$^{129m}_{50}\mathrm{Sn}_{79}$

1 Decay Scheme

^{129m}Sn disintegrates 100% by β^- emission to the ground state and the excited levels of ^{129}Sb. The de-excitation of the 1851-keV level of ^{129}Sb is not included because of its long half-life of 17,4 (3) min.

Le ^{129m}Sn se désintègre à 100% par émission β^- vers le niveau fondamental et les niveaux excités du ^{129}Sb. La désexcitation du niveau à 1851 keV du ^{129}Sb n'est pas incluse à cause de sa longue période de désintégration de 17,4 (3) min.

2 Nuclear Data

$T_{1/2}(^{129m}\mathrm{Sn})$	:	6,96	(9)	min
$T_{1/2}(^{129}\mathrm{Sn})$	:	2,23	(5)	min
$T_{1/2}(^{129}\mathrm{Sb})$	:	4,362	(25)	h
$Q^-(^{129m}\mathrm{Sn})$	:	4074	(27)	keV

2.1 β^- Transitions

	Energy (keV)	Probability (%)	Nature	log ft
$\beta^-_{0,52}$	793 (27)	1,77 (17)	Allowed	5,51
$\beta^-_{0,51}$	800 (27)	3,280 (35)	Allowed	5,25
$\beta^-_{0,50}$	865 (27)	0,647 (43)	1st Forbidden	6,08
$\beta^-_{0,49}$	910 (27)	0,423 (13)	1st Forbidden	6,34
$\beta^-_{0,48}$	926 (27)	2,266 (26)	1st Forbidden	5,64
$\beta^-_{0,47}$	943 (27)	0,548 (26)	1st Forbidden	6,29
$\beta^-_{0,46}$	977 (27)	1,325 (43)	Allowed	5,96
$\beta^-_{0,45}$	1004 (27)	0,919 (22)	1st Forbidden	6,16
$\beta^-_{0,44}$	1042 (27)	0,609 (17)	Allowed	6,4
$\beta^-_{0,43}$	1060 (27)	0,237 (13)	1st Forbidden	6,84
$\beta^-_{0,42}$	1114 (27)	1,032 (13)	1st Forbidden	6,28
$\beta^-_{0,41}$	1126 (27)	0,345 (9)	1st Forbidden	6,78
$\beta^-_{0,40}$	1190 (27)	1,550 (43)	1st Forbidden	6,21
$\beta^-_{0,39}$	1192 (27)	2,71 (22)	1st Forbidden	5,97
$\beta^-_{0,38}$	1210 (27)	3,362 (34)	Allowed	5,9

	Energy (keV)	Probability (%)	Nature	log ft
$\beta^-_{0,37}$	1251 (27)	5,93 (13)	Allowed	5,71
$\beta^-_{0,36}$	1277 (27)	0,773 (17)	1st Forbidden	6,63
$\beta^-_{0,35}$	1307 (27)	0,60 (9)	1st Forbidden	6,78
$\beta^-_{0,34}$	1348 (27)	11,79 (31)	Allowed	5,54
$\beta^-_{0,33}$	1352 (27)	1,26 (13)	Allowed	6,51
$\beta^-_{0,32}$	1377 (27)	0,729 (13)	Allowed	6,78
$\beta^-_{0,31}$	1396 (27)	0,773 (28)	Allowed	6,78
$\beta^-_{0,30}$	1409 (27)	2,007 (30)	1st Forbidden	6,38
$\beta^-_{0,29}$	1463 (27)	3,64 (6)	Allowed	6,18
$\beta^-_{0,28}$	1506 (27)	1,269 (33)	Allowed	6,69
$\beta^-_{0,27}$	1509 (27)	3,164 (37)	Allowed	6,3
$\beta^-_{0,26}$	1640 (27)	0,047 (17)	Allowed	8,27
$\beta^-_{0,25}$	1644 (27)	0,26 (10)	1st Forbidden	7,53
$\beta^-_{0,24}$	1697 (27)	0,725 (17)	Allowed	7,14
$\beta^-_{0,23}$	1705 (27)	3,716 (47)	1st Forbidden	6,44
$\beta^-_{0,22}$	1744 (27)	0,509 (9)	Allowed	7,34
$\beta^-_{0,21}$	1757 (27)	0,79 (35)	1st Forbidden	7,16
$\beta^-_{0,20}$	1771 (27)	1,23 (28)	Allowed	6,98
$\beta^-_{0,19}$	1777 (27)	0,20 (9)	Allowed	7,78
$\beta^-_{0,18}$	1779 (27)	0,354 (46)	1st Forbidden	7,53
$\beta^-_{0,16}$	1827 (27)	0,25 (13)	Allowed	7,73
$\beta^-_{0,15}$	1842 (27)	2,37 (30)	Allowed	6,76
$\beta^-_{0,14}$	1853 (27)	3,008 (30)	1st Forbidden	6,67
$\beta^-_{0,13}$	1926 (27)	1,791 (13)	1st Forbidden	6,96
$\beta^-_{0,11}$	2043 (27)	3,95 (12)	Allowed	6,72
$\beta^-_{0,10}$	2082 (27)	0,82 (38)	Allowed	7,44
$\beta^-_{0,9}$	2101 (27)	10,14 (44)	Allowed	6,36
$\beta^-_{0,6}$	2152 (27)	6,3 (22)	Allowed	6,61
$\beta^-_{0,5}$	2163 (27)	6,48 (45)	Allowed	6,61
$\beta^-_{0,2}$	2913 (27)	3,0 (22)	1st Forbidden	7,48
$\beta^-_{0,1}$	2945 (27)	1,13 (13)	1st Forbidden	7,92

2.2 Gamma Transitions and Internal Conversion Coefficients

	Energy (keV)	$P_{\gamma+ce}$ (%)	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{4,3}$(Sb)	9,75 (8)	13,2 (7)	E2		29400 (1400)	6000 (300)	36600 (1700)
$\gamma_{11,10}$(Sb)	39,06 (7)	0,492 (26)	M1+E2	8,36 (13)	2,47 (13)	0,51 (3)	11,46 (24)
$\gamma_{9,7}$(Sb)	44,07 (7)	8,93 (43)	M1+E2	6,36 (12)	2,62 (19)	0,54 (4)	9,7 (4)
$\gamma_{5,4}$(Sb)	50,14 (7)	7,68 (13)	M1	3,90 (6)	0,507 (8)	0,1004 (15)	4,53 (7)
$\gamma_{9,5}$(Sb)	61,50 (7)	1,941 (43)	M1+E2	2,24 (4)	0,367 (22)	0,074 (5)	2,69 (6)
$\gamma_{7,4}$(Sb)	67,57 (7)	5,33 (27)	M1	1,640 (24)	0,212 (3)	0,0420 (6)	1,91 (3)
$\gamma_{10,6}$(Sb)	69,65 (7)	4,06 (13)	M1	1,502 (22)	0,194 (3)	0,0385 (6)	1,742 (25)
$\gamma_{7,3}$(Sb)	77,32 (8)	9,23 (22)	M1	1,112 (16)	0,1436 (21)	0,0284 (4)	1,290 (19)
$\gamma_{8,4}$(Sb)	79,32 (9)	0,26 (13)	M1	1,033 (15)	0,1334 (20)	0,0264 (4)	1,199 (18)
$\gamma_{10,5}$(Sb)	80,76 (7)	2,08 (31)	M1+E2	1,007 (19)	0,143 (8)	0,0285 (17)	1,188 (22)
$\gamma_{22,16}$(Sb)	82,50 (22)	0,509 (9)	M1+E2	0,990 (17)	0,161 (5)	0,0324 (9)	1,190 (21)
$\gamma_{11,6}$(Sb)	108,71 (7)	1,070 (31)	M1+E2	0,426 (7)	0,0563 (17)	0,0112 (4)	0,495 (9)

