

Abstract Submitted
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Effect of Ionic Groups on the Assembly of Polymer-Grafted Magnetic Nanoparticles¹ YANG JIAO, PINAR AKCORA, Stevens Institute of Technology — Hydrophobic iron oxide nanoparticles grafted with hydrophobic polymer chains at low grafting density assemble into long strings of nanoparticles. Brush-brush entanglement and the effective dipolar interactions of these elongated clusters drive this aggregation process. In this work, we investigate the influence of ionic attractions on the morphologies of these polymer functionalized nanoparticles at different grafting densities. The effect of sulfonic group locations incorporated into poly(styrene) chains on the aggregation state of nanoparticles will be discussed with small-angle x-ray scattering measurements in solution and melts.

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