^{92}Mo(^{40}Ca,2αpγ) 2003Pa41

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 174, 1 (2021)	15-Apr-2021

2003Pa41: E=184 MeV ^{40}Ca beam was produced from the ATLAS accelerator at ANL. Target was 0.625 mg/cm^2 self-supporting foil of ^{92}Mo. γ rays were detected with the Gammasphere array of 99 Ge detectors and charged particles were detected with the Washington University Microball array. Measured Eγ, Iγ, γγ-coin, γγγ-coin, γγ(DCO). Deduced levels, J, π, band structures. Comparisons with cranked shell-model calculations.

All data are from 2003Pa41.

^{123}La Levels

Quasiparticle labels used in band comments:
E_n=most favored neutron $\nu h_{11/2}$, α=−1/2.
F_n=most favored neutron $\nu h_{11/2}$, α=+1/2.
E_p=most favored proton $\pi h_{11/2}$, α=−1/2.
F_p=most favored proton $\pi h_{11/2}$, α=+1/2.
G_n=second favored neutron $\nu h_{11/2}$, α=−1/2.
H_n=second favored neutron $\nu h_{11/2}$, α=+1/2.
G_p=second favored proton $\pi h_{11/2}$, α=−1/2.
H_p=second favored proton $\pi h_{11/2}$, α=+1/2.

E(level)[†]	J$^{\pi}$[#]	Comments
0+x[‡]	(5/2$^+$)	Additional information 1.
0+y[e]	(9/2$^+$)	Additional information 2.
35.4+x[@] 3	(3/2$^+$)	
39.5+x[a] 4	(11/2$^-$)	
209.59+y[d] 16	(11/2$^+$)	
224.40+x[@] 20	(7/2$^+$)	
270.3+x[a] 4	(15/2$^-$)	
449.12+y[e] 16	(13/2$^+$)	
549.3+x[@] 3	(11/2$^+$)	
673.6+x[a] 4	(19/2$^-$)	
716.25+y[d] 19	(15/2$^+$)	
957.1+x[b] 5	(15/2$^-$)	
987.4+x[@] 4	(15/2$^+$)	
1008.33+y[e] 21	(17/2$^+$)	
1223.6+x[a] 5	(23/2$^-$)	
1322.66+y[d] 23	(19/2$^+$)	
1351.7+x[b] 4	(19/2$^-$)	
1487.4+x[@] 4	(19/2$^+$)	
1656.10+y[e] 25	(21/2$^+$)	
1735.2+x[c] 7	(21/2$^-$)	
1797.6+x[&] 6	(21/2$^+$)	
1855.9+x[b] 4	(23/2$^-$)	
1894.3+x[a] 5	(27/2$^-$)	
1979.4+x[@] 5	(23/2$^+$)	
2005.5+y[d] 3	(23/2$^+$)	
2303.9+x[c] 5	(25/2$^-$)	

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$^{92}Mo(^{40}Ca,2\alpha p\gamma)$ 2003Pa41 (continued)

^{123}La Levels (continued)

E(level)[†]	J^{π}[#]	E(level)[†]	J^{π}[#]	E(level)[†]	J^{π}[#]	E(level)[†]	J^{π}[#]
2325.4+x[&] *5*	(25/2+)	4336.6+x[&] *6*	(37/2+)	6842.4+y[d] *5*	(47/2+)	10142.3+x[a] *8*	(59/2−)
2365.4+y[e] *3*	(25/2+)	4437.5+x[a] *6*	(39/2−)	6905.2+x[b] *8*	(47/2−)	10425.5+y[d] *9*	(59/2+)
2466.2+x[b] *5*	(27/2−)	4519.6+y[e] *4*	(37/2+)	7168.2+x[&] *7*	(49/2+)	10892.6+x[&] *10*	(61/2+)
2519.0+x[@] *5*	(27/2+)	4571.0+x[c] *6*	(37/2−)	7376.0+y[e] *5*	(49/2+)	11107.2+y[e] *8*	(61/2+)
2662.4+x[a] *5*	(31/2−)	4703.5+x[@] *6*	(39/2+)	7579.4+x[c] *10*	(49/2−)	11338.2+x[@] *10*	(63/2+)
2725.2+y[d] *3*	(27/2+)	4851.7+x[b] *6*	(39/2−)	7650.1+x[@] *7*	(51/2+)	11490.3+x[a] *9*	(63/2−)
2906.0+x[&] *5*	(29/2+)	4937.7+y[d] *4*	(39/2+)	7652.8+x[a] *7*	(51/2−)	11811.2+y[d] *10*	(63/2+)
2968.1+x[c] *5*	(29/2−)	5189.5+x[&] *6*	(41/2+)	7938.3+y[d] *5*	(51/2+)	12327.2+x[&] *11*	(65/2+)
3074.8+y[e] *3*	(29/2+)	5374.0+y[e] *4*	(41/2+)	8067.9+x[b] *10*	(51/2−)	12542.1+y[e] *9*	(65/2+)
3152.6+x[@] *6*	(31/2+)	5437.9+x[a] *6*	(43/2−)	8306.5+x[&] *7*	(53/2+)	12753.1+x[@] *12*	(67/2+)
3173.0+x[b] *5*	(31/2−)	5498.0+x[c] *6*	(41/2−)	8522.1+y[e] *6*	(53/2+)	12909.7+x[a] *10*	(67/2−)
3417.4+y[d] *4*	(31/2+)	5607.5+x[@] *7*	(43/2+)	8700.4+x[c] *14*	(53/2−)	13852.2+x?[&] *15*	(69/2+)
3512.1+x[a] *6*	(35/2−)	5829.9+x[b] *6*	(43/2−)	8791.8+x[@] *8*	(55/2+)	14272.3+x[@] *13*	(71/2+)
3574.0+x[&] *5*	(33/2+)	5841.1+y[d] *4*	(43/2+)	8863.5+x[a] *7*	(55/2−)	14408.4+x[a] *12*	(71/2−)
3727.1+x[c] *6*	(33/2−)	6131.3+x[&] *6*	(45/2+)	9132.6+y[d] *7*	(55/2+)	15896.5+x[@] *14*	(75/2+)
3763.3+y[e] *4*	(33/2+)	6327.0+y[e] *5*	(45/2+)	9288.9+x?[b] *14*	(55/2−)	15993.2+x[a] *13*	(75/2−)
3882.7+x[@] *6*	(35/2+)	6503.3+x[c] *8*	(45/2−)	9550.4+x[&] *9*	(57/2+)	17651.5+x?[@] *17*	(79/2+)
3968.0+x[b] *6*	(35/2−)	6510.9+x[a] *7*	(47/2−)	9765.8+y[e] *6*	(57/2+)	17663.2+x?[a] *16*	(79/2−)
4132.5+y[d] *4*	(35/2+)	6589.7+x[@] *7*	(47/2+)	10020.1+x[@] *9*	(59/2+)		

