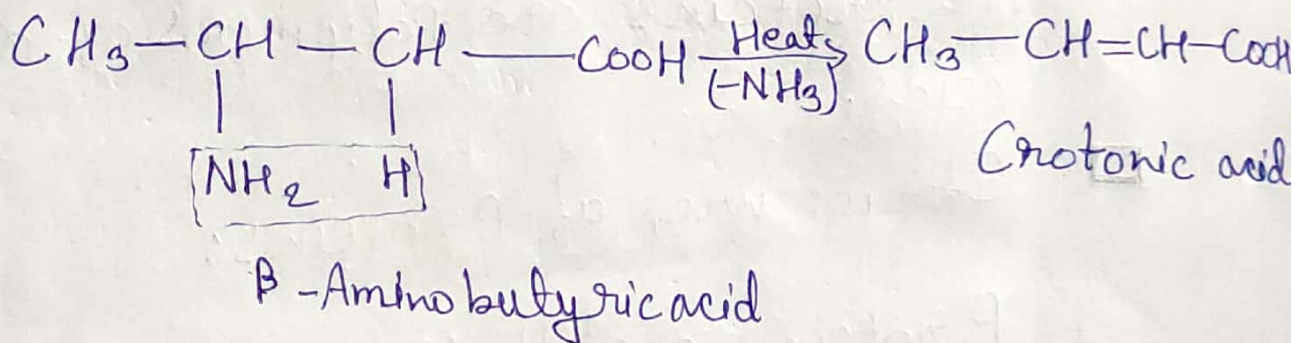
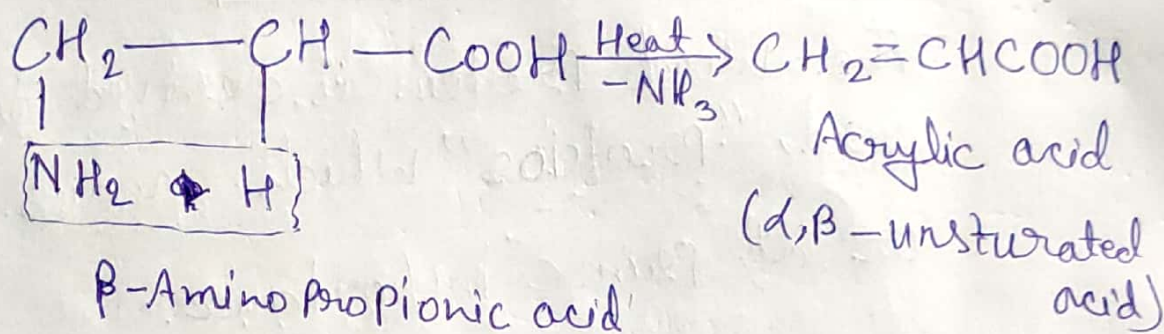


