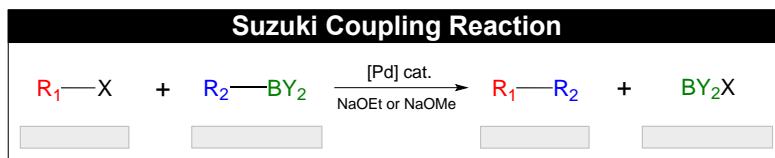
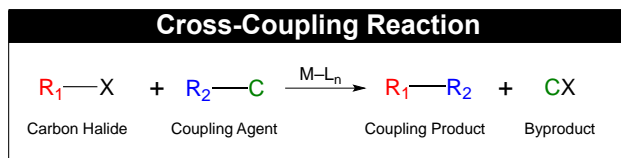


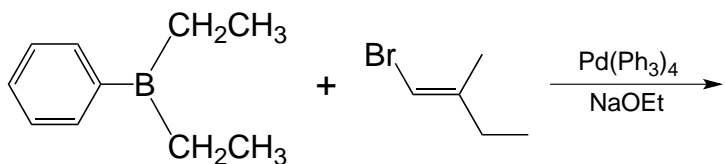
CONCEPT: SUZUKI REACTION

- The Suzuki coupling reaction involves the coupling between a carbon halide and an organoboron compound (RBY_2).
 - The reaction creates conjugated compounds composed of alkenes, _____ or _____ compounds.



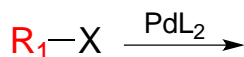
- The R_1 group of the carbon halide is represented by a(n) *vinyl* or *aryl* group.
 - The R_2 group of the organoborane is represented by a(n) *vinyl*, *aryl* + _____ group.
 - The C group = BY_2 with the Y group represented by a(n) _____ (boronic acid), _____ (boronic ester) or alkyl group.
 - The X group of the carbon halide is represented by a Cl, Br, I or OTf group.
- When creating conjugated products, the reaction is observed to be _____ with retention of configurations.

EXAMPLE: Determine the product from the following Suzuki Coupling Reaction.

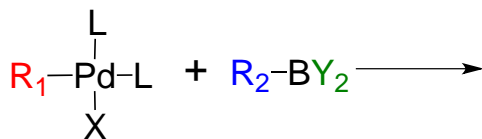


Coupling Mechanism

1) **Oxidative Addition:** Involves the addition of the carbon halide to the transition metal complex.



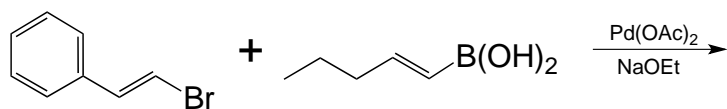
2) **Transmetallation:** The R_2 group transfers from the organoborane to the Pd metal complex.



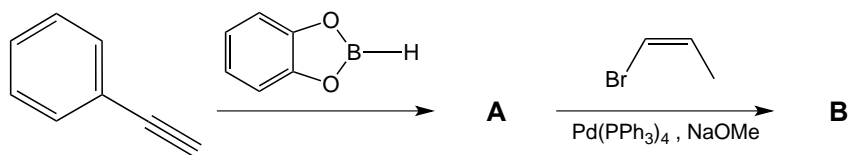
3) **Reductive Elimination:** This step forms the coupling product.

CONCEPT: SUZUKI REACTION

PRACTICE: Determine the product from the following Suzuki Reaction.



PRACTICE: Predict the structures of organoborane compound **A** and coupling product **B** in the following reaction sequence.



PRACTICE: Beginning from 1-pentyne, synthesize the following compound via a Suzuki Coupling Reaction.