[†] From a least-squares fit to γ-ray energies. The bandhead energies are not determined (2003Pa41).
[‡] This level may correspond to the g.s., but it is not established from ^{123}La ε decay study.
[#] As given in 2003Pa41 based on measured γ(DCO) and proposed band structures, with parentheses added by the evaluator.
[@] Band(A): Band 1: $\pi3/2[422]$ ($g_{7/2}$ orbital), $\alpha=-1/2$. Crossing by E_pF_p at higher spins.
[&] Band(B): Band 2: $\pi(d_{5/2}/g_{7/2})E_pF_p$, $\alpha=+1/2$.
[a] Band(C): Band 3: $\pi1/2[550]$, $\alpha=-1/2$. Crossing by E_nF_n at higher spins, and a second crossing by F_pG_p.
[b] Band(D): Band 4: Quasi γ-vibration band based on $h_{11/2}$, $\alpha=-1/2$. First crossing by E_nF_n, second crossing by F_pG_p at higher spins.
[c] Band(E): Band 5: Quasi γ-vibration band based on $h_{11/2}$, $\alpha=+1/2$ (?).
[d] Band(F): Band 6: $\pi9/2[404]$, $\alpha=-1/2$. Crossing by E_pF_p above $29/2^+$.
[e] Band(f): Band 7: $\pi9/2[404]$, $\alpha=+1/2$ Crossing by E_pF_p above $29/2^+$.

$\gamma(^{123}La)$

DCO ratios given under comments are measured with gates on a stretched quadrupole transition. Expected DCO ratios are ≈0.5 for pure dipole transitions (ΔJ=1) and ≈1.0 for pure quadrupole transitions (ΔJ=2) with ΔJ=0 also possible (2003Pa41).

E_γ[†]	I_γ[‡]	E_i(level)	J^{π}_i	E_f	J^{π}_f	Mult.[#]	Comments
189.0 *2*	19 *3*	224.40+x	(7/2+)	35.4+x	(3/2+)	Q	DCO=0.91 *2*
209.5 *2*	≈45	209.59+y	(11/2+)	0+y	(9/2+)	D	DCO=0.55 *6*
224.4 *2*	≈7	224.40+x	(7/2+)	0+x	(5/2+)	D	DCO=0.69 *4*
230.7 *2*	≈120	270.3+x	(15/2−)	39.5+x	(11/2−)	Q	DCO=0.91 *1*
239.5 *2*	31 *1*	449.12+y	(13/2+)	209.59+y	(11/2+)	D	DCO=0.58 *6*
267.1 *2*	23 *1*	716.25+y	(15/2+)	449.12+y	(13/2+)	D	DCO=0.55 *6*
292.1 *2*	18.5 *8*	1008.33+y	(17/2+)	716.25+y	(15/2+)	D	DCO=0.54 *6*

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$^{92}Mo(^{40}Ca,2\alpha p\gamma)$ 2003Pa41 (continued)

$\gamma(^{123}La)$ (continued)