	Energy (keV)	$P_{\gamma+ce}$ (%)	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{9,4}$(Sb)	111,64 (7)	1,144 (14)	M1+E2	0,409 (7)	0,0581 (17)	0,0116 (4)	0,480 (9)
$\gamma_{13,11}$(Sb)	117,30 (9)	1,791 (13)	E1	0,1040 (15)	0,01318 (19)	0,00259 (4)	0,1200 (17)
$\gamma_{11,5}$(Sb)	119,82 (7)	3,323 (44)	M1	0,321 (5)	0,0411 (6)	0,00815 (12)	0,371 (6)
$\gamma_{17,12}$(Sb)	122,98 (10)	2,697 (17)	M1	0,298 (5)	0,0382 (6)	0,00757 (11)	0,342 (5)
$\gamma_{10,4}$(Sb)	130,90 (7)	0,224 (17)	M1	0,251 (4)	0,0321 (5)	0,00635 (9)	0,290 (4)
$\gamma_{25,18}$(Sb)	135,75 (11)	0,121 (18)	M1	0,227 (4)	0,0290 (5)	0,00574 (9)	0,263 (4)
$\gamma_{24,15}$(Sb)	145,3 (6)	0,725 (17)	M1+E2	0,194 (8)	0,0261 (25)	0,0052 (5)	0,226 (11)
$\gamma_{12,10}$(Sb)	156,08 (8)	0,636 (44)	M1	0,1542 (22)	0,0197 (3)	0,00389 (6)	0,178 (3)
$\gamma_{25,17}$(Sb)	159,33 (11)	0,484 (13)	E1+M2	0,160 (17)	0,025 (3)	0,0051 (6)	0,191 (20)
$\gamma_{12,9}$(Sb)	175,34 (8)	0,534 (17)	M1+E2	0,122 (5)	0,0174 (15)	0,0035 (3)	0,143 (7)
$\gamma_{12,7}$(Sb)	219,41 (8)	3,466 (35)	M1+E2	0,0824 (21)	0,0143 (6)	0,00288 (12)	0,100 (3)
$\gamma_{12,5}$(Sb)	236,84 (8)	1,714 (26)	M1	0,0502 (7)	0,00632 (9)	0,001249 (18)	0,0579 (9)
$\gamma_{37,27}$(Sb)	258,30 (17)	0,0432 (43)					
$\gamma_{17,10}$(Sb)	279,06 (9)	0,48 (17)	M1+E2	0,036 (4)	0,0052 (12)	0,00104 (23)	0,042 (5)
$\gamma_{21,11}$(Sb)	286,13 (8)	0,60 (9)					
$\gamma_{34,25}$(Sb)	295,86 (11)	3,008 (22)					
$\gamma_{28,17}$(Sb)	297,29 (11)	0,298 (30)					
$\gamma_{14,6}$(Sb)	298,70 (22)	3,008 (30)					
$\gamma_{16,8}$(Sb)	306,96 (10)	0,26 (13)					
$\gamma_{20,10}$(Sb)	311,39 (9)	2,106 (26)					
$\gamma_{15,5}$(Sb)	320,82 (12)	3,67 (30)					
$\gamma_{18,9}$(Sb)	321,90 (9)	0,475 (43)					
$\gamma_{16,5}$(Sb)	336,14 (9)	0,501 (26)					
$\gamma_{29,17}$(Sb)	340,26 (11)	0,216 (43)					
$\gamma_{19,7}$(Sb)	368,58 (11)	0,341 (35)					
$\gamma_{19,5}$(Sb)	386,01 (11)	0,203 (17)					
$\gamma_{34,21}$(Sb)	409,06 (10)	2,94 (30)					
$\gamma_{27,12}$(Sb)	416,70 (12)	0,824 (22)					
$\gamma_{34,20}$(Sb)	422,86 (11)	1,455 (22)					
$\gamma_{33,19}$(Sb)	425,16 (13)	0,35 (9)					
$\gamma_{32,17}$(Sb)	426,40 (32)	0,729 (13)					
$\gamma_{31,15}$(Sb)	446,32 (14)	0,570 (22)					
$\gamma_{33,17}$(Sb)	451,35 (11)	0,60 (9)					
$\gamma_{26,7}$(Sb)	505,80 (9)	0,047 (17)					
$\gamma_{37,21}$(Sb)	505,89 (15)	5,74 (13)					
$\gamma_{25,6}$(Sb)	508,04 (9)	1,08 (9)	E1+M2	0,00232 (21)	0,00028 (3)	0,000056 (6)	0,00267 (25)
$\gamma_{25,5}$(Sb)	519,15 (9)	0,855 (26)					
$\gamma_{33,12}$(Sb)	574,33 (10)	0,311 (30)					
$\gamma_{39,20}$(Sb)	578,65 (17)	1,34 (22)					
$\gamma_{38,17}$(Sb)	593,06 (17)	0,846 (22)					
$\gamma_{29,10}$(Sb)	619,32 (9)	1,817 (30)					
$\gamma_{29,6}$(Sb)	688,97 (9)	1,101 (26)					
$\gamma_{34,11}$(Sb)	695,19 (9)	2,616 (26)	E1+M2				
$\gamma_{4,2}$(Sb)	699,62 (40)	1,001 (22)	E3+M4	0,0069 (5)	0,00104 (8)	0,000209 (15)	0,0082 (6)
$\gamma_{38,12}$(Sb)	716,04 (16)	2,516 (26)	E2+M3				
$\gamma_{4,1}$(Sb)	732,41 (6)	0,4748 (43)	M2+E3	0,0069 (13)	0,00095 (12)	0,000189 (22)	0,0081 (15)
$\gamma_{6,2}$(Sb)	760,87 (6)	20,4 (22)	E1+M2	0,00093 (7)	0,000112 (9)	0,0000220 (17)	0,00107 (8)
$\gamma_{5,1}$(Sb)	782,55 (6)	13,898 (43)	E1+M2	0,00088 (6)	0,000105 (8)	0,0000207 (16)	0,00101 (7)
$\gamma_{47,20}$(Sb)	827,4 (8)	0,548 (26)					
$\gamma_{35,6}$(Sb)	844,58 (11)	0,60 (9)	E1+M2				
$\gamma_{37,9}$(Sb)	850,34 (15)	0,151 (9)					
$\gamma_{50,21}$(Sb)	891,61 (13)	0,647 (43)					
$\gamma_{11,1}$(Sb)	902,37 (6)	4,575 (43)					
$\gamma_{40,6}$(Sb)	962,01 (11)	0,0388 (43)					
$\gamma_{44,9}$(Sb)	1059,20 (22)	0,609 (17)					
$\gamma_{46,11}$(Sb)	1066,00 (21)	0,501 (26)					
$\gamma_{1,0}$(Sb)	1128,56 (4)	35,01 (6)	E2+M3	0,00095 (5)	0,000118 (6)	0,0000232 (12)	0,00110 (6)
$\gamma_{20,2}$(Sb)	1141,91 (8)	1,86 (17)					
$\gamma_{45,6}$(Sb)	1147,70 (9)	0,919 (22)					
$\gamma_{21,2}$(Sb)	1155,71 (7)	7,005 (30)					

