

Marks
4

What is the major species present when lysine (Lys) is dissolved in water at pH 12 and pH 5.6. The pK_a values of lysine are 1.82 (α -COOH), 8.95 (α -NH₃[⊕]) and 10.53 (side chain).

pH 12	pH 5.6
-------	--------

Give the constitutional formulas for the following dipeptides in their zwitterionic states. The pK_a values of proline are 1.95 and 10.64.

Lys-Thr
Pro-Lys

2

- Glycine, NH₂CH₂COOH, is the simplest of the naturally occurring amino acids. It has a melting point of 238 °C, while CH₃CH₂COOH has a melting point of -21 °C. Give one reason for this difference.

--