^{141}Cs β^- decay 1982Ya04

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 187,1 (2023)	12-Oct-2022

Parent: ^{141}Cs: E=0.0; $J^\pi=7/2^+$; $T_{1/2}$=24.84 s *16*; Q(β^-)=5255 *10*; %β^- decay=100

^{141}Cs-Q(β^-): From 2021Wa16.

Measured: γ, $\gamma\gamma$ (1984Is08,1982Ya04,1977TaZZ,1976Ot03), K x ray, L x ray (1982Ya04,1976Ot03), γ(t) (1984Is08,1982Ya04), β^- (1973Ad04,1972AdZV), ce (1976Ot03), γ (1979Bo26).

1994He26,1994He33,1997Gr09 (also 1992Gr21,1992Gr18): Total Absorption γ-ray Spectra (TAGS) following ^{252}Cf SF decay. Deduced Iβ.

Decay scheme is from 1982Ya04.

^{141}Ba Levels

E(level)[†]	J^π[‡]	$T_{1/2}$	Comments
0.0	$3/2^-$	18.27 min *7*	$T_{1/2}$: from Adopted Levels.
48.528 *8*	$(5/2)^-$	2.3[#@] ns *4*	
55.001 *19*	$(7/2)^-$	5.2[#@] ns *5*	
610.13 *4*	$(9/2^-)$		
643.81 *5*	$(11/2^-)$		
709.44 *6*			
747.03 *5*	$(9/2^-)$		
827.00 *6*			
1056.21 *7*			
1116.79 *6*			
1195.51 *5*			
1202.09 *5*			
1214.43 *6*			
1226.51 *7*			
1229.80 *9*			
1231.65 *9*			
1249.05 *6*			
1256.79 *6*	(11/2)		
1341.5 *4*			
1432.31 *11*			
1504.00 *8*			
1546.03 *10*			
1572.50 *11*			
1583.14 *9*			
1629.75 *9*			
1654.10 *11*			
1677.02 *21*			
1690.33 *15*			
1709.93 *15*			
1717.29 *17*			
1764.10 *18*			
1765.33 *10*			
1844.54 *6*			
1853.87 *22*			
1874.02 *9*			
1942.49 *11*			
2010.19 *10*			
2062.44 *17*			
2107.26 *11*			
2142.86 *13*			
2274.06 *8*			
2363.55 *24*			

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^{141}Cs β^- decay 1982Ya04 (continued)

^{141}Ba Levels (continued)

E(level)†	E(level)†	E(level)†	Jπ‡
2382.74 *19*	3112.06 *25*	3431.77? *24*	
2394.62 *15*	3120.37 *9*	3441.7 *3*	
2449.91 *16*	3132.91? *20*	3456.57 *20*	
2874.71 *15*	3170.36? *23*	4239.14 *20*	5/2+,7/2+,9/2+&
2972.68 *20*	3189.69 *14*	4364.48? *25*	5/2+,7/2+,9/2+&
3004.58 *17*	3243.07 *17*	4533.46 *20*	5/2+,7/2+,9/2+&
3031.98 *19*	3247.43 *15*	4544.77? *22*	5/2+,7/2+,9/2+&
3043.07 *20*	3259.29 *21*	4591.1? *3*	5/2+,7/2+,9/2+&
3078.44 *22*	3273.56 *16*	4670.98 *22*	5/2+,7/2+,9/2+&
3087.60 *17*	3315.56 *19*		
3099.54 *19*	3334.91 *19*		

† From least-squares fit to Eγ′s.
‡ Adopted values.
# From Adopted Levels.
@ Other values: $T_{1/2}$=5.0 ns *1* for level 48.5 and/or 55 (1982Ya04), <3.4 ns for 48γ and <3.2 ns for 55γ (1975Mo03).
& From log *ft*<5.9.

β^- radiations

Iβ from TAGS are given in comments. Pseudo levels introduced in TAGS study, not otherwise seen are: 2525 (Iβ=0.48%), 2600 (Iβ=0.71%), 2750 (Iβ=1.90%), 3600 (Iβ=2.32%), 3750 (Iβ=1.19%), 3900 (Iβ=0.54%), 4050 (Iβ=0.71%), 4800 (Iβ=0.013%), 4950 (Iβ=0.002%).
Measured β^-: 4980 *80* (50% *3*), 3320 *40* (12% *1*), 2170 *30* (17% *1*), 1440 *20* (21% *1*) (1973Ad04,1972AdZV); 4950 *150* (1974Wu02).
ΔJ=2 unique β^- to J=3/2− (g.s.) is expected to be much weaker than ΔJ=1 non-unique β to J=5/2− 48.5 level. It suggests that Iβ(g.s.) is much less than 4% (see 1982Ya04).
av Eβ=1680 *70* (1980Al15,1982Al01).

E(decay)	E(level)	Iβ−†#	Log *ft*	Comments
(584 *10*)	4670.98	0.19 *3*	4.85 *8*	av Eβ=182.9 *37* Iβ=0.012 (TAGS, 1994He26).
(664 *10*)	4591.1?	0.085 *16*	5.39 *9*	av Eβ=212.4 *38* Iβ=0.023 (TAGS, 1994He26).
(710 *10*)	4544.77?	0.21 *3*	5.10 *7*	av Eβ=229.8 *38* Iβ=0.035 (TAGS, 1994He26).
(722 *10*)	4533.46	0.27 *4*	5.02 *7*	av Eβ=234.1 *39* Iβ=0.07 (TAGS, 1994He26).
(891 *10*)	4364.48?	0.28 *5*	5.33 *8*	av Eβ=299.9 *40* Iβ=0.14 (TAGS, 1994He26).
(1016 *10*)	4239.14	0.24 *4*	5.61 *8*	av Eβ=350.3 *41* Iβ=0.42 (TAGS, 1994He26).
(1798 *10*)	3456.57	0.24 *4*	6.55 *8*	av Eβ=685.4 *45* Iβ=2.20 (TAGS, 1994He26).
(1813 *10*)	3441.7	0.170 *25*	6.71 *7*	av Eβ=692.0 *45* Iβ=0.77 (TAGS, 1994He26).
(1823 *10*)	3431.77?	0.122 *18*	6.87 *7*	av Eβ=696.5 *45* Iβ=1.07 (TAGS, 1994He26).
(1920 *10*)	3334.91	0.18 *3*	6.79 *8*	av Eβ=739.6 *45* Iβ=2.62 (TAGS, 1994He26).

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^{141}Cs β^- decay 1982Ya04 (continued)

β^- radiations (continued)

E(decay)	E(level)	I$\beta^{-\dagger\#}$	Log *ft*	Comments
(1939 *10*)	3315.56	0.43 *6*	6.43 *7*	av Eβ=748.3 *45* Iβ=2.14 (TAGS, 1994He26).
(1981 *10*)	3273.56	0.62 *8*	6.31 *6*	av Eβ=767.1 *45* Iβ=1.90 (TAGS, 1994He26).
(1996 *10*)	3259.29	0.32 *5*	6.61 *7*	av Eβ=773.5 *45* Iβ=1.19 (TAGS, 1994He26).
(2008 *10*)	3247.43	0.61 *9*	6.34 *7*	av Eβ=778.8 *45* Iβ=1.31 (TAGS, 1994He26).
(2012 *10*)	3243.07	0.53 *8*	6.40 *7*	av Eβ=780.7 *45* Iβ=1.07 (TAGS, 1994He26).
(2065 *10*)	3189.69	1.36 *18*	6.04 *6*	av Eβ=804.7 *45* Iβ=1.31 (TAGS, 1994He26).
(2085 *10*)	3170.36?	0.34 *5*	6.65 *7*	av Eβ=813.5 *45* Iβ=0.71 (TAGS, 1994He26).
(2122 *10*)	3132.91?	0.38 *5*	6.64 *6*	av Eβ=830.3 *46* Iβ=0.85 (TAGS, 1994He26).
(2135 *10*)	3120.37	2.3 *3*	5.87 *6*	av Eβ=836.0 *46* Iβ=4.52 (TAGS, 1994He26).
(2143 *10*)	3112.06	0.21 *4*	6.91 *9*	av Eβ=839.8 *46* Iβ=0.85 (TAGS, 1994He26).
(2156 *10*)	3099.54	0.23 *4*	6.88 *8*	av Eβ=845.4 *46* Iβ=1.07 (TAGS, 1994He26).
(2167 *10*)	3087.60	0.48 *7*	6.57 *7*	av Eβ=850.8 *46* Iβ=1.61 (TAGS, 1994He26).
(2177 *10*)	3078.44	0.23 *4*	6.90 *8*	av Eβ=854.9 *46* Iβ=0.77 (TAGS, 1994He26).
(2212 *10*)	3043.07	0.23 *4*	6.93 *8*	av Eβ=871.0 *46* Iβ=0.77 (TAGS, 1994He26).
(2223 *10*)	3031.98	0.33 *5*	6.78 *7*	av Eβ=876.0 *46* Iβ=0.83 (TAGS, 1994He26).
(2250 *10*)	3004.58	0.26 *4*	6.91 *7*	av Eβ=888.4 *46* Iβ=0.83 (TAGS, 1994He26).
(2282 *10*)	2972.68	0.172 *24*	7.11 *7*	av Eβ=902.9 *46* Iβ=1.31 (TAGS, 1994He26).
(2380 *10*)	2874.71	0.38 *6*	6.84 *7*	av Eβ=947.5 *46* Iβ=2.44 (TAGS, 1994He26).
(2805 *10*)	2449.91	0.131 *19*	7.60 *7*	av Eβ=1142.3 *47* Iβ=1.13 (TAGS, 1994He26).
(2860 *10*)	2394.62	0.24 *4*	7.37 *8*	av Eβ=1167.8 *47* Iβ=0.48 (TAGS, 1994He26).
(2872 *10*)	2382.74	0.23 *4*	7.39 *8*	av Eβ=1173.2 *47* Iβ=0.60 (TAGS, 1994He26).
(2891 *10*)	2363.55	0.055 *9*	8.03 *8*	av Eβ=1182.1 *47* Iβ=0.30 (TAGS, 1994He26).
(2981 *10*)	2274.06	0.74 *10*	6.95 *6*	av Eβ=1223.5 *47* Iβ=2.08 (TAGS, 1994He26).
(3112 *10*)	2142.86	1.10 *14*	6.86 *6*	av Eβ=1284.2 *47* Iβ=1.07 (TAGS, 1994He26).
(3148 *10*)	2107.26	0.99 *13*	6.93 *6*	av Eβ=1300.7 *47* Iβ=1.37 (TAGS, 1994He26).
(3193 *10*)	2062.44	0.20 *3*	7.65 *7*	av Eβ=1321.5 *47* Iβ=0.54 (TAGS, 1994He26).
(3245 *10*)	2010.19	0.41 *6*	7.36 *7*	av Eβ=1345.8 *47* Iβ=0.89 (TAGS, 1994He26).
(3313 *10*)	1942.49	0.41 *9*	7.40 *10*	av Eβ=1377.2 *47* Iβ=0.65 (TAGS, 1994He26).
(3381 *10*)	1874.02	0.84 *11*	7.13 *6*	av Eβ=1409.1 *47*

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^{141}Cs β^- decay 1982Ya04 (continued)

β^- radiations (continued)

E(decay)	E(level)	I$\beta^{-\dagger\#}$	Log *ft*	Comments
				Iβ=0.95 (TAGS, 1994He26).
(3401 *10*)	1853.87	0.13 *3*	7.95 *10*	av Eβ=1418.5 *47*
				Iβ=0.15 (TAGS, 1994He26).
(3411 *10*)	1844.54	2.0 *3*	6.77 *7*	av Eβ=1422.8 *47*
				Iβ=0.95 (TAGS, 1994He26).
(3490 *10*)	1765.33	0.33 *5*	7.59 *7*	av Eβ=1459.7 *47*
				Iβ=0.23 (TAGS, 1994He26).
(3491 *10*)	1764.10	0.61 *9*	7.33 *7*	av Eβ=1460.2 *47*
				Iβ=0.54 (TAGS, 1994He26).
(3538 *10*)	1717.29	0.137 *20*	8.00 *7*	av Eβ=1482.1 *47*
				Iβ=0.15 (TAGS, 1994He26).
(3545 *10*)	1709.93	0.55 *7*	7.40 *6*	av Eβ=1485.5 *47*
				Iβ=0.54 (TAGS, 1994He26).
(3565 *10*)	1690.33	0.033 *5*	8.63 *7*	av Eβ=1494.6 *47*
				Iβ=0.036 (TAGS, 1994He26).
(3578 *10*)	1677.02	0.022 *16*	8.8 *4*	av Eβ=1500.8 *47*
				Iβ=0.024 (TAGS, 1994He26).
(3601 *10*)	1654.10	0.28 *4*	7.72 *7*	av Eβ=1511.5 *47*
				Iβ=0.17 (TAGS, 1994He26).
(3625 *10*)	1629.75	0.29 *4*	7.72 *6*	av Eβ=1522.9 *47*
				Iβ=0.10 (TAGS, 1994He26).
(3672 *10*)	1583.14	0.15 *3*	8.03 *9*	av Eβ=1544.6 *47*
				Iβ=0.10 (TAGS, 1994He26).
(3683 *10*)	1572.50	0.49 *7*	7.52 *7*	av Eβ=1549.6 *47*
				Iβ=0.12 (TAGS, 1994He26).
(3709 *10*)	1546.03	0.17 *3*	7.99 *8*	av Eβ=1561.9 *47*
				Iβ=0.06 (TAGS, 1994He26).
(3751 *10*)	1504.00	0.49 *7*	7.55 *7*	av Eβ=1581.6 *47*
				Iβ=0.00 (TAGS, 1994He26).
(3823 *10*)	1432.31	0.39 *6*	7.69 *7*	av Eβ=1615.0 *47*
				Iβ=0.42 (TAGS, 1994He26).
(3914 *10*)	1341.5	0.07 *3*	8.48 *19*	av Eβ=1657.5 *47*
				Iβ=0.36 (TAGS, 1994He26).
(3998 *10*)	1256.79	0.41 *15*	7.75 *16*	av Eβ=1697.1 *47*
				Iβ=0.00 (TAGS, 1994He26).
(4006 *10*)	1249.05	4.1 *6*	6.75 *7*	av Eβ=1700.7 *47*
				Iβ=0.95 (TAGS, 1994He26).
(4023 *10*)	1231.65	0.46 *9*	7.71 *9*	av Eβ=1708.8 *47*
				Iβ=0.12 (TAGS, 1994He26).
(4025 *10*)	1229.80	0.38 *6*	7.80 *7*	av Eβ=1709.7 *47*
				Iβ=0.12 (TAGS, 1994He26).
(4029 *10*)	1226.51	1.92 *25*	7.09 *6*	av Eβ=1711.2 *47*
				Iβ=0.48 (tags, 1994He26).
(4041 *10*)	1214.43	0.31 *7*	7.89 *10*	av Eβ=1716.9 *47*
				Iβ=0.21 (tags, 1994He26).
(4053 *10*)	1202.09	0.82 *22*	7.47 *12*	av Eβ=1722.7 *47*
				Iβ=0.65 (tags, 1994He26).
(4060 *10*)	1195.51	1.8 *8*	7.14 *20*	av Eβ=1725.8 *47*
				Iβ=0.65 (tags, 1994He26).
(4138 *10*)	1116.79	1.42 *19*	7.27 *6*	av Eβ=1762.6 *47*
				Iβ=0.77 (tags, 1994He26).
(4199 *10*)	1056.21	0.23 *6*	8.09 *12*	av Eβ=1791.0 *47*
				Iβ=0.19 (tags, 1994He26).
(4428 *10*)	827.00	0.55 *8*	7.81 *7*	av Eβ=1898.3 *47*
				Iβ=0.42 (tags, 1994He26).
(4508 *10*)	747.03	2.1 *4*	7.27 *9*	av Eβ=1935.8 *47*
				Iβ=0.65 (tags, 1994He26).

