^{93}Nb(α,nγ)   **1988Ma14**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109, 2501 (2008)	1-Apr-2008

^{93}Nb(α,nγ): E(α)=13-27 MeV (1988Ma14,1980Ma12), 10-14 MeV (1976Bi13), 28-32 MeV (1988BeYU).

Iγ, $\gamma(\theta)$, pol, α(K)exp were generally measured at E(α)=14 MeV (1988Ma14), for γ's: 169.6, 183.5, 225.8, 255.6, 282.0, 325.2, 395.3, 444.9, 536.0, 614.0, 806.6, 1221.4 at E(α)=18 MeV (1988Ma14,1980Ma12); γ(t) was measured in (1988BeYU).

Many γ's were measured for E(α) at σ(maximum) (position of maximum on excitation curve) (1988Ma14); see also 1987Ma16.

^{96}Mo(d,2nγ): E(d)=7-12 MeV; measured: γ, ce, $\gamma\gamma$; deduced α(K)exp (1978Ma10).

^{96}Mo(p,nγ): E(p)=3.7-5.8 MeV (1978Ke10), 3.9-5.5 MeV (1974Do09), 6.5 MeV (1979Mi08); 5.46 MeV (1974Mc14), see also 1969De22.

Measured: γ, $\gamma\gamma$, excit (1978Ke10), γ, ce (1979Mi08), pγ(t) (1974Mc14).

Level scheme is from 1988Ma14.

All presented data on Eγ, Iγ, M, δ are from (α,nγ) (1988Ma14).

Levels with E$\leq$50 and J^π=7$^+$ to 2$^+$ form a sextet with configuration π(g9/2),ν(d5/2).

δ from combination of $\gamma(\theta)$, pol and α(K)exp data (1988Ma14).

α: Additional information 1.

^{96}Tc Levels

E(level)	$J^{\pi\dagger}$	$T_{1/2}^\ddagger$	Comments
0	7$^+$		
34.23 4	4$^+$		
35.38 9	(2)$^+$		
36.22 7	(3)$^+$		
45.28 6	5$^+$		
49.19 5	6$^+$		
121.24 7	(2)$^-$	25.6 ns +4−2	T$_{1/2}$: other: 25.9 ns 4 (1988BeYU).
176.99 5	5$^+$		
227.12 8	3$^-$	<0.35 ns	
228.76 6	4$^+$		
239.31 10	3$^+$	<0.35 ns	
256.06 8	(2)$^+$	<0.35 ns	
316.60 7	(3)$^-$	2.01 ns +35−14	T$_{1/2}$: other: 2.11 ns 23 from 1988BeYU (α,nγ).
319.21 6	6$^+$		
321.58 7	3$^-$		
352.53 8	3$^-$	<0.35 ns	
444.91 7	(3)$^+$		
458.16 12	3$^+$		
493.12 10	(3)$^+$		
506.32 6	5$^+$		
530.25 8	(4)$^+$		
530.43 8	(4)$^-$		
542.09 21	5$^+$		
547.8 3	(3)		
551.87 6	4$^-$		
564.11 13	(3)$^+$		
565.58 7	5$^+$		
568.02 22	(3)$^-$		
574.94 6	7$^+$		
585.81 15	(4$^+$)		
619.56 9	(3)$^-$		
622.74 21	(4)$^+$		
627.31 8	(3)$^-$		
646.67 12	4$^-$		
655.9 3			

$^{93}\text{Nb}(\alpha,n\gamma)$ **1988Ma14 (continued)**

^{96}Tc Levels (continued)

E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$	E(level)	$J^{\pi\dagger}$
720.55 *19*	6^+	933.90 *10*	$(3)^+$	1183.23 *10*	5	1596.40 *21*	
732.60 *9*	4^-	942.40 *21*	(4,2)	1187.56 *11*	5	1597.39 *9*	6^-
739.8 *4*		946.93 *8*	8^+	1202.74 *10*	(6^+)	1610.2 *5*	
749.76 *13*	$(3)^-$	971.21 *15*	3	1211.6 *3*	(2,4)	1636.3 *5*	
752.52 *7*	6^+	979.02 *7*	5^-	1255.09 *11*	(4)	1703.34 *10*	$(10)^+$
788.82 *9*	$(4)^-$	980.69 *15*	(5)	1271.0 *3*		1767.42 *21*	
794.15 *18*	(4^-)	1040.91 *14*	7^+	1290.21 *15*	4	1861.73 *12*	$(9)^+$
801.44 *9*	$4^{(-)}$	1042.25 *24*	5	1294.4 *3*	(5)	1922.68 *16*	$(11)^+$
815.10 *8*	$(4)^+$	1053.9 *5*	5,7	1314.11 *9*	5^+	1974.4 *6*	(8)
816.43 *10*	(3)	1062.44 *9*	8^+	1366.81 *21*	(4,2)	2148.34 *15*	$(11)^+$
820.95 *23*		1065.7 *3*		1408.30 *21*	(4^-)	2213.99 *15*	$(10)^+$
821.71 *10*	(6)	1071.6 *3*	(4,6)	1437.91 *25*	3^-	2317.90 *16*	$(12)^+$
828.4 *3*		1103.10 *21*	5,7	1447.73 *9*	9^+	2397.54 *16*	$(11)^+$
839.9 *3*		1118.25 *22*	$(5^+,6^+,7^+)$	1482.3 *3*	$(4)^-$	2599.90 *19*	$(13)^+$
867.15 *10*	4^-	1138.95 *11*	8^+	1487.45 *21*	(8)	2643.1 *3*	$(10)^+$
885.84 *10*	6^+	1139.93 *21*	(5)	1516.21 *22*	$(7^+,5)$	3020.6 *3*	$(12)^+$
909.51 *14*	4	1149.0 *3*	(5)	1536.2 *4*	$^-$		
927.21 *8*	9^+	1152.04 *8*	6^-	1557.02 *22*	(4,6)		

† Adopted values.
‡ From 1974Mc14; no γ's except the 85-keV were found to have half-lives longer than 2 ns (1976Bi13).

$^{93}\text{Nb}(\alpha,n\gamma)$ **1988Ma14 (continued)**

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

$\gamma(^{96}$Tc)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	α	Comments
34.20 5		34.23	4⁺	0	7⁺	M3	3.79×10³	α(K)=1.69×10³ 3; α(L)=1.69×10³ 3; α(M)=347 6; α(N)=51.8 9; α(O)=1.513 25; α(N+..)=53.3 9 E_γ,Mult.: from IT decay.
49.3 1	102	49.19	6⁺	0	7⁺	M1	2.11	α(K)=1.84 3; α(L)=0.223 4; α(M)=0.0405 7; α(N)=0.00641 10; α(O)=0.000416 7 α(N+..)=0.00683 11 Mult.: A₂=−0.090 5, A₄=−0.024 7; α=2.0 3 from the intensity imbalance; δ=−0.03 4.
52.0 1	2.5	228.76	4⁺	176.99	5⁺	M1	1.80	α(K)=1.573 24; α(L)=0.191 3; α(M)=0.0347 6; α(N)=0.00549 9; α(O)=0.000357 6 α(N+..)=0.00585 9 Mult.: α=2.0 4 from imbalance of Iγ.
65.5 1	3.3	321.58	3⁻	256.06	(2)⁺	E1	0.449	α(K)=0.392 6; α(L)=0.0471 7; α(M)=0.00846 13; α(N)=0.001306 20; α(O)=7.24×10⁻⁵ 11 α(N+..)=0.001378 21 Mult.: α from Iγ balance.
85.1 1	267	121.24	(2)⁻	36.22	(3)⁺	E1	0.212	α(K)=0.185 3; α(L)=0.0218 4; α(M)=0.00392 6; α(N)=0.000610 9; α(O)=3.53×10⁻⁵ 5 α(N+..)=0.000645 10 Mult.: A₂=−0.028 6, A₄=−0.01 1; α(K)exp(85.1γ+85.9γ)=0.18 1, α(L)exp(85.1γ+85.9γ)=0.028 3 (1979Mi08). δ=+0.2 +4−3.
85.9 1	56	121.24	(2)⁻	35.38	(2)⁺	E1	0.206	α(K)=0.180 3; α(L)=0.0212 3; α(M)=0.00382 6; α(N)=0.000594 9; α(O)=3.44×10⁻⁵ 5 α(N+..)=0.000628 9 Mult.: A₂=−0.0.04 2, A₄=+0.01 3; α(K)exp(85.1γ+85.9γ)=0.18 1, α(L)exp(85.1γ+85.9γ)=0.028 3 (1979Mi08). δ≤−0.2.
105.8 1	18.2	227.12	3⁻	121.24	(2)⁻	M1	0.238	α(K)=0.208 3; α(L)=0.0249 4; α(M)=0.00453 7; α(N)=0.000719 11; α(O)=4.72×10⁻⁵ 7 α(N+..)=0.000766 11 Mult.: A₂=−0.03 1, A₄=−0.01 2; α(K)exp=0.20 2, α(L)exp=0.031 3 (1979Mi08); pol=−0.36 14; δ=0.0 2.
111.6 2	0.44	979.02	5⁻	867.15	4⁻			
125.3 1	1.9	352.53	3⁻	227.12	3⁻	M1+(E2)	0.35 21	α(K)=0.29 17; α(L)=0.05 4; α(M)=0.009 6; α(N)=0.0013 9; α(O)=6.E−5 3; α(N+..)=0.0014 10 Mult.: A₂=−0.05 4, A₄=+0.07 5; α(K)exp=0.30 6. δ=−0.05 ±∞.
127.7 1	37.9	176.99	5⁺	49.19	6⁺	M1	0.1417	α(K)=0.1238 18; α(L)=0.01476 21; α(M)=0.00268 4; α(N)=0.000426 6; α(O)=2.80×10⁻⁵ 4 α(N+..)=0.000454 7 Mult.: A₂=−0.05 1, A₄=0.00; α(K)exp=0.11 1; pol=−0.10 3; δ=−0.05 5.
135.3 2	3.1	1062.44	8⁺	927.21	9⁺	M1	0.1210	α(K)=0.1057 16; α(L)=0.01258 19; α(M)=0.00229 4; α(N)=0.000363 6;

$\gamma(^{96}Tc)$ (continued)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†‡]	δ	α	Comments
									$\alpha(O)=2.39\times10^{-5}$ *4*
									$\alpha(N+..)=0.000387$ *6*
									Mult.: $A_2=-0.15$ *4*, $A_4=+0.04$ *5*; pol$=-0.38$ *23*; $\alpha(K)exp=0.13$ *2*; $\delta=-0.02$ *7*.
142.6 *1*	80.2	176.99	5^+	34.23	4^+	M1		0.1048	$\alpha(K)=0.0916$ *13*; $\alpha(L)=0.01089$ *16*; $\alpha(M)=0.00198$ *3*; $\alpha(N)=0.000314$ *5*; $\alpha(O)=2.07\times10^{-5}$ *3*
									$\alpha(N+..)=0.000335$ *5*
									Mult.: $A_2=-0.076$ *6*, $A_4=0.000$ *6*; $\alpha(K)exp=0.09$ *1*; $\alpha(L)exp=0.019$ *4* (1979Mi08); pol$=-0.06$ *1*; $\delta=+0.05$ *5*.
162.3 *4*	0.8	1314.11	5^+	1152.04	6^-				
162.8 *3*	0.3	655.9		493.12	$(3)^+$				
169.6 *1*	0.86	2317.90	$(12)^+$	2148.34	$(11)^+$	M1		0.0657	$\alpha(K)=0.0574$ *8*; $\alpha(L)=0.00679$ *10*; $\alpha(M)=0.001233$ *18*; $\alpha(N)=0.000196$ *3*; $\alpha(O)=1.297\times10^{-5}$ *19*
									$\alpha(N+..)=0.000209$ *3*
									Mult.: $A_2=-0.18$ *2*, $A_4=+0.05$ *2*; pol$=-0.15$ *10*; $\alpha(K)exp=0.06$ *1*; $\delta=+0.04$ *3*.
173.0 *1*	2.4	1152.04	6^-	979.02	5^-	M1		0.0623	$\alpha(K)=0.0545$ *8*; $\alpha(L)=0.00644$ *9*; $\alpha(M)=0.001168$ *17*; $\alpha(N)=0.000186$ *3*; $\alpha(O)=1.229\times10^{-5}$ *18*
									$\alpha(N+..)=0.000198$ *3*
									Mult.: $A_2=-0.14$ *5*, $A_4=-0.04$ *6*; pol$=-0.64$ *9*; $\delta=+0.02$ *14*.
176.8 *3*	0.4	176.99	5^+	0	7^+	(E2)		0.1612	$\alpha(K)=0.1362$ *21*; $\alpha(L)=0.0206$ *4*; $\alpha(M)=0.00377$ *6*; $\alpha(N)=0.000573$ *9*; $\alpha(O)=2.65\times10^{-5}$ *4*
									$\alpha(N+..)=0.000600$ *10*
									Mult.: $A_2=+0.24$ *19*, $A_4=+0.21$ *23*; $\delta\leq-1.4$ or $\delta=+1.6$; $\Delta J=2$ ruled out M1 component.
178.0 *1*	1.4	530.43	$(4)^-$	352.53	3^-	M1		0.0577	$\alpha(K)=0.0505$ *8*; $\alpha(L)=0.00596$ *9*; $\alpha(M)=0.001082$ *16*; $\alpha(N)=0.0001720$ *25*; $\alpha(O)=1.139\times10^{-5}$ *16*; $\alpha(N+..)=0.000183$ *3*
									Mult.: $A_2=+0.02$ *9*, $A_4=-0.02$ *10*; $\delta=+0.2$ $-6+\infty$; $\alpha(K)exp=0.07$ *2*.
182.6 *2*	3.0	971.21	3	788.82	$(4)^-$				
183.3 *1*	63	228.76	4^+	45.28	5^+	M1		0.0534	$\alpha(K)=0.0467$ *7*; $\alpha(L)=0.00551$ *8*; $\alpha(M)=0.001000$ *14*; $\alpha(N)=0.0001589$ *23* $\alpha(O)=1.053\times10^{-5}$ *15*; $\alpha(N+..)=0.0001695$ *24*
									Mult.: $A_2=-0.025$ *4*, $A_4=0.000$ *5*; $\alpha(K)exp=0.041$ *3*; pol$=-0.02$ *2*; $\delta=-0.04$ *5*.
183.5 *1*	2.6	2397.54	$(11)^+$	2213.99	$(10)^+$	M1+E2	+0.11 *2*	0.0543 *9*	$\alpha(K)=0.0474$ *8*; $\alpha(L)=0.00564$ *10*; $\alpha(M)=0.001024$ *18*; $\alpha(N)=0.000163$ *3*; $\alpha(O)=1.066\times10^{-5}$ *17*
									$\alpha(N+..)=0.000173$ *3*
									Mult.: $A_2=-0.07$ *1*, $A_4=+0.01$ *1*;
187.0 *1*	1.6	506.32	5^+	319.21	6^+	M1		0.0506	$\alpha(K)=0.0443$ *7*; $\alpha(L)=0.00522$ *8*; $\alpha(M)=0.000948$ *14*; $\alpha(N)=0.0001506$ *22*; $\alpha(O)=9.99\times10^{-6}$ *14*
									$\alpha(N+..)=0.0001606$ *23*
									Mult.: $A_2=-0.02$ *5*, $A_4=-0.06$ *6*; $\delta=0.00$ *2*; $\alpha(K)exp=0.05$ *1*.
188.9 *1*	0.5	444.91	$(3)^+$	256.06	$(2)^+$	M1+(E2)		0.09 *4*	$\alpha(K)=0.08$ *4*; $\alpha(L)=0.011$ *6*; $\alpha(M)=0.0019$ *10*; $\alpha(N)=0.00030$ *15*; $\alpha(O)=1.5\times10^{-5}$ *6*

