Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 145, 25 (2017)	1-Jul-2017

$Q(\beta^-)$=6970 12; $S(n)$=6426 10; $S(p)$=11516 7; $Q(\alpha)$=−7183 21　2017Wa10
Fission yield from ^{239}Pu(n,F), E=Thermal=0.426 % 56 (2011Ba33).

^{99}Y Levels

Cross Reference (XREF) Flags

A	^{99}Sr β^- decay	F	^{7}Li(^{98}Sr,α2nγ),(^{98}Rb,^{3}H3nγ)
B	^{99}Y IT decay	G	^{9}Be(^{136}Xe,X)
C	^{252}Cf SF decay	H	^{232}Th(^{6}Li,Fγ)
D	^{248}Cm SF decay	I	^{9}Be(^{238}U,Fγ)
E	^{100}Sr β^-n decay (202 ms)		

E(level)	J^π	$T_{1/2}$#	XREF	Comments
0.0@	(5/2+)†	1.484 s 7	ABCDEFGHI	%β^-=100; %β^-n=1.77 19 μ=+3.18 2; Q=+1.55 17 %β^-n: From 2012Ma63. Other values: 3.14% 17 (1993Ru01), 1.09% 11 (1986ReZU), 0.96% 15 (1983Re10), 3.0% 2 (1982Ga24), 1.2% 8 (1975As04),1.7% 6 and 1.6% 8 included in 1993Ru01, and 2.5% 5 (1996Me09). μ,Q: Laser Resonance Spectroscopy (LRS) (2007Ch07). Isotope shift: $<r^2>^{1/2}$=+1.904 fm^2 (2007Ch07). J^π: clearly indicated by fit of level energies to the formula for rotational levels. The 3/2$^+$ fit is much worse (1985Me09). $T_{1/2}$: Weighted average of 1.40 s 7 (2012Qu01), 1.486 s 7 (1993Ru01), 1.47 s 2 (1983Re10), 1.40 s 15 (1982Ga14), 1.51 s 8 (1979Se01), 1.45 s 22 (1975As04), and 1.48 s 2 (1996Me09). Other: 1.1 s 3 (1972Sc48).
125.122@ 24	(7/2+)†	57 ps 10	ABCD F HI	$T_{1/2}$: Others: 47 ps 6 $\beta\gamma\gamma$(t) (1990Ma08,1990Wo01), 180 ps 190 (1989Lh01).
283.73@ 4	(9/2+)†	18.6 ps 13	ABCD F I	$T_{1/2}$: From 2017Ha12. Other: 20 ps 4 (2013RuZX).
482.21@ 9	(11/2+)†	4.30 ps 42	ABCD F I	$T_{1/2}$: From 2017Ha12. Other:<15 ps (2013RuZX).
487.28& 4	(5/2−)‡		A C	
536.19a 4	(3/2−)‡		A C	
599.99 9			A	
624.38& 5	(7/2−)‡		A C	
656.87a 4	(5/2−)‡		A C	
706.09@ 11	(13/2+)†	2.50 ps 21	BCD F I	$T_{1/2}$: From 2017Ha12.
817.60a 5	(7/2−)‡		A C	
975.70@ 14	(15/2+)†	2.29 ps 62	BCD I	$T_{1/2}$: From 2017Ha12.
1009.00?b 17	(3/2+)‡		A	
1011.76b 6	(1/2+)‡		A	
1119.60c 5	(3/2+)‡		A	
1191.63b 12	(5/2+)‡		A	
1197.94 6	1/2+,3/2,5/2+		A	J^π: log ft=5.6 from 3/2$^+$.
1213.07c 9	(5/2+)‡		A	
1220.66b 10	(7/2+)‡		A	
1259.20@ 20	(17/2+)†		BCD I	

Adopted Levels, Gammas (continued)

^{99}Y Levels (continued)

E(level)	J^π	$T_{1/2}$[#]	XREF		Comments
1402.09 9	$3/2^+,5/2$		A		J^π: log ft=5.8 from $3/2^+$; γ to $(7/2^+)$.
1411.69 9	$1/2^+,3/2,5/2$		A		J^π: log ft=5.8 from $3/2^+$. γ to $(5/2^+)$.
1595.45[@] 23	$(19/2^+)$[†]		BC	I	
1654.74[d] 20	$(11/2^+)$[†]	1.6 ns 4	BC	H	J^π: level spacing suggests a rotational band with ΔJ=1 for the 1655, 1869, and 2114 levels. γ from the first member to $(7/2^+)$ and γ to the second member from $(17/2^+)$ determines $J^\pi=(11/2^+)$ for the bandhead.
					$T_{1/2}$: Other: 1.4 ns from $\gamma\gamma$(t) in IT decay (1985Me09).
1868.74[d] 20	$(13/2^+)$[†]	23 ps 6	BC	H	
1930.73 11	$3/2^+,5/2^+$		A		J^π: log ft=5.4 from $3/2^+$; γ to $(7/2^+)$.
1933.24[@] 13	$(21/2^+)$[†]		C		
2113.94[d] 25	$(15/2^+)$[†]		BC		
2141.65[e] 19	$(17/2^+)$[†]	8.0 μs 5	BC	H	%IT=100
					J^π: γ's to the $(13/2^+)$ and $(19/2^+)$ members of the g.s. band; no γ to $(11/2^+)$.
					$T_{1/2}$: Others: 8.6 μs 8 (1985Me09), 11 μs 2 (1999Ge01).
2205.90 8	$(5/2)^+$		A		J^π: log ft=4.9 from $3/2^+$; γ to $(7/2^-)$.
2239.39 10	$(5/2)^+$		A		J^π: log ft=4.9 from $3/2^+$; γ to $(7/2^-)$.
2245.32 9	$(3/2,5/2)^+$		A		J^π: log ft=5.2 from $3/2^+$; γ to $(5/2^-)$.
2276.11 9	$(3/2,5/2)^+$		A		J^π: log ft=5.2 from $3/2^+$; γ to $(5/2^-)$.
2279.71 13	$(3/2,5/2)^+$		A		J^π: log ft=4.8 from $3/2^+$; γ to $(5/2^-)$.
2314.93 16	$1/2^+,3/2^+,5/2^+$		A		J^π: log ft=5.6 from $3/2^+$.
2332.21[@] 13	$(23/2^+)$[†]		C		
2389.26[d] 13	$(17/2^+)$[†]		C		
2693.96[d] 13	$(19/2^+)$[†]		C		
2717.78[@] 14	$(25/2^+)$[†]		C		
3028.01[d] 14	$(21/2^+)$[†]		C		
3178.91[@] 17	$(27/2^+)$[†]		C		
3389.46[d] 17	$(23/2^+)$[†]		C		

