

Surface Grafting onto Kevlar Fiber

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In order to improve the interfacial interactions of Kevlar fiber with composite matrix polymers, the surface grafting of vinyl monomers such as acrylonitrile(AN), methacrylonitrile(MAN), methylacrylate(MA), acrylamide(AAm) and methylvinylketone(MVK) on the metalated-kevlar fibers in DMSO was carried. The effect of reaction conditions such as metalation time, reaction time, NaH concentration, and monomer concentration on grafting were investigated. And the properties of surface grafted Kevlar fibers were also studied. For the fixed reaction conditions used, the graft yields are in the order : MVK>MAN>AAm>AN>MA.

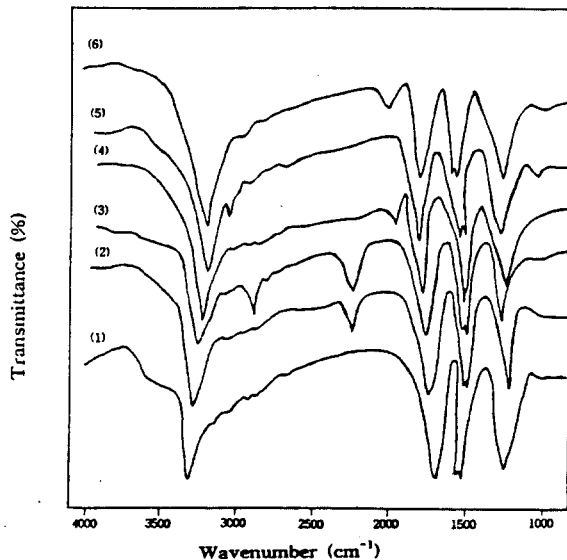


Fig. Infrared spectra of PPTA fiber(1) and grafted fibers [(2);AN, (3);MAN, (4);MA, (5);AAm, (6);MVK]