

Preparation of thermosetting polyurethane microcapsule with azide group

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In this study, the polyurethane microcapsules with azide group were prepared and surface click reaction was performed. Microcapsule based on azido-polyurethane is functionalized on surface through azido-alkyne click reaction. Encapsulation is synthesized by emulsion polymerization at the interface of oil phase which are azido-prepolymer, core materials and chlorobenzene and water with chain extender. To characterize the azido group on microcapsule, Fourier transformed infrared spectroscopy was employed. The synthesized microcapsule's shell has azido group so it could be azido-alkyne click reaction. We have confirmed the click reaction between the microcapsule and certain alkyne dye. And it is possible to apply to various fields.