^{93}Nb(α,nγ) **1988Ma14 (continued)**

γ(^{96}Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	α	Comments
								α(N+..)=0.00031 16
								Mult.: A$_2$=−0.2 2, A$_4$=−0.1 3; α(K)exp=0.09 4.
191.8 3	2.5	227.12	3$^-$	35.38	(2)$^+$			Mult.: α(K)exp(191.8γ+192.2γ)=0.041 9.
192.2 3	5.0	228.76	4$^+$	36.22	(3)$^+$	M1	0.0471	α(K)=0.0412 6; α(L)=0.00485 7; α(M)=0.000881 13; α(N)=0.0001400 21;
								α(O)=9.29×10^{-6} 14
								α(N+..)=0.0001493 22
								Mult.: α(K)exp=0.041 9 (for 192.2γ+191.8γ).
195.2 1	83.7	316.60	(3)$^-$	121.24	(2)$^-$	M1	0.0452	α(K)=0.0395 6; α(L)=0.00465 7; α(M)=0.000845 12; α(N)=0.0001343 19;
								α(O)=8.91×10^{-6} 13
								α(N+..)=0.0001432 21
								Mult.: A$_2$=−0.021 3, A$_4$=−0.000 4; α(K)exp=0.040 3; pol=−0.01 5; δ=0.11 11.
202.1 1	4.1	458.16	3$^+$	256.06	(2)$^+$	M1	0.0412	α(K)=0.0361 5; α(L)=0.00424 6; α(M)=0.000770 11; α(N)=0.0001224 18;
								α(O)=8.13×10^{-6} 12
								α(N+..)=0.0001306 19
								Mult.: A$_2$=−0.04 2, A$_4$=+0.03 3; δ=−0.07 40; α(K)exp=0.042 5.
205.1 1	17.5	239.31	3$^+$	34.23	4$^+$	M1	0.0397	α(K)=0.0347 5; α(L)=0.00408 6; α(M)=0.000740 11; α(N)=0.0001177 17;
								α(O)=7.82×10^{-6} 11
								α(N+..)=0.0001256 18
								Mult.: A$_2$=−0.02 1, A$_4$=+0.011; α(K)exp=0.034 3; δ=+0.02 15.
208.7 1	4.0	530.43	(4)$^-$	321.58	3$^-$	M1	0.0379	α(K)=0.0332 5; α(L)=0.00390 6; α(M)=0.000707 10; α(N)=0.0001124 16;
								α(O)=7.47×10^{-6} 11
								α(N+..)=0.0001199 17
								Mult.: A$_2$=−0.05 3, A$_4$=+0.03 4; δ=+0.07 20; α(K)exp=0.029 5.
211.5 3	1.0	1138.95	8$^+$	927.21	9$^+$	D+Q		Mult.: A$_2$=−0.17 14, A$_4$=−0.13 16; δ=+0.06 24.
213.8 1	3.6	530.43	(4)$^-$	316.60	(3)$^-$	M1(+E2)	0.059 24	α(K)=0.051 20; α(L)=0.007 4; α(M)=0.0012 6; α(N)=0.00019 9; α(O)=1.0×10^{-5} 4
								α(N+..)=0.00020 9
								Mult.: A$_2$=−0.03 3, A$_4$=−0.04 4; α(K)exp=0.08 2; δ=+0.09 +19−21.
216.1 1	1.5	444.91	(3)$^+$	228.76	4$^+$	(E2)	0.0791	α(K)=0.0675 10; α(L)=0.00957 14; α(M)=0.001746 25; α(N)=0.000268 4
								α(O)=1.344×10^{-5} 19; α(N+..)=0.000281 4
								Mult.: A$_2$=+0.06 10, A$_4$=−0.01 12; α(K)exp=0.14 5.
219.8 1	25.5	256.06	(2)$^+$	36.22	(3)$^+$	M1	0.0331	α(K)=0.0290 4; α(L)=0.00340 5; α(M)=0.000616 9; α(N)=9.80×10^{-5} 14;
								α(O)=6.52×10^{-6} 10
								α(N+..)=0.0001045 15
								Mult.: A$_2$=−0.03 1, A$_4$=−0.01 1; α(K)exp=0.036 4 (for 219.8γ+220.6γ);
								α(L)exp=0.0049 7 (1979Mi08); δ=+0.2 3.
220.6 2	7.9	256.06	(2)$^+$	35.38	(2)$^+$	M1	0.0328	α(K)=0.0287 4; α(L)=0.00336 5; α(M)=0.000611 9; α(N)=9.71×10^{-5} 14;
								α(O)=6.46×10^{-6} 10
								α(N+..)=0.0001035 15
								Mult.: A$_2$=+0.02 2, A$_4$=−0.04 2; δ=−0.4 +8−∞.
225.8 2	1.0	2148.34	(11)$^+$	1922.68	(11)$^+$	Q+D		Mult.: A$_2$=+0.39 3, A$_4$=+0.02 3; δ=−0.0 +4−2.
231.1 1	32.1	352.53	3$^-$	121.24	(2)$^-$	M1	0.0290	α(K)=0.0254 4; α(L)=0.00298 5; α(M)=0.000540 8; α(N)=8.59×10^{-5} 12;
								α(O)=5.72×10^{-6} 8
								α(N+..)=9.16×10^{-5} 13

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

γ(^{96}Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	δ	α	Comments
									Mult.: A$_2$=−0.04 1, A$_4$=+0.01 1; pol=−0.02 2; α(K)exp=0.030 3; α(L)exp=0.0049 5 (1979Mi08). δ=+0.05 11.
235.1 1	7.9	551.87	4$^-$	316.60	(3)$^-$	M1		0.0278	α(K)=0.0243 4; α(L)=0.00285 4; α(M)=0.000516 8; α(N)=8.21×10^{-5} 12; α(O)=5.47×10^{-6} 8
									α(N+..)=8.76×10^{-5} 13
									Mult.: A$_2$=−0.10 2, A$_4$=+0.03 2; pol=−0.06 7; α(K)exp=0.028 3. δ=−0.05 13.
236.8 3	0.94	493.12	(3)$^+$	256.06	(2)$^+$	D			Mult.: A$_2$=−0.13 13, A$_4$=+0.12 17; δ=+0.11 $\pm\infty$.
246.3 2	0.84	565.58	5$^+$	319.21	6$^+$	M1		0.0246	α(K)=0.0216 3; α(L)=0.00252 4; α(M)=0.000457 7; α(N)=7.27×10^{-5} 11; α(O)=4.85×10^{-6} 7
									α(N+..)=7.76×10^{-5} 11
									Mult.: A$_2$=−0.22 15, A$_4$=+0.2 2; α(K)exp=0.022 12; δ=+0.04 $\pm\infty$.
^{x}253.5 2	1.2					M1		0.0229	
255.6$^\#$ 1	17.1$^\#$	574.94	7$^+$	319.21	6$^+$	M1		0.0224	α(K)=0.0196 3; α(L)=0.00229 4; α(M)=0.000415 6; α(N)=6.60×10^{-5} 10; α(O)=4.40×10^{-6} 7
									α(N+..)=7.04×10^{-5} 10
									Mult.: A$_2$=−0.14 1, A$_4$=+0.01 1; δ=−0.05 4.
									Mult.: for 255.6γ+255.6γ pol=−0.19 6; α(K)exp=0.025 3.
255.6$^\#$ 1	6.0$^\#$	1703.34	(10)$^+$	1447.73	9$^+$	M1		0.0224	α(K)=0.0196 3; α(L)=0.00229 4; α(M)=0.000415 6; α(N)=6.60×10^{-5} 10; α(O)=4.40×10^{-6} 7
									α(N+..)=7.04×10^{-5} 10
									Mult.: A$_2$=−0.14 1, A$_4$=+0.01 1; δ=−0.05 4; for 255.6γ+255.6γ pol=−0.19 6; α(K)exp=0.025 3.
264.3 1	10.0	493.12	(3)$^+$	228.76	4$^+$	M1		0.0205	α(K)=0.0180 3; α(L)=0.00210 3; α(M)=0.000380 6; α(N)=6.05×10^{-5} 9; α(O)=4.04×10^{-6} 6
									α(N+..)=6.46×10^{-5} 9
									Mult.: A$_2$=+0.01 2, A$_4$=−0.02 2; δ=−0.14 27; α(K)exp=0.024 4.
266.9 1	0.7	619.56	(3)$^-$	352.53	3$^-$	Q			Mult.: A$_2$=+0.24 18, A$_4$=−0.3 2; δ=−0.4 $\pm\infty$.
269.1 2	0.9	585.81	(4$^+$)	316.60	(3)$^-$	D			Mult.: A$_2$=−0.3 1, A$_4$=−0.1 2; δ=−0.3 +5−∞.
273.8 1	55.0	319.21	6$^+$	45.28	5$^+$	M1+E2	+0.05 3	0.0188	α(K)=0.01647 24; α(L)=0.00192 3; α(M)=0.000348 6; α(N)=5.54×10^{-5} 8; α(O)=3.70×10^{-6} 6
									α(N+..)=5.91×10^{-5} 9
									Mult.: A$_2$=−0.116 5, A$_4$=−0.006 5; α(K)exp=0.021 2; pol=−0.12 2.
274.6 1	1.3	627.31	(3)$^-$	352.53	3$^-$				
277.4 2	0.5	506.32	5$^+$	228.76	4$^+$	D			Mult.: A$_2$=−0.4 3, A$_4$=+0.5 4; δ=+0.04 $\pm\infty$.
280.3 1	11.3	316.60	(3)$^-$	36.22	(3)$^+$	E1		0.00702 10	α(K)=0.00617 9; α(L)=0.000703 10; α(M)=0.0001268 18; α(N)=2.01×10^{-5} 3
									α(O)=1.292×10^{-6} 19; α(N+..)=2.13×10^{-5} 3
									Mult.: A$_2$=+0.002, A$_4$=+0.01 2; α(K)exp=0.009 1; δ=−0.4 4.
282.0 1	1.2	2599.90	(13)$^+$	2317.90	(12)$^+$	M1		0.01740	α(K)=0.01525 22; α(L)=0.001775 25; α(M)=0.000322 5; α(N)=5.12×10^{-5} 8; α(O)=3.42×10^{-6} 5

