

**Acetophenone:**<sup>1</sup> Colorless viscous liquid; <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>): δ 7.98-7.96 (m, 2H), 7.59-7.55 (m, 1H), 7.49-7.45 (m, 2H), 2.61 (s, 3H); <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>): δ 198.2, 137.1, 133.1, 128.6, 128.3, 26.6.

**Benzophenone:**<sup>1</sup> White crystal; m.p. 47-49 °C (47-49 °C, lit.); H-NMR (250 MHz, CDCl<sub>3</sub>): □ 7.80 (d, 4H, *J* = 8.25 Hz), 7.61-7.44 (m, 6H); <sup>13</sup>C NMR (62.98 MHz, CDCl<sub>3</sub>): □ 196.7, 137.5, 132.4, 130.0, 128.2.

**Propiophenone:**<sup>1</sup> Colorless liquid; <sup>1</sup>H NMR (400 MHz, CDCl<sub>3</sub>): δ 7.98-7.96 (m, 2H), 7.58-7.54 (m, 1H), 7.48-7.44 (m, 2H), 3.01 (q, 2H, *J* = 7.2 Hz), 1.23 (t, 3H, *J* = 7.2 Hz); <sup>13</sup>C NMR (100 MHz, CDCl<sub>3</sub>): δ 200.8, 137.0, 132.9, 128.5, 128.0, 31.8, 8.2.

**1-Tetralone:**<sup>2</sup> Clear amber to brown oily liquid; <sup>1</sup>H-NMR (250 MHz, CDCl<sub>3</sub>): □ 8.02 (d, 1H, *J* = 8 Hz), 7.46 (t, 1H, *J* = 7.4 Hz), 7.32-7.23 (m, 2H), 2.96 (t, 2H, *J* = 6 Hz), 2.65 (t, 2H, *J* = 6.5 Hz), 2.18-2.08 (m, 2H); <sup>13</sup>C NMR (62.98 MHz, CDCl<sub>3</sub>): □ 198.4, 144.4, 133.3, 132.5, 128.7, 127.1, 126.6, 39.1, 29.6, 23.2.

**9-fluorenone:**<sup>3</sup> Yellow solid powder; m.p. 80-82 °C (81-83 °C, lit.); <sup>1</sup>H NMR (300 MHz, CDCl<sub>3</sub>): δ 7.65 (d, *J* = 7.4 Hz, 2H), 7.48-7.45 (m, 4H), 7.28-7.26 (m, 2H); <sup>13</sup>C NMR (75 MHz, CDCl<sub>3</sub>): δ 193.8, 144.3, 134.6, 134.0, 129.0, 124.2, 120.2.

