

**<sup>83</sup>Y ε decay (7.08 min) 1976Li27**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 125, 201 (2015)	31-Dec-2014

Parent: <sup>83</sup>Y: E=0.0; J<sup>π</sup>=9/2<sup>+</sup>; T<sub>1/2</sub>=7.08 min 8; Q(ε)=4593 20; %ε+%β<sup>+</sup> decay=100.0

1976Li27: <sup>83</sup>Y activity from proton spallation on a Mo target with E(p)=660 MeV followed by electromagnetic mass separation.

Measured E<sub>γ</sub>, I<sub>γ</sub>, γγ, and γ(t) using 2 coaxial Ge(Li) detectors and a low-energy Ge(Li) detector.

1973Si16: <sup>83</sup>Y activity from <sup>84</sup>Sr(p,2n) with E(p)=31 MeV followed by chemical separation. Measured E<sub>γ</sub>, I<sub>γ</sub>, γγ, γ(t) using two Ge(Li) detectors and a Ge(Li) x-ray detector; measured E<sub>ce</sub>, I<sub>ce</sub> using a cooled Si detector.

A total energy release of 4900 keV 400 is calculated for this decay scheme using the RADLST code, in general agreement with the

Q value of 4593 keV 20. However, there are a large number of unplaced γ rays and a ≈1.5 MeV gap between the highest

observed energy level and the Q value, suggesting that the decay scheme is incomplete.

Additional information 1.

α: Additional information 2.

<sup>83</sup>Sr Levels

E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>	T <sub>1/2</sub> <sup>‡</sup>	E(level) <sup>†</sup>	J <sup>π</sup> <sup>‡</sup>
0.0	7/2 <sup>+</sup>	32.41 h 3	1233.40 11	(7/2,9/2)
35.47 6	9/2 <sup>+</sup>		1239.19 19	(7/2,9/2,11/2 <sup>+</sup> )
259.15 9	1/2 <sup>-</sup>	4.95 s 12	1365.9 3	(7/2,9/2)
489.92 8	(7/2 <sup>-</sup> )		1371.98 6	(7/2 <sup>+</sup> )
545.4 3			1434.12 19	(7/2,9/2)
650.81 14	(3/2 <sup>+</sup> ,5/2 <sup>-</sup> )		1498.83 15	(7/2,9/2)
681.11 22	(3/2 <sup>-</sup> )		1604.8 4	(7/2,9/2)
717.53 8	(7/2,9/2)		1745.4 8	(7/2,9/2,11/2 <sup>+</sup> )
753.72 15	(5/2 <sup>-</sup> )		1752.6 4	(7/2,9/2,11/2 <sup>+</sup> )
790.83 17			1882.50 23	(7/2,9/2)
800.40 10	11/2 <sup>+</sup>		1915.4 3	(7/2,9/2 <sup>-</sup> )
846.3 3	(7/2,9/2 <sup>-</sup> )		1964.1 4	(7/2,9/2)
894.16 11	11/2 <sup>+</sup>		2017.0 5	(7/2,9/2)
951.77 8	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )		2074.0 8	(7/2,9/2)
962.79 7	(7/2,9/2,11/2 <sup>+</sup> )		2089.7 8	(7/2,9/2,11/2 <sup>+</sup> )
1092.8 3			2373.2 6	(7/2,9/2,11/2 <sup>+</sup> )
1098.06 11			2905.2 3	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )
1140.71 25			2943.9 8	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )

<sup>†</sup> From a least-squares fit to E<sub>γ</sub>, by evaluator.

<sup>‡</sup> From the Adopted Levels.

ε,β<sup>+</sup> radiations

E(decay)	E(level)	I <sub>β<sup>+</sup></sub> <sup>†</sup>	I <sub>ε</sub> <sup>†</sup>	Log ft	I(ε+β <sup>+</sup> ) <sup>†</sup>	Comments
(1649 20)	2943.9	0.018 7	0.19 7	5.75 17	0.21 8	av Eβ=275.7 86; εK=0.799 8; εL=0.0943 10; εM+=0.02058 22
(1688 20)	2905.2	0.057 20	0.48 16	5.37 15	0.54 18	av Eβ=292.3 87; εK=0.783 9; εL=0.0924 11; εM+=0.02016 24
(2220 20)	2373.2	0.04 2	0.04 2	6.66 22	0.08 4	av Eβ=525.3 89; εK=0.470 12; εL=0.0552 15; εM+=0.0120 3
(2503 20)	2089.7	0.04 2	0.02 1	7.05 22	0.06 3	av Eβ=652.3 91; εK=0.323 9; εL=0.0379 11; εM+=0.00826 23
(2519 20)	2074.0	0.04 2	0.02 1	7.07 22	0.06 3	av Eβ=659.4 91; εK=0.316 9; εL=0.0371 11; εM+=0.00809 23
(2576 20)	2017.0	0.09 3	0.043 17	6.79 17	0.13 5	av Eβ=685.1 91; εK=0.292 8; εL=0.0343 10;

