

$^{238}\text{U}(^{64}\text{Ni},\text{X}\gamma)$ **2010Ch51**

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Balraj Singh	ENSDF	25-Mar-2019

2010Ch51: E=430 MeV beam provided by ATLAS facility at ANL. Measured E_γ , I_γ , $\gamma\gamma$ coin, prompt (within a time window of 40 ns) and delayed (within a time window of ≈ 400 ns) spectra were sorted from 3-dimensional cubes. Gammasphere with 100 Compton-suppressed Ge detectors used for γ -ray measurements.

 ^{61}Mn Levels

E(level) [†]	J^π
0.0 [‡]	(5/2 ⁻)
157.3 [‡] 2	(7/2 ⁻)
1034.8 [‡] 3	(9/2 ⁻)
1281.9 [‡] 3	(11/2 ⁻)
2202.0? 4	
2502.3 [‡] 4	(15/2 ⁻)
2607.6? 5	
2753.2 [‡] 5	
3131.7 [‡] 6	
3572.5 [‡] 7	

[†] From E_γ data of **2010Ch51**.

[‡] Seq.(A): Band based on (5/2⁻).

 $\gamma(^{61}\text{Mn})$

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [‡]	Comments
157.3 2	>6.5	157.3	(7/2 ⁻)	0.0	(5/2 ⁻)		
247.1 2	1.0 3	1281.9	(11/2 ⁻)	1034.8	(9/2 ⁻)		
250.9 3	1.8 4	2753.2		2502.3	(15/2 ⁻)	(D)	Mult.: $\Delta J=(0)$.
378.5 3	0.95 19	3131.7		2753.2			
405.6 [#] 3	0.20 10	2607.6?		2202.0?			
440.8 3	0.27 11	3572.5		3131.7			
877.5 2	>1.0	1034.8	(9/2 ⁻)	157.3	(7/2 ⁻)		
920.1 [#] 2	0.50 20	2202.0?		1281.9	(11/2 ⁻)		
1124.6 2	5.5 11	1281.9	(11/2 ⁻)	157.3	(7/2 ⁻)	(Q)	
1220.4 2	2.5 5	2502.3	(15/2 ⁻)	1281.9	(11/2 ⁻)	(Q)	
1325.7 [#] 10	0.20 10	2607.6?		1281.9	(11/2 ⁻)		

[†] From e-mail reply of Jan 3, 2011 from C. Chiara, first author of **2010Ch51**.

[‡] Tentative assignments from $\gamma\gamma(\theta)$ data in **2010Ch51**, the statistics were low. **2010Ch51** assign E2 for stretched quadrupole and E1 for $\Delta J=(0)$ dipole.

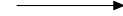



[#] Placement of transition in the level scheme is uncertain.

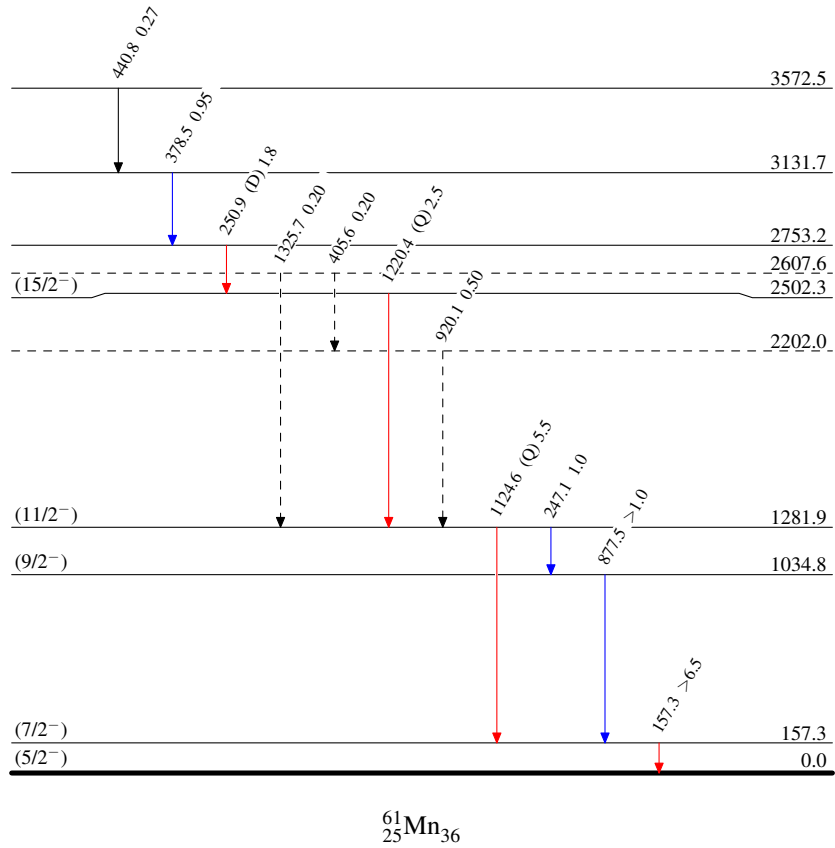
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Legend

Level Scheme

Intensities: Relative I_γ

-  $I_\gamma < 2\% \times I_\gamma^{\max}$
-  $I_\gamma < 10\% \times I_\gamma^{\max}$
-  $I_\gamma > 10\% \times I_\gamma^{\max}$
-  γ Decay (Uncertain)

 $^{61}_{25}\text{Mn}_{36}$

$^{238}\text{U}(^{64}\text{Ni},\text{X}\gamma)$ 2010Ch51Seq.(A): Band based on
(5/2⁻) $^{61}_{25}\text{Mn}_{36}$