^{152}Sm(^{35}Cl,5nγ) 2002Zh26,2006Zh38

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 130, 21 (2015)	15-Jul-2015

2002Zh26, 2006Zh38: E=183 MeV. Measured Eγ, Xγ, Iγ, $\gamma\gamma$ and $\gamma\gamma(\theta)$(DCO) using an array comprised of one HPGe LOAX and 11 HPGe detectors with BGO anti-Compton shields. But detailed data on gamma-ray intensities and DCO ratios are not available.

All data are from 2002Zh26, unless otherwise stated.

^{182}Au Levels

E(level)	J$^\pi$†	T$_{1/2}$	E(level)	J$^\pi$†	E(level)	J$^\pi$†
0.0	(2$^+$)‡		763.5+x# 7	(14$^-$)	2126.3+y[b] 9	(18$^+$)
0+x#	(10$^-$)		968.9+y& 7	(12$^+$)	2173.0+x@ 10	(19$^-$)
0+y&	(6$^+$)		1006.4+y[b] 7	(12$^+$)	2408.0+y[c] 10	(19$^+$)
104.3+y[a] 7	(7$^+$)		1036.0+x@ 7	(15$^-$)	2559.5+x# 11	(20$^-$)
129.5‡ 5	(1,2$^-$)‡	≤50 ns	1138.4+y[c] 8	(13$^+$)	2657.1+y[b] 10	(20$^+$)
205.0+x@ 4	(11$^-$)		1277.4+y[b] 8	(14$^+$)	2836.0+x@ 12	(21$^-$)
231.4+y& 5	(8$^+$)		1294.5+x# 9	(16$^-$)	2949.6+y[c] 10	(21$^+$)
320.0+x# 4	(12$^-$)		1487.1+y[c] 8	(15$^+$)	3243.6+y[b] 11	(22$^+$)
384.4+y[a] 6	(9$^+$)		1572.0+x@ 9	(17$^-$)	3549.6+y[c] 12	(23$^+$)
559.9+y& 6	(10$^+$)		1660.8+y[b] 9	(16$^+$)	3883.1+y[b] 12	(24$^+$)
575.5+x@ 5	(13$^-$)		1892.0+x# 10	(18$^-$)	4219.1+y[c] 13	(25$^+$)
756.9+y[a] 7	(11$^+$)		1917.2+y[c] 9	(17$^+$)	4579.1+y[b] 16	(26$^+$)

† Tentative assignments are from 2002Zh26 which are probably based on $\gamma\gamma(\theta)$(DCO) data and configurations of two bands from systematics. The 6$^+$ and 7$^+$ bandheads seem to be assigned from deexcitation of signature-partner bands based on $\pi i_{13/2}\otimes\nu i_{13/2}$. The same assignments are given in Adopted Levels.

‡ From Adopted Levels.

Band(A): $\pi h_{9/2}\otimes\nu i_{13/2}$, α=0.

@ Band(a): $\pi h_{9/2}\otimes\nu i_{13/2}$, α=1.

& Band(B): Band based on (6$^+$), α=0.

[a] Band(b): Band based on (7$^+$), α=1.

[b] Band(C): $\pi i_{13/2}\otimes\nu i_{13/2}$, α=0.

[c] Band(c): $\pi i_{13/2}\otimes\nu i_{13/2}$, α=1.

$\gamma(^{182}$Au)

E$_\gamma$†	I$_\gamma$‡@	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
104 *1*	10	104.3+y	(7$^+$)	0+y	(6$^+$)	
115.0 *5*	10	320.0+x	(12$^-$)	205.0+x	(11$^-$)	
127 *1*	20	231.4+y	(8$^+$)	104.3+y	(7$^+$)	
129.5 *5*	100	129.5	(1,2$^-$)	0.0	(2$^+$)	
132.0 *5*	15	1138.4+y	(13$^+$)	1006.4+y	(12$^+$)	Additional information 1.
139.0 *5*	30	1277.4+y	(14$^+$)	1138.4+y	(13$^+$)	Additional information 2.
153 *1*	35	384.4+y	(9$^+$)	231.4+y	(8$^+$)	
169.5 *5*	35	1138.4+y	(13$^+$)	968.9+y	(12$^+$)	
173.5 *5*	30	1660.8+y	(16$^+$)	1487.1+y	(15$^+$)	Additional information 4.
175.5 *5*	35	559.9+y	(10$^+$)	384.4+y	(9$^+$)	
197 *1*	15	756.9+y	(11$^+$)	559.9+y	(10$^+$)	