[†] Level fits into the formula for rotational bands (1985Me09).
[‡] Rotational band indicated by decay pattern (see 1985Pe02).
[#] From $\gamma\gamma$(t) by 2013RuZX using induced-fission on ^{235}U, except where noted otherwise.
[@] Band(A): K^π=$5/2^+$, configuration=$\pi5/2$[422].
[&] Band(B): K^π=$5/2^-$, configuration=$\pi5/2$[303].
[a] Band(C): K^π=$3/2^-$, configuration=$\pi3/2$[301]. See 1985Wo02, 1987Wo08.
[b] Band(D): configuration=$\pi1/2$[431].
[c] Band(E): K^π=$3/2^+$, configuration=$\pi3/2$[431].
[d] Band(F): K^π=$11/2^+$, configuration=$\pi5/2$[422]$\nu3/2$[411]$\nu9/2$[404].
[e] Band(G): K^π=$17/2^+$, configuration=$\pi5/2$[422]$\nu3/2$[411]$\nu9/2$[404].

Adopted Levels, Gammas (continued)

$$\gamma(^{99}\text{Y})$$

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[&]	Comments
125.122	$(7/2^+)$	125.118 29	100 10	0.0	$(5/2^+)$	(M1)	0.0981	α(K)=0.0862 12; α(L)=0.00989 14; α(M)=0.001695 24 α(N)=0.000227 4; α(O)=1.550×10^{-5} 22 B(M1)(W.u.)=0.18 4
283.73	$(9/2^+)$	158.63 4	100 5	125.122	$(7/2^+)$	(M1)	0.0517	α(K)=0.0455 7; α(L)=0.00519 8; α(M)=0.000888 13 α(N)=0.0001191 17; α(O)=8.17×10^{-6} 12 B(M1)(W.u.)=0.26 3
		283.70 12	8.9 16	0.0	$(5/2^+)$	[E2]	0.0248	α(K)=0.0216 3; α(L)=0.00265 4; α(M)=0.000453 7 α(N)=5.93×10^{-5} 9; α(O)=3.58×10^{-6} 5 B(E2)(W.u.)=47 10
482.21	$(11/2^+)$	198.49 9	100 10	283.73	$(9/2^+)$			α(K)=0.0757 11; α(L)=0.00993 14; α(M)=0.001699 24 α(N)=0.000219 3; α(O)=1.216×10^{-5} 18
		357.2 3	21 5	125.122	$(7/2^+)$	[E2]	0.01137	α(K)=0.00996 15; α(L)=0.001185 17; α(M)=0.000202 3 α(N)=2.67×10^{-5} 4; α(O)=1.674×10^{-6} 24 B(E2)(W.u.)=1.3×10^2 4
487.28	$(5/2^-)$	362.11 5	10.5 7	125.122	$(7/2^+)$			
		487.31 5	100 6	0.0	$(5/2^+)$			
536.19	$(3/2^-)$	536.12 5	100	0.0	$(5/2^+)$			
599.99		63.85 8	100	536.19	$(3/2^-)$			
624.38	$(7/2^-)$	340.81 12	27 4	283.73	$(9/2^+)$			
		499.26 7	100 10	125.122	$(7/2^+)$			
		624.32 6	96 6	0.0	$(5/2^+)$			
656.87	$(5/2^-)$	120.58 12	61 5	536.19	$(3/2^-)$	[M1,E2]	0.32 22	α(K)=0.27 18; α(L)=0.040 30; α(M)=0.0069 51 α(N)=8.8×10^{-4} 63; α(O)=4.3×10^{-5} 26
		169.56 4	17.1 16	487.28	$(5/2^-)$	[M1,E2]	0.099 56	α(K)=0.086 48; α(L)=0.0113 70; α(M)=0.0019 12 α(N)=2.5×10^{-4} 15; α(O)=1.39×10^{-5} 71
		531.75 6	100 8	125.122	$(7/2^+)$			
		657.17 16	10.7 11	0.0	$(5/2^+)$			
706.09	$(13/2^+)$	223.9 1	100 6	482.21	$(11/2^+)$	(M1)	0.0210	α(K)=0.0185 3; α(L)=0.00208 3; α(M)=0.000356 5 α(N)=4.79×10^{-5} 7; α(O)=3.30×10^{-6} 5 B(M1)(W.u.)=0.57 7
		422.3 2	36 6	283.73	$(9/2^+)$	[E2]		B(E2)(W.u.)=1.6×10^2 4
817.60	$(7/2^-)$	160.73 4	100 9	656.87	$(5/2^-)$	[M1,E2]	0.119 69	α(K)=0.103 59; α(L)=0.0137 87; α(M)=0.0023 15 α(N)=3.0×10^{-4} 19; α(O)=1.66×10^{-5} 88
		330.30 11	52 7	487.28	$(5/2^-)$	[M1,E2]	0.0113 35	α(K)=0.0099 30; α(L)=0.00116 39; α(M)=1.99×10^{-4} 67 α(N)=2.63×10^{-5} 86; α(O)=1.70×10^{-6} 47
		533.9 3	93 30	283.73	$(9/2^+)$			
975.70	$(15/2^+)$	269.6 1	100 11	706.09	$(13/2^+)$	[M1,E2]	0.0213 83	α(K)=0.0186 72; α(L)=0.00224 95; α(M)=3.8×10^{-4} 17 α(N)=5.0×10^{-5} 21; α(O)=3.2×10^{-6} 11
		493.5 3	53 11	482.21	$(11/2^+)$	[E2]		B(E2)(W.u.)=1.1×10^2 4
1009.00?	$(3/2^+)$	1009.12[a] 20	100	0.0	$(5/2^+)$			
1011.76	$(1/2^+)$	475.59 5	100	536.19	$(3/2^-)$			
1119.60	$(3/2^+)$	462.70 6	100 10	656.87	$(5/2^-)$			

Adopted Levels, Gammas (continued)

$\gamma(^{99}\text{Y})$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[&]	Comments
1119.60	(3/2⁺)	583.43 5	95 6	536.19	(3/2⁻)			
		632.32 19	27 3	487.28	(5/2⁻)			
1191.63	(5/2⁺)	1066.48 20	100 10	125.122	(7/2⁺)			
		1191.28 20	42 6	0.0	(5/2⁺)			
1197.94	1/2⁺,3/2,5/2⁺	661.58 7	9.6 7	536.19	(3/2⁻)			
		1198.12 8	100 7	0.0	(5/2⁺)			
1213.07	(5/2⁺)	556.4 3	36 14	656.87	(5/2⁻)			
		676.87 8	100 9	536.19	(3/2⁻)			
1220.66	(7/2⁺)	936.93 11	74 8	283.73	(9/2⁺)			
		1095.52 15	100 11	125.122	(7/2⁺)			
1259.20	(17/2⁺)	283.5 3	100 29	975.70	(15/2⁺)	[M1,E2]	0.0182 67	α(K)=0.0159 58; α(L)=0.00190 77; α(M)=3.2×10⁻⁴ 13 α(N)=4.3×10⁻⁵ 17; α(O)=2.70×10⁻⁶ 89
		553.2 3	57 14	706.09	(13/2⁺)			
1402.09	3/2⁺,5/2	210.05 20	10.8 14	1191.63	(5/2⁺)			
		802.7 3	14.9 27	599.99				
		1276.95 13	61 7	125.122	(7/2⁺)			
		1402.16 15	100 11	0.0	(5/2⁺)			
1411.69	1/2⁺,3/2,5/2	875.44 12	33 4	536.19	(3/2⁻)			
		1411.74 12	100 8	0.0	(5/2⁺)			
1595.45	(19/2⁺)	336.3 3	100 50	1259.20	(17/2⁺)	[M1,E2]	0.0107 32	α(K)=0.0094 28; α(L)=0.00110 36; α(M)=1.88×10⁻⁴ 62 α(N)=2.49×10⁻⁵ 79; α(O)=1.61×10⁻⁶ 43
		619.7 3	100 50	975.70	(15/2⁺)			
1654.74	(11/2⁺)	1371.0 4	43 11	283.73	(9/2⁺)			
		1529.5 4	100 14	125.122	(7/2⁺)	[E2]		B(E2)(W.u.)=0.0011 3
1868.74	(13/2⁺)	214.00 10	100	1654.74	(11/2⁺)			α(K)=0.0579 9; α(L)=0.00747 11; α(M)=0.001278 18 α(N)=0.0001656 24; α(O)=9.37×10⁻⁶ 14
1930.73	3/2⁺,5/2⁺	732.3 3	16.1 22	1197.94	1/2⁺,3/2,5/2⁺			
		740.1 10	9.7 22	1191.63	(5/2⁺)			
		922.0[a] 3	10 3	1009.00?	(3/2⁺)			
		1443.44 18	47 5	487.28	(5/2⁻)			
		1805.72 24	70 9	125.122	(7/2⁺)			
		1930.68 20	100 9	0.0	(5/2⁺)			
1933.24	(21/2⁺)	337.4 1	79	1595.45	(19/2⁺)			
		674.0 1	100	1259.20	(17/2⁺)			
2113.94	(15/2⁺)	245.20 20	100 15	1868.74	(13/2⁺)	[M1,E2]	0.029 13	α(K)=0.025 11; α(L)=0.0031 15; α(M)=5.3×10⁻⁴ 25 α(N)=6.9×10⁻⁵ 32; α(O)=4.2×10⁻⁶ 17
		459.2 3	31 15	1654.74	(11/2⁺)			
2141.65	(17/2⁺)	27.7 4	8 5	2113.94	(15/2⁺)	(M1)	7.3 4	α(K)=6.4 3; α(L)=0.75 4; α(M)=0.129 6 α(N)=0.0172 8; α(O)=0.00115 6 B(M1)(W.u.)=3.2×10⁻⁶ 21
		272.90 10	100 8	1868.74	(13/2⁺)	[E2]	0.0283	α(K)=0.0247 4; α(L)=0.00305 5; α(M)=0.000521 8 α(N)=6.81×10⁻⁵ 10; α(O)=4.08×10⁻⁶ 6 B(E2)(W.u.)=0.00053 10

