Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 187,1 (2023)	12-Oct-2022

Q(β^-)=−4589 *16*; S(n)=10382 *28*; S(p)=3555 *14*; Q(α)=254 *16* 2021Wa16
S(2n)=19165 *19*, S(2p)=10272 *14* (2021Wa16).

^{141}Pm Levels

Cross Reference (XREF) Flags

A	^{141}Sm ε decay (10.2 min)	E	^{141}Pr(^{3}He,3nγ)
B	^{141}Sm ε decay (22.6 min)	F	^{141}Pr(α,4nγ)
C	^{126}Te(^{19}F,4nγ)	G	^{142}Nd(p,2nγ)
D	^{133}Cs(^{12}C,4nγ)	H	^{144}Sm(p,α)

E(level)†	J$^\pi$‡	T$_{1/2}$	XREF	Comments
0.0	5/2$^+$	20.90 min *5*	ABCDEFGH	%ε+%β^+=100 J$^\pi$: atomic beam (1976Fu06), log *ft*=5.4 to 3/2$^+$. T$_{1/2}$: from 1967Bl27. Other: 20.9 min *2* (1975Ya04), see 1959Gr98, 1952Ki25.
196.88 *5*	7/2$^+$	0.23 ns *3*	BCDEFGH	J$^\pi$: γ to 5/2$^+$ is D; M2 from 11/2$^-$. T$_{1/2}$: from ^{141}Sm ε decay (22.6 min) (1970ArZQ).
403.81 *7*	3/2$^+$		A EFG	J$^\pi$: γ to 5/2$^+$ is ΔJ=1 M1+E2, log *ft*=5.8 via 1/2$^+$ parent.
438.69 *9*	(1/2)$^+$		A E GH	J$^\pi$: γ to 5/2$^+$ is E2, excitation function in (p,2nγ), log *ft*=5.8 via 1/2$^+$ parent; 3/2$^+$ cannot be excluded.
628.61 *7*	11/2$^-$	0.63 μs *2*	BCDEFGH	J$^\pi$: γ to 5/2$^+$ is E3. T$_{1/2}$: from (α,4nγ) (1985Ar19). Others: 0.583 μs *23* (1975Bu10), 0.59 μs *2* (1980Pi03), 0.70 μs *2* (1971WaZO), 0.218 μs *9* (1970ArZQ).
728.36 *10*	3/2$^+$		A EFG	J$^\pi$: γ to 7/2$^+$ is ΔJ=2, E2; log *ft*=6.7 via 1/2$^+$ parent.
804.74 *20*			B G	
837.29 *10*	9/2$^+$		B EFGH	J$^\pi$: γ to 5/2$^+$ is ΔJ=2 E2, log *ft*=7.0 via 11/2$^-$ parent.
858.55 *15*	(9/2$^+$)		E	J$^\pi$: γ to 5/2$^+$ is ΔJ=2, (E2).
974.30 *9*	11/2$^+$	<1.0 ns	BCDEFGH	J$^\pi$: γ to 7/2$^+$ is ΔJ=2 E2; log *ft*=6.8 via 11/2$^-$ parent. T$_{1/2}$: from (p,2nγ), (^{3}He,3nγ); disagrees with T$_{1/2}$=56 ns *11* from ε decay of ^{141}Sm (11/2$^-$) (1970ArZQ): B(E2)(W.u.)=8×10^{-4} for T$_{1/2}$=56 ns is an unreasonably small value.
1046.40 *20*			A	
1055.51 *12*	11/2$^-$		F	J$^\pi$: γ to 11/2$^-$ is ΔJ=0, M1+E2.
1108.31 *12*	9/2$^+$		B EFGH	J$^\pi$: γ to 5/2$^+$ is much weaker than to 7/2$^+$; γ to 7/2$^+$ is ΔJ=1, M1+E2.
1153.41 *10*	7/2$^+$		E G	J$^\pi$: γ to 5/2$^+$ is ΔJ=1, D+Q, γ to 7/2$^+$ may be ΔJ=0, Q+D. Significant δ (not given) more likely is compatible with M1+E2 than with E1+M2.
1166.97 *11*	(9/2)$^-$		B EFG	J$^\pi$: γ to 11/2$^-$ is M1, ΔJ=1; no γ from J>11/2.
1242.6 *3*	7/2$^+$		G	J$^\pi$: γ to 5/2$^+$ is ΔJ=1, (D+Q); γ to 7/2$^+$ may be ΔJ=0, D+Q. Significant δ (not given) more likely is compatible with M1+E2 than with E1+M2.
1292.71 *14*	(3/2)$^+$		A	J$^\pi$: log *ft*=6.0 via 1/2$^+$ parent, strong γ to 5/2$^+$.
1313.19 *11*	13/2$^-$		BCDEFG	J$^\pi$: γ to 11/2$^-$ is ΔJ=1, (M1+E2) and γ from 15/2$^-$.
1359.78 *25*	11/2,7/2		FG	J$^\pi$: γ to 7/2$^+$ is ΔJ=2, Q or ΔJ=0, Q+D.
1414.64 *11*	(9/2$^-$)		B EFG	J$^\pi$: γ to 11/2$^-$ is ΔJ=1, (M1+E2) and γ to 9/2$^+$.
1495.75 *12*	(1/2,3/2)$^+$		A	J$^\pi$: allowed ε from 1/2$^+$.
1510.68 *12*	15/2$^-$		CDEFG	J$^\pi$: γ to 11/2$^-$ is ΔJ=2 E2, no definite γ to J<11/2$^-$.
1515.3 *3*			A	
1573.3? *12*			EF	E(level): level resulting from the placement of 1068γ+260γ cascade in between 2641 and 1313 levels in (^{3}He,3nγ) and (α,4nγ); the reversed order proposed in (^{19}F,4nγ) and (^{12}C,4nγ) was adopted.
1692.8 *4*			G	

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Adopted Levels, Gammas (continued)

^{141}Pm Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
1794.91 *22*			B G	
1802.26 *17*			GH	
1834.1 *4*			B	
1874.5 *4*			EFGH	
1885.06 *22*			A	
1891.72 *15*	(19/2$^-$)		D F	Jπ: γ to 15/2$^-$ is ΔJ=2, Q in (^{12}C,4nγ) but ΔJ=1, D in (α,4nγ).
1902.60 *21*	(1/2,3/2)$^+$		A	Jπ: allowed ε from 1/2$^+$.
1970.04 *12*	15/2$^{(+)}$		CDEFG	Jπ: γ to 11/2$^+$ is ΔJ=2, (E2); no γ to J<11/2$^+$.
1983.30 *14*	9/2$^-$		B G	Jπ: log *ft*=5.79 via 11/2$^-$ parent, strong γ to 7/2$^+$.
1992.0 *4*			A	
2004.66 *20*	(1/2,3/2)$^+$		A	Jπ: allowed ε from 1/2$^+$.
2015.30 *15*	15/2$^-$		C EFG	Jπ: γ to 13/2$^-$ is ΔJ=1, M1+E2; no γ to J<(13/2).
2037.98 *20*	(1/2,3/2)$^+$		A	Jπ: allowed ε from 1/2$^+$.
2063.47 *13*			B	
2091.71 *12*	11/2$^-$		B G	Jπ: γ to 9/2$^+$ is E1, log *ft*=5.7 via 11/2$^-$ parent.
2098.39 *23*			EFG	
2119.05 *10*	(9/2,11/2,13/2)$^-$		B	Jπ: allowed ε from 11/2$^-$.
2138.06 *17*	13/2$^{(+)}$		CDE	Jπ: γ to 11/2$^+$ is ΔJ=1, D+Q, no γ to J<11/2$^+$.
2171.7 *4*			G	
2238.99 *13*	19/2$^-$		CDEFG	Jπ: γ to 15/2$^-$ is ΔJ=2 E2, no γ to J<15/2$^-$.
2349.52 *16*	19/2$^{(-)}$	54 ns *5*	CD	Jπ: γ to 19/2$^-$ is ΔJ=0, D+Q, γ from 21/2 is ΔJ=1, D+Q. $T_{1/2}$: from 2004Bh01 (^{12}C,4nγ).
2361.3 *4*			E	
2381.67 *21*	15/2$^{(-)}$		CD	Jπ: γ to 13/2$^-$ is ΔJ=1, D, no γ to J<13/2$^-$.
2509.75 *17*	19/2$^-$		CDEF	Jπ: γ to 15/2$^-$ is ΔJ=2 E2, no γ to J<15/2.
2530.75 *17*		>2 μs	CD F	$T_{1/2}$: from 1985Ar19 (^{141}Pr(α,4nγ)).
2554.39 *17*	21/2$^{(-)}$,17/2$^{(-)}$		F	Jπ: γ to 19/2$^-$ is ΔJ=1, D.
2574.4? *4*		≥2[#] μs	D	E(level): energy of this level not well established (^{12}C,4nγ).
2623.22 *12*	17/2$^{(+)}$		CDEFG	Jπ: γ to 15/2$^{(+)}$ is ΔJ=1 M1+E2 and γ to 13/2$^{(+)}$ is ΔJ=2 Q.
2623.60 *25*			C	
2639.99 *21*	21/2$^{(-)}$		D	Jπ: γ to 19/2$^{(-)}$ is ΔJ=1 D; no γ to J<19/2.
2641.62 *22*	17/2$^{(-)}$		CDEF	Jπ: γ to 15/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<15/2.
2661.58 *25*	21/2$^{(-)}$		CD	Jπ: γ to 19/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<19/2.
2702.34 *21*			B	
2703.20 *15*	21/2		CD F	Jπ: γ to 19/2$^{(-)}$ is ΔJ=1 D+Q.
2810.09 *21*	21/2$^{(-)}$		CD	Jπ: γ to 19/2$^-$ is ΔJ=1 D+Q; no γ to J<19/2.
2824.6 *4*	(25/2$^-$)		D	Jπ: γ to 21/2$^{(-)}$ is ΔJ=(2) (Q); no γ to J<21/2.
2840.6 *4*			D	
2899.70[@] *18*	23/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ from 25/2$^{(-)}$ is ΔJ=1 D; no γ to J<21/2.
3079.3 *6*	27/2$^{(-)}$		C	Jπ: γ to 23/2$^{(-)}$ is ΔJ=2 Q; no γ to J<23/2.
3098.6 *4*		≤0.7[#] ns	D	
3122.6 *3*	25/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ to 21/2$^{(-)}$ is ΔJ=2 E2; no γ to J<21/2.
3157.6 *4*	23/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ to 21/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<21/2.
3246.80 *20*	25/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ to 23/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<23/2.
3257.2 *8*	31/2$^{(-)}$		C	Jπ: γ to 27/2$^{(-)}$ is ΔJ=2 Q; no γ to J<27/2.
3333.1 *9*	33/2$^{(-)}$		C	Jπ: γ to 31/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<31/2.
3465.80 *20*	25/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ to 23/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<23/2.
3581.5[@] *6*	27/2$^{(-)}$		C	Jπ: γ to 23/2$^{(-)}$ is ΔJ=2 Q; no γ to J<23/2.
3702.59[&] *20*	25/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ to 23/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<23/2.
3727.6 *6*	23/2$^{(-)}$		C	Jπ: γ to 19/2$^{(-)}$ is ΔJ=2 Q; no γ to J<19/2.
3884.60 *22*	27/2$^{(-)}$	≤0.7[#] ns	CD	Jπ: γ to 25/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<25/2.
3982.5[&] *6*	27/2$^{(-)}$		C	Jπ: γ to 25/2$^{(-)}$ is ΔJ=1 D+Q; no γ to J<25/2.

