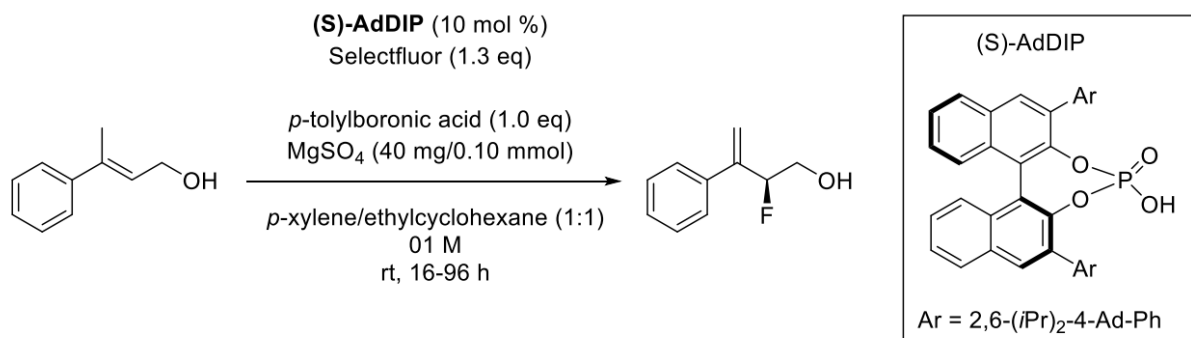
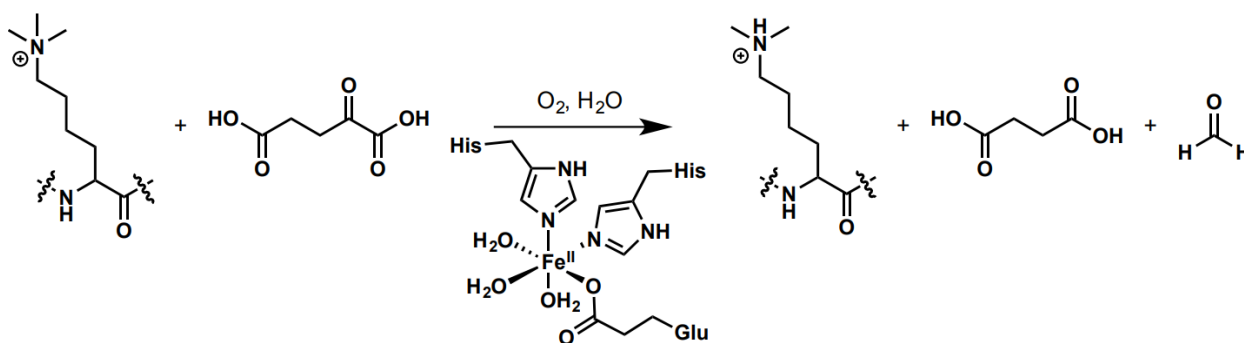


# Problem Set 18-04-2024

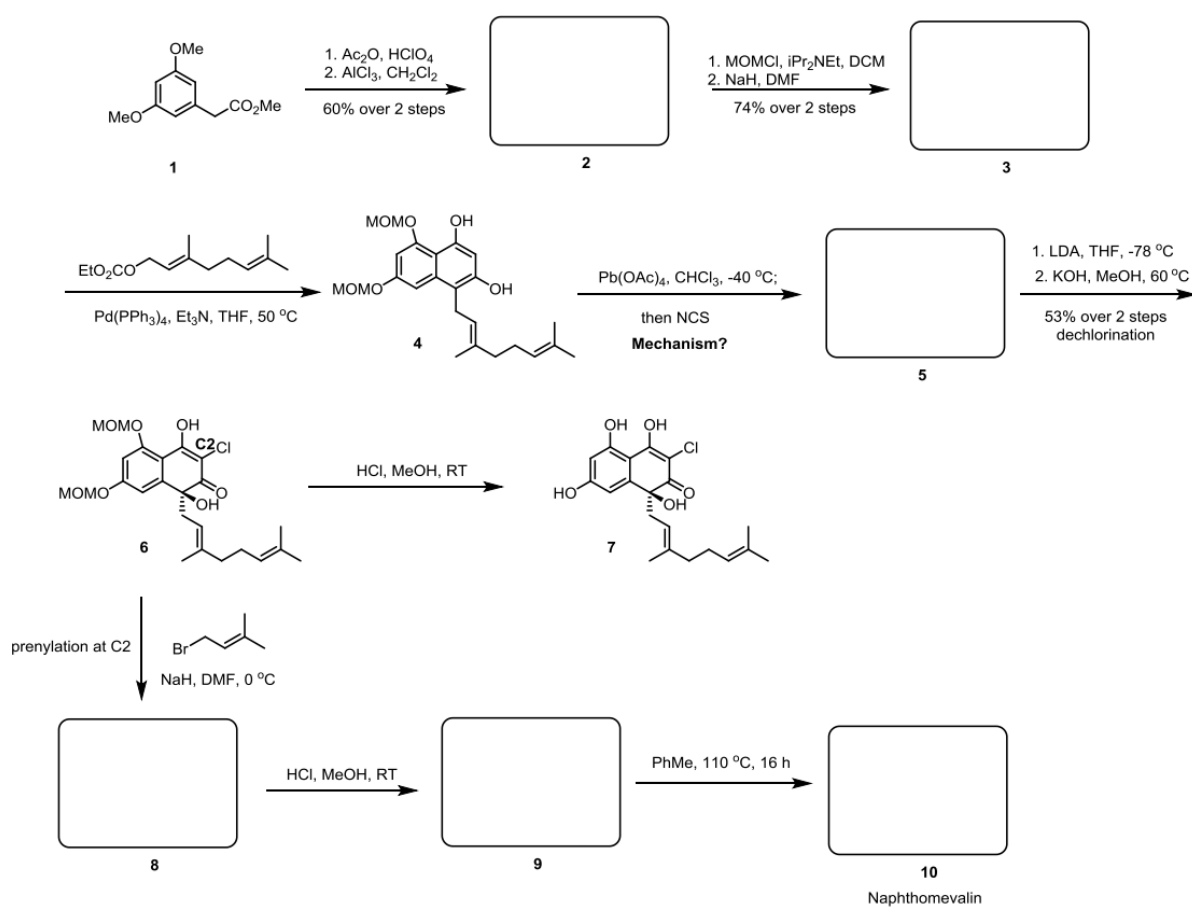
1. Propose the mechanism for the following transformation.



1. JHDMS (Jumonji Histone Demethylases) belong to the Fe(II)-2-oxoglutarate dioxygenase superfamily, which catalyze a diverse set of reactions. One particular reaction is the demethylation of lysine residues. Provide a mechanism for the demethylation reaction below.



3. In 2017, Moore group have finished the biosynthesis of Naphtoquinone-based Meroterpenoid. They also realized the total synthesis of Naphthomevallin (10). Propose intermediates and mechanisms of this total synthesis.



4. Provide the intermediates for the synthesis of (+)-cardamom peroxide.

