COPPER(II) DIARYLAZO COMPLEXES: A VERSATILE NEW FAMILY OF MOLECULAR SPIN QUBITS

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We are interested in the coordination chemistry of π-extended diarylazo ligands featuring ONO and ONS donor sets (Figure 1). These redox-active scaffolds can stabilize open-shell oxidation states and facilitate intramolecular electron transfer with transition metal centers (valence tautomerism). In this presentation, we report the structural and electronic characterization of a series of copper(II) complexes containing these ligands. Notably, pulsed EPR experiments demonstrate relatively long T_1 and T_2 relaxation times, maintaining coherence at elevated temperatures—a critical step toward the development of molecular spin qubits for ambient-temperature applications.

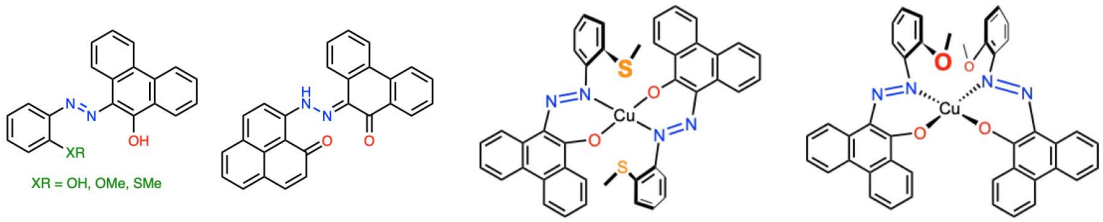

Figure 1. Selected ligands (left) and complexes (right) to be discussed.