Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 111,525 (2010)	19-Nov-2009

Q(β^-)=−1100 *5*; S(n)=9470 *7*; S(p)=5714 *4*; Q(α)=−2431 *5* 2012Wa38
Note: Current evaluation has used the following Q record −1108 9 *9474* 7 *5719* 4 −2437 *5* 2003Au03.

Theory, calculations, systematics:
levels: 1993De23, 1988De32, 1987Ar14, 1986Ro04, 1981Ka42, 1980Na05
decay of highly excited isospin states: 1973Wh05
calculated Gamow-Teller strength distribution: 2005Ju11
calculated log *ft*: 1998Vi09

^{97}Tc Levels

Cross Reference (XREF) Flags

A	^{97}Ru ε decay	E	^{96}Mo(p,γ) E=res: av	I	^{97}Mo(p,n)
B	^{97}Tc IT decay	F	^{96}Mo(p,p′) IAR	J	^{97}Mo(p,nγ)
C	^{82}Se(^{19}F,4nγ)	G	^{96}Mo(^{3}He,d),(d,n)		
D	^{94}Zr(^{6}Li,3nγ)	H	^{96}Mo(^{3}He,pnγ)		

E(level)[†]	J$^\pi$	T$_{1/2}$[#]	XREF	Comments
0.0[&]	9/2$^+$	4.21×10^6 y *16*	ABCDE GH J	%ε=100 J$^\pi$: L=4 in (^{3}He,d), (d,n); M4 transition from level with L=1. T$_{1/2}$: from 1998Ko27 (by the number of atoms determined by the isotope dilution method); other: 2.6×10^6 y *4* (1958Ka11).
96.57 *6*	1/2$^-$	91.0 d *6*	AB DE GHIJ	%IT=96.06 *18*; %ε=3.94 *18* J$^\pi$: L=1 in (^{3}He,d), (d,n); M4 transition to level with L=4. T$_{1/2}$: weighted average of 91.4 d *8* (1998Ko27) and 90.5 *10* d (1954Bo24); others: 87 *3* d (1959Un01), 92.2 d *18* (1993Ko64, superseded by 1998Ko27). %ε: Deduced from log *ft* limit (log $f^{1u}t$>8.5) for first forbidden unique transition.
215.718 *19*	7/2$^+$	69[@] ps *19*	A DE GHIJ	J$^\pi$: M1+E2 γ to 9/2$^+$ g.s.; log *ft*=5.53 from 5/2$^+$ ^{97}Ru.
324.476 *21*	5/2$^+$	0.45[@] ns *8*	A DE GHIJ	J$^\pi$: L=2 in (^{3}He,d) reaction; E2 γ to g.s.
580.19 *6*	3/2$^-$		A E GHIJ	J$^\pi$: L=1 in (^{3}He,d), (d,n); $\gamma(\theta)$ in (p,nγ).
656.90 *6*	5/2$^-$	≥0.76 ps	A DE GHIJ	J$^\pi$: L=3 in (^{3}He,d); J=5/2 from $\gamma(\theta)$ in (^{6}Li,3nγ).
765.68 *21*			D	
772.68[&] *6*	13/2$^+$	≥0.35 ps	CD H J	J$^\pi$: γ excit in (p,nγ); E2 γ to g.s.
777.98 *16*	(7/2$^+$,9/2$^+$)		H	J$^\pi$: (M1+E2), ΔJ=0,1 γ to 9/2$^+$ g.s.; 11/2$^+$ excluded by excitation function in (^{3}He,pnγ) (1996As01).
785.034 *24*	5/2$^+$	0.33 ps *+17−10*	A DE GHIJ	J$^\pi$: L=2 in (^{3}He,d); 5/2 from $\gamma(\theta)$ in (^{6}Li,3nγ).
832.80 *6*	11/2$^{(+)}$	≥0.35 ps	CD H J	J$^\pi$: (M1+E2) γ to g.s.; J=11/2 from γ excit in (^{6}Li,3nγ).
833.52 *20*			D	
852	(3/2$^+$,5/2$^+$)		G	J$^\pi$: L=(2) in (^{3}He,d).
855.45 *3*	7/2$^+$	≥0.37 ps	A DE HiJ	XREF: i(857). J$^\pi$: M1+E2 γ to 9/2$^+$ g.s.; log *ft*=7.62 from 5/2$^+$ ^{97}Ru.
861.90 *8*	(9/2$^+$)	≥0.38 ps	D HiJ	XREF: i(857). J$^\pi$: (M1+E2) γ to g.s.; (9/2) from $\gamma(\theta)$ in (^{6}Li,3nγ); γ excit in (p,nγ).
939.88 *12*			H	

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Adopted Levels, Gammas (continued)

^{97}Tc Levels (continued)

E(level)†	Jπ	$T_{1/2}$#	XREF	Comments
941.95 *15*			D i	XREF: i(941).
946.73 *10*	3/2⁻	0.22 ps +*9*−*6*	A E GHiJ	XREF: i(941). Jπ: L=1 in (^{3}He,d); 3/2 from γ(θ) (p,nγ).
970.03 *3*	7/2⁺		A DE HIJ	XREF: I(962). Jπ: from γ(θ) in (^{6}Li,3nγ); γ(θ) in (p,nγ); π=+ from M1+E2 γ to 5/2⁺, 324.
994.68 *3*	(3/2⁺)	0.17 ps +*7*−*4*	A E HIJ	Jπ: γ(θ) in (p,nγ); D γ to 5/2⁺ and D,E2 γ to 1/2⁻ levels.
1003.58 *11*			D	
1049.22 *7*	3/2⁻	≥0.21 ps	GHIJ	Jπ: L=1 in (^{3}He,d); γ(θ), γ excit in (p,nγ).
1059.6 *9*	(5/2,7/2⁺)		E	Jπ: from (p,γ) E=res: av.
1126.64 *3*	11/2(+)		D H J	Jπ: from γ(θ) in (^{6}Li,3nγ); γ(θ) in (p,nγ); (M1+E2) γ to 9/2⁺ g.s., (E2) γ to 7/2⁺ level.
1138 *2*	(5/2)		E i	XREF: i(1134). Jπ: from (p,γ) E=res: av.
1141.23 *9*	(7/2⁺)	0.28 ps +*25*−*10*	D HiJ	XREF: i(1134). Jπ: γ(θ) in (p,nγ); (M1+E2) γ′s to 5/2⁺ levels.
1165.2 *5*	(9/2,7/2)		J	Jπ: from γ(θ), excit in (p,nγ).
1167.20 *22*			D	
1199.62 *11*	(9/2⁺)	0.24 ps +*37*−*10*	D HIJ	Jπ: from γ(θ) in (p,nγ); (M1+E2) γ to 7/2⁺ level, (E2) γ to 5/2⁺ level.
1219.87 *12*	(7/2⁺)		H J	Jπ: from γ(θ) in (p,nγ); (M1+E2) γ to 5/2⁺ level.
1240.02 *7*	(7/2⁻)	≥0.26 ps	HIJ	Jπ: from γ(θ) in (p,nγ); (M1+E2) to 5/2⁻ level.
1271.5 *4*			D I	
1274.54 *14*	(3/2⁻,5/2⁻,7/2⁻)		H J	Jπ: (E2) γ to 3/2⁻, 580, and (M1+E2) γ to 5/2⁻, 657; if 1179γ belongs to 1274.5 level then Jπ=(1/2⁻,3/2⁻).
1277.82 *7*	(9/2⁻)		D H J	Jπ: from (^{6}Li,3nγ): from γ(θ), excit (p,nγ); strong γ to 5/2⁻ level.
1310.17 *17*	9/2⁺		GH J	Jπ: L=4 in (^{3}He,d); γ(θ) and excit in (p,nγ).
1311.87 *20*			H	
1348.33 *17*			D J	
1365.8 *7*	(3/2⁺)		E	Jπ: from (p,γ) E=res: av.
1373.32 *13*	(3/2,5/2⁻)		HiJ	XREF: i(1376). Jπ: γ′s to 1/2⁻, 5/2⁻ and 5/2⁺ levels.
1379	3/2⁺,5/2⁺		G iJ	XREF: G(1374)i(1376). Jπ: L=2 in (^{3}He,d).
1379.89 *18*	(9/2⁺)	0.09 ps +*5*−*3*	HiJ	XREF: i(1376). Jπ: γ(θ) and excit in (p,nγ); (M1+E2) γ′s to 11/2(+) and 7/2⁺ levels.
1382.33 *20*			D i	XREF: i(1376).
1387 *4*	(3/2⁺,5/2)		E	Jπ: from (p,γ) E=res: av.
1393.33 *9*	(13/2⁺)		CD H	Jπ: from (^{6}Li,3nγ); (E2) γ to g.s.
1396.90 *12*			J	
1400.99 *21*	(3/2⁻,5/2⁻)		H	Jπ: (M1+E2), ΔJ=0,1 γ to 3/2⁻, 580; 1/2⁻ excluded by excitation function in (^{3}He,pnγ) (1996As01).
1409.5 *3*	(7/2⁻)		HIJ	Jπ: 7/2, 9/2 favored by γ(θ) in (p,nγ); γ to 3/2⁻ level.
1441.1 *10*		≥0.21 ps	J	
1471.21 *11*	(7/2⁺,9/2⁺)		H	Jπ: (M1+E2), ΔJ=0,1 γ to 9/2⁺ g.s.; 11/2⁺ excluded by excitation function in (^{3}He,pnγ) (1996As01).
1480.3 *6*			J	
1512.32 *9*	(3/2,5/2,7/2)	0.25 ps +*18*−*9*	HiJ	XREF: i(1517). Jπ: γ′s to 3/2⁻, 5/2⁻, 5/2⁺ levels.
1518.39 *14*	(3/2⁻)	0.21 ps +*22*−*8*	E HiJ	XREF: i(1517). Jπ: (3/2) from γ(θ) in (p,nγ); (1/2⁻,3/2⁻) from (p,γ) E=res: av.
1523.1 *4*	(5/2⁺,7/2,9/2⁺)	0.044 ps +*14*−*10*	HiJ	XREF: i(1517).

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Adopted Levels, Gammas (continued)

^{97}Tc Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$[#]	XREF	Comments
				Jπ: D,E2 transitions to $9/2^+$ and $5/2^+$ levels.
1527.3 *3*			H	
1537	$1/2^+$		G	Jπ: L=0 in (^{3}He,d).
1538.01 *17*	$(11/2^+,13/2^+)$		H	Jπ: (M1+E2) γ to $13/2^+$, 773; $15/2^+$ excluded by γ to $9/2^+$, g.s. in (^{3}He,pnγ) (1996As01).
1573 *3*	$(3/2^+,5/2)$		E i	XREF: i(1580). Jπ: from (p,γ) E=res: av.
1580.0 *4*	$(5/2,7/2^-)$		D HiJ	XREF: i(1580). Jπ: γ's to $3/2^-$,$7/2^+$ and $(7/2^-)$ levels.
1581.47 *15*	$(11/2^+,13/2^+)$		H	Jπ: (M1+E2) γ's to $11/2^{(+)}$, 833, and $13/2^+$, 773.
1582.20 *13*	$(3/2^+,5/2,7/2)$		H	Jπ: γ's to $5/2^-$, 656, $5/2^+$, 324, and $7/2^+$, 216.
1585.8 *3*	$(3/2^+,5/2^+,7/2^+)$		H	Jπ: (M1+E2) γ to $5/2^+$, 324.
1599	$3/2^+,5/2^+$		G	Jπ: L=2 in (^{3}He,d).
1625.26 *17*			H	
1649.63 *22*	$3/2^+,5/2^+$	0.4 ps *3*	GH J	Jπ: L=2 in (^{3}He,d); γ excit suggests 3/2 (p,nγ). $T_{1/2}$: 0.08 ps≤$T_{1/2}$≤0.69 ps from DSA of 1325.5γ.
1654.48[&] *8*	$17/2^+$		CD H	Jπ: from (^{6}Li,3nγ); E2 γ to $13/2^+$ level.
1675.5 *9*	$3/2^+,5/2^+$		E G	XREF: G(1670). Jπ: L=2 in (^{3}He,d),(d,n).
1677.5 *3*	$(5/2^-)$		H J	Jπ: (M1+E2) γ to $3/2^-$, 580, and γ's to $5/2^-$, $5/2^+$, and $7/2^+$ respectively.
1685.47 *8*	$15/2^{(+)}$		CD H	Jπ: E2 γ to $11/2^{(+)}$ level, γ(θ) (^{6}Li,3nγ).
1690.04 *20*	$(5/2^+,7/2^+)$		H	Jπ: (M1+E2), ΔJ=0,1 γ to $7/2^+$, 216; $9/2^+$ excluded by excitation function in (^{3}He,pnγ) (1996As01).
1692.9 *3*	$(3/2^+,5/2,7/2)$		H J	Jπ: γ's to 3/2,$5/2^-$,$5/2^+$ and $7/2^+$ levels.
1697.8 *3*			H	
1706.95 *22*			H	
1707.7 *3*	(7/2)	0.025 ps *+9–6*	H J	Jπ: γ(θ) and excit in (p,nγ).
1712	$1/2^+$		G	Jπ: L=0 in (^{3}He,d).
1721.0 *3*	$(1/2^+,3/2^+,5/2^+)$		H	Jπ: (M1+E2), ΔJ=0,1 γ to $(3/2^+)$, 995.
1722.61 *22*	$(5/2^+)$		H J	Jπ: (M1+E2), ΔJ=0,1 γ to $7/2^+$, 970; $7/2^+$, $9/2^+$ excluded by excitation function in (^{3}He,pnγ) (1996As01).
1733.3 *4*	$(3/2^+,5/2,7/2^-)$	≥0.54 ps	H J	Jπ: γ's to $3/2^-$ and $7/2^+$ levels.
1779.1 *5*	(5/2,7/2)		H J	Jπ: excit, γ(θ) favor 5/2,7/2 in (p,nγ).
1796.7 *4*	(3/2,5/2,7/2)		H J	Jπ: γ's to $5/2^+$ and $5/2^-$ levels.
1801.29 *21*			H	
1815.7 *4*	$(9/2^+)$		H J	Jπ: γ(θ) suggests 9/2 in (p,nγ); strong γ to $5/2^+$ level.
1834.75 *23*	$(11/2^+)$		H	Jπ: (M1+E2) γ to $(7/2^+,9/2^+)$, 1471; $(11/2^+)$ from excitation function in (^{3}He,pnγ) (1996As01).
1834.81 *9*	$(13/2^-)$		D H	Jπ: E2 γ to $(9/2^-)$ level, γ(θ) in (^{6}Li,3nγ).
1841.87 *19*			H	
1847	$1/2^+$		G	Jπ: L=0 in (^{3}He,d).
1849.79 *9*	$(15/2^+)$[‡]		CD H	
1850.6 *3*	(3/2)	0.21 ps *+22–8*	H J	Jπ: from γ(θ) and excit in (p,nγ).
1856.1 *5*	$(3/2^+,5/2^-)$		J	Jπ: γ's to $7/2^+$ and $1/2^-$ levels.
1858.61 *21*			H	
1862.36 *21*			H	
1864.84 *24*	$(9/2^+)$		H J	Jπ: γ(θ) suggests 9/2 in (p,nγ); strong γ to $5/2^+$ level.
1879.39 *12*	$(9/2^+,17/2^+)$		D H	Jπ: ΔJ=2, (E2) γ to $13/2^+$, 773.
1892.61 *15*	$(13/2^+,15/2^+)$		H	Jπ: (M1+E2), ΔJ=0,1 γ to $13/2^+$, 773; $11/2^+$ excluded by excitation function in (^{3}He,pnγ) (1996As01).
1896.0 *10*			H J	
1897.42 *20*	$(5/2^+,7/2^+,9/2^+)$		H J	Jπ: (M1+E2), ΔJ=0,1 γ to $7/2^+$, 216.
1907.04 *21*			H	

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Adopted Levels, Gammas (continued)

^{97}Tc Levels (continued)

E(level)[†]	J^π	XREF	Comments
1913.9 *3*		H	
1914.1 *4*	(3/2,5/2)	H J	J^π: γ excit in (p,nγ).
1919.3 *3*		H	
1922.5 *3*		H	
1924.6 *4*	(3/2,5/2)	H J	J^π: γ excit in (p,nγ).
1940	$1/2^-$,$3/2^-$	G	J^π: L=1 in (d,n).
1940.6 *7*	(7/2)	H J	J^π: γ excit in (p,nγ).
1947.59 *21*		H J	
1949.00 *19*	($9/2^+$)	H J	J^π: $\gamma(\theta)$ and γ excit in (p,nγ); strong γ to $5/2^+$ level.
1951	$3/2^+$,$5/2^+$	G	J^π: L=2 in (^{3}He,d).
1964.46 *19*		H	
1976.63 *22*		H	
1979.3 *3*		H	
1987.0 *5*	(3/2)	H J	J^π: γ excit in (p,nγ).
1992.6 *3*		H	
1995.0 *6*		H J	
2001.3 *5*		H J	
2004.21 *21*		H	
2013	$3/2^+$,$5/2^+$	G	J^π: L=2 in (^{3}He,d).
2023.7 *6*		J	
2033.04 *22*		H	
2036.0 *6*	($1/2^-$,3/2,$5/2^-$)	H J	J^π: γ's to $5/2^-$ and $1/2^-$ levels.
2048.47 *21*		H	
2054.90 *22*		H	
2056.1 *3*		H	
2060.0 *7*	(9/2,11/2)	H J	J^π: $\gamma(\theta)$, excit in (p,nγ).
2069.0 *5*		J	
2095.87 *22*		H	
2098.0 *4*		H	
2111	$3/2^+$,$5/2^+$	G	J^π: L=2 in (^{3}He,d).
2117.56 *22*		H	
2119.72 *21*		H	
2121.79 *10*	($13/2^+$,15/2,$17/2^+$)	D H	J^π: γ's to $13/2^+$ and $17/2^+$ levels.
2130.8 *3*		H	
2134.8 *3*		H	
2150.1 *5*	($3/2^+$,5/2,7/2)	H J	J^π: γ's to $5/2^-$, $5/2^+$, and $7/2^+$ levels.
2151	$1/2^+$	G	J^π: L=0 in (^{3}He,d).
2168.8 *6*		J	
2208.2 *7*		J	
2217.4 *6*		J	
2255.1 *5*	($5/2^+$,$7/2^-$)	J	J^π: γ's to $3/2^-$ and ($9/2^+$).
2257.3 *3*		H	
2257.88 *22*		H	
2260	$3/2^+$,$5/2^+$	G	J^π: L=2 in (d,n).
2264	$1/2^+$	G	J^π: L=0 in (^{3}He,d).
2264.60 *21*		H	
2307	$3/2^+$,$5/2^+$	G	J^π: L=2 in (^{3}He,d).
2331.39 *11*	($19/2^+$)[‡]	CD H	
2337.62 *8*	($17/2^-$)[‡]	D H	
2417.5 *4*		H	
2446.8 *4*		H	
2449.2 *4*		H	
2480		G	
2491.59 *22*		D	
2533.78[&] *11*	($21/2^+$)[‡]	CD H	

