$^{51}V(^{32}S,2pn\gamma)$ 1998Ta07,1997Ta21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 105, 223 (2005)	22-Jun-2005

1998Ta07, 1997Ta21: E=105 MeV. Measured Eγ, Iγ, γγ, γγ-recoil coin, lifetimes using an array of eight escape-suppressed Ge detectors and the recoil-mass separator HIRA.

^{80}Rb Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0	1^+	764.6[c] *16*	(6^-)	2678.9[@] *20*	(12^+)	5905.9[#] *24*	(17^+)
175.3 *8*	$2^{(-)}$	883.5 *14*	(7^-)	2785.8[b] *23*	(11^-)	6136.0[&] *25*	(17^-)
334.2 *12*	$3^{(-)}$	1065.3[b] *18*	(7^-)	2998.1[a] *20*	(12^-)	7111[a] *3*	(18^-)
375.7 *8*	3^+	1122.5[#] *18*	(9^+)	3150.8[#] *20*	(13^+)	7542[&] *3*	(19^-)
397.3 *13*	(4^-)	1204.6 *15*	(8^-)	3268.9[c] *23*	(12^-)	7553[#] *3*	(19^+)
418.3 *14*	(4^-)	1410.9[c] *19*	(8^-)	3598.0[&] *20*	(13^-)	9036[&] *3*	(21^-)
471.8 *12*	$4^{(+)}$	1541.4[@] *18*	(10^+)	3903.8[b] *25*	(13^-)	9328[#] *3*	(21^+)
485.5 *13*	(5^-)	1590.9[&] *16*	(9^-)	4031.9[@] *21*	(14^+)	10783[&] *3*	(23^-)
493.4 *13*	6^+	1848.8[b] *21*	(9^-)	4184.1[a] *22*	(14^-)	11163[#] *3*	(23^+)
496.5 *15*	(5^-)	1999.0[a] *17*	(10^-)	4444.9[#] *21*	(15^+)	13175[#] *3*	(25^+)
580.3[b] *15*	(5^-)	2025.6[#] *19*	(11^+)	4842.0[&] *22*	(15^-)		
643.6 *14*	(6^-)	2259.9[c] *21*	(10^-)	5540.9[@] *23*	(16^+)		
650.4 *17*	(8^+)	2506.0[&] *17*	(11^-)	5545.1[a] *24*	(16^-)		

† From least-squares fit to Eγ′s, assuming Δ(Eγ)=1 keV for each γ ray.
‡ As proposed by 1998Ta07 and 1997Ta21. The assignments are the same in 'Adopted Levels', except that some of these are placed in parentheses there.
[#] Band(A): $\pi g_{9/2}\nu g_{9/2}$, α=1.
[@] Band(a): $\pi g_{9/2}\nu g_{9/2}$, α=0.
[&] Band(B): $\pi f_{5/2}\nu g_{9/2}$, α=1.
[a] Band(b): $\pi f_{5/2}\nu g_{9/2}$, α=0.
[b] Band(C): α=1 band.
[c] Band(c): α=0 band.

γ(^{80}Rb)

Eγ	Iγ	Ei(level)	Jiπ	Ef	Jfπ	Comments
(8.0†)		493.4	6^+	485.5	(5^-)	
(21.6†)		493.4	6^+	471.8	$4^{(+)}$	
63		397.3	(4^-)	334.2	$3^{(-)}$	
78		496.5	(5^-)	418.3	(4^-)	
84		418.3	(4^-)	334.2	$3^{(-)}$	
88		485.5	(5^-)	397.3	(4^-)	
96		471.8	$4^{(+)}$	375.7	3^+	
151.4	10.4 *2*	485.5	(5^-)	334.2	$3^{(-)}$	
157		650.4	(8^+)	493.4	6^+	
158	100	643.6	(6^-)	485.5	(5^-)	Iγ: For 158+159.
159	100	334.2	$3^{(-)}$	175.3	$2^{(-)}$	Iγ: For 158+159.
162		580.3	(5^-)	418.3	(4^-)	
175		175.3	$2^{(-)}$	0	1^+	
183		580.3	(5^-)	397.3	(4^-)	
200		375.7	3^+	175.3	$2^{(-)}$	

