

Department of Chemistry
Raiganj Surendranath Mahavidyalaya
3rd Year Honours
Model question on “ACTIVE METHYLENE COMPOUNDS”
F.M.-25, Time-1 Hour

Answer all questions:

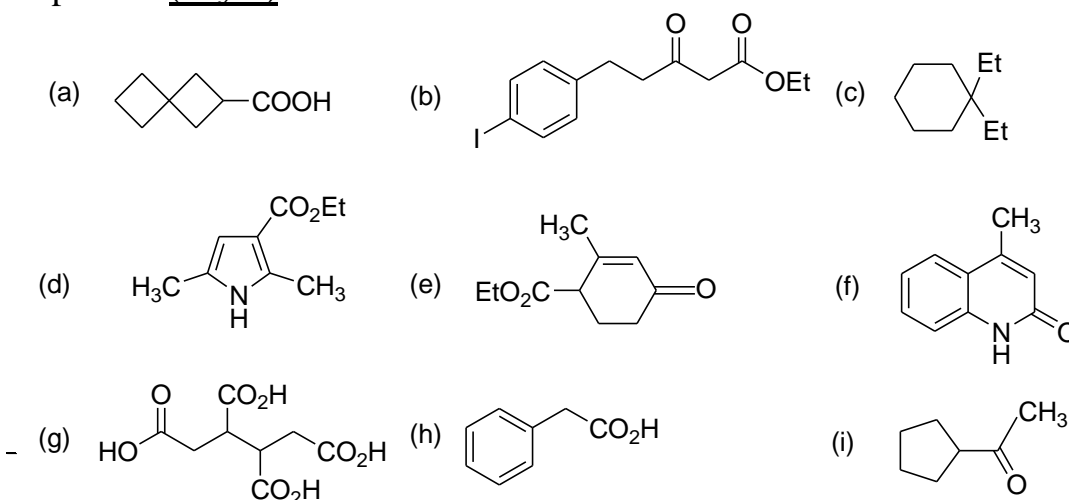
1. Explain why

(5x2)

(a) Excess active methylene compound is avoided in Knoevenagel condensation reaction. (b) Ethyl isobutyrate fails to undergo Claisen condensation reaction in presence of sodium ethoxide but not in presence of very strong base LDA. (c) Homo acrylic acid and pent-4-ene-2-one can't be synthesized from DEM/EAA. (d) EAA undergo red-violet colouration with FeCl_3 solution. (e) Reaction of EAA with 1,3 dibromopropane doesn't give a cyclobutane derivative in presence of NaOEt?

2. Synthesis the following compound starting from an active methylene compounds (any 5)

(5x2)



3. (a) Carry out the following conversions

(3+2)

(i) EAA \rightarrow Acetyl acetone

(ii) DEM \rightarrow Barbitol

(b) Provide structures for the following equations.

