Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 172, 1 (2021)	31-Jan-2021

Q(β^-)=3206.4 *14*; S(n)=6764.4 *10*; S(p)=7339.8 *13*; Q(α)=−2843.0 *14* 2017Wa10
S(2n)=15731 *4*, S(2p)=17074 *5* (2017Wa10).
Other reactions:
^{103}Rh(n,α): 1972Bo14, 1968Ve02, 1965Ku07, 1963Cs01.
^{100}Mo(HI,X): 1984As02, 1976Mi13.
Additional information 1.
^{99}Tc(n,γ),(n,n): resonances: see dataset for about 690 neutron resonances and associated parameters from 5.58 eV to 10.0 keV, taken from 2018MuZY evaluation.
Theory references: consult the NSR database (www.nndc.bnl.gov/nsr/) for 22 primary references, 11 dealing with nuclear structure calculations and 11 with decay modes and half-lives.

^{100}Tc Levels

Cross Reference (XREF) Flags

A	^{96}Zr(^{7}Li,3nγ)	E	^{100}Mo(p,nγ),(d,2nγ)
B	^{99}Tc(n,γ) E=thermal	F	^{100}Mo(^{3}He,t)
C	^{99}Tc(n,γ),(n,n):resonances	G	^{101}Ru(γ,pγ)
D	^{99}Tc(d,p)		

E(level)[†]	J$^\pi$[#]	$T_{1/2}$[&]	XREF	Comments
0.0[‡]	1$^+$	15.65 s *12*	AB DEFG	%β^-=99.9974 *4*; %ε=0.0026 *4* (2008Sj01) %ε=0.0026 *4* for ^{100}Tc decay (2008Sj01, absolute counting method). Other: 0.0018 *9* (1993Ga09, x-ray measurement). J$^\pi$: log *ft*=4.6 to 0$^+$. $T_{1/2}$: unweighted average 15.27 s *5* (2001Fu21); 15.9 s *4* (2002Ab03); 15.5 s *1* (1995Ha46); 15.8 s *1* (1969Be69); 15.8 s *2* (1952Bo30). Weighted average is 15.42 s *11*, but with reduced χ^2=7.3. Others: 17.1 s *7* (1963Cs01), 17.5 s *10* (1952Ho17).
172.15[‡] *4*	2$^+$	<3 ns	AB DE G	J$^\pi$: M1+E2 172.1γ to 1$^+$, primary 6593.2γ from 4$^+$,5$^+$.
200.67[‡] *4*	(4)$^+$	8.25 μs *8*	AB DE G	%IT=100 J$^\pi$: E2 28.5γ to 2$^+$; primary 6564.3γ from 4$^+$,5$^+$. $T_{1/2}$: from γ(t) and/or ce(t) using pulsed beam in (p,nγ), (d,2nγ) and (γ,pγ). The Adopted value is unweighted average of 8.18 μs *7* (1980Bi01), 8.46 μs *5* (1978Ma36) and 8.15 μs *20* (1961Sc11) in (p,nγ), and 8.2 μs *3* (1978Ba18) in (γ,pγ). Others: 10.2 μs *1* (1979Pi08) in (d,2nγ), 11.5 μs *2* (1964Br27) in (γ,pγ) are discrepant.
223.47 *4*	(2)$^-$	<3 ns	B EF	J$^\pi$: E1 223.5γ to 1$^+$; L(^{3}He,t)=1+3 from 0$^+$.
243.95[‡] *4*	(6)$^+$	3.2 μs *2*	AB DE	%IT=100 J$^\pi$: E2 43.3γ to (4)$^+$; primary 6520.5γ from 4$^+$,5$^+$. $T_{1/2}$: from γ(t) in (p,nγ) (1980Bi01). Others: 4.6 μs *5* in (d,2nγ) (1979Pi08); 16 μs *3* (1967Iv04) and 15.5 μs *8* (1961Sc11) in (p,nγ) seem discrepant.
263.56[‡] *4*	(3)$^+$	<3 ns	AB DE	J$^\pi$: E2 263.6γ to 1$^+$; M1 62.9γ to (4)$^+$.
287.52 *4*	(5)$^+$	<3 ns	B dE	J$^\pi$: M1 43.6γ to (6)$^+$ and M1 86.8γ to (4)$^+$. E(level): in (d,p), the 290 group corresponds to 287.5+294.9+299.6.
294.92[‡] *4*	(4)$^+$	0.87[a] ns *14*	AB dE	XREF: E(?). J$^\pi$: M1(+E2) 31.4γ to (3)$^+$; M1 105.7γ from (5)$^+$; primary 6470.2γ from 4$^+$,5$^+$.
299.66 *4*	(2,3)$^+$	<3 ns	B dE	J$^\pi$: E2(+M1) 127.5γ to 2$^+$; possible 99.1γ to (4)$^+$ and possible 299.47γ to 1$^+$.

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Adopted Levels, Gammas (continued)

^{100}Tc Levels (continued)

E(level)†	J^{π}#	$T_{1/2}$&	XREF	Comments
319.49‡ *4*	(5)$^+$		AB DE	J^{π}: ΔJ=(1), M1 75.5γ to (6)$^+$; 118.8γ to (4)$^+$; L(d,p)=0+2 from 9/2$^+$ target.
335.16 *4*	(2,3)$^+$	<3 ns	B dE	J^{π}: M1 71.7γ to (3)$^+$; 335.2γ to 1$^+$.
340.98 *4*	(3)$^+$		B dE	J^{π}: M1 168.8γ to 2$^+$ and M1 46.0γ to (4)$^+$; L(d,p)=2 for 339+355.
355.58 *4*	(2,3)$^+$	<3 ns	B DEF	XREF: D(355). J^{π}: M1+E2 92.0γ to (3)$^+$, 355.6γ to 1$^+$. J^{π}=1$^+$ assigned in (^{3}He,t) is in conflict.
400.63 *4*	(5)$^+$		AB DE	J^{π}: ΔJ=(1), D 144.2γ from (6)$^-$; 239.2γ from (3)$^+$; L(d,p)=2 from 9/2$^+$ target.
424.36 *4*	(3,4$^+$)		B E	J^{π}: 252.2γ to 2$^+$, 129.4γ to (4)$^+$, 75.8γ from (4)$^-$.
440.38‡ *13*	(7)$^+$	<0.28[a] ns	A	J^{π}: ΔJ=(1), M1(+E2) 196.4γ to (6)$^+$; ΔJ=1, D 267.5γ from (8)$^-$.
454.20 *4*	(4,5)$^+$		B DE	XREF: D(444). E(level): assignment of this level as one component of the doublet in (d,p) is consistent with L(d,p)(444+460)=0+2 from 9/2$^+$. J^{π}: M1 166.7γ to (5)$^+$, 113.2γ to (3)$^+$.
456.79 *4*	(2$^+$,3,4$^-$)		B	J^{π}: 233.3γ to (2)$^-$; primary 6308.5γ from 4$^+$,5$^+$.
457.05‡ *15*	(7)$^+$	<0.28[a] ns	A	J^{π}: ΔJ=(1), M1(+E2) 213.1γ to (6)$^+$; 250.7γ from (8)$^-$.
459.13 *5*	(0,1,2,3$^+$)		B E	J^{π}: 458.8γ to 1$^+$.
461.10 *4*	(5)$^+$		B D	XREF: D(460). E(level): assignment of this level as one component of the doublet in (d,p) is consistent with L(d,p)(444+460)=0+2 from 9/2$^+$. J^{π}: M1 217.1γ to (6)$^+$; 197.5γ to (3)$^+$.
476.02 *8*	(≤3)		E	J^{π}: 176.4γ to (2,3)$^+$; possible 475.9γ to 1$^+$.
484.04? *13*	(≤3)		E	J^{π}: possible 483.9γ to 1$^+$.
493.67 *4*	4$^+$,5$^+$		B DE	XREF: D(497). J^{π}: M1+E2 206.2γ to (5)$^+$; 230.1γ to (3)$^+$; L(d,p)=0+2 from 9/2$^+$.
500.02 *4*	(2,3)$^-$		B E	J^{π}: M1 276.6γ to (2)$^-$; 236.5γ to (3)$^+$; 327.9γ to 2$^+$.
500.15 *4*	(4)$^-$		B E	J^{π}: E1 299.5γ to (4)$^+$, 159.2γ to (3)$^+$, 180.7γ to (5)$^+$.
513.92 *4*	(3 to 6)$^+$		B D	XREF: D(514). J^{π}: 226.4γ to (5)$^+$ and 313.2γ to (4)$^+$; L(d,p)=2 from 9/2$^+$.
521.0? *4*			E	J^{π}: (1$^+$,2,3,4$^+$) from possible 348.7 to 2$^+$ and 257.5γ to (3)$^+$.
539.63 *4*	(4$^-$,5$^-$)		B	J^{π}: possible M1 39.5γ to (4,5)$^-$; 338.96γ to (4)$^+$ and 220.1γ to (5)$^+$.
544.87 *4*	(6)$^-$	0.43[a] ns *10*	AB	J^{π}: ΔJ=(0), E1 300.9γ to (6)$^+$; ΔJ=(1), E1 225.5γ to (5)$^+$.
552.29 *4*	4$^+$,5$^+$		B D	J^{π}: M1(+E2) 91.2γ to (5)$^+$; 288.7γ to (3)$^+$; L(d,p)=0 from 9/2$^+$.
580.41 *4*	(3,4,5)$^+$		B D	XREF: D(586). J^{π}: 239.4γ to (3)$^+$ and 292.9γ to (5)$^+$; L(d,p)=0+2 for 586+600 from 9/2$^+$.
599.78 *4*	(2 to 7)$^+$		B D	XREF: D(600). J^{π}: L(d,p)=0+2 for 586+600 from 9/2$^+$ target gives J^{π}=4$^+$,5$^+$ for both levels or J^{π}=4$^+$,5$^+$ for one level and J^{π}=2$^+$ to 7$^+$ for the other.
608.65 *12*	(7)$^-$	<0.28[a] ns	A	J^{π}: ΔJ=(1), M1(+E2) 63.8γ to (6)$^-$; ΔJ=(0), (D) 168.2γ to (7)$^+$;
636.17 *8*	(3,4,5)$^+$		dE	E(level): 639 doublet in (d,p), probably corresponds to 636 and 640 levels. J^{π}: 372.0γ to (3)$^+$ and 348.7γ to (5)$^+$; L(d,p)=0+2 for a doublet from 9/2$^+$ target.
639.82 *4*	(3)$^+$		B d	J^{π}: 639.8γ to 1$^+$, 320.3γ to (5)$^+$; L(d,p)=0+2 for a doublet from 9/2$^+$ target.
680.23 *6*	(4,5,6)$^-$		B E	XREF: B(?). J^{π}: E2(+M1) 180.1γ to (4,5)$^-$; 392.7γ to (5)$^+$.
689 *1*	(2)$^-$		F	J^{π}: L(^{3}He,t)=1+3 from 0$^+$ target.
689 *10*	(4$^+$,5$^+$)		D	J^{π}: L(d,p)=(0+2) from 9/2$^+$ target.
707.79[b] *16*	(8)$^-$	<0.28[a] ns	A	J^{π}: ΔJ=(1), M1+E2 99.1γ to (7)$^-$; band assignment.
709 *10*	4$^+$,5$^+$		D	J^{π}: L(d,p)=0+2+4 from 9/2$^+$ target.
710.82‡ *19*	(8)$^+$	<0.28[a] ns	A	J^{π}: ΔJ=(1), M1(+E2) 270.4γ to (7)$^+$.
748.20 *4*	4$^+$,5$^+$		B D	XREF: D(758). J^{π}: 547.2γ to (4)$^+$; L(d,p)=0+2 from 9/2$^+$.

