

Table 11.38 from (2012KE01): Energy levels of ^{11}C ^a

E_x in ^{11}C (MeV \pm keV)	$J^\pi; T$	$T_{\frac{1}{2}}$ or Γ_{cm}	Decay	Reactions
0	$\frac{3}{2}^-; \frac{1}{2}$	$T_{\frac{1}{2}} = 20.364 \pm 0.014 \text{ min}$	β^+	1, 2, 6, 7, 10, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 43, 44
2.0000 ± 0.4	$\frac{1}{2}^-$	$T_{\frac{1}{2}} = 7.1 \pm 0.5 \text{ fs}$	γ	2, 3, 6, 7, 10, 16, 17, 18, 19, 21, 22, 26, 28, 30, 31, 32, 33, 38, 39, 44
4.3188 ± 1.2	$\frac{5}{2}^-$	$< 8.3 \text{ fs}$	γ	2, 3, 6, 7, 10, 16, 17, 19, 21, 22, 26, 28, 30, 31, 34, 38, 39, 44
4.8042 ± 1.2	$\frac{3}{2}^-$	$< 7.6 \text{ fs}$	γ	3, 7, 10, 16, 17, 19, 21, 22, 26, 28, 31, 38, 39, 44
6.3392 ± 1.4	$\frac{1}{2}^+$	$< 76.2 \text{ fs}$	γ	3, 7, 16, 17, 21, 28, 31, 44
6.4782 ± 1.3	$\frac{7}{2}^-$	$< 5.5 \text{ fs}$	γ	2, 3, 7, 10, 16, 17, 19, 21, 22, 26, 28, 31, 37, 38, 44
6.9048 ± 1.4	$\frac{5}{2}^+$	$< 48 \text{ fs}$	γ	3, 7, 16, 17, (19), 21, 22, 28, 31, 38, 44
(7.4)	$\frac{3}{2}^+$			16, 21
7.4997 ± 1.5	$\frac{3}{2}^+$	$< 63 \text{ fs}$	γ	3, 7, 17, 22, 28, 31, 38
8.1045 ± 1.7	$\frac{3}{2}^-$	$\Gamma = 6_{-2}^{+12} \text{ eV}$	γ, α	4, 6, 7, 16, 17, 22, 28, 31
8.420 ± 2	$\frac{5}{2}^-$	$0.030 \pm 0.008 \text{ fs}$	γ, α	3, 4, 6, 7, 10, 16, 17, 19, 22, 28, 31, 38
8.654 ± 4	$\frac{7}{2}^+$	$\Gamma \leq 5 \text{ keV}$	(γ)	4, 7, 10, 16, 17, (19), (22), 26, 28, 45
8.699 ± 2	$\frac{5}{2}^+$	15 ± 1	γ, p	7, 10, 16, 17, (19), (22), 28
9.200 ± 50	$\frac{5}{2}^+$	500 ± 90	γ, p	10, 28
9.645 ± 50	($\frac{3}{2}^-$)	210 ± 40	γ, p, α	10, 12, 15, 28
9.780 ± 50	($\frac{5}{2}^-$)	240 ± 50	γ, p	10, 12, 15, 22, 28, (45)
9.970 ± 50	($\frac{7}{2}^-$)	120 ± 20	γ, p	10, (45)
10.083 ± 5	$\frac{7}{2}^+$	≈ 230	γ, p, α	10, 12, 15, 16, 17, 22, 28
10.679 ± 5	$\frac{9}{2}^+$	200 ± 30	γ, p, α	7, 10, 12, 15, 16, 17, 22, 28, 45
11.030 ± 30	$T = \frac{1}{2}$	300 ± 60		7, 22, 28, 31, 38

Table 11.38 from (2012KE01): Energy levels of ^{11}C ^a (continued)

E_x in ^{11}C (MeV \pm keV)	$J^\pi; T$	$T_{\frac{1}{2}}$ or Γ_{cm}	Decay	Reactions
11.440 \pm 10		360	p, α	15, 22, 28
12.160 \pm 40	$T = \frac{3}{2}$ ^b	270 \pm 50	p	7, 13, 22, 45
12.4	$\pi = -$	1400 \pm 400	γ , p	10, 31
12.510 \pm 30	$\frac{1}{2}^-; \frac{3}{2}$	500 \pm 50	p	7, 13, 22, 26, 38
12.650 \pm 20	$(\frac{7}{2}^+)$	360	p, ^3He , α	14, 15, 22, 45
(13.01)			γ , p	10
13.330 \pm 60		270 \pm 80		26, 38
13.4		1100 \pm 100	p, α	15, 28, 45
13.900 \pm 20	$(T = \frac{3}{2})$	200 \pm 40	p	7, 13, 22, 38
14.070 \pm 20		135 \pm 50	n, p	11, 22, 38
14.760 \pm 40		\approx 450	n, p, ^3He	7, 11, 13, 14, 22
15.350 \pm 50	$\pi = -$	broad	γ , n, p	10, 11, 13, 31
15.590 \pm 50		\approx 450	n, p	11, 13
16.7	$\pi = -$	820 \pm 90	γ , p	10
(18.2)			γ , p	10
(23.0)				31
(28.0)				31

^a See also [Table 11.39](#).

^b FAS private communication with F.C. Barker.