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Adopted Levels, Gammas (continued)

^{97}Tc Levels (continued)

E(level)[†]	Jπ	XREF	Comments
2564.71 *11*	(19/2)	D	Jπ: (D) γ to (17/2⁻) level; (D) γ from (21/2⁺) level.
2653	1/2⁺	G	Jπ: L=0 in (^{3}He,d), (d,n).
2661.79 *14*		D	
2672.2 *4*		D	
2713	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d).
2730		G	
2733.80[b] *11*	(21/2⁺)[‡]	CD	
2783	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d).
2878	3/2⁺,5/2⁺	G	Jπ: L=2 from (^{3}He,d).
2908	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d).
2916.79 *20*	(17/2⁺,19/2,21/2⁺)	D	Jπ: γ′s to 17/2⁺ and (21/2⁺) levels.
3018	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d).
3060	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d), (d,n).
3143.24 *12*	(21/2⁻)[‡]	D	
3145	1/2⁺	G	Jπ: L=0 in (^{3}He,d).
3214	1/2⁺	G	Jπ: L=0 in (^{3}He,d).
3254.39 *22*		D	
3296.59 *15*		D	
3372	(3/2⁺,5/2⁺)	G	Jπ: L=(2) in (^{3}He,d).
3486	(3/2⁺,5/2⁺)	G	Jπ: L=(2) in (^{3}He,d).
3530.19[a] *15*	(25/2⁺)[‡]	CD	
3575.59[b] *14*	(23/2⁺)[‡]	CD	
3585.99 *23*		D	
3600 *20*	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d).
3643.68[&] *23*	(25/2⁺)	CD	Jπ: (E2) γ to (21/2⁺), 2534, and (E2) γ from (29/2⁺), 4430.
3720 *20*	3/2⁺,5/2⁺	G	Jπ: L=2 in (^{3}He,d).
3731.09[b] *17*	(25/2⁺)[‡]	CD	Jπ: π=(+) from (M1+E2) to (23/2⁺), 3576.
4060 *20*		G	
4330 *20*		G	
4334.0[a] *4*	(27/2⁺)	C	Jπ: ΔJ=1, (M1+E2) γ to (25/2⁺), 3530; (23/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
4376.1[b] *4*	(27/2⁺)	CD	Jπ: ΔJ=1, (M1+E2) γ to (25/2⁺), 3731; (23/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
4430.1[a] *6*	(29/2⁺)	C	Jπ: ΔJ=2, (E2) γ to (25/2⁺), 2530; (21/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
4580 *20*		G	
4681.0[b] *7*	(29/2⁺)	C	Jπ: ΔJ=2, (E2) γ to (25/2⁺), 3731; (21/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
4780 *20*		G	
4990 *20*		G	
5051.4[&] *9*	(29/2⁺)	C	Jπ: ΔJ=2, (E2) γ to (25/2⁺), 3644; (21/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
5322.7[b] *8*	(31/2⁺)	C	Jπ: ΔJ=1, (M1+E2) γ to (29/2⁺), 4681; (27/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
5461.2[a] *10*	(31/2⁺)	C	Jπ: ΔJ=1, (M1+E2) γ to (29/2⁺), 4430; (27/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
5535.8[b] *10*	(33/2⁺)	C	Jπ: ΔJ=2, (E2) γ to (29/2⁺), 4681; (25/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
5587.3[a] *14*	(33/2⁺)	C	Jπ: ΔJ=1, (M1+E2) γ to (31/2⁺), 5461; (29/2⁺) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{97}Tc Levels (continued)

E(level)[†]	Jπ	XREF	Comments
7016.6[b] *14*	(37/2$^+$)	C	Jπ: ΔJ=2, (E2) γ to (33/2$^+$), 5536; (29/2$^+$) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
7714.0[b] *17*	(39/2$^+$)	C	Jπ: ΔJ=1, (M1+E2) γ to (37/2$^+$), 7017; (35/2$^+$) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
8345.1[b] *20*	(43/2$^+$)	C	Jπ: ΔJ=2, (E2) γ to (39/2$^+$), 7714; (35/2$^+$) unlikely based on the assumption that spins increase with excitation energy in ^{82}Se(^{19}F,4nγ).
11050 *20*	5/2$^+$	FG	XREF: F(11040). Jπ: L=2 in (^{3}He,d), (p,p)IAR; IAS of ^{97}Mo g.s.
11730	1/2$^+$	F	Jπ: L=0 in (p,p) IAR; IAS of ^{97}Mo 1/2$^+$ 679.59-keV level.
11810 *20*		G	Jπ: L=4+2 in (^{3}He,d).
11840	3/2$^+$,5/2$^+$	F	Jπ: L=2 in (p,p) IAR.
11980		F	
12120	(1/2$^+$)	F	Jπ: L=(0) in (p,p) IAR; IAS of ^{97}Mo 1/2$^+$ 888.00-keV level.
12360	3/2$^+$,5/2$^+$	F	Jπ: L=2 in (p,p) IAR.
12550 *20*	11/2$^-$	G	Jπ: L=5 in (^{3}He,d); IAS of ^{97}Mo 11/2- 1436.90-keV level.
12600		F	
12680	(5/2$^-$,7/2$^-$)	F	Jπ: L=(3) in (p,p) IAR.
12820	(1/2$^+$)	F	Jπ: L=(0) in (p,p) IAR; possibly IAS of ^{97}Mo (1/2$^+$) 1700.7 keV level.
12960	(1/2$^+$)	F	Jπ: L=(0) in (p,p) IAR; possibly IAS of ^{97}Mo (1/2$^+$) 1848 keV level.
13080	(1/2$^+$)	F	Jπ: L=(0) in (p,p) IAR; IAS of ^{97}Mo 1/2$^+$ 2033.7-keV level level.
13200	3/2$^+$,5/2$^+$	F	Jπ: L=2 in (p,p) IAR.

[†] From a least squares fit to Eγ.
[‡] Assignment from (^{6}Li,3nγ) data set, based on γ(θ), γ excit, and branching ratios.
[#] From (p,nγ) data set, unless otherwise noted.
[@] From ^{97}Ru ε decay.
[&] Band(A): $g_{9/2}$ band.
[a] Band(B): Band based on 25/2$^+$.
[b] Band(C): γ sequence based on 21/2$^+$.

Adopted Levels, Gammas (continued)

γ(^{97}Tc)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
96.57	1/2⁻	96.5 *1*	100	0.0	9/2⁺	M4		311	α(K)=197 *3*; α(L)=92.1 *15*; α(M)=18.5 *3*; α(N+..)=2.87 *5* α(N)=2.77 *5*; α(O)=0.0919 *14* B(M4)(W.u.)=12.14 *22* Mult.: from α(exp) ratios in 96.5-keV IT decay.
215.718	7/2⁺	215.718 *24*	100	0.0	9/2⁺	M1+E2	+0.27 *2*	0.0378 *7*	B(E2)(W.u.)=43 *14*; B(M1)(W.u.)=0.029 *8* α(K)=0.0330 *6*; α(L)=0.00398 *8*; α(M)=0.000723 *15*; α(N+..)=0.0001216 *24* α(N)=0.0001143 *23*; α(O)=7.30×10^{-6} *12* Mult.,δ: from γ(θ), γγ(θ), α(K)exp and α(exp) ratios; δ is weighted average of measurements in (p,nγ): +0.31 *5* (1979Xe01); and ^{97}Ru ε decay: +0.20 *5* (1977Be33), and +0.27 *2* (1976Ba39).
324.476	5/2⁺	108.79 *3*	1.2 *4*	215.718	7/2⁺	M1+E2[#]	+1.6[&] *5*	0.73 *13*	α(K)=0.59 *10*; α(L)=0.111 *21*; α(M)=0.020 *4*; α(N+..)=0.0031 *6* α(N)=0.0030 *6*; α(O)=0.000111 *16* B(M1)(W.u.)=0.00012 *8*; B(E2)(W.u.)=26 *12*
		324.48 *3*	100 *2*	0.0	9/2⁺	E2		0.0196	α(K)=0.01696 *24*; α(L)=0.00219 *3*; α(M)=0.000399 *6*; α(N+..)=6.56×10^{-5} *10* α(N)=6.21×10^{-5} *9*; α(O)=3.51×10^{-6} *5* B(E2)(W.u.)=12.7 *23* Mult.: from α(K)exp in ^{97}Ru ε decay and (p,γ) res; γ(θ) in (p,nγ).
580.19	3/2⁻	483.62 *2*	100	96.57	1/2⁻	M1+E2	−0.6 *5*	0.0049 *3*	α(K)=0.00425 *24*; α(L)=0.00050 *4*; α(M)=9.0×10^{-5} *7*; α(N+..)=1.52×10^{-5} *11* α(N)=1.43×10^{-5} *11*; α(O)=9.3×10^{-7} *4* Mult.: transition between L=1 states.
656.90	5/2⁻	332.4 *3*	0.6 *1*	324.476	5/2⁺	[E1]		0.00444	α(K)=0.00390 *6*; α(L)=0.000443 *7*; α(M)=8.00×10^{-5} *12*; α(N+..)=1.349×10^{-5} *20* α(N)=1.267×10^{-5} *18*; α(O)=8.24×10^{-7} *12* B(E1)(W.u.)<6.7×10^{-5}
		441.2[k]	<3	215.718	7/2⁺	[E1]		0.00214	α(K)=0.00189 *3*; α(L)=0.000213 *3*; α(M)=3.85×10^{-5} *6*; α(N+..)=6.51×10^{-6} *10* α(N)=6.11×10^{-6} *9*; α(O)=4.02×10^{-7} *6* B(E1)(W.u.)<7.2×10^{-5}
		560.34 *4*	100 *2*	96.57	1/2⁻	E2		0.00362	B(E2)(W.u.)≤500 α(K)=0.00316 *5*; α(L)=0.000380 *6*; α(M)=6.88×10^{-5} *10*; α(N+..)=1.152×10^{-5} *17* α(N)=1.084×10^{-5} *16*; α(O)=6.78×10^{-7} *10*
765.68		441.2 *2*	100	324.476	5/2⁺				

$^{97}_{43}Tc_{54}$-7

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
772.68	13/2$^+$	772.70 *7*	100	0.0	9/2$^+$	E2		1.53×10^{-3}	B(E2)(W.u.)≤220 α(K)=0.001343 *19*; α(L)=0.0001566 *22*; α(M)=2.83×10^{-5} *4*; α(N+..)=4.78×10^{-6} *7* α(N)=4.49×10^{-6} *7*; α(O)=2.91×10^{-7} *4*
777.98	(7/2$^+$,9/2$^+$)	777.90[h] *20*	100	0.0	9/2$^+$	(M1+E2)[i]		1.52×10^{-3} *2*	α(K)=0.001331 *22*; α(L)=0.0001528 *25*; α(M)=2.76×10^{-5} *5*; α(N+..)=4.69×10^{-6} *7* α(N)=4.39×10^{-6} *7*; α(O)=2.92×10^{-7} *7* Mult.: ΔJ=0,1 transition.
785.034	5/2$^+$	460.57 *3*	13.3 *9*	324.476	5/2$^+$	M1+E2[#]	−0.6[&] *+4−3*	0.0055 *3*	α(K)=0.0048 *3*; α(L)=0.00056 *4*; α(M)=0.000102 *8*; α(N+..)=1.73×10^{-5} *11* α(N)=1.62×10^{-5} *11*; α(O)=1.06×10^{-6} *5* B(M1)(W.u.)=0.05 *+3−4*; B(E2)(W.u.)=9.E+1 *+10−9* Mult.: also from (^{6}Li,3nγ), (p,nγ).
		569.31 *4*	100 *2*	215.718	7/2$^+$	M1+E2[#]	+0.128[&] *14*	0.00313	α(K)=0.00275 *4*; α(L)=0.000314 *5*; α(M)=5.68×10^{-5} *8*; α(N+..)=9.66×10^{-6} *14* α(N)=9.04×10^{-6} *13*; α(O)=6.12×10^{-7} *9* B(M1)(W.u.)=0.29 *+9−15*; B(E2)(W.u.)=14 *+6−8*
		785.06 *4*	8.3 *3*	0.0	9/2$^+$	(E2)		1.47×10^{-3}	α(K)=0.001291 *18*; α(L)=0.0001503 *21*; α(M)=2.72×10^{-5} *4*; α(N+..)=4.59×10^{-6} *7* α(N)=4.31×10^{-6} *6*; α(O)=2.80×10^{-7} *4* B(E2)(W.u.)=15 *+5−8* Mult.: M1,E2 γ from α data in ^{97}Ru ε decay.
832.80	11/2$^{(+)}$	832.85 *7*	100	0.0	9/2$^+$	(M1+E2)		0.00129 *3*	α(K)=0.001134 *24*; α(L)=0.0001297 *19*; α(M)=2.35×10^{-5} *4*; α(N+..)=3.98×10^{-6} *7* α(N)=3.73×10^{-6} *6*; α(O)=2.49×10^{-7} *8* δ: +0.45 *11* or +4.4 *1*.
833.52		617.8 *2*	100	215.718	7/2$^+$				
855.45	7/2$^+$	531.16 *11*	7.6 *6*	324.476	5/2$^+$				
		639.72 *2*	17.7 *10*	215.718	7/2$^+$	(M1+E2)	−2.3 *+6−1*	0.00249	α(K)=0.00218 *4*; α(L)=0.000256 *5*; α(M)=4.65×10^{-5} *8*; α(N+..)=7.82×10^{-6} *13* α(N)=7.35×10^{-6} *12*; α(O)=4.72×10^{-7} *7* B(M1)(W.u.)<0.0073; B(E2)(W.u.)<69
		855.53 *14*	100 *2*	0.0	9/2$^+$	M1+E2[#]	+0.3 *2*	1.23×10^{-3}	α(K)=0.001082 *16*; α(L)=0.0001223 *18*; α(M)=2.21×10^{-5} *4*; α(N+..)=3.77×10^{-6} *6* α(N)=3.53×10^{-6} *5*; α(O)=2.39×10^{-7} *4* B(M1)(W.u.)<0.077; B(E2)(W.u.)<18
861.90	(9/2$^+$)	646.78 *20*	19 *9*	215.718	7/2$^+$				E_γ,ΔE: from ^{96}Mo(^{3}He,pnγ).

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
861.90	(9/2$^+$)	861.70 *10*	100 *1*	0.0	9/2$^+$	(M1+E2)	−0.51 *21*	1.21×10^{-3} *2*	B(M1)(W.u.)≤0.071; B(E2)(W.u.)≤34 α(K)=0.001060 *16*; α(L)=0.0001201 *17*; α(M)=2.17×10^{-5} *3*; α(N+..)=3.70×10^{-6} *6* α(N)=3.46×10^{-6} *5*; α(O)=2.34×10^{-7} *4*
939.88		615.52[h] *20*	48[h]	324.476	5/2$^+$				
		843.27[h] *20*	100[h]	96.57	1/2$^-$				
941.95		617.5 *2*		324.476	5/2$^+$				
		726.2 *2*		215.718	7/2$^+$				
946.73	3/2$^-$	290.0	2.4 *5*	656.90	5/2$^-$	(M1)[c]		0.01621	B(M1)(W.u.)=0.08 *3* α(K)=0.01420 *20*; α(L)=0.001652 *24*; α(M)=0.000299 *5*; α(N+..)=5.08×10^{-5} *8* α(N)=4.77×10^{-5} *7*; α(O)=3.19×10^{-6} *5*
		366.6 *2*	19 *3*	580.19	3/2$^-$	(M1)[c]		0.00901	α(K)=0.00790 *12*; α(L)=0.000912 *13*; α(M)=0.0001653 *24*; α(N+..)=2.81×10^{-5} *4* α(N)=2.63×10^{-5} *4*; α(O)=1.768×10^{-6} *25* B(M1)(W.u.)=0.31 *+10−14*
		622.4	≈4	324.476	5/2$^+$	(E1)[b]		9.49×10^{-4}	B(E1)(W.u.)≈0.0002 α(K)=0.000835 *12*; α(L)=9.38×10^{-5} *14*; α(M)=1.693×10^{-5} *24*; α(N+..)=2.87×10^{-6} *4* α(N)=2.69×10^{-6} *4*; α(O)=1.79×10^{-7} *3*
		850.10 *10*	100 *2*	96.57	1/2$^-$	M1+E2		0.00123 *3*	α(K)=0.001081 *25*; α(L)=0.0001235 *19*; α(M)=2.24×10^{-5} *4*; α(N+..)=3.79×10^{-6} *7* α(N)=3.56×10^{-6} *6*; α(O)=2.37×10^{-7} *8* Mult.: transition between L=1 levels. δ: −10.5<δ<3.0.
970.03	7/2$^+$	114.4 *2*	2.3 *4*	855.45	7/2$^+$				
		185.00 *1*	6 *3*	785.034	5/2$^+$				
		645.27 *20*	80 *4*	324.476	5/2$^+$	M1+E2[#]	−1.2[#] *+8−9*	0.00240 *7*	α(K)=0.00211 *6*; α(L)=0.000245 *10*; α(M)=4.44×10^{-5} *19*; α(N+..)=7.5×10^{-6} *3* α(N)=7.0×10^{-6} *3*; α(O)=4.60×10^{-7} *7* E_γ,ΔE: from ^{96}Mo(^{3}He,pnγ).
		754.01 *20*	100 *3*	215.718	7/2$^+$	M1+E2[#]	−2.2[#] *8*	1.63×10^{-3}	α(K)=0.001430 *21*; α(L)=0.0001662 *25*; α(M)=3.01×10^{-5} *5*; α(N+..)=5.08×10^{-6} *8* E_γ,ΔE: from ^{96}Mo(^{3}He,pnγ).
		969.72 *15*	1.10 *16*	0.0	9/2$^+$				
994.68	(3/2$^+$)	670.21 *2*	100 *3*	324.476	5/2$^+$	(M1+E2)[i]		0.00218 *5*	α(K)=0.00191 *4*; α(L)=0.000221 *9*; α(M)=4.00×10^{-5} *15*; α(N+..)=6.77×10^{-6} *22* α(N)=6.35×10^{-6} *22*; α(O)=4.18×10^{-7} *6*

