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Swelling crystal method for a series of insoluble materials

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It is interesting that ordered 3D layered crystals of polyaniline formed, after these sphere-like nanoparticles were dispersed into nonpolar cyclohexane. During the initial stages, their irregular polymer chains could easily swell and stretch, aggregate and crystallize into coded nanosheets with highly ordered polymer chains, uniform shape and morphology by intermolecular noncovalent bonding. These nanosheets then self-assembled into 3D π - π stacked crystal structures along the optimal dynamic path. In this experiment, p-p interactions provide an excellent tool for assessing the efficiency of particular synthons of 3D π - π stacked structures with high conductivity.

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