

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 125, 201 (2015)	31-Dec-2014

$Q(\beta^-) = -6294$ 20; $S(n) = 12213$ 19; $S(p) = 3483$ 20; $Q(\alpha) = -3826$ 19 [2012Wa38](#)
 $S(2n) = 22635$ 19; $S(2p) = 11326$ 19 ([2012Wa38](#)).

α : [Additional information 1](#).

 ^{83}Y LevelsCross Reference (XREF) Flags

- A** ^{83}Zr ε decay
B ^{83}Y IT decay (2.85 min)
C (HI,xn γ)
D $^{58}\text{Ni}(^{28}\text{Si},3p\gamma)$:SD

E(level) [†]	J^π	$T_{1/2}$ [#]	XREF	Comments
0.0 [@]	$9/2^+$	7.08 min 8	ABC	$\% \varepsilon + \% \beta^+ = 100$ J^π : heavier odd-A Y isotopes possess a $9/2^+$ isomeric state which decreases in energy with decreasing neutron number, (E($9/2^+$)-E(gs)= 909 keV in ^{89}Y , 381 keV in ^{87}Y and 19.8 keV in ^{85}Y). Strong ε feeding of the 62-keV isomeric level in ^{83}Y from ^{83}Zr with $J^\pi = (1/2^-)$ suggests that the isomeric state has low spin, and the $9/2^+$ has become the ground state in ^{83}Y . $T_{1/2}$: weighted average of 7.06 min 8 (1972Tu07) and 7.1 min 1 (1976Li27).
62.04 ^b 10	$3/2^-$	2.85 min 2	ABC	$\% \varepsilon + \% \beta^+ = 60$ 5; $\% \text{IT} = 40$ 5 $T_{1/2}$: from 1972Tu07 . Others: 2.7 min 3 (1976Li27), 2.5 min 3 (1987Ra06). J^π : E3 62γ to $9/2^+$; $\log ft = 5.3$ from ^{83}Zr parent with $J^\pi = (1/2^-)$. $\% \varepsilon + \% \beta^+$: from 1987Ra06 .
97.11 15	$5/2^+$	9.8 ns 10	A	$T_{1/2}$: from delayed coincidence of 243γ - 97γ (centroid shift) in ^{83}Zr ε decay. J^π : E2 97γ to $9/2^+$; $\log f^{\text{it}} = 8.7$ from ^{83}Zr parent with $J^\pi = (1/2^-)$.
117.60 10	$(1/2^-)$		A	J^π : M1 55.6γ to $3/2^-$; $\log ft = 6.1$ from ^{83}Zr parent with $J^\pi = (1/2^-)$.
144.99 ^{&} 4	$7/2^+$	119 ps 28	A C	$\mu = +2.1$ 6 J^π : M1+E2 145γ to $9/2^+$. μ : from IMPAD technique in 1990Bh03 .
167.01 ^c 9	$5/2^-$	<0.76 ns	A C	J^π : M1 105γ to $3/2^-$.
331.66 14	$(5/2^+)$		A	J^π : M1 234γ to $5/2^+$, 187γ to $7/2^+$; $\log f^{\text{it}} = 9.0$ from ^{83}Zr parent with $J^\pi = (1/2^-)$.
421.81 10	$(3/2^-)$		A	J^π : $\log ft = 5.9$ from ^{83}Zr parent with $J^\pi = (1/2^-)$; 324γ to $5/2^+$.
436.57 12	$(5/2)$		A C	J^π : D 101γ from $7/2^-$, 375γ to $3/2^-$.
537.12 ^b 9	$7/2^-$	8.0 ps 28	A C	J^π : E2 475γ to $3/2^-$.
564.59 16	$(1/2^-, 3/2, 5/2^-)$		A	J^π : 398γ to $5/2^-$, 447γ to $(1/2^-)$.
565.56 18	$(3/2^-)$		A	J^π : 398.5γ to $5/2^-$, 448γ to $(1/2^-)$.
570.53 23	$(3/2^+, 5/2)$		A	J^π : 239γ to $(5/2^+)$, 425.5γ to $7/2^+$.
594.98 [@] 7	$13/2^+$	5.4 ps 5	C	$\mu = +8.45$ 26 μ : from IMPAD technique in 1990Bh03 . J^π : E2 595γ to $9/2^+$.
642.42 15	$(3/2, 5/2^-)$		A	J^π : 310.5γ to $(5/2^+)$, 475γ to $5/2^-$, 525γ to $(1/2^-)$.
722.28 15	$(3/2^-, 5/2)$		A	J^π : 186γ to $7/2^-$, 660γ to $3/2^-$.
736.64 ^{&} 7	$11/2^+$	4.6 ps 10	C	J^π : E2 592γ to $7/2^+$.

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Adopted Levels, Gammas (continued)

^{83}Y Levels (continued)				
E(level) [†]	J ^π	T _{1/2} [#]	XREF	Comments
813.99 ^c 8	9/2 ⁻	3.2 ps 6	C	J ^π : E2 647γ to 5/2 ⁻ .
855.59 13	(3/2)		A	J ^π : log ft=6.1 from ^{83}Zr parent with J ^π =(1/2 ⁻), 319γ to 7/2 ⁻ , 688γ to 5/2 ⁻ , 758.5γ to 5/2 ⁺ .
882.5 3			A	
1137.4 6			C	
1223.68 ^b 10	11/2 ⁻	0.9 ps 3	C	J ^π : E2 686.5γ to 7/2 ⁻ .
1249.82 16	(3/2 ⁻)		A	J ^π : 713γ to 7/2 ⁻ , 1132γ to (1/2 ⁻).
1406.50 [@] 12	17/2 ⁺	0.96 ps 14	C	μ=+8 2 J ^π : E2 811.5γ to 13/2 ⁺ . μ: from transient field technique (1998LuZU,2011StZZ).
1532.04 ^{&} 20	15/2 ⁺	1.3 ps 3	C	J ^π : E2 795γ to 11/2 ⁺ .
1566.18 ^c 11	13/2 ⁻	0.80 ps 28	C	J ^π : E2 752γ to 9/2 ⁻ .
1708.5 3			C	
1848.9 5			C	
1955.7 3			A	
2010.60 ^b 12	15/2 ⁻	0.97 ps 35	C	J ^π : E2 787γ to 11/2 ⁻ .
2083.13 16	(3/2 ⁻)		A	J ^π : log ft=6.1 from ^{83}Zr parent with J ^π =(1/2 ⁻), 1547γ to 7/2 ⁻ , 1751γ to (5/2 ⁺), 1916γ to 5/2 ⁻ .
2136.91 17	(3/2)		A	J ^π : log ft=6.1 from ^{83}Zr parent with J ^π =(1/2 ⁻), 1600.5γ to 7/2 ⁻ .
2145.1 6			C	
2260.0 4			A	
2371.06 [@] 22	21/2 ⁺	0.43 ps 7	C	μ=+11 2 J ^π : E2 964.5γ to 17/2 ⁺ . μ: from transient field technique (1998LuZU,2011StZZ).
2405.84 ^c 12	17/2 ⁻	<1.3 ps	C	J ^π : E2 840γ to 13/2 ⁻ .
2429.5 ^{&} 3	19/2 ⁺	<0.83 ps	C	J ^π : E2 897.5γ to 15/2 ⁺ .
2551.9 11			C	
2559.54 ^e 16	17/2 ⁻	46 ps 4	C	μ=+2.5 5 J ^π : E2 993γ to 13/2 ⁻ . μ: from IMPAD technique in 1990Bh06.
2738.1 5			A	
2822.77 ^b 20	(19/2 ⁻)		C	J ^π : 812γ to 15/2 ⁻ ; band assignment.
2887.84 ^f 19	(19/2 ⁻)	<3.9 ps	C	J ^π : (M1+E2) 328γ to 17/2 ⁻ .
2937.6 6			C	
3308.14 ^e 21	(21/2 ⁻)		C	J ^π : (M1+E2) 420γ to (19/2 ⁻); band assignment.
3314.54 ^c 16	(21/2 ⁻)		C	J ^π : (E2) 909γ to 17/2 ⁻ ; band assignment.
3397.1 ^{&} 4	(23/2 ⁺)	0.43 ps +11-9	C	J ^π : 968γ to 19/2 ⁺ , 1025γ to 21/2 ⁺ ; band assignment.
3420.1 14			C	
3450.6 [@] 3	(25/2 ⁺)		C	μ=+7.0 12 J ^π : (E2) 1079.5γ to 21/2 ⁺ ; band assignment. μ: from transient field technique (1998LuZU,2011StZZ).
3731.0 ^b 7	(23/2 ⁻)		C	J ^π : 908γ to (19/2 ⁻), 1361γ to 21/2 ⁻ ; band assignment.
3830.33 ^f 22	(23/2 ⁻)	0.91 ps +23-25	C	J ^π : (M1+E2) 522γ to (21/2 ⁻), 942.5γ to (19/2 ⁻).
3916.9 6			C	
4177.2 8			C	
4340.6 ^c 3	(25/2 ⁻)	0.34 ps +8-4	C	J ^π : 1026γ to (21/2 ⁻), band assignment.
4385.8 ^e 5	(25/2 ⁻)	0.48 ps +12-18	C	J ^π : 556γ to (23/2 ⁻), 1078γ to (21/2 ⁻); band assignment.
4421.9 5	(27/2 ⁺)		C	J ^π : 1025γ to (23/2 ⁺).
4472.8 18			C	
4487.9 ^{&} 4	(27/2 ⁺)	0.20 ps +6-8	C	J ^π : D 1037γ to (25/2 ⁺), 1092γ to (23/2 ⁺); band assignment.
4643.6 [@] 4	(29/2 ⁺)	0.19 ps +4-3	C	μ=+8 2 J ^π : E2 1193γ to (25/2 ⁺).

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Adopted Levels, Gammas (continued) ^{83}Y Levels (continued)