$^{97}_{43}Tc_{54}$-9

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
994.68	(3/2$^+$)	898.06 *16*	2.8 *24*	96.57	1/2$^-$	(E1)		4.37×10^{-4}	α(K)=0.000385 *6*; α(L)=4.29×10^{-5} *6*; α(M)=7.74×10^{-6} *11*; α(N+..)=1.316×10^{-6} *19* α(N)=1.233×10^{-6} *18*; α(O)=8.31×10^{-8} *12* B(E1)(W.u.)=7.E−5 *7*
1003.58		679.1 *1*	100	324.476	5/2$^+$				
1049.22	3/2$^-$	392.2 *1*	100 *5*	656.90	5/2$^-$	(M1)[d]		0.00763	B(M1)(W.u.)≤0.71 α(K)=0.00670 *10*; α(L)=0.000771 *11*; α(M)=0.0001398 *20*; α(N+..)=2.38×10^{-5} *4* α(N)=2.23×10^{-5} *4*; α(O)=1.497×10^{-6} *21*
		469.2 *1*	61 *5*	580.19	3/2$^-$	(M1)[d]		0.00494	B(M1)(W.u.)≤0.25 α(K)=0.00434 *6*; α(L)=0.000497 *7*; α(M)=9.00×10^{-5} *13*; α(N+..)=1.531×10^{-5} *22* α(N)=1.434×10^{-5} *20*; α(O)=9.68×10^{-7} *14*
		724.7 *1*	84 *18*	324.476	5/2$^+$	[E1]		6.80×10^{-4}	B(E1)(W.u.)≤0.0014 α(K)=0.000598 *9*; α(L)=6.70×10^{-5} *10*; α(M)=1.209×10^{-5} *17*; α(N+..)=2.05×10^{-6} *3* α(N)=1.92×10^{-6} *3*; α(O)=1.289×10^{-7} *18*
1059.6	(5/2,7/2$^+$)	844	100	215.718	7/2$^+$				
1126.64	11/2$^{(+)}$	910.92 *2*	48 *13*	215.718	7/2$^+$	(E2)[a]		1.03×10^{-3}	α(K)=0.000901 *13*; α(L)=0.0001038 *15*; α(M)=1.88×10^{-5} *3*; α(N+..)=3.18×10^{-6} *5* α(N)=2.98×10^{-6} *5*; α(O)=1.96×10^{-7} *3*
		1126.6 *1*	100 *4*	0.0	9/2$^+$	(M1+E2)	−0.8 *+3−5*	6.62×10^{-4} *14*	α(K)=0.000581 *13*; α(L)=6.55×10^{-5} *13*; α(M)=1.185×10^{-5} *23*; α(N+..)=3.21×10^{-6} *6* α(N)=1.89×10^{-6} *4*; α(O)=1.28×10^{-7} *3*; α(IPF)=1.20×10^{-6} *7*
1138	(5/2)	559[k]	100	580.19	3/2$^-$				
1141.23	(7/2$^+$)	356.1 *3*	36 *7*	785.034	5/2$^+$	(M1+E2)	−0.3 *2*	0.0101 *6*	α(K)=0.0088 *5*; α(L)=0.00103 *8*; α(M)=0.000187 *14*; α(N+..)=3.17×10^{-5} *22* α(N)=2.97×10^{-5} *21*; α(O)=1.96×10^{-6} *9* B(M1)(W.u.)=(0.40 *+18−38*); B(E2)(W.u.)=(3.E+2 *+4−3*)
		816.7 *1*	100 *5*	324.476	5/2$^+$	(M1+E2)	−0.8 *+4−9*	1.36×10^{-3} *2*	α(K)=0.001190 *20*; α(L)=0.0001359 *19*; α(M)=2.46×10^{-5} *4*; α(N+..)=4.17×10^{-6} *6* α(N)=3.91×10^{-6} *6*; α(O)=2.62×10^{-7} *6* B(M1)(W.u.)=(0.06 *+4−6*); B(E2)(W.u.)=(6.E+1 *+5−6*)
		925.5 *3*	5.7 *14*	215.718	7/2$^+$				
1165.2	(9/2,7/2)	949.5 *5*	100	215.718	7/2$^+$				
1167.20		305.3 *2*	100	861.90	(9/2$^+$)				

$^{97}_{43}Tc_{54}$-10

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
1199.62	(9/2$^+$)	366.92[h] *20*	50[h]	832.80	11/2$^{(+)}$				
		421.56[h] *20*	60[h]	777.98	(7/2$^+$,9/2$^+$)				
		875.18[h] *20*	70[h]	324.476	5/2$^+$	(E2)		1.13×10^{-3}	α(K)=0.000991 *14*; α(L)=0.0001144 *16*; α(M)=2.07×10^{-5} *3*; α(N+..)=3.50×10^{-6} *5* α(N)=3.28×10^{-6} *5*; α(O)=2.15×10^{-7} *3* B(E2)(W.u.)=43 *+18−43*
		983.81[h] *20*	100[h]	215.718	7/2$^+$	(M1+E2)	−0.58 *4*	8.95×10^{-4}	α(K)=0.000787 *11*; α(L)=8.89×10^{-5} *13*; α(M)=1.608×10^{-5} *23*; α(N+..)=2.74×10^{-6} *4* α(N)=2.56×10^{-6} *4*; α(O)=1.736×10^{-7} *25* B(M1)(W.u.)=(0.026 *+11−26*); B(E2)(W.u.)=(9 *+4−9*)
1219.87	(7/2$^+$)	895.4 *2*	93 *7*	324.476	5/2$^+$	(M1+E2)	−0.8 *+4−7*	1.10×10^{-3} *2*	α(K)=0.000964 *19*; α(L)=0.0001096 *17*; α(M)=1.98×10^{-5} *3*; α(N+..)=3.37×10^{-6} *6* α(N)=3.16×10^{-6} *6*; α(O)=2.12×10^{-7} *5*
		1004.2 *2*	22 *7*	215.718	7/2$^+$	(M1+E2)[i]		0.00084 *3*	α(K)=0.000742 *25*; α(L)=8.41×10^{-5} *22*; α(M)=1.52×10^{-5} *4*; α(N+..)=2.58×10^{-6} *8* α(N)=2.42×10^{-6} *7*; α(O)=1.63×10^{-7} *7*
		1219.8 *2*	100 *7*	0.0	9/2$^+$	(M1+E2)[i]		5.63×10^{-4} *20*	α(K)=0.000487 *19*; α(L)=5.48×10^{-5} *18*; α(M)=9.9×10^{-6} *4*; α(N+..)=1.12×10^{-5} *10* α(N)=1.58×10^{-6} *6*; α(O)=1.07×10^{-7} *5*; α(IPF)=9.5×10^{-6} *10*
1240.02	(7/2$^-$)	293.6	35	946.73	3/2$^-$				
		583.16 *5*	100 *3*	656.90	5/2$^-$	(M1+E2)	−0.34 *24*	0.00298 *6*	α(K)=0.00262 *5*; α(L)=0.000300 *8*; α(M)=5.43×10^{-5} *14*; α(N+..)=9.22×10^{-6} *22* α(N)=8.64×10^{-6} *21*; α(O)=5.80×10^{-7} *10* B(M1)(W.u.)<0.16; B(E2)(W.u.)<1.0×10^2
		659.6 *1*	88 *4*	580.19	3/2$^-$	[E2]		0.00231	B(E2)(W.u.)≤210 α(K)=0.00202 *3*; α(L)=0.000239 *4*; α(M)=4.33×10^{-5} *6*; α(N+..)=7.27×10^{-6} *11* α(N)=6.84×10^{-6} *10*; α(O)=4.36×10^{-7} *7* Mult.: (M1+E2) in ^{96}Mo(^{3}He,pnγ).
		915.7 *2*	20 *6*	324.476	5/2$^+$	(E1)		4.20×10^{-4}	B(E1)(W.u.)≤1.2×10^{-4} α(K)=0.000370 *6*; α(L)=4.13×10^{-5} *6*; α(M)=7.45×10^{-6} *11*; α(N+..)=1.266×10^{-6} *18* α(N)=1.186×10^{-6} *17*; α(O)=8.00×10^{-8} *12* Mult.: D from γ(θ) in (p,nγ), Δπ=yes from level scheme.
		1024.4 *2*	29 *8*	215.718	7/2$^+$	[E1]		3.38×10^{-4}	B(E1)(W.u.)≤1.2×10^{-4}

$^{97}_{43}Tc_{54}$-11

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
									α(K)=0.000298 *5*; α(L)=3.31×10^{-5} *5*; α(M)=5.98×10^{-6} *9*; α(N+..)=1.017×10^{-6} *15* α(N)=9.53×10^{-7} *14*; α(O)=6.44×10^{-8} *9*
1271.5		416.0 *4*	100	855.45	7/2$^+$				
1274.54	(3/2$^-$,5/2$^-$,7/2$^-$)	617.60[h] *20*	100[h]	656.90	5/2$^-$	(M1+E2)[i]		0.00267 *10*	α(K)=0.00234 *8*; α(L)=0.000273 *15*; α(M)=4.9×10^{-5} *3*; α(N+..)=8.3×10^{-6} *4* α(N)=7.8×10^{-6} *4*; α(O)=5.12×10^{-7} *11*
		694.45[h] *20*	15[h]	580.19	3/2$^-$	(E2)[i]		0.00202	α(K)=0.001765 *25*; α(L)=0.000208 *3*; α(M)=3.76×10^{-5} *6*; α(N+..)=6.33×10^{-6} *9* α(N)=5.95×10^{-6} *9*; α(O)=3.81×10^{-7} *6*
		949.9[h] *3*	4[h]	324.476	5/2$^+$				
		1179[k]		96.57	1/2$^-$				
1277.82	(9/2$^-$)	422.47 *12*	15.2 *21*	855.45	7/2$^+$	D+Q			Mult.: Δπ=yes from level scheme, therefore, E1(+M2) transition.
		620.88 *9*	100 *12*	656.90	5/2$^-$	(E2)		0.00272	α(K)=0.00238 *4*; α(L)=0.000283 *4*; α(M)=5.12×10^{-5} *8*; α(N+..)=8.60×10^{-6} *12* α(N)=8.08×10^{-6} *12*; α(O)=5.12×10^{-7} *8* Mult.: Q from γ(θ) in (p,nγ), Δπ=no from level scheme.
		1062.0 *4*	≤6	215.718	7/2$^+$	[E1]		3.16×10^{-4}	α(K)=0.000279 *4*; α(L)=3.10×10^{-5} *5*; α(M)=5.58×10^{-6} *8*; α(N+..)=9.50×10^{-7} *14* α(N)=8.90×10^{-7} *13*; α(O)=6.02×10^{-8} *9*
1310.17	9/2$^+$	1094.5 *2*	100 *4*	215.718	7/2$^+$	(M1+E2)		6.98×10^{-4} *25*	α(K)=0.000614 *23*; α(L)=6.94×10^{-5} *21*; α(M)=1.25×10^{-5} *4*; α(N+..)=2.13×10^{-6} *7* α(N)=2.00×10^{-6} *7*; α(O)=1.35×10^{-7} *6*
		1310.0 *3*	97 *12*	0.0	9/2$^+$	M1+E2	−0.63 *+11−14*	5.08×10^{-4}	α(K)=0.000426 *7*; α(L)=4.77×10^{-5} *8*; α(M)=8.63×10^{-6} *13*; α(N+..)=2.60×10^{-5} *6* α(N)=1.377×10^{-6} *21*; α(O)=9.38×10^{-8} *15*; α(IPF)=2.45×10^{-5} *6* Mult.: L=4 to L=4 transition.
1311.87		1096.15[h] *20*	100[h]	215.718	7/2$^+$				

$^{97}_{43}Tc_{54}$-12

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[j]	Comments
1348.33		1024.1 *3*	100	324.476	5/2$^+$				
		1132.5 *2*		215.718	7/2$^+$				
1365.8	(3/2$^+$)	581		785.034	5/2$^+$				
		1269		96.57	1/2$^-$	[E1]		3.11×10^{-4}	α(K)=0.000202 *3*; α(L)=2.23×10^{-5} *4*; α(M)=4.03×10^{-6} *6*; α(N+..)=8.28×10^{-5} *12* α(N)=6.42×10^{-7} *9*; α(O)=4.36×10^{-8} *7*; α(IPF)=8.21×10^{-5} *12*
1373.32	(3/2,5/2$^-$)	426.41[h] *20*	20[h]	946.73	3/2$^-$				
		716.8[h] *3*	11[h]	656.90	5/2$^-$				
		1049.0[h] *3*	30[h]	324.476	5/2$^+$				
		1276.68[h] *20*	100[h]	96.57	1/2$^-$	(M1+E2)[i]		5.22×10^{-4} *18*	α(K)=0.000443 *17*; α(L)=4.98×10^{-5} *17*; α(M)=9.0×10^{-6} *3*; α(N+..)=2.05×10^{-5} *19* α(N)=1.43×10^{-6} *5*; α(O)=9.7×10^{-8} *5*; α(IPF)=1.90×10^{-5} *19*
1379	3/2$^+$,5/2$^+$	1054[k]		324.476	5/2$^+$				
		1379[k]		0.0	9/2$^+$				
1379.89	(9/2$^+$)	547.2 *2*	84 *4*	832.80	11/2$^{(+)}$	(M1+E2)	+0.33 *+10−8*	0.00347 *6*	α(K)=0.00305 *5*; α(L)=0.000350 *7*; α(M)=6.33×10^{-5} *12*; α(N+..)=1.076×10^{-5} *19* α(N)=1.008×10^{-5} *18*; α(O)=6.76×10^{-7} *10* B(M1)(W.u.)=(0.61 *+21−35*); B(E2)(W.u.)=(2.2×10^2 *+14−17*)
		1163.9 *3*	100 *4*	215.718	7/2$^+$	(M1+E2)		6.15×10^{-4} *23*	α(K)=0.000538 *21*; α(L)=6.07×10^{-5} *20*; α(M)=1.10×10^{-5} *4*; α(N+..)=5.1×10^{-6} *4* α(N)=1.75×10^{-6} *6*; α(O)=1.18×10^{-7} *6*; α(IPF)=3.3×10^{-6} *4*
1382.33		1166.6 *2*	100	215.718	7/2$^+$				
1393.33	(13/2$^+$)	531.23[h] *20*	20[h]	861.90	(9/2$^+$)				
		560.48[h] *20*	30[h]	832.80	11/2$^{(+)}$	(M1+E2)[g]		0.00343 *20*	α(K)=0.00300 *17*; α(L)=0.00035 *3*; α(M)=6.4×10^{-5} *5*; α(N+..)=1.08×10^{-5} *8* α(N)=1.01×10^{-5} *8*; α(O)=6.55×10^{-7} *24*
		620.63[h] *20*	31[h]	772.68	13/2$^+$	(E2)[g]		0.00272	α(K)=0.00238 *4*; α(L)=0.000283 *4*; α(M)=5.13×10^{-5} *8*; α(N+..)=8.61×10^{-6} *12* α(N)=8.09×10^{-6} *12*; α(O)=5.12×10^{-7} *8* Mult.: ΔJ=0 transition.
		1393.33[h] *20*	100[h]	0.0	9/2$^+$	(E2)[g]		4.54×10^{-4}	α(K)=0.000357 *5*; α(L)=4.02×10^{-5} *6*; α(M)=7.26×10^{-6} *11*; α(N+..)=5.00×10^{-5} *7*

$^{97}_{43}Tc_{54}$-13

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
								α(K)=0.000357 *5*; α(L)=4.02×10^{-5} *6*; α(M)=7.26×10^{-6} *11*; α(N+..)=5.00×10^{-5} *7* α(N)=1.156×10^{-6} *17*; α(O)=7.78×10^{-8} *11*; α(IPF)=4.87×10^{-5} *7*
1396.90		816.7 *1*	100	580.19	3/2$^-$			
1400.99	(3/2$^-$,5/2$^-$)	820.79[h] *20*	100	580.19	3/2$^-$	(M1+E2)[i]	1.34×10^{-3} *3*	α(K)=0.001173 *24*; α(L)=0.0001343 *19*; α(M)=2.43×10^{-5} *4*; α(N+..)=4.12×10^{-6} *6* α(N)=3.86×10^{-6} *6*; α(O)=2.57×10^{-7} *8* Mult.: ΔJ=0,1 transition.
1409.5	(7/2$^-$)	752.7 *4*	65 *6*	656.90	5/2$^-$			
		830.0	28	580.19	3/2$^-$	[E2]	1.28×10^{-3}	α(K)=0.001126 *16*; α(L)=0.0001305 *19*; α(M)=2.36×10^{-5} *4*; α(N+..)=3.99×10^{-6} *6* α(N)=3.74×10^{-6} *6*; α(O)=2.44×10^{-7} *4*
		1084.9 *4*	52 *7*	324.476	5/2$^+$	[E1]	3.04×10^{-4}	α(K)=0.000268 *4*; α(L)=2.97×10^{-5} *5*; α(M)=5.36×10^{-6} *8*; α(N+..)=9.13×10^{-7} *13* α(N)=8.55×10^{-7} *12*; α(O)=5.79×10^{-8} *9* Mult.: (M1+E2) in ^{96}Mo(^{3}He,pnγ).
		1193.8	100 *3*	215.718	7/2$^+$	[E1]	2.91×10^{-4}	α(K)=0.000225 *4*; α(L)=2.49×10^{-5} *4*; α(M)=4.50×10^{-6} *7*; α(N+..)=3.71×10^{-5} *6* α(N)=7.17×10^{-7} *10*; α(O)=4.86×10^{-8} *7*; α(IPF)=3.64×10^{-5} *5* Mult.: (M1+E2) in ^{96}Mo(^{3}He,pnγ).
1441.1		1116.6	100	324.476	5/2$^+$			
1471.21	(7/2$^+$,9/2$^+$)	609.18[h] *20*	42[h]	861.90	(9/2$^+$)			
		615.66[h] *20*	18[h]	855.45	7/2$^+$	(M1+E2)[i]	0.00269 *10*	α(K)=0.00236 *9*; α(L)=0.000275 *16*; α(M)=5.0×10^{-5} *3*; α(N+..)=8.4×10^{-6} *5* α(N)=7.9×10^{-6} *4*; α(O)=5.16×10^{-7} *11*
		1255.56 *20*	13	215.718	7/2$^+$			
		1471.35[h] *20*	100[h]	0.0	9/2$^+$	(M1+E2)[i]	4.43×10^{-4} *10*	α(K)=0.000331 *13*; α(L)=3.70×10^{-5} *13*; α(M)=6.69×10^{-6} *23*; α(N+..)=6.8×10^{-5} *6* α(N)=1.07×10^{-6} *4*; α(O)=7.3×10^{-8} *3*; α(IPF)=6.7×10^{-5} *6* Mult.: ΔJ=0,1 transition.
1480.3		823.4 *6*	100	656.90	5/2$^-$			
1512.32	(3/2,5/2,7/2)	855.45 *7*	61 *4*	656.90	5/2$^-$	D,E2[@]		
		932.8	18	580.19	3/2$^-$	D,E2[@]		
		1188.0 *3*	100 *3*	324.476	5/2$^+$	D,E2[@]		
		1295.8[h] *3*		215.718	7/2$^+$			