From ENSDF

Adopted Levels, Gammas (continued)

$\gamma(^{99}\text{Y})$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [‡]	E_f	J_f^π	Mult. [@]	α [&]	Comments
2141.65	$(17/2^+)$	546.2 *3*	21 *8*	1595.45	$(19/2^+)$	[M1,E2]	0.0027 *4*	$\alpha(K)$=0.0024 *3*; $\alpha(L)$=0.00027 *4*; $\alpha(M)$=4.6×10^{-5} *7* $\alpha(N)$=6.1×10^{-6} *9*; $\alpha(O)$=4.1×10^{-7} *5*
		882.5 *3*	50 *8*	1259.20	$(17/2^+)$	[M1,E2]	8.21×10^{-4} *21*	$\alpha(K)$=0.000726 *18*; $\alpha(L)$=8.0×10^{-5} *3*; $\alpha(M)$=1.36×10^{-5} *5* $\alpha(N)$=1.83×10^{-6} *6*; $\alpha(O)$=1.272×10^{-7} *24*
		1166.0 *4*	42 *8*	975.70	$(15/2^+)$	[M1,E2]	4.47×10^{-4}	$\alpha(K)$=0.000392 *6*; $\alpha(L)$=4.27×10^{-5} *6*; $\alpha(M)$=7.29×10^{-6} *11* $\alpha(N)$=9.81×10^{-7} *14*; $\alpha(O)$=6.88×10^{-8} *12*; $\alpha(IPF)$=3.6×10^{-6} *5*
		1435.5 *4*	39 *11*	706.09	$(13/2^+)$	[E2]	3.47×10^{-4}	$\alpha(K)$=0.000253 *4*; $\alpha(L)$=2.74×10^{-5} *4*; $\alpha(M)$=4.68×10^{-6} *7* $\alpha(N)$=6.29×10^{-7} *9*; $\alpha(O)$=4.41×10^{-8} *7*; $\alpha(IPF)$=6.21×10^{-5} *9* B(E2)(W.u.)=5.2×10^{-8} *17*
2205.90	$(5/2)^+$	1008.00 *20*	8.9 *17*	1197.94	$1/2^+,3/2,5/2^+$			
		1388.44 *23*	10.3 *17*	817.60	$(7/2^-)$			
		1548.89 *18*	14.9 *20*	656.87	$(5/2^-)$			
		1581.0 *4*	6.6 *9*	624.38	$(7/2^-)$			
		1669.8 *3*	8.3 *20*	536.19	$(3/2^-)$			
		1718.84 *16*	16.0 *17*	487.28	$(5/2^-)$			
		2080.38 *20*	100 *9*	125.122	$(7/2^+)$			
		2206.1 *3*	12.3 *14*	0.0	$(5/2^+)$			
2239.39	$(5/2)^+$	1041.7 *4*	2.2 *7*	1197.94	$1/2^+,3/2,5/2^+$			
		1421.54 *18*	6.5 *9*	817.60	$(7/2^-)$			
		1582.6 *3*	6.5 *7*	656.87	$(5/2^-)$			
		1703.28 *18*	6.3 *7*	536.19	$(3/2^-)$			
		2114.40 *21*	14.1 *15*	125.122	$(7/2^+)$			
		2239.28 *20*	100 *7*	0.0	$(5/2^+)$			
2245.32	$(3/2,5/2)^+$	1047.35 *8*	100 *7*	1197.94	$1/2^+,3/2,5/2^+$			
		1758.14 *17*	17.6 *15*	487.28	$(5/2^-)$			
		2245.3 *3*	8.4 *19*	0.0	$(5/2^+)$			
2276.11	$(3/2,5/2)^+$	1264.62 *22*	19 *3*	1011.76	$(1/2^+)$			
		1619.23 *13*	100 *9*	656.87	$(5/2^-)$			
		1739.82 *15*	97 *8*	536.19	$(3/2^-)$			
		2276.00 *22*	74 *15*	0.0	$(5/2^+)$			
2279.71	$(3/2,5/2)^+$	1623.0 *3*	4.3 *9*	656.87	$(5/2^-)$			
		1743.6 *4*	15 *6*	536.19	$(3/2^-)$			
		1793.0 *4*	9.4 *19*	487.28	$(5/2^-)$			
		2154.6 *3*	12.8 *21*	125.122	$(7/2^+)$			
		2279.42 *20*	100 *6*	0.0	$(5/2^+)$			
2314.93	$1/2^+,3/2^+,5/2^+$	1117.1 *3*	75 *7*	1197.94	$1/2^+,3/2,5/2^+$			
		1195.28 *18*	100 *21*	1119.60	$(3/2^+)$			

Adopted Levels, Gammas (continued)

γ(⁹⁹Y) (continued)

