

Amorphous drug nanoparticle complex as bioavailability enhancement strategy of poorly soluble drugs

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A majority of drugs (> 70%) currently in the pharmaceutical pipeline exhibit low aqueous solubility due to their increasingly complex chemistry. Combined amorphization and nanonization have recently emerged as an effective strategy to enhance the solubility of such drugs. In this talk, the development of a new class of amorphous nanopharmaceuticals in the form of amorphous drug-polyelectrolyte nanoparticle complex (or nanoplex in short) will be presented. Recent efforts to improve the amorphous state stability of the nanoplex and to equip the nanoplex with controlled release functionality, its continuous manufacturing platform in millifluidics will be discussed.