**Supplementary Material**

Variable structural bonding modes and antibacterial studies of thiosemicarbazone ligands of ruthenium, rhodium and iridium metal complexes

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**Figure S1**. 1H NMR spectrum of complex **1**.

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**Figure S2**. 1H NMR spectrum of complex **2**.

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**Figure S3**. 1H NMR spectrum of complex **4**.

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**Figure S4**. 1H NMR spectrum of complex **5**.

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**Figure S5**. 1H NMR spectrum of complex **6**.

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**Figure S6**. 1H NMR spectrum of complex **7**.

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**Figure S7**. 1H NMR spectrum of complex **8**.

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**Figure S8**. 1H NMR spectrum of complex **9**.

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**Figure S9**. 13C NMR spectrum of complex **1**.

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**Figure S10**. 13C NMR spectrum of complex **5**.

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**Figure S11**. 13C NMR spectrum of complex **6**.

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**Figure S12**. 13C NMR spectrum of complex **8**.

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**Figure S13**. Mass spectrum of complex **1**.

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**Figure S14**. Mass spectrum of complex **2**.

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**Figure S15**. Mass spectrum of complex **3**.

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**Figure S16**. Mass spectrum of complex **4**.

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**Figure S17**. Mass spectrum of complex **5**.

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**Figure S18**. Mass spectrum of complex **6**.

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**Figure S19**. Mass spectrum of complex **7**.

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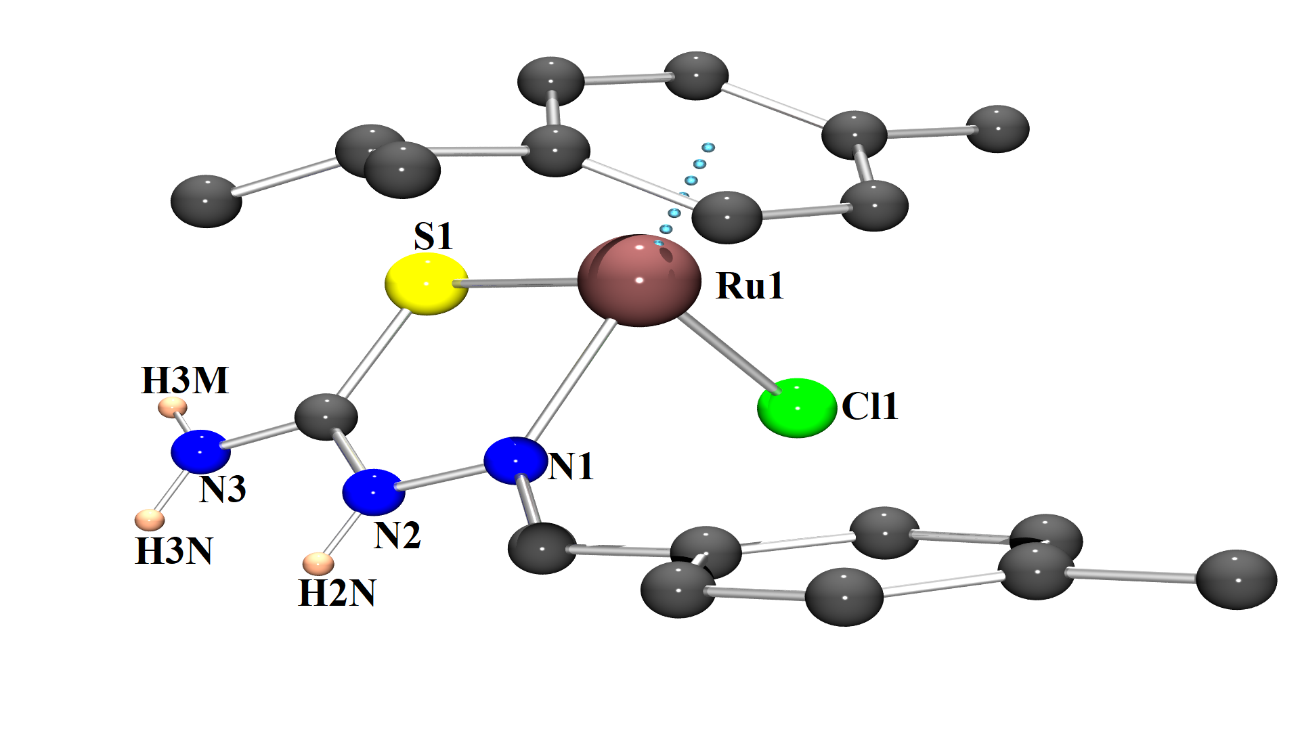
**Figure S20**. Mass spectrum of complex **8**.

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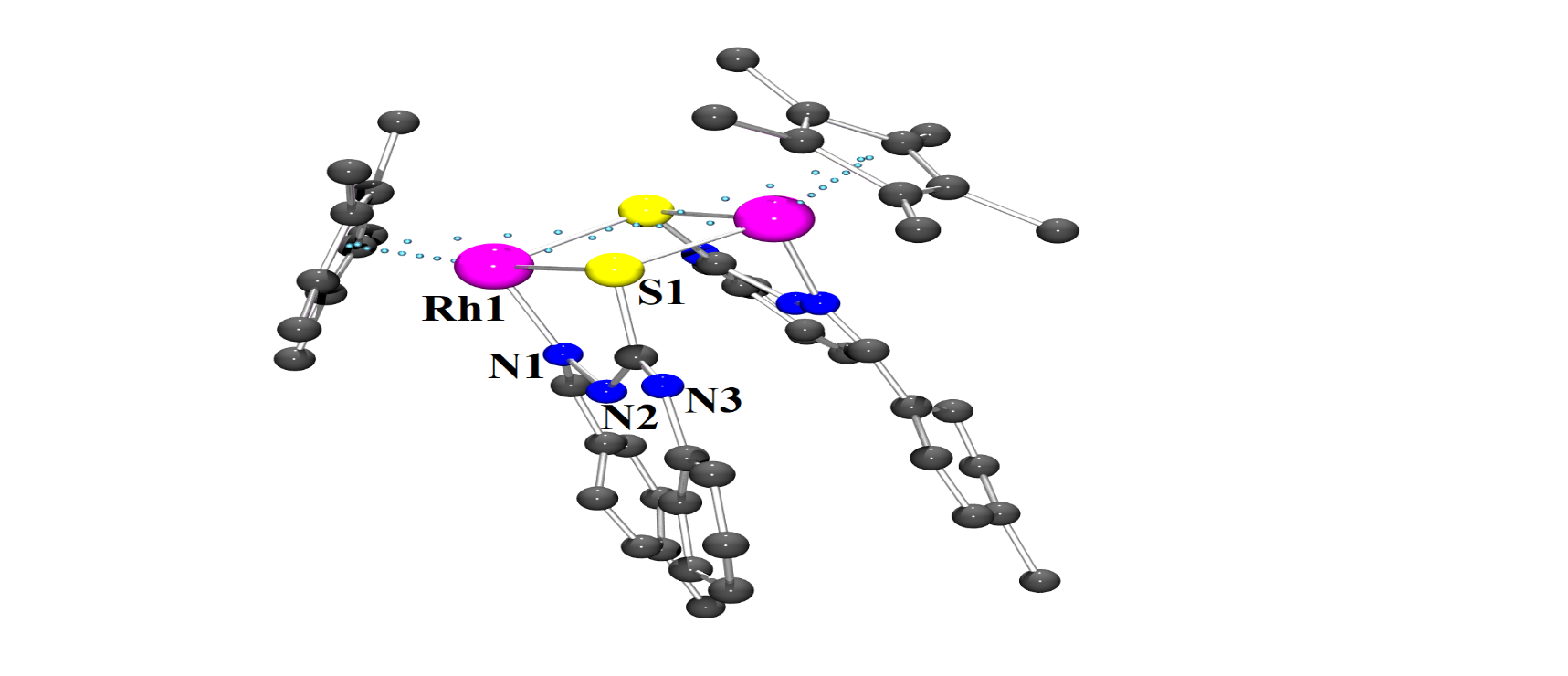
**Figure S21**. Mass spectrum of complex **9**.

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**Figure S22**. UV-Visible spectrum of complexes **1-9**.



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**Figure S24**. Ball and stick diagram of complex **8** presented just to show the mode of bonding. Hydrogen atoms and counter ions have been omitted for clarity.

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**Figure S25**.Antibacterial results of the compoundsagainst gram-positive and gram-negative bacteria strains with ciprofloxacin as the reference.

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**Figure** **S26**.The minimum inhibitory concentration (MIC)and minimum bactericidal concentration (MBC) of the tested compounds.