Continued on next page (footnotes at end of table)

$^{83}\text{Y}$   $\epsilon$  decay (7.08 min) **1976Li27** (continued) $\epsilon, \beta^+$  radiations (continued)

E(decay)	E(level)	$I\beta^+$ †	$I\epsilon$ †	Log <i>ft</i>	$I(\epsilon + \beta^+)$ †	Comments
(2629 20)	1964.1	0.12 4	0.053 19	6.72 16	0.17 6	$\epsilon M^+ = 0.00748$ 21 av $E\beta = 709.1$ 91; $\epsilon K = 0.272$ 8; $\epsilon L = 0.0319$ 9; $\epsilon M^+ = 0.00696$ 20
(2678 20)	1915.4	0.35 11	0.14 5	6.30 15	0.49 16	av $E\beta = 731.2$ 91; $\epsilon K = 0.255$ 7; $\epsilon L = 0.0299$ 9; $\epsilon M^+ = 0.00652$ 18
(2711 20)	1882.50	0.25 9	0.10 3	6.48 15	0.35 12	av $E\beta = 746.2$ 91; $\epsilon K = 0.244$ 7; $\epsilon L = 0.0286$ 8; $\epsilon M^+ = 0.00623$ 17
(2840 20)	1752.6	0.18 7	0.056 21	6.76 17	0.24 9	av $E\beta = 805.4$ 92; $\epsilon K = 0.205$ 6; $\epsilon L = 0.0240$ 7; $\epsilon M^+ = 0.00524$ 14
(2848 20)	1745.4	0.05 2	0.02 1	7.30 19	0.07 3	av $E\beta = 808.7$ 92; $\epsilon K = 0.203$ 6; $\epsilon L = 0.0238$ 7; $\epsilon M^+ = 0.00519$ 14
(2988 20)	1604.8	0.09 4	0.021 10	7.23 20	0.11 5	av $E\beta = 873.2$ 92; $\epsilon K = 0.169$ 5; $\epsilon L = 0.0198$ 6; $\epsilon M^+ = 0.00433$ 12
(3094 20)	1498.83	0.9 3	0.19 7	6.31 16	1.1 4	av $E\beta = 922.0$ 93; $\epsilon K = 0.148$ 4; $\epsilon L = 0.0174$ 5; $\epsilon M^+ = 0.00379$ 10
(3159 20)	1434.12	0.21 8	0.039 14	7.01 16	0.25 9	av $E\beta = 951.9$ 93; $\epsilon K = 0.137$ 4; $\epsilon L = 0.0160$ 4; $\epsilon M^+ = 0.00350$ 9
(3221 20)	1371.98	12 4	2.0 7	5.31 16	14 5	av $E\beta = 980.7$ 93; $\epsilon K = 0.127$ 3; $\epsilon L = 0.0149$ 4; $\epsilon M^+ = 0.00324$ 8
(3227 20)	1365.9	0.21 8	0.035 13	7.08 17	0.24 9	av $E\beta = 983.5$ 93; $\epsilon K = 0.126$ 3; $\epsilon L = 0.0148$ 4; $\epsilon M^+ = 0.00322$ 8
(3354 20)	1239.19	0.55 18	0.08 3	6.76 15	0.63 21	av $E\beta = 1042.3$ 93; $\epsilon K = 0.109$ 3; $\epsilon L = 0.0127$ 3; $\epsilon M^+ = 0.00277$ 7
