^{19}O β^- decay

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Tilley, Weller, Cheves, Chasteler	NP A595, 1 (1995)	31-Oct-1994

Parent: ^{19}O: E=0; $J^\pi=5/2^+$; $T_{1/2}$=26.88 s *5*; Q(β^-)=4819.6 *29*; %β^- decay=100.0

Additional information 1.

β branchings and γ intensities are the work of 1982Ol02 unless otherwise noted.

^{19}F Levels

E(level)	J^π	$T_{1/2}$	E(level)	J^π	E(level)	J^π
0.0	$1/2^+$	stable	1459.	$3/2^-$	3999.	$7/2^-$
109.89	$1/2^-$		1554.038 *9*	$3/2^+$	4033.	$9/2^-$
197.143 *4*	$5/2^+$		2779.849 *34*	$9/2^+$	4377.700 *42*	$7/2^+$
1346.	$5/2^-$		3908.17 *20*	$3/2^+$	4550.	$5/2^+$

β^- radiations

E(decay)	E(level)	Iβ^-[†][‡]	Log *ft*	Comments
(270 *3*)	4550.	<0.001	>5.1	av Eβ=89.4 *11*
(442 *3*)	4377.700	0.0984 *30*	3.857 *17*	av Eβ=152.4 *12*
(787 *3*)	4033.	<0.001	>6.8	av Eβ=293.1 *13*
(821 *3*)	3999.	<0.001	>6.9	av Eβ=307.5 *13*
(911 *3*)	3908.17	0.0081 *5*	6.13 *3*	av Eβ=346.1 *13*
(2040 *3*)	2779.849	<0.002	>8.2	av Eβ=857.6 *14*
(3266 *3*)	1554.038	54.4 *12*	4.623 *10*	av Eβ=1442.5 *14*
(3361 *3*)	1459.	<0.010	>8.4	av Eβ=1488.5 *14*
(3474 *3*)	1346.	0.017 *2*	8.25 *6*	av Eβ=1543.2 *14*
(4622 *3*)	197.143	45.4 *15*	5.382 *15*	av Eβ=2103.2 *15*
(4710 *3*)	109.89	0.055 *25*	8.34 *20*	av Eβ=2146.0 *15* Iβ^-: the measured value is 0.055 *+13−38*.
(4820 *3*)	0.0	≤4	≥6.5	av Eβ=2199.8 *15*

[†] β intensities are calculated assuming 0% for the ground state transition.

[‡] Absolute intensity per 100 decays.

$\gamma(^{19}F)$

Eγ	Iγ[†][‡]	E$_i$(level)	J_i^π	E$_f$	J_f^π	Comments
109.894 *5*	2.54 *10*	109.89	$1/2^-$	0.0	$1/2^+$	
197.142 *4*	95.9 *21*	197.143	$5/2^+$	0.0	$1/2^+$	
1149	0.0005	1346.	$5/2^-$	197.143	$5/2^+$	
1236	0.017 *2*	1346.	$5/2^-$	109.89	$1/2^-$	Iγ calculated assuming previously measured branching ratios.
1356.843 *8*	50.4 *11*	1554.038	$3/2^+$	197.143	$5/2^+$	
1444.085 *10*	2.64 *6*	1554.038	$3/2^+$	109.89	$1/2^-$	
1553.970 *8*	1.39 *3*	1554.038	$3/2^+$	0.0	$1/2^+$	
2353.98 *26*	0.00181 *23*	3908.17	$3/2^+$	1554.038	$3/2^+$	
2582.517 *33*	0.0189 *5*	2779.849	$9/2^+$	197.143	$5/2^+$	
3710.64 *20*	0.00110 *15*	3908.17	$3/2^+$	197.143	$5/2^+$	
3797.87 *20*	0.00133 *14*	3908.17	$3/2^+$	109.89	$1/2^-$	
3907.74 *20*	0.00384 *17*	3908.17	$3/2^+$	0.0	$1/2^+$	
4180.063 *41*	0.0792 *17*	4377.700	$7/2^+$	197.143	$5/2^+$	

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^{19}O β^- decay (continued)

$\gamma(^{19}F)$ (continued)

† γ intensities are calculated assuming 0% for the β-branch ground state transition.
‡ Absolute intensity per 100 decays.

^{19}O β^- decay

Decay Scheme

Intensities: I_γ per 100 parent decays