MS28-1-7 New Drug-Drug Salt Forms of Ciprofloxacin with Fenamic Acids
#MS28-1-7

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Abstract
Crystal engineering has provided an efficient approach for tuning physicochemical properties of active pharmaceutical ingredients (APIs), and therefore has a direct application in the pharmaceutical industry. For instance, salt formation is a widely used strategy to improve the solubility of ionizable drugs [1]. This work reports on the preparation and solid-state characterization of two new drug-drug salts of ciprofloxacin in a 1:1 stoichiometry, using mefenamic and tolfenamic acids as the second component. Low aqueous solubility and moisture sensitivity of the parent drug molecules used in this study have motivated us to investigate the possibility of forming novel salts of existing drugs for enhanced physicochemical properties and better biological activity. The new pharmaceutical salts were prepared by mechanochemical methods and characterized by thermal, spectroscopic and diffractometric techniques. Their crystal structures have been determined to evaluate the role of intermolecular interactions on the improvement of physicochemical properties. Stability studies at 40ºC and 75% RH, solubility determination and preliminary *in-vitro* studies contributed to complete the whole picture of these multicomponent molecular materials. Significant results of our study will be presented.

References
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