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Synthesis and Structure identification of 2-amino-4, 6- dimethyl pyrimidine with gallic acid and pimelic acid.

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Abstract

Reaction of 2-amino-4, 6- dimethyl pyrimidine with carboxylic acid such as gallic acid and pimelic acid, yielded a salt and co-crystal, respectively. The new crystal forms were obtained from slow evaporation technique. The crystal structure and hydrogen bond interaction of the two crystals were determined by single X-ray diffraction analysis. Inter molecular interactions of the compounds were investigated using the 3D Hirshfeld surfaces and the associated 2D fingerprint plots. The functional groups were identified by the FTIR, FT-Raman spectral studies. The presence of carbon and hydrogen in the two samples were indentified by the ¹H and ¹³C NMR analysis. The excited energy was observed using UV-Visible spectral analysis. The fluorescence spectra revealed the emission state of the two samples. The thermal behaviour and stability of the two compounds were evaluated by the TGA-DSC analysis.

Key words: Crystal growth; Crystal engineering; Crystal structure; Heterocyclic salt and co-crystal, Fingerprint plots.

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