Infrared Spectroscopy and Organic Molecules

To identify functional groups in organic molecules

1. Sample placed in IR spectrometer

2. A beam of IR of 200 cm – 4000cm passes through sample.

3. Molecules absorb IR frequencies

4. Emerging beam of radiation is analysed to identify frequencies absorbed by sample.

5. Sample connected to computer that plots graph of transmittance against CO absorbance. Higher absorbance, higher reading and higher ethanol. wavenumber.

Number of peaks known as finger print region.

Contains unique peaks to identify particular molecule.

Applications of Infrared Radiation:

Remote sensors to monitor localised pollutions of vehicle emission to detect CO2, CO and hydrocarbons.

Bread alysers pass beam of IR through captured beam and detect IR