$^{97}_{43}Tc_{54}$-14

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
1518.39	(3/2$^-$)	938.18[h] *20*	100[h]	580.19	3/2$^-$	(M1(+E2))[i]	0.00098 *3*	α(K)=0.00086 *3*; α(L)=9.82×10^{-5} *21*; α(M)=1.78×10^{-5} *4*; α(N+..)=3.02×10^{-6} *7* α(N)=2.83×10^{-6} *7*; α(O)=1.90×10^{-7} *8*
		1194.2[h] *3*	16[h]	324.476	5/2$^+$			
		1421.69[h] *20*	42[h]	96.57	1/2$^-$			
1523.1	(5/2$^+$,7/2,9/2$^+$)	1198.7 *4*	100 *3*	324.476	5/2$^+$	D,E2[@]		
		1307.2 *6*	36 *20*	215.718	7/2$^+$	D,E2[@]		
		1523.5	25	0.0	9/2$^+$	D,E2[@]		
1527.3		1202.8[h] *3*	100	324.476	5/2$^+$			
1538.01	(11/2$^+$,13/2$^+$)	765.28[h] *20*	100[h]	772.68	13/2$^+$	(M1+E2)[i]	1.58×10^{-3} *2*	α(K)=0.001384 *21*; α(L)=0.000159 *3*; α(M)=2.88×10^{-5} *5*; α(N+..)=4.88×10^{-6} *8* α(N)=4.57×10^{-6} *7*; α(O)=3.04×10^{-7} *7*
		1538.1[h] *3*	100[h]	0.0	9/2$^+$			
1580.0	(5/2,7/2$^-$)	340.4	20 *9*	1240.02	(7/2$^-$)			
		924.2	100 *4*	656.90	5/2$^-$			
		1000.0 *10*	65 *4*	580.19	3/2$^-$	D(+Q)[i]		
		1255.7 *6*	24 *2*	324.476	5/2$^+$			
		1363.3 *7*	28 *2*	215.718	7/2$^+$			
1581.47	(11/2$^+$,13/2$^+$)	748.75[h] *20*	100[h]	832.80	11/2$^{(+)}$	(M1+E2)[i]	1.66×10^{-3}	α(K)=0.001458 *21*; α(L)=0.000168 *4*; α(M)=3.03×10^{-5} *6*; α(N+..)=5.14×10^{-6} *9* α(N)=4.82×10^{-6} *9*; α(O)=3.20×10^{-7} *7*
		808.70[h] *20*	95[h]	772.68	13/2$^+$	(M1+E2)[i]	1.38×10^{-3} *3*	α(K)=0.001215 *23*; α(L)=0.0001391 *20*; α(M)=2.52×10^{-5} *4*; α(N+..)=4.27×10^{-6} *6* α(N)=4.00×10^{-6} *6*; α(O)=2.67×10^{-7} *8*
1582.20	(3/2$^+$,5/2,7/2)	925.16[h] *20*	100[h]	656.90	5/2$^-$			
		1257.96[h] *20*	33[h]	324.476	5/2$^+$			
		1366.2[h] *3*	16[h]	215.718	7/2$^+$			
1585.8	(3/2$^+$,5/2$^+$,7/2$^+$)	1261.3[h] *3*	100[h]	324.476	5/2$^+$	(M1+E2)[i]	5.32×10^{-4} *18*	α(K)=0.000454 *18*; α(L)=5.11×10^{-5} *17*; α(M)=9.2×10^{-6} *3*; α(N+..)=1.78×10^{-5} *16* α(N)=1.47×10^{-6} *6*; α(O)=1.00×10^{-7} *5*; α(IPF)=1.62×10^{-5} *17*
1625.26		483.79[h] *20*	100[h]	1141.23	(7/2$^+$)			
		685.61[h] *20*	61[h]	939.88				
1649.63	3/2$^+$,5/2$^+$	679.9 *3*	100	970.03	7/2$^+$	D,E2[@]		
		793.7 *5*	19	855.45	7/2$^+$	D,E2[@]		

$^{97}_{43}Tc_{54}$-15

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
1649.63	3/2$^+$,5/2$^+$	1324.9 *4*	16	324.476	5/2$^+$	D,E2[@]		
1654.48	17/2$^+$	881.8 *1*	100	772.68	13/2$^+$	E2[a]	1.11×10^{-3}	α(K)=0.000973 *14*; α(L)=0.0001123 *16*; α(M)=2.03×10^{-5} *3*; α(N+..)=3.44×10^{-6} *5* α(N)=3.22×10^{-6} *5*; α(O)=2.11×10^{-7} *3*
1675.5	3/2$^+$,5/2$^+$	616		1059.6	(5/2,7/2$^+$)			
		820		855.45	7/2$^+$			
1677.5	(5/2$^-$)	1020.6[h] *3*	43[h]	656.90	5/2$^-$			
		1097.1 *10*	100 *10*	580.19	3/2$^-$	(M1+E2)[i]	6.95×10^{-4} *25*	α(K)=0.000611 *23*; α(L)=6.90×10^{-5} *21*; α(M)=1.25×10^{-5} *4*; α(N+..)=2.12×10^{-6} *7* α(N)=1.99×10^{-6} *7*; α(O)=1.34×10^{-7} *6* Mult.: ΔJ=0,1 transition.
		1352.7 *10*	47 *6*	324.476	5/2$^+$			
		1462.0[k]		215.718	7/2$^+$			
1685.47	15/2$^{(+)}$	852.7 *1*	67 *3*	832.80	11/2$^{(+)}$	E2[a]	1.20×10^{-3}	α(K)=0.001054 *15*; α(L)=0.0001220 *17*; α(M)=2.21×10^{-5} *3*; α(N+..)=3.73×10^{-6} *6* α(N)=3.50×10^{-6} *5*; α(O)=2.29×10^{-7} *4*
		912.8 *1*	100 *5*	772.68	13/2$^+$	(M1+E2)[g]	0.00105 *3*	α(K)=0.00092 *3*; α(L)=0.0001046 *20*; α(M)=1.89×10^{-5} *4*; α(N+..)=3.21×10^{-6} *7* α(N)=3.01×10^{-6} *7*; α(O)=2.02×10^{-7} *8*
1690.04	(5/2$^+$,7/2$^+$)	1474.31[h] *20*	100	215.718	7/2$^+$	(M1+E2)[i]	4.43×10^{-4} *10*	α(K)=0.000330 *12*; α(L)=3.69×10^{-5} *13*; α(M)=6.67×10^{-6} *23*; α(N+..)=6.9×10^{-5} *6* α(N)=1.06×10^{-6} *4*; α(O)=7.2×10^{-8} *3*; α(IPF)=6.8×10^{-5} *6* Mult.: ΔJ=0,1 transition.
1692.9	(3/2$^+$,5/2,7/2)	698.5		994.68	(3/2$^+$)			
		1368.2 *6*	38 *14*	324.476	5/2$^+$			
		1477.2 *3*	100 *5*	215.718	7/2$^+$	(M1+E2)[i]	4.42×10^{-4} *10*	α(K)=0.000328 *12*; α(L)=3.67×10^{-5} *13*; α(M)=6.64×10^{-6} *23*; α(N+..)=7.0×10^{-5} *6* α(N)=1.06×10^{-6} *4*; α(O)=7.2×10^{-8} *3*; α(IPF)=6.9×10^{-5} *6*
1697.8		1482.1[h] *3*	100	215.718	7/2$^+$			
1706.95		429.13[h] *20*	100	1277.82	(9/2$^-$)			
1707.7	(7/2)	922.7 *5*	100 *16*	785.034	5/2$^+$	D,E2[@]		
		1383.0 *5*	89 *13*	324.476	5/2$^+$	D,E2[@]		
		1492.2 *5*	46 *13*	215.718	7/2$^+$	D,E2[@]		
1721.0	(1/2$^+$,3/2$^+$,5/2$^+$)	726.3[h] *3*	100	994.68	(3/2$^+$)	(M1+E2)[i]	0.00179	α(K)=0.001569 *23*; α(L)=0.000181 *5*; α(M)=3.27×10^{-5} *8*; α(N+..)=5.54×10^{-6} *11*

$^{97}_{43}Tc_{54}$-16

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
								α(K)=0.001569 *23*; α(L)=0.000181 *5*; α(M)=3.27×10^{-5} *8*; α(N+..)=5.54×10^{-6} *11*; α(N)=5.20×10^{-6} *11*; α(O)=3.44×10^{-7} *7* Mult.: ΔJ=0,1 transition.
1722.61	(5/2$^+$)	728.1[h] *3*	100[h]	994.68	(3/2$^+$)			
		752.4[h] *3*	89[h]	970.03	7/2$^+$	(M1+E2)[i]	1.64×10^{-3} *2*	α(K)=0.001441 *21*; α(L)=0.000166 *4*; α(M)=3.00×10^{-5} *6*; α(N+..)=5.08×10^{-6} *9*; α(N)=4.77×10^{-6} *8*; α(O)=3.16×10^{-7} *7* Mult.: ΔJ=0,1 transition.
1733.3	(3/2$^+$,5/2,7/2$^-$)	1153.0 *6*	31 *21*	580.19	3/2$^-$			
		1517.6 *4*	100 *5*	215.718	7/2$^+$			
1779.1	(5/2,7/2)	993.5 *8*	100 *8*	785.034	5/2$^+$			
		1563.5 *6*	61 *3*	215.718	7/2$^+$			
		1779.4		0.0	9/2$^+$			
1796.7	(3/2,5/2,7/2)	1011.1 *6*	100 *10*	785.034	5/2$^+$			
		1141.3 *10*	60 *10*	656.90	5/2$^-$			
		1472.3 *6*	90 *13*	324.476	5/2$^+$			
1801.29		1476.80[h] *20*	100	324.476	5/2$^+$			
1815.7	(9/2$^+$)	615.9		1199.62	(9/2$^+$)			
		1491.1 *5*	100 *9*	324.476	5/2$^+$	[E2]	4.33×10^{-4}	α(K)=0.000311 *5*; α(L)=3.50×10^{-5} *5*; α(M)=6.32×10^{-6} *9*; α(N+..)=8.09×10^{-5} *12*; α(N)=1.006×10^{-6} *15*; α(O)=6.80×10^{-8} *10*; α(IPF)=7.98×10^{-5} *12*
		1600.2 *6*	43 *6*	215.718	7/2$^+$	(M1+E2)	4.32×10^{-4} *7*	α(K)=0.000280 *10*; α(L)=3.13×10^{-5} *10*; α(M)=5.65×10^{-6} *19*; α(N+..)=0.000115 *9*; α(N)=9.0×10^{-7} *3*; α(O)=6.14×10^{-8} *24*; α(IPF)=0.000114 *9* Mult.: D+Q from γ(θ) in (p,nγ), Δπ=no from level scheme.
1834.75	(11/2$^+$)	363.54[h] *20*	100	1471.21	(7/2$^+$,9/2$^+$)	(M1+E2)[i]	0.0114 *22*	α(K)=0.0099 *19*; α(L)=0.0012 *3*; α(M)=0.00022 *5*; α(N+..)=3.7×10^{-5} *8*; α(N)=3.5×10^{-5} *8*; α(O)=2.1×10^{-6} *4*
1834.81	(13/2$^-$)	557.0 *1*	100 *3*	1277.82	(9/2$^-$)	E2[a]	0.00368	α(K)=0.00322 *5*; α(L)=0.000386 *6*; α(M)=7.00×10^{-5} *10*; α(N+..)=1.172×10^{-5} *17*; α(N)=1.103×10^{-5} *16*; α(O)=6.89×10^{-7} *10*
		1062.0 *2*	43 *2*	772.68	13/2$^+$	[E1]	3.16×10^{-4}	α(K)=0.000279 *4*; α(L)=3.10×10^{-5} *5*; α(M)=5.58×10^{-6} *8*; α(N+..)=9.50×10^{-7} *14*; α(N)=8.90×10^{-7} *13*; α(O)=6.02×10^{-8} *9*

$^{97}_{43}Tc_{54}$-17

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
1841.87		847.4[h] *3*	29[h]	994.68	(3/2$^+$)			
		901.89[h] *20*	100[h]	939.88		(M1+E2)[i]	0.00107 *3*	α(K)=0.00094 *3*; α(L)=0.0001075 *20*; α(M)=1.95×10^{-5} *4*; α(N+..)=3.30×10^{-6} *7* α(N)=3.10×10^{-6} *7*; α(O)=2.07×10^{-7} *8*
1849.79	(15/2$^+$)	164.3 *3*		1685.47	15/2$^{(+)}$			
		195.3 *1*	16 *1*	1654.48	17/2$^+$	(M1(+E2))	0.0451	α(K)=0.0395 *6*; α(L)=0.00465 *7*; α(M)=0.000844 *12*; α(N+..)=0.0001430 *21* α(N)=0.0001341 *19*; α(O)=8.90×10^{-6} *13* Mult.: (D) from ^{94}Zr(^{6}Li,3nγ) dataset, Δπ=no from level scheme; (M1+E2) from ^{82}Se(^{19}F,4nγ) dataset.
		456.4 *1*	61 *4*	1393.33	(13/2$^+$)	(M1+E2)[g]	0.0060 *7*	α(K)=0.0052 *6*; α(L)=0.00062 *9*; α(M)=0.000112 *17*; α(N+..)=1.9×10^{-5} *3* α(N)=1.78×10^{-5} *25*; α(O)=1.13×10^{-6} *10* Mult.: ΔJ=1 from γ(θ) in (^{6}Li,3nγ), Δπ=no from level scheme.
		1077.2 *2*	100 *5*	772.68	13/2$^+$	(M1+E2)[g]	0.00072 *3*	α(K)=0.000636 *23*; α(L)=7.19×10^{-5} *21*; α(M)=1.30×10^{-5} *4*; α(N+..)=2.21×10^{-6} *7* α(N)=2.07×10^{-6} *7*; α(O)=1.40×10^{-7} *6*
1850.6	(3/2)	1193.7 *3*		656.90	5/2$^-$			
		1754.2		96.57	1/2$^-$			
1856.1	(3/2$^+$,5/2$^-$)	1276.3		580.19	3/2$^-$			
		1530.8 *10*	47 *4*	324.476	5/2$^+$			
		1640.5 *8*	100 *7*	215.718	7/2$^+$			
		1759.8		96.57	1/2$^-$			
1858.61		1201.70[h] *20*	100	656.90	5/2$^-$			
1862.36		1537.87[h] *20*	100	324.476	5/2$^+$			
1864.84	(9/2$^+$)	1009.6 *3*	86[h]	855.45	7/2$^+$			
		1539.8 *6*	100 *7*	324.476	5/2$^+$	[E2]	4.30×10^{-4}	α(K)=0.000292 *4*; α(L)=3.28×10^{-5} *5*; α(M)=5.92×10^{-6} *9*; α(N+..)=9.92×10^{-5} *14* α(N)=9.43×10^{-7} *14*; α(O)=6.38×10^{-8} *9*; α(IPF)=9.82×10^{-5} *14*
		1648.9 *5*	16 *3*	215.718	7/2$^+$			
1879.39	(9/2$^+$,17/2$^+$)	1106.7[h] *1*	100	772.68	13/2$^+$	(E2)[i]	6.60×10^{-4}	α(K)=0.000579 *9*; α(L)=6.59×10^{-5} *10*; α(M)=1.192×10^{-5} *17*; α(N+..)=2.76×10^{-6} *4* α(N)=1.90×10^{-6} *3*; α(O)=1.263×10^{-7} *18*; α(IPF)=7.38×10^{-7} *11*
1892.61	(13/2$^+$,15/2$^+$)	765.64[h] *20*	81[h]	1126.64	11/2$^{(+)}$			
		1120.24[h] *20*	100[h]	772.68	13/2$^+$	(M1+E2)[i]	6.65×10^{-4} *24*	α(K)=0.000584 *22*; α(L)=6.59×10^{-5} *20*;

$^{97}_{43}Tc_{54}$-18

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
								α(M)=1.19×10^{-5} *4*; α(N+..)=3.04×10^{-6} *8* α(N)=1.90×10^{-6} *6*; α(O)=1.28×10^{-7} *6*; α(IPF)=1.02×10^{-6} *12* Mult.: ΔJ=0,1 transition.
1896.0		1063.2		832.80	11/2$^{(+)}$			
		1896[k]		0.0	9/2$^+$			
1897.42	(5/2$^+$,7/2$^+$,9/2$^+$)	1681.69 *20*	100	215.718	7/2$^+$	(M1+E2)[i]	4.36×10^{-4} *7*	α(K)=0.000254 *9*; α(L)=2.83×10^{-5} *9*; α(M)=5.11×10^{-6} *16*; α(N+..)=0.000148 *11* α(N)=8.2×10^{-7} *3*; α(O)=5.57×10^{-8} *21*; α(IPF)=0.000147 *11* Mult.: ΔJ=0,1 transition.
1907.04		1134.35 *20*	100	772.68	13/2$^+$			
1913.9		1589.4 *3*	100	324.476	5/2$^+$			
1914.1	(3/2,5/2)	944.3		970.03	7/2$^+$			
		1058.7		855.45	7/2$^+$			
		1128.8 *5*	100 *7*	785.034	5/2$^+$			
		1589.9 *6*	33 *4*	324.476	5/2$^+$			
		1698.5		215.718	7/2$^+$			
1919.3		1594.8 *3*	100	324.476	5/2$^+$			
1922.5		1265.6 *3*	100	656.90	5/2$^-$			
1924.6	(3/2,5/2)	1267.7 *6*	100 *5*	656.90	5/2$^-$			
		1344.3 *7*	24 *4*	580.19	3/2$^-$			
		1599.8 *10*	8 *4*	324.476	5/2$^+$			
		1709.4		215.718	7/2$^+$			
1940.6	(7/2)	1616.1		324.476	5/2$^+$			
		1724.9		215.718	7/2$^+$			
1947.59		1623.10[h] *20*	100	324.476	5/2$^+$			
1949.00	(9/2$^+$)	1093.69[hk] *20*	100[h]	855.45	7/2$^+$			
		1163.92[h] *20*	54[h]	785.034	5/2$^+$	[E2]	5.94×10^{-4}	α(K)=0.000519 *8*; α(L)=5.89×10^{-5} *9*; α(M)=1.066×10^{-5} *15*; α(N+..)=5.46×10^{-6} *8* α(N)=1.695×10^{-6} *24*; α(O)=1.132×10^{-7} *16*; α(IPF)=3.65×10^{-6} *6* ΔE: adopted by evaluator.
		1733.5 *5*		215.718	7/2$^+$			
1964.46		1024.51[h] *20*	100[h]	939.88				
		1640.1[h] *3*	54[h]	324.476	5/2$^+$			
1976.63		698.81[h] *20*	100	1277.82	(9/2$^-$)			
1979.3		1146.5[h] *3*	100	832.80	11/2$^{(+)}$			
1987.0	(3/2)	1330.1 *6*	96 *8*	656.90	5/2$^-$			
		1406.8 *7*	100 *8*	580.19	3/2$^-$			

