

## Supplementary information

### Synthesis, Characterization, Biological Studies DFT study of Schiff Bases and Their Complexes Derived from Aromatic Diamine Compounds with Cobalt (II).

Abduljeel Mohammed Abduljeel<sup>1</sup>, Jassim Mohammed Saleh Alshawi<sup>2</sup>, kawkab Ali Hussein<sup>3</sup> and Sadiq M-H. Ismael<sup>4</sup>

<sup>1</sup> [abduljeel.muhammad@gmail.com](mailto:abduljeel.muhammad@gmail.com). ORCID; 0000-0002-4117-4053.

<sup>2</sup> [jassim.salih@uobasrah.edu.iq](mailto:jassim.salih@uobasrah.edu.iq). ORCID; 0000-0002-8715-4971.

<sup>3</sup> [kawkab.ali@uobasrah.edu.iq](mailto:kawkab.ali@uobasrah.edu.iq). ORCID; 0000-0001-9796-0929.

<sup>4</sup> [sadiq.ismael@uobasrah.edu.iq](mailto:sadiq.ismael@uobasrah.edu.iq). ORCID; 0000-0002-8596-2991.

\* Correspondence: [kawkab.ali@uobasrah.edu.iq](mailto:kawkab.ali@uobasrah.edu.iq).

### Tables and Figures.

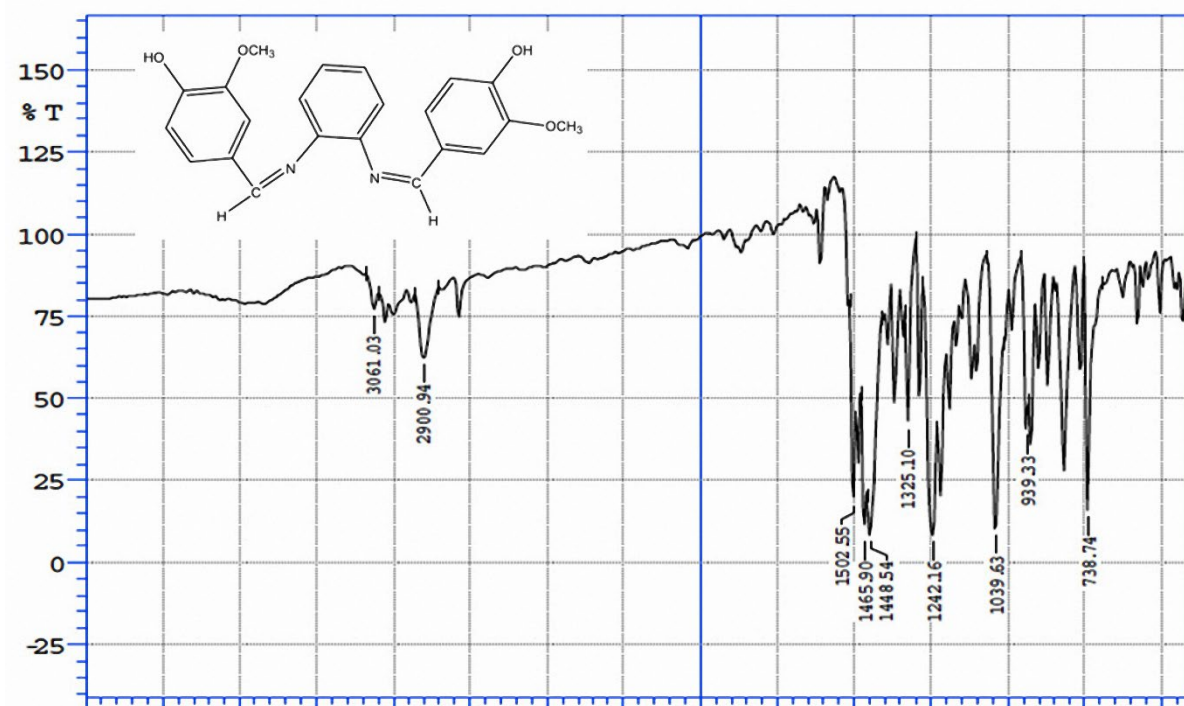


Figure 3: I.R Spectrum of the ligand (L<sup>1</sup>).

