

Synthesis of Poly methyl siloxanes containing 2,2,3,4,4,4-hexafluorobutyl acrylate in the side chains

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In this study, the new fluorine substituted polysiloxanes are synthesized via hydrosilylation reaction for the application of release agent. 2,2,3,4,4,4-hexafluorobutyl acrylate(f-acrylate) is introduced in polymethylhydrosiloxane(PMHS) using platinum(0)-divinyl tetramethyldisiloxane as a catalyst. Hexene is also used to prevent the intermolecular crosslinking. From the surface angle measurement, we found that the surface properties of fluorine substituted polysiloxanes are controlled by the degree of fluorine substitution which can be changed by the feed ratio between PMHS and f-acrylate in hydrosilylation reaction.