^{94}Zr(α,2nγ)   **1971Le19**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109,2501 (2008)	1-Apr-2008

E=30 MeV.
Measured γ, $\gamma\gamma$, $\gamma(\theta)$, γ(t).

^{96}Mo Levels

E(level)[‡]	J$^{\pi}$[†]	E(level)[‡]	J$^{\pi}$[†]	E(level)[‡]	J$^{\pi}$[†]	E(level)[‡]	J$^{\pi}$[†]
0	0$^+$	1978.4 5	3$^+$	2875.5 6	7$^+$	3787.5 4	(10$^+$)
778.30 20	2$^+$	2438.8 5	5$^+$	2978.9 4	8$^+$	3916.2 6	
1498.2 5	2$^+$	2440.7 3	6$^+$	3370.0 4	(8$^+$)	4533.4 7	
1628.1 3	4$^+$	2734.0 5	4$^+$	3445.1? 7		4584.3 7	
1869.6 4	4$^+$	2753.7 6	6$^+$	3472.8? 5		4795.5 8	

[†] Adopted values.
[‡] From least-squares fit to Eγ.

γ(^{96}Mo)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Mult.[†]	α[‡]	Comments
[x]170.9 5	1.7 2							
241.6 5	0.76 20	1869.6	4$^+$	1628.1	4$^+$			
434.8 5	2.8 6	2875.5	7$^+$	2440.7	6$^+$			
460.5 5	2.2 5	2438.8	5$^+$	1978.4	3$^+$			
538.2 2	30 2	2978.9	8$^+$	2440.7	6$^+$	E2	0.00387	A$_2$=0.34 5; A$_4$=0.04 7.
546.2 5	8.2 10	3916.2		3370.0	(8$^+$)	(E1,M1)	0.0022 10	A$_2$=−0.23 5; A$_4$=0.19 8.
569.1 5	4.0 10	2438.8	5$^+$	1869.6	4$^+$	(M1+E2)	0.00309 20	A$_2$=−0.55 13; A$_4$=−0.09 22.
719.9 5	3.5 8	1498.2	2$^+$	778.30	2$^+$			
738.7[#] 5	2.1 8	3472.8?		2734.0	4$^+$			
745.9 5	3.7 8	4533.4		3787.5	(10$^+$)	(E1,M1)	0.0011 5	A$_2$=−0.47 11; A$_4$=−0.25 20.
778.3 2	100	778.30	2$^+$	0	0$^+$	E2	0.00143	A$_2$=0.32 3; A$_4$=0.12 4.
796.8 5	2.9 8	4584.3		3787.5	(10$^+$)			
[x]802.4 5	2.7 6							
808.6 2	16 2	3787.5	(10$^+$)	2978.9	8$^+$	(E2)	0.00130	A$_2$=0.52 6; A$_4$=−0.12 9.
812.6 2	61 3	2440.7	6$^+$	1628.1	4$^+$	E2	0.00128	A$_2$=0.36 4; A$_4$=−0.02 6.
849.8 2	80 3	1628.1	4$^+$	778.30	2$^+$	E2	0.00115	A$_2$=0.37 4; A$_4$=0.00 5.
[x]858.5 5	2.8 8							
[x]863.3 5	1.7 8							
[x]875.2 5	2.6 7							
879.3 5	4.8 8	4795.5		3916.2		(E2)	0.00106	A$_2$=0.22 15; A$_4$=−0.08 25.
[x]886.1 5	2.7 12							
[x]896.9 5	1.4 7							
929.3 2	16 1	3370.0	(8$^+$)	2440.7	6$^+$	(E2)	0.00092	A$_2$=0.36 7; A$_4$=−0.06 11.
1006.3[#] 5	2.8 8	3445.1?		2438.8	5$^+$			
1032.2[#] 5	2.7 7	3472.8?		2440.7	6$^+$			
[x]1055.1 5	2.4 9							
1091.2 5	8.9 9	1869.6	4$^+$	778.30	2$^+$			A$_2$=0.15 15; A$_4$=0.01 24.
1105.8 5	4.2 10	2734.0	4$^+$	1628.1	4$^+$			A$_2$=−0.31 14; A$_4$=0.14 22.
1125.6 5	4.2 9	2753.7	6$^+$	1628.1	4$^+$			A$_2$=0.09 17; A$_4$=0.12 24.
[x]1136.9 5	0.9 6							
[x]1138.2 5	1.0 5							

Continued on next page (footnotes at end of table)

^{94}**Zr(α,2nγ)**   **1971Le19 (continued)**

γ(^{96}Mo) (continued)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f
^{x}1171.8 *5*	1.9 *7*				
1200.1 *5*	3.4 *10*	1978.4	3^+	778.30	2^+

† From $\gamma(\theta)$. Quadrupole γ's are E2 since T$_{1/2}$<3 ns.

