Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar	NDS 129, 191 (2015)	28-Feb-2015

Q(β^-)=−1255 *4*; S(n)=8783.4 *17*; S(p)=9583 *5*; Q(α)=−3184.4 *13* 2012Wa38

^{128}Te Levels

Cross Reference (XREF) Flags

A	^{128}Sb β^- decay (9.05 h)	F	Coulomb excitation	K	^{130}Te(p,t)
B	^{128}Sb β^- decay (10.41 min)	G	^{128}Te(α,α')	L	^{130}Te(^{64}Ni,X)
C	^{128}I ε decay	H	^{128}Te(d,d′)	M	^{235}U(n,Fγ)
D	^{126}Te(t,p)	I	^{128}Te(γ,γ')	N	^{238}U(^{18}O,Fγ)
E	^{128}Te(n,n′γ)	J	^{128}Te(p,p′)	O	^{238}U(^{12}C,Fγ)

E(level)	J$^\pi$	T$_{1/2}$[#]	XREF	Comments
0.0[†]	0$^+$[‡]	7.7×10^{24} y *4*	ABCDEFGHIJKLMNO	%2β^-=100 T$_{1/2}$: T$_{1/2}$(2β^-) if T$_{1/2}$(^{130}Te)/T$_{1/2}$(^{128}Te)= 3.52×10^{-4} *11* and T$_{1/2}$(^{130}Te)=2.7×10^{21} *1* (1992Be30,1993Be04). Others: 2.2×10^{-24} *3* for T$_{1/2}$(^{130}Te)/T$_{1/2}$(^{128}Te)=3.52×10^{-4} *11* and T$_{1/2}$(^{130}Te)=7.9×10^{20} *10* (1996Ta04). <8.6×10^{22} y (2000Al26),>1.1×10^{23} y to g.s. (2003Ar02),>8.8×10^{18} y to g.s.,>1.3×10^{18} y to 443 (2003Ki08),<3.11×10^{19} y (2006Zu02), 5.4×10^{19} y to g.s. (2007Bl15), 1.7×10^{20} y to g.s. (2009Da16), 1.7×10^{20} y to g.s. (2010Zu02).
743.216[†] *17*	2$^+$[‡]	3.30 ps *3*	ABCDEFGH JKLMNO	Q=−0.06 *5*; μ=+0.58 *6* μ: weighted average of +0.50 *6* (1988Du10), +0.62 *8* (1981Sh15) and +0.70 *8* (1985ThZX). Q: from Coulomb excitation reorientation (1978Be10). 1978Be10 also reported −0.14 *12* as recalculated value. J$^\pi$: L(p,p′)=2, L(α,α')=2, E2 γ to 0$^+$. T$_{1/2}$: from B(E2)=0.377 *3* in Coulomb excitation.
1497.020[†] *22*	4$^+$[‡]		AB EFGh JKLMNO	XREF: G(1480)h(1490). J$^\pi$: see 1811 level.
1519.995 *21*	2$^+$	1.7 ps *+8−4*	EF hIJKL	XREF: h(1490). J$^\pi$: E2 γ to 0$^+$.
1811.13[†] *3*	6$^+$[‡]	0.45 ns *3*	AB E J LMNO	J$^\pi$: E1 γ from 7$^-$ 2337 to 1811 and E2 γ's from 1811 to 1497 and from 1497 to 2$^+$ 743 uniquely establish J$^\pi$(1811)=6$^+$ and J$^\pi$(1497)=4$^+$. T$_{1/2}$: weighted average of 0.48 ns *3* in ^{128}Sb β^- decay (9.01 h) and 0.42 ns *3* in ^{128}Sb β^- decay (10.4 min).
1968.485 *25*	1$^+$,2$^+$,3$^+$	209 fs *+17−15*	E g j	XREF: g(2010)j(1972). J$^\pi$: M1+E2 γ to 2$^+$.
1972 *2*			ghIjK	XREF: g(2010)h(2020)j(1972). E(level): from (p,t).
1978.80 *3*	0$^+$	1.4 ps *+12−8*	E K	XREF: K(1982). J$^\pi$: L(p,t)=0.
2027.77 *3*	4$^+$	0.37 ps *+19−10*	E Gh JKL	XREF: G(2010)h(2020). J$^\pi$: M1+E2 γ to 4$^+$, L(p,p′)=4.
2133.29 *3*	5$^-$		A E h JKL NO	XREF: h(2120).

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Adopted Levels, Gammas (continued)

^{128}Te Levels (continued)

E(level)	J^π	$T_{1/2}$[#]	XREF	Comments
				J^π: L(p,t)=5, L(p,p′)=5, E1+M2 γ to 4^+.
2163.542 *24*	3^+	0.57 ps *+16−10*	E h K	XREF: h(2120). J^π: M1+E2 γ′s to 3^+ and 4^+.
2193.48 *3*	2^+	49.9 fs *14*	E K	XREF: K(2196.0). J^π: E2 γ to 0^+, M1+E2 γ to 2^+.
2217.95 *3*	$1^+,2^+,3^+$	0.4 ps *+6−5*	E	J^π: M1+E2 γ to 2^+.
2270.33 *3*	$3^+,4^+,5^+$	177 fs *+28−20*	E K	XREF: K(2274). J^π: M1+E2 γ to 4^+.
2308.30 *4*	0^+	>1.7 ps	E h K	XREF: h(2340)K(2312.2). J^π: L(p,t)=0.
2337.68 *5*	$(7)^-$	2.404 ns *24*	A E h JKL NO	XREF: h(2340)J(2360)K(2341). J^π: E1+M2 γ to 6^+, L(p,t)=7. $T_{1/2}$: from (814γ)(527γ)(t) in ^{128}Sb β^- decay (9.05 h).
2352.11 *3*	2^+	137 fs *+10−7*	E h K	XREF: h(2340)K(2353.8). J^π: E2 γ to 0^+, M1+E2 γ to 2^+.
2395.92 *3*	4^-		E KL	XREF: K(2390). J^π: M1+E2 γ from 2395 to 5^-, and the E1+M2, M1+E2 cascade from 2395 to 2163 to 2^+ uniquely establishes $J^\pi(2395)=4^-$, $J^\pi(2163)=3^+$.
2405.30 *8*	$(4^+,5,6^+)$		AB E KL	XREF: K(2409). J^π: γ′s to 4^+ and 6^+.
2426.00 *4*	$3^+,4^+,5^+$	86 fs *+10−8*	E H K	XREF: H(2480)K(2429). J^π: M1+E2 γ to 4^+.
2.44×10^3 *2*	3^-		FGh	XREF: G(2440)h(2480). J^π: L(α,α')=3.
2456.75 *21*			E O	
2482.22 *7*		0.20 ps *+5−3*	E	
2485 *2*	3^-		h JK	XREF: h(2480). J^π: L(p,t)=3. B(E3)≈0.45 in Coulomb excitation. E(level): from (p,t).
2487.44 *3*	3^+	0.32 ps *+11−7*	E h	XREF: h(2480). J^π: M1+E2 γ′s to 2^+ and 4^+.
2494.20 *3*	$(3)^-$	236 fs *+28−21*	E h jK	XREF: h(2480)j(2490). J^π: E1+M2 γ to 2^+, L(p,t)=(3).
2508.06 *4*	2^+	0.37 ps *+6−5*	E h	XREF: h(2480). J^π: E2 γ to 0^+, M1+E2 γ to 2^+.
2516.64 *6*			E K	
2550.52? *3*	3^+	0.18 ps *+4−3*	E	J^π: M1+E2 γ′s to 2^+ and 4^+.
2571.17 *4*	4,5		E K	XREF: K(2573). J^π: D+Q γ′s to 5^- and 4^-.
2587.14 *22*			A E L	
2598.99 *5*			B E KL	XREF: K(2602).
2630.14 *4*	$1^+,2^+,3^+$	95 fs *10*	E K	XREF: K(2633). J^π: M1+E2 γ to 2^+.
2643.28 *6*		0.16 ps *+5−8*	E	
2655.10 *17*			AB E K	XREF: K(2650).
2665.31 *10*		0.15 ps *+46−8*	E K	
2688.99[†] *24*	(8^+)[‡]		A L NO	J^π: Q (ΔJ=2) γ to 6^+, high spin ordering in ^{238}U(^{12}C,Fγ).
2701.0 *3*			E	
2706.65 *4*	$1^+,2^+,3^+$	80 fs *6*	E gh JK	XREF: g(2720)h(2730). J^π: M1+E2 γ to 2^+.
2712.23? *4*	$1^+,2^+,3^+$	162 fs *11*	E gh	XREF: g(2720)h(2730). J^π: M1+E2 γ to 2^+.

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Adopted Levels, Gammas (continued)

^{128}Te Levels (continued)