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Adopted Levels, Gammas (continued)

^{100}Tc Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[&]	XREF	Comments
758.8? *4*			A	Jπ: 301.8γ to (7)+.
776 *10*	4+,5+		D	Jπ: L(d,p)=0+2+4 from 9/2+.
777.86[c] *25*	(9)−	<0.28[a] ns	A	Jπ: ΔJ=(1), M1(+E2) 70.1γ to (8)−; band assignment.
821.74 *4*	(3,4,5)		B	Jπ: 321.6γ to (4)−; primary 5943.3γ from 4+,5+.
830.20 *6*	(2,3)+		B DE	XREF: B(?). Jπ: 830.3γ to 1+; L(d,p)=2 from 9/2+ target.
838 *1*	1+		F	Jπ: L(^{3}He,t)=0+2 from 0+ target.
854.01 *4*	(2 to 7)+		B D	Jπ: 301.7γ to 4+,5+; L(d,p)=2 from 9/2+ target.
882 *10*	(2 to 7)+		D	Jπ: L(d,p)=2 from 9/2+.
906.18 *9*	(1+,2,3+)		E	Jπ: 905.5γ to 1+ and 564.8γ to (3)+.
929.90 *4*	(3,4,5)+ [@]		B D	XREF: D(936). Jπ: 666.3γ to (3)+ and 429.7γ to (4)−; primary 5835.2γ from 4+,5+; L(d,p)=0+2 from 9/2+ target for 936+950.
952.88 *4*	(2 to 7)+ [@]		B D	XREF: D(950). Jπ: 498.7γ to (4,5)+; L(d,p)=0+2 from 9/2+ target for 936+950.
972 *10*	(2 to 7)+		D	Jπ: L(d,p)=2 from 9/2+.
1000 *10*	4+,5+		D	Jπ: L(d,p)=0+2 from 9/2+.
1051.16 *4*	(2+,3,4)		B	Jπ: 411.4γ to (3)+; primary 5713.8γ from 4+,5+; 551.1γ to (2,3)−.
1074.62 *25*	(8−)		A	Jπ: ΔJ=(1), (E1) 617.6γ and 634.2γ to (7)+.
1154.9[b] *3*	(10)−	<0.28 ns	A	Jπ: ΔJ=(1), M1(+E2) 377.0γ to (9)−; band assignment.
1284.6[‡] *3*	(9)+		A	Jπ: ΔJ=2, E2 827.6γ to (7)+; band assignment.
1339 *1*	1+		F	Jπ: L(^{3}He,t)=0+2 from 0+.
1406.6[c] *3*	(11)−	<0.28[a] ns	A	Jπ: ΔJ=2, E2 628.7γ to (9)− and ΔJ=1, M1(+E2) 251.6γ to (10)−; band assignment.
1416 *1*	1+		F	Jπ: L(^{3}He,t)=0+2 from 0+.
1581.7[d] *4*	(10−)		A	Jπ: ΔJ=(1) 804.0γ to (9)−; band assignment.
1720.9[‡] *4*	(10+)		A	Jπ: ΔJ=(2), 1010.1γ to (8)+.
1840.2[b] *3*	(12)−	<0.28[a] ns	A	Jπ: ΔJ=2, E2 685.3γ to (10)− and ΔJ=1, M1(+E2) 433.6γ to (11)−; band assignment.
2053.1[e] *4*	(11−)		A	Jπ: ΔJ=1 472.2γ and 898.3γ to (10)−; band assignment.
2152 *1*	(1+)		F	Jπ: possible Gamow-Teller transition from 0+.
2175.5[‡] *4*	(11+)		A	Jπ: ΔJ=(2) 890.9γ to (9)+.
2238.5[c] *4*	(13)−	<0.28[a] ns	A	Jπ: ΔJ=2, E2 831.7γ to (11)− and ΔJ=1, M1+E2 398.3γ to (12)−; band assignment.
2318 *1*	(1+)		F	Jπ: possible Gamow-Teller transition from 0+.
2391.9[d] *4*	(12−)		A	Jπ: ΔJ=1 986.1γ to (11)−; ΔJ=2 809.7γ to (10−); band assignment.
2435 *1*	(1+)		F	Jπ: possible Gamow-Teller transition.
2565 *1*	1+		F	Jπ: L(^{3}He,t)=0; possible Gamow-Teller transition.
2611 *1*	(1+)		F	Jπ: possible Gamow-Teller transition.
2683 *1*	(1+)		F	Jπ: possible Gamow-Teller transition.
2693.5[b] *4*	(14−)	<0.28[a] ns	A	Jπ: ΔJ=2, 853.2γ to (12)− and ΔJ=1, 454.9γ to (13)−; band assignment.
2695.9[‡] *6*	(12+)		A	Jπ: ΔJ=(2) 975.0γ to (10+).
2798.3[e] *5*	(13−)		A	Jπ: ΔJ=1, 956.9γ to (12)−; band assignment.
2949 *1*	1+		F	Jπ: L(^{3}He,t)=0; possible Gamow-Teller transition.
3075.7[‡] *6*	(13+)		A	Jπ: ΔJ=(2) 900.2γ to (11+).
3233.0[c] *5*	(15−)		A	Jπ: ΔJ=2, 995.2γ to (13)−; ΔJ=1, 540.6γ to (14−); band assignment.
3.25×10^3 *25*	(1+)		F	Jπ: possible Gamow-Teller transition.
3269.2[d] *5*	(14−)		A	Jπ: 1030.5γ to (13)−; 471.1γ to (13−); band assignment.
3690.4?[e] *6*	(15−)		A	Jπ: 996.9γ to (14−); possible band assignment.
3710.0[b] *6*	(16−)		A	Jπ: ΔJ=(2) 1014.7γ to (14−); 478.9γ to (15−); band assignment.
3.75×10^3 *25*	(1)+		F	Jπ,E(level): L(^{3}He,t)=0+2; possible multiplet.

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Adopted Levels, Gammas (continued)

^{100}Tc Levels (continued)

E(level)[†]	J^{π}[#]	XREF	Comments
4358.1?[c] *7*	(17⁻)	A	J^{π}: ΔJ=2 1125.1γ to (15⁻); possible 644.4γ to (16⁻); possible band assignment.
(6765.08 *3*)	4⁺,5⁺	B	E(level): S(n)=6764.4 *10* (2017Wa10). J^{π}: s-wave capture in 9/2⁺ g.s. of ^{99}Tc.
8000		F	E(level): centroid of a wide peak, giant resonance and spin-dipole resonance.
11085 *1*	0⁺	F	J^{π},E(level): L(^{3}He,t)=0; possible Gamow-Teller transition.
13300		F	E(level): centroid of a wide peak. Giant resonance and a sharp IAR peak near 11.5 MeV.

[†] From least-squares fit to Eγ data. The relative uncertainties of secondary γ rays from (n,γ) E=thermal were doubled if less than 0.01 keV and the primary γ rays were included in the fitting procedure. The uncertainties were assumed as 0.5 keV when not stated. The overall normalized χ^2=5.0, somewhat higher than expected which implies that some of the Eγ uncertainties should be higher than the assigned values. Based on systematic uncertainty of 0.05 keV for secondary γ rays in (n,γ) E=thermal, the absolute uncertainty on level energies contains 0.04 keV uncertainty added in quadrature, where applicable.

[‡] Configuration=$\pi g_{9/2}\otimes\nu d_{5/2}$ and $\pi g_{9/2}\otimes\nu g_{7/2}$ (1995Bi11).

[#] For levels populated in (^{7}Li,3nγ) ascending spins are assumed as the excitation energy increases, based on the preferential population of yrast states in (HI,xnγ) reactions.

[@] L(d,p)=0+2 from 9/2⁺ for 936+950 doublet gives J^{π}=4⁺,5⁺ for both levels or J^{π}=4⁺,5⁺ for one level and J^{π}=2⁺ to 7⁺ for the other.

[&] From γ(t) in (p,nγ) (1980Bi01), unless otherwise stated.

[a] Centroid-shift method in ^{96}Zr(^{7}Li,3nγ) (1995Bi11).

[b] Band(A): Negative-parity yrast band, α=0. Configuration=$\pi g_{9/2}^{-1}\otimes\nu h_{11/2}$.

[c] Band(a): Negative-parity yrast band, α=1. Configuration=$\pi g_{9/2}^{-1}\otimes\nu h_{11/2}$.

[d] Band(B): Possible chiral (doublet) partner, α=0. Configuration=$\pi g_{9/2}^{-1}\otimes\nu h_{11/2}$.

[e] Band(b): Possible chiral (doublet) partner, α=1. Configuration=$\pi g_{9/2}^{-1}\otimes\nu h_{11/2}$.

