

Table 13.11 from (1986AJ01): Levels of ^{13}C from $^{12}\text{C}(\text{d}, \text{p})^{13}\text{C}$ ^a

^{13}C (MeV \pm keV)	$\Gamma_{\text{c.m.}}$ (keV)	l_n	J^π	S^b
0		1	$\frac{1}{2}^-$	0.58 ± 0.04
3.089443 ± 0.020 ^c		0	$\frac{1}{2}^+$	0.36 ± 0.02
3.684482 ± 0.023 ^c		1	$\frac{3}{2}^-$	0.10
3.853783 ± 0.022 ^c		2	$\frac{5}{2}^+$	1.1
6.86		2	$\frac{5}{2}^+$	0.04
7.470 ± 20				
7.533 ± 20				
7.641 ± 20	70 ± 15			
8.4 ± 300	1100 ± 300	2	$\frac{3}{2}^+$	1.0
8.86		1	$\frac{1}{2}^-$	0.5
9.500 ± 20		(1)	$(\frac{3}{2}^-)^f$	
9.897 ± 20		1	$\frac{3}{2}^-$	0.1
10.755 ± 5	56 ± 2			
10.818 ± 5	24 ± 3			
10.997 ± 8	82 ± 15			
11.080 ± 5	8			
11.748 ± 10	107 ± 14			
11.851 ± 5	68 ± 4			
11.97 ± 40 ^d	≈ 260			
12.108 ± 5	81 ± 8			
22.3 ± 200 ^{d,e}	200 ± 50	(1)	$(\frac{3}{2}^-)$	
23.1 ± 200 ^{d,e}	500 ± 100			
23.8 ± 200 ^{d,e}	120 ± 40			

^a For references and additional information see [Table 13.14 in \(1981AJ01\)](#).

^b Preliminary values at $E_d = 17.7$ MeV are 0.50, 0.21, 0.50, 0.16, 0.54 for $^{13}\text{C}^*(0, 3.68, 8.9, 9.9, 11.1)$ ([1984PEZW](#)).

^c ([1980WA24](#)): E_γ for the $3.85 \rightarrow 3.68$ transition is 169.300 ± 0.004 keV. Using $E_x = 3684.507 \pm 0.019$ keV [see [reaction 22](#)] and this value for E_γ , E_x for the higher state is 3853.807 ± 0.019 keV, which we adopt. I am indebted to Dr. E.K. Warburton for his comments. See also [Table 13.5](#) and the “General” section here.

^d May correspond to unresolved states.

^e ([1983SA1M](#); preliminary): $E_d = 56$ and 60 MeV.

^f Known to be $\frac{9}{2}^+$.