

Friday quiz 8 – 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.