$^{93}\text{Nb}(\alpha,\text{n}\gamma)$ **1988Ma14 (continued)**

$\gamma(^{96}\text{Tc})$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	α	Comments
								$\alpha(\text{N}+..)=5.46\times10^{-5}$ *8*
								Mult.: $A_2=-0.20$ *1*, $A_4=+0.02$ *2*; $\alpha(\text{K})\text{exp}=0.017$ *5*; $\delta=+0.02$ *3*.
282.3 *3*	1.6	316.60	$(3)^-$	34.23	4^+	D+Q		Mult.: $A_2=-0.11$ *6*, $A_4=-0.03$ *8*; $\delta=+0.9$ *−11+∞*.
285.1 *2*	7.6	321.58	3^-	36.22	$(3)^+$	E1	0.00671 *10*	$\alpha(\text{K})=0.00589$ *9*; $\alpha(\text{L})=0.000671$ *10*; $\alpha(\text{M})=0.0001211$ *18*; $\alpha(\text{N})=1.91\times10^{-5}$ *3*
								$\alpha(\text{O})=1.235\times10^{-6}$ *18*; $\alpha(\text{N}+..)=2.04\times10^{-5}$ *3*
								Mult.: $A_2=-0.01$ *2*, $A_4=-0.03$ *3*; $\delta=-0.7$ *+7−∞*; $\alpha(\text{K})\text{exp}=0.008$ *2* (for 285.1γ+285.9γ).
285.9 *2*	7.4	321.58	3^-	35.38	$(2)^+$	E1	0.00665 *10*	$\alpha(\text{K})=0.00585$ *9*; $\alpha(\text{L})=0.000666$ *10*; $\alpha(\text{M})=0.0001202$ *17*; $\alpha(\text{N})=1.90\times10^{-5}$ *3*
								$\alpha(\text{O})=1.226\times10^{-6}$ *18*; $\alpha(\text{N}+..)=2.02\times10^{-5}$ *3*
								Mult.: $A_2=-0.03$ *2*, $A_4=-0.00$ *3*; $\delta=-0.04$ *30*; $\alpha(\text{K})\text{exp}=0.008$ *2* (for 285.1γ+285.9γ).
287.2 *1*	15.2	321.58	3^-	34.23	4^+	E1	0.00657 *10*	$\alpha(\text{K})=0.00578$ *9*; $\alpha(\text{L})=0.000658$ *10*; $\alpha(\text{M})=0.0001187$ *17*; $\alpha(\text{N})=1.88\times10^{-5}$ *3*
								$\alpha(\text{O})=1.211\times10^{-6}$ *17*; $\alpha(\text{N}+..)=2.00\times10^{-5}$ *3*
								Mult.: $A_2=-0.01$ *1*, $A_4=-0.00$ *1*; $\delta=+0.02$ *17*; $\alpha(\text{K})\text{exp}=0.009$ *2*.
291.7 *3*	0.7	547.8	(3)	256.06	$(2)^+$	D		Mult.: $A_2=-0.26$ *16*, $A_4=+0.1$ *2*.
								$\delta=-0.3$ *±∞*.
294.2 *1*	3.9	646.67	4^-	352.53	3^-	M1	0.01563	$\alpha(\text{K})=0.01370$ *20*; $\alpha(\text{L})=0.001592$ *23*; $\alpha(\text{M})=0.000289$ *4*; $\alpha(\text{N})=4.59\times10^{-5}$ *7*;
								$\alpha(\text{O})=3.07\times10^{-6}$ *5*
								$\alpha(\text{N}+..)=4.90\times10^{-5}$ *7*
								Mult.: $A_2=-0.11$ *6*, $A_4=+0.09$ *8*; $\alpha(\text{K})\text{exp}=0.015$ *2*; $\delta=-0.04$ *+40−∞*. Others:
								$\alpha(\text{K})\text{exp}=0.018$ *2*, $\alpha(\text{L})\text{exp}=0.0025$ *6* (1979Mi08).
301.6 *2*	1.3	530.25	$(4)^+$	228.76	4^+	Q+D		Mult.: $A_2=+0.8$ *1*, $A_4=-0.3$ *2*; $\delta=+0.4$ *7*.
303.3 *1*	1.0	530.43	$(4)^-$	227.12	3^-	D		Mult.: $A_2=-0.06$ *15*, $A_4=-0.2$ *2*; $\delta=-0.2$ *±∞*.
308.1 *2*	2.0	564.11	$(3)^+$	256.06	$(2)^+$	M1	0.01391	$\alpha(\text{K})=0.01219$ *18*; $\alpha(\text{L})=0.001415$ *20*; $\alpha(\text{M})=0.000257$ *4*; $\alpha(\text{N})=4.08\times10^{-5}$ *6*;
								$\alpha(\text{O})=2.73\times10^{-6}$ *4*
								$\alpha(\text{N}+..)=4.36\times10^{-5}$ *7*
								Mult.: $A_2=+0.18$ *11*, $A_4=-0.07$ *13*; $\alpha(\text{K})\text{exp}=0.011$ *4*; $\delta=0.11$ *45*.
310.8 *1*	2.0	627.31	$(3)^-$	316.60	$(3)^-$	D		Mult.: for 310.8γ+310.9γ $A_2=-0.04$ *2*, $A_4=-0.05$ *2*.
								$\delta=-0.7$ *±∞*.
310.9 *1*	10.2	885.84	6^+	574.94	7^+	M1	0.01359	$\alpha(\text{K})=0.01192$ *17*; $\alpha(\text{L})=0.001383$ *20*; $\alpha(\text{M})=0.000251$ *4*; $\alpha(\text{N})=3.99\times10^{-5}$ *6*;
								$\alpha(\text{O})=2.67\times10^{-6}$ *4*
								$\alpha(\text{N}+..)=4.26\times10^{-5}$ *6*
								Mult.: for 310.8γ+310.9γ $A_2=-0.04$ *2*, $A_4=-0.5$ *2*.
								Mult.: pol=−0.13 *7*; $\alpha(\text{K})\text{exp}=0.015$ *2*; $\delta=-0.05$ *6*.
316.3 *3*	1.3	352.53	3^-	36.22	$(3)^+$			
319.1 *1*	45.8	319.21	6^+	0	7^+	M1	0.01273	$\alpha(\text{K})=0.01116$ *16*; $\alpha(\text{L})=0.001294$ *19*; $\alpha(\text{M})=0.000235$ *4*; $\alpha(\text{N})=3.73\times10^{-5}$ *6*;
								$\alpha(\text{O})=2.50\times10^{-6}$ *4*
								$\alpha(\text{N}+..)=3.98\times10^{-5}$ *6*
								Mult.: $A_2=-0.132$ *5*, $A_4=+0.019$ *6*; $\alpha(\text{K})\text{exp}=0.011$ *1*; pol=−0.09 *6*.
								$\delta=+0.02$ *4*.
319.9 *3*	3.4	885.84	6^+	565.58	5^+			
320.4 *1*	2.0	1187.56	5	867.15	4^-			
323.1 *1*	5.3	551.87	4^-	228.76	4^+	E1	0.00479 *7*	$\alpha(\text{K})=0.00421$ *6*; $\alpha(\text{L})=0.000478$ *7*; $\alpha(\text{M})=8.63\times10^{-5}$ *13*; $\alpha(\text{N})=1.366\times10^{-5}$ *20*;

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

γ(^{96}Tc) (continued)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	Mult.[†‡]	δ	α	Comments
									α(O)=8.87×10^{-7} *13*
									α(N+..)=1.455×10^{-5} *21*
									Mult.: A$_2$=+0.03 *4*, A$_4$=0.005; α(K)exp<0.003.
									δ=−0.3 *−3+∞*.
325.2 *2*	0.6	2643.1	(10)$^+$	2317.90	(12)$^+$	E2		0.0195	α(K)exp=0.020 *5*
									α(K)=0.01684 *24*; α(L)=0.00218 *3*; α(M)=0.000396 *6*; α(N)=6.16×10^{-5}
									9; α(O)=3.49×10^{-6} *5*
									α(N+..)=6.51×10^{-5} *10*
									Mult.: A$_2$=+0.57 *7*, A$_4$=−0.07 *7*; α(K)exp=0.020 *5*; δ=−0.3 *+2−14*.
329.1 *2*	0.9	506.32	5$^+$	176.99	5$^+$	Q			Mult.: A$_2$=+0.20 *14*, A$_4$=−0.08 *19*; δ=+0.0 *+30−12*.
340.9 *2*	1.7	568.02	(3)$^-$	227.12	3$^-$	Q+D			Mult.: A$_2$=+0.06 *12*, A$_4$=−0.2 *2*; δ=+1.4 ±∞.
346.5 *2*	2.2	585.81	(4$^+$)	239.31	3$^+$	D			Mult.: A$_2$=−0.16 *9*, A$_4$=+0.0 *1*; δ=0.0 *+0.2−∞*.
352.2 *1*	8.4	2213.99	(10)$^+$	1861.73	(9)$^+$	M1		0.00995 *14*	α(K)=0.00873 *13*; α(L)=0.001009 *15*; α(M)=0.000183 *3*;
									α(N)=2.91×10^{-5} *4*; α(O)=1.95×10^{-6} *3*
									α(N+..)=3.11×10^{-5} *5*
									Mult.: A$_2$=−0.14 *2*, A$_4$=+0.01 *3*; α(K)exp=0.010 *1*; δ=+0.05 *4*.
353.2 *1*	0.54	530.25	(4)$^+$	176.99	5$^+$				
366.6 *3*	0.51	1187.56	5	820.95		M1,E2		0.0111 *21*	α(K)=0.0097 *18*; α(L)=0.0012 *3*; α(M)=0.00021 *5*; α(N)=3.4×10^{-5} *8*;
									α(O)=2.1×10^{-6} *3*
									α(N+..)=3.6×10^{-5} *8*
									Mult.: A$_2$=+0.4 *3*, A$_4$=−0.2 *3*; α(K)exp=0.012 *4*; δ=−0.6 ±∞.
371.8 *1*	32.2	946.93	8$^+$	574.94	7$^+$	M1+E2	+0.11 *2*	0.00875 *13*	α(K)=0.00767 *11*; α(L)=0.000887 *13*; α(M)=0.0001607 *23*;
									α(N)=2.56×10^{-5} *4*
									α(O)=1.715×10^{-6} *25*; α(N+..)=2.73×10^{-5}
									Mult.: A$_2$=−0.07 *1*, A$_4$=0.00 *1*; pol=−0.22 *6*; α(K)exp=0.008 *1*.
372.3 *2*	0.52	493.12	(3)$^+$	121.24	(2)$^-$				
374.7 *1*	2.3	551.87	4$^-$	176.99	5$^+$	D			Mult.: A$_2$=−0.09 *12*, A$_4$=+0.04 *14*; δ=+0.07 ±∞.
379.6 *2*	2.1	885.84	6$^+$	506.32	5$^+$	D+Q			Mult.: A$_2$=−0.17 *13*, A$_4$=+0.4 *2*; δ=+0.2 *−3+∞*.
380.0 *1*	6.6	732.60	4$^-$	352.53	3$^-$	M1		0.00825 *12*	α(K)=0.00724 *11*; α(L)=0.000834 *12*; α(M)=0.0001512 *22*;
									α(N)=2.41×10^{-5} *4*
									α(O)=1.618×10^{-6} *23*; α(N+..)=2.57×10^{-5}
									Mult.: A$_2$=+0.01 *5*, A$_4$=−0.12 *5*; α(K)exp=0.008 *2*; δ=+0.0 *4*.
383.5 *2*	1.5	622.74	(4)$^+$	239.31	3$^+$	M1,E2		0.0097 *17*	α(K)=0.0085 *14*; α(L)=0.00103 *22*; α(M)=0.00019 *4*; α(N)=2.9×10^{-5}
									6; α(O)=1.83×10^{-6} *25*
									α(N+..)=3.1×10^{-5} *7*
									Mult.: A$_2$=−0.14 *10*, A$_4$=−0.2 *1*; α(K)exp=0.011 *4*; δ==0.7 *+8−∞*.
385.2 *2*	2.1	1447.73	9$^+$	1062.44	8$^+$	M1		0.00798 *12*	α(K)=0.00700 *10*; α(L)=0.000807 *12*; α(M)=0.0001462 *21*;
									α(N)=2.33×10^{-5} *4*
									α(O)=1.565×10^{-6} *22*; α(N+..)=2.48×10^{-5}
									Mult.: A$_2$=−0.12 *7*, A$_4$=−0.1 *1*; α(K)exp=0.005 *3*; δ=+0.04 *9*.
388.5 *1*	7.0	565.58	5$^+$	176.99	5$^+$	M1		0.00781 *11*	α(K)=0.00685 *10*; α(L)=0.000790 *11*; α(M)=0.0001431 *20*;
									α(N)=2.28×10^{-5} *4*

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

γ(^{96}Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.†‡	δ	α	Comments
									α(O)=1.532×10⁻⁶ 22; α(N+..)=2.43×10⁻⁵
392.5 _1_	1.8	619.56	(3)⁻	227.12	3⁻	Q+D			Mult.: A₂=+0.01 5, A₄=−0.07 5; α(K)exp=0.006 2; δ=−0.6 +4−11.
									Mult.: A₂=+0.12 14, A₄=+0.06 17; δ=+0.2 ±∞.
395.3 _2_	3.0	2317.90	(12)⁺	1922.68	(11)⁺	M1+E2	+0.07 _1_	0.00750 _11_	α(K)=0.00658 10; α(L)=0.000758 11; α(M)=0.0001374 20; α(N)=2.19×10⁻⁵ 3
									α(O)=1.470×10⁻⁶ 21; α(N+..)=2.33×10⁻⁵
									Mult.: A₂=−0.12 1, A₄=+0.03 1; α(K)exp=0.008 1.
395.5 _5_	1.5	1183.23	5	788.82	(4)⁻	D			Mult.: A₂=−0.16 11, A₄=+0.04 13; δ=+0.05 +40- ∞.
397.6 _3_	0.9	574.94	7⁺	176.99	5⁺	Q			Mult.: A₂=+0.5 2, A₄=−0.6 3; δ=+0.1 +8−5.
398.6 _2_	0.6	627.31	(3)⁻	228.76	4⁺	D			Mult.: A₂=−0.5 3, A₄=+0.5 4; δ=+0.2 ±∞.
403.5 _5_	1.3	909.51	4	506.32	5⁺	D			Mult.: A₂=−0.06 15, A₄=+0.0 2; δ=+0.04 ±∞.
409.3# _3_	6.9#	444.91	(3)⁺	35.38	(2)⁺	M1		0.00687 _10_	α(K)=0.00603 9; α(L)=0.000694 10; α(M)=0.0001258 18; α(N)=2.00×10⁻⁵ 3
									α(O)=1.348×10⁻⁶ 19; α(N+..)=2.14×10⁻⁵ 3
									Mult.: for 409.3γ+409.3γ A₂=−0.04 2, A₄=−0.01 3; α(K)exp=0.0048 6; δ=+0.04 17.
409.3# _1_	8.6#	530.43	(4)⁻	121.24	(2)⁻	Q+(O)			δ=−1.4 +12−13.
									Mult.: for 409.3γ+409.3γ A₂=−0.04 2, A₄=−0.01 3; α(K)exp=0.0048 6.
410.7 _1_	11.8	444.91	(3)⁺	34.23	4⁺	M1		0.00682 _10_	α(K)=0.00598 9; α(L)=0.000688 10; α(M)=0.0001247 18; α(N)=1.99×10⁻⁵ 3
									α(O)=1.337×10⁻⁶ 19; α(N+..)=2.12×10⁻⁵ 3
									Mult.: A₂=−0.04 3, A₄=+0.02 4; δ=+0.1 ±∞; α(K)exp=0.0065 7.
416.0 _1_	6.1	732.60	4⁻	316.60	(3)⁻	M1		0.00661 _10_	α(K)=0.00580 9; α(L)=0.000667 10; α(M)=0.0001208 17; α(N)=1.92×10⁻⁵ 3
									α(O)=1.296×10⁻⁶ 19; α(N+..)=2.05×10⁻⁵ 3
									Mult.: A₂=−0.05 3, A₄=+0.04 4; α(K)exp=0.0045 6; δ=+0.07 21.
x418.2 _5_	2.1					D			
419.3 _2_	0.8	646.67	4⁻	227.12	3⁻	D			Mult.: A₂=−0.6 2, A₄=+0.4 2; δ=−0.8 +8−∞.
422.8 _2_	4.0	458.16	3⁺	35.38	(2)⁺	M1		0.00635 _9_	α(K)=0.00558 8; α(L)=0.000641 9; α(M)=0.0001161 17; α(N)=1.85×10⁻⁵ 3
									α(O)=1.245×10⁻⁶ 18; α(N+..)=1.97×10⁻⁵ 3
									Mult.: A₂=−0.16 5, A₄=+0.01 6; pol=−0.19 27; α(K)exp=0.0048 9. δ=−0.7 +8−40.
427.0 _1_	16.6	979.02	5⁻	551.87	4⁻	M1		0.00620 _9_	α(K)=0.00544 8; α(L)=0.000626 9; α(M)=0.0001133 16; α(N)=1.80×10⁻⁵ 3
									α(O)=1.216×10⁻⁶ 17; α(N+..)=1.93×10⁻⁵ 3
									Mult.: A₂=−0.13 1, A₄=−0.02 2; pol=−0.17 7; α(K)exp=0.0049 5; δ=−0.05 12.
443.1 _3_	0.53	564.11	(3)⁺	121.24	(2)⁻	D+Q			Mult.: A₂=+0.01 16, A₄=−0.2 2; δ=0.0 ±∞.
444.9 _2_	2.4	2148.34	(11)⁺	1703.34	(10)⁺	D			Mult.: A₂=−0.17 3, A₄=+0.01 4; δ=0.04 4.
448.7 _2_	2.2	801.44	4⁽⁻⁾	352.53	3⁻	D+Q			Mult.: A₂=−0.12 10, A₄=−0.07 13; δ=−0.4 +8−∞.

