

<sup>94</sup>Mo(<sup>12</sup>C,pn $\gamma$ ) E=50 MeV **1983Tr01**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 108,2035 (2007)	30-Mar-2007

Also <sup>92</sup>Mo(<sup>14</sup>N,2p2n) E=72 MeV.

Measured:  $\gamma$ (semi),  $\gamma\gamma$ ,  $\gamma(\theta)$ , ce (orange spectrometer), linear polarization.

**1989Vo13** using <sup>95</sup>Mo(<sup>12</sup>C,p2n $\gamma$ ) E=48 MeV have measured T<sub>1/2</sub> by the DSA method and the plunger method.

**1983Tr01** have interpreted their data in the framework of the axial plus two quasi particle model.

<sup>104</sup>Ag Levels

E(level)	J $\pi^{\ddagger}$	E(level)	J $\pi^{\ddagger}$	T <sub>1/2</sub> <sup>†</sup>	E(level)	J $\pi^{\ddagger}$	T <sub>1/2</sub> <sup>†</sup>
0	5 <sup>+</sup>	479.9 2	(7 <sup>+</sup> )	20 ps 7	2180.4 <sup>#</sup> 6	(11 <sup>+</sup> )	
6.90 <sup>&amp;</sup> 22	2 <sup>+</sup>	602.8 4			2375.2 <sup>@</sup> 4	(12 <sup>-</sup> )	0.22 ps 4
90.2 5	1 <sup>+</sup>	796.6 2	(8 <sup>+</sup> )	0.25 ps 7	2819.5 <sup>@</sup> 5	(13 <sup>-</sup> )	0.21 ps 4
112.5 2	(6 <sup>+</sup> )	959.6 2	(6 <sup>-</sup> )		3300.8 <sup>@</sup> 5	(14 <sup>-</sup> )	0.29 ps 5
130.3 4		1026.4 2	(7 <sup>-</sup> )	275 ps 51	3668.2 5	( <sup>-</sup> )	
157.0 6	(2 <sup>+</sup> )	1076.9 <sup>@</sup> 2	(8 <sup>-</sup> )	335 ps 45	3809.3 <sup>@</sup> 5	(15 <sup>-</sup> )	0.20 ps 4
211.8 <sup>#</sup> 2	(7 <sup>+</sup> )	1118.4 <sup>#</sup> 2	(9 <sup>+</sup> )	51 ps 13	4329.9 <sup>@</sup> 6	(16 <sup>-</sup> )	0.25 ps 5
269.3 4		1252.1 <sup>@</sup> 3	(9 <sup>-</sup> )	7.4 ps 15	4899.9 <sup>@</sup> 8	(17 <sup>-</sup> )	
284.8 2		1598.2 <sup>@</sup> 4	(10 <sup>-</sup> )	0.74 ps 20			
383.8 3		1930.9 <sup>@</sup> 4	(11 <sup>-</sup> )	0.63 ps 15			

<sup>†</sup> From **1989Vo13**.

<sup>‡</sup> From  $\gamma(\theta)$ , linear polarization, ce measurements.

<sup>#</sup> Band(A): positive parity band with  $\Delta J=2$ .

<sup>@</sup> Band(B): negative parity band with  $\Delta J=1$ .

<sup>&</sup> From **1979De44** in (p,n $\gamma$ ).

$\gamma(^{104}\text{Ag})$

E $\gamma$	I $\gamma$	E <sub>i</sub> (level)	J $\pi_i^{\ddagger}$	E <sub>f</sub>	J $\pi_f^{\ddagger}$	Mult. <sup>†</sup>	$\delta^{\ddagger}$	$\alpha^{\#}$	Comments
50.3 2	6 1	1076.9	(8 <sup>-</sup> )	1026.4	(7 <sup>-</sup> )				
66.8 <sup>&amp;</sup> 2	2 <sup>&amp;</sup>	157.0	(2 <sup>+</sup> )	90.2	1 <sup>+</sup>				
66.8 <sup>&amp;</sup> 2	5 <sup>&amp;</sup> 1	1026.4	(7 <sup>-</sup> )	959.6	(6 <sup>-</sup> )				
72.8 2	5 1	284.8		211.8	(7 <sup>+</sup> )				
<sup>x</sup> 75.0 2	3 1								
83.7 2	2 1	90.2	1 <sup>+</sup>	6.90	2 <sup>+</sup>				
99.25 20	65 5	211.8	(7 <sup>+</sup> )	112.5	(6 <sup>+</sup> )	M1+E2	0.4 2	0.85	$\alpha(K)\text{exp}=0.6 1$
112.5 2	100	112.5	(6 <sup>+</sup> )	0	5 <sup>+</sup>	M1+E2	0.3 2	0.46	$\alpha(K)\text{exp}=0.37 7$
114.5 2	5 1	383.8		269.3					
123.8 2	5 1	130.3		6.90	2 <sup>+</sup>				
139.0 2	5 1	269.3		130.3					
175.3 2	50 5	1252.1	(9 <sup>-</sup> )	1076.9	(8 <sup>-</sup> )	M1+(E2)	<0.5	0.1	$\alpha(K)\text{exp}=0.084 15$ B(M1)(W.u.)>0.32; B(E2)(W.u.)<3.5 $\times 10^3$ $\delta: -0.03 \leq \delta \leq +0.02$ .
211.8 2	5 1	211.8	(7 <sup>+</sup> )	0	5 <sup>+</sup>				
219.0 2	1.0 5	602.8		383.8					
280.4 2	4 1	1076.9	(8 <sup>-</sup> )	796.6	(8 <sup>+</sup> )				
<sup>x</sup> 296.5 2	4 1								
316.7 2	8 2	796.6	(8 <sup>+</sup> )	479.9	(7 <sup>+</sup> )	(M1)			B(M1)(W.u.)=1.7 7
321.6 2	4 1	1118.4	(9 <sup>+</sup> )	796.6	(8 <sup>+</sup> )				