E_γ †	I_γ ‡	E_i(level)	J^π_i	E_f	J^π_f	Mult.#	Comments
314.4 2	15.4 6	1322.66+y	(19/2+)	1008.33+y	(17/2+)	D	DCO=0.52 5
324.9 2	28 2	549.3+x	(11/2+)	224.40+x	(7/2+)	Q	DCO=0.93 2
333.6 2	11.5 5	1656.10+y	(21/2+)	1322.66+y	(19/2+)	D	DCO=0.59 6
342.9 2	4.5 2	3417.4+y	(31/2+)	3074.8+y	(29/2+)	D	DCO=0.55 6
346.1 2	3.7 2	3763.3+y	(33/2+)	3417.4+y	(31/2+)		
349.4 2	5.7 4	3074.8+y	(29/2+)	2725.2+y	(27/2+)	D	DCO=0.58 6
349.7 2	7.4 3	2005.5+y	(23/2+)	1656.10+y	(21/2+)	D	DCO=0.58 6
359.5 2	7.0 3	2725.2+y	(27/2+)	2365.4+y	(25/2+)	D	DCO=0.58 6
360.1 2	7.2 4	2365.4+y	(25/2+)	2005.5+y	(23/2+)	D	DCO=0.57 6
369.2 2	3.3 2	4132.5+y	(35/2+)	3763.3+y	(33/2+)	D	DCO=0.54 7
387.1 5	2.9 2	4519.6+y	(37/2+)	4132.5+y	(35/2+)	D+Q	DCO=0.72 17
394.7 5	2.8 3	1351.7+x	(19/2−)	957.1+x	(15/2−)		
403.3 2	100	673.6+x	(19/2−)	270.3+x	(15/2−)	Q	DCO=0.94 2
417.9 5	2.2 2	4937.7+y	(39/2+)	4519.6+y	(37/2+)	D	DCO=0.53 8
436.4 5	1.8 2	5374.0+y	(41/2+)	4937.7+y	(39/2+)	D	DCO=0.55 7
438.2 2	35 1	987.4+x	(15/2+)	549.3+x	(11/2+)	Q	DCO=0.98 2
449.2 2	6.0 3	449.12+y	(13/2+)	0+y	(9/2+)		
467.0 5	1.8 1	5841.1+y	(43/2+)	5374.0+y	(41/2+)		
485.8 5	1.7 1	6327.0+y	(45/2+)	5841.1+y	(43/2+)		
492.0 2	36 1	1979.4+x	(23/2+)	1487.4+x	(19/2+)	Q	DCO=0.96 2
500.0 2	37 2	1487.4+x	(19/2+)	987.4+x	(15/2+)	Q	DCO=1.02 2
504.3 2	9.2 3	1855.9+x	(23/2−)	1351.7+x	(19/2−)		
506.6 2	10.2 5	716.25+y	(15/2+)	209.59+y	(11/2+)		
509.9 2	5.0 5	549.3+x	(11/2+)	39.5+x	(11/2−)		
527.4 5	<2	2325.4+x	(25/2+)	1797.6+x	(21/2+)		
539.6 2	32 1	2519.0+x	(27/2+)	1979.4+x	(23/2+)	Q	DCO=1.08 2
550.0 2	83 4	1223.6+x	(23/2−)	673.6+x	(19/2−)	Q	DCO=1.00 1
559.3 2	13.4 6	1008.33+y	(17/2+)	449.12+y	(13/2+)		
568.8 5	<2	2303.9+x	(25/2−)	1735.2+x	(21/2−)		
580.6 2	6.7 4	2906.0+x	(29/2+)	2325.4+x	(25/2+)		
606.3 2	13.1 6	1322.66+y	(19/2+)	716.25+y	(15/2+)		
610.3 2	9.5 4	2466.2+x	(27/2−)	1855.9+x	(23/2−)		
633.6 2	30.7 9	3152.6+x	(31/2+)	2519.0+x	(27/2+)	Q	DCO=1.11 3
647.8 2	13.4 6	1656.10+y	(21/2+)	1008.33+y	(17/2+)		
664.3 2	3.3 4	2968.1+x	(29/2−)	2303.9+x	(25/2−)		
668.1 2	13.2 5	3574.0+x	(33/2+)	2906.0+x	(29/2+)		
670.6 2	71 3	1894.3+x	(27/2−)	1223.6+x	(23/2−)	Q	DCO=1.00 2
678.0 2	3.4 3	1351.7+x	(19/2−)	673.6+x	(19/2−)		
682.6 2	13.0 6	2005.5+y	(23/2+)	1322.66+y	(19/2+)		
687.0 5	2.0 4	957.1+x	(15/2−)	270.3+x	(15/2−)		
688.1 2	9.8 5	3763.3+y	(33/2+)	3074.8+y	(29/2+)		
692.3 2	11.3 6	3417.4+y	(31/2+)	2725.2+y	(27/2+)		
706.8 2	6.8 3	3173.0+x	(31/2−)	2466.2+x	(27/2−)		
709.2 2	13.4 7	2365.4+y	(25/2+)	1656.10+y	(21/2+)		
709.6 2	12.9 7	3074.8+y	(29/2+)	2365.4+y	(25/2+)		
715.1 2	7.8 4	4132.5+y	(35/2+)	3417.4+y	(31/2+)		
717.0 2	3.9 2	987.4+x	(15/2+)	270.3+x	(15/2−)		DCO=0.9 1
719.7 2	11.9 6	2725.2+y	(27/2+)	2005.5+y	(23/2+)		
730.1 2	27.0 7	3882.7+x	(35/2+)	3152.6+x	(31/2+)	Q	DCO=0.95 2
756.3 2	9.4 4	4519.6+y	(37/2+)	3763.3+y	(33/2+)		
759.0 2	5.0 4	3727.1+x	(33/2−)	2968.1+x	(29/2−)		
762.6 2	15.2 6	4336.6+x	(37/2+)	3574.0+x	(33/2+)		
768.0 2	50 2	2662.4+x	(31/2−)	1894.3+x	(27/2−)	Q	DCO=1.02 3
795.0 2	4.8 5	3968.0+x	(35/2−)	3173.0+x	(31/2−)		
805.3 2	7.8 4	4937.7+y	(39/2+)	4132.5+y	(35/2+)		
814 1	<2	1487.4+x	(19/2+)	673.6+x	(19/2−)		

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^{92}Mo(^{40}Ca,2αpγ) 2003Pa41 (continued)

γ(^{123}La) (continued)