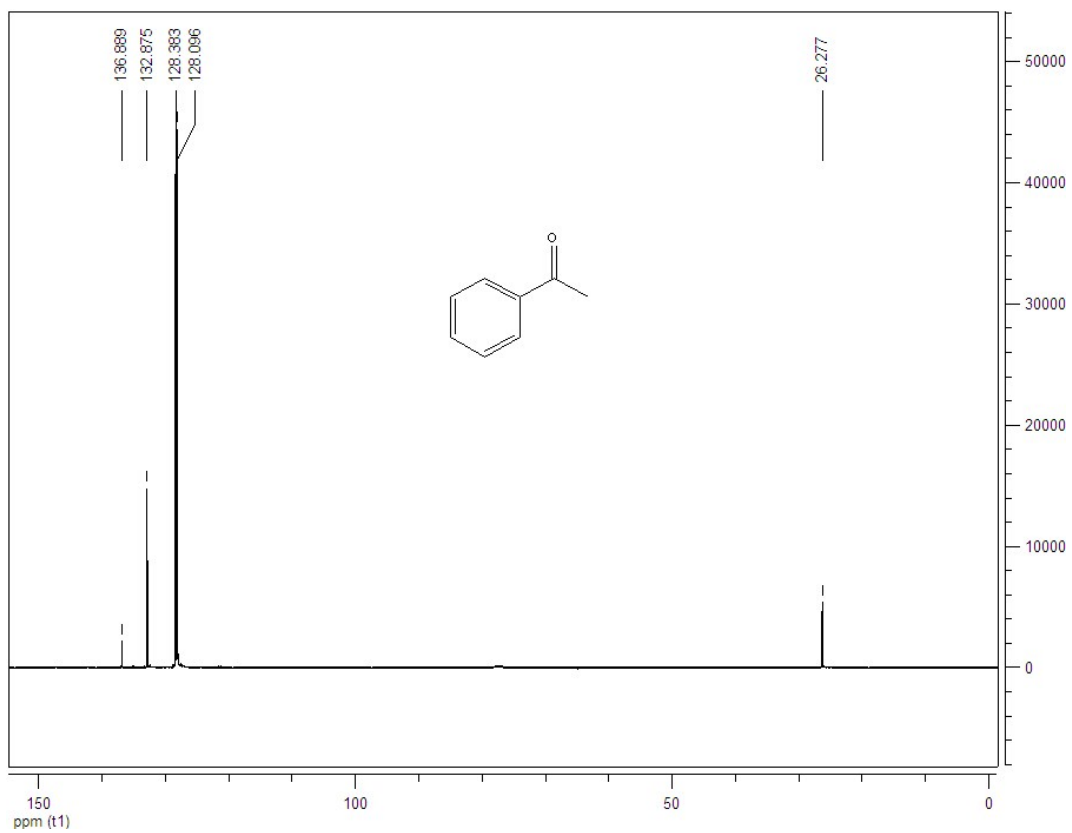
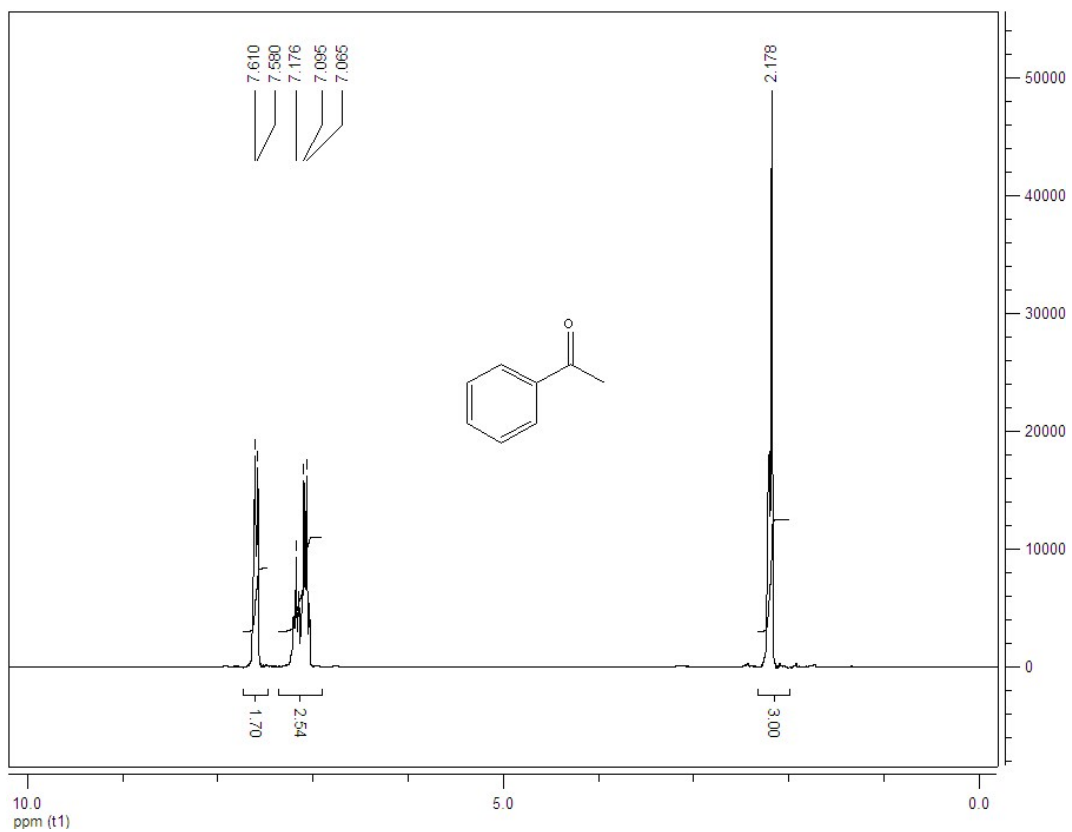
