

$^{100}\text{Mo}(^7\text{Li},\alpha 2n\gamma)$ 1991De14,1986Ha09

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2006

$E(^7\text{Li}) = 49 \text{ MeV}$.

All data given here are from 1991De14; 1986Ha09 is the same group (Preliminary).

Measured: γ in coin with energetic ejectiles ($p, ^2\text{H}, ^3\text{H}, ^4\text{He}$).

 ^{101}Tc Levels

E(level)	$J^\pi^\dagger$	E(level)	$J^\pi^\dagger$	E(level)	$J^\pi^\dagger$	E(level)	$J^\pi^\dagger$
0.0 ‡	9/2 ⁺	589.9 ‡ 3	11/2 ⁺	1170.9 13		2171.0 14	
15.6 10	5/2 ⁺	618.8 $^\#$ 11	7/2 ⁻	1332.2 ‡ 5	15/2 ⁺	2174.0 $^\#$ 13	
207.2 $^\#$ 12	1/2 ⁻	642.2 ‡ 3	13/2 ⁺	1400.0 ‡ 4	17/2 ⁺	2271.7 ‡ 7	21/2 ⁺
288.1 $^\#$ 11	3/2 ⁻	777.5 13		1498.7 $^\#$ 13	13/2 ⁻	2401.1 ‡ 7	(19/2 ⁺)
394.9 $^\#$ 11	5/2 ⁻	884.6 $^\#$ 11	9/2 ⁻	1500.2 $^\#$ 12	15/2 ⁻		
500.0 12	5/2 ⁻	947.0 $^\#$ 11	11/2 ⁻	1836.5 6			

† From 1991De14, based on band consideration, γ decays properties and previous known J^π .

‡ Band(A): π g_{9/2} band.

$^\#$ Band(B): negative-parity band. Possible π p_{1/2} configuration.

 $\gamma(^{101}\text{Tc})$

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	Comments
15.606		15.6	5/2 ⁺	0.0	9/2 ⁺		E_γ : from Adopted Levels.
80.9 3	25.2 25	288.1	3/2 ⁻	207.2	1/2 ⁻	D	
107.4 5	18 3	394.9	5/2 ⁻	288.1	3/2 ⁻	D	
118.9 5	5 1	618.8	7/2 ⁻	500.0	5/2 ⁻	D	
191.92		207.2	1/2 ⁻	15.6	5/2 ⁺		E_γ : from Adopted Levels.
212.0 5	15 3	500.0	5/2 ⁻	288.1	3/2 ⁻		
224.1 3	25.2 25	618.8	7/2 ⁻	394.9	5/2 ⁻	D	
265.8 5	13.5 25	884.6	9/2 ⁻	618.8	7/2 ⁻	D	
277.5 5	6.5 13	777.5		500.0	5/2 ⁻		
286.3 5	6.0 12	1170.9		884.6	9/2 ⁻		
^x 295.4 5	15 3						
^x 328.2 3	23.0 23						
328.2 3	23.0 25	947.0	11/2 ⁻	618.8	7/2 ⁻	Q	
330.1 5	6.19	618.8	7/2 ⁻	288.1	3/2 ⁻	Q	
379.3 3	22.0 22	394.9	5/2 ⁻	15.6	5/2 ⁺	D	
^x 446.2 3	10 2						
489.6 5	15 3	884.6	9/2 ⁻	394.9	5/2 ⁻	E2	
553.2 3	21.5 22	1500.2	15/2 ⁻	947.0	11/2 ⁻	Q	
^x 584.1 5	5.6 12						
589.8 3	31 3	589.9	11/2 ⁺	0.0	9/2 ⁺	D	
^x 591.3 5	8.1 16						
614.1 5	13.2 25	1498.7	13/2 ⁻	884.6	9/2 ⁻	E2	
642.3 3	100 10	642.2	13/2 ⁺	0.0	9/2 ⁺	Q	
^x 653.1 5	1.7 3						
672.3 5	9.1 18	2171.0		1498.7	13/2 ⁻		
673.8 5	15 3	2174.0		1500.2	15/2 ⁻		
690.2 5	16 3	1332.2	15/2 ⁺	642.2	13/2 ⁺	D	
^x 694.5 5	5 1						