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Adopted Levels, Gammas (continued)

^{141}Pm Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$	XREF	Comments
4063.67 *22*	$27/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $25/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<25/2.
4075.6 *6*	$(27/2^{-})$	≤0.7[#] ns	C	J$^{\pi}$: γ to $25/2^{(-)}$ is ΔJ=(1) (D+Q); no γ to J<25/2.
4116.0 *8*	$27/2^{(-)}$		C	J$^{\pi}$: γ to $23/2^{(-)}$ is ΔJ=2 Q; no γ to J<23/2.
4270.6[@] *8*	$31/2^{(-)}$		C	J$^{\pi}$: γ to $27/2^{(-)}$ is ΔJ=2 Q; no γ to J<27/2.
4335.2[a] *9*	$35/2^{(-)}$		C	J$^{\pi}$: γ to $33/2^{(-)}$ is ΔJ=1 D+Q and γ to $31/2^{(-)}$ is ΔJ=2 Q.
4349.9[&] *8*	$29/2^{(-)}$		C	J$^{\pi}$: γ to $27/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<27/2.
4376.2 *6*	$(25/2^{-})$		C	J$^{\pi}$: γ to $23/2^{(-)}$ is ΔJ=(1) (D+Q); no γ to J<23/2.
4515.4[a] *10*	$37/2^{(-)}$		C	J$^{\pi}$: γ to $35/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<35/2.
4625.68 *23*	$29/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $27/2^{(-)}$ is ΔJ=1 D+Q and γ to $25/2^{(-)}$ is ΔJ=2 E2.
4683.6 *9*	$35/2^{(-)}$		C	J$^{\pi}$: γ to $31/2^{(-)}$ is ΔJ=2 Q; no γ to J<31/2.
4721.82 *22*	$29/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $27/2^{(-)}$ is ΔJ=1 D+Q and γ to $25/2^{(-)}$ is ΔJ=2 Q.
4773.5[a] *11*	$39/2^{(-)}$		C	J$^{\pi}$: γ to $37/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<37/2.
4822.0[&] *9*	$31/2^{(-)}$		C	J$^{\pi}$: γ to $29/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<29/2.
4862.21[d] *24*	$31/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $29/2^{(-)}$ is ΔJ=1 D+Q and γ to $27/2^{(-)}$ is ΔJ=2 E2.
4916.6[@] *9*	$35/2^{(-)}$		C	J$^{\pi}$: γ to $31/2^{(-)}$ is ΔJ=2 Q; no γ to J<31/2.
4916.7 *3*	$31/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $29/2^{(-)}$ is ΔJ=1 D+Q and γ to $27/2^{(-)}$ is ΔJ=2 E2.
4938.3 *10*	$37/2^{(-)}$		C	J$^{\pi}$: γ to $35/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<35/2.
5047.3 *10*	$39/2^{(-)}$		C	J$^{\pi}$: γ to $37/2^{(-)}$ is ΔJ=1 D+Q and γ to $25/2^{(-)}$ is ΔJ=2 Q.
5088.0[a] *12*	$41/2^{(-)}$		C	J$^{\pi}$: γ to $39/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<39/2.
5094.5[d] *3*	$33/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $31/2^{(-)}$ is ΔJ=1 D+Q and γ to $29/2^{(-)}$ is ΔJ=2 E2.
5152.1 *11*	$(37/2^{-})$		C	J$^{\pi}$: γ to $35/2^{(-)}$ is ΔJ=(1) (D+Q); no γ to J<35/2.
5337.8 *4*	$37/2^{(-)}$	≤0.7[#] ns	CD	J$^{\pi}$: γ to $33/2^{(-)}$ is ΔJ=2 E2; no γ to J<33/2.
5400.4[&] *11*	$33/2^{(-)}$		C	J$^{\pi}$: γ to $31/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<31/2.
5407.8[d] *6*	$35/2^{(-)}$		C	J$^{\pi}$: γ to $33/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<33/2.
5435.5 *4*		≤0.7[#] ns	D	
5459.7[a] *13*	$43/2^{(-)}$		C	J$^{\pi}$: γ to $41/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<41/2.
5482.6 *10*	$41/2^{(-)}$		C	J$^{\pi}$: γ to $39/2^{(-)}$ is ΔJ=1 D+Q and γ to $37/2^{(-)}$ is ΔJ=2 Q.
5512.9 *6*	$(39/2^{-})$		C	J$^{\pi}$: γ to $37/2^{(-)}$ is ΔJ=(1) (D+Q); no γ to J<37/2.
5762.6[d] *8*	$37/2^{(-)}$		C	J$^{\pi}$: γ to $35/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<35/2.
5774.1[@] *11*	$39/2^{(-)}$		C	J$^{\pi}$: γ to $35/2^{(-)}$ is ΔJ=2 Q; no γ to J<35/2.
5902.4[a] *14*	$45/2^{(-)}$		C	J$^{\pi}$: γ to $43/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<43/2.
5998.8[b] *11*	$43/2^{(-)}$		C	J$^{\pi}$: γ to $41/2^{(-)}$ is ΔJ=1 D+Q and γ to $39/2^{(-)}$ is ΔJ=2 Q.
6025.4[c] *12*	$(39/2^{-})$		C	J$^{\pi}$: γ to $(37/2^{-})$ is ΔJ=(1) (D+Q); no γ to J<37/2.
6084.8[&] *12*	$35/2^{(-)}$		C	J$^{\pi}$: γ to $33/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<33/2.
6243.8[c] *13*	$(41/2^{-})$		C	J$^{\pi}$: γ to $(39/2^{-})$ is ΔJ=1 D+Q; no γ to J<39/2.
6353.8[b] *11*	$45/2^{(-)}$		C	J$^{\pi}$: γ to $43/2^{(-)}$ is ΔJ=1 D+Q and γ to $41/2^{(-)}$ is ΔJ=2 Q.
6402.7[@] *12*	$43/2^{(-)}$		C	J$^{\pi}$: γ to $39/2^{(-)}$ is ΔJ=2 Q; no γ to J<39/2.
6479.9[c] *14*	$(43/2^{-})$		C	J$^{\pi}$: γ to $(41/2^{-})$ is ΔJ=1 D+Q; no γ to J<41/2.
6698.5 *12*	$43/2^{(-)}$		C	J$^{\pi}$: γ to $39/2^{(-)}$ is ΔJ=2 Q; no γ to J<39/2.
6792.8[c] *15*	$(45/2^{-})$		C	J$^{\pi}$: γ to $(43/2^{-})$ is ΔJ=1 D+Q; no γ to J<43/2.
6814.8[b] *12*	$47/2^{(-)}$		C	J$^{\pi}$: γ to $45/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<45/2.
7121.7[@] *13*	$47/2^{(-)}$		C	J$^{\pi}$: γ to $43/2^{(-)}$ is ΔJ=2 Q; no γ to J<43/2.
7123.0[c] *16*	$(47/2^{-})$		C	J$^{\pi}$: γ to $(45/2^{-})$ is ΔJ=1 D+Q; no γ to J<45/2.
7353.7[b] *13*	$49/2^{(-)}$		C	J$^{\pi}$: γ to $47/2^{(-)}$ is ΔJ=1 D+Q; no γ to J<47/2.

[†] From least-squares fit to Eγ data.
[‡] The majority of J values are from ^{126}Te(^{19}F,4nγ) (2011Gu12) and ^{133}Cs(^{12}C,4nγ) (2004Bh01) deduced from γ-ray

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Adopted Levels, Gammas (continued)

^{141}Pm Levels (continued)

multipolarities based on DCO ratio measurements where, due to the heavy ion reaction type stretched transitions are typical, and as a rule spin values increase with increasing excitation energy, arguments which were tacitly applied by evaluator as well. Multipolarities deduced from $\gamma(\theta)$ were obtained in ^{142}Nd(p,2nγ), ^{141}Pr(α,4nγ), and ^{141}Pr(^{3}He,3nγ) and used for spin assignments as well. For levels from these datasets with γ-ray multipolarity determined by DCO or $\gamma(\theta)$ only tentative parities were assigned based on calculations and physical arguments. For states in ε decay datasets J^{π} values were assigned based on log *ft* and α(K)exp, with α(K)exp also measured in ^{141}Pr(^{3}He,3nγ), which allowed a more thorough assignment of parity. Some J^{π} values assigned by evaluator can differ from those of the authors, which were listed in some particular reaction datasets.