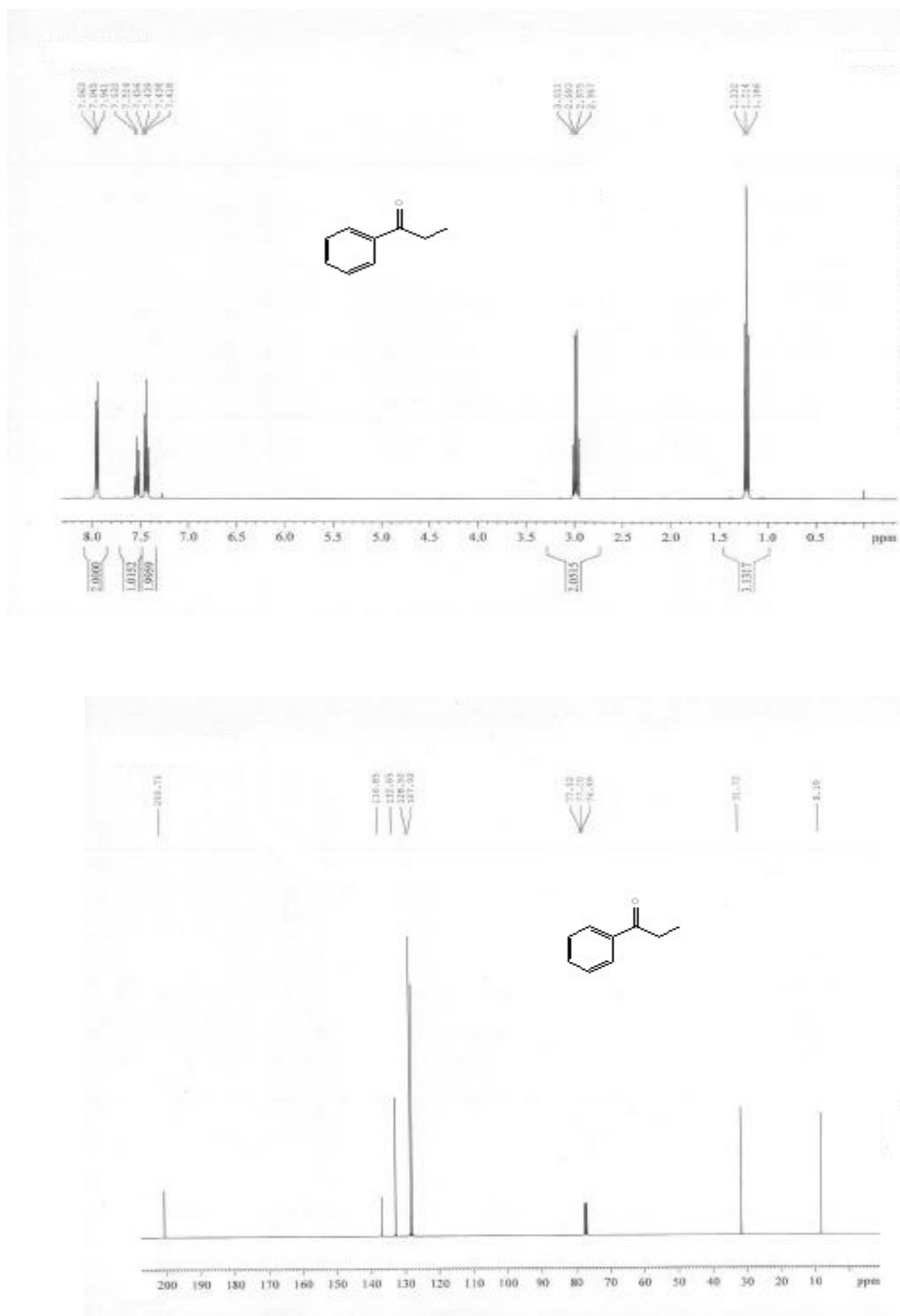