(3360 20)	1233.40	1.3 4	0.19 6	6.39 15	1.5 5	av $E\beta = 1045.0$ 93; $\epsilon K = 0.108$ 3; $\epsilon L = 0.0126$ 3; $\epsilon M^+ = 0.00276$ 7
(3452 20)	1140.71	0.23 8	0.029 10	7.22 16	0.26 9	av $E\beta = 1088.2$ 94; $\epsilon K = 0.0972$ 22; $\epsilon L = 0.0114$ 3; $\epsilon M^+ = 0.00248$ 6
(3495 20)	1098.06	0.07 4	0.008 4	7.76 22	0.08 4	av $E\beta = 1108.1$ 94; $\epsilon K = 0.0928$ 21; $\epsilon L = 0.01086$ 25; $\epsilon M^+ = 0.00237$ 6
(3500 20)	1092.8	0.11 4	0.013 5	7.59 19	0.12 5	av $E\beta = 1110.5$ 94; $\epsilon K = 0.0922$ 21; $\epsilon L = 0.01079$ 25; $\epsilon M^+ = 0.00235$ 6
(3630 20)	962.79	1.3 5	0.13 5	6.62 16	1.4 5	av $E\beta = 1171.3$ 94; $\epsilon K = 0.0802$ 18; $\epsilon L = 0.00938$ 21; $\epsilon M^+ = 0.00204$ 5
(3699 20)	894.16	2.8 10	0.26 9	6.32 16	3.1 11	av $E\beta = 1203.5$ 94; $\epsilon K = 0.0746$ 16; $\epsilon L = 0.00873$ 19; $\epsilon M^+ = 0.00190$ 4
(3747 20)	846.3	0.07 4	0.006 3	7.94 22	0.08 4	av $E\beta = 1225.9$ 94; $\epsilon K = 0.0710$ 15; $\epsilon L = 0.00831$ 18; $\epsilon M^+ = 0.00181$ 4
(3793 20)	800.40	0.7 3	0.06 2	6.97 17	0.8 3	av $E\beta = 1247.5$ 94; $\epsilon K = 0.0678$ 14; $\epsilon L = 0.00793$ 17; $\epsilon M^+ = 0.00173$ 4
(3802 20)	790.83	0.27 10	0.022 8	7.42 17	0.29 11	av $E\beta = 1252.0$ 94; $\epsilon K = 0.0671$ 14; $\epsilon L = 0.00785$ 16; $\epsilon M^+ = 0.00171$ 4
(3875 20)	717.53	1.3 5	0.10 4	6.78 16	1.4 5	av $E\beta = 1286.4$ 95; $\epsilon K = 0.0624$ 13; $\epsilon L = 0.00730$ 15; $\epsilon M^+ = 0.00159$ 4
(4048 20)	545.4	0.31 11	0.020 7	7.52 16	0.33 12	av $E\beta = 1367.6$ 95; $\epsilon K = 0.0529$ 10; $\epsilon L = 0.00619$ 12; $\epsilon M^+ = 0.00135$ 3
(4558 20)	35.47	63 21	2.6 9	5.51 15	66 22	av $E\beta = 1609.6$ 96; $\epsilon K = 0.0339$ 6; $\epsilon L = 0.00396$ 7; $\epsilon M^+ = 0.000864$ 15
(4593 20)	0.0	$1 \times 10^1$ 3	0.2 12	6.6 24	6 32	av $E\beta = 1626.5$ 96; $\epsilon K = 0.0330$ 6; $\epsilon L = 0.00385$ 7; $\epsilon M^+ = 0.000839$ 14 $I(\epsilon + \beta^+)$ : from $I\gamma(\gamma^\pm)$ ; other 6 26 from intensity balance.

