Table 2 from (1990AJ01): Some electromagnetic transitions in $A = 11 - 12$ [a]

Nucleus	$E_{\rm xi} \to E_{\rm xf}$ (MeV)	$J^\pi_{\rm i} \to J^\pi_{\rm f}$ [b]	Γ_γ (eV)	Mult.	S (W.u.)
^{11}Be	$0.32 \to 0$	$\frac{1}{2}^- \to \frac{1}{2}^+$	$(3.97 \pm 0.36) \times 10^{-3}$	E1	0.360 ± 0.033
^{11}B [c]	$2.125 \to 0$	$\frac{1}{2}^- \to \frac{3}{2}^-$	0.120 ± 0.009	M1	0.60 ± 0.04
	$4.445 \to 0$	$\frac{5}{2}^- \to \frac{3}{2}^-$	0.54 ± 0.02	M1	0.29 ± 0.01
			$(2.0 \pm 0.5) \times 10^{-2}$	E2	9.6 ± 2.4
	$5.020 \to 0$	$\frac{3}{2}^- \to \frac{3}{2}^-$	1.68 ± 0.06	M1	0.63 ± 0.02
	$\to 2.125$	$\to \frac{1}{2}^-$	0.28 ± 0.01	M1	0.55 ± 0.02
			$(7 \pm 4) \times 10^{-4}$	E2	3 ± 2
	$6.743 \to 0$	$\frac{7}{2}^- \to \frac{3}{2}^-$	$(2.1 \pm 0.5) \times 10^{-2}$	E2	1.3 ± 0.3
	$\to 4.445$	$\to \frac{5}{2}^-$	$(9.0 \pm 2.3) \times 10^{-3}$	M1	$(3.5 \pm 0.9) \times 10^{-3}$
	$6.792 \to 0$	$\frac{1}{2}^+ \to \frac{3}{2}^-$	0.26 ± 0.03	E1	$(2.5 \pm 0.3) \times 10^{-3}$
	$\to 2.125$	$\to \frac{1}{2}^-$	0.110 ± 0.014	E1	$(3.21 \pm 0.41) \times 10^{-3}$
	$\to 5.020$	$\to \frac{3}{2}^-$	$(1.54 \pm 0.21) \times 10^{-2}$	E1	$(8.2 \pm 1.1) \times 10^{-3}$
	$7.286 \to 0$	$\frac{5}{2}^+ \to \frac{3}{2}^-$	1.00 ± 0.08	E1	$(7.7 \pm 0.6) \times 10^{-3}$
	$\to 4.445$	$\to \frac{5}{2}^-$	$(6.3 \pm 1.2) \times 10^{-2}$	E1	$(8.2 \pm 1.6) \times 10^{-3}$
	$\to 5.020$	$\to \frac{3}{2}^-$	$(8.0 \pm 1.2) \times 10^{-2}$	E1	$(2.1 \pm 0.3) \times 10^{-2}$
	$7.978 \to 0$	$\frac{3}{2}^+ \to \frac{3}{2}^-$	0.53 ± 0.07	E1	$(3.1 \pm 0.4) \times 10^{-3}$
	$\to 2.125$	$\to \frac{1}{2}^-$	0.61 ± 0.08	E1	$(9.1 \pm 1.2) \times 10^{-3}$
	$\to 7.286$	$\to \frac{5}{2}^+$	$(9.8 \pm 1.4) \times 10^{-3}$	M1	1.4 ± 0.2
	$8.560 \to 0$	$\frac{3}{2}^{-\,\rm f} \to \frac{3}{2}^-$	0.53 ± 0.05	M1	$(4.0 \pm 0.4) \times 10^{-2}$
	$\to 2.125$	$\to \frac{1}{2}^-$	0.28 ± 0.03	M1	$(5.1 \pm 0.5) \times 10^{-2}$
	$\to 4.445$	$\to \frac{5}{2}^-$	$(4.7 \pm 1.1) \times 10^{-2}$	M1	$(3.2 \pm 0.7) \times 10^{-2}$
	$\to 5.020$	$\to \frac{3}{2}^-$	$(8.5 \pm 1.2) \times 10^{-2}$	M1	$(9.1 \pm 1.3) \times 10^{-2}$
	$8.920 \to 0$	$\frac{5}{2}^- \to \frac{3}{2}^-$	4.10 ± 0.20	M1	0.28 ± 0.01
			$(5.0 \pm 3.6) \times 10^{-2}$	E2	0.7 ± 0.5
	$\to 4.445$	$\to \frac{5}{2}^-$	0.22 ± 0.02	M1	0.12 ± 0.01
	$9.185 \to 0$	$\frac{7}{2}^+ \to \frac{3}{2}^-$	$(2.7 \pm 1.2) \times 10^{-3}$	M2	0.56 ± 0.25
	$\to 4.445$	$\to \frac{5}{2}^-$	0.25 ± 0.09	E1	$(7.0 \pm 2.5) \times 10^{-3}$
	$\to 6.743$	$\to \frac{7}{2}^-$	$(3.8 \pm 1.3) \times 10^{-2}$	E1	$(7.8 \pm 2.7) \times 10^{-3}$
^{11}C	$2.000 \to 0$	$\frac{1}{2}^- \to \frac{3}{2}^-$	$(6.40 \pm 0.45) \times 10^{-2}$	M1	0.38 ± 0.03
	$8.105 \to 0$	$\frac{3}{2}^- \to \frac{3}{2}^-$	0.26 ± 0.06	M1	$(2.3 \pm 0.5) \times 10^{-2}$
		$\to \frac{1}{2}^-$	$(9.1 \pm 2.3) \times 10^{-2}$	M1	$(1.9 \pm 0.5) \times 10^{-2}$
	$8.420 \to 0$	$\frac{5}{2}^- \to \frac{3}{2}^-$	3.1 ± 1.3	M1	0.25 ± 0.10
^{12}B [d]	$0.953 \to 0$	$2^+ \to 1^+$	$(2.53 \pm 0.40) \times 10^{-3}$	M1	0.14 ± 0.02
^{12}C [e]	$4.439 \to 0$	$2^+ \to 0^+$	$(1.08 \pm 0.06) \times 10^{-2}$	E2	4.65 ± 0.26
	$7.654 \to 4.439$	$0^+ \to 2^+$	$(3.7 \pm 0.5) \times 10^{-3}$	E2	8.0 ± 1.1
	$9.641 \to 0$	$3^- \to 0^+$	$(3.1 \pm 0.4) \times 10^{-4}$	E3	12 ± 2
	$12.71 \to 0$	$1^+ \to 0^+$	0.35 ± 0.05	M1	$(8.1 \pm 1.2) \times 10^{-3}$

Table 2 from (1990AJ01): Some electromagnetic transitions in $A = 11 - 12$ [a] (continued)

Nucleus	$E_{\rm xi} \rightarrow E_{\rm xf}$ (MeV)	$J^\pi_{\rm i} \rightarrow J^\pi_{\rm f}$ [b]	Γ_γ (eV)	Mult.	S (W.u.)
	$\rightarrow 4.439$	$\rightarrow 2^+$	$(5.3 \pm 1.0) \times 10^{-2}$	M1	$(4.5 \pm 0.8) \times 10^{-3}$
	$15.11 \rightarrow 0$	$1^+;1 \rightarrow 0^+;0$	38.5 ± 0.8	M1	0.531 ± 0.011
	$\rightarrow 4.439$	$\rightarrow 2^+;0$	0.96 ± 0.13	M1	$(3.8 \pm 0.5) \times 10^{-2}$
	$\rightarrow 7.654$	$\rightarrow 0^+;0$	1.09 ± 0.14	M1	0.13 ± 0.02
	$\rightarrow 12.71$	$\rightarrow 1^+;0$	0.59 ± 0.17	M1	2.0 ± 0.6
	$16.11 \rightarrow 0$	$2^+;1 \rightarrow 0^+;0$	0.59 ± 0.11	E2	0.40 ± 0.08
	$\rightarrow 4.439$	$\rightarrow 2^+;0$	12.8 ± 1.5	M1	0.38 ± 0.05
	$\rightarrow 9.641$	$\rightarrow 3^-;0$	0.31 ± 0.06	E1	$(3.2 \pm 0.6) \times 10^{-3}$
	$\rightarrow 12.71$	$\rightarrow 1^+;0$	0.19 ± 0.04	M1	0.23 ± 0.05
	$16.57 \rightarrow 0$	$2^-;1 \rightarrow 0^+;0$	$(4.80 \pm 0.08) \times 10^{-2}$	M2	0.489 ± 0.008

[a] The last column gives the γ-ray strengths expressed in Weisskopf units (see D.H. Wilkinson, in *Nuclear Spectroscopy Part B*, ed. F. Ajzenberg-Selove (Academic Press, NY, 1960)). The Weisskopf estimates ($\Gamma_{\rm w}$ in eV, E_γ in MeV) are:

$$\Gamma_{\rm w}({\rm E1}) = 6.8 \times 10^{-2}\ A^{2/3}\ E_\gamma^3, \qquad \Gamma_{\rm w}({\rm E2}) = 4.9 \times 10^{-8}\ A^{4/3}\ E_\gamma^5,$$
$$\Gamma_{\rm w}({\rm E3}) = 2.3 \times 10^{-14}\ A^2\ E_\gamma^7, \qquad \Gamma_{\rm w}({\rm M1}) = 2.1 \times 10^{-2}\ E_\gamma^3,$$
$$\Gamma_{\rm w}({\rm M2}) = 1.5 \times 10^{-8}\ A^{2/3}\ E_\gamma^5.$$

The values for these γ-ray strengths are occasionally different from those listed in other tables of this paper because different values of r_0 were used. In this table $r_0 = 1.2$ fm is used consistently. The multipolarities in the next to the last column were used to calculate the $\Gamma_{\rm w}$. See also (1979EN05).

[b] T shown in usual convention $[J^\pi; T]$ only if transitions from the initial state involve a change in T.

[c] See Table 11.14 and (1982MI08).

[d] See Table 2 in (1980AJ01) for additional information.

[e] See Table 12.7.

[f] Assumed to be $\frac{3}{2}^-$ since it is probably the analog to ^{11}C*(8.10).