From ENSDF

$^{93}\text{Nb}(\alpha,\text{n}\gamma)$ **1988Ma14 (continued)**

$\gamma(^{96}\text{Tc})$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	δ	α	Comments
457.2 *1*	36.5	506.32	5^+	49.19	6^+	M1		0.00526 *8*	α(K)=0.00462 *7*; α(L)=0.000529 *8*; α(M)=9.59×10^{-5} *14*; α(N)=1.527×10^{-5} *22* α(O)=1.030×10^{-6} *15*; α(N+..)=1.630×10^{-5} *23* Mult.: A$_2$=−0.04 *2*, A$_4$=−0.00 *2*; pol=−0.05 *7*; α(K)exp=0.0070 *7*. δ=−0.02 *7*.
458.4 *7*	<2	493.12	$(3)^+$	34.23	4^+				
460.8 *3*	1.4	506.32	5^+	45.28	5^+				
472.2[#] *1*	9.7[#]	506.32	5^+	34.23	4^+	M1		0.00486 *7*	α(K)=0.00427 *6*; α(L)=0.000489 *7*; α(M)=8.86×10^{-5} *13*; α(N)=1.412×10^{-5} *20*; α(O)=9.53×10^{-7} *14* α(N+..)=1.507×10^{-5} *22* Mult.: for 472.2γ+472.2γ A$_2$=−0.05 *3*, A$_4$=+0.02 *3*; pol=−0.08 *8*; α(K)exp=0.0047 *4*; δ=0.07 *11*.
472.2[#] *1*	7.3[#]	788.82	$(4)^-$	316.60	$(3)^-$	M1		0.00486 *7*	α(K)=0.00427 *6*; α(L)=0.000489 *7*; α(M)=8.86×10^{-5} *13*; α(N)=1.412×10^{-5} *20*; α(O)=9.53×10^{-7} *14* α(N+..)=1.507×10^{-5} *22* Mult.: for 472.2γ+472.2γ A$_2$=−0.05 *3*, A$_4$=+0.02 *3*; pol=−0.08 *8*; α(K)exp=0.0047 *4*. δ=0.07 *18*.
477.6 *2*	1.8	794.15	(4^-)	316.60	$(3)^-$	D+Q			Mult.: A$_2$=−0.14 *6*, A$_4$=−0.02 *8*; δ=0.0 +2−∞.
484.8 *1*	2.0	801.44	$4^{(-)}$	316.60	$(3)^-$	D+Q			For 484.8γ+485.0γ A$_2$=−0.05 *3*, A$_4$=−0.01 *3*; δ=+0.09 *18*.
485.0 *1*	15.0	530.25	$(4)^+$	45.28	5^+	M1		0.00456 *7*	α(K)=0.00401 *6*; α(L)=0.000459 *7*; α(M)=8.31×10^{-5} *12*; α(N)=1.324×10^{-5} *19*; α(O)=8.94×10^{-7} *13* α(N+..)=1.413×10^{-5} *20* Mult.: α(K)exp=0.0037 *4*; δ=+0.04 *21*; for 484.8γ+485.0γ A$_2$=−0.05 *3*, A$_4$=−0.01 *3*.
487.4 *1*	16.1	1062.44	8^+	574.94	7^+	M1+E2	+0.12 *5*	0.00452 *7*	α(K)=0.00397 *6*; α(L)=0.000455 *7*; α(M)=8.24×10^{-5} *12*; α(N)=1.313×10^{-5} *19*; α(O)=8.85×10^{-7} *13* α(N+..)=1.401×10^{-5} *21* Mult.: A$_2$=−0.05 *3*, A$_4$=+0.02 *3*; pol=−0.22 *8*; α(K)exp=0.0055 *6*.
491.9 *4*	0.9	1610.2		1118.25	$(5^+,6^+,7^+)$	D+(Q)			Mult.: for 491.9γ+492.9γ A$_2$=−0.39 *9*, A$_4$=+0.37 *11*; α(K)exp=0.007 *1*.
492.9 *2*	2.2	542.09	5^+	49.19	6^+	M1		0.00439 *7*	α(K)=0.00386 *6*; α(L)=0.000441 *7*; α(M)=7.99×10^{-5} *12*; α(N)=1.273×10^{-5} *18*; α(O)=8.60×10^{-7} *12* α(N+..)=1.359×10^{-5} *19* δ=+0.2 ±∞. Mult.: for 491.9γ+492.9γ A$_2$=−0.39 *9*, A$_4$=+0.37 *11*; α(K)exp=0.007 *1*.
493.7 *1*	2.8	749.76	$(3)^-$	256.06	$(2)^+$				Mult.: for 493.7γ+494.0γ A$_2$=−0.08 *3*, A$_4$=−0.02 *3*; pol=−0.19 *20*; α(K)exp=0.0037 *5*. δ=0.0 +2−21.
494.0 *2*	6.0	530.25	$(4)^+$	36.22	$(3)^+$	M1		0.00437 *7*	α(K)=0.00384 *6*; α(L)=0.000439 *7*; α(M)=7.95×10^{-5} *12*; α(N)=1.266×10^{-5} *18*; α(O)=8.55×10^{-7} *12*

$^{93}\text{Nb}(\alpha,\text{n}\gamma)$ **1988Ma14 (continued)**

$\gamma(^{96}\text{Tc})$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	α	Comments
								$\alpha(\text{N}+..)=1.352\times10^{-5}$ *19*
								Mult.: for $493.7\gamma+494.0\gamma$ $A_2=-0.08$ *3*, $A_4=-0.02$ *3*; pol=-0.19 *20*; $\delta=-0.12$ *26*; $\alpha(\text{K})$exp=0.0037 *5*.
498.4 *1*	2.3	619.56	$(3)^-$	121.24	$(2)^-$	M1,E2	0.0047 *5*	$\alpha(\text{K})=0.0041$ *4*; $\alpha(\text{L})=0.00048$ *6*; $\alpha(\text{M})=8.8\times10^{-5}$ *10*; $\alpha(\text{N})=1.39\times10^{-5}$ *15*; $\alpha(\text{O})=8.9\times10^{-7}$ *6*
								$\alpha(\text{N}+..)=1.48\times10^{-5}$ *16*
								Mult.: $A_2=-0.3$ *1*, $A_4=-0.3$ *10*; $\alpha(\text{K})$exp=0.007 *2*; $\delta=-0.7$ +7−23.
500.8 *1*	8.6	1447.73	9^+	946.93	8^+	M1	0.00423 *6*	$\alpha(\text{K})=0.00371$ *6*; $\alpha(\text{L})=0.000425$ *6*; $\alpha(\text{M})=7.69\times10^{-5}$ *11*; $\alpha(\text{N})=1.225\times10^{-5}$ *18*; $\alpha(\text{O})=8.28\times10^{-7}$ *12*
								$\alpha(\text{N}+..)=1.308\times10^{-5}$ *19*
								Mult.: $A_2=-0.25$ *3*, $A_4=+0.02$ *4*; pol=$+0.11$ *20*; $\alpha(\text{K})$exp=0.0035 *5*; $\delta=-0.01$ *5*.
502.3 *3*	4.1	821.71	(6)	319.21	6^+	D		Mult.: $A_2=-0.08$ *6*, $A_4=+0.04$ *8*; $\delta=-0.8$ +4−11.
505.8 *3*	0.4	732.60	4^-	227.12	3^-			Mult.: for $505.8\gamma+506.1\gamma+506.6\gamma$ $A_2=-0.05$ *1*, $A_4=+0.01$ *1*; $\alpha(\text{K})$exp=0.0024 *3*.
506.1 *1*	7.1	627.31	$(3)^-$	121.24	$(2)^-$	M1,E2	0.0045 *4*	$\alpha(\text{K})=0.0039$ *4*; $\alpha(\text{L})=0.00046$ *5*; $\alpha(\text{M})=8.4\times10^{-5}$ *10*; $\alpha(\text{N})=1.33\times10^{-5}$ *14*; $\alpha(\text{O})=8.6\times10^{-7}$ *5*
								$\alpha(\text{N}+..)=1.42\times10^{-5}$ *15*
								Mult.: for $505.8\gamma+506.1\gamma+506.6\gamma$ $A_2=-0.05$ *1*, $A_4=+0.01$ *1*; $\alpha(\text{K})$exp=0.0024 *3*; $\delta=+0.09$ +9−29.
506.6 *1*	18.5	551.87	4^-	45.28	5^+	E1	1.53×10^{-3} *2*	$\alpha(\text{K})=0.001346$ *19*; $\alpha(\text{L})=0.0001518$ *22*; $\alpha(\text{M})=2.74\times10^{-5}$ *4*; $\alpha(\text{N})=4.35\times10^{-6}$ *6*; $\alpha(\text{O})=2.88\times10^{-7}$ *4*
								$\alpha(\text{N}+..)=4.64\times10^{-6}$
								Mult.: pol=$+0.12$ *10*; $\delta=0.00$ *12*. For $505.8\gamma+506.1\gamma+506.6\gamma$ $A_2=-0.05$ *1*, $A_4=+0.01$ *1*.
515.8 *1*	30	551.87	4^-	36.22	$(3)^+$	E1	1.47×10^{-3} *2*	$\alpha(\text{K})=0.001290$ *18*; $\alpha(\text{L})=0.0001454$ *21*; $\alpha(\text{M})=2.62\times10^{-5}$ *4*; $\alpha(\text{N})=4.17\times10^{-6}$ *6*; $\alpha(\text{O})=2.76\times10^{-7}$ *4*
								$\alpha(\text{N}+..)=4.44\times10^{-6}$
								Mult.: $A_2=-0.07$ *1*, $A_4=+0.01$ *1*; pol=$+0.05$ *9*; $\alpha(\text{K})$exp=0.0020 *4*. $\delta=+0.02$ *10*.
516.4 *1*	7.4	565.58	5^+	49.19	6^+	(M1)	0.00393 *6*	$\alpha(\text{K})=0.00345$ *5*; $\alpha(\text{L})=0.000394$ *6*; $\alpha(\text{M})=7.14\times10^{-5}$ *10*; $\alpha(\text{N})=1.138\times10^{-5}$ *16*; $\alpha(\text{O})=7.69\times10^{-7}$ *11*
								$\alpha(\text{N}+..)=1.215\times10^{-5}$ *17*
								Mult.: for $516.4\gamma+517.7\gamma$ $A_2=+0.04$ *2*, $A_4=-0.01$ *2*; $\alpha(\text{K})$exp=0023 *6*.
517.7 *2*	15.0	551.87	4^-	34.23	4^+	E1	1.45×10^{-3} *2*	$\alpha(\text{K})=0.001278$ *18*; $\alpha(\text{L})=0.0001441$ *21*; $\alpha(\text{M})=2.60\times10^{-5}$ *4*; $\alpha(\text{N})=4.13\times10^{-6}$ *6*; $\alpha(\text{O})=2.74\times10^{-7}$ *4*
								$\alpha(\text{N}+..)=4.40\times10^{-6}$
								Mult.: pol=-0.11 *12*; $\delta=-0.25$ *27*. For $516.4\gamma+517.7\gamma$ $A_2=+0.04$ *2*, $A_4=-0.01$ *2*; $\alpha(\text{K})$exp=0.0023 *6*.
520.3 *3*	4.9	565.58	5^+	45.28	5^+	M1,E2	0.0042 *4*	$\alpha(\text{K})=0.0037$ *3*; $\alpha(\text{L})=0.00043$ *5*; $\alpha(\text{M})=7.8\times10^{-5}$ *8*; $\alpha(\text{N})=1.23\times10^{-5}$ *12*; $\alpha(\text{O})=8.0\times10^{-7}$ *5*
								$\alpha(\text{N}+..)=1.31\times10^{-5}$ *13*
								Mult.: $A_2=-0.11$ *15*, $A_4=+0.01$ *6*; $\alpha(\text{K})$exp=0.007 *2*; $\delta=-0.8$ +3−∞.
525.7 *1*	100	574.94	7^+	49.19	6^+	M1	0.00377 *6*	$\alpha(\text{K})=0.00331$ *5*; $\alpha(\text{L})=0.000378$ *6*; $\alpha(\text{M})=6.84\times10^{-5}$ *10*; $\alpha(\text{N})=1.091\times10^{-5}$ *16*;

