

Student 5: Low Achieved

NZQA Intended for teacher use only

**Mass Spec**

m/z ratio	group
88	C <sub>2</sub> H <sub>4</sub> O is the empirical formula and has a mass of 44 so compound must have formula C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>

①

**IR:**

Wavenumber(cm <sup>-1</sup> )	Characteristic group
2980 broad	-OH
1710 sharp	C=O

**NMR:**

There are 4 carbons in the molecule.