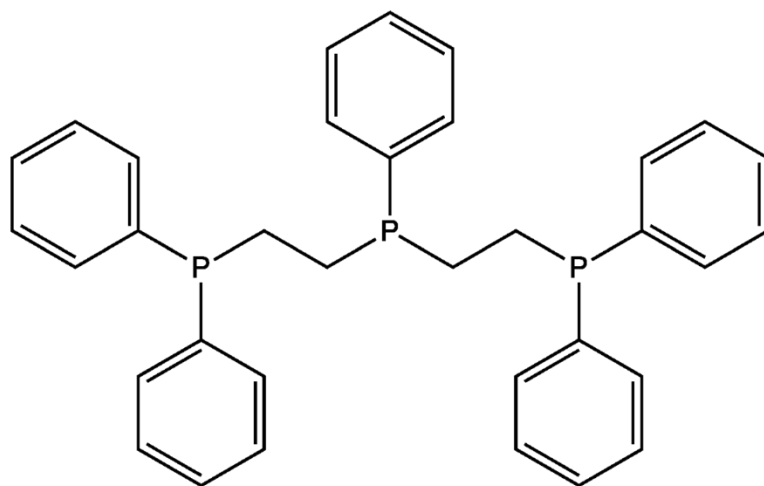


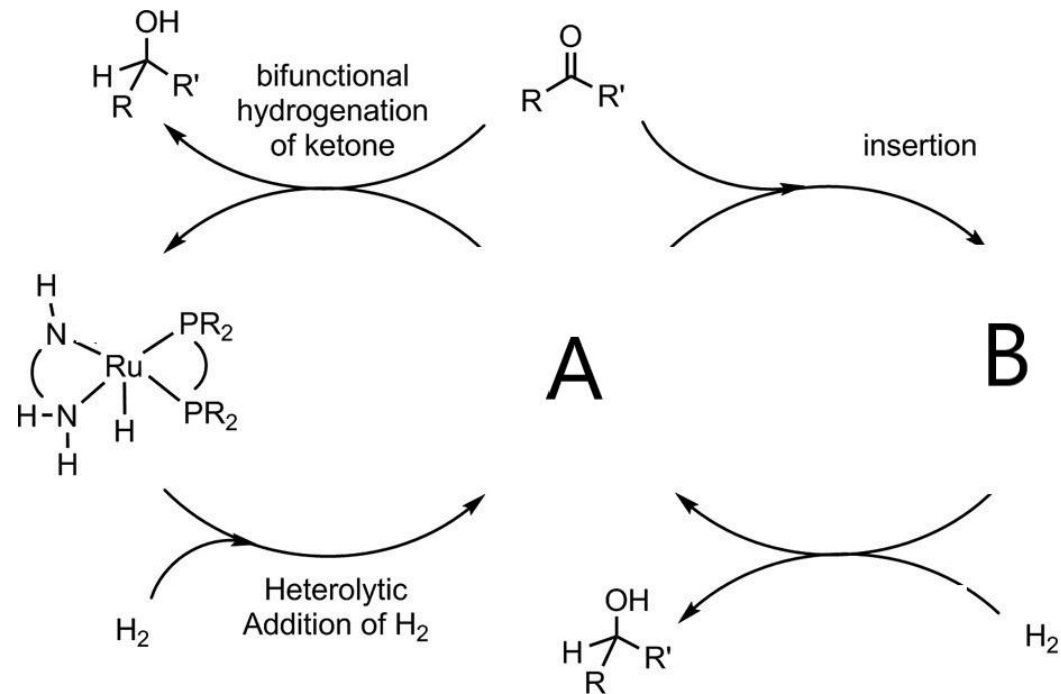
Would you expect Rh(triphos)Cl to be a hydrogenation catalyst for alkenes?  
Why? If not, how can you turn it into one?

Triphos

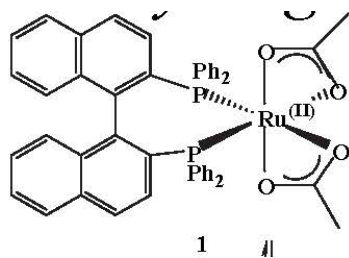


For the following Ru-catalyzed hydrogenation. Two possible mechanisms are known: a bifunctional mechanism and a step-wise mechanism. Please complete the following questions.

- (1) What is the oxidation state of the Ru catalyst in the left.
- (2) Draw the structure of intermediates A and B
- (3) What is the oxidation state of Ru in A and B?



For the following hydrogenation reaction, what do you expect as the main product? Why?



Reactions in MeOD

