Organic/Organometallic Sample Data Sheet

Name:_________________________________ Date/Lab Section:___________________

Sample Identity or Unknown Number: ______________________

Elemental Analysis:  C, ___%  H, ___%  N, ___%  O, ___%  S, ___%  F, ___%  Cl, ___%  Br, ___%  I, ___%

Molecular Formula: _________________________

Spectroscopy:

A. \( ^1H \) NMR [attach copy of spectrum and correlate proton peak ID with letters on table ]
   solvent:________________________ reference:______________

<table>
<thead>
<tr>
<th>peak ID</th>
<th>chemical shift (ppm)</th>
<th>integral</th>
<th>multi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
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</table>

Notes:

B. \( ^{13}C \) NMR [attach copy of spectrum and correlate carbon peak ID with letters on table ]
   solvent:________________________ reference:______________

<table>
<thead>
<tr>
<th>peak ID</th>
<th>chemical shift (ppm)</th>
<th>DEPT 90</th>
<th>DEPT 135</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
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</table>

Notes:
**Spectroscopy:**

C. **Infrared** [attach copy of spectrum and correlate peak ID with letters on table ]
    solvent:________________________

    | peak ID | frequency (cm\(^{-1}\)) | intensity | shape | peak ID | frequency (cm\(^{-1}\)) | intensity | shape |
    |---------|--------------------------|-----------|-------|---------|--------------------------|-----------|-------|
    | a       |                          |           |       | g       |                          |           |       |
    | b       |                          |           |       | h       |                          |           |       |
    | c       |                          |           |       | i       |                          |           |       |
    | d       |                          |           |       | j       |                          |           |       |
    | e       |                          |           |       | k       |                          |           |       |
    | f       |                          |           |       | l       |                          |           |       |

    Notes:

D. **Mass Spectrometry** [attach copy of GC trace along with mass spectrogram]

    name of temperature program used:________________________
    mass of molecular ion (if present):_____________________
    list other characteristic ion fragments that support your proposed structure

**Spectroscopy Notes:**
E. Chemical Data:

1. Jone's Test

2. Lucas Test

3. Silver Nitrate/Ethanol

4. DNP

5. water solubility

6. 5% aqueous NaHCO₃

7. 5% aqueous NaOH

8. 5% aqueous HCl

9. bromine/cyclohexane

10. NaI/acetone

11. Other (specify)

Notes:

Proposed Structure: