^{118}I β^+ decay (8.5 min) 1985Sh04,1985StZU

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	K. Kitao	NDS 75,99 (1995)	1-Feb-1993

Parent: ^{118}I: E=104.0+x *20*; J^π=(7$^-$); $T_{1/2}$=8.5 min *5*; Q(β^+)=7040 *80*; %β^+ decay=100.0

1985Sh04, 1985Sh16, 1985St29: ^{93}Nb(^{32}S,X), ^{93}Nb(^{34}S,X) E=175 MeV; on-line low temperature nuclear orientation, $\gamma\gamma(\theta)$, $\gamma\gamma$ coin.

1985StZU: Eγ and Iγ from the 13.7-min+8.5-min combined source. No experimental details were given, but these are the same as the the procedure described in the above references.

Others: 1965An05, 1967La18, 1969Ha08, 1969La17, 1969Sp07, 1970LaZX.

The decay scheme has been extracted by evaluator from the 13.7-min +8.5-min combined decay scheme proposed by 1985StZU. See comments for ^{118}I β^+ decay (13.7 min).

^{118}Te Levels

E(level)†	J^π‡	E(level)†	J^π‡	E(level)†	J^π‡	E(level)†	J^π‡
0.0	0^+	1976.1 *3*	(4^+)	2531.4 *4*		3078.9 *3*	(6^+)
605.54 *23*	2^+	2150.2 *3*	$(6)^+$	2571.0 *4*		3108.1 *4*	
1150.66 *23*	2^+	2225.7? *5*		2574.1 *5*	8^+	3114.4 *5*	
1206.2 *3*	4^+	2230.0? *3*	$(4)^+$	2730.2 *4*		3168.5 *4*	
1702.9 *3*	$(4)^+$	2368.2 *4*	$(5)^+$	2914.4 *3*	(6^+)	3191.6 *5*	
1820.9 *3*	6^+	2422?		2920.2 *5*	$(7)^+$	3399.8? *6*	$(8^-,9)$
1891.7 *3*	$(3)^+$	2437.9 *4*		2968.1 *4*		3587.4 *11*	$(9)^+$
1944.3 *3*	3^-	2517.3 *3*	5	3000.3 *4*	8^+		

† From a least-squares fit to E(γ's).
‡ From Adopted Levels.

ε,β^+ radiations

For Eβ+ measurements, see ^{118}I β^+ decay (13.7 min).

E(decay)	E(level)	Iβ^+†	Iε†	Log *ft*	I($\varepsilon+\beta^+$)†	Comments
(3.74×10^3‡ *8*)	3399.8?	0.64 *10*	0.26 *4*	6.94 *9*	0.90 *14*	av Eβ=1181 *37*; εK=0.248 *17*; εL=0.0325 *23*; εM+=0.0086 *6*
(3.95×10^3 *8*)	3191.6	1.6 *2*	0.51 *8*	6.69 *9*	2.1 *3*	av Eβ=1278 *38*; εK=0.209 *14*; εL=0.0274 *19*; εM+=0.0072 *5*
(3.98×10^3 *8*)	3168.5	2.6 *4*	0.81 *13*	6.50 *9*	3.4 *5*	av Eβ=1289 *38*; εK=0.205 *14*; εL=0.0269 *18*; εM+=0.0071 *5*
(4.03×10^3 *8*)	3114.4	1.14 *17*	0.34 *6*	6.89 *9*	1.48 *22*	av Eβ=1314 *38*; εK=0.196 *13*; εL=0.0257 *18*; εM+=0.0068 *5*
(4.04×10^3 *8*)	3108.1	2.2 *3*	0.64 *10*	6.61 *9*	2.8 *4*	av Eβ=1317 *38*; εK=0.196 *13*; εL=0.0256 *17*; εM+=0.0067 *5*
(4.07×10^3 *8*)	3078.9	30 *4*	8.7 *13*	5.49 *8*	39 *5*	av Eβ=1331 *38*; εK=0.191 *13*; εL=0.0250 *17*; εM+=0.0066 *5*
(4.14×10^3 *8*)	3000.3	1.7 *2*	0.44 *7*	6.80 *8*	2.1 *3*	av Eβ=1367 *38*; εK=0.179 *12*; εL=0.0235 *16*; εM+=0.0062 *4*
(4.18×10^3 *8*)	2968.1	3.0 *4*	0.77 *11*	6.56 *8*	3.8 *5*	av Eβ=1382 *38*; εK=0.175 *12*; εL=0.0229 *15*; εM+=0.0060 *4*
(4.22×10^3 *8*)	2920.2	1.28 *18*	0.31 *5*	6.97 *8*	1.59 *22*	av Eβ=1405 *38*; εK=0.169 *11*; εL=0.0220 *15*; εM+=0.0058 *4*
(4.23×10^3 *8*)	2914.4	18 *2*	4.3 *7*	5.83 *8*	22 *3*	av Eβ=1407 *38*; εK=0.168 *11*; εL=0.0219 *15*;

