^{103}Rh(α,3nγ)   **1995Go29,1980Lu08**

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

E(α)=33-55 MeV (1980Lu08), 40 and 45 MeV (1995Go29).

1980Lu08: measured γ, $\gamma(\theta)$, $\gamma\gamma$(t) mini-orange spectrometer, Ge(Li).

1995Go29: measured γ, $\gamma(\theta)$, $\gamma\gamma$(t), three coaxial HPGe, and one LEPS. They have added two levels 3809 and 4330 to the band A. They propose also levels at 740, 961 and 2180 keV.

The placement of 864γ in 1980Lu09 has been changed by the evaluator so that 175-346-332-444-444-481 now form a band on an 8$^-$,1076 state as suggested by 1983Tr01 on basis of their coincidence measurements in (^{12}C,nγ). This placement is confirmed by 1995Go29.

^{104}Ag Levels

E(level)	J$^{\pi\dagger}$	T$_{1/2}$‡	E(level)	J$^{\pi\dagger}$	T$_{1/2}$‡	E(level)	J$^{\pi\dagger}$
0	5$^+$		960.7 *9*	(6$^-$)		1597.7$^\#$ *15*	10$^-$
112.61 *16*	6$^+$	<1 ns	961.1 *11*			1930.3$^\#$ *18*	11$^-$
212.09 *16*	(7)$^+$	1.4 ns *2*	1027.0 *3*	(7$^-$)		2179.6 *11*	(11$^+$)
258.4 *3*			1076.6$^\#$ *3*	8$^-$		2374.4$^\#$ *21*	12$^-$
285.6 *3*			1080.9 *4*			2818.5$^\#$ *23*	13$^-$
479.82 *24*	(7$^+$)		1117.58 *24*	(9$^+$)		3299.9$^\#$ *24*	14$^-$
741.9 *9*			1251.5$^\#$ *11*	9$^-$	≤0.4 ns	3808.4$^\#$ *24*	15$^-$
796.5 *3*	(8$^+$)		1273.5 *3*			4329.1$^\#$ *25*	16$^-$
801.1 *4*			1309.6 *4*				

† From 1995Go29.
‡ From 1980Lu08.
$^\#$ Band(A): member of ΔJ=1 band sequence.

γ(^{104}Ag)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
^{x}51.5	≈6					
66.4 *1*		1027.0	(7$^-$)	960.7	(6$^-$)	E$_\gamma$: from 1995Go29.
73.5 *2*	≈4.	285.6		212.09	(7)$^+$	
99.5 *2*	92 *5*	212.09	(7)$^+$	112.61	6$^+$	
112.6 *2*	120. *6*	112.61	6$^+$	0	5$^+$	
145.8 *2*	2.3 *3*	258.4		112.61	6$^+$	
^{x}155.3 *3*	2.4 *3*					
174.9	61 *4*	1251.5	9$^-$	1076.6	8$^-$	
^{x}193.3 *3*	2.0 *3*					
212.1 *2*	5.0 *3*	212.09	(7)$^+$	0	5$^+$	
219.0		960.7	(6$^-$)	741.9		E$_\gamma$: from 1995Go29.
233.0 *3*	2.0 *3*	1309.6		1076.6	8$^-$	
^{x}280.2 *3*	3.4 *3*					
284.4 *3*	3.0 *3*	1080.9		796.5	(8$^+$)	
316.7 *2*	8.0 *6*	796.5	(8$^+$)	479.82	(7$^+$)	
321.0 *3*	2.8 *3*	1117.58	(9$^+$)	796.5	(8$^+$)	
332.6	31 *3*	1930.3	11$^-$	1597.7	10$^-$	
346.2	40 *3*	1597.7	10$^-$	1251.5	9$^-$	
367.2 *2*	17.1 *15*	479.82	(7$^+$)	112.61	6$^+$	
444.1‡	20‡	2374.4	12$^-$	1930.3	11$^-$	I$_\gamma$: I$_\gamma$=31 *3* for the two placements.
444.1‡	10‡	2818.5	13$^-$	2374.4	12$^-$	

