

## **Synthesis and Photophysical Investigations of Polynuclear Rhenium(I) Compounds Containing Bridging Imine Donors**

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Polynuclear molecular designs are attractive for light absorption over a broad spectral range, particularly when multiple chromophores may be incorporated into a single scaffold. The ability of Re(I) to accommodate a variety of ligands while maintaining efficient absorption and emission properties motivates its use in metallacycles and cages intended for light harvesting applications. Towards this end, a multidentate N-donor ligand with imine sites was selected for the formation of dinuclear complexes. The ligand is formed from ethylenediamine, 1,4-benzenedicarboxaldehyde, and 2,4,6-trimethylbenzaldehyde through a series of Schiff-base condensation reactions. Metalation is envisioned by treatment with  $\text{Re}(\text{CO})_5\text{Br}$ , resulting in the loss of two carbonyl ligands. Photophysical investigations will establish the extent of electronic communication between the metal centers and evaluate the emissive properties of the dinuclear complex.