Continued on next page (footnotes at end of table)

^{152}Sm(^{35}Cl,5nγ) 2002Zh26,2006Zh38 (continued)

$\gamma(^{182}Au)$ (continued)

E_γ[†]	I_γ[‡@]	E_i(level)	J_i^π	E_f	J_f^π	Comments
205.0 *5*		205.0+x	(11^-)	0+x	(10^-)	
209.0 *5*	20	2126.3+y	(18^+)	1917.2+y	(17^+)	
209.5 *5*	45	1487.1+y	(15^+)	1277.4+y	(14^+)	
231.5 *5*	60	231.4+y	(8^+)	0+y	(6^+)	
249.0 *5*	10	2657.1+y	(20^+)	2408.0+y	(19^+)	Additional information 7.
249.5 *5*	10	1006.4+y	(12^+)	756.9+y	(11^+)	
255.5 *5*	60	575.5+x	(13^-)	320.0+x	(12^-)	
256.5 *5*	30	1917.2+y	(17^+)	1660.8+y	(16^+)	
271.0 *5*	40	1277.4+y	(14^+)	1006.4+y	(12^+)	Additional information 3.
273 *1*	45	1036.0+x	(15^-)	763.5+x	(14^-)	
280.0[&] *5*	20	384.4+y	(9^+)	104.3+y	(7^+)	
281.5 *5*	15	2408.0+y	(19^+)	2126.3+y	(18^+)	Additional information 6.
292.5 *5*	10	2949.6+y	(21^+)	2657.1+y	(20^+)	
294.0 *5*	20	3243.6+y	(22^+)	2949.6+y	(21^+)	
308.5 *5*	15	1277.4+y	(14^+)	968.9+y	(12^+)	
320.0 *5*	120	320.0+x	(12^-)	0+x	(10^-)	
328.5 *5*	160	559.9+y	(10^+)	231.4+y	(8^+)	
349 *1*	40	1487.1+y	(15^+)	1138.4+y	(13^+)	
370.5 *5*	70	575.5+x	(13^-)	205.0+x	(11^-)	
372.5[&] *5*	20	756.9+y	(11^+)	384.4+y	(9^+)	
383.5 *5*	65	1660.8+y	(16^+)	1277.4+y	(14^+)	
409.0 *5*	130	968.9+y	(12^+)	559.9+y	(10^+)	
430.2[#] *5*	40	1917.2+y	(17^+)	1487.1+y	(15^+)	
443.5 *5*		763.5+x	(14^-)	320.0+x	(12^-)	
446.5 *5*	70	1006.4+y	(12^+)	559.9+y	(10^+)	
460.5 *5*	100	1036.0+x	(15^-)	575.5+x	(13^-)	
465.5 *5*	70	2126.3+y	(18^+)	1660.8+y	(16^+)	Additional information 5.
491 *1*	35	2408.0+y	(19^+)	1917.2+y	(17^+)	
531.0 *5*	110	1294.5+x	(16^-)	763.5+x	(14^-)	
531.0 *5*	45	2657.1+y	(20^+)	2126.3+y	(18^+)	Additional information 8.
536.0 *5*	55	1572.0+x	(17^-)	1036.0+x	(15^-)	
541.5 *5*	35	2949.6+y	(21^+)	2408.0+y	(19^+)	
586.5 *5*	35	3243.6+y	(22^+)	2657.1+y	(20^+)	
597.5 *5*	80	1892.0+x	(18^-)	1294.5+x	(16^-)	
600.0 *5*	35	3549.6+y	(23^+)	2949.6+y	(21^+)	
601.0 *5*	50	2173.0+x	(19^-)	1572.0+x	(17^-)	
639.5 *5*	25	3883.1+y	(24^+)	3243.6+y	(22^+)	
663.0 *5*	35	2836.0+x	(21^-)	2173.0+x	(19^-)	
667.5 *5*	30	2559.5+x	(20^-)	1892.0+x	(18^-)	
669.5 *5*	15	4219.1+y	(25^+)	3549.6+y	(23^+)	
696[&] *1*	10	4579.1+y	(26^+)	3883.1+y	(24^+)	

[†] $\Delta(E\gamma)$ assigned as 0.5 keV based on a general statement by 2002Zh26, 1 keV assigned when $E\gamma$ quoted to nearest keV. Since the data in 2002Zh26 are more complete than in 2006Zh38, all $E\gamma$ values, except for 430.2 γ ray, are from 2002Zh26.

