FROM CYCLIC PEPTIDES TO MICROMETRIC TUBES A SELF-ASSEMBLING PROCESS TAKING PLACE IN LIQUID CRYSTALS

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The design of cyclic peptides self assembling as endless supramolecular tubes through H bonds and Van der Waals contacts will be described. We will then discuss their synthesis that require the preparation of new insaturated amino-acids. We will finally describe the resulting amazing supramolecular objects obtained through isotropic and anisotropic crystallization conditions. Molecular modeling calculations will be also presented to help explaining the supramolecular architectures.

References:

[1] **S. Leclair**, **P. Baillargeon**, **R. Skouta**, **D. Gauthier**, Y. Zhao, Y.L. Dory. Micrometer-Sized Hexagonal Tubes Self-Assembled by a Cyclic Peptide in a Liquid Crystal. Angew. Chem. Int. Ed. *43*, 264-270 **(2004)**.
[2] **D. Gauthier**, **P. Baillargeon**, M. Drouin, Y.L. Dory. Self Assembly of Novel Cyclic Peptides into Nanotubes, and then into Highly Anisotropic Crystalline Materials. Angew. Chem. Int. Ed. *40*, 4635-4638 **(2001)**.

Figures: