Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112,1647 (2011)	1-Oct-2009

Q(β^-)=−5.92×10^3 *4*; S(n)=1.099×10^4 *10*; S(p)=2.52×10^3 *3*; Q(α)=7.2×10^2 *3* 2012Wa38
Note: Current evaluation has used the following Q record −5920 60 *10990* 90 *2515* 29 723 *29* 2003Au03.
Nuclear structure calculations on the levels and their properties: 1987Al21, 1985Ha34, 1984Me02, 1983No11, 1981Ik01, 1976Ik02, 1976Ra35, 1973Ik02.

^{127}La Levels

Cross Reference (XREF) Flags

A ^{127}Ce β^+ decay (34 s)
B ^{127}Ce β^+ decay (28.6 s)
C (HI,xnγ)

E(level)†@	Jπ&	$T_{1/2}$o	XREF	Comments
0.0a	(11/2−)	5.1 min *1*	ABC	%ε+%β+=100 $T_{1/2}$: from 1992Ic02. Other: 5.0 min *5* (1973Le09).
14.2b *4*	(3/2+)	3.7 min *4*	ABC	%ε+%β+=100 From RUL, no IT transition to the ground state. $T_{1/2}$: weighted av of 3.8 min *5* (1963Pr02) and 3.5 min *5* (1963Ya05).
72.8c *4*	(5/2+)		ABC	
134.5# *4*	(+)		AB	
210.2# *4*	(+)	1.9 ns *3*	AB	
226.34n *9*	(−)		B	
250.0b *4*	(7/2+)	97 ps *28*	BC	
252.40a *20*	(15/2−)	97 ps *10*	C	$T_{1/2}$: $T_{1/2}$=59 ps *6* (1985Sm07, by RDM).
325.8# *4*	(+)		B	
352.4# *4*	(+)		AB	
386.4# *4*	(5/2,7/2)+		B	
423.06n *9*	(−)		B	
425.6c *4*	(9/2+)		BC	
442.9# *4*	(+)		B	
470.5# *4*	(+)		B	
505.7# *4*			B	
609.9j *4*	(9/2+)		C	
653.2b *4*	(11/2+)	<15 ps	C	
678.7# *4*			B	
710.89a *23*	(19/2−)	5.5 ps *+11−21*	C	$T_{1/2}$: $T_{1/2}$=9.4 ps *9* (1985Sm07, by RDM).
723.35n *10*			B	
837.6# *4*			AB	
861.5k *4*	(11/2+)		C	
886.8# *5*			B	
928.3# *5*			AB	
934.5# *4*			B	
965.9c *4*	(13/2+)		C	
999.1# *4*			AB	
1139.2j *4*	(13/2+)		C	

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Adopted Levels, Gammas (continued)

^{127}La Levels (continued)

E(level)[†][@]	Jπ[&]	$T_{1/2}$[o]	XREF	Comments
1143.61 *25*	(17/2⁻)		C	
1161.9[‡] *4*	(3/2,5/2)⁺		A	
1201.7[b] *3*	(15/2⁺)		C	
1203.1[f] *3*	(13/2⁻)		C	Jπ: Other: 15/2⁻ (1993WaZP), this level is bandhead of band 6.
1213.2?[‡] *11*			A	
1308.7[#] *4*			B	
1341.5[a] *3*	(23/2⁻)	<2.8 ps	C	$T_{1/2}$: 1.4 ps<$T_{1/2}$<4.2 ps (1985Sm07, by RDM and DSAM).
1374.6[n] *4*			B	
1387.6[#] *4*			B	
1451.3[k] *4*	(15/2⁺)		C	
1476.4[#] *4*			B	
1577.8[#] *4*			B	
1601.7[#] *4*			B	
1628.8[c] *4*	(17/2⁺)		C	
1629.74[f] *24*	(17/2⁻)		C	
1654.7[n] *4*			B	
1668.7[#] *4*			B	
1701.9[d] *3*	(19/2⁺)	<6.6 ps	C	
1754.55[g] *25*	(15/2,17/2)⁻		C	
1772.3 *3*	(21/2⁻)		C	
1783.9[j] *4*	(17/2⁺)		C	
1803.4[#] *4*			B	
1882.3[b] *3*	(19/2⁺)		C	
1931.7[#] *5*			B	
2062.6[m] *8*	(17/2⁺)		C	
2105.0[h] *3*	(21/2⁺)		C	
2121.2[a] *3*	(27/2⁻)	1.01 ps *12*	C	$T_{1/2}$: (1985Sm07) by DSAM.
2145.2[d] *3*	(23/2⁺)		C	
2160.7[k] *5*	(19/2⁺)		C	
2191.0[f] *3*	(21/2⁻)		C	
2250.8[i] *3*	(21/2⁺)		C	
2288.7[g] *3*	(21/2⁻)		C	
2290.1 *3*	(21/2⁺)		C	
2312.8[m] *3*	(21/2⁺)		C	
2445.2[h] *3*	(23/2⁺)		C	
2465.3 *4*			C	
2494.4[l] *3*	(23/2⁺)		C	
2532.0[b] *4*	(23/2⁺)		C	
2565.1[e] *3*	(25/2⁺)		C	
2706.7[i] *3*	(25/2⁺)		C	
2721.8[d] *3*	(27/2⁺)		C	
2724.2[m] *3*	(25/2⁺)		C	
2807.7[g] *3*	(25/2⁻)		C	
2917.3[f] *3*	(25/2⁻)		C	
2970.6[h] *3*	(27/2⁺)		C	
3019.7[l] *3*	(27/2⁺)		C	

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Adopted Levels, Gammas (continued)

^{127}La Levels (continued)

E(level)[†][@]	Jπ[&]	$T_{1/2}$[o]	XREF	Comments
3029.2[a] 4	(31/2⁻)	0.78 ps 11	C	$T_{1/2}$: (1985Sm07), by DSAM.
3121.2[b] 4	(27/2⁺)		C	
3155.5[e] 3	(29/2⁺)		C	
3291.9[i] 3	(29/2⁺)		C	
3329.0 4	(29/2⁺)		C	
3423.6[d] 4	(31/2⁺)		C	
3460.4 4			C	
3460.9[g] 4	(29/2⁻)		C	
3638.3[h] 3	(31/2⁺)		C	
3707.9[f] 4	(29/2⁻)		C	
3892.9[e] 4	(33/2⁺)		C	
4025.2[i] 4	(33/2⁺)		C	
4031.7[a] 4	(35/2⁻)	*p*	C	
4236.8[d] 4	(35/2⁺)		C	
4241.9[g] 4	(33/2⁻)		C	
4242.6 4			C	
4449.2[h] 7	(35/2⁺)		C	
4587.2[f] 4	(32/2⁻)		C	
4778.2[e] 4	(37/2⁺)		C	
4899.2[i] 8	(37/2⁺)		C	
5030.1[a] 5	(39/2⁻)	*p*	C	
5152.6[d] 5	(39/2⁺)		C	
5390.2[h] 10	(39/2⁺)		C	
5531.2[f] 11	(37/2⁻)		C	
5786.2[e] 11	(41/2⁺)		C	
5895.2[i] 11	(41/2⁺)		C	
6044.5[a] 5	(43/2⁻)		C	
6149.0[d] 5	(43/2⁺)		C	
6443.2[h] 12	(43/2⁺)		C	
6511.2[f] 15	(41/2⁻)		C	
6846.2[e] 15	(45/2⁺)		C	
7145.5[a] 12	(47/2⁻)		C	
7168.1[d] 12	(47/2⁺)		C	
7864.2[e] 18	(49/2⁺)		C	
8187.1[d] 15	(51/2⁺)		C	
8335.5[a] 15	(51/2⁻)		C	
8976.2[e] 21	(53/2⁺)		C	
9273.1[d] 18	(55/2⁺)		C	
9606.5[a] 18	(55/2⁻)		C	
10179.2[e] 23	(57/2⁺)		C	
10446.1[d] 21	(59/2⁺)		C	
10949.5[a] 21	(59/2⁻)		C	
11462.2[e] 25	(61/2⁺)		C	
11708.1[d] 23	(63/2⁺)		C	
12349.5[a] 23	(63/2⁻)		C	
12816[e] 3	(65/2⁺)		C	
13057.1[d] 25	(67/2⁺)		C	
14489[d] 3	(71/2⁺)		C	

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Adopted Levels, Gammas (continued)

^{127}La Levels (continued)

E(level)[†@]	Jπ[&]	XREF
16004[d] 3	(75/2+)	C
17618[d] 3	(79/2+)	C
19357[d] 4	(83/2+)	C
21268[d] 4	(87/2+)	C

† From (HI,xnγ), except as noted.
‡ From ^{127}Ce β+ (34 s) decay.
# From ^{127}Ce β+ (28.6 s) decay.
@ Proposed energy levels were adjusted by least squares analysis using adopted γ's.
& From γ(θ) and/or γγ(θ) (DCO) in (HI,xnγ) and band assignments by 1993WaZP, 1996St01 and 2000Pa04. The obtained band structures were analyzed by a cranking model (1993WaZP), a pairing-deformation self-consistent total Routhian surface model (1996St01) and a cranked Nilsson-Strutinsky model (2000Pa04).
[a] Band(A): band 1: π=− yrast band built on the (11/2−) state.
[b] Band(B): band 2: π=+ band built on the (3/2+) state.
[c] Band(C): band 3: π=+ band built on the (5/2+) state.
[d] Band(D): band 4: π=+ band built on the (19/2+) state.
[e] Band(E): band 5: π=+ band built on the (25/2+) state.
[f] Band(F): band 6: π=− band built on the (13/2−) state.
[g] Band(G): Band 7: π=− band built on the (15/2−) or (17/2−) state.
[h] Band(H): band 8: π=+ band built on the (21/2+) state.
[i] Band(I): band 9: π=+ band built on the (25/2+) state.
[j] Band(J): band 10: π=+ band built on the (9/2+) state.
[k] Band(K): band 11: π=+ band built on the (11/2+) state.
[l] Band(L): band 12: π=+ band built on the (23/2+) state.
[m] Band(M): band 13: π=+ band built on the (17/2+) state.
[n] From ^{127}Ce β+ (28.6 s) decay only.
[o] From (HI,xnγ) using RDM (1997St12), unless otherwise noted.
[p] $T_{1/2}$=0.62 ps *10* is given as an average value for the 4033 and 5026 levels, since it is not possible to resolve the 999γ and 1003γ. Value from DSA method (1985Sm07).

Adopted Levels, Gammas (continued)

