^{96}Mo(^{6}Li,3nγ) 1982Ka15

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 145, 25 (2017)	1-Jul-2017

E=18 MeV to 34 MeV; measured: γ, $\gamma\gamma$, $\gamma(\theta)$ at 28 MeV.

^{99}Rh Levels

E(level)†	J$^{\pi}$‡	T$_{1/2}$‡	E(level)†	J$^{\pi}$‡	E(level)†	J$^{\pi}$‡
0.0	1/2$^-$	16.1 d *2*	1017 *3*	(7/2)	3111.3	21/2$^-$
64.4 *23*	9/2$^+$	4.7 h *1*	1659.4 *18*	13/2$^-$	3149 *3*	23/2$^+$
200.4 *25*	(7/2)$^+$		1702.0 *23*	17/2$^+$	3710.1 *25*	23/2
427.1 *10*	5/2$^-$		2195.2 *24*	(19/2$^+$)	3988 *3*	25/2
464 *3*	(5/2,7/2)$^+$		2298.7 *20*	17/2$^-$	4263 *3*	27/2$^+$
842.6 *20*	13/2$^+$		2592.6 *24*	21/2$^+$	4325 *3*	(27/2)
850 *3*	(7/2)$^+$		2618.3 *20*	(17/2$^-$)	5317 *3*	(31/2$^+$)
873 *3*	(5/2)$^+$		2726 *3*			
979.1 *15*	9/2$^-$		3015.7 *25*	(21/2$^+$)		

† Adjusted to account for data from 1994Ra07.

‡ Adopted values.

^{96}Mo(^{6}Li,3nγ) 1982Ka15 (continued)

