

**Adopted Levels, Gammas**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne and A. Negret		NDS 109,943 (2008)	1-May-2007

Q(β<sup>-</sup>)=6547 11; S(n)=5.55×10<sup>3</sup> 4; S(p)=9721 16; Q(α)=-5890 13    [2012Wa38](#)

Note: Current evaluation has used the following Q record 6547    11556e<sup>+1</sup> 6 9.73E3 7 -5850 40    [2003Au03](#).

<sup>106</sup>Tc Levels

Cross Reference (XREF) Flags

- A    <sup>106</sup>Mo β<sup>-</sup> decay (8.73 s)
- B    <sup>252</sup>Cf SF decay

E(level)	J <sup>π</sup>	T <sub>1/2</sub> <sup>†</sup>	XREF	Comments
0.0	(1,2)	35.6 s 6	AB	%β <sup>-</sup> =100 T <sub>1/2</sub> : from 270γ-decay curve ( <a href="#">1969WiZX</a> ). Others: 36 s 1 ( <a href="#">1972Tr08</a> ) semi γ-decay curves, rapid technetium chem; 37 s 4 ( <a href="#">1965Vo06</a> ), 36 s 4 ( <a href="#">1970HeZH,1980Su01</a> ). J <sup>π</sup> : β <sup>-</sup> branch to J≤2 states ( <sup>106</sup> Ru) predominant.
53.90 6		≈0.5 ns	A	
77.35 6		7 ns 2	A	
86.98 8			A	
139.49 6			A	
150.87 8			A	
162.80 21			A	
188.88 7			A	
196.77 9			A	
242.82 9			A	
309.51 20			A	
326.37 8	1 <sup>+</sup>		A	J <sup>π</sup> =1 <sup>+</sup> suggested from strong β <sup>-</sup> feeding from <sup>106</sup> Mo 0 <sup>+</sup> g.s.
448.83 12			A	
465.55 8	1 <sup>+</sup>		A	J <sup>π</sup> =1 <sup>+</sup> suggested from strong β <sup>-</sup> feeding from <sup>106</sup> Mo 0 <sup>+</sup> g.s.
504.12 7	1 <sup>+</sup>		A	J <sup>π</sup> =1 <sup>+</sup> suggested from strong β <sup>-</sup> feeding from <sup>106</sup> Mo 0 <sup>+</sup> g.s.
672.58 7	1 <sup>+</sup>		A	J <sup>π</sup> =1 <sup>+</sup> suggested from strong β <sup>-</sup> feeding from <sup>106</sup> Mo 0 <sup>+</sup> g.s.
736.70 15			A	
0.0+x <sup>‡</sup>			B	
92.1+x <sup>‡</sup> 10			B	
162.0+x <sup>#</sup> 10			B	
256.9+x <sup>‡</sup> 14			B	
368.3+x <sup>#</sup> 15			B	
407.3+x <sup>@</sup> 14			B	
498.5+x <sup>&amp;</sup> 14			B	
601.4+x <sup>#</sup> 17			B	
649.0+x <sup>@</sup> 15			B	
807.4+x <sup>&amp;</sup> 16			B	
890.0+x <sup>#</sup> 17			B	
1061.9+x <sup>@</sup> 16			B	
1349.8+x <sup>&amp;</sup> 17			B	
1551.7+x <sup>#</sup> 20			B	
1622.5+x <sup>@</sup> 18			B	
2339.5+x <sup>@</sup> 20			B	

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**Adopted Levels, Gammas (continued)** $^{106}\text{Tc}$  Levels (continued)† From  $\beta$ - $\gamma$  delayed coincidences, unless noted otherwise.

‡ Band(A): Band #1.

# Band(B): Band #2.

@ Band(C): Band #3a.

&amp; Band(c): Band #3b.

 $\gamma(^{106}\text{Tc})$  $\Delta E$ : From 1995Jo02.