E_γ †	I_γ ‡	E_i(level)	J^π_i	E_f	J^π_f	Mult.#	Comments
820.8 2	21.6 5	4703.5+x	(39/2+)	3882.7+x	(35/2+)	Q	DCO=1.05 5
843.9 2	4.7 3	4571.0+x	(37/2−)	3727.1+x	(33/2−)		
849.7 2	31 2	3512.1+x	(35/2−)	2662.4+x	(31/2−)	Q	DCO=1.00 4
852.9 2	14.0 5	5189.5+x	(41/2+)	4336.6+x	(37/2+)		
854.3 2	7.2 4	5374.0+y	(41/2+)	4519.6+y	(37/2+)		
883.7 2	4.3 3	4851.7+x	(39/2−)	3968.0+x	(35/2−)		
903.4 2	5.3 3	5841.1+y	(43/2+)	4937.7+y	(39/2+)		
904.0 2	15.9 4	5607.5+x	(43/2+)	4703.5+x	(39/2+)	Q	DCO=1.09 4
911.6 2	3.9 3	3574.0+x	(33/2+)	2662.4+x	(31/2−)	D	DCO=0.64 4
917.5 5	<2	957.1+x	(15/2−)	39.5+x	(11/2−)		
925.4 2	24 1	4437.5+x	(39/2−)	3512.1+x	(35/2−)	Q	DCO=0.97 4
927.0 2	4.3 3	5498.0+x	(41/2−)	4571.0+x	(37/2−)		
941.8 2	9.7 5	6131.3+x	(45/2+)	5189.5+x	(41/2+)		
953.0 2	5.1 3	6327.0+y	(45/2+)	5374.0+y	(41/2+)		
978.2 2	3.4 3	5829.9+x	(43/2−)	4851.7+x	(39/2−)		
982.2 2	11.3 3	6589.7+x	(47/2+)	5607.5+x	(43/2+)	Q	DCO=1.17 5
1000.4 2	16.3 6	5437.9+x	(43/2−)	4437.5+x	(39/2−)	Q	DCO=1.00 5
1001.3 2	5.0 3	6842.4+y	(47/2+)	5841.1+y	(43/2+)		
1005.3 5	2.8 3	6503.3+x	(45/2−)	5498.0+x	(41/2−)		
1011.5	7.7 6	2906.0+x	(29/2+)	1894.3+x	(27/2−)	D	DCO=0.56 4
1036.9 2	8.8 4	7168.2+x	(49/2+)	6131.3+x	(45/2+)		
1049.0 2	5.1 3	7376.0+y	(49/2+)	6327.0+y	(45/2+)		
1060.4 2	7.7 2	7650.1+x	(51/2+)	6589.7+x	(47/2+)	Q	DCO=1.10 7
1062@ 1	<2	1735.2+x	(21/2−)	673.6+x	(19/2−)		
1072 1	<2	2968.1+x	(29/2−)	1894.3+x	(27/2−)		
1073.0 2	13.3 6	6510.9+x	(47/2−)	5437.9+x	(43/2−)	Q	DCO=0.94 7
1075.3 5	2.5 3	6905.2+x	(47/2−)	5829.9+x	(43/2−)		
1076.1 5	<2	7579.4+x	(49/2−)	6503.3+x	(45/2−)		
1080.3 2	3.7 6	2303.9+x	(25/2−)	1223.6+x	(23/2−)		
1081.4 2	5.0 8	1351.7+x	(19/2−)	270.3+x	(15/2−)		
1095.9 2	4.8 3	7938.3+y	(51/2+)	6842.4+y	(47/2+)		
1101.9 2	4.0 5	2325.4+x	(25/2+)	1223.6+x	(23/2−)	D	DCO=0.46 7
1121 1	<2	8700.4+x	(53/2−)	7579.4+x	(49/2−)		
1123.5 5	<2	1797.6+x	(21/2+)	673.6+x	(19/2−)		
1138.3 2	4.1 2	8306.5+x	(53/2+)	7168.2+x	(49/2+)		
1141.7 2	5.4 8	8791.8+x	(55/2+)	7650.1+x	(51/2+)	Q	DCO=1.02 8
1141.9 2	9.6 4	7652.8+x	(51/2−)	6510.9+x	(47/2−)	Q	DCO=1.37 9
1146.1 2	5.1 3	8522.1+y	(53/2+)	7376.0+y	(49/2+)		
1162.7 5	2.0 3	8067.9+x	(51/2−)	6905.2+x	(47/2−)		
1182.3 2	3.4 4	1855.9+x	(23/2−)	673.6+x	(19/2−)		
1194.3 5	2.9 2	9132.6+y	(55/2+)	7938.3+y	(51/2+)		
1210.7 2	4.8 2	8863.5+x	(55/2−)	7652.8+x	(51/2−)		
1221@ 1	<2	9288.9+x?	(55/2−)	8067.9+x	(51/2−)		
1228.3 5	2.9 2	10020.1+x	(59/2+)	8791.8+x	(55/2+)	Q	DCO=1.02 12
1242 1	<2	2466.2+x	(27/2−)	1223.6+x	(23/2−)		
1243.7 2	4.0 2	9765.8+y	(57/2+)	8522.1+y	(53/2+)		
1243.8 5	2.5 2	9550.4+x	(57/2+)	8306.5+x	(53/2+)		
1278.8 2	4.5 2	10142.3+x	(59/2−)	8863.5+x	(55/2−)		
1292.9 5	<2	10425.5+y	(59/2+)	9132.6+y	(55/2+)		
1318.1 5	<2	11338.2+x	(63/2+)	10020.1+x	(59/2+)		
1341.4 5	<2	11107.2+y	(61/2+)	9765.8+y	(57/2+)		
1342.2 5	<2	10892.6+x	(61/2+)	9550.4+x	(57/2+)		
1348.0 5	<2	11490.3+x	(63/2−)	10142.3+x	(59/2−)		
1385.7 5	<2	11811.2+y	(63/2+)	10425.5+y	(59/2+)		
1414.8 5	<2	12753.1+x	(67/2+)	11338.2+x	(63/2+)		

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^{92}Mo(^{40}Ca,2αpγ) 2003Pa41 (continued)

γ(^{123}La) (continued)

