^{137}I β^- decay:γ 1980Fo09,1985Fo06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 108,2173 (2007)	1-Oct-2006

Parent: ^{137}I: E=0.0; J^π=(7/2$^+$); $T_{1/2}$=24.5 s *2*; Q(β^-)=5.88×10^3 *3*; %β^- decay=100.0

This part of the decay scheme shows those levels in ^{137}Xe which decay only by γ-ray emission and are from 1980Fo09, 1985Fo06; the other part with levels emitting γ's and neutrons is given separately.

Measured: γ (1985Fo06,1980Fo09,1980Oh04,1976HiZT,1975Nu01,1972JoZL,1968Lu11), $\gamma\gamma$ (1980Fo09,1976HiZT), $\beta\gamma$ (1972JoZL), $\beta\gamma$(t) (1980Fo09); for other older results see 1975Bu12.

Iγ are normalized to measured absolute Iγ of strong γ rays (1980Fo09).

Very strong 1216.9γ and 1426.8γ from 1975Nu01 were not observed by 1980Fo09; tentative γ's: 4348 *3* (0.02 *1*), 4441 *3* (0.2 *1*), 4635 *4* (0.01 *1*), 4684 *4* (0.010 *5*), 4761 *5* (0.02 *1*), 4884 *5* (0.010 *5*) from 1980Oh04 were not observed by 1980Fo09.

^{137}Xe Levels

E(level)	J^π‡	$T_{1/2}$†	Comments
0.0	7/2$^-$	3.818 min *13*	
601.05 *7*	3/2$^-$	<0.25 ns	$T_{1/2}$: from $\beta\gamma$(t).
986.20 *10*	(1/2)$^-$		
1218.00 *10*			
1220.07 *15*	(9/2)$^-$		
1302.73 *7*	5/2$^-$		
1512.16 *7*			
1534.32 *7*	(5/2)$^-$		
1668.13 *15*	(1/2,3/2)		
1715.55 *10*	3/2$^-$,5/2,7/2$^-$		
1752.56 *15*			
1766.17 *10*	3/2$^-$,5/2,7/2$^-$		
1796.08 *15*			
1808.75 *10*			
1820.56 *10*			
1841.49 *25*	(3/2$^-$)		E(level): I(538γ)/I(1841γ)=9.9/3.0 in (n,γ) (1977Pr07) disagrees with 0.080/0.089 (^{137}I β^- decay). Probably 1841γ is a doublet with different composition in β^- and (n,γ).
1849.69 *10*	3/2$^-$,5/2,7/2$^-$		
1873.13 *10*			
1879.26 *20*			
1898.34 *30*			
1926.44 *30*			
1936.05 *10*	(3/2$^-$)		
1991.18 *15*			
1997.06 *7*			
2010.80 *20*			
2013.05 *30*			
2029.86 *7*			
2087.97 *30*			
2089.67 *25*			
2099.97 *10*			
2113.99 *40*			
2144.32 *25*			
2147.00 *20*			
2155.11 *20*			
2191.19 *15*			
2196.15 *15*	(1/2$^-$,3/2)		
2229.97 *15*			
2237.76 *25*			
2244.09 *15*			

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^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

^{137}Xe Levels (continued)

E(level)	E(level)	E(level)	E(level)
2281.59 *20*	2993.91 *30*	3866.23 *30*	4276.53 *15*
2345.65 *15*	3022.91 *20*	3911.27 *20*	4288.1 *8*
2356.28 *15*	3117.61 *30*	3986.92 *30*	4318.2 *5*
2368.32 *15*	3253.97 *40*	3996.28 *30*	4332.78 *15*
2380.30 *20*	3263.10 *30*	4016.18 *80*	4350.5 *6*
2422.70 *10*	3276.72 *20*	4025.73 *25*	4402.78 *15*
2444.01 *30*	3287.62 *30*	4028.92 *15*	4424.7 *6*
2474.84 *20*	3353.04 *40*	4038.96 *15*	4477.8 *3*
2566.93 *60*	3417.07 *50*	4064.6 *6*	4501.9 *6*
2571.09 *15*	3458.62 *15*	4083.87 *15*	4543.3 *6*
2629.70 *10*	3500.65 *50*	4103.3 *3*	4559.9 *4*
2671.59 *20*	3540.61 *50*	4105.00 *60*	4680.6 *7*
2676.30 *20*	3544.2 *40*	4129.99 *15*	4685.8 *10*
2726.14 *20*	3570.13 *15*	4140.98 *15*	4758.0 *5*
2829.84 *30*	3571.69 *25*	4160.94 *15*	4784.7 *6*
2844.50 *15*	3670.59 *40*	4173.11 *15*	4802.5 *13*
2909.80 *40*	3729.66 *20*	4189.01 *70*	4899.0 *9*
2922.63 *30*	3795.43 *20*	4211.6 *2*	5132.2 *20*
2960.34 *30*	3800.68 *30*	4260.4 *4*	5148.8 *12*
2983.54 *30*	3862.47 *30*	4270.3 *4*	5170.2 *8*

† All ^{137}Xe excited levels observed in ^{137}I β^- decay have $T_{1/2} \leq 0.4$ ns (1980Fo09).

‡ Adopted values.

β^- radiations

E(decay)	E(level)	Iβ^-‡	Log *ft*	Comments
(7.1×10^2 *3*)	5170.2	0.0058 *15*	6.62 *13*	av Eβ=230 *12*
(7.3×10^2 *3*)	5148.8	0.0033 *11*	6.91 *16*	av Eβ=239 *12*
(7.5×10^2 *3*)	5132.2	0.0021 *11*	7.14 *24*	av Eβ=245 *12*
(9.8×10^2 *3*)	4899.0	0.005 *2*	7.19 *18*	av Eβ=337 *13*
(1.08×10^3 *3*)	4802.5	0.0034 *13*	7.51 *18*	av Eβ=377 *13*
(1.10×10^3 *3*)	4784.7	0.010 *2*	7.06 *10*	av Eβ=384 *13*
(1.12×10^3 *3*)	4758.0	0.010	7.1	av Eβ=395 *13*
(1.19×10^3 *3*)	4685.8	0.0030 *15*	7.73 *23*	av Eβ=425 *13*
(1.20×10^3 *3*)	4680.6	0.0049 *13*	7.52 *13*	av Eβ=428 *13*
(1.32×10^3 *3*)	4559.9	0.014 *2*	7.22 *8*	av Eβ=479 *13*
(1.34×10^3 *3*)	4543.3	0.0074 *15*	7.52 *10*	av Eβ=486 *13*
(1.38×10^3 *3*)	4501.9	0.0059 *15*	7.67 *12*	av Eβ=504 *13*
(1.40×10^3 *3*)	4477.8	0.019 *2*	7.19 *6*	av Eβ=514 *13*
(1.46×10^3 *3*)	4424.7	0.008 *2*	7.63 *12*	av Eβ=537 *13*
(1.48×10^3 *3*)	4402.78	0.22	6.2	av Eβ=547 *13*
(1.55×10^3 *3*)	4332.78	0.114 *10*	6.58 *5*	av Eβ=577 *14*
(1.56×10^3 *3*)	4318.2	0.012	7.6	av Eβ=583 *14*
(1.59×10^3 *3*)	4288.1	0.007 *3*	7.84 *19*	av Eβ=597 *14*
(1.60×10^3 *3*)	4276.53	0.30 *3*	6.22 *6*	av Eβ=602 *14*
(1.61×10^3 *3*)	4270.3	0.014 *2*	7.55 *7*	av Eβ=604 *14*
(1.62×10^3 *3*)	4260.4	0.009 *2*	7.76 *11*	av Eβ=609 *14*
(1.67×10^3 *3*)	4211.6	0.033 *3*	7.24 *5*	av Eβ=630 *14*
(1.69×10^3 *3*)	4189.01	0.018	7.5	av Eβ=640 *14*
(1.71×10^3 *3*)	4173.11	0.063 *6*	7.00 *6*	av Eβ=647 *14*