$\gamma(^{127}La)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
72.8	(5/2$^+$)	58.4 *5*		14.2	(3/2$^+$)			
134.5	($^+$)	120.3[#] *1*	100.0[#]	14.2	(3/2$^+$)	M1(+E2)	0.84 *20*	α(K)=0.62 *8*; α(L)=0.17 *10*; α(M)=0.037 *22*; α(N+..)=0.009 *6* α(N)=0.008 *5*; α(O)=0.0012 *7*; α(P)=4.06×10^{-5} *21*
210.2	($^+$)	75.7[#] *1*	9.7[#] *12*	134.5	($^+$)			
		137.5[#] *1*	4.9[#] *6*	72.8	(5/2$^+$)			
		196.0[#] *1*	100[#] *12*	14.2	(3/2$^+$)	M1+E2	0.178 *13*	α(K)=0.143 *3*; α(L)=0.027 *9*; α(M)=0.0058 *19*; α(N+..)=0.0015 *5* α(N)=0.0012 *4*; α(O)=0.00019 *6*; α(P)=1.00×10^{-5} *10*
226.34	($^-$)	226.3[#] *1*	100.0[#]	0.0	(11/2$^-$)	M1+E2	0.115 *4*	α(K)=0.0938 *24*; α(L)=0.016 *4*; α(M)=0.0035 *9*; α(N+..)=0.00088 *20* α(N)=0.00076 *18*; α(O)=0.000117 *23*; α(P)=6.6×10^{-6} *8*
250.0	(7/2$^+$)	176.6 *2*	100.0	72.8	(5/2$^+$)	M1, E2	0.25 *3*	α(K)=0.196 *9*; α(L)=0.039 *15*; α(M)=0.008 *4*; α(N+..)=0.0021 *8* α(N)=0.0018 *7*; α(O)=0.00028 *9*; α(P)=1.35×10^{-5} *12*
		236.0 *2*	15.9 *15*	14.2	(3/2$^+$)	E2	0.1022	B(E2)(W.u.)=29 *9* α(K)=0.0804 *12*; α(L)=0.01719 *25*; α(M)=0.00369 *6*; α(N+..)=0.000919 *14* α(N)=0.000794 *12*; α(O)=0.0001197 *18*; α(P)=5.16×10^{-6} *8*
252.40	(15/2$^-$)	252.4 *2*		0.0	(11/2$^-$)	E2	0.0819	B(E2)(W.u.)=150 *16* α(K)=0.0650 *10*; α(L)=0.01335 *20*; α(M)=0.00286 *4*; α(N+..)=0.000713 *11* α(N)=0.000616 *9*; α(O)=9.33×10^{-5} *14*; α(P)=4.22×10^{-6} *6*
325.8	($^+$)	75.8[#] *3*	0.7[#] *4*	250.0	(7/2$^+$)			
		115.6[#] *2*	6.3[#] *7*	210.2	($^+$)			
		191.4[#] *1*	3.0[#] *7*	134.5	($^+$)			
		253.0[#] *3*	43[#] *14*	72.8	(5/2$^+$)			
		311.6[#] *1*	100[#] *10*	14.2	(3/2$^+$)	M1+E2	0.045 *4*	α(K)=0.037 *4*; α(L)=0.0058 *4*; α(M)=0.00122 *10*; α(N+..)=0.000311 *22* α(N)=0.000266 *20*; α(O)=4.20×10^{-5} *19*; α(P)=2.7×10^{-6} *5*
352.4	($^+$)	142.1[#] *1*	21.7[#] *24*	210.2	($^+$)			
		279.7[#] *1*	100[#] *11*	72.8	(5/2$^+$)	(M1+E2)	0.061 *3*	α(K)=0.051 *4*; α(L)=0.0082 *10*; α(M)=0.00172 *23*; α(N+..)=0.00044 *6* α(N)=0.00037 *5*; α(O)=5.9×10^{-5} *6*; α(P)=3.7×10^{-6} *6*
		338[#] *1*	24[#] *12*	14.2	(3/2$^+$)			
386.4	(5/2,7/2)$^+$	136.2[#] *2*	1.0×10^2[#] *5*	250.0	(7/2$^+$)			
		372.5[#] *2*	1.0×10^2[#] *5*	14.2	(3/2$^+$)			
423.06	($^-$)	196.6[#] *3*	12[#] *5*	226.34	($^-$)			
		423.1[#] *1*	100[#] *13*	0.0	(11/2$^-$)	M1+E2	0.019 *3*	α(K)=0.016 *3*; α(L)=0.00233 *12*; α(M)=0.000487 *20*; α(N+..)=0.000125 *7* α(N)=0.000107 *5*; α(O)=1.70×10^{-5} *12*; α(P)=1.20×10^{-6} *24*

From ENSDF

$^{127}_{57}La_{70}$-5

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
425.6	(9/2$^+$)	175.9 *2*		250.0	(7/2$^+$)	M1, E2	0.25 *3*	α(K)=0.198 *9*; α(L)=0.040 *15*; α(M)=0.009 *4*; α(N+..)=0.0021 *8* α(N)=0.0018 *7*; α(O)=0.00028 *10*; α(P)=1.36×10^{-5} *12*
		352.4 *2*		72.8	(5/2$^+$)	E2	0.0284	α(K)=0.0233 *4*; α(L)=0.00406 *6*; α(M)=0.000860 *13*; α(N+..)=0.000217 *3* α(N)=0.000186 *3*; α(O)=2.88×10^{-5} *4*; α(P)=1.593×10^{-6} *23*
442.9	(+)	91.1[#] *2*	20[#] *10*	352.4	(+)			
		428.7[#] *1*	100[#] *15*	14.2	(3/2$^+$)	M1+E2	0.018 *3*	α(K)=0.0156 *25*; α(L)=0.00225 *12*; α(M)=0.000469 *21*; α(N+..)=0.000120 *7* α(N)=0.000103 *6*; α(O)=1.64×10^{-5} *12*; α(P)=1.16×10^{-6} *24*
470.5	(+)	397.6[#] *1*	72[#] *8*	72.8	(5/2$^+$)	M1+E2	0.023 *3*	α(K)=0.019 *3*; α(L)=0.00279 *9*; α(M)=0.000584 *13*; α(N+..)=0.000149 *5* α(N)=0.000128 *4*; α(O)=2.03×10^{-5} *10*; α(P)=1.4×10^{-6} *3*
		456.3[#] *1*	100[#] *11*	14.2	(3/2$^+$)	(M1+E2)	0.0156 *24*	α(K)=0.0133 *22*; α(L)=0.00188 *14*; α(M)=0.000393 *25*; α(N+..)=0.000101 *8* α(N)=8.6×10^{-5} *6*; α(O)=1.38×10^{-5} *12*; α(P)=9.8×10^{-7} *21*
505.7		179.8[#] *1*	87[#] *14*	325.8	(+)			
		256.0[#] *3*	5.×10^1[#] *3*	250.0	(7/2$^+$)			
		295.7[#] *3*	5.×10^1[#] *3*	210.2	(+)			
		370.9[#] *1*	1.0×10^2[#] *4*	134.5	(+)			
		433.1[#] *1*	9.×10^1[#] *4*	72.8	(5/2$^+$)			
609.9	(9/2$^+$)	360.0 *2*		250.0	(7/2$^+$)	M1, E2	0.030 *4*	α(K)=0.025 *4*; α(L)=0.00374 *7*; α(M)=0.000784 *20*; α(N+..)=0.000200 *4* α(N)=0.000171 *4*; α(O)=2.72×10^{-5} *6*; α(P)=1.8×10^{-6} *4*
653.2	(11/2$^+$)	227.6 *2*	17.0 *10*	425.6	(9/2$^+$)	(M1,E2)	0.113 *3*	α(K)=0.0923 *24*; α(L)=0.016 *4*; α(M)=0.0034 *9*; α(N+..)=0.00086 *20* α(N)=0.00074 *17*; α(O)=0.000115 *22*; α(P)=6.5×10^{-6} *8*
		403.4 *2*	100.0	250.0	(7/2$^+$)	E2	0.0190	B(E2)(W.u.)>79 α(K)=0.01570 *22*; α(L)=0.00259 *4*; α(M)=0.000547 *8*; α(N+..)=0.0001384 *20* α(N)=0.0001188 *17*; α(O)=1.85×10^{-5} *3*; α(P)=1.090×10^{-6} *16*
678.7		429.2[#] *5*	14[#] *8*	250.0	(7/2$^+$)			
		605.9[#] *1*	65[#] *8*	72.8	(5/2$^+$)			
		664.5[#] *1*	100[#] *12*	14.2	(3/2$^+$)			
710.89	(19/2$^-$)	458.4 *2*		252.40	(15/2$^-$)	E2	0.01313	B(E2)(W.u.)=1.3×10^2 +*6*−*3* α(K)=0.01095 *16*; α(L)=0.001728 *25*; α(M)=0.000364 *6*; α(N+..)=9.23×10^{-5} *13* α(N)=7.91×10^{-5} *12*; α(O)=1.242×10^{-5} *18*; α(P)=7.70×10^{-7} *11*
723.35		300.3[#] *1*	9.×10^1[#] *3*	423.06	(−)			
		497.0[#] *1*	1.0×10^2[#] *4*	226.34	(−)			
837.6		367.0[#] *1*	61[#] *15*	470.5	(+)			

From ENSDF

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
837.6		394.7[#] *1*	56[#] *10*	442.9	(+)			
		587.3[#] *2*	32[#] *10*	250.0	(7/2+)			
		627.4[#] *2*	22[#] *5*	210.2	(+)			
		703.2[#] *1*	66[#] *15*	134.5	(+)			
		764.3[#] *3*	24[#] *8*	72.8	(5/2+)			
		823.5[#] *1*	100[#] *13*	14.2	(3/2+)			
861.5	(11/2+)	251.7 *2*		609.9	(9/2+)	(M1,E2)	0.0834 *14*	α(K)=0.069 *4*; α(L)=0.0115 *20*; α(M)=0.0024 *5*; α(N+..)=0.00062 *11* α(N)=0.00053 *10*; α(O)=8.3×10^{-5} *12*; α(P)=4.9×10^{-6} *7*
886.8		676.3[#] *3*	100[#] *23*	210.2	(+)			
		752.9[#] *5*	5.×10^{1}[#] *3*	134.5	(+)			
928.3		678.2[#] *3*	25[#] *10*	250.0	(7/2+)			
		718.3[#] *5*	7.×10^{1}[#] *3*	210.2	(+)			
		794.2[#]	1.0×10^{2}[#] *5*	134.5	(+)			
934.5		491.7[#] *1*	58[#] *9*	442.9	(+)			
		684.3[#] *2*	35[#] *6*	250.0	(7/2+)			
		724.3[#] *5*	10[#] *6*	210.2	(+)			
		800.0[#] *2*	16[#] *5*	134.5	(+)			
		861.7[#] *1*	100[#] *12*	72.8	(5/2+)			
		920.4[#] *1*	55[#] *9*	14.2	(3/2+)			
965.9	(13/2+)	312.8 *2*	12 *3*	653.2	(11/2+)	(M1,E2)	0.044 *4*	α(K)=0.037 *4*; α(L)=0.0057 *4*; α(M)=0.00121 *10*; α(N+..)=0.000307 *21* α(N)=0.000263 *19*; α(O)=4.16×10^{-5} *19*; α(P)=2.7×10^{-6} *5*
		540.3 *2*	100.0	425.6	(9/2+)	E2	0.00836 *12*	α(K)=0.00703 *10*; α(L)=0.001056 *15*; α(M)=0.000221 *4*; α(N+..)=5.64×10^{-5} *8* α(N)=4.82×10^{-5} *7*; α(O)=7.64×10^{-6} *11*; α(P)=5.02×10^{-7} *7*
999.1		789.4[#] *4*	18[#] *7*	210.2	(+)			
		864.6[#] *1*	100[#] *12*	134.5	(+)			
1139.2	(13/2+)	277.8 *2*	100.0	861.5	(11/2+)	(M1,E2)	0.062 *3*	α(K)=0.052 *4*; α(L)=0.0084 *11*; α(M)=0.00176 *24*; α(N+..)=0.00045 *6* α(N)=0.00038 *5*; α(O)=6.0×10^{-5} *6*; α(P)=3.7×10^{-6} *6*
		529.1 *2*	56 *6*	609.9	(9/2+)	(E2)	0.00884 *13*	α(K)=0.00743 *11*; α(L)=0.001122 *16*; α(M)=0.000235 *4*; α(N+..)=5.99×10^{-5} *9* α(N)=5.13×10^{-5} *8*; α(O)=8.11×10^{-6} *12*; α(P)=5.29×10^{-7} *8*
1143.61	(17/2−)	432.6 *2*	54 *7*	710.89	(19/2−)	D		
		891.2 *2*	100.0	252.40	(15/2−)	D		
1161.9	(3/2,5/2)+	809.4[‡] *2*	≈23.08[‡]	352.4	(+)			

From ENSDF

$^{127}_{57}La_{70}$-7

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
1161.9	(3/2,5/2)$^+$	952[‡] *1*	≈23.08[‡]	210.2	(+)			
		1029[‡] *1*	≈15.38[‡]	134.5	(+)			
		1148[‡] *1*	≈100.0[‡]	14.2	(3/2$^+$)			
1201.7	(15/2$^+$)	548.7 *2*		653.2	(11/2$^+$)	E2	0.00803 *12*	α(K)=0.00675 *10*; α(L)=0.001010 *15*; α(M)=0.000212 *3*; α(N+..)=5.39×10^{-5} *8* α(N)=4.61×10^{-5} *7*; α(O)=7.31×10^{-6} *11*; α(P)=4.82×10^{-7} *7*
1203.1	(13/2$^-$)	950.8 *2*		252.40	(15/2$^-$)	M1, E2	0.0026 *5*	α(K)=0.0022 *4*; α(L)=0.00029 *5*; α(M)=6.0×10^{-5} *9*; α(N+..)=1.54×10^{-5} *24* α(N)=1.31×10^{-5} *21*; α(O)=2.1×10^{-6} *4*; α(P)=1.7×10^{-7} *4*
1213.2?		1003[‡] *1*	≈100.0[‡]	210.2	(+)			
1308.7		865.8[#] *2*	100[#] *22*	442.9	(+)			
		1174.5[#] *5*	29[#] *15*	134.5	(+)			
1341.5	(23/2$^-$)	630.9 *2*		710.89	(19/2$^-$)	E2	0.00559 *8*	B(E2)(W.u.)>53 α(K)=0.00473 *7*; α(L)=0.000683 *10*; α(M)=0.0001427 *20*; α(N+..)=3.65×10^{-5} *6* α(N)=3.11×10^{-5} *5*; α(O)=4.96×10^{-6} *7*; α(P)=3.41×10^{-7} *5*
1374.6		951.8[#] *4*	1.0×10^2[#] *5*	423.06	(−)			
		1147.9[#] *5*	8.×10^1[#] *4*	226.34	(−)			
1387.6		1137.8[#] *3*	51[#] *14*	250.0	(7/2$^+$)			
		1253.7[#] *5*	32[#] *14*	134.5	(+)			
		1314.7[#] *1*	100[#] *14*	72.8	(5/2$^+$)			
1451.3	(15/2$^+$)	312.2 *2*	100.0	1139.2	(13/2$^+$)	(M1, E2)	0.045 *4*	α(K)=0.037 *4*; α(L)=0.0058 *4*; α(M)=0.00121 *10*; α(N+..)=0.000309 *21* α(N)=0.000265 *20*; α(O)=4.18×10^{-5} *19*; α(P)=2.7×10^{-6} *5*
		589.9 *2*	63 *12*	861.5	(11/2$^+$)	(E2)	0.00664 *10*	α(K)=0.00560 *8*; α(L)=0.000822 *12*; α(M)=0.0001720 *25*; α(N+..)=4.39×10^{-5} *7* α(N)=3.75×10^{-5} *6*; α(O)=5.96×10^{-6} *9*; α(P)=4.02×10^{-7} *6*
1476.4		1150.0[#] *5*	6.×10^1[#] *3*	325.8	(+)			
		1225.0[#] *5*	7.×10^1[#] *5*	250.0	(7/2$^+$)			
		1341.6[#] *5*	1.0×10^2[#] *4*	134.5	(+)			
1577.8		1135.2[#] *4*	21[#] *6*	442.9	(+)			
		1252.4[#] *3*	29[#] *7*	325.8	(+)			
		1563.6[#] *1*	100[#] *12*	14.2	(3/2$^+$)			
1601.7		1131.0[#] *5*	8.×10^1[#] *4*	470.5	(+)			
		1158.8[#] *1*	100[#] *14*	442.9	(+)			