Adopted Levels, Gammas (continued)

$\gamma(^{100}Tc)$

E_i(level)	J^π_i	E_γ†	I_γ‡	E_f	J^π_f	Mult.#	δ#	α&	Comments
172.15	2^+	172.1484 *4*	100	0.0	1^+	M1+E2	0.45 *10*	0.082 *7*	B(E2)(W.u.)>4.5; B(M1)(W.u.)>0.0010 α(K)=0.071 *6*; α(L)=0.0093 *11*; α(M)=0.00169 *19* α(N)=0.000264 *29*; α(O)=1.52×10^{-5} *11* δ: from ce in (n,γ) E=thermal, (p,nγ) and (^{7}Li,3nγ).
200.67	$(4)^+$	28.520 *2*	100	172.15	2^+	E2		112.9 *16*	B(E2)(W.u.)=1.16 *2* α(K)=39.1 *5*; α(L)=60.8 *9*; α(M)=11.40 *16* α(N)=1.591 *22*; α(O)=0.00680 *10* E_γ: from ce data in (n,γ) E=thermal. From γ-ray data: 28.6 *4* in (p,nγ) (1978Ma36) and 28.7 *3* in (γ,pγ) (1978Ba18). Mult.: from ce data in (n,γ) E=thermal and x-ray data in (p,nγ).
223.47	$(2)^-$	223.4682 *4*	100	0.0	1^+	E1		0.01316 *18*	B(E1)(W.u.)>9.3×10^{-6} α(K)=0.01156 *16*; α(L)=0.001321 *18*; α(M)=0.0002383 *33* α(N)=3.76×10^{-5} *5*; α(O)=2.390×10^{-6} *33* δ: <0.03 from RUL, <0.1 from ce data in (n,γ) E=thermal, 0.24 *4* from ce data in (p,nγ).
243.95	$(6)^+$	43.2862 *10*	100	200.67	$(4)^+$	E2		25.01 *35*	B(E2)(W.u.)=1.62 *11* α(N)=0.2214 *31*; α(O)=0.002387 *33* α(K)=14.86 *21*; α(L)=8.36 *12*; α(M)=1.565 *22* Mult.: from ce data in (n,γ) E=thermal.
263.56	$(3)^+$	62.8887 *5*	27.5 *8*	200.67	$(4)^+$	M1		1.041 *15*	B(M1)(W.u.)>0.0028 α(K)=0.908 *13*; α(L)=0.1098 *15*; α(M)=0.01996 *28* α(N)=0.00316 *4*; α(O)=0.0002060 *29*
		91.4074 *2*	81 *5*	172.15	2^+	M1		0.359 *5*	B(M1)(W.u.)>0.0027 α(K)=0.313 *4*; α(L)=0.0376 *5*; α(M)=0.00684 *10* α(N)=0.001086 *15*; α(O)=7.11×10^{-5} *10* Mult.,δ: δ(E2/M1)<0.3 from ce data in (n,γ) E=thermal.
		263.5554 *9*	100.0 *12*	0.0	1^+	E2		0.0396 *6*	B(E2)(W.u.)>1.9 α(K)=0.0341 *5*; α(L)=0.00459 *6*; α(M)=0.000836 *12* α(N)=0.0001293 *18*; α(O)=6.92×10^{-6} *10* Mult.,δ: δ(E2/M1)>2.5 from ce data in (^{7}Li,3nγ), >2 from ce data in (n,γ) E=thermal.
287.52	$(5)^+$	43.5620 *10*	52 *7*	243.95	$(6)^+$	M1		3.02 *4*	B(M1)(W.u.)>0.012 α(K)=2.63 *4*; α(L)=0.320 *4*; α(M)=0.0581 *8* α(N)=0.00921 *13*; α(O)=0.000597 *8* δ: δ(E2/M1)<0.3 from ce data in (n,γ) E=thermal.
		86.8498 *3*	100 *7*	200.67	$(4)^+$	M1		0.415 *6*	B(M1)(W.u.)>0.0028 α(N)=0.001255 *18*; α(O)=8.21×10^{-5} *11* α(K)=0.362 *5*; α(L)=0.0435 *6*; α(M)=0.00791 *11* δ: δ(E2/M1)<0.2 from ce data in (n,γ) E=thermal.
294.92	$(4)^+$	31.3696 *10*	100 *12*	263.56	$(3)^+$	M1(+E2)	<0.08	8.13 *25*	B(M1)(W.u.)=0.089 *+22−15* α(N)=0.0273 *32*; α(O)=0.001574 *25*

Adopted Levels, Gammas (continued)

γ(^{100}Tc) (continued)

E_i(level)	J^π_i	E_γ [†]	I_γ [‡]	E_f	J^π_f	Mult. [#]	δ [#]	α [&]	Comments
									α(K)=6.97 *13*; α(L)=0.96 *12*; α(M)=0.175 *23* δ: from RUL(E2)=300. δ(E2/M1)=0.35 *15* from α(L1)exp in (n,γ).
294.92	(4)$^+$	94.251 *6*	3.6 *3*	200.67	(4)$^+$	[M1,E2]		0.9 *6*	α(K)=0.8 *5*; α(L)=0.15 *11*; α(M)=0.027 *21* α(N)=0.0041 *31*; α(O)=1.4×10^{-4} *8* If M1, B(M1)(W.u.)=5E−5 *3*. If E2, B(E2)(W.u.)=5 *3*.
299.66	(2,3)$^+$	99.09[@] *10*	<15[@]	200.67	(4)$^+$				
		127.5061 *3*	100[@] *12*	172.15	2$^+$	E2(+M1)	>1.4	0.46 *6*	B(E2)(W.u.)>79 α(K)=0.38 *5*; α(L)=0.065 *10*; α(M)=0.0120 *19* α(N)=0.00180 *28*; α(O)=7.1×10^{-5} *9* Mult.,δ: from ce data in (p,nγ).
		299.47[b] *4*		0.0	1$^+$				
319.49	(5)$^+$	75.5330 *2*	100 *6*	243.95	(6)$^+$	M1		0.616 *9*	α(K)=0.538 *8*; α(L)=0.0648 *9*; α(M)=0.01178 *16* α(N)=0.001868 *26*; α(O)=0.0001219 *17* Mult.: from ce data in (n,γ) E=thermal; γ(θ) in (^{7}Li,3nγ) consistent with ΔJ=1.
		118.8233 *5*	5.0 *11*	200.67	(4)$^+$				
335.16	(2,3)$^+$	71.600 *3*	68 *6*	263.56	(3)$^+$	M1		0.718 *10*	B(M1)(W.u.)>0.0044 α(K)=0.626 *9*; α(L)=0.0755 *11*; α(M)=0.01373 *19* α(N)=0.002178 *30*; α(O)=0.0001420 *20* E_γ: level-energy difference=71.610.
		163.0105 *9*	63 *5*	172.15	2$^+$				E_γ: level-energy difference=163.0175.
		335.193 *3*	100 *5*	0.0	1$^+$				E_γ: level-energy difference=335.166.
340.98	(3)$^+$	46.0491 *10*	7.6 *10*	294.92	(4)$^+$	M1		2.57 *4*	α(K)=2.240 *31*; α(L)=0.272 *4*; α(M)=0.0494 *7* α(N)=0.00783 *11*; α(O)=0.000507 *7* δ: δ(E2/M1)<0.4 from ce data in (n,γ) E=thermal.
		77.418 *3*	2.6 *4*	263.56	(3)$^+$				
		140.3152 *3*	18.0 *8*	200.67	(4)$^+$				
		168.8302 *2*	100 *10*	172.15	2$^+$	M1		0.0665 *9*	α(K)=0.0581 *8*; α(L)=0.00687 *10*; α(M)=0.001248 *17* α(N)=0.0001983 *28*; α(O)=1.312×10^{-5} *18* δ: δ(E2/M1)<0.3 from ce data in (n,γ) E=thermal.
		340.981 *3*	30.4 *6*	0.0	1$^+$				
355.58	(2,3)$^+$	92.0183 *4*	100 *10*	263.56	(3)$^+$	M1+E2	0.6 *3*	0.71 *24*	α(K)=0.58 *19*; α(L)=0.10 *5*; α(M)=0.019 *9* B(M1)(W.u.)>0.0018; B(E2)(W.u.)>30 α(N)=0.0029 *13*; α(O)=1.14×10^{-4} *31*
		355.575 *9*	79 *3*	0.0	1$^+$				
400.63	(5)$^+$	105.7083 *2*	100 *20*	294.92	(4)$^+$	M1		0.2390 *33*	α(K)=0.2087 *29*; α(L)=0.02499 *35*; α(M)=0.00454 *6* α(N)=0.000721 *10*; α(O)=4.73×10^{-5} *7* Mult.: δ(E2/M1)<0.3 from ce data in (n,γ) E=thermal.
		199.9647 *7*	10.0 *16*	200.67	(4)$^+$				
424.36	(3,4$^+$)	129.4322 *11*	6.3 *5*	294.92	(4)$^+$				
		160.8004 *16*	1.4 *4*	263.56	(3)$^+$				
		223.716[b] *7*	9 *3*	200.67	(4)$^+$				

$^{100}_{43}Tc_{57}$-6

$\gamma(^{100}Tc)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult.#	δ#	α&	Comments
424.36	$(3,4^+)$	252.2159 *8*	100.0 *21*	172.15	2^+				
440.38	$(7)^+$	196.4 *2*	100	243.95	$(6)^+$	M1(+E2)	<0.3	0.0472 *28*	B(M1)(W.u.)>0.0090 α(N)=0.000143 *11*; α(O)=9.2×10^{-6} *4* α(K)=0.0412 *24*; α(L)=0.0050 *4*; α(M)=0.00090 *7* E_γ,Mult.,δ: from (^{7}Li,3nγ), with $\gamma(\theta)$ consistent with ΔJ=1.
454.20	$(4,5)^+$	113.2194 *3*	32.9 *9*	340.98	$(3)^+$				
		166.6825 *3*	100 *9*	287.52	$(5)^+$	M1		0.0688 *10*	α(K)=0.0602 *8*; α(L)=0.00712 *10*; α(M)=0.001292 *18* α(N)=0.0002053 *29*; α(O)=1.358×10^{-5} *19* Mult.: from ce data in (n,γ) E=thermal.
		190.6374 *6*	10.8 *3*	263.56	$(3)^+$				E_γ: level-energy difference=190.6412.
		253.532 *3*	19.7 *20*	200.67	$(4)^+$				
456.79	$(2^+,3,4^-)$	233.325 *3*	100	223.47	$(2)^-$				
457.05	$(7)^+$	213.1 *2*	100	243.95	$(6)^+$	M1+E2	0.4 *2*	0.042 *6*	B(M1)(W.u.)>0.0057; B(E2)(W.u.)>6 α(K)=0.037 *5*; α(L)=0.0046 *8*; α(M)=0.00083 *15* α(N)=0.000131 *22*; α(O)=8.0×10^{-6} *9* E_γ,Mult.,δ: from (^{7}Li,3nγ), with $\gamma(\theta)$ consistent with ΔJ=1.
459.13	$(0,1,2,3^+)$	103.78@ *4*	36@ *12*	355.58	$(2,3)^+$				E_γ,I_γ: level-energy difference=103.63. Other: Eγ=103.5975 *19* and Iγ=78 *8* from (n,γ) E=thermal is uncertain.
		124.01@ *5*	48@ *12*	335.16	$(2,3)^+$				E_γ,I_γ: other: Eγ=124.027 *3* and Iγ=7.5 *23* from (n,γ) E=thermal is uncertain.
		286.84 *3*	77 *3*	172.15	2^+				E_γ: weighted average of 286.83 *3* from (n,γ) E=thermal and 286.90 *6* from (p,nγ). level-energy difference=287.05. I_γ: weighted average of 78 *3* from (n,γ) E=thermal and 64 *12* from (p,nγ).
		458.84 *18*	100 *6*	0.0	1^+				E_γ: unweighted average of 459.01 *4* from (n,γ) E=thermal and 458.66 *8* from (p,nγ).
461.10	$(5)^+$	141.5882b *6*	3.4 *5*	319.49	$(5)^+$				
		166.1707 *4*	32 *5*	294.92	$(4)^+$				
		173.564 *13*	0.48 *14*	287.52	$(5)^+$				
		197.530 *10*	1.4 *3*	263.56	$(3)^+$				
		217.1398 *6*	100.0 *23*	243.95	$(6)^+$	M1		0.0341 *5*	α(K)=0.0299 *4*; α(L)=0.00351 *5*; α(M)=0.000637 *9* α(N)=0.0001012 *14*; α(O)=6.73×10^{-6} *9* Mult.,δ: δ(E2/M1)<0.5 from ce data in (n,γ) E=thermal.
		260.441 *11*	3.4 *9*	200.67	$(4)^+$				
476.02	(≤3)	176.36 *8*	100	299.66	$(2,3)^+$				E_γ: from (p,nγ) only.
		475.9b		0.0	1^+				E_γ: from (p,nγ) only.
484.04?	(≤3)	260.7b *3*		223.47	$(2)^-$				E_γ: from (p,nγ) only.
		483.93b *5*	100	0.0	1^+				E_γ: from (p,nγ) only.

