

Revision 2 – Organic chemistry – naming organic compounds and pathways.

- 1) a) Place the molecules below in order of increasing boiling temperature. Explain why.
 - i. Propan-1-ol, butan-1-ol, pentan-1-ol, octan-1-ol
 - ii. 2-methylbutane, pentane, 2,2-dimethylpropane
- b) Place the following in order of increasing solubility in water. Explain why.
ethane, ethanoic acid, ethanol

- 2) Write appropriate reaction pathways for the following. Give all the appropriate reagents
 - a) Ethane to ethanoic acid
 - b) Ethane to ethanamine
 - c) Propene to propanoic acid

- 3) Write the reaction pathways taken to produce propyl propanoate from propane.

- 4) Butanoic acid has a formula mass of 88.1g/mol and has a boiling temperature of 163 °C, whereas 2-methylpropanoic acid, which also has a formula mass of 88.1 g/mol has a boiling temperature of 155 °C. Explain why

- 5) Draw the structural formula of the compound formed between propanamine and ethanoic acid

- 6) Using structural formulae, write a balanced chemical equation for the production of the ester formed when butanoic acid and methanol react in the presence of a suitable catalyst. Name the ester.