

A Noble Synthesis of AB₂ Hyperbranched Polymers Substituted with Acryloyl Chloride

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Recently many researches have concentrated dendrimers that possessed advantages in its properties. But they required time dependency and prerequisites for the desire product, so we tried the improved process for the synthesis of hyperbranched dendrimers to save time. In this research, a novel formation of dendrimer derived from acryloyl chloride monomers was accomplished. Organo-halogen compounds were pertinent materials to generate ammonium salt via the reaction of ammonia. The halides such as acryloyl chloride were substituted to primary ammonium salt by the way of ammonolysis that served as monomer unit. The formation and properties of monomer unit of dendritic polymers was identified by UV-vis, FT-IR, ¹H- and ¹³C-NMR spectroscopy. Dendritic polymers were prepared by the route of hyperbranched polymerization via michael addition reaction by melting to primary ammonium salt. Degree of polymerization was dependent with reaction time. Monitoring of AB₂ hyperbranched polymers was performed by ¹⁵N-NMR spectroscopy.