Adopted Levels, Gammas (continued)

$\gamma(^{100}Tc)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[#]	α[&]	Comments
493.67	4+,5+	39.4889[ab] *10*	<29[a]	454.20	(4,5)+	M1		4.03 *6*	α(N)=0.01228 *17*; α(O)=0.000795 *11* α(K)=3.51 *5*; α(L)=0.427 *6*; α(M)=0.0776 *11* Placement proposed in (p,nγ),(d,2nγ).
		152.7012 *6*	26.1 *4*	340.98	(3)+				E_γ: level-energy difference=152.6953.
		198.753 *10*	1.0 *3*	294.92	(4)+				
		206.1568 *5*	100.0 *20*	287.52	(5)+	M1+E2	0.6 *4*	0.053 *13*	α(K)=0.046 *11*; α(L)=0.0060 *17*; α(M)=0.00109 *32* α(N)=1.7×10^{-4} *5*; α(O)=9.8×10^{-6} *19*
		230.1148 *8*	30.8 *10*	263.56	(3)+				
500.02	(2,3)−	236.4601 *13*	4.31 *24*	263.56	(3)+				
		276.5525 *7*	100.0 *12*	223.47	(2)−	M1		0.01829 *26*	α(K)=0.01602 *22*; α(L)=0.001866 *26*; α(M)=0.000338 *5* α(N)=5.38×10^{-5} *8*; α(O)=3.60×10^{-6} *5* δ: <0.4.
		327.92 *3*	1.25 *25*	172.15	2+				
500.15	(4)−	75.780 *14*	0.19 *5*	424.36	(3,4+)				
		159.175 *3*	1.56 *6*	340.98	(3)+				
		180.668 *15*	0.05 *1*	319.49	(5)+				
		299.4805 *5*	100.0 *13*	200.67	(4)+	E1		0.00587 *8*	α(K)=0.00516 *7*; α(L)=0.000587 *8*; α(M)=0.0001059 *15* α(N)=1.676×10^{-5} *23*; α(O)=1.083×10^{-6} *15* Mult.: δ(M2/E1)<0.14 from ce data in (n,γ) E=thermal, 0.3 *1* from ce data in (p,nγ).
513.92	(3 to 6)+	226.4041 *7*	100 *5*	287.52	(5)+				
		313.237 *8*	8.2 *7*	200.67	(4)+				
521.0?		257.5[b]		263.56	(3)+				E_γ: from (p,nγ) only.
		348.7[b]		172.15	2+				E_γ: from (p,nγ) only.
539.63	(4−,5−)	39.4889[ab] *10*	<13[a]	500.15	(4)−	M1		4.03 *6*	α(N)=0.01228 *17*; α(O)=0.000795 *11* α(K)=3.51 *5*; α(L)=0.427 *6*; α(M)=0.0776 *11* δ: δ(E2/M1)<0.2 from ce data in (n,γ) E=thermal.
		78.558[b] *6*	0.82 *23*	461.10	(5)+				
		220.1428 *5*	31.2 *9*	319.49	(5)+				
		244.705 *3*	3.2 *5*	294.92	(4)+				
		338.9634 *17*	100.0 *11*	200.67	(4)+				
544.87	(6)−	83.7760 *17*	1.8 *5*	461.10	(5)+	[E1]		0.2214 *31*	B(E1)(W.u.)=9×10^{-6} *+7−4* α(K)=0.1937 *27*; α(L)=0.02287 *32*; α(M)=0.00411 *6* α(N)=0.000639 *9*; α(O)=3.68×10^{-5} *5*
		144.2378 *3*	29.9 *8*	400.63	(5)+	(E1)		0.0459 *6*	B(E1)(W.u.)=2.9×10^{-5} *+13−8* α(N)=0.0001315 *18*; α(O)=8.07×10^{-6} *11* α(K)=0.0403 *6*; α(L)=0.00465 *7*; α(M)=0.000838 *12* I_γ: other: 41 *4* in (^{7}Li,3nγ). Mult.: D from γ(θ) in (^{7}Li,3nγ).
		225.3835 *5*	100 *1*	319.49	(5)+	E1		0.01284 *18*	B(E1)(W.u.)=2.6×10^{-5} *+11−7* α(K)=0.01128 *16*; α(L)=0.001290 *18*; α(M)=0.0002326 *33*

$\gamma(^{100}Tc)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	δ[#]	α[&]	Comments
									α(N)=3.67×10^{-5} *5*; α(O)=2.334×10^{-6} *33* Mult.: from $\gamma(\theta$,pol) and ce data in ce in (^{7}Li,3nγ), δ(M2/E1)<0.14 from ce data only. $\gamma(\theta)$ in (^{7}Li,3nγ) consistent with ΔJ=1.
544.87	(6)$^-$	300.9302 *10*	112 *18*	243.95	(6)$^+$	E1		0.00579 *8*	B(E1)(W.u.)=1.2×10^{-5} *+5−3* α(K)=0.00509 *7*; α(L)=0.000579 *8*; α(M)=0.0001045 *15* α(N)=1.654×10^{-5} *23*; α(O)=1.070×10^{-6} *15* E_γ: level-energy difference=300.9171. I_γ: unweighted average from (n,γ) and (^{7}Li,3nγ). Mult.: from $\gamma(\theta$,pol) and ce data in (^{7}Li,3nγ), with $\gamma(\theta)$ consistent with ΔJ=0 and δ(M2/E1)=0.25 *6* from ce data. I_γ: other: 130 *2* in (^{7}Li,3nγ).
552.29	4$^+$,5$^+$	91.177 *5*	30 *6*	461.10	(5)$^+$	M1(+E2)	<1.1	0.7 *4*	α(K)=0.61 *29*; α(L)=0.11 *7*; α(M)=0.020 *13* α(N)=0.0031 *20*; α(O)=1.2×10^{-4} *5* Mult.,δ: from ce data in (n,γ) E=thermal.
		127.9233 *5*	44 *7*	424.36	(3,4$^+$)				
		211.3101 *8*	95 *5*	340.98	(3)$^+$				
		232.772[b] *8*	3.7 *11*	319.49	(5)$^+$				
		257.3564 *22*	64 *4*	294.92	(4)$^+$				
		264.767 *22*	15 *4*	287.52	(5)$^+$				
		288.7234 *15*	100.0 *17*	263.56	(3)$^+$				
580.41	(3,4,5)$^+$	119.3093 *21*	2.2 *7*	461.10	(5)$^+$				
		179.7982 *11*	37 *6*	400.63	(5)$^+$				E_γ: level-energy difference=179.7757.
		239.4184 *8*	65 *4*	340.98	(3)$^+$				E_γ: level-energy difference=239.4289.
		260.9136 *11*	100 *3*	319.49	(5)$^+$				E_γ: level-energy difference=260.9206.
		292.9062 *18*	71 *3*	287.52	(5)$^+$				E_γ: level-energy difference=292.8924.
		379.758 *11*	23.0 *22*	200.67	(4)$^+$				
599.78	(2 to 7)$^+$	145.5786 *5*	100	454.20	(4,5)$^+$				
608.65	(7)$^-$	63.8[@] *2*	100[@] *3*	544.87	(6)$^-$	M1(+E2)	<0.12	1.04 *4*	B(M1)(W.u.)>0.12 α(K)=0.897 *30*; α(L)=0.115 *10*; α(M)=0.0209 *18* α(N)=0.00329 *26*; α(O)=0.000202 *5* Mult.,δ: $\gamma(\theta)$ in (^{7}Li,3nγ) suggests ΔJ=1, intensity balance at 609 level gives α(exp)≈1.4 implying M1(+E2), δ<0.4. RUL(E2)=300 gives δ<0.12.
		168.2[@] *2*	14.7[@] *19*	440.38	(7)$^+$	(E1)		0.0295 *4*	α(K)=0.0259 *4*; α(L)=0.00298 *4*; α(M)=0.000537 *8* α(N)=8.44×10^{-5} *12*; α(O)=5.25×10^{-6} *8* B(E1)(W.u.)>1.2×10^{-5} Mult.: (D) from $\gamma(\theta)$ in (^{7}Li,3nγ) consistent with ΔJ=0; (E1) from level scheme.
		364.7[@] *2*	12.8[@] *13*	243.95	(6)$^+$	(E1)		0.00348 *5*	α(K)=0.00306 *4*; α(L)=0.000347 *5*; α(M)=6.26×10^{-5} *9* α(N)=9.93×10^{-6} *14*; α(O)=6.48×10^{-7} *9*

Adopted Levels, Gammas (continued)