E(level)	J$^\pi$	T$_{1/2}$[#]	XREF	Comments
2718.80 *12*			E gh	XREF: g(2720)h(2730).
2736.25 *13*			A E Gh	XREF: G(2720)h(2730).
2748.66 *4*	3$^+$	0.71 ps *+53−21*	E gh	XREF: g(2720)h(2730). J$^\pi$: M1+E2 γ's to 2$^+$ and 4$^+$.
2749.57 *21*			E	
2762.03 *8*	3$^-$,4$^-$,5$^-$,6$^-$,7$^-$		A E K	XREF: K(2759). J$^\pi$: M1,E2 γ to 5$^-$.
2763.96 *10*		16.6 fs *21*	E	
2776.86 *6*			E	
2790 *10*			K	E(level): from (p,t).
2790.8[†] *3*	(10$^+$)[‡]	236 ns *20*	L NO	T$_{1/2}$: from γ(t) in ^{238}U(^{12}C,Fγ), 0.37 μs *3* from γ(t) in ^{130}Te(^{64}Ni,X) and 337ns 59 in 2004Va03. J$^\pi$: E2 γ to (8$^+$), high spin ordering in ^{238}U(^{12}C,Fγ).
2817.18 *23*			A	
2820.71 *5*	(1,2$^+$)	150 fs *+19−17*	E K	XREF: K(2820). J$^\pi$: γ's to 0$^+$ and 2$^+$.
2830.66 *9*		0.29 ps *+13−8*	E	
2851.90 *6*	(4$^+$,5,6$^+$)		B E	J$^\pi$: γ's to 4$^+$ and 6$^+$.
2858.6 *4*			A L	
2861.92 *17*			E	
2869.00? *8*	(1,2$^+$)	0.28 ps *+13−7*	E j	XREF: j(2900). J$^\pi$: γ's to 0$^+$ and 2$^+$.
2884.51 *6*	1$^+$,2$^+$,3$^+$	0.39 ps *3*	E h jk	XREF: h(2910)j(2900)k(2886). J$^\pi$: M1+E2 γ to 2$^+$.
2885.01 *13*	5	98 fs *+40−26*	E h jk	XREF: h(2910)j(2900)k(2886). J$^\pi$: D+Q γ's to 4$^+$ and 6$^+$.
2891.46 *7*	2$^+$	187 fs *+29−24*	E h jk	XREF: h(2886)j(2900)k(2886). J$^\pi$: E2 γ to 0$^+$, M1+E2 γ to 2$^+$.
2901.0 *3*			h jkL	XREF: h(2910)j(2900)k(2910).
2904.42 *11*		0.67 ps *+48−35*	E	
2912.78 *6*		1.1 ps *+23−5*	E h jk	XREF: h(2910)j(2900)k(2910).
2921.55 *14*		1.2 ps *+23−8*	E	
2923.82 *20*			A h L	XREF: h(2910).
2931.86? *5*	3$^+$,4$^+$,5$^+$		E h jK	XREF: h(2910)j(2900)K(2932). J$^\pi$: M1+E2 γ to 4$^+$.
2952.6 *17*			E L	
2954.87 *6*		0.7 ps *+12−3*	E	
2966.9 *4*	(8$^-$)		O	J$^\pi$: D γ to (7)$^-$, high spin ordering in ^{238}U(^{12}C,Fγ).
2969.0 *3*			E	
2983.31? *5*	3$^+$	111 fs *+31−22*	E	J$^\pi$: M1+E2 γ's to 2$^+$ and 4$^+$.
2985.53 *10*		0.3 ps *+9−2*	E	
2997.49 *15*		102 fs *+20−21*	E K	
2997.8 *3*			E	
3030.11 *8*	1,2$^+$	0.90 ps *+60−42*	E h k	XREF: h(3060)k(3031). J$^\pi$: γ's to 0$^+$ and 2$^+$.
3030.53 *21*			A h k	XREF: h(3060)k(3031).
3038.73 *13*			E	
3048.45 *17*			E	
3054.50 *10*		274 fs *+17−12*	E gh jK	XREF: g(3090)h(3060)j(3070).
3067.15 *6*	3	274 fs *+17−12*	E gh jK	XREF: g(3090)h(3060)j(3070). J$^\pi$: D+Q γ's to 2$^+$ and 4$^+$.
3071.60 *11*		130 fs *+40−28*	E g	XREF: g(3090).
3091.1 *3*			E g	XREF: g(3090).
3097.6 *3*			E g	XREF: g(3090).
3100.41 *9*	1,2,3	117 fs *+33−24*	E gh K	XREF: g(3090)h(3060). J$^\pi$: D+Q γ to 2$^+$.

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Adopted Levels, Gammas (continued)

^{128}Te Levels (continued)

E(level)	J^π	$T_{1/2}$[#]	XREF	Comments
3101.29 *9*		0.21 ps *+20–8*	E g	XREF: g(3090).
3104.40? *17*		113 fs *+22–17*	E gh	XREF: g(3090)h(3060).
3125.40? *5*			E g	XREF: g(3090).
3135.80 *23*		0.24 ps *+35–10*	E	
3137.43 *19*	2^+	121 fs *+29–21*	E g K	XREF: g(3090)K(3137). J^π: E2 γ to 0^+.
3140.10 *20*	2,3		A E g	XREF: g(3090). J^π: D+Q γ's to $(3)^-$ and 2^+.
3146.4 *9*			E	
3148.35 *10*		0.26 ps *+12–6*	E	
3151.11 *11*	(9^-)		A E H L O	XREF: H(3150). J^π: Q γ to $(7)^-$, high spin ordering in ^{238}U(^{12}C,Fγ).
3166.51 *18*	3^-		E h J	XREF: h(3150)J(3160). J^π: L(p,p′)=3.
3183.28 *20*	$(5)^-$,$(6)^+$		A L	J^π: γ's to 4^+ and $(7)^-$.
3184.84 *13*		51 fs *8*	E h K	XREF: h(3150).
3188.2 *4*		0.10 ps *+12–5*	E	
3195.6 *11*			E	
3199.1 *17*			E K	XREF: K(3210).
3216.59 *19*		76 fs *+83–35*	E	
3219.3 *4*			E	
3221.4 *3*			E	
3249.4 *4*			E k	XREF: k(3250).
3251.0 *4*			E k	XREF: k(3250).
3255.0 *4*			E k	XREF: k(3250).
3286.3 *4*			E K	XREF: K(3282).
3296.46? *8*	$(2^+,3,4^+)$		E jk	XREF: j(3330)k(3296). J^π: γ's to 2^+ and 4^+.
3296.9 *4*			E jk	XREF: j(3330)k(3296).
3303.8 *4*			E jk	XREF: j(3330)k(3296).
3327 *4*			K	E(level): from (p,t).
3345 *5*			jK	XREF: j(3330). E(level): from (p,t).
3384 *5*			K	E(level): from (p,t).
3407 *5*			K	E(level): from (p,t).
3416.30 *16*	$^-$		A	J^π: M1,E2 γ to 3^-,4^-,5^-,6^-,7^-.
3428.96 *23*			A	
3440 *10*			K	E(level): from (p,t).
3460 *10*			K	E(level): from (p,t).
3489.83 *24*			A JK	XREF: J(3530)K(3480).
3508.1[†] *4*	(12^+)[‡]		JKL NO	XREF: J(3530)K(3512). J^π: Q (ΔJ=2) γ to 10^+, high spin ordering in ^{238}U(^{12}C,Fγ).
3519.19 *19*			A j	XREF: j(3530).
3570 *10*			jK	XREF: j(3530). E(level): from (p,t).
3587.8 *3*			A k	XREF: k(3596).
3597.09 *18*			A k	XREF: k(3596).
3607.42? *11*			E	
3637.0 *6*			O	
3690 *10*			K	E(level): from (p,t).
3714.4 *4*	(11^-)		O	J^π: Q (ΔJ=2) γ to (9^-), high spin ordering.
3731.72? *7*			E	
3734.03 *17*			A	
3764 *5*			K	E(level): from (p,t).
3838.4? *5*	$(1,2^+)$		E	J^π: γ's to 0^+ and 2^+.
4035.7 *6*			O	

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Adopted Levels, Gammas (continued)

^{128}Te Levels (continued)

E(level)	J^π	XREF			Comments
4063.10? *17*		E			
4171.5 *6*				0	
4265.2 *6*				0	
4341.7† *4*	(13^-)‡		L	0	J^π: d (ΔJ=1) γ to (12^+), high spin ordering in ^{238}U(^{12}C,Fγ).
4431.2 *5*	(14^+)		L	0	J^π: Q (ΔJ=2) γ to (12^+), high spin ordering in ^{238}U(^{12}C,Fγ).
4527.3 *7*				0	
4668.4 *5*	(14^-)		L	0	J^π: d (ΔJ=1) γ to (12^+), high spin ordering in ^{238}U(^{12}C,Fγ).
4728.8 *6*	(15^-)			0	J^π: Q (ΔJ=2) γ to (13^-), high spin ordering in ^{238}U(^{12}C,Fγ).
5077.5 *9*				0	
5435.8 *6*				0	
5447.7 *7*				0	
5544.8 *10*				0	
5946.5 *8*				0	
6211.8 *10*				0	
7726.8 *6*	1		I		Level excited by resonance fluorescence in ^{128}Te(γ,γ'). J^π: from dipole excitation from 0^+.

† Band(A): yrast band.
‡ From systematics of the yrast band structure in ^{126}Te, ^{128}Te and ^{130}Te, unless otherwise noted.
# From DSAM in (n,n$'\gamma$) unless otherwise noted.

Adopted Levels, Gammas (continued)

γ(^{128}Te)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@e]	α[f]	Comments
743.216	2+	743.22 *2*	100	0.0	0+	E2		0.00288	α(K)exp=0.00245 α(K)=0.00248 *4*; α(L)=0.000322 *5*; α(M)=6.44×10^{-5} *9*; α(N)=1.266×10^{-5} *18*; α(O)=1.347×10^{-6} *19* B(E2)(W.u.)=19.68 *18* α(K)exp: from ^{128}Sb β$^-$ decay (9.05 h).
1497.020	4+	753.82 *2*	100	743.216	2+	E2		0.00278	α(K)exp=0.0025 *3* α(K)=0.00239 *4*; α(L)=0.000311 *5*; α(M)=6.21×10^{-5} *9*; α(N)=1.221×10^{-5} *17*; α(O)=1.299×10^{-6} *19* α(K)exp: from ^{128}Sb β$^-$ decay (9.05 h).
1519.995	2+	776.75 *2*	100 *2*	743.216	2+	M1+E2	+4.7 *2*	0.00262	α(K)=0.00225 *4*; α(L)=0.000291 *4*; α(M)=5.80×10^{-5} *9*; α(N)=1.142×10^{-5} *16*; α(O)=1.219×10^{-6} *17* B(E2)(W.u.)=28 *+7−14*; B(M1)(W.u.)=0.0012 *+3−6*
		1520.02 *5*	3.13 *23*	0.0	0+	E2		6.96×10^{-4}	α(K)=0.000529 *8*; α(L)=6.42×10^{-5} *9*; α(M)=1.273×10^{-5} *18*; α(N)=2.52×10^{-6} *4*; α(O)=2.74×10^{-7} *4* B(E2)(W.u.)=0.032 *+8−16*
1811.13	6+	314.12 *2*	100	1497.020	4+	E2		0.0333	α(K)exp=0.032 *5* α(K)=0.0278 *4*; α(L)=0.00442 *7*; α(M)=0.000895 *13*; α(N)=0.0001733 *25*; α(O)=1.721×10^{-5} *24* B(E2)(W.u.)=9.7 *6* α(K)exp: from ^{128}Sb β$^-$ decay (9.05 h).
1968.485	1+,2+,3+	448.8 *3*	0.38 *17*	1519.995	2+				
		1225.27 *2*	100 *2*	743.216	2+	M1+E2	−0.210 *11*	1.16×10^{-3}	α(K)=0.001001 *14*; α(L)=0.0001210 *17*; α(M)=2.40×10^{-5} *4*; α(N)=4.76×10^{-6} *7*; α(O)=5.22×10^{-7} *8* B(E2)(W.u.)=1.08 *+14−15*; B(M1)(W.u.)=0.055 *5*
1978.80	0+	1235.58 *3*	100	743.216	2+				
2027.77	4+	530.75 *2*	100 *3*	1497.020	4+	M1+E2	−0.24 *2*	0.00806	α(K)=0.00698 *10*; α(L)=0.000869 *13*; α(M)=0.0001729 *25*; α(N)=3.42×10^{-5} *5*; α(O)=3.73×10^{-6} *6* B(E2)(W.u.)=33 *+11−18*; B(M1)(W.u.)=0.24 *+7−13*
		1284.54 *3*	55.2 *16*	743.216	2+	E2		8.71×10^{-4}	α(K)=0.000739 *11*; α(L)=9.06×10^{-5} *13*; α(M)=1.80×10^{-5} *3*; α(N)=3.56×10^{-6} *5*; α(O)=3.86×10^{-7} *6* B(E2)(W.u.)=4.0 *+11−21*
2133.29	5−	322.3[&] *2*	8.3[a] *28*	1811.13	6+				I$_\gamma$: other: 25 *3* in ^{130}Te(^{64}Ni,X).
		636.26 *2*	100[a] *6*	1497.020	4+	E1+M2	+0.020 *6*	1.54×10^{-3}	α(K)exp=0.0013 *3* α(K)=0.001343 *19*; α(L)=0.0001622 *24*; α(M)=3.21×10^{-5} *5*; α(N)=6.34×10^{-6} *9*; α(O)=6.87×10^{-7} *10* α(K)exp: from ^{128}Sb β$^-$ decay (9.05 h).
2163.542	3+	643.56 *2*	100 *3*	1519.995	2+	M1+E2	+3.8 *4*	0.00419	α(K)=0.00360 *6*; α(L)=0.000477 *7*; α(M)=9.53×10^{-5}