Continued on next page (footnotes at end of table)

$^{51}V(^{32}S,2pn\gamma)$ 1998Ta07,1997Ta21 (continued)

$\gamma(^{80}Rb)$ (continued)

E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ	I_γ	E_i(level)	J_i^π	E_f	J_f^π
240		883.5	(7^-)	643.6	(6^-)	915	36 *4*	2506.0	(11^-)	1590.9	(9^-)
246.5	9.2 *5*	643.6	(6^-)	397.3	(4^-)	937	8 *3*	2785.8	(11^-)	1848.8	(9^-)
268		764.6	(6^-)	496.5	(5^-)	999	24 *3*	2998.1	(12^-)	1999.0	(10^-)
321		1204.6	(8^-)	883.5	(7^-)	1009	11.2 *23*	3268.9	(12^-)	2259.9	(10^-)
346.4	4.2 *2*	764.6	(6^-)	418.3	(4^-)	1092	20 *3*	3598.0	(13^-)	2506.0	(11^-)
376		375.7	3^+	0	1^+	1118		3903.8	(13^-)	2785.8	(11^-)
386		1590.9	(9^-)	1204.6	(8^-)	1125		3150.8	(13^+)	2025.6	(11^+)
387		883.5	(7^-)	496.5	(5^-)	1138		2678.9	(12^+)	1541.4	(10^+)
398.0	14.2 *6*	883.5	(7^-)	485.5	(5^-)	1186	17 *4*	4184.1	(14^-)	2998.1	(12^-)
413		4444.9	(15^+)	4031.9	(14^+)	1244	11.7 *14*	4842.0	(15^-)	3598.0	(13^-)
419		1541.4	(10^+)	1122.5	(9^+)	1294		4444.9	(15^+)	3150.8	(13^+)
472		1122.5	(9^+)	650.4	(8^+)	1294	14.8 *16*	6136.0	(17^-)	4842.0	(15^-)
472		3150.8	(13^+)	2678.9	(12^+)	1353		4031.9	(14^+)	2678.9	(12^+)
484		2025.6	(11^+)	1541.4	(10^+)	1361	14 *3*	5545.1	(16^-)	4184.1	(14^-)
485.0	12.7 *21*	1065.3	(7^-)	580.3	(5^-)	1406	9.8 *15*	7542	(19^-)	6136.0	(17^-)
507		2506.0	(11^-)	1999.0	(10^-)	1461		5905.9	(17^+)	4444.9	(15^+)
561.0	30.8 *16*	1204.6	(8^-)	643.6	(6^-)	1494	5.2 *19*	9036	(21^-)	7542	(19^-)
646.3	21 *6*	1410.9	(8^-)	764.6	(6^-)	1509		5540.9	(16^+)	4031.9	(14^+)
653		2678.9	(12^+)	2025.6	(11^+)	1566‡		7111	(18^-)	5545.1	(16^-)
707.5	31.5 *23*	1590.9	(9^-)	883.5	(7^-)	1647		7553	(19^+)	5905.9	(17^+)
783.5	10.2 *24*	1848.8	(9^-)	1065.3	(7^-)	1747‡		10783	(23^-)	9036	(21^-)
794.5	23.4 *16*	1999.0	(10^-)	1204.6	(8^-)	1775		9328	(21^+)	7553	(19^+)
849	15 *6*	2259.9	(10^-)	1410.9	(8^-)	1835		11163	(23^+)	9328	(21^+)
891		1541.4	(10^+)	650.4	(8^+)	2012		13175	(25^+)	11163	(23^+)
903		2025.6	(11^+)	1122.5	(9^+)						

† From 'adopted gammas'.
‡ Placement of transition in the level scheme is uncertain.