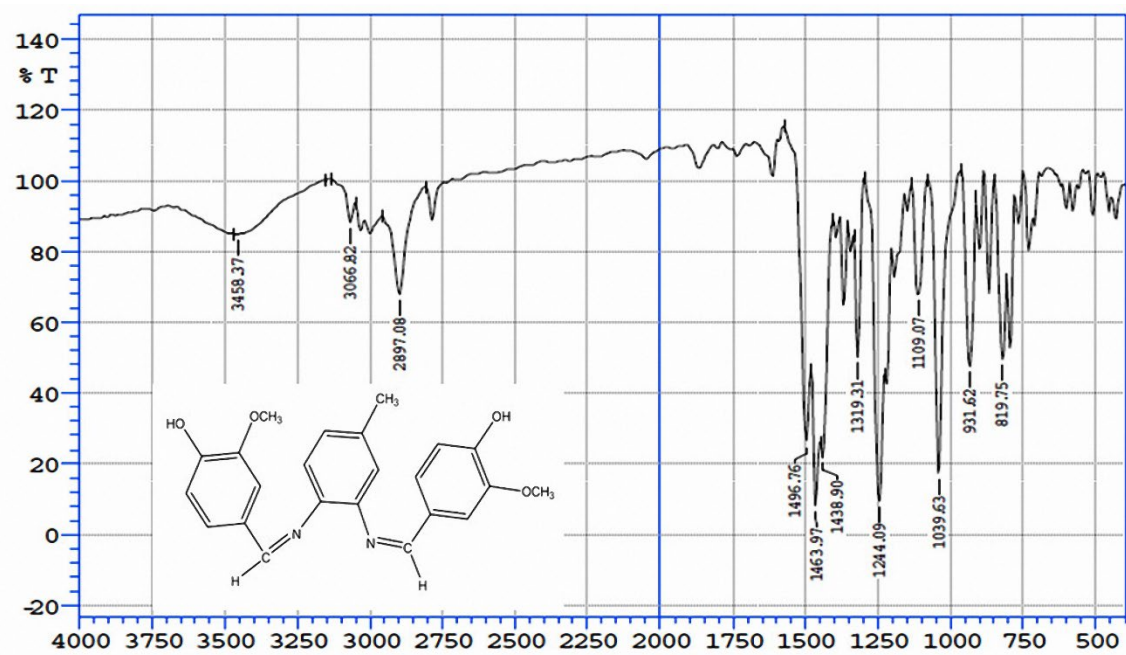


Figure 4: I.R Spectrum of the ligand ( $L^2$ ).

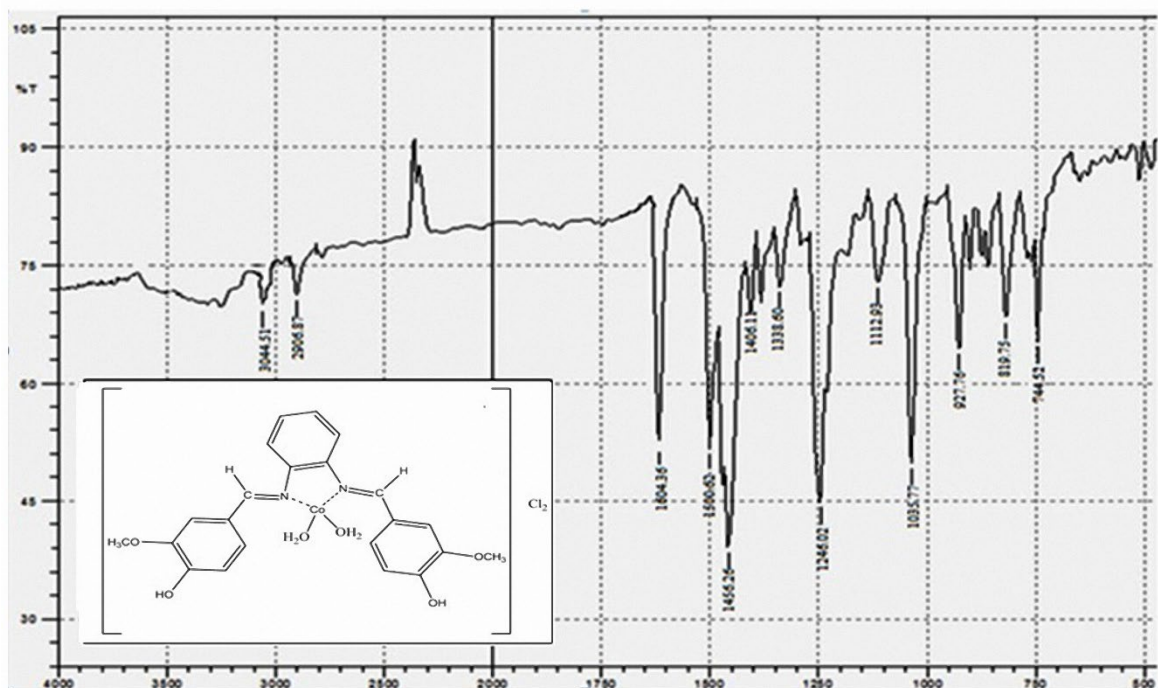


Figure 5: I.R Spectrum of the ligand  $L^1Co$ .