Figure 1: <sup>1</sup>H-NMR and <sup>13</sup>C NMR of acetophenone



**Figure 2: <sup>1</sup>H-NMR and <sup>13</sup>C NMR of Propiophenone**

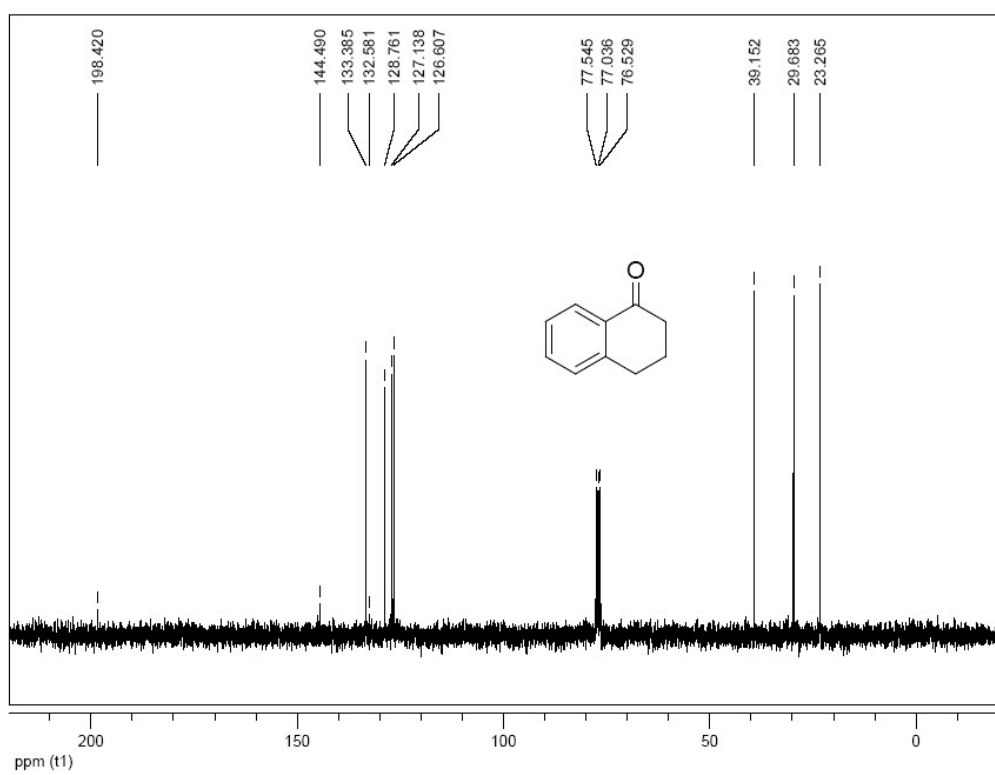
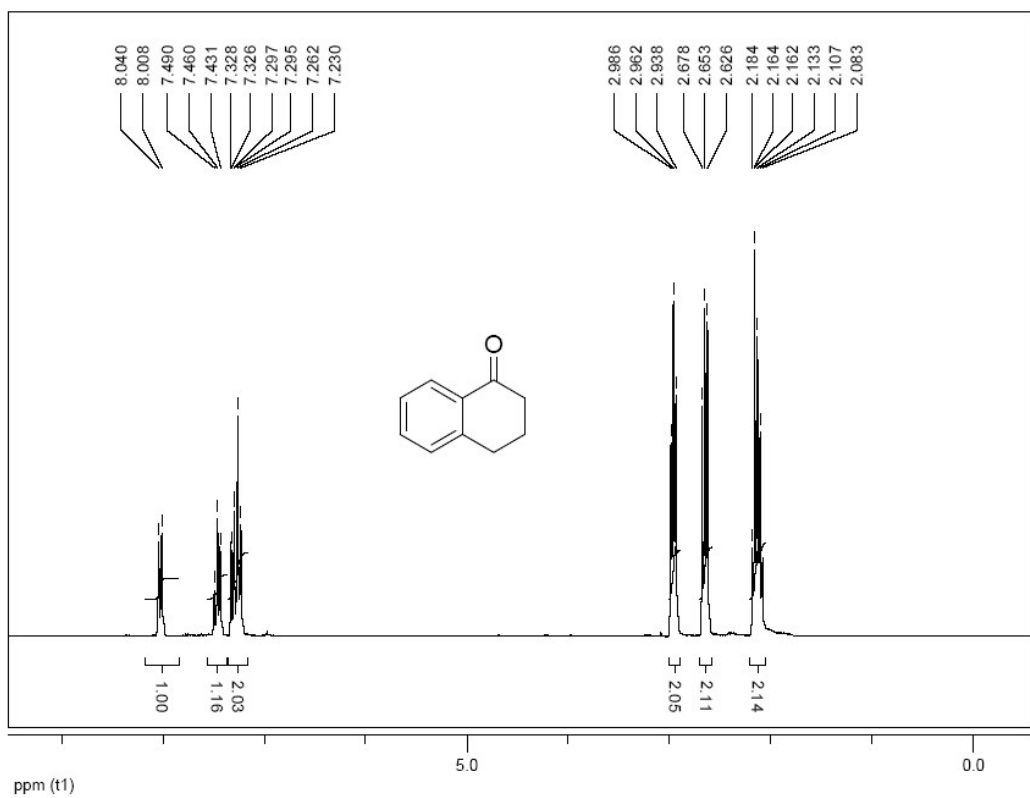