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^{141}Cs β^- decay 1982Ya04 (continued)

β^- radiations (continued)

E(decay)	E(level)	I$\beta^{-\dagger\#}$	Log *ft*	Comments
(4546 *10*)	709.44	1.07 *17*	7.57 *7*	av Eβ=1953.4 *47* Iβ=0.65 (tags, 1994He26).
(4611 *10*)	643.81	1.0 *3*	7.63 *13*	av Eβ=1984.2 *47* Iβ=0.36 (tags, 1994He26).
(4645 *10*)	610.13	5.5 *8*	6.90 *7*	av Eβ=2000.0 *47* Iβ=3.3 (tags, 1994He26).
4980 *80*	55.001	60 *11*	6.08 *8*	av Eβ=2260.5 *47* Iβ(0+48+55 levels)=35.6 (tags, 1994He26,1992Gr21).
(5207[@] *10*)	48.528	<4[‡]	>7.3	av Eβ=2263.5 *47*

[†] β^- feeding was deduced from I(γ+ce) imbalance assuming no β^- to g.s.
[‡] From analysis of I(6.5γ,48.5γ) Iβ<4%, log *ft*>7.2.
[#] Absolute intensity per 100 decays.
[@] Existence of this branch is questionable.

$\gamma(^{141}Ba)$

Iγ normalization: I(γ+ce)(g.s.)=100%; see comment on Iβ(g.s.) above.

E_γ [†]	I_γ [&]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	δ [@]	α [#]	Comments
6.469 *50*	20.5 *18*	55.001	(7/2)$^-$	48.528	(5/2)$^-$	M1		482	%Iγ=0.169 *25* Mult.: L1 conversion is much stronger than L2 or L3 conversion. Balance of I(γ+ce) to and from 48.5 level.
48.528 *8*	1000 *30*	48.528	(5/2)$^-$	0.0	3/2$^-$	M1+E2	0.36 *11*	10.2 *14*	%Iγ=8.3 *10* α(K)=6.86 *10*; α(L)=2.7 *10*; α(M)=0.58 *23* α(N)=0.121 *46*; α(O)=0.0164 *59*; α(P)=0.000439 *10* δ: from analysis of L x ray data (1982Ya04). Mult.: α(K)exp=7.03 *18* (1982Ya04). Others: 7.4 *6* (1984Is08), 6.6 *9* (1976Ot03) (normalized to α(K)exp for standard γ's); α(L)exp=1.1 *6* (1984Is08).
54.997 *23*	18.7 *15*	55.001	(7/2)$^-$	0.0	3/2$^-$	[E2]		17.13	%Iγ=0.154 *22* α(K)=5.85 *9*; α(L)=8.87 *13*; α(M)=1.96 *3* α(N)=0.404 *6*; α(O)=0.0518 *8*; α(P)=0.000261 *4*
340.56 *13*	4.3 *3*	1844.54		1504.00					%Iγ=0.036 *5*
441.28 *14*	4.0 *3*	1690.33		1249.05					%Iγ=0.033 *5*
448.42 *12*	11.1 *7*	1195.51		747.03	(9/2$^-$)				%Iγ=0.092 *12*
501.98 *12*	15.4 *9*	1249.05		747.03	(9/2$^-$)				%Iγ=0.127 *17*
509.7 *3*	22 *5*	1256.79	(11/2)	747.03	(9/2$^-$)				%Iγ=0.18 *5*
550.92 *17*	8.3 *12*	1765.33		1214.43					%Iγ=0.069 *13*
555.15 *6*	470 *30*	610.13	(9/2$^-$)	55.001	(7/2)$^-$	D,E2 [‡]			%Iγ=3.9 *5*
561.63 *6*	590 *40*	610.13	(9/2$^-$)	48.528	(5/2)$^-$	E2 [‡]			%Iγ=4.9 *7* Mult.: D,E2 γ with D rejected by ΔJ^π(levels).
569.79 *15*	12.4 *7*	1765.33		1195.51					%Iγ=0.102 *13*
585.39 *11*	34.2 *22*	1195.51		610.13	(9/2$^-$)				%Iγ=0.28 *4*
587.66 *13*	70 *7*	1844.54		1256.79	(11/2)				%Iγ=0.58 *9*
588.79 *7*	480 *30*	643.81	(11/2$^-$)	55.001	(7/2)$^-$	E2 [‡]			%Iγ=4.0 *5* Mult.: D,E2 γ with D rejected by ΔJ^π(levels).
591.75 *14*	21.4 *16*	1202.09		610.13	(9/2$^-$)				%Iγ=0.177 *25*
605.28 *6*	129 *8*	1249.05		643.81	(11/2$^-$)				%Iγ=1.07 *14*
612.97 *8*	31 *3*	1256.79	(11/2)	643.81	(11/2$^-$)				%Iγ=0.26 *4*
613.3 *4*	8 *4*	1844.54		1231.65					%Iγ=0.066 *34*
639.00 *16*	16.8 *16*	1249.05		610.13	(9/2$^-$)				%Iγ=0.139 *21*
642.60 *14*	9.8 *10*	1844.54		1202.09					%Iγ=0.081 *13*
646.66 *7*	133 *13*	1256.79	(11/2)	610.13	(9/2$^-$)	D,E2 [‡]			%Iγ=1.10 *17*
648.98 *8*	72 *5*	1844.54		1195.51					%Iγ=0.59 *8*
654.42 *8*	88 *6*	709.44		55.001	(7/2)$^-$				%Iγ=0.73 *10*
660.88 *11*	95 *10*	709.44		48.528	(5/2)$^-$				%Iγ=0.78 *12*

$^{141}_{56}Ba_{85}$-6

$\gamma(^{141}Ba)$ (continued)