For levels 2899 and above in ^{133}Cs(^{12}C,4nγ) $T_{1/2}\leq 0.7$ ns limit was measured from generalized centroid-shift method (2004Bh01).

@ Band(A): $\Delta J=2$ band based on $23/2^{-}$. States with spins up to 47/2. Possible configuration: $\pi h_{11/2}\otimes\nu(h_{11/2},f_{7/2}1/2[541])$ (2011Gu12, (^{19}F,4nγ)).

& Band(B): $\Delta J=1$ band based on $25/2^{-}$. States with spins up to 35/2. Assigned as an oblate band by authors and used particle rotor model (PRM) calculations to determine a quasiparticle configuration of $\pi h_{11/2}\otimes\nu h^{2}_{11/2}$ (2011Gu12, (^{19}F,4nγ)).

a Band(C): $\Delta J=1$ band based on $35/2^{-}$. States with spins up to 45/2. Assigned as an oblate band (2011Gu12, (^{19}F,4nγ)).

b Band(D): $\Delta J=1$ band based on $43/2^{-}$. State with spins up to 49/2. Assigned as oblate-triaxial deformation (2011Gu12, (^{19}F,4nγ)).

c Band(E): $\Delta J=1$ band based on $(39/2^{-})$. States with spins up to 47/2. Assigned as oblate-triaxial deformation (2011Gu12, (^{19}F,4nγ)).

d Band(F): $\Delta J=1$ band based on $31/2^{-}$. States with spins up to 35/2. Assigned as oblate-triaxial deformation (2011Gu12, (^{19}F,4nγ)).

Adopted Levels, Gammas (continued)

γ(^{141}Pm)

Data for γ′s from levels >2702.4 are from (^{19}F,4nγ) and (^{12}C,4nγ); below this level from ε decays, (p,2nγ), (^{3}He,3nγ), (α,4nγ), and also from (^{19}F,4nγ) and (^{12}C,4nγ) (fewer). For data adopted from these two datasets Eγ values were adopted preferentially from (^{12}C,4nγ), which gave ΔEγ′s, while Iγ values are typically from (^{19}F,4nγ); for Eγ′s adopted from (^{19}F,4nγ) ΔEγ=0.5 keV was assigned uniformly by evaluator (most of these Eγ′s are published without uncertainty).

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ[#]	α[‡]	Comments
196.88	7/2$^+$	196.88 *5*	100	0.0	5/2$^+$	D		0.231	B(M1)(W.u.)=0.0102 *+15−12* α(K)=0.197 *3*; α(L)=0.0273 *4*; α(M)=0.00582 *9* α(N)=0.001313 *19*; α(O)=0.000198 *3*; α(P)=1.259×10^{-5} *18*
403.81	3/2$^+$	403.8 *1*	100	0.0	5/2$^+$	M1+E2	≈1.4	≈0.0263	α(K)≈0.0218; α(L)≈0.00353; α(M)≈0.000763 α(N)≈0.0001705; α(O)≈2.49×10^{-5}; α(P)≈1.303×10^{-6}
438.69	(1/2)$^+$	438.8 *1*	100	0.0	5/2$^+$	E2		0.01758	α(K)=0.01436 *21*; α(L)=0.00253 *4*; α(M)=0.000551 *8* α(N)=0.0001227 *18*; α(O)=1.759×10^{-5} *25*; α(P)=8.23×10^{-7} *12*
628.61	11/2$^-$	431.6 *1*	100 *5*	196.88	7/2$^+$	M2		0.1001	B(M2)(W.u.)=0.1040 *33* α(K)=0.0833 *12*; α(L)=0.01313 *19*; α(M)=0.00285 *4* α(N)=0.000643 *9*; α(O)=9.65×10^{-5} *14*; α(P)=5.91×10^{-6} *9*
		628.6 *1*	6.6 *2*	0.0	5/2$^+$	E3		0.01734	B(E3)(W.u.)=2.38 *+16−14* α(K)=0.01368 *20*; α(L)=0.00286 *4*; α(M)=0.000633 *9* α(N)=0.0001410 *20*; α(O)=2.00×10^{-5} *3*; α(P)=8.52×10^{-7} *12*
728.36	3/2$^+$	324.6 *1*	100 *16*	403.81	3/2$^+$	M1		0.0604	α(K)=0.0515 *8*; α(L)=0.00704 *10*; α(M)=0.001501 *21* α(N)=0.000338 *5*; α(O)=5.12×10^{-5} *8*; α(P)=3.27×10^{-6} *5*
		531.3 *2*	25.0 *24*	196.88	7/2$^+$	E2		0.01046	α(K)=0.00866 *13*; α(L)=0.001417 *20*; α(M)=0.000307 *5* α(N)=6.85×10^{-5} *10*; α(O)=9.94×10^{-6} *14*; α(P)=5.05×10^{-7} *7*
		728.4 *3*	51 *10*	0.0	5/2$^+$	D			Additional information 1.
804.74		607.9 *2*	100	196.88	7/2$^+$				
837.29	9/2$^+$	108.9[a] *2*		728.36	3/2$^+$				
		208.7 *1*		628.61	11/2$^-$				
		640.5 *2*		196.88	7/2$^+$				
		837.1 *2*	100	0.0	5/2$^+$	E2		0.00348	α(K)=0.00294 *5*; α(L)=0.000423 *6*; α(M)=9.06×10^{-5} *13* α(N)=2.03×10^{-5} *3*; α(O)=3.02×10^{-6} *5*; α(P)=1.757×10^{-7} *25*
858.55	(9/2$^+$)	661.7 *5*	13 *6*	196.88	7/2$^+$				
		858.55 *15*	100 *15*	0.0	5/2$^+$	(E2)			
974.30	11/2$^+$	777.6 *1*	100	196.88	7/2$^+$	E2		0.00411	α(K)=0.00347 *5*; α(L)=0.000507 *8*; α(M)=0.0001088 *16* α(N)=2.44×10^{-5} *4*; α(O)=3.61×10^{-6} *5*; α(P)=2.07×10^{-7} *3*
1046.40		1046.4 *2*	100	0.0	5/2$^+$				
1055.51	11/2$^-$	426.9 *1*	100	628.61	11/2$^-$	D+Q			
1108.31	9/2$^+$	911.3 *3*	100 *3*	196.88	7/2$^+$	E2		0.00288	α(K)=0.00244 *4*; α(L)=0.000346 *5*; α(M)=7.39×10^{-5} *11* α(N)=1.659×10^{-5} *24*; α(O)=2.47×10^{-6} *4*; α(P)=1.463×10^{-7} *21*
		1108.4 *2*	14 *1*	0.0	5/2$^+$				

$^{141}_{61}Pm_{80}$-5

Adopted Levels, Gammas (continued)

γ(^{141}Pm) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ#	α‡	Comments
1153.41	7/2+	524.9 *2*		628.61	11/2−				I_γ: weak.
		749.6 *1*	100 *12*	403.81	3/2+				
		955.7 *6*	24 *21*	196.88	7/2+	Q+D			
		1153.3 *3*	29 *6*	0.0	5/2+	D+Q			
1166.97	(9/2)−	538.5 *2*	100	628.61	11/2−	M1		0.01648	α(K)=0.01408 *20*; α(L)=0.00189 *3*; α(M)=0.000403 *6* α(N)=9.08×10^{-5} *13*; α(O)=1.375×10^{-5} *20*; α(P)=8.87×10^{-7} *13*
1242.6	7/2+	1045.9 *4*	100 *9*	196.88	7/2+	(Q+D)			
		1242.5 *4*	49 *6*	0.0	5/2+	(D+Q)			
1292.71	(3/2)+	854.3 *2*	19.5 *13*	438.69	(1/2)+				
		888.5 *3*	9.4 *13*	403.81	3/2+				
		1292.6 *2*	100 *6*	0.0	5/2+				
1313.19	13/2−	684.7 *2*	100	628.61	11/2−	M1+E2	−0.87 *8*	0.00756 *20*	α(K)=0.00643 *18*; α(L)=0.000893 *20*; α(M)=0.000190 *5* α(N)=4.28×10^{-5} *10*; α(O)=6.43×10^{-6} *15*; α(P)=3.96×10^{-7} *12*
1359.78	11/2,7/2	1163.0 *3*	100	196.88	7/2+	Q			
		1359.6 *4*		0.0	5/2+				
1414.64	(9/2−)	247.9 *2*	11.2 *24*	1166.97	(9/2)−				
		577.8[a] *3*	13 *4*	837.29	9/2+				
		785.9 *1*	100 *6*	628.61	11/2−	(M1+E2)	−0.19 *8*	0.00641 *13*	α(K)=0.00549 *11*; α(L)=0.000730 *13*; α(M)=0.000155 *3* α(N)=3.50×10^{-5} *7*; α(O)=5.30×10^{-6} *10*; α(P)=3.43×10^{-7} *7*
1495.75	(1/2,3/2)+	767.5 *3*	35 *3*	728.36	3/2+				
		1057.1 *2*	100 *6*	438.69	(1/2)+				
		1091.9 *2*	79 *5*	403.81	3/2+				
		1495.7 *2*	55 *4*	0.0	5/2+				
1510.68	15/2−	197.3 *2*	1.1 *7*	1313.19	13/2−				
		402.6[a] *2*		1108.31	9/2+				
		455.1	9.2 *8*	1055.51	11/2−	Q			
		882.03 *15*	100 *3*	628.61	11/2−	E2		0.00310	α(K)=0.00262 *4*; α(L)=0.000374 *6*; α(M)=7.99×10^{-5} *12* α(N)=1.79×10^{-5} *3*; α(O)=2.67×10^{-6} *4*; α(P)=1.569×10^{-7} *22*
1515.3		1515.3 *3*	100	0.0	5/2+				
1573.3?		260.0[a] *3*	100	1313.19	13/2−				E_γ: γ ray assigned at 1573 in (^{3}He,3nγ) and (α,4nγ) but to 2641 in (^{19}F,4nγ) and (^{12}C,4nγ), which was adopted, by reversing the order of 1068γ+260γ cascade in between 2641 and 1313.
1692.8		1495.9 *4*	100	196.88	7/2+				
1794.91		820.6 *2*	100	974.30	11/2+				
1802.26		694.0 *2*	100 *10*	1108.31	9/2+				
		827.9 *2*	17 *6*	974.30	11/2+				