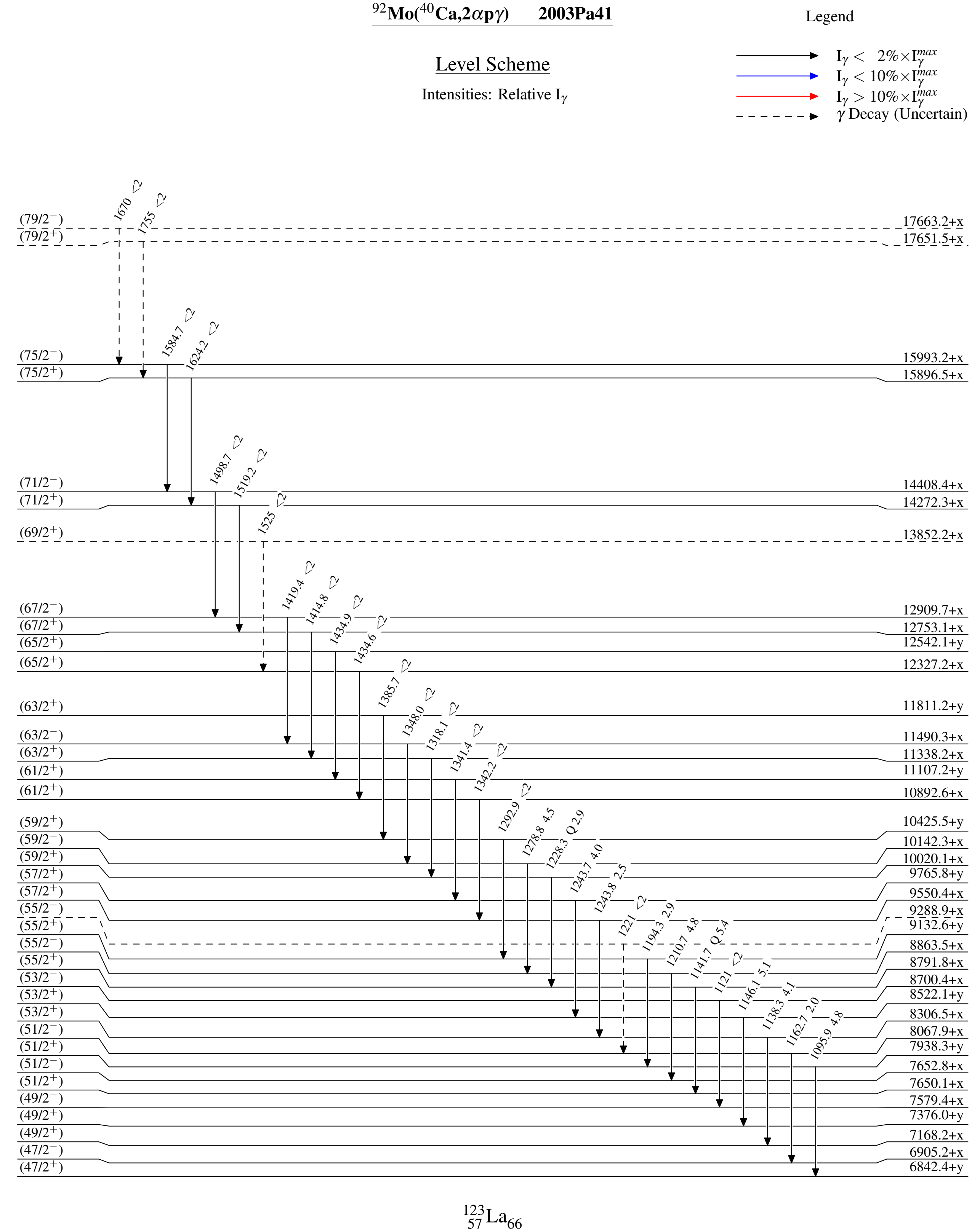
E_γ †	I_γ ‡	E_i(level)	J^π_i	E_f	J^π_f
1419.4 *5*	<2	12909.7+x	(67/2$^-$)	11490.3+x	(63/2$^-$)
1434.6 *5*	<2	12327.2+x	(65/2$^+$)	10892.6+x	(61/2$^+$)
1434.9 *5*	<2	12542.1+y	(65/2$^+$)	11107.2+y	(61/2$^+$)
1498.7 *5*	<2	14408.4+x	(71/2$^-$)	12909.7+x	(67/2$^-$)
1519.2 *5*	<2	14272.3+x	(71/2$^+$)	12753.1+x	(67/2$^+$)
1525@ *1*	<2	13852.2+x?	(69/2$^+$)	12327.2+x	(65/2$^+$)
1584.7 *5*	<2	15993.2+x	(75/2$^-$)	14408.4+x	(71/2$^-$)
1624.2 *5*	<2	15896.5+x	(75/2$^+$)	14272.3+x	(71/2$^+$)
1670@ *1*	<2	17663.2+x?	(79/2$^-$)	15993.2+x	(75/2$^-$)
1755@ *1*	<2	17651.5+x?	(79/2$^+$)	15896.5+x	(75/2$^+$)

† Uncertainty of 0.2 keV is assigned to γ rays with Iγ>3, 0.5 keV for γ rays with Iγ<3, and 1 keV when Eγ values are quoted to nearest keV, based on a general comment in 2003Pa41.

‡ Relative intensity normalized to I(403.3γ)=100 (2003Pa41).

Deduced (by evaluator) from measured DCO ratios based on the statement for expected DCO ratios for pure dipole and quadrupole transitions in 2003Pa41. Multipolarities are not explicitly given in 2003Pa41.

@ Placement of transition in the level scheme is uncertain.



$^{92}Mo(^{40}Ca,2\alpha p\gamma)$ 2003Pa41
Level Scheme
Intensities: Relative I_γ
Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)
(79/2−) 17663.2+x
(79/2+) 17651.5+x
(75/2−) 15993.2+x
(75/2+) 15896.5+x
(71/2−) 14408.4+x
(71/2+) 14272.3+x
(69/2+) 13852.2+x
(67/2−) 12909.7+x
(67/2+) 12753.1+x
(65/2+) 12542.1+y
(65/2+) 12327.2+x
(63/2+) 11811.2+y
(63/2−) 11490.3+x
(63/2+) 11338.2+x
(61/2+) 11107.2+y
(61/2+) 10892.6+x
(59/2+) 10425.5+y
(59/2−) 10142.3+x
(59/2+) 10020.1+x
(57/2+) 9765.8+y
(57/2+) 9550.4+x
(55/2−) 9288.9+x
(55/2+) 9132.6+y
(55/2−) 8863.5+x
(55/2+) 8791.8+x
(53/2−) 8700.4+x
(53/2+) 8522.1+y
(53/2+) 8306.5+x
(51/2−) 8067.9+x
(51/2+) 7938.3+y
(51/2−) 7652.8+x
(51/2+) 7650.1+x
(49/2−) 7579.4+x
(49/2+) 7376.0+y
(49/2+) 7168.2+x
(47/2−) 6905.2+x
(47/2+) 6842.4+y
1670 <2
1755 <2
1584.7 <2
1624.2 <2
1498.7 <2
1519.2 <2
1525 <2
1419.4 <2
1414.8 <2
1434.9 <2
1434.6 <2
1385.7 <2
1348.0 <2
1318.1 <2
1341.4 <2
1342.2 <2
1292.9 <2
1278.8 4.5
1228.3 Q 2.9
1243.7 4.0
1243.8 2.5
1221 <2
1194.3 2.9
1210.7 4.8
1141.7 Q 5.4
1121 <2
1146.1 5.1
1138.3 4.1
1162.7 2.0
1095.9 4.8
$^{123}_{57}La_{66}$