E_γ †	I_γ &	E_i(level)	J_i^π	E_f	J_f^π	Mult.	Comments
692.04 *6*	380 *22*	747.03	(9/2$^-$)	55.001	(7/2)$^-$	D,E2‡	%Iγ=3.1 *4*
697.7 *4*	8 *3*	1341.5		643.81	(11/2$^-$)		%Iγ=0.066 *26*
698.52 *11*	60 *5*	747.03	(9/2$^-$)	48.528	(5/2)$^-$		%Iγ=0.50 *7*
709.42 *15*	19.1 *15*	709.44		0.0	3/2$^-$		%Iγ=0.158 *22*
728.09 *14*	11.2 *8*	2274.06		1546.03			%Iγ=0.093 *13*
771.93 *9*	32.7 *19*	827.00		55.001	(7/2)$^-$		%Iγ=0.27 *4*
778.54 *9*	32.8 *19*	827.00		48.528	(5/2)$^-$		%Iγ=0.27 *4*
808.12 *14*	10.9 *8*	2010.19		1202.09			%Iγ=0.090 *13*
827.00 *12*	19.3 *13*	827.00		0.0	3/2$^-$		%Iγ=0.159 *22*
894.07 *16*	9.9 *8*	1504.00		610.13	(9/2$^-$)		%Iγ=0.082 *12*
902.25 *10*	31.4 *19*	1546.03		643.81	(11/2$^-$)		%Iγ=0.259 *35*
938.34 *16*	19.0 *20*	1765.33		827.00			%Iγ=0.157 *25*
939.18 *14*	9.0 *20*	1583.14		643.81	(11/2$^-$)		%Iγ=0.074 *19*
954.10 *14*	11.3 *8*	2010.19		1056.21			%Iγ=0.093 *13*
973.06 *10*	27.1 *16*	1583.14		610.13	(9/2$^-$)		%Iγ=0.224 *30*
985.98 *13*	19.1 *12*	1629.75		643.81	(11/2$^-$)		%Iγ=0.158 *21*
1007.76 *12*	54 *3*	1056.21		48.528	(5/2)$^-$		%Iγ=0.45 *6*
1017.31 *14*	12.3 *9*	2274.06		1256.79	(11/2)		%Iγ=0.102 *14*
1019.58 *13*	14.5 *10*	1629.75		610.13	(9/2$^-$)		%Iγ=0.120 *16*
1025.03 *13*	16.9 *11*	2274.06		1249.05			%Iγ=0.140 *19*
1043.96 *14*	9.6 *7*	1654.10		610.13	(9/2$^-$)		%Iγ=0.079 *11*
1056.24 *11*	59 *3*	1056.21		0.0	3/2$^-$		%Iγ=0.49 *6*
1061.83 *7*	121 *7*	1116.79		55.001	(7/2)$^-$		%Iγ=1.00 *13*
1066.88 *24*	8.8 *16*	1677.02		610.13	(9/2$^-$)		%Iγ=0.073 *16*
1068.19 *12*	53 *4*	1116.79		48.528	(5/2)$^-$		%Iγ=0.44 *6*
1071.94 *13*	37.1 *23*	2274.06		1202.09			%Iγ=0.31 *4*
1073.48 *16*	16.5 *13*	1717.29		643.81	(11/2$^-$)		%Iγ=0.136 *19*
1097.59 *11*	37.8 *22*	1844.54		747.03	(9/2$^-$)		%Iγ=0.31 *4*
1116.77 *15*	16.6 *13*	1116.79		0.0	3/2$^-$		%Iγ=0.137 *20*
1126.96 *14*	7.6 *5*	1874.02		747.03	(9/2$^-$)		%Iγ=0.063 *9*
1140.50 *7*	127 *88*	1195.51		55.001	(7/2)$^-$		%Iγ=1.0 *7*
1147.00 *11*	240 *25*	1195.51		48.528	(5/2)$^-$		%Iγ=1.98 *31*
1147.2 *3*	121 *22*	1202.09		55.001	(7/2)$^-$		%Iγ=1.00 *22*
1153.64 *7*	112 *7*	1202.09		48.528	(5/2)$^-$		%Iγ=0.93 *12*
1165.87 *12*	37.2 *22*	1214.43		48.528	(5/2)$^-$		%Iγ=0.31 *4*
1171.55 *11*	112 *7*	1226.51		55.001	(7/2)$^-$		%Iγ=0.93 *12*
1176.67 *12*	80 *5*	1231.65		55.001	(7/2)$^-$		%Iγ=0.66 *9*
1178.03 *12*	78 *5*	1226.51		48.528	(5/2)$^-$		%Iγ=0.64 *9*
1181.16 *14*	29.8 *19*	1229.80		48.528	(5/2)$^-$		%Iγ=0.246 *33*
1183.07 *15*	25.4 *17*	1231.65		48.528	(5/2)$^-$		%Iγ=0.210 *29*
1194.02 *11*	500 *30*	1249.05		55.001	(7/2)$^-$		%Iγ=4.1 *6*
1195.63 *18*	32 *8*	1942.49		747.03	(9/2$^-$)		%Iγ=0.26 *7*

$^{141}_{56}Ba_{85}$-7

$\gamma(^{141}Ba)$ (continued)

E_γ [†]	I_γ [&]	E_i(level)	E_f	J_f^π	Comments
1200.85 *15*	15.8 *12*	2449.91	1249.05		%Iγ=0.131 *18*
1210.0 *3*	10.4 *22*	1853.87	643.81	(11/2$^-$)	%Iγ=0.086 *21*
1214.44 *8*	89 *6*	1214.43	0.0	3/2$^-$	%Iγ=0.74 *10*
1226.43 *11*	106 *7*	1226.51	0.0	3/2$^-$	%Iγ=0.88 *12*
1229.95 *12*	42.5 *25*	1229.80	0.0	3/2$^-$	%Iγ=0.35 *5*
1232.96 *13*	25.3 *16*	1942.49	709.44		%Iγ=0.209 *28*
1243.8 *3*	5.5 *8*	1853.87	610.13	(9/2$^-$)	%Iγ=0.045 *9*
1263.93 *12*	20.9 *25*	1874.02	610.13	(9/2$^-$)	%Iγ=0.173 *29*
1277.91 *17*	8.5 *8*	2394.62	1116.79		%Iγ=0.070 *11*
[x]1289.73 *15*	10.2 *8*				%Iγ=0.084 *12*
1315.27 *20*	17.4 *13*	2062.44	747.03	(9/2$^-$)	%Iγ=0.144 *20*
1343.01 *23*	5.6 *6*	2972.68	1629.75		%Iγ=0.046 *7*
1360.30 *17*	29.7 *18*	2107.26	747.03	(9/2$^-$)	%Iγ=0.245 *33*
1383.39 *22*	11.4 *11*	1432.31	48.528	(5/2)$^-$	%Iγ=0.094 *14*
1401.4 *3*	6.2 *9*	3078.44	1677.02		%Iγ=0.051 *10*
1432.35 *16*	56 *3*	1432.31	0.0	3/2$^-$	%Iγ=0.46 *6*
1449.02 *16*	41.3 *25*	1504.00	55.001	(7/2)$^-$	%Iγ=0.34 *5*
1452.6 *3*	6.1 *7*	2062.44	610.13	(9/2$^-$)	%Iγ=0.050 *8*
1455.28 *22*	11.4 *9*	1504.00	48.528	(5/2)$^-$	%Iγ=0.094 *13*
1497.13 *17*	28.5 *17*	2107.26	610.13	(9/2$^-$)	%Iγ=0.235 *31*
1503.7 *3*	4.9 *6*	1504.00	0.0	3/2$^-$	%Iγ=0.040 *7*
1517.57 *18*	35.6 *22*	1572.50	55.001	(7/2)$^-$	%Iγ=0.29 *4*
1523.85 *23*	9.7 *9*	1572.50	48.528	(5/2)$^-$	%Iγ=0.080 *12*
1539.2 *3*	4.5 *7*	3043.07	1504.00		%Iγ=0.037 *7*
1572.55 *19*	24.5 *15*	1572.50	0.0	3/2$^-$	%Iγ=0.202 *27*
1574.8 *3*	6.7 *7*	1629.75	55.001	(7/2)$^-$	%Iγ=0.055 *9*
1598.90 *24*	8.2 *8*	1654.10	55.001	(7/2)$^-$	%Iγ=0.068 *10*
1605.72 *21*	16.3 *12*	1654.10	48.528	(5/2)$^-$	%Iγ=0.135 *19*
1625.76 *20*	18.5 *13*	2874.71	1249.05		%Iγ=0.153 *21*
1630.11 *18*	25.2 *16*	2274.06	643.81	(11/2$^-$)	%Iγ=0.208 *28*
1654.10 *23*	6.6 *7*	2363.55	709.44		%Iγ=0.055 *9*
1661.51 *16*	50.4 *29*	1709.93	48.528	(5/2)$^-$	%Iγ=0.42 *6*
1687.89 *21*	15.2 *12*	3120.37	1432.31		%Iγ=0.126 *18*
1709.5 *3*	15.5 *11*	1709.93	0.0	3/2$^-$	%Iγ=0.128 *18*
1715.40 *22*	56 *4*	1764.10	48.528	(5/2)$^-$	%Iγ=0.46 *6*
1738.7 *3*	4.6 *7*	2382.74	643.81	(11/2$^-$)	%Iγ=0.038 *7*
1751.65 *21*	17.5 *12*	3334.91	1583.14		%Iγ=0.145 *20*
1758.1 *3*	15.1 *12*	2972.68	1214.43		%Iγ=0.125 *18*
1764.4 *3*	17.6 *13*	1764.10	0.0	3/2$^-$	%Iγ=0.145 *20*
1772.74 *25*	18.8 *13*	2382.74	610.13	(9/2$^-$)	%Iγ=0.155 *21*
1783.2 *3*	13.8 *11*	3031.98	1249.05		%Iγ=0.114 *16*
1789.38 *22*	44.3 *26*	1844.54	55.001	(7/2)$^-$	%Iγ=0.37 *5*