$^{141}_{61}Pm_{80}$-6

Adopted Levels, Gammas (continued)

γ(^{141}Pm) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ[#]	α[‡]	Comments
1834.1		725.7 *5*	100 *17*	1108.31	9/2$^+$				
		995.8[a] *5*	25 *6*	837.29	9/2$^+$				
		1029.6 *6*	36 *8*	804.74					
1874.5		1037.2 *3*	100	837.29	9/2$^+$				
1885.06		1446.6 *4*	41 *12*	438.69	(1/2)$^+$				
		1481.0 *5*	71 *12*	403.81	3/2$^+$				
		1885.0 *3*	100 *12*	0.0	5/2$^+$				
1891.72	(19/2$^-$)	381.0 *1*	100	1510.68	15/2$^-$	Q			Mult.: from (^{12}C,4nγ); D in (α,4nγ).
1902.60	(1/2,3/2)$^+$	1463.9 *4*	100 *20*	438.69	(1/2)$^+$				
		1499.1 *4*	31 *4*	403.81	3/2$^+$				
		1902.4 *3*	47 *4*	0.0	5/2$^+$				
1970.04	15/2$^{(+)}$	995.77 *11*	100	974.30	11/2$^+$	(E2)		0.00238	α(K)=0.00202 *3*; α(L)=0.000282 *4*; α(M)=6.02×10^{-5} *9* α(N)=1.351×10^{-5} *19*; α(O)=2.02×10^{-6} *3*; α(P)=1.214×10^{-7} *17*
1983.30	9/2$^-$	149.1[a] *3*	2.6 *7*	1834.1					
		875.0 *1*	11 *1*	1108.31	9/2$^+$				
		1009.1 *4*	26.6 *22*	974.30	11/2$^+$	D			
		1786.4 *4*	100 *4*	196.88	7/2$^+$				
1992.0		1587.9 *5*	38 *19*	403.81	3/2$^+$				
		1992.1 *4*	100 *13*	0.0	5/2$^+$				
2004.66	(1/2,3/2)$^+$	1565.9 *5*	5 *2*	438.69	(1/2)$^+$				
		1600.7 *3*	100 *9*	403.81	3/2$^+$				
		2004.8 *3*	22 *2*	0.0	5/2$^+$				
2015.30	15/2$^-$	702.1 *1*	100	1313.19	13/2$^-$	M1+E2	−1.6 *3*	0.0062 *4*	α(K)=0.0052 *3*; α(L)=0.00075 *3*; α(M)=0.000160 *7* α(N)=3.59×10^{-5} *15*; α(O)=5.34×10^{-6} *24*; α(P)=3.16×10^{-7} *19*
2037.98	(1/2,3/2)$^+$	1599.9 *5*	21 *9*	438.69	(1/2)$^+$				
		1634.1 *3*	12 *3*	403.81	3/2$^+$				
		2037.8 *3*	100 *8*	0.0	5/2$^+$				
2063.47		648.7 *3*	23 *5*	1414.64	(9/2$^-$)				
		750.3 *3*	100 *15*	1313.19	13/2$^-$				
		896.5 *1*	92 *10*	1166.97	(9/2)$^-$				
		955.4 *5*	44 *3*	1108.31	9/2$^+$				
		1434.9 *4*	23 *8*	628.61	11/2$^-$				
2091.71	11/2$^-$	108.5 *3*	2.8 *6*	1983.30	9/2$^-$				
		676.8 *3*	19 *3*	1414.64	(9/2$^-$)				
		924.7 *1*	32 *4*	1166.97	(9/2)$^-$				
		983.3 *3*	100 *5*	1108.31	9/2$^+$	E1		1.01×10^{-3}	α(K)=0.000873 *13*; α(L)=0.0001114 *16*; α(M)=2.35×10^{-5} *4* α(N)=5.29×10^{-6} *8*; α(O)=7.98×10^{-7} *12*; α(P)=5.11×10^{-8} *8*

$^{141}_{61}Pm_{80}$-7

Adopted Levels, Gammas (continued)

γ(^{141}Pm) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	δ[#]	α[‡]	Comments
2091.71	11/2$^-$	1117.6 *2*	44 *3*	974.30	11/2$^+$				
		1463.4 *6*	25 *4*	628.61	11/2$^-$				
2098.39		206.6 *2*		1891.72	(19/2$^-$)				I_γ: weak.
		785.6[@] *5*	100	1313.19	13/2$^-$	(M1+E2)	−0.19 *8*	0.00642 *13*	α(K)=0.00549 *11*; α(L)=0.000731 *13*; α(M)=0.000155 *3* α(N)=3.50×10^{-5} *7*; α(O)=5.30×10^{-6} *10*; α(P)=3.43×10^{-7} *7*
2119.05	(9/2,11/2,13/2)$^-$	704.2 *3*	4.8 *9*	1414.64	(9/2$^-$)				
		805.9 *1*	38 *7*	1313.19	13/2$^-$				
		952.1 *2*	9.6 *4*	1166.97	(9/2)$^-$				
		1145.1 *2*	94 *3*	974.30	11/2$^+$				
		1490.3 *1*	100 *7*	628.61	11/2$^-$				
2138.06	13/2$^{(+)}$	1163.8 *2*	100	974.30	11/2$^+$	D+Q			
2171.7		858.5 *3*	100	1313.19	13/2$^-$	Q			
2238.99	19/2$^-$	728.30 *7*	100	1510.68	15/2$^-$	E2		0.00478	α(K)=0.00402 *6*; α(L)=0.000599 *9*; α(M)=0.0001285 *18* α(N)=2.88×10^{-5} *4*; α(O)=4.25×10^{-6} *6*; α(P)=2.39×10^{-7} *4*
2349.52	19/2$^{(-)}$	110.5 *1*	100	2238.99	19/2$^-$	D+Q			
2361.3		391.3 *3*	100	1970.04	15/2$^{(+)}$				
2381.67	15/2$^{(-)}$	1068.5 *2*	100	1313.19	13/2$^-$	D			
2509.75	19/2$^-$	999.09 *13*	100	1510.68	15/2$^-$	E2		0.00237	α(K)=0.00201 *3*; α(L)=0.000280 *4*; α(M)=5.97×10^{-5} *9* α(N)=1.341×10^{-5} *19*; α(O)=2.00×10^{-6} *3*; α(P)=1.206×10^{-7} *17*
2530.75		639.0 *1*	100 *2*	1891.72	(19/2$^-$)				
		1020.3 *3*	11.6 *5*	1510.68	15/2$^-$				
2554.39	21/2$^{(-)}$,17/2$^{(-)}$	315.4 *1*	100	2238.99	19/2$^-$	D			
2574.4?		44.0[a] *2*	100	2530.75					
2623.22	17/2$^{(+)}$	485.2 *2*	18.9 *18*	2138.06	13/2$^{(+)}$	Q			
		653.2 *1*	100 *3*	1970.04	15/2$^{(+)}$	M1+E2		0.0082 *20*	α(K)=0.0070 *18*; α(L)=0.00098 *19*; α(M)=0.00021 *4* α(N)=4.7×10^{-5} *9*; α(O)=7.0×10^{-6} *15*; α(P)=4.3×10^{-7} *12*
		1112.5 *1*	63 *3*	1510.68	15/2$^-$	D			
2623.60		608.3 *2*	100	2015.30	15/2$^-$				
2639.99	21/2$^{(-)}$	401.0 *2*	100	2238.99	19/2$^-$	D			
2641.62	17/2$^{(-)}$	260.0 *3*	100	2381.67	15/2$^{(-)}$	D+Q			
2661.58	21/2$^{(-)}$	312.0 *2*	100	2349.52	19/2$^{(-)}$	D+Q			

$^{141}_{61}Pm_{80}$-8

Adopted Levels, Gammas (continued)