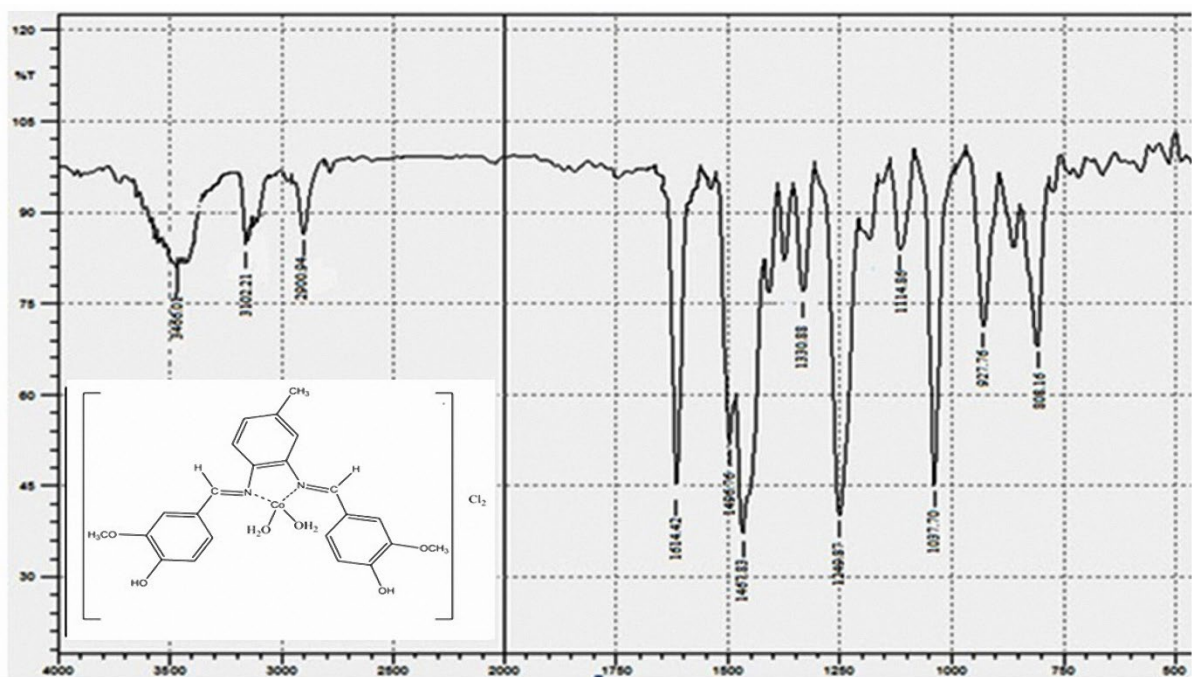


Figure 6: I.R Spectrum of the complex ( $L^2Co$ ).

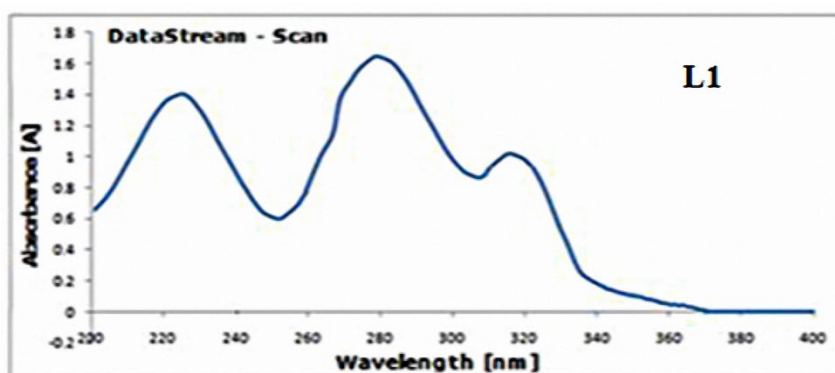


Figure 7: UV spectrum of the ligand ( $L^1$ ).

