^{51}V(^{28}Si,2αnγ),^{46}Ti(^{28}Si,3pnγ) 2000Mu21

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal, E. A. Mccutchan	NDS 136, 1 (2016)	1-Jul-2016

2000Mu21: ^{51}V(^{28}Si,2αnγ) with E(^{28}Si)=125 MeV, ^{46}Ti(^{28}Si,3pnγ) with E(^{28}Si)=110 MeV. γ-rays were detected using 12 Compton-suppressed HPGe detectors. Measured: γ, γγ, γ(θ), DCO ratios.

Above ≈ 3 MeV there are significant differences between the results in this dataset and those in the ^{55}Mn(^{18}O,3nγ) dataset. The evaluators have chosen to adopt the results from the latter. Levels not included in the Adopted Levels dataset as proposed in this dataset are indicated.

^{70}As Levels

E(level)[†]	Jπ[‡]	Comments
0.0	4+	
33.0	2+	
167.0	3+	
390.0	(3,4,5+)	Jπ: 3+ in the Adopted Levels.
485.0	4−	
566.0	5(−)	
868.0[&]	6(−)	
887.0	7(−)	
898.0		
932.0		
1045.0		
1453.0		
1675.0[@]	8+	
1750.7[#]	9+	
1774.0[&a]	8−	
2466.1		
2578.2[@]	(10+)	
2732.0[#]	11+	
2888.0[&a]	(10−)	
3129.0[a]		
3271.2		
3344.0[a]		
3513.0[a]	(11−)	
3690.2[@a]	(12+)	
4022.0[a]		
4075.0[#]	13+	
4204.0[&]	(12−)	
4787[a]	(13−)	
4900.2[@a]	(14+)	
5591.0[#a]	15+	
5679[&a]	(14−)	
7205[#a]	(17+)	
8941[#a]	(19+)	

[†] From a least-squares fit to Eγ, by evaluators.

[‡] From Table 1 of 2000Mu21. These values are somewhat different from the assignments made in Figure 2 of 2000Mu21. Significant differences with the J^π values given in the Adopted Levels are indicated in the comments.

[#] Band(A): band-1. Configuration=((π [440]1/2+)(ν [431]3/2+)), α=1.

[@] Band(B): band-2. Configuration=((π [440]1/2+)(ν [431]3/2+)), α=0.

Continued on next page (footnotes at end of table)

^{51}V(^{28}Si,2αnγ),^{46}Ti(^{28}Si,3pnγ) 2000Mu21 (continued)

^{70}As Levels (continued)

& Band(C): band-3. Configuration=((π [301]3/2$^-$)(ν [431]3/2$^+$)), α=0.
[a] Level not observed in ^{55}Mn(^{18}O,3nγ) and not included in the Adopted Levels.

γ(^{70}As)

E_γ †	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult.‡	Comments
76	50	1750.7	9^+	1675.0	8^+	D	Mult.: R(DCO)=0.56.
81	165	566.0	$5^{(-)}$	485.0	4^-		
95	3	485.0	4^-	390.0	$(3,4,5^+)$		
134	77	167.0	3^+	33.0	2^+		
154	3	2732.0	11^+	2578.2	(10^+)		
167	16	167.0	3^+	0.0	4^+		
215	3	3344.0		3129.0			
222	8	1675.0	8^+	1453.0			
223	8	390.0	$(3,4,5^+)$	167.0	3^+		
302	26	868.0	$6^{(-)}$	566.0	$5^{(-)}$		
318	94	485.0	4^-	167.0	3^+		
321	130	887.0	$7^{(-)}$	566.0	$5^{(-)}$		
332	1	898.0		566.0	$5^{(-)}$		
397	6	3129.0		2732.0	11^+		
408	2	1453.0		1045.0			
479	5	1045.0		566.0	$5^{(-)}$		
485	74	485.0	4^-	0.0	4^+		
566	4	1453.0		887.0	$7^{(-)}$		
612	8	3344.0		2732.0	11^+		
625	6	3513.0	(11^-)	2888.0	(10^-)	D	Mult.: R(DCO)=0.52.
693	4	3271.2		2578.2	(10^+)		
743	10	1675.0	8^+	932.0			
788	100	1675.0	8^+	887.0	$7^{(-)}$	D	Mult.: R(DCO)=0.60.
791	2	2466.1		1675.0	8^+		
805	5	3271.2		2466.1			
828	6	2578.2	(10^+)	1750.7	9^+		
893	13	4022.0		3129.0			
903	16	2578.2	(10^+)	1675.0	8^+		
906	15	1774.0	8^-	868.0	$6^{(-)}$		
981	47	2732.0	11^+	1750.7	9^+		
1112	9	3690.2	(12^+)	2578.2	(10^+)		
1114	14	2888.0	(10^-)	1774.0	8^-		
1210	4	4900.2	(14^+)	3690.2	(12^+)		
1274	5	4787	(13^-)	3513.0	(11^-)	Q	Mult.: R(DCO)=0.86.
1316	5	4204.0	(12^-)	2888.0	(10^-)		
1343	12	4075.0	13^+	2732.0	11^+	Q	Mult.: R(DCO)=0.93.
1475	4	5679	(14^-)	4204.0	(12^-)		
1516	9	5591.0	15^+	4075.0	13^+	Q	Mult.: R(DCO)=0.89.
1614	7	7205	(17^+)	5591.0	15^+	Q	Mult.: R(DCO)=0.91.
1736	2	8941	(19^+)	7205	(17^+)	Q	Mult.: R(DCO)=0.87.

