Poster Presentation

MS012.P19

In-vitro release-behavior of multicomponent-drugs by tuning molecular conformation, non-covalent int

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Poor permeability of a drug across biological membranes can arise not only due to membrane-based efflux mechanisms but also to a number of structural and interactive features. The non-covalent interactions developed from drug•••coformer and solute•••solvent are found crucial measures to understand drug solubility, diffusion and/or permeation kinetics. These properties have been studied on a few multicomponent solid drugs systems. The product materials show improved aqueous solubility and diffusion behavior (in different pH buffers) implies enhanced drug release behavior. Results are attributed to the change in lipophilic nature of the multicomponent formulation that manifested by conformational adjustment of the drug (change in dihedral angle) and non-covalent interactions exist between drug, coformer and media. The trade-off action between thermodynamic and kinetic parameters is also emphasized to understand the absorption, release and distribution of drug in vitro.

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Keywords: Intermolecular interactions, Molecular conformations, Permeation Solubility