E(level) [†]	J ^π	T _{1/2} [#]	XREF	Comments
4796.0 ^b 8	(27/2 ⁻)		C	μ: from transient field technique (1998LuZU,2011StZZ). J ^π : 1065γ to (23/2 ⁻); band assignment.
4992.3 ^f 7	(27/2 ⁻)		C	J ^π : 607γ to (25/2 ⁻), 1162γ to (23/2 ⁻); band assignment.
5176.6 6			C	
5244.0 18			C	
5346.6 11			C	
5502.3 ^c 9	(29/2 ⁻)	0.19 ps +3-6	C	J ^π : 1161γ to (25/2 ⁻), band assignment.
5562.3 ^e 11	(29/2 ⁻)		C	J ^π : 1177γ to (25/2 ⁻), band assignment.
5564.8 21			C	
5668.6 12			C	
5747.5 ^{&} 8	(31/2 ⁺)	0.20 ps +8-7	C	J ^π : 1103γ to (29/2 ⁺), 1260.5γ to (27/2 ⁺), band assignment.
5950.0 ^b 15	(31/2 ⁻)		C	J ^π : 1154γ to (27/2 ⁻).
5983.5 [@] 6	(33/2 ⁺)	0.22 ps +9-7	C	μ=+8 2 J ^π : E2 1340γ to (29/2 ⁺), band assignment. μ: from transient field technique (1998LuZU,2011StZZ).
6334.3 ^f 21	(31/2 ⁻)	<0.26 ps	C	J ^π : 1342γ to (27/2 ⁻), band assignment.
6676.5 ^c 14	(33/2 ⁻)	<0.46 ps	C	J ^π : 1174γ to (29/2 ⁻), band assignment.
6780.9 ^d 11	(33/2 ⁻)		C	J ^π : 1278γ to (29/2 ⁻), band assignment.
6782.3 ^e 15	(33/2 ⁻)	0.13 ps +6-3	C	J ^π : 1220γ to (29/2 ⁻), band assignment.
7179.0 ^{&} 10	(35/2 ⁺)	<0.24 ps	C	J ^π : 1196γ to (33/2 ⁺), 1431γ to (31/2 ⁺), band assignment.
7238.2 ^b 20	(35/2 ⁻)		C	J ^π : 1288γ to (31/2 ⁻), band assignment.
7450.8 16			C	
7468.3 [@] 9	(37/2 ⁺)	0.05 ps +3-2	C	J ^π : E2 1485γ to (33/2 ⁺), band assignment.
7819 ^f 3	(35/2 ⁻)		C	J ^π : 1485γ to (31/2 ⁻), band assignment.
7918.7 ^c 18	(37/2 ⁻)		C	J ^π : 1242γ to (33/2 ⁻), band assignment.
8070.4 ^e 20	(37/2 ⁻)	<0.28 ps	C	J ^π : 1288γ to (33/2 ⁻), band assignment.
8108.9 ^d 15	(37/2 ⁻)		C	J ^π : 1328γ to (33/2 ⁻), band assignment.
8442.2 12			C	
8708.8 ^b 25	(39/2 ⁻)		C	J ^π : 1471γ to (35/2 ⁻), band assignment.
8712.9 ^{&} 14	(39/2 ⁺)		C	J ^π : 1534γ to (35/2 ⁺), band assignment.
9074.9 [@] 19	(41/2 ⁺)	0.014 ps +55-7	C	J ^π : E2 1607γ to (37/2 ⁺), band assignment.
9331.9 ^c 21	(41/2 ⁻)		C	J ^π : 1413γ to (37/2 ⁻), band assignment.
9598.0 14			C	
9639.9 ^d 18	(41/2 ⁻)		C	J ^π : 1531γ to (37/2 ⁻), band assignment.
10001.4 14			C	
10358.9 ^{&} 22	(43/2 ⁺)		C	J ^π : 1646γ to (39/2 ⁺), band assignment.
10396 3	(43/2 ⁻)		C	J ^π : 1687γ to (39/2 ⁻), band assignment.
10452 3	(43/2 ⁻)		C	J ^π : 1743γ to (39/2 ⁻), band assignment.
10824 [@] 3	(45/2 ⁺)	0.014 ps +55-7	C	J ^π : E2 1749γ to (41/2 ⁺), band assignment.
10926.5 ^c 23	(45/2 ⁻)		C	J ^π : 1595γ to (41/2 ⁻), band assignment.
11266.9 ^d 20	(45/2 ⁻)		C	J ^π : 1627γ to (41/2 ⁻), band assignment.
12243.8 ^{&} 24	(47/2 ⁺)		C	J ^π : 1885γ to (43/2 ⁺), band assignment.
12726 ^c 3	(49/2 ⁻)		C	J ^π : 1799γ to (45/2 ⁻), band assignment.
12787 [@] 3	(49/2 ⁺)	<0.04 ps	C	J ^π : 1959γ to (45/2 ⁺), band assignment.
13022 3	(47/2 ⁺)		C	J ^π : D 2198γ to (45/2 ⁺).
13035 ^u 3	(47/2 ⁺)		C	J ^π : (D) 2212γ to (45/2 ⁺); band assignment.
14028 ^{&} 3	(51/2 ⁺)		C	J ^π : 1784γ to (47/2 ⁺), band assignment.
14767 ^c 3	(53/2 ⁻)		C	J ^π : 2041γ to (49/2 ⁻), band assignment.
14881 [@] 3	(53/2 ⁺)		C	J ^π : 2094γ to (49/2 ⁺), band assignment.

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Adopted Levels, Gammas (continued) ^{83}Y Levels (continued)

E(level) [†]	J ^π	XREF	Comments
14947 ^a 3	(51/2 ⁺)	C	J ^π : 1913γ to (47/2 ⁺), band assignment.
17101 ^a 3	(55/2 ⁺)	C	J ^π : 2154γ to (51/2 ⁺), band assignment.
19466 ^a 3	(59/2 ⁺)	C	J ^π : 2365γ to (55/2 ⁺), band assignment.
x ^g	J≈(45/2) [‡]	D	
x+1892.0 ^g 10	J+2	D	
x+3914.0 ^g 14	J+4	D	
x+6070.1 ^g 17	J+6	D	
x+8368.1 ^g 20	J+8	D	
x+10812.2 ^g 22	J+10	D	
x+13398.2 ^g 24	J+12	D	
x+16120 ^g 3	J+14	D	
x+18959 ^g 3	J+16	D	
y ^h	J1≈(43/2) [‡]	D	
y+1756.0 ^h 10	J1+2	D	
y+3677.0 ^h 14	J1+4	D	
y+5749.1 ^h 17	J1+6	D	
y+7973.1 ^h 20	J1+8	D	
y+10357.1 ^h 22	J1+10	D	
y+12908.2 ^h 24	J1+12	D	
y+15628 ^h 3	J1+14	D	
z ⁱ	J2≈(43/2) [‡]	D	
z+1737.0 ⁱ 10	J2+2	D	
z+3608.0 ⁱ 14	J2+4	D	
z+5646.1 ⁱ 17	J2+6	D	
z+7859.1 ⁱ 20	J2+8	D	
z+10237.1 ⁱ 22	J2+10	D	
z+12772.2 ⁱ 24	J2+12	D	
z+15490 ⁱ 3	J2+14	D	
u ^j	J3≈(45/2) [‡]	D	
u+1919.0 ^j 10	J3+2	D	
u+3981.1 ^j 14	J3+4	D	
u+6192.1 ^j 17	J3+6	D	
u+8566.1 ^j 20	J3+8	D	
u+11097.2 ^j 22	J3+10	D	
u+13791.2 ^j 24	J3+12	D	

[†] From a least-squares fit to Eγ, by evaluator.

[‡] Estimated from observed feeding into known spin levels in the normal-deformed region and checked by fitting measured dynamic moments of inertia as a function of rotational frequency.

From (HL,xny), except where noted. Methods include both Recoil Distance Doppler Shift (RDDS) and Doppler Shift Attenuation method (DSAM).

@ Band(A): [422]5/2⁺ band, α=+1/2.

& Band(B): [422]5/2⁺ band, α=-1/2.

^a Band(C): Band based on (47/2⁺), 13035-keV level.

^b Band(D): [301]3/2⁻ band, α=-1/2.

^c Band(E): [301]3/2⁻ band, α=+1/2.

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Adopted Levels, Gammas (continued)

 ^{83}Y Levels (continued)

- ^d Band(F): Band based on (33/2⁻), 6781-keV level.
- ^e Band(G): Band based on the 17/2⁻, 2560-keV level, $\alpha=+1/2$.
- ^f Band(H): Band based on the 17/2⁻, 2560-keV level, $\alpha=-1/2$.
- ^g Band(I): SD-1 band. Percent population=4.20. Q(transition)=4.4 7 (2003Le08,1999Le56). Other: 4.7 7 (quoted by 2003Le08 from C.-H. Yu, priv. comm.). Configuration= $\nu 5^1\pi 5^1$; non-intruder orbitals: $\nu(f_{5/2}, p_{3/2}(3/2[301]))$.
- ^h Band(J): SD-2 band. Percent population=2.94. Q(transition)=3.6 +8-5 (2003Le08). Configuration= $\nu 5^1\pi 5^0$; non-intruder orbitals: $\pi(f_{5/2}, p_{3/2}(1/2[310]))$. This band is isospectral with SD band in ^{82}Sr .
- ⁱ Band(K): SD-3 band. Percent population=2.90. Q(transition)=3.6 +4-3 (2003Le08). Tentative configuration= $\nu 5^0\pi 5^0$.
- ^j Band(L): SD-4 band. Percent population=2.73.

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$									
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α	Comments
55.55 @ 4	100 @	117.60	(1/2 ⁻)	62.04	3/2 ⁻	M1 #		0.957	$\alpha(\text{K})=0.840$ 12; $\alpha(\text{L})=0.0981$ 14; $\alpha(\text{M})=0.01681$ 24; $\alpha(\text{N})=0.00225$ 4; $\alpha(\text{O})=0.0001513$ 22 δ : <0.2 from $\alpha(\text{exp})$ measured in ⁸³ Zr ϵ decay.
(62.1 @ 3)	100 @	62.04	3/2 ⁻	0.0	9/2 ⁺	E3 #		90.8 25	$\alpha(\text{K})=45.6$ 11; $\alpha(\text{L})=37.7$ 12; $\alpha(\text{M})=6.71$ 22; $\alpha(\text{N})=0.763$ 24; $\alpha(\text{O})=0.00557$ 13 B(E3)(W.u.)=0.021 3
70.0 @ 3	1.28 @ 12	167.01	5/2 ⁻	97.11	5/2 ⁺	[E1]		0.305 6	$\alpha(\text{K})=0.269$ 5; $\alpha(\text{L})=0.0306$ 6; $\alpha(\text{M})=0.00517$ 10; $\alpha(\text{N})=0.000675$ 13; $\alpha(\text{O})=4.09 \times 10^{-5}$ 8 B(E1)(W.u.)>1.30×10 ⁻⁵
97.1 @ 3	100 @	97.11	5/2 ⁺	0.0	9/2 ⁺	E2 #		1.185 22	$\alpha(\text{K})=0.983$ 18; $\alpha(\text{L})=0.169$ 4; $\alpha(\text{M})=0.0291$ 6; $\alpha(\text{N})=0.00360$ 7; $\alpha(\text{O})=0.000145$ 3 B(E2)(W.u.)=142 15
100.8 1	3.8 4	537.12	7/2 ⁻	436.57	(5/2)	D			Mult.: from comparison to RUL.
104.97 5	100 @ 11	167.01	5/2 ⁻	62.04	3/2 ⁻	M1 #		0.1587	$\alpha(\text{K})=0.1395$ 20; $\alpha(\text{L})=0.01608$ 23; $\alpha(\text{M})=0.00275$ 4; $\alpha(\text{N})=0.000369$ 6; $\alpha(\text{O})=2.51 \times 10^{-5}$ 4 B(M1)(W.u.)>0.0213
114.5 @ 3		537.12	7/2 ⁻	421.81	(3/2 ⁻)	[E2]		0.649 11	$\alpha(\text{K})=0.546$ 10; $\alpha(\text{L})=0.0862$ 16; $\alpha(\text{M})=0.0148$ 3; $\alpha(\text{N})=0.00185$ 4; $\alpha(\text{O})=8.25 \times 10^{-5}$ 14
133.0 @ 3	<3 @	855.59	(3/2)	722.28	(3/2 ⁻ , 5/2)				
141.67 5	8.7 7	736.64	11/2 ⁺	594.98	13/2 ⁺	(M1+E2)	+0.12 8	0.073 6	$\alpha(\text{K})=0.064$ 5; $\alpha(\text{L})=0.0075$ 8; $\alpha(\text{M})=0.00128$ 13; $\alpha(\text{N})=0.000171$ 16; $\alpha(\text{O})=1.15 \times 10^{-5}$ 7 B(E2)(W.u.)=70 17; B(M1)(W.u.)=0.081 19 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
145.00 4	100	144.99	7/2 ⁺	0.0	9/2 ⁺	M1+E2	+0.13 4	0.069 3	$\alpha(\text{K})=0.0608$ 22; $\alpha(\text{L})=0.0071$ 4; $\alpha(\text{M})=0.00121$ 6; $\alpha(\text{N})=0.000161$ 7; $\alpha(\text{O})=1.08 \times 10^{-5}$ 4 B(E2)(W.u.)=54 13; B(M1)(W.u.)=0.056 13 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ), E1+M2 excluded by comparison with RUL.
153.7 2	9.5 14	2559.54	17/2 ⁻	2405.84	17/2 ⁻				
164.5 @ b 3	<8 @	331.66	(5/2 ⁺)	167.01	5/2 ⁻				
185.9 @ 3	<15 @	722.28	(3/2 ⁻ , 5/2)	537.12	7/2 ⁻				
186.7 @ 3	<8 @	331.66	(5/2 ⁺)	144.99	7/2 ⁺				
213.2 @ 3	13 @ 2	855.59	(3/2)	642.42	(3/2, 5/2 ⁻)				
220.6 @ 3	46 @ 4	642.42	(3/2, 5/2 ⁻)	421.81	(3/2 ⁻)				
234.5 @ 3	100 @ 10	331.66	(5/2 ⁺)	97.11	5/2 ⁺	M1 #		0.0186	$\alpha(\text{K})=0.01640$ 24; $\alpha(\text{L})=0.00185$ 3; $\alpha(\text{M})=0.000316$ 5; $\alpha(\text{N})=4.25 \times 10^{-5}$ 7; $\alpha(\text{O})=2.93 \times 10^{-6}$ 5
238.9 @ 3		570.53	(3/2 ⁺ , 5/2)	331.66	(5/2 ⁺)				

