

Micro and Nanomanufacturing of Synthetic Brochosomes

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Considered as one of the most sophisticated natural structures, brochosomes are three-dimensional, soccer ball-like microscopic granules with distributed nanoscale cavities produced by leafhoppers. Brochosomes – with demonstrated multifunctionality in anti-reflection and liquid-repellency – present a novel class of biologically inspired materials but replicating the complex geometries of brochosomes have been challenging even with state-of-the-art micro- and nanomanufacturing technologies. In this talk, I will discuss the micro- and nanofabrication strategies of synthetic brochosomes,¹ as well as their optical characterizations and potential applications.

¹ S. Yang, N. Sun, B.B. Stogin, J. Wang, Y. Huang, T.-S. Wong, Nat. Commun. **4**, 1285 (2017).