$\gamma(^{100}Tc)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	δ[#]	α[&]	Comments
									B(E1)(W.u.)>1.0×10^{-6} Mult.: D from $\gamma(\theta)$ in (^{7}Li,3nγ) consistent with ΔJ=1; (E1) from level scheme.
636.17	(3,4,5)$^+$	295.2 *2*	<117	340.98	(3)$^+$				E_γ,I_γ: from (p,nγ).
		348.70 *8*	100 *22*	287.52	(5)$^+$				E_γ,I_γ: may be an unresolved doublet in (p,nγ).
		372.0 *3*	27 *11*	263.56	(3)$^+$				E_γ,I_γ: from (p,nγ).
639.82	(3)$^+$	139.634 *11*	0.48 *12*	500.15	(4)$^-$				
		146.1502 *15*	6.0 *16*	493.67	4$^+$,5$^+$				
		185.6197 *6*	22.9 *5*	454.20	(4,5)$^+$				
		239.169 *5*	4.8 *12*	400.63	(5)$^+$				
		320.341 *14*	15.6 *16*	319.49	(5)$^+$				
		344.884 *4*	100.0 *20*	294.92	(4)$^+$				
		376.255 *17*	4.2 *5*	263.56	(3)$^+$				
		639.79 *3*	17.7 *6*	0.0	1$^+$				
680.23	(4,5,6)$^-$	180.08[@] *6*	100[@] *13*	500.15	(4)$^-$	E2(+M1)	>0.9	0.125 *26*	α(N)=0.00043 *10*; α(O)=2.1×10^{-5} *4* α(K)=0.106 *22*; α(L)=0.015 *4*; α(M)=0.0028 *7* E_γ: other: 180.3316 *13* from (n,γ) E=thermal is uncertain. Mult.,δ: from ce data in (p,nγ).
		392.72[@] *19*	12[@] *2*	287.52	(5)$^+$				
707.79	(8)$^-$	99.1 *2*	100 *3*	608.65	(7)$^-$	M1(+E2)	<0.25	0.316 *30*	B(M1)(W.u.)>0.050 α(K)=0.273 *23*; α(L)=0.035 *5*; α(M)=0.0064 *10* α(N)=0.00101 *15*; α(O)=6.0×10^{-5} *4* Mult.,δ: ce data in (^{7}Li,3nγ) give M1+E2 with δ(E2/M1)=0.62 *16*. RUL(E2)=300 gives δ<0.25; $\gamma(\theta)$ consistent with ΔJ=1.
		250.7 *2*	7.7 *15*	457.05	(7)$^+$	[E1]		0.00955 *14*	B(E1)(W.u.)>2.9×10^{-6} α(K)=0.00839 *12*; α(L)=0.000957 *14*; α(M)=0.0001726 *24* α(N)=2.73×10^{-5} *4*; α(O)=1.746×10^{-6} *25*
		267.5 *2*	6.5 *8*	440.38	(7)$^+$	(E1)		0.00798 *11*	B(E1)(W.u.)>2.2×10^{-6} α(K)=0.00701 *10*; α(L)=0.000800 *11*; α(M)=0.0001442 *20* α(N)=2.280×10^{-5} *32*; α(O)=1.465×10^{-6} *21* Mult.: D from $\gamma(\theta)$ in (^{7}Li,3nγ) consistent with ΔJ=1; (E1) from level scheme.
710.82	(8)$^+$	253.8 *2*	100 *18*	457.05	(7)$^+$				
		270.4 *2*	95 *8*	440.38	(7)$^+$	M1(+E2)	<0.5	0.0211 *17*	B(M1)(W.u.)>0.0013 α(K)=0.0184 *14*; α(L)=0.00220 *22*; α(M)=0.00040 *4* α(N)=6.3×10^{-5} *6*; α(O)=4.07×10^{-6} *26* Mult.,δ: from ce in (^{7}Li,3nγ); $\gamma(\theta)$ consistent with ΔJ=1.
748.20	4$^+$,5$^+$	323.841 *3*	100 *7*	424.36	(3,4$^+$)				
		547.23 *5*	27.5 *20*	200.67	(4)$^+$				E_γ: level-energy difference=547.54.
758.8?		301.8[b] *3*	100	457.05	(7)$^+$				
777.86	(9)$^-$	70.1 *2*	100	707.79	(8)$^-$	M1(+E2)	<0.13	0.794 *34*	B(M1)(W.u.)>0.12

From ENSDF

$^{100}_{43}Tc_{57}$-10

$\gamma(^{100}Tc)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	δ[#]	α[&]	Comments
									α(K)=0.687 *25*; α(L)=0.087 *7*; α(M)=0.0159 *14* α(N)=0.00251 *20*; α(O)=0.000154 *4* Mult.,δ: $\gamma(\theta)$ is consistent with ΔJ=1 and intensity balance at 778 and 708 levels gives α(exp)=1.3 *6* implying M1(+E2) with δ<0.7 in (^{7}Li,3nγ). RUL(E2)=300 gives δ<0.13.
821.74	(3,4,5)	321.590 *4*	100	500.15	$(4)^-$				
830.20	$(2,3)^+$	657.79[@] *12*	32[@] *7*	172.15	2^+				E_γ,I_γ: other: Eγ=657.46 *3*, Iγ=164 *5* in (n,γ) E=thermal is uncertain.
		830.29[@] *7*	100[@] *21*	0.0	1^+				E_γ,I_γ: other: Eγ=830.05 *12*, Iγ=100 *10* in (n,γ) is uncertain.
854.01	(2 to $7)^+$	301.721 *4*	100	552.29	$4^+,5^+$				
906.18	$(1^+,2,3^+)$	422.14[@] *10*	28[@] *8*	484.04?	(≤3)				
		564.84[@] *23*	28[@] *14*	340.98	$(3)^+$				
		682.80[@] *9*	100[@] *14*	223.47	$(2)^-$				
		905.5[@] *4*	18[@] *9*	0.0	1^+				
929.90	$(3,4,5)^+$	429.748 *5*	100 *5*	500.15	$(4)^-$				
		666.34 *3*	52.8 *10*	263.56	$(3)^+$				
952.88	(2 to $7)^+$	372.467 *8*	31.3 *17*	580.41	$(3,4,5)^+$				
		498.69 *3*	100 *4*	454.20	$(4,5)^+$				
1051.16	$(2^+,3,4)$	411.35 *3*	26.5 *16*	639.82	$(3)^+$				
		551.14 *3*	100 *3*	500.02	$(2,3)^-$				
1074.62	(8^-)	617.6 *3*	40 *15*	457.05	$(7)^+$	(E1)		9.65×10^{-4} *14*	α(K)=0.000850 *12*; α(L)=9.54×10^{-5} *13*; α(M)=1.723×10^{-5} *24* α(N)=2.74×10^{-6} *4*; α(O)=1.826×10^{-7} *26* Mult.: from $\gamma(\theta$,pol) in (^{7}Li,3nγ), consistent with ΔJ=1.
		634.2 *3*	100 *20*	440.38	$(7)^+$	(E1)		9.10×10^{-4} *13*	α(K)=0.000801 *11*; α(L)=8.99×10^{-5} *13*; α(M)=1.623×10^{-5} *23* α(N)=2.58×10^{-6} *4*; α(O)=1.721×10^{-7} *24* Mult.: from $\gamma(\theta$,pol) in (^{7}Li,3nγ), consistent with ΔJ=1.
1154.9	$(10)^-$	377.0 *2*	100 *1*	777.86	$(9)^-$	M1(+E2)	<1.1	0.00940 *99*	B(M1)(W.u.)>0.00065 α(K)=0.0082 *8*; α(L)=0.00098 *13*; α(M)=0.000177 *23* α(N)=2.81×10^{-5} *35*; α(O)=1.80×10^{-6} *15* Mult.: from ce data, $\gamma(\theta$,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		446.9	0.43 *6*	707.79	$(8)^-$	[E2]		0.00706 *10*	α(K)=0.00614 *9*; α(L)=0.000757 *11*; α(M)=0.0001374 *19* α(N)=2.155×10^{-5} *30*; α(O)=1.301×10^{-6} *18* B(E2)(W.u.)>0.015

$^{100}_{43}Tc_{57}$-11

Adopted Levels, Gammas (continued)

$\gamma(^{100}Tc)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	δ[#]	α[&]	Comments
1284.6	(9)$^+$	827.6 *3*	100 *11*	457.05	(7)$^+$	E2		1.29×10^{-3} *2*	α(K)=0.001134 *16*; α(L)=0.0001315 *18*; α(M)=2.379×10^{-5} *33* α(N)=3.77×10^{-6} *5*; α(O)=2.460×10^{-7} *35* Mult.: from γ(θ,pol) in (^{7}Li,3nγ), consistent with ΔJ=2.
		844.2 *4*	<220	440.38	(7)$^+$				
1406.6	(11)$^-$	251.6 *2*	100 *1*	1154.9	(10)$^-$	M1(+E2)		0.035 *12*	α(K)=0.030 *10*; α(L)=0.0039 *15*; α(M)=7.1×10^{-4} *28* α(N)=1.1×10^{-4} *4*; α(O)=6.3×10^{-6} *17* Mult.: from γ(θ,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		628.7 *2*	77 *11*	777.86	(9)$^-$	E2		0.00263 *4*	B(E2)(W.u.)>0.29 α(K)=0.002300 *32*; α(L)=0.000273 *4*; α(M)=4.94×10^{-5} *7* α(N)=7.81×10^{-6} *11*; α(O)=4.95×10^{-7} *7* Mult.: from ce data, γ(θ,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
1581.7	(10$^-$)	804.0 *3*	100	777.86	(9)$^-$	D+Q			Mult.: γ(DCO) (2005Jo04) consistent with ΔJ=1, but γ(θ) (1995Bi11) suggests ΔJ=2, in (^{7}Li,3nγ). This γ is not placed in level scheme by 1995Bi11.
1720.9	(10$^+$)	1010.1 *3*	100	710.82	(8)$^+$	(Q)			Mult.: γ(θ) in (^{7}Li,3nγ) suggests ΔJ=2.
1840.2	(12)$^-$	433.6 *2*	100 *6*	1406.6	(11)$^-$	M1(+E2)	<0.8	0.0063 *4*	B(M1)(W.u.)>0.00037 α(K)=0.00554 *30*; α(L)=0.00065 *5*; α(M)=0.000117 *8* α(N)=1.86×10^{-5} *13*; α(O)=1.22×10^{-6} *5* Mult.,δ: from ce data, γ(θ,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		685.3 *2*	44 *9*	1154.9	(10)$^-$	E2		2.09×10^{-3} *3*	B(E2)(W.u.)>0.12 α(K)=0.001827 *26*; α(L)=0.0002151 *30*; α(M)=3.90×10^{-5} *5* α(N)=6.16×10^{-6} *9*; α(O)=3.95×10^{-7} *6* Mult.: from γ(θ,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
2053.1	(11$^-$)	472.2	27.4 *6*	1581.7	(10$^-$)	D+Q			Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		898.3	100 *1*	1154.9	(10)$^-$	D+Q			Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
2175.5	(11$^+$)	890.9 *3*	100	1284.6	(9)$^+$	(Q)			Mult.: γ(θ) in (^{7}Li,3nγ) suggests ΔJ=2.
2238.5	(13)$^-$	398.3 *2*	67 *6*	1840.2	(12)$^-$	M1+E2		0.0087 *14*	α(K)=0.0076 *12*; α(L)=0.00092 *18*; α(M)=0.000167 *32* α(N)=2.6×10^{-5} *5*; α(O)=1.64×10^{-6} *20* Mult.: from γ(θ,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		831.7 *3*	100 *1*	1406.6	(11)$^-$	E2		1.28×10^{-3} *2*	B(E2)(W.u.)>0.11 α(K)=0.001120 *16*; α(L)=0.0001298 *18*; α(M)=2.350×10^{-5} *33* α(N)=3.73×10^{-6} *5*; α(O)=2.431×10^{-7} *34* Mult.: from γ(θ,pol) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
2391.9	(12$^-$)	338.9 *2*	79 *2*	2053.1	(11$^-$)	D			Mult.: from γ(θ) in (^{7}Li,3nγ) suggests ΔJ=1.
		809.7	38.2 *12*	1581.7	(10$^-$)	Q			Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
		986.1	100.0 *14*	1406.6	(11)$^-$	D+Q			Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.

