Anti-solvent crystallization method of indomethacin-saccharin (IMC-SAC) co-crystal

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A creation of co-crystals for various insoluble drug substances has been extensively investigated as a promising approach to improve their pharmaceutical performance. In this study, co-crystal powders of indomethacin and saccharin (IMC-SAC) were prepared by an anti-solvent (water) addition and compared with co-crystals by evaporation method. No successful synthesis of a pharmaceutical co-crystal powder via an anti-solvent approach has been reported.
Among solvents examined, methanol was the only one that led to a significant co-crystal formation. It was interpreted as the effect of miscibility and emulsion stability. With the ultimate objective of improving pharmaceutical properties of IMC, especially the solubility and dissolution rate, IMC co-crystal was designed and prepared using crystal engineering approaches.