

Syntheses of Photosensitive Polymers
Containing Oxime Groups and Their
Photosensitive Characteristics

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Biacetylmonooxime (BAMO) and 3-oximino-2,4-pentanedione (OPDO) were synthesized from methylethylketone and acetylacetone, respectively. Their derivatives, oxime esters, could be photolyzed by the irradiation of U.V. light, and the free radicals produced during the photolysis of these oxime esters could initiate the polymerization of methylmethacrylate (MMA).

Based on these results, photoinduced graft copolymerization was carried out. Polymers containing oxime esters in the pendant group, poly (EMO-co-MMA) and poly (PMO-co-MMA), could be photografted in the presence of vinyl monomers such as acrylonitrile (AN). The graft yield of polymers increased with the mole fraction of EMO and PMO. However, the main chain scission during the photografting resulted in the decrease of inherent viscosity.