$^{97}_{43}Tc_{54}$-19

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
1987.0	(3/2)	1890.4		96.57	1/2⁻			
1992.6		714.8[h] *3*	100	1277.82	(9/2⁻)			
1995.0		1025.2		970.03	7/2⁺			
		1670.4		324.476	5/2⁺			
		1779.2		215.718	7/2⁺			
2001.3		1344.2 *7*	39 *4*	656.90	5/2⁻			
		1421.2 *6*	100 *7*	580.19	3/2⁻			
2004.21		1009.52[h] *20*	100	994.68	(3/2⁺)			
2023.7		1443.5 *6*	100	580.19	3/2⁻			
2033.04		1171.13[h] *20*	100	861.90	(9/2⁺)			
2036.0	(1/2⁻,3/2,5/2⁻)	1379.0 *6*		656.90	5/2⁻			
		1939.5		96.57	1/2⁻			
2048.47		1053.78[h] *20*	100	994.68	(3/2⁺)			
2054.90		400.41[h] *20*	100	1654.48	17/2⁺			
2056.1		1283.4[h] *3*	100	772.68	13/2⁺			
2060.0	(9/2,11/2)	1198.2		861.90	(9/2⁺)			
		1844.2		215.718	7/2⁺			
2069.0		1412.1 *5*	100	656.90	5/2⁻			
2095.87		1101.4[h] *3*	88[h]	994.68	(3/2⁺)			
		1240.2[h] *3*	100[h]	855.45	7/2⁺			
2098.0		823.5[h] *3*	100	1274.54	(3/2⁻,5/2⁻,7/2⁻)			
2117.56		1255.9[h] *3*	100[h]	861.90	(9/2⁺)			
		1537.1[h] *3*	70[h]	580.19	3/2⁻			
2119.72		1539.51[h] *20*	100	580.19	3/2⁻			
2121.79	(13/2⁺,15/2,17/2⁺)	467.3 *1*	67 *8*	1654.48	17/2⁺	(E2)[a]	0.00616	α(K)=0.00537 *8*; α(L)=0.000658 *10*; α(M)=0.0001193 *17*; α(N+..)=1.99×10^{-5} *3* α(N)=1.87×10^{-5} *3*; α(O)=1.140×10^{-6} *16*
		1349.1 *1*	100 *3*	772.68	13/2⁺			
2130.8		1160.8[h] *3*	100	970.03	7/2⁺			
2134.8		1362.1[h] *3*	100	772.68	13/2⁺			
2150.1	(3/2⁺,5/2,7/2)	1493.0 *7*		656.90	5/2⁻			
		1825.8		324.476	5/2⁺			
		1934.6		215.718	7/2⁺			
2168.8		858.4		1310.17	9/2⁺			
		1953.3		215.718	7/2⁺			
		2168.9		0.0	9/2⁺			
2208.2		1628.0 *7*	100	580.19	3/2⁻			

$^{97}_{43}Tc_{54}$-20

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
2217.4		1362.0		855.45	$7/2^+$			
		1892.9		324.476	$5/2^+$			
		2001.7		215.718	$7/2^+$			
2255.1	$(5/2^+,7/2^-)$	1393.8		861.90	$(9/2^+)$			
		1675.4		580.19	$3/2^-$			
		1930.5		324.476	$5/2^+$			
		2038.3		215.718	$7/2^+$			
2257.3		1677.1[h] *3*	100	580.19	$3/2^-$			
2257.88		980.05[h] *20*	100	1277.82	$(9/2^-)$			
2264.60		1294.56[h] *20*	100	970.03	$7/2^+$			
2331.39	$(19/2^+)$	676.9 *1*	100	1654.48	$17/2^+$	(M1+E2)[g]	0.00212 *5*	α(K)=0.00186 *4*; α(L)=0.000216 *8*; α(M)=3.90×10^{-5} *14*; α(N+..)=6.60×10^{-6} *20* α(N)=6.19×10^{-6} *20*; α(O)=4.08×10^{-7} *6*
2337.62	$(17/2^-)$	487.8 *1*	100 *6*	1849.79	$(15/2^+)$	(E1)	1.68×10^{-3}	α(K)=0.001474 *21*; α(L)=0.0001664 *24*; α(M)=3.00×10^{-5} *5*; α(N+..)=5.08×10^{-6} *8* α(N)=4.77×10^{-6} *7*; α(O)=3.15×10^{-7} *5* Mult.: ΔJ=1 from γ(θ) (^{6}Li,3nγ); Δπ=yes from level scheme.
		502.8 *1*	65 *6*	1834.81	$(13/2^-)$	[E2]	0.00496	α(K)=0.00432 *6*; α(L)=0.000525 *8*; α(M)=9.52×10^{-5} *14*; α(N+..)=1.589×10^{-5} *23* α(N)=1.496×10^{-5} *21*; α(O)=9.21×10^{-7} *13*
		652.2 *1*	72 *4*	1685.47	$15/2^{(+)}$	(E1)	8.55×10^{-4}	α(K)=0.000753 *11*; α(L)=8.44×10^{-5} *12*; α(M)=1.524×10^{-5} *22*; α(N+..)=2.58×10^{-6} *4* α(N)=2.42×10^{-6} *4*; α(O)=1.618×10^{-7} *23* Mult.: D from γ(θ) in (^{6}Li,3nγ); Δπ=yes from level scheme.
2417.5		1143.0[h] *3*	100	1274.54	$(3/2^-,5/2^-,7/2^-)$			
2446.8		612.0[h] *3*	100	1834.81	$(13/2^-)$			
2449.2		911.2[h] *3*	100	1538.01	$(11/2^+,13/2^+)$			
2491.59		837.1 *2*	100	1654.48	$17/2^+$			
2533.78	$(21/2^+)$	202.4 *1*	4.1 *5*	2331.39	$(19/2^+)$	(M1+E2)[g]	0.07 *3*	α(K)=0.060 *25*; α(L)=0.008 *4*; α(M)=0.0015 *8*; α(N+..)=0.00024 *12* α(N)=0.00023 *11*; α(O)=1.2×10^{-5} *5*
		879.3 *1*	100 *2*	1654.48	$17/2^+$	E2[a]	1.12×10^{-3}	α(K)=0.000980 *14*; α(L)=0.0001131 *16*; α(M)=2.05×10^{-5} *3*; α(N+..)=3.46×10^{-6} *5* α(N)=3.25×10^{-6} *5*; α(O)=2.13×10^{-7} *3*
2564.71	(19/2)	227.1 *1*	100	2337.62	$(17/2^-)$	(D)[a]		
2661.79		540.0 *1*	100 *13*	2121.79	$(13/2^+,15/2,17/2^+)$			

$^{97}_{43}Tc_{54}$-21

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
2661.79		1007.3[k] *2*	43 *4*	1654.48	17/2$^+$			
2672.2		1017.7 *3*	100	1654.48	17/2$^+$			
2733.80	(21/2$^+$)	169.1 *1*	20 *1*	2564.71	(19/2)	(D)[a]		
		1079.3 *1*	100 *2*	1654.48	17/2$^+$	E2[a]	6.97×10^{-4}	α(K)=0.000612 *9*; α(L)=6.98×10^{-5} *10*; α(M)=1.262×10^{-5} *18*; α(N+..)=2.14×10^{-6} *3* α(N)=2.01×10^{-6} *3*; α(O)=1.334×10^{-7} *19*
2916.79	(17/2$^+$,19/2,21/2$^+$)	383.0 *4*	100	2533.78	(21/2$^+$)			
		1262.3 *2*		1654.48	17/2$^+$			
3143.24	(21/2$^-$)	609.5 *2*	29 *3*	2533.78	(21/2$^+$)	[E1]	9.95×10^{-4}	α(K)=0.000876 *13*; α(L)=9.84×10^{-5} *14*; α(M)=1.776×10^{-5} *25*; α(N+..)=3.01×10^{-6} *5* α(N)=2.82×10^{-6} *4*; α(O)=1.88×10^{-7} *3*
		805.6 *1*	100 *9*	2337.62	(17/2$^-$)	E2[a]	1.38×10^{-3}	α(K)=0.001211 *17*; α(L)=0.0001407 *20*; α(M)=2.55×10^{-5} *4*; α(N+..)=4.30×10^{-6} *6* α(N)=4.04×10^{-6} *6*; α(O)=2.63×10^{-7} *4*
3254.39		337.6 *1*	100	2916.79	(17/2$^+$,19/2,21/2$^+$)			
3296.59		762.8 *1*	100	2533.78	(21/2$^+$)			
3530.19	(25/2$^+$)	996.4 *1*	100	2533.78	(21/2$^+$)	(E2)[g]	8.34×10^{-4}	α(K)=0.000732 *11*; α(L)=8.39×10^{-5} *12*; α(M)=1.517×10^{-5} *22*; α(N+..)=2.57×10^{-6} *4* α(N)=2.41×10^{-6} *4*; α(O)=1.594×10^{-7} *23*
3575.59	(23/2$^+$)	841.8 *2*	100 *4*	2733.80	(21/2$^+$)	(M1+E2)[g]	0.00126 *3*	α(K)=0.001106 *24*; α(L)=0.0001264 *19*; α(M)=2.29×10^{-5} *4*; α(N+..)=3.88×10^{-6} *7* α(N)=3.64×10^{-6} *6*; α(O)=2.43×10^{-7} *8*
		1041.8 *1*	96 *6*	2533.78	(21/2$^+$)	(M1)[e]	8.01×10^{-4}	α(K)=0.000705 *10*; α(L)=7.92×10^{-5} *11*; α(M)=1.433×10^{-5} *20*; α(N+..)=2.44×10^{-6} *4* α(N)=2.29×10^{-6} *4*; α(O)=1.562×10^{-7} *22*
3585.99		1052.2 *2*	100	2533.78	(21/2$^+$)			
3643.68	(25/2$^+$)	1109.9 *2*	100	2533.78	(21/2$^+$)	(E2)[g]	6.56×10^{-4}	α(K)=0.000576 *8*; α(L)=6.55×10^{-5} *10*; α(M)=1.185×10^{-5} *17*; α(N+..)=2.83×10^{-6} *4* α(N)=1.88×10^{-6} *3*; α(O)=1.255×10^{-7} *18*; α(IPF)=8.19×10^{-7} *13*
3731.09	(25/2$^+$)	155.5 *1*	100	3575.59	(23/2$^+$)	(M1+E2)[g]	0.17 *9*	α(K)=0.14 *7*; α(L)=0.021 *13*; α(M)=0.0039 *24*; α(N+..)=0.0006 *4* α(N)=0.0006 *4*; α(O)=2.9×10^{-5} *13*
4334.0	(27/2$^+$)	803.8 *3*	100	3530.19	(25/2$^+$)	(M1+E2)[g]	1.40×10^{-3} *2*	α(K)=0.001232 *23*; α(L)=0.0001412 *21*;

$^{97}_{43}Tc_{54}$-22

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
								α(M)=2.55×10^{-5} *4*; α(N+..)=4.33×10^{-6} *7* α(N)=4.06×10^{-6} *6*; α(O)=2.70×10^{-7} *8*
4376.1	(27/2$^+$)	645.0 *3*	100	3731.09	(25/2$^+$)	(M1+E2)[g]	0.00240 *7*	α(K)=0.00210 *6*; α(L)=0.000244 *11*; α(M)=4.41×10^{-5} *20*; α(N+..)=7.5×10^{-6} *3* α(N)=7.0×10^{-6} *3*; α(O)=4.60×10^{-7} *7*
4430.1	(29/2$^+$)	96.0[f]	12[f] *4*	4334.0	(27/2$^+$)	(M1+E2)[g]	0.9 *6*	α(K)=0.7 *5*; α(L)=0.14 *11*; α(M)=0.026 *20*; α(N+..)=0.004 *3* α(N)=0.004 *3*; α(O)=0.00013 *8*
		786.9[f]	28[f] *5*	3643.68	(25/2$^+$)	(E2)[g]	1.46×10^{-3}	α(K)=0.001284 *18*; α(L)=0.0001494 *21*; α(M)=2.70×10^{-5} *4*; α(N+..)=4.56×10^{-6} *7* α(N)=4.28×10^{-6} *6*; α(O)=2.78×10^{-7} *4*
		899.7[f]	100[f] *19*	3530.19	(25/2$^+$)	(E2)[g]	1.06×10^{-3}	α(K)=0.000928 *13*; α(L)=0.0001069 *15*; α(M)=1.94×10^{-5} *3*; α(N+..)=3.27×10^{-6} *5* α(N)=3.07×10^{-6} *5*; α(O)=2.02×10^{-7} *3*
4681.0	(29/2$^+$)	304.8[f]	15.8[f] *20*	4376.1	(27/2$^+$)	(M1+E2)[g]	0.019 *5*	α(K)=0.017 *5*; α(L)=0.0021 *7*; α(M)=0.00038 *12*; α(N+..)=6.3×10^{-5} *19* α(N)=6.0×10^{-5} *18*; α(O)=3.6×10^{-6} *8*
		950.0[f]	100.0[f] *23*	3731.09	(25/2$^+$)	(E2)[g]	9.31×10^{-4}	α(K)=0.000817 *12*; α(L)=9.38×10^{-5} *14*; α(M)=1.697×10^{-5} *24*; α(N+..)=2.87×10^{-6} *4* α(N)=2.69×10^{-6} *4*; α(O)=1.777×10^{-7} *25*
5051.4	(29/2$^+$)	1407.5[f]	100	3643.68	(25/2$^+$)	(E2)[g]	4.50×10^{-4}	α(K)=0.000349 *5*; α(L)=3.93×10^{-5} *6*; α(M)=7.11×10^{-6} *10*; α(N+..)=5.39×10^{-5} *8* α(N)=1.132×10^{-6} *16*; α(O)=7.63×10^{-8} *11*; α(IPF)=5.27×10^{-5} *8*
5322.7	(31/2$^+$)	641.6[f]	85[f] *10*	4681.0	(29/2$^+$)	(M1(+E2))[g]	0.00243 *7*	α(K)=0.00213 *6*; α(L)=0.000247 *12*; α(M)=4.47×10^{-5} *21*; α(N+..)=7.6×10^{-6} *3* α(N)=7.1×10^{-6} *3*; α(O)=4.66×10^{-7} *8*
		946.7[f]	100[f] *39*	4376.1	(27/2$^+$)	[g]		
5461.2	(31/2$^+$)	409.7[f]	22.5[f] *17*	5051.4	(29/2$^+$)	(M1+E2)[g]	0.0080 *12*	α(K)=0.0070 *10*; α(L)=0.00085 *16*; α(M)=0.00015 *3*; α(N+..)=2.6×10^{-5} *5* α(N)=2.4×10^{-5} *5*; α(O)=1.52×10^{-6} *18*
		1031.3[f]	100[f] *8*	4430.1	(29/2$^+$)	(M1+E2)[g]	0.00080 *3*	α(K)=0.000699 *24*; α(L)=7.92×10^{-5} *21*; α(M)=1.43×10^{-5} *4*; α(N+..)=2.43×10^{-6} *8* α(N)=2.28×10^{-6} *7*; α(O)=1.54×10^{-7} *7*
5535.8	(33/2$^+$)	213.1[f]	16.3[f] *8*	5322.7	(31/2$^+$)	(M1(+E2))[g]	0.059 *24*	α(K)=0.051 *20*; α(L)=0.007 *4*; α(M)=0.0013 *6*; α(N+..)=0.00020 *10* α(N)=0.00019 *9*; α(O)=1.1×10^{-5} *4*
		854.7[f]	100.0[f] *25*	4681.0	(29/2$^+$)	(E2)[g]	1.20×10^{-3}	α(K)=0.001048 *15*; α(L)=0.0001213 *17*; α(M)=2.20×10^{-5} *3*;

$^{97}_{43}Tc_{54}$-23

Adopted Levels, Gammas (continued)

γ(^{97}Tc) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α[j]	Comments
								α(N+..)=3.71×10^{-6} *6* α(N)=3.48×10^{-6} *5*; α(O)=2.28×10^{-7} *4*
5587.3	(33/2$^+$)	126.1[f]	100	5461.2	(31/2$^+$)	(M1+E2)[g]	0.34 *20*	α(K)=0.29 *16*; α(L)=0.05 *4*; α(M)=0.009 *6*; α(N+..)=0.0014 *9* α(N)=0.0013 *9*; α(O)=6.E−5 *3*
7016.6	(37/2$^+$)	1480.8[f]	100	5535.8	(33/2$^+$)	(E2)[g]	4.35×10^{-4}	α(K)=0.000316 *5*; α(L)=3.54×10^{-5} *5*; α(M)=6.40×10^{-6} *9*; α(N+..)=7.73×10^{-5} *11* α(N)=1.020×10^{-6} *15*; α(O)=6.89×10^{-8} *10*; α(IPF)=7.62×10^{-5} *11*
7714.0	(39/2$^+$)	697.4[f]	100	7016.6	(37/2$^+$)	(M1+E2)[g]	0.00197 *4*	α(K)=0.00173 *3*; α(L)=0.000200 *6*; α(M)=3.62×10^{-5} *11*; α(N+..)=6.13×10^{-6} *16* α(N)=5.75×10^{-6} *16*; α(O)=3.79×10^{-7} *6*
8345.1	(43/2$^+$)	631.1[f]	100	7714.0	(39/2$^+$)	(E2)[g]	0.00260	α(K)=0.00228 *4*; α(L)=0.000270 *4*; α(M)=4.89×10^{-5} *7*; α(N+..)=8.21×10^{-6} *12* α(N)=7.72×10^{-6} *11*; α(O)=4.90×10^{-7} *7*

† Weighted average of available measurements: for E(level)<1 MeV: from ^{97}Ru ε decay, (^{6}Li,3nγ), (p,γ) E=res: av, (p,nγ) data sets; for E(level)>1 MeV from (^{6}Li,3nγ) and/or (p,nγ) data sets. Exceptions are noted separately.

