

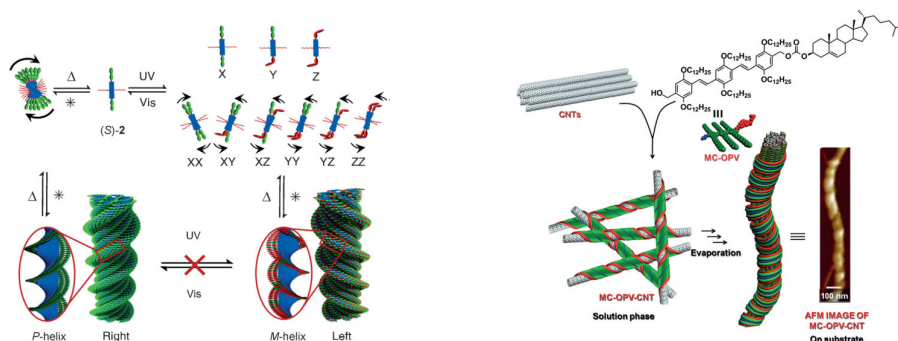
Supramolecular Helicity of Molecular Assemblies

Ayyappanpillai Ajayaghosh

CSIR-National Institute of Interdisciplinary Science and Technology (CSIR-NIIST),
Trivandrum – 695 019, India

E-mail: ajayaghosh@niist.res.in

The elegance and complexity of natural homochiral architectures has inspired chemists to explore noncovalent interactions between chiral building blocks to create a variety of aesthetically appealing but functionality complex supramolecular architectures. The point chirality of molecular building blocks can be amplified as supramolecular helicity through the “sergeant and soldiers” approach. We have earlier shown that gelation has significant influence on supramolecular chirality.^{1,2} Previously we have shown helicity manipulation in a variety of molecular assemblies.³⁻⁶ We could also demonstrate light induced reversible inversion of supramolecular handedness in a self-assembled π -system.⁷ Recently we have reported the role of carbon nanotubes in amplifying supramolecular chirality in π -gelators.⁸ This lecture will focus on supramolecular helicity in self-assembled π -systems and gelators.



References:

1. S. J. George, A. Ajayaghosh, P. Jonkheijm, A. P. H. J. Schenning and E. W. Meijer, *Angew. Chem. Int. Ed.* **2004**, *43*, 3421.
2. A. Ajayaghosh, V. K. Praveen, *Acc. Chem. Res.* **2007**, *40*, 644.
3. A. Ajayaghosh, C. Vijayakumar, R. Varghese and S. J. George, *Angew. Chem. Int. Ed.* **2006**, *45*, 456.
4. A. Ajayaghosh, R. Varghese, S. J. George and C. Vijayakumar, *Angew. Chem. Int. Ed.* **2006**, *45*, 1141.
5. A. Ajayaghosh, R. Varghese, S. Mahesh, V. K. Praveen, *Angew. Chem. Int. Ed.* **2006**, *45*, 7729.
6. A. Ajayaghosh, P. Chithra, R. Varghese, *Angew. Chem. Int. Ed.* **2007**, *46*, 230.
7. A. Gopal, M. Hiffesudheen, S. Furumi, M. Takeuchi, A. Ajayaghosh, *Angew. Chem. Int. Ed.* **2012**, *51*, 10505.
8. B. Vedhanarayanan, V. S. Nair, V. C. Nair, and A. Ajayaghosh, *Angew. Chem. Int. Ed.* **2016**, *55*, 10345.