# Enhanced Solubility of Aripiprazole via Co-crystal Approach using Spray-drying and Evaporation Methods

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It has been extensively demonstrated that the pharmaceutical properties including the solubility, dissolution rate, and ultimately bioavailability of BCS class Ⅱ insoluble drugs such as aripiprazole can be noticeably improved by the co-crystal approach. In regard to the importance of pharmaceutical cocrystals, US FDA issued a guidance for industry in 2013, which was updated in August 2016. In this study, the cocrystals of aripiprazole with resorcinol were examined for the improved solubility. Aripiprazole-resorcinol cocrystal powders were prepared by two methods, the evaporation and spray-drying processes. Chloroform-ethanol cosolvent was used for aripiprazole solutions. The identification and characterization of cocrystal formation was performed by PXRD and DSC whereas the solubility analysis was performed by HPLC. It was found that the physical properties such as the particle size as well as the aqueous solubility were closely associated with the preparation method and process parameters. Experimental procedure and data will be presented in detail in the poster session for scientific discussion.