

EMISSION AND fs/ns-TRANSIENT ABSORPTION OF ORGANOMETALLIC COMPLEXES BOUND TO A DINUCLEAR METAL CENTER

CHRISTOPHER B. DURR, SAMANTHA E. BROWN-XU and MALCOLM H. CHISHOLM, *The Ohio State University, Department of Chemistry and Biochemistry, Columbus, Ohio 43210.*

Compounds containing a MM quadruple bond (M = Mo or W) of the form $M_2L_2L'_2$, where L and L' are conjugated organic ligands, show interesting photophysical properties along with a metal-to-ligand charge transfer (MLCT) band that is tunable throughout the UV-Vis-NIR spectra. Recently, our attention has shifted towards ligands that incorporate a secondary transition metal complex bound to an organic moiety. Along with allowing for a second tunable MLCT band for better coverage of the solar spectrum, these hybrid molecules show unique spectroscopic properties that were explored using fs/ns-transient absorption and UV-Vis/NIR emission. These techniques allow for the elucidation of the electronic character of the excited states as well as their lifetimes. This knowledge will be put to use in the design of new materials that could later be incorporated into next generation photovoltaic devices.