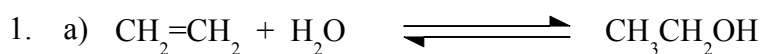


Chemguide – answers

ALCOHOLS: MANUFACTURE



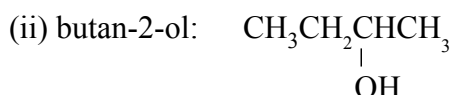
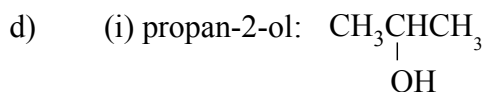
(If you have included state symbols, they should all be (g).)

b) The mixture is cooled and the condensed water and ethanol mixture is fractionally distilled.

c) (i) phosphoric(V) acid coated onto silicon dioxide (silica)

(ii) 60-70 atmospheres

(iii) 300°C



(The name or structure is OK.)

2. a) Any starchy crop - for example, maize (corn), wheat, barley, potatoes



(There is no reason why you shouldn't write the ethanol in this equation as $\text{C}_2\text{H}_5\text{OH}$ if you want to.)

c) Fractional distillation

d) Uses gentle conditions; uses renewable resources.

e) Much faster.