† From 2000Mu21.
‡ From R(DCO) ratios in 2000Mu21.

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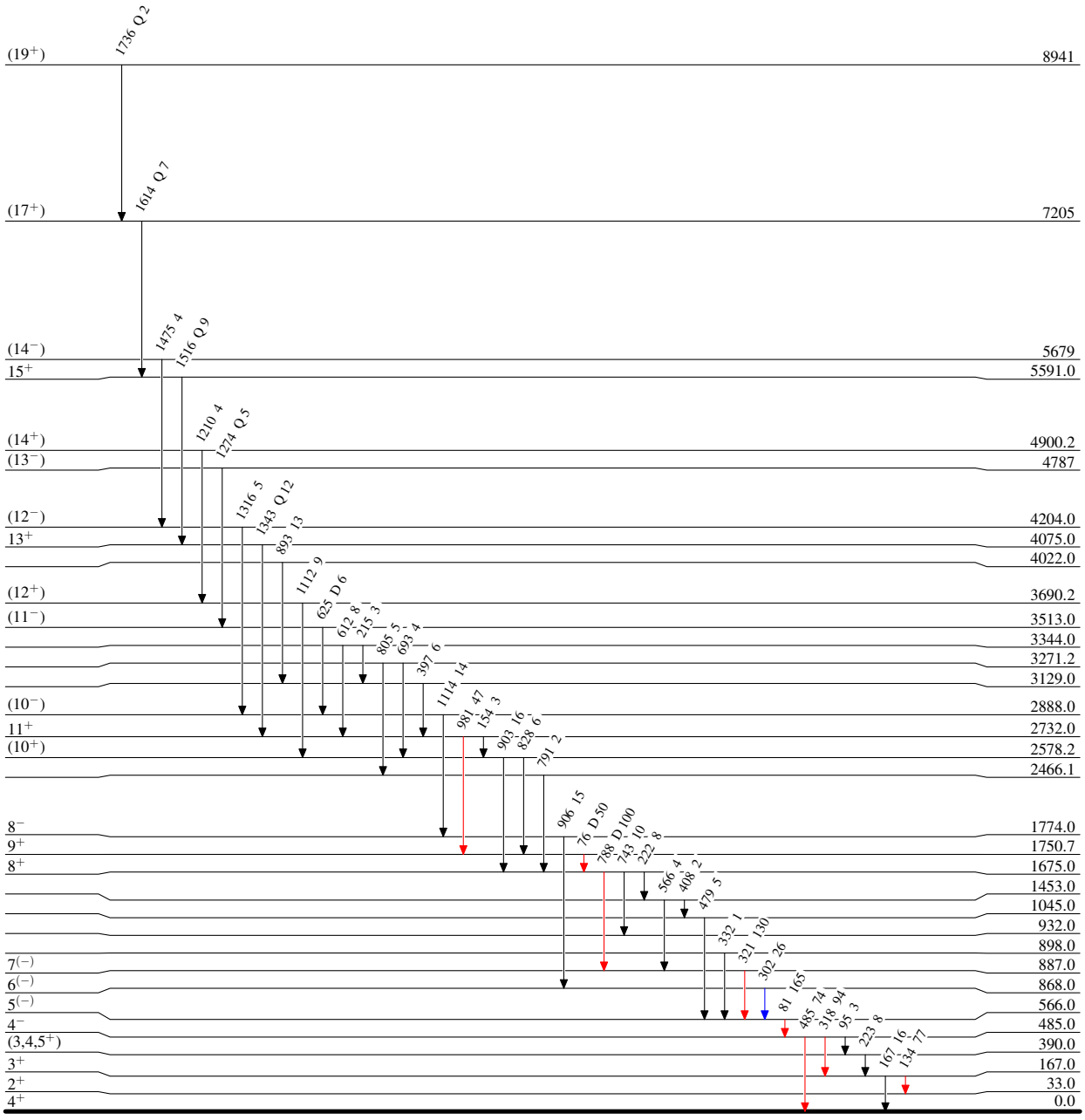
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

