Synthesis for Graphene Dispersant via Reversible Addition-Fragmentation Chain Transfer Polymerization

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Abstract In this research, synthesis of graphene dispersant and dispersing graphene using synthesized dispersant will be presented. Block copolymers are prepared as a dispersant via reversible addition-fragmentation chain transfer (RAFT) polymerization. Poly 2,2,2-trifluoroethyl methacrylate (PTFEMA) is used as a solvophilic block, and poly 4-vinyl pyridine (PVP) is used as a graphene-philic block. The resulted polymers are characterized using gel permeation chromatography (GPC) and nuclear magnetic resonance (NMR), and the graphene dispersions are characterized using ultraviolet-visible spectroscopy (UV-Vis) and transmission electron microscopy (TEM). (Acknowledgement: This work was supported by the Ministry of Trade, Industry and Energy, Grant No. 10044338)

References


Figures

Time dependent photographic images of graphene dispersions.