

Ruthenium Complexes that Break the Rules: Structural Features Controlling

Dual Emission

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Supporting Information

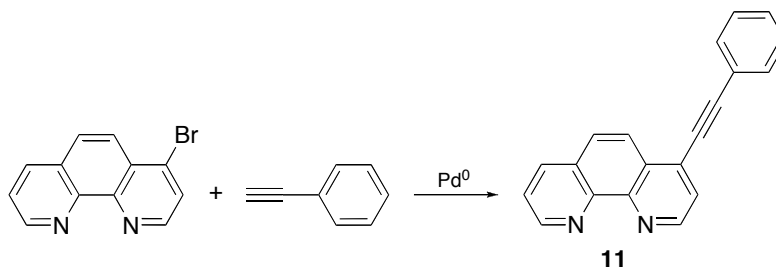
Synthesis

Steady-State UV/vis and Fluorescence Studies

Figure S1. UV/Vis and fluorescence spectra of **11** with and without Zn^{II}.

Figure S2. Emission of compounds **8**, **9** and **10**.

Synthesis



Compound 11. **11** was obtained from 4-bromo-1, 10-phenanthroline in the same manner as the metal complexes. The compound was purified via flash chromatography (silica gel, 5% MeOH/CH₂Cl₂) to give the product in 65% yield. ¹H NMR (CDCl₃) δ 9.14 (dd, *J*=3.9, 1.5 Hz), 1H), 9.10 (d, *J*=4.8 Hz, 1H), 8.27 (d, *J*=8.8 Hz, 1H), 8.16 (dd, *J*=8.1, 0.5 Hz, 1H), 7.77 (d, *J*=9.2 Hz, 1H), 7.70 (d, *J*=5.6 Hz, 1H), 7.64-7.62 (m, 2H), 7.58-7.55 (m, 1H), 7.39-7.38 (m, 3H). ¹³C NMR (CDCl₃) δ 150.65, 149.78, 146.34, 136.23, 132.17, 130.03, 129.69, 128.84, 128.42, 127.27, 125.50, 124.57, 123.49, 122.28, 99.23, 85.31. ESI-MS calcd for C₂₀H₁₂N₂ [MH]⁺ 281.3, found MH⁺ 281.5.

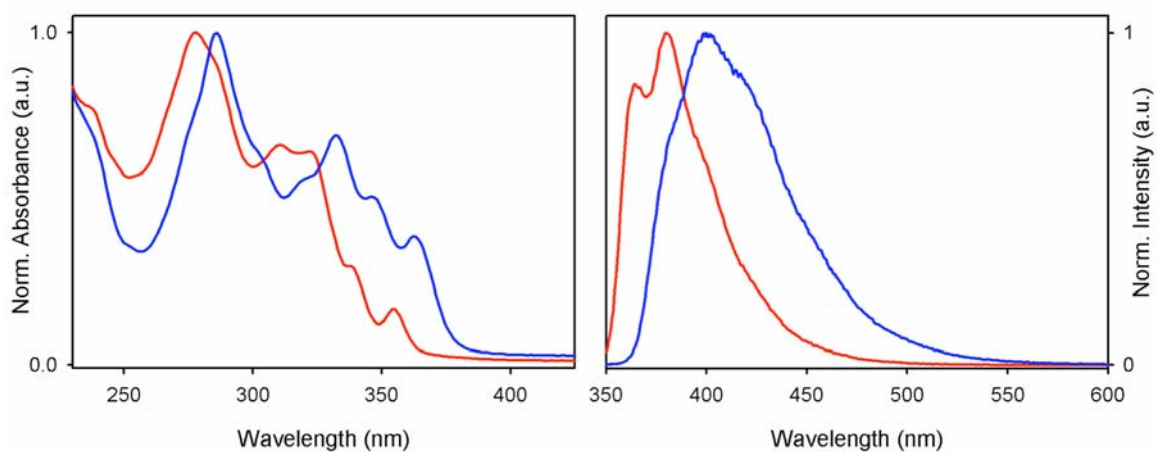


Figure S1. UV/Vis (left) and emission (right) of **11** in the absence (red) and presence (blue) of excess Zn^{II}.

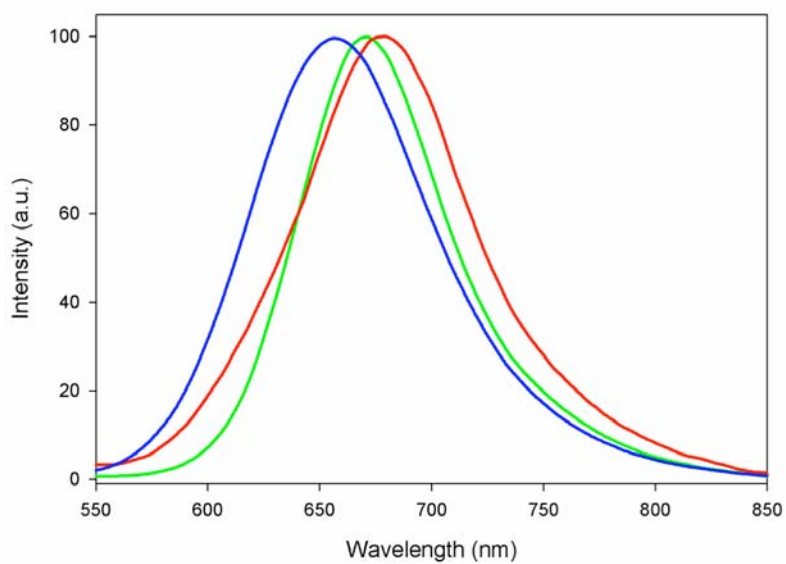


Figure S2. Steady state emission of compounds **8** (red), **9** (green), and **10** (blue) following excitation at 450 nm.