Report - Identification of an Organic Compound

Unknown No._____

1. Physical examination:

a) Physical state: b) Color: c) Odor:

d) Ignition test:

2. Physical constants (as appropriate):

a) mp _____ b) bp _____ c) n_D^{20} _____

3. Elements present (other than C, H, O)

Cl _____ Br _____ I _____ N _____ S _____

4. Solubility characteristics:

Conclusions:

5. IR spectrum (attach a properly labeled copy of the spectrum to the report):

a) Position and intensity (weak, medium, strong) of the principal peaks. Differentiate between peaks found in the diagnostic region and fingerprint region.

b) Assignment of IR peaks to possible functional groups:

6. Classification tests:

7. Elemental analysis (percent composition):

8. Empirical formula:

9. Proton NMR spectrum:

Chemical shift (ppm)	Relative area	Multiplicity	Possible assignment

10. C-13 NMR spectrum:

Chemical shift (ppm)	Multiplicity	Possible assignment

11. Derivatives, including melting points.

12. Conclusion as to structure:

13. Justification for structural assignment. Under this heading, show that your proposed structure is consistent with the data. Report reference values for relevant physical properties to compare with those observed. Account for the appearance of the NMR spectra, and correlate proposed functional groups with peaks in the IR spectrum.