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^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^-‡	Log *ft*	Comments
(1.72×10^3 *3*)	4160.94	0.32 *3*	6.31 *5*	av Eβ=653 *14*
(1.74×10^3 *3*)	4140.98	0.069 *6*	6.99 *5*	av Eβ=662 *14*
(1.75×10^3 *3*)	4129.99	0.064 *6*	7.04 *5*	av Eβ=666 *14*
(1.78×10^3 *3*)	4105.00	0.031	7.4	av Eβ=678 *14*
(1.78×10^3 *3*)	4103.3	0.019 *2*	7.59 *6*	av Eβ=678 *14*
(1.80×10^3 *3*)	4083.87	0.083 *8*	6.97 *6*	av Eβ=687 *14*
(1.82×10^3 *3*)	4064.6	0.008 *3*	8.00 *17*	av Eβ=695 *14*
(1.84×10^3 *3*)	4038.96	0.05	7.2	av Eβ=707 *14*
(1.85×10^3 *3*)	4028.92	0.48	6.3	av Eβ=711 *14*
(1.85×10^3 *3*)	4025.73	0.63	6.1	av Eβ=713 *14*
(1.86×10^3 *3*)	4016.18	0.021	7.6	av Eβ=717 *14*
(1.88×10^3 *3*)	3996.28	1.19	5.9	av Eβ=726 *14*
(1.89×10^3 *3*)	3986.92	1.23	5.9	av Eβ=730 *14*
(1.97×10^3 *3*)	3911.27	0.53	6.3	av Eβ=764 *14*
(2.01×10^3 *3*)	3866.23	0.30	6.6	av Eβ=784 *14*
(2.02×10^3 *3*)	3862.47	0.41	6.5	av Eβ=786 *14*
(2.08×10^3 *3*)	3800.68	0.14	7.0	av Eβ=814 *14*
(2.08×10^3 *3*)	3795.43	1.79	5.9	av Eβ=816 *14*
(2.15×10^3 *3*)	3729.66	0.47	6.5	av Eβ=846 *14*
(2.21×10^3 *3*)	3670.59	0.059	7.5	av Eβ=873 *14*
(2.31×10^3 *3*)	3571.69	0.16	7.1	av Eβ=918 *14*
(2.31×10^3 *3*)	3570.13	0.57	6.6	av Eβ=919 *14*
(2.34×10^3 *3*)	3544.2	0.05	7.6	av Eβ=931 *14*
(2.34×10^3 *3*)	3540.61	0.06	7.6	av Eβ=932 *14*
(2.38×10^3 *3*)	3500.65	0.08	7.5	av Eβ=950 *14*
(2.42×10^3 *3*)	3458.62	0.35	6.9	av Eβ=970 *14*
(2.46×10^3 *3*)	3417.07	0.04	7.8	av Eβ=989 *14*
(2.53×10^3 *3*)	3353.04	0.14	7.3	av Eβ=1018 *14*
(2.59×10^3 *3*)	3287.62	0.07	7.7	av Eβ=1048 *14*
(2.60×10^3 *3*)	3276.72	0.47	6.9	av Eβ=1053 *14*
(2.62×10^3 *3*)	3263.10	0.11	7.5	av Eβ=1060 *14*
(2.63×10^3 *3*)	3253.97	0.12	7.5	av Eβ=1064 *14*
(2.76×10^3 *3*)	3117.61	0.14	7.5	av Eβ=1127 *14*
(2.86×10^3 *3*)	3022.91	0.56	7.0	av Eβ=1170 *14*
(2.89×10^3 *3*)	2993.91	0.07	7.9	av Eβ=1184 *14*
(2.90×10^3 *3*)	2983.54	0.073	7.9	av Eβ=1189 *14*
(2.92×10^3 *3*)	2960.34	0.01	8.7	av Eβ=1199 *14*
(2.96×10^3 *3*)	2922.63	0.09	7.8	av Eβ=1217 *14*
(2.97×10^3 *3*)	2909.80	0.07	7.9	av Eβ=1223 *14*
(3.04×10^3 *3*)	2844.50	0.22	7.5	av Eβ=1253 *14*
(3.05×10^3 *3*)	2829.84	0.08	7.9	av Eβ=1260 *14*
(3.15×10^3 *3*)	2726.14	0.10	7.9	av Eβ=1308 *14*
(3.20×10^3 *3*)	2676.30	0.27	7.5	av Eβ=1331 *14*
(3.21×10^3 *3*)	2671.59	0.34	7.4	av Eβ=1334 *14*
(3.25×10^3 *3*)	2629.70	0.28	7.5	av Eβ=1353 *14*
(3.31×10^3 *3*)	2571.09	0.14	7.8	av Eβ=1380 *14*
(3.31×10^3 *3*)	2566.93	0.09	8.0	av Eβ=1382 *14*
(3.41×10^3 *3*)	2474.84	0.19	7.7	av Eβ=1425 *14*
(3.44×10^3 *3*)	2444.01	0.24	7.7	av Eβ=1440 *14*
(3.46×10^3 *3*)	2422.70	0.21	7.7	av Eβ=1450 *14*
(3.50×10^3 *3*)	2380.30	0.09	8.1	av Eβ=1470 *14*
(3.51×10^3 *3*)	2368.32	0.29	7.6	av Eβ=1475 *14*
(3.52×10^3 *3*)	2356.28	0.42	7.5	av Eβ=1481 *14*

^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^-[‡]	Log *ft*	Comments
(3.53×10^3 *3*)	2345.65	0.35	7.6	av Eβ=1486 *14*

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^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

β^- radiations (continued)