	Energy (keV)	$P_{\gamma+ce}$ (%)	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{2,0}$(Sb)	1161,35 (4)	42,602 (43)	M1+E2	0,00096 (10)	0,000116 (11)	0,0000228 (21)	0,00110 (12)
$\gamma_{20,1}$(Sb)	1174,70 (8)	0,609 (39)					
$\gamma_{46,5}$(Sb)	1185,82 (21)	0,824 (35)					
$\gamma_{21,1}$(Sb)	1188,50 (7)	2,503 (43)					
$\gamma_{23,2}$(Sb)	1207,78 (9)	2,974 (26)					
$\gamma_{48,6}$(Sb)	1225,81 (9)	2,266 (26)					
$\gamma_{23,1}$(Sb)	1240,57 (9)	0,742 (39)					
$\gamma_{25,2}$(Sb)	1268,91 (8)	0,734 (43)	E2+M3	0,00074 (4)	0,000091 (5)	0,0000179 (9)	0,00087 (4)
$\gamma_{51,9}$(Sb)	1301,41 (12)	0,117 (17)					
$\gamma_{52,7}$(Sb)	1352,08 (12)	1,77 (17)	E2+M3	0,00065 (3)	0,000079 (4)	0,0000156 (7)	0,00079 (3)
$\gamma_{28,2}$(Sb)	1406,87 (9)	0,971 (13)					
$\gamma_{27,1}$(Sb)	1436,09 (11)	2,383 (30)					
$\gamma_{29,2}$(Sb)	1449,84 (9)	0,509 (17)					
$\gamma_{30,2}$(Sb)	1503,63 (9)	2,007 (30)					
$\gamma_{31,1}$(Sb)	1549,69 (10)	0,203 (17)					
$\gamma_{34,1}$(Sb)	1597,56 (9)	1,778 (26)					
$\gamma_{36,2}$(Sb)	1635,41 (21)	0,773 (17)					
$\gamma_{39,2}$(Sb)	1720,56 (16)	1,373 (17)					
$\gamma_{40,1}$(Sb)	1755,67 (11)	1,511 (43)					
$\gamma_{41,1}$(Sb)	1819,61 (21)	0,345 (9)					
$\gamma_{42,1}$(Sb)	1831,94 (40)	1,032 (13)					
$\gamma_{43,1}$(Sb)	1885,24 (40)	0,237 (13)					
$\gamma_{49,1}$(Sb)	2035,41 (12)	0,423 (13)					
$\gamma_{51,1}$(Sb)	2145,46 (12)	3,164 (30)					

3 Atomic Data

3.1 Sb

ω_K : 0,868 (4)
$\bar{\omega}_L$: 0,0796 (30)
n_{KL} : 0,925 (4)

3.1.1 X Radiations

		Energy (keV)	Relative probability
X_K			
	$K\alpha_2$	26,1111	53,56
	$K\alpha_1$	26,3594	100
	$K\beta_3$	29,6795	28,45
	$K\beta_1$	29,7259	
	$K\beta_5''$	29,9598	
	$K\beta_2$	30,3899	5,89
	$K\beta_4$	30,461	
	$KO_{2,3}$	30,489	
X_L			
	$L\ell$	3,1881	
	$L\alpha$	3,5959 - 3,6051	
	$L\eta$	3,4361	
	$L\beta$	3,8439 - 4,1699	
	$L\gamma$	4,2294 - 4,594	

3.1.2 Auger Electrons

	Energy (keV)	Relative probability
Auger K		
KLL	20,966 - 22,088	100
KLX	24,796 - 26,357	44,7
KXY	28,60 - 30,49	5
Auger L	2,2448 - 4,6355	

4 Electron Emissions

		Energy (keV)	Electrons (per 100 disint.)
e_{AL}	(Sb)	2,2448 - 4,6355	36,78 (24)
e_{AK}	(Sb)		
	KLL	20,966 - 22,088	3,47 (12)
	KLX	24,796 - 26,357	
	KXY	28,60 - 30,49	
$ec_{4,3\ L}$	(Sb)	5,05 - 5,62	10,6 (6)
$ec_{11,10\ T}$	(Sb)	8,57 - 39,06	0,453 (24)
$ec_{11,10\ K}$	(Sb)	8,57 (7)	0,330 (17)
$ec_{4,3\ M}$	(Sb)	8,81 - 9,22	2,16 (13)
$ec_{4,3\ N}$	(Sb)	9,60 - 9,72	0,385 (22)
$ec_{9,7\ K}$	(Sb)	13,58 (7)	5,31 (19)
$ec_{9,7\ T}$	(Sb)	13,58 - 44,07	8,10 (41)
$ec_{5,4\ T}$	(Sb)	19,65 - 50,14	6,29 (12)
$ec_{5,4\ K}$	(Sb)	19,65 (7)	5,42 (10)
$ec_{9,5\ T}$	(Sb)	31,0 - 61,5	1,415 (38)
$ec_{9,5\ K}$	(Sb)	31,01 (7)	1,178 (28)
$ec_{7,4\ K}$	(Sb)	37,08 (7)	3,00 (15)
$ec_{7,4\ T}$	(Sb)	37,08 - 67,57	3,50 (18)
$ec_{10,6\ K}$	(Sb)	39,16 (7)	2,22 (8)
$ec_{10,6\ T}$	(Sb)	39,16 - 69,65	2,58 (9)
$ec_{9,7\ L}$	(Sb)	39,37 - 39,94	2,19 (17)
$ec_{9,7\ M}$	(Sb)	43,13 - 43,54	0,451 (36)
$ec_{5,4\ L}$	(Sb)	45,44 - 46,01	0,704 (14)
$ec_{7,3\ K}$	(Sb)	46,83 (8)	4,48 (12)
$ec_{7,3\ T}$	(Sb)	46,83 - 77,32	5,20 (14)
$ec_{8,4\ T}$	(Sb)	48,83 - 79,32	0,14 (7)
$ec_{8,4\ K}$	(Sb)	48,83 (9)	0,12 (6)
$ec_{5,4\ M}$	(Sb)	49,20 - 49,61	0,1395 (26)
$ec_{10,5\ T}$	(Sb)	50,27 - 80,76	1,13 (17)
$ec_{10,5\ K}$	(Sb)	50,27 (7)	0,96 (14)
$ec_{22,16\ T}$	(Sb)	52,0 - 82,5	0,277 (6)
$ec_{22,16\ K}$	(Sb)	52,01 (22)	0,230 (5)
$ec_{9,5\ L}$	(Sb)	56,8 - 57,4	0,193 (12)

		Energy (keV)	Electrons (per 100 disint.)
$ec_{7,4\ L}$	(Sb)	62,87 - 63,44	0,388 (20)
$ec_{10,6\ L}$	(Sb)	64,95 - 65,52	0,287 (10)
$ec_{7,3\ L}$	(Sb)	72,62 - 73,19	0,579 (15)
$ec_{10,5\ L}$	(Sb)	76,06 - 76,63	0,136 (21)
$ec_{7,3\ M}$	(Sb)	76,38 - 76,79	0,1145 (30)
$ec_{11,6\ T}$	(Sb)	78,22 - 108,71	0,354 (12)
$ec_{11,6\ K}$	(Sb)	78,22 (7)	0,305 (10)
$ec_{9,4\ K}$	(Sb)	81,15 (7)	0,316 (6)
$ec_{9,4\ T}$	(Sb)	81,15 - 111,64	0,371 (8)
$ec_{13,11\ T}$	(Sb)	86,8 - 117,3	0,1919 (30)
$ec_{13,11\ K}$	(Sb)	86,81 (9)	0,1663 (27)
$ec_{11,5\ K}$	(Sb)	89,33 (7)	0,778 (15)
$ec_{11,5\ T}$	(Sb)	89,33 - 119,82	0,899 (18)
$ec_{17,12\ T}$	(Sb)	92,49 - 122,98	0,687 (11)
$ec_{17,12\ K}$	(Sb)	92,5 (1)	0,599 (10)
$ec_{10,4\ T}$	(Sb)	100,4 - 130,9	0,0505 (38)
$ec_{25,18\ T}$	(Sb)	105,26 - 135,75	0,0252 (37)
$ec_{24,15\ K}$	(Sb)	114,8 (6)	0,115 (5)
$ec_{24,15\ T}$	(Sb)	114,8 - 145,3	0,134 (7)
$ec_{12,10\ T}$	(Sb)	125,59 - 156,08	0,096 (7)
$ec_{25,17\ T}$	(Sb)	128,84 - 159,33	0,078 (8)
$ec_{12,9\ T}$	(Sb)	144,85 - 175,34	0,0668 (39)
$ec_{12,7\ T}$	(Sb)	188,92 - 219,41	0,315 (10)
$ec_{12,7\ K}$	(Sb)	188,92 (8)	0,260 (7)
$ec_{12,5\ T}$	(Sb)	206,35 - 236,84	0,0938 (21)
$ec_{17,10\ T}$	(Sb)	248,57 - 279,06	0,019 (7)
$ec_{25,6\ T}$	(Sb)	477,55 - 508,04	0,00288 (36)
$ec_{4,2\ T}$	(Sb)	669,13 - 699,62	0,0081 (6)
$ec_{4,1\ T}$	(Sb)	701,92 - 732,41	0,0038 (7)
$ec_{6,2\ T}$	(Sb)	730,38 - 760,87	0,0218 (29)
$ec_{5,1\ T}$	(Sb)	752,06 - 782,55	0,014 (1)
$ec_{1,0\ T}$	(Sb)	1098,07 - 1128,56	0,0385 (21)
$ec_{2,0\ T}$	(Sb)	1130,86 - 1161,35	0,047 (5)
$ec_{25,2\ T}$	(Sb)	1238,42 - 1268,91	0,000638 (48)
$ec_{52,7\ T}$	(Sb)	1321,59 - 1352,08	0,00140 (14)
$\beta^-_{0,52}$	max: avg:	793 (27) 263 (11)	1,77 (17)
$\beta^-_{0,51}$	max: avg:	800 (27) 265 (11)	3,280 (35)
$\beta^-_{0,50}$	max: avg:	865 (27) 291 (11)	0,647 (43)
$\beta^-_{0,49}$	max: avg:	910 (27) 309 (11)	0,423 (13)
$\beta^-_{0,48}$	max: avg:	926 (27) 315 (11)	2,266 (26)
$\beta^-_{0,47}$	max: avg:	943 (27) 322 (11)	0,548 (26)

		Energy (keV)		Electrons (per 100 disint.)
$\beta^-_{0,46}$	max:	977	(27)	1,325 (43)
	avg:	336	(11)	
$\beta^-_{0,45}$	max:	1004	(27)	0,919 (22)
	avg:	347	(11)	
$\beta^-_{0,44}$	max:	1042	(27)	0,609 (17)
	avg:	363	(11)	
$\beta^-_{0,43}$	max:	1060	(27)	0,237 (13)
	avg:	370	(11)	
$\beta^-_{0,42}$	max:	1114	(27)	1,032 (13)
	avg:	393	(11)	
$\beta^-_{0,41}$	max:	1126	(27)	0,345 (9)
	avg:	398	(11)	
$\beta^-_{0,40}$	max:	1190	(27)	1,550 (43)
	avg:	425	(11)	
$\beta^-_{0,39}$	max:	1192	(27)	2,71 (22)
	avg:	426	(11)	
$\beta^-_{0,38}$	max:	1210	(27)	3,362 (34)
	avg:	433	(11)	
$\beta^-_{0,37}$	max:	1251	(27)	5,93 (13)
	avg:	451	(12)	
$\beta^-_{0,36}$	max:	1277	(27)	0,773 (17)
	avg:	462	(12)	
$\beta^-_{0,35}$	max:	1307	(27)	0,60 (9)
	avg:	475	(12)	
$\beta^-_{0,34}$	max:	1348	(27)	11,79 (31)
	avg:	492	(12)	
$\beta^-_{0,33}$	max:	1352	(27)	1,26 (13)
	avg:	494	(12)	
$\beta^-_{0,32}$	max:	1377	(27)	0,729 (13)
	avg:	505	(12)	
$\beta^-_{0,31}$	max:	1396	(27)	0,773 (28)
	avg:	513	(12)	
$\beta^-_{0,30}$	max:	1409	(27)	2,007 (30)
	avg:	518	(12)	
$\beta^-_{0,29}$	max:	1463	(27)	3,64 (6)
	avg:	542	(12)	
$\beta^-_{0,28}$	max:	1506	(27)	1,269 (33)
	avg:	561	(12)	
$\beta^-_{0,27}$	max:	1509	(27)	3,164 (37)
	avg:	562	(12)	
$\beta^-_{0,26}$	max:	1640	(27)	0,047 (17)
	avg:	620	(12)	
$\beta^-_{0,25}$	max:	1644	(27)	0,26 (10)
	avg:	621	(12)	