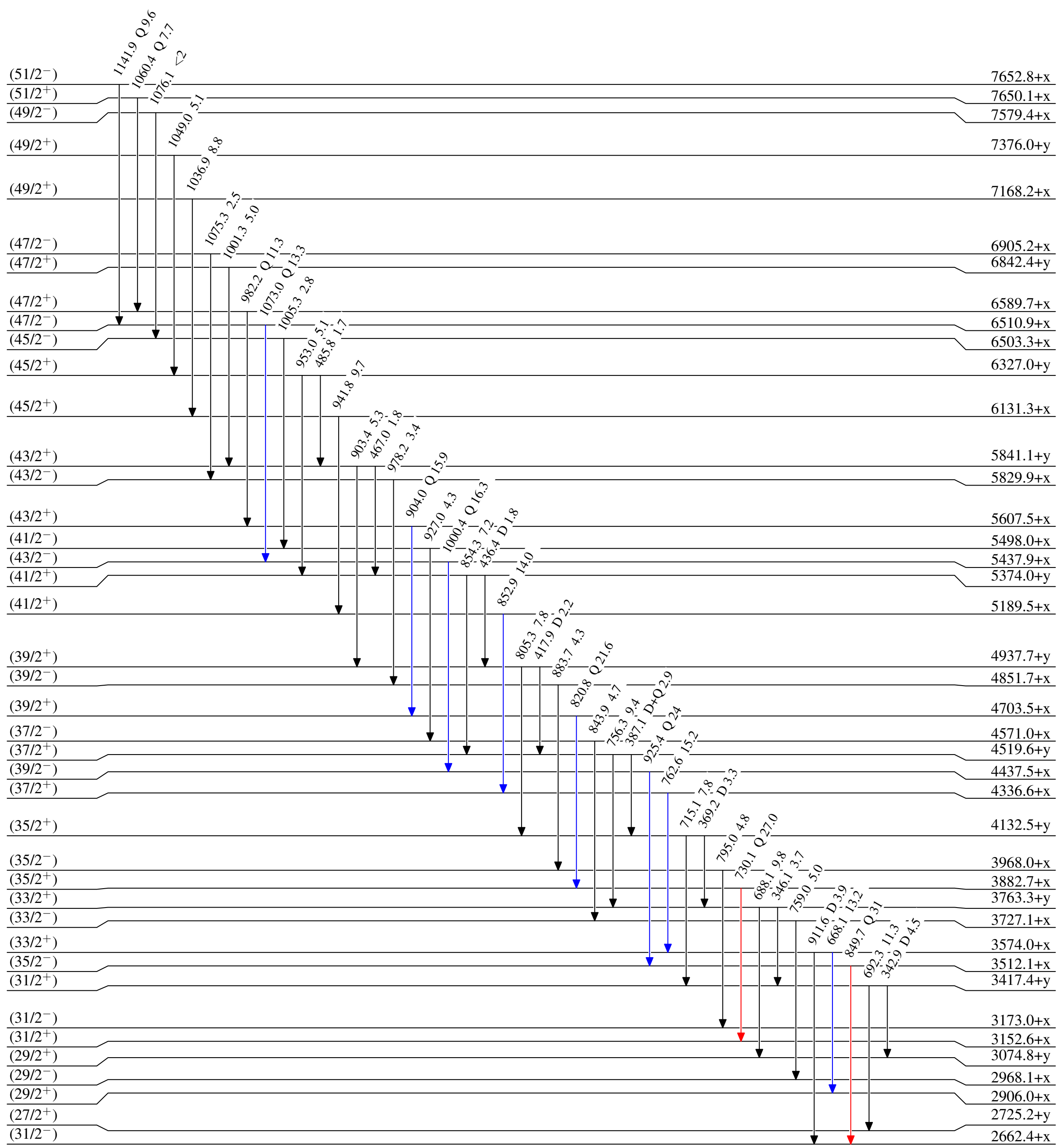
$^{92}Mo(^{40}Ca,2\alpha p\gamma)$ 2003Pa41

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



$^{123}_{57}La_{66}$

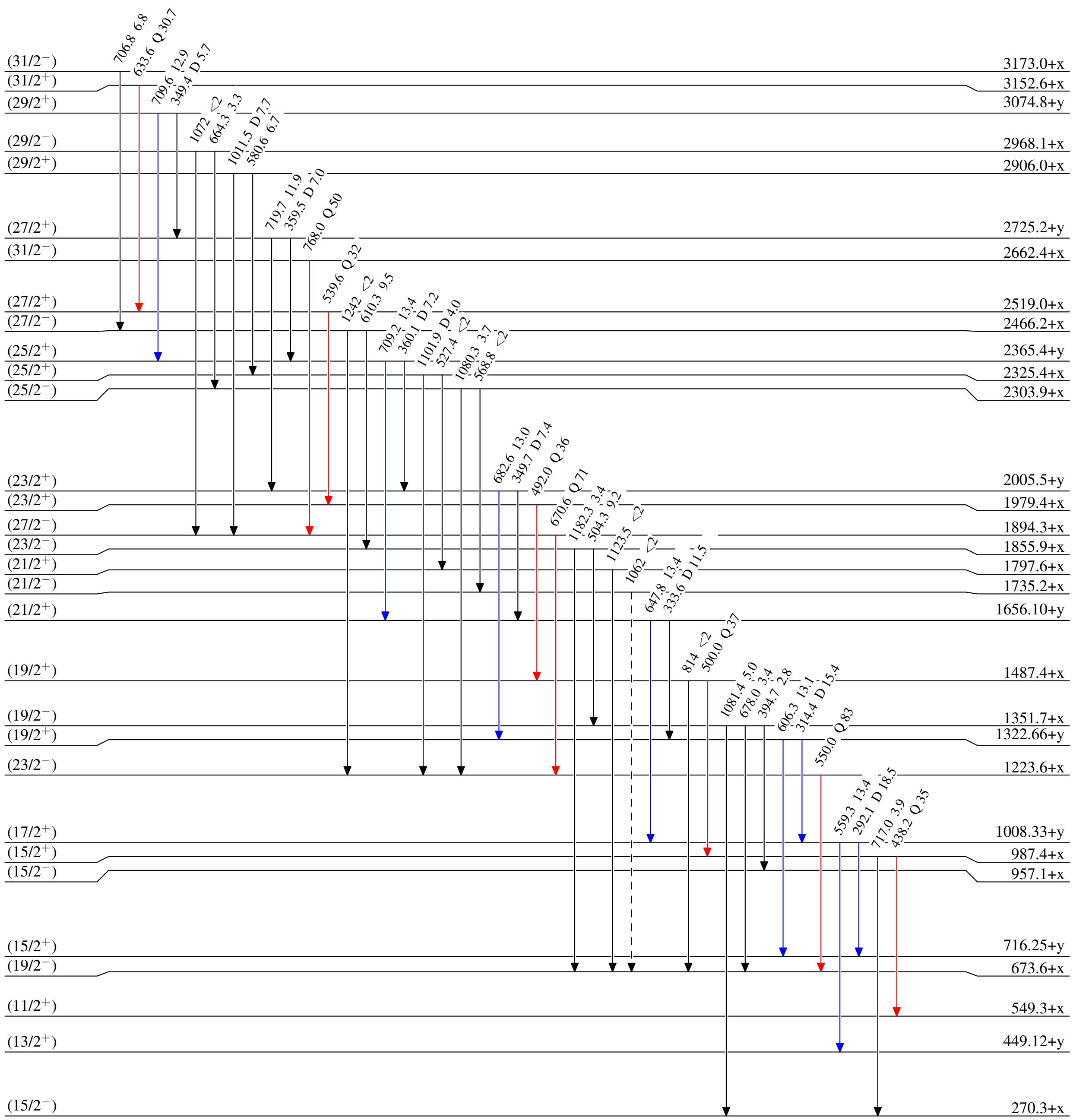
$^{92}Mo(^{40}Ca,2\alpha p\gamma)$ 2003Pa41

