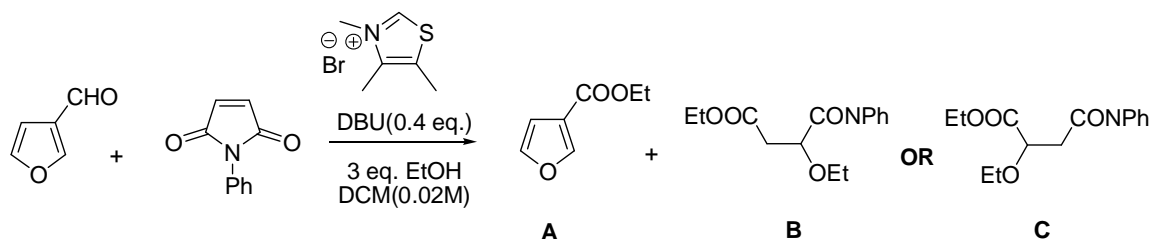


Group Meeting Problems

July 21st, 2009

1. On the way of Li's odyssey to the *N*-heterocyclic carbene research, one day he isolated two interesting products. The reaction and products are showed below:



- (1) Please propose a mechanism to arrive at product **A** and **B OR C**.
(2) Either product **B OR C** was obtained; please explain which product is more likely to be produced in this reaction.

2. Please propose a mechanism in the form of catalytic cycle for the following transformation:

