^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04

History

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

1996Ne04: ^{125}Te(α,nγ) E(α)=14.5, 16 MeV; γ, $\gamma\gamma$, $\gamma(\theta)$, $\gamma\gamma(\theta)$.
1988Re03,1984De05: ^{125}Te(α,nγ) E(α)=12.5-20 MeV; γ, $\gamma\gamma$, $\gamma(\theta)$, excitation, semi ce.
1989Zi01: ^{125}Te(α,nγ), 126(α,2nγ); deduced J^π from side-feeding excitation.
1981Go04: ^{128}Te(^{3}He,3nγ) E=20-27 MeV; semi γ, $\gamma\gamma$, $\gamma\gamma$(t) $\gamma(\theta)$, (^{3}He)(γ)(t), excitation, semi ce. ^{126}Te(α,2nγ) E=25.5-27 MeV; semi γ, $\gamma\gamma$, $\gamma(\theta)$, $\gamma\gamma$(t), excitation.
Others: ^{126}Te(α,2nγ) (1969Be04), ^{128}Te(^{3}He,3nγ) (1967Be07), ^{128}Te(α,4nγ) (1965Mo10,1983Ku04).
Dataset includes (^{3}He,3nγ) E3/M2 and δ=0.10 for the other multipolarities.

^{128}Xe Levels

The level scheme is that proposed by 1988Re03 on the basis of $\gamma\gamma$ and Eγ sums.

E(level)	J^π	$T_{1/2}$[†]	E(level)	J^π	$T_{1/2}$[†]
0.0[‡]	0^+	stable	2510.7 *5*	(2)	
442.9[‡] *3*	2^+	<4 ns	2513.0[‡] *5*	8^+	<3 ns
969.6[#] *3*	2^+	<4 ns	2547.1 *5*		
1033.2[‡] *4*	4^+	<4 ns	2553.7 *6*	(5)	
1429.6[@] *4*	3^+		2583.3[&] *4*	7^-	
1583.1 *4*	0^+		2591.9 *6*	$(1,2^+)$	
1603.5[#] *4*	4^+	<6 ns	2595.8 *4*	(4)	
1737.3[‡] *4*	6^+	<4 ns	2601.2 *4*	(5)	
1877.0 *6*	0^+		2608.8 *5*	$(3,4^+)$	
1996.8[@] *4*	5^+		2633.2 *6*	2^+	
1999.7 *4*	$(2)^+$		2643.2 *5*	$(4,5,6^+)$	
2023.1 *4*	(4^+)		2645.9 *4*	(4)	
2127.7 *6*	$1^+,2^+,3^+$	0.12[d] ps *5*	2687.5[b] *6*		
2138.7 *4*	(3^-)		2693.4[b] *5*		
2166.0 *5*	(4)		2698.0 *4*	(6^-)	
2229.3[&] *4*	5^-		2720.1[&] *5*	(6^-)	<5 ns
2252.8 *5*			2730.7[@] *5*		
2272.9 *5*	(2^+)		2734.2 *5*	5,6	
2281.0[#] *4*	$(6)^+$	<4 ns	2735.5[b] *6*		
2305.7 *4*	(3)		2736.7[b] *6*		
2336.1 *4*	(4)		2747.0 *4*	4,5,6	
2361.6 *4*	(3)		2752.0[b] *6*		
2361.8[a] *4*	$(1,2^+)$		2756.4 *4*	$(2^+,3^+,4^+)$	
2388.8 *4*	$(3,4^+)$		2777.0 *5*		
2430.8 *5*	$(1,2^+)$		2779.9 *6*		
2438.8 *4*			2787.3[&] *5*	8^-	63[e] ns *12*
2444.0[b] *6*			2792.0 *5*		
2462.7 *4*	(4)		2794.4 *6*		
2469.7 *4*	3,4,5		2819.9 *4*	(6)	
2469.9 *6*			2820.0 *5*		
2482.1 *5*	(2)		2822.8 *5*	$(5^-,6)$	
2500.9[&] *4*	6^-	<3 ns	2827.9 *6*		
2509.2 *5*	(3)		2839.8[b] *7*		

Continued on next page (footnotes at end of table)

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

^{128}Xe Levels (continued)

E(level)	J$^\pi$	T$_{1/2}$[†]	E(level)	J$^\pi$	T$_{1/2}$[†]	E(level)	J$^\pi$
2842.3 *5*	(5$^-$)		3079.9[b] *5*			3376.5[b] *7*	
2846.5 *6*			3084.5 *5*			3402.9[b] *6*	
2851.5[b] *6*			3113.5 *5*			3417.2[b] *7*	
2864.7[b] *5*			3115.3[&] *6*	9$^-$		3450.4[b] *6*	
2873.8[b] *6*			3133.4[b] *7*			3455.0[b] *6*	
2877.5[b] *6*			3182.3[b] *6*	(6$^-$,7,8$^-$)		3533.2[b] *6*	
2881.4 *6*	5,6,7		3186.7 *6*			3533.7[@] *7*	(9$^+$)
2882.3[b] *6*			3195.7[b] *5*			3542.0[b] *7*	
2892.1[b] *6*			3196.9[a] *7*	10$^+$	<4 ns	3587.6[b] *6*	
2908.7 *5*	(4$^-$,5,6$^+$)		3199.6[b] *6*			3590.6[b] *7*	
2920.1[b] *6*			3204.2[b] *6*			3593.9 *6*	(10$^-$)
2922.2 *6*			3207.8[a] *5*	(9$^-$)		3596.2[b] *7*	
2942.0[b] *6*			3214.4[a] *8*	$^+$		3596.9[b] *8*	
2942.2 *7*	(10$^+$)	<4 ns	3215.6[b] *5*	(6$^+$,7$^-$)		3624.2[b] *6*	
2943.0[b] *5*			3224.8[b] *5*			3636.8[b] *6*	
2944.3 *4*	(4$^+$)		3237.2[b] *6*			3685.5[b] *9*	
2954.9[b] *5*			3237.6 *6*			3694.2[b] *6*	
2974.3 *5*	(8)$^+$		3244.1[b] *6*			3707.8 *7*	(10$^-$)
2980.3 *6*	3,4,5		3250.4 *5*			3751.1[b] *9*	
2981.3[b] *6*			3256.3[b] *7*			3809.6[a] *8*	12$^+$
2985.4[b] *5*	(7)		3259.5[b] *6*			3863.4[b] *6*	
2997.9 *6*	5,6,7		3292.5 *7*			3883[c]	(11,12)
3007.7[b] *6*			3297.7 *7*			3884[c]	(11$^-$)
3013.2[b] *6*			3298.8[b] *5*	(5$^-$,6,7$^-$)		3991[c]	(11$^+$)
3016.2 *6*			3320.6[b] *5*			4006.1[b] *7*	
3026.2[b] *5*	(4$^+$,5,6$^+$)		3323.9[b] *7*			4014[c]	(10)
3042.8 *5*	(3$^+$,4,5$^+$)		3324.6[b] *6*			4055.9[b] *8*	
3050.9[&] *5*	8$^-$		3353.5[b] *7*			4068[c]	(11$^-$)
3068.7[b] *5*			3364.7[‡] *7*	10$^+$		4151.3[b] *7*	
3075.3 *6*			3365.0[b] *6*			4251[c]	(12$^+$)
3077.6[b] *6*			3367.0[b] *6*				

[†] From $\gamma\gamma$(t) (1981Go04).
[‡] Member of g.s. band.
[#] Member of γ-vibrational band.
[@] Member of γ-vibrational band.
[&] Member of negative parity bands based on configuration=(νh$_{11/2}$)(νg$_{7/2}$) or (πh$_{11/2}$)(πd$_{5/2}$).
[a] From 1981Go04.
[b] Reported in 1996Ne04 only.
[c] From 1989Zi01.
[d] From 1997Wi18.
[e] From (328.2γ)(286.4γ)(t) in ^{126}Te(α,2nγ) (1981Go04).

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

γ(^{128}Xe)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[c]	α[d]	Comments
176.9[&] *5*		2822.8	(5$^-$,6)	2645.9	(4)				
204.2 *5*	1.02 *21*	2787.3	8$^-$	2583.3	7$^-$	(M1)		0.1130	α(K)=0.0972 *15*; α(L)=0.01264 *20*; α(M)=0.00257 *4*; α(N)=0.000531 *9*; α(O)=6.64×10^{-5} *11* B(M1)(W.u.)=1.7×10^{-5} *6* A_2=−0.23 *18*, A_4=0.15 *25* (1996Ne04).
222.8[&] *5*		2388.8	(3,4$^+$)	2166.0	(4)				
222.9[&] *5*		2361.6	(3)	2138.7	(3$^-$)				
224.1[&] *5*		2819.9	(6)	2595.8	(4)				
228.3[&] *5*	0.16 *2*	2698.0	(6$^-$)	2469.7	3,4,5				
239.5 *5*		2822.8	(5$^-$,6)	2583.3	7$^-$				
241.2[&] *5*		3215.6	(6$^+$,7$^-$)	2974.3	(8)$^+$				
250.3[&] *5*	<0.21	2720.1	(6$^-$)	2469.7	3,4,5				
259.5 *5*	0.30 *3*	1996.8	5$^+$	1737.3	6$^+$				δ: +1.4 *9* is given in 1996Ne04, but no M indicated.
266.2[&] *5*		2547.1		2281.0	(6)$^+$				
271.7 *5*	6.73 *19*	2500.9	6$^-$	2229.3	5$^-$	M1+E2	−3.1 *+3−8*	0.0572 *9*	α(K)=0.0470 *8*; α(L)=0.00817 *16*; α(M)=0.00169 *4*; α(N)=0.000343 *7*; α(O)=3.93×10^{-5} *7* B(E2)(W.u.)>1.9; B(M1)(W.u.)>1.9×10^{-5} α(K)exp=0.045 *9* (1981Go04); α(K)(E2)=0.0473, α(K)(M1)=0.0459. δ: other: −0.5 *+1−15* (1996Ne04). A_2=−0.618 *21*, A_4=0.04 *3* (1996Ne04). A_2=−0.45 *1*, A_4=0.01 *1* in (^{3}He,3nγ) (1981Go04).
272.2[@] *3*	0.9[a] *2*	3214.4	$^+$	2942.2	(10$^+$)	M1+E2		0.055 *3*	α(K)=0.0460 *11*; α(L)=0.0071 *13*; α(M)=0.0015 *3*; α(N)=0.00030 *6*; α(O)=3.5×10^{-5} *5* α(K)exp=0.075 *25* (1981Go04); α(K)(E2)=0.0471, α(K)(M1)=0.0457. A_2=−0.69 *5*, A_4=0.02 *7* in (^{3}He,3nγ) (1981Go04).
276.2[&] *5*		3250.4		2974.3	(8)$^+$				
277.5[&] *5*		2747.0	4,5,6	2469.7	3,4,5				
286.3 *5*	1.27 *16*	2787.3	8$^-$	2500.9	6$^-$	E2(+M1)		0.0473 *15*	α(K)=0.0398 *6*; α(L)=0.0060 *10*; α(M)=0.00124 *21*; α(N)=0.00025 *4*; α(O)=3.0×10^{-5} *4* α(K)exp=0.030 *10* (1981Go04); α(K)(E2)=0.0401, α(K)(M1)=0.0400. A_2=−0.04 *14*, A_4=0.02 *19* (1996Ne04). A_2=−0.02 *7*, A_4=0.12 *7* in (α,nγ) (1981Go04).
291.7[&] *5*		3068.7		2777.0					
302.4[&] *5*	<0.2	2583.3	7$^-$	2281.0	(6)$^+$				

