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Title:Synthesis and spectral characteristic of pharmaceutical dipfluzine hydrochloride-benzoic acid co-crystal

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Abstract:Pharmaceutical co-crystals can improve the chemical and physical properties of active pharmaceutical ingredient(API), which is new idea and expected to provide new stable structures. Pharmaceutical co-crystals have the potential to be much more useful in pharmaceutical products than salts, solvates or hydrates, polymorphs and stoichiometric solvates(pseudo-polymorphs). In our study, dipfluzine hydrochloride-benzoic acid co-crystal was synthesized by solid co-grinding. The samples were subjected to IR, DSC, XRD, Raman and THz spectral analysis. The results indicated that dipfluzine hydrochloride-benzoic acid complex was new phase compared with the single API and CCF. THz-TDS characterization indicated that hydrogen bond formed between API and CCF, which confirmed the formation of co-crystal.