

PHOTOCHEMISTRY OF BIACETYL ISOLATED IN INERT GAS MATRICES

SHAWN FINNEY and C. A. BAUMANN, *Department of Chemistry, University of Scranton, Scranton, PA 18510-4626.*

We report the results of ultraviolet photolysis of biacetyl ((CH₃CO)₂) trapped in solid nitrogen, oxygen, argon, krypton, and xenon. The photoproducts were characterized via infrared spectroscopy. Irradiation at 405 nm results in the production of CO, CH₃CO, and CH₃, which are the gas phase photoproducts at this wavelength^a. The acetyl produced under these conditions exhibits a carbonyl stretching frequency between 1802 and 1810 cm⁻¹ which is shifted from that previously observed in matrices.

^aG. F. Sheats, W. A. Noyes, Jr., *J. Am. Chem. Soc.* 77, 1421 (1955).