Adopted Levels, Gammas (continued)

<u>$\gamma(^{83}\text{Y})$ (continued)</u>									
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α	Comments
254.76 @ 4	93 @ 9	421.81	(3/2 ⁻)	167.01	5/2 ⁻	M1 #		0.01506	$\alpha(\text{K})=0.01328$ 19; $\alpha(\text{L})=0.001492$ 21; $\alpha(\text{M})=0.000255$ 4; $\alpha(\text{N})=3.43\times 10^{-5}$ 5; $\alpha(\text{O})=2.37\times 10^{-6}$ 4
270.5 3 276.9 1	38 6 37 3	436.57 813.99	(5/2) 9/2 ⁻	167.01 537.12	5/2 ⁻ 7/2 ⁻	(M1+E2)	+0.17 4	0.0126 3	$\alpha(\text{K})=0.01111$ 24; $\alpha(\text{L})=0.00125$ 3; $\alpha(\text{M})=0.000214$ 5; $\alpha(\text{N})=2.88\times 10^{-5}$ 7; $\alpha(\text{O})=1.98\times 10^{-6}$ 4 B(E2)(W.u.)=25 5; B(M1)(W.u.)=0.055 12 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
285.3 @ 3	<15 @	722.28	(3/2 ⁻ ,5/2)	436.57	(5/2)				
290.0 @ 3	3.5 @ 5	855.59	(3/2)	565.56	(3/2 ⁻)				
291.0 @ 3	2.7 @ 3	855.59	(3/2)	564.59	(1/2 ⁻ ,3/2,5/2 ⁻)				
300.3 @ b 2	<15 @	722.28	(3/2 ⁻ ,5/2)	421.81	(3/2 ⁻)				
302.0 3	17.2 22	1708.5		1406.50	17/2 ⁺				
304.21 @ 4	100 @ 9	421.81	(3/2 ⁻)	117.60	(1/2 ⁻)	M1(+E2) #	<0.7	0.0113 17	$\alpha(\text{K})=0.0099$ 14; $\alpha(\text{L})=0.00113$ 19; $\alpha(\text{M})=0.00019$ 4; $\alpha(\text{N})=2.6\times 10^{-5}$ 4; $\alpha(\text{O})=1.73\times 10^{-6}$ 22
310.5 @ 3	20 @ 2	642.42	(3/2,5/2 ⁻)	331.66	(5/2 ⁺)				
319.2 @ 3	17 @ 2	855.59	(3/2)	537.12	7/2 ⁻				
324.6 @ 3	16 @ 2	421.81	(3/2 ⁻)	97.11	5/2 ⁺				
328.3 1	100	2887.84	(19/2 ⁻)	2559.54	17/2 ⁻	(M1+E2)	-0.24 6	0.00836 24	$\alpha(\text{K})=0.00737$ 20; $\alpha(\text{L})=0.00083$ 3; $\alpha(\text{M})=0.000142$ 5; $\alpha(\text{N})=1.90\times 10^{-5}$ 6; $\alpha(\text{O})=1.31\times 10^{-6}$ 4 B(E2)(W.u.)>95.6; B(M1)(W.u.)>0.150 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ), E1+M2 excluded by comparison to RUL.
342.5 1	17 2	1566.18	13/2 ⁻	1223.68	11/2 ⁻	(M1+E2)	+0.06 6	0.00721 12	$\alpha(\text{K})=0.00636$ 11; $\alpha(\text{L})=0.000709$ 13; $\alpha(\text{M})=0.0001212$ 21; $\alpha(\text{N})=1.63\times 10^{-5}$ 3 $\alpha(\text{O})=1.133\times 10^{-6}$ 18 B(E2)(W.u.)=3.1 12; B(M1)(W.u.)=0.09 3 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
359.80 @ 5	74 @ 7	421.81	(3/2 ⁻)	62.04	3/2 ⁻				
370.3 1	100 90	537.12	7/2 ⁻	167.01	5/2 ⁻	(M1+E2)	+0.46 7	0.00667 21	$\alpha(\text{K})=0.00587$ 18; $\alpha(\text{L})=0.000664$ 23; $\alpha(\text{M})=0.000114$ 4; $\alpha(\text{N})=1.52\times 10^{-5}$ 5; $\alpha(\text{O})=1.03\times 10^{-6}$ 3 B(E2)(W.u.)=5.E+1 5; B(M1)(W.u.)=0.03 3 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.

Adopted Levels, Gammas (continued) $\gamma(^{83}\text{Y})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α	Comments
375.2 4	100 6	436.57	(5/2)	62.04	3/2 ⁻				
392.2 2	10.3 13	537.12	7/2 ⁻	144.99	7/2 ⁺	[E1]		0.00223	$\alpha(\text{K})=0.00197$ 3; $\alpha(\text{L})=0.000215$ 3; $\alpha(\text{M})=3.67\times 10^{-5}$ 6; $\alpha(\text{N})=4.91\times 10^{-6}$ 7; $\alpha(\text{O})=3.36\times 10^{-7}$ 5 B(E1)(W.u.)=4.E-5 3
395.2 1	15.5 18	2405.84	17/2 ⁻	2010.60	15/2 ⁻	(M1(+E2))	0.00 8	0.00507	$\alpha(\text{K})=0.00448$ 7; $\alpha(\text{L})=0.000497$ 8; $\alpha(\text{M})=8.49\times 10^{-5}$ 13; $\alpha(\text{N})=1.143\times 10^{-5}$ 17; $\alpha(\text{O})=7.97\times 10^{-7}$ 12 B(M1)(W.u.)>0.0366 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
397.6 @ 3	49 @ 5	564.59	(1/2 ⁻ ,3/2,5/2 ⁻)	167.01	5/2 ⁻				
398.5 @ 3	32 @ 3	565.56	(3/2 ⁻)	167.01	5/2 ⁻				
409.7 1	27 2	1223.68	11/2 ⁻	813.99	9/2 ⁻	(M1+E2)	+0.25 7	0.00480 12	$\alpha(\text{K})=0.00424$ 10; $\alpha(\text{L})=0.000472$ 12; $\alpha(\text{M})=8.08\times 10^{-5}$ 21; $\alpha(\text{N})=1.08\times 10^{-5}$ 3; $\alpha(\text{O})=7.51\times 10^{-7}$ 16 B(E2)(W.u.)=22 8; B(M1)(W.u.)=0.050 17 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
417.0 4	13 1	2822.77	(19/2 ⁻)	2405.84	17/2 ⁻				
418.7 @ 3	6 @ 1	855.59	(3/2)	436.57	(5/2)				
420.3 1	100	3308.14	(21/2 ⁻)	2887.84	(19/2 ⁻)	(M1+E2)	-1.8 4	0.0062 3	$\alpha(\text{K})=0.00541$ 22; $\alpha(\text{L})=0.00063$ 3; $\alpha(\text{M})=0.000107$ 5; $\alpha(\text{N})=1.42\times 10^{-5}$ 7; $\alpha(\text{O})=9.3\times 10^{-7}$ 4 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ), large value of δ make E1+M2 less likely.
425.5 @ 3		570.53	(3/2 ⁺ ,5/2)	144.99	7/2 ⁺				
433.7 @ 3	6 @ 1	855.59	(3/2)	421.81	(3/2 ⁻)				
444.4 1	17.6 20	2010.60	15/2 ⁻	1566.18	13/2 ⁻	(M1(+E2))	+0.06 8	0.00383	$\alpha(\text{K})=0.00339$ 6; $\alpha(\text{L})=0.000375$ 7; $\alpha(\text{M})=6.40\times 10^{-5}$ 11; $\alpha(\text{N})=8.62\times 10^{-6}$ 14; $\alpha(\text{O})=6.02\times 10^{-7}$ 10 B(E2)(W.u.)=0.50 19; B(M1)(W.u.)=0.023 9 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
447.0 @ 2	24 @ 5	564.59	(1/2 ⁻ ,3/2,5/2 ⁻)	117.60	(1/2 ⁻)				
448.0 @ 3	72 @ 7	565.56	(3/2 ⁻)	117.60	(1/2 ⁻)				
466.3 5	100	3916.9		3450.6	(25/2 ⁺)				
475.1 1	56 5	537.12	7/2 ⁻	62.04	3/2 ⁻	E2		0.00459	$\alpha(\text{K})=0.00403$ 6; $\alpha(\text{L})=0.000466$ 7; $\alpha(\text{M})=7.95\times 10^{-5}$ 12; $\alpha(\text{N})=1.056\times 10^{-5}$ 15; $\alpha(\text{O})=6.88\times 10^{-7}$ 10 B(E2)(W.u.)=4.E+1 3 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
475.4 @ 3	100 @ 10	642.42	(3/2,5/2 ⁻)	167.01	5/2 ⁻				
491.6 5	13	3314.54	(21/2 ⁻)	2822.77	(19/2 ⁻)				
492 1	100	5668.6		5176.6					

Adopted Levels, Gammas (continued) $\gamma(^{83}\text{Y})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α	Comments
502.5 @ 3	100 @ 10	564.59	(1/2 ⁻ , 3/2, 5/2 ⁻)	62.04	3/2 ⁻				
503.5 @ 3	100 @ 10	565.56	(3/2 ⁻)	62.04	3/2 ⁻				
522.2 1	100 9	3830.33	(23/2 ⁻)	3308.14	(21/2 ⁻)	(M1+E2)	-0.8 2	0.00294 12	$\alpha(\text{K})=0.00259$ 10; $\alpha(\text{L})=0.000291$ 13; $\alpha(\text{M})=4.97\times 10^{-5}$ 22; $\alpha(\text{N})=6.7\times 10^{-6}$ 3; $\alpha(\text{O})=4.53\times 10^{-7}$ 16 B(E2)(W.u.)=1.6 $\times 10^2$ 7; B(M1)(W.u.)=0.057 +21-20 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ), E1+M2 excluded by comparison to RUL.
524.1 @ 3	<3 @	855.59	(3/2)	331.66	(5/2 ⁺)				
524.8 @ 3	66 @ 6	642.42	(3/2, 5/2 ⁻)	117.60	(1/2 ⁻)				
533.0 5	100	5176.6		4643.6	(29/2 ⁺)				
548.9 2	36 3	2559.54	17/2 ⁻	2010.60	15/2 ⁻	(M1+E2)	-5.0 15	0.00295	$\alpha(\text{K})=0.00260$ 5; $\alpha(\text{L})=0.000297$ 5; $\alpha(\text{M})=5.06\times 10^{-5}$ 9; $\alpha(\text{N})=6.74\times 10^{-6}$ 12; $\alpha(\text{O})=4.47\times 10^{-7}$ 7 B(E2)(W.u.)=2.7 4; B(M1)(W.u.)=2.7 $\times 10^{-5}$ 4 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
550.8 @ 3	100 @	882.5		331.66	(5/2 ⁺)				
555.7 6	61 7	4385.8	(25/2 ⁻)	3830.33	(23/2 ⁻)				
566.6 6	12.8 11	2937.6		2371.06	21/2 ⁺				
580.3 4	40 4	642.42	(3/2, 5/2 ⁻)	62.04	3/2 ⁻				
591.7 2	100 9	736.64	11/2 ⁺	144.99	7/2 ⁺	E2		0.00240	$\alpha(\text{K})=0.00211$ 3; $\alpha(\text{L})=0.000240$ 4; $\alpha(\text{M})=4.10\times 10^{-5}$ 6; $\alpha(\text{N})=5.46\times 10^{-6}$ 8; $\alpha(\text{O})=3.64\times 10^{-7}$ 6 B(E2)(W.u.)=47 12 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
595.0 1	100	594.98	13/2 ⁺	0.0	9/2 ⁺	E2		0.00236	$\alpha(\text{K})=0.00208$ 3; $\alpha(\text{L})=0.000236$ 4; $\alpha(\text{M})=4.03\times 10^{-5}$ 6; $\alpha(\text{N})=5.38\times 10^{-6}$ 8; $\alpha(\text{O})=3.58\times 10^{-7}$ 5 B(E2)(W.u.)=65 6 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
600 1		1137.4		537.12	7/2 ⁻				
606.6 6	32 3	4992.3	(27/2 ⁻)	4385.8	(25/2 ⁻)				
613.1 6	100	2145.1		1532.04	15/2 ⁺				
625.6 6	33 3	1848.9		1223.68	11/2 ⁻				
647.0 1	100 8	813.99	9/2 ⁻	167.01	5/2 ⁻	E2		0.00187	$\alpha(\text{K})=0.001649$ 23; $\alpha(\text{L})=0.000186$ 3; $\alpha(\text{M})=3.18\times 10^{-5}$ 5; $\alpha(\text{N})=4.24\times 10^{-6}$ 6; $\alpha(\text{O})=2.85\times 10^{-7}$ 4 B(E2)(W.u.)=34 8 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
660.2 @ 3	100 @ 10	722.28	(3/2 ⁻ , 5/2)	62.04	3/2 ⁻				

