

(2) Fisch, M.; Lanza, A.; Boldyreva, E.; Macchi, P.; Casati, N. J. Phys. Chem. C 2015, [Online early access], DOI: 10.1021/acs.jpcc.5b05838; and references therein.

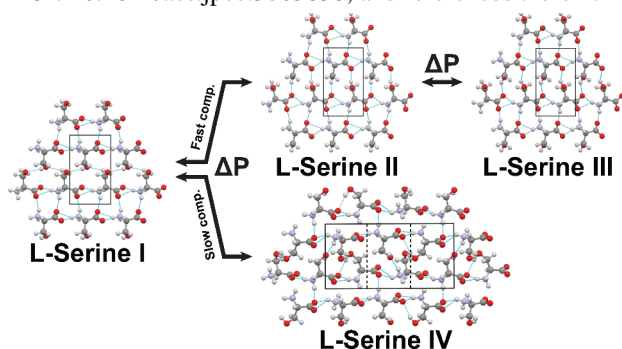


Figure 1. Two parallel pathways were found for L-serine in response to high pressure, evidencing that the compression rate can significantly affect the high pressure behaviour of solid state materials.

Keywords: Polymorphism, high-pressure crystallography, amino acids, synchrotron X-ray powder diffraction, solid-state kinetics, kinetic control

MS22. High response systems in practical and extreme conditions

Chairs: Yaroslav Filinchuk, Dmitry Chernyshov

MS22-P1 Engineering second and third generation MOFs and elucidating their structure property relationships

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A cursory glance of the literature reveals many reviews illustrating the enormity of the field of crystal engineering.^{1,2,3,4,5,6} The practically infinite number of combinations of organic bridging ligands with metals possessing different coordination geometries for the construction of functional MOF materials ensure that this field will continue to evolve and prosper for many years to come. Using a selection of carefully chosen components (two symmetrical N donor ligands, a flexible acid and either zinc or cadmium) under solvothermal conditions, several interesting materials have been obtained. These materials are all porous, possess varying degrees of interpenetration and show interesting SC SC transformations, guest sequestration and guest storage capabilities.

Although crystal engineering has not yet reached the point where one can reliably predict the outcome of a set of crystallisation components, work such as this, is intended to widen the general knowledge such that guidelines may eventually be established that will enable target directed MOF design.

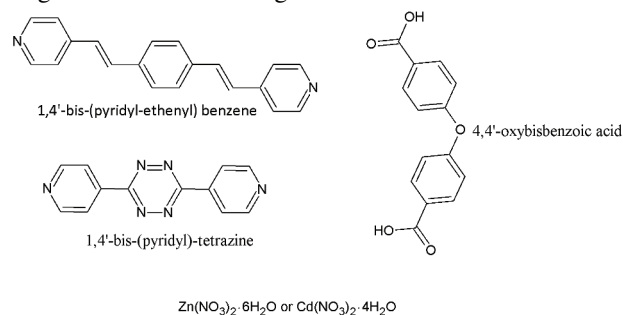


Figure 1. Synthetic components required for the formation of several interesting second and third generation MOFs.

Keywords: MOFs, Third generation, transformations, Single Crystal-Single Crystal