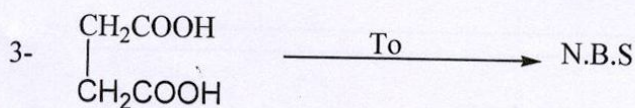
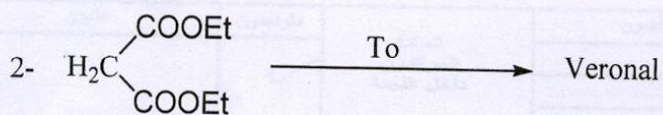
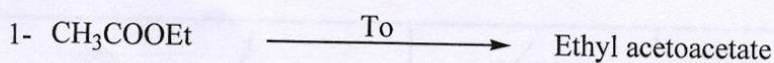


*****Answer the Following Questions*****

Question No. 1: Give an account for:

- β - Ketoacids are unstable acids.
- In dicarboxylic acids, even number of carbon atoms have higher m.p. than the odd one.
- The thermal behavior of dicarboxylic acids.

Question No. 2: Show how can you convert



Question No. 3:

A) Illustrate the steps of the following reactions:

- Friedle - Craft reaction.
- Cannizarro's reaction.
- Sand Mayer reaction.

B) Classifying the following groups as either ortho, para or meta:

$-\text{CH}_3$, $-\text{COOH}$, $-\text{OCH}_3$, $-\text{OH}$, $-\text{NHR}$, $-\text{CHO}$ and Cl .

Question No. 4:

A) Write short on:

- 1- Aromaticity of benzene.
- 2- Reaction of NaOH with chlorobenzene in high pressure and temperature.

B) Give mechanistic equation to illustrate the preparation of the following compounds:

- 1- Benzaldehyde. 2- Aspirin. 3- Salicylaldehyde. 4- Saccharin.
- 5- Methyl orange. 6- Phenolphthalein.

Best wishes