

# Supporting Information

## Preparation, Characterization and *in vitro* Biological Activities of New Diphenylsulphone Derived Schiff Base Ligands and Their Co(II) Complexes

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## Contents:

**Figure S1:** FT-IR spectrum of L<sub>1</sub>.

**Figure S2:** FT-IR spectrum of L<sub>2</sub>.

**Figure S3:** FT-IR spectrum of L<sub>4</sub>.

**Figure S4:** FT-IR spectrum of L<sub>5</sub>.

**Figure S5:** FT-IR spectrum of C<sub>1</sub>.

**Figure S6:** FT-IR spectrum of C<sub>2</sub>.

**Figure S7:** FT-I spectrum of C<sub>3</sub>.

**Figure S8:** FT-IR spectrum of C<sub>4</sub>.

**Figure S9:** FT-IR spectrum of C<sub>5</sub>.

**Figure S10:** <sup>1</sup>H-NMR spectrum of L<sub>1</sub>.

**Figure S11:** <sup>1</sup>H-NMR spectrum of L<sub>2</sub>.

**Figure S12:** <sup>1</sup>H-NMR spectrum of L<sub>4</sub>.

**Figure S13:** <sup>1</sup>H-NMR spectrum of L<sub>5</sub>.

**Figure S14:** Mass spectrum of L<sub>1</sub>.

**Figure S15:** Mass spectrum of L<sub>2</sub>.

**Figure S16:** Mass spectrum of L<sub>3</sub>.

**Figure S17:** Mass spectrum of L<sub>4</sub>.

**Figure S18:** Mass spectrum of L<sub>5</sub>.

**Figure S19:** Ni-and ligands Antibacterial activity against *Staphylococcus aureus*.

**Figure S20:** Ni-complex Antifungal activity against *Aspergillus niger*.

**Figure S21:** Ligand-Antifungal activity against *Aspergillus niger*.

**Figure S22:** Ni and Ligands Antibacterial activity against *Bacillus subtilis*.

**Figure S23:** Mass fragmentation pattern of L<sub>1</sub>.

**Figure S24:** UV-Visible absorption spectra of complexes.

**Figure S25:** <sup>1</sup>H-NMR spectrum of C<sub>1</sub>.

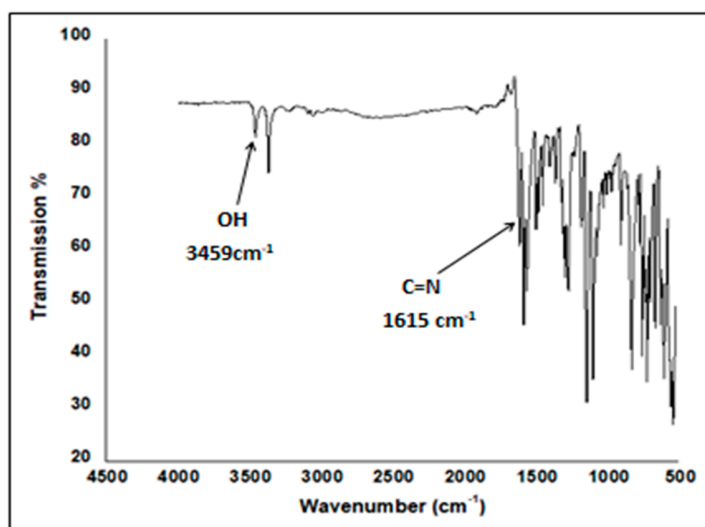
**Figure S26:** <sup>1</sup>H-NMR spectrum of C<sub>2</sub>.

**Figure S27:** <sup>1</sup>H-NMR spectrum of C<sub>3</sub>.

**Figure S28:** <sup>13</sup>C-NMR spectrum of C<sub>1</sub>.

**Figure S29:** <sup>13</sup>C-NMR spectrum of C<sub>2</sub>.

**Figure S30:** <sup>13</sup>C-NMR spectrum of C<sub>3</sub>.



**Figure S1:** FT-IR spectrum of L<sub>1</sub>.

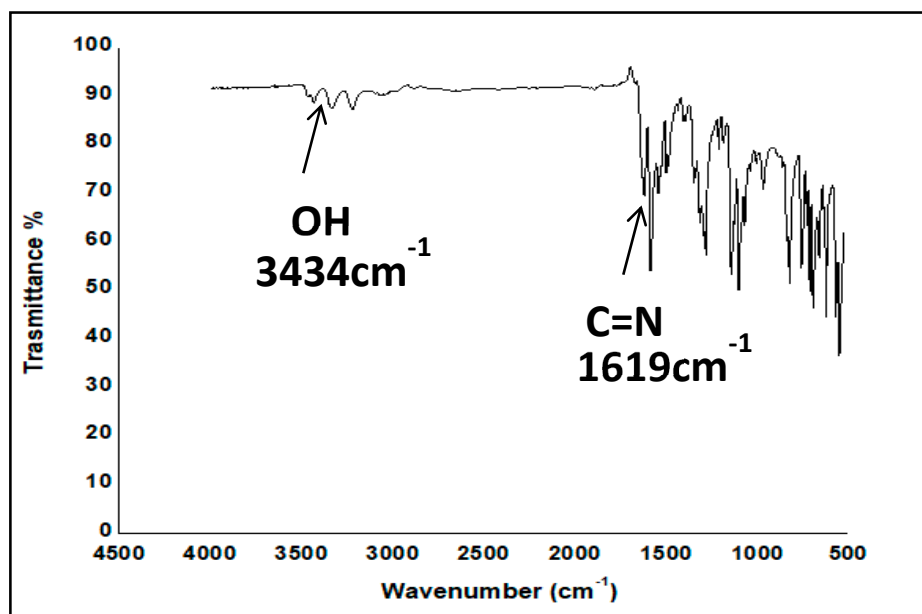


Figure S2: FT-IR spectrum of L<sub>2</sub>.

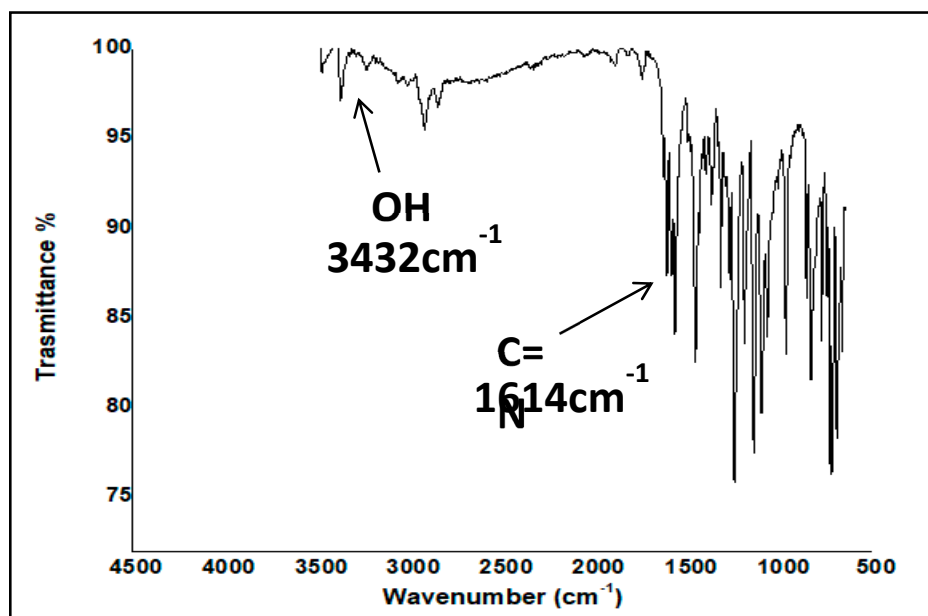


Figure S3: FT-IR spectrum of L<sub>4</sub>.

