Synthesis and characterization of ionic crosslinked polyimide-polyurethane networks

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Ionic crosslinked polyimide-polyurethane networks were synthesized and characterized. For the preparation of these networks, first telechelic bromo-terminated polyurethanes were prepared from telechelic isocyanate-terminated polyurethane and 2-bromoethanol. Acridine groups containing polyimide was separately prepared from 1,4,5,8-naphthalenetetracarboxylic dianhydride, 2-bis[4-(4-aminophenoxy)phenyl] hexa fluoropropane and 3,6-diaminoacridine hemisulfate. When telechelic bromo-terminated polyurethane and acridine groups containing polyimide were reacted at 60 °C, ionic crosslinked networks were formed. The effect of changing bromine content and molecular weight of polyurethane was studied.