PHOTODISSOCIATION DYNAMICS OF 2-BROMOETHYLNITRITE AT 351 NM AND C-C BOND FISSION IN THE β -BROMOETHOXY RADICAL PRODUCT

LEI WANG, Department of Chemistry, The University of Chicago, Chicago, IL 60637; RABI CHHANTYAL-PUN, Department of Chemistry, The Ohio State University, Columbus, OH 43210; MATT D. BRYNTESON, Department of Chemistry, The University of Chicago, Chicago, IL 60637; TERRY A. MILLER, Department of Chemistry, The Ohio State University, Columbus, OH 43210; and LAURIE J. BUTLER, Department of Chemistry, The University of Chicago, IL 60637.

We used a crossed laser-molecular beam scattering experiment to investigate the primary photodissociation channels of bromoethylnitrite at 351 nm. Only the O-NO bond fission channel forming the β -bromoethoxy radical and NO, no HBr photoelimination, was detected upon 351 nm photoexcitation,. The subsequent decomposition of the highly vibrational excited β -bromoethoxy radical to formaldehyde + CH₂Br was also investigated.