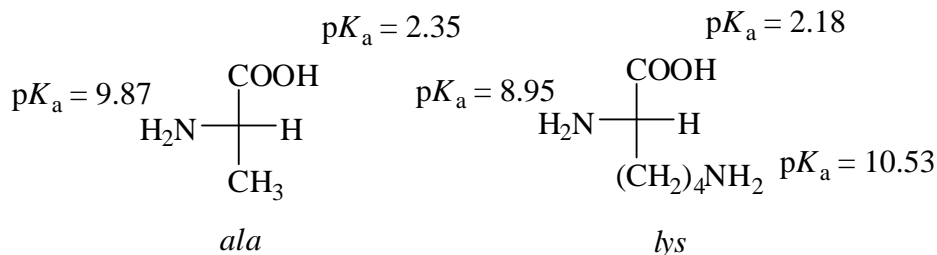


- Alanine (*ala*) and lysine (*lys*) are two amino acids with the structures given below as Fischer projections. The pK_a values of the conjugate acid forms of the different functional groups are indicated.

**Marks****7**

Draw the structure of the dipeptide *ala-lys* in its zwitterionic form.

Would you expect the dipeptide to be soluble in water? Give a brief reason for your choice.

Would you expect the dipeptide to be acidic, neutral or basic? Give a brief reason for your choice.

Estimate the isoelectric point of the dipeptide.