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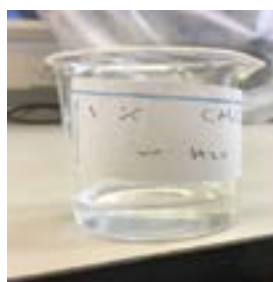
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Development of fibrous oral dosage films using nano-composite materials via electrospinning

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The last twenty years have evidenced numerous developments in oral dosage forms ranging from enhanced formulations of suspensions to rapidly disintegrating oral tablets. While many of these advances provide numerous patient benefits; the manufacturing of these dosages requires several steps and consideration to formulation design is essential as per unit operation (and stages). One such method emerging rapidly as an ambient temperature and on-demand process is electrospinning (ES). The process is capable of yielding nano- and micron-scaled fibers and is also favored due to its ability to disperse, active agent within resulting filamentous structures in a single-step. Finally, the process is flexible and provides an on-site and on-demand deposition aspect enabling the engineering of various 3D and 2D structures in real time. In this study, several formulations were developed using various pharmaceutical excipients conventionally used for oral dosage forms; such as carboxymethylcellulose (CMC), ethocel (ETH) and Polyvinylpyrrolidone (PVP). Formulations were prepared using various concentrations using distilled water as the vehicle. Similar formulations were also developed using ES giving rise to nano-structured fibrous films which were more transportable and flexible in terms of storage and solid dosage dimension contouring during deposition.



Recent Publications:

1. Hirani et al. (2009) Orally Disintegrating Tablets: a review. Tropical Journal of Pharmaceutical Research. 8(2):161-171.
2. Mehta et al. (2017) Pharmaceutical and biomaterial engineering via electrohydrodynamic atomization technologies. Drug Discovery Today. 22(1):157-165.

Biography

Ali Alasiri completed his Bachelor's Degree in Pharmacy and a Master's Degree in Pharmaceutical Biotechnology. He is currently pursuing PhD in development of oral dosage forms utilizing electrospinning, for prospective drug delivery.

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