E(decay)	E(level)	Iβ^-[‡]	Log *ft*	Comments
(3.60×10^3 *3*)	2281.59	0.12	8.1	av Eβ=1516 *14*
(3.64×10^3 *3*)	2244.09	2.28	6.8	av Eβ=1533 *14*
(3.64×10^3 *3*)	2237.76	0.04	8.6	av Eβ=1536 *14*
(3.65×10^3 *3*)	2229.97	0.10	8.2	av Eβ=1540 *14*
(3.68×10^3 *3*)	2196.15	0.34	9.2^{1u}	av Eβ=1539 *14*
(3.69×10^3 *3*)	2191.19	0.38	7.6	av Eβ=1558 *14*
(3.72×10^3 *3*)	2155.11	0.44	7.6	av Eβ=1575 *14*
(3.73×10^3 *3*)	2147.00	0.27	7.8	av Eβ=1579 *14*
(3.74×10^3 *3*)	2144.32	0.19	7.9	av Eβ=1580 *14*
(3.77×10^3 *3*)	2113.99	0.11	8.2	av Eβ=1594 *14*
(3.78×10^3 *3*)	2099.97	0.86	7.3	av Eβ=1601 *14*
(3.79×10^3 *3*)	2089.67	0.22	7.9	av Eβ=1606 *14*
(3.79×10^3 *3*)	2087.97	0.26	7.8	av Eβ=1606 *14*
(3.85×10^3 *3*)	2029.86	1.9	7.0	av Eβ=1634 *14*
(3.87×10^3 *3*)	2013.05	0.12	8.2	av Eβ=1642 *14*
(3.87×10^3 *3*)	2010.80	0.15	8.1	av Eβ=1643 *14*
(3.88×10^3 *3*)	1997.06	1.08	7.2	av Eβ=1649 *14*
(3.89×10^3 *3*)	1991.18	0.94	7.3	av Eβ=1652 *14*
(3.94×10^3 *3*)	1936.05	0.75	7.4	av Eβ=1678 *14*
(3.95×10^3 *3*)	1926.44	0.15	8.1	av Eβ=1682 *14*
(3.98×10^3 *3*)	1898.34	0.08	8.4	av Eβ=1695 *14*
(4.00×10^3 *3*)	1879.26	0.49	7.6	av Eβ=1704 *14*
(4.01×10^3 *3*)	1873.13	1.33	7.2	av Eβ=1707 *14*
(4.03×10^3 *3*)	1849.69	0.49	7.7	av Eβ=1718 *14*
(4.04×10^3 *3*)	1841.49	≈0.08	≈8.4	av Eβ=1722 *14*
(4.06×10^3 *3*)	1820.56	0.23	8.0	av Eβ=1732 *14*
(4.07×10^3 *3*)	1808.75	0.45	7.7	av Eβ=1737 *14*
(4.08×10^3 *3*)	1796.08	1.00	7.4	av Eβ=1743 *14*
(4.11×10^3 *3*)	1766.17	0.86	7.4	av Eβ=1757 *14*
(4.13×10^3 *3*)	1752.56	0.11	8.3	av Eβ=1764 *14*
(4.16×10^3 *3*)	1715.55	0.52	7.7	av Eβ=1781 *14*
(4.21×10^3 *3*)	1668.13	0.50	7.7	av Eβ=1803 *14*
(4.35×10^3 *3*)	1534.32	2.3	7.1	av Eβ=1866 *15*
(4.37×10^3 *3*)	1512.16	1.1	7.5	av Eβ=1877 *15*
(4.58×10^3 *3*)	1302.73	1.9	7.3	av Eβ=1975 *15*
(4.66×10^3 *3*)	1220.07	0.9	7.7	av Eβ=2014 *15*
(4.66×10^3[†] *3*)	1218.00	8.9	6.7	av Eβ=2015 *15*
(4.89×10^3 *3*)	986.20	<0.05	>9.0	av Eβ=2124 *15*
(5.28×10^3 *3*)	601.05	<0.4	>10.1^{1u}	av Eβ=2285 *15*
(5.88×10^3 *3*)	0.0	45.2 *5*	6.402 *12*	av Eβ=2589 *15*

[†] 5010 *360* from 1972JoZL.
[‡] Absolute intensity per 100 decays.

^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

$\gamma(^{137}Xe)$

$\Delta I\gamma$: $\Delta I\gamma$ is 10%–20%; for well-resolved lines it is smaller; for very weak lines,≈40%.

E_γ	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π
252.83 *7*	0.14	2244.09		1991.18	
283.78 *10*	0.073	1796.08		1512.16	
316.28 *20*	0.087	1302.73	$5/2^-$	986.20	$(1/2)^-$
x377.77 *30*	0.032				
385.15 *7*	0.46	986.20	$(1/2)^-$	601.05	$3/2^-$
394.52 *7*	0.46	2244.09		1849.69	$3/2^-$,5/2,7/2$^-$
x408.31 *20*	0.052				
412.97 *15*	0.098	1715.55	$3/2^-$,5/2,7/2$^-$	1302.73	$5/2^-$
x431.82 *15*	0.052				
435.28 *7*	0.34	2244.09		1808.75	
x442.40 *30*	0.027				
463.91 *30*	0.25	1766.17	$3/2^-$,5/2,7/2$^-$	1302.73	$5/2^-$
477.98 *7*	0.39	2244.09		1766.17	$3/2^-$,5/2,7/2$^-$
x527.92 *30*	0.075				
532.49 *10*	0.18	1752.56		1220.07	$(9/2)^-$
538.85 *20*	0.080	1841.49	$(3/2^-)$	1302.73	$5/2^-$
547.20 *7*	0.24	1849.69	$3/2^-$,5/2,7/2$^-$	1302.73	$5/2^-$
565.73 *10*	0.11	2099.97		1534.32	$(5/2)^-$
570.51 *7*	0.24	1873.13		1302.73	$5/2^-$
576.01 *7*	0.53	1796.08		1220.07	$(9/2)^-$
578.22 *7*	0.40	1796.08		1218.00	
601.05 *7*	4.80	601.05	$3/2^-$	0.0	$7/2^-$
613.81 *30*	0.036	3458.62		2844.50	
x620.71 *30*	0.032				
633.46 *7*	0.27	1936.05	$(3/2^-)$	1302.73	$5/2^-$
x647.91 *40*	0.057				
655.29 *20*	0.14	1873.13		1218.00	
659.21 *10*	0.40	1879.26		1220.07	$(9/2)^-$
x673.36 *20*	0.043				
x678.07 *20*	0.050				
682.00 *7*	0.20	1668.13	(1/2,3/2)	986.20	$(1/2)^-$
694.61 *20*	0.16	1997.06		1302.73	$5/2^-$
701.79 *7*	0.43	1302.73	$5/2^-$	601.05	$3/2^-$
709.71 *10*	0.28	2244.09		1534.32	$(5/2)^-$
725.52 *15*	0.11	2237.76		1512.16	
727.31 *15*	0.07	2029.86		1302.73	$5/2^-$
x746.24 *30*	0.066				
773.16 *7*	0.94	1991.18		1218.00	
x777.92 *40*	0.055				
x786.14 *50*	0.048				
x796.09 *15*	0.10				
811.84 *7*	0.23	2029.86		1218.00	
x830.70 *20*	0.057				
834.36 *30*	0.043	2345.65		1512.16	
852.40 *50*	0.052	2155.11		1302.73	$5/2^-$
x863.27 *20*	0.089				
867.75 *20*	0.12	2087.97		1220.07	$(9/2)^-$
869.92 *20*	0.14	2087.97		1218.00	
877.15 *20*	0.073	2629.70		1752.56	
882.13 *7*	0.31	2099.97		1218.00	
888.43 *15*	0.10	2191.19		1302.73	$5/2^-$
893.42 *7*	0.34	2196.15	$(1/2^-,3/2)$	1302.73	$5/2^-$