From ENSDF

$^{127}_{57}La_{70}$-8

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
1601.7		1466.6[#] *5*	6.×10[1#] *3*	134.5	(+)			
1628.8	(17/2+)	662.9 *2*		965.9	(13/2+)	E2	0.00494 *7*	α(K)=0.00419 *6*; α(L)=0.000597 *9*; α(M)=0.0001247 *18*; α(N+..)=3.19×10^{-5} *5* α(N)=2.72×10^{-5} *4*; α(O)=4.35×10^{-6} *7*; α(P)=3.02×10^{-7} *5*
1629.74	(17/2−)	426.7 *2*	84.7 *10*	1203.1	(13/2−)	E2	0.01611	α(K)=0.01338 *19*; α(L)=0.00216 *3*; α(M)=0.000456 *7*; α(N+..)=0.0001155 *17* α(N)=9.91×10^{-5} *14*; α(O)=1.551×10^{-5} *22*; α(P)=9.35×10^{-7} *14*
		919.1 *2*	82 *11*	710.89	(19/2−)	M1, E2	0.0028 *5*	α(K)=0.0024 *5*; α(L)=0.00031 *5*; α(M)=6.5×10^{-5} *10*; α(N+..)=1.7×10^{-5} *3* α(N)=1.42×10^{-5} *22*; α(O)=2.3×10^{-6} *4*; α(P)=1.8×10^{-7} *4*
		1377.2 *2*	100.0	252.40	(15/2−)	M1, E2	0.00118 *16*	α(K)=0.00099 *14*; α(L)=0.000125 *17*; α(M)=2.6×10^{-5} *4*; α(N+..)=4.61×10^{-5} *10* α(N)=5.7×10^{-6} *8*; α(O)=9.3×10^{-7} *13*; α(P)=7.3×10^{-8} *11*; α(IPF)=3.94×10^{-5} *6*
1654.7		1231.6[#] *3*	100.0[#]	423.06	(−)			
1668.7		1198.1[#] *2*	18[#] *5*	470.5	(+)			
		1226.1[#] *5*	13[#] *8*	442.9	(+)			
		1342.9[#] *1*	100[#] *15*	325.8	(+)			
		1418.7[#] *1*	19[#] *5*	250.0	(7/2+)			
		1534.3[#] *1*	22[#] *5*	134.5	(+)			
		1654.6[#] *1*	75[#] *11*	14.2	(3/2+)			
1701.9	(19/2+)	500.1 *2*	50.3 *15*	1201.7	(15/2+)	E2	0.01031	B(E2)(W.u.)>21 α(K)=0.00863 *13*; α(L)=0.001326 *19*; α(M)=0.000278 *4*; α(N+..)=7.08×10^{-5} *10* α(N)=6.06×10^{-5} *9*; α(O)=9.56×10^{-6} *14*; α(P)=6.12×10^{-7} *9*
		558.2 *2*	25.0 *10*	1143.61	(17/2−)			
		991.3 *2*	100.0	710.89	(19/2−)	E1	0.000816 *12*	B(E1)(W.u.)>2.4×10^{-5} α(K)=0.000706 *10*; α(L)=8.73×10^{-5} *13*; α(M)=1.80×10^{-5} *3*; α(N+..)=4.64×10^{-6} *7* α(N)=3.94×10^{-6} *6*; α(O)=6.42×10^{-7} *9*; α(P)=5.07×10^{-8} *7*
1754.55	(15/2,17/2)−	1044.0 *2*		710.89	(19/2−)	M1, E2	0.0021 *4*	α(K)=0.0018 *3*; α(L)=0.00023 *4*; α(M)=4.8×10^{-5} *8*; α(N+..)=1.24×10^{-5} *19* α(N)=1.05×10^{-5} *16*; α(O)=1.7×10^{-6} *3*; α(P)=1.34×10^{-7} *25*
		1502.1 *2*		252.40	(15/2−)	D		
1772.3	(21/2−)	431 *1*		1341.5	(23/2−)			
		1061.5 *2*		710.89	(19/2−)	M1, E2	0.0020 *4*	α(K)=0.0017 *3*; α(L)=0.00022 *4*; α(M)=4.6×10^{-5} *7*; α(N+..)=1.19×10^{-5} *18* α(N)=1.01×10^{-5} *16*; α(O)=1.7×10^{-6} *3*; α(P)=1.29×10^{-7} *24*

From ENSDF

$^{127}_{57}La_{70}$-9

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
1783.9	(17/2$^+$)	332.7 *2*	100.0	1451.3	(15/2$^+$)	(M1, E2)	0.037 *4*	α(K)=0.031 *4*; α(L)=0.00475 *21*; α(M)=0.00100 *6*; α(N+..)=0.000254 *11* α(N)=0.000217 *11*; α(O)=3.44×10^{-5} *8*; α(P)=2.3×10^{-6} *4*
		644.7 *2*	50 *20*	1139.2	(13/2$^+$)	(E2)	0.00530 *8*	α(K)=0.00448 *7*; α(L)=0.000644 *9*; α(M)=0.0001345 *19*; α(N+..)=3.44×10^{-5} *5* α(N)=2.94×10^{-5} *5*; α(O)=4.68×10^{-6} *7*; α(P)=3.23×10^{-7} *5*
1803.4		1361.1[#] *5*	26[#] *13*	442.9	(+)			
		1450.7[#] *2*	70[#] *13*	352.4	(+)			
		1477.9[#] *3*	43[#] *9*	325.8	(+)			
		1593.1[#] *5*	39[#] *22*	210.2	(+)			
		1668.7[#] *5*	5.×10^1[#] *3*	134.5	(+)			
		1730.6[#] *2*	1.0×10^2[#] *3*	72.8	(5/2$^+$)			
1882.3	(19/2$^+$)	680.8 *2*		1201.7	(15/2$^+$)	E2	0.00463 *7*	α(K)=0.00392 *6*; α(L)=0.000557 *8*; α(M)=0.0001161 *17*; α(N+..)=2.97×10^{-5} *5* α(N)=2.54×10^{-5} *4*; α(O)=4.06×10^{-6} *6*; α(P)=2.84×10^{-7} *4*
1931.7		1488.9[#] *5*	8.×10^1[#] *5*	442.9	(+)			
		1681.7[#] *5*	1.0×10^2[#] *6*	250.0	(7/2$^+$)			
2062.6	(17/2$^+$)	1811 *1*		252.40	(15/2$^-$)			
2105.0	(21/2$^+$)	1394.1 *2*		710.89	(19/2$^-$)	E1	0.000581 *9*	α(K)=0.000382 *6*; α(L)=4.67×10^{-5} *7*; α(M)=9.61×10^{-6} *14*; α(N+..)=0.0001430 *20* α(N)=2.11×10^{-6} *3*; α(O)=3.45×10^{-7} *5*; α(P)=2.75×10^{-8} *4*; α(IPF)=0.0001405 *20*
2121.2	(27/2$^-$)	779.9 *2*		1341.5	(23/2$^-$)	E2	0.00334 *5*	B(E2)(W.u.)=51 *6* α(K)=0.00284 *4*; α(L)=0.000393 *6*; α(M)=8.17×10^{-5} *12*; α(N+..)=2.10×10^{-5} *3* α(N)=1.79×10^{-5} *3*; α(O)=2.87×10^{-6} *4*; α(P)=2.07×10^{-7} *3*
2145.2	(23/2$^+$)	372.9 *2*	10.0 *10*	1772.3	(21/2$^-$)	E1	0.00689 *10*	α(K)=0.00593 *9*; α(L)=0.000760 *11*; α(M)=0.0001568 *22*; α(N+..)=4.03×10^{-5} *6* α(N)=3.43×10^{-5} *5*; α(O)=5.53×10^{-6} *8*; α(P)=4.12×10^{-7} *6*
		443.3 *2*	100.0	1701.9	(19/2$^+$)	E2	0.01444	α(K)=0.01202 *17*; α(L)=0.00192 *3*; α(M)=0.000404 *6*; α(N+..)=0.0001024 *15* α(N)=8.78×10^{-5} *13*; α(O)=1.377×10^{-5} *20*; α(P)=8.43×10^{-7} *12*
		803.7 *2*	41.0 *20*	1341.5	(23/2$^-$)	E1	0.001229 *18*	α(K)=0.001062 *15*; α(L)=0.0001323 *19*; α(M)=2.72×10^{-5} *4*; α(N+..)=7.02×10^{-6} α(N)=5.98×10^{-6} *9*; α(O)=9.72×10^{-7} *14*; α(P)=7.60×10^{-8} *11*
2160.7	(19/2$^+$)	99 *1*		2062.6	(17/2$^+$)			
		376.8 *2*		1783.9	(17/2$^+$)	(M1,E2)	0.026 *3*	α(K)=0.022 *3*; α(L)=0.00327 *6*; α(M)=0.000684 *10*;