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^{118}I β^+ decay (8.5 min) 1985Sh04,1985StZU (continued)

ϵ,β^+ radiations (continued)

E(decay)	E(level)	Iβ^+[†]	Iε[†]	Log *ft*	I($\varepsilon+\beta^+$)[†]	Comments
						εM+=0.0058 *4*
(4.41×10^3 *8*)	2730.2	<1.1	<0.22	>7.2	<1.3	av Eβ=1494 *38*; εK=0.146 *10*; εL=0.0190 *12*; εM+=0.0050 *4*
(4.57×10^3 *8*)	2574.1	2.0 *3*	0.35 *5*	6.99 *8*	2.3 *3*	av Eβ=1567 *38*; εK=0.130 *8*; εL=0.0169 *11*; εM+=0.0045 *3*
(4.57×10^3 *8*)	2571.0	<2.5	<0.44	>6.9	<2.9	av Eβ=1568 *38*; εK=0.129 *8*; εL=0.0169 *11*; εM+=0.0045 *3*
(4.61×10^3 *8*)	2531.4	<1.5	<0.26	>7.1	<1.8	av Eβ=1587 *38*; εK=0.126 *8*; εL=0.0164 *10*; εM+=0.0043 *3*
(4.63×10^3 *8*)	2517.3	2.6 *3*	0.44 *6*	6.90 *8*	3.0 *4*	av Eβ=1594 *38*; εK=0.124 *8*; εL=0.0163 *10*; εM+=0.0043 *3*
(4.71×10^3 *8*)	2437.9	<1.7	<0.27	>7.1	<2.0	av Eβ=1631 *38*; εK=0.118 *7*; εL=0.0153 *10*; εM+=0.00404 *25*
(4.78×10^3 *8*)	2368.2	0.9 *3*	0.13 *4*	7.46 *14*	1.0 *3*	av Eβ=1664 *38*; εK=0.112 *7*; εL=0.0146 *9*; εM+=0.00385 *23*
(4.99×10^3 *8*)	2150.2	5 *3*	0.7 *3*	6.78 *23*	6 *3*	av Eβ=1767 *38*; εK=0.096 *6*; εL=0.0125 *7*; εM+=0.00331 *19*
(5.32×10^3 *8*)	1820.9	<8	<0.8	>6.8	<9	av Eβ=1923 *38*; εK=0.077 *4*; εL=0.0101 *6*; εM+=0.00266 *15*

[†] Absolute intensity per 100 decays.
[‡] Existence of this branch is questionable.

$\gamma(^{118}Te)$

Iγ normalization: Assumed no β^-feeding to g.s..

