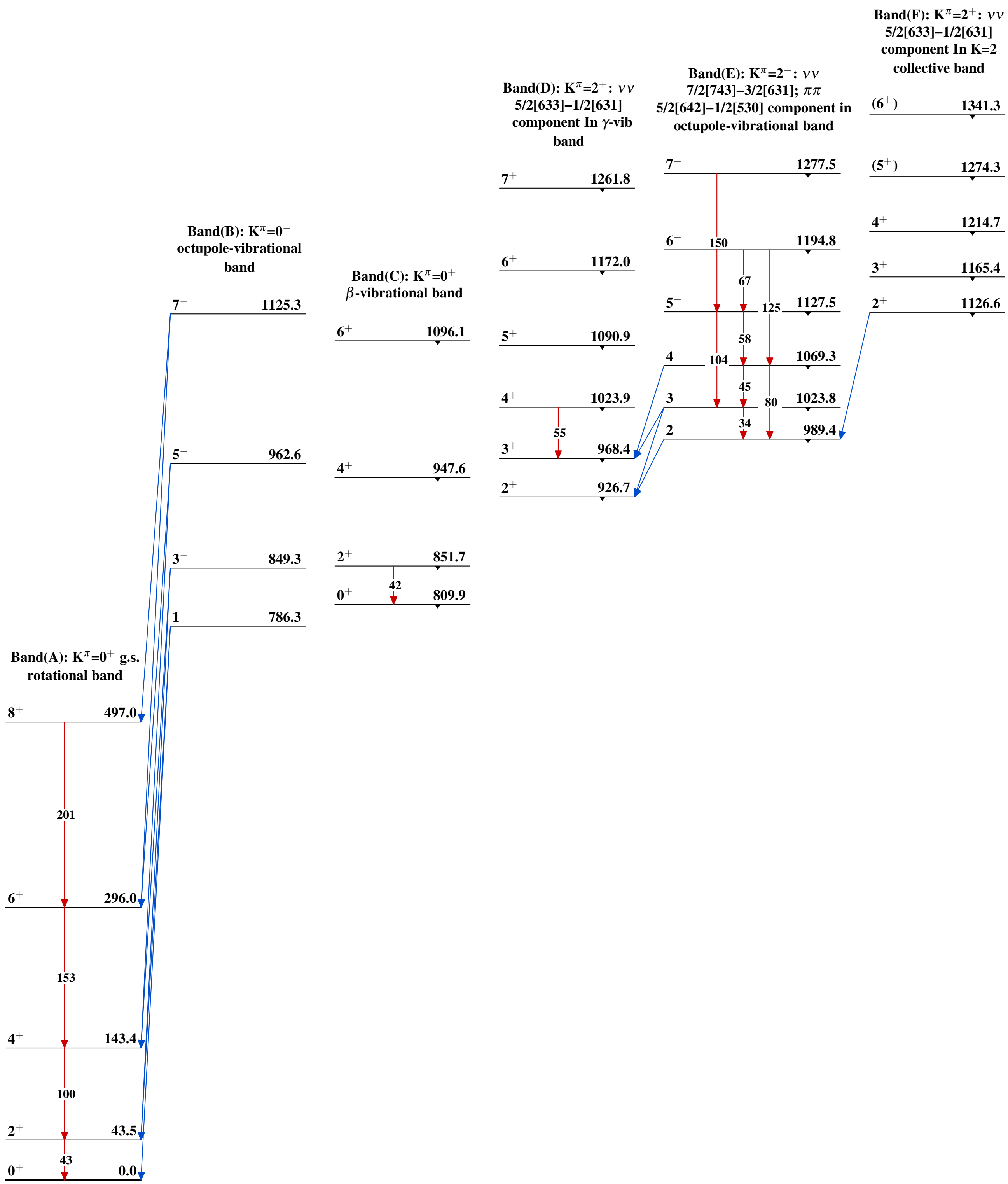
^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided

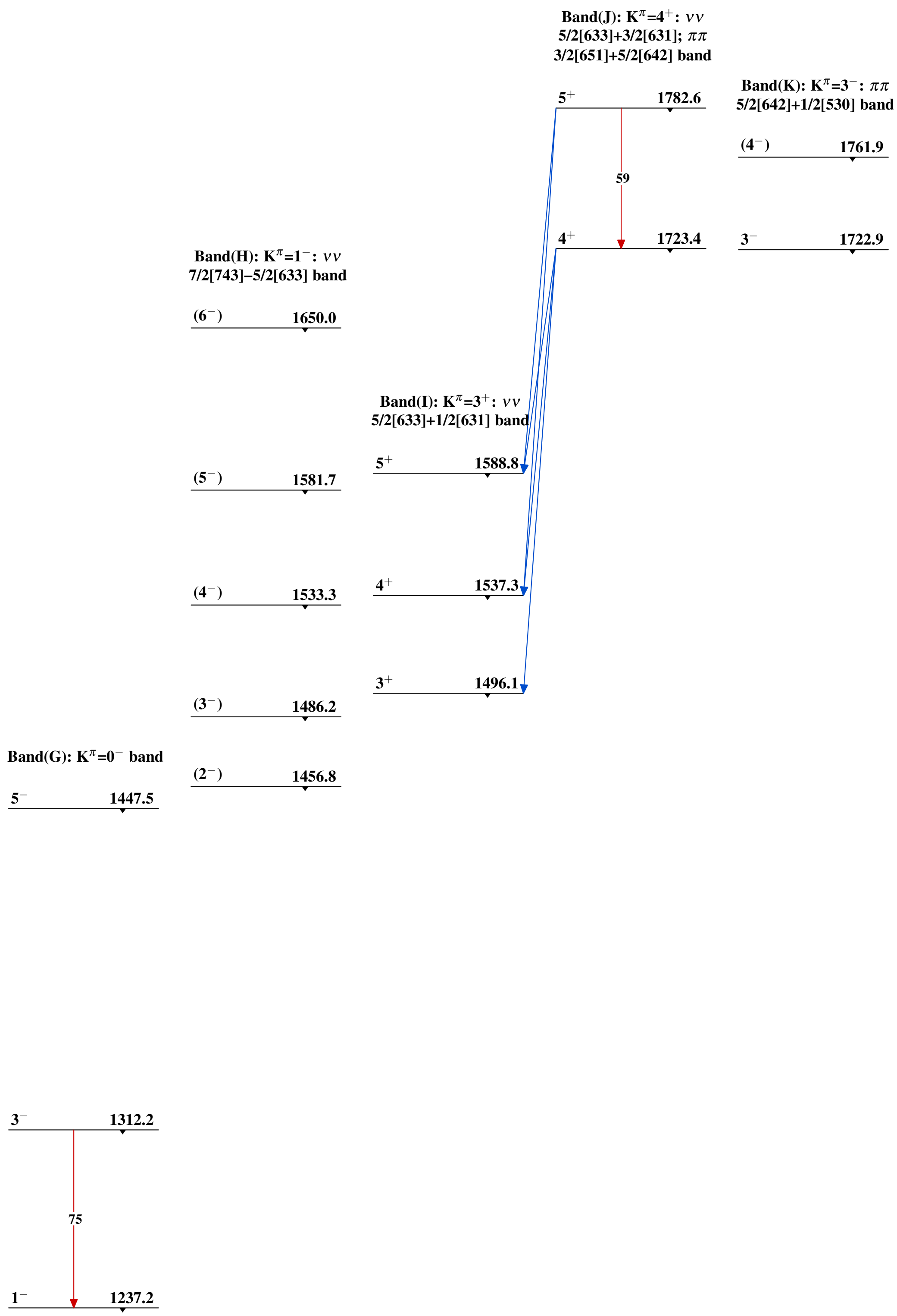


^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06



$^{234}_{92}U_{142}$

^{234}Pa β^- decay (6.70 h) 1986Ar05,1968Bj06 (continued)



$^{234}_{92}U_{142}$