



Topic 19 Exercise 1 – amino acids

1.
 - a) Draw the structure of 2-aminobutanoic acid
 - b) Draw the two optical isomers of 2-aminobutanoic acid
 - c) Write equations to show the reaction of 2-aminobutanoic acid with
 - i) hydrochloric acid
 - ii) sodium hydroxide
 - d) Draw the structure of the dipeptide formed by the condensation of
 - i) two molecules of 2-aminobutanoic acid
 - ii) three molecules of 2-aminobutanoic acid
 - iii) four molecules of 2-aminobutanoic acid
2.
 - a) Describe the shape of the protein molecule and explain why it has this shape.
 - b) Draw the organic products formed when the following protein is heated with concentrated hydrochloric acid:

