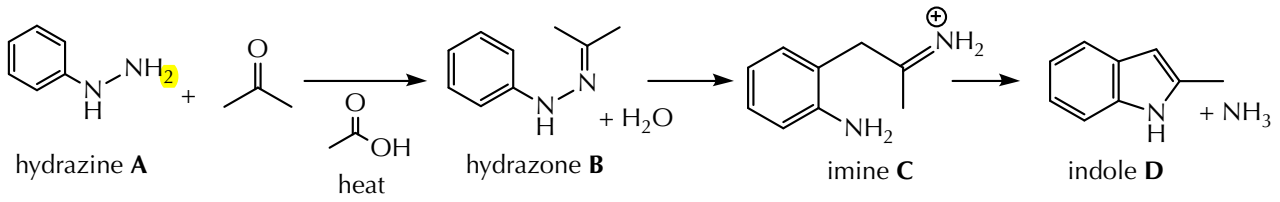
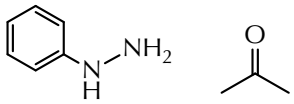
EQ 08.03

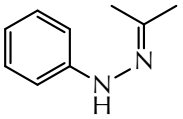
The Fischer indole synthesis is a versatile method for the preparation of substituted indoles. The reaction occurs under mildly acidic conditions and the first step is formation of hydrazone **B** through a mechanism analogous to imine formation. After a rearrangement to form imine **C**, an acid-catalyzed ring closure produces an indole (indole **D**). The driving force for the conversion of **C** to **D** is the formation of the aromatic indole.



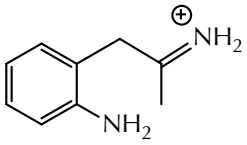
hydrazine **A** hydrazone **B** imine **C** indole **D**



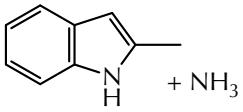
hydrazine **A**



hydrazone **B**



imine **C**



indole **D**