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^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

$\gamma(^{137}Xe)$ (continued)

E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
[x]909.33 *15*	0.11				
927.13 *30*	0.17	2147.00		1220.07	$(9/2)^-$
937.19 *20*	0.18	2155.11		1218.00	
941.41 *7*	0.67	2244.09		1302.73	$5/2^-$
950.85 *20*	0.082	3911.27		2960.34	
973.49 *15*	0.12	2191.19		1218.00	
[x]978.18 *20*	0.087				
[x]1019.32 *15*	0.073				
1066.93 *30*	0.30	1668.13	(1/2,3/2)	601.05	$3/2^-$
1100.42 *30*	0.046	3729.66		2629.70	
1103.64 *30*	0.057	2089.67		986.20	$(1/2)^-$
[x]1123.87 *50*	0.032				
1127.59 *10*	0.17	2345.65		1218.00	
[x]1136.06 *30*	0.043				
1150.35 *10*	0.20	2368.32		1218.00	
1158.42 *15*	0.094	2144.32		986.20	$(1/2)^-$
1165.00 *15*	0.096	1766.17	$3/2^-$,5/2,7/2^-	601.05	$3/2^-$
[x]1205.13[#] *60*	0.17				
1218.00 *10*	12.8	1218.00		0.0	$7/2^-$
1220.07 *15*	3.5	1220.07	$(9/2)^-$	0.0	$7/2^-$
1224.01 *20*	0.24	2444.01		1220.07	$(9/2)^-$
1236.67 *20*	0.066	3866.23		2629.70	
[x]1242.95 *70*	0.018				
1248.55 *7*	0.51	1849.69	$3/2^-$,5/2,7/2^-	601.05	$3/2^-$
1256.76 *15*	0.089	2474.84		1218.00	
[x]1268.48 *40*	0.039				
[x]1275.27 *30*	0.048				
1302.64 *7*	4.42	1302.73	$5/2^-$	0.0	$7/2^-$
[x]1330.40 *30*	0.062				
1334.94 *7*	0.42	1936.05	$(3/2^-)$	601.05	$3/2^-$
[x]1346.70 *50*	0.034				
1351.02 *10*	0.14	2571.09		1220.07	$(9/2)^-$
1357.37 *15*	0.18	3986.92		2629.70	
1366.77 *20*	0.13	3996.28		2629.70	
1396.03 *10*	0.15	4025.73		2629.70	
[x]1400.85 *30*	0.064				
1409.75 *15*	0.15	2010.80		601.05	$3/2^-$
[x]1439.01 *70*	0.048				
[x]1446.08 *30*	0.050				
1456.39 *10*	0.21	2676.30		1220.07	$(9/2)^-$
1488.62 *20*	0.16	2089.67		601.05	$3/2^-$
1497.19 *20*	0.11	3263.10		1766.17	$3/2^-$,5/2,7/2^-
[x]1506.79 *40*	0.078				
1512.16 *7*	1.24	1512.16		0.0	$7/2^-$
1534.32 *7*	3.24	1534.32	$(5/2)^-$	0.0	$7/2^-$
1543.27 *30*	0.10	2144.32		601.05	$3/2^-$
1553.98 *15*	0.21	2155.11		601.05	$3/2^-$
[x]1580.21 *40*	0.050				
[x]1600.06 *30*	0.046				
[x]1617.05 *40*	0.032				
[x]1628.35 *15*	0.10				
1680.54 *15*	0.12	2281.59		601.05	$3/2^-$
[x]1696.78 *20*	0.10				
[x]1704.67 *40*	0.055				
1715.51 *10*	0.42	1715.55	$3/2^-$,5/2,7/2^-	0.0	$7/2^-$
1720.05 *15*	0.20	3022.91		1302.73	$5/2^-$

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^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

$\gamma(^{137}Xe)$ (continued)

E_γ	I_γ‡	E_i(level)	J_i^π	E_f	J_f^π
1755.22 *15*	0.23	2356.28		601.05	3/2$^-$
1766.12 *10*	1.24	1766.17	3/2$^-$,5/2,7/2$^-$	0.0	7/2$^-$
1773.84 *20*	0.066	2993.91		1220.07	(9/2)$^-$
1788.18 *15*	0.12	4025.73		2237.76	
1804.95 *10*	0.32	3022.91		1218.00	
1808.75 *10*	0.79	1808.75		0.0	7/2$^-$
1820.56 *10*	0.23	1820.56		0.0	7/2$^-$
1832.28 *20*	0.10	3862.47		2029.86	
[x]1835.02 *40*	0.057				
(1841.5 *2*)		1841.49	(3/2$^-$)	0.0	7/2$^-$
1849.38 *15*	0.20	1849.69	3/2$^-$,5/2,7/2$^-$	0.0	7/2$^-$
[x]1853.27 *50*	0.055				
[x]1856.43 *70*	0.050				
1859.11 *30*	0.10	3795.43		1936.05	(3/2$^-$)
1873.00 *10*	1.46	1873.13		0.0	7/2$^-$
1879.20 *50*	0.092	1879.26		0.0	7/2$^-$
1898.34 *30*	0.078	1898.34		0.0	7/2$^-$
1922.13 *40*	0.094	3795.43		1873.13	
1926.44 *30*	0.15	1926.44		0.0	7/2$^-$
[x]1930.30 *70*	0.069				
1936.03 *15*	0.37	1936.05	(3/2$^-$)	0.0	7/2$^-$
[x]1954.31 *20*	0.075				
1974.15 *10*	0.15	3276.72		1302.73	5/2$^-$
1991.21 *15*	0.23	1991.18		0.0	7/2$^-$
1995.0 *10*	0.1	3996.28		1997.06	
1997.04 *7*	0.93	1997.06		0.0	7/2$^-$
2004.52 *40*	0.066	3996.28		1991.18	
2013.05 *30*	0.12	2013.05		0.0	7/2$^-$
2029.82 *7*	1.75	2029.86		0.0	7/2$^-$
2035.97 *30*	0.12	3253.97		1218.00	
2058.45 *10*	0.25	3276.72		1218.00	
2069.62 *20*	0.071	3287.62		1218.00	
[x]2079.48 *30*	0.048				
2092.80 *15*	0.21	4028.92		1936.05	(3/2$^-$)
2099.85 *10*	0.44	2099.97		0.0	7/2$^-$
[x]2110.82 *70*	0.055				
2113.99 *40*	0.11	2113.99		0.0	7/2$^-$
2123.18 *15*	0.28	3996.28		1873.13	
[x]2133.47 *50*	0.037				
[x]2138.98 *60*	0.031				
2146.97 *20*	0.10	2147.00		0.0	7/2$^-$
2155.64 *15*	0.14	4028.92		1873.13	
2190.95 *15*	0.16	2191.19		0.0	7/2$^-$
2220.47 *20*	0.23	3986.92		1766.17	3/2$^-$,5/2,7/2$^-$
2229.97 *15*	0.10	2229.97		0.0	7/2$^-$
2238.08 *40*	0.05	2237.76		0.0	7/2$^-$
2243.45 *10*	0.26	2844.50		601.05	3/2$^-$
[x]2288.44 *50*	0.030				
[x]2300.26 *40*	0.046				
[x]2312.75 *30*	0.048				
2320.54 *40*	0.064	3540.61		1220.07	(9/2)$^-$
[x]2330.04 *60*	0.057				
[x]2332.92 *40*	0.078				
2345.71 *15*	0.14	2345.65		0.0	7/2$^-$
2351.62 *15*	0.16	3571.69		1220.07	(9/2)$^-$
2356.29 *15*	0.19	2356.28		0.0	7/2$^-$