		Energy (keV)		Electrons (per 100 disint.)
$\beta^-_{0,24}$	max:	1697	(27)	0,725 (17)
	avg:	645	(12)	
$\beta^-_{0,23}$	max:	1705	(27)	3,716 (47)
	avg:	649	(12)	
$\beta^-_{0,22}$	max:	1744	(27)	0,509 (9)
	avg:	666	(12)	
$\beta^-_{0,21}$	max:	1757	(27)	0,79 (35)
	avg:	672	(12)	
$\beta^-_{0,20}$	max:	1771	(27)	1,23 (28)
	avg:	678	(12)	
$\beta^-_{0,19}$	max:	1777	(27)	0,20 (9)
	avg:	681	(12)	
$\beta^-_{0,18}$	max:	1779	(27)	0,354 (46)
	avg:	681	(12)	
$\beta^-_{0,16}$	max:	1827	(27)	0,25 (13)
	avg:	703	(12)	
$\beta^-_{0,15}$	max:	1842	(27)	2,37 (30)
	avg:	710	(12)	
$\beta^-_{0,14}$	max:	1853	(27)	3,008 (30)
	avg:	715	(12)	
$\beta^-_{0,13}$	max:	1926	(27)	1,791 (13)
	avg:	747	(12)	
$\beta^-_{0,11}$	max:	2043	(27)	3,95 (12)
	avg:	800	(12)	
$\beta^-_{0,10}$	max:	2082	(27)	0,82 (38)
	avg:	818	(12)	
$\beta^-_{0,9}$	max:	2101	(27)	10,14 (44)
	avg:	827	(12)	
$\beta^-_{0,6}$	max:	2152	(27)	6,3 (22)
	avg:	850	(12)	
$\beta^-_{0,5}$	max:	2163	(27)	6,48 (45)
	avg:	855	(12)	
$\beta^-_{0,2}$	max:	2913	(27)	3,0 (22)
	avg:	1201	(13)	
$\beta^-_{0,1}$	max:	2945	(27)	1,13 (13)
	avg:	1215	(13)	

5 Photon Emissions

5.1 X-Ray Emissions

		Energy (keV)	Photons (per 100 disint.)	
XL	(Sb)	3,1881 - 4,594	3,15 (8)	
XKα_2	(Sb)	26,1111	6,5 (1)	Kα
XKα_1	(Sb)	26,3594	12,14 (17)	
XKβ_3	(Sb)	29,6795	3,45 (7)	K$'\beta_1$
XKβ_1	(Sb)	29,7259		
XKβ''_5	(Sb)	29,9598		
XKβ_2	(Sb)	30,3899	0,715 (22)	K$'\beta_2$
XKβ_4	(Sb)	30,461		
XKO$_{2,3}$	(Sb)	30,489		

5.2 Gamma Emissions

	Energy (keV)	Photons (per 100 disint.)
$\gamma_{4,3}$(Sb)	9,75 (8)	0,000360 (11)
$\gamma_{11,10}$(Sb)	39,06 (7)	0,0395 (19)
$\gamma_{9,7}$(Sb)	44,07 (7)	0,835 (25)
$\gamma_{5,4}$(Sb)	50,14 (7)	1,389 (16)
$\gamma_{9,5}$(Sb)	61,50 (7)	0,526 (8)
$\gamma_{7,4}$(Sb)	67,57 (7)	1,83 (9)
$\gamma_{10,6}$(Sb)	69,65 (7)	1,480 (47)
$\gamma_{7,3}$(Sb)	77,32 (8)	4,03 (9)
$\gamma_{8,4}$(Sb)	79,32 (9)	0,12 (6)
$\gamma_{10,5}$(Sb)	80,76 (7)	0,95 (14)
$\gamma_{22,16}$(Sb)	82,50 (22)	0,2326 (35)
$\gamma_{11,6}$(Sb)	108,71 (7)	0,716 (20)
$\gamma_{9,4}$(Sb)	111,64 (7)	0,773 (8)
$\gamma_{13,11}$(Sb)	117,30 (9)	1,599 (11)
$\gamma_{11,5}$(Sb)	119,82 (7)	2,424 (30)
$\gamma_{17,12}$(Sb)	122,98 (10)	2,01 (1)
$\gamma_{10,4}$(Sb)	130,90 (7)	0,174 (13)
$\gamma_{25,18}$(Sb)	135,75 (11)	0,096 (14)
$\gamma_{24,15}$(Sb)	145,3 (6)	0,591 (13)
$\gamma_{12,10}$(Sb)	156,08 (8)	0,540 (37)
$\gamma_{25,17}$(Sb)	159,33 (11)	0,406 (9)
$\gamma_{12,9}$(Sb)	175,34 (8)	0,467 (15)
$\gamma_{12,7}$(Sb)	219,41 (8)	3,151 (31)
$\gamma_{12,5}$(Sb)	236,84 (8)	1,620 (25)
$\gamma_{37,27}$(Sb)	258,30 (17)	0,0432 (43)

	Energy (keV)	Photons (per 100 disint.)
$\gamma_{17,10}$(Sb)	279,06 (9)	0,46 (16)
$\gamma_{21,11}$(Sb)	286,13 (8)	0,60 (9)
$\gamma_{34,25}$(Sb)	295,86 (11)	3,008 (22)
$\gamma_{28,17}$(Sb)	297,29 (11)	0,298 (30)
$\gamma_{14,6}$(Sb)	298,70 (22)	3,008 (30)
$\gamma_{16,8}$(Sb)	306,96 (10)	0,26 (13)
$\gamma_{20,10}$(Sb)	311,39 (9)	2,106 (26)
$\gamma_{15,5}$(Sb)	320,82 (12)	3,67 (30)
$\gamma_{18,9}$(Sb)	321,90 (9)	0,475 (43)
$\gamma_{16,5}$(Sb)	336,14 (9)	0,501 (26)
$\gamma_{29,17}$(Sb)	340,26 (11)	0,216 (43)
$\gamma_{19,7}$(Sb)	368,58 (11)	0,341 (35)
$\gamma_{19,5}$(Sb)	386,01 (11)	0,203 (17)
$\gamma_{34,21}$(Sb)	409,06 (10)	2,94 (30)
$\gamma_{27,12}$(Sb)	416,70 (12)	0,824 (22)
$\gamma_{34,20}$(Sb)	422,86 (11)	1,455 (22)
$\gamma_{33,19}$(Sb)	425,16 (13)	0,35 (9)
$\gamma_{32,17}$(Sb)	426,40 (32)	0,729 (13)
$\gamma_{31,15}$(Sb)	446,32 (14)	0,570 (22)
$\gamma_{33,17}$(Sb)	451,35 (11)	0,60 (9)
$\gamma_{26,7}$(Sb)	505,80 (9)	0,047 (17)
$\gamma_{37,21}$(Sb)	505,89 (15)	5,74 (13)
$\gamma_{25,6}$(Sb)	508,04 (9)	1,08 (9)
$\gamma_{25,5}$(Sb)	519,15 (9)	0,855 (26)
$\gamma_{33,12}$(Sb)	574,33 (10)	0,311 (30)
$\gamma_{39,20}$(Sb)	578,65 (17)	1,34 (22)
$\gamma_{38,17}$(Sb)	593,06 (17)	0,846 (22)
$\gamma_{29,10}$(Sb)	619,32 (9)	1,817 (30)
$\gamma_{29,6}$(Sb)	688,97 (9)	1,101 (26)
$\gamma_{34,11}$(Sb)	695,19 (9)	2,616 (26)
$\gamma_{4,2}$(Sb)	699,62 (40)	0,993 (22)
$\gamma_{38,12}$(Sb)	716,04 (16)	2,516 (26)
$\gamma_{4,1}$(Sb)	732,41 (6)	0,4710 (42)
$\gamma_{6,2}$(Sb)	760,87 (6)	20,4 (22)
$\gamma_{5,1}$(Sb)	782,55 (6)	13,884 (43)
$\gamma_{47,20}$(Sb)	827,4 (8)	0,548 (26)
$\gamma_{35,6}$(Sb)	844,58 (11)	0,60 (9)
$\gamma_{37,9}$(Sb)	850,34 (15)	0,151 (9)
$\gamma_{50,21}$(Sb)	891,61 (13)	0,647 (43)
$\gamma_{11,1}$(Sb)	902,37 (6)	4,575 (43)
$\gamma_{40,6}$(Sb)	962,01 (11)	0,0388 (43)
$\gamma_{44,9}$(Sb)	1059,20 (22)	0,609 (17)
$\gamma_{46,11}$(Sb)	1066,00 (21)	0,501 (26)
$\gamma_{1,0}$(Sb)	1128,555 (40)	34,97 (6)
$\gamma_{20,2}$(Sb)	1141,90 (8)	1,86 (17)
$\gamma_{45,6}$(Sb)	1147,69 (9)	0,919 (22)
$\gamma_{21,2}$(Sb)	1155,70 (7)	7,005 (30)
$\gamma_{2,0}$(Sb)	1161,344 (40)	42,555 (43)