[‡] Estimated by the evaluators from thickness of arrows in level-scheme figure 1 of 2002Zh26. The uncertainty is expected to be at least 10%.

[#] From 2006Zh38. $E\gamma$=430 (2002Zh26).

[@] Additional information 9.

[&] Placement of transition in the level scheme is uncertain.

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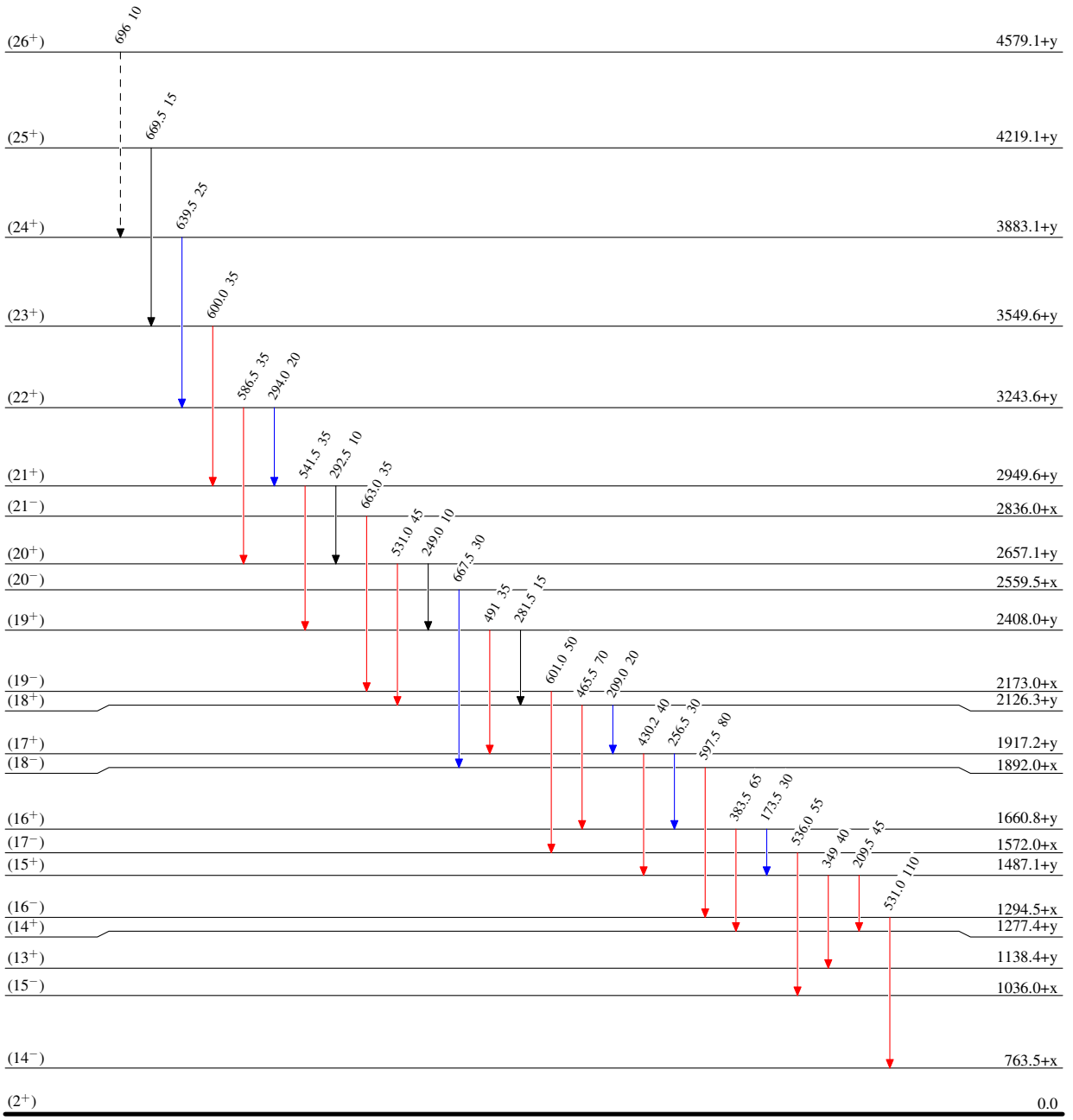
Level Scheme

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)



$^{182}_{79}Au_{103}$

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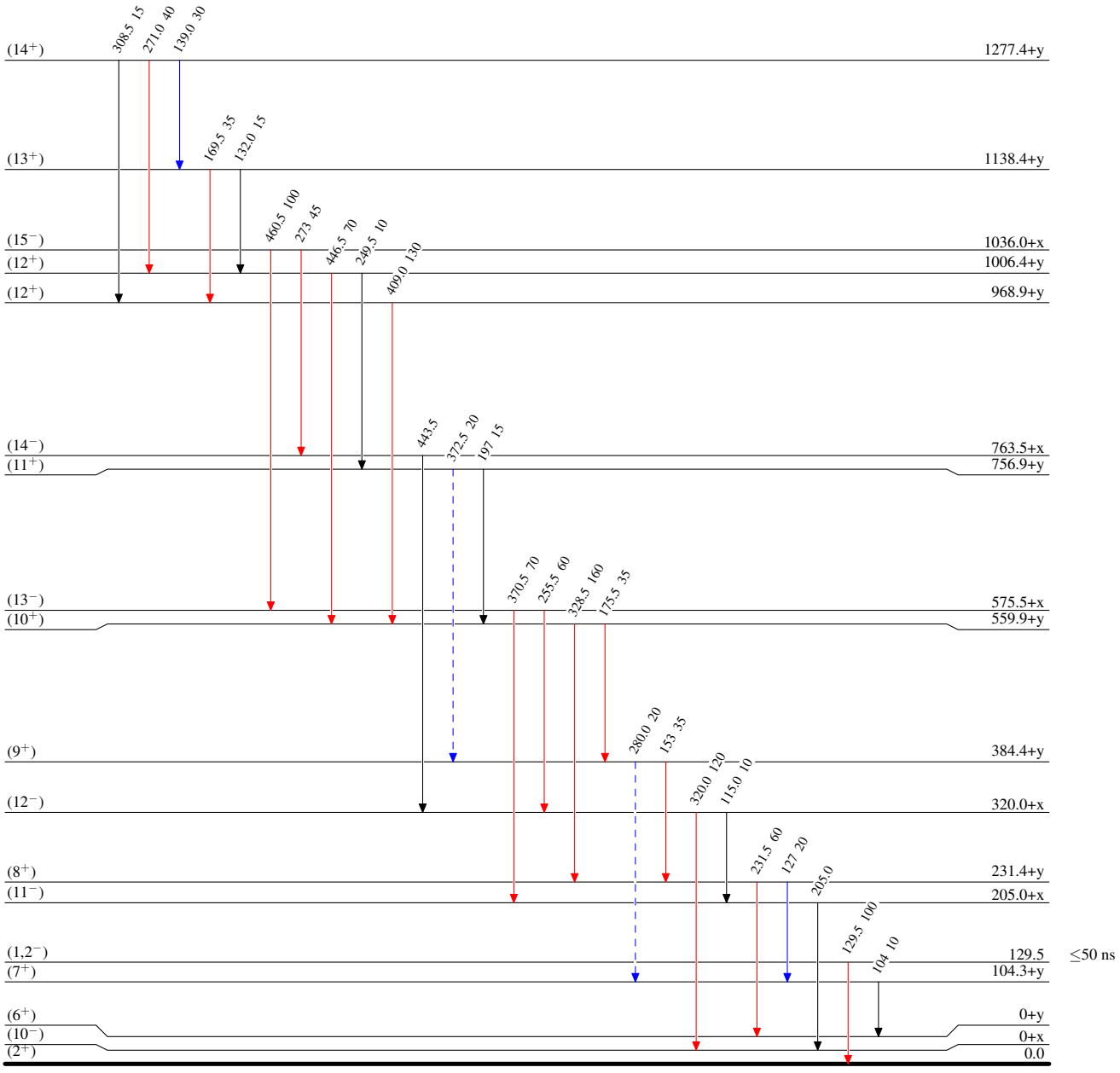
Level Scheme (continued)

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)



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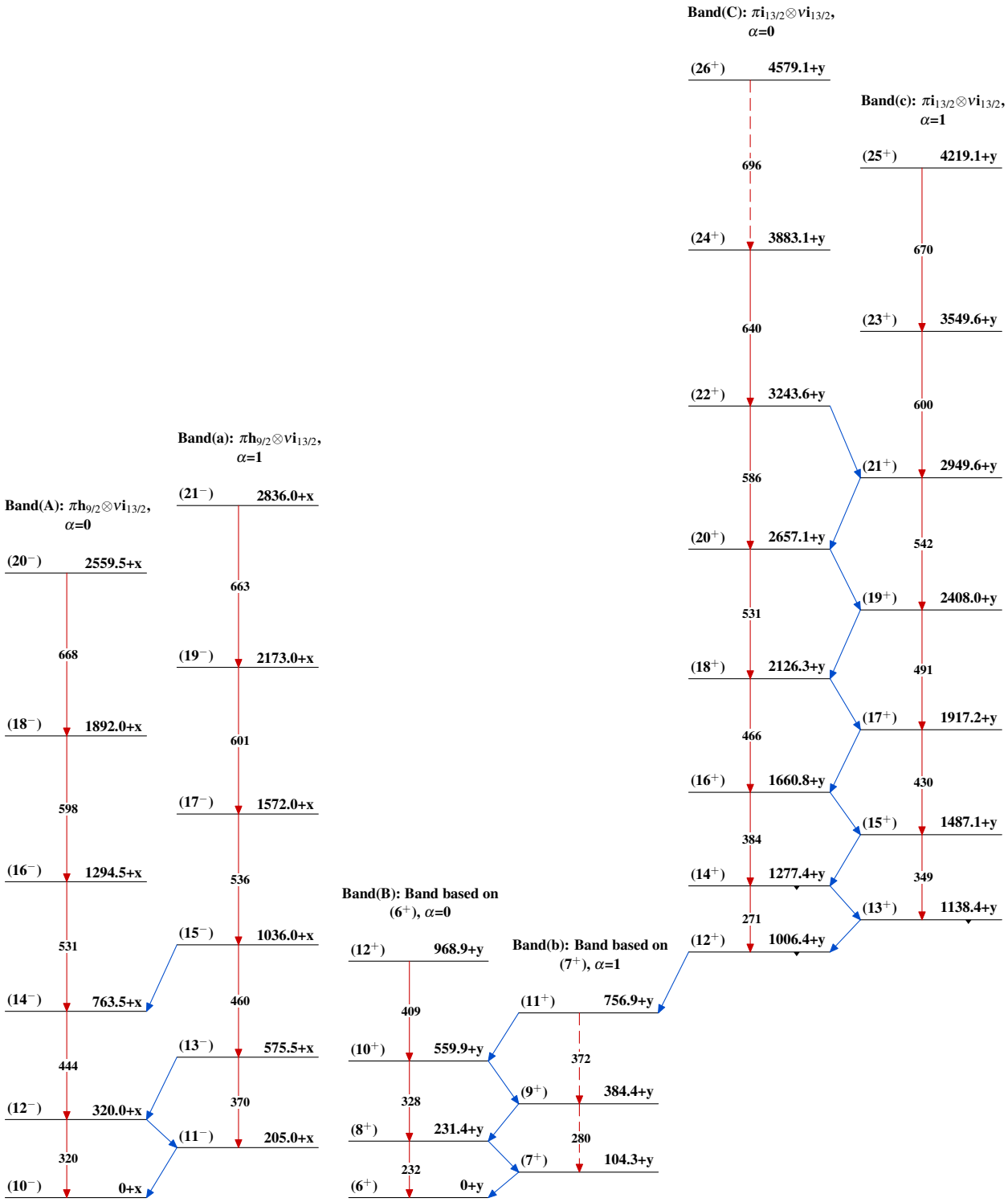

$^{182}_{79}Au_{103}$