† Absolute intensity per 100 decays.

<sup>83</sup>Y ε decay (7.08 min) [1976Li27](#) (continued)

γ(<sup>83</sup>Sr)

I<sub>γ</sub> normalization: from annihilation intensity I<sub>γ</sub>(γ<sup>±</sup>)=2.98×10<sup>4</sup> 95 for I<sub>γ</sub>(882γ)=1000.

E <sub>γ</sub>	I <sub>γ</sub> <sup>‡</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>†</sup>	α	Comments
35.5 1	3.07×10 <sup>3</sup> 20	35.47	9/2 <sup>+</sup>	0.0	7/2 <sup>+</sup>	M1	3.13	α(exp)=3.2 3 α(K)=2.75 5; α(L)=0.320 6; α(M)=0.0539 9; α(N)=0.00670 11; α(O)=0.000420 7 α(exp): from intensity balance ( <a href="#">1976Li27</a> ). Mult.: from α(exp).
138.8 4	16 2	1371.98	(7/2 <sup>+</sup> )	1233.40	(7/2,9/2)			
195.4 4	25 3	846.3	(7/2,9/2 <sup>-</sup> )	650.81	(3/2 <sup>+</sup> ,5/2 <sup>-</sup> )			
227.5 2	18 2	717.53	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )			
234.4 3	10 2	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )	717.53	(7/2,9/2)			
245.3 4	10 3	962.79	(7/2,9/2,11/2 <sup>+</sup> )	717.53	(7/2,9/2)			
259.1 1	330 20	259.15	1/2 <sup>-</sup>	0.0	7/2 <sup>+</sup>	E3	0.1416	α(K)=0.1192 17; α(L)=0.0188 3; α(M)=0.00319 5; α(N)=0.000373 6; α(O)=1.636×10 <sup>-5</sup> 23 I <sub>γ</sub> : equilibrium transition rate is I <sub>γ</sub> =320 20.
270.5 3	12.0 15	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )	681.11	(3/2 <sup>-</sup> )			
391.6 2	230 15	650.81	(3/2 <sup>+</sup> ,5/2 <sup>-</sup> )	259.15	1/2 <sup>-</sup>			
409.3 4	11 2	1371.98	(7/2 <sup>+</sup> )	962.79	(7/2,9/2,11/2 <sup>+</sup> )			
420.3 3	292 20	1371.98	(7/2 <sup>+</sup> )	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )			
421.8 3	12	681.11	(3/2 <sup>-</sup> )	259.15	1/2 <sup>-</sup>			
<sup>x</sup> 434.6 5	12 3							
454.4 2	380 10	489.92	(7/2 <sup>-</sup> )	35.47	9/2 <sup>+</sup>			
489.9 <sup>#</sup> 2	878 19	489.92	(7/2 <sup>-</sup> )	0.0	7/2 <sup>+</sup>			I <sub>γ</sub> : from intensity ratio in Fig. 5 of <a href="#">1976Li27</a> ; I <sub>γ</sub> =920 20 for the doublet.
489.9 <sup>#</sup> 2	42.2 9	1140.71		650.81	(3/2 <sup>+</sup> ,5/2 <sup>-</sup> )			
494.5 2	116 15	753.72	(5/2 <sup>-</sup> )	259.15	1/2 <sup>-</sup>			
525.6 4	12 3	1371.98	(7/2 <sup>+</sup> )	846.3	(7/2,9/2 <sup>-</sup> )			
545.4 3	53 9	545.4		0.0	7/2 <sup>+</sup>			
547.1 3	45 9	1498.83	(7/2,9/2)	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )			
581.1 3	23 3	1371.98	(7/2 <sup>+</sup> )	790.83				
603.0 3	10 2	1092.8		489.92	(7/2 <sup>-</sup> )			
618.2 2	97 7	1371.98	(7/2 <sup>+</sup> )	753.72	(5/2 <sup>-</sup> )			
654.5 2	31 3	1371.98	(7/2 <sup>+</sup> )	717.53	(7/2,9/2)			
682.1 1	197 9	717.53	(7/2,9/2)	35.47	9/2 <sup>+</sup>			
717.6 2	72 3	717.53	(7/2,9/2)	0.0	7/2 <sup>+</sup>			
721.2 2	168 7	1371.98	(7/2 <sup>+</sup> )	650.81	(3/2 <sup>+</sup> ,5/2 <sup>-</sup> )			
743.5 1	195 9	1233.40	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )			
764.9 6	64 8	800.40	11/2 <sup>+</sup>	35.47	9/2 <sup>+</sup>			
<sup>x</sup> 781.5								
790.8 2	70 7	790.83		0.0	7/2 <sup>+</sup>			
800.4 1	80 5	800.40	11/2 <sup>+</sup>	0.0	7/2 <sup>+</sup>	[E2]	9.93×10 <sup>-4</sup>	α(K)=0.000878 13; α(L)=9.67×10 <sup>-5</sup> 14;

$^{83}\text{Y}$   $\varepsilon$  decay (7.08 min)  $^{197}\text{Li27}$  (continued)

$\gamma(^{83}\text{Sr})$  (continued)

