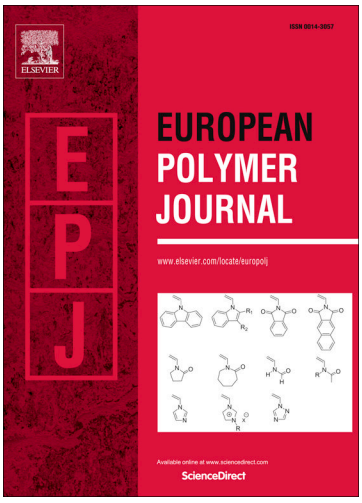

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Petal-effect superhydrophobic surface self-assembled from poly(p-phenylene)s

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Abstract

In the nonsolvent vapor atmospheres, the petal-effect superhydrophobic surface was self-assembled from conjugated poly(2,5-dibutoxy-*p*-phenylene). During the dissolution of the nonsolvent vapor and the evaporation of the solution, the side-chain interactions and the π–π interactions between conjugated backbones induced the formation of polymer particles, which further agglomerated and formed the network structures and radiate spherical-like hierarchical microstructures. The increase in the distribution of microspheres improved the roughness of the surface and increased the contact angles more than 150°. The network of agglomerated polymer particles were easier to be formed and induced a relatively important penetration of the water inside the pores. Therefore, the network of agglomerated polymer particles and radiate

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