

Table 10.19 from (2004TI06): Electromagnetic transition strengths for levels below the proton threshold in ^{10}B

$E_i \rightarrow E_f$ (MeV)	$J_i^\pi; T_i \rightarrow J_f^\pi; T_f$	Branch (%)	Mixing ratio (δ) (E2/M1)	Γ_γ (eV)	Mult.	Γ_γ/Γ_W
0.718 \rightarrow 0 ^a	1 ⁺ ; 0 \rightarrow 3 ⁺ ; 0	100		$(6.453 \pm 0.032) \times 10^{-7}$	E2	3.240 ± 0.016
1.740 \rightarrow 0.718 ^a	0 ⁺ ; 1 \rightarrow 1 ⁺ ; 0	100		0.094 ± 0.040	M1	4.2 ± 1.8
2.154 \rightarrow 0 ^{a,b,c}	1 ⁺ ; 0 \rightarrow 3 ⁺ ; 0	21.1 ± 1.6		$(6.52 \pm 0.79) \times 10^{-5}$	E2	1.33 ± 0.16
\rightarrow 0.718	\rightarrow 1 ⁺ ; 0	27.3 ± 0.9	$-(3.75 \pm 0.55)^{\pm 1}$	$(5.6 \pm 1.6) \times 10^{-6}$	M1	$(9.1 \pm 2.7) \times 10^{-5}$
				$(7.9 \pm 0.8) \times 10^{-5}$	E2	12.2 ± 1.3
\rightarrow 1.740	\rightarrow 0 ⁺ ; 1	51.6 ± 1.6		$(1.59 \pm 0.16) \times 10^{-4}$	M1	0.107 ± 0.011
3.587 \rightarrow 0 ^{a,b,c,d}	2 ⁺ ; 0 \rightarrow 3 ⁺ ; 0	19 ± 3	1.5 ± 0.6	$(2.5 \pm 1.5) \times 10^{-4}$	M1	$(2.6 \pm 1.5) \times 10^{-4}$
				$(5.7 \pm 1.7) \times 10^{-4}$	E2	0.90 ± 0.28
\rightarrow 0.718	\rightarrow 1 ⁺ ; 0	67 ± 3	$(0.11 \pm 0.10)^{-1}$	$< 2.5 \times 10^{-4}$	M1	$< 5 \times 10^{-4}$
				$(2.85 \pm 0.27) \times 10^{-3}$	E2	13.9 ± 1.4
\rightarrow 2.154	\rightarrow 1 ⁺ ; 0	14 ± 2	$-(0.38 \pm 0.09)$	$(5.3 \pm 0.9) \times 10^{-4}$	M1	$(8.5 \pm 1.5) \times 10^{-3}$
				$(7.6 \pm 3.4) \times 10^{-5}$	E2	11.9 ± 5.4
4.774 \rightarrow 0 ^{e,f,j}	3 ⁺ ; 0 \rightarrow 3 ⁺ ; 0	0.5 ± 0.1		$(9.0 \pm 2.0) \times 10^{-5}$	{ M1	$< 4.8 \times 10^{-5}$
					{ E2	$< 4.2 \times 10^{-2}$
\rightarrow 0.718	\rightarrow 1 ⁺ ; 0	99.5 ± 0.1		$(1.79 \pm 0.15) \times 10^{-2}$	E2	15.4 ± 1.3
5.110 \rightarrow 0 ^{e,g,h}	2 ⁻ ; 0 \rightarrow 3 ⁺ ; 0	64 ± 7		$(2.1 \pm 0.4) \times 10^{-2}$	E1	$(5.0 \pm 1.0) \times 10^{-4}$
\rightarrow 0.718	\rightarrow 1 ⁺ ; 0	31 ± 7		$(1.0 \pm 0.3) \times 10^{-2}$	E1	$(3.7 \pm 1.1) \times 10^{-4}$
\rightarrow 1.740	\rightarrow 0 ⁺ ; 1	5 ± 5		$(1.8 \pm 1.8) \times 10^{-3}$	M2	< 120
5.164 \rightarrow 0 ^{e,i}	2 ⁺ ; 1 \rightarrow 3 ⁺ ; 0	4.4 ± 0.4	0.12 ± 0.05	$(6.6 \pm 1.8) \times 10^{-2}$	M1	$(2.3 \pm 0.6) \times 10^{-2}$
				$(9.4 \pm 8.2) \times 10^{-4}$	E2	< 0.7
\rightarrow 0.718	\rightarrow 1 ⁺ ; 0	22.6 ± 0.6	0.03 ± 0.03	0.34 ± 0.09	M1	0.18 ± 0.05
\rightarrow 1.740	\rightarrow 0 ⁺ ; 1	< 0.5		$< 7.5 \times 10^{-3}$	E2	< 15
\rightarrow 2.154	\rightarrow 1 ⁺ ; 0	65.3 ± 0.9	0.02 ± 0.03	0.98 ± 0.26	M1	1.71 ± 0.46
\rightarrow 3.587	\rightarrow 2 ⁺ ; 0	7.8 ± 0.3	0.00 ± 0.02	0.12 ± 0.03	M1	1.41 ± 0.38
5.180 \rightarrow 1.740 ^e	1 ⁺ ; 0 \rightarrow 0 ⁺ ; 1	≈ 100		0.06 ± 0.02	M1	$(7.0 \pm 3.5) \times 10^{-2}$
5.920 \rightarrow 0 ^{e,g}	2 ⁺ ; 0 \rightarrow 3 ⁺ ; 0	82 ± 5		0.112 ± 0.022	M1	$(2.6 \pm 0.5) \times 10^{-2}$
\rightarrow 0.718	\rightarrow 1 ⁺ ; 0	18 ± 5		0.025 ± 0.007	M1	$(8.6 \pm 2.4) \times 10^{-3}$

