

PHOTODISSOCIATION DYNAMICS OF ALKYL NITRITES  
ADSORBED ON AG(111)<sup>1</sup>Seong Kyu Kim, <sup>2</sup>J. M. White<sup>1</sup>Department of Chemistry, Sungkyunkwan University, Suwon 440-746<sup>2</sup>Department of Chemistry and Biochemistry, The University of Texas, Austin, TX 78712, U.S.A.

When *t*-butyl nitrite (tBN) adsorbed on Ag(111) is irradiated with 50 eV electrons, the dissociation to form *t*-BuO and NO take place. The dissociation cross section over the dosed amount shows that the electron attachment from the substrate is the major contribution. However, the cross section varies from the monolayer to overlayer and changes by the surface annealing conditions, implying that the morphology of the tBN islands influences the electron migration. We will present a model that explains the experimental data. Finally, we wish to present a model based on the potential energy surfaces of alkyl nitrite relative to the substrate that may explain the puzzle of the photodissociation mechanism of the alkyl nitrite/silver, i.e. no contribution of photoelectrons from the surface.