Poster Presentations

[MS24-P16] Multicomponent crystals of lidocaine.

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The interest in multicomponent solid forms has increased in the last years within the pharmaceutical industry and also the solid-state community due to the possibility of obtaining materials with new properties1. Crystallization strategies, supported by solvent- and solid-based techniques, have also received attention in the search and development of methodologies for the screening of multicomponent crystals. In this work, lidocaine, a common local anesthetic and antiarrhythmic drug, was selected as a model drug to develop cocrystals on the basis of the synthon types using a series of phenolic coformers. Liquid Assisted Grinding (LAG) was used as a mechanochemical synthetic tool. Attempts to produce cocrystals by LAG led to the formation of polycrystalline material. The solids obtained were then characterized by powder Xray diffraction, FT-IR and Raman spectroscopy.

Recrystallization by slow solvent evaporation was carried out when the above-referred techniques strongly suggest the formation of a new solid form. In those cases where crystals were obtained, single crystal X-ray diffraction experiments were performed.

[1] Blagden, N.; Berry, D.J.; Parkin, A.; Javed, H. ; Ibrahim, A.; Gavan, P.T. ; De Matos, L.L.; Seaton, C.C. (2008) New J. Chem. 32, 1659.

Keywords: lidocaine; multicomponent crystals; liquid-assisted grinding