Nanostructure Fabrication by Electrospraying Technique

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Electrospraying is a process of simultaneous droplet generation and charging by means of electric field. In this process, a liquid jet which is formed by flowing out a solution through a capillary nozzle maintained at high potential deforms and disrupts into droplets due mainly to electrical force. When a charged droplet evaporates, the solute crystallizes forming a solid particle. When a highly viscous solution is subjected, due to bending instability, the jet is subsequently stretched by many times to form continuous, ultrathin fibers. This process can be actively exploited as a simple and versatile method for generating very fine particles or ultrathin fibers made of various materials.