$^{51}V(^{32}S,2pn\gamma)$ 1998Ta07,1997Ta21

Level Scheme

Intensities: Relative I_γ

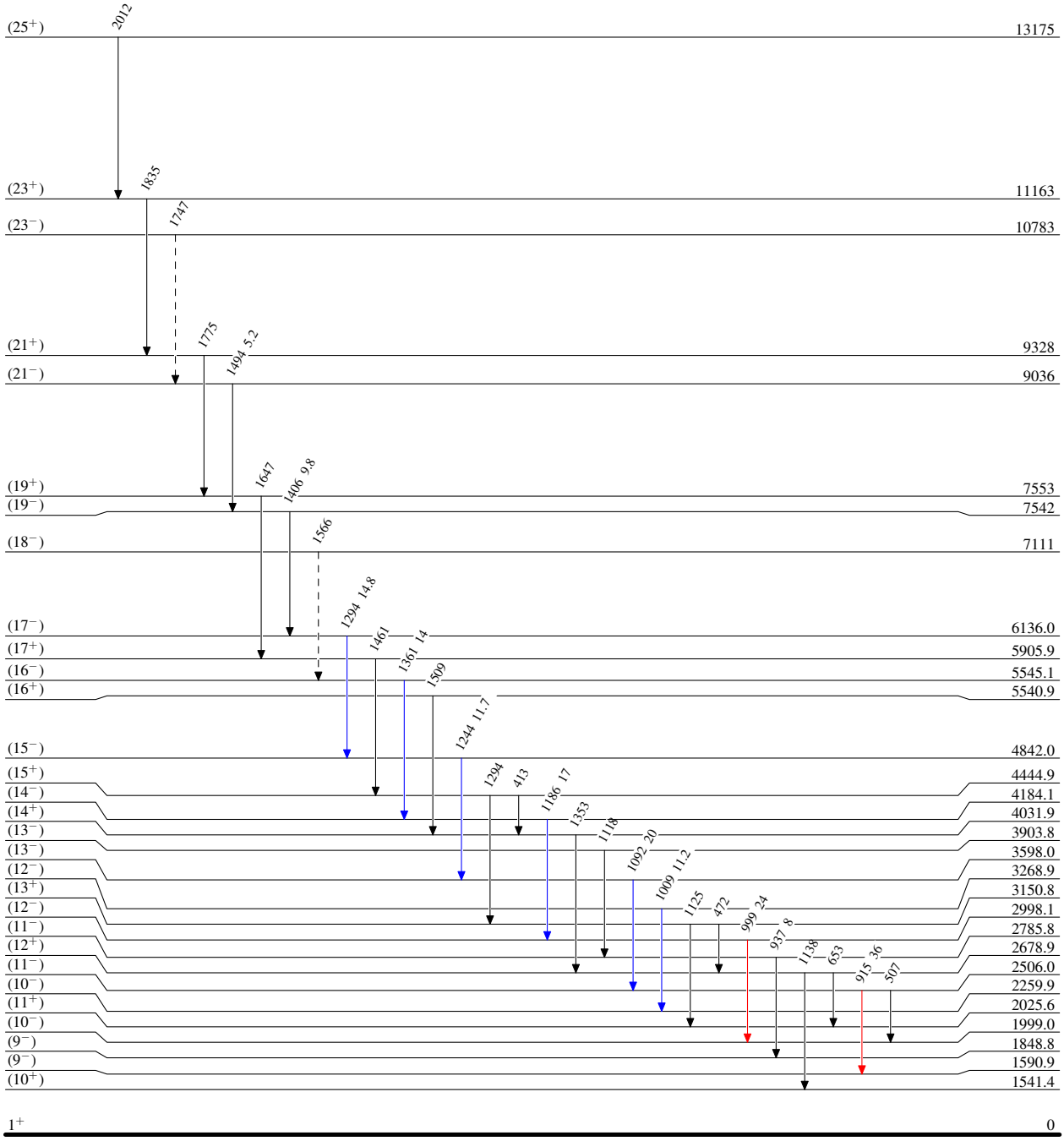
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

γ Decay (Uncertain)