$^{128}_{52}Te_{76}$-6

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@e]	α[f]	Comments
									14; α(N)=1.87×10^{-5} *3*; α(O)=1.98×10^{-6} *3* B(E2)(W.u.)=92 *+17−26*; B(M1)(W.u.)=0.0039 *+11−14*
2163.542	3$^+$	666.48 *6*	59 *3*	1497.020	4$^+$	M1+E2	+0.59 *+14−12*	0.00446 *11*	α(K)=0.00386 *10*; α(L)=0.000482 *10*; α(M)=9.60×10^{-5} *19*; α(N)=1.90×10^{-5} *4*; α(O)=2.06×10^{-6} *5* B(E2)(W.u.)=13 *+5−6*; B(M1)(W.u.)=0.024 *+6−8*
		1420.30 *3*	79 *4*	743.216	2$^+$	M1+E2	+0.419 *11*	8.69×10^{-4}	α(K)=0.000712 *10*; α(L)=8.58×10^{-5} *12*; α(M)=1.702×10^{-5} *24*; α(N)=3.37×10^{-6} *5*; α(O)=3.70×10^{-7} *6* B(E2)(W.u.)=0.22 *+5−7*; B(M1)(W.u.)=0.0038 *+7−11*
2193.48	2$^+$	1450.28 *3*	100 *3*	743.216	2$^+$	M1+E2	−0.116 *13*	8.61×10^{-4}	α(K)=0.000697 *10*; α(L)=8.38×10^{-5} *12*; α(M)=1.663×10^{-5} *24*; α(N)=3.30×10^{-6} *5*; α(O)=3.62×10^{-7} *5* B(E2)(W.u.)=0.55 *13*; B(M1)(W.u.)=0.128 *7*
		2193.42 *6*	11.1 *8*	0.0	0$^+$	E2		6.98×10^{-4}	α(K)=0.000267 *4*; α(L)=3.18×10^{-5} *5*; α(M)=6.30×10^{-6} *9*; α(N)=1.247×10^{-6} *18*; α(O)=1.366×10^{-7} *20* B(E2)(W.u.)=0.58 *5*
2217.95	1$^+$,2$^+$,3$^+$	249.24 *9*	7.5 *15*	1968.485	1$^+$,2$^+$,3$^+$				
		697.97 *6*	9.7 *15*	1519.995	2$^+$				
		1474.76 *3*	100 *3*	743.216	2$^+$	M1+E2	+0.16 *16*	8.39×10^{-4} *15*	α(K)=0.000671 *13*; α(L)=8.07×10^{-5} *15*; α(M)=1.60×10^{-5} *3*; α(N)=3.17×10^{-6} *6*; α(O)=3.48×10^{-7} *7* B(E2)(W.u.)=0.1 *+3−1*; B(M1)(W.u.)=0.014 *+18−14*
		2217.68 *13*	4.7 *10*	0.0	0$^+$				
2270.33	3$^+$,4$^+$,5$^+$	773.31 *2*	100	1497.020	4$^+$	M1+E2	+0.25 *+15−8*	0.00327 *8*	α(K)=0.00283 *7*; α(L)=0.000348 *7*; α(M)=6.91×10^{-5} *14*; α(N)=1.37×10^{-5} *3*; α(O)=1.50×10^{-6} *4* B(E2)(W.u.)=18 *+20−18*; B(M1)(W.u.)=0.25 *+4−5*
2308.30	0$^+$	788.29 *8*	39 *4*	1519.995	2$^+$				
		1565.08 *4*	100 *6*	743.216	2$^+$				
2337.68	(7)$^-$	204.4[&] *10*	2.2[a] *5*	2133.29	5$^-$				
		526.57 *4*	100[a] *5*	1811.13	6$^+$	E1+M2	+0.025 *28*	0.00237 *7*	α(K)exp=0.0019 *4* α(K)=0.00206 *6*; α(L)=0.000250 *7*; α(M)=4.96×10^{-5} *15*; α(N)=9.8×10^{-6} *3*; α(O)=1.06×10^{-6} *3*

$^{128}_{52}Te_{76}$-7

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@e]	α[f]	Comments
									B(E1)(W.u.)=7.4×10^{-7} *6*; B(M2)(W.u.)=0.008 *+17−8*
									α(K)exp: from ^{128}Sb β$^-$ decay (9.05 h).
2352.11	2$^+$	1608.88 *3*	100 *3*	743.216	2$^+$	M1+E2	−0.230 *14*	7.55×10^{-4}	α(K)=0.000555 *8*; α(L)=6.66×10^{-5} *10*; α(M)=1.321×10^{-5} *19*; α(N)=2.62×10^{-6} *4*; α(O)=2.88×10^{-7} *4* B(E2)(W.u.)=0.43 *+6−7*; B(M1)(W.u.)=0.0313 *+21−27*
		2352.08 *8*	17.1 *17*	0.0	0$^+$	E2		7.38×10^{-4}	α(K)=0.000236 *4*; α(L)=2.80×10^{-5} *4*; α(M)=5.54×10^{-6} *8*; α(N)=1.098×10^{-6} *16*; α(O)=1.203×10^{-7} *17* B(E2)(W.u.)=0.22 *3*
2395.92	4$^-$	232.43 *9*	2.2 *4*	2163.542	3$^+$	E1+M2	−0.15 *+10−12*	0.026 *15*	α(K)=0.022 *13*; α(L)=0.0030 *20*; α(M)=0.0006 *4*; α(N)=0.00012 *8*; α(O)=1.2×10^{-5} *9*
		262.63 *2*	100 *3*	2133.29	5$^-$	M1+E2	+0.263 *19*	0.0491	α(K)=0.0422 *6*; α(L)=0.00549 *9*; α(M)=0.001097 *17*; α(N)=0.000217 *4*; α(O)=2.33×10^{-5} *4*
		368.16 *8*	7.3 *12*	2027.77	4$^+$	E1+M2	−0.12 *11*	0.007 *3*	α(K)=0.0057 *23*; α(L)=0.0007 *4*; α(M)=0.00014 *7*
2405.30	(4$^+$,5,6$^+$)	593.5 *3*	100[a] *15*	1811.13	6$^+$				
		908.32 *8*	71[a] *9*	1497.020	4$^+$				
2426.00	3$^+$,4$^+$,5$^+$	398.31 *8*	22 *3*	2027.77	4$^+$	M1+E2	+1.18 *20*	0.01615 *24*	α(K)=0.01378 *22*; α(L)=0.00190 *4*; α(M)=0.000381 *7*; α(N)=7.48×10^{-5} *13*; α(O)=7.82×10^{-6} *12* B(E2)(W.u.)=1.8×10^3 *+4−5*; B(M1)(W.u.)=0.30 *+8−9*
		928.97 *3*	100 *4*	1497.020	4$^+$	M1+E2	−0.147 *17*	0.00215	α(K)=0.00187 *3*; α(L)=0.000228 *4*; α(M)=4.52×10^{-5} *7*; α(N)=8.96×10^{-6} *13*; α(O)=9.82×10^{-7} *14* B(E2)(W.u.)=4.3 *+11−12*; B(M1)(W.u.)=0.26 *+3−4*
2.44×10^3	3$^-$	1700 *30*	100	743.216	2$^+$				E_γ: from Coulomb excitation.
2456.75		323.46 *21*	100	2133.29	5$^-$				
2482.22		1738.99 *7*	100	743.216	2$^+$				
2487.44	3$^+$	967.40 *14*	44 *4*	1519.995	2$^+$				
		990.45[g] *4*	100 *8*	1497.020	4$^+$	M1+E2	+0.43 *+25−24*	0.00181 *7*	α(K)=0.00157 *6*; α(L)=0.000192 *7*; α(M)=3.80×10^{-5} *13*; α(N)=7.5×10^{-6} *3*; α(O)=8.2×10^{-7} *3* B(E2)(W.u.)=3 *+4−3*; B(M1)(W.u.)=0.025 *+8−10*
		1744.18 *4*	97 *5*	743.216	2$^+$	M1+E2	+0.268 *21*	7.10×10^{-4}	α(K)=0.000468 *7*; α(L)=5.60×10^{-5} *8*;