Continued on next page (footnotes at end of table)

$^{94}\text{Mo}(^{12}\text{C},\text{pn}\gamma) E=50 \text{ MeV}$  **1983Tr01** (continued) $\gamma(^{104}\text{Ag})$  (continued)

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	Comments
332.7 2	33 4	1930.9	(11 <sup>-</sup> )	1598.2	(10 <sup>-</sup> )	M1+E2	$\alpha(\text{K})_{\text{exp}}=0.017$ 5 $\delta: -0.07 \leq \delta \leq +0.14$ .
346.2 2	40 5	1598.2	(10 <sup>-</sup> )	1252.1	(9 <sup>-</sup> )	M1	$\alpha(\text{K})_{\text{exp}}=0.010$ 3 B(M1)(W.u.)=0.57 19 $\delta: -0.05 \leq \delta \leq +0.08$ .
367.4& 2	14.4& 4	479.9	(7 <sup>+</sup> )	112.5	(6 <sup>+</sup> )	(M1)	B(M1)(W.u.)=0.022 8
367.4& 2	3& 1	3668.2	( <sup>-</sup> )	3300.8	(14 <sup>-</sup> )	(M1)	$\delta: -0.03 \leq \delta \leq +0.02$ .
444.3@ 2	40@ 4	2375.2	(12 <sup>-</sup> )	1930.9	(11 <sup>-</sup> )	(M1)	B(M1)(W.u.)=0.8 +10-8 $\delta: -0.08 \leq \delta \leq +0.15$ . $I_\gamma$ : for $\gamma$ from 2377 and 2819 levels.
444.3@ 2	40@ 4	2819.5	(13 <sup>-</sup> )	2375.2	(12 <sup>-</sup> )	(M1)	B(M1)(W.u.)=0.9 +12-9 $I_\gamma$ : for $\gamma$ from 2377 and 2819 levels.
481.3 2	19 2	3300.8	(14 <sup>-</sup> )	2819.5	(13 <sup>-</sup> )	M1	B(M1)(W.u.)=0.54 13 $\delta: -0.12 \leq \delta \leq +0.12$ .
508.5 2	12 3	3809.3	(15 <sup>-</sup> )	3300.8	(14 <sup>-</sup> )		
520.7 5	10 3	1598.2	(10 <sup>-</sup> )	1076.9	(8 <sup>-</sup> )		
520.7 2	10 3	4329.9	(16 <sup>-</sup> )	3809.3	(15 <sup>-</sup> )		
570.0 5	3 1	4899.9	(17 <sup>-</sup> )	4329.9	(16 <sup>-</sup> )	(M1)	
575.9 2	≈1	959.6	(6 <sup>-</sup> )	383.8			
584.8 2	5 1	796.6	(8 <sup>+</sup> )	211.8	(7 <sup>+</sup> )		
675 1	3 1	959.6	(6 <sup>-</sup> )	284.8			
679.0 5	8 2	1930.9	(11 <sup>-</sup> )	1252.1	(9 <sup>-</sup> )		
741.5 2	3 1	1026.4	(7 <sup>-</sup> )	284.8			
748.0 5	3 1	959.6	(6 <sup>-</sup> )	211.8	(7 <sup>+</sup> )		
777.0 5	10 2	2375.2	(12 <sup>-</sup> )	1598.2	(10 <sup>-</sup> )		
814.6 2	8 2	1026.4	(7 <sup>-</sup> )	211.8	(7 <sup>+</sup> )		
847.2 2	9 2	959.6	(6 <sup>-</sup> )	112.5	(6 <sup>+</sup> )		
848.0 10	≈1	3668.2	( <sup>-</sup> )	2819.5	(13 <sup>-</sup> )		
865.1 2	30 5	1076.9	(8 <sup>-</sup> )	211.8	(7 <sup>+</sup> )	E1	B(E1)(W.u.)=1.1×10 <sup>-6</sup> 3 $\delta: -0.14 \leq \delta \leq +0.25$ .
888.0 10	7 2	2819.5	(13 <sup>-</sup> )	1930.9	(11 <sup>-</sup> )		
906.8 2	20 3	1118.4	(9 <sup>+</sup> )	211.8	(7 <sup>+</sup> )	E2	B(E2)(W.u.)=0.52 17
926 1	5 2	3300.8	(14 <sup>-</sup> )	2375.2	(12 <sup>-</sup> )		
990.0 10	5 2	3809.3	(15 <sup>-</sup> )	2819.5	(13 <sup>-</sup> )		
1028 1	4 2	4329.9	(16 <sup>-</sup> )	3300.8	(14 <sup>-</sup> )		
1062.0 5	12 2	2180.4	(11 <sup>+</sup> )	1118.4	(9 <sup>+</sup> )	(E2)	

