Proton NMR Practice Worksheet

Ten carefully checked problems • Spectroscopy • Student copy

Name: _____ Date: _____

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

1. What does δ represent in ^{1}H NMR?

2. What does an integral ratio 3:2:3 indicate?

3. How many lines are expected for CH_3 coupled to 2 equivalent H?

4. How many lines are expected for CH_2 coupled to 3 equivalent H?

5. Where is the terminal CH_3 of ethyl acetate approximately located?

6. Where is the O–CH_2 of ethyl acetate approximately located?

7. Where is the acetyl CH_3 of ethyl acetate approximately located?

8. Why are O–CH_2 protons usually more downfield than a simple CH_3?

9. Why may alcohol O–H not display regular n + 1 splitting?

10. Which direction represents higher δ values on a conventional spectrum?