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@e]	α[f]	Comments
									α(M)=1.110×10^{-5} *16*; α(N)=2.20×10^{-6} *3*; α(O)=2.42×10^{-7} *4* B(E2)(W.u.)=0.077 *+21−30*; B(M1)(W.u.)=0.0049 *+12−17*
2494.20	(3)$^-$	526.25 *13*	3.5 *4*	1968.485	1$^+$,2$^+$,3$^+$				
		974.21 *28*	5.06 *25*	1519.995	2$^+$				
		1750.94 *3*	100 *3*	743.216	2$^+$	E1+M2	+0.029 *10*	6.47×10^{-4}	α(K)=0.000201 *3*; α(L)=2.37×10^{-5} *4*; α(M)=4.68×10^{-6} *7*; α(N)=9.26×10^{-7} *14*; α(O)=1.015×10^{-7} *15* B(E1)(W.u.)=0.000193 *+19−25*; B(M2)(W.u.)=0.24 *17*
2508.06	2$^+$	1764.83 *4*	100 *4*	743.216	2$^+$	M1+E2	+1.8 *3*	6.61×10^{-4} *11*	α(K)=0.000413 *8*; α(L)=4.96×10^{-5} *9*; α(M)=9.82×10^{-6} *18*; α(N)=1.95×10^{-6} *4*; α(O)=2.13×10^{-7} *4* B(E2)(W.u.)=1.32 *+22−25*; B(M1)(W.u.)=0.0019 *6*
		2508.04 *6*	35 *3*	0.0	0$^+$	E2		7.84×10^{-4}	α(K)=0.000210 *3*; α(L)=2.49×10^{-5} *4*; α(M)=4.94×10^{-6} *7*; α(N)=9.78×10^{-7} *14*; α(O)=1.073×10^{-7} *15* B(E2)(W.u.)=0.104 *+18−20*
2516.64		996.64 *6*	100	1519.995	2$^+$				
2550.52?	3$^+$	1030.40 *15*	26 *3*	1519.995	2$^+$	M1+E2	>5	1.36×10^{-3} *2*	α(K)=0.001178 *18*; α(L)=0.0001473 *22*; α(M)=2.93×10^{-5} *5*; α(N)=5.78×10^{-6} *9*; α(O)=6.24×10^{-7} *10* B(E2)(W.u.)>11; B(M1)(W.u.)<0.00070
		1053.50 *3*	100 *4*	1497.020	4$^+$	M1+E2	+0.03 *6*	1.63×10^{-3}	α(K)=0.001413 *20*; α(L)=0.0001713 *24*; α(M)=3.40×10^{-5} *5*; α(N)=6.74×10^{-6} *10* α(O)=7.39×10^{-7} *11* B(E2)(W.u.)=0.04 *+15−4*; B(M1)(W.u.)=0.065 *+12−15*
		1807.30 *6*	34 *3*	743.216	2$^+$	M1+E2	−0.03 *+12−13*	7.04×10^{-4}	α(K)=0.000438 *7*; α(L)=5.24×10^{-5} *8*; α(M)=1.038×10^{-5} *15*; α(N)=2.06×10^{-6} *3*; α(O)=2.26×10^{-7} *4* B(E2)(W.u.)=0.001 *+7−1*; B(M1)(W.u.)=0.0044 *+9−11* δ=−0.06 *5* or −3.2 *+5−7*.
2571.17	4,5	175.27 *4*	42 *6*	2395.92	4$^-$	D+Q	+0.06 *+7−15*		
		437.86 *4*	100 *8*	2133.29	5$^-$	D+Q	−0.40 *+11−7*	0.0126 *6*	α(K)=0.0108 *6*; α(L)=0.00144 *2*; α(M)=0.00029 *1*
		760.16 *12*	7.9 *23*	1811.13	6$^+$				
		1074.14 *10*	15 *3*	1497.020	4$^+$				
2587.14		249.9 *6*		2337.68	(7)$^-$				
		453.78 *23*		2133.29	5$^-$				
2598.99		193.5[b] *7*	14[c] *7*	2405.30	(4$^+$,5,6$^+$)	(D,E2)			

$^{128}_{52}Te_{76}$-9

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@e]	α[f]	Comments
2598.99		787.86 *4*	100[c] *14*	1811.13	6^+	M1+E2			
		1101.8[b] *8*	5.4[c] *27*	1497.020	4^+				
2630.14	$1^+,2^+,3^+$	1132.90 *18*	8.1 *20*	1497.020	4^+				
		1886.92 *4*	100 *5*	743.216	2^+	M1+E2	+1.91 *11*	6.59×10^{-4}	α(K)=0.000362 *6*; α(L)=4.33×10^{-5} *7*; α(M)=8.59×10^{-6} *13*; α(N)=1.701×10^{-6} *25*; α(O)=1.86×10^{-7} *3* B(E2)(W.u.)=4.7 *6*; B(M1)(W.u.)=0.0069 *11*
2643.28		1900.05 *6*	100	743.216	2^+				
2655.10		249.7[&g] *2*	40[a] *7*	2405.30	$(4^+,5,6^+)$				E_γ: not reported in ^{128}Sb β^- decay (10 min).
		843.9 *5*	100[c] *16*	1811.13	6^+				E_γ: not reported in ^{128}Sb β^- decay (9.01 h).
		1158.3 *5*	79[a] *16*	1497.020	4^+				
2665.31		532.02 *10*	100	2133.29	5^-				
2688.99	(8^+)	283.7[&] *3*	2.5[a] *3*	2405.30	$(4^+,5,6^+)$				
		878.0[&] *4*	100[a] *8*	1811.13	6^+	Q			Mult.: from $\gamma\gamma(\theta)$ in ^{238}U(^{12}C,Fγ).
2701.0		567.67 *32*	100	2133.29	5^-	D+Q	+0.19 *−57+35*		
2706.65	$1^+,2^+,3^+$	1186.7 *2*	9 *3*	1519.995	2^+				
		1963.42 *4*	100 *5*	743.216	2^+	M1+E2	+1.4 *+127−9*	6.70×10^{-4} *22*	α(K)=0.000341 *20*; α(L)=4.07×10^{-5} *24*; α(M)=8.1×10^{-6} *5*; α(N)=1.60×10^{-6} *10*; α(O)=1.75×10^{-7} *11* B(E2)(W.u.)=3 *+20−3*; B(M1)(W.u.)=0.009 *+111−9*
		2706.5 *3*	24 *4*	0.0	0^+				
2712.23?	$1^+,2^+,3^+$	1192.2 *2*	11.1 *24*	1519.995	2^+				
		1969.00 *4*	<100	743.216	2^+	M1+E2	−0.9 *+11−67*	6.80×10^{-4} *25*	α(K)=0.000348 *23*; α(L)=4.2×10^{-5} *3*; α(M)=8.2×10^{-6} *6*; α(N)=1.63×10^{-6} *11*; α(O)=1.79×10^{-7} *13* B(E2)(W.u.)=1.0 *+19−10*; B(M1)(W.u.)=0.007 *+12−7*
		2712.2 *6*	8.2 *22*	0.0	0^+				
2718.80		691.70 *71*		2027.77	4^+				
		1221.75 *12*		1497.020	4^+				
2736.25		602.95 *13*	100	2133.29	5^-				
2748.66	3^+	555.24 *8*	9 *3*	2193.48	2^+	D+Q	+0.06 *+7−6*		
		780.24 *7*	63 *7*	1968.485	$1^+,2^+,3^+$	M1+E2	−0.29 *+13−18*	0.00319 *9*	α(K)=0.00276 *8*; α(L)=0.000339 *8*; α(M)=6.74×10^{-5} *16*; α(N)=1.34×10^{-5} *3*; α(O)=1.46×10^{-6} *4* B(E2)(W.u.)=1.1 *+10−11*; B(M1)(W.u.)=0.012 *+4−9*
		1228.02 *10*	100 *10*	1519.995	2^+	M1+E2	−0.03 *+9−10*	1.16×10^{-3}	α(K)=0.001004 *15*; α(L)=0.0001212 *18*;

$^{128}_{52}Te_{76}$-10

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. @	δ @ e	α f	Comments
									α(M)=2.41×10^{-5} *4*; α(N)=4.77×10^{-6} *7*; α(O)=5.23×10^{-7} *8* B(E2)(W.u.)=0.002 *+13−2*; B(M1)(W.u.)=0.0053 *+17−40*
2748.66	3$^+$	1251.81 *8*	59 *7*	1497.020	4$^+$	M1+E2	−0.03 *19*	1.12×10^{-3} *2*	α(K)=0.000963 *16*; α(L)=0.0001162 *19*; α(M)=2.31×10^{-5} *4*; α(N)=4.57×10^{-6} *8*; α(O)=5.01×10^{-7} *9* B(E2)(W.u.)=0.001 *+15−1*; B(M1)(W.u.)=0.0029 *+10−23*
		2005.45 *5*	86 *7*	743.216	2$^+$	M1+E2	−0.03 *16*	7.00×10^{-4}	α(K)=0.000353 *6*; α(L)=4.21×10^{-5} *6*; α(M)=8.35×10^{-6} *12*; α(N)=1.655×10^{-6} *24*; α(O)=1.82×10^{-7} *3* B(E2)(W.u.)=0.0002 *+17−2*; B(M1)(W.u.)=0.0010 *+4−8*
2749.57		353.65 *21*	100	2395.92	4$^-$	D+Q	+0.06 *+7−6*		
2762.03	3$^-$,4$^-$,5$^-$,6$^-$,7$^-$	357.2 *4*	4.8 a *10*	2405.30	(4$^+$,5,6$^+$)				
		628.75 *9*	100 a *6*	2133.29	5$^-$	M1,E2		0.0049 *5*	α(K)exp=0.0045 *1* α(K)=0.0042 *5*; α(L)=0.00054 *4*; α(M)=0.000108 *8*; α(N)=2.12×10^{-5} *15*; α(O)=2.28×10^{-6} *21* α(K)exp: from ^{128}Sb β$^-$ decay (9.05 h). Mult.: from α(K)exp.
2763.96		1243.96 *13*	19.6 *16*	1519.995	2$^+$				
		2020.73 *17*	3.6 *14*	743.216	2$^+$				
		2763.96 *35*	100.0 *20*	0.0	0$^+$				
2776.86		380.66 *23*		2395.92	4$^-$				
		643.58 *5*		2133.29	5$^-$				
2790.8	(10$^+$)	101.9 # *3*	100	2688.99	(8$^+$)	E2		1.59 *3*	α(exp)=1.7 *2* α(K)=1.116 *19*; α(L)=0.380 *8*; α(M)=0.0793 *16*; α(N)=0.0149 *3*; α(O)=0.001262 *24* B(E2)(W.u.)=1.40 *12* α(exp): from ^{130}Te(^{64}Ni,X). Mult.: from α(exp).
2817.18		683.9 & *3*	100 a	2133.29	5$^-$				
2820.71	(1,2$^+$)	852.26 *11*	45 *10*	1968.485	1$^+$,2$^+$,3$^+$				
		1300.45 *11*	42 *5*	1519.995	2$^+$				
		2077.53 *6*	100 *10*	743.216	2$^+$				
		2821.0 *4*	41 *8*	0.0	0$^+$				
2830.66		802.82 *10*	95.3 *19*	2027.77	4$^+$	D+Q	0.0 *+18−3*		
		2087.62 *17*	100.0 *19*	743.216	2$^+$				
2851.90	(4$^+$,5,6$^+$)	1040.73 *6*	100 *13*	1811.13	6$^+$				

