## Abstract Submitted for the DAMOP14 Meeting of The American Physical Society

Field ionization and photoionization of CH<sub>3</sub>I perturbed by diatomic molecules: Electron scattering in H<sub>2</sub>, HD, D<sub>2</sub>, O<sub>2</sub> and CO<sup>1</sup> CHERICE EVANS, KAMIL KRYNSKI, Queens College – CUNY, ZACHARY STREETER, University of Louisiana at Monroe, OLLIEANNA BURKE, Queens College – CUNY, GARY L. FINDLEY, University of Louisiana at Monroe — Photoionization and field ionization studies of CH<sub>3</sub>I doped into the diatomics H<sub>2</sub>, HD, D<sub>2</sub>, O<sub>2</sub> and CO (up to a density of  $\rho = 1.0 \times 10^{21}$  cm<sup>-3</sup>) are presented. These data are used to extract the zero-kinetic-energy electron scattering length of each diatomic molecule from the density-dependent shift of the CH<sub>3</sub>I ionization energy. Scattering lengths obtained from fits of the photoionization spectra are compared to those determined from field ionization measurements.

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