$E_i(\text{level})$	$J_i^\pi$	$E_\gamma^\ddagger$	$I_\gamma^\dagger$	$E_f$	$J_f^\pi$	Mult.#	Comments
53.90		54.0 10	100	0.0	(1,2)	M1	B(M1)(W.u.) $\approx$ 0.28
77.35		23.4 2		53.90			No value for branching given due to large uncertainty on $\alpha$ of 23.0 $\gamma$ .
		77.35 6		0.0	(1,2)	M1,E2	No value for branching given due to large uncertainty on $\alpha$ of 23.0 $\gamma$ .
86.98		87.0 1	100	0.0	(1,2)	E1	
139.49		62.1 1	27 7	77.35		E1	
		85.6 1	100 18	53.90		E1	
		139.4 1	49 9	0.0	(1,2)	E1	
150.87		73.5 1	25 9	77.35		(M1)	
		97.0 1	100 20	53.90		(M1)	
		150.8 2	54 13	0.0	(1,2)	(M1)	
162.80		108.9 2	100	53.90		(M1)	
188.88		49.6 3	12 5	139.49		(E1)	
		111.5 1	67 18	77.35		(M1)	
		135.0 1	100 23	53.90		M1	
196.77		196.7 1	100	0.0	(1,2)	M1	
242.82		188.8 1	100	53.90		(M1)	
309.51		309.37 10	100	0.0	(1,2)		
326.37	1 <sup>+</sup>	249.1 1	81 15	77.35			
		326.3 1	100 18	0.0	(1,2)		
448.83		139.4 1	100 16	309.51			
		449.1 2	61 14	0.0	(1,2)		
465.55	1 <sup>+</sup>	268.5 2	6.1 11	196.77			
		378.6 1	6.0 10	86.98			
		465.6 1	100 15	0.0	(1,2)		
504.12	1 <sup>+</sup>	315.3 1	28 6	188.88			
		364.5 1	33 6	139.49			
		504.2 1	100 19	0.0	(1,2)		
672.58	1 <sup>+</sup>	346.2 2	5.3 16	326.37	1 <sup>+</sup>		
		429.6 1	40 7	242.82			
		483.5 2	14 4	188.88			
		595.4 1	70 10	77.35			
		618.7 1	100 17	53.90			
		672.7 2	19 17	0.0	(1,2)		
736.70		683.3 2	43 8	53.90			
		736.2 2	100 21	0.0	(1,2)		
92.1+x		92.1		0.0+x			
162.0+x		162.0	100	0.0+x			
256.9+x		164.8	100	92.1+x			
368.3+x		206.3		162.0+x			
407.3+x		315.2	100	92.1+x			
498.5+x		91.2		407.3+x			
		241.5	100	256.9+x			

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**Adopted Levels, Gammas (continued)** $\gamma(^{106}\text{Tc})$  (continued)

$E_i(\text{level})$	$E_\gamma$ <sup>‡</sup>	$I_\gamma$ <sup>†</sup>	$E_f$	$E_i(\text{level})$	$E_\gamma$ <sup>‡</sup>	$I_\gamma$ <sup>†</sup>	$E_f$	$E_i(\text{level})$	$E_\gamma$ <sup>‡</sup>	$I_\gamma$ <sup>†</sup>	$E_f$
601.4+x	233.2		368.3+x	890.0+x	288.6		601.4+x	1349.8+x	542.5	100	807.4+x
649.0+x	150.5	100	498.5+x		521.6		368.3+x	1551.7+x	661.7	100	890.0+x
	241.7	5.6	407.3+x	1061.9+x	254.5	100	807.4+x	1622.5+x	272.8	100	1349.8+x
807.4+x	158.4	100	649.0+x		412.9	19	649.0+x		560.5	26	1061.9+x
	308.9	24	498.5+x	1349.8+x	288.0	93	1061.9+x	2339.5+x	717.0	100	1622.5+x

<sup>†</sup> Relative branchings for each level calculated from  $^{106}\text{Mo}$   $\beta^-$  decay data of [1995Jo02](#).

<sup>‡</sup> From [1995Jo02](#).

