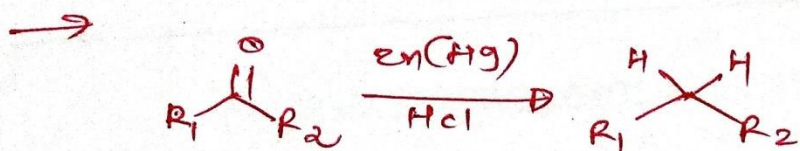




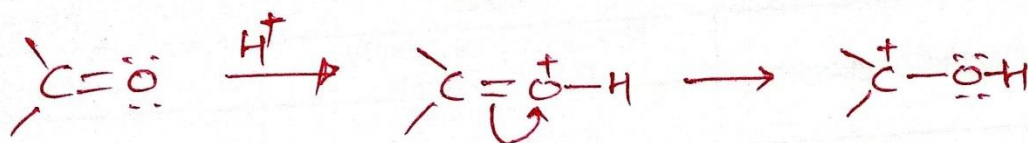
Name of Subject : Pharmaceutical Organic Chemistry
Subject Code : 818804
Name of Chapter : Organic Name Reactions
Name of Topic : Clemmenson and Cannizaro reaction
Prepared By : Dr. Sandip N. Badeliya
Name of faculty : Dr. Sandip N. Badeliya
Designation : Associate Professor
Education : M.Pharm, Ph.D

Clemmensen redⁿ

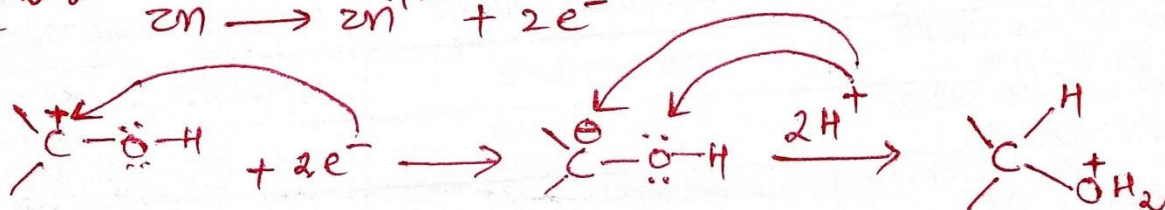
→ It is reduction of aldehydes or ketones using zinc amalgam and conc. HCl to yield alkanes



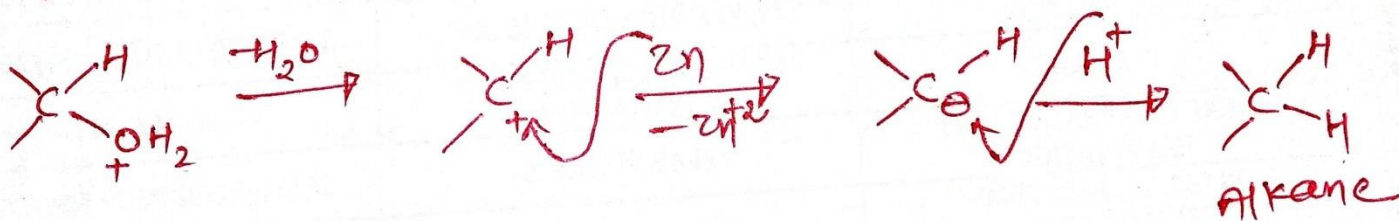
Step 1



Step 2

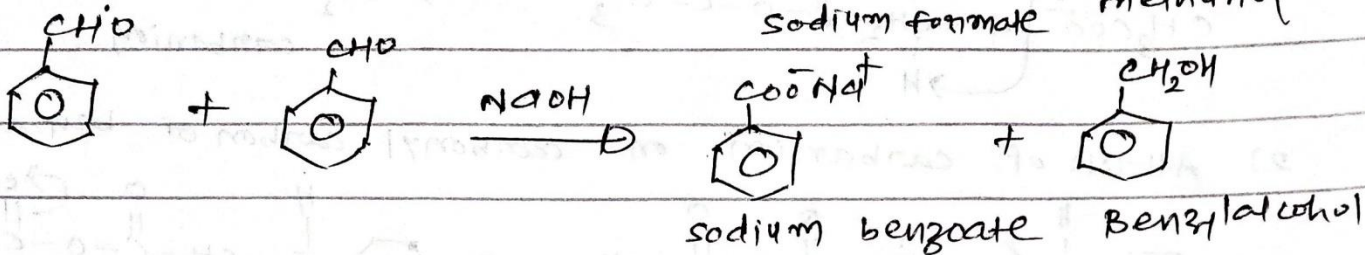
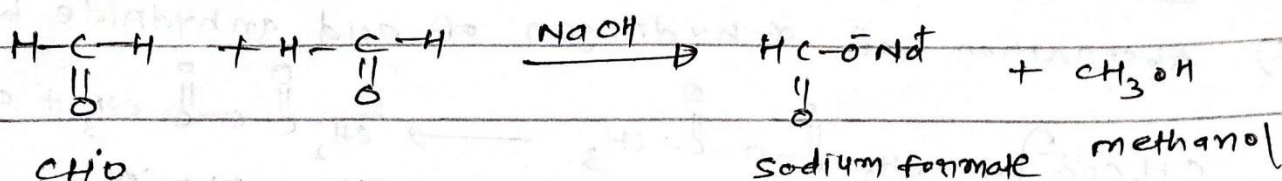


Step 3



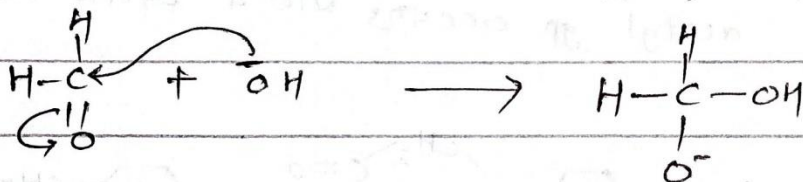
cannizzaro redⁿ

- In trace of alkali, Aldehydes with no α -hydrogen undergo intermolecular oxidation and reduction, one molecule is oxidized to sodium salt of carboxylic acid and the other reduced to an alcohol



Mechanism &

1) Attack of base (nucleophile) on carbonyl carbon



2) Intermolecular hydride shift to second aldehyde molecule

