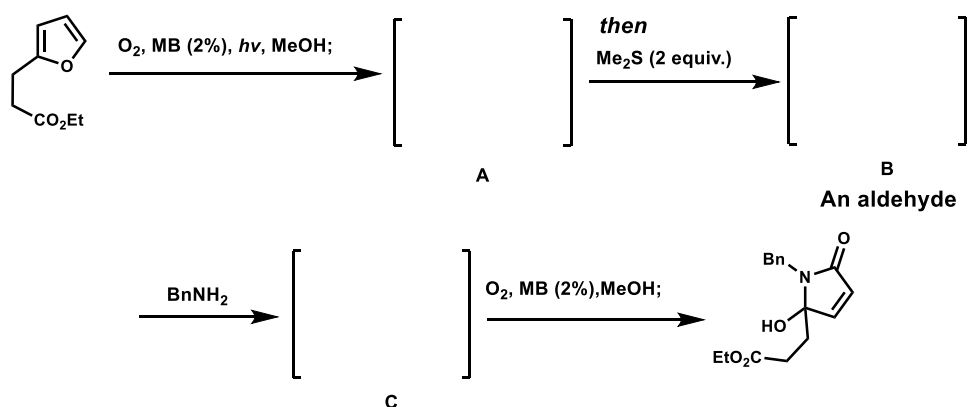


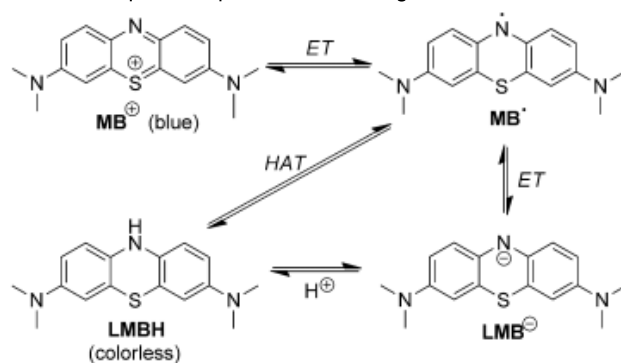
Show the intermediates **A-C** and the mechanisms through which they form. Note that $\text{BnNH}_2/\text{Me}_2\text{S}$ are added to the solution after **A** has already formed.

The final step is optional.



Hints for the final step:

-The final step does not use MB as a photosensitizer but instead exploits its potential to undergo redox reactions



- MB is known to oxidize β,γ unsaturated enamines

A proposed biosynthetic pathway to the *Lycopodium* alkaloid serratezomine **2** from serratinine (**1**) was tested using the following *one pot* procedure.

Draw the mechanism for the following transformation and explain any diastereoselectivity if necessary.