Table 10.19 from (2004TI06): Electromagnetic transition strengths for levels below the proton threshold in ^{10}B (continued)

$E_i \rightarrow E_f$ (MeV)	$J_i^\pi; T_i \rightarrow J_f^\pi; T_f$	Branch (%)	Mixing ratio (δ) (E2/M1)	Γ_γ (eV)	Mult.	Γ_γ/Γ_W
6.025 \rightarrow 0 ^{c,e}	4 ⁺ ; 0 \rightarrow 3 ⁺ ; 0	100	$-(3.16 \pm 0.12)$	$(1.04 \pm 0.16) \times 10^{-2}$ 0.104 ± 0.015	M1 E2	$(2.3 \pm 0.4) \times 10^{-3}$ 12.4 ± 1.8

^a Γ_γ from lifetime in [Table 10.21](#).

^b Branches are averages from ([1969YO01](#)).

^c Mixing ratios from ([1968WA15](#)). Note that the inverse of δ was determined for the 3.587 \rightarrow 0.718 transition and that there is an ambiguity for the 2.154 \rightarrow 0.718 transition. The solution with the larger E2 value is more consistent with the value from the perturbed Cohen and Kurath wave functions ([1968WA15](#)) and is used here to obtain the M1 and E2 strengths.

^d Branches from ([1969YO01](#)) and ([1969GA06](#)) are in agreement.

^e Γ_γ from [Table 10.22](#).

^f Branches from ([1966AL06](#)).

^g Branches from ([1966FO05](#)).

^h M2 < 120 W.u. for all branches.

ⁱ Branches and mixing ratios from ([1979KE08](#)). Limit on branch to 1.74 MeV level from ([1967PA01](#), [1968WA15](#), [1982RI04](#)).

Γ_γ is a sensitive function of Γ_α/Γ (see footnote ^e of [Table 10.22](#)).

^j Without a mixing ratio, only upper limits can be given on the M1 and E2 strengths for the ground-state transition.