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Unbinding Transition of the α-BN Phase of BABCB Tetrablock Terpolymers ASHKAN DEHGHAN, McMaster University, HURMIZ SHAMANA, University of Guelph, CHRIS GUBBELS, AN-CHANG SHI, McMaster University — We study the phase behaviour of BABCB/B multiblock terpolymer/homopolymer blends using real-space self-consistent field theory. We focus on the effects of the added homopolymers on the structure of the α-BN phase, formed in the pure BABCB system. In the α-BN phase, the A and C blocks form spheres sitting on a three dimensional layered structure, resembling that of graphite. Our results demonstrate that the added homopolymers would aggregate in the regions between the layers in the α-BN phase. We use this property of the added homopolymers as a mechanism for separating the layers. By examining the effects of homopolymer/multiblock interactions and their relative degree of polymerization on the overall phase behaviour of the system, we identified a critical homopolymer concentration at which the layers composed of A/C spheres unbind to form free standing sheets, resembling the structure of graphene.

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