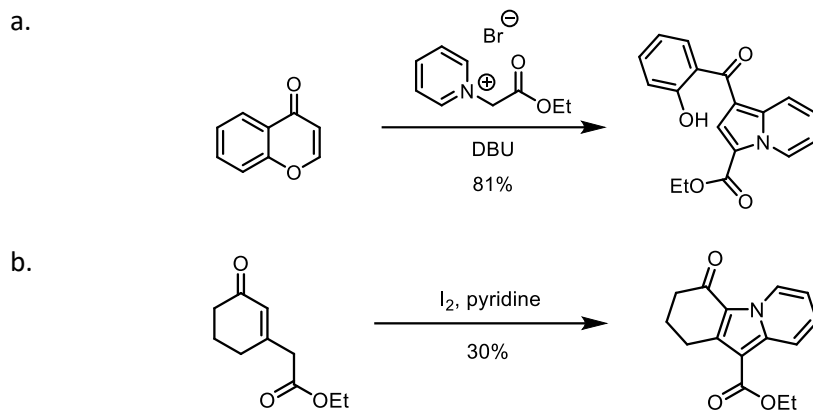
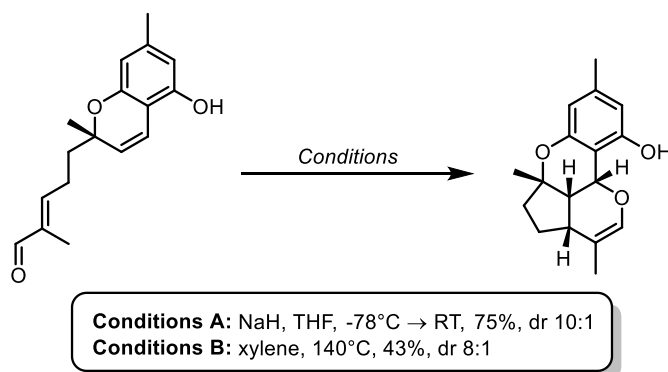


Reactions from 2019

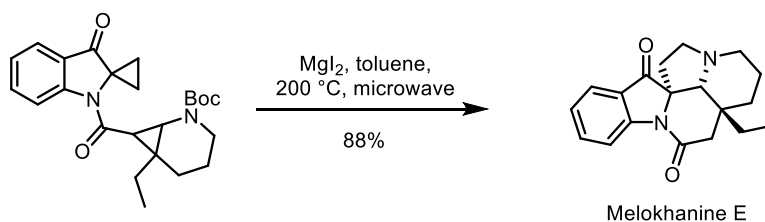
1. Two different methods for the formation of indolizines are shown below. The first (a) has been recently published, the second (b) is an unwanted side-product from attempted iodination of the shown enone. Provide a mechanism for these transformations:



2. Below is a key step in the synthesis of Bussei hydroquinone E. This transformation could be achieved using two different reaction conditions. Two different mechanisms are proposed, what are they?



3. Provide a mechanism for the rearrangement of the below cyclopropane to Melokhanine E:



4. Provide a plausible synthesis of the recently isolated natural product Sparticolin F:

