

<sup>92</sup>Mo(<sup>19</sup>F,2pn $\gamma$ ) 1981An15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

E=65– 105 MeV,  $\theta=0^\circ, 35^\circ, 55^\circ, 90^\circ$  at E= 70 MeV.  
 Authors measured E $\gamma$ , I $\gamma$ ,  $\gamma\gamma$ ,  $\sigma(E)$ .

<sup>108</sup>In Levels

E(level)	J $\pi^\dagger$	E(level)	J $\pi^\dagger$	E(level)	J $\pi^\dagger$	E(level)	J $\pi^\dagger$
0	7 <sup>+</sup> $\ddagger$	2467.3 <sup>#</sup> 17	(11 <sup>-</sup> )	3048.5 <sup>@</sup> 19	(13 <sup>-</sup> )	4445 <sup>a</sup> 3	(16 <sup>-</sup> )
1119.7 <sup>#</sup> 10	8 <sup>-</sup>	2516.0 <sup>@</sup> 13	(10 <sup>-</sup> )	3384.6 <sup>@</sup> 22	(14 <sup>-</sup> )	4497 3	(16 <sup>-</sup> )
1333.3 <sup>#</sup> 13	9 <sup>-</sup>	2663.2 <sup>@</sup> 14	(11 <sup>-</sup> )	3406.4 <sup>a</sup> 22	(14 <sup>-</sup> )	4574 <sup>@</sup> 3	(16 <sup>-</sup> )
1862.5 <sup>#</sup> 16	(10 <sup>-</sup> )	2817.1 <sup>@</sup> 16	(12 <sup>-</sup> )	3679.2 24	(15 <sup>-</sup> )	4702 <sup>a</sup> 3	(17 <sup>-</sup> )
2086.2 <sup>&amp;</sup> 19	(11 <sup>-</sup> )	2822.7 <sup>&amp;</sup> 24	(13 <sup>-</sup> )	3880.0 <sup>a</sup> 24	(15 <sup>-</sup> )		
2408.8 <sup>&amp;</sup> 21	(12 <sup>-</sup> )	3009.8 <sup>#</sup> 20	(12 <sup>-</sup> )	3911.8 <sup>@</sup> 24	(15 <sup>-</sup> )		

$\dagger$  From  $\gamma(\theta)$  and assumption that J increases monotonically with each transition as E(level) increases and, for small values of  $\delta$ , multipolarity is M1+E2 (except for the 1119.7 $\gamma$ , known to be E1 from  $\gamma(\text{pol})$  in (<sup>14</sup>N,4n $\gamma$ ). Evaluator has taken in account that the J $\pi$  of g.s. is 7<sup>+</sup>.

$\ddagger$  From Adopted Levels.

<sup>#</sup> Band(A): band 1.

<sup>@</sup> Band(B): band 2.

<sup>&</sup> Band(C): band 3.

<sup>a</sup> Band(D): band 4.

$\gamma(^{108}\text{In})$

The authors do not give uncertainties on E $\gamma$  or I $\gamma$ . Data were taken at E(<sup>19</sup>f)= 70 MeV.