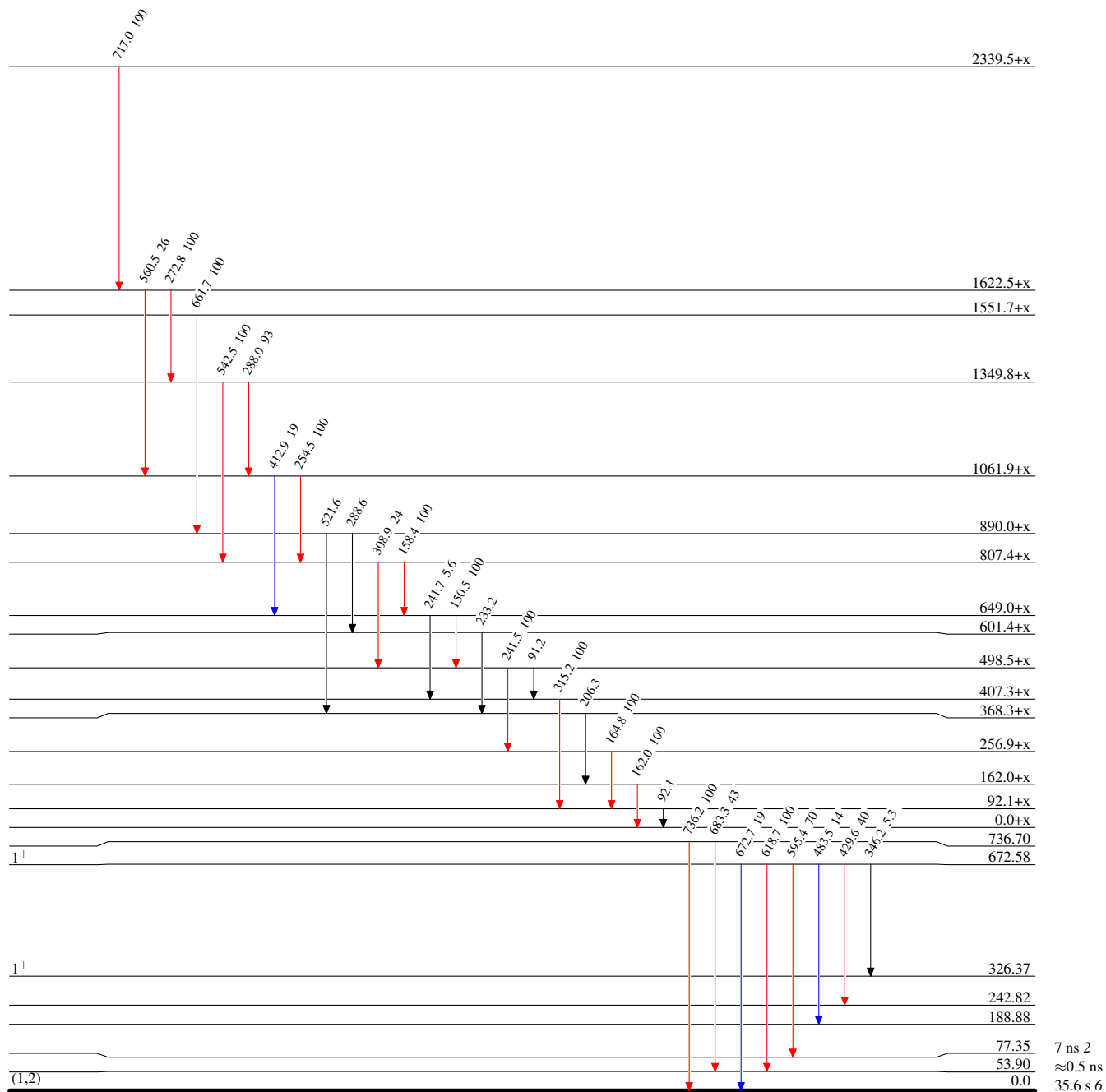
<sup>#</sup> From  $\alpha$  and K/L measurements ([1995Jo02](#)).