Figure 3: <sup>1</sup>H-NMR and <sup>13</sup>C NMR of 1-Tetralone

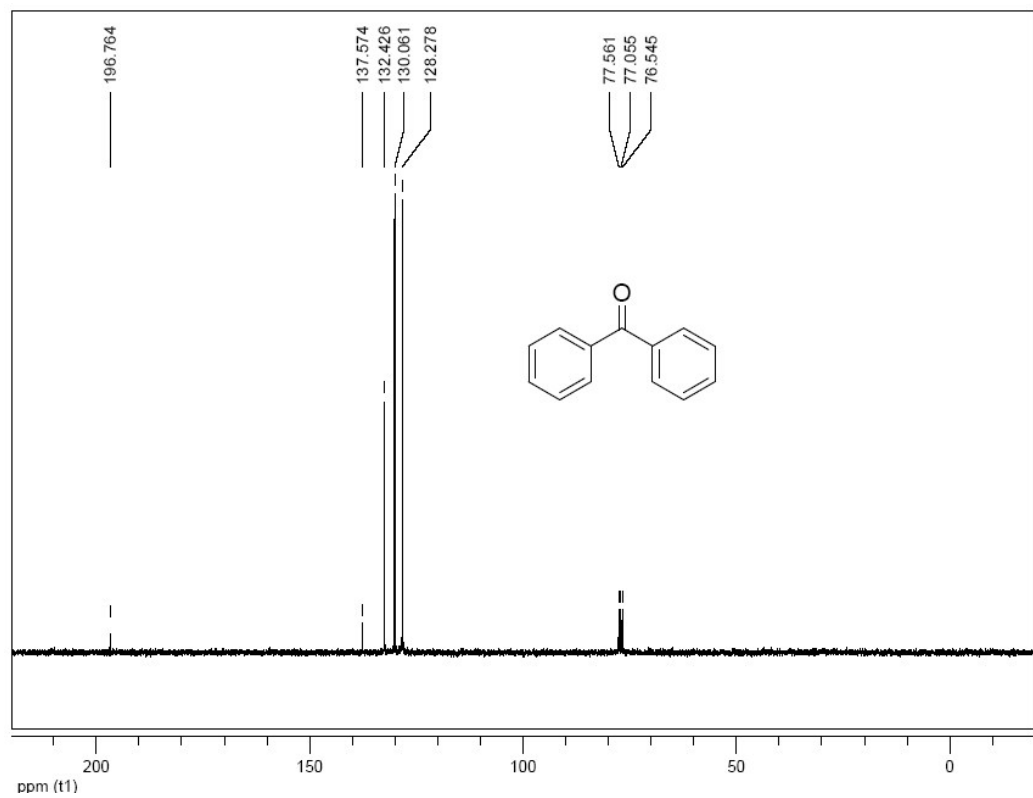
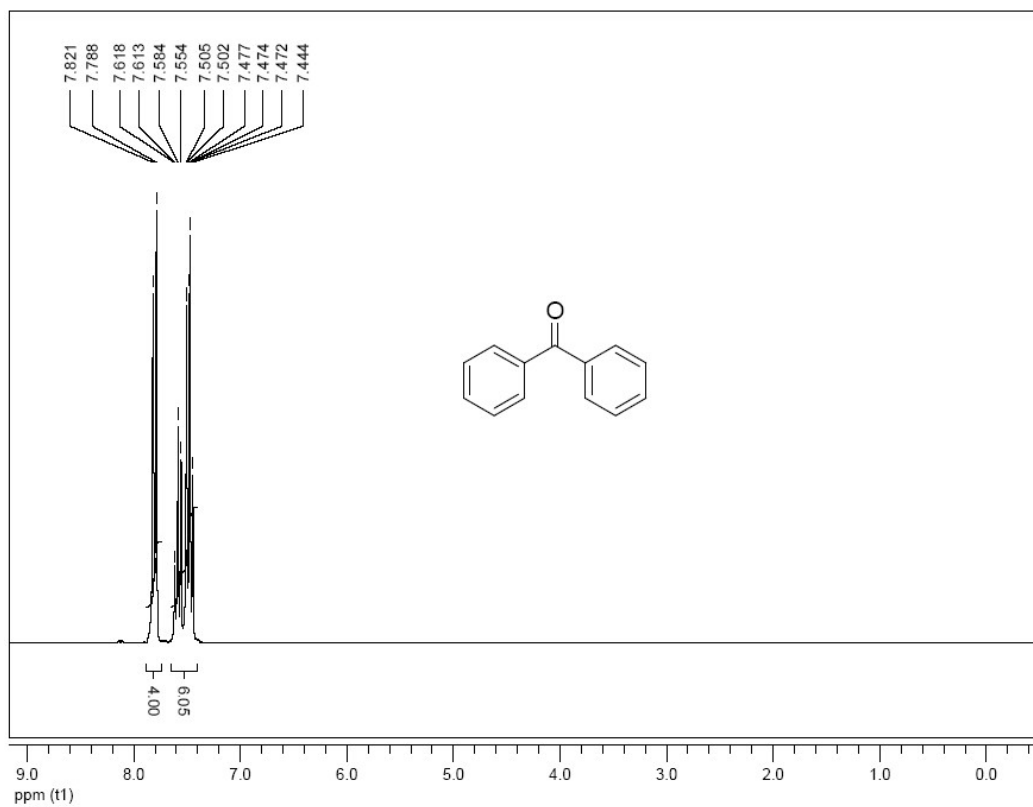
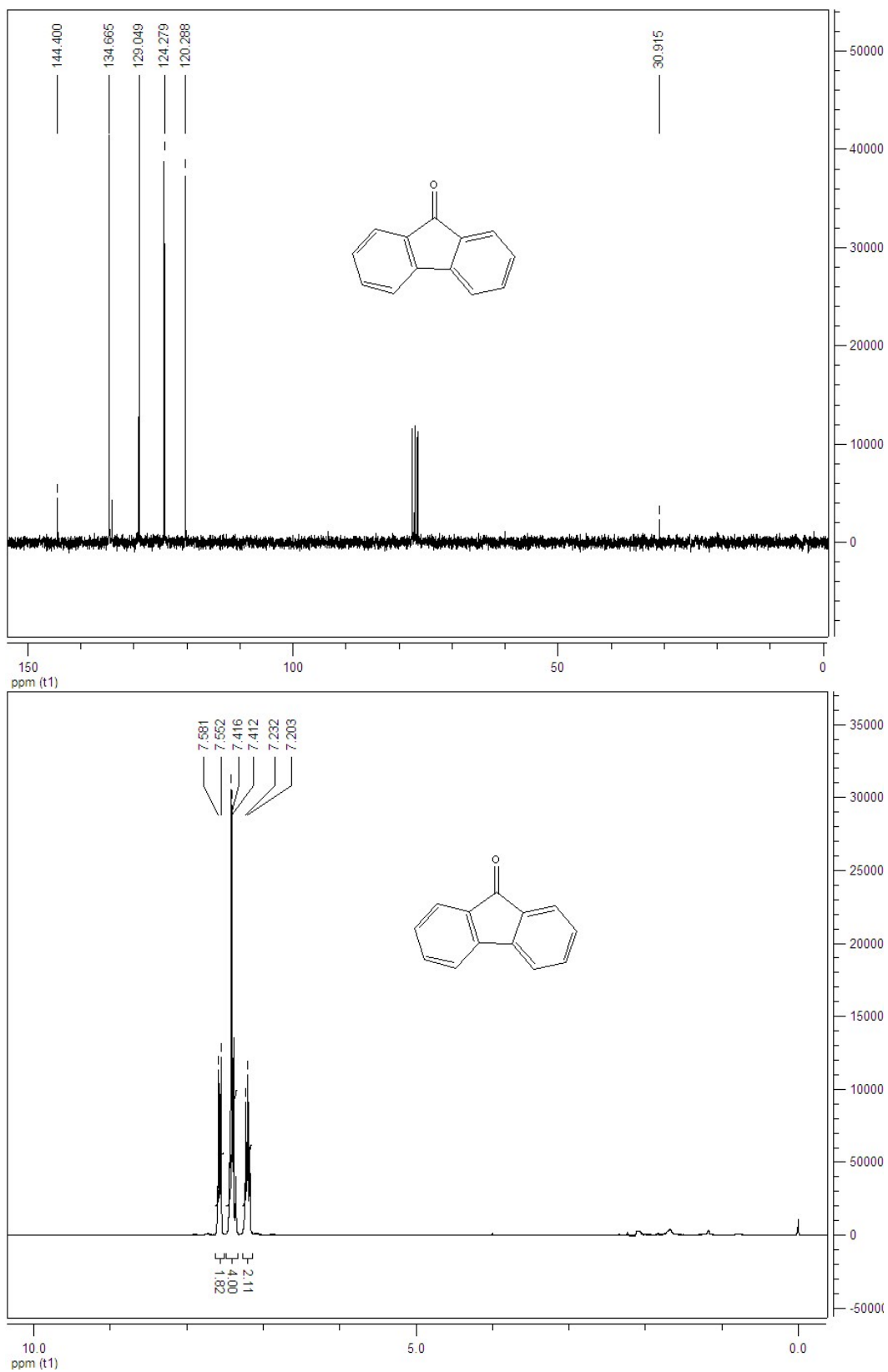


Figure 4:  $^1\text{H}$ -NMR and  $^{13}\text{C}$  NMR of benzophenone



**Figure 5: <sup>1</sup>H-NMR and <sup>13</sup>C NMR of 9-fluorenone**

**References:**

1. R. Lin, F. Chen, N. Jiao. *Org. Lett.* 2012, 14, 4158.
2. Y. Sarrafi, M. Tajbakhsh, R. Hosseinzadeh, M. Sadatshahi, K. Alimohammadi *Synth. Commun.* 2012, 42, 678.
3. S. M. Silvestre, J. A. R. Salvador. *Tetrahedron* 2007, 63, 2439.