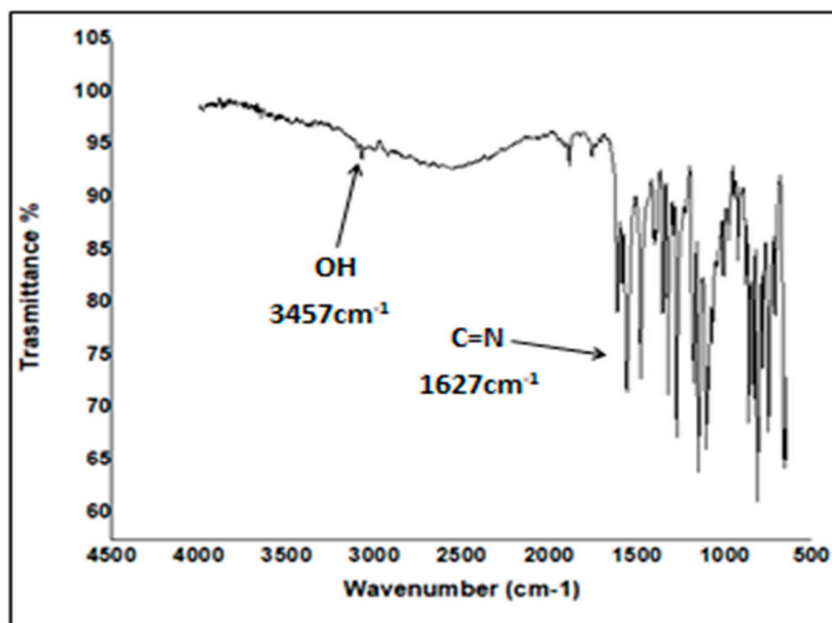
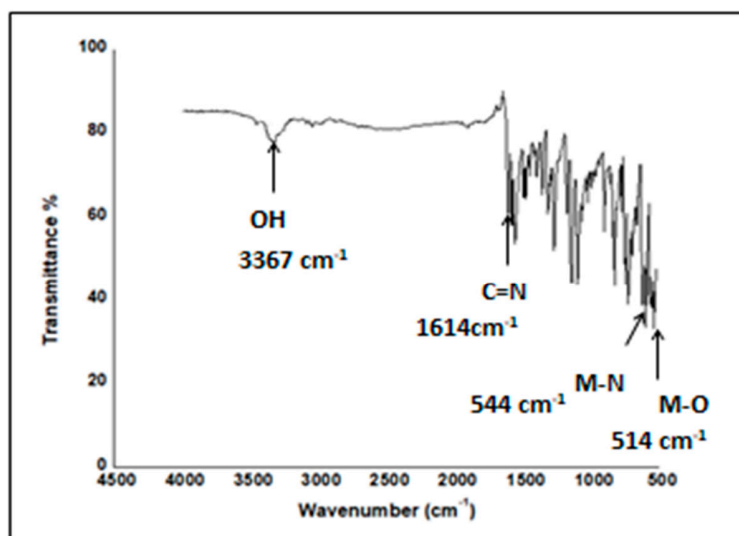
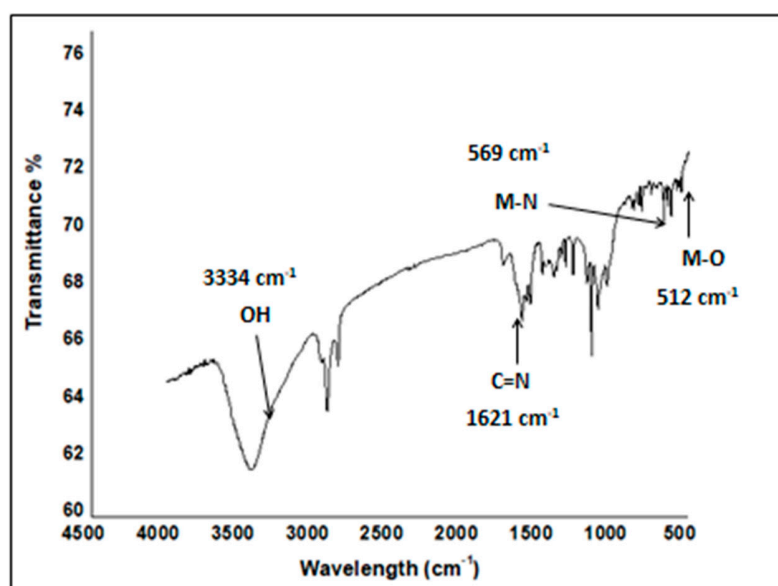


Figure S4: FT-IR spectrum of L<sub>5</sub>.