‡ From γ(θ) in (p,nγ) data set, unless otherwise noted. D+Q transitions with significant admixture of Q ($\delta \geq 0.3$) are assumed to be of M1+E2 multipolarity. Strong Q transitions competing with D and D+Q transitions are assumed to be E2.

Also from α(K)exp or α ratios in ^{97}Ru ε decay.

@ Deduced from RUL.

& From γγ(θ) in ^{97}Ru ε decay.

a From γ(θ) in (^{6}Li,3nγ).

b D,E2 from RUL, Δπ=yes from level scheme.

c D from RUL, Δπ=no from level scheme.

d D from γ(θ) in (p,nγ), Δπ=no from level scheme.

e D from γ(θ) in (^{6}Li,3nγ), Δπ=no from level scheme.

f From ^{82}Se(^{19}F,4nγ).

g From γ(θ) and DCO (when available) in ^{82}Se(^{19}F,4nγ). Unless noted otherwise, the transitions are assumed to Be stretched.

h From ^{96}Mo(^{3}He,pnγ).

i From γ(θ), excitation function, and DCO in ^{96}Mo(^{3}He,pnγ) (when available). Because of the light projectile, the A_2 coefficients (A_4's are not given) are smaller than the typical values, particularly for small spins, which makes the assignments weak. Unless noted otherwise, the transitions are assumed to Be stretched.

j 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.

k Placement of transition in the level scheme is uncertain.

$^{97}_{43}Tc_{54}$-24

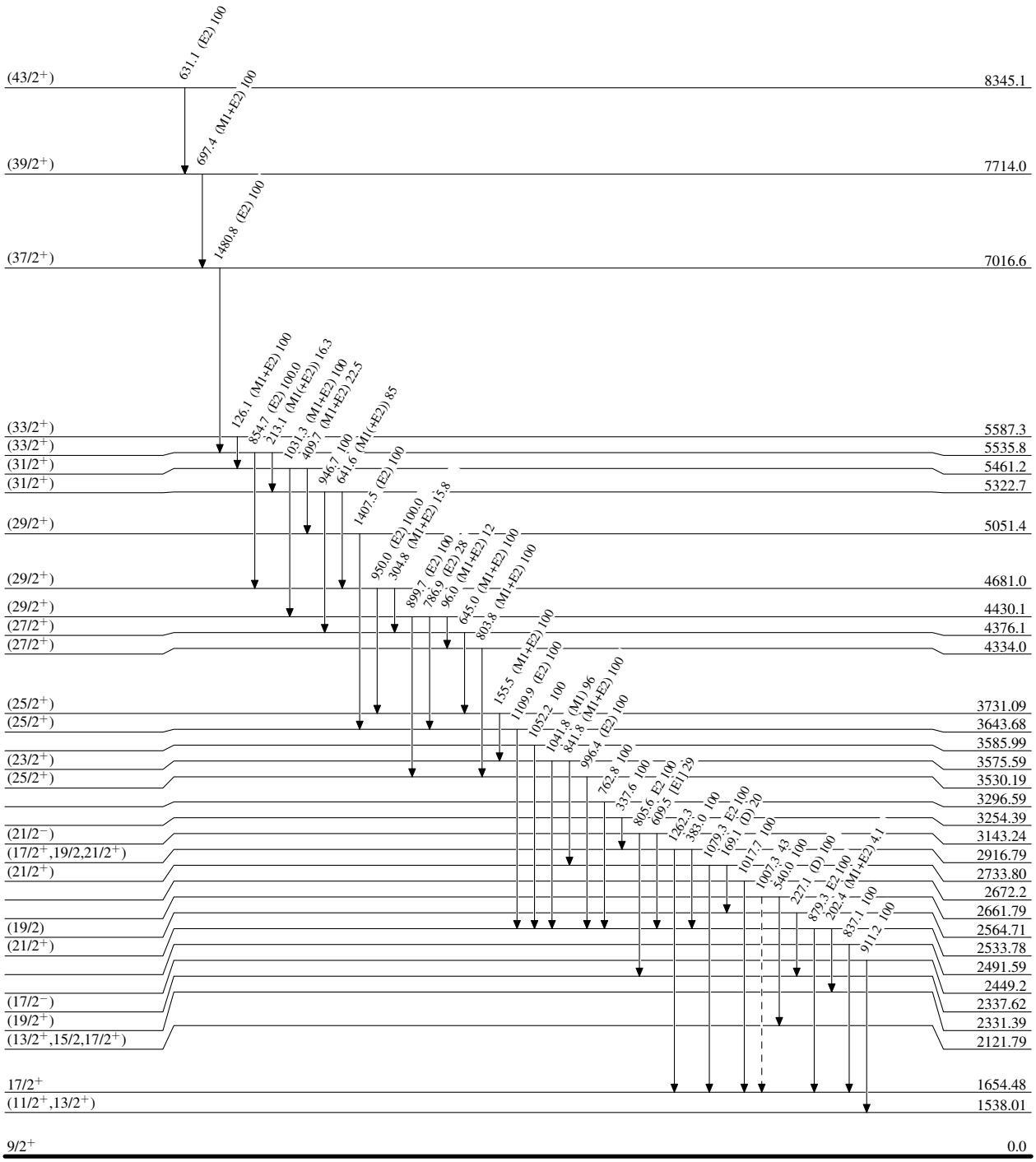
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