$E_\gamma$	$I_\gamma^\ddagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. <sup>†</sup>	$\delta^\ddagger$	$\alpha$	Comments
									$\alpha(\text{M})=1.623\times 10^{-5}$ 23; $\alpha(\text{N})=2.03\times 10^{-6}$ 3 $\alpha(\text{O})=1.296\times 10^{-7}$ 19
827		1371.98	(7/2 <sup>+</sup> )	545.4					
858.7 1	510 20	894.16	11/2 <sup>+</sup>	35.47	9/2 <sup>+</sup>	M1+E2	-0.83 13	$7.99\times 10^{-4}$	$\alpha(\text{K})=0.000708$ 11; $\alpha(\text{L})=7.69\times 10^{-5}$ 12; $\alpha(\text{M})=1.292\times 10^{-5}$ 21; $\alpha(\text{N})=1.621\times 10^{-6}$ 25 $\alpha(\text{O})=1.055\times 10^{-7}$ 16
875.8 3	29 5	1365.9	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )				
882.1 1	1000 25	1371.98	(7/2 <sup>+</sup> )	489.92	(7/2 <sup>-</sup> )				
893.9 4	18 4	894.16	11/2 <sup>+</sup>	0.0	7/2 <sup>+</sup>	[E2]		$7.55\times 10^{-4}$	$\alpha(\text{K})=0.000668$ 10; $\alpha(\text{L})=7.32\times 10^{-5}$ 11; $\alpha(\text{M})=1.228\times 10^{-5}$ 18; $\alpha(\text{N})=1.537\times 10^{-6}$ 22 $\alpha(\text{O})=9.88\times 10^{-8}$ 14
916.5 5	13 3	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )	35.47	9/2 <sup>+</sup>				
927.3 1	139 7	962.79	(7/2,9/2,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>				
931.5 5	15 4	1882.50	(7/2,9/2)	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )				
943.6 5	8.2 25	1434.12	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )				
951.8 1	310 15	951.77	(5/2 <sup>+</sup> ,7/2 <sup>-</sup> )	0.0	7/2 <sup>+</sup>				
962.8 1	85 5	962.79	(7/2,9/2,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>				
1001.2 6	13 3	2373.2	(7/2,9/2,11/2 <sup>+</sup> )	1371.98	(7/2 <sup>+</sup> )				
1062.6 1	7.5 25	1098.06		35.47	9/2 <sup>+</sup>				
1092.4 6	10 3	1092.8		0.0	7/2 <sup>+</sup>				
1097.2 8	6 3	1098.06		0.0	7/2 <sup>+</sup>				
1115.0 5	10 3	1604.8	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )				
<sup>x</sup> 1154.4									
<sup>x</sup> 1165									
1197.9 2	58 5	1233.40	(7/2,9/2)	35.47	9/2 <sup>+</sup>				
1203.6 5	11 2	1239.19	(7/2,9/2,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>				
1233.3 6	10 2	1233.40	(7/2,9/2)	0.0	7/2 <sup>+</sup>				
1239.2 2	91 4	1239.19	(7/2,9/2,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>				
1264.3 4	15.0 25	1915.4	(7/2,9/2 <sup>-</sup> )	650.81	(3/2 <sup>+</sup> ,5/2 <sup>-</sup> )				
1336.5 1	490 20	1371.98	(7/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>				
1366.4 6	10 3	1365.9	(7/2,9/2)	0.0	7/2 <sup>+</sup>				
1371.9 1	160 8	1371.98	(7/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>				
<sup>x</sup> 1378.8 8	5.0 18								
1392.4 3	22 2	1882.50	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )				
1407.1 10	5.1 15	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	1498.83	(7/2,9/2)				
1434.2 2	32 3	1434.12	(7/2,9/2)	0.0	7/2 <sup>+</sup>				
1463.4 3	73 9	1498.83	(7/2,9/2)	35.47	9/2 <sup>+</sup>				
1473.8 6	11 2	1964.1	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )				
1498.8 2	68 6	1498.83	(7/2,9/2)	0.0	7/2 <sup>+</sup>				
<sup>x</sup> 1508.2 6	11.0 15								
1527.2 10	5.2 15	2017.0	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )				
1532.2 10	3.2 15	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	1371.98	(7/2 <sup>+</sup> )				
<sup>x</sup> 1540.1 7	4.7 15								

$^{83}\text{Y}$   $\varepsilon$  decay (7.08 min) [1976Li27](#) (continued)

$\gamma(^{83}\text{Sr})$  (continued)

