

Table 12.10 from (1980AJ01):  $^{12}\text{C}$  states from  $^{10}\text{B}(^3\text{He}, p)^{12}\text{C}$ 

$E_x^a$ (MeV $\pm$ keV)	$\Gamma_{\text{c.m.}}^c$ (keV)	$\Gamma_\gamma/\Gamma^e$	Alpha decay <sup>d,j</sup>		Parity <sup>d,k</sup>	$J^\pi; T$
			$^8\text{Be}_{\text{g.s.}}$	$^8\text{Be}^*(2.9)$		
4.44						
7.655 $\pm$ 6			yes		natural	0 <sup>+</sup>
9.645 $\pm$ 6	36 $\pm$ 6		yes	yes	natural	
10.849 $\pm$ 25	320 $\pm$ 30		strong	yes	natural	
11.841 $\pm$ 25	245 $\pm$ 30		no	yes	unnatural	
12.713 $\pm$ 6		0.025 $\pm$ 0.01 <sup>f</sup>	no	yes	unnatural	1 <sup>+</sup>
13.29 $\pm$ 30	430 $\pm$ 100		no	yes	unnatural	$\geq 1^d$
	290 $\pm$ 70 <sup>d</sup>					
14.083 $\pm$ 15	252 $\pm$ 15		yes	yes	natural	<sup>g</sup>
	320 $\pm$ 50 <sup>d</sup>					
15.108 $\pm$ 6		> 0.95 <sup>h,i</sup>				1 <sup>+</sup> ; 1
16.108 $\pm$ 6		(2.6 $\pm$ 0.5) $\times 10^{-3}$ <sup>l</sup>	weak	strong	natural	(2 <sup>-</sup> )
16.58			yes	yes	natural	
20.5 $\pm$ 100 <sup>b</sup>						

<sup>a</sup> (1962BR10): excitation energies based on  $Q_0 = 19.693$  MeV and  $P_0 \alpha = 5.3056$  MeV.

<sup>b</sup> (1970BO39).

<sup>c</sup> (1962BR10).

<sup>d</sup> (1966WA16).

<sup>e</sup> See also Table 12.8.

<sup>f</sup> Branching ratios to  $^{12}\text{C}^*(0, 4.4)$  are 85  $\pm$  4 and 15  $\pm$  4%, respectively (1972AL03). See also Table 12.8.

<sup>g</sup> Proton- $\alpha$  correlations require  $J \geq 2$  (1966WA16).

<sup>h</sup> (1965AL1B):  $\Gamma_\alpha/\Gamma < 0.5$ .

<sup>i</sup> Branching ratios to  $^{12}\text{C}^*(0, 4.4, 7.7, 12.7)$  are, respectively, (92  $\pm$  2)%, (2.3  $\pm$  0.9)%, (2.6  $\pm$  0.7)%, (1.4  $\pm$  0.4)% (1972AL03): see also Table 12.8.

<sup>j</sup> (1968KR02).

<sup>k</sup> (1965AL1B).

<sup>l</sup> (1977AD02): see, however, Table 12.8.