

Table 14.19 from (1976AJ04): Energy levels of ^{14}N from $^{12}\text{C}(\alpha, \text{d})^{14}\text{N}$ and $^{12}\text{C}({}^6\text{Li}, \alpha)^{14}\text{N}$

E_x^a (MeV)	σ^a (mb)	$\sigma/\sigma_{\text{g.s.}}^b$	Angular distribution ^c
0	5.8	1.00	d, α^i
2.31 ^d	d		α
3.95	4.8	0.31	d, α^i
4.92	4	0.16	α
5.11	5	1.32	d, α
5.69	4	0.11	α
5.83	6	0.97	d, α
6.20	7.0	0.24	α
6.44	13.0	1.15	d, α
7.03	4.0	0.18	d, α
7.97	5.0	0.16	d, α
8.49	8.3	0.53	d, α
9.00 ± 0.05^e	28.0	3.67	d, α
$9.12 + 9.13 + 9.17$	medium	(0.30)	
9.39	8.1	0.30	d, α
9.70	6.9	0.18	α
10.10	13.8	0.5	α
10.76 ± 0.02^f	medium	0.62	
11.06	weak	very weak ^h	
11.24	medium		
11.29	medium		
11.39	medium	very weak, broad	
11.51	weak		
11.95	weak		
12.24	weak		
		weak	
12.41	medium		
12.61	strong		
12.69	strong	strong, broad ($E_x = 12.76$)	
13.05 ± 0.02^g		very weak	

Table 14.19 from (1976AJ04): Energy levels of ^{14}N from $^{12}\text{C}(\alpha, \text{d})^{14}\text{N}$ and $^{12}\text{C}(^6\text{Li}, \alpha)^{14}\text{N}$ (continued)

E_x ^a (MeV)	σ ^a (mb)	$\sigma/\sigma_{\text{g.s.}}$ ^b	Angular distribution ^c
14.7 ^h		weak, broad	
15.1 ± 0.1 ^e		strong, sharp	
15.5		weak	
16.0		weak	
16.3		medium	
17.1		medium	
17.7		medium	

^a From $^{12}\text{C}(^6\text{Li}, \alpha)$. $E(^6\text{Li}) = 20$ MeV (1968ME10).

^b Cross section (relative to ground state) integrated for $0^\circ - 90^\circ$ (c.m.), from $^{12}\text{C}(\alpha, \text{d})^{14}\text{N}$, $E_\alpha = 42$ MeV (1967ZA01). The $T = 1$ states at $E_x = 2.31, 8.06, 9.51, 10.43$ MeV were not observed: $\sigma/\sigma_{\text{g.s.}} < 0.0027, 0.027, 0.018, 0.30, 0.03$, respectively. For absolute cross sections at $E_\alpha = 53$ MeV; see (1965PE03).

^c d and α refer to angular distributions of the corresponding group from the $^{12}\text{C}(\alpha, \text{d})^{14}\text{N}$ and the $^{12}\text{C}(^6\text{Li}, \alpha)^{14}\text{N}$ reactions: see text for E_α , $E(^6\text{Li})$ and references.

^d The excitation of $^{14}\text{N}^*(2.3)$ is inhibited by angular momentum and parity consideration as well as by isospin in the (α, d) reaction.

^e (1966RI04).

^f $E_x = 10.85 \pm 0.02$ MeV (1967ZA01).

^g From $^{12}\text{C}(\alpha, \text{d})^{14}\text{N}$ (1967ZA01): $\Gamma < 70$ keV.

^h Comments here and below are from (1965PE03).

ⁱ Angular distributions reported at $E_\alpha = 55$ MeV (1974VAZO).