^{144}Sm(^{36}Ar,3nγ)   **2003Me20**

	Type	Author	History Citation	Literature Cutoff Date
	Full Evaluation	F. G. Kondev	NDS 159, 1 (2019)	30-Aug-2019

2003Me20: E(^{36}Ar)=178 MeV. Target: 500 μg/cm^2 thick, 92.4 % enriched in ^{144}Sm. Detectors: JUROSPHERE array consisting of 5 NORDBALL, 5 TESSA and 15 EUROGAM Phase I Compton suppressed germanium detectors; RITU gas-filled recoil separator with a 16-strip Si detector and 3 TESSA Ge detectors at the focal plane. Measured: recoil- and α-gated Eγ, $\gamma\gamma$ coin, as well as recoil-gated γ(t) at the focal plane. Recoil decay tagging technique. Others: 2000MuZW and 2001Ju09 from the same laboratory.

^{177}Hg Levels

E(level)†	J$^{\pi\ddagger}$	T$_{1/2}$	Comments
0$^{@}$	(7/2$^-$)		
77.0$^{@}$ *10*	(9/2$^-$)		
323.0$^{\#}$ *15*	(13/2$^+$)	1.50 μs *15*	T$_{1/2}$: From recoil-gated 246γ(t) at the focal plane.
698.0$^{@}$ *15*	(13/2$^-$)		
961.0$^{\#}$ *18*	(17/2$^+$)		
1162.0$^{@}$ *18*	(17/2$^-$)		
1496.0$^{\#}$ *20*	(21/2$^+$)		
1631?$^{@}$	(21/2$^-$)		
1946.0$^{\#}$ *23*	(25/2$^+$)		
2441.0$^{\#}$ *25*	(29/2$^+$)		
2990$^{\#}$ *3*	(33/2$^+$)		
3588?$^{\#}$	(37/2$^+$)		

† From a least-squares fit to Eγ.
‡ Tentative assignment from the observed apparent band structures and by assuming J^{π}=7/2$^-$ (g.s.) and 13/2$^+$ (isomer) (2003Me20).
$^{\#}$ Seq.(A): Weakly-deformed structure built on the $\nu i_{13/2}$ orbital.
$^{@}$ Seq.(B): Weakly-deformed structure built on the $\nu f_{7/2}$/h$_{9/2}$ orbital.

γ(^{177}Hg)

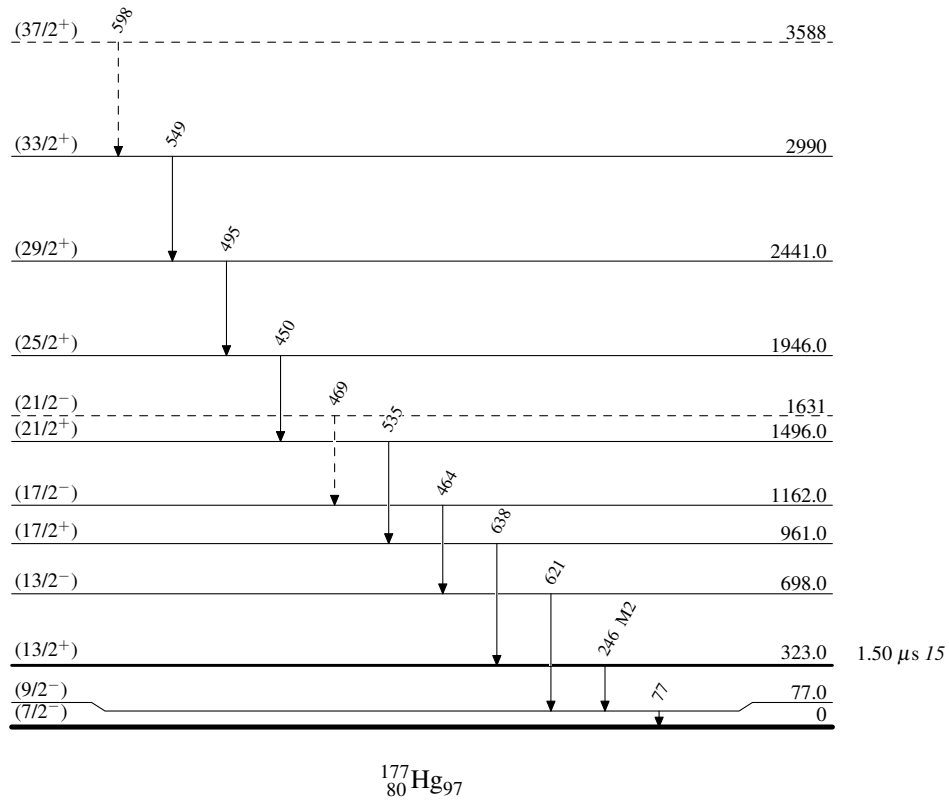| E$_\gamma$†	E$_i$(level)	J$^{\pi}_i$	E$_f$	J$^{\pi}_f$	Mult.	Comments
77 *1*	77.0	(9/2$^-$)	0	(7/2$^-$)		
246 *1*	323.0	(13/2$^+$)	77.0	(9/2$^-$)	M2	Mult.: From α(exp)=2.4 *4*, from intensities of Kα, Kβ x rays of Hg and 246γ.
450 *1*	1946.0	(25/2$^+$)	1496.0	(21/2$^+$)		
464 *1*	1162.0	(17/2$^-$)	698.0	(13/2$^-$)		
469‡ *1*	1631?	(21/2$^-$)	1162.0	(17/2$^-$)		
495 *1*	2441.0	(29/2$^+$)	1946.0	(25/2$^+$)		
535 *1*	1496.0	(21/2$^+$)	961.0	(17/2$^+$)		
549 *1*	2990	(33/2$^+$)	2441.0	(29/2$^+$)		
598‡ *1*	3588?	(37/2$^+$)	2990	(33/2$^+$)		
621 *1*	698.0	(13/2$^-$)	77.0	(9/2$^-$)		
638 *1*	961.0	(17/2$^+$)	323.0	(13/2$^+$)		

† Energies and placement from 2003Me20. ΔEγ were assigned by the evaluator.
‡ Placement of transition in the level scheme is uncertain.

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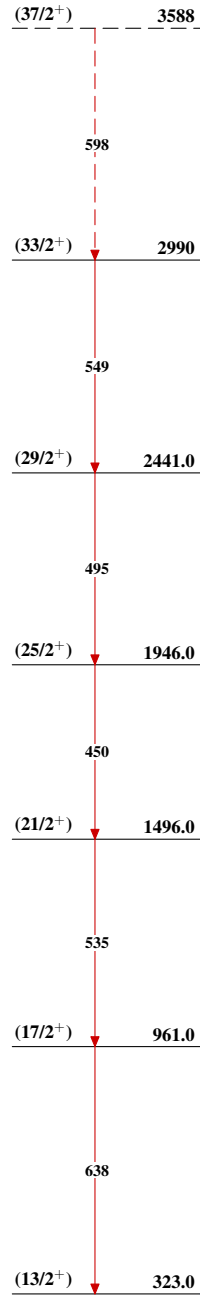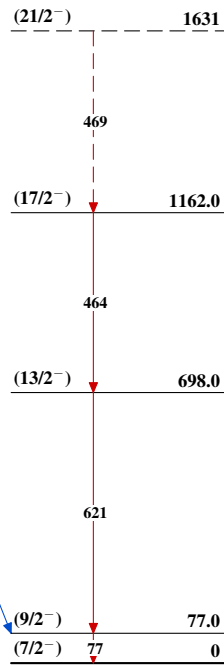
Legend

Level Scheme

- - - - - - ▶ γ Decay (Uncertain)

$^{177}_{80}$Hg$_{97}$

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Seq.(A): Weakly-deformed structure built on the $\nu i_{13/2}$ orbital

(37/2$^+$) ─ ─ ─ 3588

598

(33/2$^+$) 2990

549

(29/2$^+$) 2441.0

495

(25/2$^+$) 1946.0

Seq.(B): Weakly-deformed structure built on the $\nu f_{7/2}/h_{9/2}$ orbital

450

(21/2$^-$) ─ ─ ─ 1631

(21/2$^+$) 1496.0

469

535

(17/2$^-$) 1162.0

(17/2$^+$) 961.0

464

(13/2$^-$) 698.0

638

621

(13/2$^+$) 323.0

(9/2$^-$) 77.0

(7/2$^-$) 77 0

$^{177}_{80}$Hg$_{97}$