	Energy (keV)	Photons (per 100 disint.)
$\gamma_{20,1}$(Sb)	1174,69 (8)	0,609 (39)
$\gamma_{46,5}$(Sb)	1185,81 (21)	0,824 (35)
$\gamma_{21,1}$(Sb)	1188,49 (7)	2,503 (43)
$\gamma_{23,2}$(Sb)	1207,77 (9)	2,974 (26)
$\gamma_{48,6}$(Sb)	1225,80 (9)	2,266 (26)
$\gamma_{23,1}$(Sb)	1240,56 (9)	0,742 (39)
$\gamma_{25,2}$(Sb)	1268,90 (8)	0,733 (43)
$\gamma_{51,9}$(Sb)	1301,40 (12)	0,117 (17)
$\gamma_{52,7}$(Sb)	1352,07 (12)	1,77 (17)
$\gamma_{28,2}$(Sb)	1406,86 (9)	0,971 (13)
$\gamma_{27,1}$(Sb)	1436,08 (11)	2,383 (30)
$\gamma_{29,2}$(Sb)	1449,83 (9)	0,509 (17)
$\gamma_{30,2}$(Sb)	1503,62 (9)	2,007 (30)
$\gamma_{31,1}$(Sb)	1549,68 (10)	0,203 (17)
$\gamma_{34,1}$(Sb)	1597,55 (9)	1,778 (26)
$\gamma_{36,2}$(Sb)	1635,40 (21)	0,773 (17)
$\gamma_{39,2}$(Sb)	1720,55 (16)	1,373 (17)
$\gamma_{40,1}$(Sb)	1755,66 (11)	1,511 (43)
$\gamma_{41,1}$(Sb)	1819,60 (21)	0,345 (9)
$\gamma_{42,1}$(Sb)	1831,93 (40)	1,032 (13)
$\gamma_{43,1}$(Sb)	1885,23 (40)	0,237 (13)
$\gamma_{49,1}$(Sb)	2035,39 (12)	0,423 (13)
$\gamma_{51,1}$(Sb)	2145,44 (12)	3,164 (30)

6 Main Production Modes

Fission product, from ^{129}In decay.

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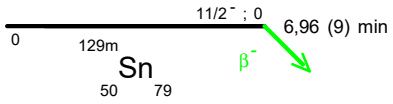
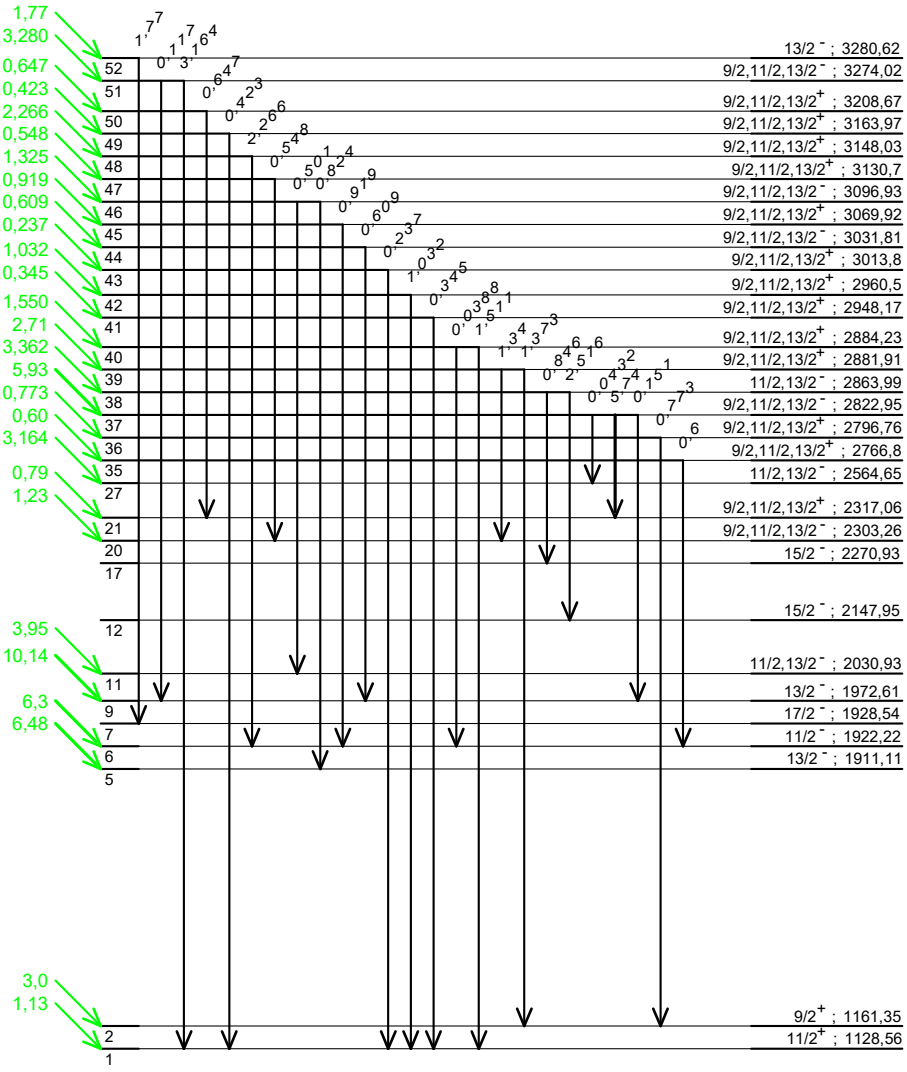
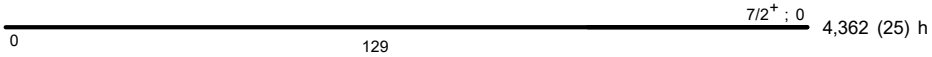


γ Emission intensities per 100 disintegrations

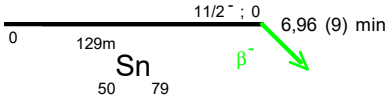




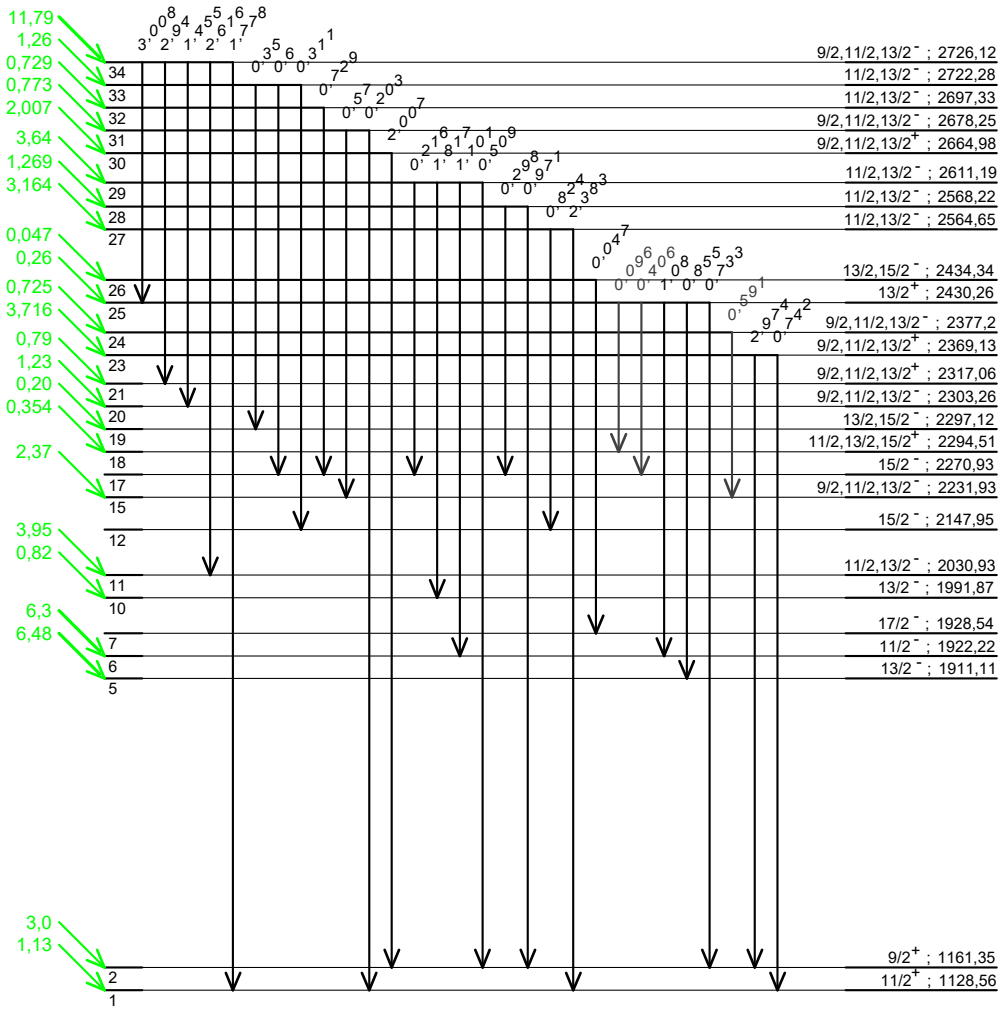
$^{129}_{51}Sb_{78}$

$Q^- = 4074$ keV

$\%\ \beta^- = 100$



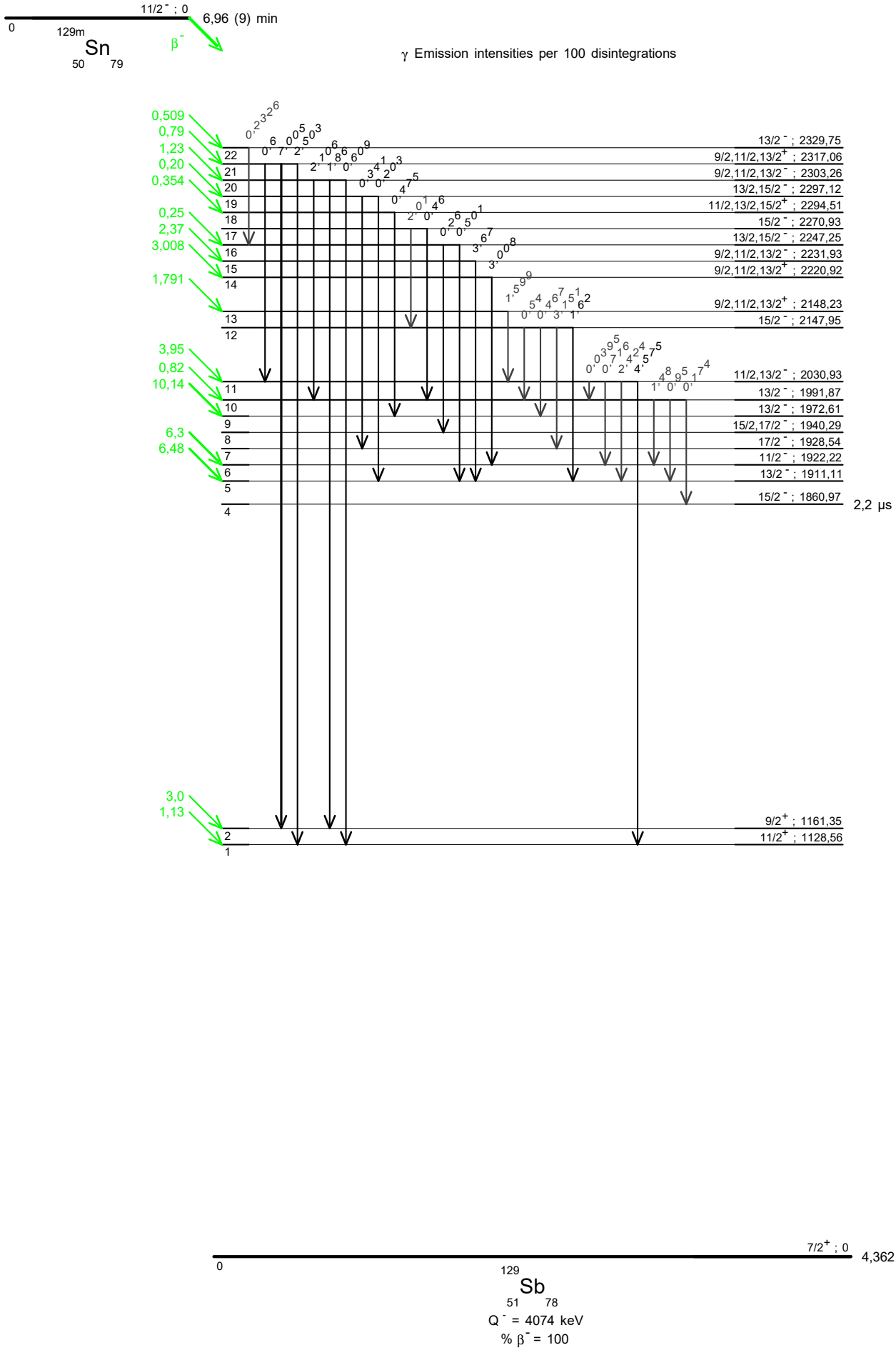
γ Emission intensities per 100 disintegrations