$\gamma(^{99}Rh)$

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	δ[#]	α[‡]	Comments
133.3	<9.5	2726		2592.6	$21/2^+$				
136.0		200.4	$(7/2)^+$	64.4	$9/2^+$				
263.5	15.2 *5*	464	$(5/2,7/2)^+$	200.4	$(7/2)^+$	M1+E2	−0.43 *20*	0.0280 *25*	α(K)=0.0243 *20*; α(L)=0.0030 *4*; α(M)=0.00056 *7* α(N)=9.3×10^{-5} *10*; α(O)=4.4×10^{-6} *3*
277.7	9.0 *5*	3988	25/2	3710.1	23/2				
320		2618.3	$(17/2^-)$	2298.7	$17/2^-$				E_γ: probable placement from $\gamma\gamma$ coincidence only.
337		4325	(27/2)	3988	25/2				
386.5	<2.0	850	$(7/2)^+$	464	$(5/2,7/2)^+$				
397.7	15.9 *5*	2592.6	$21/2^+$	2195.2	$(19/2^+)$	M1		0.00889	α(K)=0.00778 *11*; α(L)=0.000913 *13*; α(M)=0.0001694 *24* α(N)=2.81×10^{-5} *4*; α(O)=1.438×10^{-6} *21*
427.1	100	427.1	$5/2^-$	0.0	$1/2^-$	E2		0.00907	α(K)=0.00784 *11*; α(L)=0.001005 *14*; α(M)=0.000187 *3* α(N)=3.05×10^{-5} *5*; α(O)=1.362×10^{-6} *19*
493.1	41.7 *10*	2195.2	$(19/2^+)$	1702.0	$17/2^+$	M1		0.00527	α(K)=0.00461 *7*; α(L)=0.000538 *8*; α(M)=9.98×10^{-5} *14* α(N)=1.658×10^{-5} *24*; α(O)=8.51×10^{-7} *12*
552.0	71.4 *10*	979.1	$9/2^-$	427.1	$5/2^-$	E2		0.00426	α(K)=0.00370 *6*; α(L)=0.000457 *7*; α(M)=8.49×10^{-5} *12* α(N)=1.395×10^{-5} *20*; α(O)=6.52×10^{-7} *10*
639.7	27.8 *10*	2298.7	$17/2^-$	1659.4	$13/2^-$	E2		0.00284	α(K)=0.00247 *4*; α(L)=0.000300 *5*; α(M)=5.57×10^{-5} *8* α(N)=9.17×10^{-6} *13*; α(O)=4.38×10^{-7} *7*
672.9	6.3 *5*	873	$(5/2)^+$	200.4	$(7/2)^+$				
680.3	47.0 *20*	1659.4	$13/2^-$	979.1	$9/2^-$	E2		0.00241	α(K)=0.00210 *3*; α(L)=0.000254 *4*; α(M)=4.71×10^{-5} *7* α(N)=7.76×10^{-6} *11*; α(O)=3.73×10^{-7} *6*
694.0	15.0 *10*	3710.1	23/2	3015.7	$(21/2^+)$				
778.2	<305	842.6	$13/2^+$	64.4	$9/2^+$	E2		1.71×10^{-3}	α(K)=0.001494 *21*; α(L)=0.0001779 *25*; α(M)=3.30×10^{-5} *5* α(N)=5.45×10^{-6} *8*; α(O)=2.67×10^{-7} *4*
812.6[&]	25.0 *10*	3111.3	$21/2^-$	2298.7	$17/2^-$				I_γ: doublet.
816.8[@]	38.0[@] *20*	1017	(7/2)	200.4	$(7/2)^+$				I_γ: doublet.
816.8[@]	38.0[@] *20*	1659.4	$13/2^-$	842.6	$13/2^+$				I_γ: doublet.
(820)		3015.7	$(21/2^+)$	2195.2	$(19/2^+)$				
859.4	110.5 *20*	1702.0	$17/2^+$	842.6	$13/2^+$	E2		1.34×10^{-3}	α(K)=0.001174 *17*; α(L)=0.0001386 *20*; α(M)=2.57×10^{-5} *4* α(N)=4.25×10^{-6} *6*; α(O)=2.10×10^{-7} *3*
890.7	18.8 *5*	2592.6	$21/2^+$	1702.0	$17/2^+$	E2		1.23×10^{-3}	α(K)=0.001079 *16*; α(L)=0.0001270 *18*; α(M)=2.36×10^{-5} *4* α(N)=3.90×10^{-6} *6*; α(O)=1.93×10^{-7} *3*

$^{99}_{45}Rh_{54}$-2

^{96}Mo(^{6}Li,3nγ) 1982Ka15 (continued)

$\gamma(^{99}Rh)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†]	α[‡]	Comments
953.5	13.5 *10*	3149	23/2$^+$	2195.2	(19/2$^+$)	E2	1.05×10^{-3}	α(K)=0.000921 *13*; α(L)=0.0001079 *16*; α(M)=2.00×10^{-5} *3* α(N)=3.31×10^{-6} *5*; α(O)=1.650×10^{-7} *24*
958.5	<4.0	2618.3	(17/2$^-$)	1659.4	13/2$^-$	E2	1.04×10^{-3}	α(K)=0.000910 *13*; α(L)=0.0001066 *15*; α(M)=1.98×10^{-5} *3* α(N)=3.27×10^{-6} *5*; α(O)=1.631×10^{-7} *23*
1054.0		5317	(31/2$^+$)	4263	27/2$^+$			
(1114)		4263	27/2$^+$	3149	23/2$^+$			
1118.0	18.0 *20*	3710.1	23/2	2592.6	21/2$^+$			

[†] From ^{6}Li,$\gamma(\theta)$. Quadrupole γ's are assumed to be E2.
[‡] Additional information 1.
[#] If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[@] Multiply placed with undivided intensity.
[&] Placement of transition in the level scheme is uncertain.

