Adopted Levels, Gammas 1993Ti07

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. H. Kelley, D. R. Tilley, H. R. Weller and C. M. Cheves	NP 564 1 (1993)	31-Dec-1992

Q(β^-)=−2760.47 *25*; S(n)=4143; S(p)=13781.6 *23*; Q(α)=−6359 2012Wa38
Note: Current evaluation has used the following Q record.
Q(β^-)=−2760.70 *32*; S(n)=4143.33 *21*; S(p)=13781.4 *26*; Q(α)=−6358.92 *21* 1997Au04
See other reaction references in 1993Ti07.

^{17}O Levels

Cross Reference (XREF) Flags

A	^{17}N β^- decay	I	^{14}C(^{6}Li,t)	Q	^{16}O(^{7}Li,^{6}Li)
B	^{17}F β^+ decay	J	^{14}N(t,γ)	R	^{17}O(e,e)
C	^{12}C(^{6}Li,p)	K	^{14}N(^{6}Li,^{3}He)	S	^{17}O(π,π)
D	^{12}C(^{9}Be,α)	L	^{15}N(^{3}He,p)	T	^{18}O(d,t)
E	^{13}C(α,n), ^{13}C(α,α)	M	^{15}N(α,d)	U	^{18}O(^{3}He,α)
F	^{13}C(^{6}Li,d)	N	^{16}O(n,n),^{16}O(n,α)	V	^{18}F(d,α)
G	^{13}C(^{13}C,^{9}Be)	O	^{16}O(p,π^+)		
H	^{14}C(^{3}He,X)	P	^{16}O(d,p)		

E(level)	J$^\pi$	$T_{1/2}$	XREF	Comments
0.0	5/2$^+$	stable	ABCD F IJKLM OPQRSTUV	T=1/2; μ=−1.89379 *9* (1989Ra17)
870.73 *10*	1/2$^+$	179.2 ps *18*	A CD F IJKLM OPQR TUV	
3055.36 *16*	1/2$^-$	0.08 ps *+6−4*	A CD F I KL OPQR T V	
3842.8 *4*	5/2$^-$	≤18 fs	CD FG I KLM PQRST V	
4553.8 *16*	3/2$^-$	40 keV *5*	A CD F I KLMN PQRST V	%IT=?; %n=100
5084.8 *9*	3/2$^+$	96 keV *5*	A D F KL N P R T	%IT=?; %n=100
5215.8 *5*	9/2$^-$	<0.1 keV	D FG KLMN P RS V	%IT=?; %n=?
5379.2 *14*	3/2$^-$	28 keV *7*	A D KL N PQR T V	%IT=?; %n=100
5697.3 *4*	7/2$^-$	3.4 keV *3*	F I KLMN P RST	%IT=?; %n=100
5732.8 *5*	(5/2$^-$)	<1 keV	C F I K N P V	%n=100
5869.1 *6*	3/2$^+$	6.6 keV *7*	D F KL N P V	%n=100
5939 *4*	1/2$^-$	32 keV *3*	A C F KL N P R T V	%IT=?; %n=100
6356 *8*	1/2$^+$	124 keV *12*	CD I L N R	%IT=?; %n=100
6862 *2*	(5/2$^+$)	<1 keV	CD F KL N P R T V	%IT=?; %n=?
6972 *2*	(7/2$^-$)	<1 keV	D F KL N R V	%IT=?; %n=?
7165.7 *8*	5/2$^-$	1.38 keV *5*	CDEF L N	%n=?; %α=?
7202 *10*	3/2$^+$	280 keV *30*	F N	%n=?; %α=?
7379.2 *10*	5/2$^+$	0.64 keV *23*	CD LMN R T V	%IT=?; %n=?; %α=?
7382.2 *10*	5/2$^-$	0.96 keV *20*	DEF MN R T V	%IT=?; %n=?; %α=?
7559 *20*	3/2$^-$	500 keV *50*	N P	%n=?; %α=?
7576 *2*	(7/2$^+$)	<0.1 keV	C EF L N R	%IT=?; %n=?; %α=?
7688.2 *9*	7/2$^-$	14.4 keV *3*	C EF L N	%IT=?; %n=?; %α=?
7757 *9*	11/2$^-$		I LM RS	
7956 *6*	1/2$^+$	90 keV *9*	E L N	%n=?; %α=?
7990 *50*	1/2$^-$	270 keV *30*	N	%n=?; %α=?
8070 *10*	3/2$^+$	85 keV *9*	E L N	%n=?; %α=?
8200 *7*	3/2$^-$	60 keV	E I L N T	%IT=?; %n=?; %α=?
8342.4 *9*	1/2$^+$	11.4 keV *5*	E L N R	%IT=?; %n=?; %α=?
8402.3 *8*	5/2$^+$	6.17 keV *13*	EF L N R	%IT=?; %n=?; %α=?

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Adopted Levels, Gammas 1993Ti07 (continued)

^{17}O Levels (continued)

E(level)	J^{π}	$T_{1/2}$	XREF	Comments
8466.0 *8*	$7/2^{+}$	2.13 keV *11*	C EF L N R T	%IT=?; %n=?; %α=? The IT decay mode is tentative. J^{π}: from tables 17.12 and 17.17. $J^{\pi}=(9/2^{+})$ is adopted by 1993Ti07 based on table 17.10.
8500.7 *8*	$5/2^{-}$	6.89 keV *22*	EF L N R	%IT=?; %n=?; %α=?
8687.0 *10*	$3/2^{-}$	55.3 keV *6*	E L N T	%IT=?; %n=?; %α=?
8885 *14*	$7/2^{-}$,$9/2^{-}$	6 keV	R	
8897 *8*	$3/2^{+}$	101 keV *3*	EF LMN R	%n=?; %α=?
8967.2 *17*	$7/2^{-}$	26 keV *2*	EF L N R	%IT=?; %n=?; %α=?
9147 *4*	$1/2^{-}$	4 keV *3*	EF T	%IT=?; %n=?; %α=?
9150 *20*	$9/2^{-}$		LMN	
9180	$7/2^{-}$	3 keV	EF	%α=100
9193.9 *8*	$5/2^{+}$	3.53 keV *13*	EF N	%n=?; %α=?
9420	$3/2^{-}$	120 keV	N	%n=100
9492 *4*	$5/2^{-}$	15 keV *1*	C L N T	%n=?; %α=?
9711.9 *9*	$7/2^{+}$	23.1 keV *3*	E I L N	%n=?; %α=?
9783.3 *9*	$3/2^{+}$	11.7 keV *3*	E N	%n=?; %α=?
9858.9 *9*	$(5/2^{-})$	4.01 keV *23*	E L N	%n=?; %α=?
9876.5 *13*	$(1/2^{-})$	16.7 keV *17*	E L N	%n=?; %α=?
9976 *20*	$5/2^{+}$	≈80 keV	E	%n=?; %α=?
10045 *20*		≈100 keV	E	%n=?; %α=?
10167.8 *10*	$7/2^{-}$	49.1 keV *8*	E N	%n=?; %α=?
10336 *15*	$5/2^{+}$,$7/2^{-}$	150 keV	E L	%n=?; %α=?
10423 *3*		14 keV *3*	E I	%n=?; %α=?
10490	$5/2^{+}$,$7/2^{-}$	75 keV *30*	E	%n=?; %α=?
10559.1 *10*	$(7/2^{-})$	42.5 keV *11*	E G L N	%n=?; %α=?
10777 *3*	$1/2^{+}$,$7/2^{-}$	74 keV *3*	E KL N	%n=?; %α=?
10913 *3*	$(5/2^{+})$	41.7 keV *14*	E L N	%n=?; %α=?
11036 *3*		31 keV *3*	E L	%n=?; %α=? T=1/2
11078.7 *9*	$1/2^{-}$	2.4 keV *3*	E L N R TU	%IT=0.42 *14*; %n=?; %α=? T=3/2; Γ_{γ}=10 eV *3* E(level): uncertainty is 0.8 keV in table 17.16.
11238		80 keV *3*	C E I	%n=?; %α=?
11510	≥3/2	190 keV	N	%n=100
11622		65 keV *2*	E	%n=?; %α=?
11750 *10*		40 keV *25*	E R	%IT=?; %n=?; %α=?
11815 *15*		12 keV *3*	E I	%n=?; %α=?
12005 *15*	≥3/2	270 keV	E I K N R	%IT=?; %n=?; %α=?
12110 *20*		150 keV *50*	E G N	%n=?; %α=?
12220 *20*		≤20 keV	R	
12274 *15*		100 keV *30*	E I	%n=?; %α=?
12380 *20*			E N	%n=?; %α=?
12420 *15*			E	%n=?; %α=?
12466.0 *10*	$3/2^{-}$	6.9 keV *11*	E N R TU	%IT=?; %n=?; %α=? T=3/2
12595 *15*		75 keV *30*	E	%n=?; %α=?
12669 *15*		≈5 keV	E N R	%IT=?; %n=?; %α=?
12810 *25*			E	%n=?; %α=?
12930 *20*		≥150 keV	E	%n=?; %α=?
12944 *5*	$1/2^{+}$	6 keV *2*	E N TU	%n=?; %α=? T=3/2
12998.2 *10*	$5/2^{-}$	2.5 keV *10*	E N R U	%IT=?; %n=?; %α=? T=3/2
13076 *15*		16 keV *4*	E	%n=?; %α=?

