

$^{91}\text{Mo}$  IT decay (64.6 s) [1976De37](#),[1956Sm96](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 114, 1293 (2013)	1-Sep-2013

Parent:  $^{91}\text{Mo}$ :  $E=653.01$  9;  $J^\pi=1/2^-$ ;  $T_{1/2}=64.6$  s 6; %IT decay=50.0 16

$^{91}\text{Mo}$ -E, $J^\pi$ , $T_{1/2}$ : From Adopted Levels.

$^{91}\text{Mo}$ -%IT decay: See  $^{91}\text{Mo}$   $\varepsilon$  decay (64.6 s).

Others: [1955Ax02](#), [1970He03](#), [1973Ni04](#).

[1976De37](#):Ge(Li) anti-Compton spectrometer. Measured  $E_\gamma$ ,  $I_\gamma$ . A full description of the experiment, together with the complete set of data, is reported in [1975DeZX](#).

[1956Sm96](#): source from ( $\gamma$ ,n),  $E_\gamma=22$  MeV; 10-channel NaI(Tl) scintillation spectrometer ( $\gamma$  detection);  $255^\circ$  magnetic spectrometer ( $\beta^+$  detection); measured  $E_\gamma$ ,  $I_\gamma$ ,  $I(\text{ce})$ ,  $I(\beta^+)$ .

 $^{91}\text{Mo}$  Levels

E(level) <sup>†</sup>	$J^\pi$ <sup>‡</sup>	$T_{1/2}$ <sup>‡</sup>	Comments
0.0	9/2 <sup>+</sup>	15.49 min 1	
652.9 1	1/2 <sup>-</sup>	64.6 s 6	% $\varepsilon$ +% $\beta^+$ =50.0 16; %IT=50.0 16

<sup>†</sup> From  $E_\gamma$ .

<sup>‡</sup> From Adopted Levels.

 $\gamma(^{91}\text{Mo})$ 

$E_\gamma$ <sup>†</sup>	$I_\gamma$ <sup>‡</sup>	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	$\alpha^\#$	Comments
652.9 1	100 3	652.9	1/2 <sup>-</sup>	0.0	9/2 <sup>+</sup>	M4	0.0374	$\alpha(\text{K})=0.0321$ 5; $\alpha(\text{L})=0.00440$ 7; $\alpha(\text{M})=0.000800$ 12; $\alpha(\text{N+..})=0.0001265$ 18 $\alpha(\text{N})=0.0001203$ 17; $\alpha(\text{O})=6.21\times 10^{-6}$ 9 $\alpha(\text{exp})=0.052$ 14 $\alpha(\text{exp})$ : 0.055 15 from $I_\gamma$ and $I_\gamma$ assuming $\alpha(\text{exp})=0.11$ for $662\gamma(^{137}\text{Cs})$ ( <a href="#">1956Sm96</a> ); revised by evaluator assuming $\alpha(\text{exp})(^{137}\text{Cs})=0.104$ . $I_\gamma$ : from <a href="#">1976De37</a> , relative to $I(1508\gamma, ^{91}\text{Nb})=50.4$ 15. Other value: 107 9 ( <a href="#">1970He03</a> , renormalized so $I(1508\gamma,$ $^{91}\text{Nb})=50.4$ ). Mult.: from $\alpha(\text{exp})$ .

<sup>†</sup> From Adopted Gammas. Other  $E_\gamma$ : 652.6 2 ([1973Ni04](#)).

<sup>‡</sup> For absolute intensity per 100 decays, multiply by 0.482 16.

<sup>#</sup> Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on  $\gamma$ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

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## Decay Scheme

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays  
%IT=50.0 16