$^{128}_{54}Xe_{74}$-3

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [c]	α [d]	Comments
309.1[&] *5*		2954.9		2645.9	(4)				
309.8[&] *5*	2.4 *2*	2645.9	(4)	2336.1	(4)				
313.0 *5*	0.99 *12*	2336.1	(4)	2023.1	(4$^+$)	D(+Q)			A_2=0.20 *11*, A_4=0.15 *15* (1996Ne04).
319.5[#] *5*		2601.2	(5)	2281.0	(6)$^+$				
324.0 *5*	4.97 *15*	2462.7	(4)	2138.7	(3$^-$)	D+Q			A_2=−0.516 *24*, A_4=0.02 *3* (1996Ne04).
328.1 *5*	0.8 *2*	3115.3	9$^-$	2787.3	8$^-$	D+Q			I_γ: from 1981Go04, 0.07 *3* (1996Ne04). α(K)exp=0.022 *8* (1981Go04); α(K)(E2)=0.0261, α(K)(M1)=0.0281. A_2=−0.91 *5*, A_4=0.12 *6* in (^{3}He,3nγ) (1981Go04).
329.3[&] *5*		2792.0		2462.7	(4)				
342.9 *5*		2944.3	(4$^+$)	2601.2	(5)				I_γ: 68 *15* for I(481.5γ)=100 *10*.
350.1[&] *5*		2819.9	(6)	2469.7	3,4,5				
353.1[&] *5*		2822.8	(5$^-$,6)	2469.7	3,4,5				
354.0 *5*	1.30 *12*	2583.3	7$^-$	2229.3	5$^-$	E2		0.0248	α(K)=0.0207 *3*; α(L)=0.00332 *5*; α(M)=0.000684 *11*; α(N)=0.0001392 *21*; α(O)=1.624×10^{-5} *24* α(K)exp=0.025 *8* (1981Go04); α(K)(E2)=0.0207, α(K)(M1)=0.0231. A_2=0.45 *9*, A_4=0.06 *12* (1996Ne04); A_2=0.20 *5*, A_4=−0.03 *6* in (^{3}He,3nγ) (1981Go04).
357.2 *5*		2819.9	(6)	2462.7	(4)				
362.0 *5*	0.65 *7*	2698.0	(6$^-$)	2336.1	(4)				
364.4 *5*		3084.5		2720.1	(6$^-$)				
366.5 *5*		2595.8	(4)	2229.3	5$^-$				
376.2[&] *5*		3320.6		2944.3	(4$^+$)				
385.3[&] *5*		2747.0	4,5,6	2361.6	(3)				
386.4[&] *5*		3751.1		3364.7	10$^+$				
386.5[&] *5*		3084.5		2698.0	(6$^-$)				
393.2 *5*	2.04 *12*	1996.8	5$^+$	1603.5	4$^+$	D+Q	+3.9 *+13−4*	0.0182 *1*	δ: other: +2.6 *+32−22* (1996Ne04). A_2=0.35 *5*, A_4=0.18 *7* (1996Ne04).
395.0[&] *5*		3182.3	(6$^-$,7,8$^-$)	2787.3	8$^-$				
396.5 *5*	5.32 *15*	1429.6	3$^+$	1033.2	4$^+$	M1+E2	+2.8 *3*	0.0178 *3*	α(K)=0.01500 *23*; α(L)=0.00227 *4*; α(M)=0.000465 *7*; α(N)=9.51×10^{-5} *14*; α(O)=1.128×10^{-5} *17* α(K)exp=0.023 *8* (1981Go04); α(K)(E2)=0.0147, α(K)(M1)=0.0173. δ: others: +1.0 *+17−5* (1996Ne04),≥+0.11 (1981Go04). A_2=−0.305 *21*, A_4=−0.07 *3* (1996Ne04). A_2=−0.31 *5*, A_4=0.11 *6* in (^{3}He,3nγ) (1981Go04).
407.9[&] *5*		2908.7	(4$^-$,5,6$^+$)	2500.9	6$^-$				

$^{128}_{54}Xe_{74}$-4

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[c]	α[d]	Comments
415.7[&] *5*	0.76 *8*	2438.8		2023.1	(4^+)				δ: −0.9 *+3−7* is given in 1996Ne04 but M is not indicated.
416.8[&] *5*		1999.7	$(2)^+$	1583.1	0^+				
419.6 *5*	0.97 *10*	2023.1	(4^+)	1603.5	4^+	D+Q	−1.1 *+3−4*	0.0160 *4*	A_2=−0.14 *9*, A_4=0.21 *13* (1996Ne04).
424.8[&] *5*		3026.2	$(4^+,5,6^+)$	2601.2	(5)				
429.2 *5*	1.44 *1*	2942.2	(10^+)	2513.0	8^+	E2		0.0151 *13*	α(K)=0.0129 *12*; α(L)=0.00178 *3*; α(M)=0.000362 *6*; α(N)=7.44×10^{-5} *12*; α(O)=9.1×10^{-6} *4* α(K)exp=0.014 *5* (1981Go04); α(K)(E2)=0.0117, α(K)(M1)=0.0142. A_2=0.37 *7*, A_4=0.02 *10* (1996Ne04). A_2=0.18 *1*, A_4=0.02 *1* in (^{3}He,3nγ) (1981Go04). A_2=0.35 *10*, A_4=−0.18 *14* in (α,nγ) (1981Go04).
442.9 *5*	480 *10*	442.9	2^+	0.0	0^+	E2		0.01268	α(K)=0.01068 *16*; α(L)=0.001599 *23*; α(M)=0.000328 *5*; α(N)=6.70×10^{-5} *10*; α(O)=7.96×10^{-6} *12* B(E2)(W.u.)>0.21 A_2=0.111 *5*, A_4=−0.014 *7* (1996Ne04). A_2=0.14 *1*, A_4=−0.02 *1* in (^{3}He,3nγ) (1981Go04). A_2=0.21 *2*, A_4=−0.04 *3* in (α,nγ) (1981Go04). Mult.: Q from $\gamma(\theta)$, E2 from RUL.
449.7[&] *5*	<0.25	2730.7		2281.0	$(6)^+$				
454.0[&] *5*		2954.9		2500.9	6^-				
457.1 *5*	0.78 *10*	2595.8	(4)	2138.7	(3^-)	D+Q			A_2=−0.20 *13*, A_4=0.21 *18* (1996Ne04).
460.1 *5*	28.9 *6*	1429.6	3^+	969.6	2^+	D+Q	+7.8 *8*	0.0114	δ: others: +7.9 *+11−17* (1996Ne04); +6.3 *+32−18* or +0.45 *+8−5* (1981Go04). A_2=0.113 *5*, A_4=0.038 *7* (1996Ne04). A_2=0.21 *5*, A_4=0.08 *6* in (α,nγ) (1981Go04).
461.3 *5*	1.75 *11*	2974.3	$(8)^+$	2513.0	8^+	Q		0.0113	A_2=0.43 *7*, A_4=−0.16 *9* (1996Ne04).
467.6[&] *5*	0.47 *5*	3050.9	8^-	2583.3	7^-				
468.8 *5*	1.35 *10*	2698.0	(6^-)	2229.3	5^-	D+Q	−3.9 *+8−13*	0.0109 *1*	δ: other: −0.3 *+3−49* (1996Ne04). A_2=−0.58 *7*, A_4=0.01 *9* (1996Ne04).
478.2[&] *5*		2839.8		2361.6	(3)				
478.6 *2*	1.3[a] *2*	3593.9	(10^-)	3115.3	9^-	D			E_γ: other: 479.6 (1981Go04). A_2=−0.26 *2*, A_4=−0.04 *3* in (^{3}He,3nγ) (1981Go04).
481.5 *5*		2944.3	(4^+)	2462.7	(4)				
483.9 *5*		2820.0		2336.1	(4)				
484.5[&] *5*		2985.4	(7)	2500.9	6^-				
485.2[&] *5*		2954.9		2469.7	3,4,5				
490.8 *5*	3.49 *13*	2720.1	(6^-)	2229.3	5^-	M1+E2	−1.2 *+7−4*	0.0104 *9*	α(K)=0.0088 *9*; α(L)=0.00121 *5*; α(M)=0.000246 *9*; α(N)=5.07×10^{-5} *20*; α(O)=6.2×10^{-6} *4*

$^{128}_{54}Xe_{74}$-5

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [c]	α [d]	Comments
									B(E2)(W.u.)>0.031; B(M1)(W.u.)>4.6×10^{-6} α(K)exp=0.011 *4* (1981Go04); α(K)(E2)=0.00799, α(K)(M1)=0.0102. A_2=−0.78 *3*, A_4=0.05 *4* (1996Ne04). A_2=−0.43 *3*, A_4=−0.02 *4* in (^{3}He,3nγ) (1981Go04). A_2=−0.87 *9*, A_4=0.17 *10* in (α,nγ) (1981Go04). δ: from $\gamma(\theta)$ (1981Go04). I_γ: other: 12.0 *15* (1981Go04).
491.9 *5*	1.1 *1*	2229.3	5$^-$	1737.3	6$^+$				δ: −0.02 *+6−7* is given in 1996Ne04 but M is not indicated.
504.0[&] *5*		3323.9		2819.9	(6)				
504.2 *5*	3.09 *12*	2500.9	6$^-$	1996.8	5$^+$	E1+M2	+0.02 *+3−6*	0.00290 *8*	α(K)=0.00251 *7*; α(L)=0.000311 *10*; α(M)=6.26×10^{-5} *19*; α(N)=1.29×10^{-5} *4*; α(O)=1.61×10^{-6} *5* B(E1)(W.u.)>2.1×10^{-7} α(K)exp<0.003 (1981Go04); α(K)(E1)=0.00251, α(K)(M2)=0.0304. δ: other: +0.1 *+1−2* (1996Ne04). A_2=−0.10 *3*, A_4=−0.01 *4* (1996Ne04); A_2=−0.10 *7*, A_4=−0.02 *9* in (^{3}He,3nγ) (1981Go04).
515.7[&] *5*		2985.4	(7)	2469.7	3,4,5				
517.8 *5*	1.77 *10*	2747.0	4,5,6	2229.3	5$^-$	D+Q			A_2=0.01 *5*, A_4=−0.06 *7* (1996Ne04).
526.7 *5*	100 *2*	969.6	2$^+$	442.9	2$^+$	M1+E2	+4.4 *7*	0.00788 *12*	α(K)=0.00669 *11*; α(L)=0.000951 *14*; α(M)=0.000194 *3*; α(N)=3.98×10^{-5} *6*; α(O)=4.80×10^{-6} *7* B(E2)(W.u.)>0.066; B(M1)(W.u.)>1.0×10^{-6} α: α(K)exp=0.0059 *12* (1981Go04); α(K)(E2)=0.00660, α(K)(M1)=0.00855. δ: others: 8 *+6−3* (1996Ne04); +5.7 *+24−17* or δ=−0.25 *+5−7* (1981Go04). A_2=0.006 *3*, A_4=0.002 *4* (1996Ne04). A_2=0.03 *3*, A_4=0.03 *3* in (α,nγ) (1981Go04).
532.0 *5*	2.5 *2*	3115.3	9$^-$	2583.3	7$^-$	E2		0.00757	α(K)=0.00642 *10*; α(L)=0.000917 *13*; α(M)=0.000187 *3*; α(N)=3.84×10^{-5} *6*; α(O)=4.62×10^{-6} *7* I_γ: from 1981Go04. α(K)exp=0.008 *3* (1981Go04); α(K)(E2)=0.00642, α(K)(M1)=0.00834. A_2=0.26 *6*, A_4=−0.06 *7* in (^{3}He,3nγ) (1981Go04).
539.1 *5*	0.76 *9*	2819.9	(6)	2281.0	(6)$^+$	D,Q			A_2=0.18 *13*, A_4=−0.19 *18* (1996Ne04).
543.6 *5*	7.14 *17*	2281.0	(6)$^+$	1737.3	6$^+$	M1+E2	+0.18 *+7−3*	0.00901 *14*	α(K)=0.00778 *12*; α(L)=0.000983 *15*; α(M)=0.000199 *3*; α(N)=4.12×10^{-5} *6*; α(O)=5.17×10^{-6} *8* B(E2)(W.u.)>0.00043; B(M1)(W.u.)>2.3×10^{-5} α(K)exp=0.0054 *16* (1981Go04); α(K)(E2)=0.00606,

