**ALCOHOLS**

**WORKSHEET**

1. Draw, name and classify as primary, secondary or tertiary all isomers of pentanol (C5H11OH). Don’t worry about ones which do not have the –OH group! I can count 11: 1 tertiary, 5 secondary and 5 primary.

2. You want to make each of the following alcohols. Give (i) a suitable starting chloroalkane and (ii) a suitable starting alkene.

a) propan-2-ol

b) 2-methylpropan-2-ol

c) *sec*-butyl alcohol

d) 2-methyl-3-pentanol

e) Why would propene not be a good alkene from which to make propan-1-ol

3. Predict the products made when reacting (i) 1-butanol (ii) 2-butanol and (iii) t-butyl alcohol with each of

a) concentrated H2SO4

b) SOCl2

c) KBr and H2SO4

d) K2Cr2O7 in acidic solution

e) PCC

4. 2-methylphenol (also known as *o*-cresol) is an acid with a pKa = 10.32.

a) draw the conjugate base of 2-methylphenol and using resonance structures, explain why it is an acid.

b) draw the structure of *m*-cresol

c) [Extension] Rank in order of acidity, phenol, 2-methylphenol, 3-methylphenol and 2-nitrophenol.