From ENSDF

$^{127}_{57}La_{70}$-10

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
								α(N+..)=0.000175 *3* α(N)=0.0001493 *22*; α(O)=2.38×10^{-5} *8*; α(P)=1.6×10^{-6} *3*
2160.7	(19/2$^+$)	709 *1*		1451.3	(15/2$^+$)			
2191.0	(21/2$^-$)	561.5 *2*	100.0	1629.74	(17/2$^-$)	E2	0.00755 *11*	α(K)=0.00636 *9*; α(L)=0.000945 *14*; α(M)=0.000198 *3*; α(N+..)=5.05×10^{-5} *7* α(N)=4.32×10^{-5} *6*; α(O)=6.85×10^{-6} *10*; α(P)=4.55×10^{-7} *7*
		850 *2*	20 *6*	1341.5	(23/2$^-$)	(M1, E2)	0.0033 *6*	α(K)=0.0029 *6*; α(L)=0.00038 *6*; α(M)=7.8×10^{-5} *12*; α(N+..)=2.0×10^{-5} *4* α(N)=1.7×10^{-5} *3*; α(O)=2.8×10^{-6} *5*; α(P)=2.1×10^{-7} *5*
		1479.9 *2*	55 *12*	710.89	(19/2$^-$)	M1, E2	0.00105 *13*	α(K)=0.00085 *11*; α(L)=0.000107 *13*; α(M)=2.2×10^{-5} *3*; α(N+..)=7.69×10^{-5} *14* α(N)=4.9×10^{-6} *6*; α(O)=7.9×10^{-7} *10*; α(P)=6.3×10^{-8} *9*; α(IPF)=7.12×10^{-5} *11*
2250.8	(21/2$^+$)	1539.7 *2*		710.89	(19/2$^-$)	E1	0.000620 *9*	α(K)=0.000323 *5*; α(L)=3.94×10^{-5} *6*; α(M)=8.10×10^{-6} *12*; α(N+..)=0.000250 *4* α(N)=1.779×10^{-6} *25*; α(O)=2.91×10^{-7} *4*; α(P)=2.33×10^{-8} *4*; α(IPF)=0.000247 *4*
2288.7	(21/2$^-$)	534.5 *2*	59 *14*	1754.55	(15/2,17/2)$^-$			
		1577.5 *2*	100.0	710.89	(19/2$^-$)			
2290.1	(21/2$^+$)	131 *1*		2160.7	(19/2$^+$)			
		661 *1*		1629.74	(17/2$^-$)			
		1578.7 *2*		710.89	(19/2$^-$)			E$_\gamma$: 1581(1993WaZP).
2312.8	(21/2$^+$)	152 *1*		2160.7	(19/2$^+$)			
		683.0 *2*		1629.74	(17/2$^-$)			
		1603 *1*		710.89	(19/2$^-$)			
2445.2	(23/2$^+$)	155 *1*		2290.1	(21/2$^+$)			
		194.2 *2*	100.0	2250.8	(21/2$^+$)	M1,E2	0.183 *14*	α(K)=0.147 *4*; α(L)=0.028 *9*; α(M)=0.0060 *20*; α(N+..)=0.0015 *5* α(N)=0.0013 *4*; α(O)=0.00020 *6*; α(P)=1.03×10^{-5} *10*
		340.3 *2*	67 *9*	2105.0	(21/2$^+$)	(M1, E2)	0.035 *4*	α(K)=0.029 *4*; α(L)=0.00443 *16*; α(M)=0.00093 *5*; α(N+..)=0.000237 *8* α(N)=0.000203 *8*; α(O)=3.22×10^{-5} *6*; α(P)=2.1×10^{-6} *4*
		563.1 *2*	74 *13*	1882.3	(19/2$^+$)	E2	0.00749 *11*	α(K)=0.00631 *9*; α(L)=0.000937 *14*; α(M)=0.000196 *3*; α(N+..)=5.01×10^{-5} *7* α(N)=4.28×10^{-5} *6*; α(O)=6.79×10^{-6} *10*; α(P)=4.52×10^{-7} *7*
2465.3		583.0 *2*		1882.3	(19/2$^+$)			
2494.4	(23/2$^+$)	182 *1*		2312.8	(21/2$^+$)			
		204.0 *2*		2290.1	(21/2$^+$)	M1,E2	0.157 *10*	α(K)=0.1274 *20*; α(L)=0.024 *7*; α(M)=0.0050 *15*; α(N+..)=0.0013 *4* α(N)=0.0011 *4*; α(O)=0.00017 *5*; α(P)=8.9×10^{-6} *10*
2532.0	(23/2$^+$)	649.7 *2*		1882.3	(19/2$^+$)	E2	0.00519 *8*	α(K)=0.00440 *7*; α(L)=0.000631 *9*; α(M)=0.0001317 *19*; α(N+..)=3.37×10^{-5} *5* α(N)=2.88×10^{-5} *4*; α(O)=4.59×10^{-6} *7*; α(P)=3.17×10^{-7} *5*

From ENSDF

$^{127}_{57}La_{70}$-11

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
2565.1	(25/2$^+$)	420.0 *2*	21 *3*	2145.2	(23/2$^+$)	M1, E2	0.020 *3*	α(K)=0.017 *3*; α(L)=0.00238 *11*; α(M)=0.000498 *19*; α(N+..)=0.000127 *7* α(N)=0.000109 *5*; α(O)=1.74×10^{-5} *12*; α(P)=1.22×10^{-6} *25*
		443 *1*		2121.2	(27/2$^-$)			
		1223.4 *2*	100.0	1341.5	(23/2$^-$)	E1	0.000595 *9*	α(K)=0.000480 *7*; α(L)=5.90×10^{-5} *9*; α(M)=1.212×10^{-5} *17*; α(N+..)=4.35×10^{-5} *7* α(N)=2.66×10^{-6} *4*; α(O)=4.34×10^{-7} *6*; α(P)=3.45×10^{-8} *5*; α(IPF)=4.04×10^{-5} *6*
2706.7	(25/2$^+$)	212.0 *2*	79 *6*	2494.4	(23/2$^+$)			
		261.7 *2*	100.0	2445.2	(23/2$^+$)	M1,E2	0.0743 *19*	α(K)=0.061 *4*; α(L)=0.0101 *16*; α(M)=0.0021 *4*; α(N+..)=0.00054 *9* α(N)=0.00047 *8*; α(O)=7.3×10^{-5} *9*; α(P)=4.4×10^{-6} *7*
		456 *1*		2250.8	(21/2$^+$)			
		1365.1 *2*	71 *8*	1341.5	(23/2$^-$)	E1	0.000578 *8*	α(K)=0.000396 *6*; α(L)=4.85×10^{-5} *7*; α(M)=9.97×10^{-6} *14*; α(N+..)=0.0001229 *18* α(N)=2.19×10^{-6} *3*; α(O)=3.58×10^{-7} *5*; α(P)=2.85×10^{-8} *4*; α(IPF)=0.0001203 *17*
2721.8	(27/2$^+$)	576.7 *2*	100.0	2145.2	(23/2$^+$)			
		601.0 *2*	10.0 *10*	2121.2	(27/2$^-$)	(E1)	0.00226 *4*	α(K)=0.00195 *3*; α(L)=0.000246 *4*; α(M)=5.06×10^{-5} *8*; α(N+..)=1.304×10^{-5} *19* α(N)=1.110×10^{-5} *16*; α(O)=1.80×10^{-6} *3*; α(P)=1.387×10^{-7} *20*
2724.2	(25/2$^+$)	230.0 *2*		2494.4	(23/2$^+$)			
		1382.8 *2*		1341.5	(23/2$^-$)	E1	0.000580 *9*	α(K)=0.000387 *6*; α(L)=4.74×10^{-5} *7*; α(M)=9.74×10^{-6} *14*; α(N+..)=0.0001351 *19* α(N)=2.14×10^{-6} *3*; α(O)=3.50×10^{-7} *5*; α(P)=2.79×10^{-8} *4*; α(IPF)=0.0001326 *19*
2807.7	(25/2$^-$)	519.0 *2*	41 *4*	2288.7	(21/2$^-$)			
		616.7 *2*	100.0	2191.0	(21/2$^-$)	(E2)	0.00592 *9*	α(K)=0.00501 *7*; α(L)=0.000727 *11*; α(M)=0.0001519 *22*; α(N+..)=3.88×10^{-5} *6* α(N)=3.32×10^{-5} *5*; α(O)=5.28×10^{-6} *8*; α(P)=3.60×10^{-7} *5*
2917.3	(25/2$^-$)	726.2 *2*	100.0	2191.0	(21/2$^-$)	E2	0.00395 *6*	α(K)=0.00336 *5*; α(L)=0.000471 *7*; α(M)=9.80×10^{-5} *14*; α(N+..)=2.51×10^{-5} *4* α(N)=2.14×10^{-5} *3*; α(O)=3.43×10^{-6} *5*; α(P)=2.44×10^{-7} *4*
		1575.8 *2*	100.0 *20*	1341.5	(23/2$^-$)	M1, E2	0.00097 *11*	α(K)=0.00074 *9*; α(L)=9.4×10^{-5} *11*; α(M)=1.93×10^{-5} *22*; α(N+..)=0.0001113 *21* α(N)=4.2×10^{-6} *5*; α(O)=6.9×10^{-7} *9*; α(P)=5.5×10^{-8} *8*; α(IPF)=0.0001063 *17*
2970.6	(27/2$^+$)	246 *1*		2724.2	(25/2$^+$)			
		263.7 *2*	100.0	2706.7	(25/2$^+$)	M1,E2	0.0727 *20*	α(K)=0.060 *4*; α(L)=0.0099 *15*; α(M)=0.0021 *4*; α(N+..)=0.00053 *8* α(N)=0.00045 *7*; α(O)=7.1×10^{-5} *9*; α(P)=4.3×10^{-6} *7*
		405.7 *2*	16.0 *20*	2565.1	(25/2$^+$)	(M1,E2)	0.021 *3*	α(K)=0.018 *3*; α(L)=0.00263 *10*; α(M)=0.000550 *16*; α(N+..)=0.000141 *6* α(N)=0.000120 *4*; α(O)=1.92×10^{-5} *11*; α(P)=1.3×10^{-6} *3*

From ENSDF

$^{127}_{57}La_{70}$-12

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
2970.6	(27/2$^+$)	525.2 *2*	25 *3*	2445.2	(23/2$^+$)	(E2)	0.00902 *13*	α(K)=0.00757 *11*; α(L)=0.001147 *17*; α(M)=0.000241 *4*; α(N+..)=6.12×10^{-5} *9* α(N)=5.24×10^{-5} *8*; α(O)=8.29×10^{-6} *12*; α(P)=5.39×10^{-7} *8*
3019.7	(27/2$^+$)	295.6 *2*		2724.2	(25/2$^+$)			
		314 *1*		2706.7	(25/2$^+$)			
		525.0 *2*		2494.4	(23/2$^+$)			
3029.2	(31/2$^-$)	907.9 *2*		2121.2	(27/2$^-$)	E2	0.00236 *4*	B(E2)(W.u.)=31 *5* α(K)=0.00202 *3*; α(L)=0.000272 *4*; α(M)=5.64×10^{-5} *8*; α(N+..)=1.449×10^{-5} *21* α(N)=1.235×10^{-5} *18*; α(O)=1.99×10^{-6} *3*; α(P)=1.475×10^{-7} *21*
3121.2	(27/2$^+$)	589.2 *2*		2532.0	(23/2$^+$)	E2	0.00666 *10*	α(K)=0.00562 *8*; α(L)=0.000825 *12*; α(M)=0.0001726 *25*; α(N+..)=4.40×10^{-5} *7* α(N)=3.76×10^{-5} *6*; α(O)=5.98×10^{-6} *9*; α(P)=4.03×10^{-7} *6*
3155.5	(29/2$^+$)	434.1 *2*	22 *3*	2721.8	(27/2$^+$)	M1, E2	0.018 *3*	α(K)=0.0151 *24*; α(L)=0.00217 *13*; α(M)=0.000453 *22*; α(N+..)=0.000116 *7* α(N)=9.9×10^{-5} *6*; α(O)=1.58×10^{-5} *12*; α(P)=1.12×10^{-6} *23*
		590.1 *2*	100.0	2565.1	(25/2$^+$)	E2	0.00663 *10*	α(K)=0.00560 *8*; α(L)=0.000821 *12*; α(M)=0.0001718 *25*; α(N+..)=4.38×10^{-5} *7* α(N)=3.75×10^{-5} *6*; α(O)=5.96×10^{-6} *9*; α(P)=4.02×10^{-7} *6*
		1034.1 *2*	61 *7*	2121.2	(27/2$^-$)	E1	0.000754 *11*	α(K)=0.000652 *10*; α(L)=8.05×10^{-5} *12*; α(M)=1.656×10^{-5} *24*; α(N+..)=4.28×10^{-6} α(N)=3.64×10^{-6} *5*; α(O)=5.93×10^{-7} *9*; α(P)=4.68×10^{-8} *7*
3291.9	(29/2$^+$)	272.0 *2*	21 *5*	3019.7	(27/2$^+$)			
		321.3 *2*	100.0	2970.6	(27/2$^+$)	M1, E2	0.041 *4*	α(K)=0.034 *4*; α(L)=0.0053 *3*; α(M)=0.00111 *8*; α(N+..)=0.000283 *16* α(N)=0.000242 *15*; α(O)=3.83×10^{-5} *13*; α(P)=2.5×10^{-6} *5*
		568.0 *2*	23 *5*	2724.2	(25/2$^+$)	(E2)	0.00733 *11*	α(K)=0.00617 *9*; α(L)=0.000915 *13*; α(M)=0.000192 *3*; α(N+..)=4.88×10^{-5} *7* α(N)=4.18×10^{-5} *6*; α(O)=6.63×10^{-6} *10*; α(P)=4.42×10^{-7} *7*
		585.0 *2*	26 *3*	2706.7	(25/2$^+$)	(E2)	0.00678 *10*	α(K)=0.00572 *8*; α(L)=0.000841 *12*; α(M)=0.0001761 *25*; α(N+..)=4.49×10^{-5} *7* α(N)=3.84×10^{-5} *6*; α(O)=6.10×10^{-6} *9*; α(P)=4.10×10^{-7} *6*
3329.0	(29/2$^+$)	1207.8 *2*		2121.2	(27/2$^-$)	E1	0.000600 *9*	α(K)=0.000491 *7*; α(L)=6.04×10^{-5} *9*; α(M)=1.241×10^{-5} *18*; α(N+..)=3.61×10^{-5} *6* α(N)=2.73×10^{-6} *4*; α(O)=4.45×10^{-7} *7*; α(P)=3.53×10^{-8} *5*; α(IPF)=3.29×10^{-5} *5*
3423.6	(31/2$^+$)	701.8 *2*		2721.8	(27/2$^+$)	E2	0.00429 *6*	α(K)=0.00365 *6*; α(L)=0.000514 *8*; α(M)=0.0001072 *15*; α(N+..)=2.74×10^{-5} *4* α(N)=2.34×10^{-5} *4*; α(O)=3.75×10^{-6} *6*; α(P)=2.64×10^{-7} *4*
3460.4		1339.2 *2*		2121.2	(27/2$^-$)	D		
3460.9	(29/2$^-$)	653.2 *2*		2807.7	(25/2$^-$)	E2	0.00512 *8*	α(K)=0.00434 *6*; α(L)=0.000622 *9*; α(M)=0.0001298 *19*; α(N+..)=3.32×10^{-5} *5* α(N)=2.83×10^{-5} *4*; α(O)=4.52×10^{-6} *7*; α(P)=3.13×10^{-7} *5*
3638.3	(31/2$^+$)	346.4 *2*	100.0	3291.9	(29/2$^+$)	M1, E2	0.033 *4*	α(K)=0.028 *4*; α(L)=0.00420 *12*; α(M)=0.00088 *4*; α(N+..)=0.000225 *6* α(N)=0.000192 *6*; α(O)=3.05×10^{-5} *5*; α(P)=2.0×10^{-6} *4*

