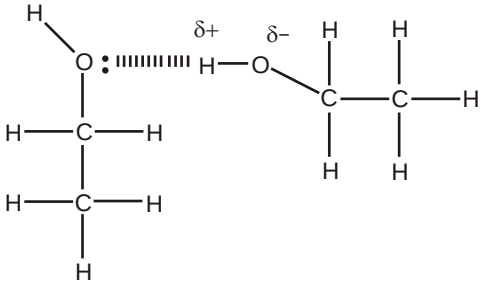
HALOGENOALKANES AND ALCOHOLS HW MS

1.



dipoles 1

hydrogen bond between O in one O-H
and H in the other O-H 1

lone pair from O involved in the H-bond 1

[3]

2. (a) (i) C_4H_{10} ✓ 1

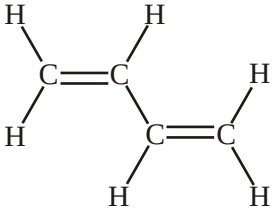
(ii) C_2H_5O ✓ 1

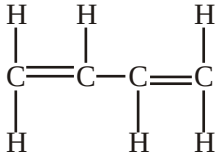
(iii) B and E ✓ 1

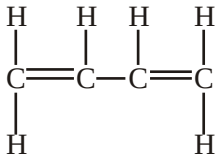
(iv) A and F ✓ 1

(b) ($C_4H_9OH \rightarrow$) $C_4H_8 + H_2O$ ✓ 1

(c) any unambiguous formula: ✓ 1







$CH_2CHCHCH_2$

$CH_2CHCHCH_2$

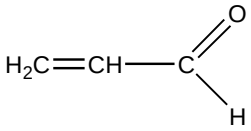
buta-1,3-diene ✓ 1

name ecf to the structure only if structure above has formula C_4H_6

[7]

3. (a) (i) prop-2-en-1-ol CH_2=$CHCH_2OH$ must show the C=C double bond 1

acrolein



***must** clearly show the aldehyde group and the C=C*

1

(ii) alkene/C=C double bond 1

(b) (i) acidified /H^+ 1

dichromate/$Cr_2O_7^{2-}$ 1

(ii) CH_2CHCH_2OH/ C_3H_6O/ C_3H_5OH + [O] ⟶ CH_2CHCHO/ C_3H_4O/ C_2H_3CHO + H_2O

not CH_2CHCOH 1

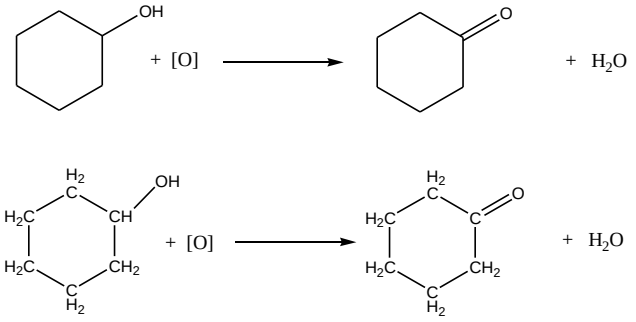
[6]

4. (a) (i) H_2SO_4 – any mention of (aq) loses the mark 1

(ii) any correct formula/structure or name for benzoic acid 1

(b) (i) dichromate/$Cr_2O_7^{2-}$/permanganate 1

(ii) 1



$C_6H_{12}O$ + [O] ⟶ $C_6H_{10}O$ + H_2O

[4]