

Rashmi Sinha

Deptt. of chemistry

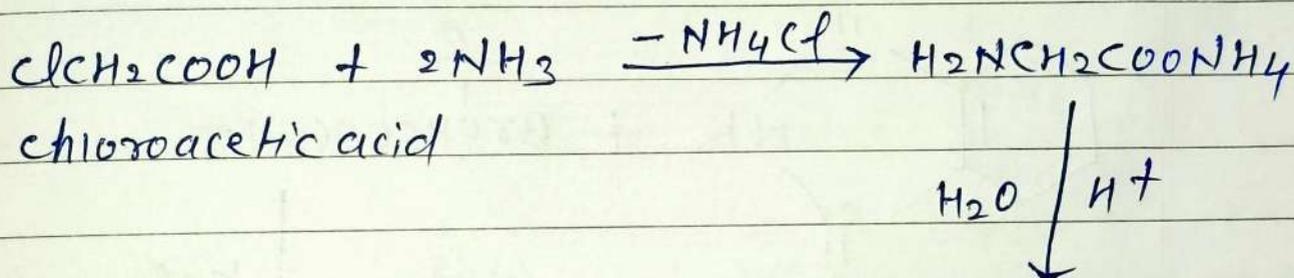
H. D. Jain college, Arq

Synthesis of α -amino acids

Several important methods for synthesising α -amino acids are given below :-

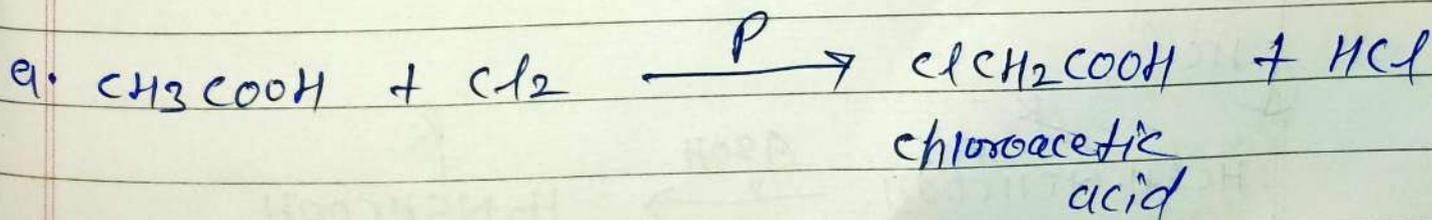
1. By amination of α -halo acids :-

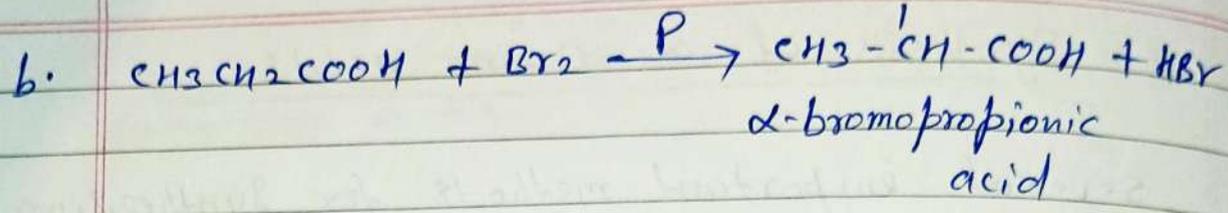
α -chloro or α -bromo carboxylic acids react with excess of liquid ammonia to form the ammonium salt of an amino acid and the free amino acid can be obtained by hydrolysis of the ammonium salt -



$\text{H}_2\text{NCH}_2\text{COOH}$
Glycine

The necessary α -halo acids may be prepared by the direct halogenation of the unsubstituted acids (Hell-volhard-zelinsky reaction) or through molonic ester synthesis. e.g -





2. By Gabriel Pthalimide Synthesis! —
 An ester of α -halo acid is treated with Potassium Pthalimide to form the corresponding substituted Pthalimide which on hydrolysis gives Pthalic acid and an amino acid.