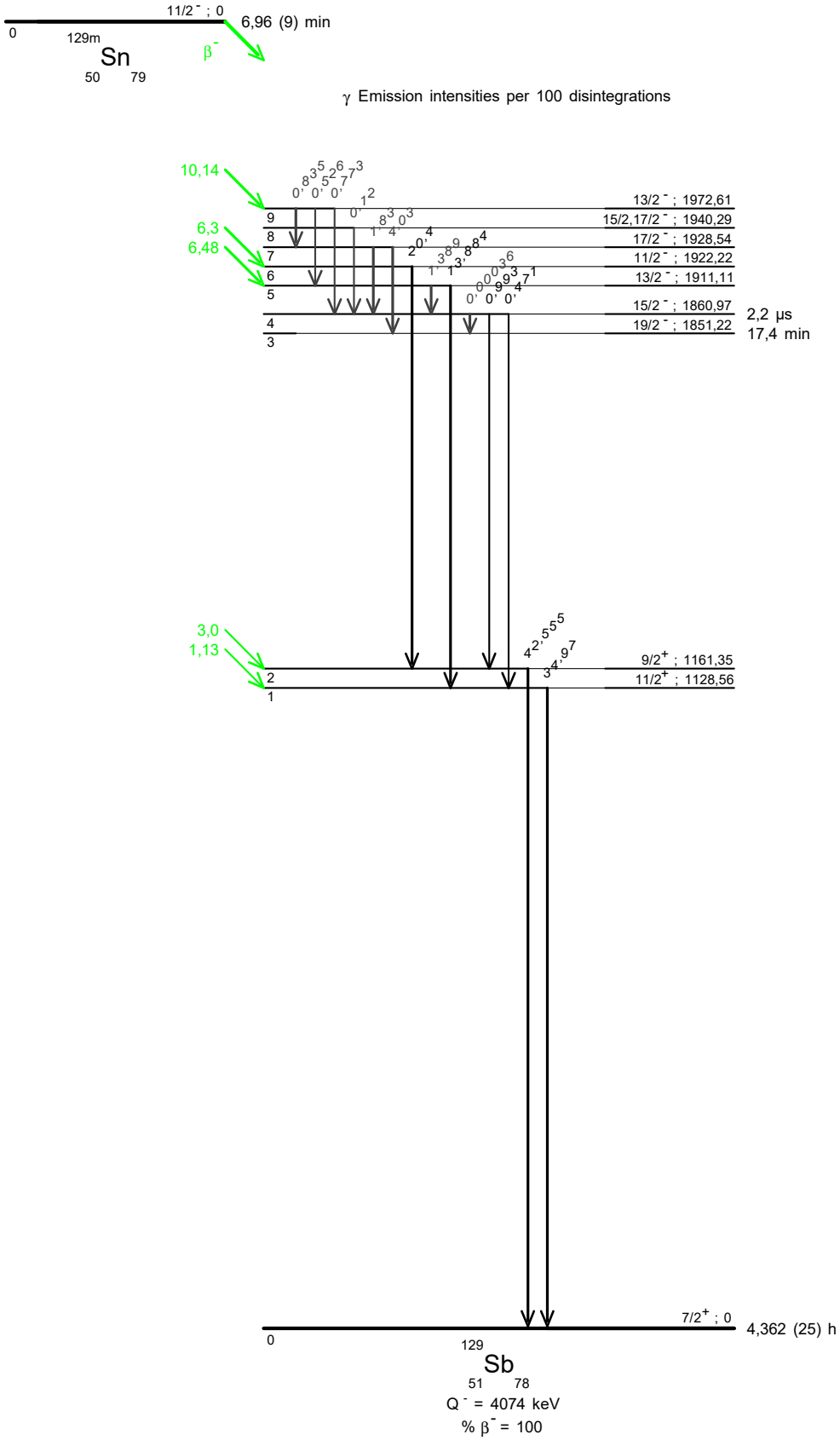


$^{129}_{51}Sb_{78}$

$Q^- = 4074$ keV

$\%\ \beta^- = 100$


11/2⁻ ; 0
6,96 (9) min
0
129m
Sn
50 79
β⁻
γ Emission intensities per 100 disintegrations
0,509
0,79
1,23
0,20
0,354
0,25
2,37
3,008
1,791
3,95
0,82
10,14
6,3
6,48
3,0
1,13
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
2
1
13/2⁻ ; 2329,75
9/2,11/2,13/2⁺ ; 2317,06
9/2,11/2,13/2⁻ ; 2303,26
13/2,15/2⁻ ; 2297,12
11/2,13/2,15/2⁺ ; 2294,51
15/2⁻ ; 2270,93
13/2,15/2⁻ ; 2247,25
9/2,11/2,13/2⁻ ; 2231,93
9/2,11/2,13/2⁺ ; 2220,92
9/2,11/2,13/2⁺ ; 2148,23
15/2⁻ ; 2147,95
11/2,13/2⁻ ; 2030,93
13/2⁻ ; 1991,87
13/2⁻ ; 1972,61
15/2,17/2⁻ ; 1940,29
17/2⁻ ; 1928,54
11/2⁻ ; 1922,22
13/2⁻ ; 1911,11
15/2⁻ ; 1860,97
2,2 µs
9/2⁺ ; 1161,35
11/2⁺ ; 1128,56
7/2⁺ ; 0
4,362 (25) h
0
129
Sb
51 78
Q⁻ = 4074 keV
% β⁻ = 100


11/2⁻ ; 0
6,96 (9) min
0
129m
Sn
50 79
β⁻
γ Emission intensities per 100 disintegrations
10,14
6,3
6,48
3,0
1,13
9
8
7
6
5
4
3
2
1
13/2⁻ ; 1972,61
15/2,17/2⁻ ; 1940,29
17/2⁻ ; 1928,54
11/2⁻ ; 1922,22
13/2⁻ ; 1911,11
15/2⁻ ; 1860,97
19/2⁻ ; 1851,22
2,2 µs
17,4 min
9/2⁺ ; 1161,35
11/2⁺ ; 1128,56
7/2⁺ ; 0
4,362 (25) h
0
129
Sb
51 78
Q⁻ = 4074 keV
% β⁻ = 100