γ(^{141}Pm) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[‡]	Comments
2702.34		583.4[a] *3*	20 *6*	2119.05	(9/2,11/2,13/2)$^-$			
		1287.6[a] *4*	20 *9*	1414.64	(9/2$^-$)			
		1898.0 *10*	27 *4*	804.74				
		2073.7 *2*	100 *34*	628.61	11/2$^-$			
2703.20	21/2	61.6 *2*	44 *4*	2641.62	17/2$^{(-)}$			
		80.0 *2*	100 *5*	2623.22	17/2$^{(+)}$			
		353.4 *5*	≈48	2349.52	19/2$^{(-)}$	D+Q		
		464.2 *1*	55 *3*	2238.99	19/2$^-$	D+Q		
2810.09	21/2$^{(-)}$	170.1 *2*	100 *8*	2639.99	21/2$^{(-)}$	D		E_γ: according to 2011Gu12 in (^{19}F,4nγ) their 170γ connects 2810 and 2662 levels, in which case it should be 148.1γ; however 2004Bh01 in (^{12}C,4nγ) found that there is indeed a 170γ depopulating 2810 but to 2640 that is missing in (^{19}F,4nγ), which was adopted by evaluator (both datasets contain a slightly higher 2641 level).
		300.4 *2*	61 *6*	2509.75	19/2$^-$	D		
2824.6	(25/2$^-$)	163.0 *2*	100	2661.58	21/2$^{(-)}$	(Q)		
2840.6		179.0 *2*	100	2661.58	21/2$^{(-)}$			
2899.70	23/2$^{(-)}$	196.5 *1*	100	2703.20	21/2			
3079.3	27/2$^{(-)}$	179.6 *5*	100	2899.70	23/2$^{(-)}$	Q		
3098.6		258.0 *2*	100	2840.6		D+Q		
3122.6	25/2$^{(-)}$	312.9[&] *5*	80[&] *12*	2810.09	21/2$^{(-)}$	E2[†]	0.0476	α(K)=0.0376 *6*; α(L)=0.00785 *12*; α(M)=0.00173 *3* α(N)=0.000384 *6*; α(O)=5.36×10^{-5} *8*; α(P)=2.06×10^{-6} *3*
		461.0[&] *2*	100[&] *6*	2661.58	21/2$^{(-)}$	E2[†]	0.01533	α(K)=0.01256 *18*; α(L)=0.00217 *3*; α(M)=0.000472 *7* α(N)=0.0001051 *15*; α(O)=1.511×10^{-5} *22*; α(P)=7.24×10^{-7} *11*
3157.6	23/2$^{(-)}$	496.0 *2*	100	2661.58	21/2$^{(-)}$	D+Q		
3246.80	25/2$^{(-)}$	347.1 *1*	100	2899.70	23/2$^{(-)}$	D+Q		
3257.2	31/2$^{(-)}$	177.9 *5*	100	3079.3	27/2$^{(-)}$	Q		
3333.1	33/2$^{(-)}$	75.9 *5*	100	3257.2	31/2$^{(-)}$	D+Q		
3465.80	25/2$^{(-)}$	218.9 *5*	48 *5*	3246.80	25/2$^{(-)}$	D+Q		
		566.1 *1*	100 *7*	2899.70	23/2$^{(-)}$	D+Q		
3581.5	27/2$^{(-)}$	681.8 *5*	100	2899.70	23/2$^{(-)}$	Q		
3702.59	25/2$^{(-)}$	236.8 *2*	63 *4*	3465.80	25/2$^{(-)}$			
		802.9 *1*	100 *3*	2899.70	23/2$^{(-)}$	D+Q		
3727.6	23/2$^{(-)}$	1488.6 *5*	100	2238.99	19/2$^-$	Q		
3884.60	27/2$^{(-)}$	637.8 *1*	100	3246.80	25/2$^{(-)}$	D+Q		
3982.5	27/2$^{(-)}$	279.9 *5*	100	3702.59	25/2$^{(-)}$	D+Q		
4063.67	27/2$^{(-)}$	361.1 *2*	100 *6*	3702.59	25/2$^{(-)}$	D+Q		
		597.8 *5*	44.4 *23*	3465.80	25/2$^{(-)}$	D+Q		
		816.9 *2*	10 *5*	3246.80	25/2$^{(-)}$	D+Q		

$^{141}_{61}Pm_{80}$-9

Adopted Levels, Gammas (continued)

$\gamma(^{141}Pm)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α[‡]	Comments
4075.6	(27/2$^-$)	953.0 *5*	100	3122.6	25/2$^{(-)}$	(D+Q)		
4116.0	27/2$^{(-)}$	388.4 *5*	100	3727.6	23/2$^{(-)}$	Q		
4270.6	31/2$^{(-)}$	689.1 *5*	100	3581.5	27/2$^{(-)}$	Q		
4335.2	35/2$^{(-)}$	1002.1 *5*	100 *14*	3333.1	33/2$^{(-)}$	D+Q		
		1078.0 *5*	59 *4*	3257.2	31/2$^{(-)}$	Q		
4349.9	29/2$^{(-)}$	367.4 *5*	100	3982.5	27/2$^{(-)}$	D+Q		
4376.2	(25/2$^-$)	1218.6 *5*	100	3157.6	23/2$^{(-)}$	(D+Q)		
4515.4	37/2$^{(-)}$	180.2 *5*	100	4335.2	35/2$^{(-)}$	D+Q		
4625.68	29/2$^{(-)}$	562.0 *2*	100 *12*	4063.67	27/2$^{(-)}$	D+Q		
		923.1 *2*	94 *7*	3702.59	25/2$^{(-)}$	E2[†]	0.00280	α(K)=0.00238 *4*; α(L)=0.000336 *5*; α(M)=7.17×10^{-5} *10* α(N)=1.610×10^{-5} *23*; α(O)=2.40×10^{-6} *4*; α(P)=1.424×10^{-7} *20*
4683.6	35/2$^{(-)}$	1426.4 *5*	100	3257.2	31/2$^{(-)}$	Q		
4721.82	29/2$^{(-)}$	658.6 *5*	98 *6*	4063.67	27/2$^{(-)}$	D+Q		
		837.2 *2*	27 *10*	3884.60	27/2$^{(-)}$	D+Q		
		1019.2 *2*	100 *6*	3702.59	25/2$^{(-)}$	Q		
		1256.0 *2*	32 *8*	3465.80	25/2$^{(-)}$	Q		
4773.5	39/2$^{(-)}$	258.1 *5*	100	4515.4	37/2$^{(-)}$	D+Q		
4822.0	31/2$^{(-)}$	472.1 *5*	100	4349.9	29/2$^{(-)}$	D+Q		
4862.21	31/2$^{(-)}$	140.4 *2*	100 *13*	4721.82	29/2$^{(-)}$	D+Q		
		236.5 *2*	89 *13*	4625.68	29/2$^{(-)}$	D+Q		
		798.5 *2*	57 *8*	4063.67	27/2$^{(-)}$	E2[†]	0.00387	α(K)=0.00327 *5*; α(L)=0.000475 *7*; α(M)=0.0001018 *15* α(N)=2.28×10^{-5} *4*; α(O)=3.38×10^{-6} *5*; α(P)=1.95×10^{-7} *3*
4916.6	35/2$^{(-)}$	646.1 *5*	100	4270.6	31/2$^{(-)}$	Q		
4916.7	31/2$^{(-)}$	291.0 *2*	100 *11*	4625.68	29/2$^{(-)}$	D+Q		
		853.0 *2*	84 *11*	4063.67	27/2$^{(-)}$	E2[†]	0.00333	α(K)=0.00282 *4*; α(L)=0.000405 *6*; α(M)=8.66×10^{-5} *13* α(N)=1.94×10^{-5} *3*; α(O)=2.89×10^{-6} *4*; α(P)=1.686×10^{-7} *24*
4938.3	37/2$^{(-)}$	254.7 *5*	100	4683.6	35/2$^{(-)}$	D+Q		
5047.3	39/2$^{(-)}$	109.0 *5*	34 *11*	4938.3	37/2$^{(-)}$	D+Q		
		363.7 *5*	100 *6*	4683.6	35/2$^{(-)}$	Q		
5088.0	41/2$^{(-)}$	314.5 *5*	100	4773.5	39/2$^{(-)}$	D+Q		
5094.5	33/2$^{(-)}$	232.3 *1*	58 *7*	4862.21	31/2$^{(-)}$	D+Q		
		469.2 *5*	100 *7*	4625.68	29/2$^{(-)}$	E2[†]	0.01460	α(K)=0.01199 *18*; α(L)=0.00205 *3*; α(M)=0.000447 *7* α(N)=9.95×10^{-5} *15*; α(O)=1.433×10^{-5} *21*; α(P)=6.92×10^{-7} *10*
5152.1	(37/2$^-$)	468.5 *5*	100	4683.6	35/2$^{(-)}$	(D+Q)		
5337.8	37/2$^{(-)}$	243.3 *2*	100	5094.5	33/2$^{(-)}$	E2[†]	0.1058	α(K)=0.0805 *12*; α(L)=0.0198 *3*; α(M)=0.00442 *7* α(N)=0.000974 *14*; α(O)=0.0001331 *19*; α(P)=4.21×10^{-6} *6*
5400.4	33/2$^{(-)}$	578.4 *5*	100	4822.0	31/2$^{(-)}$	D+Q		
5407.8	35/2$^{(-)}$	313.3 *5*	100	5094.5	33/2$^{(-)}$	D+Q		

$^{141}_{61}Pm_{80}$-10

Adopted Levels, Gammas (continued)

γ(^{141}Pm) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.
5435.5		341.0 *2*	100	5094.5	$33/2^{(-)}$	
5459.7	$43/2^{(-)}$	371.7 *5*	100	5088.0	$41/2^{(-)}$	D+Q
5482.6	$41/2^{(-)}$	435.3 *5*	46 *10*	5047.3	$39/2^{(-)}$	D+Q
		544.3 *5*	100 *6*	4938.3	$37/2^{(-)}$	Q
5512.9	$(39/2^-)$	175.1 *5*	100	5337.8	$37/2^{(-)}$	(D+Q)
5762.6	$37/2^{(-)}$	354.8 *5*	100	5407.8	$35/2^{(-)}$	D+Q
5774.1	$39/2^{(-)}$	857.4 *5*	100	4916.6	$35/2^{(-)}$	Q
5902.4	$45/2^{(-)}$	442.7 *5*	100	5459.7	$43/2^{(-)}$	D+Q
5998.8	$43/2^{(-)}$	516.2 *5*	31 *12*	5482.6	$41/2^{(-)}$	D+Q
		951.5 *5*	100 *12*	5047.3	$39/2^{(-)}$	Q
6025.4	$(39/2^-)$	873.3 *5*	100	5152.1	$(37/2^-)$	(D+Q)
6084.8	$35/2^{(-)}$	684.4 *5*	100	5400.4	$33/2^{(-)}$	D+Q
6243.8	$(41/2^-)$	218.4 *5*	100	6025.4	$(39/2^-)$	D+Q
6353.8	$45/2^{(-)}$	355.0 *5*	87 *16*	5998.8	$43/2^{(-)}$	D+Q
		871.2 *5*	100 *13*	5482.6	$41/2^{(-)}$	Q
6402.7	$43/2^{(-)}$	628.6 *5*	100	5774.1	$39/2^{(-)}$	Q
6479.9	$(43/2^-)$	236.1 *5*	100	6243.8	$(41/2^-)$	D+Q
6698.5	$43/2^{(-)}$	924.4 *5*	100	5774.1	$39/2^{(-)}$	Q
6792.8	$(45/2^-)$	312.9& *5*	100&	6479.9	$(43/2^-)$	D+Q
6814.8	$47/2^{(-)}$	461.0& *5*	100&	6353.8	$45/2^{(-)}$	D+Q
7121.7	$47/2^{(-)}$	719.0 *5*	100	6402.7	$43/2^{(-)}$	Q
7123.0	$(47/2^-)$	330.2 *5*	100	6792.8	$(45/2^-)$	D+Q
7353.7	$49/2^{(-)}$	538.9 *5*	100	6814.8	$47/2^{(-)}$	D+Q

† Quadrupole transition, M2 excluded by RUL.
‡ Additional information 2.
# Additional information 3.
@ Multiply placed.
& Multiply placed with intensity suitably divided.
a Placement of transition in the level scheme is uncertain.

