高分子学会九州支部外国人学者講演会

Surface Induced Crystallization of Polymers

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参加費無料

Yan 先生は中国科学院化学研究所の国家戦略高分子研究所の教授で、結晶性高分子の形態学的研究の分野で活発に研究を展開されています。３月より関西学院大学の客員教授として来日されており、九大訪問の機会に講演会を企画しました。多数ご出席くださいますようご案内申し上げます。

Abstract

Most polymeric materials with application potentials in life science, energy source, photo and electric fields are crystallizable. The functions of these polymer materials are close related to their crystal structure and superstructures. For example, the stiffness and strength of highly oriented crystalline polymers and the electrical conductivity of doped and aligned conjugated macromolecules can increase to a factor of 100 compared with their non-oriented counterparts. Among many others, another example is the different performance of α- and β-modifications of poly(vinylidene fluoride). While its α-form with helical chain conformation can be used only as common plastics, its β-phase with zigzag chain conformation has attracted the widest interest due to its extensive piezo- and pyroelectric applications. Therefore elucidation of crystallization mechanism and regulation of crystallization process are of great significant to design the functional materials via crystal engineering methods, and furthermore to realize the optimal properties and functions of polymer materials. Taking this into account, the mechanism of structure formation of polymer crystals and control the structure of polymeric materials are of great importance from both scientific and practical points of view. To control the crystallization process of polymers, surface-induced crystallization of polymers in nanoscaled or microscaled domains is a frequently used method. In our group, the hierarchical structure and versatile morphologies of crystalline polymers under different surface-induced conditions have been studied. Also the influences of superstructure of crystalline polymer materials on their performances in the aspects of photo electric field are followed.

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主催：高分子学会九州支部、九州大学グローバルＣＯＥ「未来分子システム科学」、高分子機能創造 RC