E$_\gamma$[†]	I$_\gamma$[@a]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
164.1 *3*	1.23 *12*	3078.9	(6$^+$)	2914.4	(6$^+$)
329.4 *3*	2.14 *20*	2150.2	(6)$^+$	1820.9	6$^+$
366.7[c] *3*	0.07 *1*	2517.3	5	2150.2	(6)$^+$
397.0 *3*	0.15 *2*	2914.4	(6$^+$)	2517.3	5
404.8[c] *3*	0.20 *2*	2225.7?		1820.9	6$^+$
447.3 *3*	0.58 *6*	2150.2	(6)$^+$	1702.9	(4)$^+$
476.6 *3*	0.18 *2*	2368.2	(5)$^+$	1891.7	(3)$^+$
496.8 *3*	0.24[&] *2*	1702.9	(4)$^+$	1206.2	4$^+$
528.4[c] *3*		2230.0?	(4)$^+$	1702.9	(4)$^+$
545.0 *3*	0.41[&] *4*	1150.66	2$^+$	605.54	2$^+$
551.8 *3*	0.45[&] *5*	1702.9	(4)$^+$	1150.66	2$^+$
552.0 *3*	0.30 *3*	2920.2	(7)$^+$	2368.2	(5)$^+$
600.6 *3*	17.6[&] *18*	1206.2	4$^+$	605.54	2$^+$
605.6 *3*	18.9[&] *19*	605.54	2$^+$	0.0	0$^+$
614.3 *3*	11.4 *10*	1820.9	6$^+$	1206.2	4$^+$
626.7[#] *3*	<0.14	2571.0		1944.3	3$^-$
666.1[c] *3*	0.14 *2*	2368.2	(5)$^+$	1702.9	(4)$^+$
667.2[‡]		3587.4	(9)$^+$	2920.2	(7)$^+$
685.2 *3*	0.037[&] *4*	1891.7	(3)$^+$	1206.2	4$^+$
696.5 *3*	0.24 *2*	2517.3	5	1820.9	6$^+$

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^{118}I β^+ decay (8.5 min) 1985Sh04,1985StZU (continued)

$\gamma(^{118}Te)$ (continued)

E_γ †	I_γ @a	E_i(level)	J_i^π	E_f	J_f^π	Comments
719.6#c 3	<0.34	2422?		1702.9	$(4)^+$	
738.1 3	<0.0057&	1944.3	3^-	1206.2	4^+	
741.2 3	0.11& 1	1891.7	$(3)^+$	1150.66	2^+	
753.2 3	0.43 4	2574.1	8^+	1820.9	6^+	
763.9 3	1.83 18	2914.4	(6^+)	2150.2	$(6)^+$	
770.0b 3	0.26b& 3	1976.1	(4^+)	1206.2	4^+	