E$_i$(level)	J$_i^\pi$	E$_\gamma$ †	I$_\gamma$ ‡	E$_f$	J$_f^\pi$	E$_i$(level)	J$_i^\pi$	E$_\gamma$ †	I$_\gamma$ ‡	E$_f$	J$_f^\pi$
2332.21	(23/2⁺)	398.9# 1	100#	1933.24	(21/2⁺)	2717.78	(25/2⁺)	784.5 1		1933.24	(21/2⁺)
		736.5# 1	75#	1595.45	(19/2⁺)	3028.01	(21/2⁺)	334.1# 1	55#	2693.96	(19/2⁺)
2389.26	(17/2⁺)	275.5# 1	100#	2113.94	(15/2⁺)			638.7# 1	100#	2389.26	(17/2⁺)
		520.4# 1	100#	1868.74	(13/2⁺)	3178.91	(27/2⁺)	461.1^a		2717.78	(25/2⁺)
2693.96	(19/2⁺)	304.7# 1	92#	2389.26	(17/2⁺)			846.7 1		2332.21	(23/2⁺)
		580.2# 1	100#	2113.94	(15/2⁺)	3389.46	(23/2⁺)	361.5^a		3028.01	(21/2⁺)
2717.78	(25/2⁺)	385.6 1		2332.21	(23/2⁺)			695.5 1		2693.96	(19/2⁺)

† Average from β⁻ decay and IT decay, unless otherwise specified.

‡ Photon branching ratios for each level deduced from β⁻ decay or IT decay, unless otherwise specified. Weighted averages where both are available.

\# From ²⁵²Cf SF decay.

@ From IT decay.

& Additional information 1.

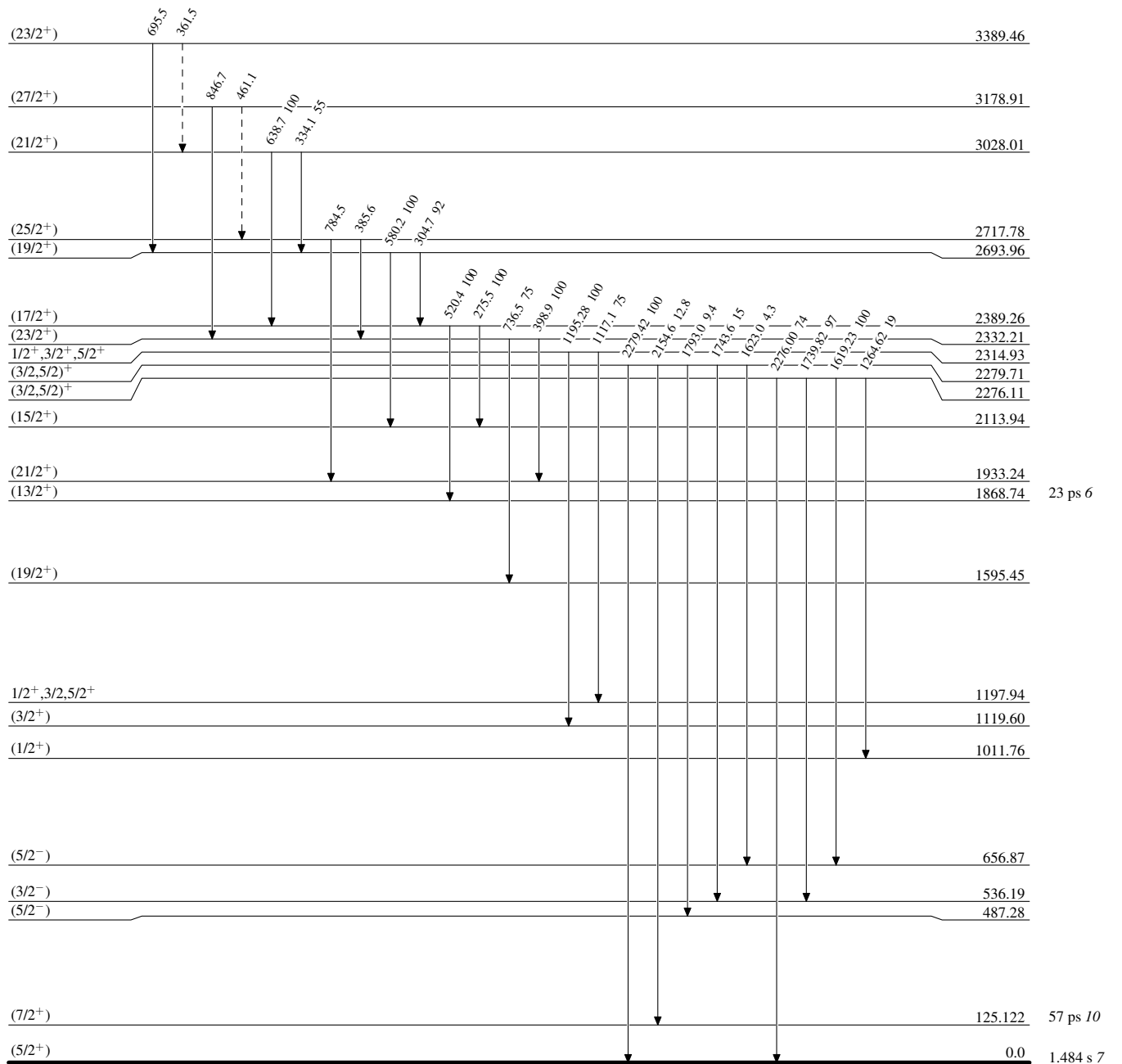^{a} Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - ▸ γ Decay (Uncertain)

$(23/2^+)$　　3389.46

$(27/2^+)$　　3178.91

$(21/2^+)$　　3028.01

$(25/2^+)$　　2717.78

$(19/2^+)$　　2693.96

$(17/2^+)$　　2389.26
$(23/2^+)$　　2332.21
$1/2^+,3/2^+,5/2^+$　　2314.93
$(3/2,5/2)^+$　　2279.71
$(3/2,5/2)^+$　　2276.11

