

$^{100}\text{Mo}(^{18}\text{O},\text{p}4\text{n}\gamma)$ 2005Na37

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 1471 (2010)	1-May-2009

Includes $^{110}\text{Pd}(^7\text{Li},4\text{n}\gamma)$ also from 2005Na37.

$^{100}\text{Mo}(^{18}\text{O},\text{p}4\text{n}\gamma)$: E=95 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$, $\text{p}\gamma$ coin, $\gamma\gamma(\theta)$ (DCO) with the 8π spectrometer of 20

Compton-suppressed HPGe detectors and a 4π spherical shell consisting of 71 BGO detectors along with a 96-element CsI charged particle detector array.

$^{110}\text{Pd}(^7\text{Li},4\text{n}\gamma)$: E=36 MeV. Measured $E\gamma$, $I\gamma$, $\gamma\gamma$ with an array of five Compton-suppressed HPGe detectors.

 ^{113}In Levels

E(level)	J^π	Comments
0	$9/2^+$	
1173	$11/2^+$	
1191 [†]	$7/2^+$	
1344	$13/2^+$	
1688 [†]	$11/2^+$	
2232 [‡]	$15/2^{(-)}$	
2282	$17/2^+$	
2388 [†]	$15/2^+$	
2395 [‡]	$17/2^{(-)}$	
2395+x ^{@a}	$(15/2^-)$	Additional information 1.
2662 [‡]	$19/2^{(-)}$	
2668	$17/2^+$	
2851 [‡]	$21/2^{(-)}$	
2902+x [@]	$(19/2^-)$	
3020 [‡]	$23/2^{(-)}$	
3069 [#]	$19/2^+$	
3121 [#]	$21/2^+$	
3191 [†]	$19/2^+$	
3213 [#]	$23/2^{(+)}$	
3277 [‡]	$25/2^{(-)}$	
3396 [#]	$25/2^{(+)}$	
3474+x [@]	$(23/2^-)$	
3787 [#]	$27/2^{(+)}$	
3964 [†]	$23/2^+$	
3969 [‡]	$27/2^{(-)}$	
4170+x [@]	$(27/2^-)$	
4376 [#]	$29/2^{(+)}$	
4602 [†]	$27/2^+$	
4711 [‡]	$29/2^{(-)}$	
4988+x [@]	$(31/2^-)$	
5061 [#]	$31/2^{(+)}$	
5310 [†]	$(31/2^+)$	
5388 [‡]	$31/2^{(-)}$	
5788 [#]	$33/2^{(+)}$	
5916+x [@]	$(35/2^-)$	
6226 [†]	$(35/2^+)$	

Continued on next page (footnotes at end of table)

$^{100}\text{Mo}(^{18}\text{O,p4n}\gamma)$ **2005Na37 (continued)** ^{113}In Levels (continued)

E(level)	J^π	E(level)	J^π	E(level)
6346 [#]	35/2 ⁽⁺⁾	8434 [†]	(43/2 ⁺)	y ^{&b}
6944+x [@]	(39/2 ⁻)	9278+x [@]	(47/2 ⁻)	y+474 ^{&}
7287 [†]	(39/2 ⁺)	10572+x [@]	(51/2 ⁻)	y+814 ^{&}
8066+x [@]	(43/2 ⁻)	11958+x [@]	(55/2 ⁻)	y+1193 ^{&}
				y+1555 ^{&}

[†] Band(A): $\Delta J=2$ intruder rotational band. Configuration= $\pi(g_{7/2}, d_{5/2}) \otimes \pi g_{9/2}^{-2} \otimes \nu h_{11/2}^2$.

[‡] Band(B): Dipole magnetic-rotational band #1.

[#] Band(C): Dipole magnetic-rotational band #2.

[@] Band(D): $\Delta J=2$ intruder rotational band. Configuration= $\pi h_{11/2} \otimes \pi g_{9/2}^{-2} \otimes \nu h_{11/2}^2$, at higher frequencies small alignment due to $g_{9/2}$ protons may be involved.

