

$^{14}\text{C}(\alpha,\gamma)$ **1987Ga15**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Tilley, Weller, Cheves, Chasteler		NP A595, 1 (1995)	31-Oct-1994

Target:96% enriched ^{14}C . ^{18}O Levels

E(level)	J^π	E(level)	J^π	E(level)	J^π	E(level)	J^π
0	0^+	4456	1^-	5530	2^-	7859 5	5^-
1982	2^+	5098	3^-	6198	1^-	8040 2	1^-
3554	4^+	5260	2^+	6404	3^-	8125 2	5^-
3634	0^+	5336	0^+	7117	4^+	8214 4	2^+
3920	2^+	5378	3^+	7620 2	1^-	8283 3	3^-

 $\gamma(^{18}\text{O})$

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	δ	Comments
1008	<2	8125	5^-	7117	4^+	E1		B(E1)(W.u.)< 1.3×10^{-02}
1422	1 1	7620	1^-	6198	1^-	M1,E2		B(M1)(W.u.)=0.07
1842	<2	8040	1^-	6198	1^-	M1,E2		B(M1)(W.u.)<0.20
1878	<5	8283	3^-	6404	3^-	M1,E2		B(M1)(W.u.)<0.22
2090	<5	7620	1^-	5530	2^-	M1,E2		B(M1)(W.u.)<0.13
2283	6 1	7620	1^-	5336	0^+	E1		B(E1)(W.u.)= 4.4×10^{-03} 12
2359	<3	7620	1^-	5260	2^+	E1		B(E1)(W.u.)< 2.4×10^{-3}
2510	<2	8040	1^-	5530	2^-	M1,E2		B(M1)(W.u.)<0.08
2703	<1	8040	1^-	5336	0^+	E1		B(E1)(W.u.)< 1.4×10^{-03}
2753	<8	8283	3^-	5530	2^-	M1,E2		B(M1)(W.u.)<0.12
2779	4 1	8040	1^-	5260	2^+	E1		B(E1)(W.u.)= 4.3×10^{-03} 14
2905	<4	8283	3^-	5378	3^+	E1		B(E1)(W.u.)< 2.3×10^{-03}
2942	<1	8040	1^-	5098	3^-	E2		B(E2)(W.u.)<26
2954	<3	8214	2^+	5260	2^+	M1,E2		
3022	36 3	8283	3^-	5260	2^+	E1		B(E1)(W.u.)= 1.4×10^{-02} 3
3027	1 1	8125	5^-	5098	3^-	E2		B(E2)(W.u.)=5.0 50
3117	17 1	8214	2^+	5098	3^-	E1		B(E1)(W.u.)= 5.0×10^{-03} 12
3164	8 1	7620	1^-	4456	1^-	M1,E2	-0.21 3	B(M1)(W.u.)= 4.8×10^{-02} 12; B(E2)(W.u.)=1.9 7
3185	<8	8283	3^-	5098	3^-	M1,E2		B(M1)(W.u.)< 7.3×10^{-02}
3584	<1.5	8040	1^-	4456	1^-	M1		B(M1)(W.u.)<0.02
3699	<3	7620	1^-	3920	2^+	E1		B(E1)(W.u.)< 6.3×10^{-04}
3759	29 3	8214	2^+	4456	1^-	E1		B(E1)(W.u.)= 4.8×10^{-03} 12
3827	3 3	8283	3^-	4456	1^-	E2		B(E2)(W.u.)=8 8
3986	<1	7620	1^-	3634	0^+	E1		B(E1)(W.u.)< 1.6×10^{-04}
4119	<1	8040	1^-	3920	2^+	E1		B(E1)(W.u.)< 4.0×10^{-04}
4294	3 1	8214	2^+	3920	2^+	M1,E2		B(M1)(W.u.)= 7.5×10^{-03} 31
4304	>75	7859	5^-	3554	4^+	E1		B(E1)(W.u.)= 1.2×10^{-03} 2
4362	<3	8283	3^-	3920	2^+	E1		B(E1)(W.u.)< 4.7×10^{-04}
4406	10 1	8040	1^-	3634	0^+	E1		B(E1)(W.u.)= 2.7×10^{-03} 6
4570	99 1	8125	5^-	3554	4^+	E1		B(E1)(W.u.)= 5.9×10^{-03} 12
4581	<3	8214	2^+	3634	0^+	E2		B(E2)(W.u.)<3.3
4660	3 1	8214	2^+	3554	4^+	E2		B(E2)(W.u.)=2.5 10
4728	61 3	8283	3^-	3554	4^+	E1		B(E1)(W.u.)= 6.1×10^{-03} 15
5637	62 3	7620	1^-	1982	2^+	E1,M2	-0.027 8	B(E1)(W.u.)= 3.0×10^{-03} 6; B(M2)(W.u.)=0.33 20
6057	70 2	8040	1^-	1982	2^+	E1		B(E1)(W.u.)= 7.3×10^{-03} 15
6232	29 3	8214	2^+	1982	2^+	M1,E2		B(M1)(W.u.)= 2.5×10^{-02} 6
6300	<3	8283	3^-	1982	2^+	E1		B(E1)(W.u.)< 1.6×10^{-04}
7618	23 2	7620	1^-	0	0^+	E1		B(E1)(W.u.)= 4.6×10^{-04} 10

Continued on next page (footnotes at end of table)

$^{14}\text{C}(\alpha,\gamma)$ 1987Ga15 (continued) $\gamma(^{18}\text{O})$ (continued)

<u>E_γ</u>	<u>I_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>	<u>Comments</u>
8038	16 1	8040	1 ⁻	0	0 ⁺	E1	B(E1)(W.u.)=7.2×10 ⁻⁰⁴ 15
8213	19 4	8214	2 ⁺	0	0 ⁺	E2	B(E2)(W.u.)=0.9 3
8281	<1	8283	3 ⁻	0	0 ⁺	E3	B(E3)(W.u.)<22

[†] Branching ratios.

$^{14}\text{C}(\alpha, \gamma) \quad ^{1987}\text{Ga15}$

Level Scheme

Intensities: Type not specified

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