770.0bc 3	0.30b 3	2920.2	$(7)^+$	2150.2	$(6)^+$	
793.7 3	<0.0015&	1944.3	3^-	1150.66	2^+	
814.2 3	0.21 2	2517.3	5	1702.9	$(4)^+$	
818.5 3	0.45 5	2968.1		2150.2	$(6)^+$	
825.7c 3	0.17 2	3399.8?	$(8^-,9)$	2574.1	8^+	
849.7 3	0.26 3	3000.3	8^+	2150.2	$(6)^+$	E_γ: maybe a unresolved peak of 849.3γ and 849.6γ in (α,2nγ) (evaluator).
879.0c 3		3108.1		2230.0?	$(4)^+$	
929.3 3	1.66 17	3078.9	(6^+)	2150.2	$(6)^+$	
938.4 3	0.84 8	2914.4	(6^+)	1976.1	(4^+)	
944.5 3	3.49 35	2150.2	$(6)^+$	1206.2	4^+	
958.1 3	0.23 2	3108.1		2150.2	$(6)^+$	
1018.6 3	0.25 3	3168.5		2150.2	$(6)^+$	
1023.2c 3		2230.0?	$(4)^+$	1206.2	4^+	
1041.4 3	0.39 4	3191.6		2150.2	$(6)^+$	
1079.0c 3		2230.0?	$(4)^+$	1150.66	2^+	
1093.6 3	2.48 25	2914.4	(6^+)	1820.9	6^+	
1097.5 3	0.10& 1	1702.9	$(4)^+$	605.54	2^+	
x1098.8‡						
1146.7 3	0.26 3	2968.1		1820.9	6^+	
1150.6 3	0.15& 2	1150.66	2^+	0.0	0^+	
1161.9 3	0.31 4	2368.2	$(5)^+$	1206.2	4^+	
1179.8 3	0.14 2	3000.3	8^+	1820.9	6^+	
1231.7# 3	<0.38	2437.9		1206.2	4^+	
1257.7 3	4.25 40	3078.9	(6^+)	1820.9	6^+	
1286.3 3	0.034& 3	1891.7	$(3)^+$	605.54	2^+	
1287.0 3	0.30 3	3108.1		1820.9	6^+	
1293.5 3	0.28 3	3114.4		1820.9	6^+	
1311.0 3	0.27 3	2517.3	5	1206.2	4^+	
1325.2# 3	<0.34	2531.4		1206.2	4^+	
1338.8 3	<0.133&	1944.3	3^-	605.54	2^+	
1347.4 3	0.40 4	3168.5		1820.9	6^+	
1364.7# 3	<0.41	2571.0		1206.2	4^+	
x1369.8‡						
1370.4 3	0.58& 6	1976.1	(4^+)	605.54	2^+	
1524.0# 3	<0.25	2730.2		1206.2	4^+	
1872.7 3	0.19 2	3078.9	(6^+)	1206.2	4^+	
x2648.1‡						