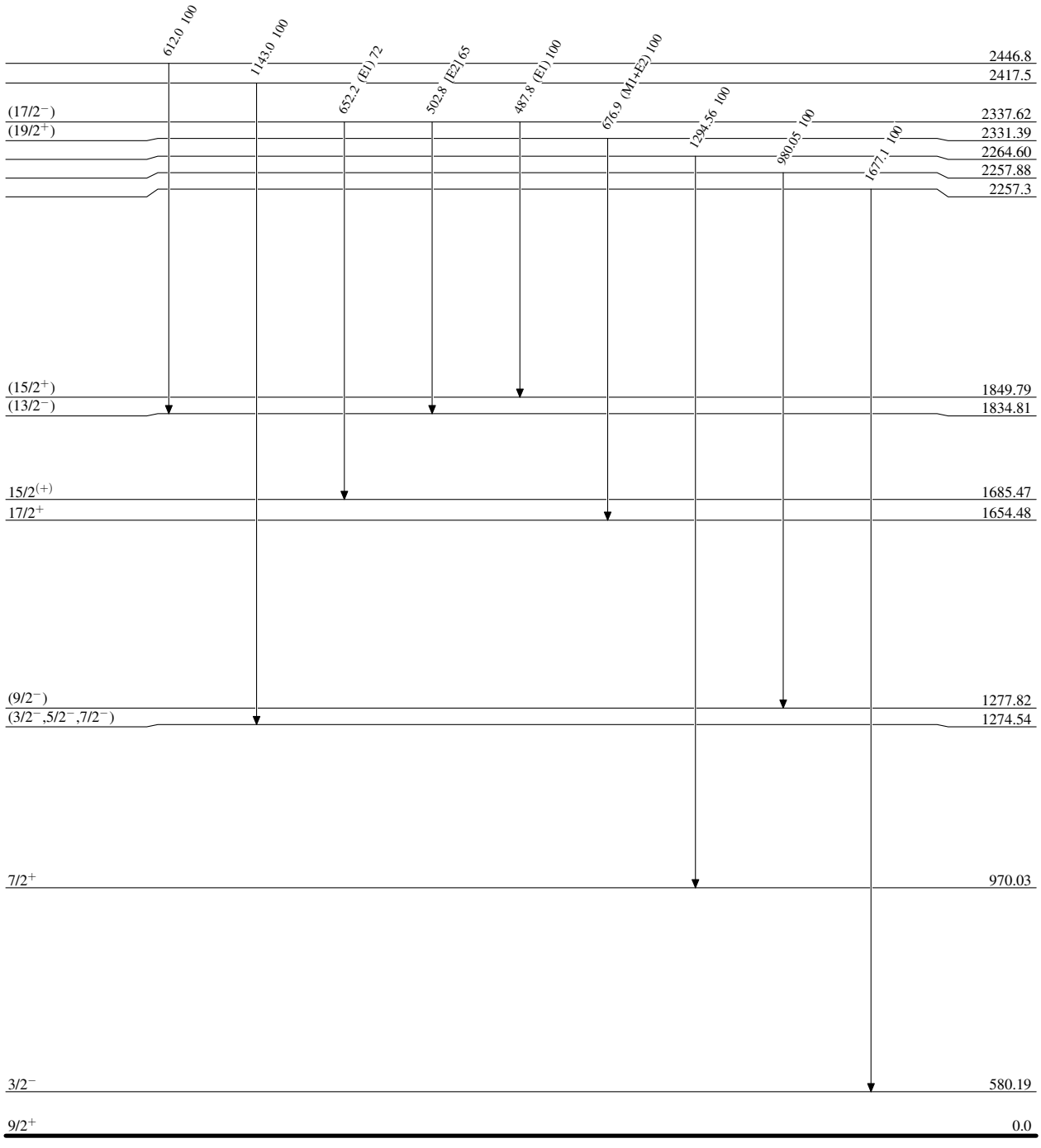


$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

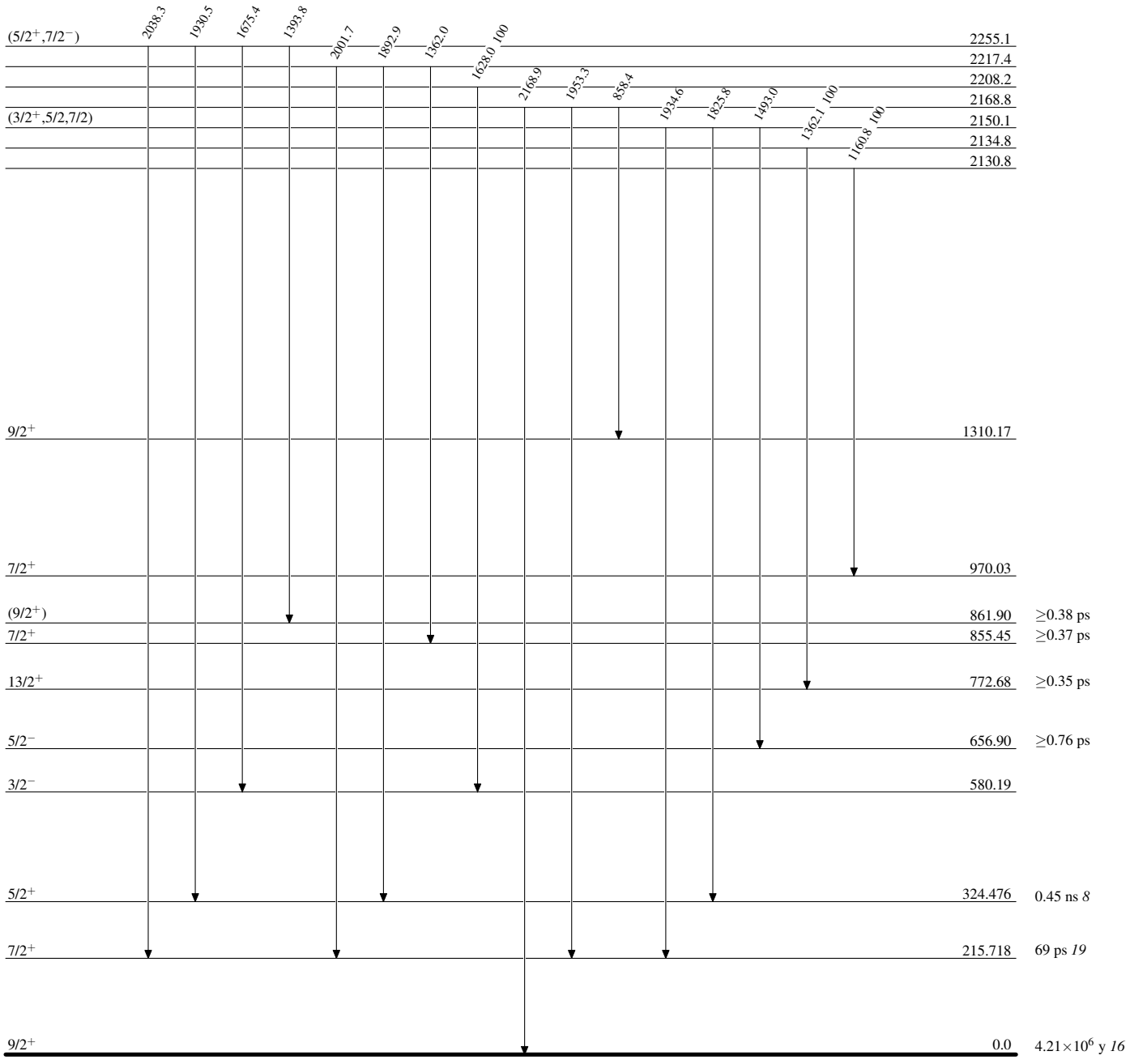


$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

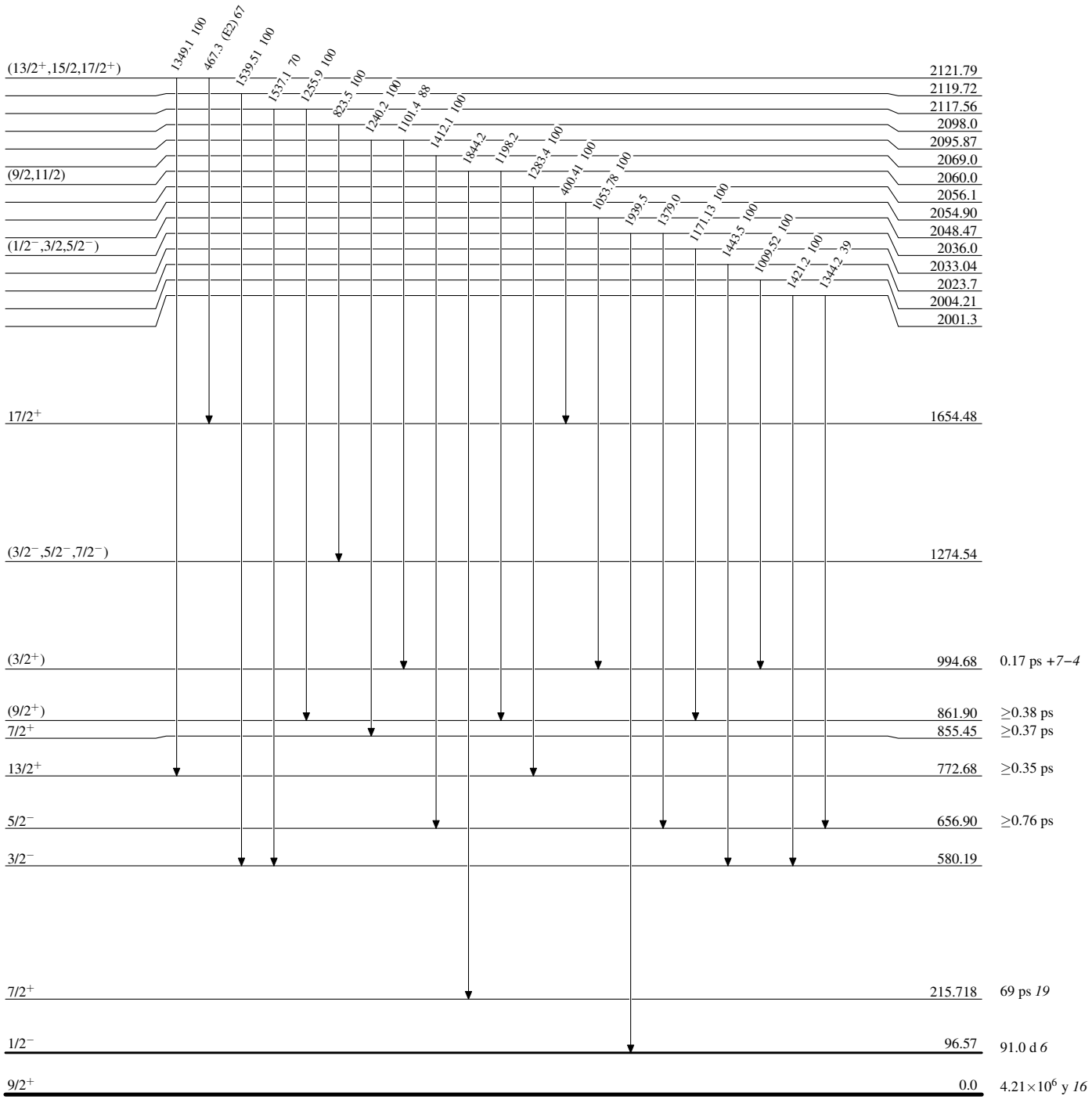


$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{97}_{43}Tc_{54}$

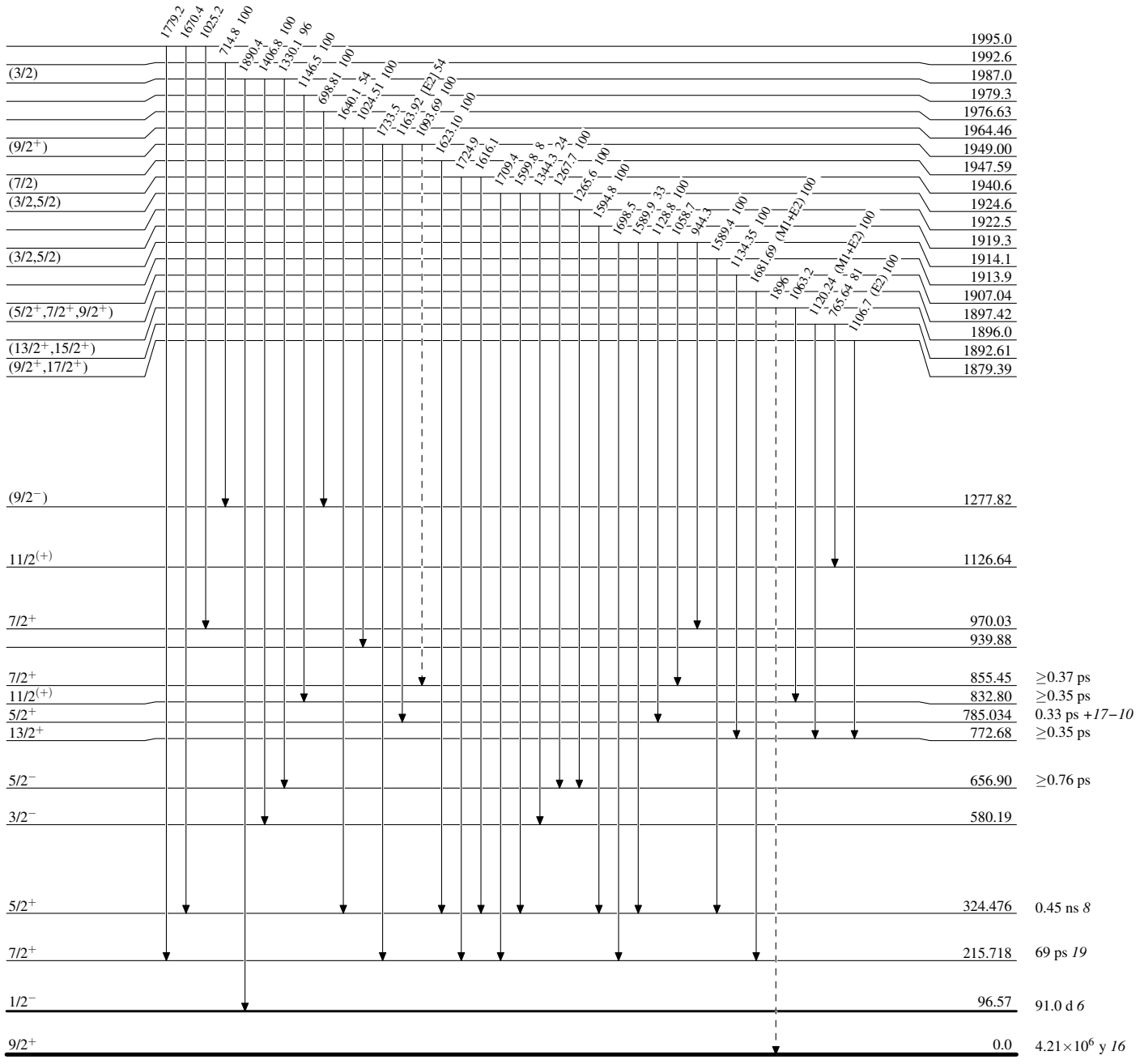
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

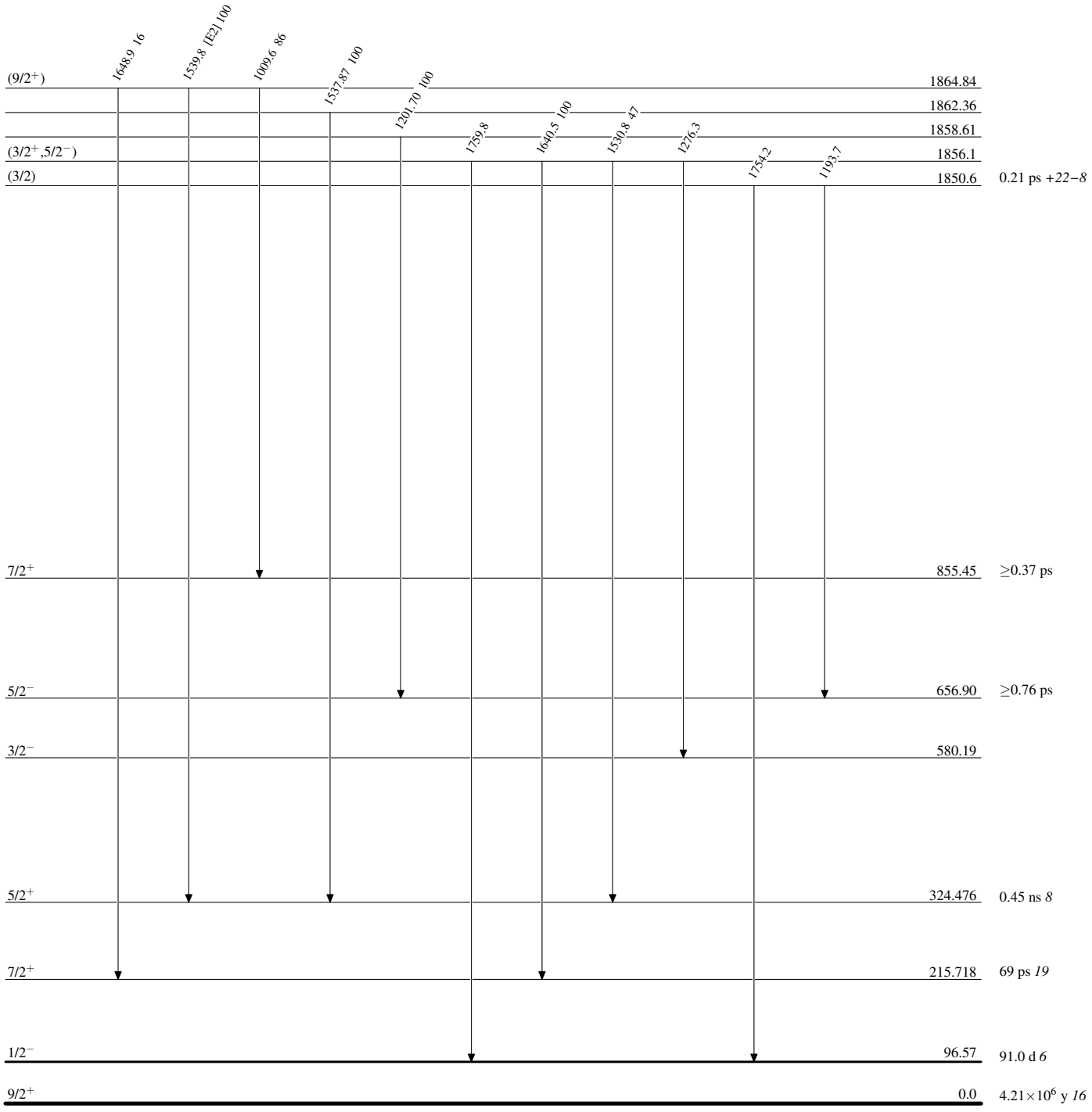


$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

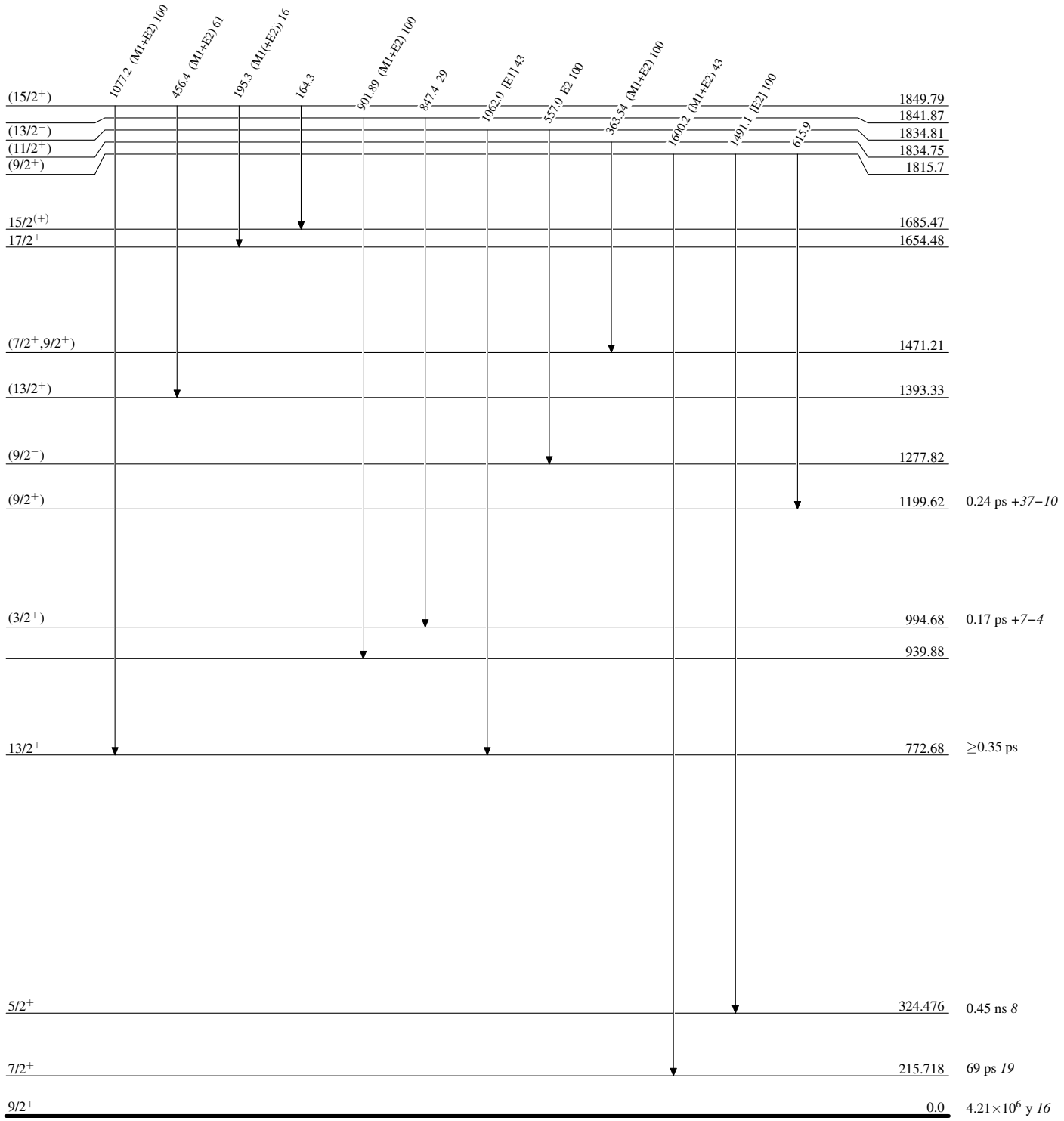


$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



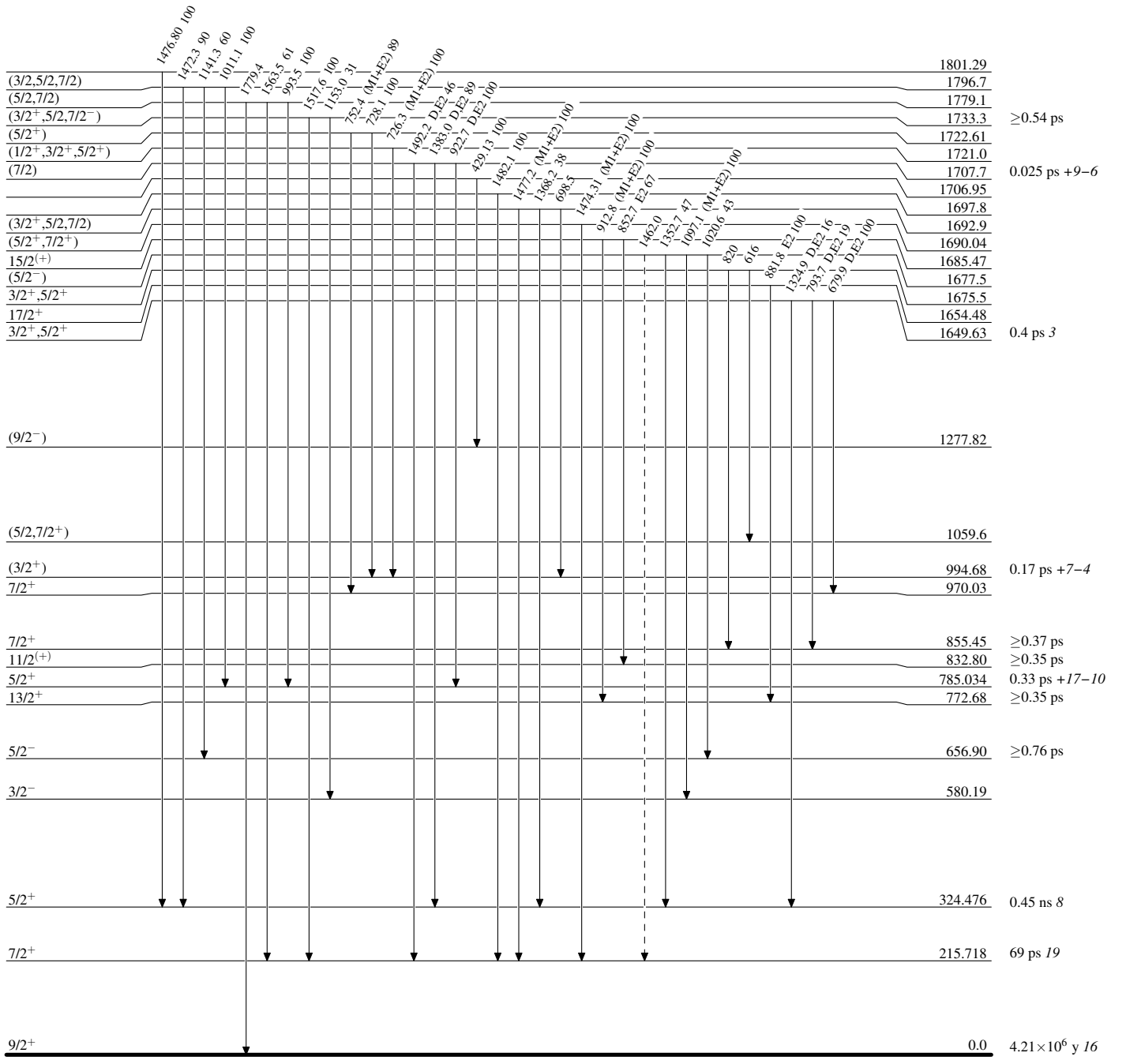
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

