



Electrospinning : a practical guide to nanofibers /

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Monografía

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Título: Electrospinning a practical guide to nanofibers Seema Agarwal [and three others]

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Nota general: Includes indexes

Contenido: Contents ; 1. Introduction and fiber-processing methods ; 1.1 Fibers ; 1.2 Natural fibers - fibers provided by nature ; 1.3 Synthetic fibers - polymer fibers produced by technical processes ; 1.4 Spinning of fibers ; 1.5 Fiber structure ; 1.6 Fiber applications 1.7 Interesting to know 2. Nanofibers ; 2.1 Benefits of nanofibers ; 2.2 Production techniques for thin fibers ; 2.2.1 Capillary flows ; 2.2.2 Melt blowing ; 2.2.3 Solution blowing ; 2.3 Nanofibers via electrospinning 2.3.1 Fibers by electrospinning using a needle-type electrospinning setup 2.3.2 Bicomponent fibers by electrospinning ; 2.3.3 3D and patterned fibrous structures ; 2.4 Interesting to know ; 3. Characterization of spinning solutions and fibers 3.1 Characterization of the spinning solution 3.1.1 Solubility ; 3.1.2 Electrical conductivity ; 3.1.3 Rheology ; 3.1.3.1 Theoretical background ; 3.1.3.2 Typical measuring systems for rheological behaviors ; 3.2 Characterization of the fibers ; 3.2.1 Morphology and size 3.2.1.1 Optical microscopy 3.2.1.2 Electron microscopy ; 3.2.2 Molecular structure ; 3.2.2.1 Infrared spectroscopy ; 3.2.2.2 Thermogravimetric analysis ; 3.2.2.3 Differential scanning calorimetry ; 3.2.2.4 Tensile testing ; 3.3 Interesting to know ; 4. Electrospinning experiments 4.1 Introduction about parameters affecting electrospinning

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