

Supporting Information for:

## Drug-drug Salts of Mefenamic Acid/Tolfenamic Acid and Piperazine to Improve Physicochemical Properties for Potential Veterinary Use

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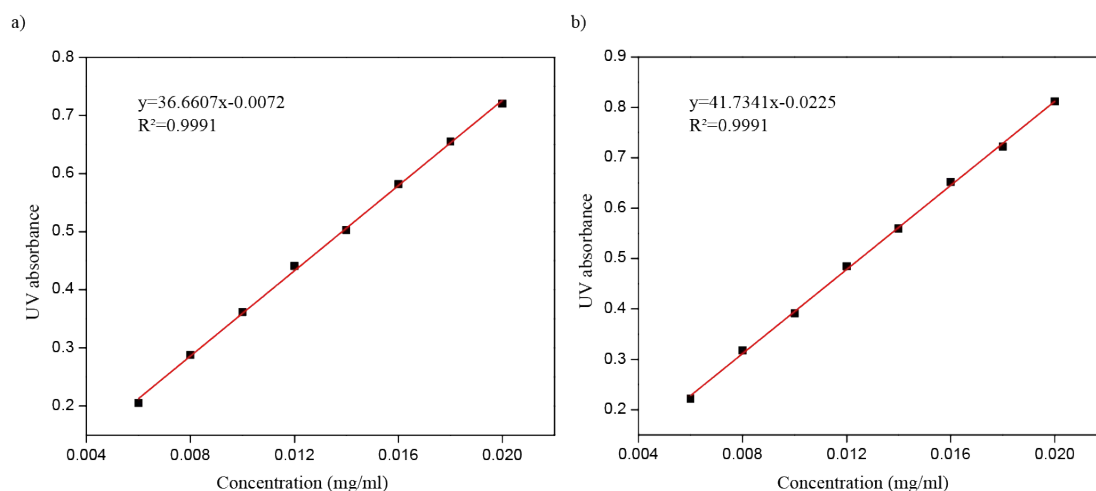


Fig. S1 The standard curves for the measurement of concentration. a) Mefenamic acid and b) Tolfenamic acid.

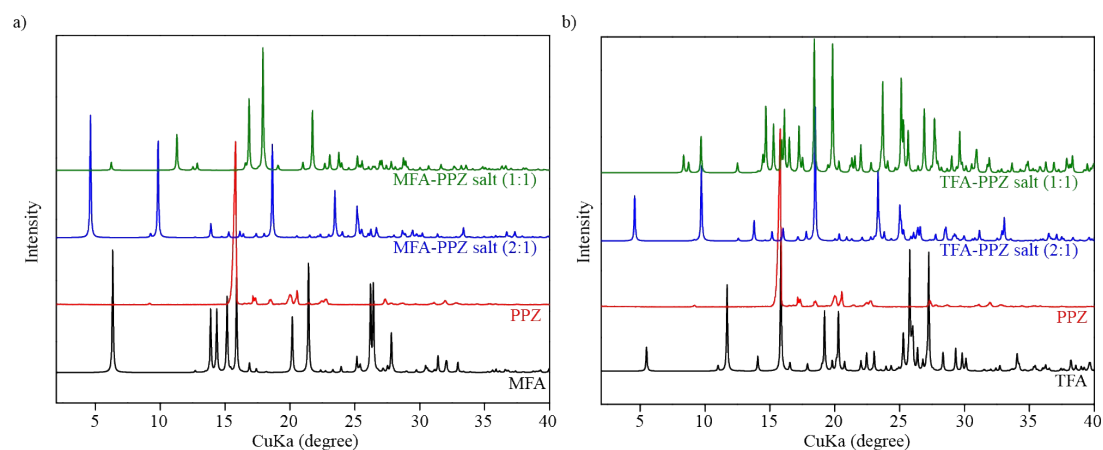


Figure. S2 The XRD patterns of raw materials and the new salts. a) The XRD patterns of MFA (black color), PPZ (red color), MFA-PPZ salt (2:1) (blue color) and MFA-PPZ salt (1:1) (green color). b) The XRD patterns of TFA (black color), PPZ (red color), TFA-PPZ salt (2:1) (blue color) and TFA-PPZ salt (1:1) (green color).