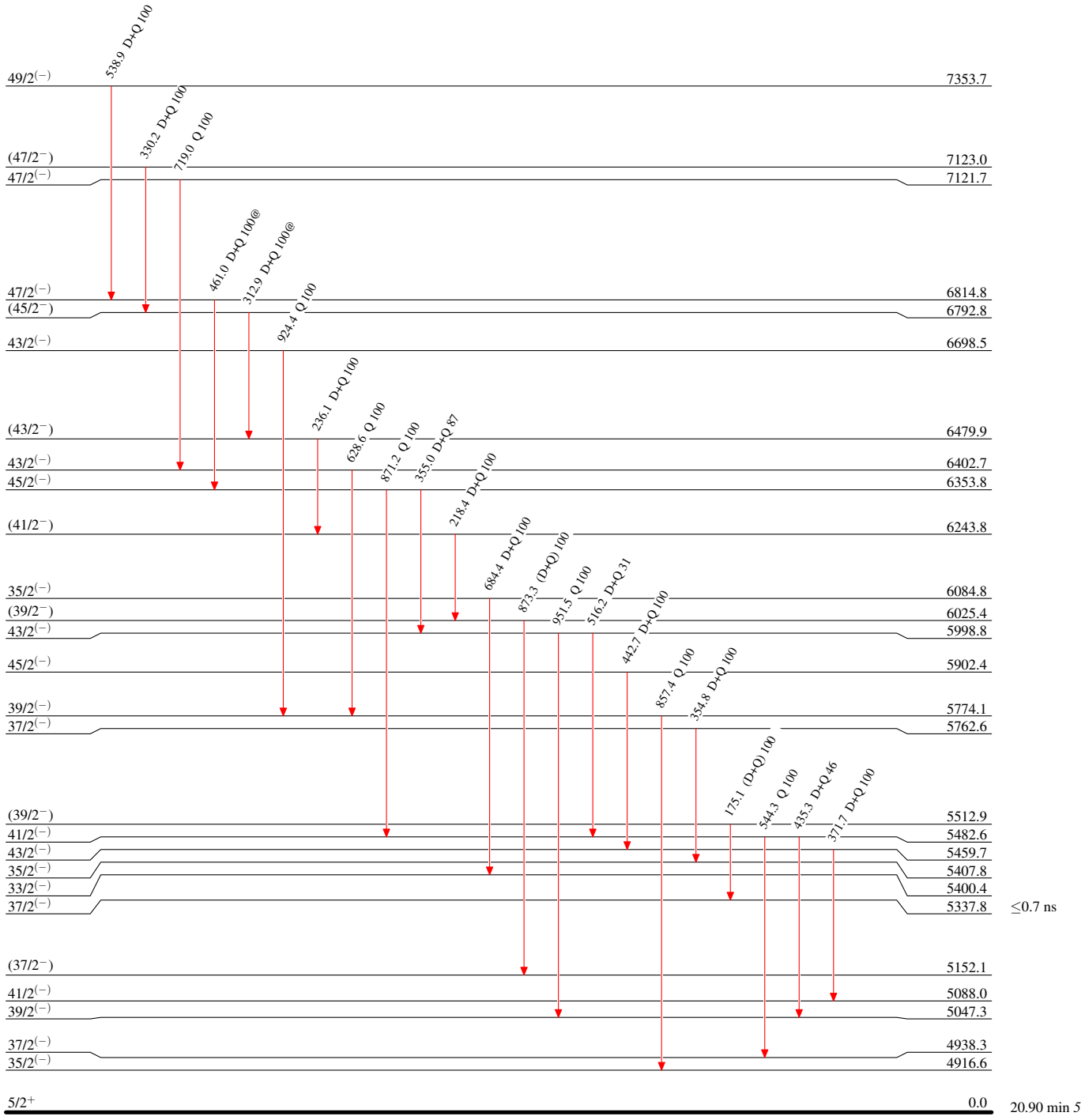
$^{141}_{61}Pm_{80}$-11

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified
@ Multiply placed: intensity suitably divided

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



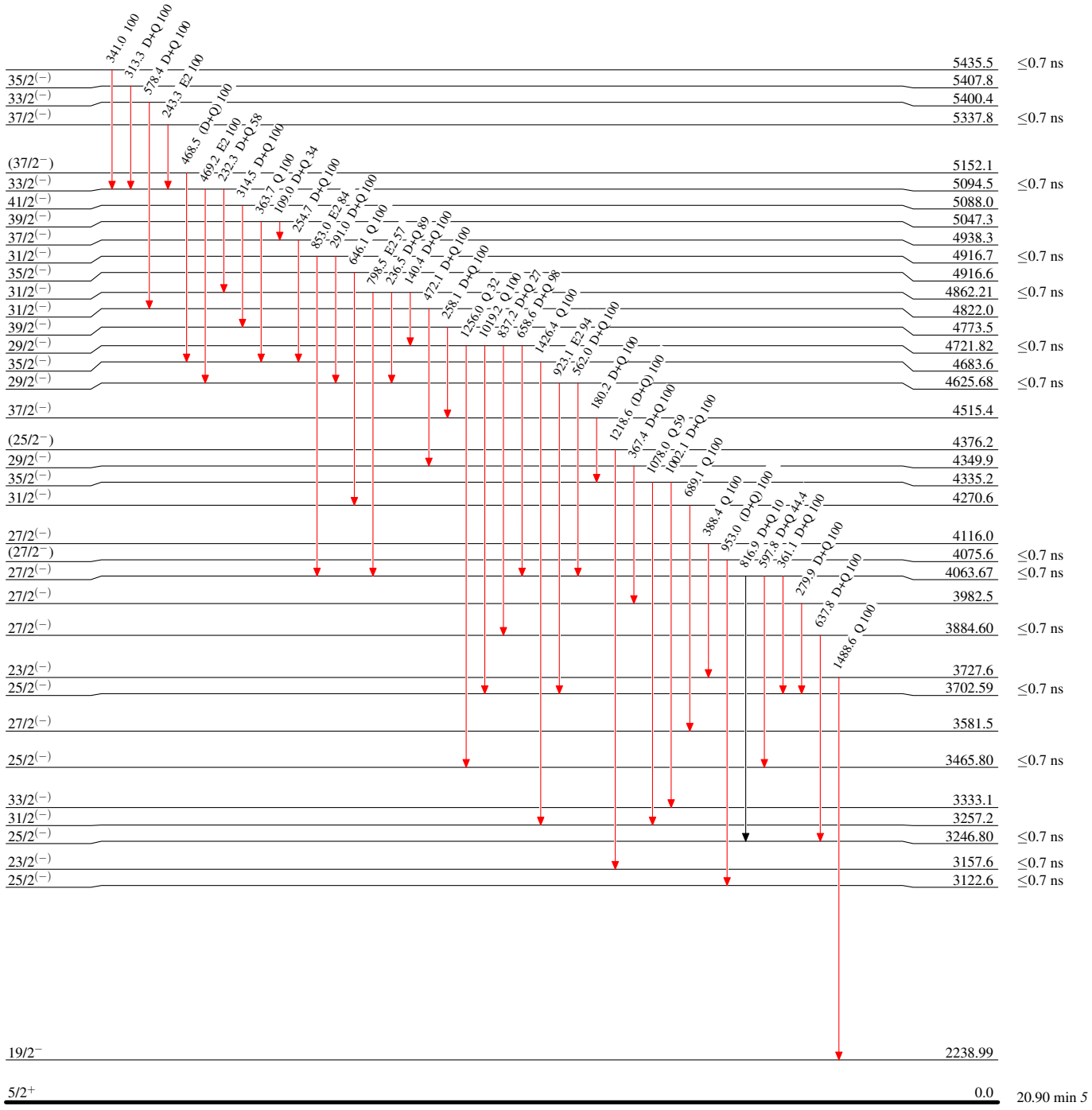
$^{141}_{61}Pm_{80}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
@ Multiply placed: intensity suitably divided

