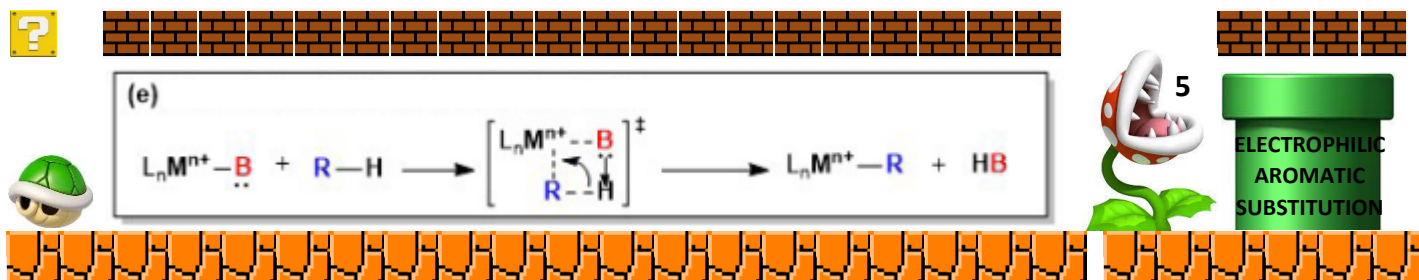
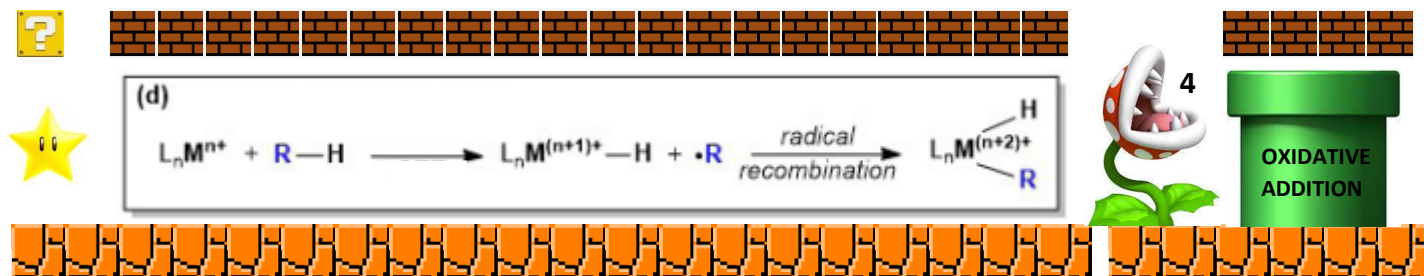
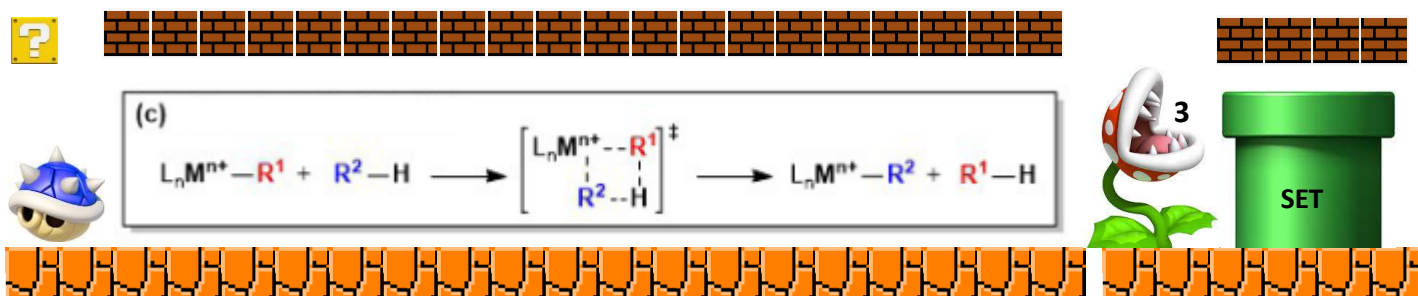