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)									
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	$\delta^\ddagger$	α	Comments
669.0 1	29 3	813.99	9/2 ⁻	144.99	7/2 ⁺	(E1)		6.15×10 ⁻⁴	$\alpha(\text{K})=0.000544$ 8; $\alpha(\text{L})=5.90\times 10^{-5}$ 9; $\alpha(\text{M})=1.006\times 10^{-5}$ 14; $\alpha(\text{N})=1.351\times 10^{-6}$ 19; $\alpha(\text{O})=9.39\times 10^{-8}$ 14 B(E1)(W.u.)=5.1×10 ⁻⁵ 12 Mult.: D from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =yes from level scheme.
686.5 2	100 7	1223.68	11/2 ⁻	537.12	7/2 ⁻	E2		1.59×10 ⁻³	$\alpha(\text{K})=0.001404$ 20; $\alpha(\text{L})=0.0001578$ 23; $\alpha(\text{M})=2.69\times 10^{-5}$ 4; $\alpha(\text{N})=3.60\times 10^{-6}$ 5; $\alpha(\text{O})=2.43\times 10^{-7}$ 4 B(E2)(W.u.)=1.1×10 ² 4 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
688.4 @ 3	11 @ 1	855.59	(3/2)	167.01	5/2 ⁻				
700 1		1137.4		436.57	(5/2)				
703 a 1	100 a	2551.9		1848.9					
703 1	100	5346.6		4643.6	(29/2 ⁺)				
710.9 7	100 9	1848.9		1137.4					
713.4 @ 3	39 @ 4	1249.82	(3/2 ⁻)	537.12	7/2 ⁻				
726.6 7	100	4177.2		3450.6	(25/2 ⁺)				
736.6 1	57 5	736.64	11/2 ⁺	0.0	9/2 ⁺	(M1+E2)	+1.2 4	0.00127 4	$\alpha(\text{K})=0.00112$ 3; $\alpha(\text{L})=0.000124$ 4; $\alpha(\text{M})=2.12\times 10^{-5}$ 6; $\alpha(\text{N})=2.85\times 10^{-6}$ 8; $\alpha(\text{O})=1.96\times 10^{-7}$ 4 B(E2)(W.u.)=5.3 13; B(M1)(W.u.)=0.0017 4 Mult.: D+Q from $\gamma(\theta)$ in (HI,xn γ); $\Delta\pi$ =no from level scheme.
752.2 1	100 7	1566.18	13/2 ⁻	813.99	9/2 ⁻	E2		1.25×10 ⁻³	$\alpha(\text{K})=0.001105$ 16; $\alpha(\text{L})=0.0001234$ 18; $\alpha(\text{M})=2.11\times 10^{-5}$ 3; $\alpha(\text{N})=2.82\times 10^{-6}$ 4; $\alpha(\text{O})=1.91\times 10^{-7}$ 3 B(E2)(W.u.)=1.0×10 ² 4 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
758.5 @ 3	7 @ 1	855.59	(3/2)	97.11	5/2 ⁺				
774.3 8	100	7450.8		6676.5	(33/2 ⁻)				
786.9 1	100 8	2010.60	15/2 ⁻	1223.68	11/2 ⁻	E2		1.12×10 ⁻³	$\alpha(\text{K})=0.000984$ 14; $\alpha(\text{L})=0.0001097$ 16; $\alpha(\text{M})=1.87\times 10^{-5}$ 3; $\alpha(\text{N})=2.51\times 10^{-6}$ 4 $\alpha(\text{O})=1.707\times 10^{-7}$ 24 B(E2)(W.u.)=45 18 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
793.5 @ 3	100 @ 11	855.59	(3/2)	62.04	3/2 ⁻				
795.4 2	100	1532.04	15/2 ⁺	736.64	11/2 ⁺	E2		1.09×10 ⁻³	$\alpha(\text{K})=0.000958$ 14; $\alpha(\text{L})=0.0001067$ 15; $\alpha(\text{M})=1.82\times 10^{-5}$ 3; $\alpha(\text{N})=2.44\times 10^{-6}$ 4 $\alpha(\text{O})=1.662\times 10^{-7}$ 24 B(E2)(W.u.)=64 15 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)									
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	α	Comments	
811.5 1	100	1406.50	17/2 ⁺	594.98	13/2 ⁺	E2	1.03×10 ⁻³	$\alpha(\text{K})=0.000911$ 13; $\alpha(\text{L})=0.0001013$ 15; $\alpha(\text{M})=1.729\times 10^{-5}$ 25; $\alpha(\text{N})=2.32\times 10^{-6}$ 4 $\alpha(\text{O})=1.581\times 10^{-7}$ 23 B(E2)(W.u.)=78 12 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.	
812.2 3	100 11	2822.77	(19/2 ⁻)	2010.60	15/2 ⁻	[E1]	4.04×10 ⁻⁴	$\alpha(\text{K})=0.000358$ 5; $\alpha(\text{L})=3.87\times 10^{-5}$ 6; $\alpha(\text{M})=6.59\times 10^{-6}$ 10; $\alpha(\text{N})=8.87\times 10^{-7}$ 13; $\alpha(\text{O})=6.19\times 10^{-8}$ 9 B(E1)(W.u.)=4.3×10 ⁻⁵ 11	
813.9 2	44 6	813.99	9/2 ⁻	0.0	9/2 ⁺				
827.8 @ 2	29 @ 5	1249.82	(3/2 ⁻)	421.81	(3/2 ⁻)	[E1]	3.88×10 ⁻⁴	$\alpha(\text{K})=0.000344$ 5; $\alpha(\text{L})=3.71\times 10^{-5}$ 6; $\alpha(\text{M})=6.33\times 10^{-6}$ 9; $\alpha(\text{N})=8.51\times 10^{-7}$ 12; $\alpha(\text{O})=5.95\times 10^{-8}$ 9 B(E1)(W.u.)=1.0×10 ⁻⁴ 4	
830.1 8	18 2	1566.18	13/2 ⁻	736.64	11/2 ⁺				
839.7 1	100 8	2405.84	17/2 ⁻	1566.18	13/2 ⁻	E2	9.48×10 ⁻⁴	$\alpha(\text{K})=0.000837$ 12; $\alpha(\text{L})=9.29\times 10^{-5}$ 13; $\alpha(\text{M})=1.585\times 10^{-5}$ 23; $\alpha(\text{N})=2.12\times 10^{-6}$ 3 $\alpha(\text{O})=1.453\times 10^{-7}$ 21 B(E2)(W.u.)>42 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.	
868.2 9	100	3420.1	19/2 ⁺	2551.9	15/2 ⁺	E2	8.05×10 ⁻⁴	$\alpha(\text{K})=0.000711$ 10; $\alpha(\text{L})=7.87\times 10^{-5}$ 11; $\alpha(\text{M})=1.343\times 10^{-5}$ 19; $\alpha(\text{N})=1.80\times 10^{-6}$ 3 $\alpha(\text{O})=1.236\times 10^{-7}$ 18 B(E2)(W.u.)>50 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.	
897.5 3	100 8	2429.5		1532.04					
908.1 9	100 17	3731.0	(23/2 ⁻)	2822.77	(19/2 ⁻)	(E2)	7.82×10 ⁻⁴	$\alpha(\text{K})=0.000690$ 10; $\alpha(\text{L})=7.63\times 10^{-5}$ 11; $\alpha(\text{M})=1.303\times 10^{-5}$ 19; $\alpha(\text{N})=1.747\times 10^{-6}$ 25 $\alpha(\text{O})=1.200\times 10^{-7}$ 17 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), E2 from assumed band structure.	
908.7 1	100 10	3314.54	(21/2 ⁻)	2405.84	17/2 ⁻				
937.4	81 7	1532.04	15/2 ⁺	594.98	13/2 ⁺	[E2]	7.16×10 ⁻⁴	$\alpha(\text{K})=0.000633$ 9; $\alpha(\text{L})=6.99\times 10^{-5}$ 10; $\alpha(\text{M})=1.192\times 10^{-5}$ 17; $\alpha(\text{N})=1.599\times 10^{-6}$ 23 $\alpha(\text{O})=1.101\times 10^{-7}$ 16 B(E2)(W.u.)=17 +7-4	
942.5 2		3830.33	(23/2 ⁻)	2887.84	(19/2 ⁻)				
964.5 2	100	2371.06	21/2 ⁺	1406.50	17/2 ⁺	E2	6.79×10 ⁻⁴	$\alpha(\text{K})=0.000600$ 9; $\alpha(\text{L})=6.61\times 10^{-5}$ 10; $\alpha(\text{M})=1.128\times 10^{-5}$ 16; $\alpha(\text{N})=1.514\times 10^{-6}$ 22 $\alpha(\text{O})=1.043\times 10^{-7}$ 15 B(E2)(W.u.)=73 12 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.	
967.7 2	100 12	3397.1	(23/2 ⁺)	2429.5	19/2 ⁺	[E2]	6.73×10 ⁻⁴	$\alpha(\text{K})=0.000595$ 9; $\alpha(\text{L})=6.56\times 10^{-5}$ 10; $\alpha(\text{M})=1.119\times 10^{-5}$ 16; $\alpha(\text{N})=1.502\times 10^{-6}$ 21	

