Table 9.8 from (2004TI06): Branching ratios in $^9$Li($\beta^-$) decay from measurements of $\beta$-delayed particle decay [a]

| $E_x$ in $^9$B (MeV) | $J^\pi$ | Branching ratio (%) [b] | $B$(GT) [c] |
|---|---|---|---|
| 0 | $\frac{3}{2}^-$ | $49.2 \pm 0.9$ [d] | $0.0292 \pm 0.0009$ |
| 2.43 | $\frac{5}{2}^-$ | $29.7 \pm 3.0$ [e] | $0.046 \pm 0.005$ |
| 2.78 | $\frac{1}{2}^-$ | $15.8 \pm 3.0$ [e] | $0.011 \pm 0.005$ [g] |
| 7.94 | $(\frac{5}{2}^-)$ [b] | $1.5 \pm 0.5$ [f] | $0.048 \pm 0.018$ [g] |
| 11.28 | [h] | $1.1 \pm 0.2$ [e] | $1.4 \pm 0.5$ [g] |
| 11.81 | $\frac{5}{2}^-$ [i] | $2.7 \pm 0.2$ [e] | $8.9 \pm 1.9$ [g] |

[a] See also Table 9.7 of (1988AJ01).

[b] Based on Tables II and III of (1993CH06) taking into account the different value for $P_n$.

[c] $B$(GT) includes the factor $(g_A/g_V)^2$. The empirical quenching found by (1993CH06) gives $(g_A/g_V)^2_{\text{eff}} = 1.14$ and permits a comparison with p-shell calculations.

[d] Obtained using $P_n = 50.8 \pm 0.9$%, which is the average of $50.0 \pm 1.8$% (1991RE02) and $51.0 \pm 1.0$% (1992TE03).

[e] (1990NY01).

[f] (1981LA11). (1990NY01) give a branch of $< 2$%.

[g] For decay to an unbound level $B$(GT) is not well defined. (1990NY01) deduce $B$(GT) taking into account the variation of the statistical factor over the width of the final states and the considerable error in this procedure is reflected in the errors tabulated.

[h] A $\frac{7}{2}^-$ level is known at this energy. A strong $\beta$ transition implies $J^\pi = \frac{1}{2}^-, \frac{3}{2}^-$, or $\frac{5}{2}^-$, with $\frac{5}{2}^-$ unlikely on theoretical grounds given that the 11.8 MeV state has been assigned $\frac{5}{2}^-$.

[i] (2003PR11) find that the decay mainly populates the 11.8 MeV state, determine a spin of $\frac{5}{2}^-$, and extract a $B$(GT) value of $8.5 \pm 1.5$.