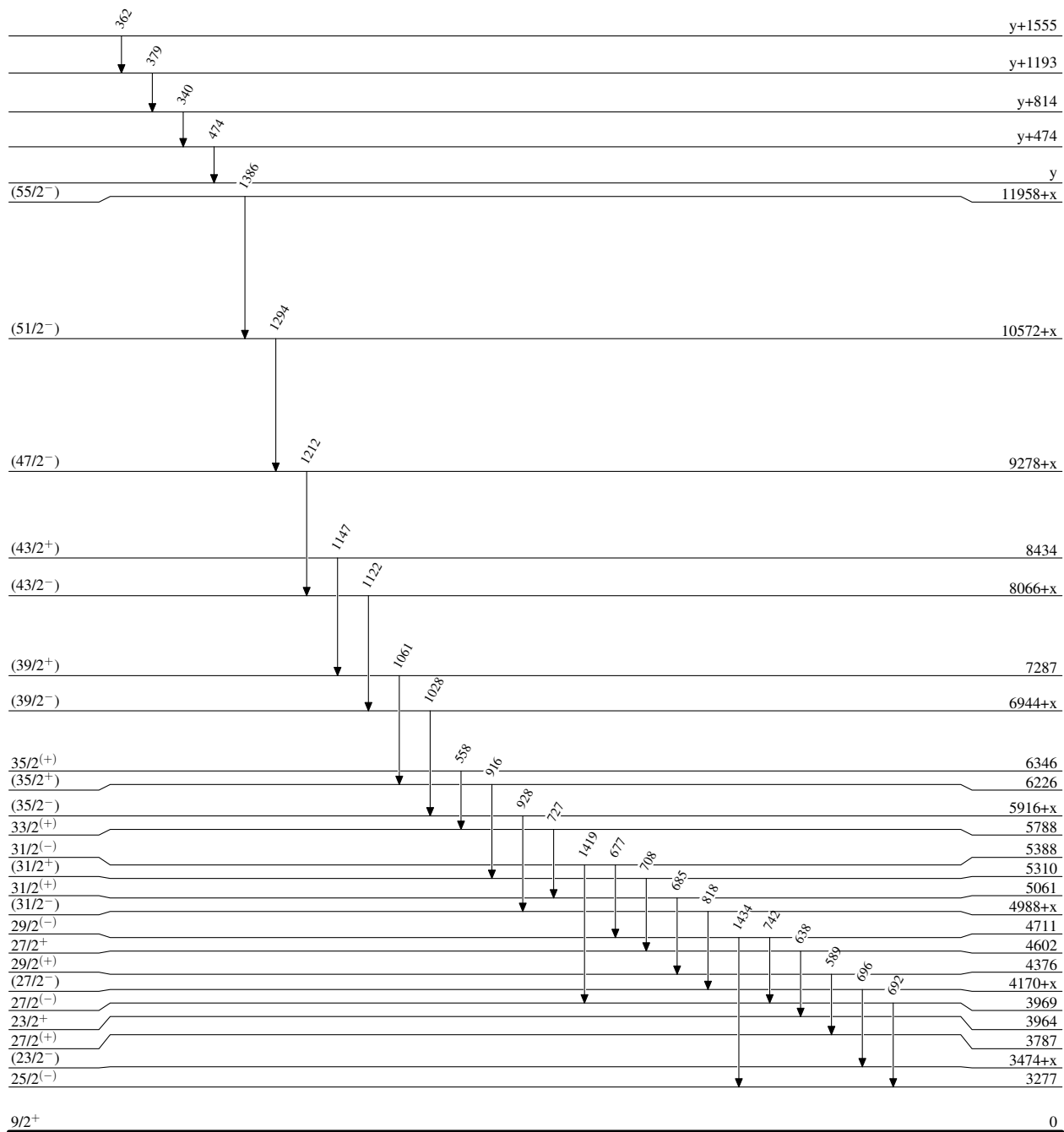
[&] Band(E): γ sequence.

