Section Problem Set Carbonyl Chemistry III, Reactions at the Alpha Position

Problem 1 Acidity of organic compounds.

a) Identify the most acidic proton in each of the following compounds.

b) Provide the necessary reagents to generate the enolates shown.

Problem 2 Propose a mechanism for this run-of-the-mill mixed Aldol condensation.

Problem 3 The Dieckmann reaction has a really cool sounding name. Provide a mechanism for it.

FYI:

2 ROH + 2 Na
$$\longrightarrow$$
 2 RONa + H_2