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

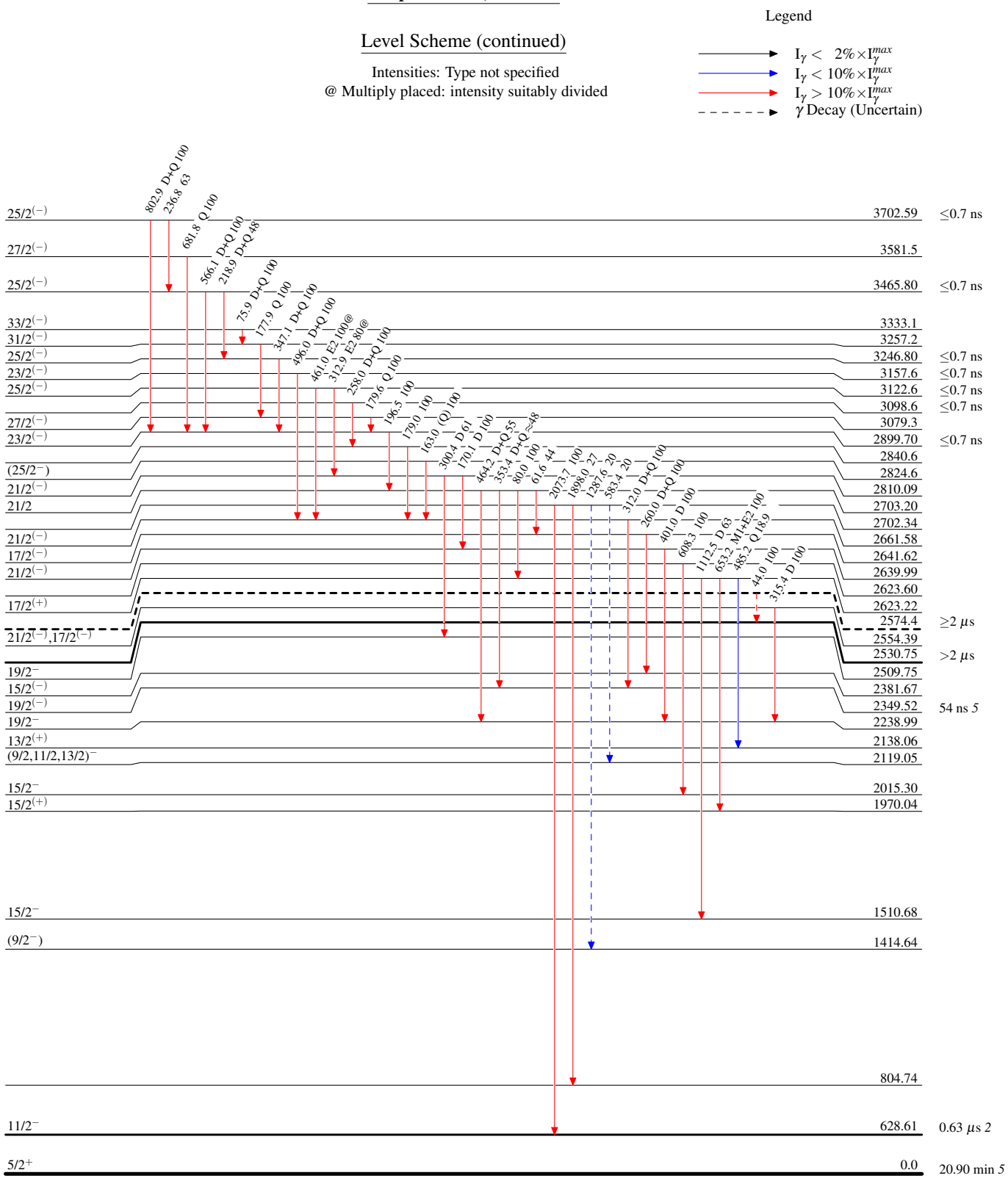


$^{141}_{61}Pm_{80}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
@ Multiply placed: intensity suitably divided



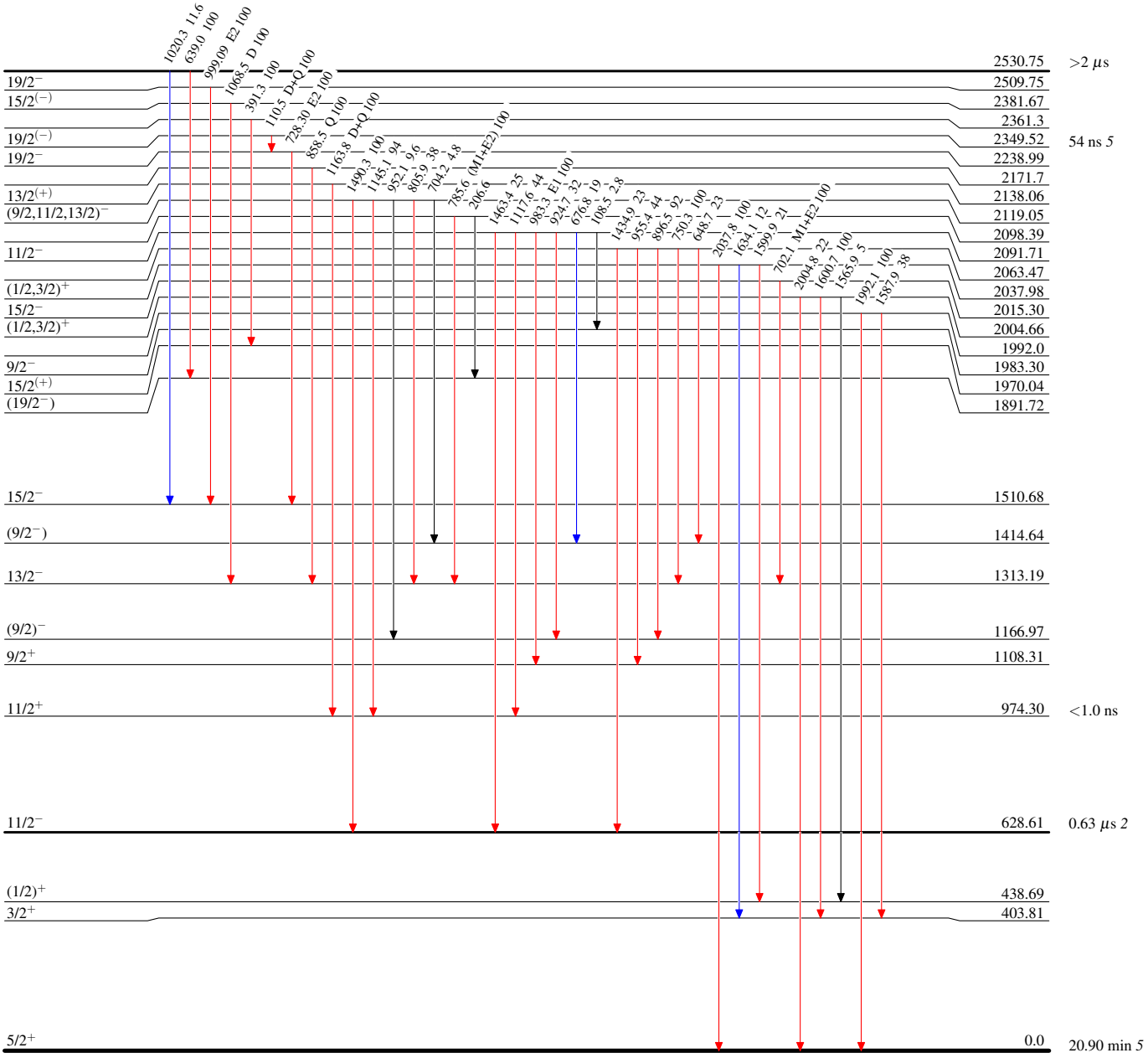
$^{141}_{61}Pm_{80}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
@ Multiply placed: intensity suitably divided

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

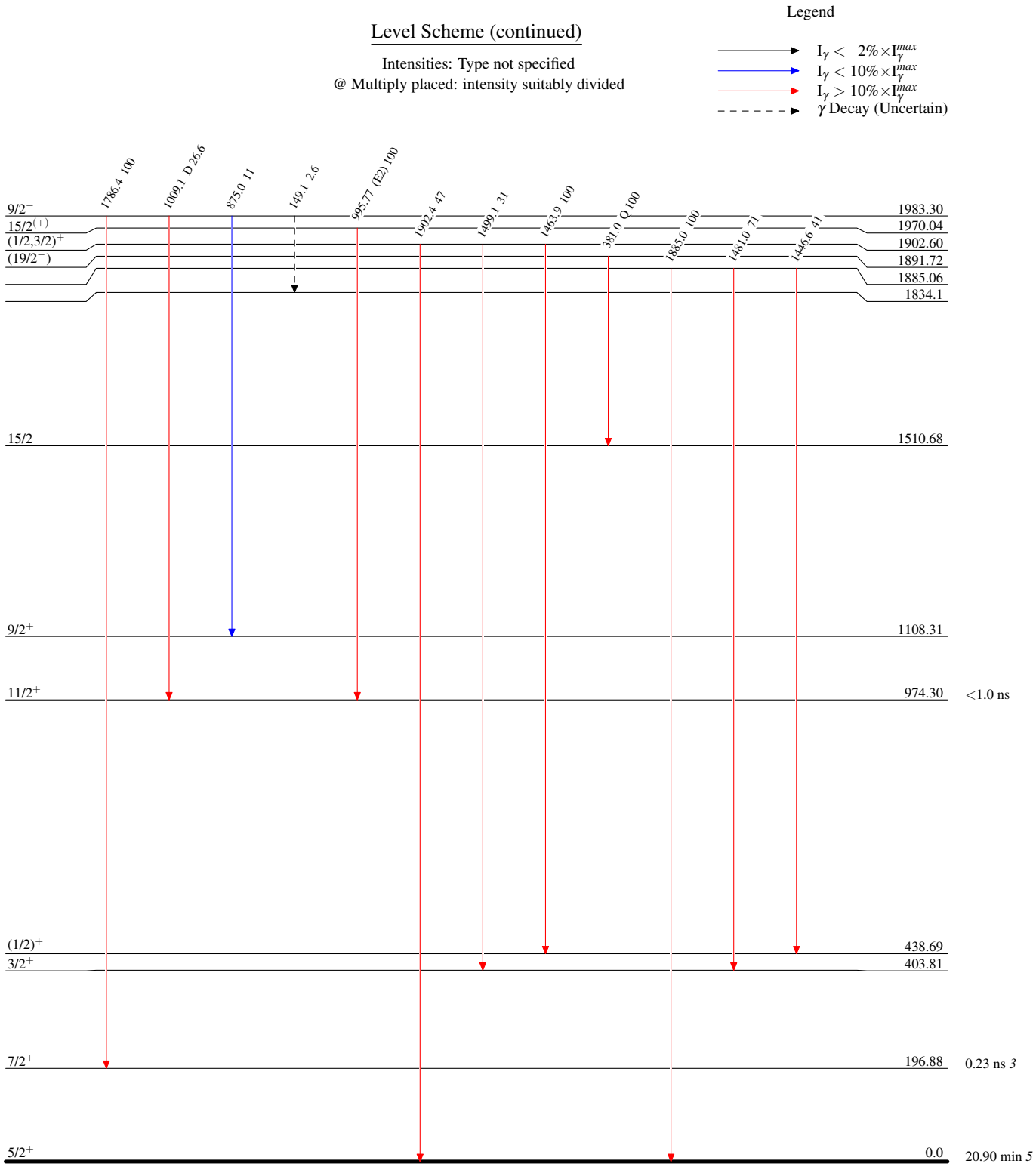


$^{141}_{61}Pm_{80}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
@ Multiply placed: intensity suitably divided

