# HCl Responsive Inversion of Helical Handedness of Trisamide Supramolecular Column in Solution

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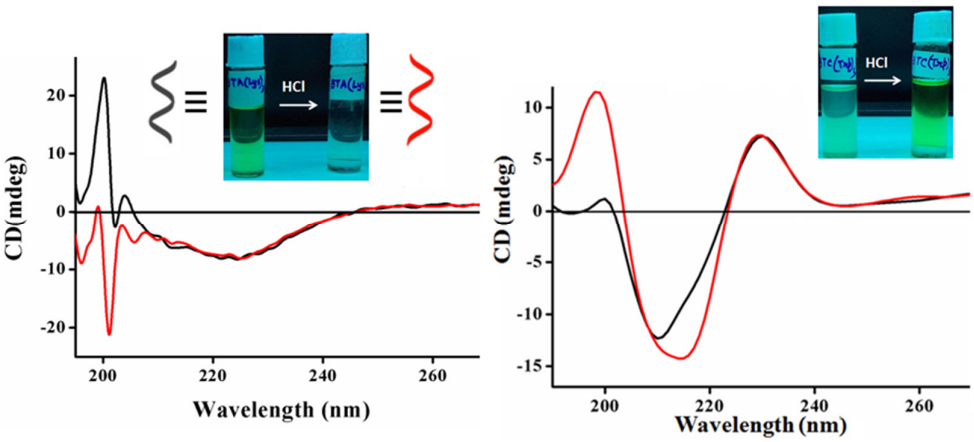
A series of discotic tricarboxyamides with varied amino acid side arm functionality and their HCl responsive diverse self-assembly behavior is studied. Discotic trisamide **1** obtained from Boc protected L-Lys adopts 3:0 conformation and self-assembled into long fribrillar aggregates like supramolecular M Helix. However, addition of HCl promotes 2:1 conformation and the supramolecular helical handedness of the assemblies is completely inverted. Irrespective of chiral centres configuration, supramolecular chiral bias is arising from molecular conformations.[1] FE-SEM reveals the formation of right handed entangled fibers. However, left handed entangled fibers have appeared on addition of 0.12 M HCl. The trisamide **2** containing Boc protected L-Trp exhibits disk like morphology both in presence and absence of 0.12 M HCl. This demonstrates that how remarkably distinct morphologies originate from stimuli responsive building blocks assembled in a subtly different manner.




***Reference:***

1. Liu, M.; Zhang, L.; Wang, T. *Chem. Rev*. **2015**, *115*, 7304–7397.