

Chirality control of molecular to supramolecular systems, Towards chiroptical hybrid materials

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Recently, there are many reports on biologically inspired helical structure obtained by polymers, foldamers and low molecular-weight molecules. The helices with controllable pitches are attractive not only to mimic nature, but also for the wide range of applications in materials sciences, chemical and biomaterial sensing, and enantioselective catalysis. Previously, we reported that chiral supramolecular assembly system can be achieved from non-chiral cationic surfactants with chiral counterions.¹ Here, we report that such structures can be used as scaffold to obtain silica nanohelices² with controlled morphology. Which can then be used as substrates with chiral environment to organize gold nanoparticles³ or chromophore and thus induce chiroptical signals.

References

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