$E_\gamma$	$I_\gamma^{\ddagger}$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$
1584.3 10	4.2 20	2074.0	(7/2,9/2)	489.92	(7/2 <sup>-</sup> )
1604.6 8	7.2 20	1604.8	(7/2,9/2)	0.0	7/2 <sup>+</sup>
<sup>x</sup> 1640.1 1	9.7 21				
1710.0 15	4 2	1745.4	(7/2,9/2,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>
1717.0 8	6.7 23	1752.6	(7/2,9/2,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>
1745.3 9	7.2 21	1745.4	(7/2,9/2,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>
1752.6 4	31 5	1752.6	(7/2,9/2,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>
<sup>x</sup> 1811					
<sup>x</sup> 1819.9					
<sup>x</sup> 1826.3					
1846.8 5	12 3	1882.50	(7/2,9/2)	35.47	9/2 <sup>+</sup>
<sup>x</sup> 1855.0 4	16.6 23				
<sup>x</sup> 1872					
1879.8 7	20 4	1915.4	(7/2,9/2 <sup>-</sup> )	35.47	9/2 <sup>+</sup>
1882.2 8	7 3	1882.50	(7/2,9/2)	0.0	7/2 <sup>+</sup>
<sup>x</sup> 1909.6					
1915.7 4	42 5	1915.4	(7/2,9/2 <sup>-</sup> )	0.0	7/2 <sup>+</sup>
1928 2	4 2	1964.1	(7/2,9/2)	35.47	9/2 <sup>+</sup>
1942.3 10	4.3 15	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	962.79	(7/2,9/2,11/2 <sup>+</sup> )
1964.5 6	12.6 20	1964.1	(7/2,9/2)	0.0	7/2 <sup>+</sup>
<sup>x</sup> 1973.0 9	5.6 18				
2011.1 5	19 3	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	894.16	11/2 <sup>+</sup>
2016.9 6	15.3 24	2017.0	(7/2,9/2)	0.0	7/2 <sup>+</sup>
2049.0 15	4.2 20	2943.9	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	894.16	11/2 <sup>+</sup>
2054.1 12	6.3 20	2089.7	(7/2,9/2,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>
<sup>x</sup> 2068.0 6	9.3 17				
2073.6 12	6.0 24	2074.0	(7/2,9/2)	0.0	7/2 <sup>+</sup>
2089.8 10	4 2	2089.7	(7/2,9/2,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>
<sup>x</sup> 2096.3 10	5.5 22				
2104.9 8	9.7 18	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	800.40	11/2 <sup>+</sup>
<sup>x</sup> 2112.2 7	10.7 18				
<sup>x</sup> 2126.1 10	6.2 18				
<sup>x</sup> 2147.0 25	3.5 16				
<sup>x</sup> 2153.9					
<sup>x</sup> 2178.7 8	12.1 22				
2187 1	5 2	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	717.53	(7/2,9/2)
<sup>x</sup> 2224.5 15	5 2				
<sup>x</sup> 2250 1	4 2				
<sup>x</sup> 2260.4 9	5.4 20				
<sup>x</sup> 2317.4 6	9.4 16				
<sup>x</sup> 2368 1	2 1				
<sup>x</sup> 2393.8 9	6.5 32				
<sup>x</sup> 2400.0 16	3.6 18				
<sup>x</sup> 2694.0 12	3.9 18				

$^{83}\text{Y}$   $\varepsilon$  decay (7.08 min) [1976Li27](#) (continued)

$\gamma(^{83}\text{Sr})$  (continued)

$E_\gamma$	$I_\gamma^\ddagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	$E_\gamma$	$I_\gamma^\ddagger$	$E_i(\text{level})$
<sup>x</sup> 2729 2	4.5 20					<sup>x</sup> 2973 2	2.7 15	
<sup>x</sup> 2734 2	2 1					<sup>x</sup> 2981 2	5.4 20	
<sup>x</sup> 2829.8 17	5 2					<sup>x</sup> 3060 2	2.5 10	
2869.6 15	6.7 21	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>	<sup>x</sup> 3220.0 25	3.5 16	
<sup>x</sup> 2879.2 15	12.1 23					<sup>x</sup> 3251 3	3.8 18	
2905.3 9	34 4	2905.2	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>	<sup>x</sup> 3297 2	5.5 18	
2909 2	4 2	2943.9	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	35.47	9/2 <sup>+</sup>	<sup>x</sup> 3420 4	2 1	
2944.0 10	25 3	2943.9	(7/2 <sup>+</sup> ,9/2 <sup>+</sup> ,11/2 <sup>+</sup> )	0.0	7/2 <sup>+</sup>			

† From the Adopted Gammas, except where noted.

‡ For absolute intensity per 100 decays, multiply by 0.0062 20.

# Multiply placed.

<sup>x</sup>  $\gamma$  ray not placed in level scheme.

