

研究论文

PLLA-PEG共聚物的非等温结晶行为

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摘要 采用熔融共聚法制备PLLA-PEG嵌段共聚物, 用WAXD和DSC方法研究其结晶行为, 并用Avrami方程的Jeziorny修正分析了非等温结晶动力学行为. 结果表明, PLLA结晶明显, 而PEG结晶难以观察到, PEG的柔性能促进PLLA结晶. PEG分子量的增加和投料量的增加都能使得结晶温度升高, 结晶度增大, 结晶速度加快.

关键词 [聚乳酸](#) [聚乙二醇](#) [直接熔融缩聚](#) [非等温结晶](#)

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Non-isothermal Crystallization Behavior of PLLA-PEG Copolymer

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Abstract Poly(L-lactic acid)-poly(ethylene glycol) was copolymerized with direct melt copolymerization, and its crystallization was studied via WAXD and DSC. *Via* using Avrami equation modified by Jeziorny, the crystallization kinetics under a non-isothermal condition was analyzed. The crystallization of PLLA was obvious, while the PEG's could not observed. But the flexibility of PEG promoted PLLA's crystallization. And the crystalline temperature, velocity and crystallinity of PLLA-PEG increased with the increase of molecular weight of PEG and the feed weight ratio.

Key words [Poly\(lactic acid\)](#); [Poly\(ethylene glycol\)](#); [Direct melt condensation polymerization](#); [Non-isothermal crystallization](#)

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