Level Scheme (continued)

Intensities: Relative I_γ

Legend

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



$^{123}_{57}La_{66}$

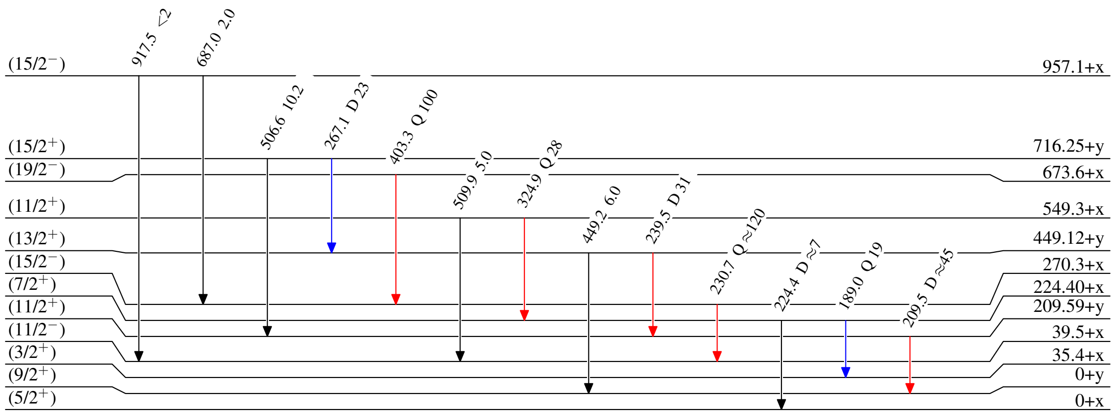
^{92}Mo(^{40}Ca,2αpγ) 2003Pa41

Level Scheme (continued)

