TIME RESOLVED PHOTOACOUSTIC CALORIMETRY AND THE DEBYE-HÜCKEL THEORY: DETERMINING ELECTROSTRICTION ASSOCIATED WITH EXCITED STATE Ru(II)(L)3 COMPLEXES. Audrey Mokdad and Randy W. Larsen, Department of Chemistry, University of South Florida, 4202 E. Fowler Ave., Tampa, FL 33620

Here we have examined the molar volume changes associated with the excited state charge separation in Ru(II) *tris* 2,2' bipyridine and Ru(II) *tris* phenanthroline complexes. Utilizing the ionic strength dependence of the exited state volume changes, obtained from phtotoacoustic calorimetry, with Debye-Hückel theory it was determined that the metal to ligand charge transfer produces a solvent excluded volume change of ~ - 2 mL mol^{-1} with a z value of 1.5 for both complexes. These results will be discussed in the context of charge delocaliztion within these complexes leading to minimal electrostriction.