Table 19.21 from (1978AJ03): States of ^{19}F from ^{19}F(p, p′)^{19}F* [a]

E_x (keV)			L [c]	β_L [c]	J^π
(1968GU07)	(1969PO03)	(1976BH03) [b]			
	197.6 ± 0.6		2	0.55	$\frac{5}{2}^+$
	1345.8 ± 0.2	1345.4 ± 0.6	3	0.33	$\frac{5}{2}^-$
	1459.1 ± 0.5	1458.6 ± 0.4			$\frac{3}{2}^-$
	1554.2 ± 0.4	1553.5 ± 0.6	2	0.58	$\frac{3}{2}^+$
		2779.8 ± 0.6	4	0.22	$\frac{9}{2}^+$
3920 ± 10		3907.1 ± 1.0			$\frac{3}{2}^+$
4010 ± 10		3998.5 ± 0.8			$\frac{7}{2}^-$
4040 ± 10		4032.5 ± 1.2			$\frac{9}{2}^-$
4390 ± 10		4377.7 ± 1.0			$\frac{7}{2}^+$
		4548.8 ± 1.0 [g]	2	0.20	$\frac{5}{2}^+$
4560 ± 10					
		4557.5 ± 1.0 [h]			$\frac{3}{2}^-$
4690 ± 10		4682.5 ± 1.2	[d]		
5110 ± 10			2	0.15 [e]	$\frac{5}{2}^+$
5340 ± 10					
5420 ± 10			3	0.45	$\frac{7}{2}^-$
5470 ± 10					
5500 ± 10					
5540 ± 10					
5630 ± 10			[f]		
5940 ± 10					
(6080)					
6090 ± 10					
6170 ± 10					
6250 ± 10					
6290 ± 10					
6330 ± 10					

[a] See also Table 19.19 in (1972AJ02).
[b] Based on $E_x = 109.9$ and 197.1 keV.
[c] (1974DE46): $E_p = 30$ MeV.
[d] (1974DE46) report excitation of a state with $E_x = 4.69$ MeV, $J^\pi = \frac{3}{2}^-$, $L = 3$, $\beta_L = 0.17$.
[e] If $L = 2$.
[f] (1974DE46) report excitation of s state with $E_x = 5.63$ MeV, $J^\pi = \frac{5}{2}^-$, $L = 3$, $\beta_L = 0.33$.
[g] $J^\pi = \frac{5}{2}^+$.
[h] $J^\pi = \frac{3}{2}^-$ or $(\frac{1}{2}^-)$.