

$^{94}\text{Mo}(^{84}\text{Sr},\text{p}2\text{n}\gamma)$ 2001Ko44

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 102, 719 (2004)		1-Jun-2004

Target: >90% enriched ^{94}Mo . Projectile: ^{84}Sr , E=380 and 385 MeV. Measured $E\gamma,\gamma\gamma$ coin, α - γ coin. Detectors:

GAMMASPHERE array of 101 escape suppressed germanium detectors, double sided silicon strip detectors, fragment mass analyzer.

 ^{175}Au Levels

E(level)	$J^\pi^\dagger$	$T_{1/2}$	Comments
0.0+x	(11/2 ⁻)	143 ms 8	Level deexcites by α particle emission ($E\alpha=6430$ 20).
887.5+x	(13/2 ⁻)		
976.7+x	(13/2 ⁺)		(π 13/2(606)) oblate configuration based on similarity to analogous $\pi=+$ sequences in heavier Tl nuclides (2001Ko44).
1270.9+x	(17/2 ⁺)		
1593.8+x	(21/2 ⁺)		
1973.9+x	(25/2 ⁺)		
2422.1+x	(29/2 ⁺)		
2935.8+x	(33/2 ⁺)		
3509.8+x	(37/2 ⁺)		
4134.4+x	(41/2 ⁺)		
4778.1+x	(45/2 ⁺)		
5430.1+x	(49/2 ⁺)		

[†] Proposed spins and parities are consistent with the analysis of spectroscopic data on the daughter and grand-daughter nuclei, and systematics in heavier Au and Tl isotopes.

 $\gamma(^{175}\text{Au})$

$E_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	Comments
89.4	976.7+x	(13/2 ⁺)	887.5+x	(13/2 ⁻)	E1	Mult.: From intensity balance at 888+x level.
294.2	1270.9+x	(17/2 ⁺)	976.7+x	(13/2 ⁺)		
322.9	1593.8+x	(21/2 ⁺)	1270.9+x	(17/2 ⁺)		
380.1	1973.9+x	(25/2 ⁺)	1593.8+x	(21/2 ⁺)		
448.2	2422.1+x	(29/2 ⁺)	1973.9+x	(25/2 ⁺)		
513.7	2935.8+x	(33/2 ⁺)	2422.1+x	(29/2 ⁺)		
574.0	3509.8+x	(37/2 ⁺)	2935.8+x	(33/2 ⁺)		
624.6	4134.4+x	(41/2 ⁺)	3509.8+x	(37/2 ⁺)		
643.7	4778.1+x	(45/2 ⁺)	4134.4+x	(41/2 ⁺)		
652.0 [‡]	5430.1+x	(49/2 ⁺)	4778.1+x	(45/2 ⁺)		
887.5	887.5+x	(13/2 ⁻)	0.0+x	(11/2 ⁻)		
976.7	976.7+x	(13/2 ⁺)	0.0+x	(11/2 ⁻)		

[†] The placement of transitions and levels was determined from the γ -ray coincidence relationships. Their ordering follows from the relative intensities within a given cascade.

[‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

 - - - - - $\rightarrow$ γ Decay (Uncertain)