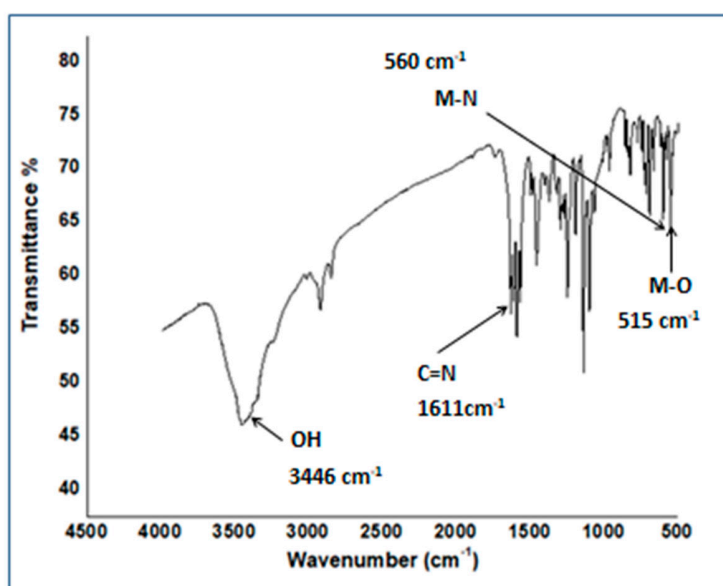


**Figure S5:** FT-IR spectrum of C<sub>1</sub>.



**Figure S6:** FT-IR spectrum of C<sub>2</sub>.





**Figure S7:** FT-IR spectrum of C<sub>3</sub>.

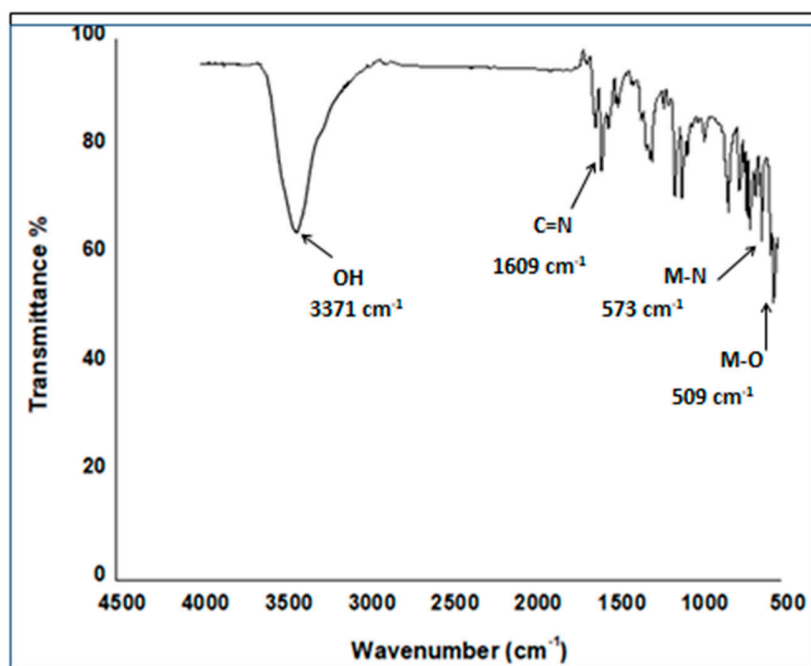
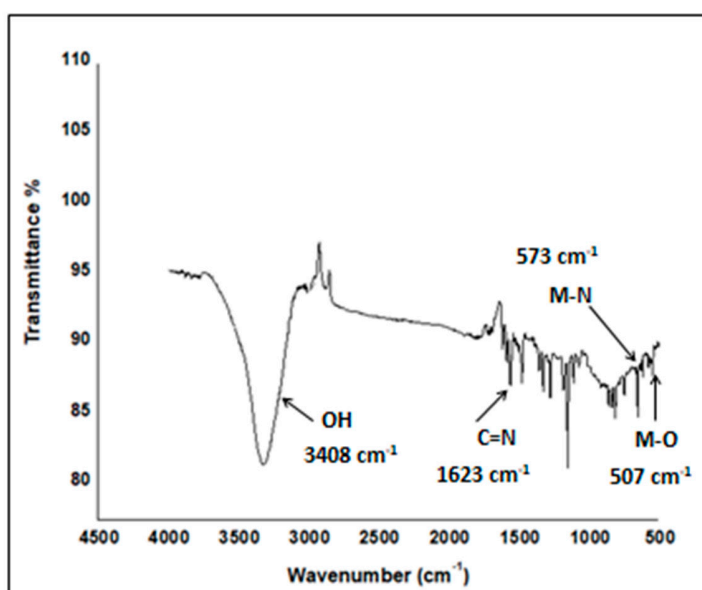
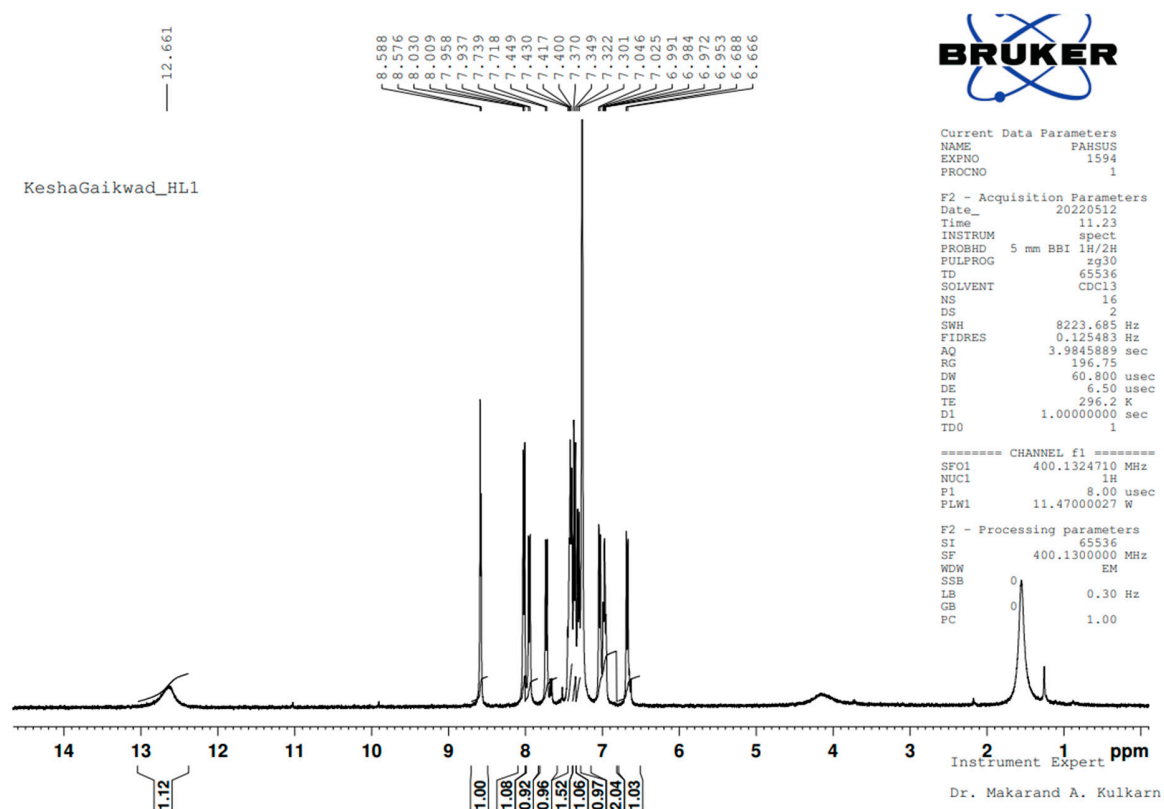


Figure S8: FT-IR spectrum of C<sub>4</sub>.



**Figure S9:** FT-IR spectrum of C<sub>5</sub>.



**Figure S10:**  $^1\text{H}$ -NMR spectrum of **L<sub>1</sub>**.

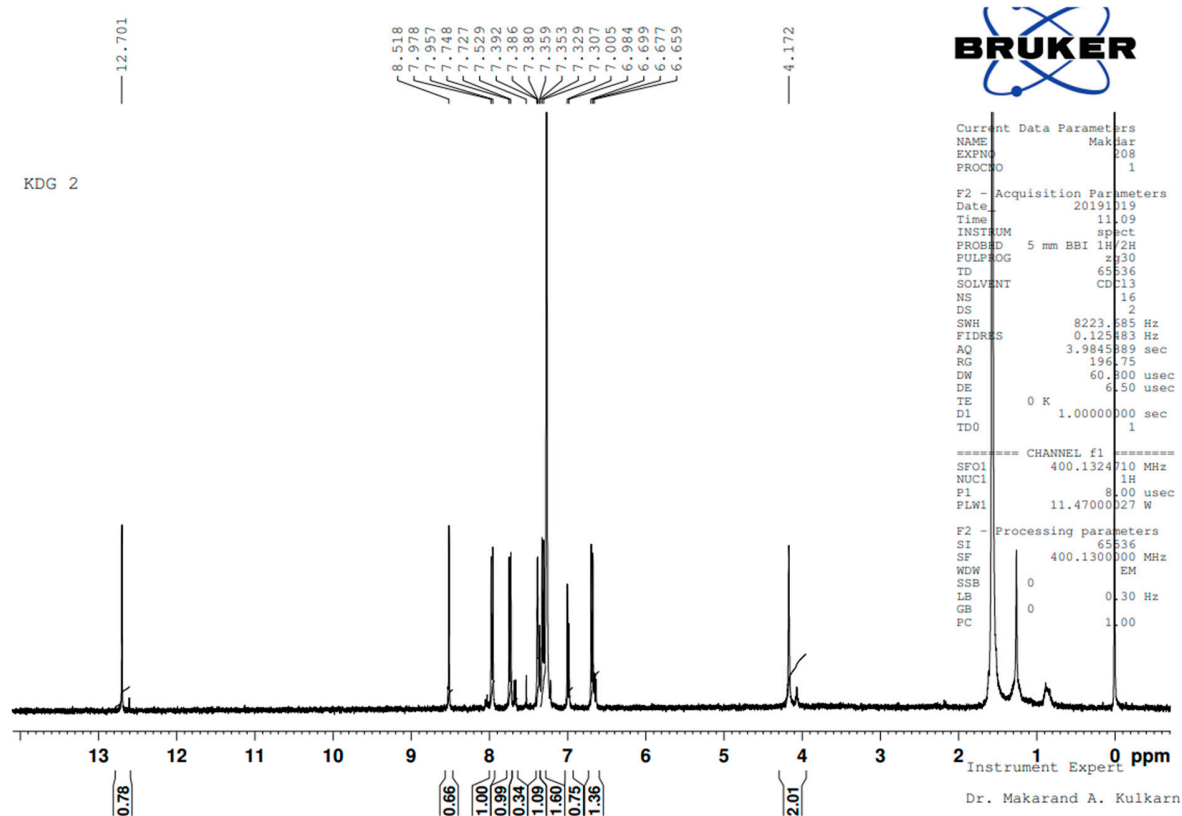


Figure S11:  $^1\text{H}$ -NMR spectrum of L3.