$^{128}_{52}Te_{76}$-11

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. @	δ @ e	α f	Comments
2851.90	(4+,5,6+)	1354.95 *9*	43 *9*	1497.020	4+				
2858.6		1047.5& *4*	100 a	1811.13	6+				E_γ: other: 563.3 *3* in ^{130}Te(^{64}Ni,X).
2861.92		728.63 *17*		2133.29	5−	D+Q	−1.7 *+7−9*		
2869.00?	(1,2+)	675.8 *5*		2193.48	2+				
		890.24 *26*	23 *5*	1978.80	0+				
		900.48 *13*	23 *5*	1968.485	1+,2+,3+	D+Q	−0.5 *+4−29*		
		1349.10 *13*	52 *14*	1519.995	2+				
		2125.59 *17*	49 *13*	743.216	2+				
		2869.0 *3*	100 *19*	0.0	0+				
2884.51	1+,2+,3+	1364.68 *15*	20 *6*	1519.995	2+	M1+E2	−0.8 *+5−12*	0.00089 *7*	α(K)=0.00074 *6*; α(L)=9.0×10^{-5} *7*; α(M)=1.78×10^{-5} *14*; α(N)=3.5×10^{-6} *3*; α(O)=3.9×10^{-7} *3* B(E2)(W.u.)=0.5 *5*; B(M1)(W.u.)=0.0023 *14*
		2141.25 *6*	100 *11*	743.216	2+	M1+E2	−2.5 *+27−20*	0.00069 *3*	α(K)=0.000283 *25*; α(L)=3.4×10^{-5} *3*; α(M)=6.7×10^{-6} *6*; α(N)=1.32×10^{-6} *12*; α(O)=1.45×10^{-7} *14* B(E2)(W.u.)=0.60 *21*; B(M1)(W.u.)=0.0007 *+13−7*
2885.01	5	1074.30 *22*	48.1 *20*	1811.13	6+	D+Q	−8 *+5−19*		
		1387.76 *16*	100.0 *20*	1497.020	4+	D+Q	−0.13 *+10−9*		
2891.46	2+	1371.55 *13*	10 *3*	1519.995	2+				
		1394.45 *34*	8 *5*	1497.020	4+				
		2148.22 *15*	21 *5*	743.216	2+	M1+E2	−0.94 *+60−69*	7.04×10^{-4} *15*	α(K)=0.000293 *12*; α(L)=3.49×10^{-5} *14*; α(M)=6.9×10^{-6} *3*; α(N)=1.37×10^{-6} *6*; α(O)=1.50×10^{-7} *7* B(E2)(W.u.)=0.12 *9*; B(M1)(W.u.)=0.0010 *7*
		2891.34 *12*	100 *8*	0.0	0+	E2		9.05×10^{-4}	α(K)=0.0001645 *23*; α(L)=1.94×10^{-5} *3*; α(M)=3.84×10^{-6} *6*; α(N)=7.61×10^{-7} *11*; α(O)=8.36×10^{-8} *12* B(E2)(W.u.)=0.28 *+5−6*
2901.0		563.3# *3*	100	2337.68	(7)−				
2904.42		876.62 *12*	100 *3*	2027.77	4+	D+Q	+1.44 *25*		
		1384.46 *25*	89 *3*	1519.995	2+				
		2161.36 *44*	27 *3*	743.216	2+				
2912.78		719.5 *3*	43 *10*	2193.48	2+				
		1393.0 *5*	2.6 *7*	1519.995	2+				
		2169.53 *6*	100 *10*	743.216	2+				
2921.55		1401.55 *14*	100 *6*	1519.995	2+				
		2178.5 *24*	18 *6*	743.216	2+				
2923.82		1112.7& *4*	100 a	1811.13	6+				
2931.86?	3+,4+,5+	1434.83 *4*	100	1497.020	4+	M1+E2	+4.0 *3*	7.48×10^{-4}	α(K)=0.000599 *9*; α(L)=7.29×10^{-5} *11*;

$^{128}_{52}Te_{76}$-12

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult. [@]	δ [@e]	α [f]	Comments
									α(M)=1.446×10^{-5} *21*; α(N)=2.86×10^{-6} *4*; α(O)=3.11×10^{-7} *5*
2952.6		1141.5[#] *17*	100	1811.13	6$^+$				
2954.87		1434.85 *6*	100.0 *15*	1519.995	2$^+$				
		2211.71 *15*	48.1 *15*	743.216	2$^+$	D+Q	+0.8 *+22−3*		
2966.9	(8$^-$)	629.2 *4*		2337.68	(7)$^-$	D			Mult.: from γγ(θ) ΔJ=1 in ^{238}U(^{12}C,Fγ).
2969.0		1157.82 *25*		1811.13	6$^+$				
2983.31?	3$^+$	1463.32 *7*	<82	1519.995	2$^+$	M1+E2	−0.8 *+4−7*	0.00080 *4*	α(K)=0.00064 *4*; α(L)=7.7×10^{-5} *5*; α(M)=1.53×10^{-5} *9*; α(N)=3.04×10^{-6} *17*; α(O)=3.32×10^{-7} *19* B(E2)(W.u.)=3 *+4−3*; B(M1)(W.u.)=0.014 *+17−14*
		1486.28 *7*	<100	1497.020	4$^+$	M1+E2	−0.9 *+8−7*	0.00078 *6*	α(K)=0.00061 *5*; α(L)=7.4×10^{-5} *6*; α(M)=1.47×10^{-5} *11*; α(N)=2.91×10^{-6} *23*; α(O)=3.2×10^{-7} *3* B(E2)(W.u.)=4 *+6−4*; B(M1)(W.u.)=0.015 *+21−15*
		2240.0 *3*	23 *6*	743.216	2$^+$				
2985.53		589.61 *9*	100	2395.92	4$^-$				
2997.49		1477.15 *25*	90 *3*	1519.995	2$^+$				
		2997.65 *19*	100 *3*	0.0	0$^+$				
2997.8		1186.7 *3*	100	1811.13	6$^+$				
3030.11	1,2$^+$	836.2 *5*	12 *4*	2193.48	2$^+$				
		2286.88 *8*	100 *14*	743.216	2$^+$	D+Q	−1.6 *+9−46*		
		3030.1 *4*	45 *10*	0.0	0$^+$				
3030.53		692.9[&] *3*	100[a]	2337.68	(7)$^-$				
3038.73		467.71 *23*	100.0 *25*	2571.17	4,5	D+Q	−0.9 *+4−8*		
		905.37 *15*	89.8 *25*	2133.29	5$^-$	D+Q	−0.7 *+3−4*		
3048.45		1551.42 *17*	100	1497.020	4$^+$				
3054.50		1534.48 *12*	100.0 *17*	1519.995	2$^+$				
		2311.3 *2*	55.8 *17*	743.216	2$^+$				
3067.15	3	873.24 *20*		2193.48	2$^+$	D+Q	−0.09 *+18−23*		
		1099.3 *2*		1968.485	1$^+$,2$^+$,3$^+$				
		1547.04 *12*	54 *10*	1519.995	2$^+$	D+Q	+0.09 *+17−15*		
		1570.61 *18*	85 *11*	1497.020	4$^+$	D+Q	−0.4 *+3−48*		
		2323.80 *9*	100 *19*	743.216	2$^+$	D+Q	+0.32 *+26−22*		
3071.60		1551.42 *20*	4.0 *16*	1519.995	2$^+$				
		1574.63 *15*	100 *3*	1497.020	4$^+$	D+Q	−3 *+2−90*		
		2328.5 *3*	57.5 *24*	743.216	2$^+$				
3091.1		957.8 *3*	100	2133.29	5$^-$				
3097.6		1600.6 *3*	100	1497.020	4$^+$				
3100.41	1,2,3	1580.37 *12*	88 *18*	1519.995	2$^+$	D+Q	−4 *+2−12*		
		2357.22 *13*	100 *18*	743.216	2$^+$	D+Q	+1.3 *+14−7*		
3101.29		908.03 *13*	100 *4*	2193.48	2$^+$				
		1132.63 *11*	19 *4*	1968.485	1$^+$,2$^+$,3$^+$				
3104.40?		3104.36 *17*	100	0.0	0$^+$				

$^{128}_{52}Te_{76}$-13

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	δ[@e]	α[f]	Comments
3125.40?		1097.62 *6*	88 *19*	2027.77	4^+				
		1628.39 *8*	100 *13*	1497.020	4^+				
3135.80		1638.77 *23*	100 *3*	1497.020	4^+	D+Q	+0.43 *+58−40*		
		2391.3 *41*	43 *3*	743.216	2^+				
3137.43	2^+	1617.9 *4*		1519.995	2^+				
		2393.8 *3*	70 *13*	743.216	2^+				
		3137.5 *3*	100 *18*	0.0	0^+	E2		9.87×10^{-4}	α(K)=0.0001432 *20*; α(L)=1.686×10^{-5} *24*; α(M)=3.34×10^{-6} *5*; α(N)=6.61×10^{-7} *10* α(O)=7.26×10^{-8} *11* B(E2)(W.u.)=0.24 *+7−8*
3140.10	2,3	645.8[&] *3*		2494.20	$(3)^-$	D+Q	+0.6 *+24−9*		
		802.7 *3*	92 *5*	2337.68	$(7)^-$				
		946.1 *5*	62.4 *5*	2193.48	2^+	D+Q	+0.03 *+48−54*		
		1171.2 *26*	100 *5*	1968.485	$1^+,2^+,3^+$	D+Q	−1.5 *+15−24*		
		2397.3 *55*	20.9 *19*	743.216	2^+				
3146.4		1118.6 *9*	100	2027.77	4^+				
3148.35		1628.25 *11*	100.0 *11*	1519.995	2^+				
		2405.37 *19*	31.6 *11*	743.216	2^+				
3151.11	(9^-)	227.3[&g] *2*	11.5[a] *23*	2923.82					E_γ: observed only in ^{128}Sb β^- decay (9.05 h), non-observation in ^{238}U(^{12}C,Fγ).
		813.6[&] *2*	100[a] *15*	2337.68	$(7)^-$	Q		9.18×10^{-4}	α(K)exp=0.0009 *3* α(K)=0.000799 *12*; α(L)=9.57×10^{-5} *14*; α(M)=1.90×10^{-5} *3*; α(N)=3.75×10^{-6} *6*; α(O)=4.07×10^{-7} *6* α(K)exp: from ^{128}Sb β^- decay (9.05 h). Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ), α(K)exp suggest E1.
		1339.8[&g] *4*	8[a] *8*	1811.13	6^+				E_γ: observed only in ^{128}Sb β^- decay (9.05 h), non-observation in ^{238}U(^{12}C,Fγ).
		2407.60[g] *19*		743.216	2^+				E_γ: observed only in (n,n′γ) in 2012Hi10.
3166.51	3^-	1033.4 *3*		2133.29	5^-				
		1138.63 *22*		2027.77	4^+				
3183.28	$(5)^-,(6)^+$	152.6[&] *3*	20[a] *4*	3030.53					
		366.1[&] *3*	60[a] *12*	2817.18					
		845.8[&] *4*	100[a] *12*	2337.68	$(7)^-$				
		1685.7[&] *5*	20[a] *4*	1497.020	4^+				
3184.84		2441.5 *8*		743.216	2^+				
		3184.80 *13*	100	0.0	0^+				
3188.2		2445.0 *4*	100	743.216	2^+	D+Q	−1.7 *+17−28*		
3195.6		1698.6 *11*	100	1497.020	4^+				
3199.1		1702.1 *17*	100	1497.020	4^+				