<sup>83</sup>Y ε decay (7.08 min) 1976Li27

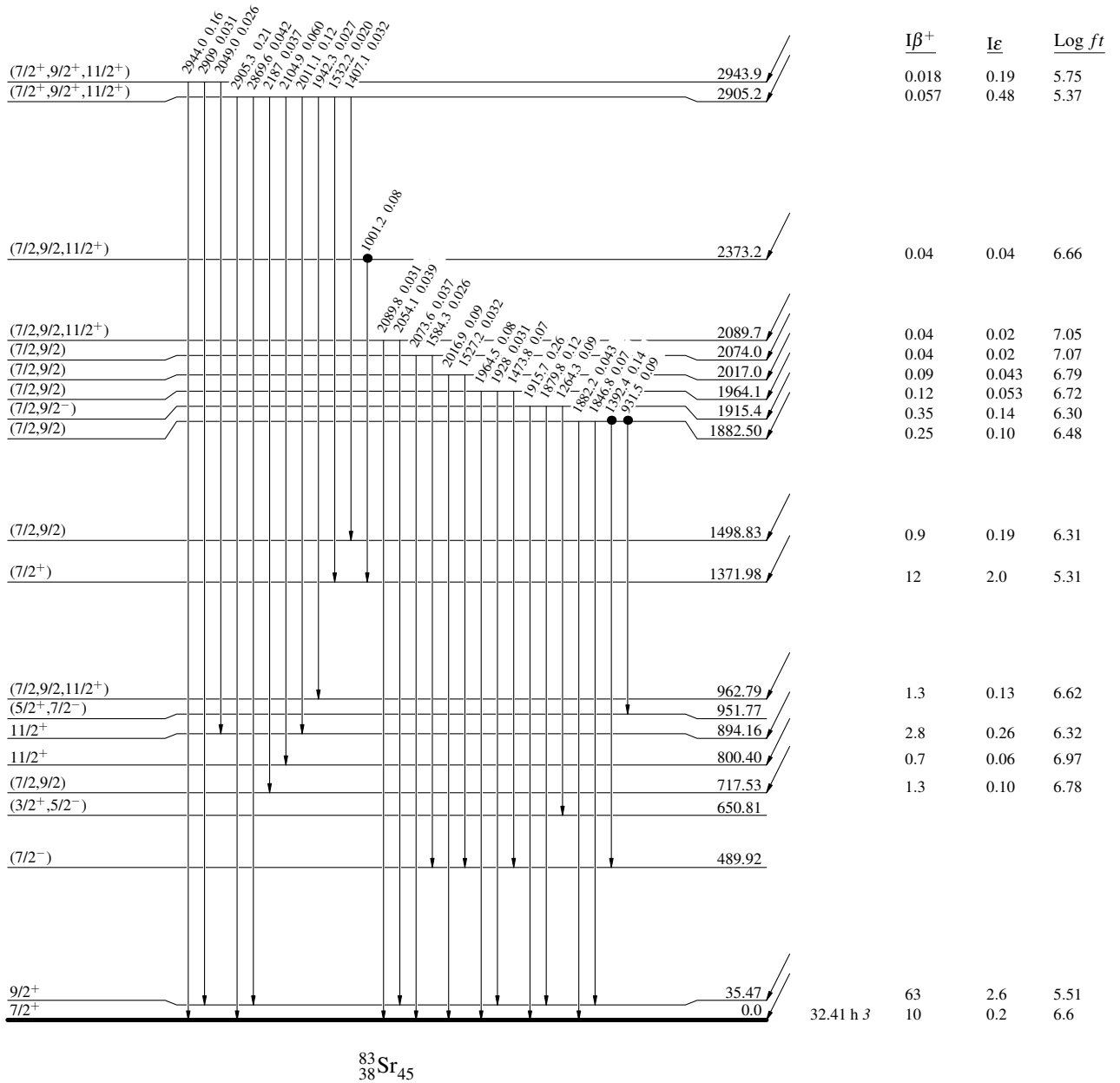
Decay Scheme

Legend

- I<sub>γ</sub> < 2% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> < 10% × I<sub>γ</sub><sup>max</sup>
- I<sub>γ</sub> > 10% × I<sub>γ</sub><sup>max</sup>
- Coincidence

Intensities: I<sub>(γ+ce)</sub> per 100 parent decays

9/2<sup>+</sup> 0.0 7.08 min 8  
 %ε + %β<sup>+</sup> = 100  
 Q<sub>ε</sub> = 4593.20  
<sup>83</sup>Y<sub>44</sub>



