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Effect of ultrasonic waves on polymorphism and crystal size distributions of mefenamic acid (Conference Paper) (Open Access)

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Abstract

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Crystallization of pharmaceutical compound that have different polymorphic forms and broad crystal size distributions remain major challenge in industry. In this present work, the potential of ultrasonic intensifications on crystallization of mefenamic acid polymorph is investigated. The effect of sonication times (5 min – 30 min) and ultrasonic powers (153.3 – 766.7 Watt) at frequency of 65 kHz on polymorphic form and crystals size distributions (CSDs) of mefenamic acid crystals during cooling crystallization were investigated using One-Factor-At-a-Time method (OFAT). The polymorphic form, CSD and shape were determined using Fourier transform infrared spectroscopy (FTIR), Malvern Mastersizer, optical microscope and X-ray diffractometry, respectively. It was found that ultrasonic power of 766.7 Watt and 30 min of sonication time produce plate-shaped crystals with the narrow CSD. The polymorph was consistent with Form I. The findings justify the suitability of ultrasonic waves to produced plate-like mefenamic acid Form I crystals with narrow CSD. © 2020 Institute of Physics Publishing. All rights reserved.

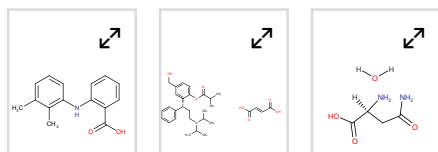
SciVal Topic Prominence

Topic: Mefenamic Acid | Pentazocine | Norbinaltorphimine

Prominence percentile: 60.689

Chemistry database information

Substances



Funding details

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