$^{128}_{52}Te_{76}$-14

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult. [@]	δ [@e]	α [f]	Comments
3216.59		820.57 *20*	100 *3*	2395.92	4^-	D+Q	+1.1 *+34−7*		
		1697.2 *5*	64 *5*	1519.995	2^+				
3219.3		2476.1 *4*	100	743.216	2^+				
3221.4		1701.2 *13*		1519.995	2^+				
		1724.4 *3*		1497.020	4^+				
3249.4		1729.4 *4*	100	1519.995	2^+				
3251.0		1731.0 *4*	100	1519.995	2^+				
3255.0		1735.0 *4*	100	1519.995	2^+				
3286.3		1766.3 *4*	100	1519.995	2^+				
3296.46?	$(2^+,3,4^+)$	1799.41 *9*	100 *18*	1497.020	4^+				
		2553.3 *2*	47 *12*	743.216	2^+				
3296.9		1776.9 *4*	100	1519.995	2^+				
3303.8		1783.8 *4*	100	1519.995	2^+				
3416.30	$^-$	654.2[&] *2*	100[a] *6*	2762.03	$3^-,4^-,5^-,6^-,7^-$	M1,E2		0.0044 *5*	α(K)exp=0.0054 *15* α(K)=0.0038 *5*; α(L)=0.00049 *4*; α(M)=9.7×10^{-5} *7*; α(N)=1.92×10^{-5} *15*; α(O)=2.06×10^{-6} *20* α(K)exp: from ^{128}Sb β^- decay (9.05 h). Mult.: from α(K)exp.
		1078.6[&] *4*	12[a] *6*	2337.68	$(7)^-$				
3428.96		667.1[&] *3*	100[a] *12*	2762.03	$3^-,4^-,5^-,6^-,7^-$				
		773.7[&] *3*	60[a] *12*	2655.10					
3489.83		459.5[&] *3*	38[a] *8*	3030.53					
		727.6[&] *3*	100[a] *25*	2762.03	$3^-,4^-,5^-,6^-,7^-$				
3508.1	(12^+)	717.4[#] *3*	100	2790.8	(10^+)	Q			Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ).
3519.19		102.8[&] *3*	8.9[a] *22*	3416.30	$^-$				
		1181.6[&] *4*	100[a] *11*	2337.68	$(7)^-$				
		1707.9[&] *5*	6.7[a] *22*	1811.13	6^+				
3587.8		404.3[&] *3*	100[a] *20*	3183.28	$(5)^-,(6)^+$				
		1250.5[&] *4*	1.0×10^2[a] *10*	2337.68	$(7)^-$				
3597.09		445.7[&] *3*	100[a] *20*	3151.11	(9^-)				
		835.8[&] *4*	67[a] *67*	2762.03	$3^-,4^-,5^-,6^-,7^-$				
		860.8[&] *4*	27[a] *7*	2736.25					
		1259.5[&] *4*	67[a] *67*	2337.68	$(7)^-$				
		1785.5[&] *5*	27[a] *7*	1811.13	6^+				
3607.42?		1638.93 *11*	100 *17*	1968.485	$1^+,2^+,3^+$				
		2864.0 *6*	28 *10*	743.216	2^+				
3637.0		670.1[d] *4*		2966.9	(8^-)				

$^{128}_{52}Te_{76}$-15

Adopted Levels, Gammas (continued)

γ(^{128}Te) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[@]	Comments
3714.4	(11$^-$)	563.1[d] *4*		3151.11	(9$^-$)	Q	Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ).
3731.72?		2211.71 *7*	<100	1519.995	2$^+$		
		2988.2 *5*	16 *6*	743.216	2$^+$		
3734.03		214.8[&] *2*	33[a] *7*	3519.19			
		317.7[&] *2*	100[a] *33*	3416.30	$^-$		
		582.9[&] *3*	33[a] *7*	3151.11	(9$^-$)		
		972.3[&] *4*	33[a] *33*	2762.03	3$^-$,4$^-$,5$^-$,6$^-$,7$^-$		
3838.4?	(1,2$^+$)	3095.1 *6*	97 *31*	743.216	2$^+$		
		3838.3 *9*	100 *31*	0.0	0$^+$		
4035.7		527.6[d] *4*		3508.1	(12$^+$)		
4063.10?		2543.1 *2*	48 *18*	1519.995	2$^+$		
		3319.8 *3*	100 *21*	743.216	2$^+$		
4171.5		457.1[d] *5*		3714.4	(11$^-$)		
4265.2		757.1[d] *4*		3508.1	(12$^+$)		
4341.7	(13$^-$)	627.1[d] *5*	22 *9*	3714.4	(11$^-$)		I_γ: from ^{238}U(^{12}C,Fγ).
		833.7[#] *3*	100 *22*	3508.1	(12$^+$)	D	Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ). I_γ: from ^{238}U(^{12}C,Fγ).
4431.2	(14$^+$)	923.1[#] *3*	100	3508.1	(12$^+$)	Q	Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ).
4527.3		262.1[d] *4*		4265.2			
4668.4	(14$^-$)	326.7[#] *3*	100	4341.7	(13$^-$)	D	Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ).
4728.8	(15$^-$)	387.0[d] *4*	5.4 *22*	4341.7	(13$^-$)	Q	Mult.: from γγ(θ) in ^{238}U(^{12}C,Fγ).
5077.5		550.2[d] *5*	1.6 *8*	4527.3			
5435.8		706.9[d] *5*	60 *29*	4728.8	(15$^-$)		I_γ: from ^{238}U(^{12}C,Fγ).
		767.6[d] *5*	10×10^1 *4*	4668.4	(14$^-$)		I_γ: from ^{238}U(^{12}C,Fγ).
5447.7		1016.5[d] *5*	3.2 *15*	4431.2	(14$^+$)		
5544.8		467.3[d] *5*	1.0 *5*	5077.5			
5946.5		1217.7[d] *6*	1.8 *9*	4728.8	(15$^-$)		
6211.8		764.1[d] *7*	1.9 *9*	5447.7			
7726.8	1	5750[‡]		1972			
		6207[‡]		1519.995	2$^+$		
		7724[‡]		0.0	0$^+$		

[†] From (n,n′γ) unless otherwise noted.
[‡] Primary γ of resonance fluorescence in ^{128}Te(γ,γ′).
[#] From (^{64}Ni,X).

Adopted Levels, Gammas (continued)

$\gamma(^{128}Te)$ (continued)

@ Multipolarities and mixing ratios are based on linear polarization measurements and on A_2 and A_4 values in $\gamma(\theta)$ in (n,n′γ), unless otherwise noted.
& From ^{128}Sb β^- decay (9.05 h).
a From ^{128}Sb β^- decay (9.05 h).
b From ^{128}Sb β^- decay (10.41 min).
c From ^{128}Sb β^- decay (10.41 min).
d From $^{238}U(^{12}C,F\gamma)$.
e If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
f 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.
g Placement of transition in the level scheme is uncertain.