E $\gamma$	I $\gamma$	E <sub>i</sub> (level)	J $\pi_i^\dagger$	E <sub>f</sub>	J $\pi_f^\dagger$	Mult.	$\delta^\dagger$
147.1	29.1	2663.2	(11 <sup>-</sup> )	2516.0	(10 <sup>-</sup> )	D(+Q)	+0.02 3
154.0	38.3	2817.1	(12 <sup>-</sup> )	2663.2	(11 <sup>-</sup> )	D(+Q)	+0.02 3
213.6	70.9	1333.3	9 <sup>-</sup>	1119.7	8 <sup>-</sup>	D(+Q)	+0.04 4
223.7	5.3	2086.2	(11 <sup>-</sup> )	1862.5	(10 <sup>-</sup> )	D(+Q)	-0.01 3
231.4	45.5	3048.5	(13 <sup>-</sup> )	2817.1	(12 <sup>-</sup> )	D(+Q)	+0.02 2
256.9	5 <sup>‡</sup>	4702	(17 <sup>-</sup> )	4445	(16 <sup>-</sup> )		
294.6	1.2	3679.2	(15 <sup>-</sup> )	3384.6	(14 <sup>-</sup> )	D+Q	+0.19 6
322.6	5.0	2408.8	(12 <sup>-</sup> )	2086.2	(11 <sup>-</sup> )	D(+Q)	0.00 2
336.1	33.8	3384.6	(14 <sup>-</sup> )	3048.5	(13 <sup>-</sup> )	D+Q	+0.01 2
349.8	14.1	2817.1	(12 <sup>-</sup> )	2467.3	(11 <sup>-</sup> )	D+Q	-0.08 3
357.9	9.5	3406.4	(14 <sup>-</sup> )	3048.5	(13 <sup>-</sup> )	D(+Q)	+0.01 4
413.9	4.1 <sup>‡</sup>	2822.7	(13 <sup>-</sup> )	2408.8	(12 <sup>-</sup> )		
473.6	9.3	3880.0	(15 <sup>-</sup> )	3406.4	(14 <sup>-</sup> )	D+Q	+0.06 4
527.2	26.0	3911.8	(15 <sup>-</sup> )	3384.6	(14 <sup>-</sup> )	D+Q	-0.06 4
529.2	30.8	1862.5	(10 <sup>-</sup> )	1333.3	9 <sup>-</sup>	D(+Q)	+0.01 4
542.5	13.1	3009.8	(12 <sup>-</sup> )	2467.3	(11 <sup>-</sup> )	D+Q	+0.04 3
565.3	8.9	4445	(16 <sup>-</sup> )	3880.0	(15 <sup>-</sup> )	D+Q	-0.10 6
585.5	6.4 <sup>‡</sup>	4497	(16 <sup>-</sup> )	3911.8	(15 <sup>-</sup> )		
604.8	27.5	2467.3	(11 <sup>-</sup> )	1862.5	(10 <sup>-</sup> )	D(+Q)	-0.02 4

Continued on next page (footnotes at end of table)

$^{92}\text{Mo}(^{19}\text{F},2\text{pn}\gamma)$  1981An15 (continued) $\gamma(^{108}\text{In})$  (continued)

$E_\gamma$	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	$\delta^\dagger$
661.7	17.6	4574	(16 <sup>-</sup> )	3911.8	(15 <sup>-</sup> )	D(+Q)	-0.01 4
1119.7	100	1119.7	8 <sup>-</sup>	0	7 <sup>+</sup>	D(+Q)	+0.02 3
1182.7	21.4	2516.0	(10 <sup>-</sup> )	1333.3	9 <sup>-</sup>	D+Q	-0.43 10
1329.9	15.5	2663.2	(11 <sup>-</sup> )	1333.3	9 <sup>-</sup>	Q(+O)	-0.02 3
1396.3	15.8 <sup>‡</sup>	2516.0	(10 <sup>-</sup> )	1119.7	8 <sup>-</sup>	Q(+O)	+0.02 3

<sup>†</sup> From  $\gamma(\theta)$ . The authors'  $J^\pi$  values are based on  $J^\pi(\text{gs})=6^+$  and are thus all one unit smaller than the adopted values. This will not significantly change the deduced  $\delta$  values. Values are given at the 99.9% confidence level.

<sup>‡</sup> From coincidence measurements.