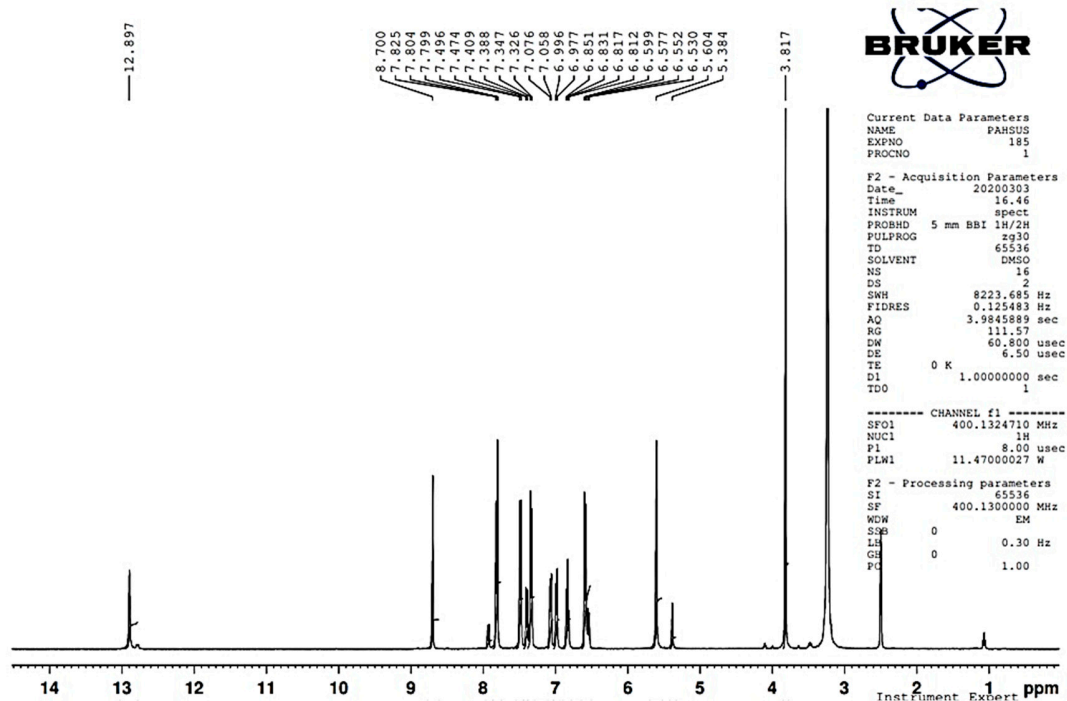


Figure S12:  $^1\text{H}$ -NMR spectrum of L4.

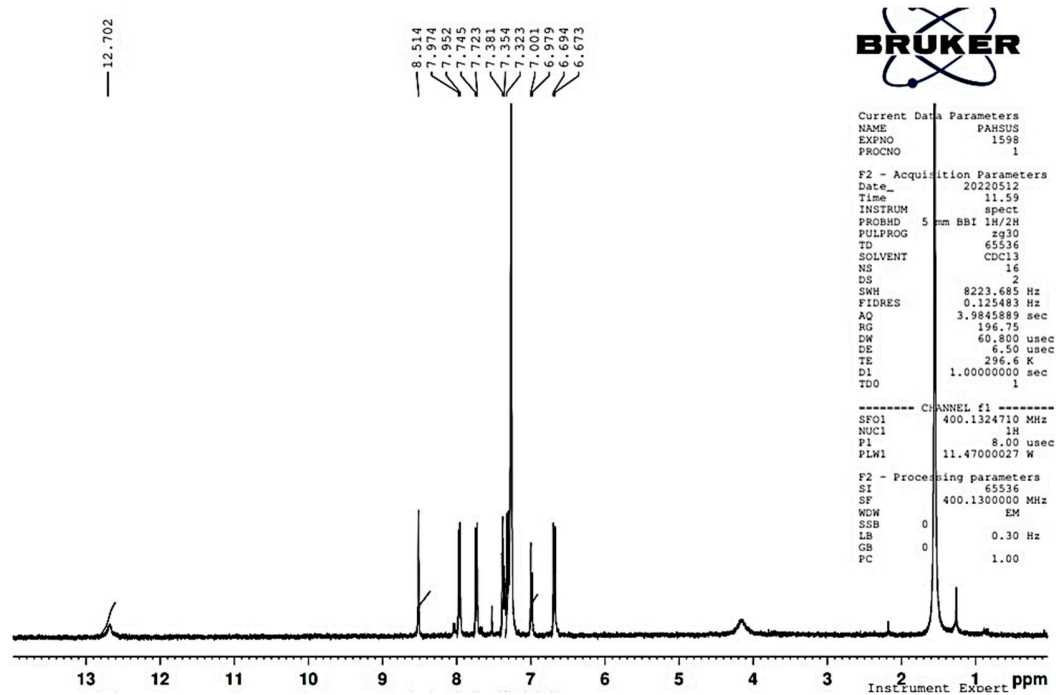
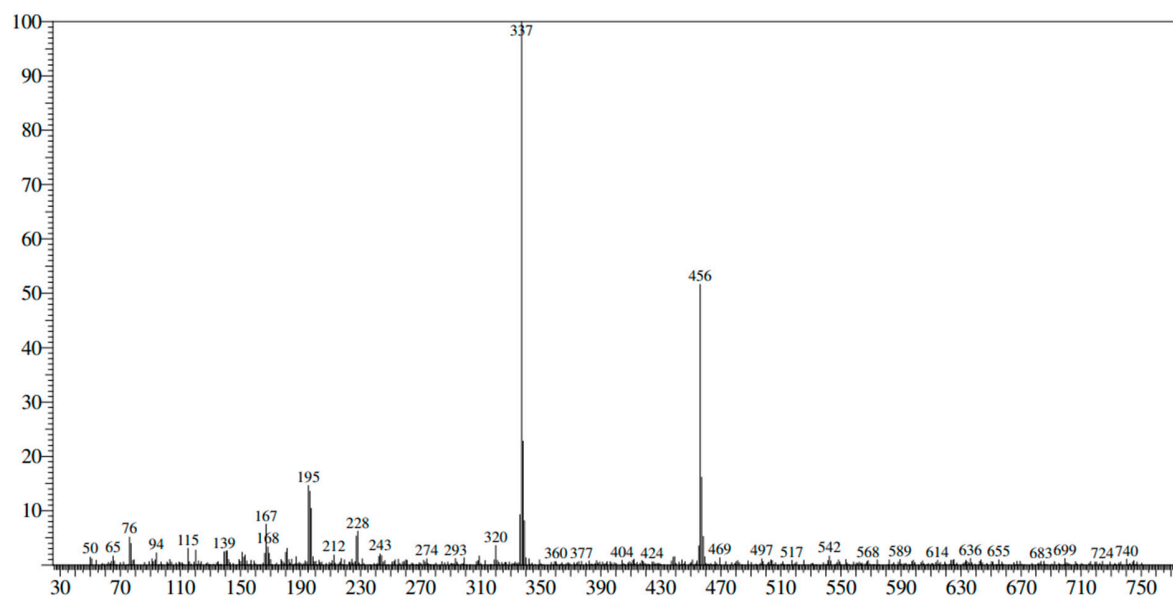
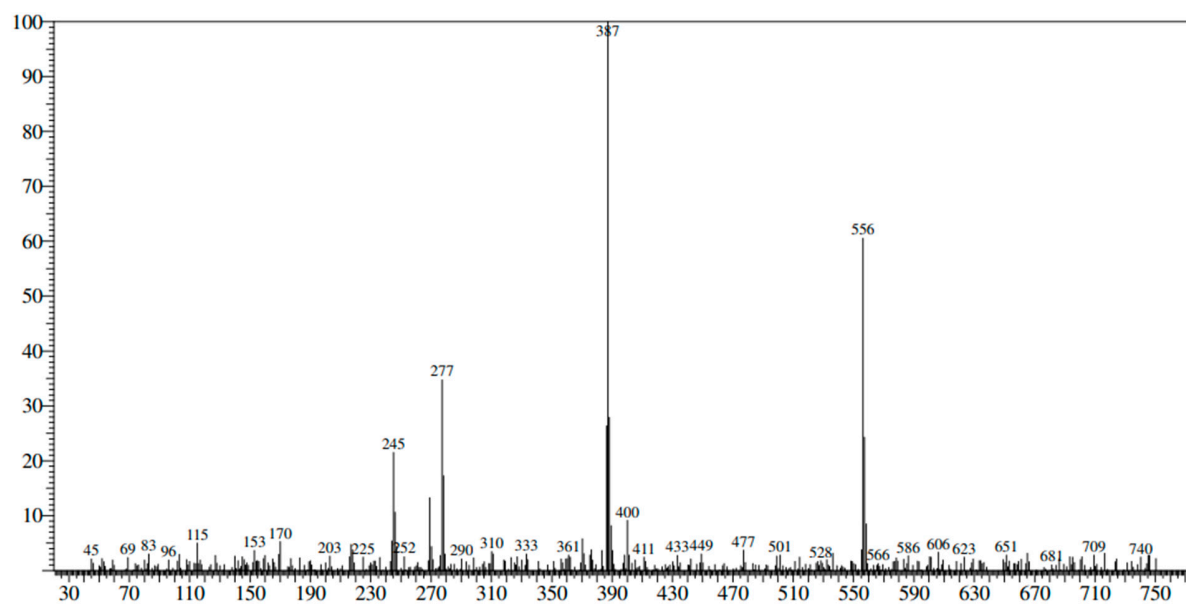


Figure S13:  $^1\text{H}$ NMR spectrum of  $\text{L}_5$ .