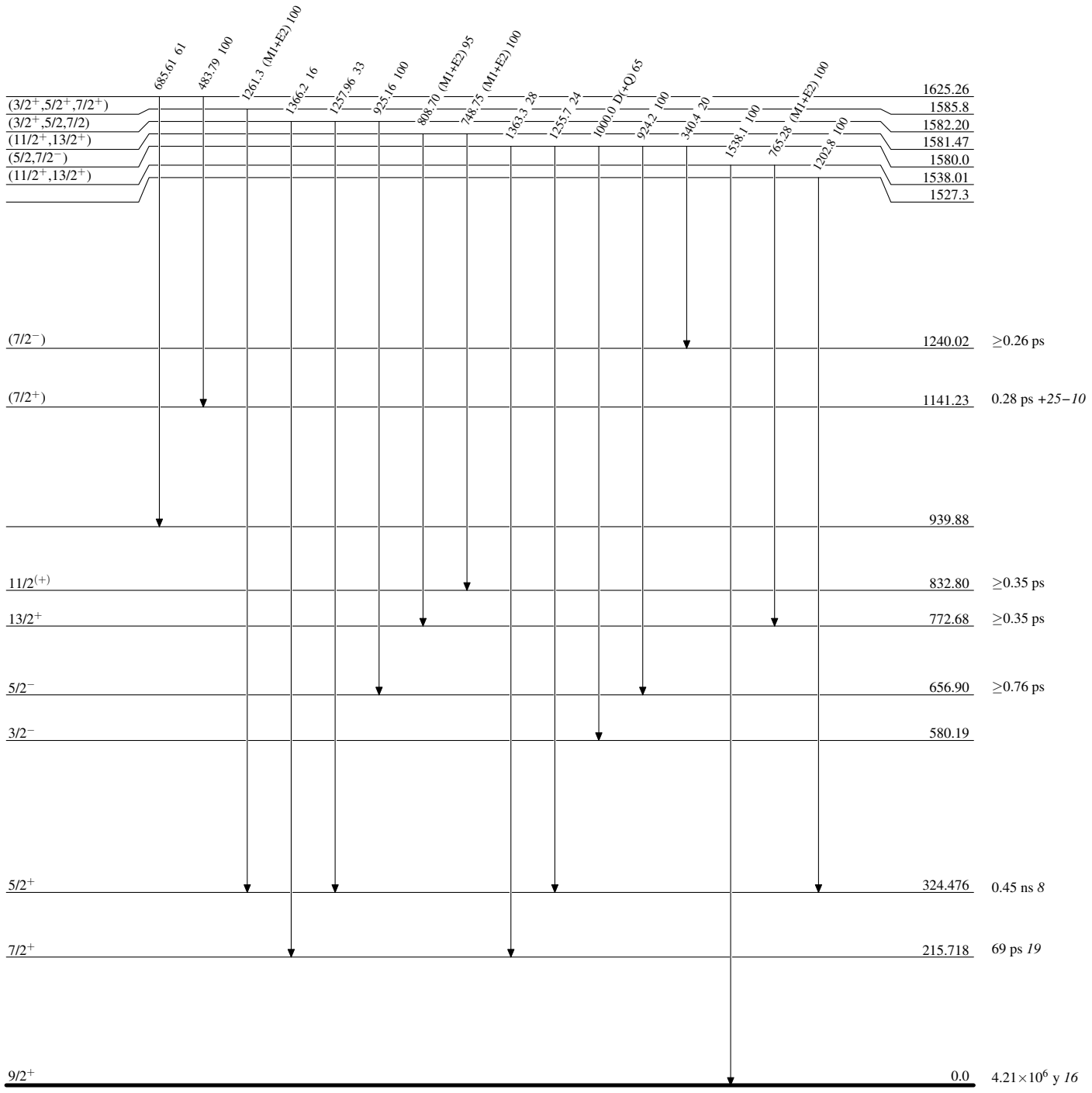


$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{97}_{43}Tc_{54}$

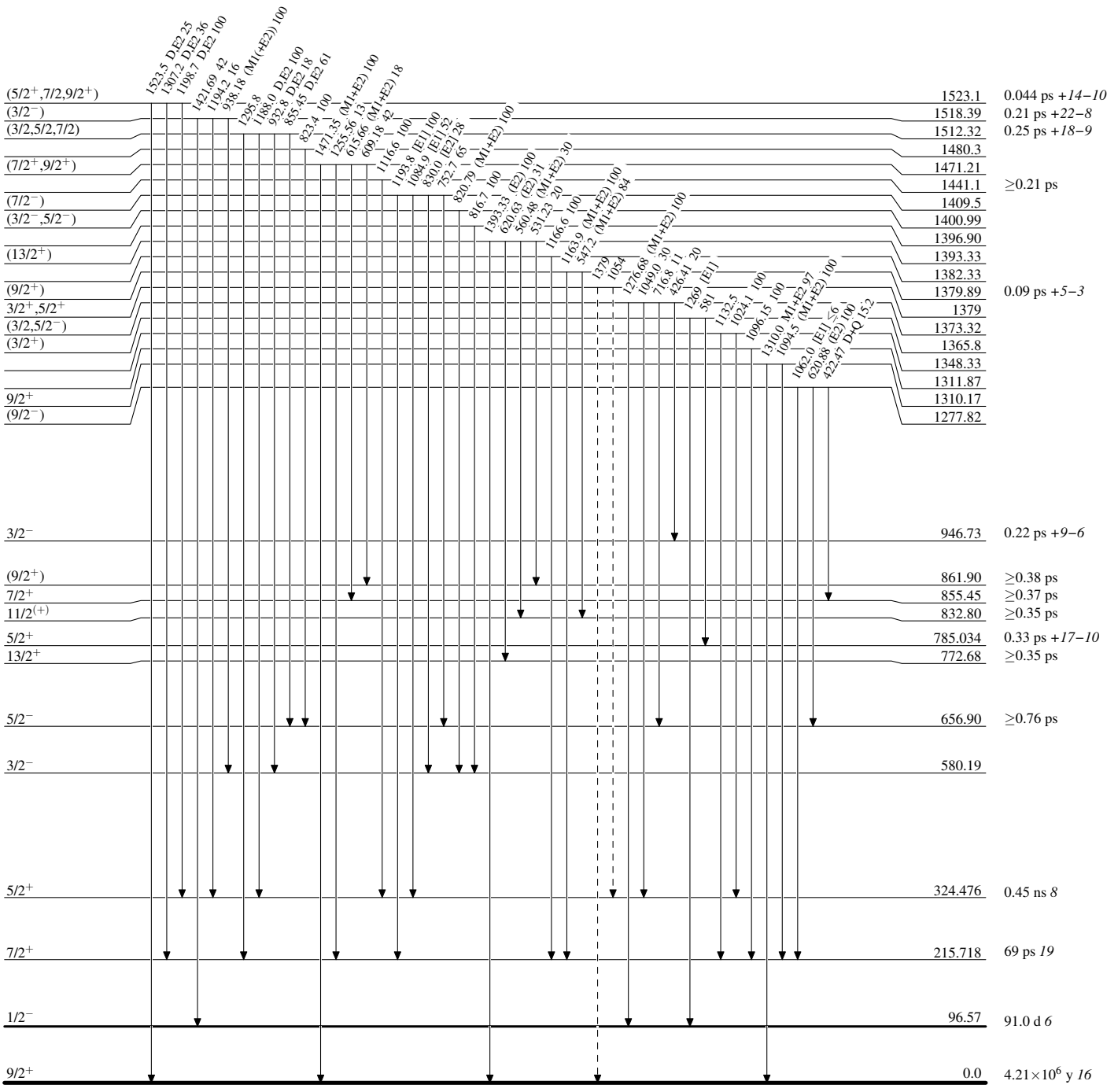
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



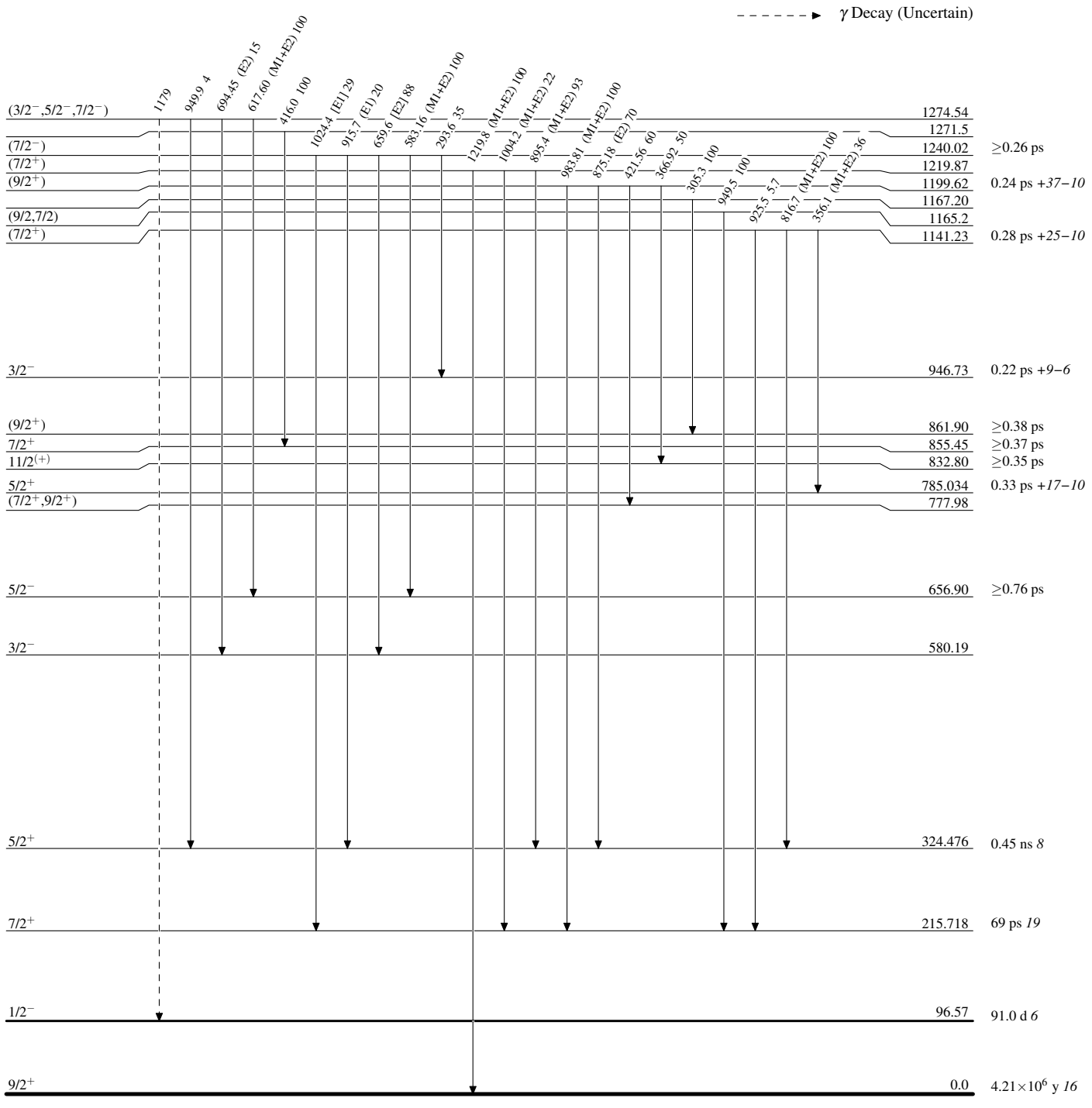
$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{97}_{43}Tc_{54}$

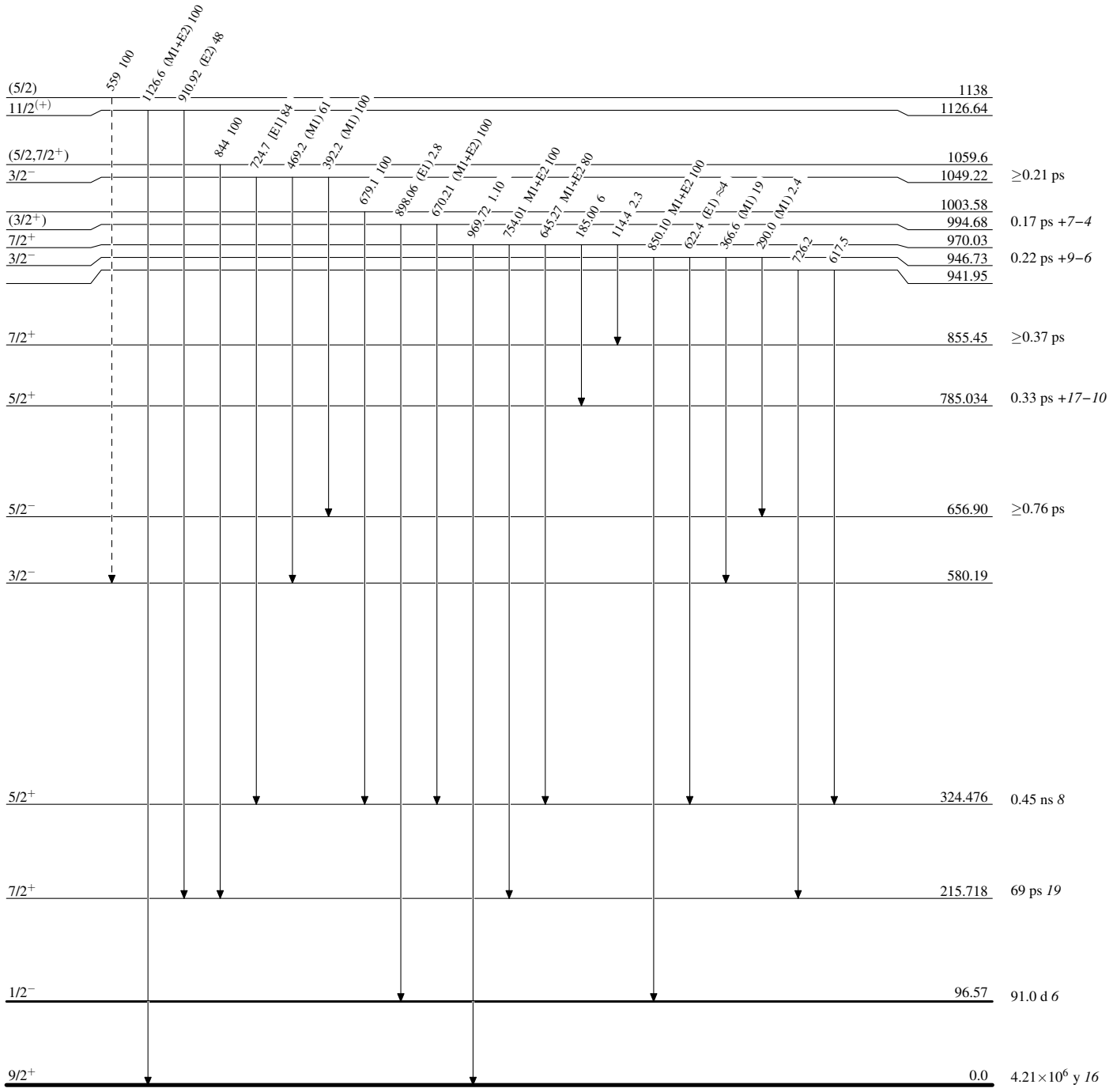
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{97}_{43}Tc_{54}$

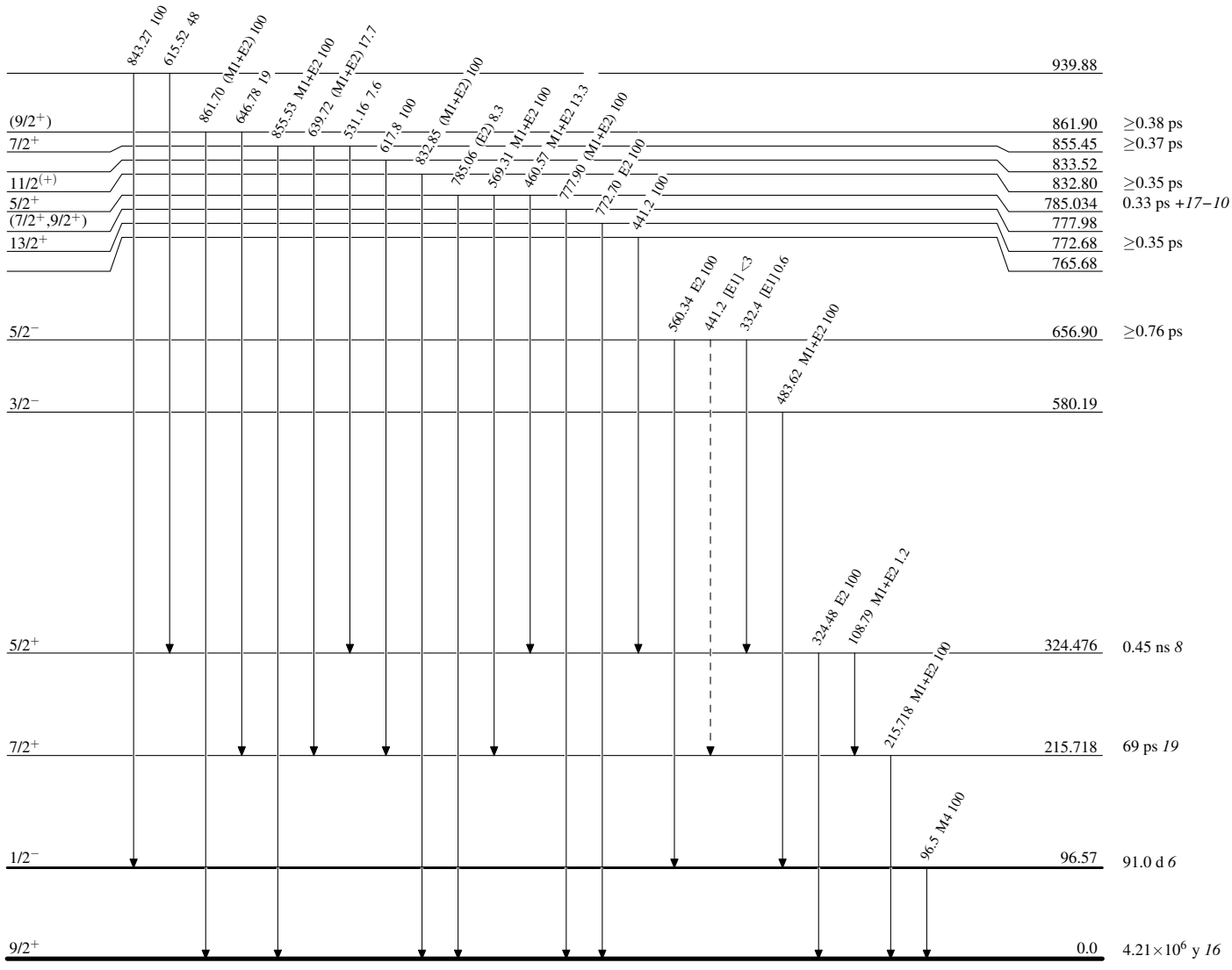
Adopted Levels, Gammas

Legend

Level Scheme (continued)

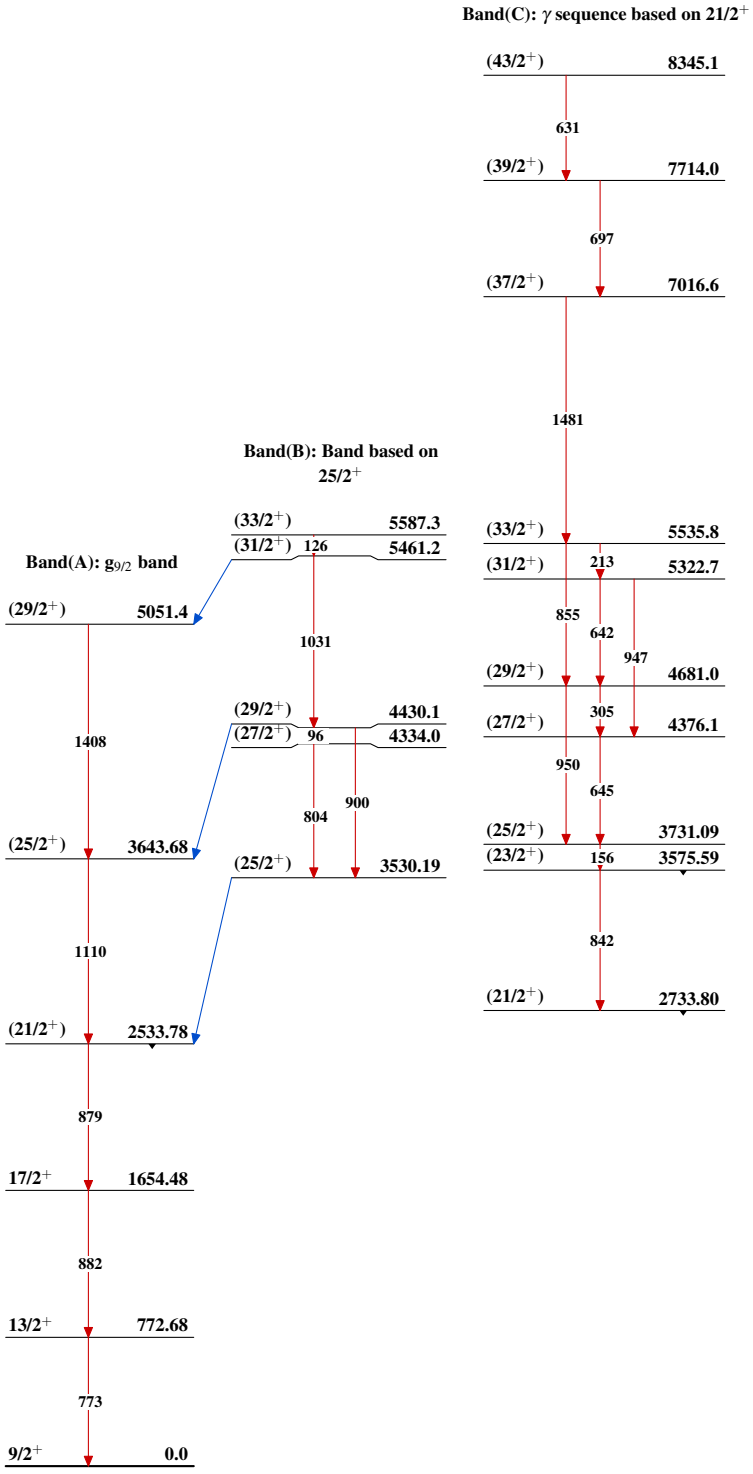
Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



$^{97}_{43}Tc_{54}$

Adopted Levels, Gammas



$^{97}_{43}Tc_{54}$