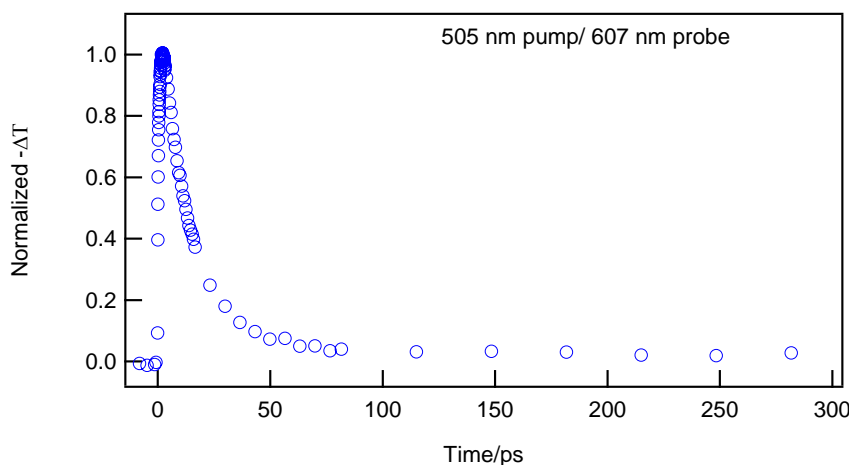


Control of Electron Transfer Rates via Synthetic Modifications in Ruthenium (II) Donor-Bridge-Acceptor Systems.

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In this work we have designed and synthesized a series of Donor-Bridge-Acceptor (D-B-A) complexes where excited-state molecular motions in the bridge torsional coordinates are used to control the rates of intramolecular electron transfer. Specifically, we have been exploring whether systems can be engineered and synthesized to exploit conformationally active structural modes of the bridge in Ruthenium(II)-based D-B-A systems as a strategy for trapping charge-separated redox equivalents. The studies presented here investigate the molecular motions of these complexes following electronic excitation.



Transient absorption kinetics indicative of electron transfer for $[\text{Ru}(\text{bpy})_2(\text{bpy-phenyl-MV})]^{4+}$; one of the assemblies synthesized in our lab.