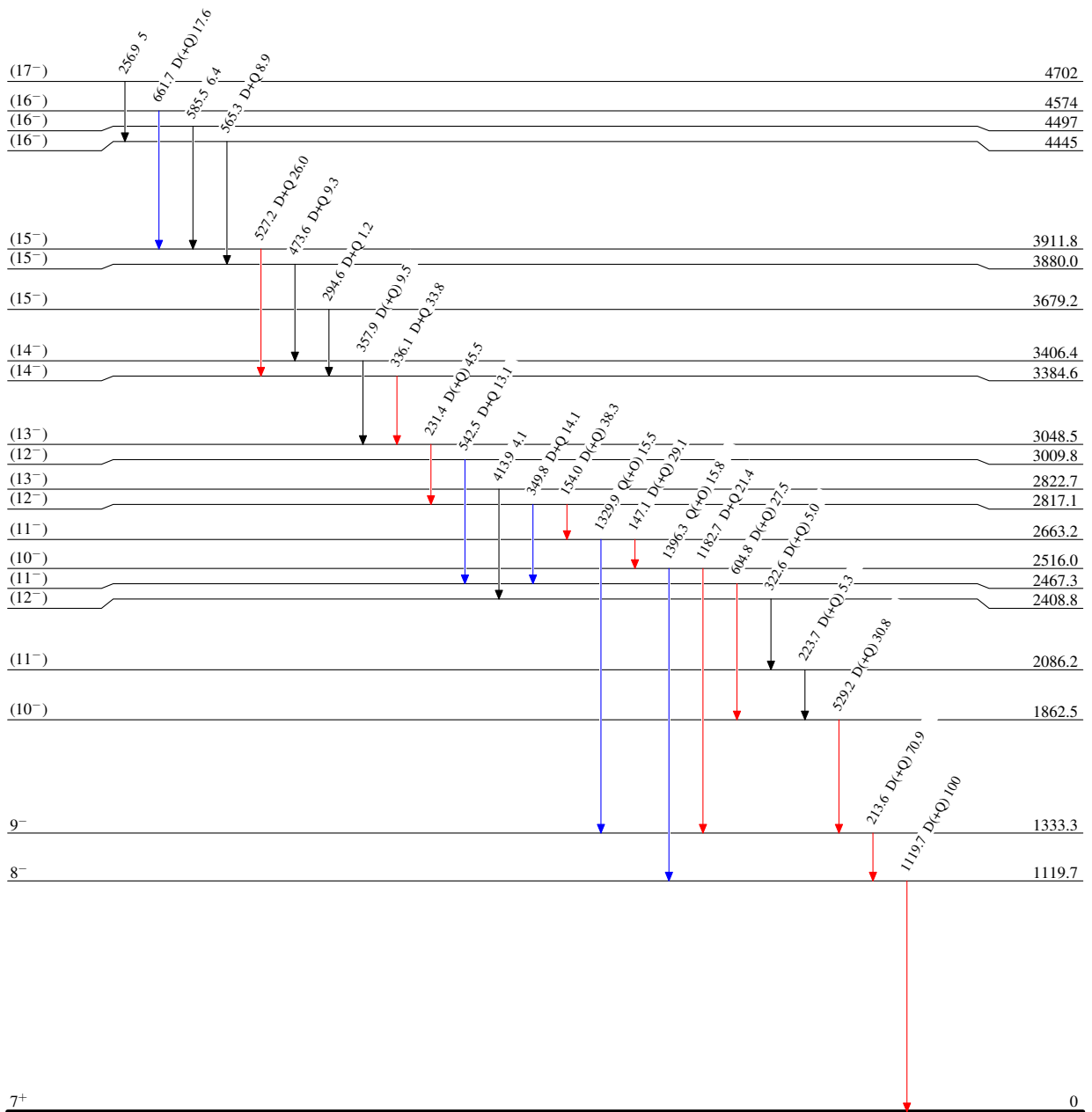
$^{92}\text{Mo}(^{19}\text{F},2\text{pn}\gamma)$  1981An15

Level Scheme

Intensities: Type not specified

Legend

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



$^{108}_{49}\text{In}_{59}$

$^{92}\text{Mo}(^{19}\text{F}, 2\text{pn}\gamma)$  1981An15