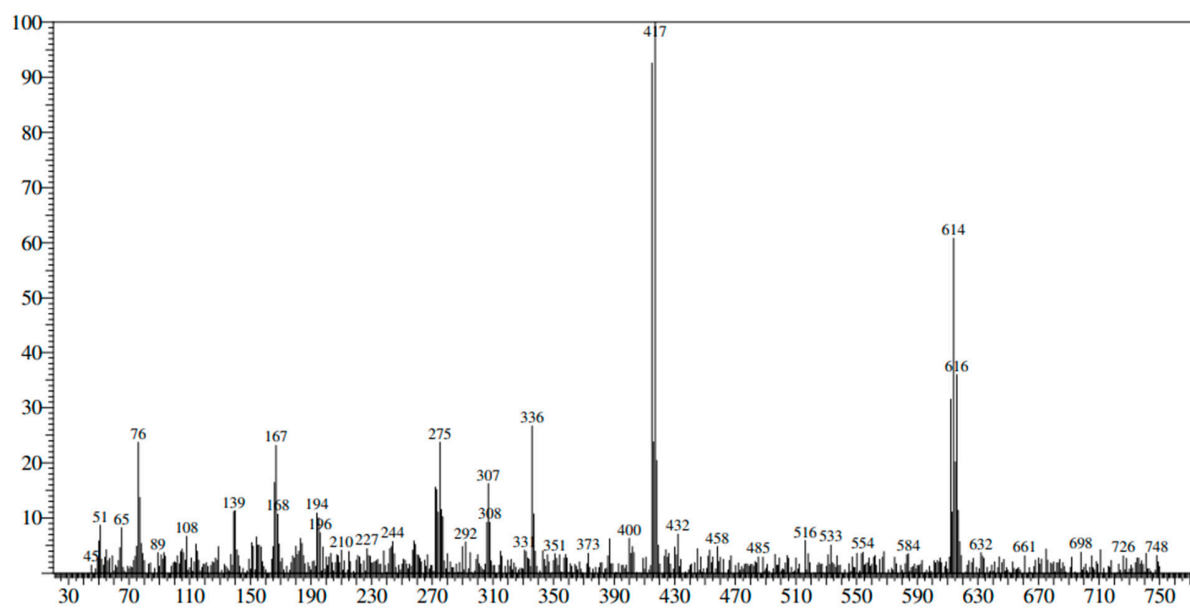


**Figure S14:** Mass spectrum of L<sub>1</sub>.

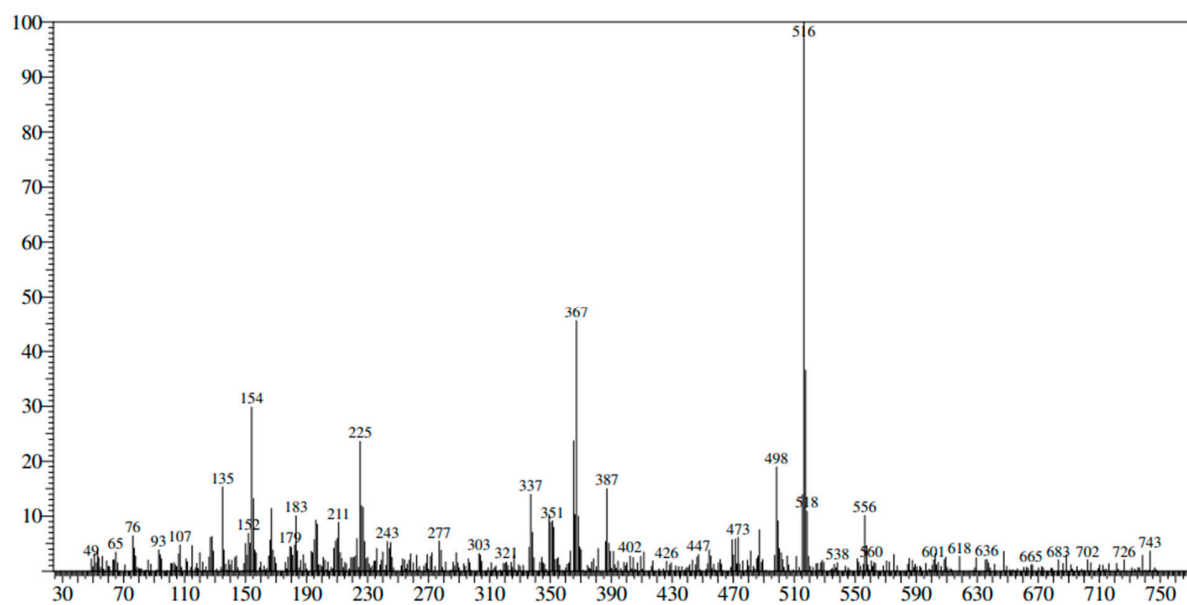




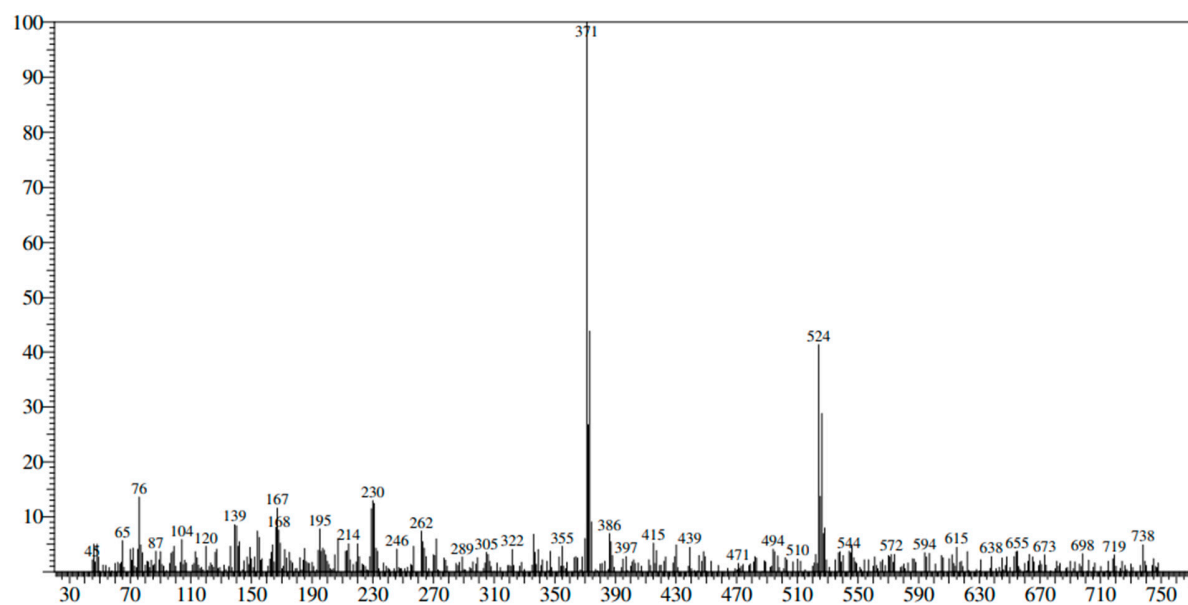
**Figure S15:** Mass spectrum of L2.



