

عنوان مقاله:

Fabrication of Water Exposed Super Hydrophilic Polycaprolactone Based Fibers. Part 2: Dynamic of Swelling

محل انتشار:

دوازدهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1395)

تعداد صفحات اصل مقاله: 2

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خلاصه مقاله:

Hybrid scaffolds prepared by blend electrospinning of Polycaprolactone and Pluronic solution benefit from acceptable mixture miscibility and enhanced fiber hydrophilicity and may offer satisfactory cell attachment and proliferation. To improve hybrid scaffold wettability and water swelling ratio, adequate amount of hydrophilic polymer (Pluronic) would be required, though this amount is limited by fiber surface enrichment of Pluronic and cannot be exceeded without putting the scaffold mechanical properties in jeopardy. To overcome this problem, a routine blend electrospinning setup was modified so that blend solution would be pumped while being exposed to water in order to attract Pluronic chains to the surface. Swelling dynamic of 21 days water immersed scaffolds produced by the routine blend electrospinning and proposed method was determined by plotting the related fiber diameter distributions (FDDs). Results showed that the scaffold prepared by the proposed method significantly swelled after 21 days of water immersion and maintained their composure.

کلمات کلیدی:

Polycaprolactone- Pluronic- Blend Electrospinning- Surface Enrichment- Water Exposure

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