



Department: School of Chemistry and Molecular Engineering

Professional field: Analytical Chemistry

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Profile

Prof. Minbo Lan received his Ph.D in applied chemistry from East China University of Science and Technology (ECUST) in 1993. He is now the professor of analytical chemistry in ECUST, and the Chief Scientist of the Shanghai Nanotechnology Promotion Centre. His research expertise includes nanomaterials and nanotechnology, sensors/biosensors and natural product chemistry. He has published over 200 research papers and 30 patents and received many awards. He has conducted international collaborative research with top scientists in Australia, Israel, Finland, UK and Germany in the areas of nanotechnology and sensors/biosensors.

Research Field

Nanomaterials and nanotechnology, Electrochemical sensors/biosensors, and Natural product chemistry

Research results and selected published papers

- 1) Kaicha Chen, Hongli Zhao, Zhenxing Wang, Qianmei Gao, Fangfang Zhou, Minbo Lan*. One-pot synthesis of platinum-copper pyramid alloy catalyst with multiple branches for the electrochemical detection of circulating tumor DNA. *Sensors & Actuators: B. Chemical* 2022, 351, 130948.
- 2) Zhenxing Wang, Hongli Zhao, Gao, Qianmei Gao, Kaicha Chen, Minbo Lan*. Facile synthesis of ultrathin two-dimensional graphene-like CeO₂-TiO₂ mesoporous nanosheet loaded with Ag nanoparticles for non-enzymatic electrochemical detection of superoxide anions in HepG2 cells. *Biosensors & Bioelectronics*. 2021, 184: 113236.
- 3) Chenlu Pu, Hongli Zhao, Yayun Hong, Zhenxing Wang, Yu Zheng, Minbo Lan*. Hierarchical dendritic mesoporous TiO₂ nanocomposites for highly selective enrichment of endogenous phosphopeptides. *ACS Sustain. Chem. Eng.*, 2021, 9(17):5818-5826 (Inside Cover)
- 4) Sheng Qianying; Wang Cunli; Li Xiaopei; Qin Hongqiang; Ye Mingliang; Xiong Yuting; Wang Xue; Li Xiuling; Lan Minbo*; Li Junyan; Ke Yanxiong; Qing Guangyan*; Liang Xinmiao. Highly Efficient Separation of Methylated Peptides Utilizing Selective Complexation between Lysine and 18-Crown-6. *Analytical Chemistry*, 2021, 92:15663-15670
- 5) Chenlu Pu, Hongli Zhao, Yayun Hong, Qiliang Zhan, Minbo Lan*. Facile Preparation of Hydrophilic Mesoporous Metal-Organic Framework via Synergistic Etching and Surface Functionalization for Glycopeptides Analysis. *Analytical Chemistry*, 2020, 92, 1940-1947
- 6) Xuan Cai, Huilan Chen, Zhenxing Wang, Wenqian Sun, Libo Shi, Hongli Zhao, Minbo Lan* 3D graphene-based foam induced by phytic acid: An effective enzyme-mimic catalyst for electrochemical detection of cell-released superoxide anion. *Biosensors & Bioelectronics*, 2019, 123: 101-107
- 7) Yingxin Chen, Qianying Sheng, Yayun Hong, Minbo Lan*. Hydrophilic Nanocomposite Functionalized by Carrageenan for the Specific Enrichment of Glycopeptides, *Analytical Chemistry*, 2019, 91: 4047-4054
- 8) Xuan Cai, Libo Shi, Wenqian Sun, Hongli Zhao, Hong Li, Haiyan He, Minbo Lan*. A facile way to fabricate manganese phosphate self-assembled carbon networks as efficient electrochemical catalysts for real-time monitoring of superoxide anions released from HepG2 cells. *Biosensors and Bioelectronics* 2018, 102: 171–178
- 9) Yayun Hong, Yating Yao, Hongli Zhao, Qianying Sheng, Mingliang Ye, Chengzhong Yu,* and Minbo Lan*. Dendritic Mesoporous Silica Nanoparticles with Abundant Ti⁴⁺ for Phosphopeptide Enrichment from Cancer Cells with 96% Specificity. *Analytical Chemistry*, 2018, 90: 7617-7625
- 10) Yayun Hong, Hongli Zhao, Chenlu Pu, Qiliang Zhan, Qianying Sheng, and Minbo Lan*. Hydrophilic Phytic Acid-Coated Magnetic Graphene for Titanium(IV) Immobilization as a Novel Hydrophilic Interaction Liquid Chromatography–Immobilized Metal Affinity Chromatography Platform for Glyco- and Phosphopeptide Enrichment with Controllable Selectivity. *Analytical Chemistry* 2018, 90: 11008-11015