Tentative Outline

Thematic Issue for Current Pharmaceutical Design

“Current Trends in Hot-Melt Extrusion for Pharmaceutical Applications”

Guest Editors: Prof. Dr. Marcílio Cunha-Filho and Prof. Dr. Ricardo N. Marreto

Aims and Scope

Hot-melt extrusion (HME) is an exciting and comprehensive technology which allows the design of several drug delivery systems with high adaptability for continuous large-scale production. The great versatility of HME has been leading to a growing number of new applications of this technology in the pharmaceutical field. The innovative uses of the HME include the preparation of co-extrudates, co-crystals, drug complexation and reactive extrusion. Recently, the HME has been used to produce semisolid dosage forms for topical and transdermal drug delivery, to obtain materials for 3D printed medicines and to prepare different types of nanosystems. The number of new applications based on HME is growing fast and can be considered as one of the most promising technologies in the pharmaceutical field.

In addition, several studies have been performed by numerous research groups in order to circumvent the main limitations of the HME, such as the occurrence of thermal degradation and drug recrystallization. A rational approach to improve the HME process and further disseminate this technology depends on a deep knowledge of the preformulation aspects, material properties, formulation approaches and post-formulation characterization.

This thematic issue aims to providing not only updated information on the fundamentals, potential and drawbacks of the HME technology, but also intends to offer a complete view of the most recent innovations in the field.

Keywords: Hot-melt extrusion, drug control release, preformulation, manufacturing.

Subtopics

1. Preformulation, early-stage development and stability studies
2. Manufacturing, scale-up and market
3. Tablets, buccal and orodispersible preparations, implants, nanostructured systems, 3D-printed drug products, transdermal and topical drug delivery systems
4. Solubility improvements, modified release and taste masking of drugs

Schedule

- Manuscript submission deadline: 30 May 2019
- Peer Review Due: 30 June 2019
- Revision and final manuscript submission by the authors: 30 July 2019
- Announcement of acceptance by the Guest Editors: 10 August 2019
- Final Manuscript Due: 15 August 2019

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