

Table 11.16 from (1990AJ01): Energy levels of ^{11}C ^a

E_x in ^{11}C (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$	Decay	Reactions
0	$\frac{3}{2}^-; \frac{1}{2}$	$\tau_{1/2} = 20.39 \pm 0.02$ min	β^+	1, 2, 4, 6, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31
2.0000 ± 0.5	$\frac{1}{2}^-$	$\tau_m = 10.3 \pm 0.7$ fs	γ	2, 5, 6, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 28, 29
4.3188 ± 1.2	$\frac{5}{2}^-$	< 12 fs	γ	2, 5, 6, 12, 13, 15, 16, 17, 19, 20, 21, 22, 23, 28
4.8042 ± 1.2	$\frac{3}{2}^-$	< 11 fs	γ	2, 5, 12, 15, 16, 17, 20, 21, 23, 28
6.3392 ± 1.4	$\frac{1}{2}^+$	< 110 fs	γ	2, 5, 13, 23
6.4782 ± 1.3	$\frac{7}{2}^-$	< 8 fs	γ	2, 5, 6, 12, 13, 15, 16, 20, 21, 23, 27, 28
6.9048 ± 1.4	$\frac{5}{2}^+$	< 69 fs	γ	2, 5, 12, 13, 16, 21, 23
7.4997 ± 1.5	$\frac{3}{2}^+$	< 91 fs	γ	2, 5, 13, 16, 21, 23, 28
8.1045 ± 1.7	$\frac{3}{2}^-$	0.06 ± 0.04 fs ^b	γ, α	4, 13, 17, 21, 23
8.420 ± 2	$\frac{5}{2}^-$	0.043 ± 0.011 fs ^b	γ, α	2, 4, 5, 12, 13, 15, 21, 23
8.655 ± 8	$\frac{7}{2}^+$	$\Gamma \leq 5$ keV	(γ)	12, 13, 15, 21
8.699 ± 10	$\frac{5}{2}^+$	15 ± 1	γ, p	6, 12, 13, 15
9.20 ± 50	$\frac{5}{2}^+$	500 ± 100	γ, p	6
9.65 ± 50	$(\frac{3}{2}^-)$	210 ± 50	γ, p, α	6, 8, 11, 21
9.78 ± 50	$(\frac{5}{2}^-)$	240 ± 60	γ, p	6, 8, 11, 21
9.97 ± 50	$(\frac{7}{2}^-)$	120 ± 20	γ, p	6, 21
10.083 ± 5	$\frac{7}{2}^+$	≈ 230	γ, p, α	6, 8, 11, 13, 21
10.679 ± 5	$\frac{9}{2}^+$	200 ± 30	γ, p, α	6, 8, 11, 12, 21
11.03 ± 30	$T = \frac{1}{2}$	300 ± 60		21, 23, 28
11.44 ± 10		360	p, α	11, 21
12.16 ± 40	$T = \frac{3}{2}^c$	270 ± 50	p	5, 9, 17
12.4	$\pi = -$	1 – 2 MeV	γ, p	6, 23
12.51 ± 30	$\frac{1}{2}^-; \frac{3}{2}$	490 ± 40 keV	p	5, 9, 17, 20, 28
12.65 ± 20	$(\frac{7}{2}^+)$	360	$\text{p}, ^3\text{He}, \alpha$	6, 10, 11
(13.01)			γ, p	6

Table 11.16 from (1990AJ01): Energy levels of ^{11}C ^a (continued)

E_x in ^{11}C (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$	Decay	Reactions
13.33 \pm 60		270 \pm 80		20, 28
13.4		1100 \pm 100	p, α	11, 21
13.90 \pm 20	($T = \frac{3}{2}$)	200 \pm 100	p	6, 9, 17, 28
14.07 \pm 20		135 \pm 50	n, p	7, 28
14.76 \pm 20		\approx 450	n, p, ^3He	5, 7, 9, 10
15.35 \pm 50	$\pi = -$	broad	γ , n, p	6, 7, 9, 23
15.59 \pm 50		\approx 450	n, p	7, 9
16.7	$\pi = -$	800 \pm 100	γ , p	6
(18.2)			γ , p	6
(23.0)				23
(28.0)				23

^a See also [Table 11.17](#).

^b $\Gamma_{\text{c.m.}} = \Gamma_\alpha + \Gamma_\gamma = 11 \pm 7$ eV and 15.2 ± 3.8 eV for $^{11}\text{C}^*(8.10, 8.42)$: see [reaction 4](#).

^c I am grateful to Professor F.C. Barker for his comments.