$(15/2^+)$　　2113.94

$(21/2^+)$　　1933.24
$(13/2^+)$　　1868.74　　23 ps 6

$(19/2^+)$　　1595.45

$1/2^+,3/2,5/2^+$　　1197.94
$(3/2^+)$　　1119.60
$(1/2^+)$　　1011.76

$(5/2^-)$　　656.87

$(3/2^-)$　　536.19
$(5/2^-)$　　487.28

$(7/2^+)$　　125.122　　57 ps 10

$(5/2^+)$　　0.0　　1.484 s 7

$^{99}_{39}Y_{60}$

Gamma labels: 695.5, 361.5, 846.7, 461.1, 638.7 100, 334.1 55, 784.5, 385.6, 580.2 100, 304.7 92, 520.4 100, 275.5 100, 736.5 75, 398.9 100, 1195.28 100, 1117.1 75, 2279.42 100, 2154.6 12.8, 1793.0 9.4, 1743.6 15, 1623.0 4.3, 2276.00 74, 1739.82 97, 1619.23 100, 1264.62 19

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

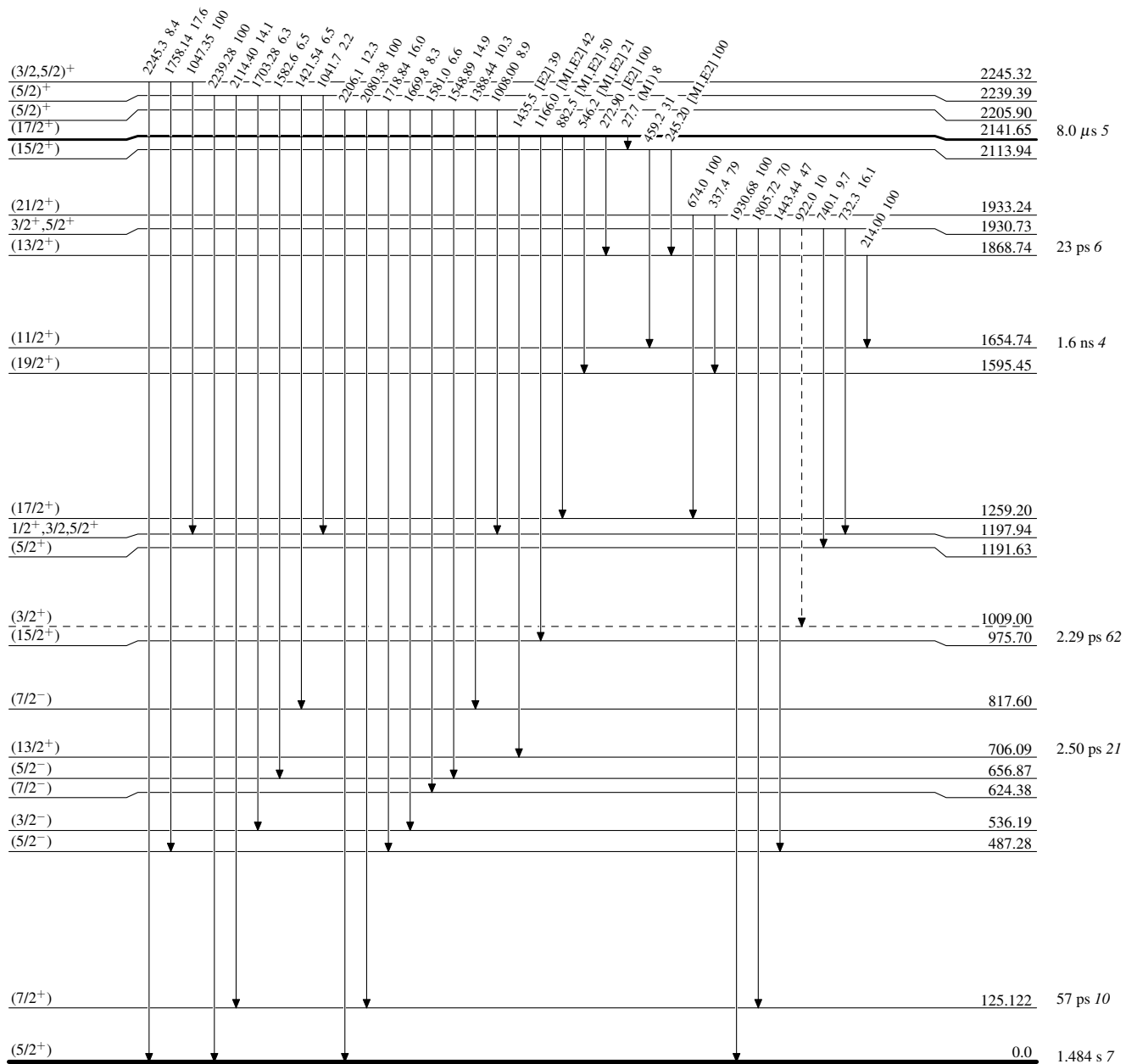Legend

------ ▶ γ Decay (Uncertain)

$^{99}_{39}\text{Y}_{60}$

Adopted Levels, Gammas　　　　　　Legend

Level Scheme (continued)

