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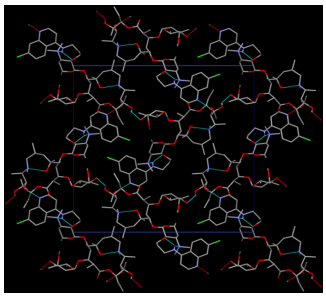
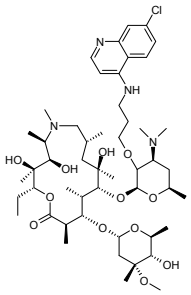
Solid State Chemistry Case Study:
Crystal Structure and Physicochemical Properties of the Crystalline Form of a Novel 15-membered Azalide Derivative

Objective:

- To prepare and characterize the crystalline form of 2′-*O*-{3-[(7-chloro-4-quinolinyl)amino]propyl}-9--deoxo-9a-methyl-9a-aza-9a-homoerythromycin A, a novel 15-membered azalide

Single crystal structure determination:





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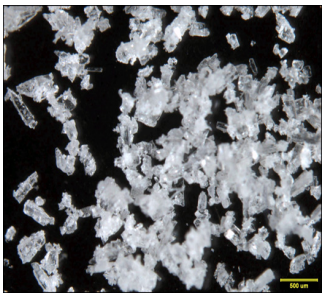
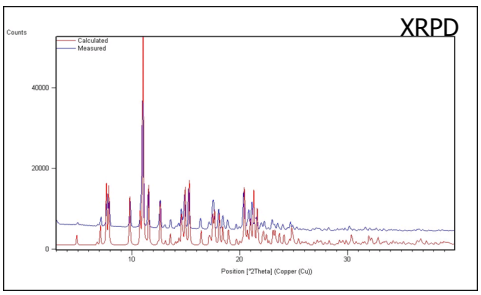
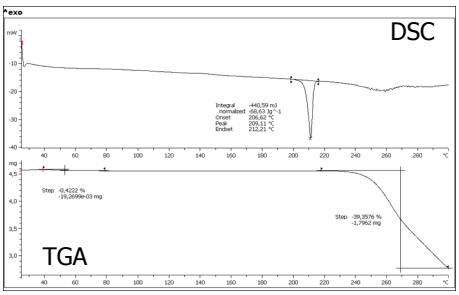
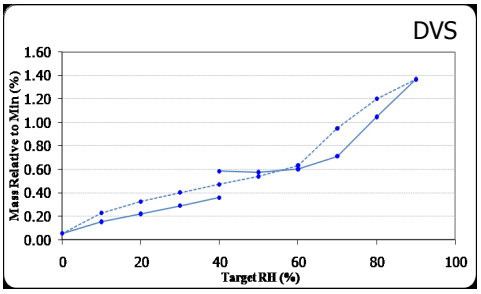
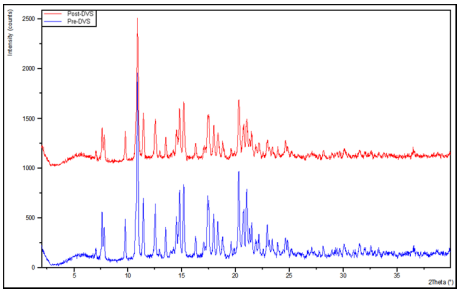


Solid state characterisation:









Summary

On the basis of a limited crystallization screen acetonitrile was selected as solvent of choice. Crystalline material was obtained on 10 mg scale as well as on 30 g scale in high yield (86.9%) and purity (98.9%). According to the solved crystal structure, XRPD, DSC, TGA and DVS analyses, 1 exists as a non-solvated, non-hydrated and non-hygroscopic crystalline form

References : D. Filić et al., J. Pharm. Sci. 2011, 2586–2598

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