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)								
E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	α	Comments
993.4 2	100 8	2559.54	17/2 ⁻	1566.18	13/2 ⁻	E2	6.33×10 ⁻⁴	$\alpha(\text{O})=1.035\times 10^{-7}$ 15 B(E2)(W.u.)=66 +18-14 $\alpha(\text{K})=0.000560$ 8; $\alpha(\text{L})=6.16\times 10^{-5}$ 9; $\alpha(\text{M})=1.052\times 10^{-5}$ 15; $\alpha(\text{N})=1.412\times 10^{-6}$ 20; $\alpha(\text{O})=9.75\times 10^{-8}$ 14 B(E2)(W.u.)=0.41 6 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
1024.0	9 4	2429.5	19/2 ⁺	1406.50	17/2 ⁺			
1024.8 3	100	4421.9	(27/2 ⁺)	3397.1	(23/2 ⁺)			
1025.2	8.7	3397.1	(23/2 ⁺)	2371.06	21/2 ⁺			
1026.0 3	100	4340.6	(25/2 ⁻)	3314.54	(21/2 ⁻)	[E2]	5.88×10 ⁻⁴	$\alpha(\text{K})=0.000520$ 8; $\alpha(\text{L})=5.71\times 10^{-5}$ 8; $\alpha(\text{M})=9.75\times 10^{-6}$ 14; $\alpha(\text{N})=1.309\times 10^{-6}$ 19; $\alpha(\text{O})=9.05\times 10^{-8}$ 13 B(E2)(W.u.)=68 +9-13
1037.3 3	18 6	4487.9	(27/2 ⁺)	3450.6	(25/2 ⁺)	(M1)	5.69×10 ⁻⁴	$\alpha(\text{K})=0.000503$ 7; $\alpha(\text{L})=5.46\times 10^{-5}$ 8; $\alpha(\text{M})=9.32\times 10^{-6}$ 13; $\alpha(\text{N})=1.257\times 10^{-6}$ 18; $\alpha(\text{O})=8.88\times 10^{-8}$ 13 B(M1)(W.u.)=0.015 +10-3 Mult.: D from $\gamma(\theta)$ in (HI,xn γ), $\Delta\pi$ =no from level scheme.
1052.7 11	100	4472.8		3420.1				
1065.3 11		4796.0	(27/2 ⁻)	3731.0	(23/2 ⁻)			
1077.6 11	100 14	4385.8	(25/2 ⁻)	3308.14	(21/2 ⁻)	[E2]	5.26×10 ⁻⁴	$\alpha(\text{K})=0.000465$ 7; $\alpha(\text{L})=5.10\times 10^{-5}$ 8; $\alpha(\text{M})=8.70\times 10^{-6}$ 13; $\alpha(\text{N})=1.169\times 10^{-6}$ 17; $\alpha(\text{O})=8.10\times 10^{-8}$ 12 B(E2)(W.u.)=23 +14-5
1079.5 2	100 5	3450.6	(25/2 ⁺)	2371.06	21/2 ⁺	(E2)	5.24×10 ⁻⁴	$\alpha(\text{K})=0.000463$ 7; $\alpha(\text{L})=5.08\times 10^{-5}$ 8; $\alpha(\text{M})=8.67\times 10^{-6}$ 13; $\alpha(\text{N})=1.165\times 10^{-6}$ 17; $\alpha(\text{O})=8.07\times 10^{-8}$ 12 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), E2 from assumed band structure.
1091.7 11	100 12	4487.9	(27/2 ⁺)	3397.1	(23/2 ⁺)	[E2]	5.11×10 ⁻⁴	$\alpha(\text{K})=0.000452$ 7; $\alpha(\text{L})=4.95\times 10^{-5}$ 7; $\alpha(\text{M})=8.45\times 10^{-6}$ 12; $\alpha(\text{N})=1.135\times 10^{-6}$ 17; $\alpha(\text{O})=7.87\times 10^{-8}$ 12 B(E2)(W.u.)=72 +48-17
1092 1	100	5564.8		4472.8				
1103.1	8.5 17	5747.5	(31/2 ⁺)	4643.6	(29/2 ⁺)			
1113.0 11	100 9	1708.5		594.98	13/2 ⁺			
1132.1 @ 2	100 @ 11	1249.82	(3/2 ⁻)	117.60	(1/2 ⁻)			
1154.0 12	100	5950.0	(31/2 ⁻)	4796.0	(27/2 ⁻)			
1161.3	100	5502.3	(29/2 ⁻)	4340.6	(25/2 ⁻)	[E2]	4.49×10 ⁻⁴	$\alpha(\text{K})=0.000394$ 6; $\alpha(\text{L})=4.31\times 10^{-5}$ 6; $\alpha(\text{M})=7.35\times 10^{-6}$ 11; $\alpha(\text{N})=9.89\times 10^{-7}$ 14; $\alpha(\text{O})=6.87\times 10^{-8}$ 10 B(E2)(W.u.)=66 +30-9
1161.7 12	100 13	4992.3	(27/2 ⁻)	3830.33	(23/2 ⁻)			
1174.2	100	6676.5	(33/2 ⁻)	5502.3	(29/2 ⁻)	[E2]	4.40×10 ⁻⁴	$\alpha(\text{K})=0.000385$ 6; $\alpha(\text{L})=4.21\times 10^{-5}$ 6; $\alpha(\text{M})=7.18\times 10^{-6}$ 10; $\alpha(\text{N})=9.65\times 10^{-7}$ 14; $\alpha(\text{O})=6.71\times 10^{-8}$ 10 B(E2)(W.u.)>26
1177.0 12	100	5562.3	(29/2 ⁻)	4385.8	(25/2 ⁻)			
1192.9 3	100	4643.6	(29/2 ⁺)	3450.6	(25/2 ⁺)	E2	4.27×10 ⁻⁴	$\alpha(\text{K})=0.000372$ 6; $\alpha(\text{L})=4.06\times 10^{-5}$ 6; $\alpha(\text{M})=6.93\times 10^{-6}$ 10; $\alpha(\text{N})=9.32\times 10^{-7}$ 13; $\alpha(\text{O})=6.49\times 10^{-8}$ 9

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	α	Comments
								B(E2)(W.u.)=57 +11-10 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
1195.7		7179.0	(35/2 ⁺)	5983.5	(33/2 ⁺)			
1219		6780.9	(33/2 ⁻)	5562.3	(29/2 ⁻)			
1220 1	100	6782.3	(33/2 ⁻)	5562.3	(29/2 ⁻)	[E2]	4.12×10 ⁻⁴	$\alpha(\text{K})=0.000354$ 5; $\alpha(\text{L})=3.87\times 10^{-5}$ 6; $\alpha(\text{M})=6.60\times 10^{-6}$ 10; $\alpha(\text{N})=8.87\times 10^{-7}$ 13; $\alpha(\text{O})=6.18\times 10^{-8}$ 9 B(E2)(W.u.)=75 +22-24
1224 1	54 5	1223.68	11/2 ⁻	0.0	9/2 ⁺	[E1]	2.42×10 ⁻⁴	$\alpha(\text{K})=0.0001636$ 23; $\alpha(\text{L})=1.757\times 10^{-5}$ 25; $\alpha(\text{M})=2.99\times 10^{-6}$ 5; $\alpha(\text{N})=4.03\times 10^{-7}$ 6; $\alpha(\text{O})=2.84\times 10^{-8}$ 4 B(E1)(W.u.)=6.4×10 ⁻⁵ 23
1242.2 12	100	7918.7	(37/2 ⁻)	6676.5	(33/2 ⁻)			
1260.5 13	100 14	5747.5	(31/2 ⁺)	4487.9	(27/2 ⁺)	[E2]	3.92×10 ⁻⁴	$\alpha(\text{K})=0.000331$ 5; $\alpha(\text{L})=3.60\times 10^{-5}$ 6; $\alpha(\text{M})=6.15\times 10^{-6}$ 9; $\alpha(\text{N})=8.27\times 10^{-7}$ 12; $\alpha(\text{O})=5.77\times 10^{-8}$ 9 B(E2)(W.u.)=38 +21-11
1278.2		6780.9	(33/2 ⁻)	5502.3	(29/2 ⁻)			
1288.1 13	100	8070.4	(37/2 ⁻)	6782.3	(33/2 ⁻)	[E2]	3.81×10 ⁻⁴	$\alpha(\text{K})=0.000316$ 5; $\alpha(\text{L})=3.44\times 10^{-5}$ 5; $\alpha(\text{M})=5.87\times 10^{-6}$ 9; $\alpha(\text{N})=7.89\times 10^{-7}$ 12; $\alpha(\text{O})=5.51\times 10^{-8}$ 8 B(E2)(W.u.)>26
1288.2 13	100	7238.2	(35/2 ⁻)	5950.0	(31/2 ⁻)			
1328.0	100	8108.9	(37/2 ⁻)	6780.9	(33/2 ⁻)			
1340.0 5	100	5983.5	(33/2 ⁺)	4643.6	(29/2 ⁺)	E2	3.65×10 ⁻⁴	$\alpha(\text{K})=0.000291$ 4; $\alpha(\text{L})=3.16\times 10^{-5}$ 5; $\alpha(\text{M})=5.40\times 10^{-6}$ 8; $\alpha(\text{N})=7.26\times 10^{-7}$ 11; $\alpha(\text{O})=5.07\times 10^{-8}$ 8 B(E2)(W.u.)=28 +13-8 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
1342 2	100	6334.3	(31/2 ⁻)	4992.3	(27/2 ⁻)	[E2]	3.64×10 ⁻⁴	$\alpha(\text{K})=0.000290$ 5; $\alpha(\text{L})=3.15\times 10^{-5}$ 5; $\alpha(\text{M})=5.38\times 10^{-6}$ 8; $\alpha(\text{N})=7.24\times 10^{-7}$ 11; $\alpha(\text{O})=5.06\times 10^{-8}$ 8 B(E2)(W.u.)>23
1345		4796.0	(27/2 ⁻)	3450.6	(25/2 ⁺)			
1361.0 14	23 3	3731.0	(23/2 ⁻)	2371.06	21/2 ⁺			
1361.1 @ 3	29 @ 6	2083.13	(3/2 ⁻)	722.28	(3/2 ⁻ ,5/2)			
1413.2	100	9331.9	(41/2 ⁻)	7918.7	(37/2 ⁻)			
1415 2	80 12	2010.60	15/2 ⁻	594.98	13/2 ⁺	[E1]	3.26×10 ⁻⁴	$\alpha(\text{K})=0.0001272$ 18; $\alpha(\text{L})=1.363\times 10^{-5}$ 20; $\alpha(\text{M})=2.32\times 10^{-6}$ 4; $\alpha(\text{N})=3.13\times 10^{-7}$ 5; $\alpha(\text{O})=2.21\times 10^{-8}$ 4 B(E1)(W.u.)=5.2×10 ⁻⁵ 21
1416.1 3	83 15	2822.77	(19/2 ⁻)	1406.50	17/2 ⁺			
1430.9 14		7179.0	(35/2 ⁺)	5747.5	(31/2 ⁺)			
1470.6 15	100	8708.8	(39/2 ⁻)	7238.2	(35/2 ⁻)			
1484.8 7	100	7468.3	(37/2 ⁺)	5983.5	(33/2 ⁺)	E2	3.45×10 ⁻⁴	$\alpha(\text{K})=0.000236$ 4; $\alpha(\text{L})=2.56\times 10^{-5}$ 4; $\alpha(\text{M})=4.36\times 10^{-6}$ 7; $\alpha(\text{N})=5.88\times 10^{-7}$ 9; $\alpha(\text{O})=4.12\times 10^{-8}$ 6 B(E2)(W.u.)=7.E+1 +5-3 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
1485 2	100	7819	(35/2 ⁻)	6334.3	(31/2 ⁻)			

