

研究简报

高分辨固体NMR研究不饱和聚酯/聚乙二醇-聚丙二醇-聚乙二醇三嵌段共聚物共混体系的相容性及局域分子运动

李新娟, 党琴琴, 林海, 王亦农, 孙平川, 李宝会, 金庆华, 丁大同

功能高分子材料教育部重点实验室南开大学化学学院物理学院; 功能高分子材料教育部重点实验室南开大学化学学院物理学院 天津

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摘要

关键词 [嵌段共聚物](#) [不饱和聚酯](#) [热固性共混物](#) [固体核磁共振](#)

分类号

HIGH-RESOLUTION SOLID-STATE NMR STUDIES ON THE MISCIBILITY AND DYNAMICS IN UNSATURATED POLYESTER/PEO-PPO-PEO TRIBLOCK COPOLYMER THERMOSET BLEND

LI Xinjuan, DANG Qinqin, LIN Hai, WANG Yinong, SUN Pingchuan, LI Baohui, JIN Qinghua, DING Datong

Key Laboratory of Functional Polymer Materials; College of Chemistry; College of Physics; Nankai University; Tianjin 300071

Abstract An nanostructured thermoset blend of unsaturated polyester(UPR) and PEO—PPO-PEO triblock copolymer was prepared and characterized by solid-state NMR and other techniques. It is concluded that the blend is microphase separated and the determined long period is 20 nm. A distinct dynamic difference between the cured-UPR matrix and block copolymers was observed by 1D and 2D NMR experiments, the formation of PEO crystalline domains was inhibited in the blend. The PEO blocks are partially miscible with the cured—UPR matrix. Upon curing, part of the mobile PEO was locally expelled from the cured—UPR matrix and formed dispersed microphase together with the mobile PPO, the residual immobilized PEO blocks were intimately mixed with the partially cured-UPR, and they formed an interphase region.

Key words [Block copolymer](#) [Unsaturated polyester](#) [Thermoset blend](#) [Solid-state NMR](#)

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通讯作者 孙平川

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