$\gamma(^{141}Ba)$ (continued)

E_γ †	I_γ &	E_i(level)	J_i^π	E_f	J_f^π	Comments
1809.2 *3*	12.9 *10*	3004.58		1195.51		%Iγ=0.107 *15*
1818.99 *23*	47.7 *28*	1874.02		55.001	$(7/2)^-$	%Iγ=0.39 *5*
1825.42 *23*	24.7 *15*	1874.02		48.528	$(5/2)^-$	%Iγ=0.204 *27*
1842.7 *3*	9.0 *9*	3099.54		1256.79	(11/2)	%Iγ=0.074 *12*
1851.93 *25*	21.6 *15*	3078.44		1226.51		%Iγ=0.178 *25*
1868.1 *4*	8.7 *12*	3099.54		1231.65		%Iγ=0.072 *13*
1885.9 *3*	24.0 *15*	3087.60		1202.09		%Iγ=0.198 *27*
1893.92 *22*	43.5 *26*	3120.37		1226.51		%Iγ=0.36 *5*
1897.61 *24*	21.9 *14*	3112.06		1214.43		%Iγ=0.181 *24*
1905.93 *15*	43.5 *26*	3120.37		1214.43		%Iγ=0.36 *5*
1917.9 *4*	36.7 *25*	3120.37		1202.09		%Iγ=0.30 *4*
1933.06 *22*	45 *3*	3189.69		1256.79	(11/2)	%Iγ=0.37 *5*
1940.5 *3*	56 *4*	3189.69		1249.05		%Iγ=0.46 *6*
1955.03 *25*	16.9 *12*	2010.19		55.001	$(7/2)^-$	%Iγ=0.140 *19*
1961.2 *3*	10.6 *8*	2010.19		48.528	$(5/2)^-$	%Iγ=0.088 *12*
1965.1 *3*	13.5 *10*	4239.14	$5/2^+,7/2^+,9/2^+$	2274.06		%Iγ=0.112 *16*
x1989.2 *3*	18.3 *14*					%Iγ=0.151 *21*
1994.19 *23*	35.2 *21*	3189.69		1195.51		%Iγ=0.29 *4*
1998.34 *19*	21.1 *14*	3247.43		1249.05		%Iγ=0.174 *24*
2044.1 *3*	19.3 *16*	3273.56		1229.80		%Iγ=0.159 *23*
2047.58 *25*	33.4 *24*	3243.07		1195.51		%Iγ=0.28 *4*
2052.4 *4*	5.3 *6*	2107.26		55.001	$(7/2)^-$	%Iγ=0.044 *7*
2056.8 *6*	15 *3*	3259.29		1202.09		%Iγ=0.124 *29*
2058.50 *23*	56 *4*	2107.26		48.528	$(5/2)^-$	%Iγ=0.46 *6*
2064.08 *24*	41.7 *23*	3120.37		1056.21		%Iγ=0.34 *5*
2066.7 *3*	22.4 *17*	3315.56		1249.05		%Iγ=0.185 *26*
2087.81 *22*	45.5 *27*	2142.86		55.001	$(7/2)^-$	%Iγ=0.38 *5*
2094.35 *23*	45.1 *27*	2142.86		48.528	$(5/2)^-$	%Iγ=0.37 *5*
2139.6 *3*	4.3 *13*	3334.91		1195.51		%Iγ=0.036 *12*
2142.83 *23*	42.5 *26*	2142.86		0.0	$3/2^-$	%Iγ=0.35 *5*
2327.8 *6*	4.0 *10*	2382.74		55.001	$(7/2)^-$	%Iγ=0.033 *9*
2385.5 *3*	20.5 *16*	3441.7		1056.21		%Iγ=0.169 *24*
2387.9 *4*	9.8 *12*	3031.98		643.81	$(11/2^-)$	%Iγ=0.081 *14*
2394.40 *25*	20.5 *13*	2394.62		0.0	$3/2^-$	%Iγ=0.169 *23*
2399.14 *25*	23.3 *15*	3043.07		643.81	$(11/2^-)$	%Iγ=0.192 *26*
2410.9 *3*	16.4 *12*	3120.37		709.44		%Iγ=0.135 *19*
2489.3 *3*	10.4 *13*	3099.54		610.13	$(9/2^-)$	%Iγ=0.086 *15*
2489.3 *3*	10.4 *13*	3132.91?		643.81	$(11/2^-)$	%Iγ=0.086 *15*
x2503.8 *4*	5.7 *8*					%Iγ=0.047 *9*
2533.5 *3*	8.4 *9*	3243.07		709.44		%Iγ=0.069 *11*
2545.6 *6*	7 *3*	3189.69		643.81	$(11/2^-)$	%Iγ=0.058 *26*
2564.4 *4*	13.7 *11*	3273.56		709.44		%Iγ=0.113 *16*

$\gamma(^{141}Ba)$ (continued)