From ENSDF

$^{127}_{57}La_{70}$-13

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	α[&]	Comments
3638.3	(31/2$^+$)	667.7 *2*	48 *7*	2970.6	(27/2$^+$)	(E2)	0.00485 *7*	α(K)=0.00411 *6*; α(L)=0.000586 *9*; α(M)=0.0001223 *18*; α(N+..)=3.13×10^{-5} *5* α(N)=2.67×10^{-5} *4*; α(O)=4.27×10^{-6} *6*; α(P)=2.97×10^{-7} *5*
3707.9	(29/2$^-$)	790.6 *2*		2917.3	(25/2$^-$)	(E2)	0.00324 *5*	α(K)=0.00276 *4*; α(L)=0.000380 *6*; α(M)=7.90×10^{-5} *11*; α(N+..)=2.03×10^{-5} *3* α(N)=1.728×10^{-5} *25*; α(O)=2.78×10^{-6} *4*; α(P)=2.01×10^{-7} *3*
3892.9	(33/2$^+$)	737.4 *2*		3155.5	(29/2$^+$)	E2	0.00381 *6*	α(K)=0.00324 *5*; α(L)=0.000452 *7*; α(M)=9.42×10^{-5} *14*; α(N+..)=2.41×10^{-5} *4* α(N)=2.06×10^{-5} *3*; α(O)=3.30×10^{-6} *5*; α(P)=2.35×10^{-7} *4*
		863 *1*		3029.2	(31/2$^-$)			
4025.2	(33/2$^+$)	386.8 *2*		3638.3	(31/2$^+$)	M1,E2	0.024 *3*	α(K)=0.021 *3*; α(L)=0.00302 *7*; α(M)=0.000633 *10*; α(N+..)=0.000162 *4* α(N)=0.000138 *3*; α(O)=2.20×10^{-5} *9*; α(P)=1.5×10^{-6} *3*
		733.4 *2*		3291.9	(29/2$^+$)	(E2)	0.00386 *6*	α(K)=0.00328 *5*; α(L)=0.000459 *7*; α(M)=9.56×10^{-5} *14*; α(N+..)=2.45×10^{-5} *4* α(N)=2.09×10^{-5} *3*; α(O)=3.35×10^{-6} *5*; α(P)=2.38×10^{-7} *4*
4031.7	(35/2$^-$)	1002.5 *2*		3029.2	(31/2$^-$)	E2	0.00190 *3*	α(K)=0.001629 *23*; α(L)=0.000216 *3*; α(M)=4.48×10^{-5} *7*; α(N+..)=1.152×10^{-5} *17* α(N)=9.81×10^{-6} *14*; α(O)=1.586×10^{-6} *23*; α(P)=1.192×10^{-7} *17*
4236.8	(35/2$^+$)	813.2 *2*		3423.6	(31/2$^+$)	E2	0.00303 *5*	α(K)=0.00258 *4*; α(L)=0.000354 *5*; α(M)=7.36×10^{-5} *11*; α(N+..)=1.89×10^{-5} *3* α(N)=1.611×10^{-5} *23*; α(O)=2.59×10^{-6} *4*; α(P)=1.88×10^{-7} *3*
4241.9	(33/2$^-$)	781.0 *2*		3460.9	(29/2$^-$)			
4242.6		1213.4 *2*		3029.2	(31/2$^-$)	D		
4449.2	(35/2$^+$)	424 *1*		4025.2	(33/2$^+$)			
		811 *1*		3638.3	(31/2$^+$)			
4587.2	(32/2$^-$)	879.3 *2*		3707.9	(29/2$^-$)	(E2)	0.00254 *4*	α(K)=0.00217 *3*; α(L)=0.000293 *5*; α(M)=6.09×10^{-5} *9*; α(N+..)=1.563×10^{-5} *22* α(N)=1.333×10^{-5} *19*; α(O)=2.15×10^{-6} *3*; α(P)=1.582×10^{-7} *23*
4778.2	(37/2$^+$)	885.3 *2*		3892.9	(33/2$^+$)	(E2)	0.00250 *4*	α(K)=0.00213 *3*; α(L)=0.000288 *4*; α(M)=5.99×10^{-5} *9*; α(N+..)=1.538×10^{-5} *22* α(N)=1.311×10^{-5} *19*; α(O)=2.11×10^{-6} *3*; α(P)=1.559×10^{-7} *22*
4899.2	(37/2$^+$)	450 *1*		4449.2	(35/2$^+$)			
		874 *1*		4025.2	(33/2$^+$)			
5030.1	(39/2$^-$)	998.4 *2*		4031.7	(35/2$^-$)	E2	0.00192 *3*	B(E2)(W.u.)=24 *4* α(K)=0.001643 *23*; α(L)=0.000218 *3*; α(M)=4.52×10^{-5} *7*; α(N+..)=1.163×10^{-5} *17* α(N)=9.91×10^{-6} *14*; α(O)=1.601×10^{-6} *23*; α(P)=1.203×10^{-7} *17*
5152.6	(39/2$^+$)	915.8 *2*		4236.8	(35/2$^+$)	(E2)	0.00232 *4*	α(K)=0.00198 *3*; α(L)=0.000266 *4*; α(M)=5.52×10^{-5} *8*; α(N+..)=1.420×10^{-5} *20* α(N)=1.210×10^{-5} *17*; α(O)=1.95×10^{-6} *3*; α(P)=1.447×10^{-7} *21*
5390.2	(39/2$^+$)	491 *1*		4899.2	(37/2$^+$)			
		941 *1*		4449.2	(35/2$^+$)			
5531.2	(37/2$^-$)	944 *1*		4587.2	(32/2$^-$)			
5786.2	(41/2$^+$)	1008 *1*		4778.2	(37/2$^+$)			
5895.2	(41/2$^+$)	505 *1*		5390.2	(39/2$^+$)			
		996 *1*		4899.2	(37/2$^+$)			
6044.5	(43/2$^-$)	1014.4 *2*		5030.1	(39/2$^-$)	E2	0.00185 *3*	α(K)=0.001589 *23*; α(L)=0.000210 *3*; α(M)=4.36×10^{-5} *7*; α(N+..)=1.121×10^{-5} *16* α(N)=9.55×10^{-6} *14*; α(O)=1.545×10^{-6} *22*; α(P)=1.163×10^{-7} *17*

From ENSDF

$^{127}_{57}La_{70}$-14

Adopted Levels, Gammas (continued)

γ(^{127}La) (continued)

E_i(level)	J_i^π	E_γ †	E_f	J_f^π	Mult. @	α &	Comments
6149.0	(43/2$^+$)	996.4 *2*	5152.6	(39/2$^+$)	(E2)	0.00193 *3*	α(K)=0.001650 *24*; α(L)=0.000219 *3*; α(M)=4.54×10^{-5} *7*; α(N+..)=1.168×10^{-5} *17* α(N)=9.95×10^{-6} *14*; α(O)=1.608×10^{-6} *23*; α(P)=1.208×10^{-7} *17*
6443.2	(43/2$^+$)	548 *1*	5895.2	(41/2$^+$)			
		1053 *1*	5390.2	(39/2$^+$)			
6511.2	(41/2$^-$)	980 *1*	5531.2	(37/2$^-$)			
6846.2	(45/2$^+$)	1060 *1*	5786.2	(41/2$^+$)			
7145.5	(47/2$^-$)	1101 *1*	6044.5	(43/2$^-$)			
7168.1	(47/2$^+$)	1019 *1*	6149.0	(43/2$^+$)			
7864.2	(49/2$^+$)	1018 *1*	6846.2	(45/2$^+$)			
8187.1	(51/2$^+$)	1019 *1*	7168.1	(47/2$^+$)			
8335.5	(51/2$^-$)	1190 *1*	7145.5	(47/2$^-$)			
8976.2	(53/2$^+$)	1112 *1*	7864.2	(49/2$^+$)			
9273.1	(55/2$^+$)	1086 *1*	8187.1	(51/2$^+$)			
9606.5	(55/2$^-$)	1271 *1*	8335.5	(51/2$^-$)			
10179.2	(57/2$^+$)	1203 *1*	8976.2	(53/2$^+$)			
10446.1	(59/2$^+$)	1173 *1*	9273.1	(55/2$^+$)			
10949.5	(59/2$^-$)	1343 *1*	9606.5	(55/2$^-$)			
11462.2	(61/2$^+$)	1283 *1*	10179.2	(57/2$^+$)			
11708.1	(63/2$^+$)	1262 *1*	10446.1	(59/2$^+$)			
12349.5	(63/2$^-$)	1400 *1*	10949.5	(59/2$^-$)			
12816	(65/2$^+$)	1354 *1*	11462.2	(61/2$^+$)			
13057.1	(67/2$^+$)	1349 *1*	11708.1	(63/2$^+$)			
14489	(71/2$^+$)	1432 *1*	13057.1	(67/2$^+$)			
16004	(75/2$^+$)	1515 *1*	14489	(71/2$^+$)			
17618	(79/2$^+$)	1614 *1*	16004	(75/2$^+$)			
19357	(83/2$^+$)	1739 *1*	17618	(79/2$^+$)			
21268	(87/2$^+$)	1911 *1*	19357	(83/2$^+$)			

† From (HI,xnγ), except as noted.
‡ From ^{127}Ce β^+ (34 s) decay.
# From ^{127}Ce β^+ (28.6 s) decay.
@ From DCO and measurement of polarization of γ s in (HI,xnγ), and placement in level scheme.
& Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

