

List of Tables

- Table 2.1** Crystal data and details of refinements for complexes **1** and **2**.
- Table 2.2** Coordination bond lengths (\AA) and angles ($^{\circ}$) for complex **1**.
- Table 2.3** Coordination bond distances (\AA) and angles ($^{\circ}$) for complex **2**.
- Table 3.1** Crystallographic Data and Details of Refinements for complexes **3-5**.
- Table 3.2** Selected bond lengths (\AA) and angles ($^{\circ}$) for compound **3**.
- Table 3.3** Selected bond lengths (\AA) and angles ($^{\circ}$) for compound **4**.
- Table 3.4** Selected bond lengths (\AA) and angles ($^{\circ}$) for compound **5**.
- Table 4.1** Crystallographic data and details of refinements for complexes **6-8**.
- Table 4.2** Bond distances (\AA) and angles ($^{\circ}$) for complex **6**.
- Table 4.3** Bond distances (\AA) and angles ($^{\circ}$) for complex **7**.
- Table 4.5** H-bond parameters ($\text{\AA}/\text{deg}$) for complexes **7** and **8**.
- Table 4.4** Bond distances (\AA) and angles ($^{\circ}$) for complex **8**
- Table 5.1** Crystal data and structure refinement parameters for complexes **9** and **10**.
- Table 5.2** Hydrogen bonding geometry of the complexes (\AA , $^{\circ}$).
- Table 5.3** Geometrical parameters (\AA , $^{\circ}$) for the C–H \cdots π interactions.
- Table 5.4** Geometrical parameters (\AA , $^{\circ}$) for metal \cdots π interactions.