$^{93}\text{Nb}(\alpha,\text{n}\gamma)$ **1988Ma14 (continued)**

$\gamma(^{96}\text{Tc})$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	α	Comments
								$\alpha(\text{O})=7.37\times10^{-7}$ *11*
								$\alpha(\text{N+..})=1.164\times10^{-5}$ *17*
								Mult.: $A_2=-0.195$ *4*, $A_4=+0.002$ *5*; pol$=-0.18$ *8*; $\alpha(\text{K})\text{exp}=0.0032$ *4*.
								$\delta=0.02$ *2*.
528.8 *3*	12.5	564.11	$(3)^+$	35.38	$(2)^+$	M1	0.00372 *6*	$\alpha(\text{K})=0.00326$ *5*; $\alpha(\text{L})=0.000373$ *6*; $\alpha(\text{M})=6.75\times10^{-5}$ *10*; $\alpha(\text{N})=1.075\times10^{-5}$ *16*;
								$\alpha(\text{O})=7.27\times10^{-7}$ *11*
								$\alpha(\text{N+..})=1.148\times10^{-5}$ *17*
								Mult.: $A_2=+0.10$ *3*, $A_4=-0.07$ *4*; $\alpha(\text{K})\text{exp}=0.0045$ *12*; $\delta=+0.4$ *−3+∞*.
529.7 *2*	14.8	564.11	$(3)^+$	34.23	4^+	M1	0.00370 *6*	$\alpha(\text{K})=0.00325$ *5*; $\alpha(\text{L})=0.000371$ *6*; $\alpha(\text{M})=6.72\times10^{-5}$ *10*; $\alpha(\text{N})=1.071\times10^{-5}$ *15*;
								$\alpha(\text{O})=7.24\times10^{-7}$ *11*
								$\alpha(\text{N+..})=1.144\times10^{-5}$ *16*
								Mult.: $A_2=-0.18$ *3*, $A_4=+0.02$ *4*; $\alpha(\text{K})\text{exp}=0.0035$ *9*; $\delta=+0.2$ *−1+∞*.
531.4 *1*	21.5	565.58	5^+	34.23	4^+	M1	0.00367 *6*	$\alpha(\text{K})=0.00323$ *5*; $\alpha(\text{L})=0.000368$ *6*; $\alpha(\text{M})=6.67\times10^{-5}$ *10*; $\alpha(\text{N})=1.063\times10^{-5}$ *15*;
								$\alpha(\text{O})=7.19\times10^{-7}$ *10*
								$\alpha(\text{N+..})=1.135\times10^{-5}$ *16*
								Mult.: $A_2=-0.10$ *3*, $A_4=+0.04$ *4*; pol$=-0.07$ *12*; $\alpha(\text{K})\text{exp}=0.0027$ *4*; $\delta=0.00$ *14*.
536.0 *2*	2.0	2397.54	$(11)^+$	1861.73	$(9)^+$	E2	0.00411 *6*	$\alpha(\text{K})=0.00359$ *5*; $\alpha(\text{L})=0.000433$ *6*; $\alpha(\text{M})=7.85\times10^{-5}$ *11*; $\alpha(\text{N})=1.235\times10^{-5}$ *18*;
								$\alpha(\text{O})=7.67\times10^{-7}$ *11*
								$\alpha(\text{N+..})=1.312\times10^{-5}$ *19*
								Mult.: $A_2=+0.27$ *3*, $A_4=-0.05$ *4*; $\delta=-0.02$ *5*.
543.5 *2*	1.4	720.55	6^+	176.99	5^+	D		Mult.: $A_2=-0.7$ *2*, $A_4=+0.3$ *2*; $\delta=-1.7$ *+16−20*.
[x]544.8 *2*	5.4					Q		
550.4 *1*	19.9	867.15	4^-	316.60	$(3)^-$	D		Mult.: $A_2=-0.07$ *4*, $A_4=+0.01$ *4*; $\delta=-0.04$ *19*.
[x]557.6 *6*	6.4					D		
[x]560.4 *1*	12.3					D		
564.1 *2*	1.7	1138.95	8^+	574.94	7^+	D+Q		Mult.: $A_2=+0.09$ *12*, $A_4=-0.02$ *14*; $\delta=+0.2$ *2*.
569.6 *4*	4	1437.91	3^-	867.15	4^-	M1,E2	0.00329 *18*	$\alpha(\text{K})=0.00288$ *15*; $\alpha(\text{L})=0.00034$ *3*; $\alpha(\text{M})=6.1\times10^{-5}$ *5*; $\alpha(\text{N})=9.7\times10^{-6}$ *7*;
								$\alpha(\text{O})=6.29\times10^{-7}$ *21*
								$\alpha(\text{N+..})=1.03\times10^{-5}$ *7*
								Mult.: $A_2=-0.28$ *3*, $A_4=+0.07$ *4*; pol$=-0.53$ *44*; $\delta==+0.2$ *−3+∞*.
572.3 *4*	2.0	828.4		256.06	$(2)^+$	D+Q		Mult.: $A_2=-0.16$ *8*, $A_4=-0.02$ *10*; $\delta=-0.2$ *−3+∞*.
574.8 *2*	8.0	574.94	7^+	0	7^+	Q		Mult.: $A_2=+0.12$ *9*, $A_4=-0.14$ *12*; $\delta=-0.3$ *+18−4*.
575.5 *1*	16.0	752.52	6^+	176.99	5^+	M1	0.00304 *5*	$\alpha(\text{K})=0.00268$ *4*; $\alpha(\text{L})=0.000305$ *5*; $\alpha(\text{M})=5.52\times10^{-5}$ *8*; $\alpha(\text{N})=8.80\times10^{-6}$ *13*;
								$\alpha(\text{O})=5.96\times10^{-7}$ *9*
								$\alpha(\text{N+..})=9.39\times10^{-6}$ *14*
								Mult.: $A_2=-0.07$ *3*, $A_4=+0.02$ *3*; pol$=-0.33$ *15*; $\delta=+0.09$ *7*.
577.0 *5*	3.3	622.74	$(4)^+$	45.28	5^+	Q		Mult.: $A_2=+0.24$ *6*, $A_4=-0.15$ *7*; $\delta=-0.4$ *+3−∞*.
583.4 *4*	1.3	619.56	$(3)^-$	36.22	$(3)^+$	D+Q		Mult.: $A_2=-0.3$ *2*, $A_4=+0.7$ *2*; $\delta=-0.4$ *±∞*.
588.5 *3*	6.2	909.51	4	321.58	3^-	D		Mult.: $A_2=-0.16$ *4*, $A_4=+0.O1$ *1*; $\delta=-0.2$ *+3−35*.
589.3 *1*	3.8	816.43	(3)	227.12	3^-	D+Q		Mult.: $A_2=+0.07$ *5*, $A_4=+0.03$ *7*; $\delta=0.0$ *±∞*.
591.4 *6*	4.0	627.31	$(3)^-$	36.22	$(3)^+$	D		Mult.: $A_2=-0.19$ *6*, $A_4=+0.2$ *1*; $\delta=-0.6$ *±∞*.
592.3 *3*	4.0	627.31	$(3)^-$	35.38	$(2)^+$	D+Q		Mult.: $A_2=+0.07$ *6*, $A_4=-0.23$ *7*; $\delta=+0.07$ *+70−∞*.

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

$\gamma(^{96}$Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†][‡]	α	Comments
596.4 6	2.9	1183.23	5	585.81	(4$^+$)	D+Q		Mult.: A$_2$=+0.08 7, A$_4$=−0.17 9; δ=+0.16 14.
599.9 2	15.8	1152.04	6$^-$	551.87	4$^-$	E2	0.00299 5	α(K)=0.00261 4; α(L)=0.000312 5; α(M)=5.65×10^{-5} 8; α(N)=8.91×10^{-6} 13; α(O)=5.62×10^{-7} 8
								α(N+..)=9.47×10^{-6} 14
								Mult.: A$_2$=+0.12 3, A$_4$=0.00 45; pol=+0.41 15; δ-0.09 12.
611.4 1	3.6	732.60	4$^-$	121.24	(2)$^-$			A$_2$=−0.03 6, A$_4$=−0.19 8; δ=−0.8 +6−17.
612.1 1	1.3	933.90	(3)$^+$	321.58	3$^-$	D+Q		Mult.: A$_2$=−0.04 17, A$_4$=+0.8 3; δ=+0.2 ±∞.
612.8 3	0.6	839.9		227.12	3$^-$			
614.0 3	1.7	2317.90	(12)$^+$	1703.34	(10)$^+$	E2	0.00281 4	α(K)=0.00245 4; α(L)=0.000292 5; α(M)=5.29×10^{-5} 8; α(N)=8.34×10^{-6} 12; α(O)=5.28×10^{-7} 8
								α(N+..)=8.87×10^{-6} 13
								Mult.: A$_2$=+0.34 3, A$_4$=−0.11 4; δ=0.00 7.
618.3 2	5.6	1597.39	6$^-$	979.02	5$^-$			
625.8 2	4.0	942.40	(4,2)	316.60	(3)$^-$	D		Mult.: A$_2$=−0.12 6, A$_4$=+0.09 7; δ=0.0 +3−∞.
635.9 2	5.2	1187.56	5	551.87	4$^-$	(D)		Mult.: A$_2$=−0.04 4, A$_4$=+0.01 5; δ=+0.07 18.
638.0 1	14.3	815.10	(4)$^+$	176.99	5$^+$	D+Q		Mult.: A$_2$=−0.09 2, A$_4$=−0.02 2; δ=+0.05 +50−10.
644.7 1	5.6	821.71	(6)	176.99	5$^+$	D		Mult.: A$_2$=−0.12 6, A$_4$=+0.11 8; δ=+0.08 14.
647.7 2	1.4	1557.02	(4,6)	909.51	4	Q+(D)		Mult.: A$_2$=+0.6 2, A$_4$=−0.4 2; δ=+0.4 +26−11.
662.5 1	12.7	979.02	5$^-$	316.60	(3)$^-$	Q		Mult.: A$_2$=−0.06 3, A$_4$=+0.02 3; δ=−0.3 1.
667.7 1	11.2	788.82	(4)$^-$	121.24	(2)$^-$	Q+(O)		Mult.: A$_2$=+0.03 3, A$_4$=0.00 3; δ=−0.20 25.
672.8 3	0.34	794.15	(4$^-$)	121.24	(2)$^-$			
676.5 3	3.6	1183.23	5	506.32	5$^+$	D+Q		Mult.: A$_2$=−0.07 5, A$_4$=−0.06 7; δ=−1.0 +5−∞.
680.3 1	7.0	801.44	4$^{(-)}$	121.24	(2)$^-$			Mult.: for 680.3γ+680.7γ A$_2$=−0.02 4, A$_4$=+0.06 5. δ=−0.2 2.
680.7 2	1.4	909.51	4	228.76	4$^+$	D+Q		Mult.: for 680.3γ+680.7γ A$_2$=−0.02 4, A$_4$=+0.06 5. δ=−0.5 −12+∞.
690.6 4	1.2	739.8		49.19	6$^+$			
695.2 1	3.7	816.43	(3)	121.24	(2)$^-$			
699.7 3	1.3	820.95		121.24	(2)$^-$			
702.5 4	1.2	752.52	6$^+$	49.19	6$^+$			
705.4 2	2.0	933.90	(3)$^+$	228.76	4$^+$			
714.9 2	2.7	971.21	3	256.06	(2)$^+$	D		Mult.: A$_2$=−0.3 1, A$_4$=+0.2 1; δ=−0.2 +3−∞.
^{x}719.5 3	6.0							
720.9 5	5.0	720.55	6$^+$	0	7$^+$	M1	0.00181 3	α(K)=0.001592 23; α(L)=0.000180 3; α(M)=3.26×10^{-5} 5; α(N)=5.21×10^{-6} 8; α(O)=3.54×10^{-7} 5
								α(N+..)=5.56×10^{-6} 8
								Mult.: A$_2$=−0.15 4, A$_4$=0.00 5; pol=−0.96 34; δ=+0.05 12.
721.9 2	5.6	1040.91	7$^+$	319.21	6$^+$	D		Mult.: A$_2$=−0.15 4, A$_4$=+0.01 1; δ=+0.07 7.
732.3 3	1.2	909.51	4	176.99	5$^+$			
750.5 2	3.1	979.02	5$^-$	228.76	4$^+$	D		Mult.: A$_2$=−0.24 7, A$_4$=+0.11 9; δ=−0.09 +21−∞.
752.6 1	14.8	752.52	6$^+$	0	7$^+$	M1	1.64×10^{-3} 2	α(K)=0.001445 21; α(L)=0.0001635 23; α(M)=2.96×10^{-5} 5; α(N)=4.72×10^{-6} 7; α(O)=3.21×10^{-7} 5

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

γ(^{96}Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†][‡]	α	Comments
								α(N+..)=5.04×10^{-6}
								Mult.: A$_2$=−0.04 2, A$_4$=−0.01 3; pol=−0.28 17; δ=−0.05 7.
754.7 6	1.3	788.82	(4)$^-$	34.23	4$^+$	Q+D		Mult.: A$_2$=+0.7 2, A$_4$=−0.6 2; δ=+0.5 ±∞.
756.3 1	4.0	1703.34	(10)$^+$	946.93	8$^+$	Q		Mult.: A$_2$=+0.20 6, A$_4$=+0.13 7; δ=+0.03 11.
766.0 1	6.0	815.10	(4)$^+$	49.19	6$^+$			Mult.: A$_2$=+0.01 4, A$_4$=+0.02 5; δ=+0.14 18.
770.0 4	2.5	815.10	(4)$^+$	45.28	5$^+$	Q		Mult.: A$_2$=+0.2 1, A$_4$=−0.2 1; δ=−0.6 +10−∞.
772.7 2	5.3	821.71	(6)	49.19	6$^+$	M1+E2	1.54×10^{-3} 2	α(K)=0.001352 21; α(L)=0.000155 3; α(M)=2.81×10^{-5} 5; α(N)=4.47×10^{-6} 7;
								α(O)=2.97×10^{-7} 7
								α(N+..)=4.76×10^{-6} 7
								Mult.: A$_2$=+0.04 4, A$_4$=−0.05 5; δ=−0.6 2.
776.7 5	3.5	1703.34	(10)$^+$	927.21	9$^+$	D+(Q)		Mult.: A$_2$=−0.46 7, A$_4$=+0.11 8; δ=−0.11 11.
782.0 5	1.3	816.43	(3)	34.23	4$^+$	D+Q		Mult.: A$_2$=−0.15 18, A$_4$=−0.20 22; δ=+0.4 ±∞.
783.8 2	2.6	1290.21	4	506.32	5$^+$	D		Mult.: A$_2$=−0.05 9, A$_4$=−0.01 11; δ=−0.02 ±∞.
793.0 3	3.7	828.4		35.38	(2)$^+$			
799.1 3	4	1118.25	(5$^+$,6$^+$,7$^+$)	319.21	6$^+$	D		Mult.: for 799.1γ+799.3γ A$_2$=−0.19 3, A$_4$=0.00 3; pol=−0.27 21.
								δ=+0.2 +4−3.
799.3 1	8.0	1861.73	(9)$^+$	1062.44	8$^+$	D		Mult.: for 799.1γ+799.3γ A$_2$=−0.19 3, A$_4$=0.00 3; pol=−0.27 21.
								δ=+0.02 5.
803.7 2	3.0	980.69	(5)	176.99	5$^+$			
806.6 3	2.1	3020.6	(12)$^+$	2213.99	(10)$^+$	E2	1.38×10^{-3} 2	α(K)=0.001207 17; α(L)=0.0001403 20; α(M)=2.54×10^{-5} 4; α(N)=4.02×10^{-6}
								6; α(O)=2.62×10^{-7} 4
								α(N+..)=4.29×10^{-6}
								Mult.: A$_2$=+0.31 9, A$_4$=−0.15 10; δ=−0.05 13.
809.6 3	2.1	1065.7		256.06	(2)$^+$			
829.7 4	4.0	1149.0	(5)	319.21	6$^+$			Mult.: A$_2$=+0.04 6, A$_4$=+0.09 8; δ=−0.19 +14−∞.
833.0 3	4.1	1152.04	6$^-$	319.21	6$^+$	Q		Mult.: A$_2$=+0.31 7, A$_4$=−0.12 8; δ=+0.6 +7−10.
840.7 3	4.3	885.84	6$^+$	45.28	5$^+$	D+Q		Mult.: A$_2$=+0.04 6, A$_4$=+0.03 8; δ=0.24 16.
864.5 5	2.4	909.51	4	45.28	5$^+$	D+Q		Mult.: A$_2$=−0.27 11, A$_4$=−0.04 14; δ=+0.2 −3+∞.
872.8 1	13.7	1447.73	9$^+$	574.94	7$^+$	E2	1.14×10^{-3} 2	α(K)=0.000997 14; α(L)=0.0001152 17; α(M)=2.08×10^{-5} 3; α(N)=3.31×10^{-6}
								5; α(O)=2.17×10^{-7} 3
								α(N+..)=3.52×10^{-6}
								Mult.: A$_2$=+0.16 3, A$_4$=+0.04 3; pol=+0.28 20; α(K)exp=0.0015 3; δ=−0.05
								+5−5.
883.7 3	3.2	1202.74	(6$^+$)	319.21	6$^+$	D+(Q)		Mult.: A$_2$=−0.25 16, A$_4$=−0.1 6; δ=−2.0 +1.6−∞.
886.0 5	2.3	885.84	6$^+$	0	7$^+$	D,Q		Mult.: A$_2$=−0.26 13, A$_4$=−0.2 2; δ=+0.3 −4+∞.
890.0 3	4.0	933.90	(3)$^+$	45.28	5$^+$			Mult.: A$_2$=+0.04 9, A$_4$=+0.17 11; δ=−0.4 +6−∞.
894.6 3	1.2	1071.6	(4,6)	176.99	5$^+$	D+Q		Mult.: for 894.6γ+895.0γ A$_2$=−0.42 11, A$_4$=+0.4 2.
								+0.4 −6+∞.
895.0 3	2.1	1211.6	(2,4)	316.60	(3)$^-$	D+Q		Mult.: for 894.6γ+895.0γ A$_2$=−0.42 11, A$_4$=+0.4 2.
								δ=−0.2 +4−∞.
897.9 2	8.5	946.93	8$^+$	49.19	6$^+$	Q		Mult.: A$_2$=+0.21 5, A$_4$=+0.02 6; δ=−0.04 10.
899.6 4	2.2	933.90	(3)$^+$	34.23	4$^+$	D+Q		Mult.: A$_2$=−0.3 2, A$_4$=+0.5 2; δ=0.0 ±∞.

