AQA AS/A-level Year 1 Chemistry exam practice answers

**14 Organic analysis**

**1 (a) (i)** O–H (alcohols) [1]

**(ii)** C=O [1]

**(b)** CH3CH2OH + [O] → CH3CHO + H2O [1]

**(c)** There is no O–H bond in ethanal [1]

**(d)** Ethanal is being oxidised to form ethanoic acid [1]; there is an O–H group in ethanoic acid [1]

**2 (a)** There is no O–H (alcohols) stretch between 3230 and 3550 cm−1 [1]

**(b)** Cyclohexene [1] C6H10; because there is a C=C absorption between 1620 and 1680 cm−1 [1]

**(c)** A precise value of *m*/*z* for the molecular ion is formed that can identify the compound [1]

**3** Alcohol OH absorption in different place (3230–3550 cm−1) from acid OH absorption (2500–3000 cm−1) [1]

The C=O in acids has an absorption at 1680–1750 cm−1 [1]