

PHOTOCHEMICAL REACTION OF 4-PYRIMIDONE DERIVATIVES

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Photolysis of (1) in methanol afforded a fused β -lactam (1a). Structure of (1a) was determined by X-ray crystallographic analysis. Irradiation of fused 4-pyrimidone (2) and 2,3,6-substituted trialkyl 4-pyrimidone (3)-(8) gave β -lactam (2a)-(8a). The conversion yield of (1a)-(8a) was 54-82%. Although the β -lactam derivative could not be found in the photolysis of (9)-(12) in methanol, β -enamino ketone (9a)-(12a) and (9b) were separated by column chromatography on alumina. The conversion yield of (9a)-(12a) and (9b) was 3-14%. The structural evidence of these photoproducts (1a)-(12a) and (12b) firmly supports the fact that 4-pyrimidone derivative (1)-(12) is undergoing an electrocyclic reaction to form an bicyclic intermediate which may react with methanol.