**Adopted Levels, Gammas****Level Scheme**

Intensities: Type not specified

**Legend**

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

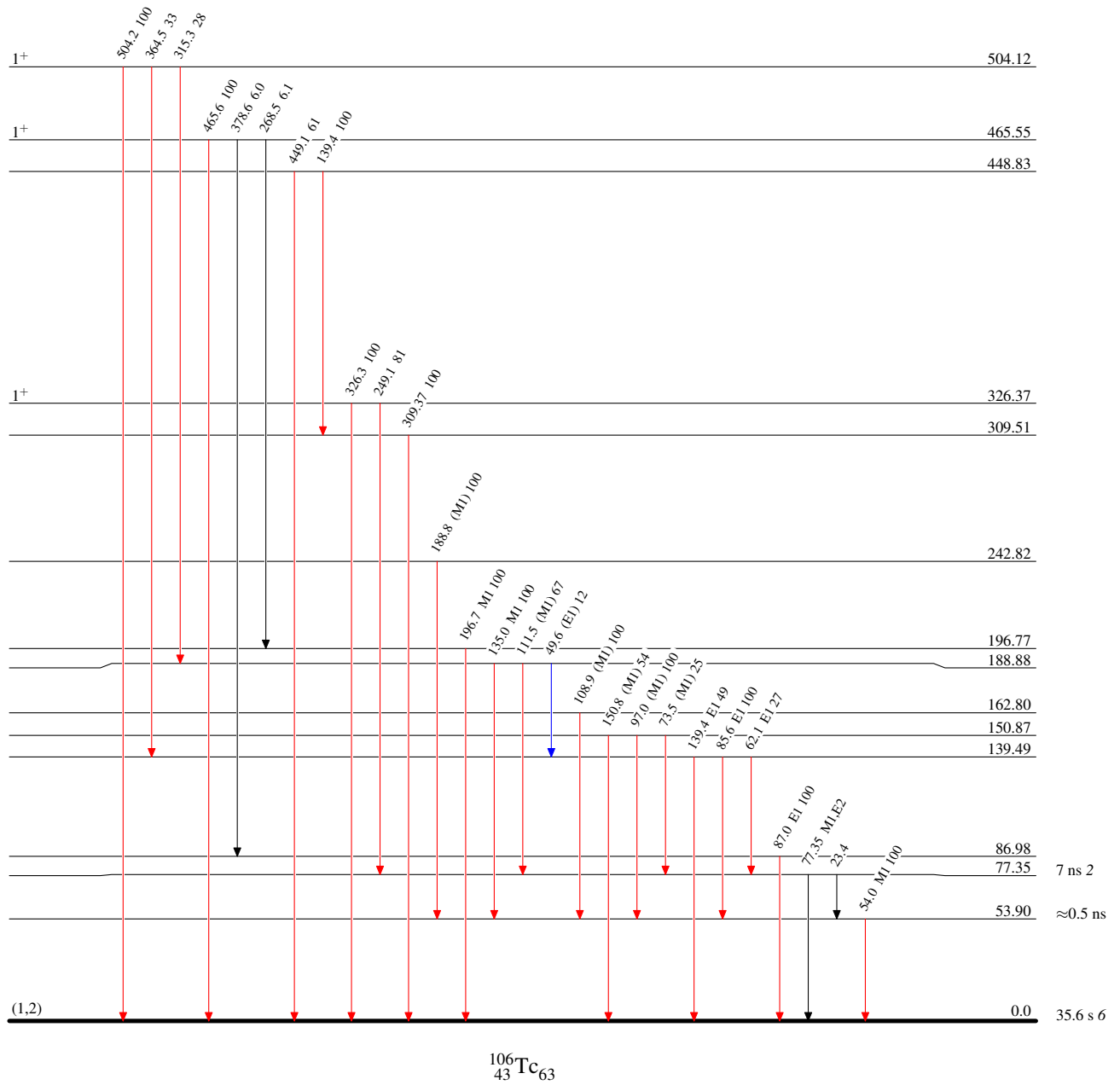
 $^{106}_{43}\text{Tc}_{63}$

