ANSWERS: Additional questions Organic reaction flow charts (Level 2)

1 a) i) Compound A: butan-1,2 diol

Compound B: 1,2-dibromobutane

ii) Reaction 1: warm with aqueous sulfuric acid

Reaction 4: react with HBr

iii) Reaction 1: Hydrolysis

Reaction 2: Oxidation

Reaction 3: Bromination

Reaction 4: Addition

2.

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| **Compound letter** | **Name** | **Reagents required** |
| A | ethanoic acid | 1st: warm with aqueous H2SO4 to produce ethanol2nd: oxidise ethanol using acidified KMnO4 or K2Cr2O7 |
| B | chloroethene | HCl |
| C | ethane-1,2,diol | oxidise with acidified KMnO4 |
| D | polyethene  | high temperature and high pressure using a catalyst |
| E | ethanol | warm with aqueous H2SO4 to produce ethanol |
| F | 1,2-dichloroethane | react with Cl2  |

Compound B forms polyvinyl chloride (PVC)



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