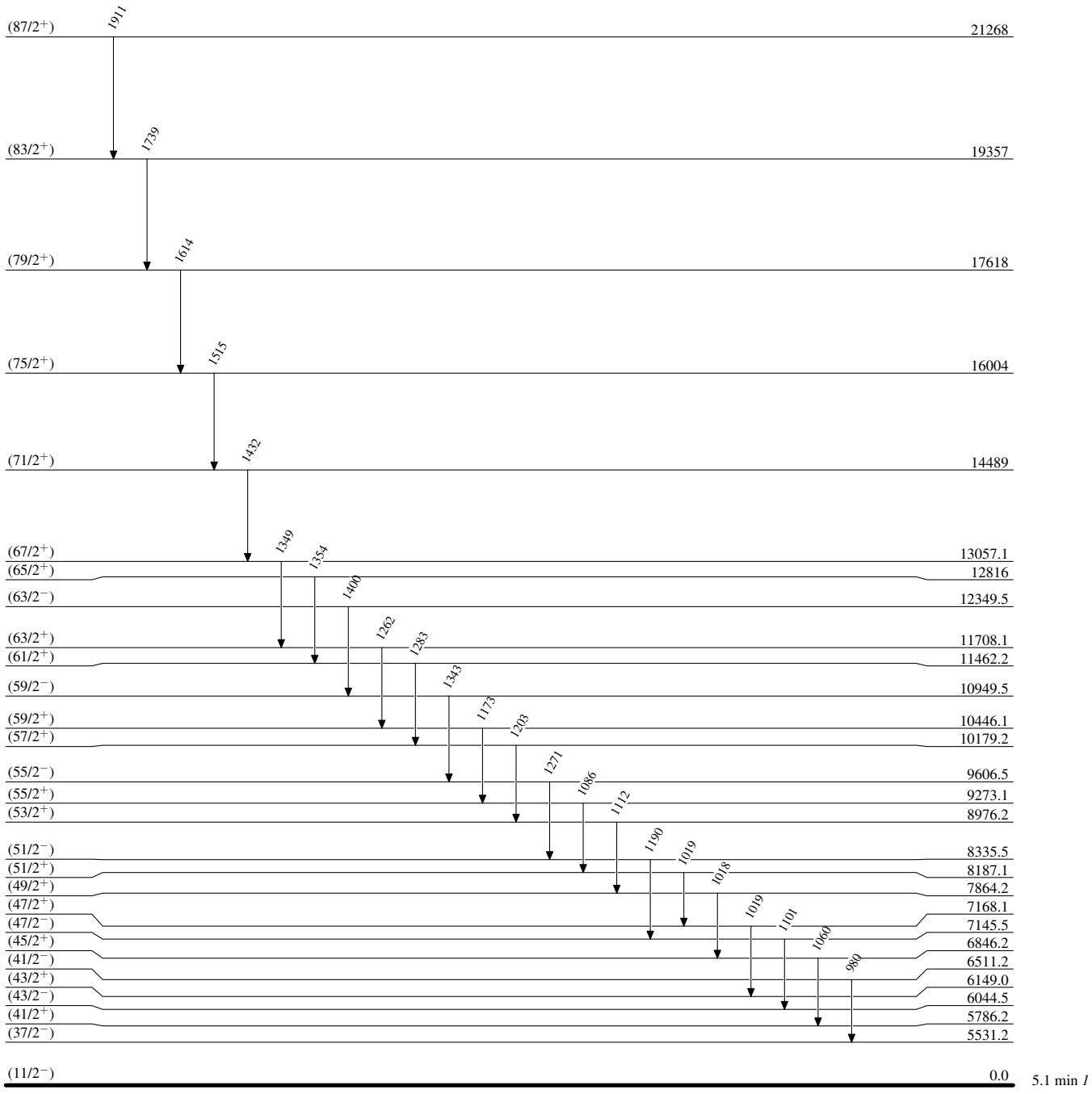
From ENSDF

$^{127}_{57}La_{70}$-15

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

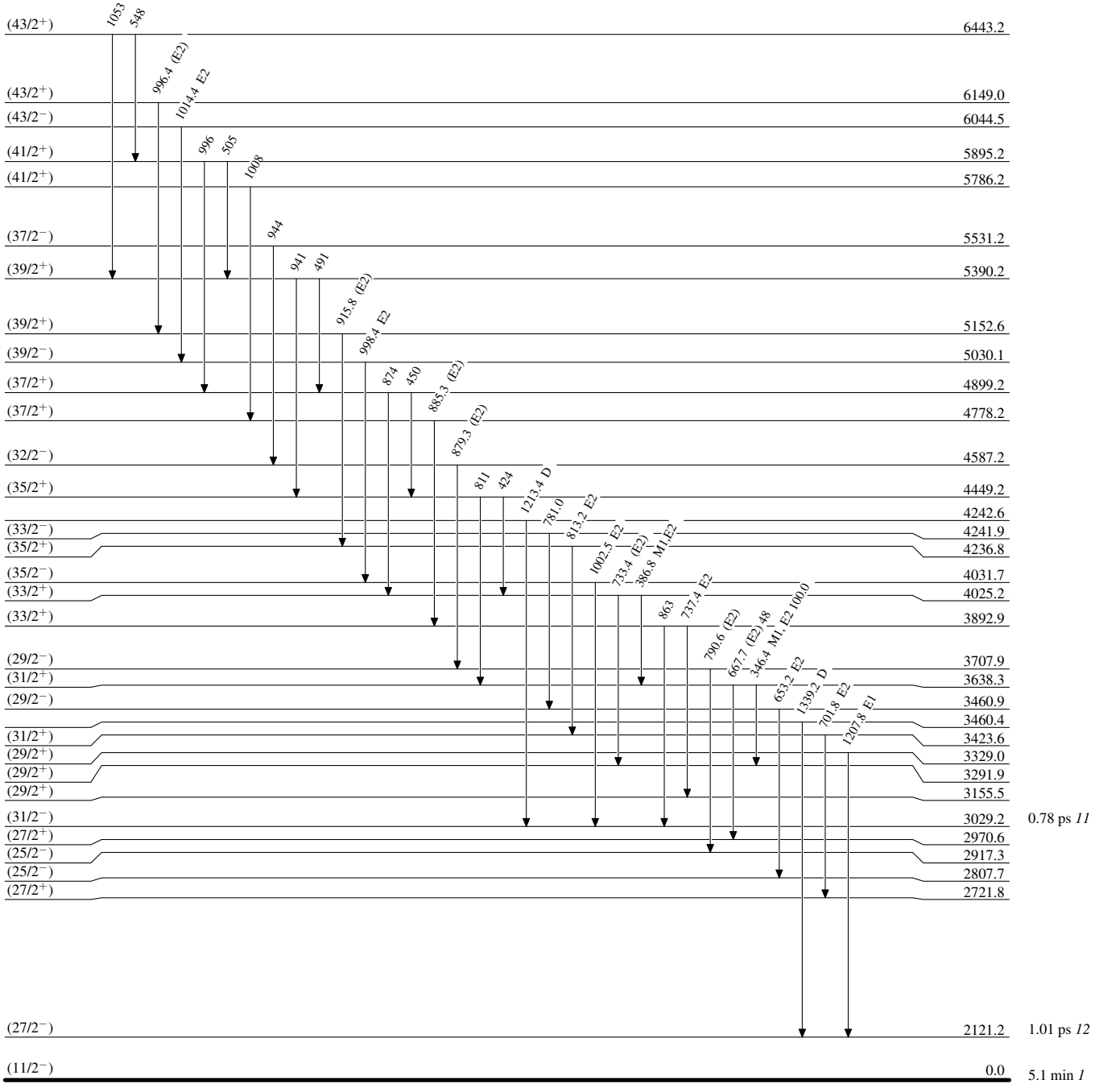


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

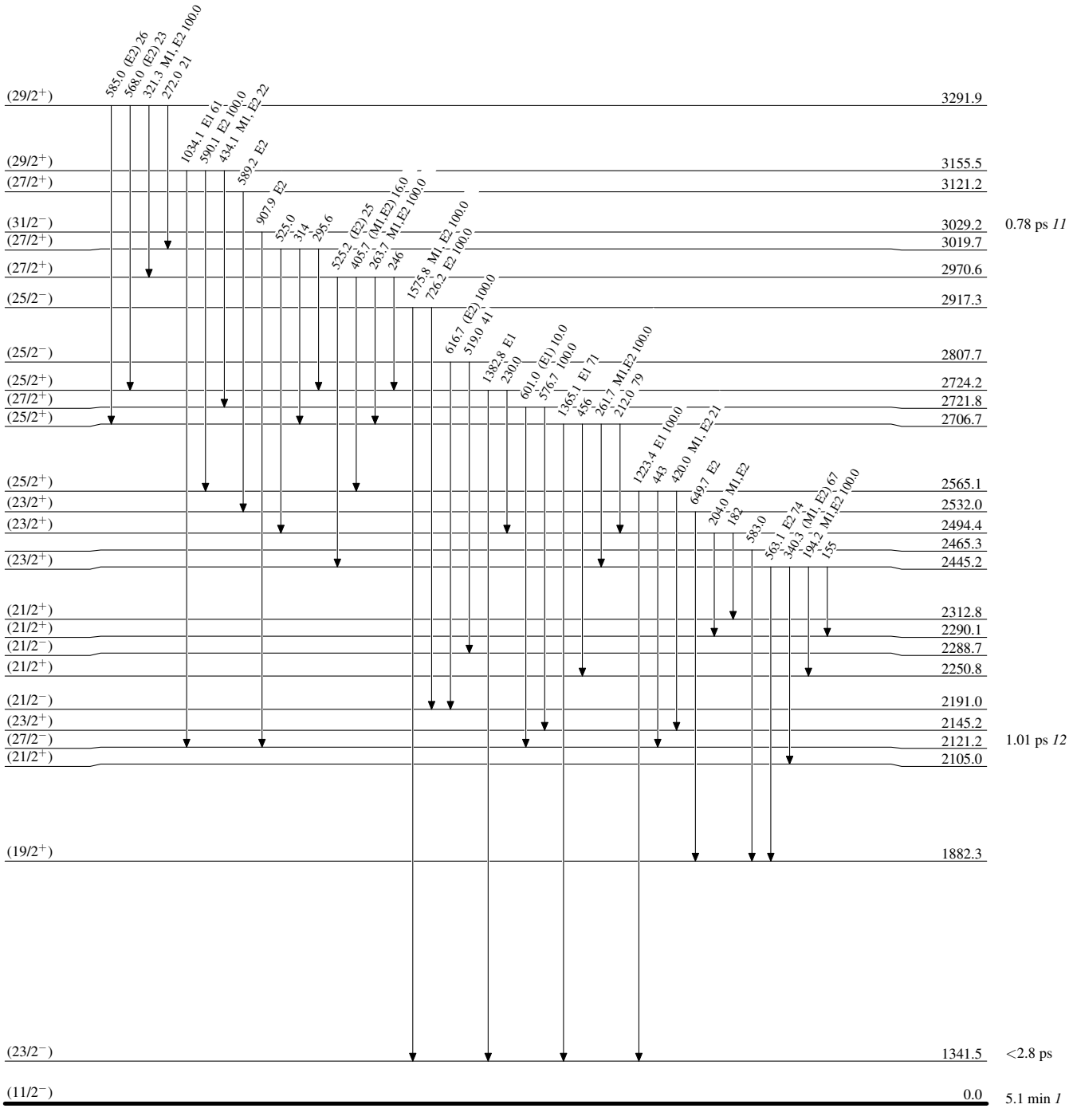


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

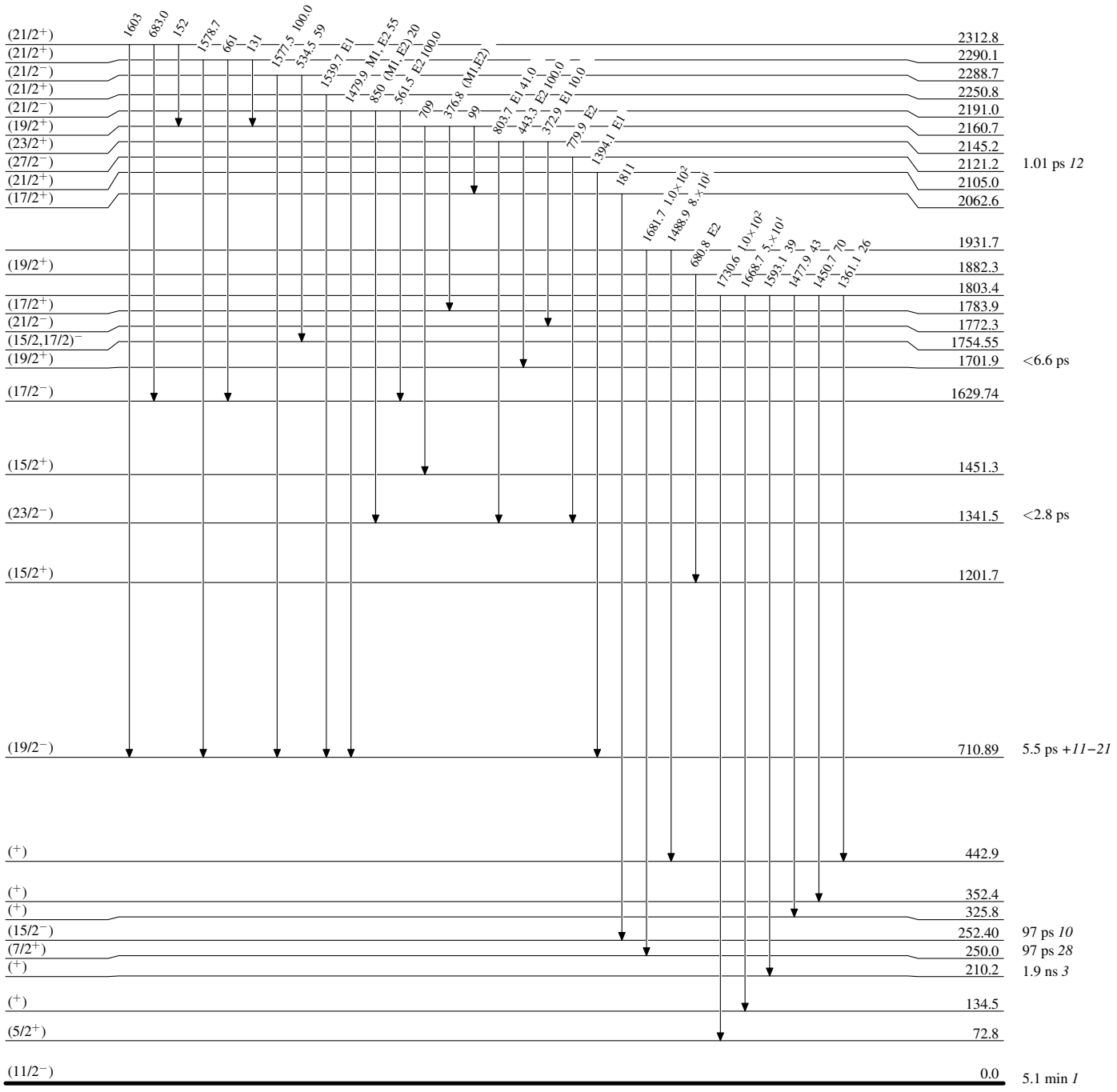