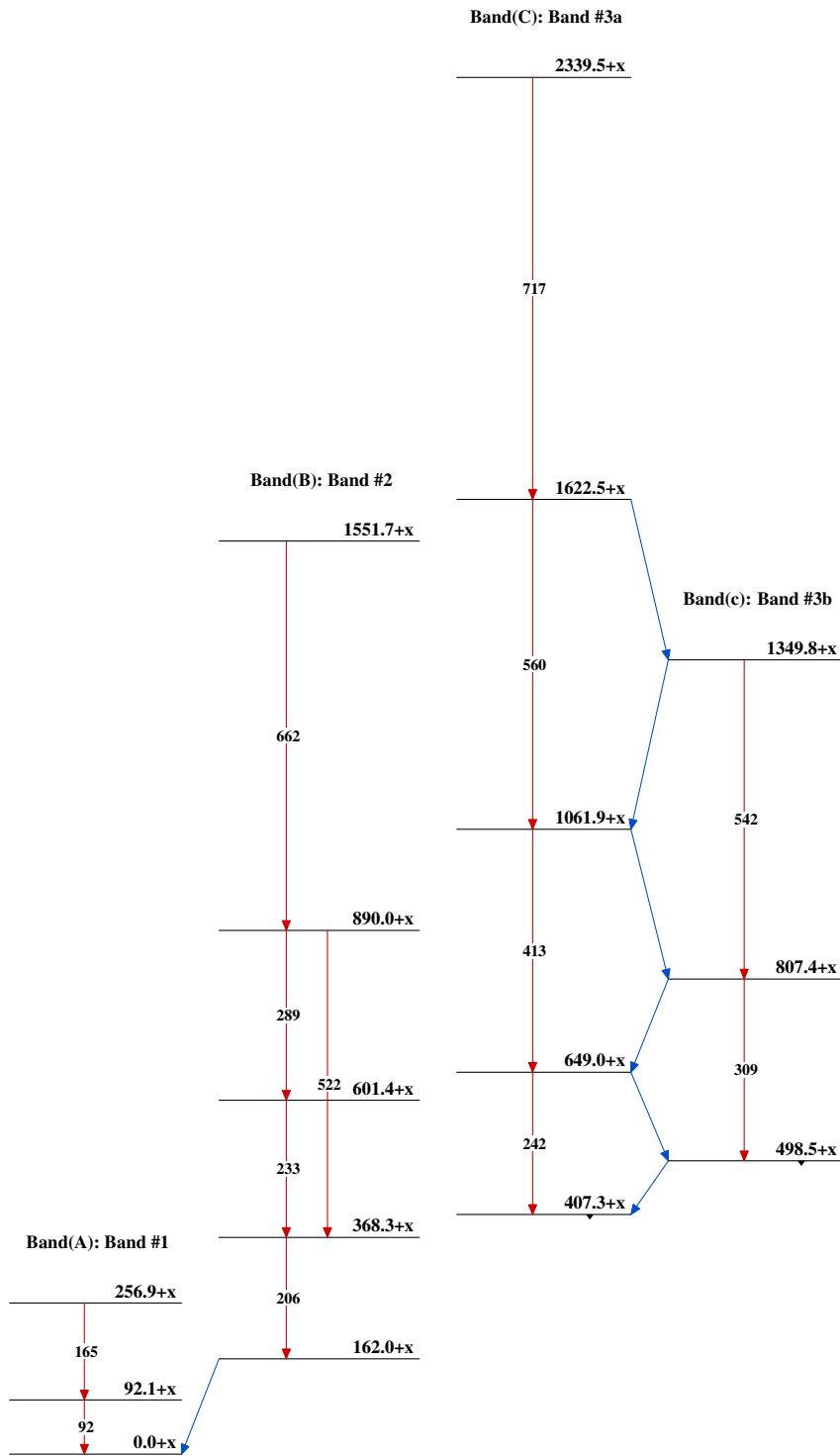
**Adopted Levels, Gammas****Level Scheme (continued)**

Intensities: Type not specified

## Legend

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



Adopted Levels, Gammas $^{106}_{43}\text{Tc}_{63}$