$^{99}_{45}Rh_{54}$-3

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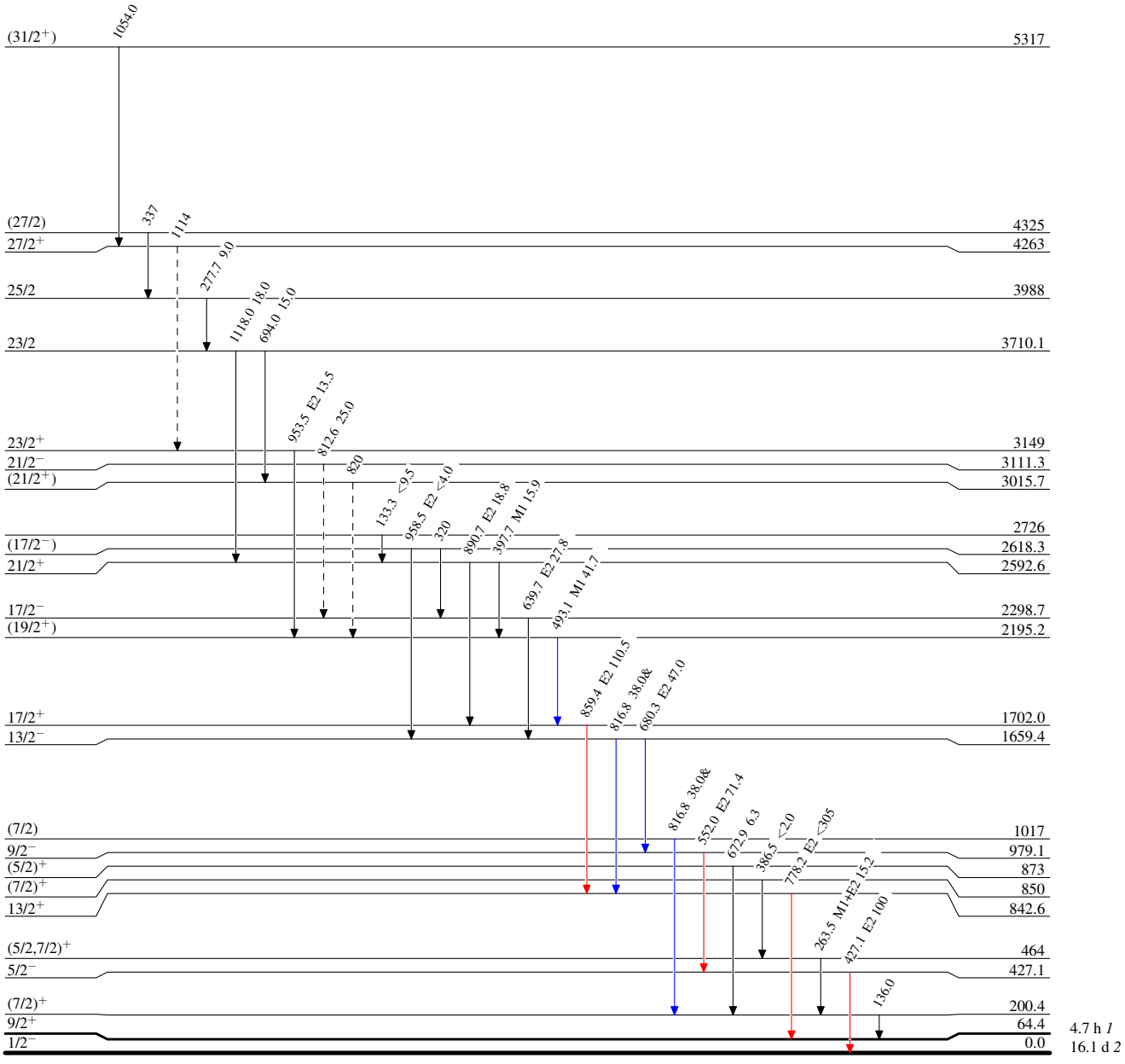
Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



$^{99}_{45}Rh_{54}$