

**One-Pot Photochemical Formation of Unsymmetrical
1,4-Diketones from 1,3-Diketones and Amines**

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Photoreactions of carbonyl compounds with amines have been investigated in which reductive diols are major products. We recently found that irradiation of 1,3-diketones, such as dibenzoylmethane and 2,4-pentanedione, and *N,N*-dimethylaniline in methanol with 300 nm UV light afforded unsymmetrical 1,4-diketones. On the other hand, when 2-substituted dibenzoylmethanes were irradiated with amine in methanol, 1,4-diketones were not found to be produced. *N,N*-Dimethyl-1-naphthylamine was also irradiated in the similar condition to give unsymmetrical 1,4-diketone.

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