$^{128}_{54}Xe_{74}$-6

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [c]	α [d]	Comments
									α(K)(M1)=0.00791. δ: other: 0.0 *+8−15* (1996Ne04). A_2=0.137 *14*, A_4=0.002 *19* (1996Ne04). A_2=0.28 *3*, A_4=−0.03 *4* in (^{3}He,3nγ) (1981Go04). A_2=0.34 *13*, A_4=0.06 *15* in (α,nγ) (1981Go04).
549.9 *5*	1.67 *10*	3050.9	8^-	2500.9	6^-	E2		0.00692	α(K)=0.00588 *9*; α(L)=0.000833 *12*; α(M)=0.0001701 *25*; α(N)=3.49×10^{-5} *5*; α(O)=4.21×10^{-6} *6* α(K)exp=0.008 *3* (1981Go04); α(K)(E2)=0.00588, α(K)(M1)=0.00769. A_2=−0.10 *6*, A_4=−0.01 *8* (1996Ne04). A_2=0.05 *2*, A_4=−0.04 *2* in (^{3}He,3nγ) (1981Go04).
550.1[&] *5*		3133.4		2583.3	7^-				
561.3[&] *5*		2842.3	(5^-)	2281.0	$(6)^+$				
561.8 *5*		3292.5		2730.7					
567.2 *5*	15.2 *3*	1996.8	5^+	1429.6	3^+	E2		0.00637	α(K)=0.00541 *8*; α(L)=0.000762 *11*; α(M)=0.0001555 *23*; α(N)=3.19×10^{-5} *5*; α(O)=3.86×10^{-6} *6* α(K)exp=0.0053 *13* (1981Go04); α(K)(E2)=0.00542, α(K)(M1)=0.00713. A_2=0.234 *8*, A_4=−0.041 *11* (1996Ne04). A_2=0.16 *2*, A_4=−0.01 *2* in (^{3}He,3nγ) (1981Go04).
570.0[&] *5*		1999.7	$(2)^+$	1429.6	3^+				
570.4 *5*	16.6 *4*	1603.5	4^+	1033.2	4^+	M1+E2	+1.9 *+3−5*	0.00666 *24*	α(K)=0.00569 *22*; α(L)=0.000777 *19*; α(M)=0.000158 *4*; α(N)=3.26×10^{-5} *8*; α(O)=3.97×10^{-6} *12* B(E2)(W.u.)>0.011; B(M1)(W.u.)>1.2×10^{-6} α(K)exp=0.0058 *17* (1981Go04); α(K)(E2)=0.00534, α(K)(M1)=0.00704. δ: others: +1.7 *3* (1996Ne04); −0.25 *9* or +1.5 *+4−3* (1981Go04). A_2=0.101 *9*, A_4=−0.052 *13* (1996Ne04). A_2=0.12 *1*, A_4=−0.03 *2* in (^{3}He,3nγ) (1981Go04).
572.8 *5*	3.28 *12*	2595.8	(4)	2023.1	(4^+)	D,Q			A_2=0.18 *3*, A_4=−0.02 *4* (1996Ne04).
583.6[&] *5*		3084.5		2500.9	6^-				
583.8[&] *5*		2864.7		2281.0	$(6)^+$				
590.3 *5*	206 *4*	1033.2	4^+	442.9	2^+	E2		0.00573	α(K)=0.00488 *7*; α(L)=0.000681 *10*; α(M)=0.0001388 *20*; α(N)=2.85×10^{-5} *4*; α(O)=3.45×10^{-6} *5* B(E2)(W.u.)>0.051 α(K)exp=0.0046 *5* (1981Go04); α(K)(E2)=0.00488, α(K)(M1)=0.00647. A_2=0.211 *3*, A_4=−0.038 *3* (1996Ne04). A_2=0.21 *2*, A_4=−0.03 *2* in (^{3}He,3nγ) (1981Go04). A_2=0.28 *2*, A_4=−0.04 *3* in (α,nγ) (1981Go04).

$^{128}_{54}Xe_{74}$-7

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

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[c]	α[d]	Comments
593.5 *5*	3.90 *12*	2023.1	(4$^+$)	1429.6	3$^+$	D+Q	+3.9 *+6−8*		A_2=0.35 *3*, A_4=−0.06 *4* (1996Ne04). δ: other: +0.8 *+18−3* (1996Ne04).
612.7[@] *3*	2.1[a] *2*	3809.6	12$^+$	3196.9	10$^+$	E2		0.00520	α(K)=0.00443 *7*; α(L)=0.000614 *9*; α(M)=0.0001250 *18*; α(N)=2.57×10^{-5} *4*; α(O)=3.12×10^{-6} *5* α(K)exp=0.0043 *15* (1981Go04); α(K)(E2)=0.00443, α(K)(M1)=0.00952. A_2=0.26 *4*, A_4=−0.03 *5* in (^{3}He,3nγ) (1981Go04).
613.6 *5*	1.65 *10*	1583.1	0$^+$	969.6	2$^+$				A_2=−0.07 *5*, A_4=0.001 *7* (1996Ne04).
617.7[&] *5*		2756.4	(2$^+$,3$^+$,4$^+$)	2138.7	(3$^-$)				
624.5[@] *3*	0.6[a] *2*	3207.8	(9$^-$)	2583.3	7$^-$				
625.8 *5*	3.38 *12*	2229.3	5$^-$	1603.5	4$^+$	E1+M2	−0.05 *+3−6*	0.00182 *17*	α(K)=0.00158 *14*; α(L)=0.000194 *20*; α(M)=3.9×10^{-5} *4*; α(N)=8.1×10^{-6} *9*; α(O)=1.01×10^{-6} *11* α(K)exp<0.0027 (1981Go04); α(K)(E1)=0.00154, α(K)(M2)=0.0163. δ: other: 0.0 *1* (1996Ne04). A_2=−0.15 *3*, A_4=−0.06 *4* (1996Ne04). A_2=0.14 *7*, A_4=−0.02 *9* in (^{3}He,3nγ) (1981Go04).
634.0 *5*	21.5 *4*	1603.5	4$^+$	969.6	2$^+$	E2		0.00476	α(K)=0.00406 *6*; α(L)=0.000559 *8*; α(M)=0.0001138 *17*; α(N)=2.34×10^{-5} *4*; α(O)=2.84×10^{-6} *4* B(E2)(W.u.)>0.011 α(K)exp=0.0037 *9* (1981Go04); α(K)(E2)=0.00336, α(K)(M1)=0.00454. A_2=0.255 *10*, A_4=0.003 *13* (1996Ne04). A_2=0.17 *4*, A_4=−0.02 *5* in (^{3}He,3nγ) (1981Go04). A_2=0.27 *3*, A_4=−0.02 *4* in (α,nγ) (1981Go04).
641.1[&] *5*		3079.9		2438.8					
646.5 *5*	1.56 *10*	2643.2	(4,5,6$^+$)	1996.8	5$^+$	D+Q			A_2=0.08 *6*, A_4=−0.11 *8* (1996Ne04).
650.8[&] *5*		3113.5		2462.7	(4)				
656.9 *5*	0.6[a] *2*	3707.8	(10$^-$)	3050.9	8$^-$				
661.0[&] *5*		2942.0		2281.0	(6)$^+$				
677.2 *5*	2.67 *11*	2281.0	(6)$^+$	1603.5	4$^+$	D,Q			A_2=0.21 *3*, A_4=−0.01 *5* (1996Ne04).
681.3 *5*		2820.0		2138.7	(3$^-$)				
681.4[&] *5*		3182.3	(6$^-$,7,8$^-$)	2500.9	6$^-$				
683.9[@] *5*	4.7[a] *4*	3196.9	10$^+$	2513.0	8$^+$	E2		0.00393	α(K)=0.00336 *5*; α(L)=0.000456 *7*; α(M)=9.27×10^{-5} *14*; α(N)=1.91×10^{-5} *3*; α(O)=2.33×10^{-6} *4* B(E2)(W.u.)>0.024

$^{128}_{54}Xe_{74}$-8

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	α[d]	Comments
								α(K)exp=0.0048 *12* (1981Go04); α(K)(E2)=0.00406, α(K)(M1)=0.00545. A_2=0.29 *3*, A_4=−0.07 *3* in (^{3}He,3nγ) (1981Go04). A_2=0.20 *15*, A_4=−0.13 *19* in (α,nγ) (1981Go04).
690.8[&] *5*		2920.1		2229.3	5^-			
690.9[&] *5*		4055.9		3365.0				
693.4[&] *5*	<0.27	2974.3	$(8)^+$	2281.0	$(6)^+$			
701.2 *5*	1.38 *12*	2698.0	(6^-)	1996.8	5^+	D+Q		A_2=0.02 *7*, A_4=0.06 *9* (1996Ne04).
704.2 *5*	50.7 *9*	1737.3	6^+	1033.2	4^+	E2	0.00365	α(K)=0.00313 *5*; α(L)=0.000422 *6*; α(M)=8.58×10^{-5} *13*; α(N)=1.765×10^{-5} *25*; α(O)=2.16×10^{-6} *3* B(E2)(W.u.)>0.021 α(K)exp=0.0027 *3* (1981Go04); α(K)(E2)=0.00312, α(K)(M1)=0.00423. A_2=0.263 *4*, A_4=−0.063 *6* (1996Ne04). A_2=0.21 *3*, A_4=−0.02 *4* in (^{3}He,3nγ) (1981Go04). A_2=0.31 *2*, A_4=−0.04 *3* in (α,nγ) (1981Go04).
715.5[&] *5*		3298.8	$(5^-,6,7^-)$	2583.3	7^-			
723.9[&] *5*		2747.0	4,5,6	2023.1	(4^+)			
732.6 *5*		2469.9		1737.3	6^+			
732.7 *5*	3.1 *3*	2336.1	(4)	1603.5	4^+			
733.9 *5*	3.06 *19*	2730.7		1996.8	5^+	D,Q		A_2=0.32 *5*, A_4=−0.06 *7* (1996Ne04).
737.4 *5*	0.83 *10*	2734.2	5,6	1996.8	5^+	D		A_2=0.18 *9*, A_4=0.22 *12* (1996Ne04).
737.4[&] *5*		3320.6		2583.3	7^-			
743.3[&] *5*		3685.5		2942.2	(10^+)			
746.0[&] *5*		3215.6	$(6^+,7^-)$	2469.7	3,4,5			
755.4[&] *5*		3256.3		2500.9	6^-			
767.9 *5*		3237.6		2469.7	3,4,5			
775.6 *5*	7.03 *19*	2513.0	8^+	1737.3	6^+	E2	0.00289	α(K)=0.00248 *4*; α(L)=0.000329 *5*; α(M)=6.69×10^{-5} *10*; α(N)=1.377×10^{-5} *20*; α(O)=1.691×10^{-6} *24* B(E2)(W.u.)>0.017 α(K)exp=0.0019 *3* (1981Go04); α(K)(E2)=0.00248, α(K)(M1)=0.00337. A_2=0.308 *18*, A_4=−0.126 *25* (1996Ne04). A_2=0.28 *3*, A_4=−0.03 *4* in (^{3}He,3nγ) (1981Go04). A_2=0.35 *2*, A_4=−0.07 *3* in (α,nγ) (1981Go04).
784.7 *5*		3297.7		2513.0	8^+			
785.4 *5*	2.42 *11*	2388.8	$(3,4^+)$	1603.5	4^+	D,Q		A_2=0.22 *4*, A_4=0.01 *5* (1996Ne04).
794.3 *5*		3075.3		2281.0	$(6)^+$			
797.8[&] *5*		3298.8	$(5^-,6,7^-)$	2500.9	6^-			
798.9[&] *5*		3079.9		2281.0	$(6)^+$			
803.0 *5*		3533.7	(9^+)	2730.7				

