

Chiral Hierarchical Structures with Chitin

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Chitin-based hierarchical structures are ubiquitous in nature, and they are responsible for a wide variety of effects from the metallic appearance of several beetles [1] to the extraordinary mechanical properties of the mantis shrimp's dactyl club. Such helicoidal architecture can be also produced artificially by self-assembly exploiting the same building block: chitin. Similarly to many other bio-sourced colloids, chitin nanocrystals (ChNCs) can form liquid crystalline phases with chiral nematic phases [3]. Here, I will review how it is possible to finely tune the liquid crystalline behaviour of aqueous ChNC suspensions and provide some examples of advanced functional materials produced exploiting this method [4,5].

References

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