IR Spectroscopy Practice Worksheet

Ten carefully checked problems • Spectroscopy • Student copy

Name: _____ Date: _____

Show your reasoning. Use complete chemical notation and units when applicable.

1. Where is the wavenumber axis usually highest on a standard IR plot?

2. What structural feature frequently gives a strong band near 1715 cm^{-1}?

3. What group may give a broad peak centered around 3400 cm^{-1}?

4. What combination strongly suggests a carboxylic acid?

5. What bond commonly absorbs near 2250 cm^{-1}?

6. What does a downward feature mean on a % transmittance IR graph?

7. Give the approximate range of the fingerprint region.

8. Why might an O–H peak be broad?

9. Can IR by itself always distinguish two closely related isomers?

10. What additional feature could help distinguish an aldehyde from a ketone?