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. ‡	α	Comments
1494.3 @ 2	54 @ 8	2136.91	(3/2)	642.42	(3/2,5/2 ⁻)			
1519.1 @ 3	100 @	1955.7		436.57	(5/2)			
1531.0 15	100	2937.6		1406.50	17/2 ⁺			
1531	100	9639.9	(41/2 ⁻)	8108.9	(37/2 ⁻)			
1533.9	100	8712.9	(39/2 ⁺)	7179.0	(35/2 ⁺)			
1546.8 @ 4	43 @ 9	2083.13	(3/2 ⁻)	537.12	7/2 ⁻			
1594.6	100	10926.5	(45/2 ⁻)	9331.9	(41/2 ⁻)			
1600.5 @ 3	54 @ 6	2136.91	(3/2)	537.12	7/2 ⁻			
1606.6 16	100	9074.9	(41/2 ⁺)	7468.3	(37/2 ⁺)	E2	3.55×10 ⁻⁴	$\alpha(\text{K})=0.000202$ 3; $\alpha(\text{L})=2.18\times 10^{-5}$ 3; $\alpha(\text{M})=3.73\times 10^{-6}$ 6; $\alpha(\text{N})=5.02\times 10^{-7}$ 7; $\alpha(\text{O})=3.53\times 10^{-8}$ 5 B(E2)(W.u.)=1.8×10 ² +18-14 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
1627 ^b	100	11266.9?	(45/2 ⁻)	9639.9	(41/2 ⁻)			
1646.0 17	100	10358.9	(43/2 ⁺)	8712.9	(39/2 ⁺)			
1661.3 @ 3	100 @ 11	2083.13	(3/2 ⁻)	421.81	(3/2 ⁻)			
1687	100	10396	(43/2 ⁻)	8708.8	(39/2 ⁻)			
1699.9 @ 5	28 @ 4	2136.91	(3/2)	436.57	(5/2)			
1714.8 @ 4	<20 @	2136.91	(3/2)	421.81	(3/2 ⁻)			
1738 1		z+1737.0	J2+2	z	J2≈(43/2)			
1743	100	10452	(43/2 ⁻)	8708.8	(39/2 ⁻)			
1749.0 18	100	10824	(45/2 ⁺)	9074.9	(41/2 ⁺)	E2	3.83×10 ⁻⁴	$\alpha(\text{K})=0.0001714$ 25; $\alpha(\text{L})=1.85\times 10^{-5}$ 3; $\alpha(\text{M})=3.16\times 10^{-6}$ 5; $\alpha(\text{N})=4.25\times 10^{-7}$ 6; $\alpha(\text{O})=2.99\times 10^{-8}$ 5 B(E2)(W.u.)=1.1×10 ² +11-9 Mult.: Q from $\gamma(\theta)$ in (HI,xn γ), M2 excluded by comparison to RUL.
1751.3 @ 4	<29 @	2083.13	(3/2 ⁻)	331.66	(5/2 ⁺)			
1757 1	1.5 & 5	y+1756.0	J1+2	y	J1≈(43/2)			
1784.4	100	14028	(51/2 ⁺)	12243.8	(47/2 ⁺)			
1793.4 18	100	5244.0		3450.6	(25/2 ⁺)			
1799.2	100	12726	(49/2 ⁻)	10926.5	(45/2 ⁻)			
1838.1 @ ^b 7	100 @ 25	2260.0		421.81	(3/2 ⁻)			
1871 1		z+3608.0	J2+4	z+1737.0	J2+2			
1884.9	100	12243.8	(47/2 ⁺)	10358.9	(43/2 ⁺)			
1893 1	2.6 & 5	x+1892.0	J+2	x	J≈(45/2)			
1913	50 45	14947	(51/2 ⁺)	13035	(47/2 ⁺)			
1915.8 @ 3	37 @ 11	2083.13	(3/2 ⁻)	167.01	5/2 ⁻			
1920 1		u+1919.0	J3+2	u	J3≈(45/2)			
1921 1	2.1 & 4	y+3677.0	J1+4	y+1756.0	J1+2			
1958.6 20	100	12787	(49/2 ⁺)	10824	(45/2 ⁺)	[E2]	4.44×10 ⁻⁴	$\alpha(\text{K})=0.0001387$ 20; $\alpha(\text{L})=1.493\times 10^{-5}$ 21; $\alpha(\text{M})=2.55\times 10^{-6}$ 4;

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)							Comments
E_γ †	I_γ †	E_i (level)	J_i^π	E_f	J_f^π	Mult. ‡	
$\alpha(\text{N})=3.43\times 10^{-7}$ 5; $\alpha(\text{O})=2.42\times 10^{-8}$ 4 B(E2)(W.u.)>23							
1964.9 @ ^b 5	94 @ 11	2083.13	(3/2 ⁻)	117.60	(1/2 ⁻)		
2020.8 @ 5	86 @ 11	2083.13	(3/2 ⁻)	62.04	3/2 ⁻		
2022 1	4.2 & 6	x+3914.0	J+4	x+1892.0	J+2		
2038 1		z+5646.1	J2+6	z+3608.0	J2+4		
2041	100	14767	(53/2 ⁻)	12726	(49/2 ⁻)		
2062 1		u+3981.1	J3+4	u+1919.0	J3+2		
2072 1	3.0 & 5	y+5749.1	J1+6	y+3677.0	J1+4		
2074.8 @ 4	100 @ 10	2136.91	(3/2)	62.04	3/2 ⁻		
2093.9	100	14881	(53/2 ⁺)	12787	(49/2 ⁺)		
2129.6	100	9598.0		7468.3	(37/2 ⁺)		
2142.4 @ 4	100 @ 25	2260.0		117.60	(1/2 ⁻)		
2154	100	17101	(55/2 ⁺)	14947	(51/2 ⁺)		
2156 1	4.0 & 6	x+6070.1	J+6	x+3914.0	J+4		
2159	100 80	14947	(51/2 ⁺)	12787	(49/2 ⁺)		
2198	100	13022	(47/2 ⁺)	10824	(45/2 ⁺)	D	
2211 1		u+6192.1	J3+6	u+3981.1	J3+4		
2212	100	13035	(47/2 ⁺)	10824	(45/2 ⁺)	(D)	
2213 1		z+7859.1	J2+8	z+5646.1	J2+6		
2224 1	2.0 & 5	y+7973.1	J1+8	y+5749.1	J1+6		
2298 1	3.8 & 6	x+8368.1	J+8	x+6070.1	J+6		
2316.3 @ 5	100 @	2738.1		421.81	(3/2 ⁻)		
2365	100	19466	(59/2 ⁺)	17101	(55/2 ⁺)		
2374 1		u+8566.1	J3+8	u+6192.1	J3+6		
2378 1		z+10237.1	J2+10	z+7859.1	J2+8		
2384 1	2.8 & 6	y+10357.1	J1+10	y+7973.1	J1+8		
2444 1	2.8 & 5	x+10812.2	J+10	x+8368.1	J+8		
2458.6	100	8442.2		5983.5	(33/2 ⁺)		
2531 1		u+11097.2	J3+10	u+8566.1	J3+8		
2533	100	10001.4		7468.3	(37/2 ⁺)		
2535 1		z+12772.2	J2+12	z+10237.1	J2+10		
2551 1	1.5 & 5	y+12908.2	J1+12	y+10357.1	J1+10		
2586 1	2.1 & 6	x+13398.2	J+12	x+10812.2	J+10		
2694 1		u+13791.2	J3+12	u+11097.2	J3+10		
2718 1		z+15490	J2+14	z+12772.2	J2+12		
2720 1	0.6 & 4	y+15628	J1+14	y+12908.2	J1+12		
2722 1	1.0 & 4	x+16120	J+14	x+13398.2	J+12		
2839 ^b 1		x+18959?	J+16	x+16120	J+14		

Adopted Levels, Gammas (continued)

$\gamma(^{83}\text{Y})$ (continued)

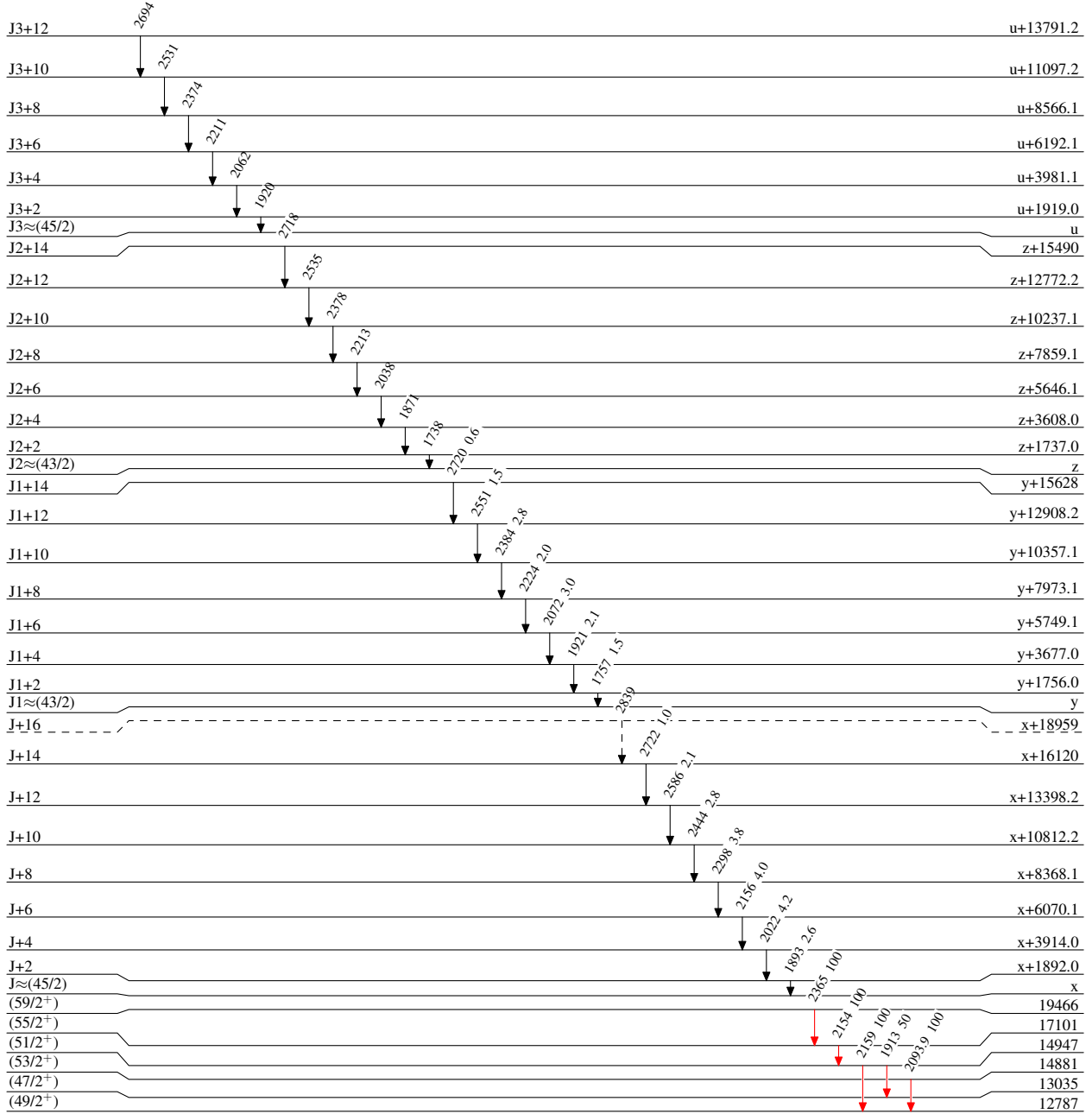
- [†] From (HI,xn γ), except where noted.
- [‡] From $\gamma(\theta)$ in (HI,xn γ), except where noted.
- [#] From conversion electron data in ⁸³Zr ε decay.
- [@] From ⁸³Zr ε decay.
- [&] Intensity within the SD band given relative to the sum of the intensities of the ground-state band transitions.
- ^a Multiply placed with intensity suitably divided.
- ^b Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level SchemeIntensities: Relative I_γ

