## **Supplementary Information**

## Aggregation of imine – based metallo-supramolecular architectures through $\pi$ - $\pi$ interactions.

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Figure S1: Comparison of Ag (red) and Cu (blue) structures



Figure S2: Comparison of Fe (red) and Ni (blue) structures



**Figure S3:** Additional view of the packing diagram for the  $[Cu_2(L)_2]^{2+}$  cations, showing extensive  $\pi$ - $\pi$  interactions between the isoquinoline units.



**Figure S4:** Colour view of Figure 1: a) Molecular structure of the cation in the copper complex  $[Cu_2(L)_2](BF_4)_2$  b) Space-filling representation showing the box structure of this copper complex. Hydrogen atoms, anions and solvent molecules are omitted for clarity



Figure S5: Colour view of Figure 3: a) Molecular structure of the cation in the [Ag<sub>2</sub>L<sub>2</sub>][PF<sub>6</sub>]<sub>2</sub> complex. b) Space-filling representation illustrating the box structure of this meso- silver complex. Hydrogen atoms are omitted for clarity.



**Figure S6:** Colour view of Figure 5: Molecular structures of the a) the iron complex cation  $[Fe_2L_3]^{4+}$  b) the nickel complex cation  $[Ni_2L_3]^{4+}$ . Hydrogen atoms, solvent molecules and anions are omitted for clarity and a single enantiomer of each is shown although both enantiomers are present in the structure.



**Figure S7:** Colour view of Figure 7: Packing diagram of  $[Fe_2L_3]^{4+}$ , showing the  $\pi$ - $\pi$  interactions.