γ(^{100}Tc) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f	Mult.[#]	Comments
2391.9	(12⁻)	1236.7[b]		1154.9	(10)⁻		
2693.5	(14⁻)	454.9 2	100 1	2238.5	(13)⁻	D+Q	Mult.: from γ(θ) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		853.2 3	49 3	1840.2	(12)⁻	Q	Mult.: from γ(θ) and γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
2695.9	(12⁺)	975.0 4	100	1720.9	(10⁺)	(Q)	Mult.: from γ(θ) in (^{7}Li,3nγ) for a doublet, consistent with ΔJ=2.
2798.3	(13⁻)	407.7	9.8 6	2391.9	(12⁻)		
		743[b]		2053.1	(11⁻)		
		956.9	100 1	1840.2	(12)⁻	D+Q	Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
3075.7	(13⁺)	900.2 4	100	2175.5	(11⁺)	(Q)	Mult.: from γ(θ) in (^{7}Li,3nγ) suggests ΔJ=2.
3233.0	(15⁻)	540.6	39.7 13	2693.5	(14⁻)	D+Q	Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=1.
		995.2	100 1	2238.5	(13)⁻	Q	Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
3269.2	(14⁻)	471.1	100 3	2798.3	(13⁻)		
		1030.5	67 3	2238.5	(13)⁻		
3690.4?	(15⁻)	419.6[b]	14.1 10	3269.2	(14⁻)		
		996.9	100 2	2693.5	(14⁻)		
3710.0	(16⁻)	478.9	44 2	3233.0	(15⁻)		E_γ: level-energy difference=477.1.
		1014.7	100 1	2693.5	(14⁻)	(Q)	E_γ: level-energy difference=1016.5. Mult.: from γ(DCO) in (^{7}Li,3nγ), probably consistent with ΔJ=2.
4358.1?	(17⁻)	644.4[b]	67 3	3710.0	(16⁻)		
		1125.1	100 3	3233.0	(15⁻)	Q	Mult.: from γ(DCO) in (^{7}Li,3nγ), consistent with ΔJ=2.
(6765.08)	4⁺,5⁺	5713.81 8	63.9 21	1051.16	(2⁺,3,4)		
		5811.7 4	9.0 14	952.88	(2 to 7)⁺		
		5835.2 3	11.5 14	929.90	(3,4,5)⁺		
		5911.3 6	4.3 9	854.01	(2 to 7)⁺		
		5935.45[b] 13	30.1 14	830.20	(2,3)⁺		
		5943.25 9	43.7 15	821.74	(3,4,5)		
		6017.4 6	2.2 8	748.20	4⁺,5⁺		
		6084.13[b] 24	9.6 9	680.23	(4,5,6)⁻		
		6125.16 13	27.4 16	639.82	(3)⁺		
		6165.09 18	15.7 10	599.78	(2 to 7)⁺		
		6184.47 17	17.2 10	580.41	(3,4,5)⁺		
		6212.7 4	6.0 9	552.29	4⁺,5⁺		
		6219.97 5	100.0 22	544.87	(6)⁻		
		6225.17 12	30.1 14	539.63	(4⁻,5⁻)		
		6250.85 14	21.5 10	513.92	(3 to 6)⁺		
		6264.74 8	51.5 15	500.15	(4)⁻		6264.7 to 500.02 or 500.15 level, the energy difference and J^π assignments appear to favor the placement from the latter.
		6270.6 6	13.4 10	493.67	4⁺,5⁺		
		6303.91 25	13.3 10	461.10	(5)⁺		
		6308.5 4	7.9 9	456.79	(2⁺,3,4⁻)		
		6340.3 8	2.1 7	424.36	(3,4⁺)		
		6364.5 4	5.0 7	400.63	(5)⁺		
		6444.9 4	4.5 7	319.49	(5)⁺		

Adopted Levels, Gammas (continued)

γ(^{100}Tc) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[‡]	E_f	J^π_f
(6765.08)	$4^+,5^+$	6470.2 *4*	5.0 *7*	294.92	$(4)^+$
		6477.2 *3*	5.7 *7*	287.52	$(5)^+$
		6501.1 *3*	6.2 *7*	263.56	$(3)^+$
		6520.5 *6*	2.4 *5*	243.95	$(6)^+$
		6564.26 *10*	29.4 *12*	200.67	$(4)^+$
		6593.2 *8*	2.1 *5*	172.15	2^+

† From (n,γ) E=thermal, when a level is populated in this reaction, unless otherwise noted. For Eγ data below 596 keV from bent-crystal in (n,γ) E=thermal, the quoted uncertainty is obtained from relative precision, while the absolute uncertainty is 0.05 keV, based on the energies of 539.59γ and 590.83γ from ^{100}Tc β^-, used as calibration lines in (n,γ).

‡ Primarily from (n,γ) E=thermal, when a level is populated in this reaction and for γ rays from high-spin levels, values are from (^{7}Li,3nγ), unless otherwise noted.

From ce data in (n,γ) E=thermal, and ce, $\gamma(\theta)$ and γ(lin pol) in (^{7}Li,3nγ), unless otherwise noted. Values of δ are deduced from ce data using the BrIccMixing code (by evaluators), unless otherwise noted.

@ From ^{100}Mo(p,nγ),(d,2nγ); the assignment in ^{99}Tc(n,γ) E=thermal is either uncertain or not reported.

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

[a] Multiply placed with undivided intensity.

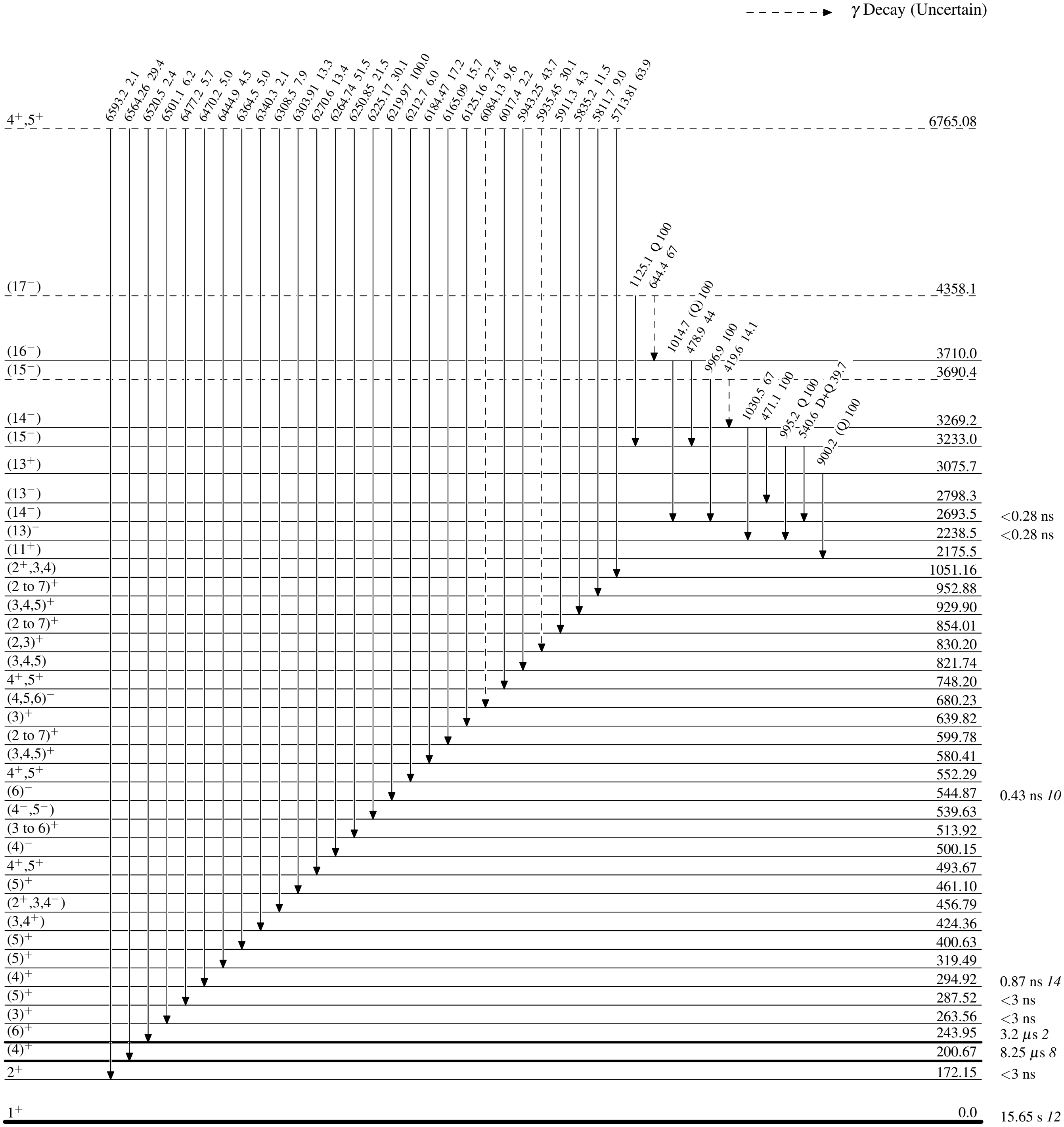
[b] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