^{103}Rh(α,3nγ)   **1995Go29,1980Lu08 (continued)**

γ(^{104}Ag) (continued)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Comments
456.0 3	3.0 8	741.9		285.6		E_γ: 1980Lu08 placed this γ as deexciting a 1729 level.
481.3†	11† 1	961.1		479.82	(7$^+$)	E_γ: Placement from 1995Go29.
481.3†	11† 1	3299.9	14$^-$	2818.5	13$^-$	
508.5		3808.4	15$^-$	3299.9	14$^-$	
520.7		4329.1	16$^-$	3808.4	15$^-$	
589.0 3	2.0 3	801.1		212.09	(7)$^+$	
^{x}679.4 2	6.0 6					
^{x}777.0 3	3.0 3					
814.9 2	7.3 6	1027.0	(7$^-$)	212.09	(7)$^+$	
864.5 2	$\approx$10	1076.6	8$^-$	212.09	(7)$^+$	
^{x}888.0 3	5.0 5					
905.5 2	5	1117.58	(9$^+$)	212.09	(7)$^+$	
990.0		3808.4	15$^-$	2818.5	13$^-$	
1029.2		4329.1	16$^-$	3299.9	14$^-$	
1061.4 2	16.2 13	1273.5		212.09	(7)$^+$	
1062.0		2179.6	(11$^+$)	1117.58	(9$^+$)	E_γ: from 1995Go29.

† Multiply placed with undivided intensity.

‡ Multiply placed with intensity suitably divided.

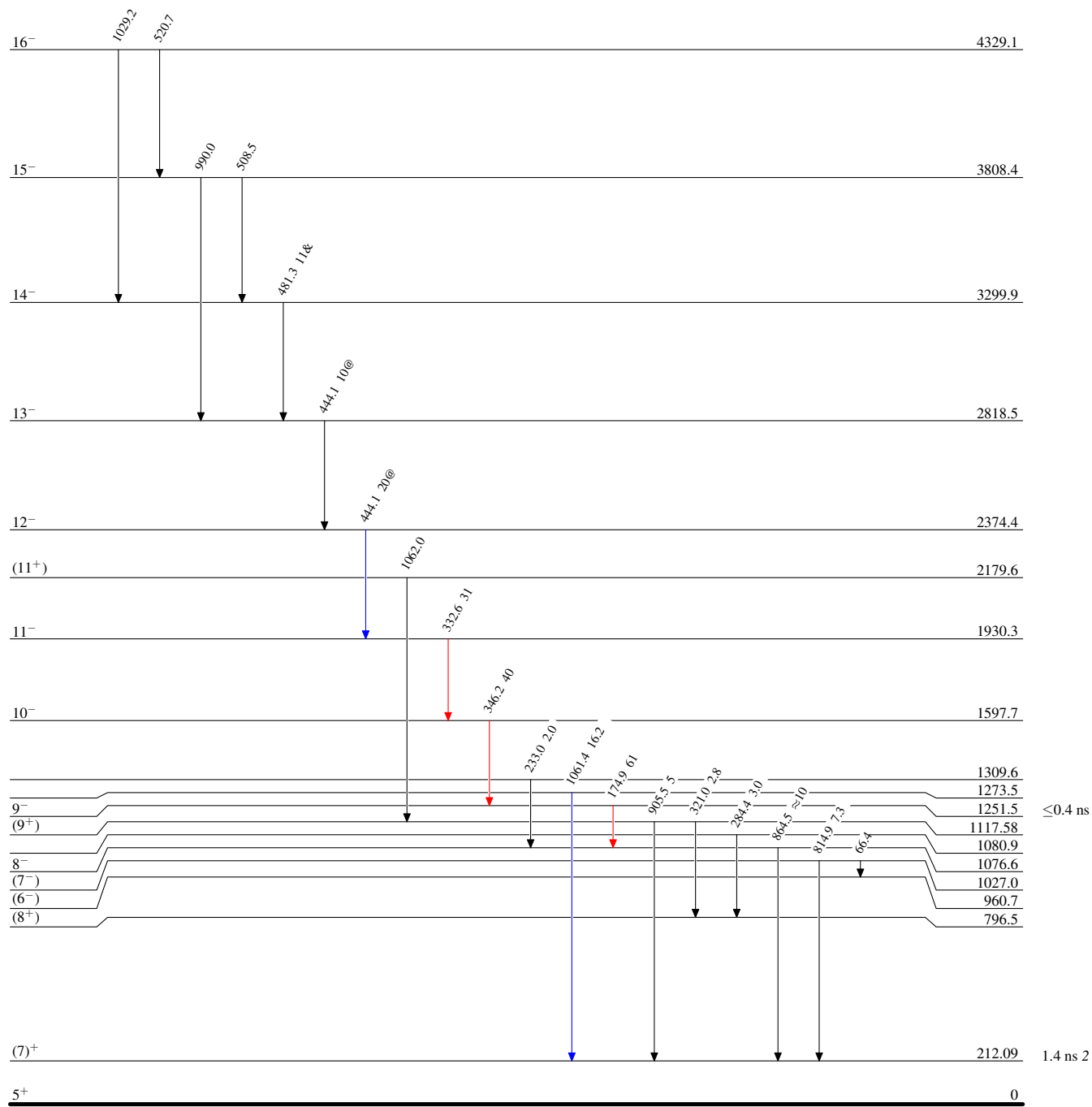^{x} γ ray not placed in level scheme.