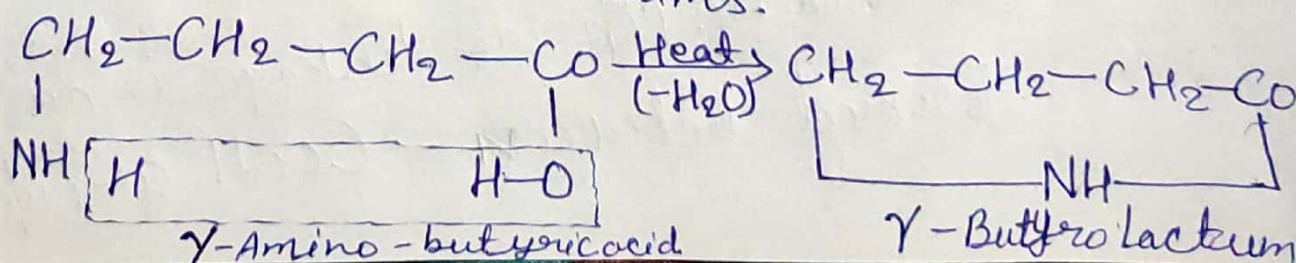
B.Sc. - (II) Hons. Carbohydrate

Guest Lecturer - Akhilesh Kumar Singh  
Date - 21/07/2020

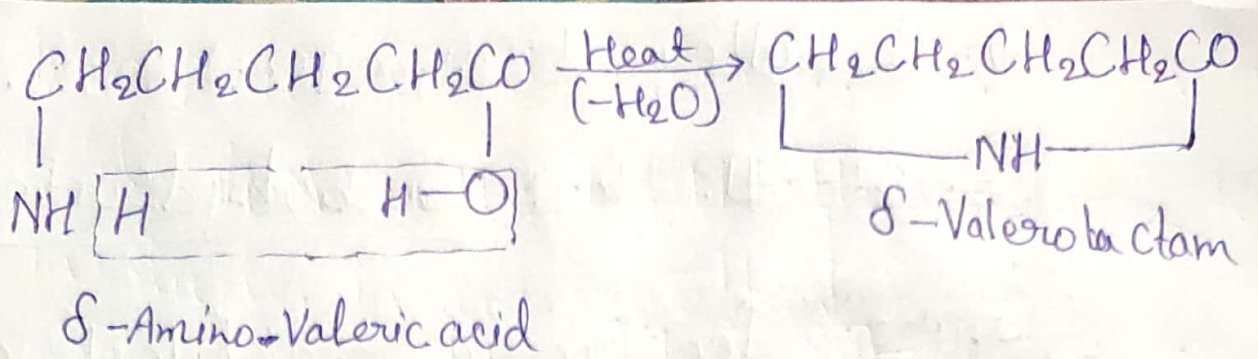
$\beta$ -Amino acid lose a molecule of ammonia per molecule of amino acid to yield  $\alpha, \beta$ -unsaturated acids.



$\gamma$ -Amino acid and  $\delta$ -amino acids undergo intramolecular dehydration to form cyclic amides called Lactams.







These lactams have stable five or six membered rings.

## PROTEINS

The word protein is derived from Greek word, "proteios" which means primary or of prime importance.

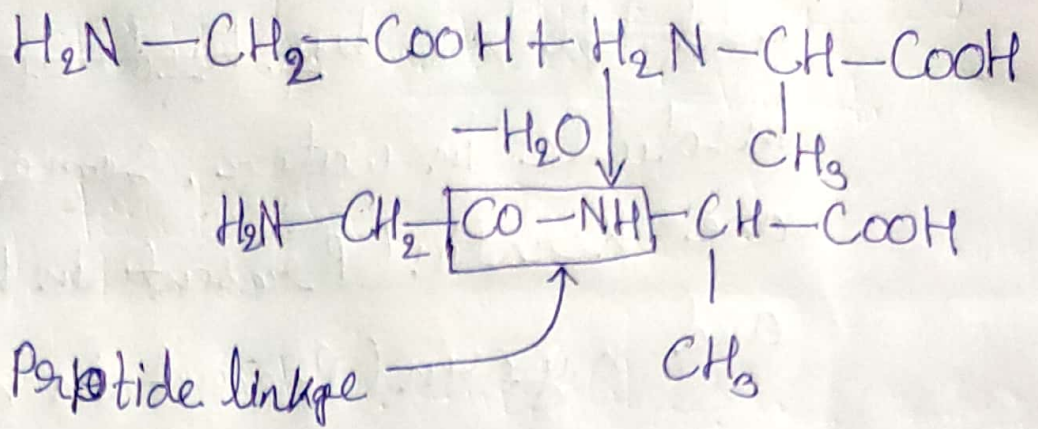
All proteins are polymers of  $\alpha$ -amino acids.

### □ Structure of Proteins:

Proteins are the polymers of  $\alpha$ -amino acids and they are connected to each other by peptide bond or peptide linkage. Chemically, peptide linkage is an amide formed between  $-\text{COOH}$  group and  $-\text{NH}_2$



group.



Glycylalanine [Gly-Ala]

The reaction between two molecules of similar or different amino acids, proceeds through the combination of the amino group of one molecule with the carboxyl group of the other. This results in the elimination of a water molecule and formation of a peptide bond -CO-NH-.

- ◆ Proteins can be classified into two types on the basis of their molecular shape.
- (a) Fibrous proteins: when the polypeptide chains run parallel and are held together by hydrogen and disulphide bonds, then fibre.



-like structure is formed. Such proteins are held together by hydrogen and generally insoluble in water. Some common examples are keratin (Present in hair, wool, silk) and myosin (Present in muscles), etc.

(b) Globular proteins: This structure results when the chains of polypeptides coil around to give a spherical shape. These are usually soluble in water. Insulin and albumins are the common examples of globular proteins. Structure and shape of proteins can be studied at four different levels, i.e. primary, secondary, tertiary and ~~quarta~~ quaternary.