PHOTOCHEMISTRY OF MATRIX-ISOLATED VINYL ACETATE

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Vinyl acetate ($C_4H_6O_2$) was isolated in matrices of nitrogen, argon, and krypton. The ultraviolet irradiation ($\lambda < 250$ nm) of the matrix results in the formation of a number of products including carbon dioxide, carbon monoxide and ketene (CH_2CO). Irradiation of the vinyl-$^{13}C_2$ labeled compound yields a mixture of labeled and unlabeled CH_2CO, CO_2 and CO, indicating that these products arise from the acetyl and the vinoxy moieties. The product $^{12}C/^{13}C$ ratios vary with matrix (N_2>Ar>Kr). The photolysis efficiency is reduced when the parent compound is deuterated.