† From 1985StZU; uncertainty of 0.3 keV is assumed (evaluator).
‡ Reported in 1985Sh16 only. No intensity was given by authors.
# Isomeric assignment is uncertain.

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^{118}I β^+ decay (8.5 min) 1985Sh04,1985StZU (continued)

$\gamma(^{118}Te)$ (continued)

[@] From 1985StZU. Relative to I(605.6)=100 for the combined source, unless otherwise noted. Uncertainty of 10% is assumed (evaluator).
[&] Derived from Iγ(1985StZU) based on the intensity balance and Branching in 1985StZU.
[a] For absolute intensity per 100 decays, multiply by 5.3 *5*.
[b] Multiply placed with intensity suitably divided.
[c] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

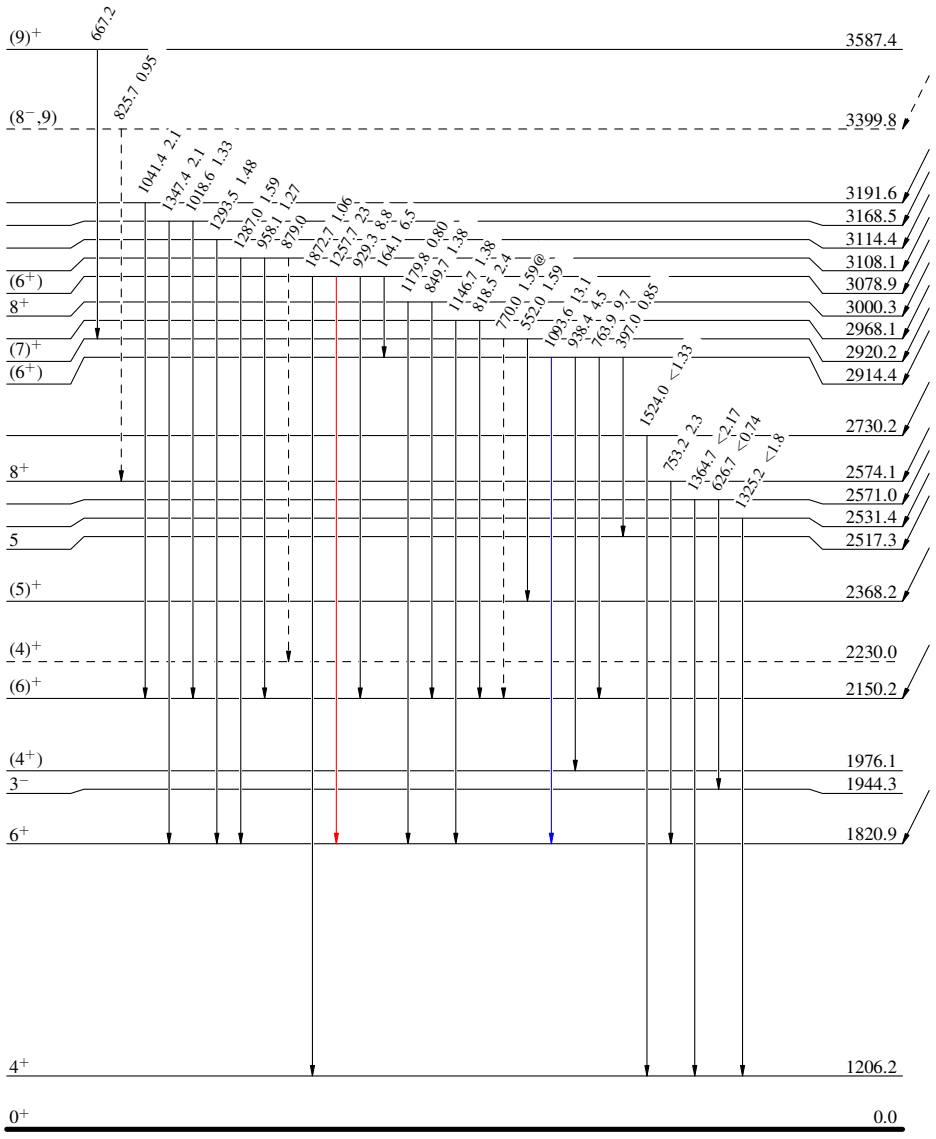
^{118}I β^+ decay (8.5 min) 1985Sh04,1985StZU

Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)

(7^-) 104.0+x 8.5 min 5
$\%\varepsilon + \%\beta^+ = 100$ Q_ε=7040 80
$^{118}_{53}I_{65}$