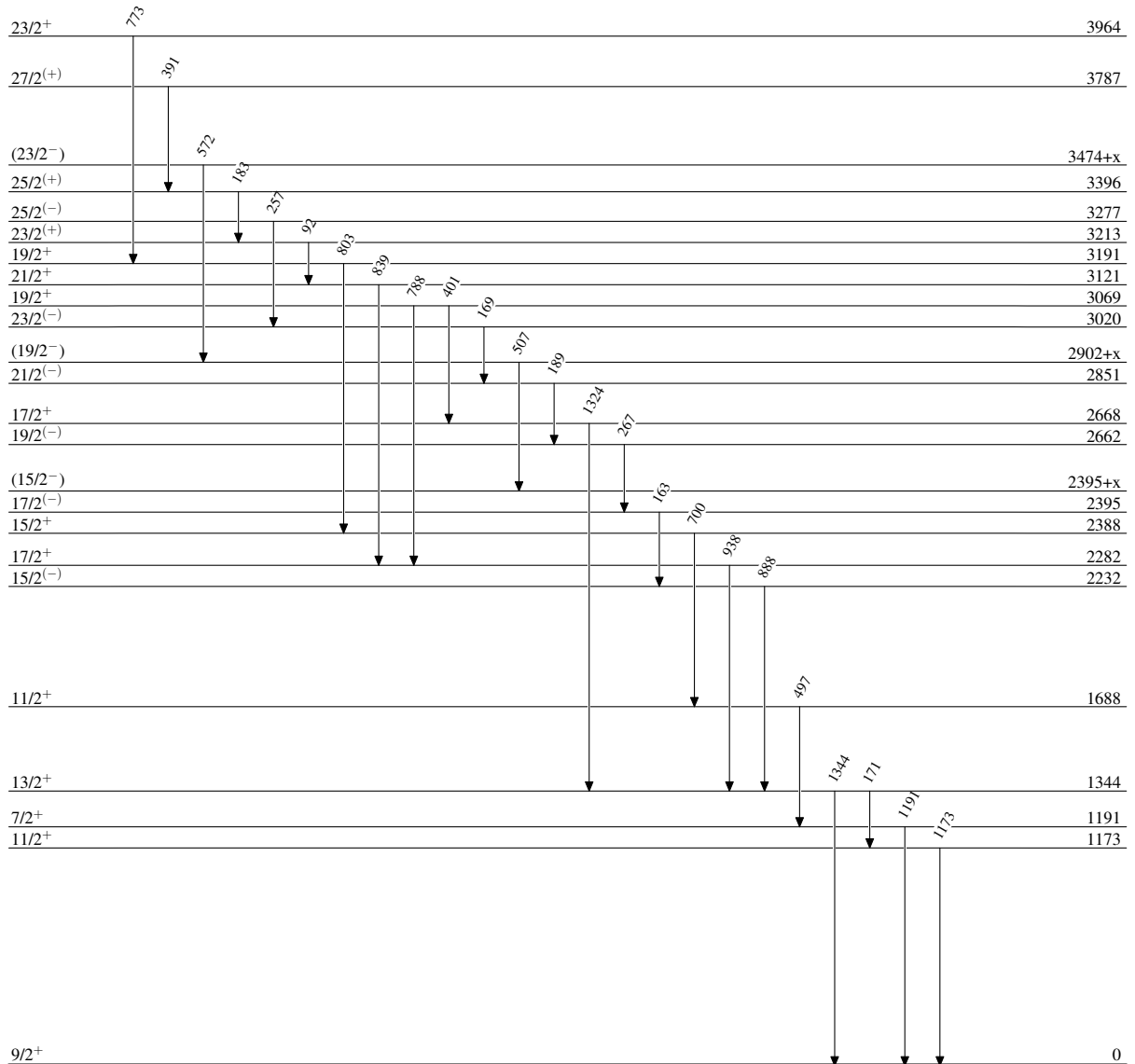
^a Possible decays to 2395, 2232 and 1688 levels.