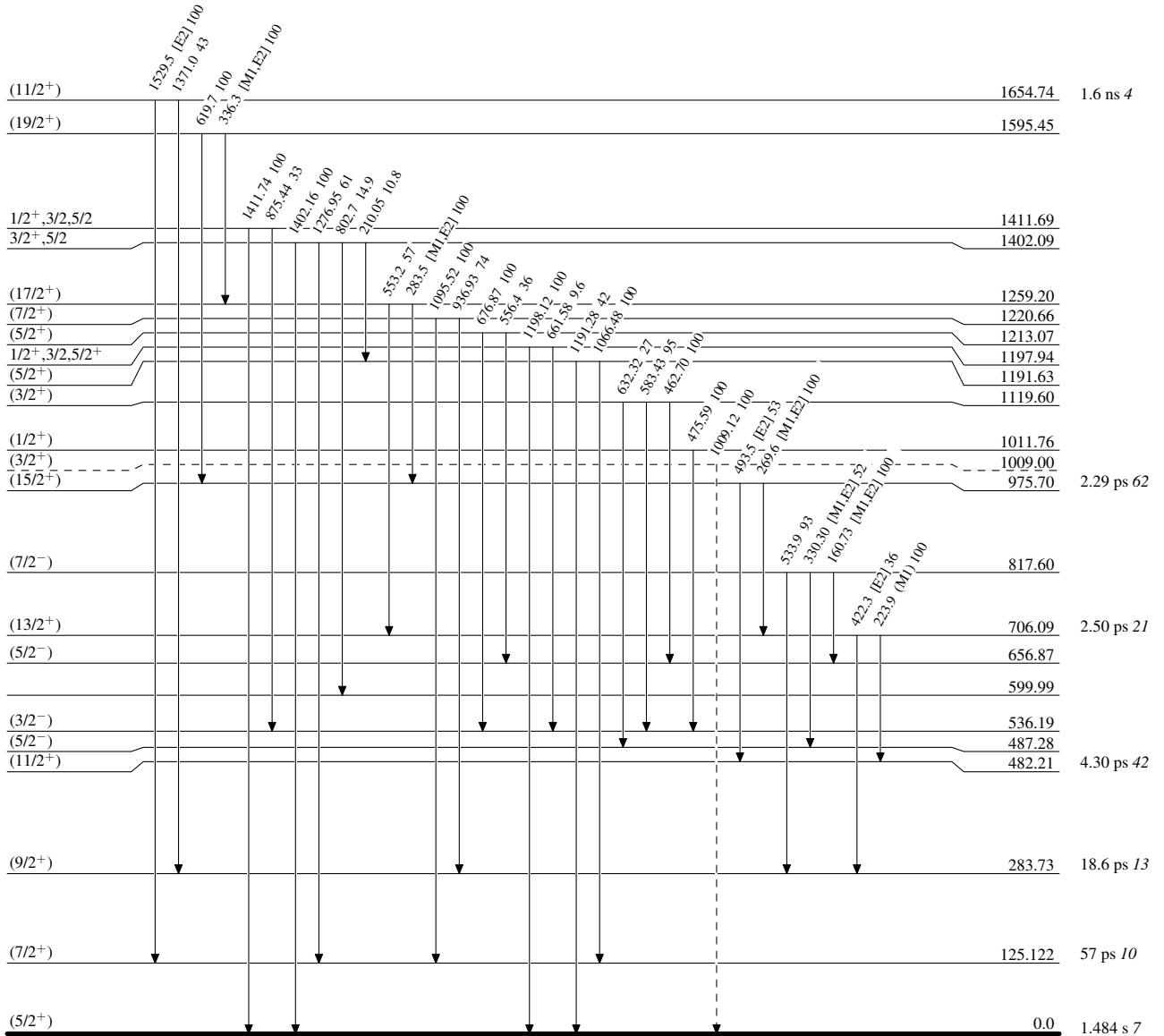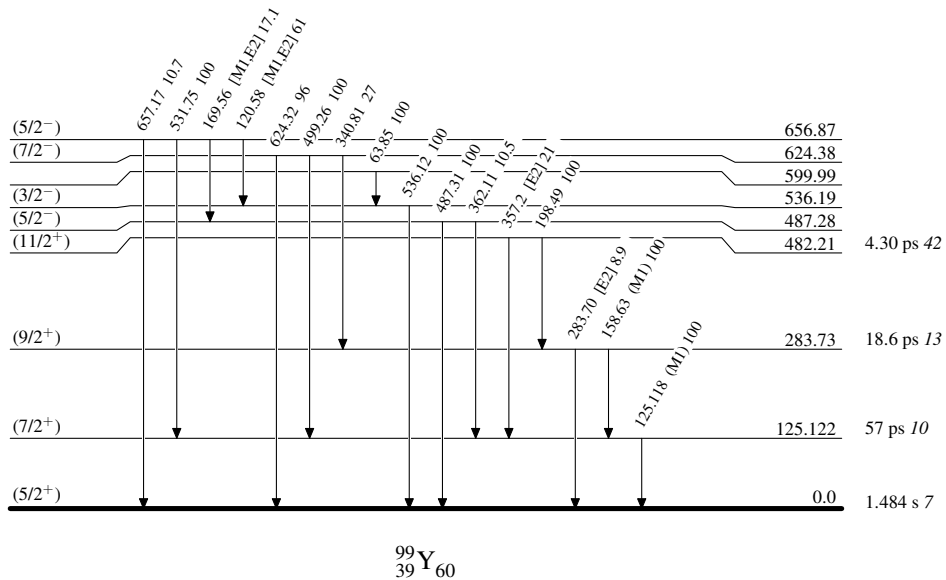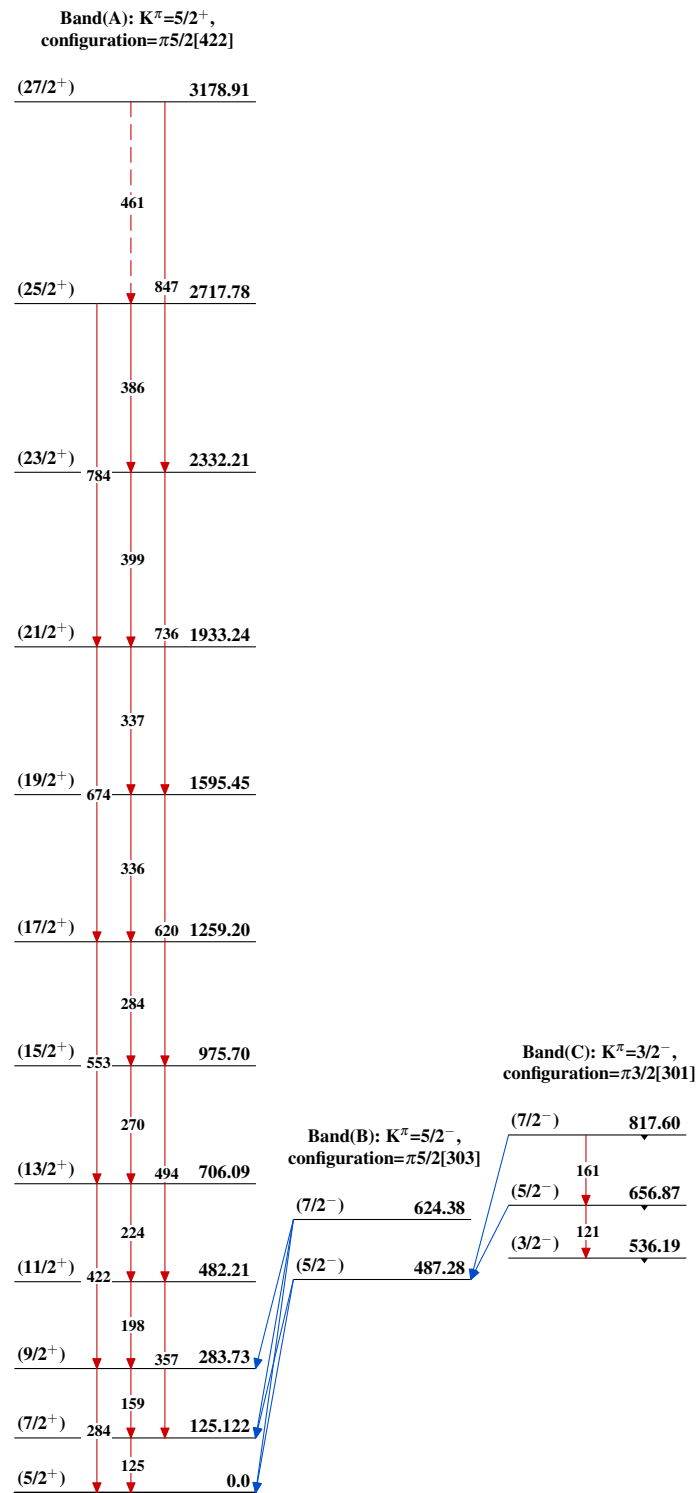Intensities: Relative photon branching from each level