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



<0.04 ps

9/2⁺

0.0

7.08 min 8

 $^{83}_{39}\text{Y}_{44}$

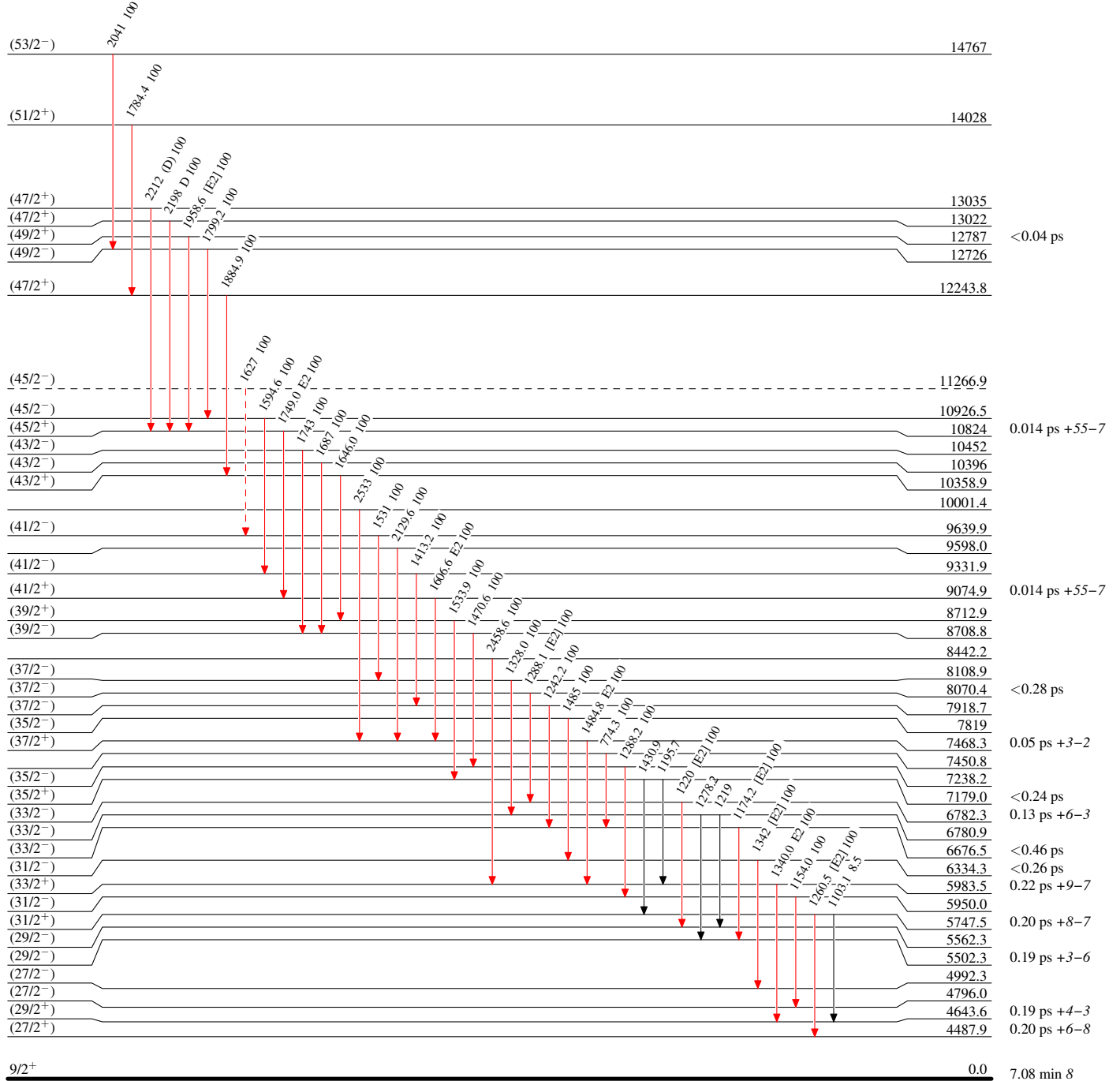
Adopted Levels, Gammas

Legend

Level Scheme (continued)

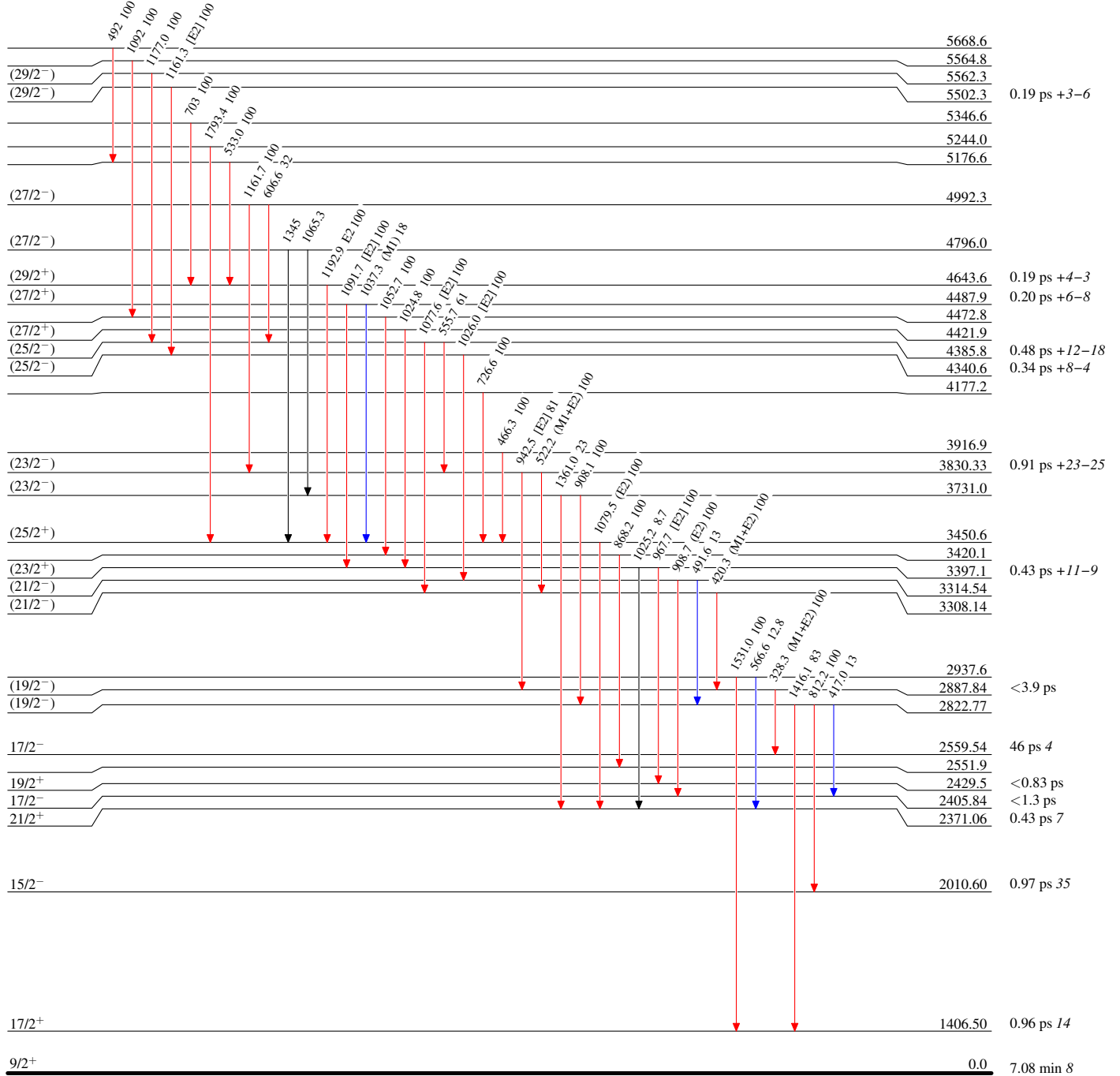
Intensities: Relative I_γ

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



Adopted Levels, Gammas**Level Scheme (continued)**Intensities: Relative I_γ **Legend**

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

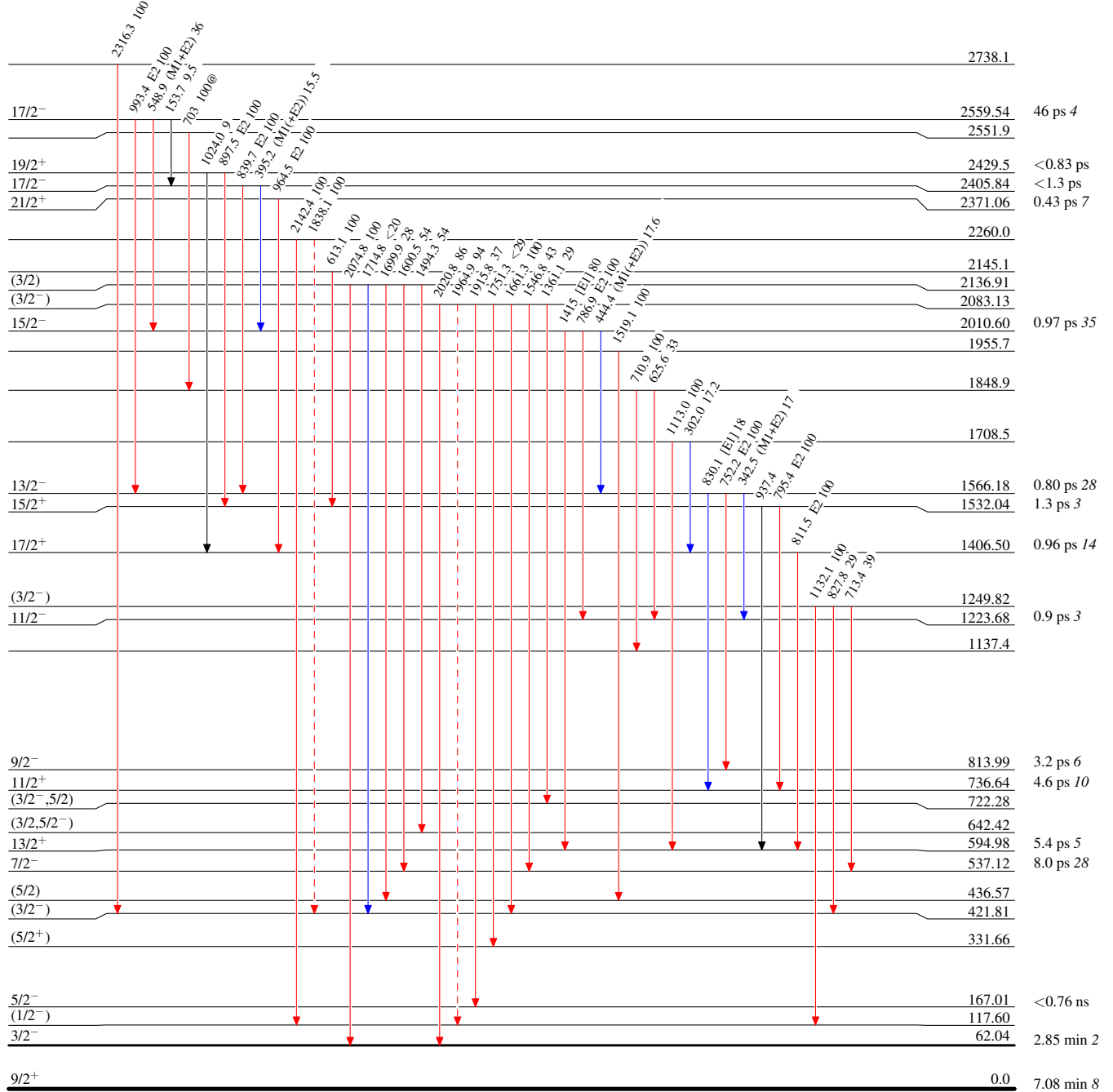


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative I_γ
 @ Multiply placed: intensity suitably divided