^b From level scheme of figure 1 in **2005Na37**, $y \approx 6$ MeV.

 $\gamma(^{113}\text{In})$

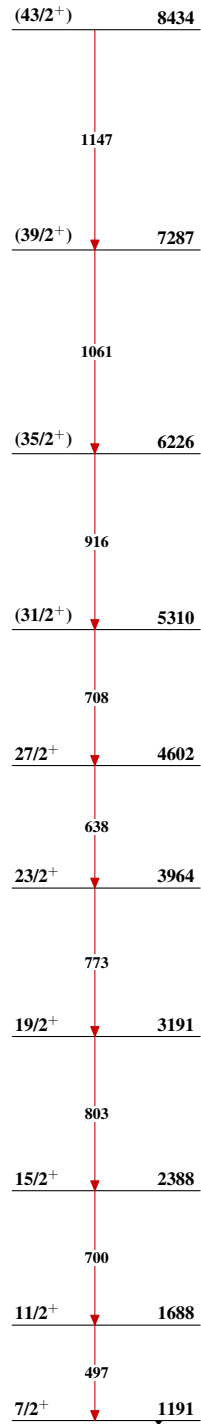
E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
92	3213	23/2 ⁽⁺⁾	3121	21/2 ⁺	708	5310	(31/2 ⁺)	4602	27/2 ⁺
163	2395	17/2 ⁽⁻⁾	2232	15/2 ⁽⁻⁾	727	5788	33/2 ⁽⁺⁾	5061	31/2 ⁽⁻⁾
169	3020	23/2 ⁽⁻⁾	2851	21/2 ⁽⁻⁾	742	4711	29/2 ⁽⁻⁾	3969	27/2 ⁽⁻⁾
171	1344	13/2 ⁺	1173	11/2 ⁺	773	3964	23/2 ⁺	3191	19/2 ⁺
183	3396	25/2 ⁽⁺⁾	3213	23/2 ⁽⁺⁾	788	3069	19/2 ⁺	2282	17/2 ⁺
189	2851	21/2 ⁽⁻⁾	2662	19/2 ⁽⁻⁾	803	3191	19/2 ⁺	2388	15/2 ⁺
257	3277	25/2 ⁽⁻⁾	3020	23/2 ⁽⁻⁾	818	4988+x	(31/2 ⁻)	4170+x	(27/2 ⁻)
267	2662	19/2 ⁽⁻⁾	2395	17/2 ⁽⁻⁾	839	3121	21/2 ⁺	2282	17/2 ⁺
340	y+814		y+474		888	2232	15/2 ⁽⁻⁾	1344	13/2 ⁺
362	y+1555		y+1193		916	6226	(35/2 ⁺)	5310	(31/2 ⁺)
379	y+1193		y+814		928	5916+x	(35/2 ⁻)	4988+x	(31/2 ⁻)
391	3787	27/2 ⁽⁺⁾	3396	25/2 ⁽⁺⁾	938	2282	17/2 ⁺	1344	13/2 ⁺
401	3069	19/2 ⁺	2668	17/2 ⁺	1028	6944+x	(39/2 ⁻)	5916+x	(35/2 ⁻)
474	y+474		y		1061	7287	(39/2 ⁺)	6226	(35/2 ⁺)
497	1688	11/2 ⁺	1191	7/2 ⁺	1122	8066+x	(43/2 ⁻)	6944+x	(39/2 ⁻)
507	2902+x	(19/2 ⁻)	2395+x	(15/2 ⁻)	1147	8434	(43/2 ⁺)	7287	(39/2 ⁺)
558	6346	35/2 ⁽⁺⁾	5788	33/2 ⁽⁺⁾	1173	1173	11/2 ⁺	0	9/2 ⁺
572	3474+x	(23/2 ⁻)	2902+x	(19/2 ⁻)	1191	1191	7/2 ⁺	0	9/2 ⁺
589	4376	29/2 ⁽⁺⁾	3787	27/2 ⁽⁺⁾	1212	9278+x	(47/2 ⁻)	8066+x	(43/2 ⁻)
638	4602	27/2 ⁺	3964	23/2 ⁺	1294	10572+x	(51/2 ⁻)	9278+x	(47/2 ⁻)
677	5388	31/2 ⁽⁻⁾	4711	29/2 ⁽⁻⁾	1324	2668	17/2 ⁺	1344	13/2 ⁺
685	5061	31/2 ⁽⁺⁾	4376	29/2 ⁽⁺⁾	1344	1344	13/2 ⁺	0	9/2 ⁺
692	3969	27/2 ⁽⁻⁾	3277	25/2 ⁽⁻⁾	1386	11958+x	(55/2 ⁻)	10572+x	(51/2 ⁻)
696	4170+x	(27/2 ⁻)	3474+x	(23/2 ⁻)	1419	5388	31/2 ⁽⁻⁾	3969	27/2 ⁽⁻⁾
700	2388	15/2 ⁺	1688	11/2 ⁺	1434	4711	29/2 ⁽⁻⁾	3277	25/2 ⁽⁻⁾

