第369回GMSI公開セミナー／第192回CIAiSセミナー／第114回WINGSセミナー

Synthesis of nanomaterials -Nanotechnology-

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Date: Tuesday, October 18, 2022 13:00-14:45
Venue: 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
https://forms.gle/Z6qFVjBnrbgGrbj67
Please register by Oct. 13th.
(Graduate students registered for 'Nanotechnology' class can directly join from ITC-LMS)

主催：
東京大学大学院工学系研究科専攻間横断型教育プログラム 機械システム・イノベーション（GMSI）
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高齢社会総合研究国際卓越大学院（WINGS-GLAFS）

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