$^{128}_{52}Te_{76}$-17

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

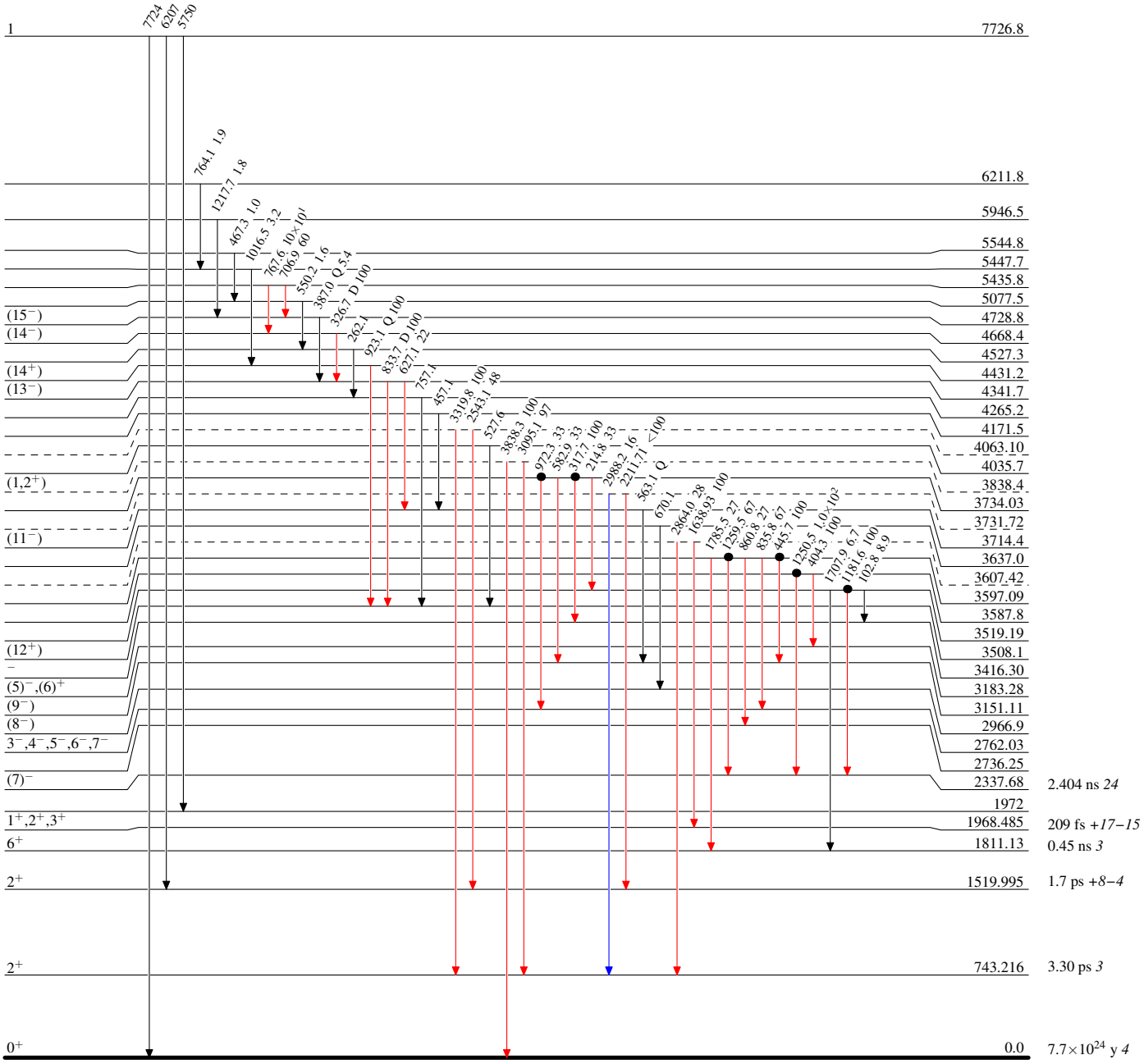
Legend

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

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

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

Coincidence



$^{128}_{52}Te_{76}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

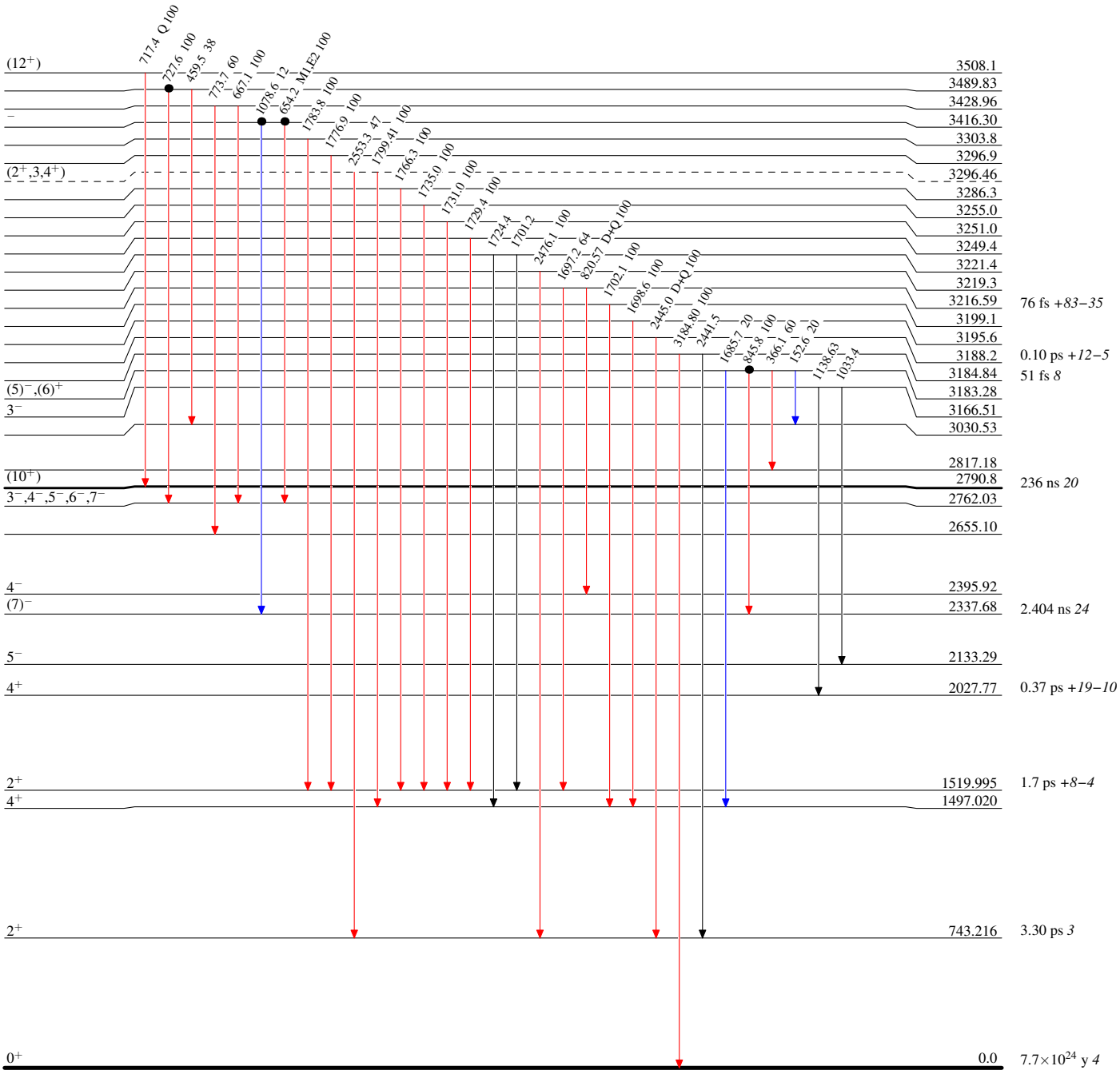
Legend

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

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

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

Coincidence

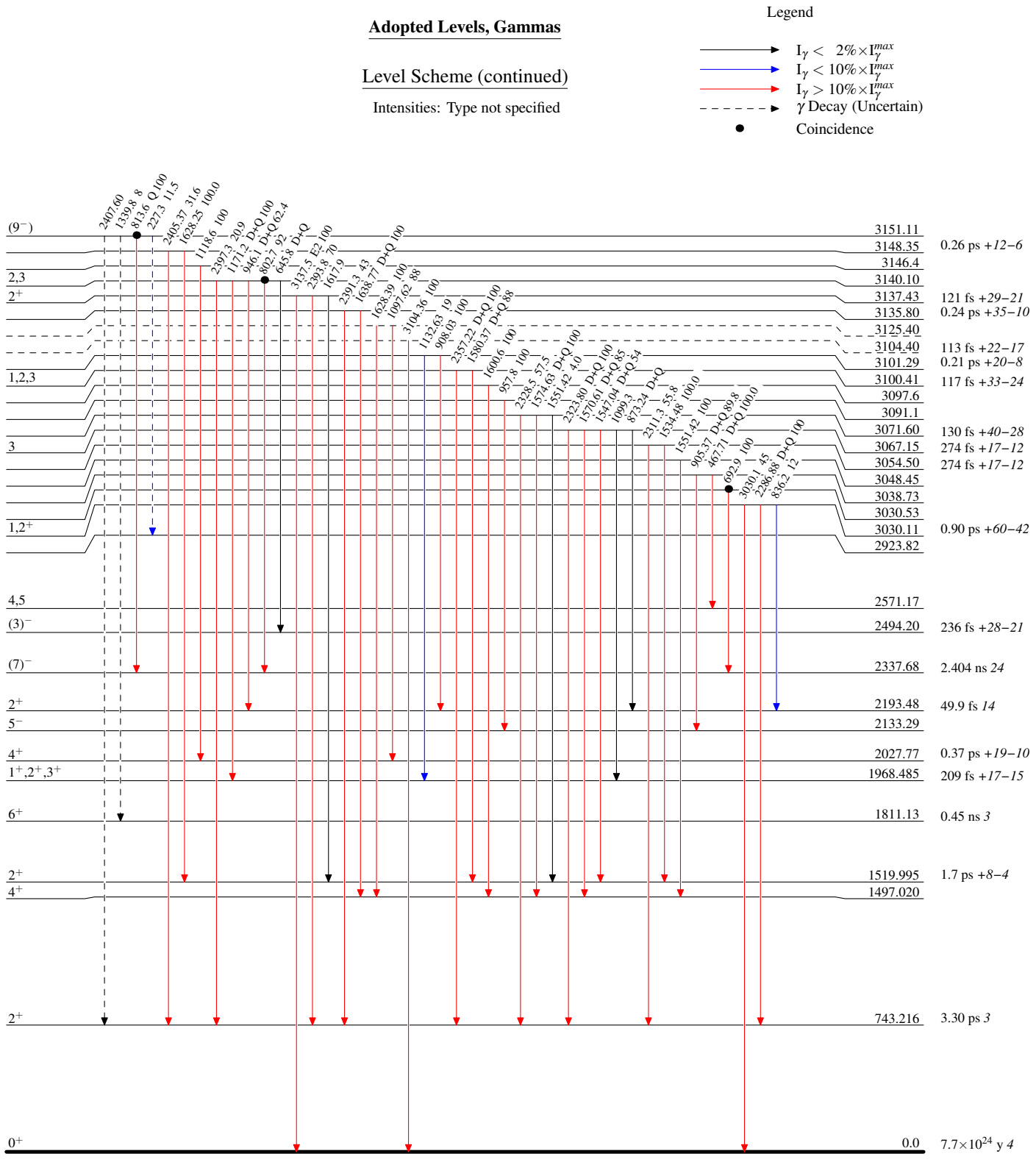