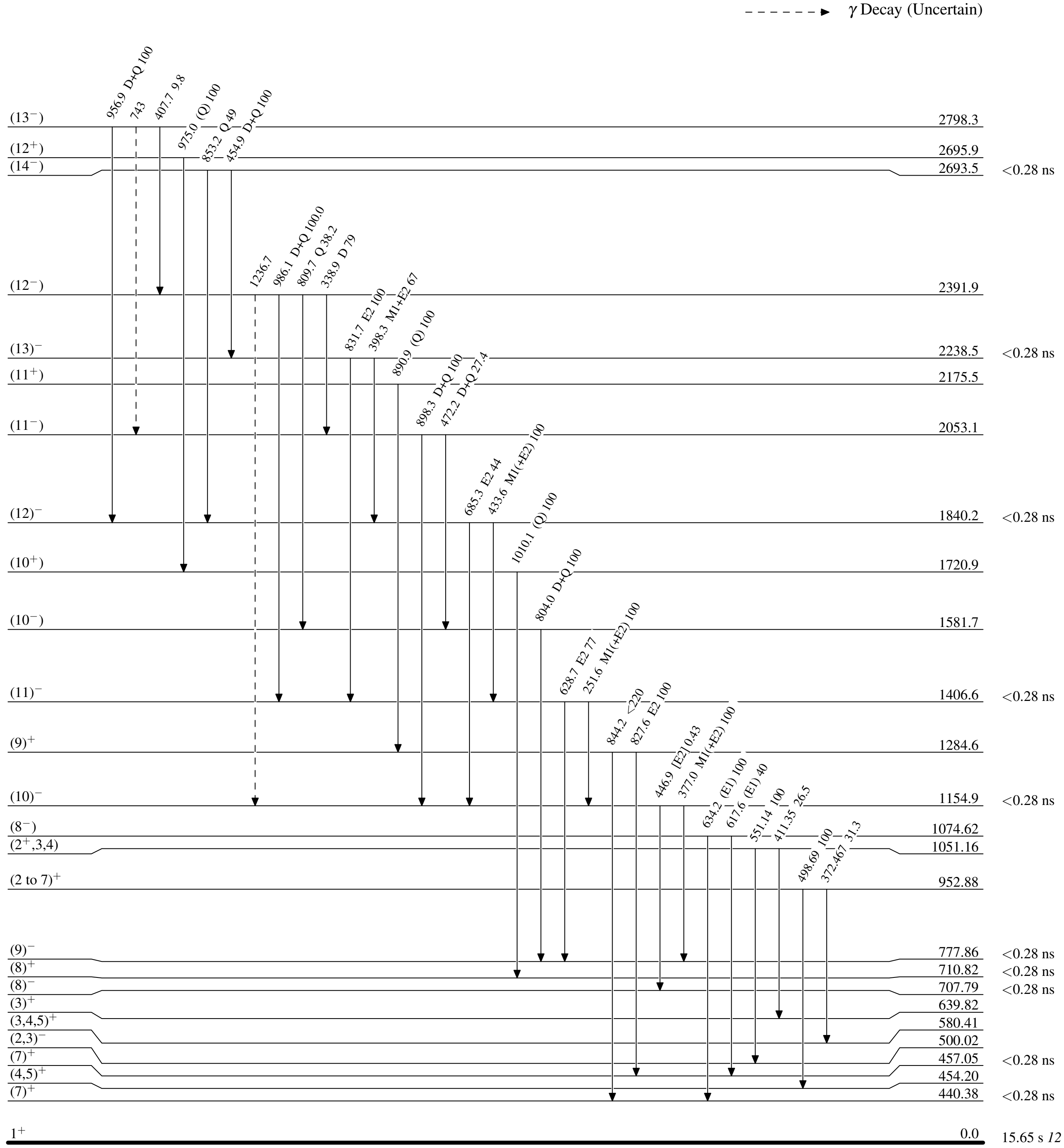


$^{100}_{43}Tc_{57}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{100}_{43}Tc_{57}$

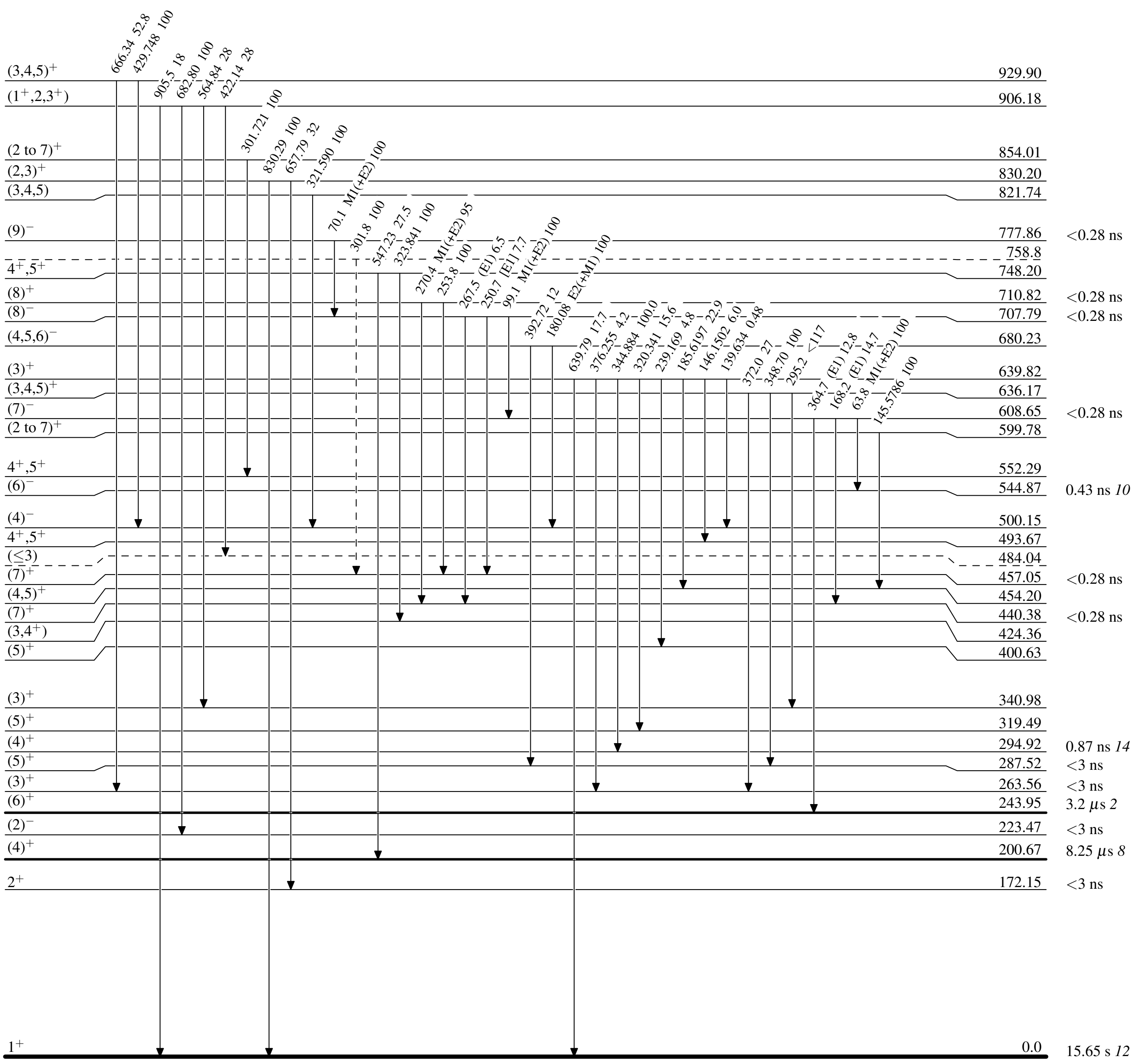
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{100}_{43}Tc_{57}$

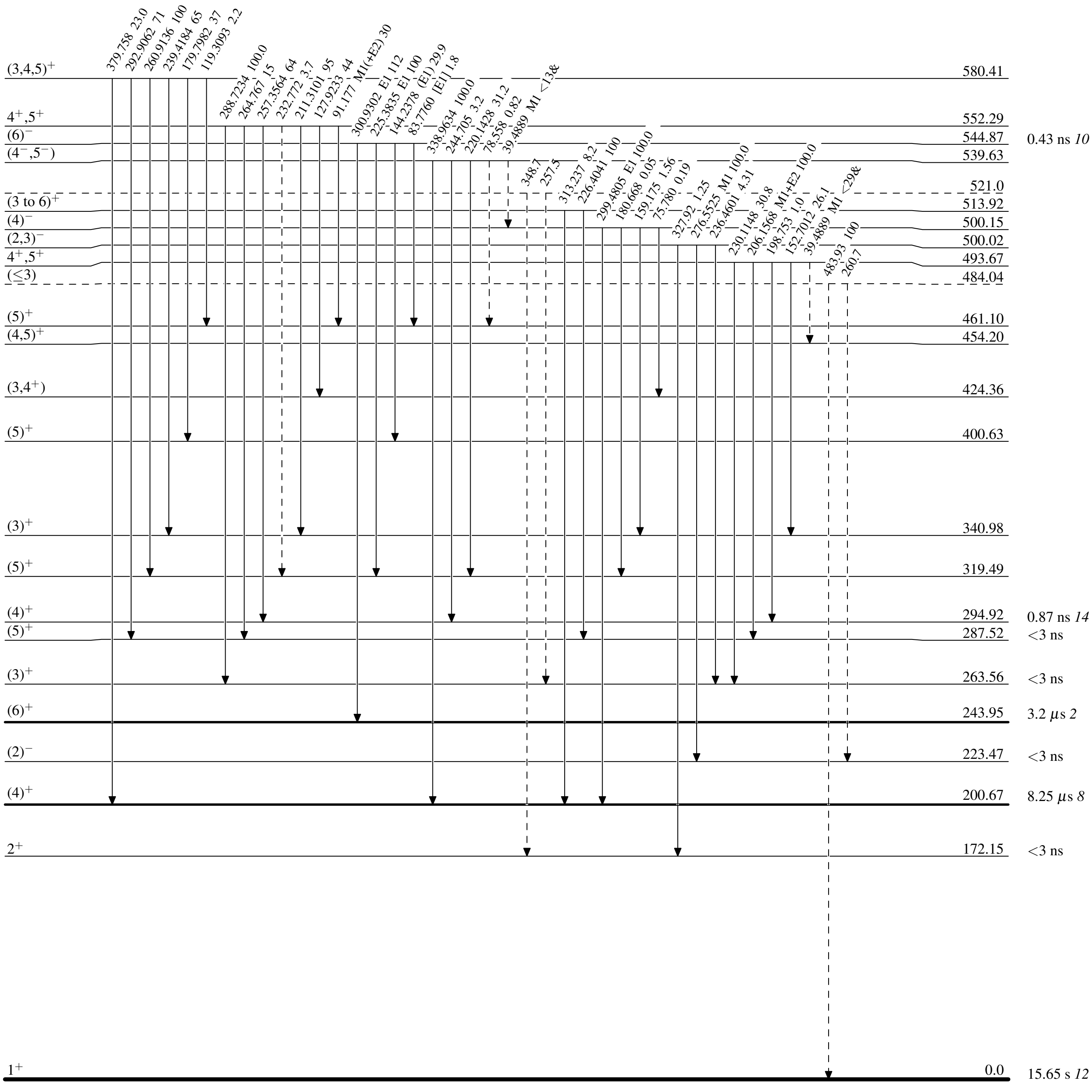
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{100}_{43}Tc_{57}$

