

Table 14.3 from (1991AJ01): Energy Levels of  $^{14}\text{C}$  <sup>a</sup>

$E_x$ in $^{14}\text{C}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau$ or $\Gamma_{\text{c.m.}}$	Decay	Reactions
g.s.	$0^+; 1$	$\tau_{1/2} = 5730 \pm 40 \text{ y}$	$\beta^-$	1, 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39
$6.0938 \pm 0.2^{\text{b}}$	$1^-$	$\tau_{\text{m}} < 10 \text{ fs}$	$\gamma$	3, 4, 6, 7, 8, 12, 15, 16, 18, 20, 22, 23, 26, 35, 38
$6.5894 \pm 0.2^{\text{b}}$	$0^+$	$4.3 \pm 0.6 \text{ ps}$	$\gamma$	3, 4, 6, 8, 12, 16
$6.7282 \pm 1.3^{\text{b}}$	$3^-$	$96 \pm 11 \text{ ps}$	$\gamma$	3, 4, 6, 7, 8, 9, 15, 16, 18, 20, 22, 23, 24, 26, 28, 35, 38
$6.9026 \pm 0.2^{\text{b}}$	$0^-$	$ g  = 0.272 \pm 0.007$ $36 \pm 4 \text{ fs}$	$\gamma$	3, 4, 7, 8, 12, 16, 18, 22
$7.0120 \pm 4.2^{\text{b}}$	$2^+$	$13 \pm 2 \text{ fs}$	$\gamma$	3, 4, 6, 7, 8, 15, 16, 18, 22, 23, 24, 26, 38, 39
$7.3414 \pm 3.1^{\text{b}}$	$2^-$	$160 \pm 60 \text{ fs}$	$\gamma$	3, 4, 7, 8, 15, 16, 18, 20, 22, 26, 35, 38
$8.3179 \pm 0.8$	$2^+$	$\Gamma = 3.4 \pm 0.7 \text{ keV}$	$\gamma, \text{n}$	3, 4, 6, 7, 8, 9, 12, 13, 15, 16, 22, 23, 26, 32, 34, 35, 39
$9.746 \pm 7$	$0^+$			8, 38
$9.801 \pm 6$	$3^-$	$45 \pm 12$	$\gamma, \text{n}$	3, 6, 7, 8, 13, 15, 16, 22, 26, 38
$10.425 \pm 5$	$2^+$		<b>n</b>	3, 6, 8, 13, 15, 16, 22, 26, 38
$10.449 \pm 7$	$\geq 1$		<b>n</b>	3, 6, 7, 8, 13, 15, 38
$10.498 \pm 4$	$(3^-)$	$26 \pm 8$	<b>n</b>	3, 7, 8, 13, 15, 16, 23, 38
$10.736 \pm 5$	$4^+$	$20 \pm 7$		3, 6, 7, 8, 9, 15, 16, 26, 32

Table 14.3 from (1991AJ01): Energy Levels of  $^{14}\text{C}$  <sup>a</sup> (continued)

$E_x$ in $^{14}\text{C}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau$ or $\Gamma_{\text{c.m.}}$	Decay	Reactions
11.306 $\pm$ 15	1 <sup>+</sup>	46 $\pm$ 12	$\gamma, n$	3, 6, 13, 21, 22, 26, 38
11.395 $\pm$ 8	1 <sup>-</sup>	22 $\pm$ 7	n	3, 6, 7, 8, 16, 26
(11.5)	1 <sup>-</sup> + 2 <sup>-</sup>	broad	n	13
11.666 $\pm$ 10	4 <sup>-</sup>	20 $\pm$ 7	$\gamma$	3, 6, 7, 8, 9, 15, 16, 22, 23, 24, 26, 38
11.730 $\pm$ 9	(5 <sup>-</sup> )			3, 6, 7, 8, 9, 15, 23
11.9 $\pm$ 300	(1 <sup>-</sup> )	950 $\pm$ 300	n	13, 16
12.583 $\pm$ 10	(2 <sup>-</sup> , 3 <sup>-</sup> )	95 $\pm$ 15	n	3, 7, 8, 13, 16, 23, 26, 38
12.863 $\pm$ 8		30 $\pm$ 10	n	3, 7, 8, 13, 16, 22
12.963 $\pm$ 9	(3 <sup>-</sup> )	30 $\pm$ 10	n	3, 7, 8, 13, 16, 26
(13.50 $\pm$ 100)		< 200		15
13.7	2 <sup>-</sup>	$\approx$ 1800	n	13
(14.05 $\pm$ 100)		< 200		15
14.667 $\pm$ 20	(4 <sup>+</sup> )	57 $\pm$ 15	n	3, 6, 7, 13
14.868 $\pm$ 20	(6 <sup>+</sup> , 5 <sup>-</sup> )			3, 6, 7, 8, 9, 15, 38
15.20 $\pm$ 23	4 <sup>-</sup>			3, 6, 7, 15, 22, 23
(15.37 $\pm$ 30)				3
15.44 $\pm$ 40	(3 <sup>-</sup> )		n	3, 13
(16.02 $\pm$ 50)	(4 <sup>+</sup> )		n	3, 13
16.43 $\pm$ 16				3, 6, 7, 8
(16.57 $\pm$ 40)				3
16.715 $\pm$ 30	(1 <sup>+</sup> )	$\approx$ 200	$\gamma, n$	3, 6, 12
17.30 $\pm$ 30	4 <sup>-</sup>		$\gamma$	3, 6, 7, 22, 23, 24
(17.5)	(1 <sup>+</sup> )	$\approx$ 200	$\gamma, n$	12
17.95 $\pm$ 40				3
18.10 $\pm$ 40				3
18.5		broad		15
20.4		wide		33
(21.4)				6

Table 14.3 from (1991AJ01): Energy Levels of  $^{14}\text{C}$  <sup>a</sup> (continued)

$E_x$ in $^{14}\text{C}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau$ or $\Gamma_{\text{c.m.}}$	Decay	Reactions
22.1 $\pm$ 100	$(2^-; T = 2)$ <sup>c</sup>	$\approx 50$	$\gamma$	<a href="#">22</a>
23.288 $\pm$ 15 <sup>d</sup>				
24.4 $\pm$ 100	$4^-; (T = 2)$	$< 300$	$\gamma$	<a href="#">22, 23</a>
24.5				

<sup>a</sup> See also [Tables 14.4](#) here and in (1986AJ01), as well as [Tables 14.8](#) and [14.9](#) and [reaction 22](#).

<sup>b</sup> See also [reaction 16](#).

<sup>c</sup> If this is the isobaric analog state of  $^{14}\text{B}_{\text{g.s.}}$ , then the  $^{14}\text{B}-^{14}\text{C}$  Coulomb energy difference is calculated to be  $2.25 \pm 0.10$  MeV ([1989PL05](#)).

<sup>d</sup> See also [reactions 6](#) and [15](#).