E_γ †	I_γ &	E_i(level)	J_i^π	E_f	J_f^π	Comments
2615.5 *3*	14.4 *12*	3259.29		643.81	(11/2$^-$)	%Iγ=0.119 *17*
2637.5 *3*	11.4 *10*	3247.43		610.13	(9/2$^-$)	%Iγ=0.094 *14*
2671.7 *3*	15.6 *11*	3315.56		643.81	(11/2$^-$)	%Iγ=0.129 *18*
2709.8 *3*	13.1 *15*	3456.57		747.03	(9/2$^-$)	%Iγ=0.108 *18*
2728.6 *4*	7.9 *8*	4670.98	5/2$^+$,7/2$^+$,9/2$^+$	1942.49		%Iγ=0.065 *10*
2819.56 *21*	27 *3*	2874.71		55.001	(7/2)$^-$	%Iγ=0.22 *4*
2846.21 *25*	16.3 *11*	3456.57		610.13	(9/2$^-$)	%Iγ=0.135 *18*
2949.49 *20*	18.4 *12*	3004.58		55.001	(7/2)$^-$	%Iγ=0.152 *21*
2976.8 *3*	16.3 *12*	3031.98		55.001	(7/2)$^-$	%Iγ=0.135 *19*
3032.4 *3*	4.3 *16*	3087.60		55.001	(7/2)$^-$	%Iγ=0.036 *14*
3038.87 *25*	29.9 *21*	3087.60		48.528	(5/2)$^-$	%Iγ=0.247 *34*
3056.9 *32*	3.8 *17*	3112.06		55.001	(7/2)$^-$	%Iγ=0.031 *15*
3071.93 *22*	63 *4*	3120.37		48.528	(5/2)$^-$	%Iγ=0.52 *7*
3077.72 *25*	35.1 *21*	3132.91?		55.001	(7/2)$^-$	%Iγ=0.29 *4*
3098.6 *3*	10.7 *10*	4670.98	5/2$^+$,7/2$^+$,9/2$^+$	1572.50		%Iγ=0.088 *13*
3115.32 *23*	41.1 *26*	3170.36?		55.001	(7/2)$^-$	%Iγ=0.34 *5*
3120.5 *3*	16.4 *12*	3120.37		0.0	3/2$^-$	%Iγ=0.135 *19*
3132.5 *4*	23 *3*	4364.48?	5/2$^+$,7/2$^+$,9/2$^+$	1231.65		%Iγ=0.190 *34*
3134.4 *4*	21 *3*	3189.69		55.001	(7/2)$^-$	%Iγ=0.173 *32*
3169.1 *3*	11.2 *10*	4364.48?	5/2$^+$,7/2$^+$,9/2$^+$	1195.51		%Iγ=0.093 *14*
3183.1 *3*	11.8 *10*	4239.14	5/2$^+$,7/2$^+$,9/2$^+$	1056.21		%Iγ=0.097 *14*
3188.6 *7*	3.5 *10*	3243.07		55.001	(7/2)$^-$	%Iγ=0.029 *9*
3192.2 *3*	41 *5*	3247.43		55.001	(7/2)$^-$	%Iγ=0.34 *6*
3194.4 *4*	19 *5*	3243.07		48.528	(5/2)$^-$	%Iγ=0.16 *5*
3204.3 *3*	9.6 *9*	3259.29		55.001	(7/2)$^-$	%Iγ=0.079 *12*
3218.2 *4*	5.3 *7*	3273.56		55.001	(7/2)$^-$	%Iγ=0.044 *8*
3224.9 *3*	20.5 *15*	3273.56		48.528	(5/2)$^-$	%Iγ=0.169 *24*
3238.2 *4*	4.8 *6*	4670.98	5/2$^+$,7/2$^+$,9/2$^+$	1432.31		%Iγ=0.040 *7*
[x]3252.24 *25*	21.1 *14*					%Iγ=0.174 *24*
3260.2 *4*	13.7 *17*	3315.56		55.001	(7/2)$^-$	%Iγ=0.113 *19*
3273.1 *4*	15.5 *12*	3273.56		0.0	3/2$^-$	%Iγ=0.128 *18*
3303.8 *3*	7.4 *12*	4533.46	5/2$^+$,7/2$^+$,9/2$^+$	1229.80		%Iγ=0.061 *12*
3312.9 *3*	10.4 *10*	4544.77?	5/2$^+$,7/2$^+$,9/2$^+$	1231.65		%Iγ=0.086 *13*
3331.2 *3*	22.1 *16*	4533.46	5/2$^+$,7/2$^+$,9/2$^+$	1202.09		%Iγ=0.183 *25*
3349.4 *3*	15.2 *12*	4544.77?	5/2$^+$,7/2$^+$,9/2$^+$	1195.51		%Iγ=0.126 *18*
3376.9 *3*	9.8 *9*	3431.77?		55.001	(7/2)$^-$	%Iγ=0.081 *12*
3382.9 *4*	4.9 *6*	3431.77?		48.528	(5/2)$^-$	%Iγ=0.040 *7*
3395.6 *9*	3.0 *13*	4591.1?	5/2$^+$,7/2$^+$,9/2$^+$	1195.51		%Iγ=0.025 *11*
3416.5 *5*	3.3 *6*	4533.46	5/2$^+$,7/2$^+$,9/2$^+$	1116.79		%Iγ=0.027 *6*
3474.3 *3*	7.3 *7*	4591.1?	5/2$^+$,7/2$^+$,9/2$^+$	1116.79		%Iγ=0.060 *9*
[x]3494.0 *3*	4.2 *4*					%Iγ=0.035 *5*
3529.2 *4*	3.3 *5*	4239.14	5/2$^+$,7/2$^+$,9/2$^+$	709.44		%Iγ=0.027 *5*

^{141}Cs β^- decay 1982Ya04 (continued)

$\gamma(^{141}Ba)$ (continued)

† 57 gammas reported by 1976Ot03 were not observed by 1982Ya04 nor by 1977TaZZ; 2221.7γ, 2961.34γ, 3936.2γ reported by 1977TaZZ were not observed by 1982Ya04.
‡ From analysis of ce(K) (1976Ot03).
# Additional information 1.
@ Additional information 2.
& For absolute intensity per 100 decays, multiply by 0.0083 *10*.
^{x} γ ray not placed in level scheme.

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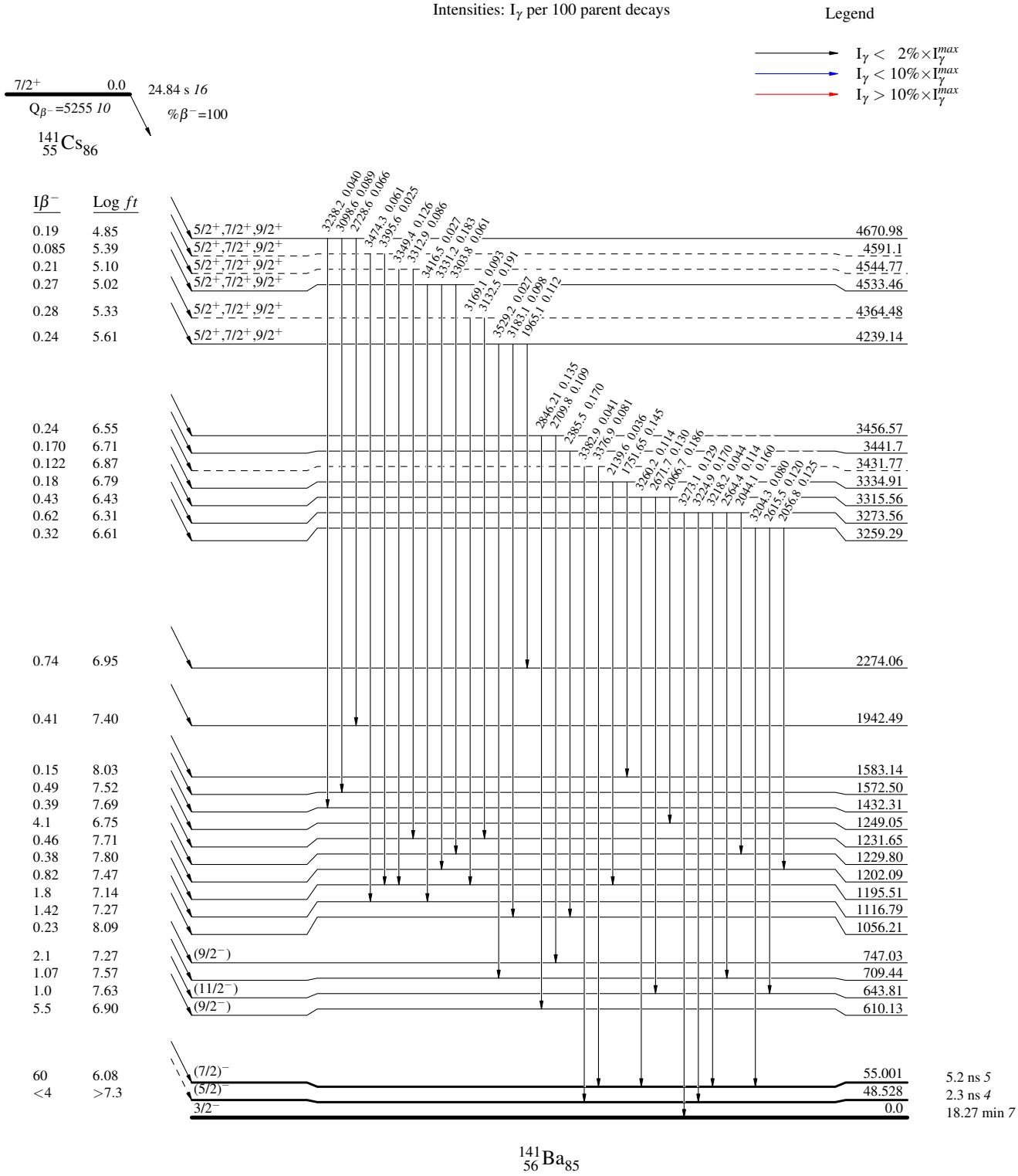
^{141}Cs β^- decay 1982Ya04

