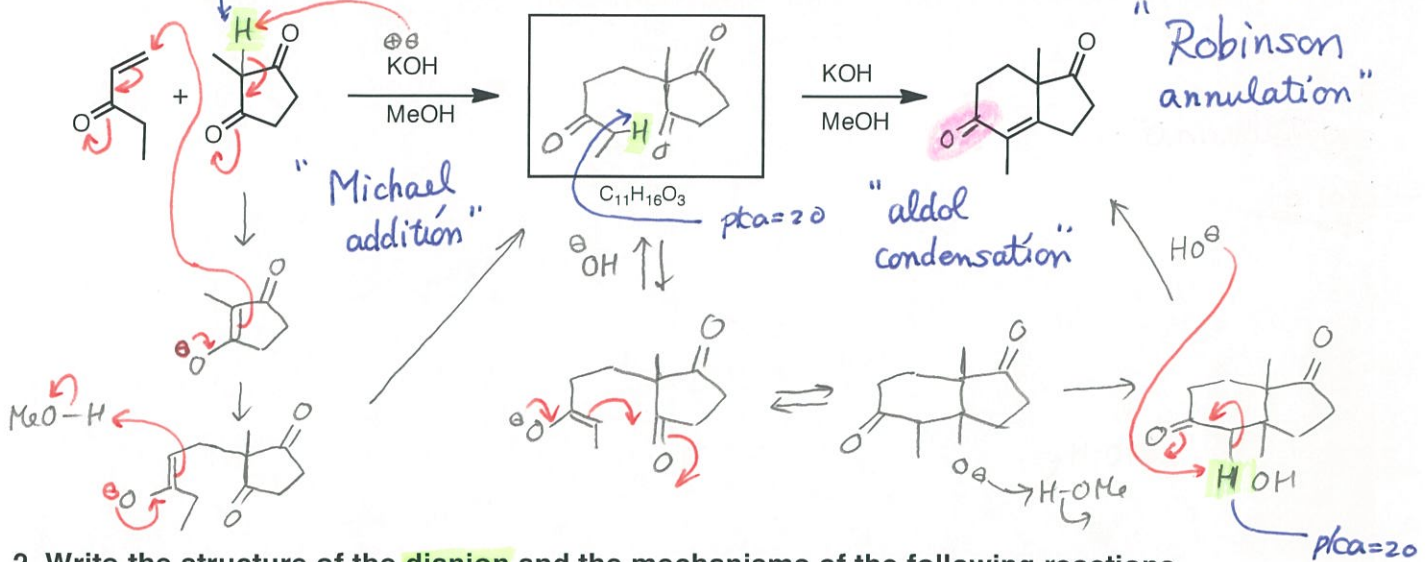


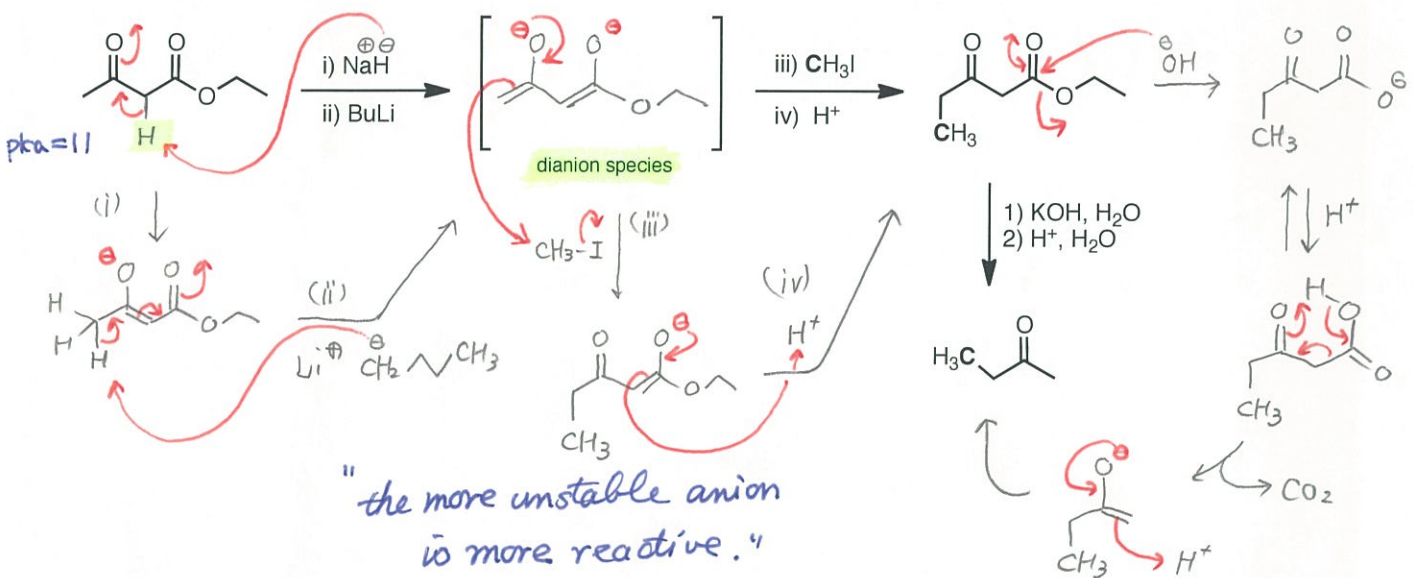
## G-30 Bioorganic Chemistry 2018 Problems -2

### Examples of solutions

1. Write the structure of the intermediate and the mechanisms of the following reactions. (p1095-)



2. Write the structure of the dianion and the mechanisms of the following reactions.



3. Suggest the synthetic routes for the following compounds by using the malonic ester synthesis or the acetoacetic acid synthesis by retrosynthetic analysis. (p1093-)