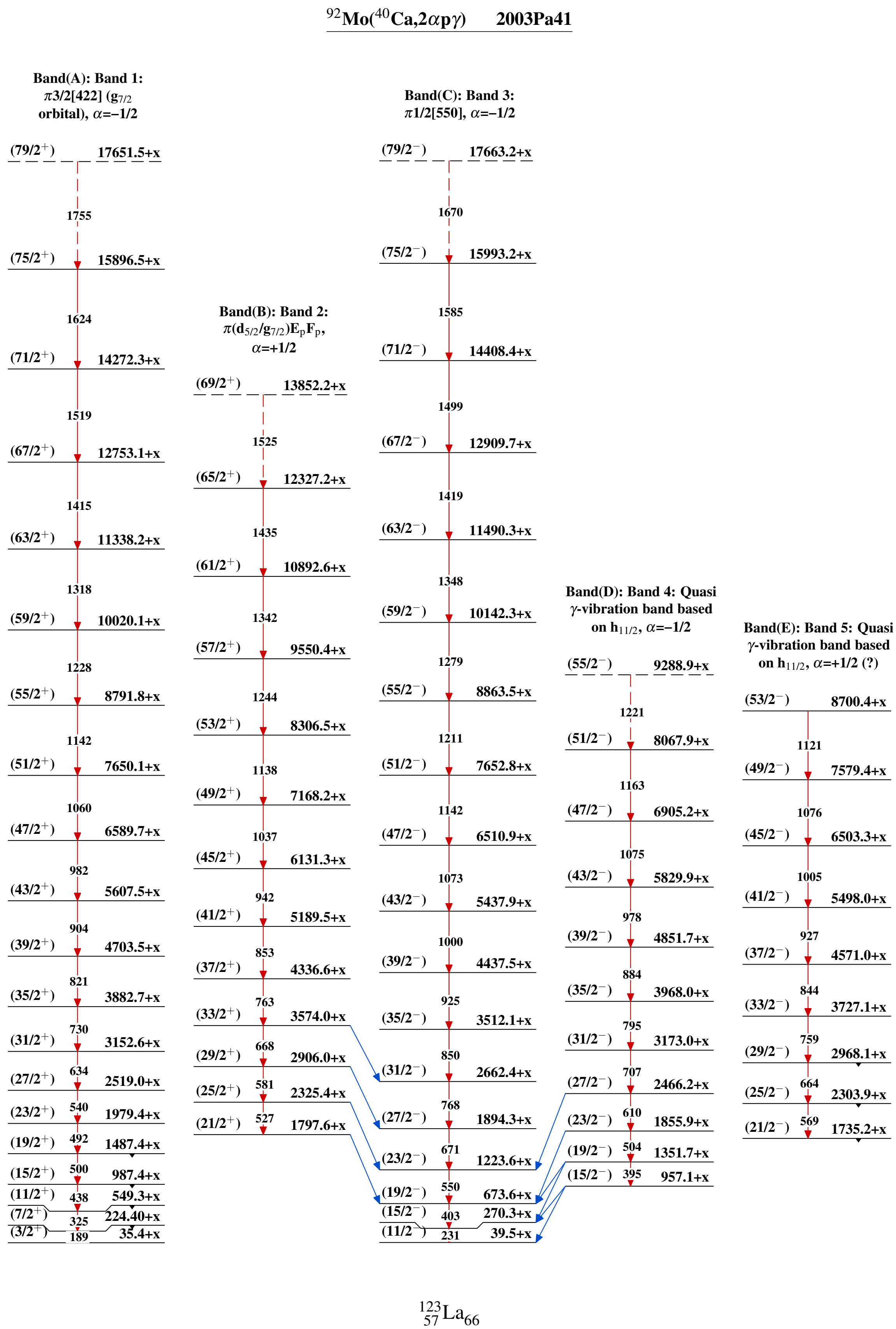
Intensities: Relative I_γ

Legend

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

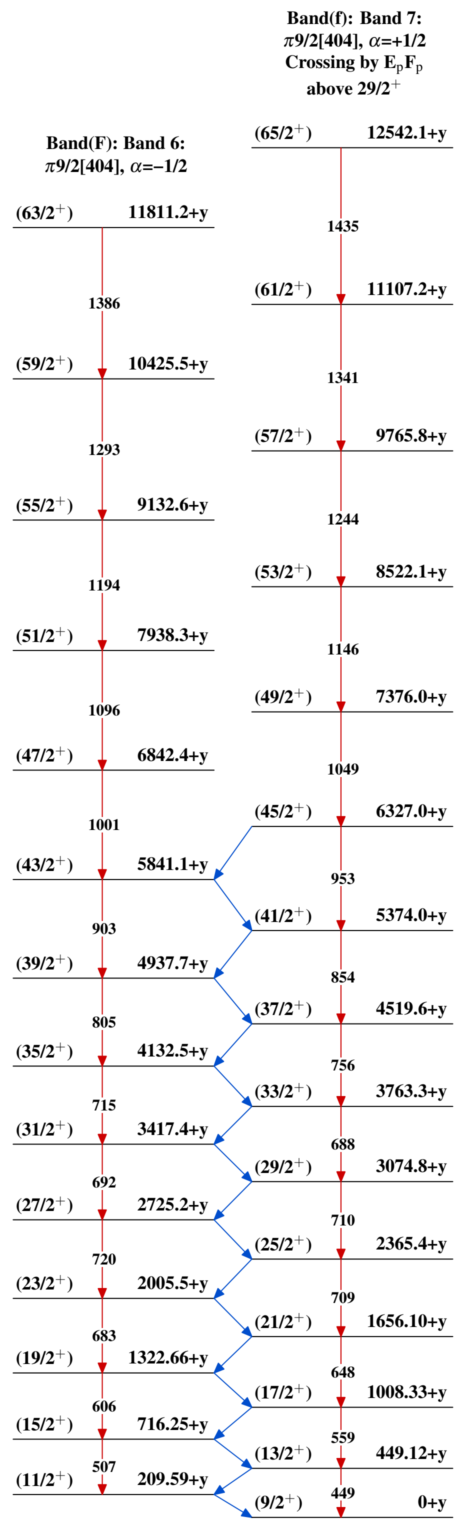


$^{123}_{57}La_{66}$



92Mo(40Ca,2αpγ) 2003Pa41
Band(A): Band 1: π3/2[422] (g7/2 orbital), α=−1/2
(79/2+) 17651.5+x
1755
(75/2+) 15896.5+x
1624
(71/2+) 14272.3+x
1519
(67/2+) 12753.1+x
1415
(63/2+) 11338.2+x
1318
(59/2+) 10020.1+x
1228
(55/2+) 8791.8+x
1142
(51/2+) 7650.1+x
1060
(47/2+) 6589.7+x
982
(43/2+) 5607.5+x
904
(39/2+) 4703.5+x
821
(35/2+) 3882.7+x
730
(31/2+) 3152.6+x
634
(27/2+) 2519.0+x
540
(23/2+) 1979.4+x
492
(19/2+) 1487.4+x
500
(15/2+) 987.4+x
438
(11/2+) 549.3+x
325
(7/2+) 224.40+x
189
(3/2+) 35.4+x
Band(B): Band 2: π(d5/2/g7/2)EpFp, α=+1/2
(69/2+) 13852.2+x
1525
(65/2+) 12327.2+x
1435
(61/2+) 10892.6+x
1342
(57/2+) 9550.4+x
1244
(53/2+) 8306.5+x
1138
(49/2+) 7168.2+x
1037
(45/2+) 6131.3+x
942
(41/2+) 5189.5+x
853
(37/2+) 4336.6+x
763
(33/2+) 3574.0+x
668
(29/2+) 2906.0+x
581
(25/2+) 2325.4+x
527
(21/2+) 1797.6+x
Band(C): Band 3: π1/2[550], α=−1/2
(79/2−) 17663.2+x
1670
(75/2−) 15993.2+x
1585
(71/2−) 14408.4+x
1499
(67/2−) 12909.7+x
1419
(63/2−) 11490.3+x
1348
(59/2−) 10142.3+x
1279
(55/2−) 8863.5+x
1211
(51/2−) 7652.8+x
1142
(47/2−) 6510.9+x
1073
(43/2−) 5437.9+x
1000
(39/2−) 4437.5+x
925
(35/2−) 3512.1+x
850
(31/2−) 2662.4+x
768
(27/2−) 1894.3+x
671
(23/2−) 1223.6+x
550
(19/2−) 673.6+x
403
(15/2−) 270.3+x
231
(11/2−) 39.5+x
Band(D): Band 4: Quasi γ-vibration band based on h11/2, α=−1/2
(55/2−) 9288.9+x
1221
(51/2−) 8067.9+x
1163
(47/2−) 6905.2+x
1075
(43/2−) 5829.9+x
978
(39/2−) 4851.7+x
884
(35/2−) 3968.0+x
795
(31/2−) 3173.0+x
707
(27/2−) 2466.2+x
610
(23/2−) 1855.9+x
504
(19/2−) 1351.7+x
395
(15/2−) 957.1+x
Band(E): Band 5: Quasi γ-vibration band based on h11/2, α=+1/2 (?)
(53/2−) 8700.4+x
1121
(49/2−) 7579.4+x
1076
(45/2−) 6503.3+x
1005
(41/2−) 5498.0+x
927
(37/2−) 4571.0+x
844
(33/2−) 3727.1+x
759
(29/2−) 2968.1+x
664
(25/2−) 2303.9+x
569
(21/2−) 1735.2+x
123 57 La 66

$^{92}Mo(^{40}Ca,2\alpha p\gamma)$ 2003Pa41 (continued)



$^{123}_{57}La_{66}$