$^{118}_{52}Te_{66}$

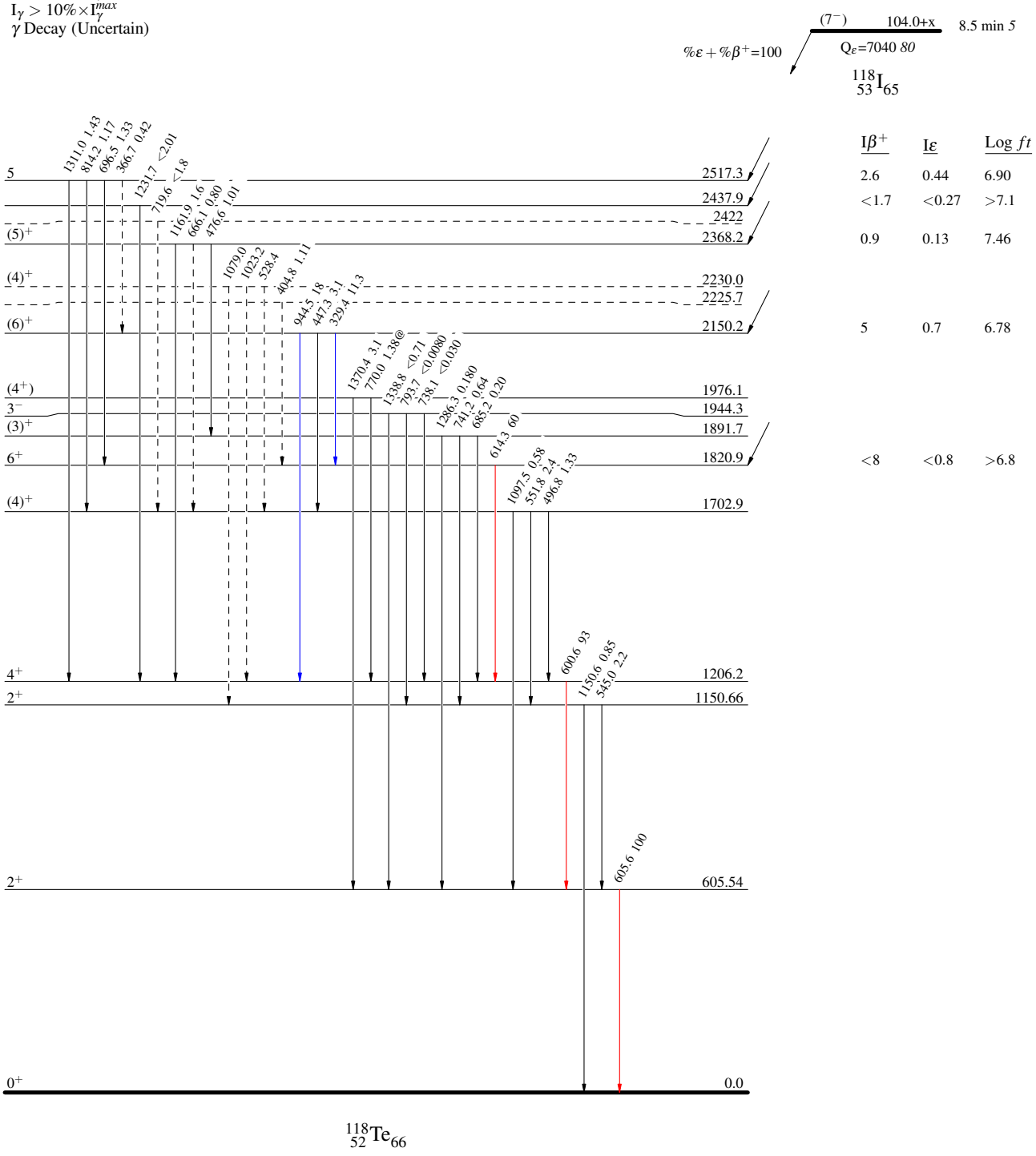
	$I\beta^+$	$I\varepsilon$	Log ft
3399.8	0.64	0.26	6.94
3191.6	1.6	0.51	6.69
3168.5	2.6	0.81	6.50
3114.4	1.14	0.34	6.89
3108.1	2.2	0.64	6.61
3078.9	30	8.7	5.49
3000.3	1.7	0.44	6.80
2968.1	3.0	0.77	6.56
2920.2	1.28	0.31	6.97
2914.4	18	4.3	5.83
2730.2	<1.1	<0.22	>7.2
2574.1	2.0	0.35	6.99
2571.0	<2.5	<0.44	>6.9
2531.4	<1.5	<0.26	>7.1
2517.3	2.6	0.44	6.90
2368.2	0.9	0.13	7.46
2230.0			
2150.2	5	0.7	6.78
1976.1			
1944.3			
1820.9	<8	<0.8	>6.8
1206.2			
0.0			

^{118}I β^+ decay (8.5 min) 1985Sh04,1985StZU

Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
@ Multiply placed: intensity suitably divided

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$
γ Decay (Uncertain)



	Iβ+	Iε	Log ft
2517.3	2.6	0.44	6.90
2437.9	<1.7	<0.27	>7.1
2422			
2368.2	0.9	0.13	7.46
2230.0			
2225.7			
2150.2	5	0.7	6.78
1976.1			
1944.3			
1891.7			
1820.9	<8	<0.8	>6.8
1702.9			
1206.2			
1150.66			
605.54			
0.0			

$^{118}_{52}Te_{66}$