<sup>†</sup> From ce,  $\gamma(\theta)$ , and linear polarization.

<sup>‡</sup> From  $\alpha(\text{K})_{\text{exp}}$ .

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

@ Multiply placed with undivided intensity.

& Multiply placed with intensity suitably divided.

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

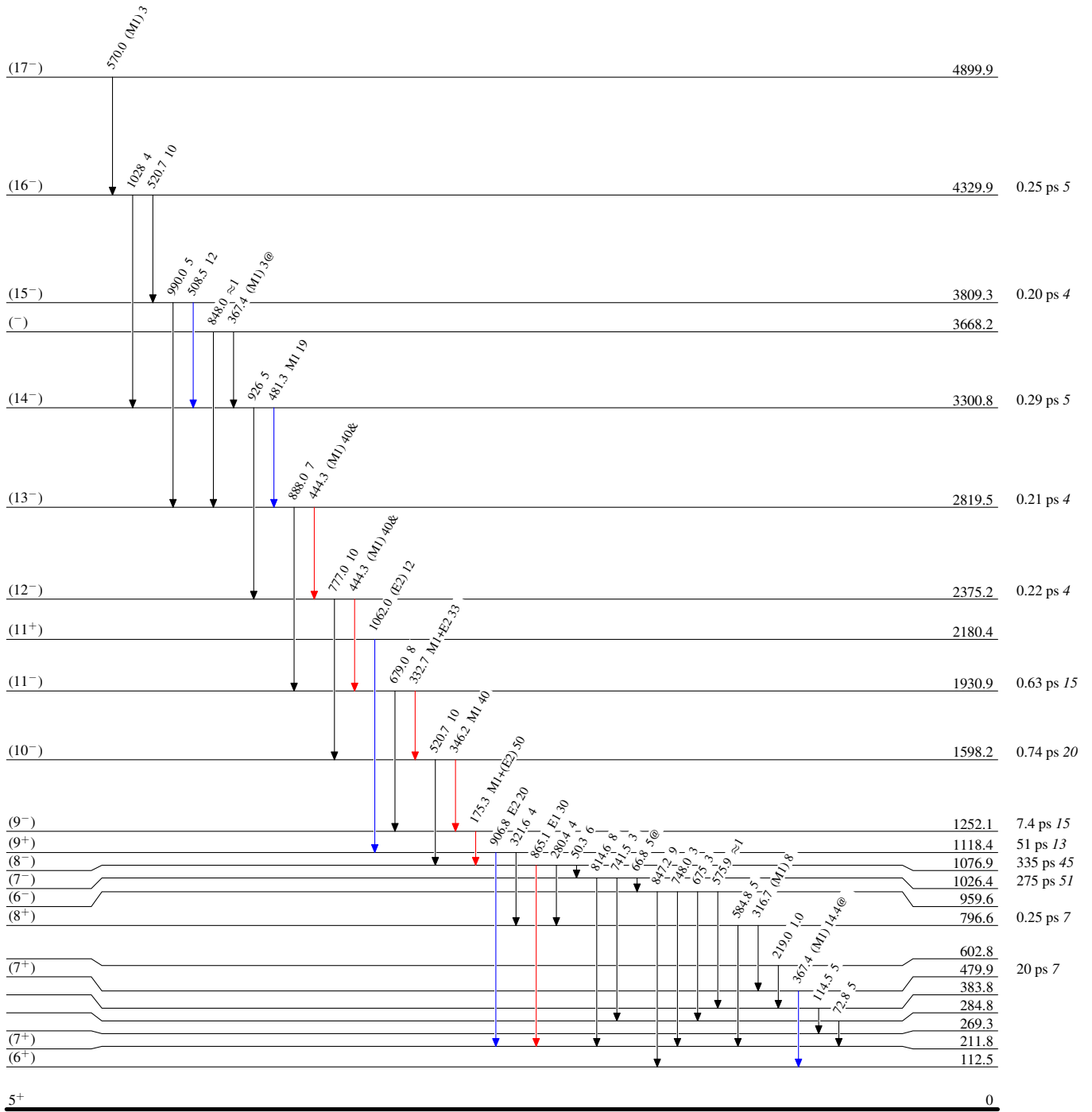
<sup>94</sup>Mo(<sup>12</sup>C,pnγ) E=50 MeV 1983Tr01