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

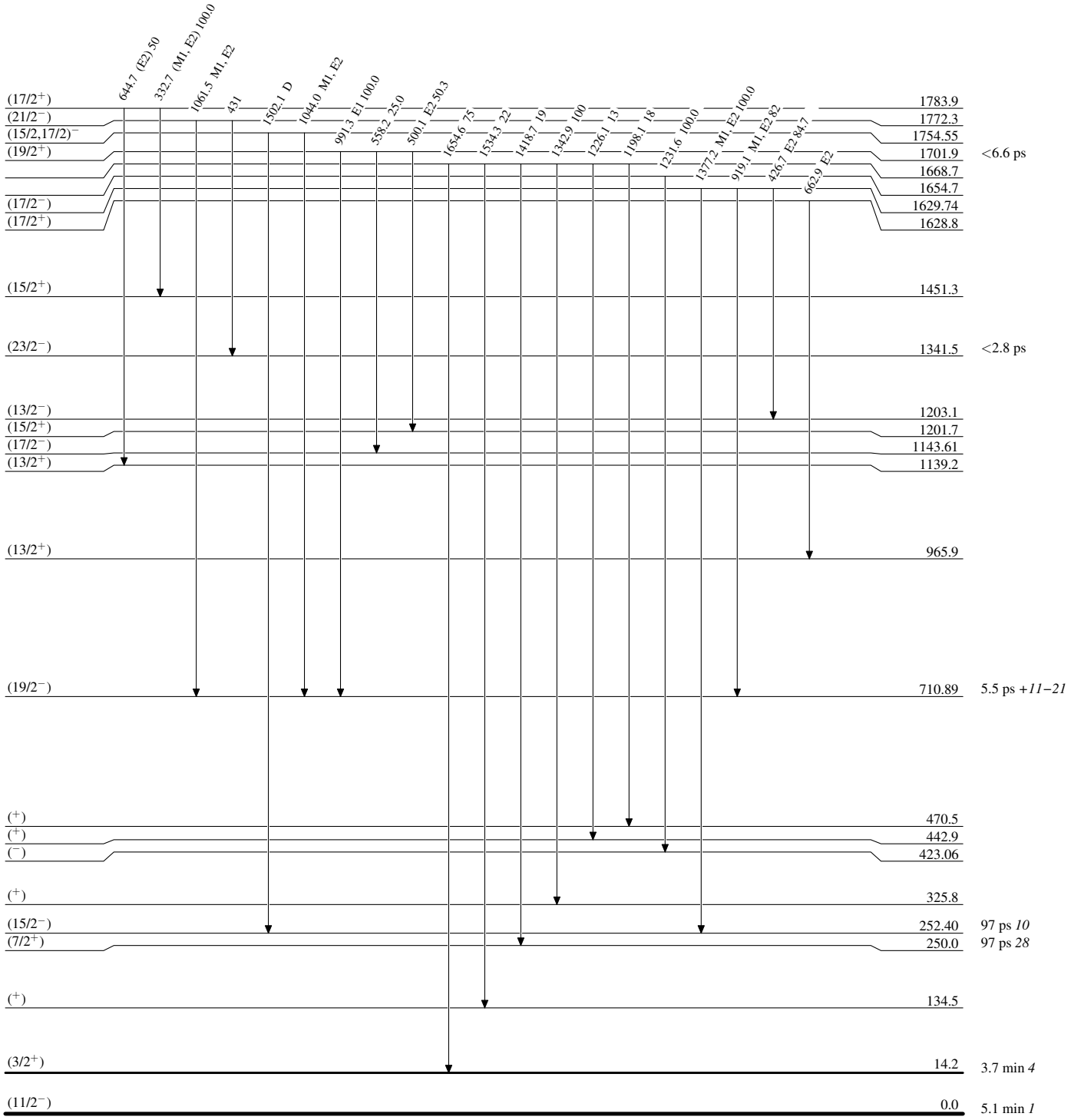


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

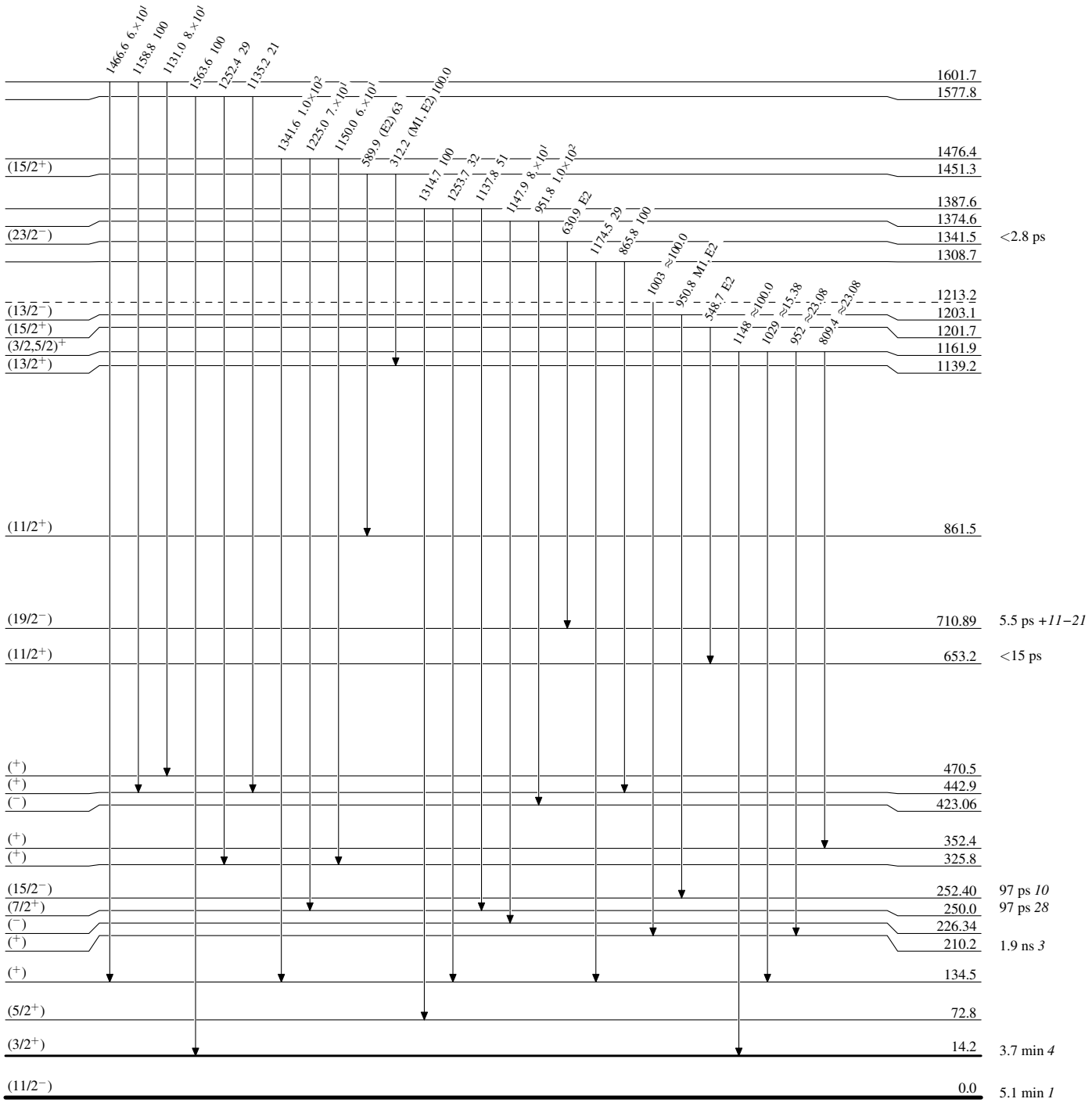


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

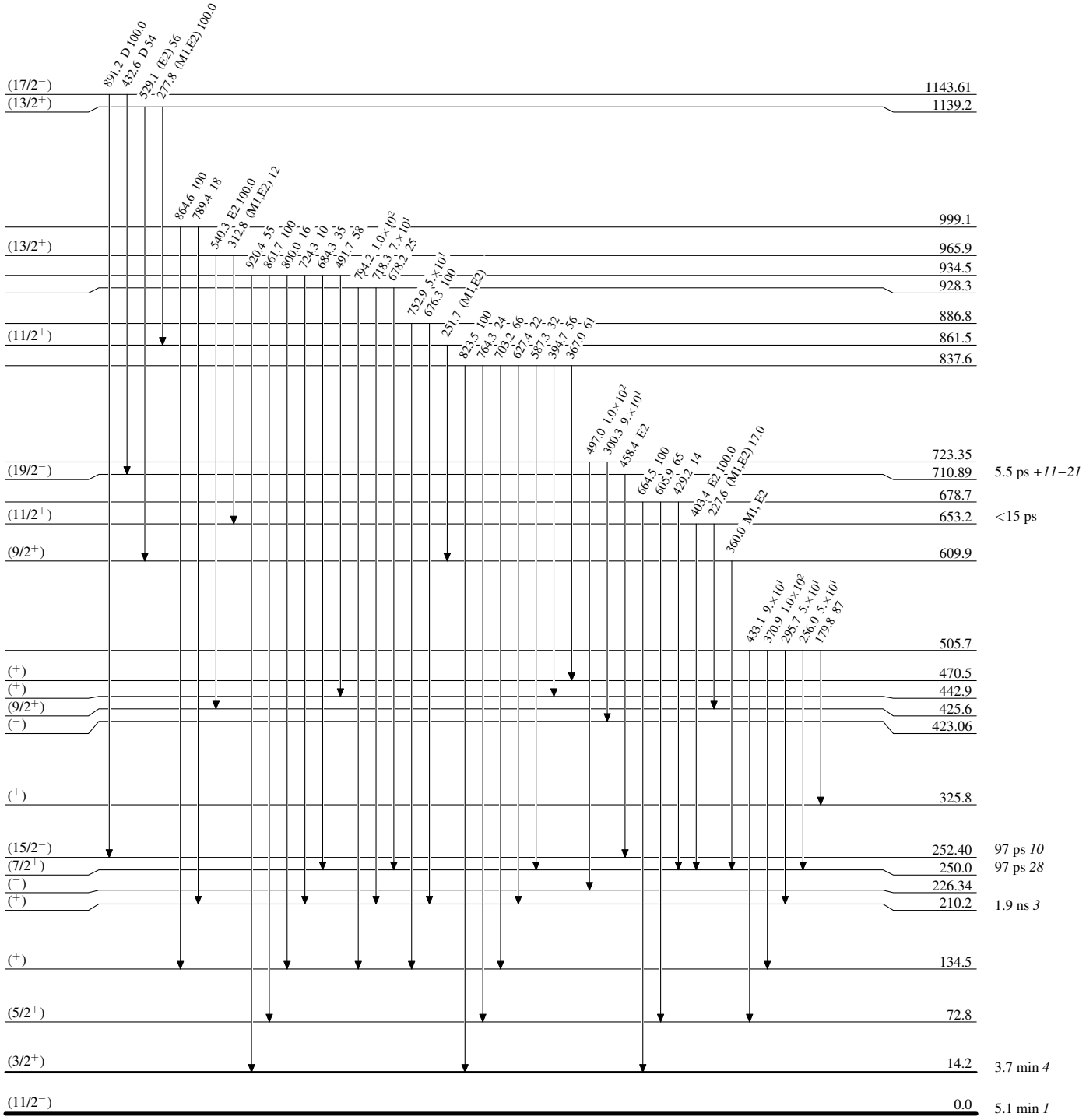


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

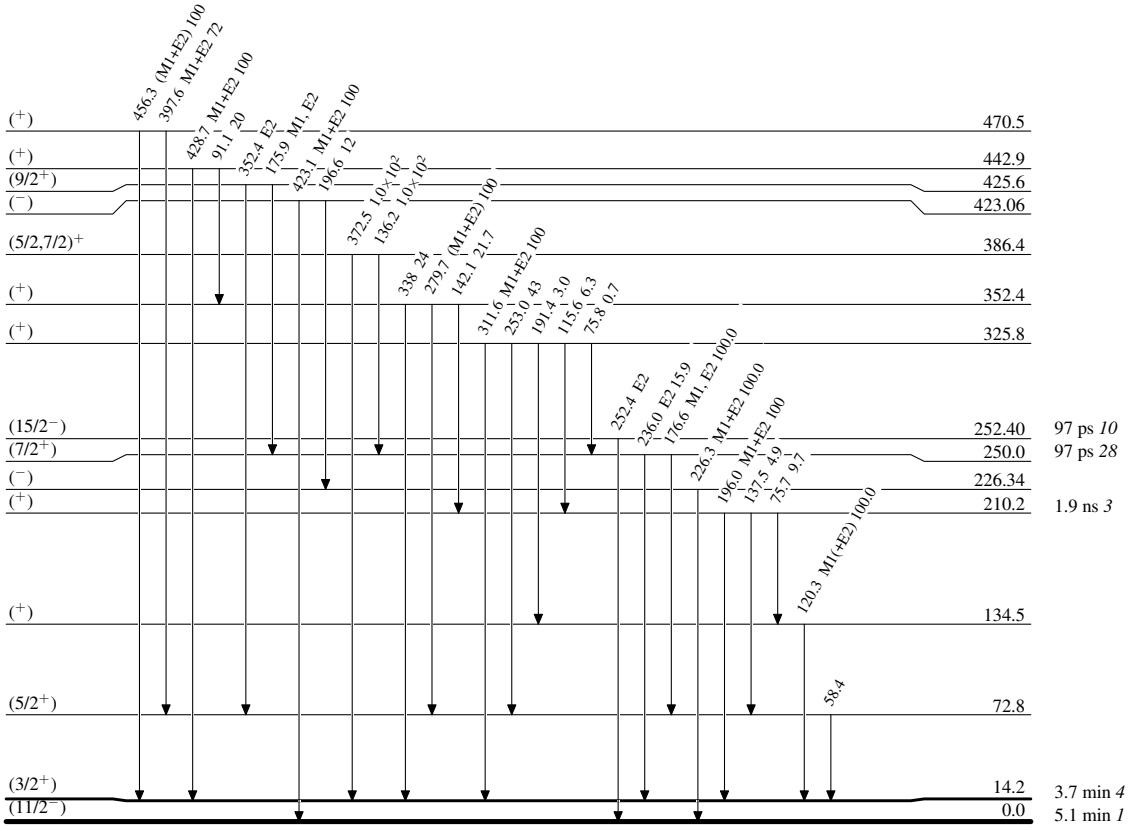


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