$^{100}\text{Mo}(^{18}\text{O},\text{p}4\text{n}\gamma) \quad 2005\text{Na}37$ Level Scheme

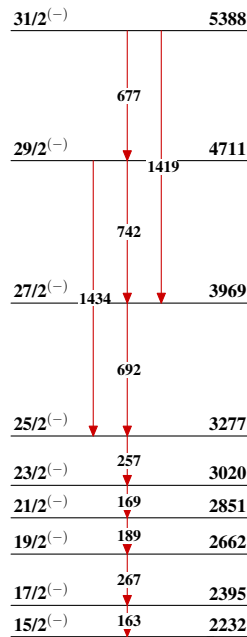
$^{100}\text{Mo}(^{18}\text{O},\text{p}4\text{n}\gamma)$ 2005Na37Level Scheme (continued) $^{113}_{49}\text{In}_{64}$

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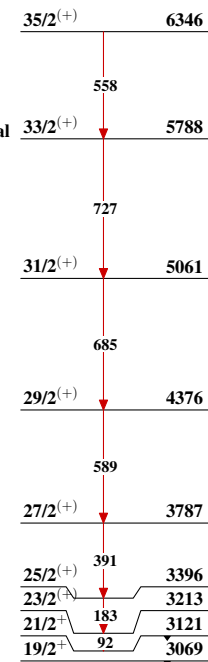
**Band(A): $\Delta J=2$ intruder
rotational band**



**Band(B): Dipole magnetic-rotational
band #1**

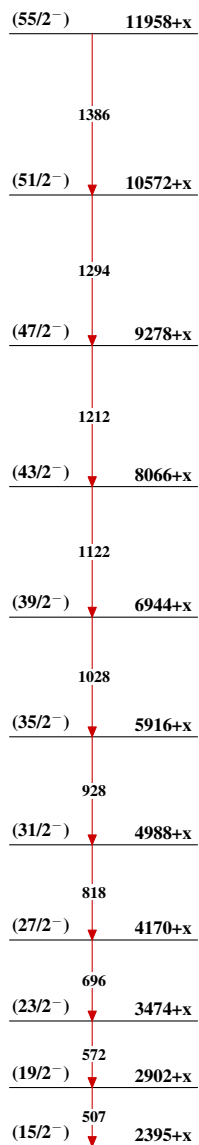


**Band(C): Dipole
magnetic-rotational band
#2**



$^{100}\text{Mo}(^{18}\text{O,p4n}\gamma)$ 2005Na37 (continued)

Band(D): $\Delta J=2$ intruder
rotational band



Band(E): γ sequence