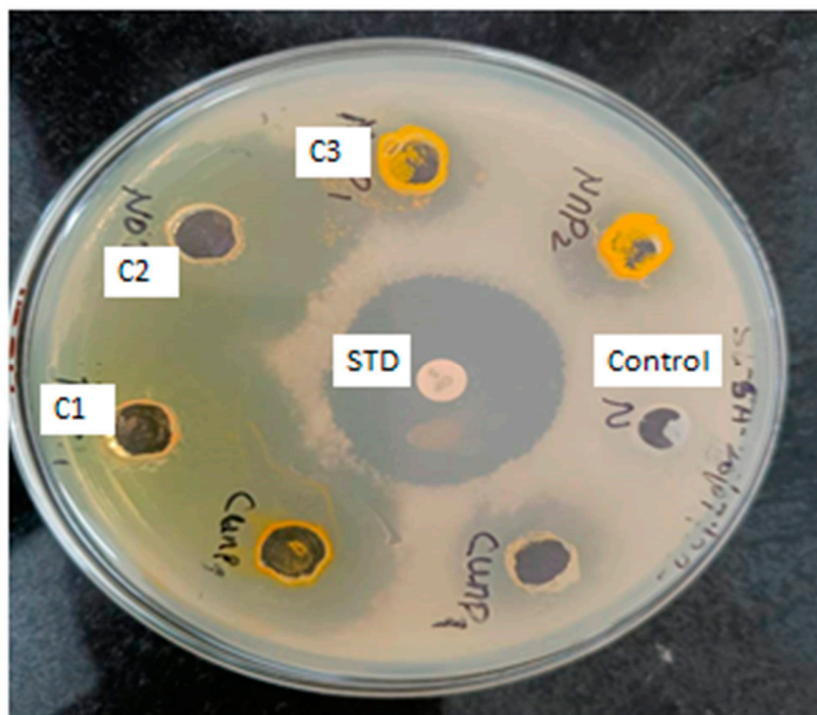
**Figure S16:** Mass spectrum of L<sub>3</sub>.



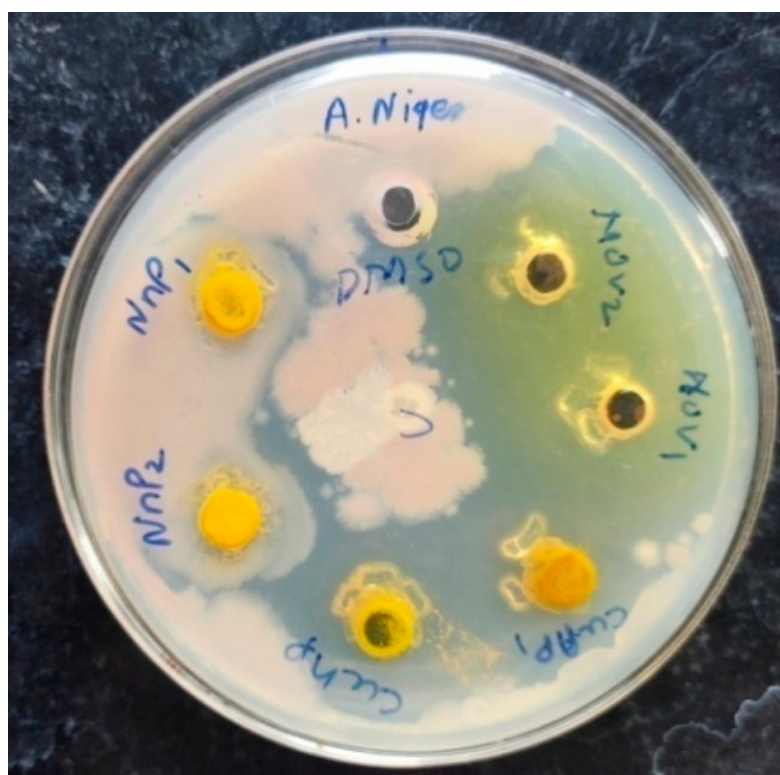
**Figure S17:** Mass spectrum of L4.



**Figure S18.** Mass spectrum of L5.



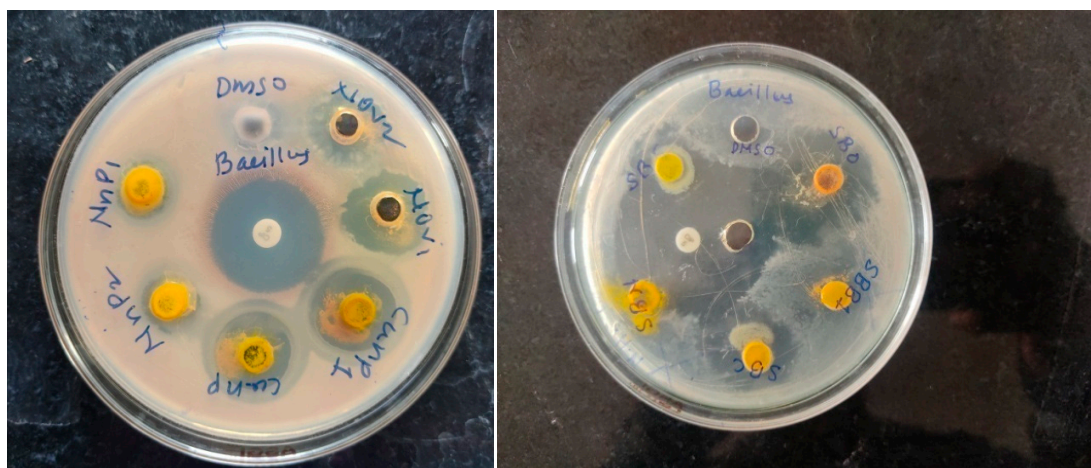
**Figure S19:** Antibacterial activity of Co(II) complexes and ligands against *Staphylococcus aureus*.



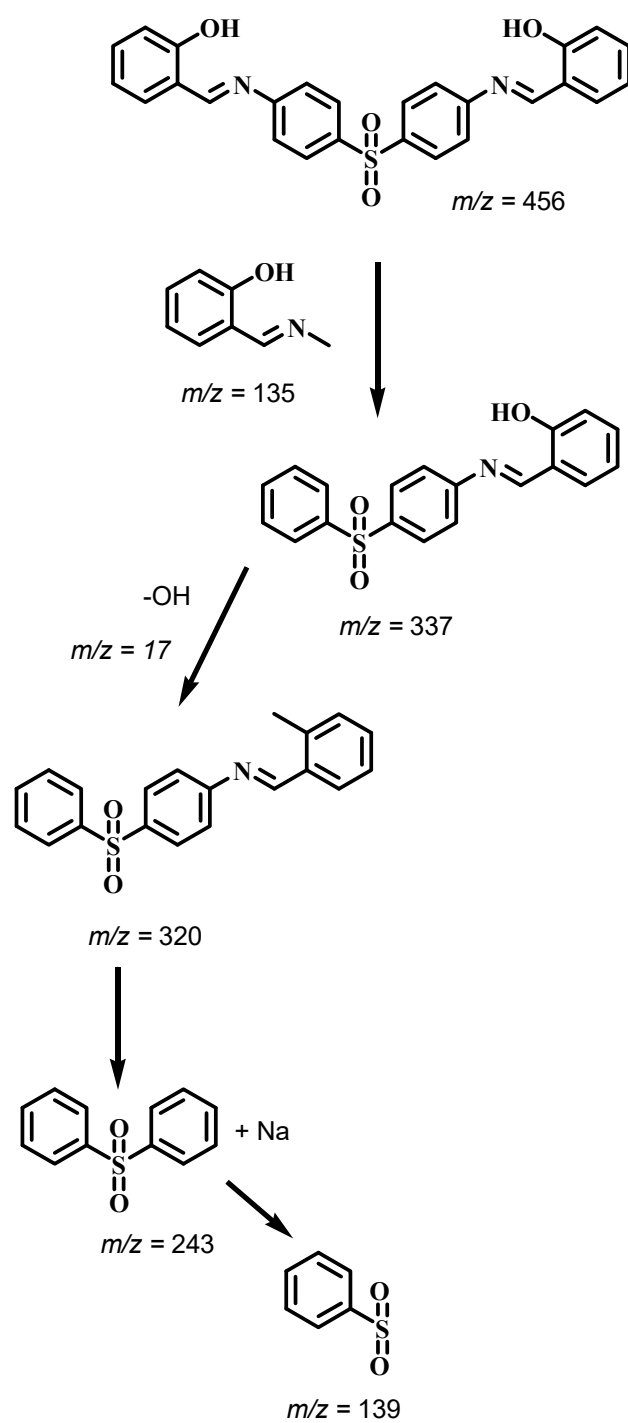
**Figure S20:** Antibacterial activity of Co(II) complexes and ligands against *Aspergillus niger*.



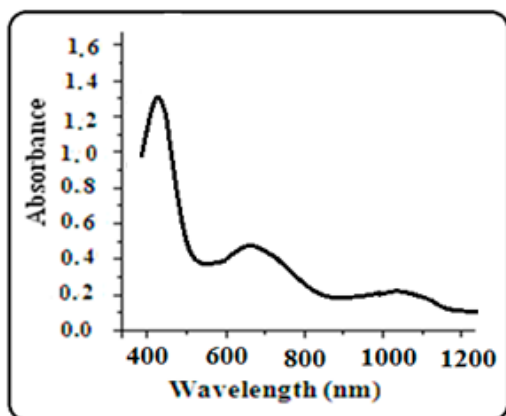
**Figure S21:** Ligand-Antibacterial activity against *Aspergillus niger*.