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Adopted Levels, Gammas 1993Ti07 (continued)

^{17}O Levels (continued)

E(level)	J^π	$T_{1/2}$	XREF	Comments
13484 *15*		≈120 keV	E	%n=?; %α=?
13580 *20*	(11/2⁻,13/2⁻)	68 keV *19*	F R	γ decay tentative. No other decay indicated.
13609 *15*		250 keV *100*	E	%n=?; %α=?
13635.3 *25*	(5/2)⁺	9 keV *5*	N TU	%n=?; %α=? T=3/2
13670?		400 keV	N	%n=100
1415×10¹† *10*	(9/2⁺,11/2⁺)	≈100 keV	F	
14230.3 *17*	7/2⁻	20.5 keV *16*	N R U	%IT=?; %n=?; %α=? T=3/2
14286 *3*		7.5 keV *4*	N U	%n=?; %α=? T=1/2
14451 *3*		40 keV *6*	N	%IT=?; %n=?; %α=?
14720†	9/2⁻	35 keV *11*		T=3/2
1476×10¹ *10*	(≥3/2)	340 keV	N R	%IT=?; %n=?
14791 *3*	(1/2⁻)	36 keV *13*	N	%IT=?; %n=?; %α=? T=(3/2) %IT: tentative decay mode.
15000		180 keV	N	%n=?; %d=?; %α=?
1510×10¹† *10*	(9/2⁺,11/2⁺)	≈500 keV	F	
15199 *3*		52 keV *14*	I N R	%IT=?; %n=?; %d=?; %α=? T=1/2
15368 *3*	(5/2⁺)	40 keV *6*	N	%n=?; %d=?; %α=? T=(3/2)
15600?		≈300 keV		%p=?; %d=?; %α=? T=1/2
15780 *20*	(13/2⁻)	≤30 keV	R	T=(3/2)
1595×10¹† *15*	(9/2⁺,11/2⁺)	≈700 keV	F	
16243 *4*	(9/2⁺)	21 keV *10*	N	%n=?; %p=?; %d=?; %α=? T=(3/2)
16580 *10*	(1/2,3/2)⁻	≈300 keV	R T	T=3/2
1660×10¹† *15*	(11/2⁻,13/2⁻)		F	
17060 *20*	11/2⁻	≤20 keV	F RS	T=1/2
17436 *11*		66 keV *20*	N	%n=?; %α=? T=(3/2)
17920 *20*		98 keV *16*	R	
18110 *4*	3/2⁻	46 keV *12*	N T	%n=?; %α=? T=3/2
18720† *20*		87 keV *33*	R	
1960×10¹† *15*	(13/2⁺,15/2⁺)	≈250 keV	F	
19820 *40*	3/2	550 keV *50*	J R	%IT=?; %^{3}H=?
20140 *20*	11/2⁻	31 keV *5*	R	T=1/2
2020×10¹† *15*	(13/2⁺,15/2⁺)	≈250 keV	F	
20390 *50*	5/2,7/2⁻	660 keV *70*	J	%IT=?; %^{3}H=?
20580 *50*	1/2	570 keV *80*	J	%IT=?; %^{3}H=?
20700 *20*	(9/2⁻)	≤20 keV	R	T=(3/2)
21050 *50*	3/2	470 keV *60*	J	%IT=?; %^{3}H=?
21200†	(13/2⁺,15/2⁺)		F	
2170×10¹ *10*	5/2⁺	≈750 keV	H	%IT=?; %^{3}He=?; %α=?
2210×10¹ *10*	7/2⁻	≈750 keV	F H	%IT=?; %n=?; %^{3}He=?; %α=?
2250×10¹ *20*	3/2(⁻)	≈1000 keV		%IT=?; %^{3}He=?
23×10³		≈6000 keV	R	%IT=?; %n=?
23.0×10³	1/2⁺	≈400 keV	H	%IT=?; %^{3}He=?

