

## Drug Nanoparticles: Structures and Functions

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For the efficient and intelligent delivery systems of drugs, the nanoparticles of drugs are often prepared. Among the various methods, the preparation of nanocrystal particles via wet comminution has successfully produced the important products such as Emend, etc. Including the wet comminution process, the preparation techniques of nanoparticulate delivery systems are under active development. Electro spraying is one of the techniques in the middle of the recent activity. The surface energy control capability of electrohydrodynamic force provides electro spraying with various potential advantages such as simple particle size control, mono-dispersity, high recovery, and mild processing conditions. Herein, the one step nano-encapsulation of protein drugs using electro spraying was developed, and its practical aspects were examined. One water-based and the other organic solvent based systems were processed using uniaxial and co-axial electro spraying using BSA as a model protein. The major processing parameters such as the conductivity of spraying liquids, flow rate, the distance between electric potentials, etc were examined to obtain the maximum efficiency.