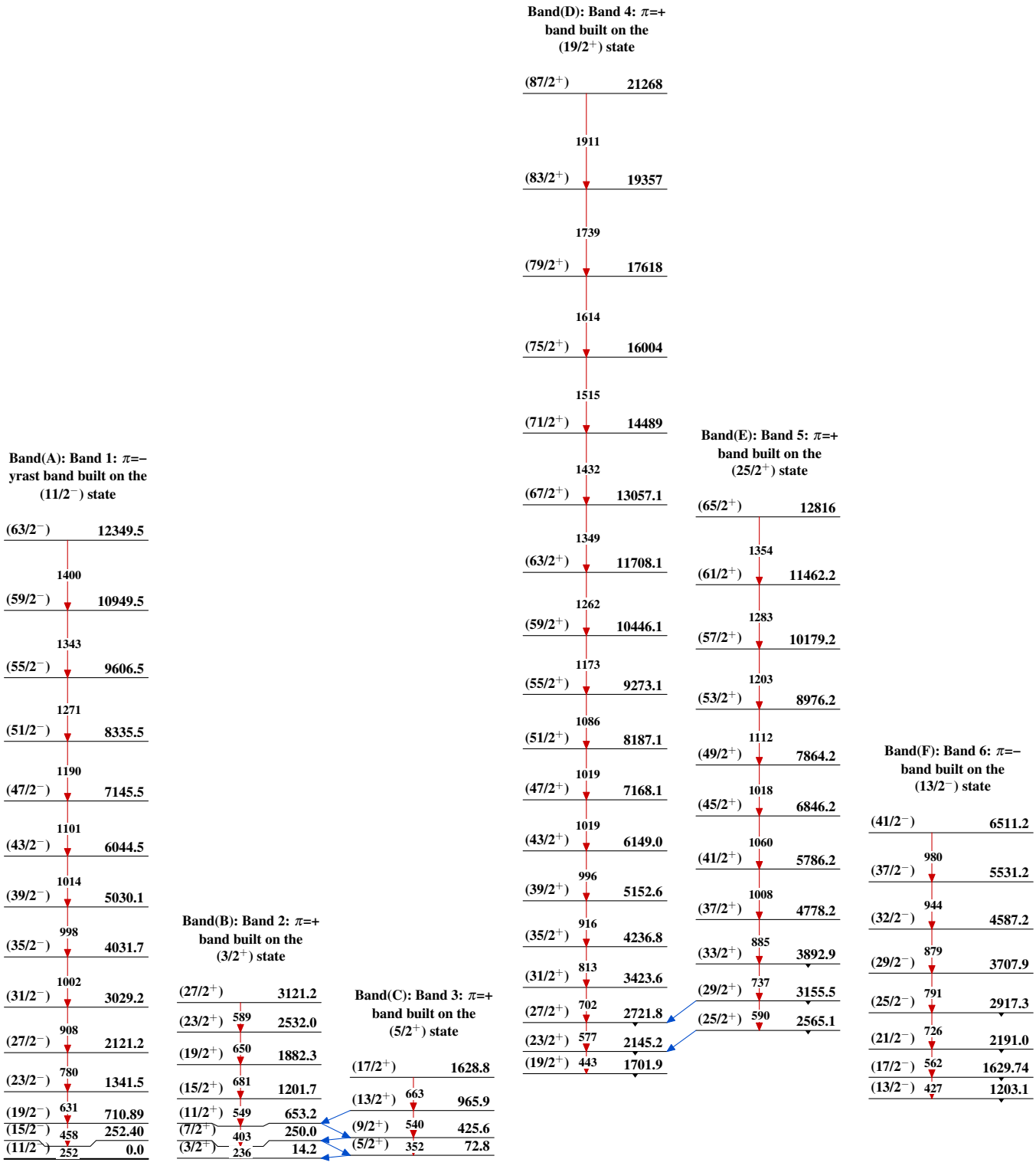
Level Scheme (continued)

Intensities: Relative photon branching from each level

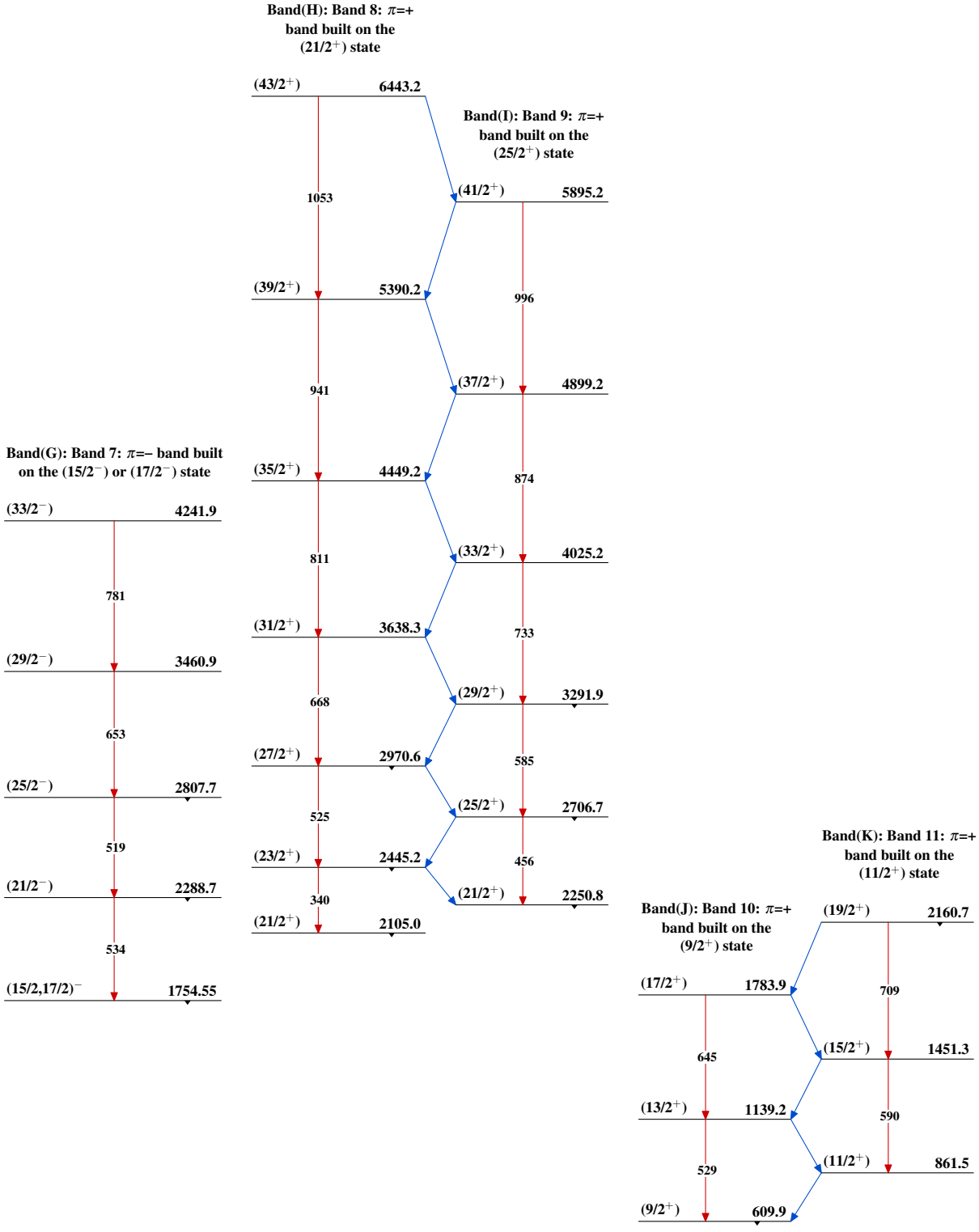


$^{127}_{57}La_{70}$

Adopted Levels, Gammas

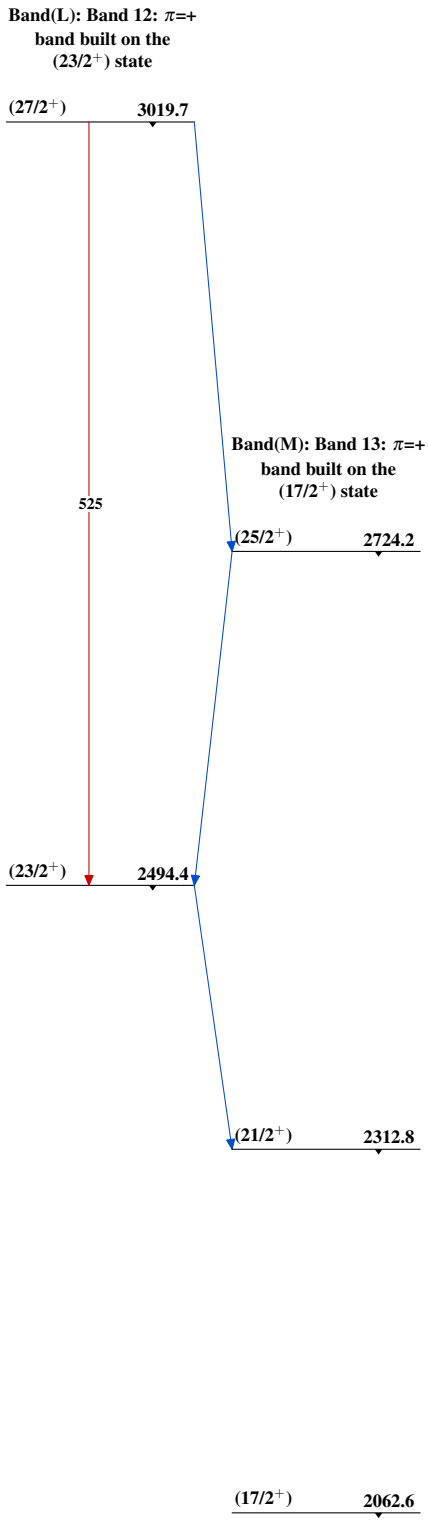


Adopted Levels, Gammas (continued)



$^{127}_{57}La_{70}$

Adopted Levels, Gammas (continued)



$^{127}_{57}La_{70}$