

## MS35-02 | FLEXIBLE CRYSTALLINE COORDINATION POLYMERS WITH TUNABLE RESPONSES TO MECHANICAL STIMULI

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Nowadays, we are witnessing a change in perceiving crystals, from stationary to more responsive objects. Crystals have been found to move, jump, flex or even explode as a response to a number of external stimuli like heat or irradiation, [1] but very recently it has been observed for a bunch of organic crystals [2] and a sole 0-D metal-complex [3] that they can be adaptive even to external mechanical force.

Recently, by targeting structural features common to both of these classes, we have managed to impart flexibility to crystalline coordination polymers for the first time.[4] Our 1D polymers of cadmium(II) were capable of displaying exceptional mechanical elasticity in response to the application of external pressure. More importantly, we have shown that the extent of the mechanical responses of our materials could be controlled by manipulating the strength and influence of intermolecular interactions. Here, we are showing that by introducing small and controllable structural changes we can dial-in both the nature of extent of flexibility of our materials.

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