

研究简报

超支化聚负离子/超支化聚正离子自组装膜的制备及反应

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摘要

关键词 [超支化聚合物](#) [自组装膜](#) [反应](#) [表面形貌](#)

分类号

FORMATION AND REACTION OF SELF-ASSEMBLED FILMS BASED ON HYPERBRANCHED POLYANION AND HYPERBRANCHED POLYCATION

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Abstract Hyperbranched poly(ester-amine) (PEAC) with terminal acrylate groups aggregated into micelles in acidic methanol-water mixed solutions at a volume ratio 1: 100. and the micellar size became large with increasing the solution pH value. Self-assembled films were successfully formed from hyperbranched polyester (PMPP) with terminal aromatic carboxylic acid groups and PEAC by layer-by-layer dipping and the process was affected by the pH value of PEAC solutions. With PEAC as the ouflayer, further reaction of the self-assembled film based on acrylate groups was investigated. The film was irradiated by UV light and washed by ionizing water. The cured film fell off the substrate seriously due to the highly branched architecture of PEAC and the polymerization of acrylate groups. In addition, the self-assembled film was immersed in aqueous *p*-phenylenediamine solution for 72h. Regular spherical particles in diameter of 200 nm were observed on the film surface, which was due to the steric arene-arene interaction of benzene rings introduced into the film surface through Michael addition between acrylate groups and amino groups in *p*-phenylenediamine.

Key words [Hyperbranched polyester](#) [Self-assembled film](#) [Reaction](#) [Surface morphology](#)

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