Decay Scheme

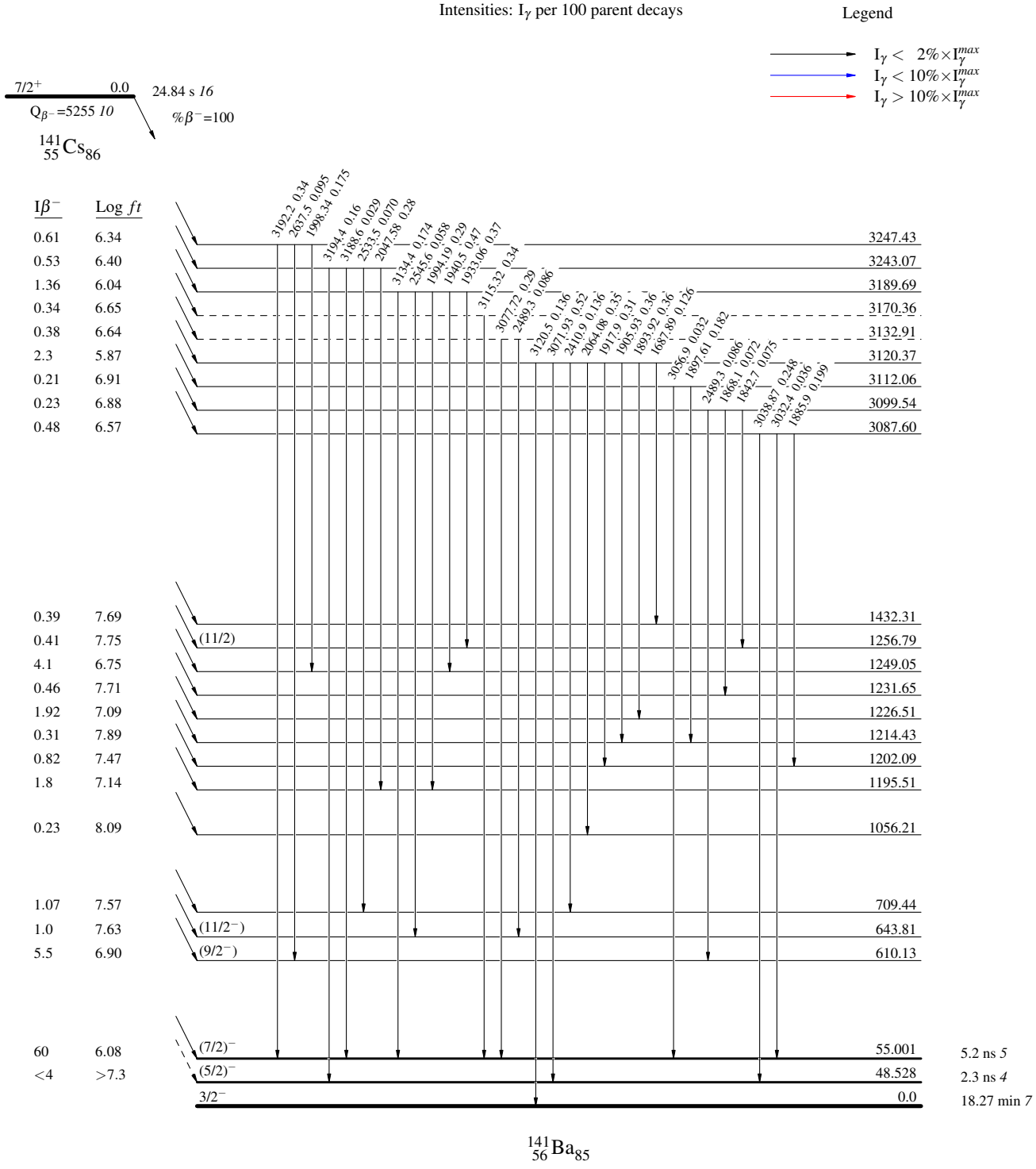
Intensities: I_γ per 100 parent decays



^{141}Cs β^- decay 1982Ya04

Decay Scheme (continued)

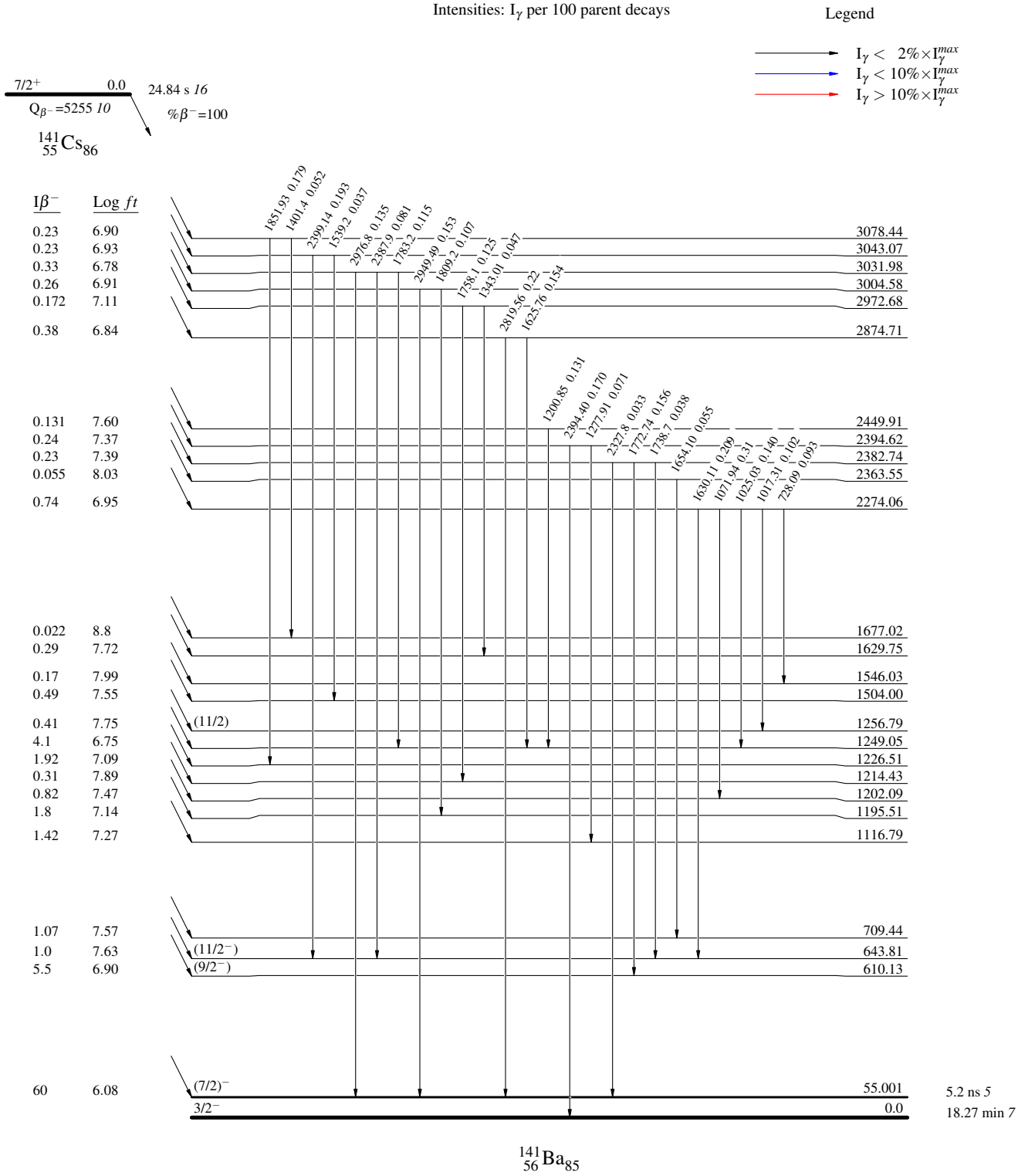
Intensities: I_γ per 100 parent decays



^{141}Cs β^- decay 1982Ya04

Decay Scheme (continued)