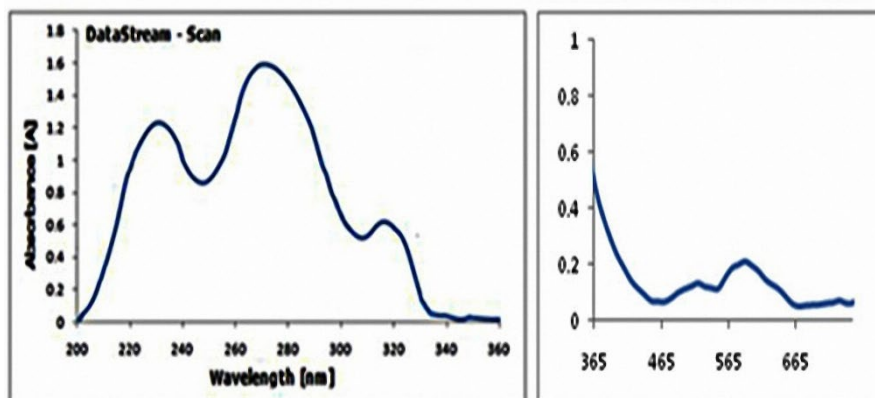


Figure 8: UV -Visible spectra of the complex ( $L^1Co$ ).

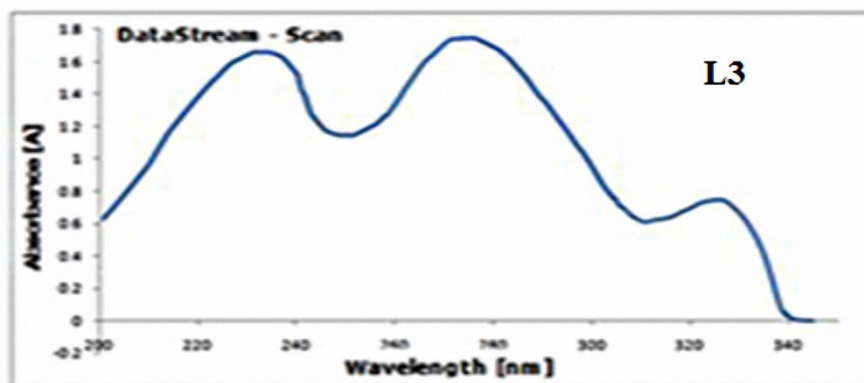


Figure 9: UV spectrum of the ligand ( $L^2$ ).

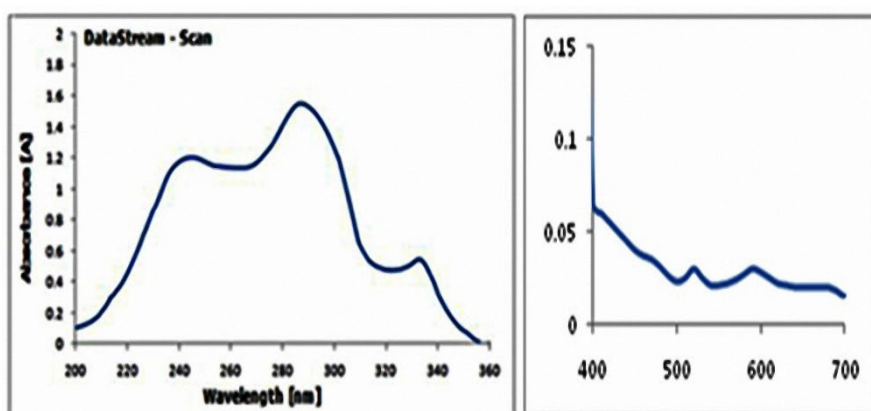


Figure 10: UV -Visible spectra of the complex ( $L^2Co$ ).