$^{128}_{54}Xe_{74}$-9

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [c]	α [d]	Comments
804.3[&] *5*		2943.0		2138.7	(3^-)				
809.8 *5*	2.83 *12*	2547.1		1737.3	6^+	D,Q			A_2=0.19 *4*, A_4=−0.04 *5* (1996Ne04).
833.9[&] *5*		3417.2		2583.3	7^-				
835.2[&] *5*	0.79 *8*	2438.8		1603.5	4^+				δ: −0.05 *+16−13* is given in 1996Ne04 but M is not indicated.
839.4[&] *5*		3068.7		2229.3	5^-				
840.5[&] *5*		3353.5		2513.0	8^+				
846.0 *5*	6.4 *3*	2583.3	7^-	1737.3	6^+	E1+M2	−0.05 *3*	0.00096 *4*	α(K)=0.00084 *3*; α(L)=0.000102 *4*; α(M)=2.05×10^{-5} *8*; α(N)=4.24×10^{-6} *15*; α(O)=5.31×10^{-7} *19* α(K)exp<0.0009 (1981Go04); α(K)(E1)=0.000821, α(K)(M2)=0.00711. A_2=−0.21 *4*, A_4=0.15 *6* (1996Ne04).
851.7 *5*	1.10 *10*	3364.7	10^+	2513.0	8^+	E2		0.00232	α(K)=0.00200 *3*; α(L)=0.000261 *4*; α(M)=5.30×10^{-5} *8*; α(N)=1.092×10^{-5} *16*; α(O)=1.347×10^{-6} *19* α(K)exp=0.0019 *5* (1981Go04); α(K)(E2)=0.00200, α(K)(M1)=0.00271. A_2=0.11 *8*, A_4=−0.15 *11* (1996Ne04). A_2=0.27 *2*, A_4=−0.02 *3* in (^{3}He,3nγ) (1981Go04).
854.9[&] *5*		3324.6		2469.7	3,4,5				
860.2[&] *5*		3596.9		2736.7					
864.2 *5*	0.95 *10*	2601.2	(5)	1737.3	6^+	D+Q			A_2=−0.10 *9*, A_4=0.10 *13* (1996Ne04).
875.6[&] *5*		3376.5		2500.9	6^-				
876.2 *5*	3.96 *15*	2305.7	(3)	1429.6	3^+	D,Q			A_2=−0.10 *3*, A_4=−0.03 *4* (1996Ne04).
906.5 *5*	5.09 *15*	2336.1	(4)	1429.6	3^+	D+Q			A_2=−0.13 *2*, A_4=0.02 *3* (1996Ne04).
908.5 *5*	0.7 *4*	2645.9	(4)	1737.3	6^+				
914.9[&] *5*		3195.7		2281.0	$(6)^+$				
918.6[&] *5*		3199.6		2281.0	$(6)^+$				
938.9[&] *5*		3077.6		2138.7	(3^-)				
943.6 *5*		2547.1		1603.5	4^+				
947.6[&] *5*		2944.3	(4^+)	1996.8	5^+				I_γ: 53 *26* for I(481.5γ)=100 *10*.
952.0[&] *5*		3224.8		2272.9	(2^+)				
958.7[&] *5*		3542.0		2583.3	7^-				
959.4 *5*		2388.8	$(3,4^+)$	1429.6	3^+				
963.6 *5*	7.86 *20*	1996.8	5^+	1033.2	4^+	D+Q	+1.7 *+1−2*		δ: other: +0.9 *+11−2* (1996Ne04). A_2=0.438 *16*, A_4=0.038 *23* (1996Ne04).
966.5 *5*	1.03 *11*	1999.7	$(2)^+$	1033.2	4^+	D,Q			A_2=0.01 *8*, A_4=0.06 *12* (1996Ne04).
969.6 *5*	26.8 *5*	969.6	2^+	0.0	0^+	E2		1.73×10^{-3}	α(K)=0.001494 *21*; α(L)=0.000192 *3*; α(M)=3.89×10^{-5} *6*; α(N)=8.03×10^{-6} *12*; α(O)=9.95×10^{-7} *14*

$^{128}_{54}Xe_{74}$-10

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

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

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	δ[c]	α[d]	Comments
									B(E2)(W.u.)>0.00090 A_2=0.092 *6*, A_4=−0.015 *8* (1996Ne04). A_2=0.13 *12*, A_4=−0.08 *15* in (α,nγ) (1981Go04). Mult.: Q from $\gamma(\theta)$, E2 from RUL.
974.7[&] *5*		3113.5		2138.7	(3$^-$)				
974.9[&] *5*		3204.2		2229.3	5$^-$				
985.3[&] *5*		3455.0		2469.7	3,4,5				
986.7 *5*	27.5 *5*	1429.6	3$^+$	442.9	2$^+$	M1+E2	+1.7 *1*	0.00181	α(K)=0.001560 *25*; α(L)=0.000198 *3*; α(M)=4.00×10^{-5} *7*; α(N)=8.27×10^{-6} *13*; α(O)=1.031×10^{-6} *16* δ: others: +1.3 *3* (1996Ne04); +1.3 *+9−5* (1981Go04). α(K)exp=0.0020 *5* (1981Go04); α(K)(E2)=0.001440, α(K)(M1)=0.001935. A_2=0.304 *6*, A_4=0.013 *8* (1996Ne04). A_2=0.46 *6*, A_4=0.08 *7* in (α,nγ) (1981Go04).
990.0 *5*	4.65 *15*	2023.1	(4$^+$)	1033.2	4$^+$	D+Q	−1.1 *+1−2*	0.00190 *5*	α(K)=0.00164 *5*; α(L)=0.000206 *5*; α(M)=4.17×10^{-5} *11*; α(N)=8.63×10^{-6} *22*; α(O)=1.08×10^{-6} *3* δ: other: −0.6 *+2−3* (1996Ne04). A_2=−0.009 *23*, A_4=−0.07 *3* (1996Ne04).
992.2 *5*	1.11 *11*	2595.8	(4)	1603.5	4$^+$	D,Q			A_2=0.43 *10*, A_4=0.01 *14* (1996Ne04).
996.9 *5*	0.81 *12*	2734.2	5,6	1737.3	6$^+$	D+Q			A_2=−0.37 *15*, A_4=0.15 *19* (1996Ne04).
1005.2 *5*	0.85 *12*	2608.8	(3,4$^+$)	1603.5	4$^+$	D			A_2=0.47 *10*, A_4=0.21 *14* (1996Ne04).
1009.2 *5*	2.31 *12*	2438.8		1429.6	3$^+$	D,Q		1.59×10^{-3}	α(K)=0.001369 *20*; α(L)=0.0001754 *25*; α(M)=3.55×10^{-5} *5*; α(N)=7.33×10^{-6} *11* α(O)=9.09×10^{-7} *13* A_2=0.35 *4*, A_4=−0.07 *6* (1996Ne04).
1014.4[&] *5*		2444.0		1429.6	3$^+$				
1014.7[&] *5*		2752.0		1737.3	6$^+$				
1014.8[&] *5*		3244.1		2229.3	5$^-$				
1030.2 *5*	6.09 *17*	1999.7	(2)$^+$	969.6	2$^+$	D+Q	+3.4 *2*		A_2=0.066 *18*, A_4=0.02 *3* (1996Ne04).
1033.2[&] *5*	0.84 *8*	2462.7	(4)	1429.6	3$^+$				
1039.5 *5*		2643.2	(4,5,6$^+$)	1603.5	4$^+$				
1039.7[&] *5*		3320.6		2281.0	(6)$^+$				
1042.5[&] *5*	1.8 *2*	2645.9	(4)	1603.5	4$^+$				
1045.9 *5*		3042.8	(3$^+$,4,5$^+$)	1996.8	5$^+$				
1053.5 *5*	6.66 *18*	2023.1	(4$^+$)	969.6	2$^+$	D,Q			A_2=0.148 *19*, A_4=−0.04 *3* (1996Ne04).
1069.6[&] *5*		3298.8	(5$^-$,6,7$^-$)	2229.3	5$^-$				
1077.6[&] *5*		3590.6		2513.0	8$^+$				
1081.2 *5*		2510.7	(2)	1429.6	3$^+$				

$^{128}_{54}Xe_{74}$-11

^{125}Te(α,nγ),^{126}Te(α,2nγ) 1996Ne04 (continued)

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

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	α[d]	Comments
1082.6 *5*	1.43 *12*	2819.9	(6)	1737.3	6^+	D+Q		A_2=0.00 *8*, A_4=−0.01 *11* (1996Ne04).
1084.0[&] *5*		3365.0		2281.0	$(6)^+$			
1089.9[&] *5*		2693.4		1603.5	4^+			
1095.3[&] *5*		3596.2		2500.9	6^-			
1104.9 *5*		2842.3	(5^-)	1737.3	6^+			
1105.4 *5*		2138.7	(3^-)	1033.2	4^+			
1132.0 *5*		2735.5		1603.5	4^+			
1132.7 *5*		2166.0	(4)	1033.2	4^+			
1133.2[&] *5*		2736.7		1603.5	4^+			
1140.2 *5*	2.57 *13*	1583.1	0^+	442.9	2^+			A_2=−0.02 *4*, A_4=−0.07 *6* (1996Ne04).
1144.1 *5*	0.79 *11*	2881.4	5,6,7	1737.3	6^+	D+Q		A_2=−0.39 *13*, A_4=0.01 *17* (1996Ne04).
1160.6 *5*	7.77 *21*	1603.5	4^+	442.9	2^+	Q		A_2=0.195 *16*, A_4=−0.075 *22* (1996Ne04).
1173.5 *5*	0.6 *3*	2777.0		1603.5	4^+			
1184.9 *5*	1.40 *12*	2922.2		1737.3	6^+	D,Q		A_2=−0.18 *8*, A_4=−0.06 *11* (1996Ne04).
1196.1 *5*	22.3 *5*	2229.3	5^-	1033.2	4^+	E1	5.21×10^{-4}	α(K)=0.000428 *6*; α(L)=5.14×10^{-5} *8*; α(M)=1.034×10^{-5} *15*; α(N)=2.14×10^{-6} *3*; α(O)=2.69×10^{-7} *4* α(K)exp=0.00047 *15* (1981Go04); α(K)(E1)=0.000427, α(K)(M2)=0.00291. A_2=−0.180 *7*, A_4=−0.011 *10* (1996Ne04). A_2=−0.33 *4*, A_4=0.04 *4* in (α,nγ) (1981Go04).
1207.0 *5*		2944.3	(4^+)	1737.3	6^+			I_γ: 88 *9* for I(481.5γ)=100 *10*.
1228.3[&] *5*		3367.0		2138.7	(3^-)			
1240.4[&] *5*		3237.2		1996.8	5^+			
1248.1[&] *5*		2985.4	(7)	1737.3	6^+			
1260.6 *5*	1.59 *12*	2997.9	5,6,7	1737.3	6^+	D(+Q)		A_2=0.29 *7*, A_4=0.25 *9* (1996Ne04).
1261.0[&] *5*		2864.7		1603.5	4^+			
1272.5[&] *5*		2305.7	(3)	1033.2	4^+			
1283.2 *5*	2.72 *17*	2252.8		969.6	2^+	D,Q		A_2=0.20 *5*, A_4=0.00 *7* (1996Ne04).
1289.1[&] *5*		3026.2	$(4^+,5,6^+)$	1737.3	6^+			
1302.8 *5*	2.3 *2*	2336.1	(4)	1033.2	4^+			
1303.4 *5*		2272.9	(2^+)	969.6	2^+			
1328.3 *5*	0.8 *2*	2361.6	(3)	1033.2	4^+			A_2=0.31 *13*, A_4=0.20 *19* (1996Ne04).
1336.1 *5*		2305.7	(3)	969.6	2^+			
1342.7[&] *5*		3079.9		1737.3	6^+			
1355.6 *5*	1.95 *13*	2388.8	$(3,4^+)$	1033.2	4^+	D		A_2=−0.20 *7*, A_4=−0.05 *9* (1996Ne04).
1362.4 *5*		2792.0		1429.6	3^+			
1376.1 *5*		3113.5		1737.3	6^+			Other: 1377.1 *5* (1981Go04).
1392.1 *5*	4.28 *15*	2361.6	(3)	969.6	2^+			A_2=−0.19 *3*, A_4=−0.01 *4* (1996Ne04).
1419.2 *5*		2388.8	$(3,4^+)$	969.6	2^+			