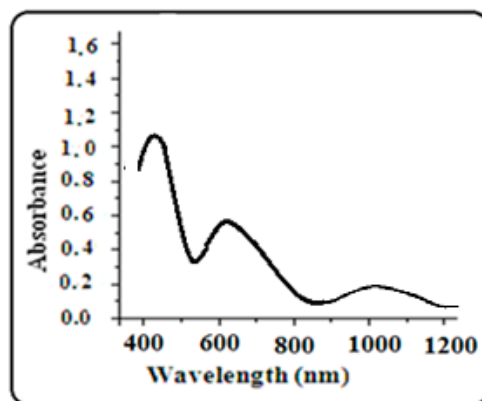
**Figure S22:** Antibacterial activity of Co(II) complexes and ligands against *Bacillus subtilis*.



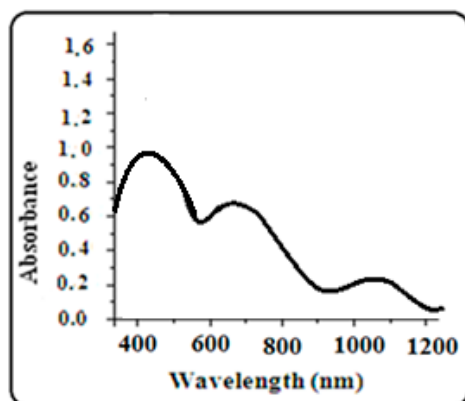
**Figure S23:** Mass fragmentation pattern of L1.