^{93}**Nb(α,nγ)**   **1988Ma14 (continued)**

$\gamma(^{96}$Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	δ	α	Comments
912.5 2	4.3	1487.45	(8)	574.94	7+	D			Mult.: for 912.5γ+912.8γ A$_2$=−0.24 5, A$_4$=−0.02 6. δ=0.0 9.
912.8 2	2.0	1139.93	(5)	227.12	3−				
914.7 2	11.5	1861.73	(9)+	946.93	8+	M1+E2	+0.07 5	1.06×10^{-3} 2	α(K)=0.000936 14; α(L)=0.0001054 15; α(M)=1.91×10^{-5} 3; α(N)=3.04×10^{-6} 5; α(O)=2.07×10^{-7} 3 α(N+..)=3.25×10^{-6} Mult.: A$_2$=−0.10 3, A$_4$=−0.03 4.
918.5 3	2.1	1271.0		352.53	3−				
927.3 1	64.5	927.21	9+	0	7+	E2		9.9×10^{-4} 1	α(K)=0.000864 12; α(L)=9.94×10^{-5} 14; α(M)=1.80×10^{-5} 3; α(N)=2.85×10^{-6} 4; α(O)=1.88×10^{-7} 3 α(N+..)=3.04×10^{-6} 5 Mult.: A$_2$=+0.26 1, A$_4$=−0.06 1; pol=+0.61 9; α(K)exp=0.0008 1; δ=−0.02 4.
931.5 2	2.8	980.69	(5)	49.19	6+	D+Q			Mult.: A$_2$=−0.2 1, A$_4$=+0.2 12; δ=+0.2 −3+∞.
934.4 6	1.2	979.02	5−	45.28	5+	Q			Mult.: A$_2$=+0.3 3, A$_4$=−0.6 3; δ=+2.0 ±∞.
936.2 6	2.3	971.21	3	35.38	(2)+				
941.2 3	5.0	1118.25	(5+,6+,7+)	176.99	5+	D			Mult.: A$_2$=−0.35 6, A$_4$=+0.03 8; δ=−2.0 +10−∞.
945.4 4	3.7	979.02	5−	34.23	4+	D+Q			Mult.: A$_2$=−0.19 4, A$_4$=−0.3 1; δ=−0.3 +4−20.
947.1 3	15.4	946.93	8+	0	7+	D			Mult.: A$_2$=−0.25 3, A$_4$=+0.05 3; δ=0.00 7.
975.2 2	1.9	1152.04	6−	176.99	5+	(D)			Mult.: A$_2$=−0.07 18, A$_4$=−0.04 22; δ=+0.1 +7−5.
993.4 3	3.6	1042.25	5	49.19	6+	D+Q			Mult.: A$_2$=−0.5 1, A$_4$=+0.2 1; δ=+1.0 +27−9.
994.8 3	5.4	1314.11	5+	319.21	6+	D+Q			Mult.: A$_2$=−0.4 1, A$_4$=−0.02 8; δ=+0.4 −5+∞.
995.7 2	16	1922.68	(11)+	927.21	9+	E2		8.35×10^{-4} 12	α(K)=0.000733 11; α(L)=8.40×10^{-5} 12; α(M)=1.519×10^{-5} 22; α(N)=2.41×10^{-6} 4 α(O)=1.596×10^{-7} 23; α(N+..)=2.57×10^{-6} Mult.: A$_2$=+0.23 2, A$_4$=+0.02 3; pol=+1.10 36; α(K)exp=0.0007 1. δ=−0.02 5.
1004.7 5	2.2	1053.9	5,7	49.19	6+	D			Mult.: A$_2$=−0.22 7, A$_4$=+0.06 9; δ=+0.2 −3+∞.
1006.5 2	2.6	1183.23	5	176.99	5+				
1007.4 4	6.0	1042.25	5	34.23	4+	D+Q			Mult.: A$_2$=−0.09 6, A$_4$=+0.18 8; δ=+0.18 30.
1013.6 2	24.8	1062.44	8+	49.19	6+	E2		8.02×10^{-4} 12	α(K)=0.000704 10; α(L)=8.06×10^{-5} 12; α(M)=1.457×10^{-5} 21; α(N)=2.32×10^{-6} 4 α(O)=1.534×10^{-7} 22; α(N+..)=2.47×10^{-6} Mult.: A$_2$=+0.26 2, A$_4$=−0.09 3; pol=+0.25 23; δ=0.00 7.
1040.7 2	9.2	1040.91	7+	0	7+	M1+E2	−0.32 15	8.0×10^{-4} 1	α(K)=0.000703 11; α(L)=7.91×10^{-5} 12; α(M)=1.430×10^{-5} 21; α(N)=2.28×10^{-6} 4 α(O)=1.554×10^{-7} 25; α(N+..)=2.44×10^{-6} Mult.: A$_2$=+0.14 4, A$_4$=+0.07 5; pol=+0.56 43;
1045.5 3	3.0	1597.39	6−	551.87	4−	Q			Mult.: A$_2$=+0.27 13, A$_4$=+0.07 15; δ=+0.1 −3+∞.
1050.2 2	3.2	1366.81	(4,2)	316.60	(3)−	D			Mult.: A$_2$=−0.24 11, A$_4$=+0.17 15; δ==−0.02 +27−∞.
1053.9 2	1.4	1103.10	5,7	49.19	6+	D+Q			Mult.: A$_2$=−0.02 20, A$_4$=−0.08 25; δ=+0.0 ±∞.
1078.1 1	4.2	1255.09	(4)	176.99	5+				
1084.9 3	2.2	1314.11	5+	228.76	4+	D			Mult.: A$_2$=−0.13 9, A$_4$=−0.19 11; δ=0.0 +2−∞.

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

$\gamma(^{96}$Tc) (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Mult.[†‡]	δ	α	Comments
1089.7 *2*	1.1	1138.95	8^+	49.19	6^+	Q			Mult.: A$_2$=+0.22 *6*, A$_4$=−0.07 *7*; δ=−0.1 *+6−3*.
1105.8 *8*	3.0	1139.93	(5)	34.23	4^+				
1106.8 *1*	9.1	1152.04	6^-	45.28	5^+	D			Mult.: for 1105.8γ+1106.8γ A$_2$=−0.17 *4*, A$_4$=+0.05 *5*. δ=+0.03 *11*.
1113.3 *2*	2.0	1290.21	4	176.99	5^+	D			Mult.: A$_2$=−0.35 *10*, A$_4$=+0.26 *13*; δ=+0.4 *−5+∞*.
1115.0 *5*	6.4	1149.0	(5)	34.23	4^+	(D)			Mult.: A$_2$=−0.03 *9*, A$_4$=+0.18 *11*; δ=+0.2 *−2+∞*.
1117.4 *3*	2.2	1294.4	(5)	176.99	5^+	Q+(D)			Mult.: A$_2$=+0.5 *2*, A$_4$=−0.6 *2*; δ=+1.0 *−18+∞*.
1134.0 *1*	4.0	1183.23	5	49.19	6^+	D			Mult.: A$_2$=−0.18 *10*, A$_4$=+0.16 *13*; δ=0.0 *−6+∞*.
1137.9 *5*	1.6	1314.11	5^+	176.99	5^+	D+(Q)			Mult.: for 1137.9γ+1138.0γ A$_2$=−0.42 *5*, A$_4$=+0.08 *6*. δ=+0.6 *+14−5*.
1138.0 *3*	2.5	1187.56	5	49.19	6^+	D+(Q)			Mult.: for 1138.0γ+1137.9γ A$_2$=−0.42 *5*, A$_4$=+0.08 *6*. Mult.: δ=+0.4 *+14−5*.
1139.0 *2*	20.0	1138.95	8^+	0	7^+	D+Q			Mult.: A$_2$=−0.58 *3*, A$_4$=−0.01 *4*; δ=−0.27 *8*.
1151.7 *4*	2.2	1152.04	6^-	0	7^+	D			Mult.: for 1151.7γ+1151.7γ A$_2$=−0.32 *9*, A$_4$=+0.14 *12*; δ=+0.2 *3*.
1151.7[#] *4*	1.0[#]	2213.99	(10)$^+$	1062.44	8^+				Mult.: for 1151.7γ+1151.7γ A$_2$=−0.32 *9*, A$_4$=+0.14 *12*.
1153.4 *3*	5.0	1202.74	(6$^+$)	49.19	6^+	M1+E2	−0.4 *2*	6.41×10^{-4} *11*	α(K)=0.000562 *10*; α(L)=6.31×10^{-5} *10*; α(M)=1.141×10^{-5} *18*; α(N)=1.82×10^{-6} *3* α(O)=1.242×10^{-7} *22*; α(N+..)=4.29×10^{-6} Mult.: A$_2$=+0.17 *6*, A$_4$=−0.06 *8*.
1168.5 *1*	1.6	1202.74	(6$^+$)	34.23	4^+				
1196.8 *3*	4.4	1516.21	(7$^+$,5)	319.21	6^+	D			Mult.: A$_2$=−0.31 *11*, A$_4$=+0.02 *14*; δ=−0.06 *18*.
[x]1200.5 *1*	16.0								
1209.8[#] *3*	3.8[#]	1255.09	(4)	45.28	5^+	D+Q			Mult.: for 1209.8γ+1209.8γ A$_2$=−0.28 *7*, A$_4$=−0.12 *8*. δ=+0.4 *−5+∞*.
1209.8[#] *3*	2.3[#]	1437.91	3^-	228.76	4^+	D+Q			Mult.: for 1209.8γ+1209.8γ A$_2$=−0.28 *7*, A$_4$=−0.12 *8*. δ=+0.4 *−3+∞*.
1221.4 *3*	1.5	2148.34	(11)$^+$	927.21	9^+	E2		5.44×10^{-8} *8*	α(K)=0.000468 *7*; α(L)=5.31×10^{-5} *8*; α(M)=9.59×10^{-6} *14*; α(N)=1.526×10^{-6} *22* α(O)=1.022×10^{-7} *15*; α(N+..)=1.239×10^{-5} *18* Mult.: A$_2$=+0.48 *12*, A$_4$=−0.13 *12*; δ=+0.07 *14*.
1231.3 *2*	2.7	1408.30	(4$^-$)	176.99	5^+	D+(Q)			Mult.: A$_2$=−0.09 *21*, A$_4$=−0.24 *25*; δ=+0.2 *±∞*.
[x]1252.3 *1*	7.3					D			
1264.9 *1*	4.8	1314.11	5^+	49.19	6^+	D			Mult.: A$_2$=−0.4 *1*, A$_4$=+0.2 *1*; δ=−0.2 *−2+∞*.
1269.1 *4*	4.1	1314.11	5^+	45.28	5^+	Q			Mult.: A$_2$=+0.17 *13*, A$_4$=−0.06 *15*; δ=+0.6 *−41+∞*.
1305.4 *3*	2.0	1482.3	(4)$^-$	176.99	5^+	D+Q			Mult.: A$_2$=−0.8 *2*, A$_4$=+0.96 *24*; δ=+0.4 *±∞*.
1314.1 *3*	7.8	1314.11	5^+	0	7^+				Mult.: A$_2$=−0.00 *8*, A$_4$=+0.05 *9*; δ=+0.0 *+6−∞*.
1339.4 *3*	2.6	1516.21	(7$^+$,5)	176.99	5^+				
1359.2 *4*	2.3	1536.2	$^-$	176.99	5^+				
1360.8 *5*	1.0	1482.3	(4)$^-$	121.24	(2)$^-$				
1378.8 *5*	0.6	1557.02	(4,6)	176.99	5^+				
1399.4 *6*	4.4	1974.4	(8)	574.94	7^+	D			Mult.: A$_2$=−0.02 *13*, A$_4$=−0.16 *16*; δ=0.1 *2*.
1419.4 *2*	1.7	1596.40		176.99	5^+				

^{93}Nb(α,nγ)   **1988Ma14 (continued)**

γ(^{96}Tc) (continued)

E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f	E_γ	I_γ	E_i(level)	J^π_i	E_f	J^π_f
1448.2 *2*	2.0	1767.42		319.21	6$^+$	^{x}1569.2 *2*	1.4				
1459.3 *5*	1.4	1636.3		176.99	5$^+$	1597.4 *1*	4.3	1597.39	6$^-$	0	7$^+$
^{x}1548.6 *2*	2.8					^{x}1696.6 *1*	6.5				
						^{x}1711.7 *2*	3.2				

† α(K)exp for γ's with E=800-1000 were normalized to α(K)(E2) for γ's: 872.8, 927.3, 995.7.

‡ Mult deduced only from $\gamma(\theta)$ data are based on evaluator's qualitative assumption that γ-transitions in odd-odd nuclei with A$_2$<0 and small A$_4$ are ΔJ=1,d and γ's with A$_2$>0 and small negative A$_4$ are mostly ΔJ=2,Q.

$^#$ Multiply placed with intensity suitably divided.