$^{128}_{54}Xe_{74}$-12

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

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult. [b]	δ [c]	α [d]	Comments
1429.7 *5*	4.43 *20*	2462.7	(4)	1033.2	4^+	D,Q			A_2=0.17 *5*, A_4=−0.05 *6* (1996Ne04).
1434.1 *5*	1.86 *17*	1877.0	0^+	442.9	2^+	Q			A_2=0.22 *7*, A_4=0.16 *11* (1996Ne04).
1436.5 *5*	6.47 *19*	2469.7	3,4,5	1033.2	4^+	D			A_2=−0.177 *23*, A_4=−0.01 *3* (1996Ne04).
1449.4 *5*		3186.7		1737.3	6^+				
1461.3[#] *5*		2430.8	$(1,2^+)$	969.6	2^+				
1462.5[&] *5*		2892.1		1429.6	3^+				
1476.2[&] *5*		2509.2	(3)	1033.2	4^+				
1493.1[&] *5*		4006.1		2513.0	8^+				
1512.4 *5*		2482.1	(2)	969.6	2^+				
1513.0 *5*		3250.4		1737.3	6^+				1512.6 *5* (1981Go04).
1520.5 *5*	3.53 *19*	2553.7	(5)	1033.2	4^+	D			A_2=0.26 *5*, A_4=0.10 *6* (1996Ne04).
1522.2[&] *5*		3259.5		1737.3	6^+				
1541.1 *5*	1.20 *15*	2510.7	(2)	969.6	2^+	D,Q			A_2=−0.14 *11*, A_4=0.05 *15* (1996Ne04).
1551.7[&] *5*		2981.3		1429.6	3^+				
1568.2 *5*	3.50 *15*	2601.2	(5)	1033.2	4^+	D,Q			A_2=−0.13 *3*, A_4=0.03 *5* (1996Ne04).
1582.4[&] *5*		3863.4		2281.0	$(6)^+$				
1592.2[&] *5*		3195.7		1603.5	4^+				
1612.6 *5*	3.80 *16*	2645.9	(4)	1033.2	4^+	D,Q			A_2=−0.09 *3*, A_4=0.01 *5* (1996Ne04).
1613.4[&] *5*		3042.8	$(3^+,4,5^+)$	1429.6	3^+				
1638.3[&] *5*		4151.3		2513.0	8^+				
1639.2[&] *5*		2608.8	$(3,4^+)$	969.6	2^+				
1654.3[&] *5*		2687.5		1033.2	4^+				
1660.2[&] *5*		2693.4		1033.2	4^+				
1684.8 *5*	7.2 *3*	2127.7	$1^+,2^+,3^+$	442.9	2^+	D,Q			A_2=0.06 *3*, A_4=−0.08 *4* (1996Ne04).
1695.8 *5*	13.15 *33*	2138.7	(3^-)	442.9	2^+	D+Q	−0.05 *5*		δ: other: −0.1 *1* (1996Ne04). A_2=−0.154 *12*, A_4=−0.025 *17* (1996Ne04).
1723.2 *5*	5.45 *23*	2756.4	$(2^+,3^+,4^+)$	1033.2	4^+	D,Q		7.08×10^{-4}	α(K)=0.000468 *7*; α(L)=5.73×10^{-5} *8*; α(M)=1.154×10^{-5} *17*; α(N)=2.39×10^{-6} *4*; α(O)=3.00×10^{-7} *5* A_2=0.37 *3*, A_4=−0.06 *5* (1996Ne04).
1743.8 *5*	1.49 *14*	2777.0		1033.2	4^+	D+Q			A_2=0.03 *8*, A_4=−0.05 *11* (1996Ne04).
1761.2 *5*	1.62 *15*	2794.4		1033.2	4^+	D,Q			A_2=−0.25 *8*, A_4=−0.03 *11* (1996Ne04).
1794.7 *5*	1.06 *14*	2827.9		1033.2	4^+	D,Q			A_2=0.07 *11*, A_4=0.18 *16* (1996Ne04).
1809.3 *5*		2842.3	(5^-)	1033.2	4^+				δ: −0.08 *6* is given in 1996Ne04 but M is not indicated.
1809.9[#] *5*		2252.8		442.9	2^+				
1810.3 *5*	4.8 *3*	2779.9		969.6	2^+	Q			A_2=−0.15 *3*, A_4=0.12 *5* (1996Ne04).
1818.3[&] *5*		2851.5		1033.2	4^+				
1840.6[&] *5*		2873.8		1033.2	4^+				

$^{128}_{54}Xe_{74}$-13

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

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[b]	Comments
1849.1[&] 5		2882.3		1033.2	4$^+$		
1875.4 5		2908.7	(4$^-$,5,6$^+$)	1033.2	4$^+$		
1876.9 5		2846.5		969.6	2$^+$		
1907.9[&] 5		2877.5		969.6	2$^+$		
1909.9[&] 5		2943.0		1033.2	4$^+$		
1918.9[#] 5		2361.8	(1,2$^+$)	442.9	2$^+$		
1947.1 5	1.14 14	2980.3	3,4,5	1033.2	4$^+$	D+Q	A_2=0.40 8, A_4=0.32 11 (1996Ne04).
1956.9[&] 5		3694.2		1737.3	6$^+$		
1974.7[&] 5		2944.3	(4$^+$)	969.6	2$^+$		I_γ: 25 10 for I(481.5γ)=100 10.
1983.0 5	0.97 15	3016.2		1033.2	4$^+$	D,Q	Other: 1982.1 5 (1988Re03). A_2=0.43 14, A_4=0.11 20 (1996Ne04).
1987.8 5	1.34 15	2430.8	(1,2$^+$)	442.9	2$^+$	D	A_2=−0.09 10, A_4=−0.014 7 (1996Ne04).
1993.0[&] 5		3026.2	(4$^+$,5,6$^+$)	1033.2	4$^+$		
2039.3 5	3.63 22	2482.1	(2)	442.9	2$^+$		A_2=0.04 5, A_4=0.07 7 (1996Ne04).
2066.2 5	4.90 20	2509.2	(3)	442.9	2$^+$		A_2=−0.12 3, A_4=−0.06 4 (1996Ne04).
2149.0 5		2591.9	(1,2$^+$)	442.9	2$^+$		
2162.4[&] 5		3195.7		1033.2	4$^+$		
2190.3 5	1.63 15	2633.2	2$^+$	442.9	2$^+$	D+Q	A_2=−0.01 8, A_4=0.04 11 (1996Ne04).
2255.1[&] 5		3224.8		969.6	2$^+$		
2313.4 5		2756.4	(2$^+$,3$^+$,4$^+$)	442.9	2$^+$		
2361.7[#] 5		2361.8	(1,2$^+$)	0.0	0$^+$		
2369.7[&] 5		3402.9		1033.2	4$^+$		
2417.2[&] 5		3450.4		1033.2	4$^+$		
2500.0[&] 5		3533.2		1033.2	4$^+$		
2564.8[&] 5		3007.7		442.9	2$^+$		
2570.3[&] 5		3013.2		442.9	2$^+$		
2591.0[&] 5		3624.2		1033.2	4$^+$		
2603.6[&] 5		3636.8		1033.2	4$^+$		
2618.0[&] 5		3587.6		969.6	2$^+$		

[†] From 1996Ne04, unless otherwise noted. Evaluators assumed 0.5 keV uncertainty.
[‡] From 1996Ne04, unless otherwise noted. No intensities are given in 1984De05, 1988Re03 and 1989Zi01.
[#] From 1988Re03.
[@] From 1981Go04.
[&] Reported in 1996Ne04 only.

$^{128}_{54}Xe_{74}$-14

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

[a] From 1981Go04. Values are from (^{3}He,3n) at 25.8 MeV.
[b] Multipolarities were deduced from $\gamma(\theta)$, $\gamma\gamma(\theta)$, α(K)exp, excitation and partial $T_{1/2}$ values (1981Go04).
[c] From $\gamma\gamma(\theta)$ (1996Ne04,1997Wi18). Others are from $\gamma(\theta)$ (1996Ne04,1981Go04).
[d] 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.

