^{198}Pt(^{136}Xe,Xγ)   2004Va03

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	E. A. Mccutchan	NDS 152, 331 (2018)	1-Apr-2018

2004Va03: ^{198}Pt(^{136}Xe,Xγ) with E(^{136}Xe)=850 MeV. Measured Eγ, Iγ, $\gamma\gamma$, γ-recoil coincidences, $\gamma\gamma$(t) using Gammasphere array consisting of 103 Compton-suppressed HPGe detectors and the Chico gas-filled parallel plate avalanche chamber detector.
1982BoZN: ^{208}Pb(^{136}Xe,Xγ) with E(^{136}Xe)=884 MeV. Measured Eγ in beam-off periods using four Ge detectors.
All data are from 2004Va03, except where noted.

^{136}Ba Levels

The ordering of the structure built on top of the (10$^+$) isomer is tentative as 2004Va03 were unable to place the intense 130γ in mutual coincidence with a number of transitions feeding into the isomer.

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$	Comments
0.0[@]	0$^+$		
818.60[@] 20	2$^+$		
1866.6[@] 3	4$^+$		
2030.6 3	7$^-$		
2053.8 3	4$^+$		
2140.5 3	5$^-$		
2207.4[@] 3	6$^+$		
2994.4[@] 3	8$^+$		
3357.4[@] 4	(10$^+$)	91 ns 2	T$_{1/2}$: from $\gamma\gamma$(t) using several transitions feeding in and out of the (10$^+$) 3357.4-keV level. J$^{\pi}$: from intensity balance across the 2994-keV level, the 363γ must be D or Q, (10$^+$) is favored based on systematics of the even-even N=80 isotones and from comparison to shell model calculations.
3706.4?[#] 11			
3850.4?[#] 14			
4216.4?[#] 14			
5065.4?[#] 15			
5380.4?[#] 17			
5393.4?[#] 18			

[†] From least-squares fit to Eγ, by evaluator.
[‡] 2004Va03 give J$^{\pi}$ assignments from the Adopted Levels for levels below the 3357-keV isomer.
[#] Level energy is uncertain since the ordering of the transitions in the cascade above 10$^+$ isomer is tentative.
[@] Band(A): γ-sequence based on g.s..

γ(^{136}Ba)

E$_{\gamma}$	I$_{\gamma}$	E$_i$(level)	J$_i^{\pi}$	E$_f$	J$_f^{\pi}$	Comments
66.9 2	70[†] 4	2207.4	6$^+$	2140.5	5$^-$	
86.8 2	33[†] 7	2140.5	5$^-$	2053.8	4$^+$	
^{x}130	598[‡] 24					
144	332[‡] 15	3850.4?		3706.4?		
153.6 2	40[†] 6	2207.4	6$^+$	2053.8	4$^+$	
(163.9)		2030.6	7$^-$	1866.6	4$^+$	E$_{\gamma}$: from the Adopted Levels. Not identified in Figure 1 of 1982BoZN.

^{198}Pt(^{136}Xe,Xγ)　　**2004Va03 (continued)**

γ(^{136}Ba) (continued)

E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	E$_\gamma$	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
176.9 2	67[†] 5	2207.4	6$^+$	2030.6	7$^-$	510	372[‡] 10	4216.4?		3706.4?	
^{x}208	109[‡] 8					787.1 2	460[†] 20	2994.4	8$^+$	2207.4	6$^+$
^{x}249	110[‡] 6					818.6 2	551[†] 20	818.60	2$^+$	0.0	0$^+$
^{x}268	94[‡] 5					849	166[‡] 8	5065.4?		4216.4?	
273.9 2	69[†] 5	2140.5	5$^-$	1866.6	4$^+$	963.6 2	112[†] 11	2994.4	8$^+$	2030.6	7$^-$
328	176[‡] 9	5393.4?		5065.4?		1048.0 2	410[†] 22	1866.6	4$^+$	818.60	2$^+$
340.8 2	242[†] 10	2207.4	6$^+$	1866.6	4$^+$	1164	126[‡] 9	5380.4?		4216.4?	
349	566[‡] 10	3706.4?		3357.4	(10$^+$)	1215	121[‡] 9	5065.4?		3850.4?	
363.0 2	566[†] 20	3357.4	(10$^+$)	2994.4	8$^+$	1235.2 2	126[†] 12	2053.8	4$^+$	818.60	2$^+$
^{x}374	94[‡] 5					^{x}1312.0 2	15[†] 3				

[†] Delayed (out-of-beam) intensity normalized to 551 *20* for 818.6γ.

[‡] Prompt intensity above the (10$^+$) isomer, normalized to 566 *10* for 349γ.

^{x} γ ray not placed in level scheme.
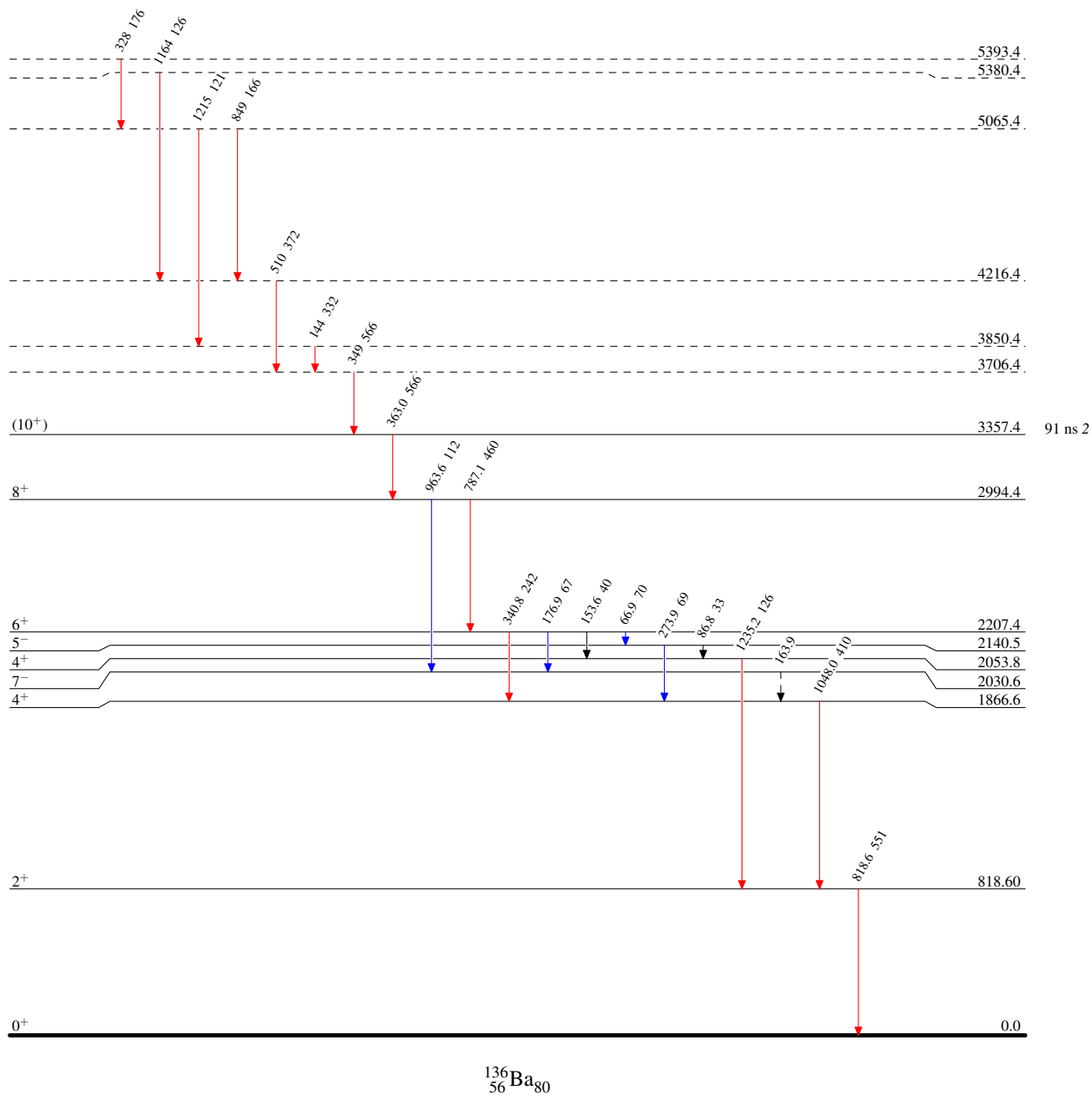
$^{198}Pt(^{136}Xe,X\gamma)$ 2004Va03
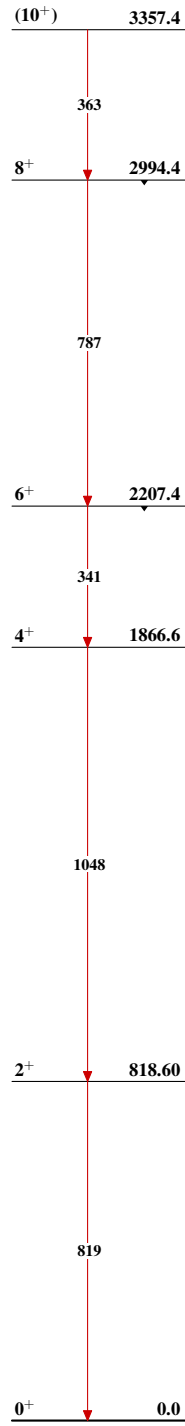
Level Scheme

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)

$^{136}_{56}Ba_{80}$

^{198}Pt(^{136}Xe,Xγ)　　2004Va03

Band(A): γ-sequence
based on g.s.

(10$^+$)　　3357.4

363

8$^+$　　2994.4

787

6$^+$　　2207.4

341

4$^+$　　1866.6

1048

2$^+$　　818.60

819

0$^+$　　0.0

$^{136}_{56}$Ba$_{80}$