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^{137}I β^- decay:γ 1980Fo09,1985Fo06 (continued)

$\gamma(^{137}Xe)$ (continued)

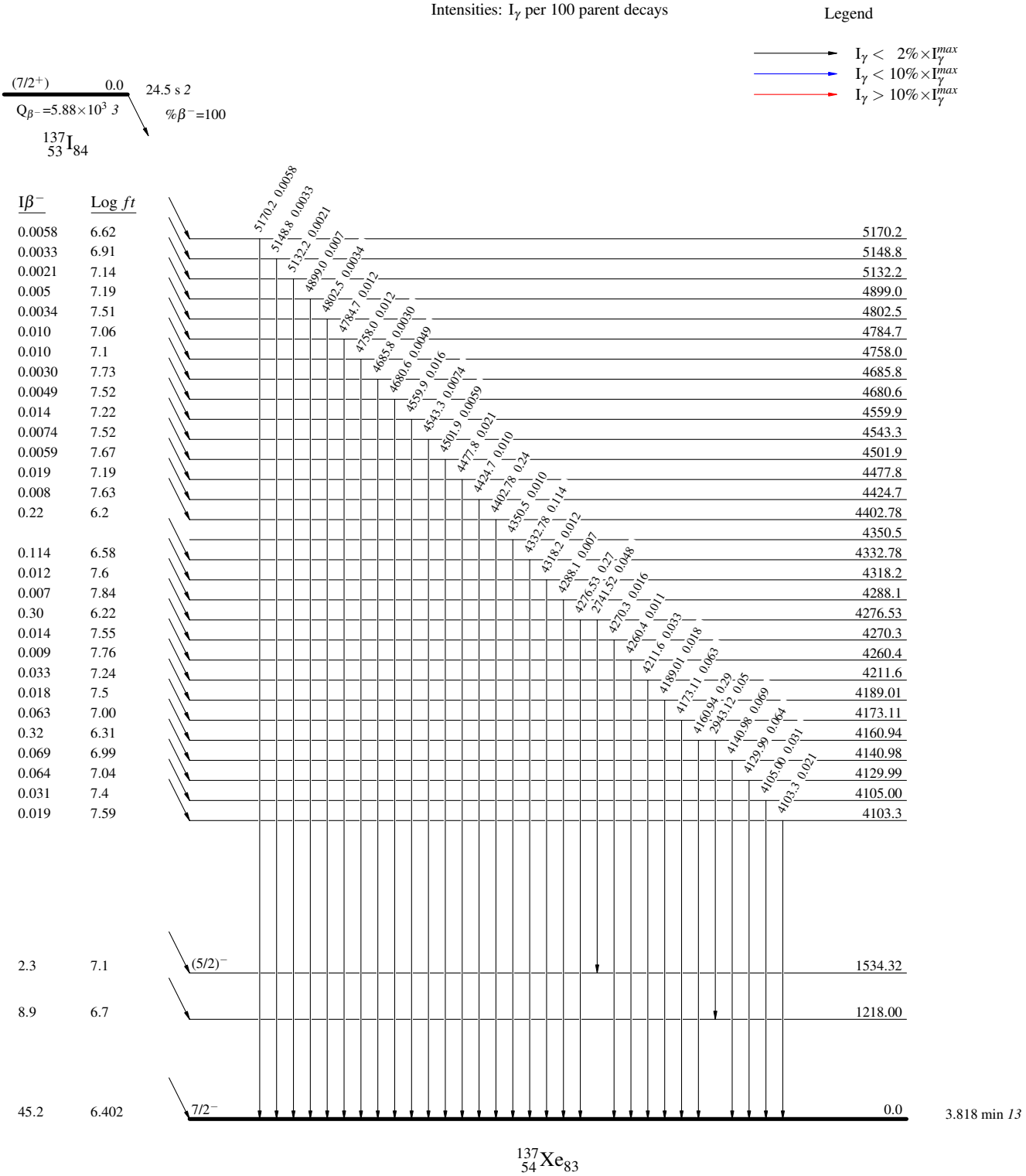
E_γ	I_γ[‡]	E_i(level)	E_f	J_f^π	E_γ	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π
[x]2359.88 *60*	0.034				3458.62 *15*	0.31	3458.62		0.0	7/2$^-$
2368.24 *20*	0.085	2368.32	0.0	7/2$^-$	3501.2 *14*	0.015	3500.65		0.0	7/2$^-$
2380.30 *20*	0.092	2380.30	0.0	7/2$^-$	3570.13 *15*	0.57	3570.13		0.0	7/2$^-$
[x]2405.68 *60*	0.027				3670.59 *40*	0.059	3670.59		0.0	7/2$^-$
2422.70 *10*	0.21	2422.70	0.0	7/2$^-$	[x]3682.7 *10*	0.023				
2452.51 *10*	0.26	3986.92	1534.32	(5/2)$^-$	3729.43 *20*	0.42	3729.66		0.0	7/2$^-$
[x]2463.56 *40*	0.034				3795.57 *20*	0.85	3795.43		0.0	7/2$^-$
2474.91 *20*	0.10	2474.84	0.0	7/2$^-$	3800.68 *30*	0.14	3800.68		0.0	7/2$^-$
[x]2487.18 *60*	0.046				3862.79 *30*	0.25	3862.47		0.0	7/2$^-$
2491.29 *15*	0.17	4025.73	1534.32	(5/2)$^-$	3866.09 *30*	0.23	3866.23		0.0	7/2$^-$
[x]2498.69 *50*	0.027				3911.27 *20*	0.45	3911.27		0.0	7/2$^-$
[x]2508.61 *40*	0.052				3987.03 *30*	0.25	3986.92		0.0	7/2$^-$
[x]2532.44 *30*	0.073				3996.24 *30*	0.49	3996.28		0.0	7/2$^-$
[x]2562.79 *60*	0.064				4016.18 *80*	0.021	4016.18		0.0	7/2$^-$
2566.93 *60*	0.092	2566.93	0.0	7/2$^-$	4028.92 *15*	0.115 *12*	4028.92		0.0	7/2$^-$
[x]2589.8 *11*	0.020				4038.96 *15*	0.045 *5*	4038.96		0.0	7/2$^-$
[x]2594.77 *30*	0.078				4064.6 *6*	0.008 *3*	4064.6		0.0	7/2$^-$
2629.70 *10*	0.78	2629.70	0.0	7/2$^-$	4083.87 *15*	0.083 *8*	4083.87		0.0	7/2$^-$
[x]2657.02 *30*	0.048				4103.3 *3*	0.019 *2*	4103.3		0.0	7/2$^-$
2671.59 *20*	0.34	2671.59	0.0	7/2$^-$	4105.00 *60*	0.031	4105.00		0.0	7/2$^-$
2674.89 *60*	0.059	2676.30	0.0	7/2$^-$	4129.99 *15*	0.064 *6*	4129.99		0.0	7/2$^-$
2693.51 *30*	0.12	3996.28	1302.73	5/2$^-$	4140.98 *15*	0.069 *6*	4140.98		0.0	7/2$^-$
[x]2705.3 *10*	0.057				4160.94 *15*	0.27 *2*	4160.94		0.0	7/2$^-$