Level Scheme

Intensities: Type not specified



$^{70}_{33}As_{37}$

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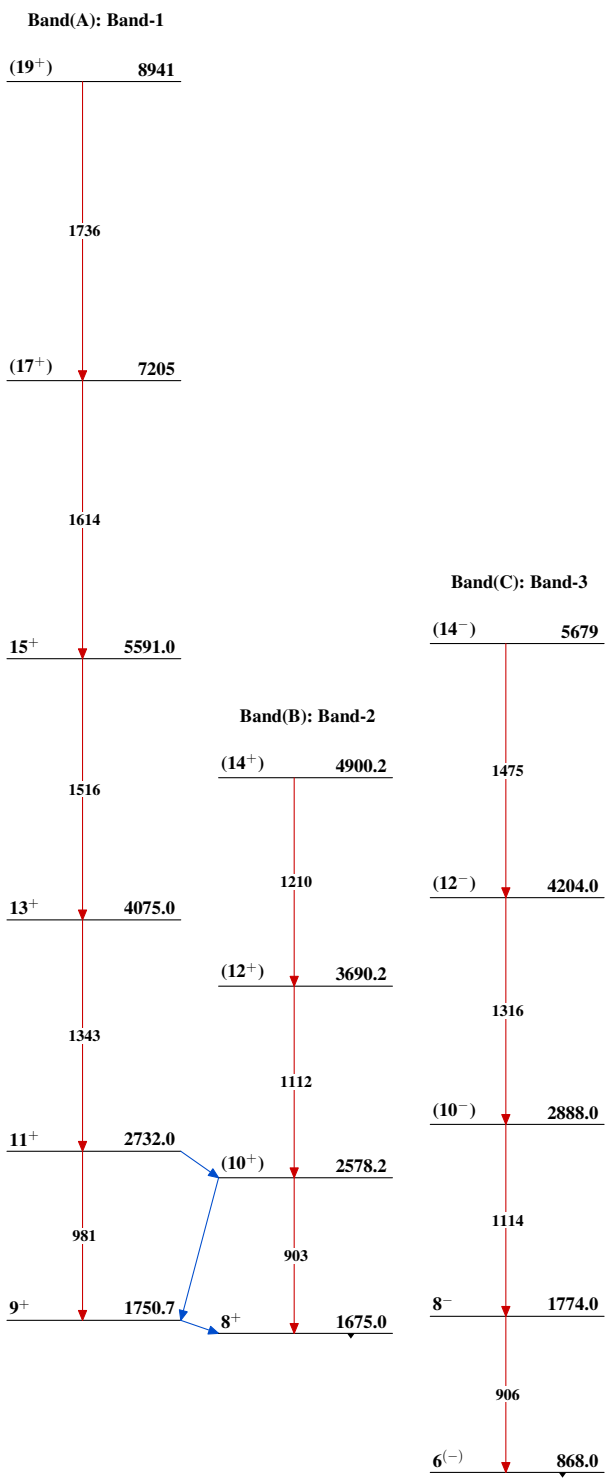

$^{70}_{33}As_{37}$