Continued on next page (footnotes at end of table)

$^{100}\text{Mo}(^7\text{Li},\alpha 2n\gamma)$ **1991De14,1986Ha09** (continued) $\gamma(^{101}\text{Tc})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [†]
742.1 5	10.1 20	1332.2	15/2 ⁺	589.9	11/2 ⁺	Q
757.8 3	50 5	1400.0	17/2 ⁺	642.2	13/2 ⁺	Q
^x 769.0 5	3.8 8					
^x 771.1 5	6.5 13					
^x 818.4 5	9.0 18					
^x 824.6 5	7.1 14					
871.7 5	13.0 25	2271.7	21/2 ⁺	1400.0	17/2 ⁺	Q
1001.1 5	4.6 9	2401.1	(19/2 ⁺)	1400.0	17/2 ⁺	D
1194.3 5	1.9 4	1836.5		642.2	13/2 ⁺	

[†] From ratio between in plane and out of plane measurement.

^x γ ray not placed in level scheme.

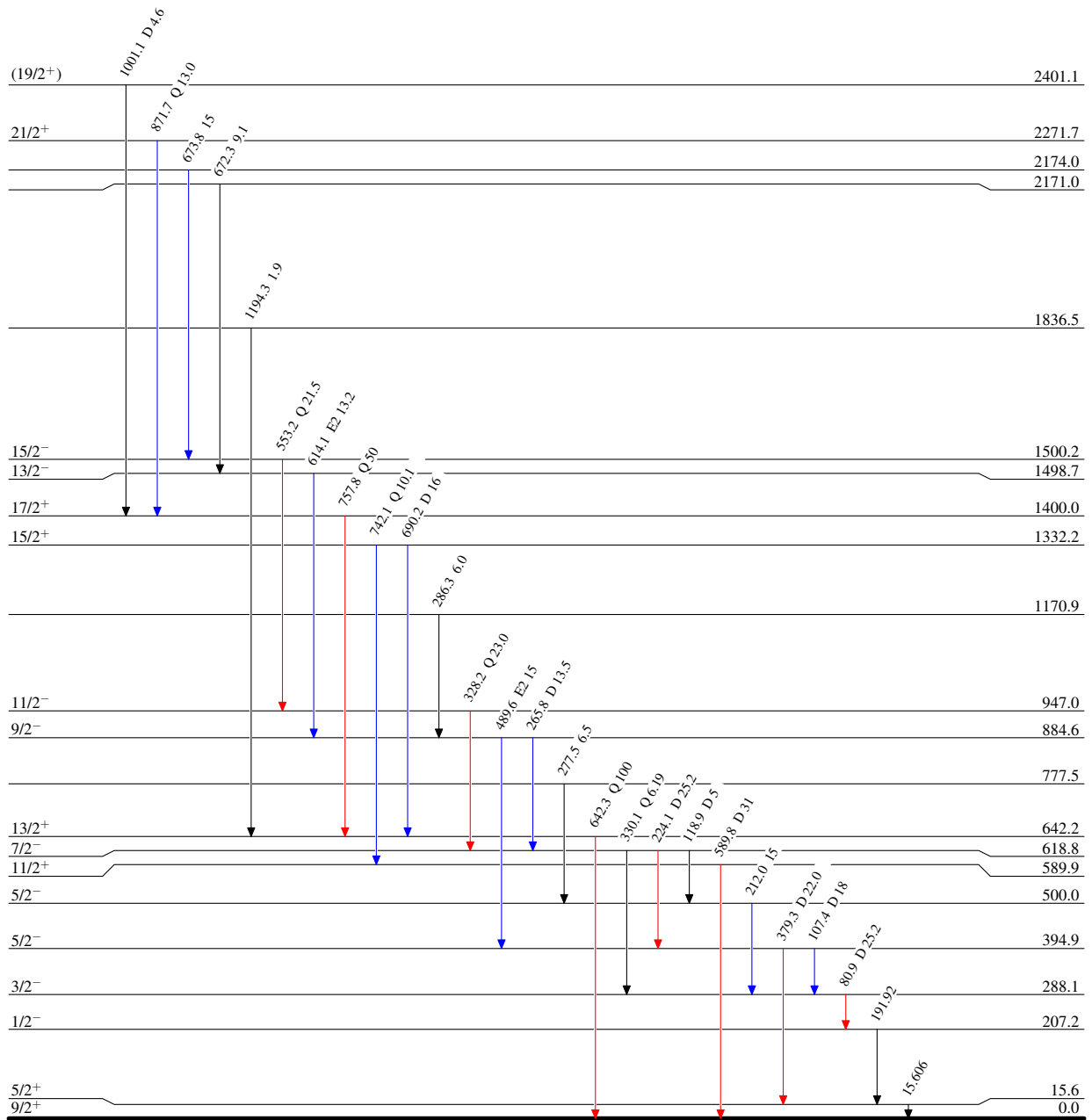
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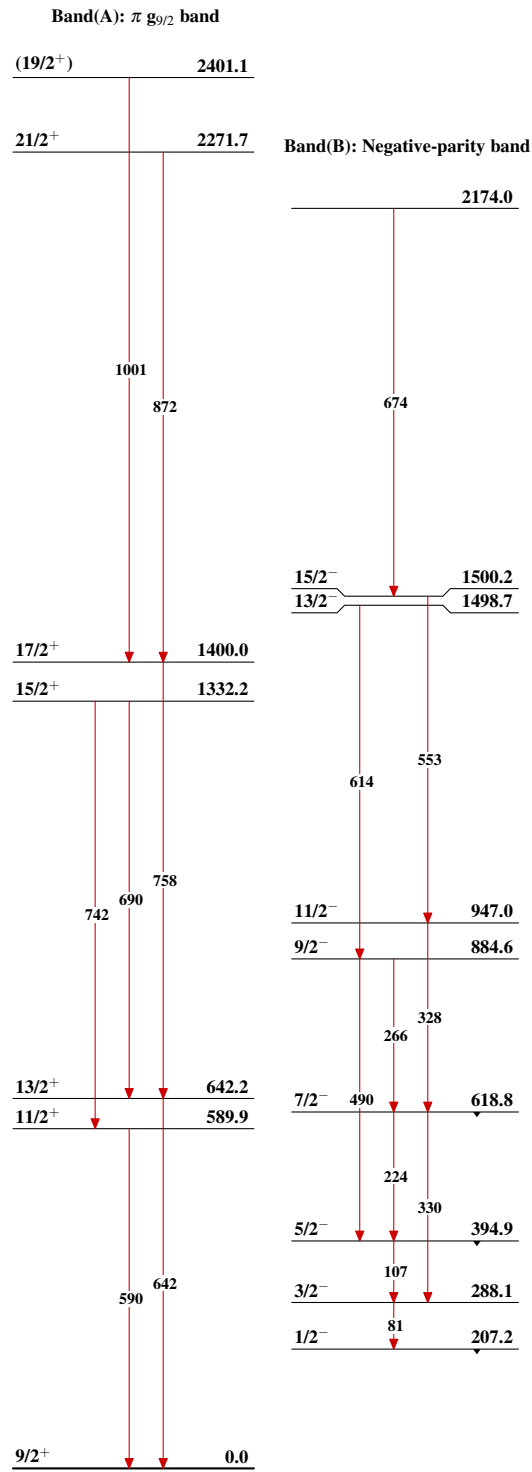
Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{101}_{43}\text{Tc}_{58}$

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