$^{83}\text{Y}$   $\epsilon$  decay (7.08 min)  $^{1976}\text{Li}_{27}$

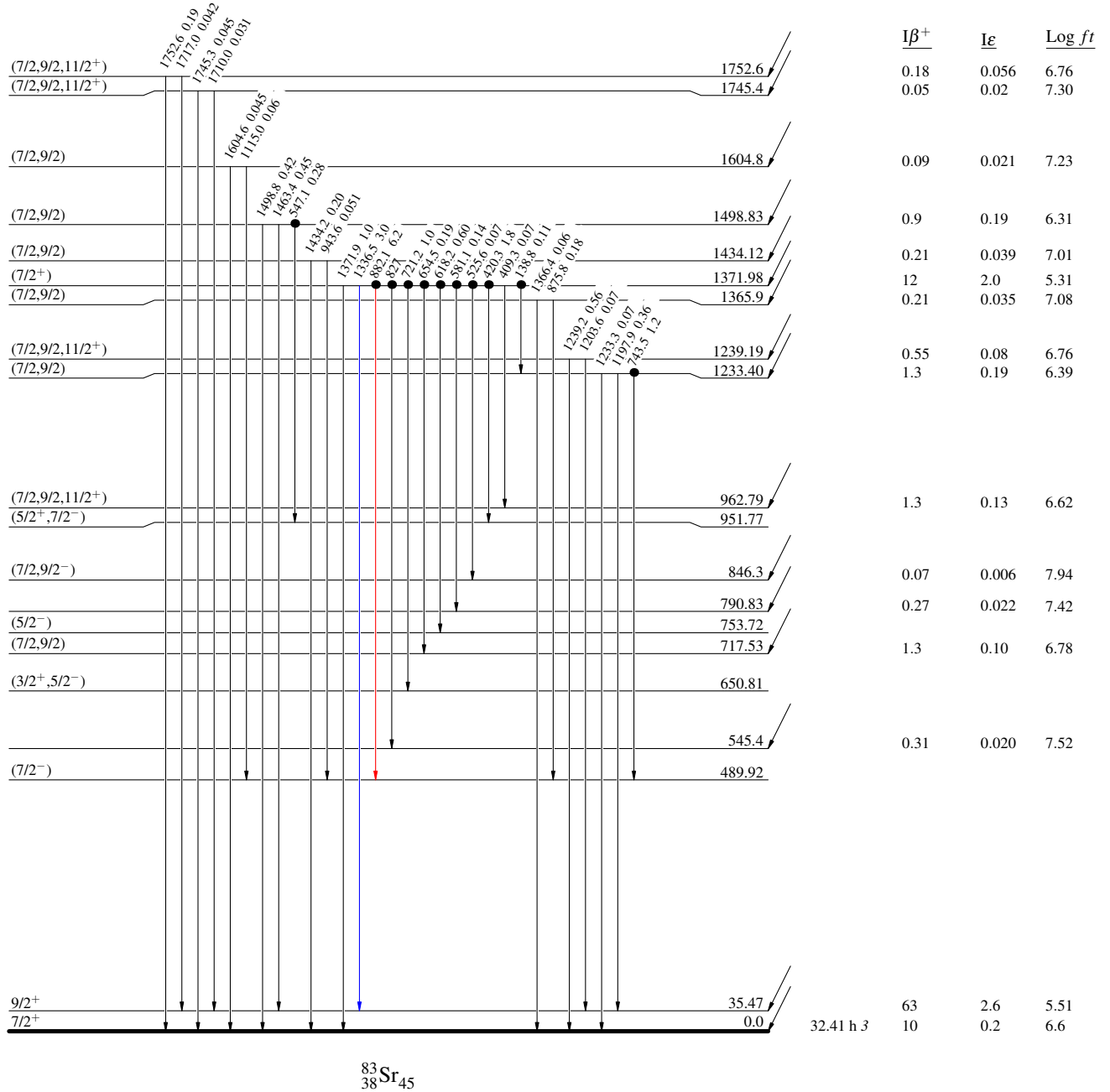
Decay Scheme (continued)

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays

Legend

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

$^{9/2^+}$   $^{0.0}$  7.08 min 8  
 $Q_{\epsilon} = 4593.20$   
 $^{83}_{39}\text{Y}_{44}$   
 $\% \epsilon + \% \beta^+ = 100$





$^{83}\text{Y}$   $\epsilon$  decay (7.08 min) 1976Li27

Decay Scheme (continued)

Intensities:  $I_{(\gamma+ce)}$  per 100 parent decays

Legend

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

$^{83}\text{Y}_{44}$   $9/2^{+}$  0.0 7.08 min 8  
 $Q_{\epsilon}=4593.20$   
 $\% \epsilon + \% \beta^{+} = 100$