C1



C3



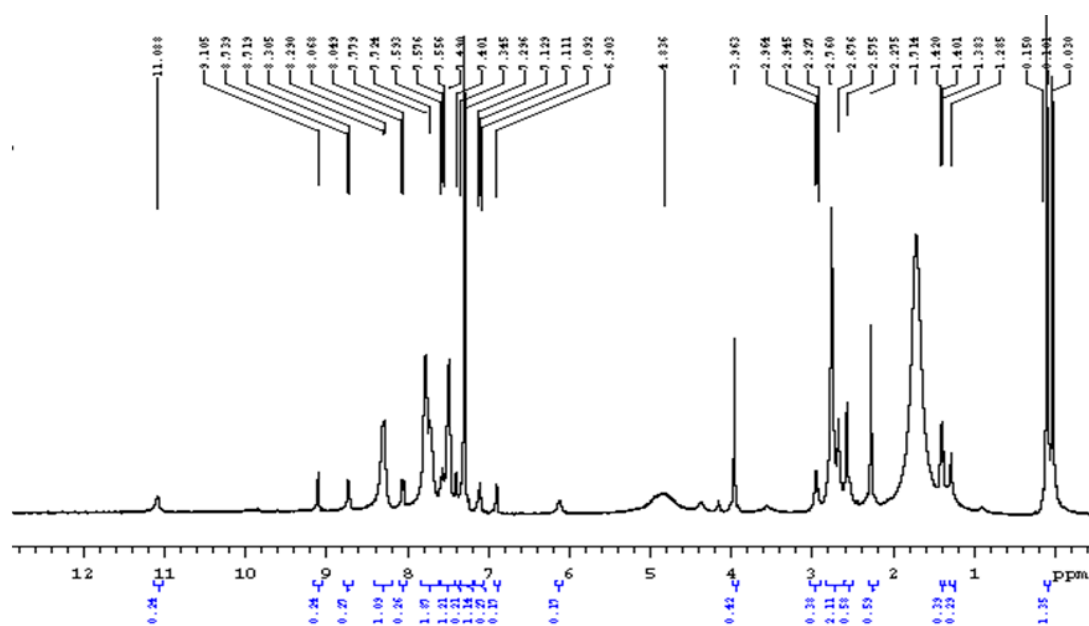
C5

**Figure S24:** UV-Visible absorption spectra of complexes.

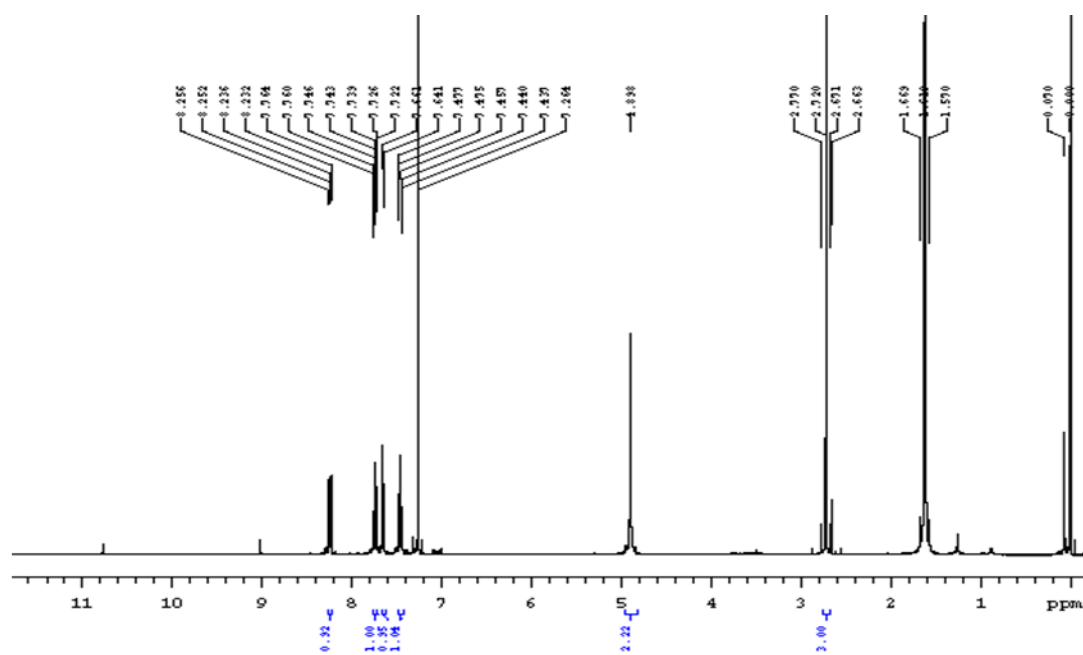




**Figure S25:**  $^1\text{H}$ -NMR spectrum of **C1**.



**Figure S26:**  $^1\text{H}$ -NMR spectrum of  $\text{C}_2$ .



**Figure S27:**  $^1\text{H}$ -NMR spectrum of  $\text{C}_3$ .

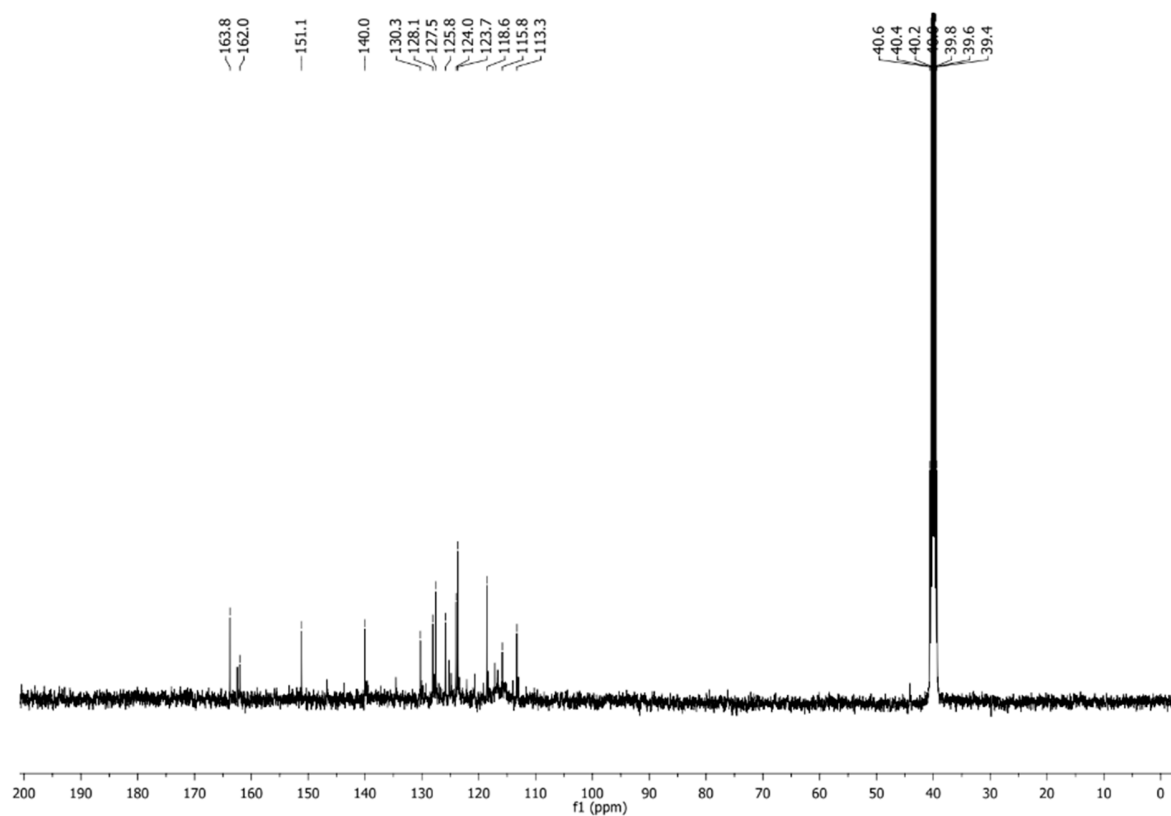
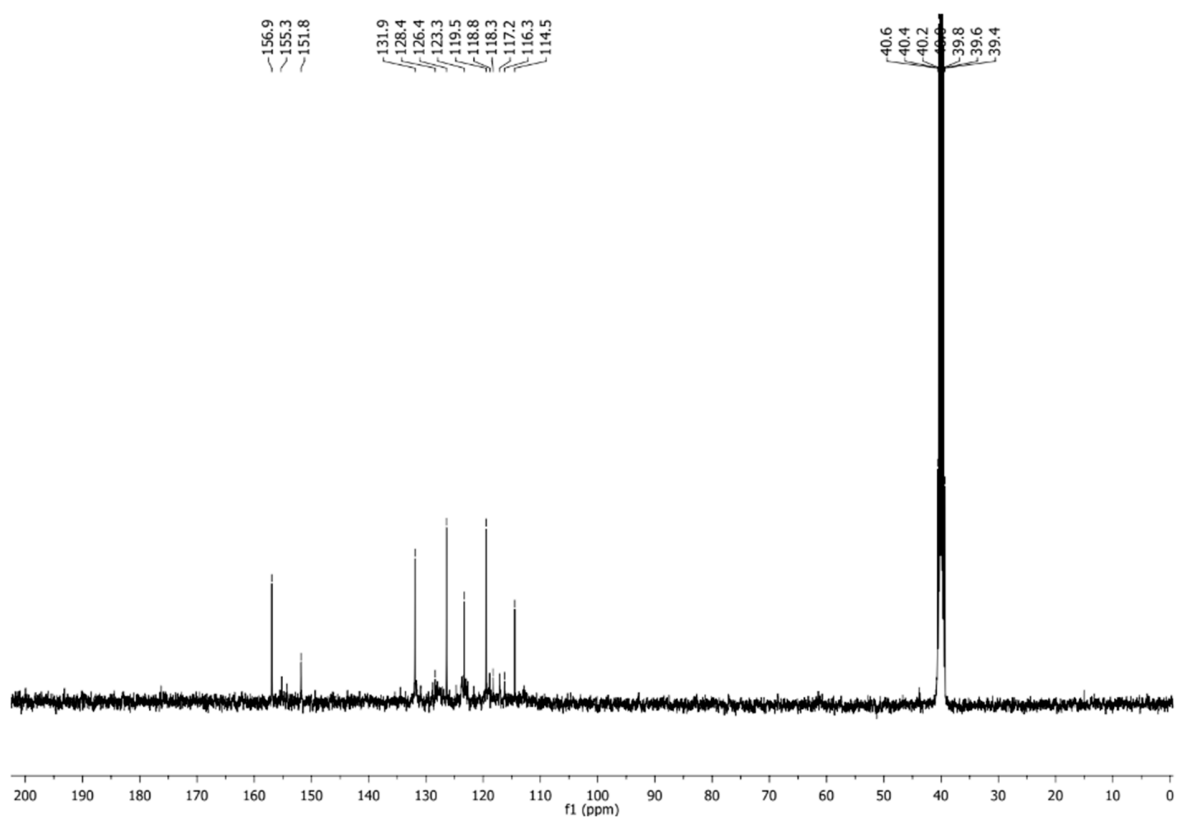
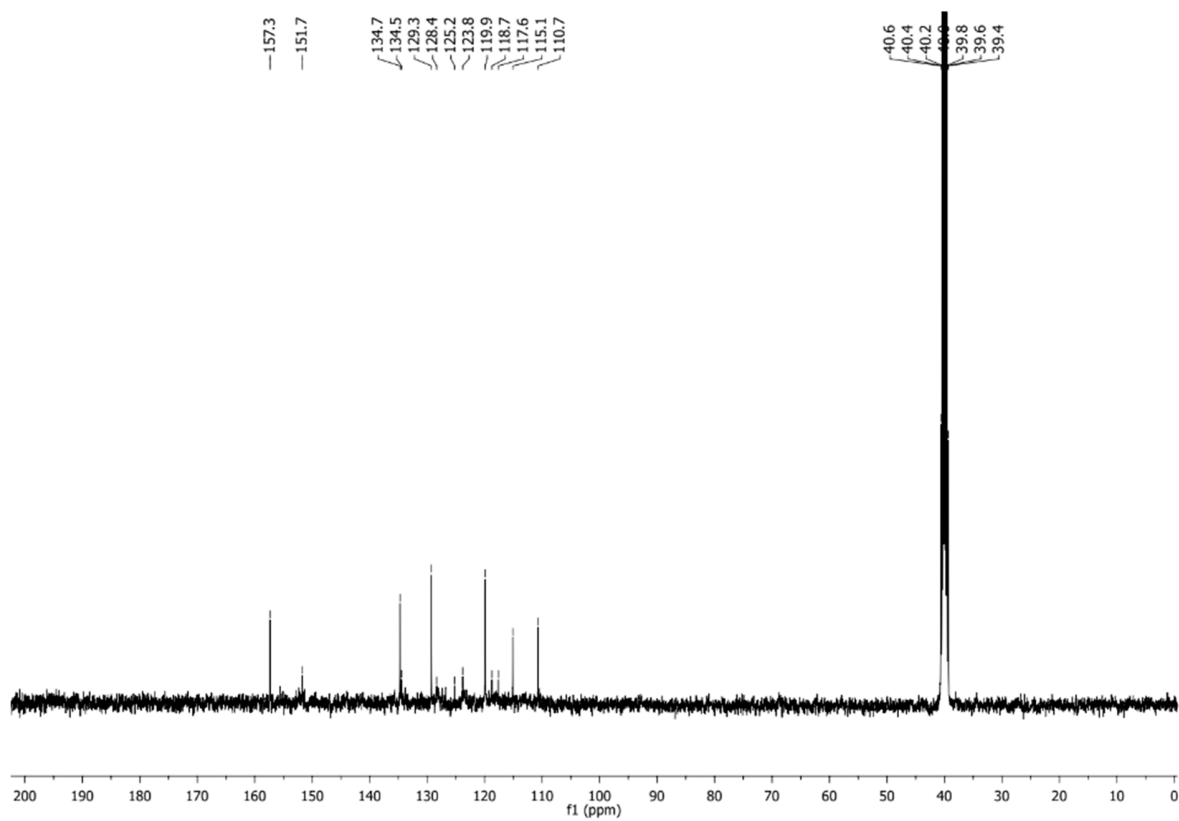


Figure S28:  $^{13}\text{C}$ -NMR spectrum of  $\text{C}_1$ .



**Figure S29:**  $^{13}\text{C}$ -NMR spectrum of  $\text{C}_2$ .



**Figure S30:**  $^{13}\text{C}$ -NMR spectrum of  $\text{C}_3$ .