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Professional field: Chemical Engineering and Technology
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Profile

Education

2007: PhD, Materials Chemistry, University of Maryland at College Park, USA.
1996: MS, Organic Chemistry, Sichuan University, China.
1993: BS, Applied Chemistry, Huazhong University of Science and Technology, China.

Academic Experience

2015-present: Professor, School of Chemical Engineering, ECUST, China.
2009-2015: Professor, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, China.
2007-2008: Postdoctoral Research, Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, USA

Research Field

1. Catalysis and reaction engineering
2. Synthesis and application of controllable nano catalyst

Research results and selected published papers

- 1). Liu, M., Tang, W., Xu, Y., Yu, H., Yin, H., Zhao, S., Zhou, S. "Pd-SnO₂/Al₂O₃ heteroaggregate nanocatalysts for selective hydrogenations of p-nitroacetophenone and p-nitrobenzaldehyde", Appl. Catal. A, 2018, 549, 273–279.
- 2). Liu, M., Tang, W., Xie, Z., Yu, H., Yin, H., Xu, Y., Zhao, S., Zhou, S. "Design of Highly Efficient Pt-SnO₂ Hydrogenation Nanocatalysts using Pt@Sn Core-Shell Nanoparticles", ACS Catal., 2017, 1583-1591.
- 3). Zhang, P., Hu, Y., Li, B., Zhang, Q., Zhou, C., Yu, H., Zhang, X., Chen, L., Eichhorn, B., Zhou, S. "Kinetically Stabilized Pd@Pt Core-shell Octahedral Nanoparticles with Thin Pt Layers for Enhanced Catalytic Hydrogenation Performance", ACS Catal., 2015, 5, 1335-1343.
- 4). Liu, H., Tao, K., Xiong, C., Zhou, S. "Controlled Synthesis of Pd-NiO@SiO₂ Mesoporous Core-shell Nanoparticles and Their Enhanced Catalytic Performance for P-chloronitrobenzene Hydrogenation with H₂", Catal. Sci. Technol., 2015, 5, 405-414.
- 5). Lin, C., Tao, K., Yu, H., Hua, D., Zhou, S. "Enhanced Catalytic Performance of Molybdenum Doped Mesoporous SBA-15 for Metathesis of 1-Butene and Ethene to Propene", Catal. Sci. Technol., 2014, 4, 4010-4019.
- 6). Hu, B., Liu, H., Tao, K., Xiong, C., Zhou, S. "Highly Active Doped Mesoporous KIT-6 Catalysts for Metathesis of 1-Butene and Ethene to Propene: The Influence of Neighboring Environment of W Species", J. Phys. Chem. C, 2013, 117, 26385–26395.
- 7). Wang, X., Yu, H., Hua, D., Zhou, S. "Enhanced Catalytic Hydrogenation Activity and Selectivity of Pt-MxOy/Al₂O₃ (M = Ni, Fe, Co) Heteroaggregate Catalysts by in Situ Transformation of PtM Alloy Nanoparticles", J. Phys. Chem. C, 2013, 117, 7294-7302.
- 8). Hu, Y., Tao, K., Wu, C., Zhou, C., Yin, H., Zhou, S. "Size-Controlled Synthesis of Highly Stable and Active Pd@SiO₂ Core-Shell Nanocatalysts for Hydrogenation of Nitrobenzene", J. Phys. Chem. C, 2013, 117, 8974-8982.
- 9). Zhou, S., Ma, Z., Eichhorn, B., Dai, S. "Low-Temperature Solution-Phase Synthesis of NiAu Alloy Nanoparticles via Butyllithium Reduction: Influences of Synthesis Details and Application as the Precursor to Active Au-NiO/SiO₂ Catalysts Through Proper Pretreatments", J. Phys. Chem. C, 2009, 113, 5758-5765.
- 10). Zhou, S., Ma, Z., Bake, G., Rondinone, A., Zhu, Q., Luo, H., Wu, Z., Dai, S. "Self-Assembly of Metal-Oxide Nanoparticles into Hierarchically Patterned Porous Architectures Using Ionic Liquid/Oil Emulsions", Langmuir, 2009, 25, 7229-7233.
- 11). Zhou, S., Yin, H., Schwartz, V., Wu, Z., Mullins, D., Eichhorn, B., Overbury, S., Dai, S. "In-situ Phase Transformation of NiAu Alloy Nanoparticles for Preparing Highly Active CO Oxidation Catalysts", ChemPhysChem. 2008, 9, 2475-2479.
- 12). Zhou, S., Jackson, G., Eichhorn, B. "Architectural Effects on the Catalytic Activity of Au-Pt Bimetallic Nanostructures: Alloy and Contact Aggregate Particles for CO Tolerant Hydrogen Activation", Adv. Funct. Mater., 2007, 17, 3099–3104.
- 13). Zhou, S., McIlwrath, K., Jackson, G., Eichhorn, B. "Enhanced CO Tolerance for Hydrogen Activation in Au-Pt Dendritic Heteroaggregate Nanostructures", J. Am. Chem. Soc., 2006, 128, 1780 – 1781.
- 14). Zhou, S., Varughese B., Eichhorn B., Jackson G., McIlwrath, K. "Pt-Cu Core-Shell and Alloy Nanoparticles for Heterogeneous NO_x Reduction: Anomalous Stability and Reactivity of a Core-Shell Nanostructure", Angew. Chem. Int. Ed., 2005, 44, 4539-4543.