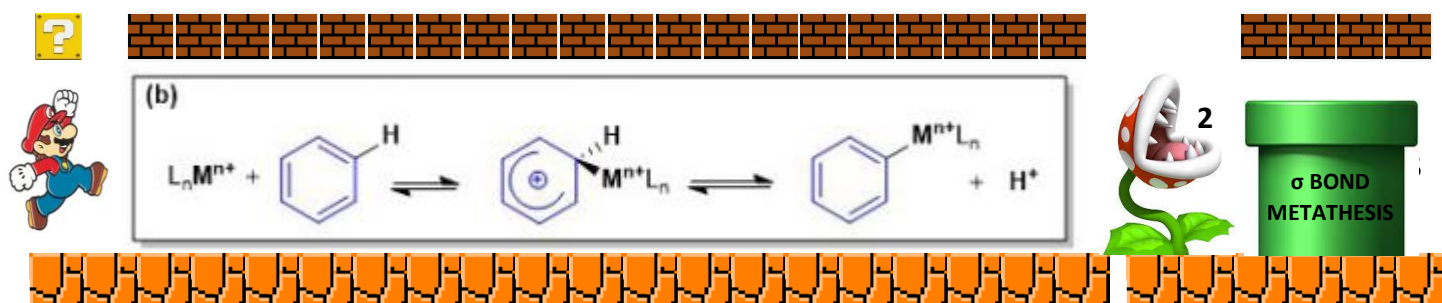
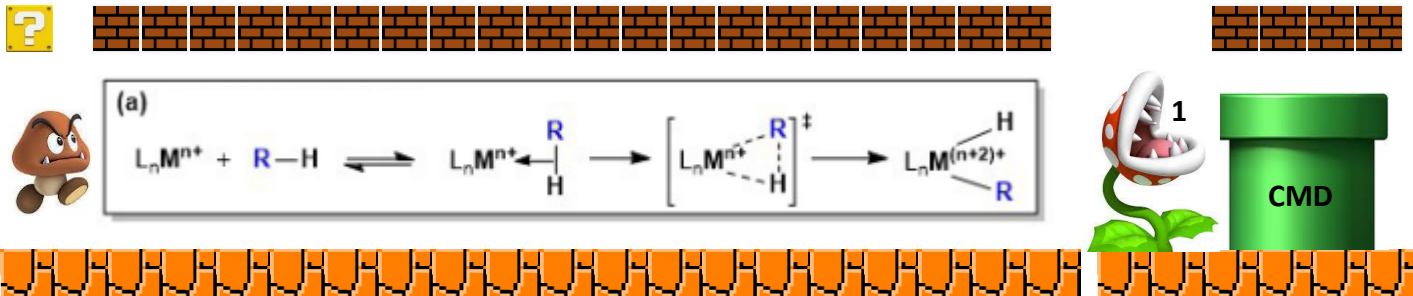
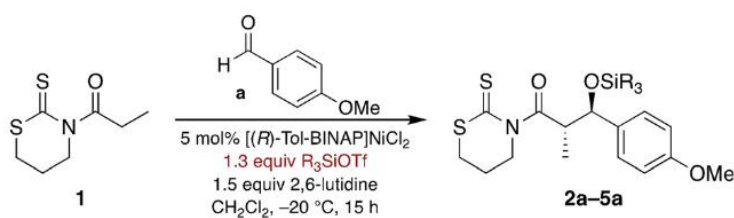


