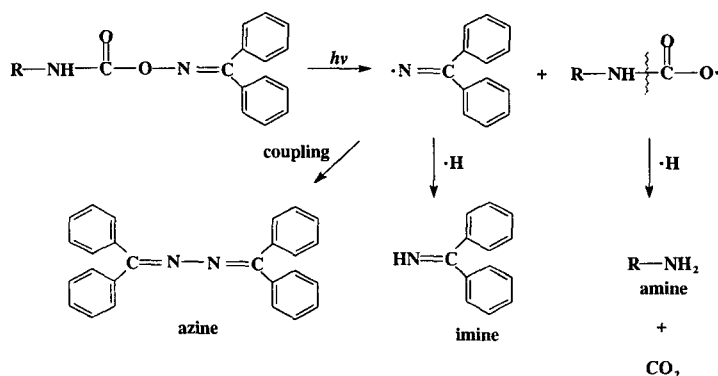


A POLYMERIC PHOTOBASE GENERATOR CONTAINING OXIME-URETHANE GROUPS AND ITS APPLICATION TO IMAGE RECORDING MATERIALS

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The photobase generators have been applied as photochemical cross-linking agent for the polymers containing epoxy groups, photoresists, imidation catalysts, and surface modification. In previous studies, we reported that the photolysis of oxime-urethane derivatives led to the photochemical formation of amines that induce a cross-linking reaction of epoxy resin upon heating. The photochemical and photophysical phenomena of the oxime-urethane derivative were investigated with a laser flash photolysis study. Irradiation of an epoxy resin containing oxime-urethane groups also led to the formation of pendant amines, which in turn effectively catalysed the thermal cross-linking reaction of epoxy groups in the polymer chain. The copolymer containing oxime-urethane groups can be used for image recording materials via a suitable color forming reaction. For example, the photochemically produced aromatic amino groups can be developed by the diazo coupling reaction. The photochemically produced amino groups on the polymer surface can also be used as an image recording process by dyeing with acid dye after treatment with HCl. It can also be used as a fluorescent image recording material by treatment with fluorescent dye.



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