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

^{93}Nb(α,nγ)　　　1988Ma14

Level Scheme

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

Legend

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

$^{96}_{43}$Tc$_{53}$

^{93}Nb(α,nγ)   1988Ma14

Level Scheme (continued)

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

Legend

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

Gamma transition labels (energies and intensities/multipolarities):
1419.4 1.7; 1378.8 0.6; 647.7 Q+(D) 1.4; 1359.2 2.3; 1339.4 2.6; 1196.8 D 4.4; 912.5 D 4.3; 1360.8 1.0; 1305.4 D+Q 2.0; 872.8 E2 13.7; 500.8 M1 8.6; 385.2 M1 2.1; 1209.8 D+Q 2.3@; 569.6 M1,E2 4; 1231.3 D+(Q) 2.7; 1050.2 D 3.2; 1314.1 7.8; 1269.1 Q 4.1; 1264.9 D 4.8; 1137.9 D+(Q) 1.6; 1084.9 D+Q 5.4; 994.8 D 2.2; 162.3 0.8; 1117.4 Q+(D) 2.2; 1113.3 D 2.0; 783.8 D 2.6; 918.5 2.1; 1209.8 D+Q 3.8@; 1078.1 4.2; 895.0 D+Q 2.1; 1168.5 1.6; 1153.4 M1+E2 5.0; 883.7 D+(Q) 3.2

Levels (spin-parity, energy in keV, and comments):

J$^\pi$	Energy	Comment
	1596.40	
(4,6)	1557.02	
$^-$	1536.2	
(7$^+$,5)	1516.21	
(8)	1487.45	
(4)$^-$	1482.3	
9$^+$	1447.73	
3$^-$	1437.91	
(4$^-$)	1408.30	
(4,2)	1366.81	
5$^+$	1314.11	
(5)	1294.4	
4	1290.21	
	1271.0	
(4)	1255.09	
(2,4)	1211.6	
(6$^+$)	1202.74	
6$^-$	1152.04	
8$^+$	1062.44	
8$^+$	946.93	
4	909.51	
4$^-$	867.15	
7$^+$	574.94	
5$^+$	506.32	
3$^-$	352.53	<0.35 ns
6$^+$	319.21	
(3)$^-$	316.60	2.01 ns +35−14
4$^+$	228.76	
5$^+$	176.99	
(2)$^-$	121.24	25.6 ns +4−2
6$^+$	49.19	
5$^+$	45.28	
4$^+$	34.23	
7$^+$	0	

$^{96}_{43}$Tc$_{53}$

^{93}Nb(α,nγ)   1988Ma14

Level Scheme (continued)

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

Legend

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

Transition labels (top):
1138.0 D+(Q) 2.5
635.9 (D) 5.2
366.6 M1,E2 0.51
320.4 2.0
1134.0 D 4.0
1006.5 2.6
676.5 D+Q 3.6
596.4 D+Q 2.9
395.5 D 1.5
1151.7 D 2.2
1106.8 D 9.1
975.2 (D) 1.9
833.0 Q 4.1
599.9 E2 15.8
173.0 M1 2.4
1115.0 (D) 6.4
829.7 4.0
1105.8 3.0
912.8 2.0

Levels (spin-parity and energy):
5   1187.56
5   1183.23
6⁻   1152.04
(5)   1149.0
(5)   1139.93
5⁻   979.02
4⁻   867.15
       820.95
(4)⁻   788.82
(4⁺)   585.81
4⁻   551.87
5⁺   506.32
6⁺   319.21
3⁻   227.12   <0.35 ns
5⁺   176.99
6⁺   49.19
5⁺   45.28
4⁺   34.23
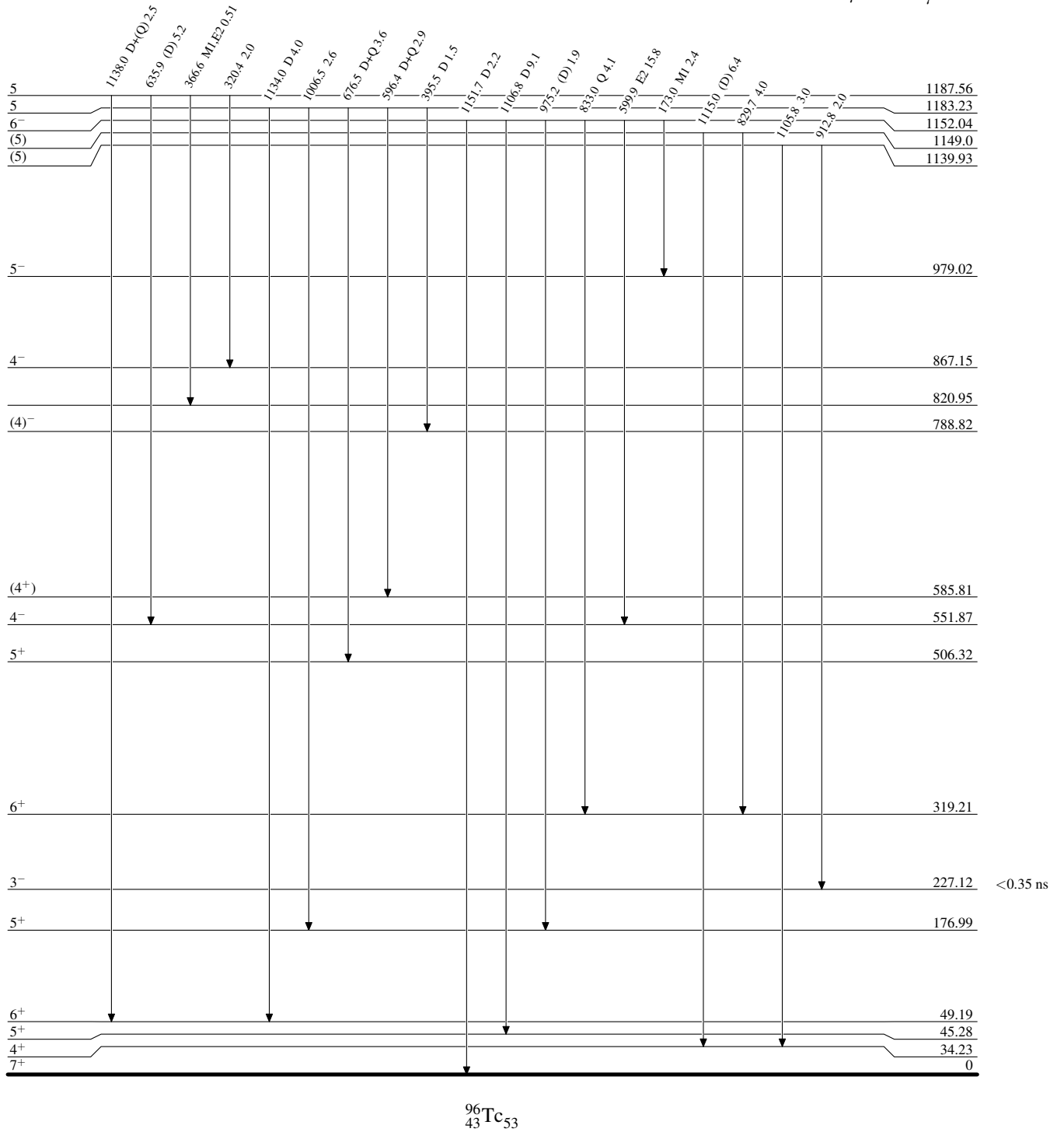7⁺   0

${}^{96}_{43}$Tc${}_{53}$

^{93}Nb(α,nγ)   **1988Ma14**

Level Scheme (continued)

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

Legend

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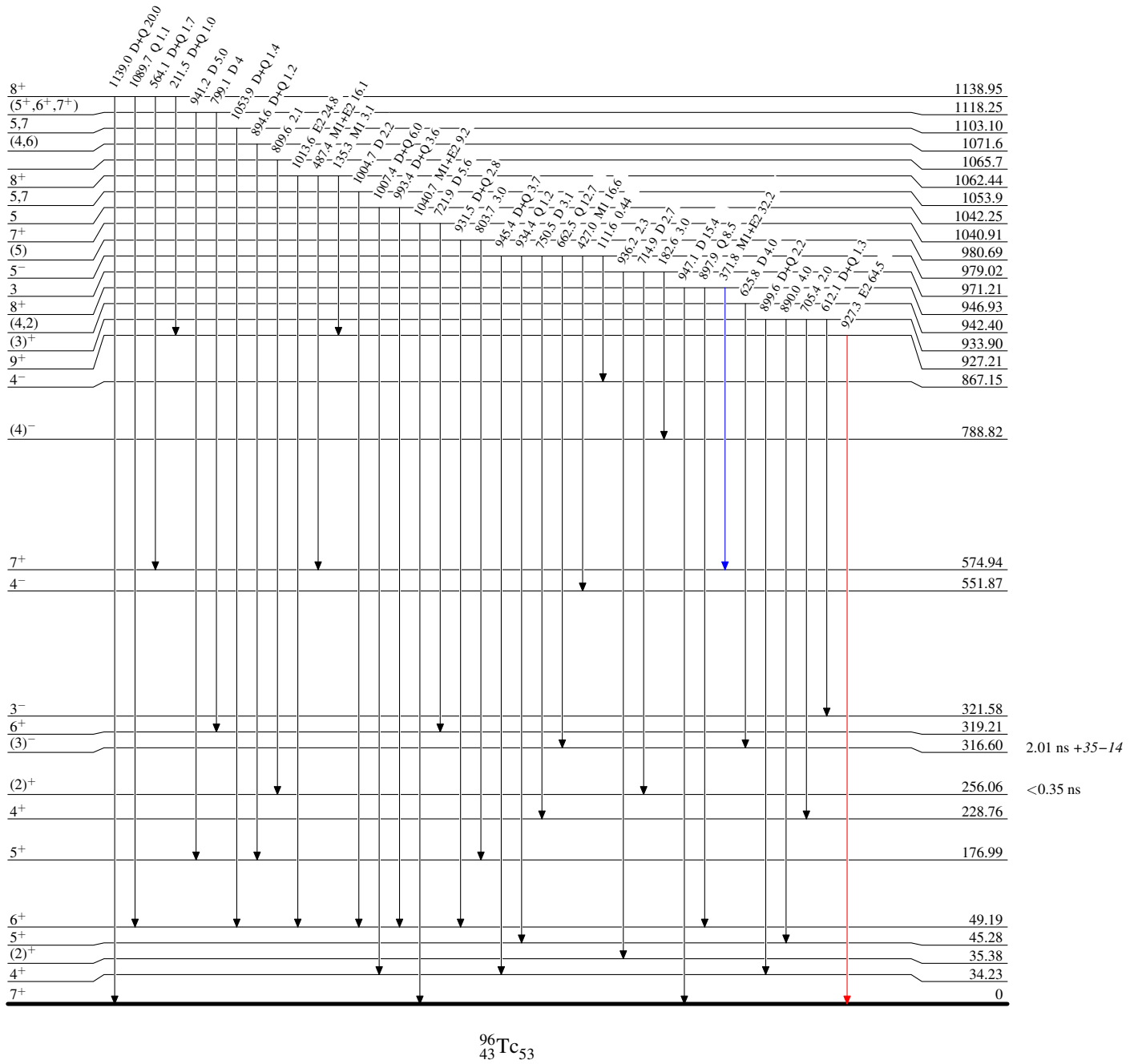I$_\gamma$ > 10%×I$_\gamma^{max}$

$^{96}_{43}$Tc$_{53}$

^{93}Nb(α,nγ)   1988Ma14

Level Scheme (continued)

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

Legend

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

Transition labels (top):
864.5 D+Q 2.4, 732.3 D 1.2, 680.7 D+Q 1.4, 588.5 D 6.2, 403.5 D 1.3, 886.0 D,Q 2.3, 840.7 D+Q 4.3, 379.6 D+Q 2.1, 319.9 3.4, 310.9 M1 10.2, 550.4 0.6, 612.8 0.6, 793.0 3.7, 572.3 D,Q 2.0, 772.7 M1+E2 5.3, 644.7 D 5.6, 502.3 D 4.1, 699.7 1.3, 782.0 D+Q 1.3, 695.2 3.7, 580.3 D+Q 3.8, 770.0 Q 2.5, 766.0 6.0, 638.0 D+Q 14.3, 680.3 7.0, 484.8 D+Q 2.0, 448.7 D+Q 2.2, 612.8 0.34, 477.6 D+Q 1.8, 754.7 Q+D 1.3, 667.7 Q+(D) 11.2, 472.2 M1 7.3@, 752.6 M1 14.8, 702.5 1.2, 575.5 M1 16.0, 493.7 2.8, 690.6 1.2