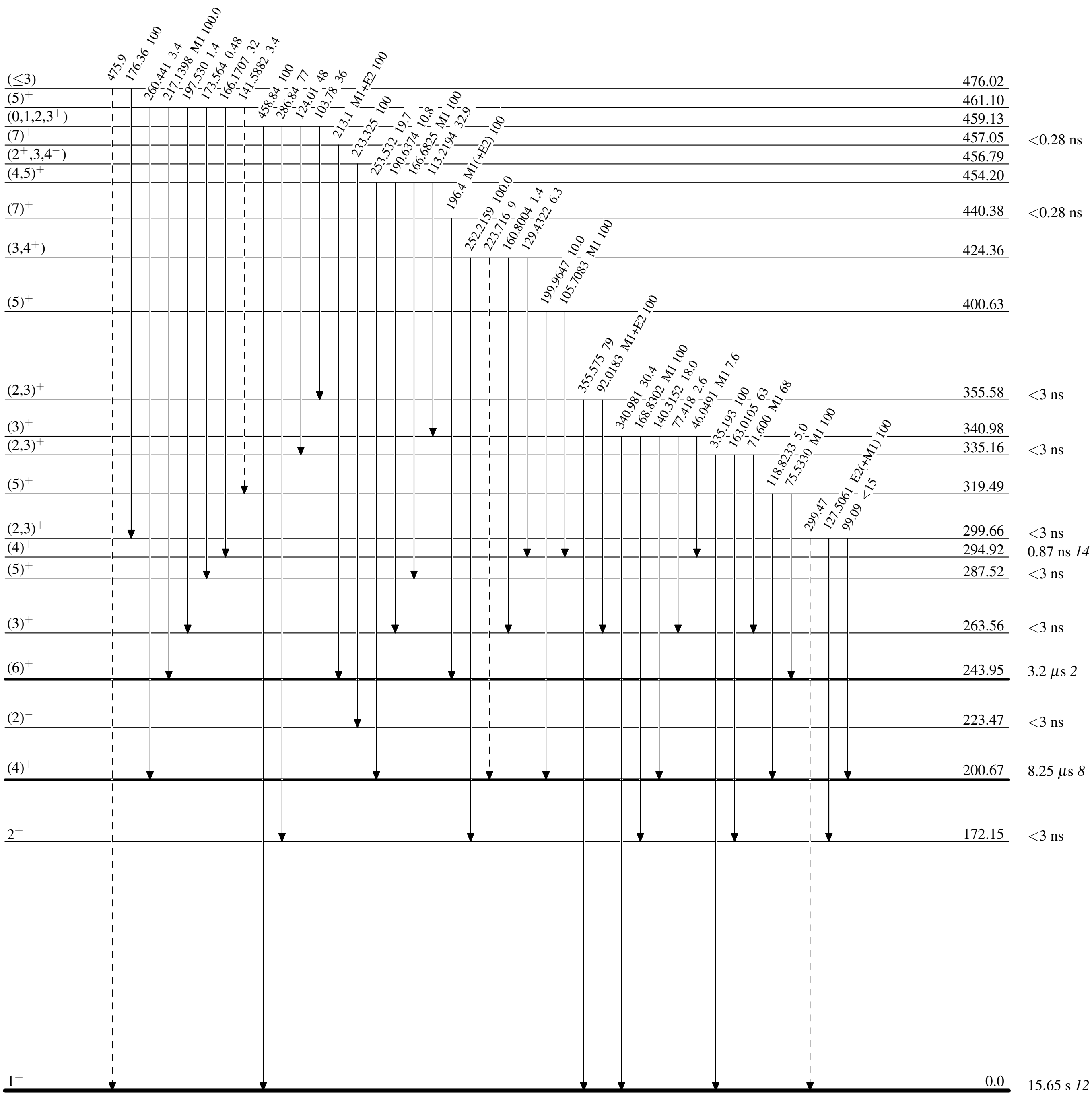
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)

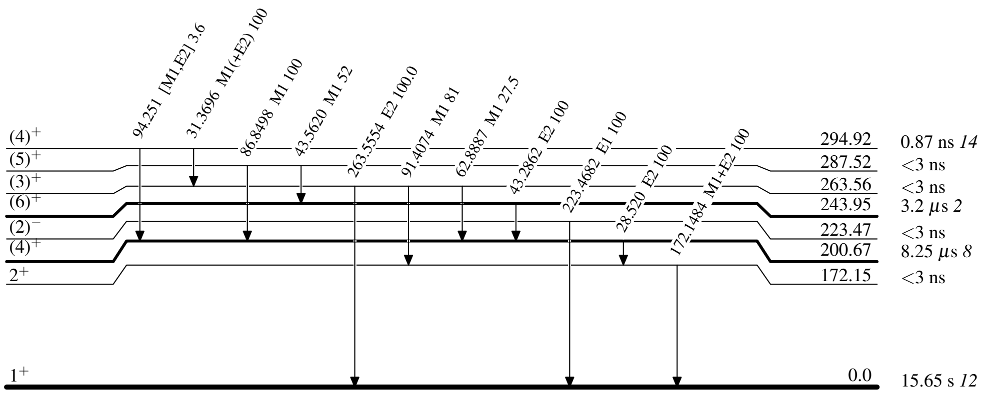


$^{100}_{43}Tc_{57}$

Adopted Levels, Gammas

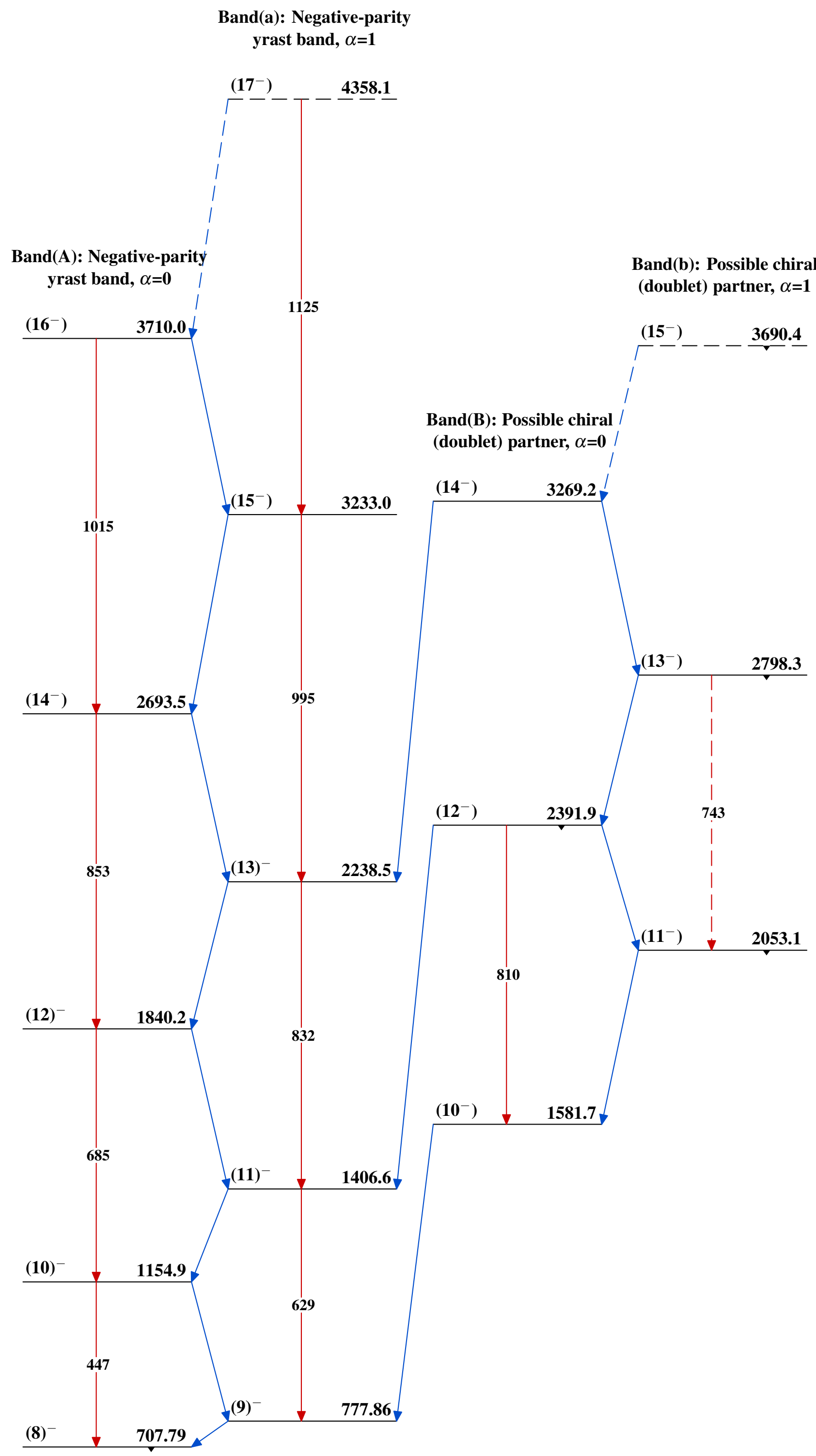
Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{100}_{43}Tc_{57}$

Adopted Levels, Gammas



$^{100}_{43}Tc_{57}$