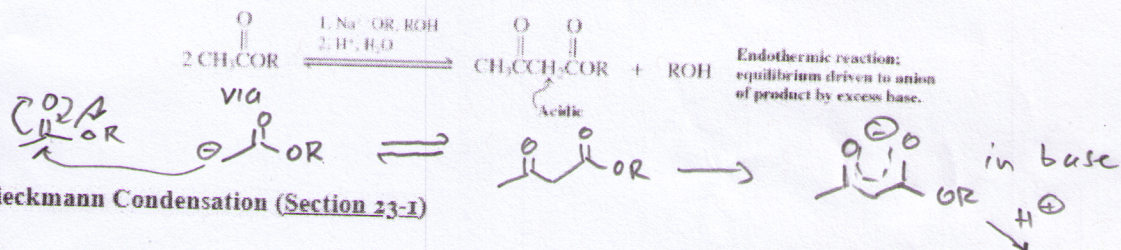


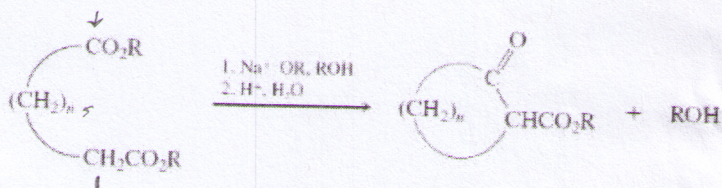
New Reactions

Synthesis of β -Dicarbonyl Compounds

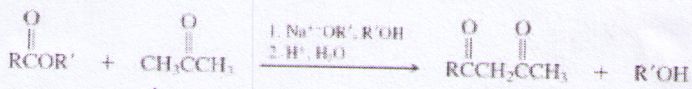
1. Claisen Condensation (Section 23-1)



2. Dieckmann Condensation (Section 23-1)

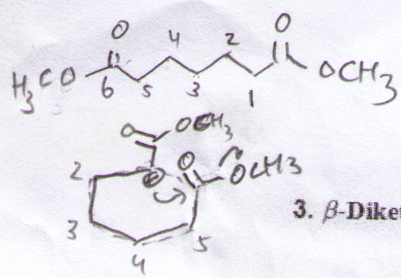
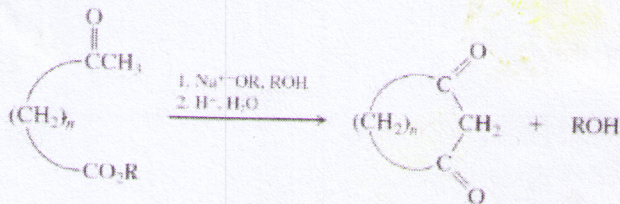


3. β -Diketone Synthesis (Section 23-1)



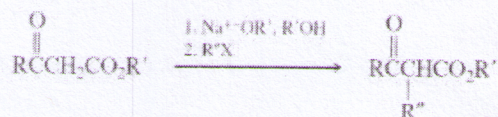
Intramolecular

Ketone
 α -CH more acidic than ester α -H

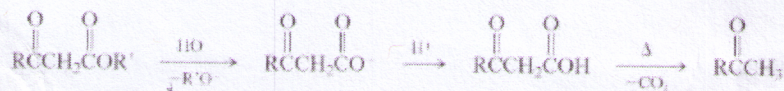


3-Ketoesters as Synthetic Building Blocks

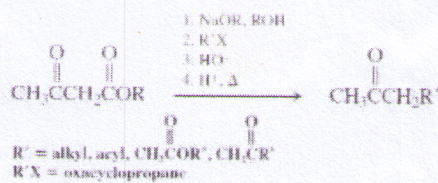
4. Enolate Alkylation (Section 23-2)



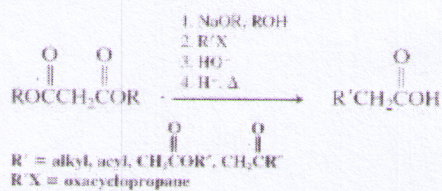
5. 3-Ketoacid Decarboxylation (Section 23-2)



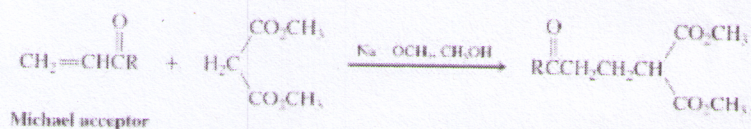
6. Acetoacetic Ester Synthesis of Methyl Ketones (Section 23-2)



7. Malonic Ester Synthesis of Carboxylic Acids (Section 23-2)

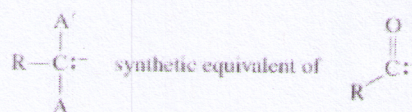


8. Michael Addition (Section 23-3)

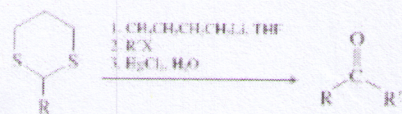
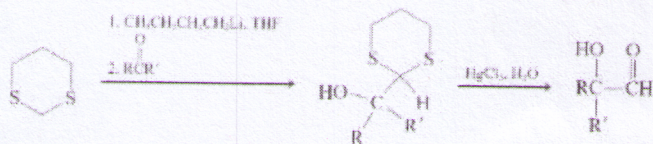
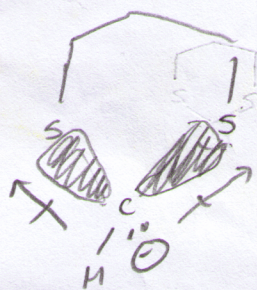


Acyl Anion Equivalents

9. 1,3-Dithiacyclohexane (1,3-Dithiane) Anions as Acyl Anion Equivalents (Section 23-4)



A = electron-withdrawing, conjugating, or polarizable group



10. Thiazolium Salts in Aldehyde Coupling (Section 23-4)