$^{103}\text{Rh}(\alpha,3n\gamma)$ **1995Go29,1980Lu08**

Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

Legend

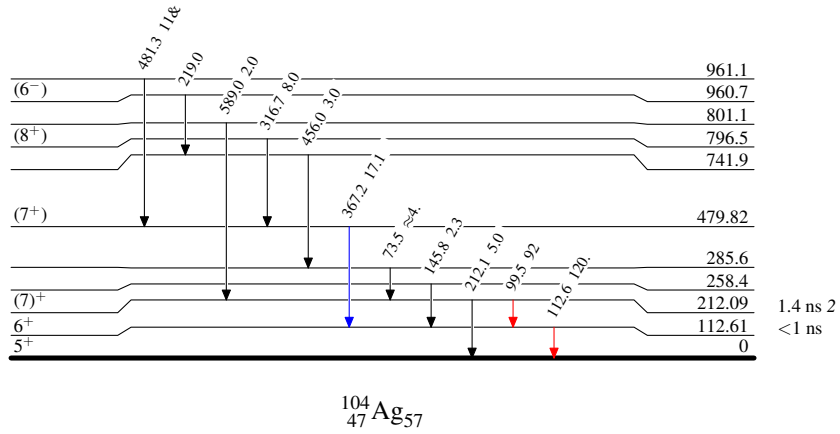$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

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

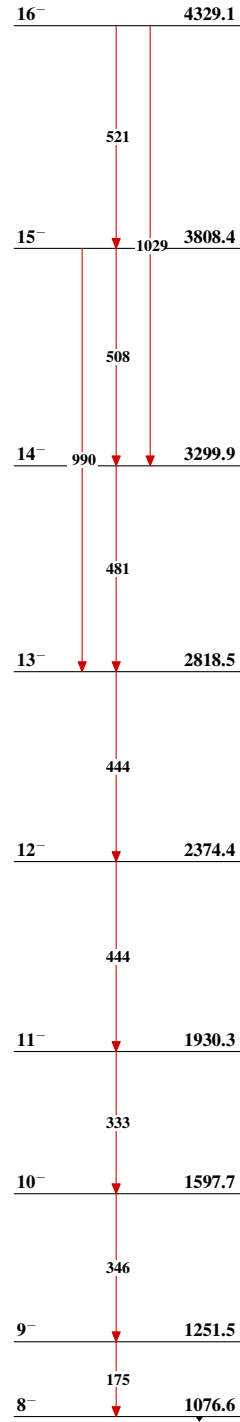^{103}Rh(α,3nγ)   **1995Go29,1980Lu08**

Level Scheme (continued)

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

Legend

I$_\gamma$ < 2%×I$_\gamma^{max}$
I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$

$^{104}_{47}Ag_{57}$

^{103}**Rh(α,3nγ)**   **1995Go29,1980Lu08**

Band(A): Member of ΔJ=1 band
sequence

16⁻		4329.1

521

15⁻	1029	3808.4

508

14⁻	990	3299.9

481

13⁻		2818.5

444

12⁻		2374.4

444

11⁻		1930.3

333

10⁻		1597.7

346

9⁻		1251.5

175

8⁻		1076.6

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