2726.14 *20*	0.096	2726.14	0.0	7/2$^-$	4173.11 *15*	0.063 *6*	4173.11		0.0	7/2$^-$
2741.52 *40*	0.048	4276.53	1534.32	(5/2)$^-$	4189.01 *70*	0.018	4189.01		0.0	7/2$^-$
2767.04 *20*	0.31	3986.92	1220.07	(9/2)$^-$	4211.6 *2*	0.033 *3*	4211.6		0.0	7/2$^-$
2807.76 *15*	0.19	4025.73	1218.00		4260.4 *4*	0.009 *2*	4260.4		0.0	7/2$^-$
2829.84 *30*	0.077	2829.84	0.0	7/2$^-$	4270.3 *4*	0.014 *2*	4270.3		0.0	7/2$^-$
[x]2851.18 *50*	0.039				4276.53 *15*	0.25 *2*	4276.53		0.0	7/2$^-$
2899.54 *40*	0.062	3500.65	601.05	3/2$^-$	4288.1 *8*	0.007 *3*	4288.1		0.0	7/2$^-$
2909.80 *40*	0.069	2909.80	0.0	7/2$^-$	4318.2 *5*	0.012	4318.2		0.0	7/2$^-$
[x]2916.37 *80*	0.029				4332.78 *15*	0.114 *10*	4332.78		0.0	7/2$^-$
2922.63 *30*	0.092	2922.63	0.0	7/2$^-$	4350.5 *6*	0.008 *2*	4350.5		0.0	7/2$^-$
2943.12 *30*	0.05	3544.2	601.05	3/2$^-$	4402.78 *15*	0.22 *2*	4402.78		0.0	7/2$^-$
2943.12 *30*	0.05	4160.94	1218.00		4424.7 *6*	0.008 *2*	4424.7		0.0	7/2$^-$
[x]2952.82 *50*	0.043				4477.8 *3*	0.019 *2*	4477.8		0.0	7/2$^-$
2960.34 *30*	0.092	2960.34	0.0	7/2$^-$	4501.9 *6*	0.0059 *15*	4501.9		0.0	7/2$^-$
2983.54 *30*	0.073	2983.54	0.0	7/2$^-$	4543.3 *6*	0.0074 *15*	4543.3		0.0	7/2$^-$
3023.31 *40*	0.043	3022.91	0.0	7/2$^-$	4559.9 *4*	0.014 *2*	4559.9		0.0	7/2$^-$
[x]3100.39 *50*	0.043				4680.6 *7*	0.0049 *13*	4680.6		0.0	7/2$^-$
3117.61 *30*	0.14	3117.61	0.0	7/2$^-$	4685.8 *10*	0.0030 *15*	4685.8		0.0	7/2$^-$
3194.36 *15*	0.75	3795.43	601.05	3/2$^-$	4758.0 *5*	0.010 *2*	4758.0		0.0	7/2$^-$
[x]3212.95 *80*	0.032				4784.7 *6*	0.010 *2*	4784.7		0.0	7/2$^-$
3261.81 *70*	0.059	3862.47	601.05	3/2$^-$	4802.5 *13*	0.0034 *13*	4802.5		0.0	7/2$^-$
3277.75 *70*	0.066	3276.72	0.0	7/2$^-$	4899.0 *9*	0.005 *2*	4899.0		0.0	7/2$^-$
3353.04 *40*	0.14	3353.04	0.0	7/2$^-$	5132.2 *20*	0.0021 *11*	5132.2		0.0	7/2$^-$
[x]3391.63 *50*	0.036				5148.8 *12*	0.0033 *11*	5148.8		0.0	7/2$^-$
3417.07 *50*	0.036	3417.07	0.0	7/2$^-$	5170.2 *8*	0.0058 *15*	5170.2		0.0	7/2$^-$

