Electrohydrodynamic Spray of Colloidal Solutions

임종민, 문준혁, 이기라[1], 김신현, 양승만*
한국과학기술원; [1]LG Chem Research Park
(smyang@kaist.ac.kr*)

The self-assembled structure of monodisperse colloidal particles has been of special interest due to their unique characteristics such as photonic band gaps, chemical sensing and high catalytic throughput. The electrohydrodynamic spray has unique advantages on the large-scale production and the convenience to control the size of assembled structures. The electrohydrodynamic spray can be obtained using a capillary needle which is applied to an electric field. When the electric fields are applied, the colloidal droplet formed at the outlet of the capillary was elongated or broke up into smaller droplets. In this work, we sprayed a colloidal solution to obtain shape-controlled self-assembled structure.