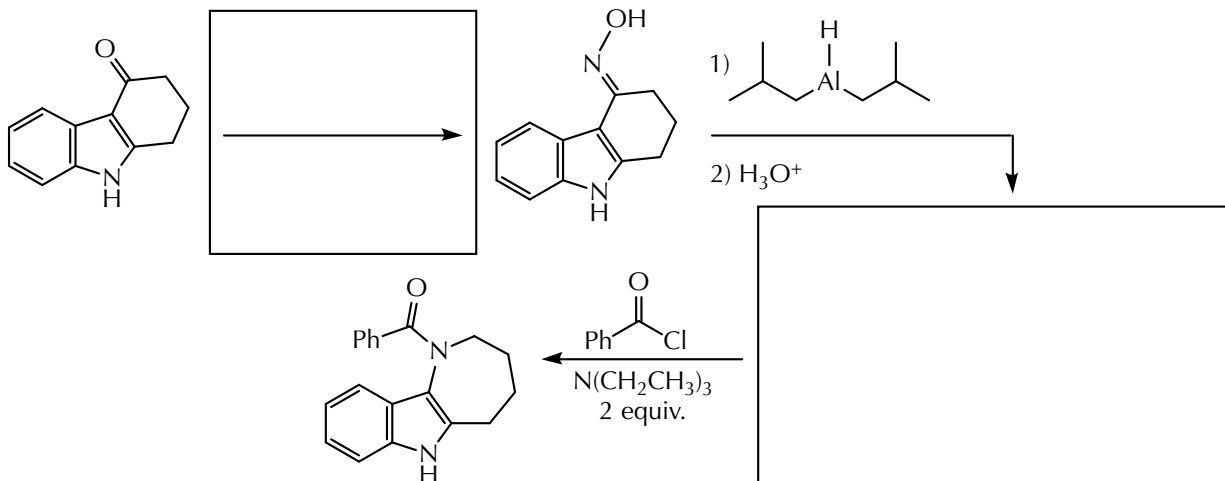
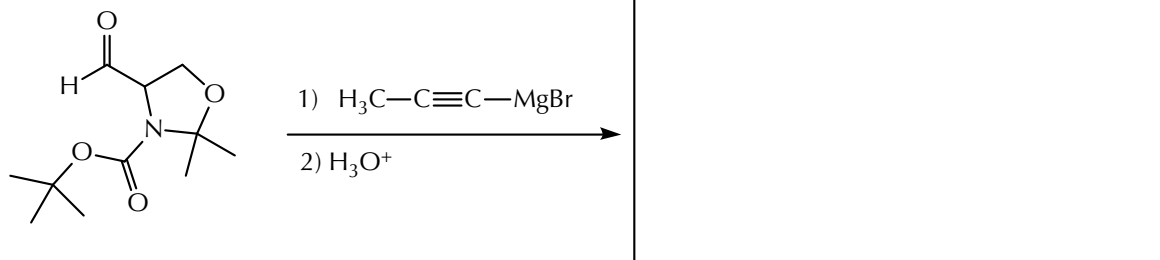
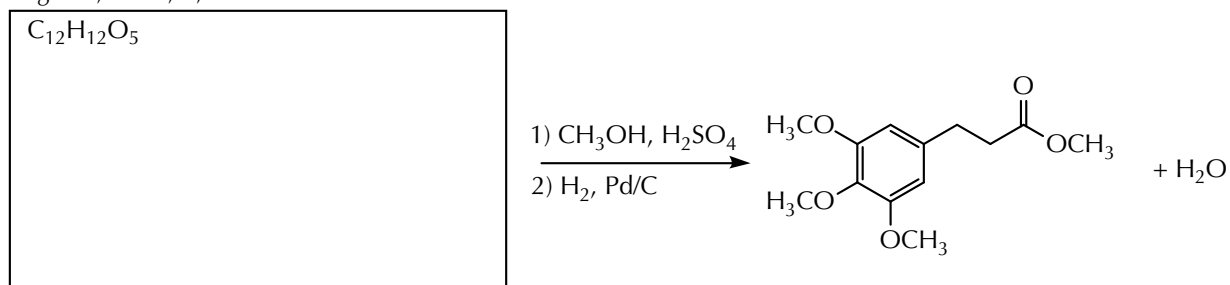


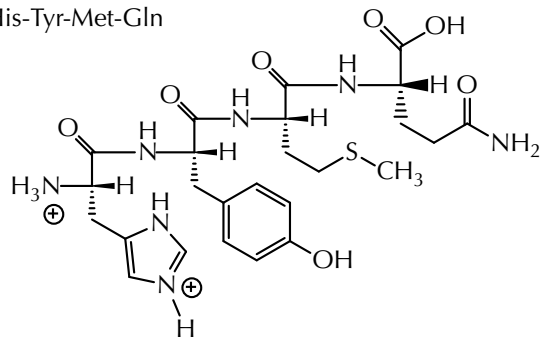
EQ 08.51

A. Provide the missing product(s), starting material(s), or reaction conditions for the following transformations. ~~If a reaction would give more than one stereoisomer, draw only the major one that is expected to form.~~ Don't forget that working backwards is sometimes the best strategy. You do not need to write "+ enantiomer" or "+ diastereomer."

(a) *Org Lett*, **2012**, *14*, 2320.(b) *Org Lett*, **2012**, *14*, 4954.(c) *Org Lett*, **2005**, *7*, 1089.

B. The structure of a tetrapeptide composed of histidine, tyrosine, methionine, and glutamine (His-Tyr-Met-Gln) is shown below. Draw the structure of the major species present in a pH = 7 solution.

His-Tyr-Met-Gln



structure at pH = 7.0