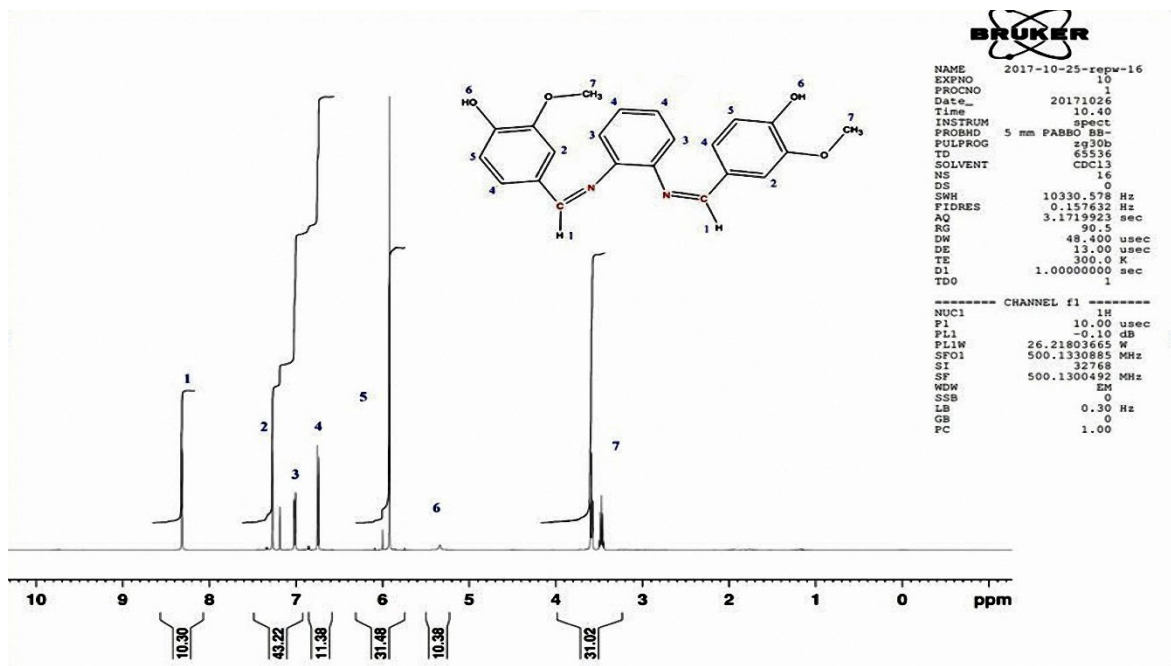


Figure 11:  $^1H$  - NMR spectrum of the ligand ( $L^1$ ).



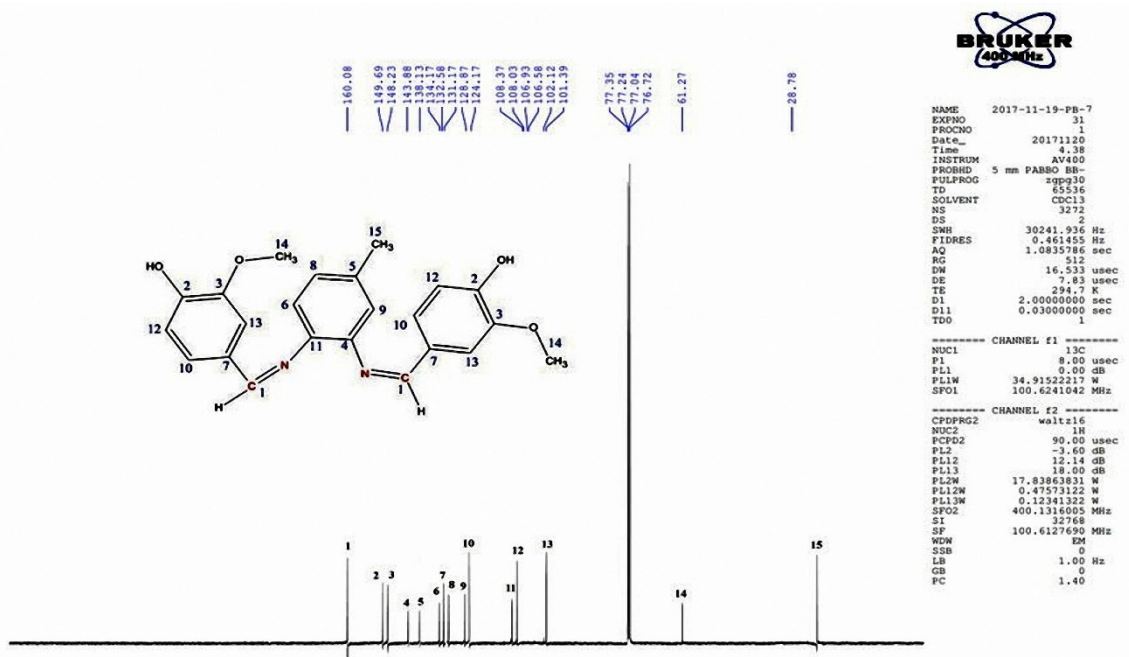


Figure 14: <sup>13</sup>C – NMR spectrum of the ligand (L<sup>2</sup>).