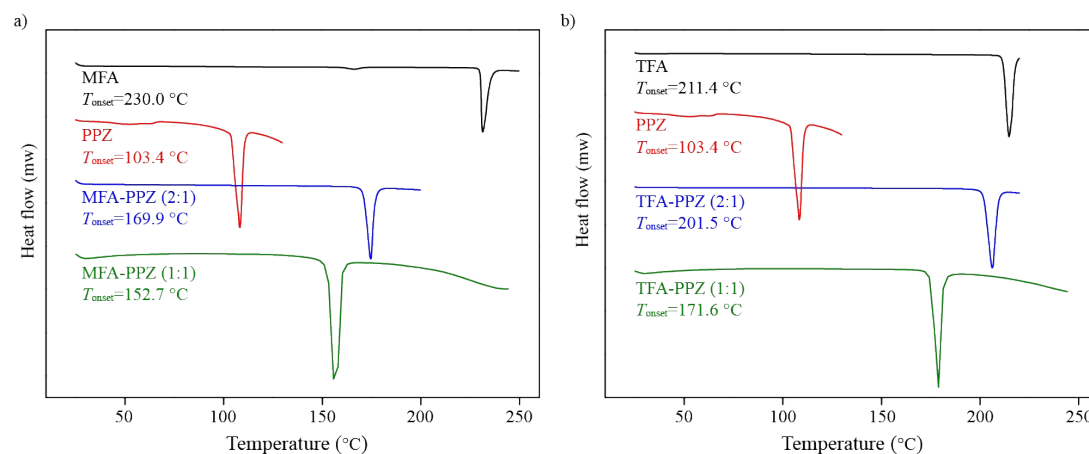


Figure. S3 The DSC of patterns of raw materials and the new salts. a) The DSC of patterns of MFA (black color), PPZ (red color), MFA-PPZ salt (2:1) (blue color) and MFA-PPZ salt (1:1) (green color). b) The DSC of patterns of TFA (black color), PPZ (red color), TFA-PPZ salt (2:1) (blue color) and TFA-PPZ salt (1:1) (green color).

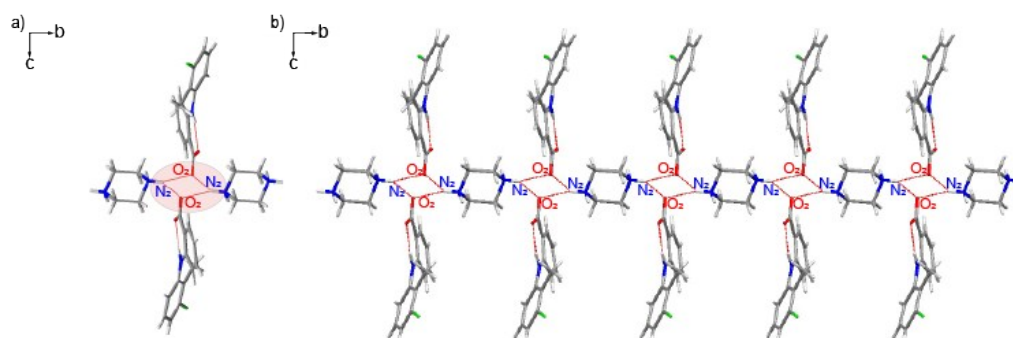


Figure. S4 The 1D structure of TFA-PPZ salt (2:1). a) The four-membered ring and b) the 1D chain.