[†] $\Delta I\gamma$ is 10%−20%; for well-resolved lines it is smaller; for very weak lines,≈40%.
[‡] Absolute intensity per 100 decays.
[#] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

^{137}I β^- decay:γ 1980Fo09,1985Fo06

Decay Scheme

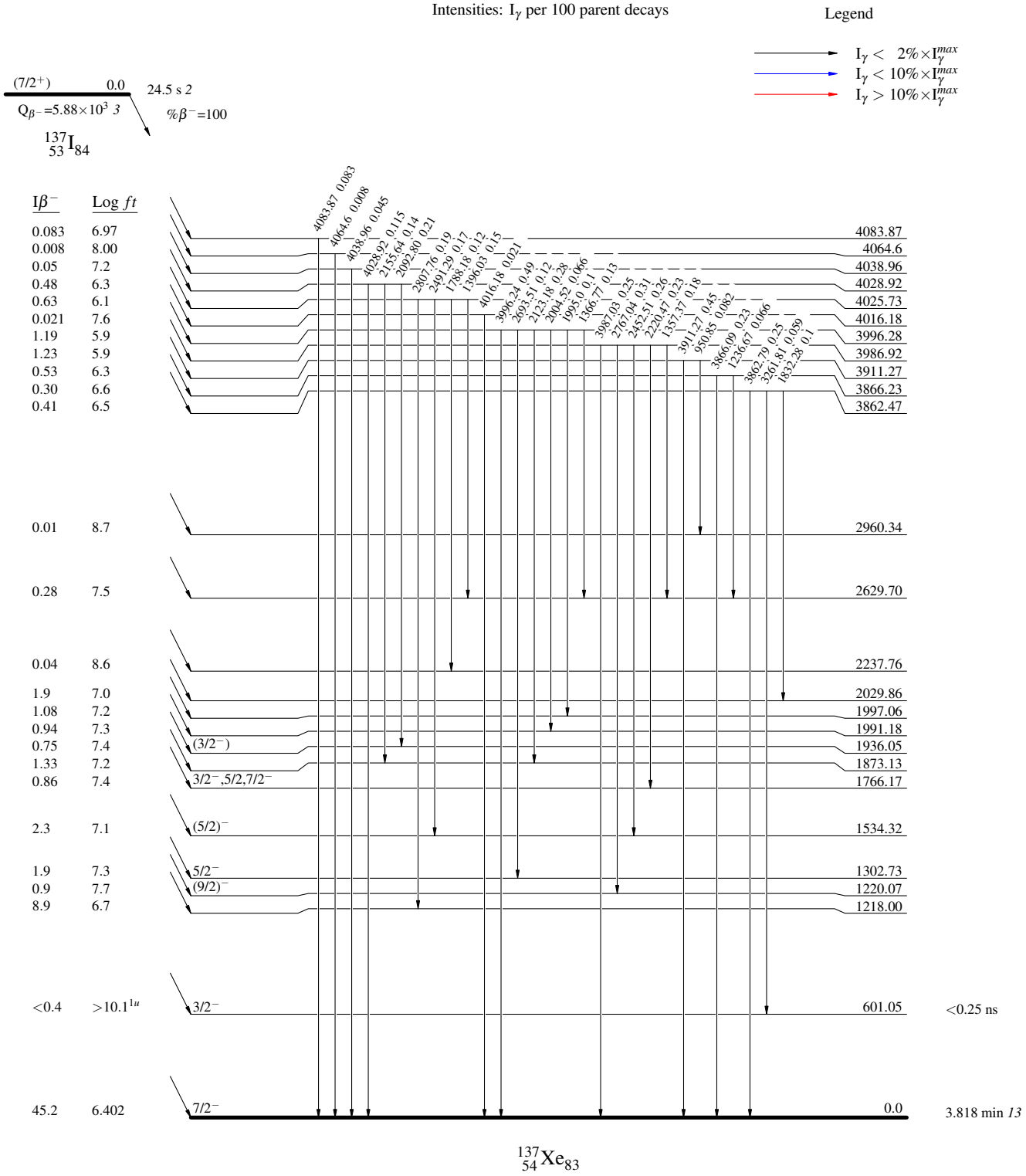
Intensities: I_γ per 100 parent decays



^{137}I β^- decay:γ 1980Fo09,1985Fo06

Decay Scheme (continued)

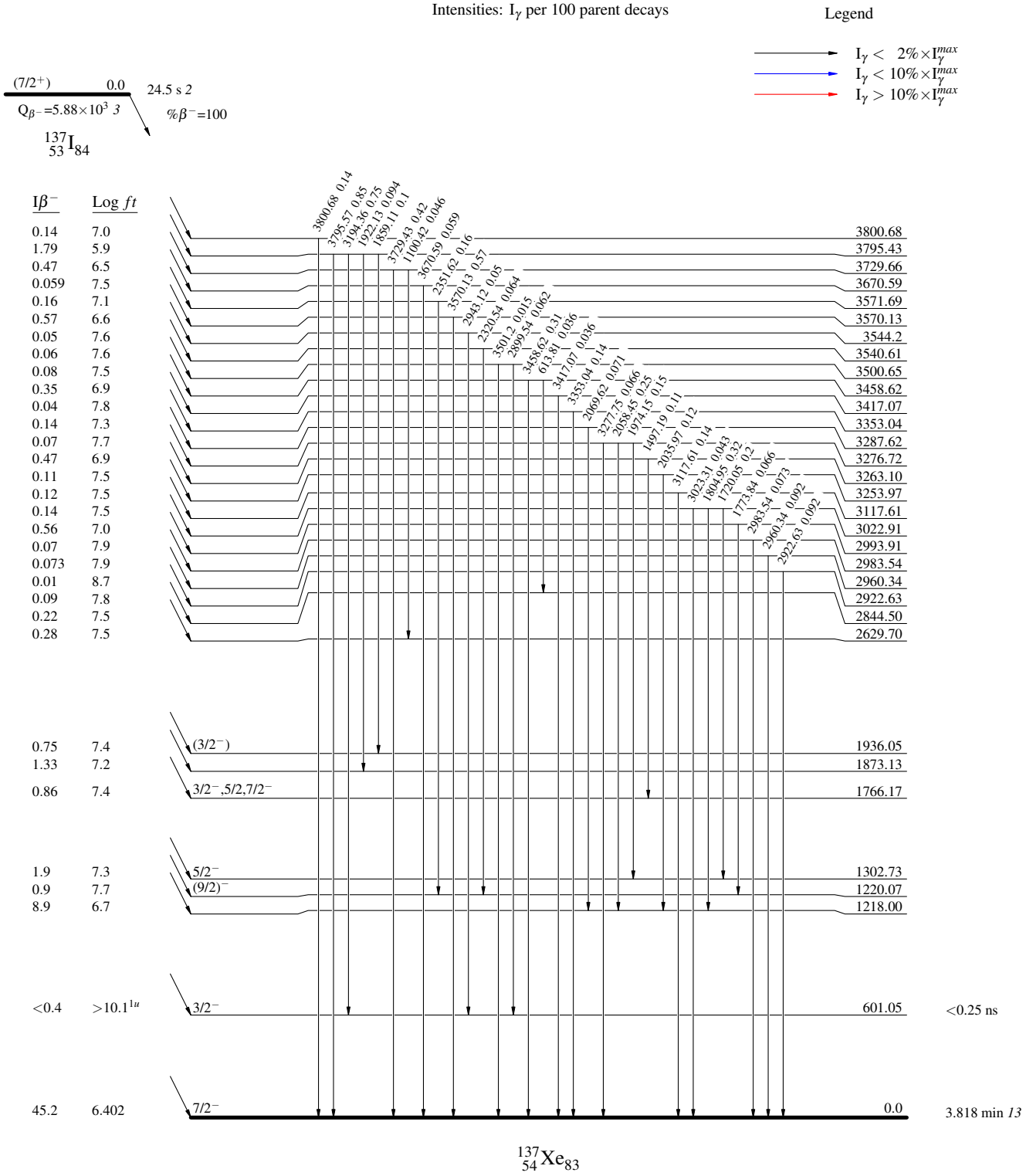
Intensities: I_γ per 100 parent decays



^{137}I β^- decay:γ 1980Fo09,1985Fo06

Decay Scheme (continued)