Level Scheme

Intensities: Relative I<sub>γ</sub>  
& Multiply placed: undivided intensity given  
@ Multiply placed: intensity suitably divided

Legend

- I<sub>γ</sub> < 2% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> < 10% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> > 10% × I<sub>γ</sub><sup>max</sup>



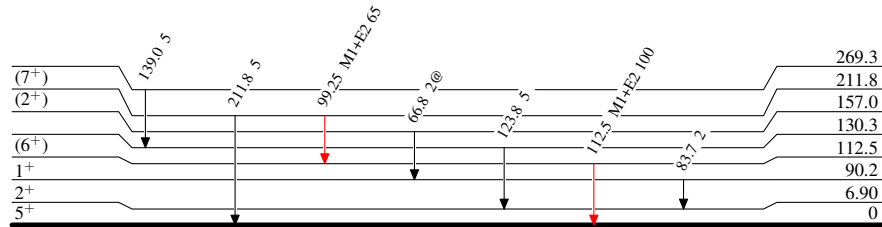
$^{94}\text{Mo}(^{12}\text{C,pn}\gamma) E=50 \text{ MeV}$  1983Tr01

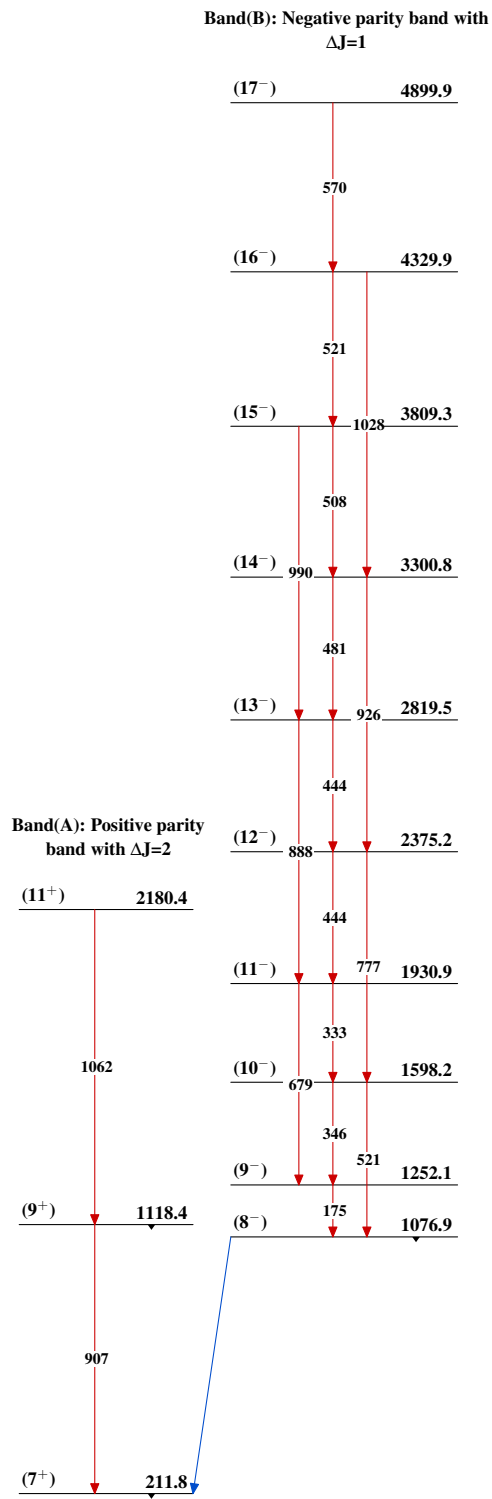
## Level Scheme (continued)

Intensities: Relative  $I_\gamma$   
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided

## Legend

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

 $^{104}_{47}\text{Ag}_{57}$

$^{94}\text{Mo}(^{12}\text{C},\text{pn}\gamma) E=50 \text{ MeV}$  1983Tr01 $^{104}_{47}\text{Ag}_{57}$