$^{128}_{52}Te_{76}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

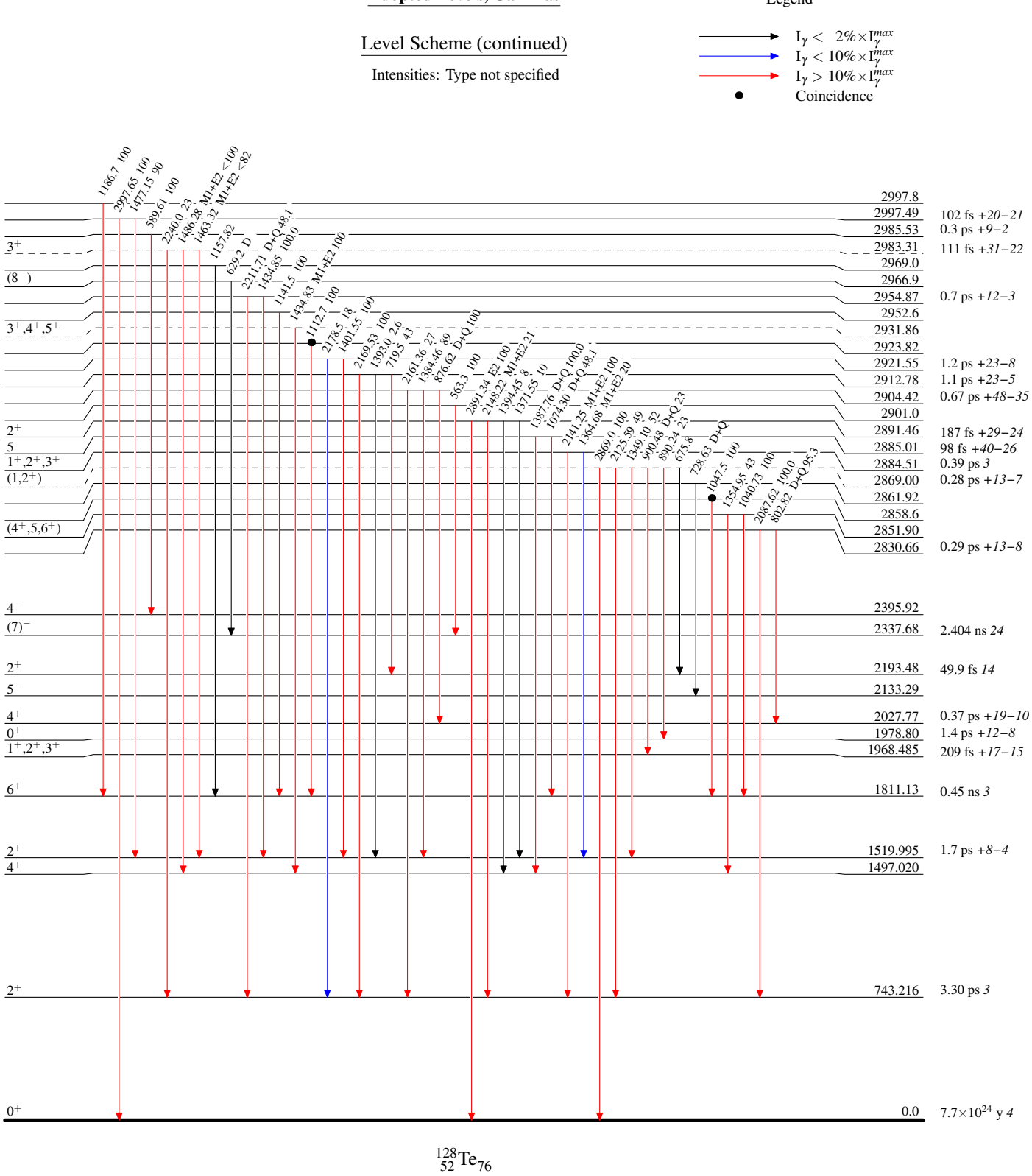


$^{128}_{52}Te_{76}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

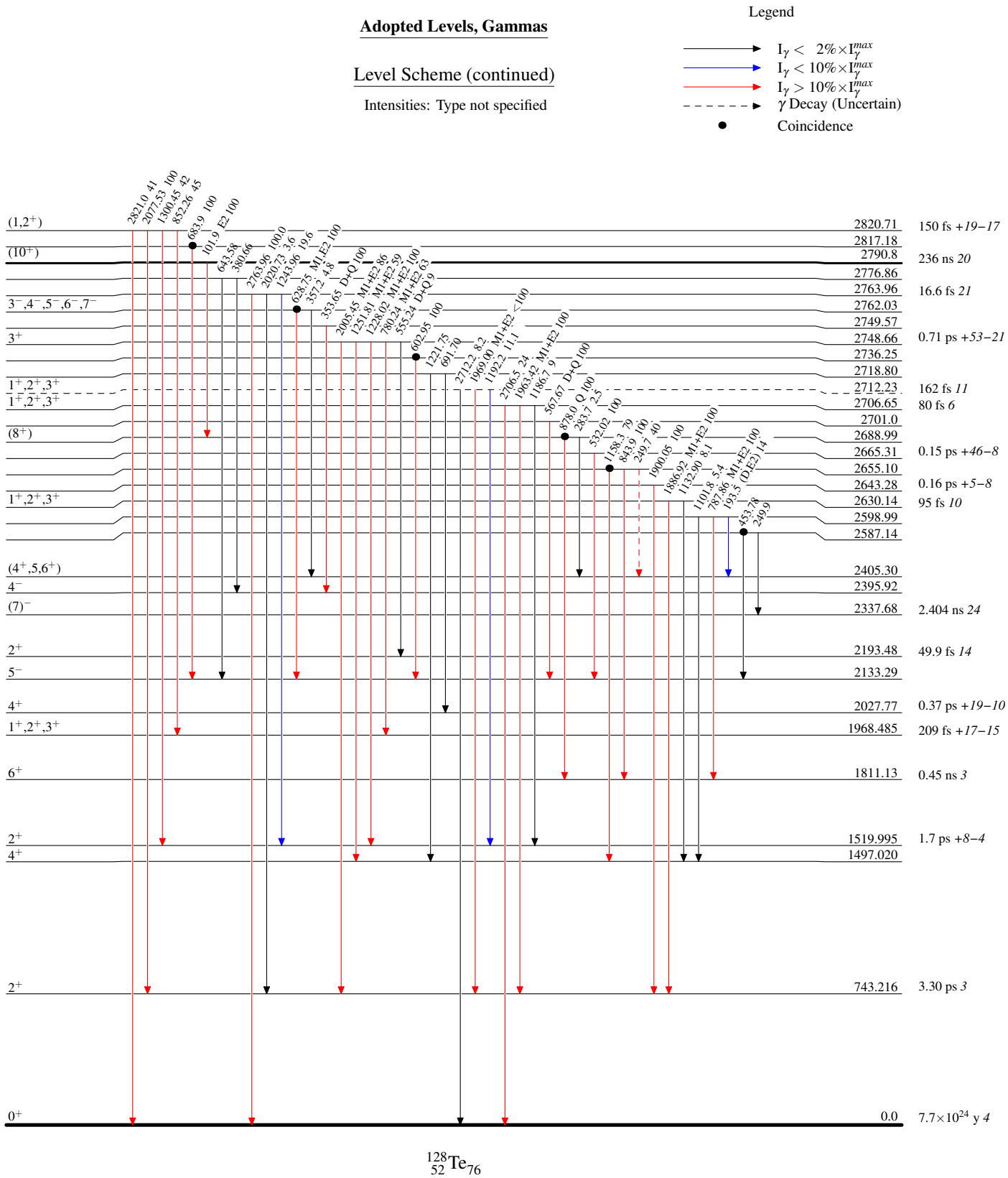


$^{128}_{52}Te_{76}$

Adopted Levels, Gammas

Level Scheme (continued)

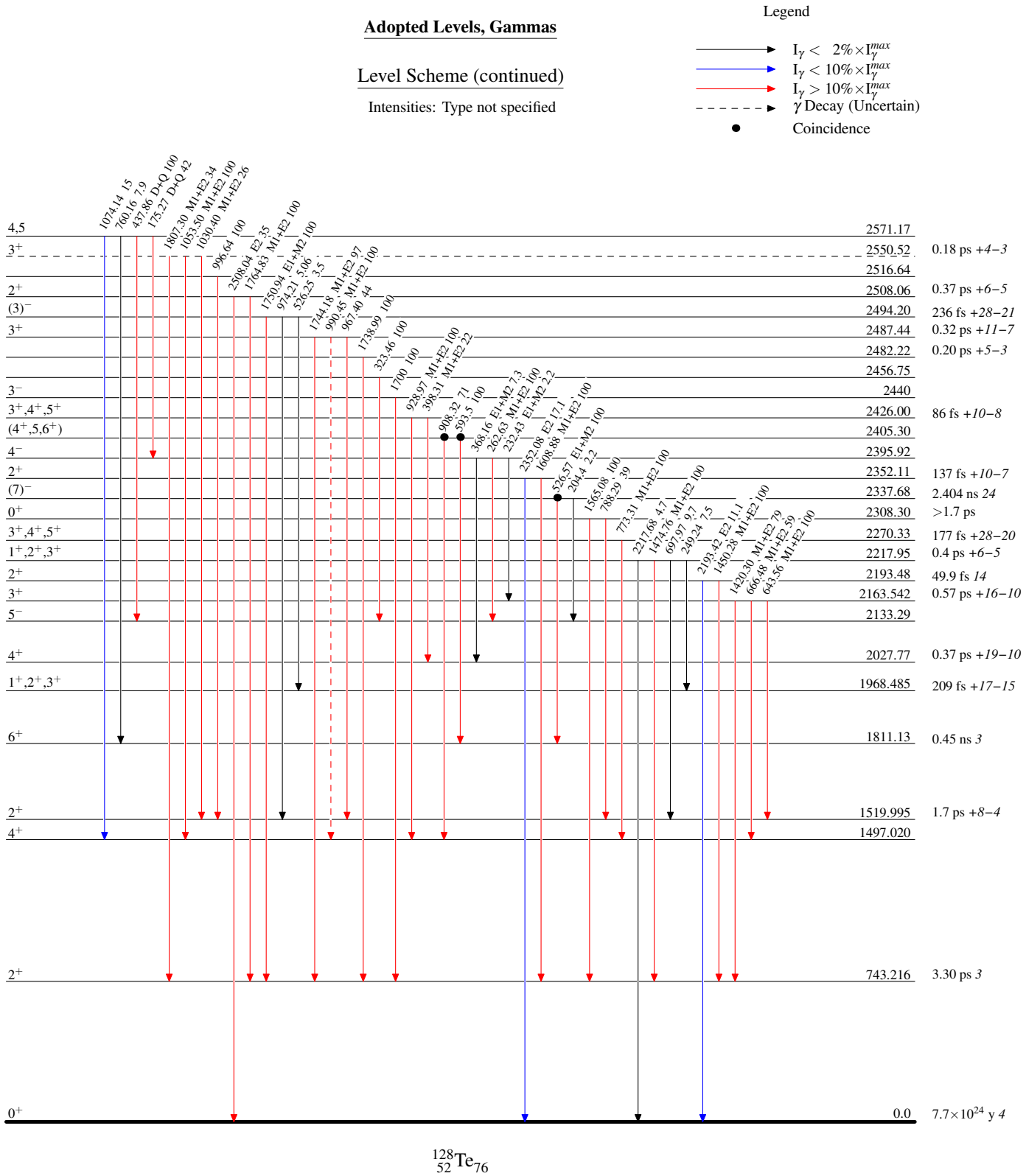
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

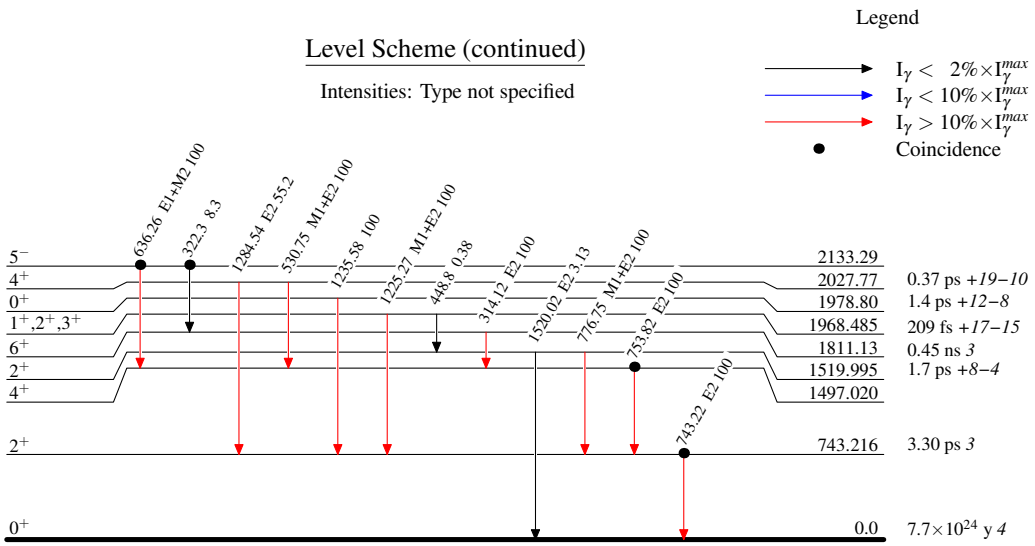


$^{128}_{52}Te_{76}$

Adopted Levels, Gammas

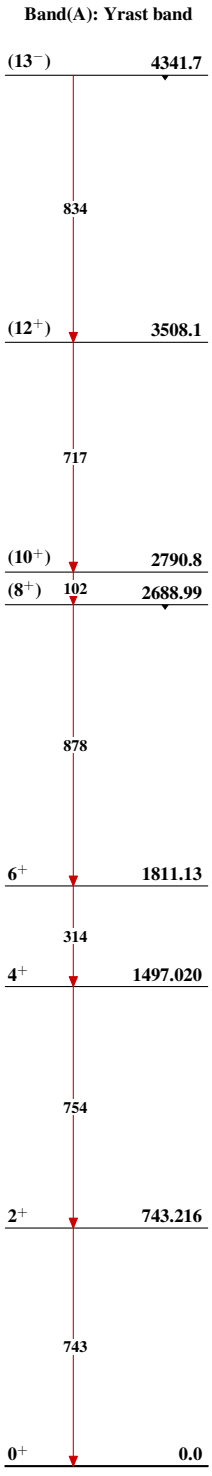
Level Scheme (continued)

Intensities: Type not specified



$^{128}_{52}Te_{76}$

Adopted Levels, Gammas



$^{128}_{52}Te_{76}$