Legend

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

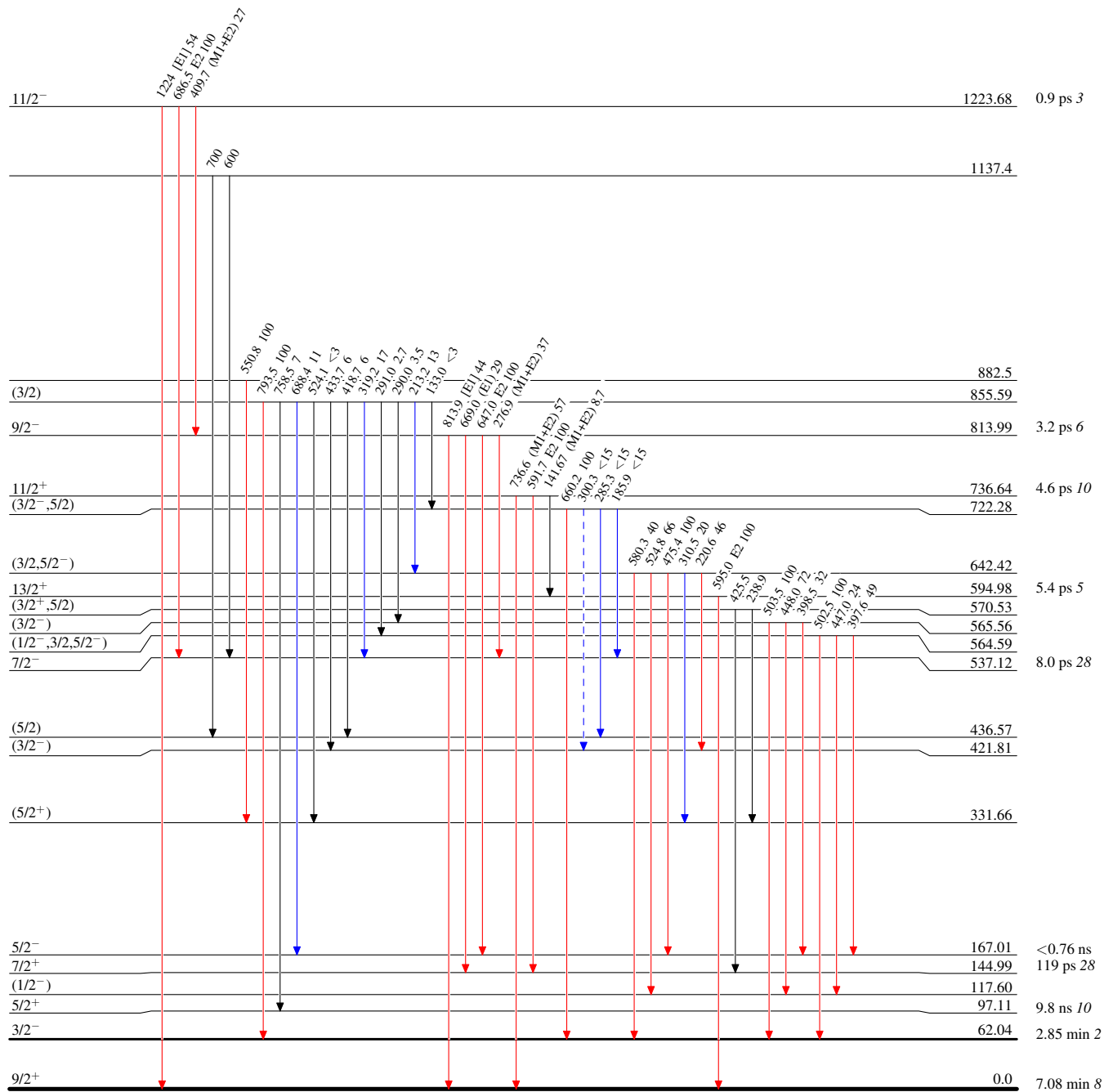


Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative I_γ
 @ Multiply placed: intensity suitably divided

Legend

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

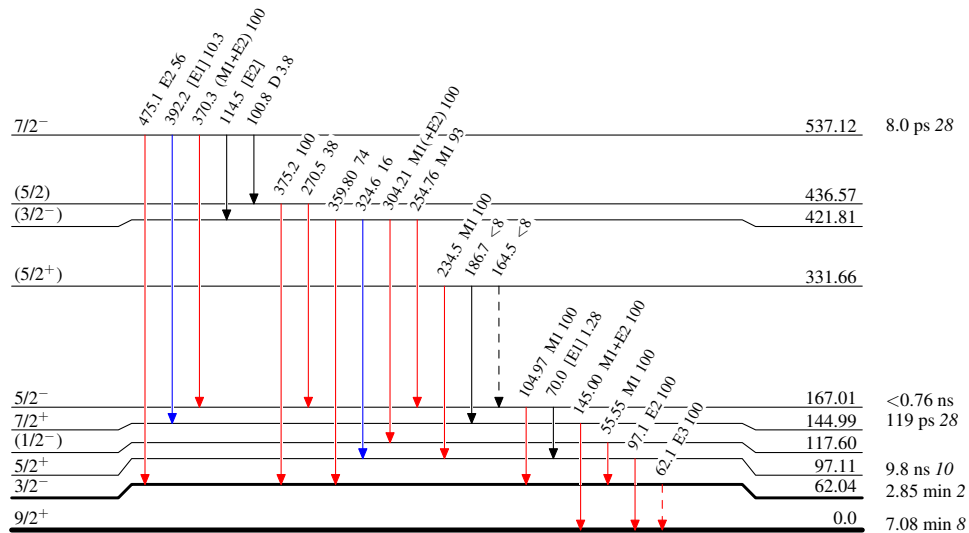


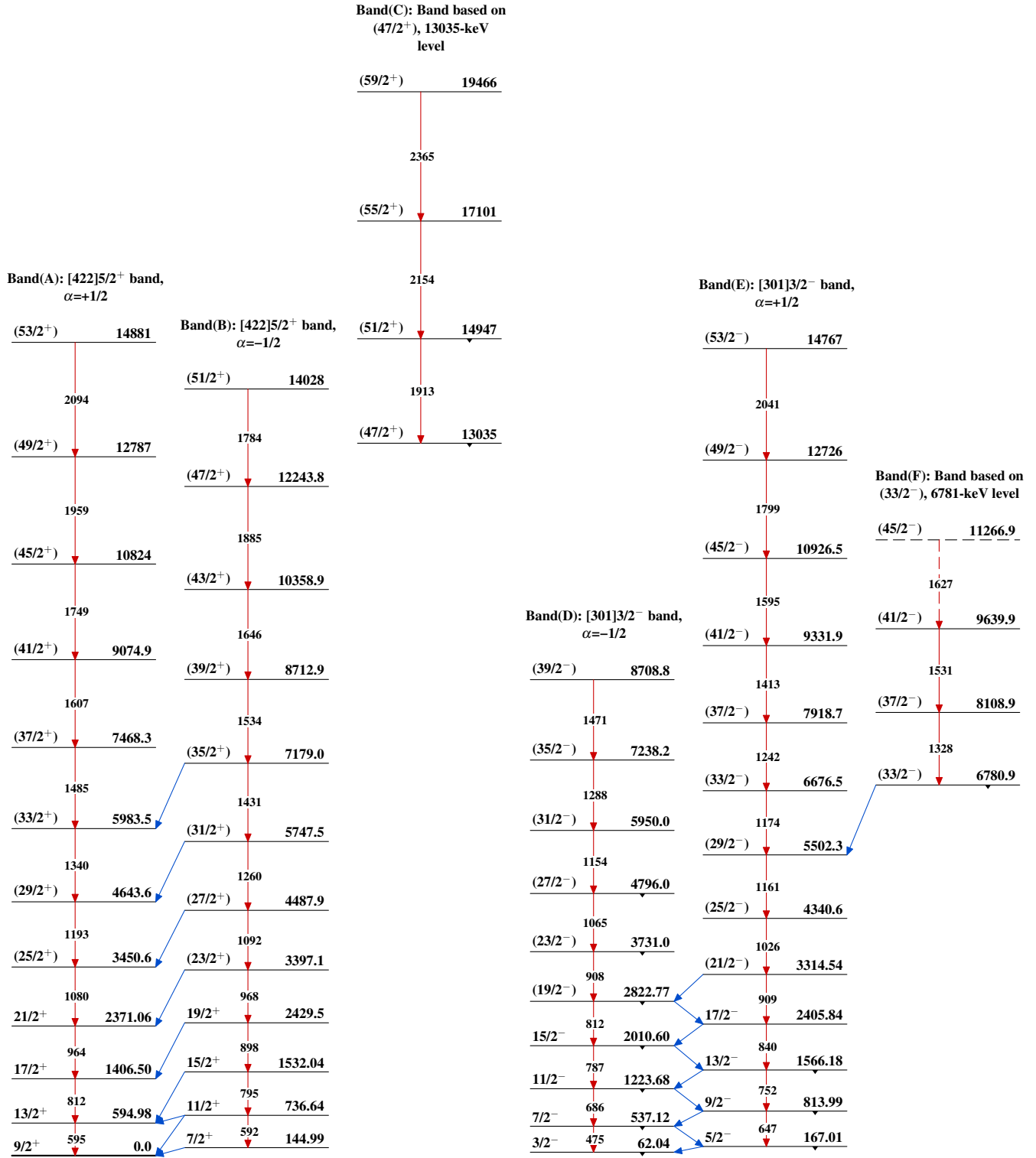
Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative I_γ
 @ Multiply placed: intensity suitably divided

Legend

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

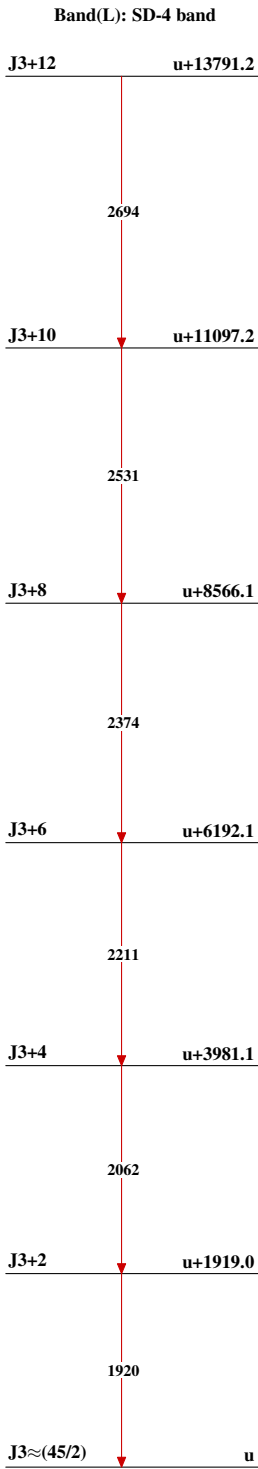
 $^{83}_{39}\text{Y}_{44}$

Adopted Levels, Gammas

Adopted Levels, Gammas (continued)

		Band(K): SD-3 band	
		J2+14	z+15490
		2718	
		J2+12	z+12772.2
		2535	
		J2+10	z+10237.1
		2378	
		J2+8	z+7859.1
		2213	
		J2+6	z+5646.1
		2038	
		J2+4	z+3608.0
		1871	
		J2+2	z+1737.0
		1738	
		J2≈(43/2)	z
		Band(J): SD-2 band	
		J1+14	y+15628
		2720	
		J1+12	y+12908.2
		2551	
		J1+10	y+10357.1
		2384	
		J1+8	y+7973.1
		2224	
		J1+6	y+5749.1
		2072	
		J1+4	y+3677.0
		1921	
		J1+2	y+1756.0
		1757	
		J1≈(43/2)	y
		Band(I): SD-1 band	
		J+16	x+18959
		2839	
		J+14	x+16120
		2722	
		J+12	x+13398.2
		2586	
		J+10	x+10812.2
		2444	
		J+8	x+8368.1
		2298	
		J+6	x+6070.1
		2156	
		J+4	x+3914.0
		2022	
		J+2	x+1892.0
		1893	
		J≈(45/2)	x
		Band(G): Band based on the 17/2-, 2560-keV level, α=+1/2	
		(37/2 ⁻)	8070.4
		(33/2 ⁻)	1288 6782.3
		(29/2 ⁻)	1220 5562.3
		(25/2 ⁻)	1177 4385.8
		(21/2 ⁻)	1078 3308.14
		17/2	2559.54
		Band(H): Band based on the 17/2-, 2560-keV level, α=-1/2	
		(35/2 ⁻)	7819
		(31/2 ⁻)	1485 6334.3
		(27/2 ⁻)	1342 4992.3
		(23/2 ⁻)	1162 3830.33
		(19/2 ⁻)	942 2887.84

Adopted Levels, Gammas (continued)



$^{83}_{39}\text{Y}_{44}$