Table 16.17 from (1982AJ01): ^{16}O states from ^{14}N(^{3}He, p)^{16}O

E_x [a,b] (MeV ± keV)	$\Gamma_{c.m.}$ [a,b] (keV)	L [c]	J^π [c]
0		$0+2$ [d]	
6.052 ± 5		(0) [e]	
6.131 ± 4		$1+3$ [d]	
6.916 ± 3		(0)	
7.115 ± 3		$1+3$ [d]	
8.870 ± 3	< 20	$3+1$	
9.614 ± 30	510 ± 60		
9.847 ± 3	< 20	$0(+2)$	
10.356 ± 3	25 ± 5	[e]	
10.957 ± 1	< 12	1 [d]	
11.080 ± 3	< 12	$2+4$ [f]	
11.098 ± 2	< 12	$2+4$ [f]	
11.520 ± 4	64 ± 5	[e]	
12.049 ± 2	< 12	0	
12.438 ± 3	70 ± 10	1	
12.530 ± 2	< 12	$1+3$ [d]	
12.797 ± 4	40 ± 10	1	$0^-; T=1$ [g]
12.970 ± 1	< 12	$1+3$	$2^-; T=1$ [g]
13.105 ± 15	160 ± 30	$0+3$ [f]	
13.257 ± 2	20 ± 5	$(1+3)$	$3^-; T=1$ [g]
13.663 ± 4	63 ± 7	0	
13.869 ± 2	85 ± 20	(4) [e]	
13.979 ± 2	14 ± 5	$1(+3)$	
14.302 ± 3	< 20	[e]	
14.399 ± 2	27 ± 5	(4)	
14.818 ± 3		2	$(0 \rightarrow 4)^+$
14.927 ± 2	60 ± 10	$0(+2)$	$(0, 1, 2)^+$ [h]
15.103 ± 5			
15.196 ± 3		$(0+2)$	
15.409 ± 6		[e]	

Table 16.17 from (1982AJ01): ^{16}O states from ^{14}N(^{3}He, p)^{16}O (continued)

E_x [a,b] (MeV ± keV)	$\Gamma_{c.m.}$ [a,b] (keV)	L [c]	J^π [c]
15.785 ± 5	40 ± 10	$2(+4)$	(2, 3, 4)$^+$ [h]
16.114 ± 4 [j]			
16.209 ± 2	40 ± 10	$0 + 2$	
16.350 ± 13			
16.440 ± 3	≈ 30	$0 + 2$	
16.817 ± 2	70 ± 10		

[a] (1964BR08): E(^{3}He) $= 3.74$ and 3.97 MeV.

[b] (1978BI10): E(^{3}He) $= 15$ MeV.

[c] (1978BI10, 1978FO19, 1978FO27).

[d] See also (1971WE16).

[e] Mostly compound nucleus.

[f] Unresolved.

[g] (1978FO27) have compared the cross-section ratios of these three $T = 1$ states with their analogs in ^{16}N populated in the (t, p) reaction: only the 2^- states have the expected cross-section ratio of 0.5 for (^{3}He, p)/(t, p). The populations of the 0^- and 3^- states in ^{16}O are lower by a factor of two.

[h] (1978FO19) suggest that these two states [^{16}O*(14.93, 15.79)] are 1^+ and 3^+ 2p-2h states with $T_p = T_h = 0$.

[i] Very weak proton group. I am indebted to Prof. H.T. Richards for his comments.