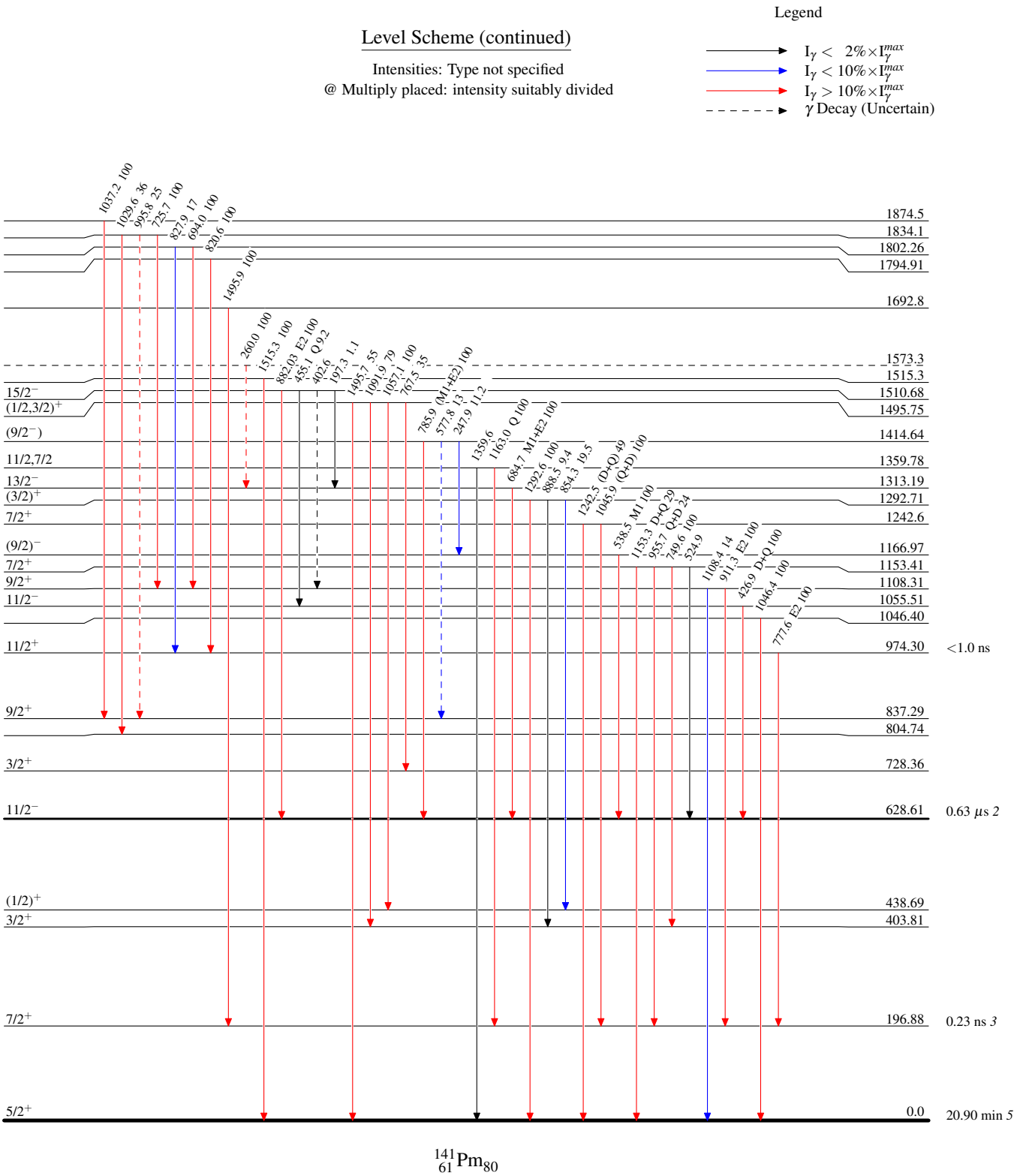


$^{141}_{61}Pm_{80}$

Adopted Levels, Gammas

Level Scheme (continued)

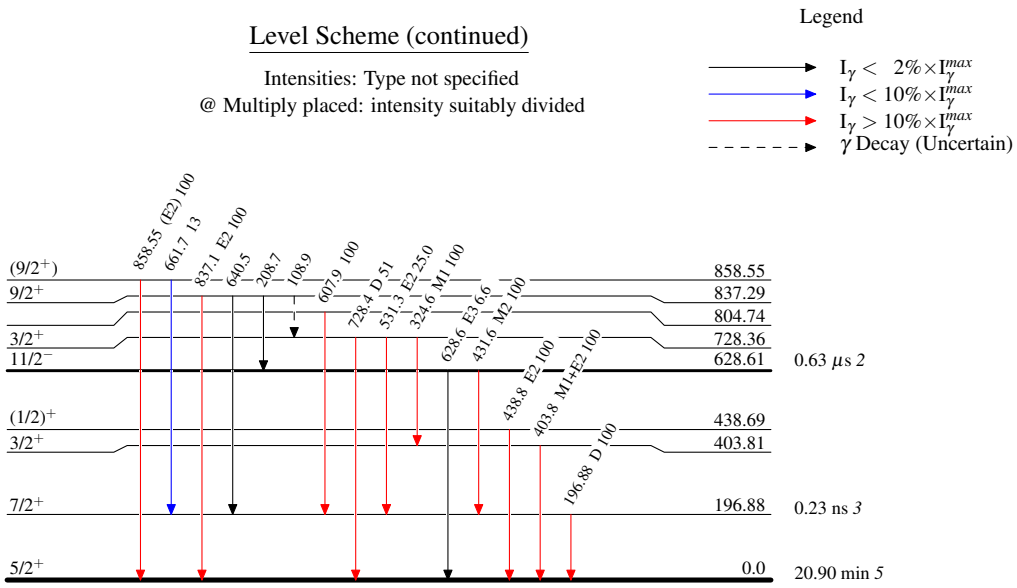
Intensities: Type not specified
@ Multiply placed: intensity suitably divided



Adopted Levels, Gammas

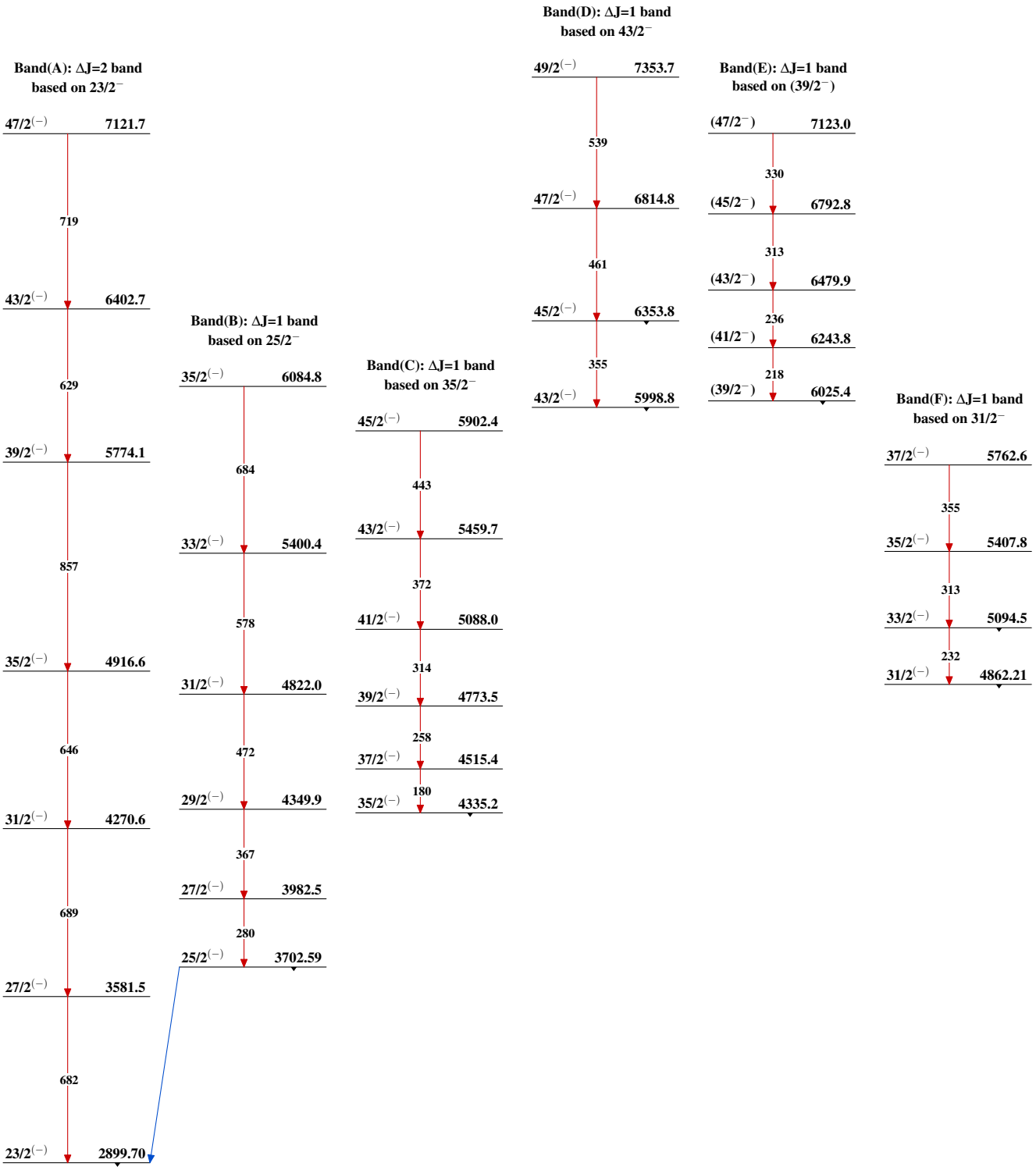
Level Scheme (continued)

Intensities: Type not specified
@ Multiply placed: intensity suitably divided



$^{141}_{61}Pm_{80}$

Adopted Levels, Gammas



$^{141}_{61}Pm_{80}$