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Adopted Levels, Gammas 1993Ti07 (continued)

^{17}O Levels (continued)

E(level)	XREF	Comments
23500		%IT=?; %^{3}He=?
24400		%IT=?; %^{3}He=?

† Decay mode not specified.

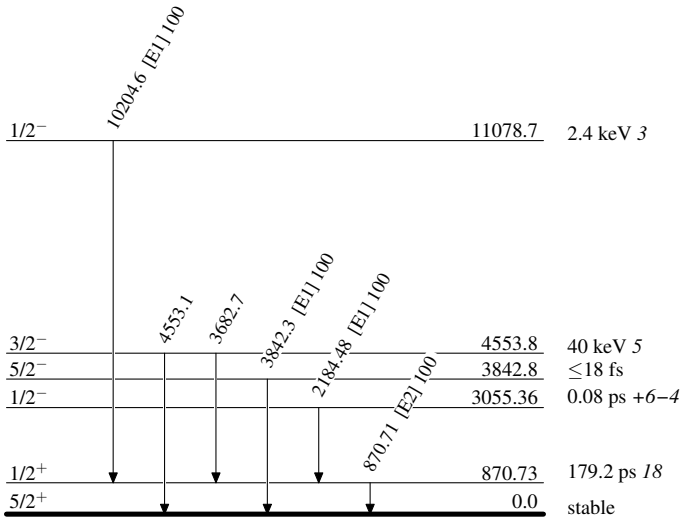
γ(^{17}O)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	Comments
870.73	1/2$^+$	870.71 *12*	100	0.0	5/2$^+$	[E2]	B(E2)(W.u.)=2.39 *3*
3055.36	1/2$^-$	2184.48 *20*	100	870.73	1/2$^+$	[E1]	B(E1)(W.u.)=0.0012 *+8−6*
3842.8	5/2$^-$	3842.3 *4*	100	0.0	5/2$^+$	[E1]	B(E1)(W.u.)>0.001
4553.8	3/2$^-$	3682.7 *16*		870.73	1/2$^+$		
		4553.1 *16*		0.0	5/2$^+$		
11078.7	1/2$^-$	10204.6 *9*	100	870.73	1/2$^+$	[E1]	B(E1)(W.u.)=0.021 *6*

Adopted Levels, Gammas 1993Ti07

Level Scheme

Intensities: Relative photon branching from each level



$^{17}_{8}O_9$