‡ 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.

$^\#$ Placement of transition in the level scheme is uncertain.
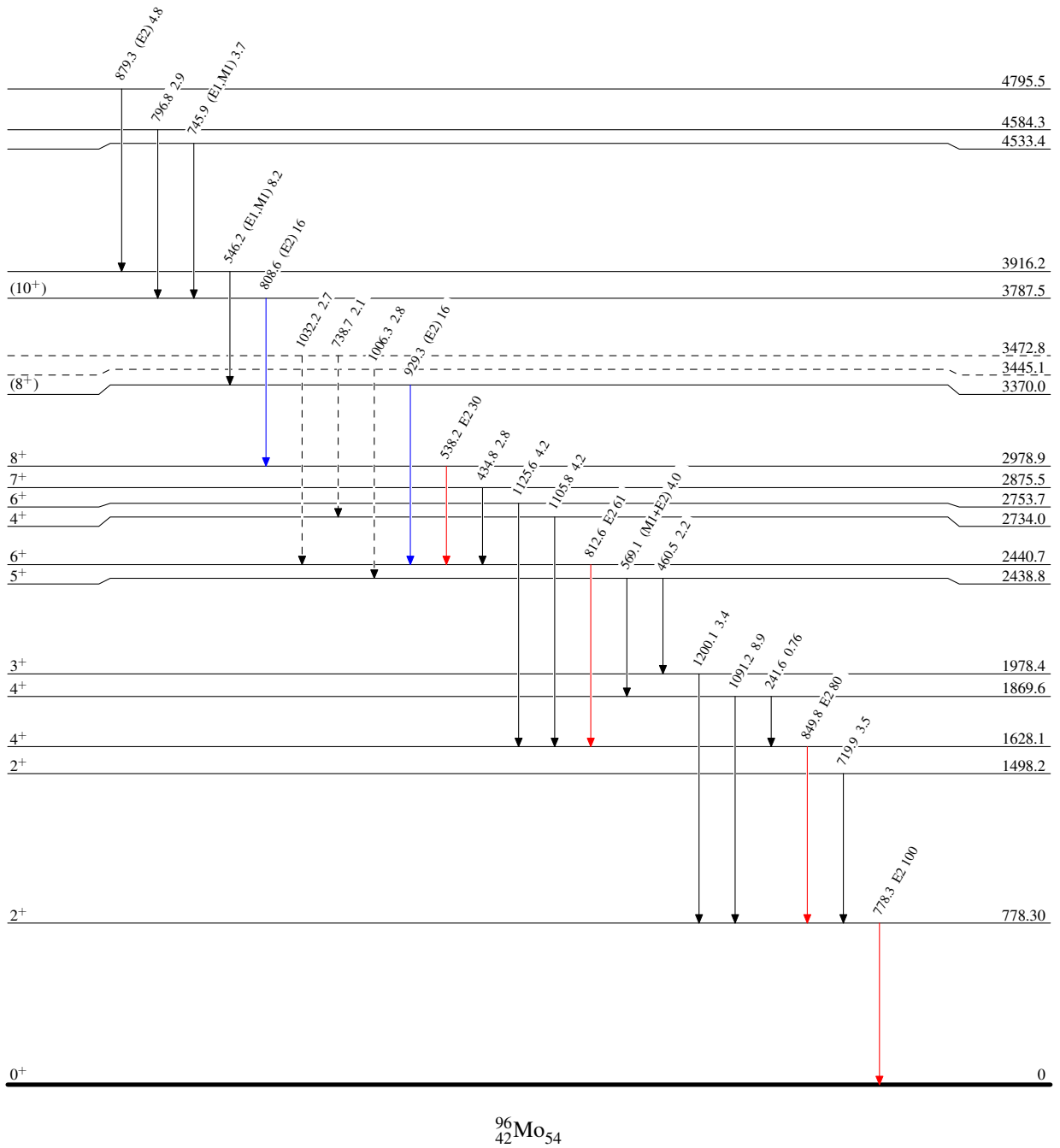
^{x} γ ray not placed in level scheme.

^{94}**Zr(α,2nγ)**　　**1971Le19**

Legend

Level Scheme

Intensities: Relative I$_\gamma$

I$_\gamma < $ 2%×I$_\gamma^{max}$

I$_\gamma < $ 10%×I$_\gamma^{max}$

I$_\gamma > $ 10%×I$_\gamma^{max}$

γ Decay (Uncertain)

$^{96}_{42}Mo_{54}$