$^{80}_{37}Rb_{43}$

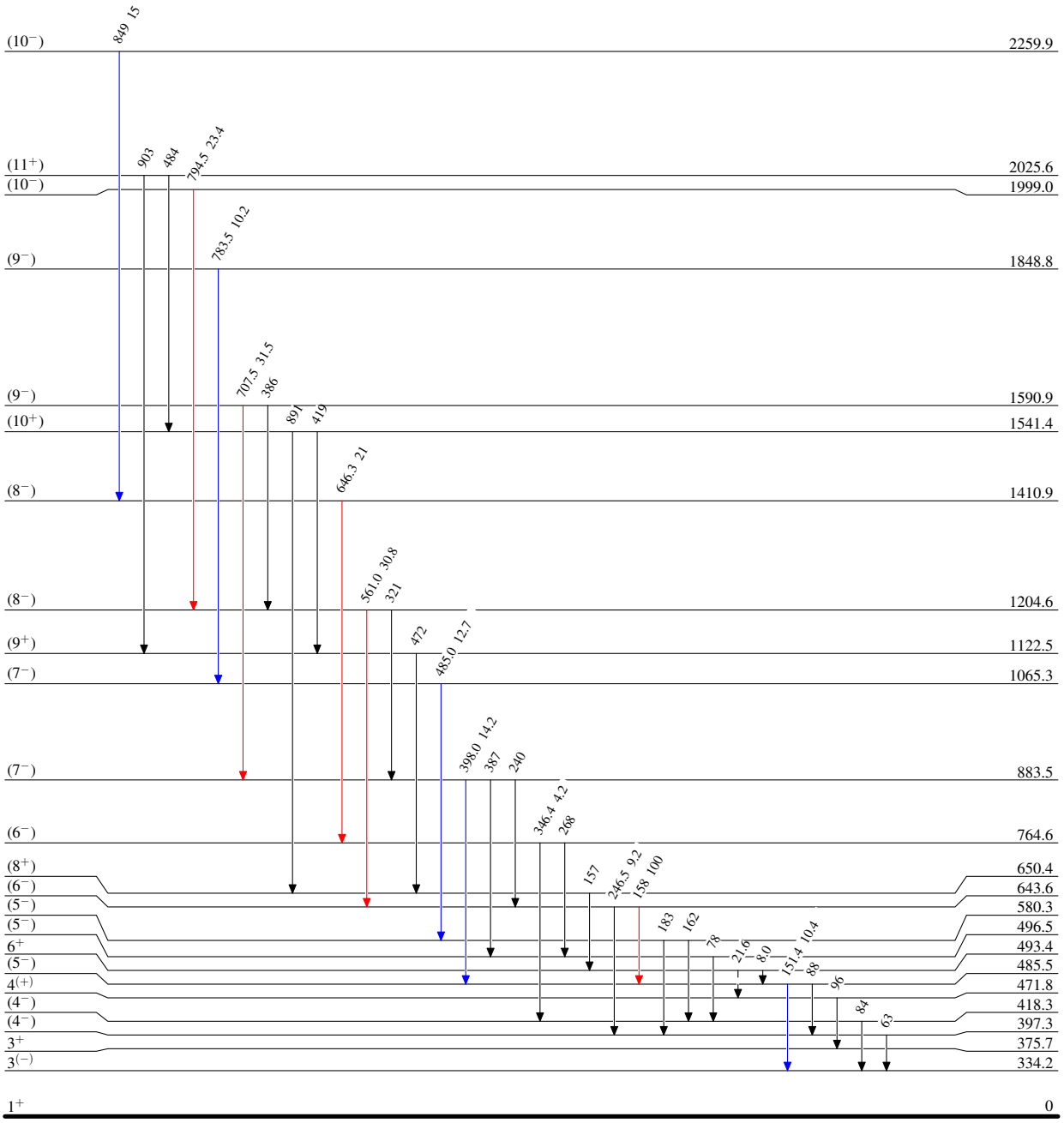
$^{51}V(^{32}S,2pn\gamma)$ **1998Ta07,1997Ta21**

Level Scheme (continued)

Intensities: Relative I_γ

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)

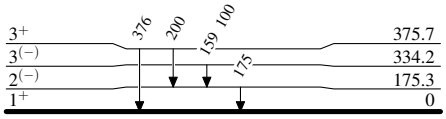


$^{80}_{37}Rb_{43}$

^{51}V(^{32}S,2pnγ) 1998Ta07,1997Ta21

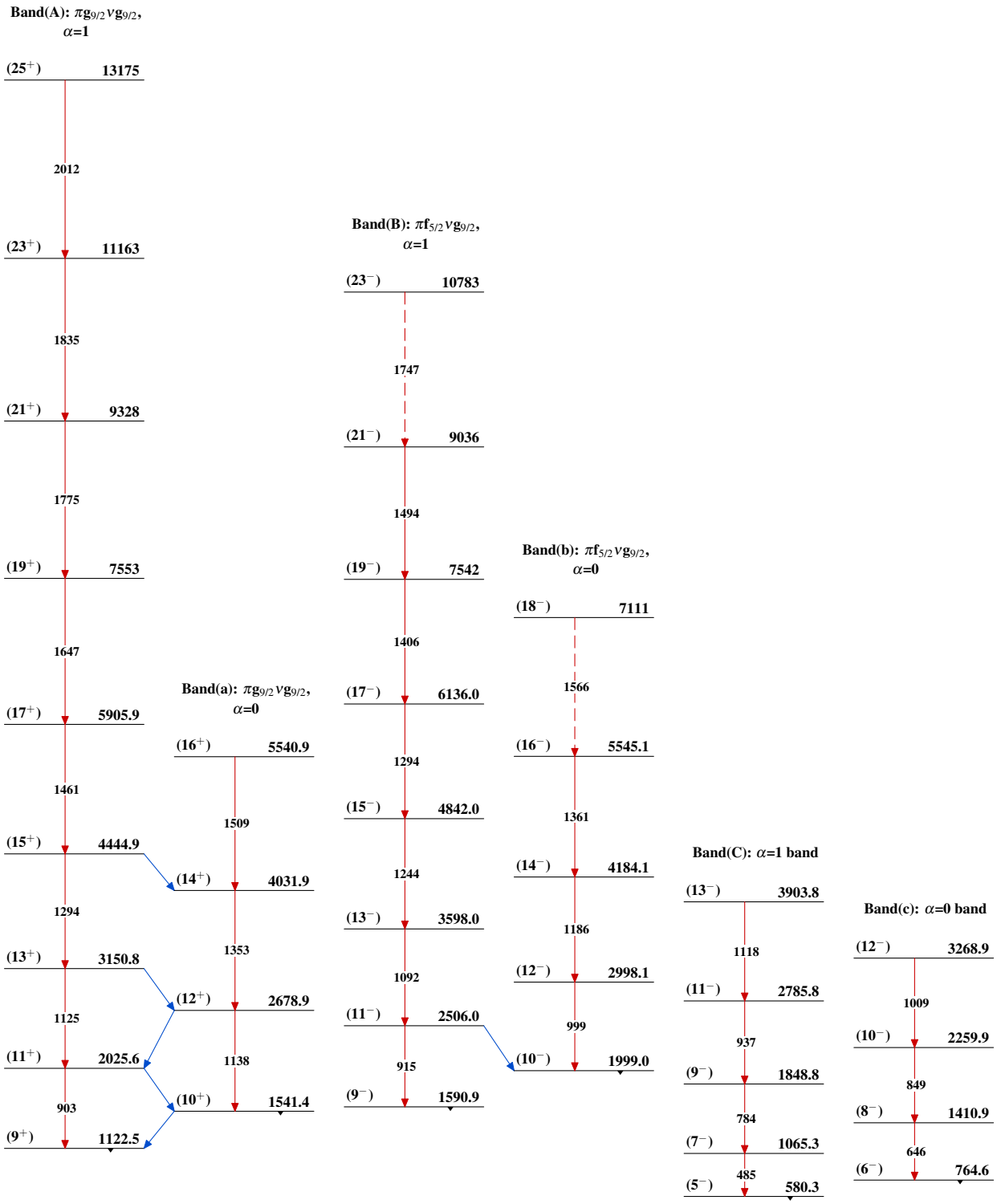
Level Scheme (continued)

Intensities: Relative I_γ



$^{80}_{37}Rb_{43}$

$^{51}V(^{32}S,2pn\gamma)$ 1998Ta07,1997Ta21



$^{80}_{37}Rb_{43}$