Levels (energy, keV, right side):
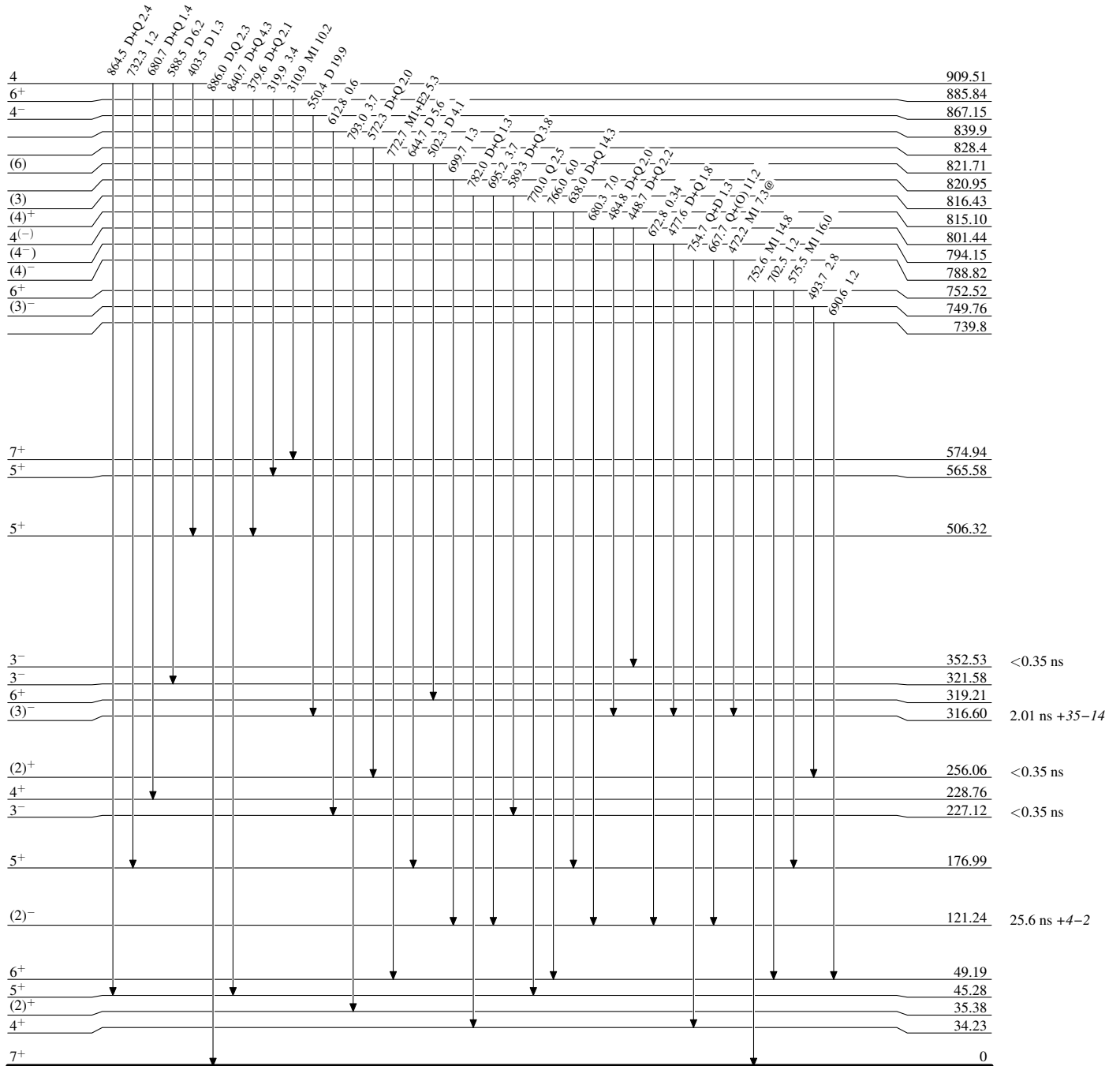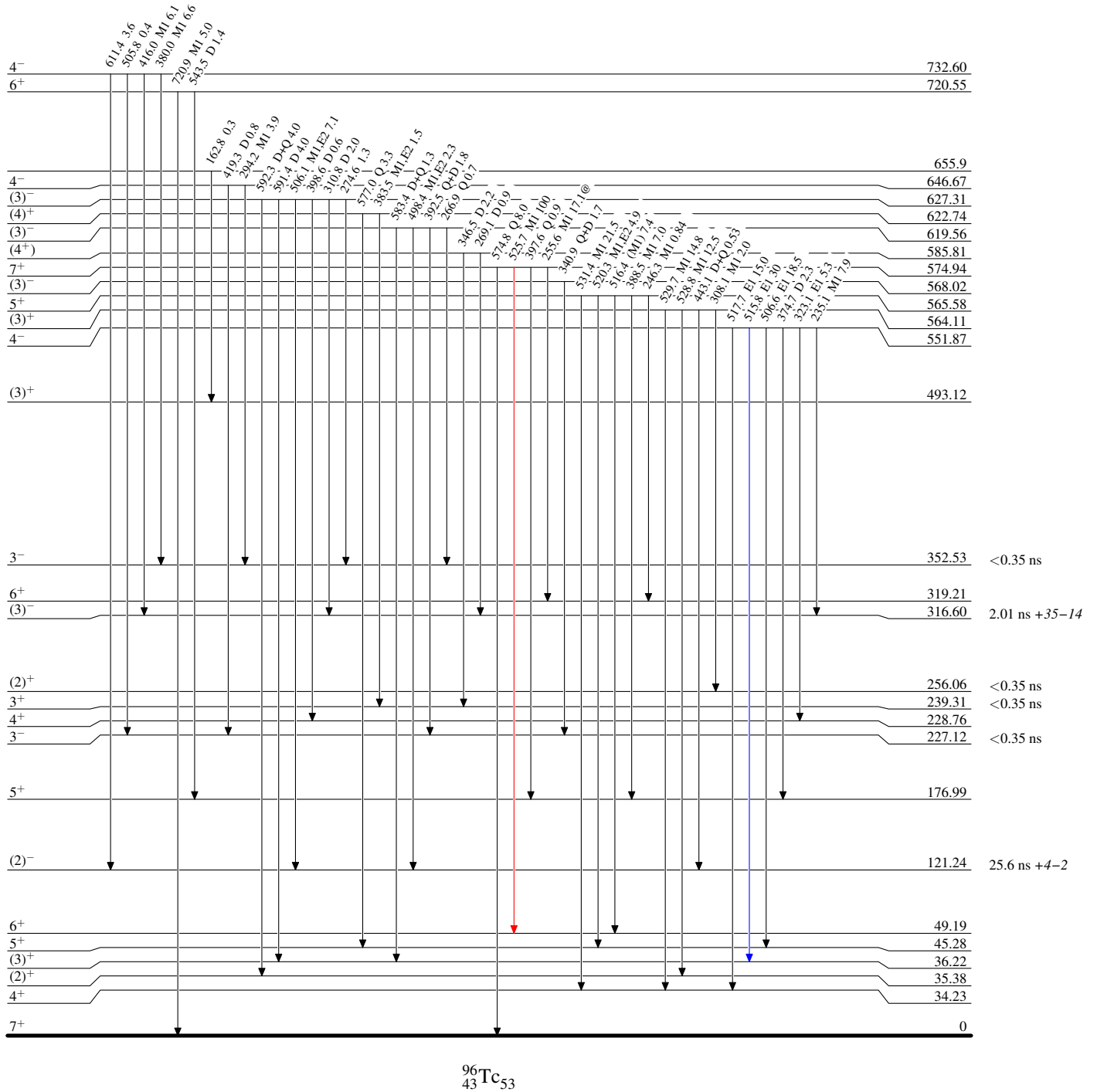| J^π	Energy	Half-life
4	909.51	
6$^+$	885.84	
4$^-$	867.15	
	839.9	
	828.4	
(6)	821.71	
	820.95	
(3)	816.43	
(4)$^+$	815.10	
4$^{(-)}$	801.44	
(4$^-$)	794.15	
(4)$^-$	788.82	
6$^+$	752.52	
(3)$^-$	749.76	
	739.8	
7$^+$	574.94	
5$^+$	565.58	
5$^+$	506.32	
3$^-$	352.53	<0.35 ns
3$^-$	321.58	
6$^+$	319.21	
(3)$^-$	316.60	2.01 ns +35−14
(2)$^+$	256.06	<0.35 ns
4$^+$	228.76	
3$^-$	227.12	<0.35 ns
5$^+$	176.99	
(2)$^-$	121.24	25.6 ns +4−2
6$^+$	49.19	
5$^+$	45.28	
(2)$^+$	35.38	
4$^+$	34.23	
7$^+$	0	

$^{96}_{43}$Tc$_{53}$

^{93}Nb(α,nγ)　　1988Ma14

Level Scheme (continued)

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

Legend

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

$^{96}_{43}$Tc$_{53}$

^{93}Nb(α,nγ) **1988Ma14**

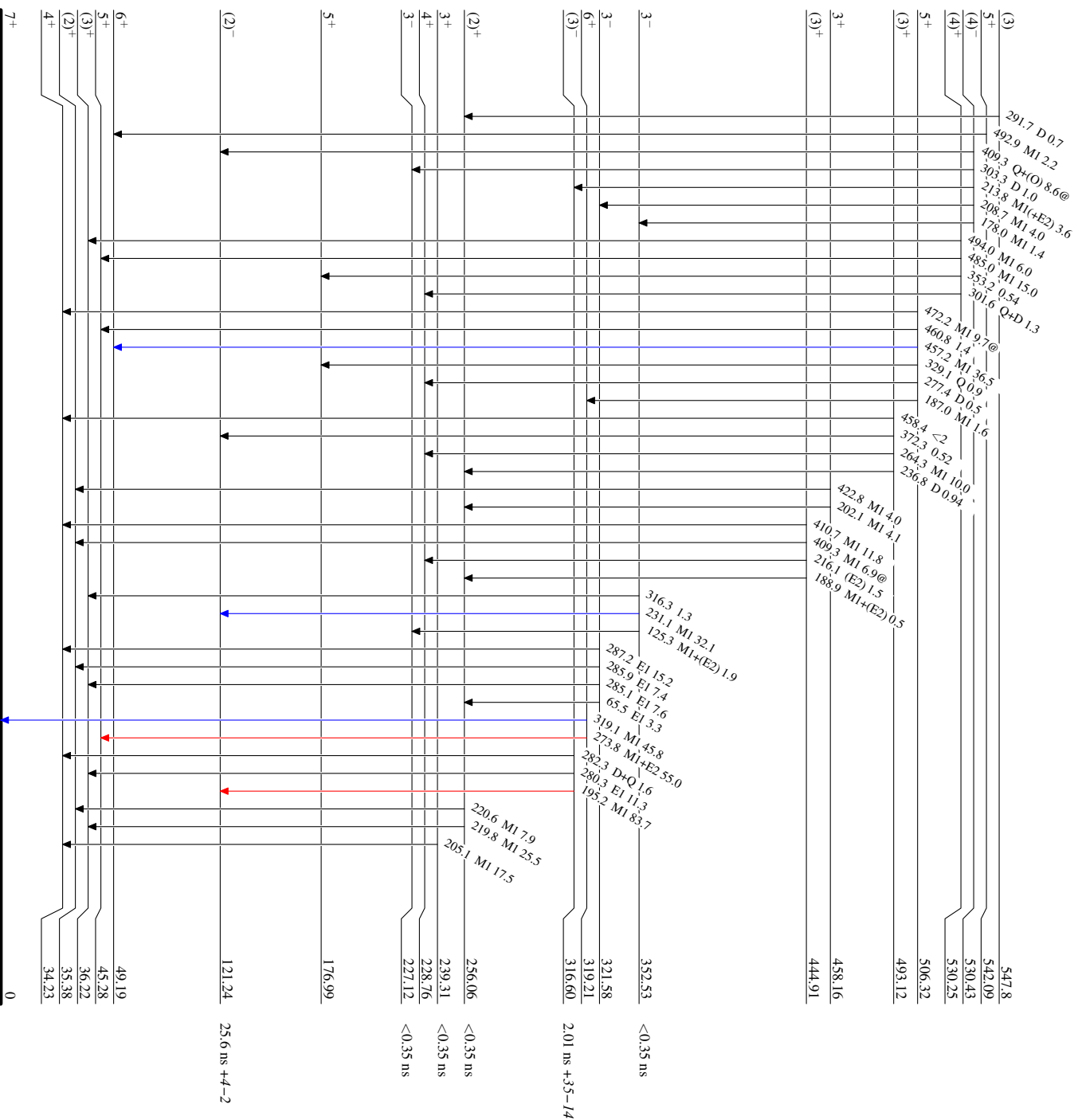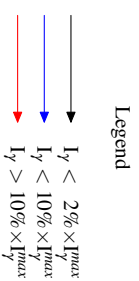**Level Scheme (continued)**

Intensities: Relative I$_\gamma$

@ Multiply placed: intensity suitably divided

Legend

I$_\gamma$ < 2% × I$_\gamma^{max}$

I$_\gamma$ < 10% × I$_\gamma^{max}$

I$_\gamma$ > 10% × I$_\gamma^{max}$

Transitions (as labelled):

291.7 D 0.7
492.9 M1 2.2
409.3 Q+(O) 8.6@
303.3 D 1.0
213.8 M1(+E2) 3.6
208.7 M1 4.0
178.0 M1 1.4
494.0 M1 6.0
485.0 M1 15.0
353.2 0.54
301.6 Q+D 1.3
472.2 M1 9.7@
460.8 1.4
457.2 M1 36.5
329.1 Q 0.9
277.4 D 0.5
187.0 M1 1.6
458.4 <2
372.3 0.52
264.3 M1 10.0
236.8 D 0.94
422.8 M1 4.0
202.1 M1 4.1
410.7 M1 11.8
409.3 M1 6.9@
216.1 (E2) 1.5
188.9 M1+(E2) 0.5
316.3 1.3
231.1 M1 32.1
125.3 M1+(E2) 1.9
287.2 E1 15.2
285.9 E1 7.4
285.1 E1 7.6
65.5 E1 3.3
319.1 M1 45.8
273.8 M1+E2 55.0
282.3 D+Q 1.6
280.3 E1 11.3
195.2 M1 83.7
220.6 M1 7.9
219.8 M1 25.5
205.1 M1 17.5

Levels (spin, energy, half-life):

(3) 547.8
5+ 542.09
(4)− 530.43
(4)+ 530.25
5+ 506.32
(3)+ 493.12
3+ 458.16
(3)+ 444.91
3− 352.53 <0.35 ns
6+ 321.58
3− 319.21 <0.35 ns
(3)− 316.60 2.01 ns +35−14
(2)+ 256.06 <0.35 ns
3+ 239.31 <0.35 ns
4+ 228.76 <0.35 ns
3− 227.12 <0.35 ns
5+ 176.99
(2)− 121.24 25.6 ns +4−2
6+ 49.19
5+ 45.28
(3)+ 36.22
(2)+ 35.38
4+ 34.23
7+ 0

^{93}Nb(α,nγ)　　　1988Ma14

Level Scheme (continued)

Intensities: Relative I$_\gamma$

@ Multiply placed: intensity suitably divided

Legend

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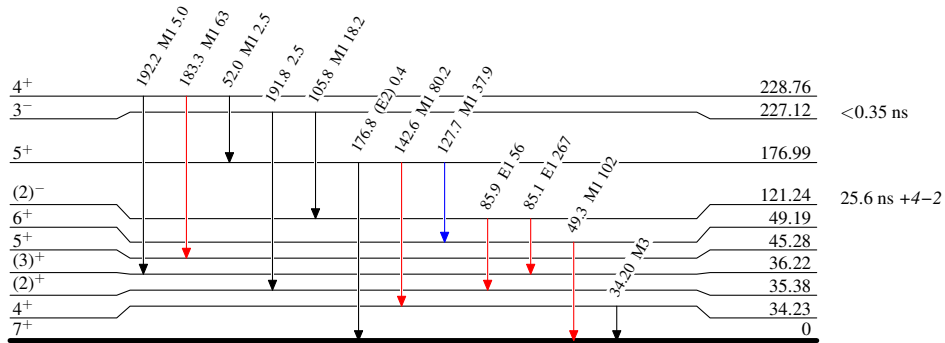I$_\gamma$ < 10%×I$_\gamma^{max}$
I$_\gamma$ > 10%×I$_\gamma^{max}$

192.2 M1 5.0
183.3 M1 63
52.0 M1 2.5
191.8 2.5
105.8 M1 18.2
176.8 (E2) 0.4
142.6 M1 80.2
127.7 M1 37.9
85.9 E1 56
85.1 E1 267
49.3 M1 102
34.20 M3

J$^\pi$	Energy	
4$^+$	228.76	
3$^-$	227.12	<0.35 ns
5$^+$	176.99	
(2)$^-$	121.24	25.6 ns +4−2
6$^+$	49.19	
5$^+$	45.28	
(3)$^+$	36.22	
(2)$^+$	35.38	
4$^+$	34.23	
7$^+$	0	

$^{96}_{43}$Tc$_{53}$