$^{128}_{54}Xe_{74}$-15

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme

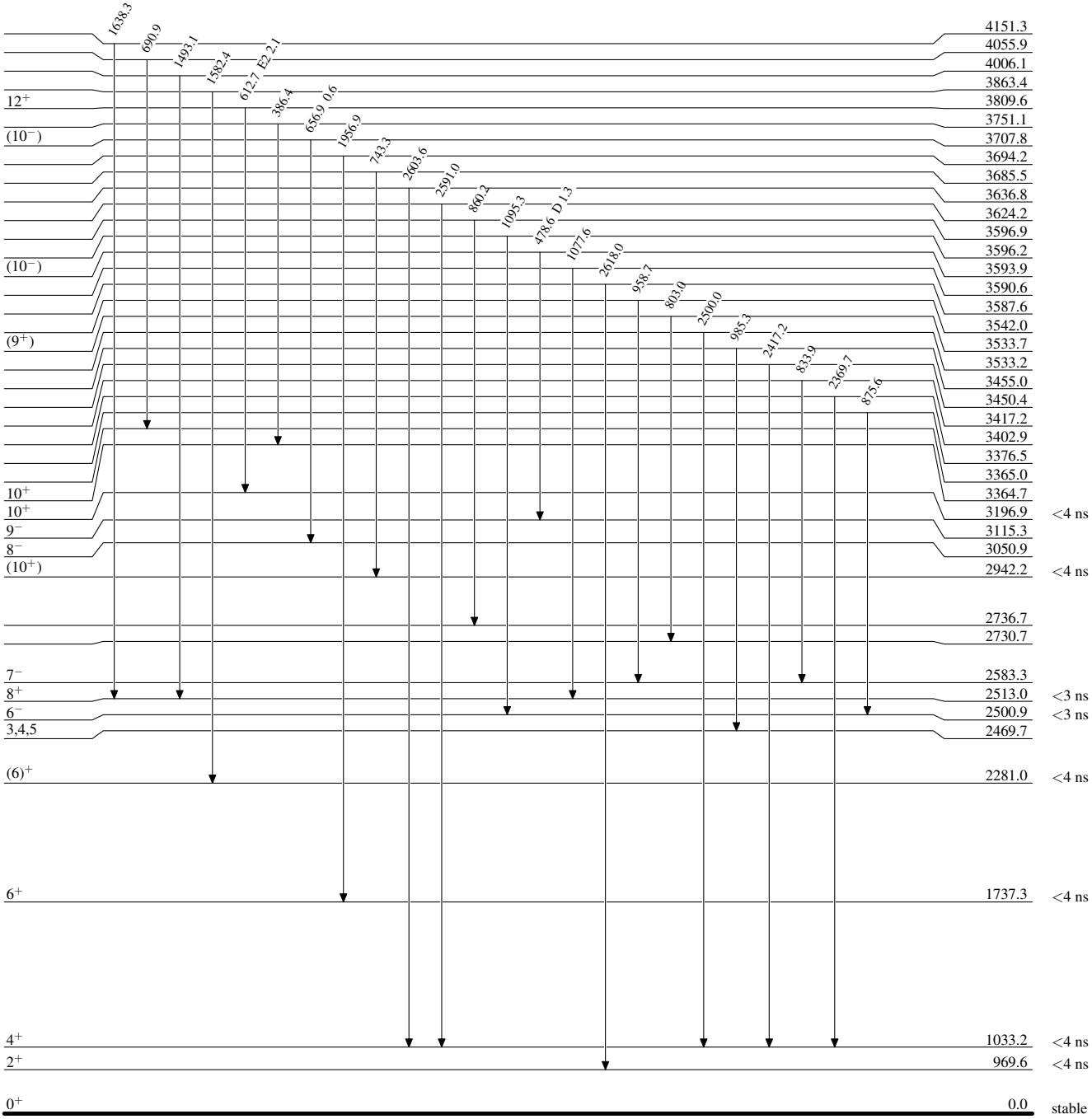
Intensities: Type not specified

Legend

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

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

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

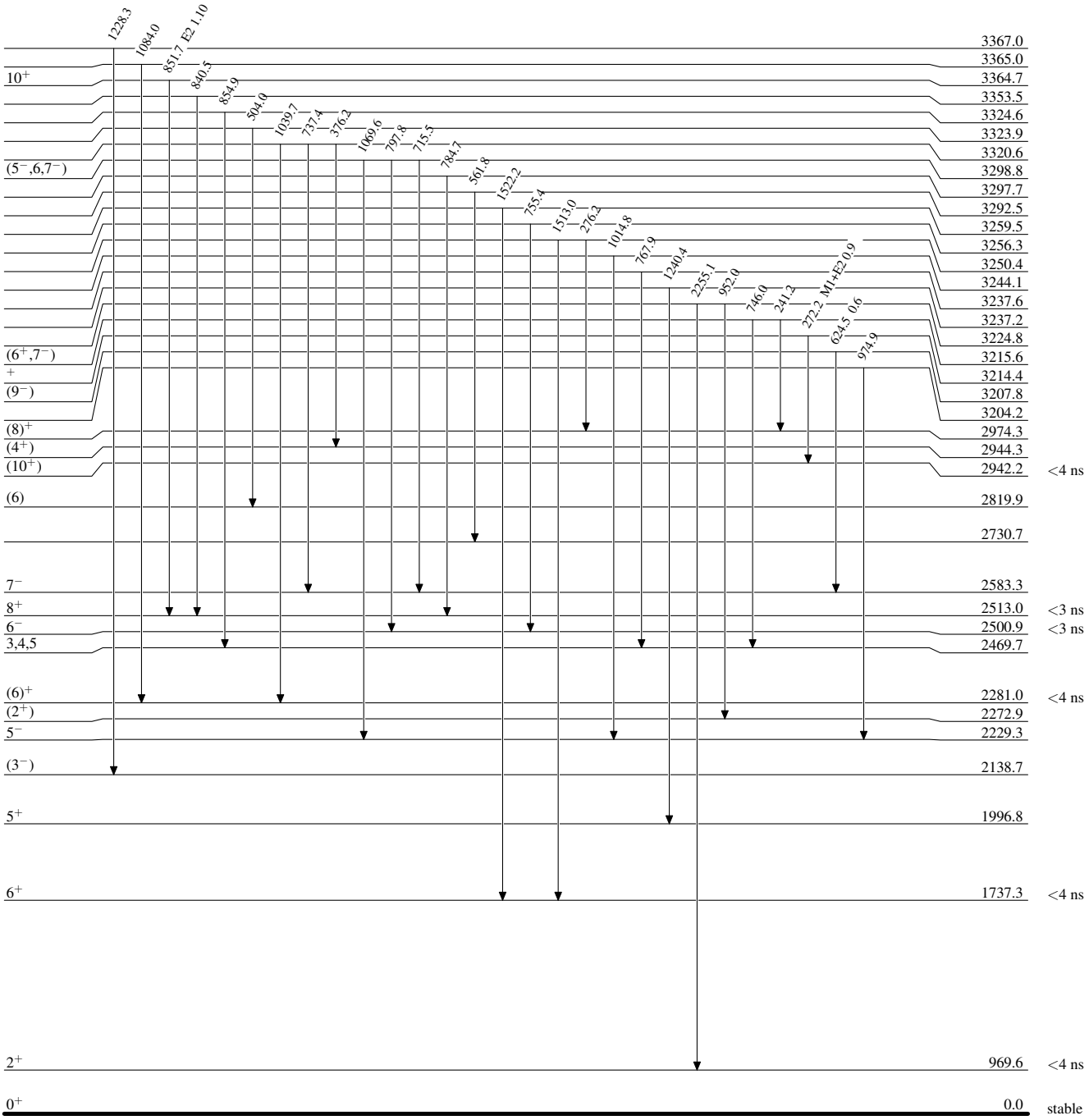


$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified



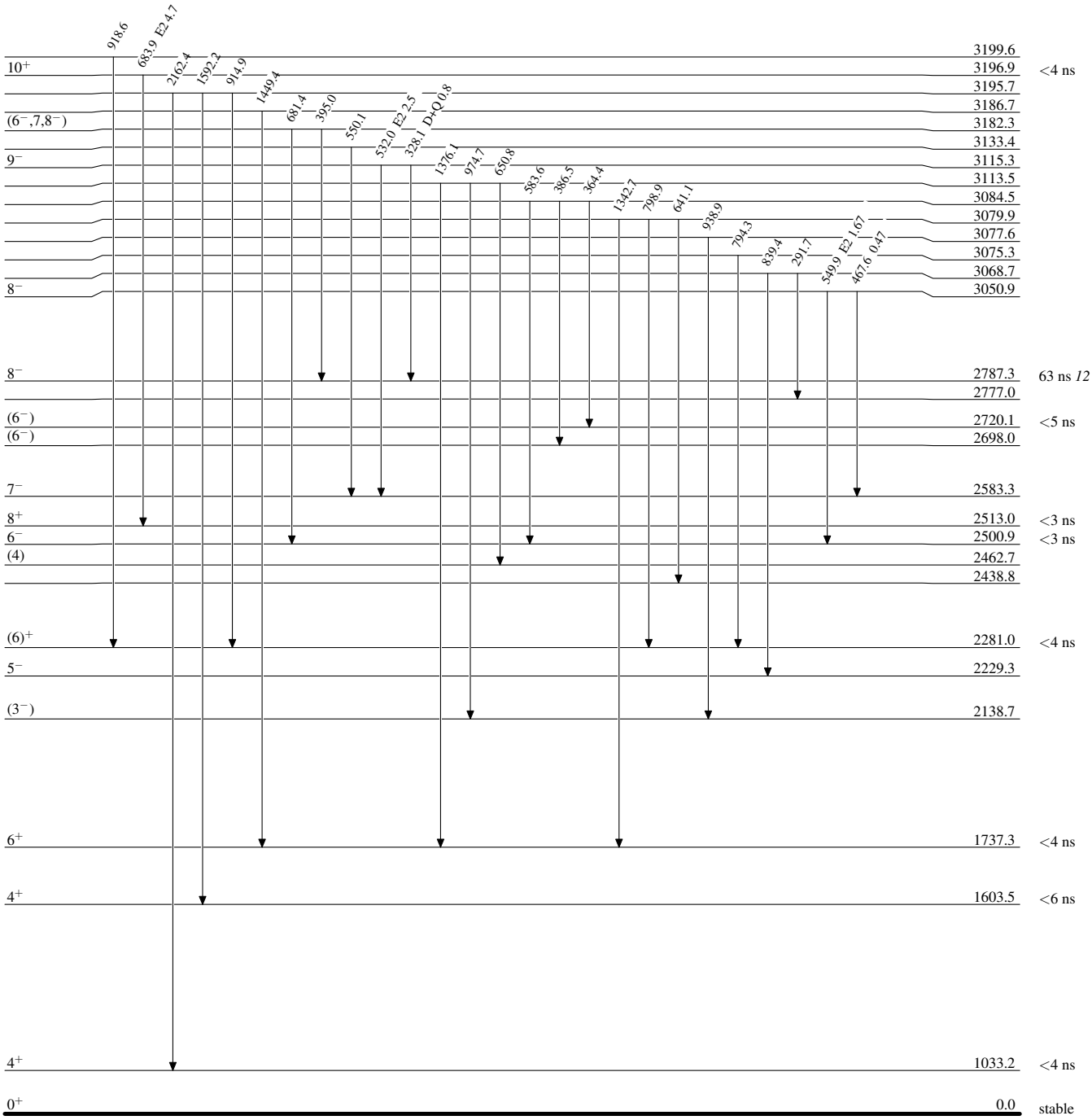
$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified

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

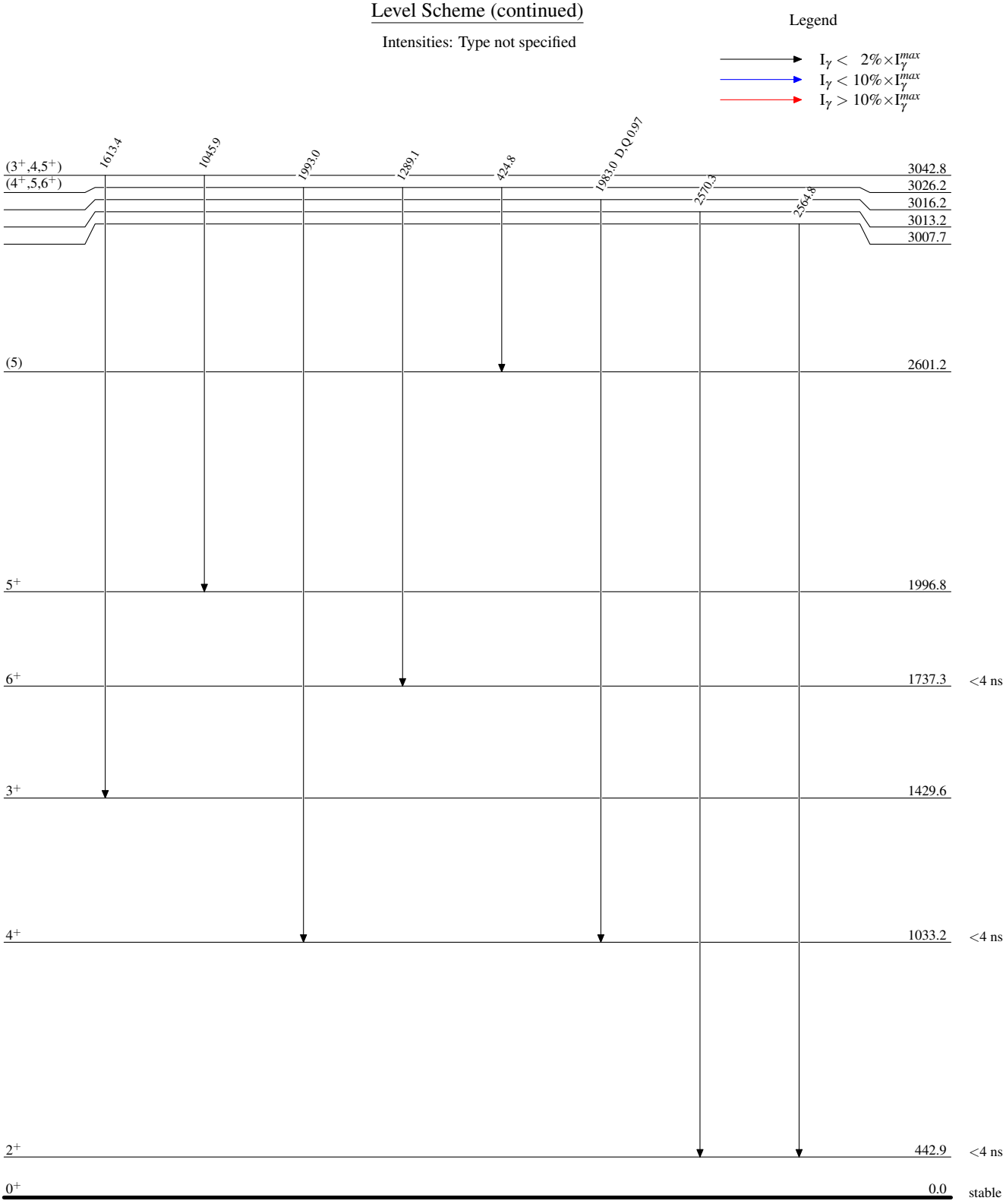


$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified

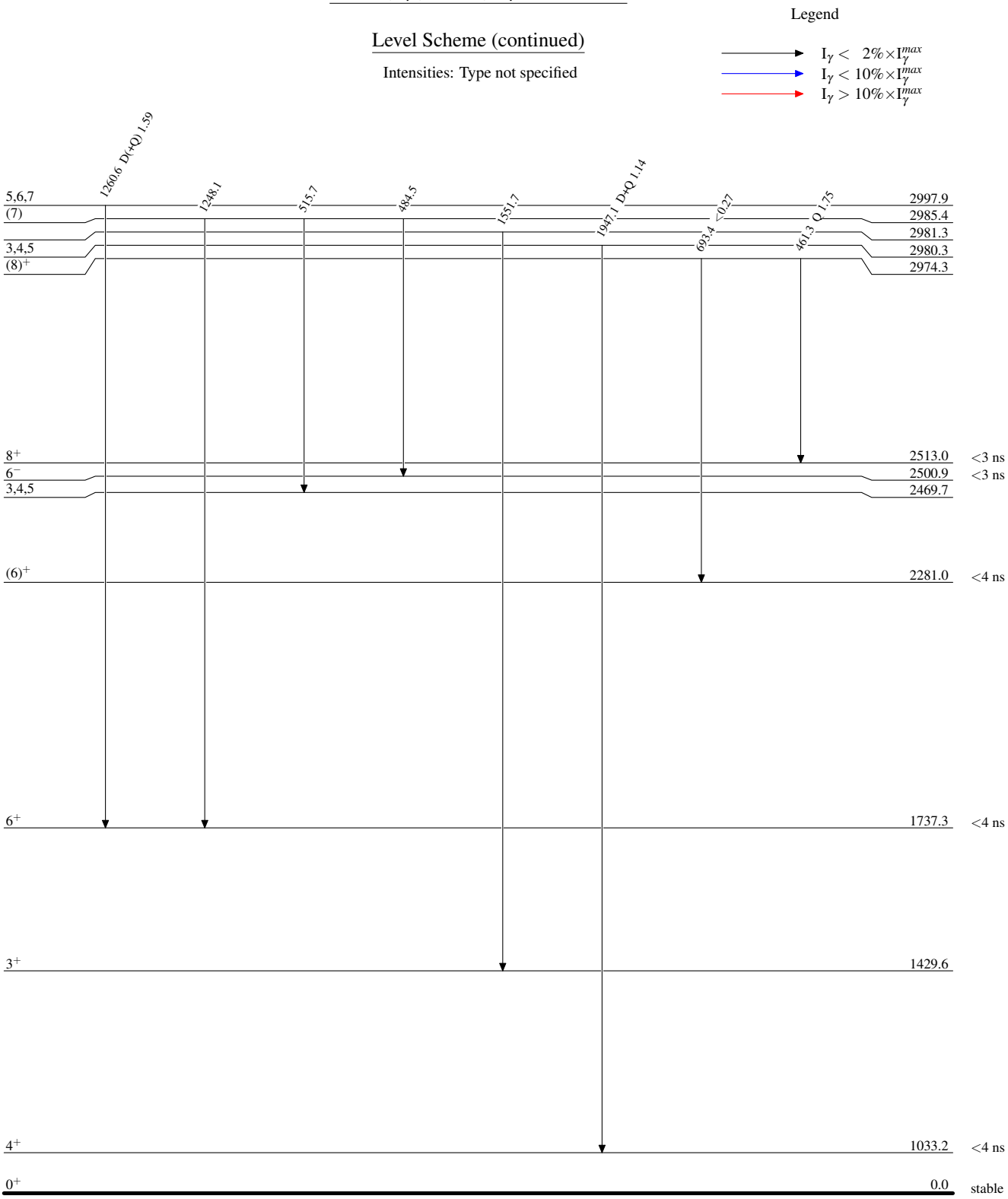


$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified

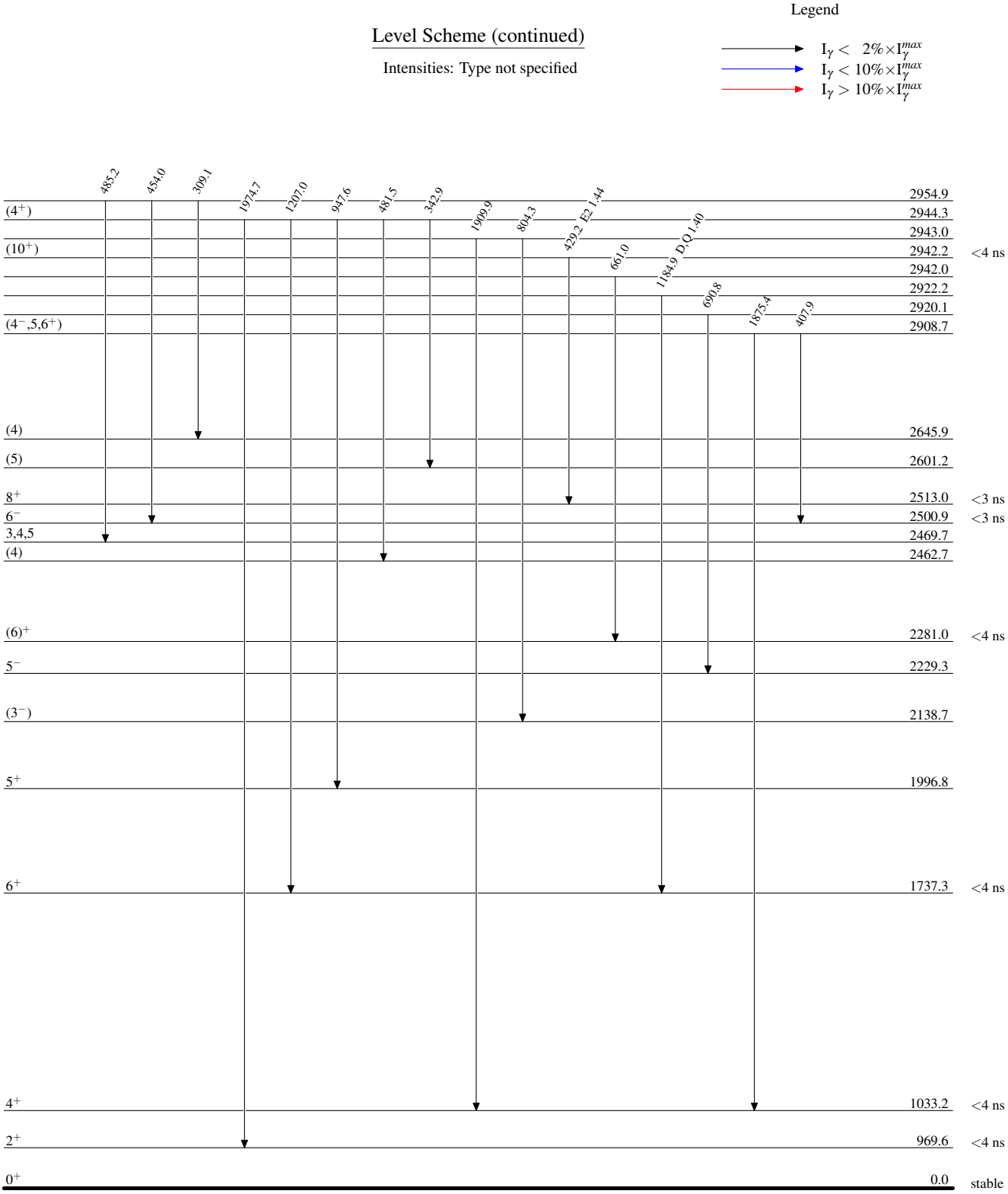


$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified



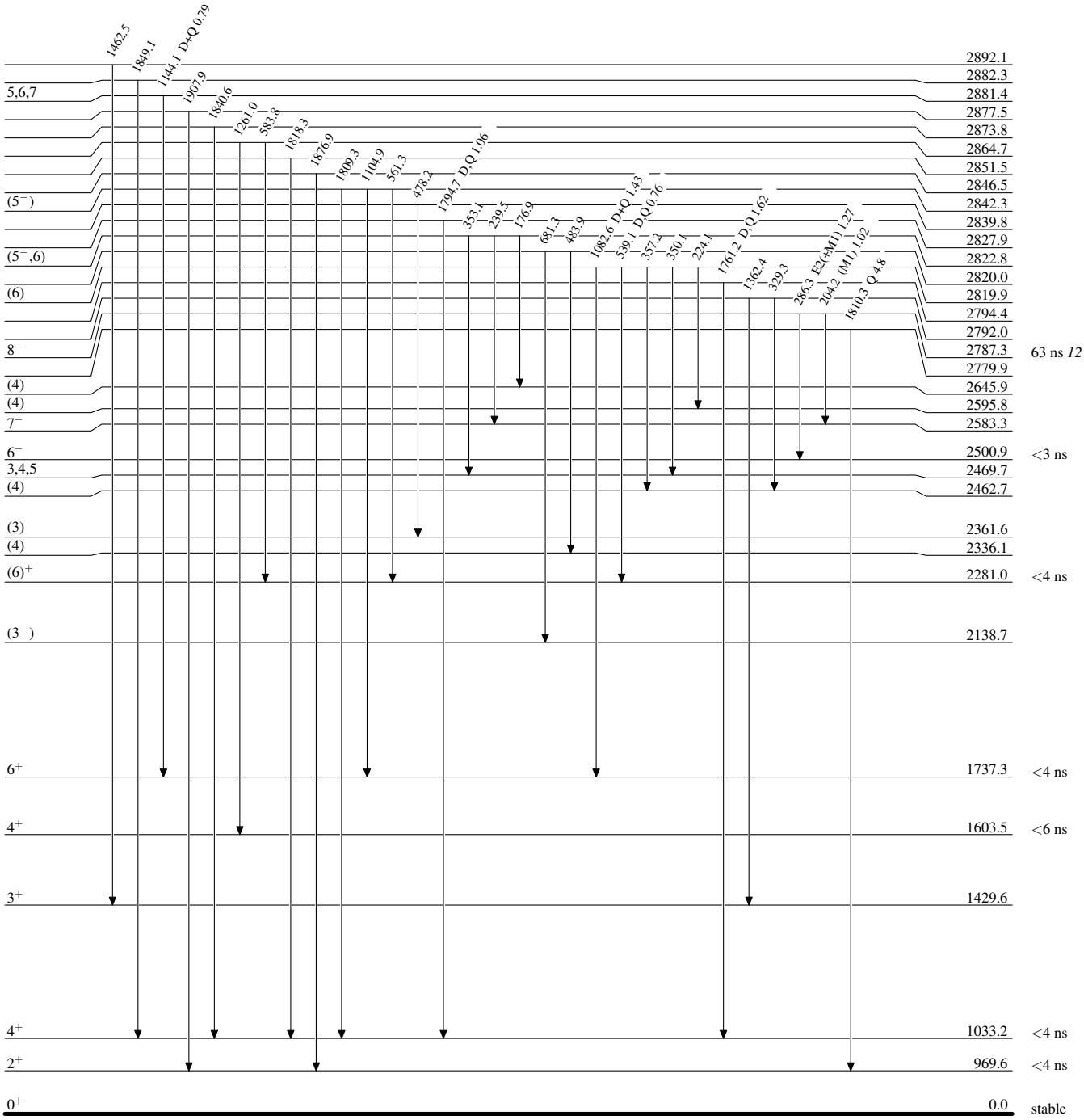
$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified

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



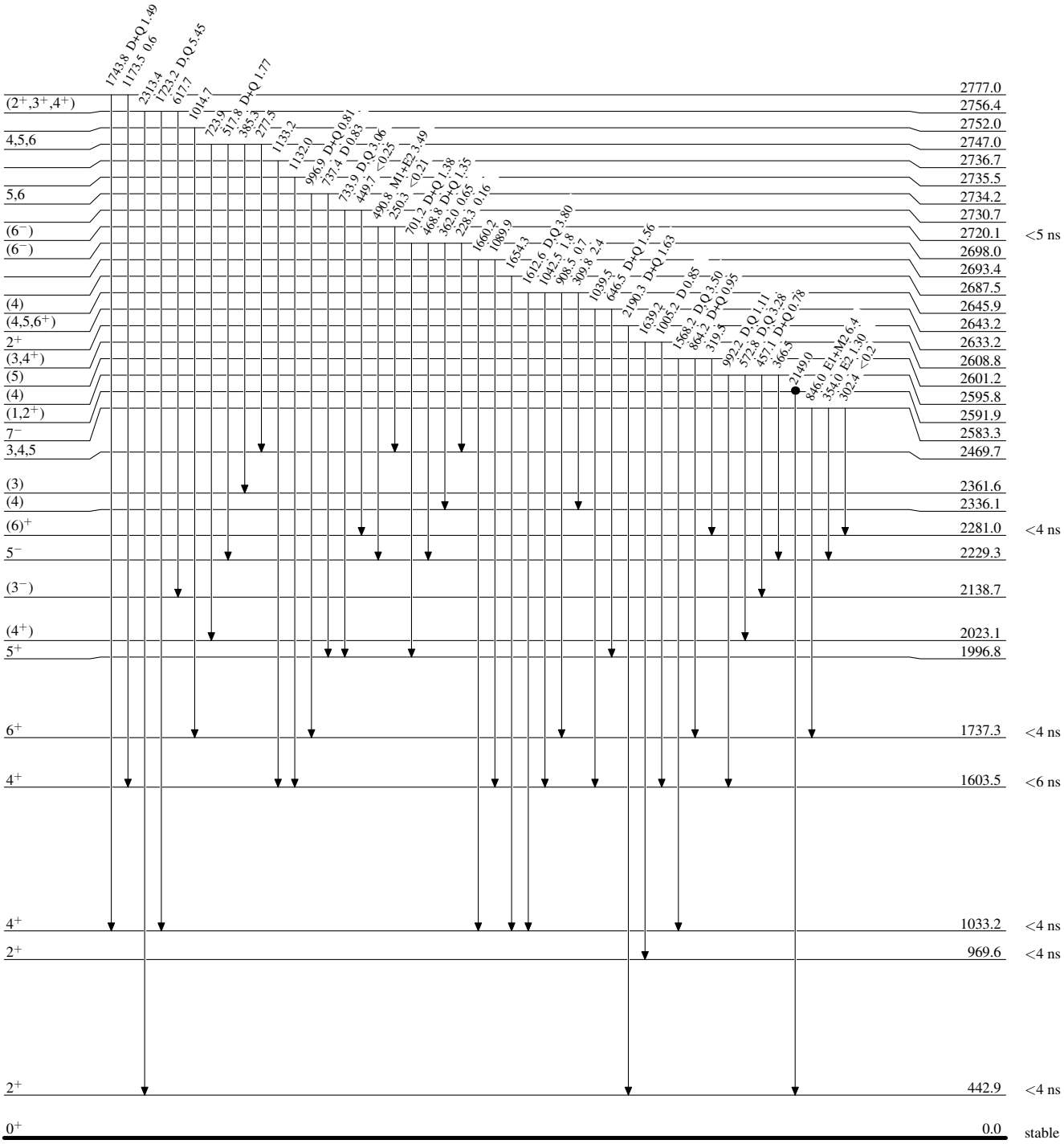
$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

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

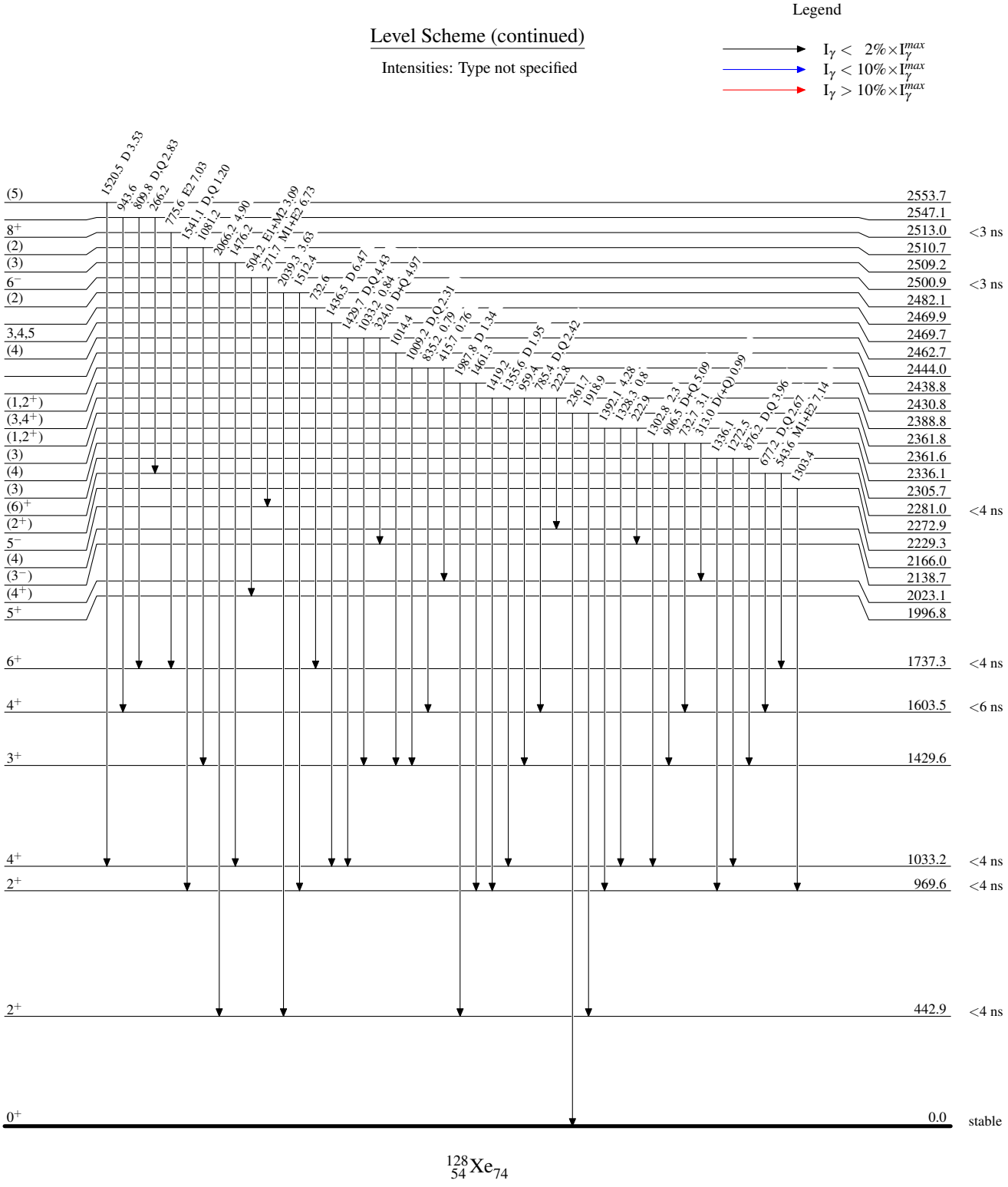


$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified

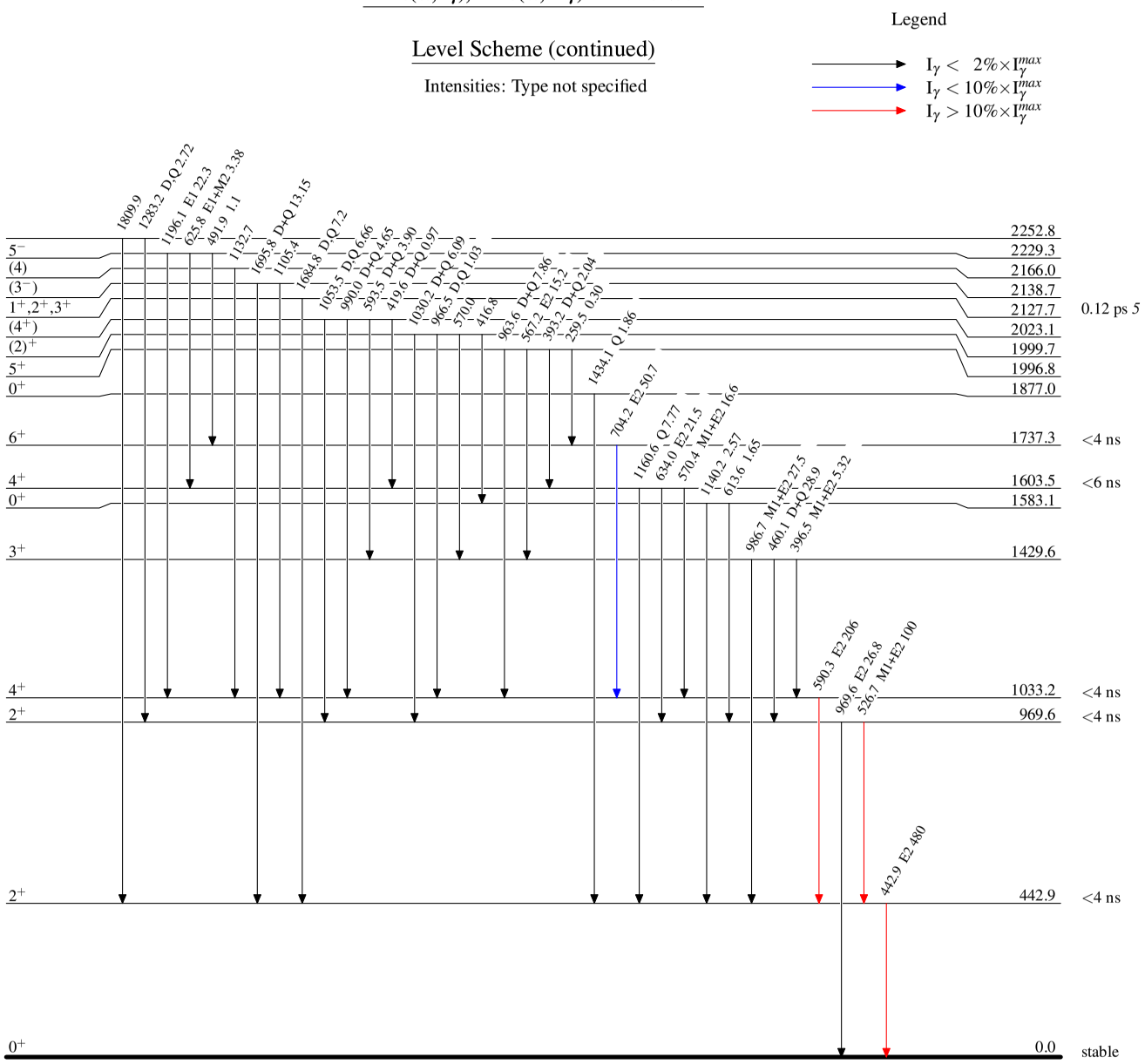


$^{128}_{54}Xe_{74}$

^{125}Te(α,nγ),^{126}Te(α,2nγ) **1996Ne04**

Level Scheme (continued)

Intensities: Type not specified



$^{128}_{54}Xe_{74}$