- - - - - ▶ γ Decay (Uncertain)

$^{99}_{39}$Y$_{60}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

$^{99}_{39}$Y$_{60}$

Adopted Levels, Gammas

**Band(A): $K^\pi=5/2^+$,
configuration=$\pi5/2[422]$**

$(27/2^+)$	3178.91

461

$(25/2^+)$　847	2717.78

386

$(23/2^+)$　784	2332.21

399

$(21/2^+)$　736	1933.24

337

$(19/2^+)$　674	1595.45

336

$(17/2^+)$　620	1259.20

284

$(15/2^+)$　553	975.70

**Band(C): $K^\pi=3/2^-$,
configuration=$\pi3/2[301]$**

270

$(7/2^-)$	817.60

**Band(B): $K^\pi=5/2^-$,
configuration=$\pi5/2[303]$**

$(13/2^+)$　494	706.09

161

$(5/2^-)$	656.87

224

$(7/2^-)$	624.38

$(3/2^-)$　121	536.19

$(11/2^+)$　422	482.21

$(5/2^-)$	487.28

198

$(9/2^+)$　357	283.73

159

$(7/2^+)$　284	125.122

125

$(5/2^+)$	0.0

$^{99}_{39}Y_{60}$

Adopted Levels, Gammas (continued)

Band(D): Configuration=
$\pi 1/2[431]$

Band(E): $K^{\pi}=3/2^{+}$,
configuration=$\pi 3/2[431]$

(7/2^{+})   **1220.66**

(5/2^{+})   **1213.07**

(5/2^{+})   **1191.63**

(3/2^{+})   **1119.60**

(1/2^{+})   **1011.76**
(3/2^{+})   **1009.00**

$^{99}_{39}Y_{60}$

Adopted Levels, Gammas (continued)

Band(F): K$^\pi$=11/2$^+$,
configuration=π5/2[422]ν3/2[411]
ν9/2[404]

$(23/2^+)$ 3389.46

362

$(21/2^+)$ 696   3028.01

334

$(19/2^+)$ 639   2693.96

305

$(17/2^+)$ 580   2389.26

276

Band(G): K$^\pi$=17/2$^+$,
configuration=π5/2[422]
ν3/2[411]ν9/2[404]

$(17/2^+)$ 2141.65

$(15/2^+)$ 520   2113.94

245

$(13/2^+)$ 459   1868.74

214

$(11/2^+)$ 1654.74

$^{99}_{39}$Y$_{60}$