ALKENES: REACTIONS WITH SULPHURIC ACID

1. Draw the structural formulae of the following compounds. You can use CH_3CH_2 (etc) for any carbon chains and their branches, but should show the sulphur-containing group in full.

   a) sulphuric acid

   b) the product of the reaction between concentrated sulphuric acid and ethene

   c) the major product of the reaction between concentrated sulphuric acid and propene

   d) the major product of the reaction between concentrated sulphuric acid and but-2-ene

   e) the major product of the reaction between concentrated sulphuric acid and but-1-ene

2. a) Describe briefly how you would convert ethene into ethanol using sulphuric acid.

   b) You can convert propene into propan-2-ol by the same method, but not into propan-1-ol. Why can't you make propan-1-ol in this way?

   (If you are new to organic chemistry and aren't happy about the naming of alcohols, these are alcohols with three carbon atoms and no C=C double bonds. The "-1-ol" has an OH group on an end carbon atom; the "-2-ol" has the OH on the middle carbon atom.)