## Supporting Information: Evaluating the Performance of a Transformer-based Organic Reaction Prediction Model

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## Incorrect and High Confidence Forward Predictions

Reaction Number	Literature Reaction	Predicted Reaction
11	Br + O	* + \ Br \
12	→ CI + — OH — →	CI + —OH — — — — — — — — — — — — — — — — — —
15	+ °°	+ ^
16	+ HO'	+ HO' OH
18	Cl +	o + O O
19	+ O'	+ \( \)_0' \( \)
25	CI Mg OH	Failure
27	+ ~ u <sub>0</sub> ~ lo	Failure
40	- + \_Ca\_ + \u.	
43	} +	\( \rightarrow \frac{1}{3} + A^{3} + \text{a} + \text{a} + \text{a} + \text{a} + \text{a} \)
50	~ + ~ + ~ + ~ + ~ ~ + ~ ~ ~ ~ ~ ~ ~ ~ ~	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
71	Br—Br +	B-B + B + B + B + F - B

Figure 1: Reactions for All Incorrect and High Confidence Forward Predictions

## RXNMapper Map Confidence Distributions

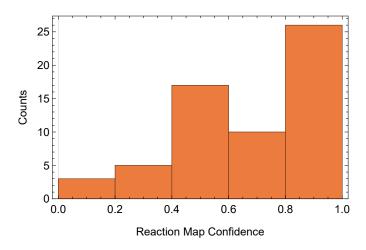


Figure 2: RXNMapper Map Confidences for Top-1 Correct Predictions

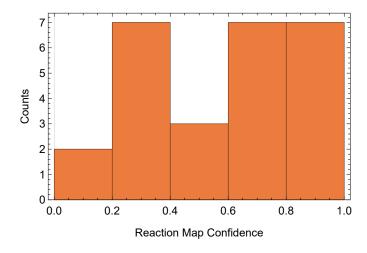


Figure 3: RXNMapper Map Confidences for Top-1 Incorrect Predictions