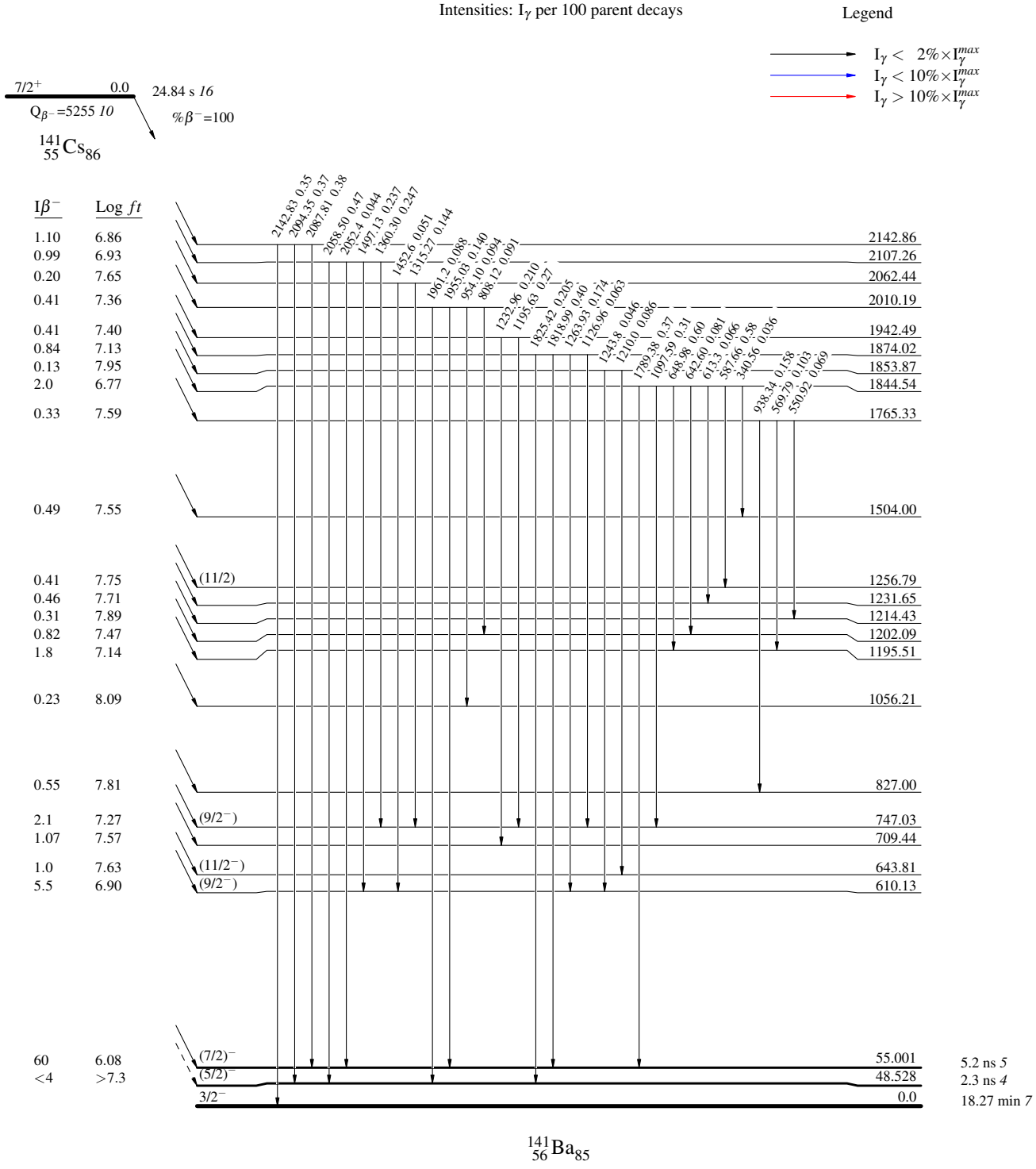
Intensities: I_γ per 100 parent decays



^{141}Cs β^- decay 1982Ya04

Decay Scheme (continued)

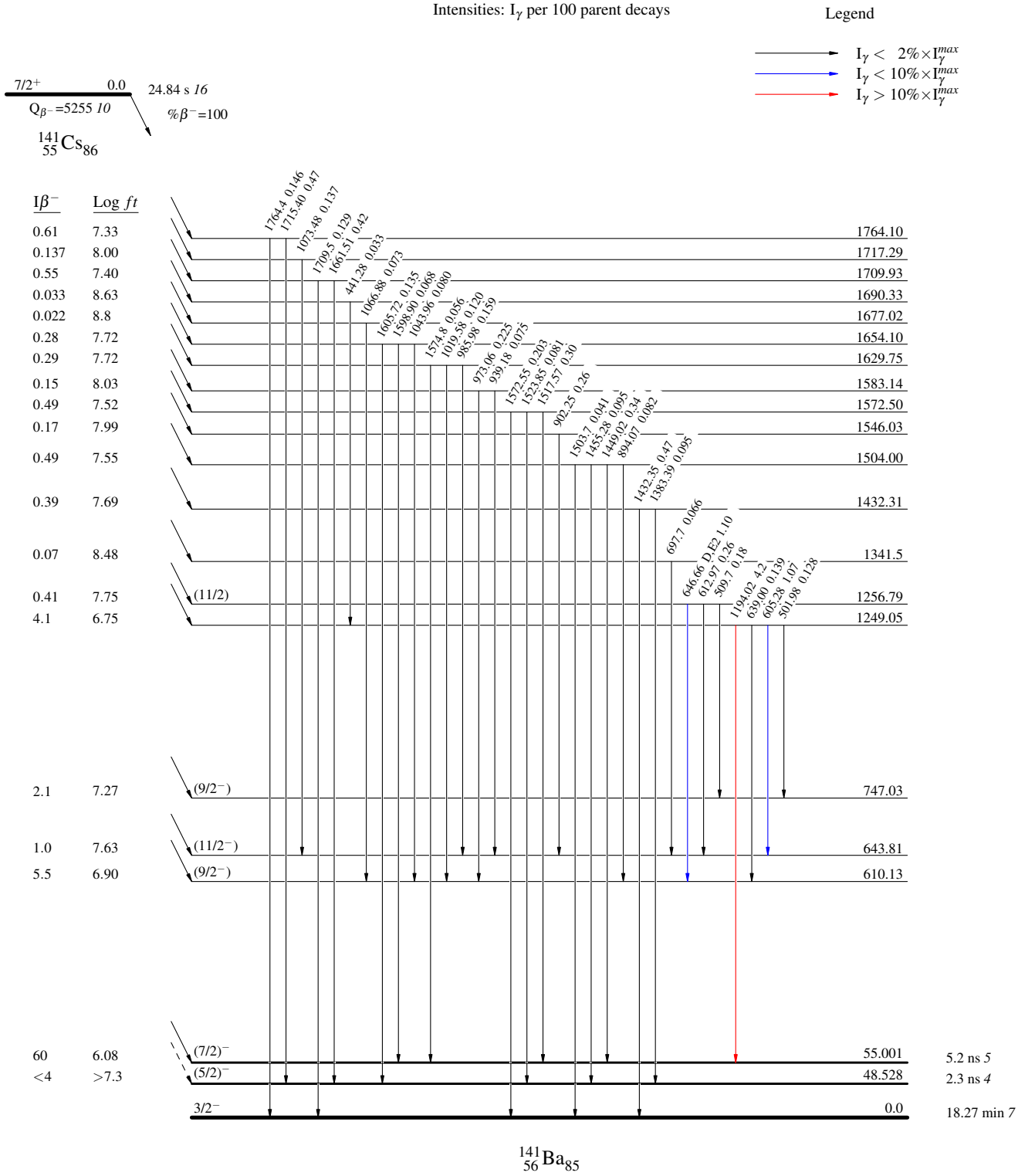
Intensities: I_γ per 100 parent decays



^{141}Cs β^- decay 1982Ya04

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays



^{141}Cs β^- decay 1982Ya04

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays