

$^{196}\text{Pt}(^{16}\text{O},5n\gamma)$ 2003Lu08

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Lalkovski		NDS 112, 707 (2011)	1-Aug-2010

2003Lu08: Produced using $^{196}\text{Pt}(^{16}\text{O},5n)$ reaction with $E(^{16}\text{O})=85, 90$ and 95 MeV. Target: Pt foil of thickness of 3.9 mg/cm² with a 4 mg/cm² Pb backing. Detectors: 10 Compton-suppressed HPGE; Measured: $E\gamma$, $I\gamma$, $\gamma\text{-}\gamma$ coin., $\gamma\gamma(\theta)$ (DCO), excitation functions.

 ^{207}Rn Levels

E(level) [†]	$J^{\pi\ddagger}$	$T_{1/2}$	Comments
0	$5/2^{-}\#$	9.25 min 17	$T_{1/2}$: From Adopted Levels. configuration: $((\pi h_{9/2})_{0+}^{+4}(\nu f_{5/2})^{-1})$.
665.0 10	$9/2^{-}\#$		
899.0 15	$13/2^{+}\#$	184.5 μs 9	$T_{1/2}$: From Adopted Levels. configuration: $((\pi h_{9/2})_{0+}^{+4}(\nu i_{13/2})^{-1})$.
1397.0 15	$13/2^{-}$		
1482.0 18	$(17/2^{+})$		
1633.0 18	$(15/2)$		
1683.0 18	$17/2^{-}$		
1739.0 20	$(19/2)$		
1904.0 20	$(21/2^{+})$		
2192.0 23	$(23/2)$		
2324.0 23	$(25/2)$		
2359.0 23	$(23/2)$		
2385.0 23	$(23/2)$		
2614.0 25	$(29/2)$		
2778.0 25	$(27/2)$		
2841 3	$(33/2)$		
2902.0 25	$(27/2)$		
3013 3	$(37/2)$		

[†] From a least-squares fit to $E\gamma$.

[‡] From 2003Lu08 based on deduced transition multiplicities using $\gamma\gamma(\theta)$ (DCO), unless otherwise specified.

From Adopted Levels.

 $\gamma(^{207}\text{Rn})$

E_{γ} [†]	E_i (level)	J_i^{π}	E_f	J_f^{π}	Mult. [†]	Comments
172 1	3013	$(37/2)$	2841	$(33/2)$		
227 1	2841	$(33/2)$	2614.0	$(29/2)$		
234 1	899.0	$13/2^{+}$	665.0	$9/2^{-}$		
236 1	1633.0	$(15/2)$	1397.0	$13/2^{-}$		
257 1	1739.0	$(19/2)$	1482.0	$(17/2^{+})$		
286 1	1683.0	$17/2^{-}$	1397.0	$13/2^{-}$	(E2)	
288 1	2192.0	$(23/2)$	1904.0	$(21/2^{+})$		
290 1	2614.0	$(29/2)$	2324.0	$(25/2)$		
420 1	2324.0	$(25/2)$	1904.0	$(21/2^{+})$		
422 1	1904.0	$(21/2^{+})$	1482.0	$(17/2^{+})$	(E2)	
583 1	1482.0	$(17/2^{+})$	899.0	$13/2^{+}$	(E2)	
586 1	2778.0	$(27/2)$	2192.0	$(23/2)$		
620 1	2359.0	$(23/2)$	1739.0	$(19/2)$		
646 1	2385.0	$(23/2)$	1739.0	$(19/2)$		

E_{γ} : 257 γ was in coincidence with all γ -rays above the 1904 keV level, but the connecting transitions were not observed.

Continued on next page (footnotes at end of table)

 $^{196}\text{Pt}(^{16}\text{O},5n\gamma)$ **2003Lu08** (continued) $\gamma(^{207}\text{Rn})$ (continued)

<u>E_γ</u> [†]	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.</u> [†]
665 <i>l</i>	665.0	9/2 ⁻	0	5/2 ⁻	(E2)
710 <i>l</i>	2902.0	(27/2)	2192.0	(23/2)	
732 <i>l</i>	1397.0	13/2 ⁻	665.0	9/2 ⁻	(E2)

[†] From **2003Lu08**. Uncertainties in E_γ were estimated by the evaluator. Mult. were deduced using $\gamma\gamma(\theta)(\text{DCO})$, but values were not provided by the authors.

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Level Scheme