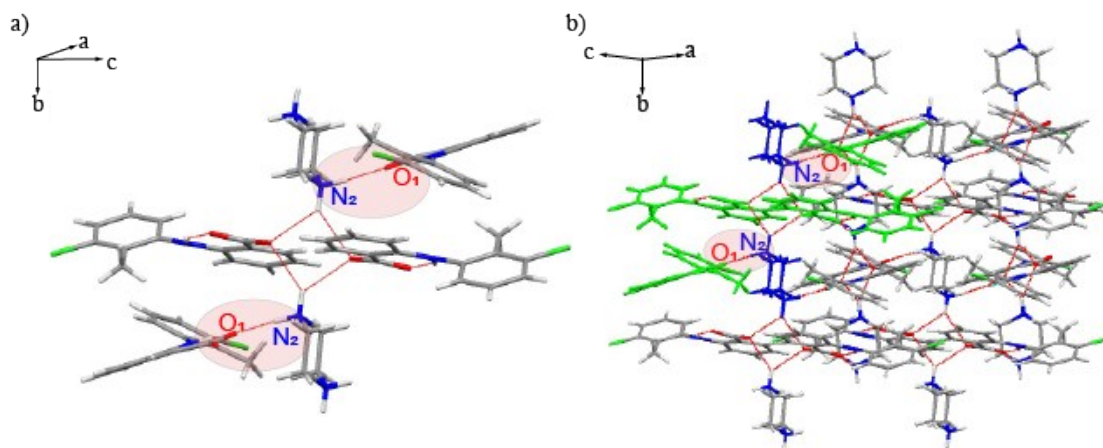


Figure. S5 The 2D structure of TFA-PPZ salt (2:1). a) The bond of connecting the 2D structure and b) the 2D plane.

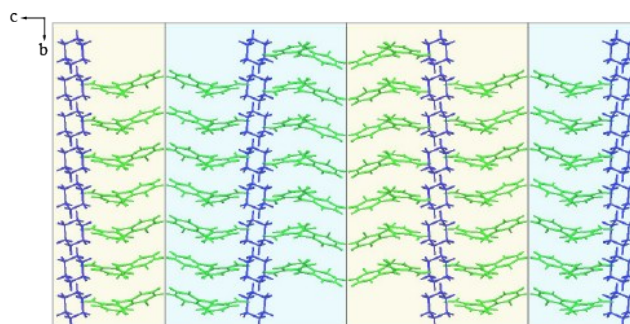


Figure. S6 The 3D packing of TFA-PPZ salt (2:1).

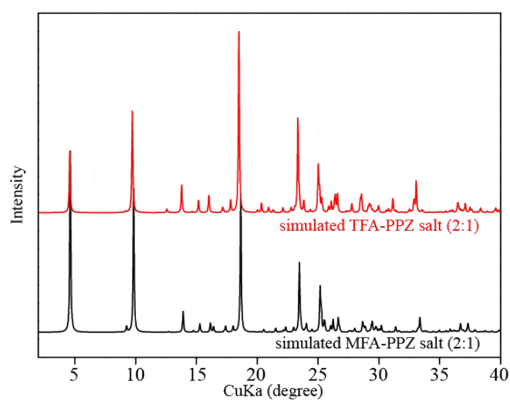


Figure. S7 The simulated XRD patterns of MFA-PPZ salt (2:1) and TFA-PPZ salt (2:1).

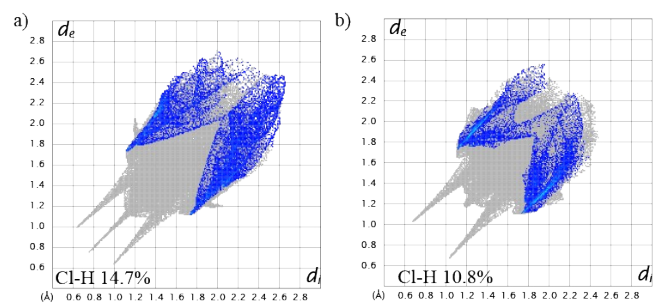


Figure. S8 The Hirshfeld 2D fingerprints of two salts. a) Cl-H interaction in TFA-PPZ salt (2:1); b) Cl-H interaction in TFA-PPZ salt (1:1).

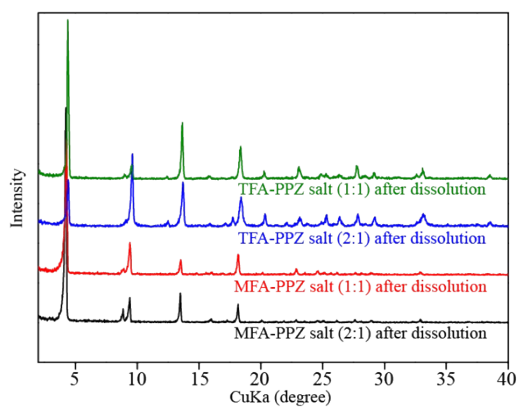


Figure. S9 The XRD patterns of the remaining solid in the powder dissolution experiment in water and ethanol.