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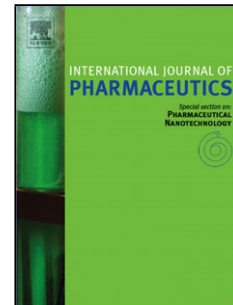
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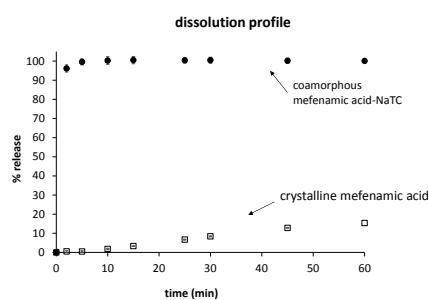


The Natural Bile Acid Surfactant Sodium Taurocholate (NaTC) as a Coformer in Coamorphous Systems: Enhanced Physical Stability and Dissolution Behavior of Coamorphous Drug-NaTC Systems

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Graphical abstract



Abstract

The amorphization of 18 different drugs on milling with one mole equivalent sodium taurocholate (NaTC) was investigated. In all cases the X-ray powder pattern showed an amorphous halo after milling at room temperature or after cryomilling and 14 of the 18 coamorphous drug-NaTC systems were physically stable for between one to eleven months under ambient storage conditions. In three cases, namely carbamazepine-NaTC, indomethacin-NaTC and mefenamic acid-NaTC, significant dissolution advantages over the crystalline drugs were observed, both for the freshly prepared samples and after storage for seven months. To understand the increased physical stability, infrared-, near-infrared and Raman spectroscopic studies were carried out. The effectiveness of NaTC as a coformer in a

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