Abstract Submitted
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Polymorphism Control of Poly(vinylidene fluoride) JIANFEN ZHENG, AIHUA HE, JUNXING LI, CHARLES C. HAN, STATE KEY LAB OF POLYMER PHYSICS AND CHEMSITRY, INSTITUTE OF CHEMISTRY, CHINESE ACADEMY OF SCIENCES TEAM — Poly(vinylidene fluoride) (PVDF) is well-known for its polymorphism, and can exhibit five different polymorphs depending on its processing conditions. The α-phase is the most common and stable polymorph and the β-phase is the most important one due to its piezoelectric and pyroelectric properties. Polymorphism control of PVDF has been realized through electrospinning. PVDF fibrous membranes with fiber diameter in the range of 100 nm to several micrometers were produced by electrospinning and the crystal phase of electrospun PVDF fibers can be adjusted at the same time. Through the control of electrospinning parameters such as the solvent and electrospinning temperature, PVDF fibrous membranes containing mainly α- or β- or γ-phase could be fabricated successfully.

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