PROBLEMS 1-12-2022: C-H FUNCTIONALIZATION

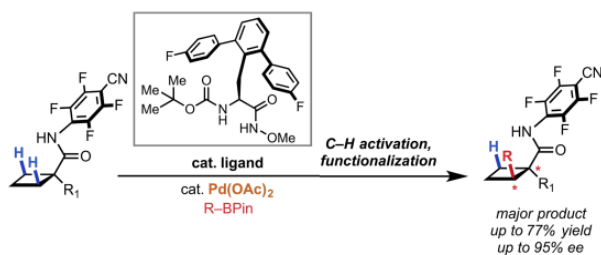
1. Pair the following organometallic intermediates (a-e) with the corresponding type of C-H activation step (1-5).



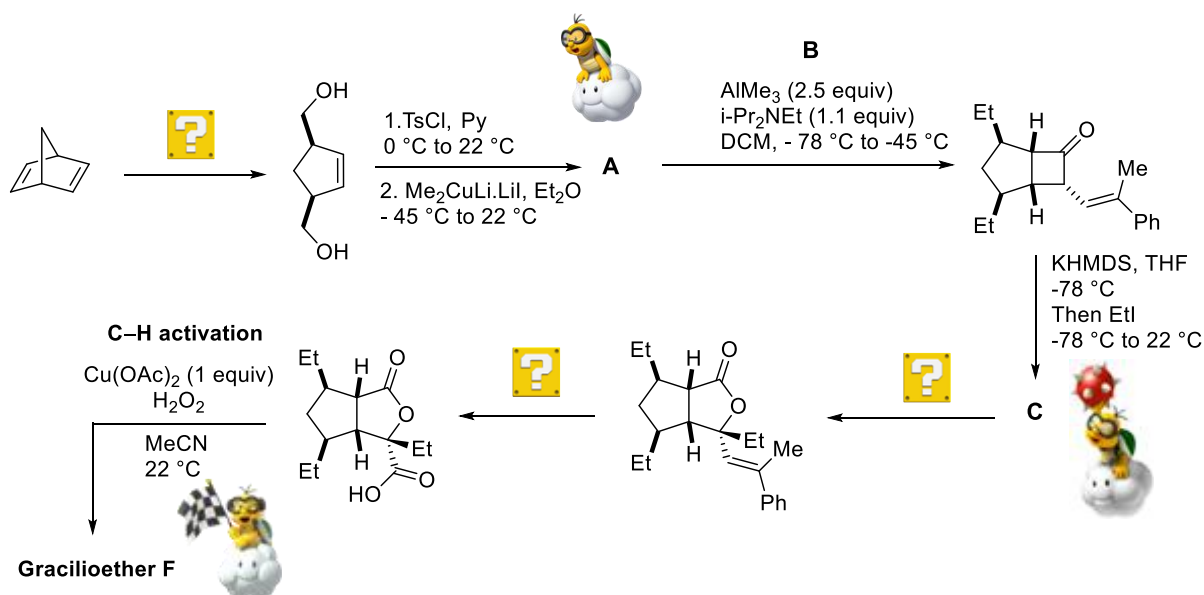
2. For the following reactions, propose the key intermediate that explain the regioselectivity observed.



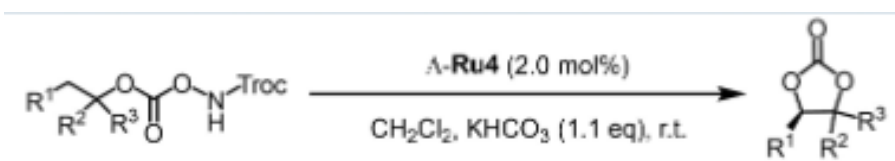
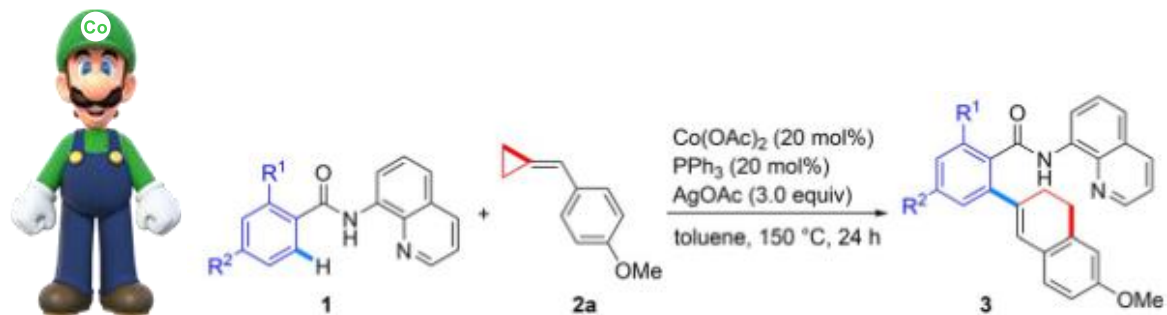
Entry	R ₃ SiOTf ^[a]	<i>anti</i> Adduct	dr ^[a]	<i>ee anti</i> [%] ^[b]	Yield <i>anti</i> [%] ^[c]
4	TIPSOTf	5a	85:15	99	80



3. Propose reactants (?) and compounds (A-D) for the following total synthesis and describe the reaction mechanisms.



4. Propose reaction mechanism for the following transformations.



5. Everybody loves retrosynthesis! Propose at least 1 retrosynthetic route for the following molecules. Use C-H activation protocols to form the bonds marked in red.

