Physical Chemistry Seminar

Tuesday, November 17, 2015 | **11:00 am** | **Room 1315 Chemistry Building**

Vibrationally Driven Reactions of Bromine Atoms in Solution

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We look to drive the endothermic hydrogen-abstraction reactions of Br atoms with CH_3OH and DMSO. Photolysis of Br_2 or $CHBr_3$ generates Br atoms in solution that quickly complex with the solvent, excitation of the overtone of the C-H stretching vibration in the two solvents provides sufficient energy to overcome the endothermicity of the reaction, and time-resolved pump-probe spectroscopy monitors the evolution of the Br-solvent complex as a marker for reaction. These UV-probe results show a reproducible IR-dependent signal indicative of vibrationally driven chemistry; however, IR-probe studies intending to monitor the formation of the HBr product have been unsuccessful.

Refreshments will be available prior to the seminar at 10:45 a.m. outside room 1315