

Synthesis of nanomaterials -Nanotechnology-

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Date: Tuesday, October 17, 2023 13:00-14:45

Venue: ZOOM Online

Abstract:

The synthesis and preparation of nanomaterials will be discussed with a special emphasis on the chemical vapor deposition (CVD) growth of single-walled carbon nanotubes (SWCNT). Top-down techniques such as ball-milling, spray, physical vapor deposition (PVD), and molecular beam epitaxy (MBE) are compared with bottom-up approaches such as precipitation, hydrothermal & solvothermal methods, sol-gel, micelle or micro-emulsions as micro-reactors, Capping agent assisted method, chemical vapor deposition (CVD), atomic layer deposition (ALD). Finally, the CVD growth of SWCNT will be discussed. The chirality-specific growth is the main challenge of the research field [1,2].



References:

- [1] F. Yang, X. Wang, D.Q. Zhang, J. Yang, D. Luo, Z.W. Xu, J.K. Wei, J.-Q. Wang, Z. Xu, F. Peng, X.M. Li, R.M. Li, Y.L. Li, M.H. Li, X.D. Bai, F. Ding, Y. Li*, Chirality-specific growth of single-walled carbon nanotubes on solid alloy catalysts. *Nature*, 510, 522-524, (2014).
- [2] F. Yang, M. Wang, D. Zhang, J. Yang, M. Zheng*, Y. Li*, Chirality pure carbon nanotubes: growth, sorting, and characterization, *Chem. Rev.*, 120, 2693-2758, (2020).



Registration (Online)

<https://forms.gle/UYPDknrokHrt0q3Q8>

Please register by Oct 16.