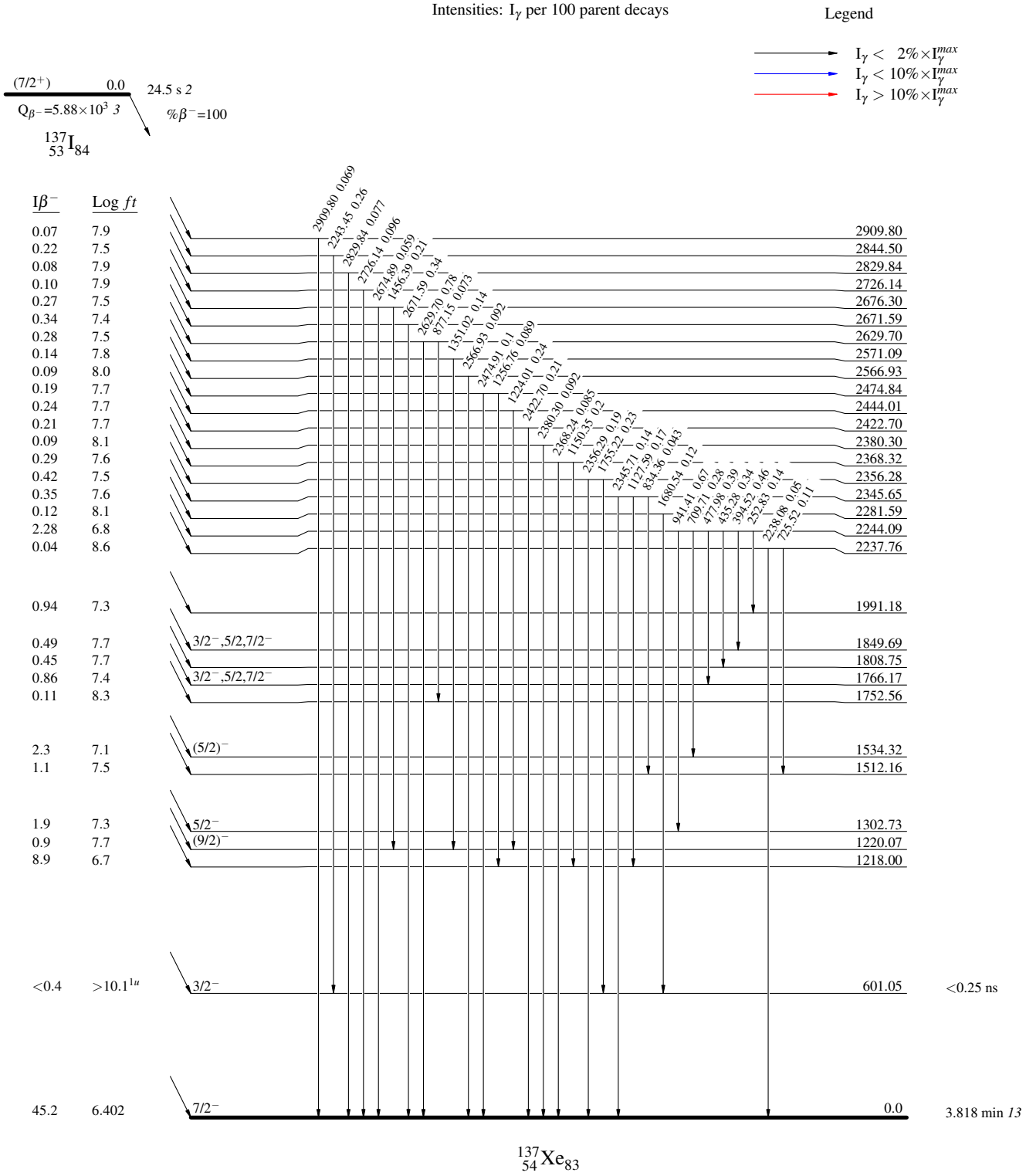
Intensities: I_γ per 100 parent decays



^{137}I β^- decay:γ 1980Fo09,1985Fo06

Decay Scheme (continued)

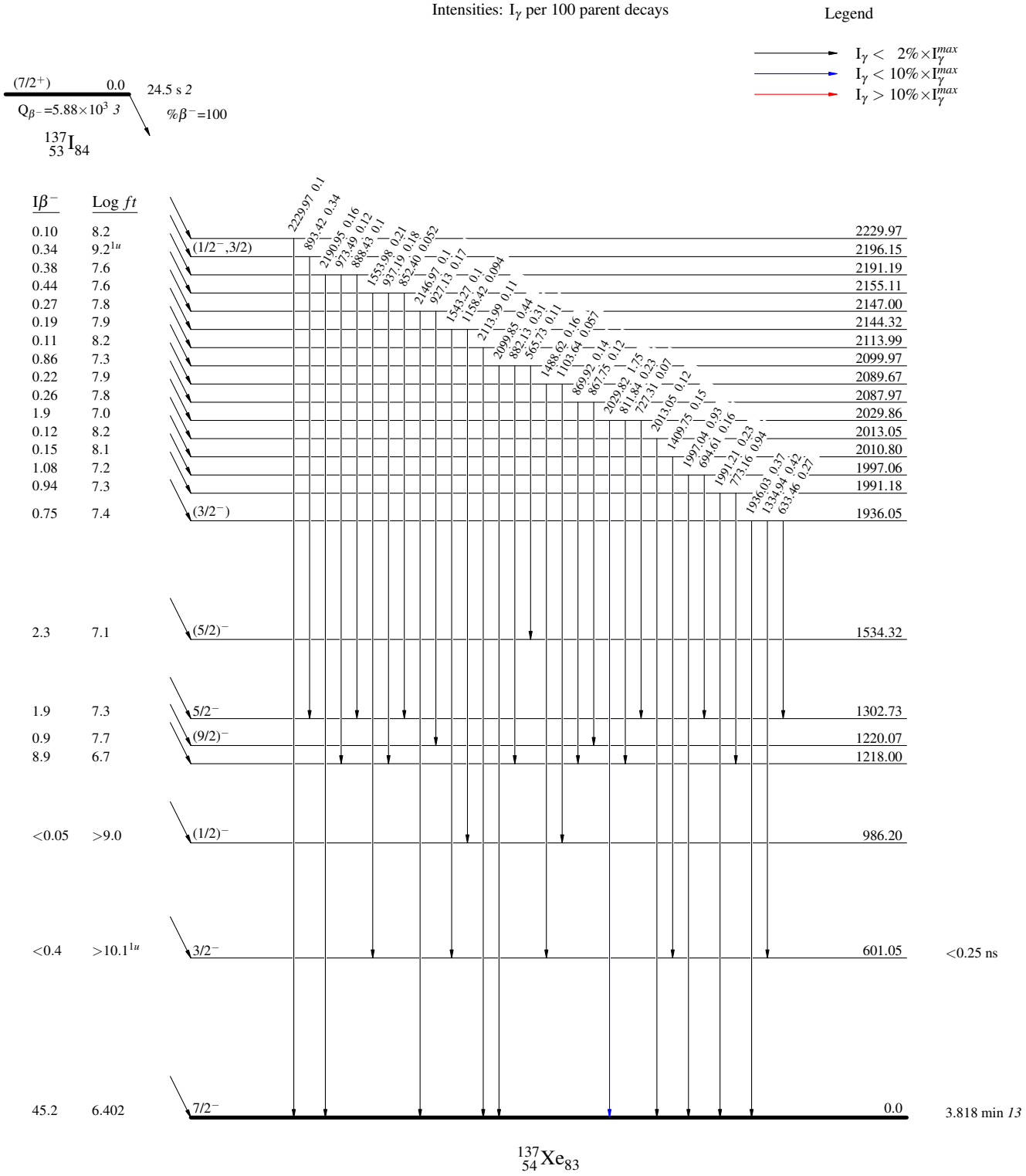
Intensities: I_γ per 100 parent decays



^{137}I β^- decay:γ 1980Fo09,1985Fo06

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays



^{137}I β^- decay:γ 1980Fo09,1985Fo06

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays