

Book of Abstracts of the
14th Topical Meeting
of the
International Society of
Electrochemistry

Electrochemistry for Life Science
and Bioanalysis

29 March to 1 April, 2014
Nanjing, China

Organized by:
ISE Division 1 Analytical Electrochemistry
ISE Division 2 Bioelectrochemistry
ISE Region China



International Society of Electrochemistry
Rue de Sébeillon 9b
1004 Lausanne
Switzerland

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Program



Sunday 30 March 2014, Morning

Huangpu Hall

8:30-9:00 Opening Ceremony

Chaired by: H.X. Ju

Opening Speech by L.-J. Wan

Welcome Speech by President of Nanjing Univeristy

Photograph

Chaired by: C. Amatore

09:00 to 09:40 Keynote page 34

Hubert Girault (LEPA, EPFL, Switzerland), Natalia Gasilova, Qiao Liang, Qiuliyang Liu, Baohong Liu, Elena Tobolkina, Xiaoqin Zhong

Electrotatic Spray Ionisation (ESTASI): Combining electrochemistry and mass spectrometry

09:40 to 10:20 Keynote page 32

Hong-Yuan Chen (School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, China)

Biomolecular sensors based on functional nano-materials and their assembly

10:20 to 10:35

Coffee Break

Chaired by: Z.-Q. Tian

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Shelley Minteer (Department of Chemistry, University of Utah, Salt Lake City, USA)

From Biofuel Cells to Self-Powered Biosensors

11:15 to 11:55 Keynote page 36

Li-Jun Wan (Institute of Chemistry, Chinese Academy of Sciences, Beijing, China)

Molecular Template, Programmable Molecular Self-Assembly and Possible Application for Bioanalysis

Sunday 30 March 2014, Afternoon

Bioelectrochemistry

Room 309

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 Battery Powered Electroosmotic Pump and Its Applications
- 14:20 to 14:40 page 69
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Xi Chen (MOE Key Laboratory of Spectrochemical Analysis & Instrument, Xiamen University, Xiamen, China)

Synthesis of graphene-noble metal nanocomposition and their application in electroanalysis and electrocatalysis

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Using Crude Culture supernatant of *Escherichia coli* to Supply Copper Efflux Oxidase at a Biofuel Cell Cathode

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Bioelectroanalytical Methods

Room 307

Chaired by: H. Girault and T.D. Chung

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 DNA Nanostructure-Based Biosensors and Effects
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Microconductometric immunosensor for label-free and sensitive detection of Gram-negative bacteria

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Yang Tian (Department of Chemistry, Tongji University, Shanghai, China)

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Jinfang Zhi (Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing, China), Jiuming Li, Jun Qian, Yuan Yu

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Monday 31 March 2014, Morning

Bioelectrochemistry

Room 309

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Chia-Liang Sun (Department of Chemical and Materials Engineering, Chang Gung University, Tao-Yuan, Taiwan), Po-Tuan Chen, Chun-Yi Chiu, Michitoshi Hayashi, Yuan-Han Huang, Jin-Ting Tsai

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Bioelectroanalytical Methods

Room 307

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Chang Ming Li (Institute for Clean Energy & Advanced Materials, Southwest University, Chongqing, China)

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Bioelectroanalytical Methods

Room 308

Chaired by: O. Arotiba & L. Niu

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Bioanalysis Based on Electrochemiluminescence Energy Transfer

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Rapid electrodeposition of gold-Prussian blue nanocomposite of ultrahigh electroactivity for dual-potential amperometric biosensing of uric acid

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Hao Tang (Chemistry and Chemical Engineering, Hunan University, Changsha, China), Jianhui Jiang, Qing Li, Yu Wang, Zhan Wu

Novel SERS Biosensors based on target-controlled assembly of Nanoparticles

Program

Monday 31 March 2014, Morning

Monday 31 March 2014, Afternoon

Bioelectrochemistry

Room 309

Chaired by: B.H. Liu & Y.H. Shao

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New Insights into the Quantification of Kinetics of Electron Transfer for Surface-Confined Glucose Oxidase on the Basis of Voltammetric Analysis

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Shuangyin Wang (Department of Chemistry, University, Changsha, China)

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Development of Preferentially Oriented Pt(100) Nanoalloy Electrocatalysts for the Next Generation Fuel Cells

Bioelectroanalytical Methods

Room 307

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Huangpu Hall

Chaired by: H.-Y. Chen & A. Ewing

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Andrew Ewing (Chemical and Biological Engineering, Gothenburg, Sweden)

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Serge Cosnier (Département de Chimie Moléculaire UMR CNRS 5250, Grenoble University, Grenoble, France)

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Munetaka Oyama (Department of Material Chemistry, Grad. School of Engineering, Kyoto University, Kyoto, Japan)

Some Trials for Fabricating Metal-Nanoparticle-Modified Electrodes

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Andrew Nelson (School of Chemistry, University of Leeds, Leeds, United Kingdom), Andrey Brukhno, Shezi Mohmadi, Ashi Rashid, Alexandre Vakurov

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Chaired by: S. Cosnier & X. R. Yang

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Xiurong Yang (State key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Changchun, China)

Study of Biomolecular Interaction by Electrochemistry with Related Methods

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Lanqun Mao (Institute of Chemistry, the Chinese Academy of Sciences, Beijing, China)

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Nongjian Tao (Arizona State University, Arizona State University, Tempe, USA)

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Chaired by: X.H. Xia

Poster Presentations



Bioelectrochemistry

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Xingxing Chen (Analytische Chemie - Elektroanalytik & Sensorik, Chemie und Biochemie, Bochum, Germany), Yvonne Beyl, Dmitrii Guschin, Zahma Kawah, Roland Ludwig, Wolfgang Schuhmann, Minling Shao, Leonard Stoica

Cellulose Dehydrogenase Entrapped within Specifically Designed Os-complex Modified Electrodeposition Polymers as Potential Anodes for Biofuel Cells

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Fang Fang Cheng (School of Chemistry & Chemical Engineering, Nanjing University, Nanjing, China), Jing Jing Zhang, Jun-Jie Zhu

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Shengyuan Deng (School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing, China), Dan Shan, Yuan Zhang

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Wangping Deng (Laboratory of Physical Biology, Shanghai Institute of Applied physics, Shanghai, China), Chunhai Fan, Zheng Feng, Wei Hu, Shiping Song, Bin Xu

Diagnosis of Schistosomiasis japonica with Interfacial Co-assembly-Based Multi-channel Electrochemical Immunosensor Arrays

s1-005

Jiu-Ju Feng (College of Chemistry and Life Science, Zhejiang Normal University, Jinhua, China), Jie-Ning Zheng

One-pot synthesis of graphene-supported bimetallic nanostructures for alcohol oxidation

s1-006

Donal Leech (Department of Chemistry, National University of Ireland Galway, Galway, Ireland), Partha Jana, Krishna Katuri, Paul Kavanagh, Amit Kumar, Piet Lens, Raghavulu Sapireddy

Electroactive microbial biofilms on electrodes: charge transport, catalysis, current & power

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Lu Lehui (State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Changchun, China), Ai Kelong

Simple and Scalable Preparation of Co-N-C Hybrid Materials with Enhanced Activity and Stability as Oxygen Reduction Electrocatalysts

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Zhongping Li (Institute of Environmental Science, Shanxi University, Taiyuan, China)

Determination of Methanol Oxidation Based on Pd NanoSensor

s1-009

Meihua Lin (Division of Physical Biology & Bioimaging Center, Shanghai Institute of Applied Physics, Chinese Academy of Science, Shanghai, China), Chunhai Fan, Zhilei Ge, Xiaolei Zuo

Hybridization Chain Reaction Amplification of MicroRNA Detection with a Tetrahedral DNA Nanostructure-Based Electrochemical Biosensor

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Dong Liu (Key Laboratory for Functional Materials, University of Science and Technology, Shanghai, China), Tianyan You

The preparation of electrospun nitrogen-doped carbon nanofibers and its application in oxygen reduction reaction

s1-011

Xiao-Yuan Liu (Department of Chemistry, East China University of Science and Technology, Shanghai, China), Yitao Long

Tuning the Electron Transfer Property of Bis-quinone by Linker and Solvent Medium

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Juan Luo (Department of Chemistry, Fudan University, Shanghai, China), Xueen Fang, Jilie Kong

Real-time Quantitative Differentiation of Bacteria by a Microfluidic Multiplex Electrochemical Loop-Mediated Isothermal Amplification Chip

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Saci Messaadi (Material science, Hadj-Lakhdar University, Batna, Algeria), Mosbah Daamouche, Hadria Medouer

Evolution of the Electrodeposited Ni-Fe Roughness Under the Potential Effect

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Dan Shan (School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing, China), Shengyuan Deng, Ya Hui Liu, Ke Wang, Guang Yao Zhang

Copper Nanoparticles *in situ* Electrogenenerated on the Chelating Electrode Based on Poly(pyrocatechol violet)/Single-Wall Carbon Nanotubes and Their Synergic Effect in the Non-Enzyme Sensing System

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Huai-Sheng Wang (Department of Chemistry, Liaocheng University, Liaocheng, China), Li-Ping Jia

Synthesis of ssDNA-functionalized graphene nanosheets decorated with Ag nanoparticles for H₂O₂ and glucose detection

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Weiguang Yang (Department of Electronic Information Materials, Shanghai University, Shanghai, China), Yajing Hu, Ying Tang, Yueyang Xu

Branched Anatase TiO₂ Nanorods– C Growth Mechanism and Its Application in Dye-Sensitized Solar Cells

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Huiqin Yao (Chemistry, Ningxia Medical University, Yinchuan, China), Hongyun Liu, Juan Peng, Keren Shi, Qianshun Yan

Thermo- and Sulfate-controllable Bioelectrocatalysis of Glucose Based on Horseradish Peroxidase and Glucose Oxidase Embedded in Poly(N,N-diethylacrylamide) Hydrogel Films

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Na Zhang (Shanghai Key Laboratory of Functional Materials Chemistry, East China University of Science and Technology, Shanghai, China), Yitao Long

The Evolution of Bulky Molecules in Electrochemical Progress

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Zhonghai Zhang (Department of Chemistry, East China Normal University, Shanghai, China)

Fabrication of photoelectrochemical biosensor based on hierarchical TiO₂ nanotube arrays

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Chengxiao Zhang (School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xian, China), Honglan Qi, Dongdong Wang, Ying Zhao

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Fangyuan Zhao (Faculty of Chemistry and Biochemistry, Ruhr University of Bochum, Bochum, Germany), Sascha Pöller, Nicolas Plumeré, Matthias Rögner, Wolfgang Schuhmann, Kirill Sliozberg

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Chenxin Cai (Chemistry Department, Nanjing Normal University, Nanjing, China), Ping Wu, Hui Zhang

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Nuanapa Chaisuwan (College of Environmental Science and Engineering, Donghua University, Shanghai, China), Paweena Chaisuwan, Nuanapa Chaisuwan, Jianshe Liu, Jing Ping

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Gaoli Chen (Department of Chemistry, University of Science and Technology of China, Hefei, China), Zhaoxiang Deng, Danfeng Qiu, Song Wang, Yuanqin Zheng

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Shengyuan Deng (School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing, China), Dan Shan, Tingting Zhang

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Joanna Dolinska (Department of Electrode Processes, Institute of Physical Chemistry PAS, Warsaw, Poland), Martin Jonsson-Niedziolka, Marcin Opallo, Kannan Palanisamy, Volodymyr Sashuk

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Pablo Fanjul Bolado (R&D, DropSens S.L., Llanera, Spain), David Hernández Santos, Marta Maria Pereira da Silva Neves

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Jiu-Ju Feng (College of Chemistry and Life Science, Zhejiang Normal University, Jinhua, China), Zhang-Ying Lv

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Rui Feng (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Bei Jing, China), Lianghong Guo, Yiping Wu

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Shengping Gao (State Key Laboratory of Bioelectronics, Southeast University, Nanjing, China), Xiao Chen, Donghua Chen, Hui Jiang, Qiwei Li, Xuemei Wang

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Lingfeng Gao (Department of Chemistry, University of Science & Technology of China, Hefei, China), Hua Cui, Hongli Zhang

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Yingshu Guo (School of Chemistry and Chemical Engineering, Linyi University, Linyi City, China), Xueping Jia, Jia Liu, Guangxu Yang, Shusheng Zhang

Target Recycling Cycle Amplification Assay for Lysozyme Detection Based on Graphene Oxide

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Yujing Guo (Institute of Environmental Science, Shanxi University, Taiyuan, China)

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Ariel Guzmán-Vargas (Chemical Engineering, IPN-ESIQIE, Mexico, CITY, Mexico), Miguel García Chame, Enrique Lima, Pedro Luna Arias, María de Jesús Martínez-Ortiz, Miguel Angel Oliver

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Di Li (Division of Physical Biology, Shanghai Institute of Applied Physics, Shanghai, China), Kun Li, Weiwei Qin, Kun Wang

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Xuemei Li (College of Chemistry and Chemical Engineering, Linyi University, Linyi, China)

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Zhenhua Li (Laboratory of Physical Biology, Shanghai Institute of Applied Physics, Chinese Academy of Science, Shanghai, China), Shiping Song

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Gang Liang (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China), Lianghong Guo

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Andrew Lin (Department of Chemical and Materials Engineering, Chang Gung University, Taoyuen, Taiwan), Trav Huang, William Lin

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Lin Liu (College of Chemistry and Chemical Engineering, Anyang Normal University, Anyang, China), Dehua Deng, Sujuan Li, Ning Xia

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Jiying Pei (School of Chemistry and Materials Science, University of Science and Technology of China, Hefei, China), Guangming Huang

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Sana Sabahat (Department of Physics, COMSATS Institute of Information Technology, Islamabad, Pakistan), Zareen Akhter, Naveed Kausar Janjua

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Zhenlun Song (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, China), Shizuo Wang, Lijing Yang

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Yifeng Tu (Dept. of Chemistry, Soochow University, Suzhou, China)

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Zonghua Wang (Department of Chemistry, Qingdao University, Qingdao, China), Feng Li, Yanhui Li, Jingquan Liu, Jianfei Xia, Lin Xia, Yanzhi Xia, Linhua Xia, Feifei Zhang

An Ionic Liquid Modified Graphene based Bovine Hemoglobin Molecular Imprinting Electrochemical Sensor for Specific Recognition of BHB

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Zonghua Wang (Department of Chemistry, Qingdao University, Qingdao, China), Qiuhan Han, Yanhui Li, Jianfei Xia, Lin Xia, Yanzhi Xia, Linhua Xia, Feifei Zhang

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Yiping Wu (Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China), Lianghong Guo, Bintian Zhang

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Yuezhong Xian (Chemistry, East China Normal University, Shanghai, China), Ningning Chen, Yuxiao Cheng, Xiaohong Wu, Kai Zhao

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Zhai Xu (Department of Chemistry, East China Normal University, Shanghai, China), Ying Fu, Ping Geng, Kai Liu, Qianqian Sun, Meicheng Yang, Wen Zhang

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Ming-Chen Xu (Department of Chemistry, Nanjing University, Nanjing, China)

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Huiying Xu (Department of Chemistry, Fudan University, Shanghai, China)

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Peixin Yuan (School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing, China), Shengyuan Deng, Dan Shan

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Tingting Zheng (School of Chemistry & Chemical Engineering, Nanjing University, Nanjing, China), Jun-Jie Zhu

Multiplex Acute Leukemia Cytosensing Using Multifunctional Hybrid Electrochemical Nanoprobes at a Hierarchically Nanoarchitected Electrode Interface

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Hong Zhou (College of Chemistry and Chemical Engineering, Linyi University, Linyi, China)

An Efficient IrSi@Ir Complex for Sensitive Electrochemiluminescence Cytosensing and Dynamic Evaluation of Cell Surface Carbohydrate Expression

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Xueqing Zhou (School of Chemistry and Chemical Engineering, Sun Yat-Sen University, Guangzhou, China), Zong Dai, Wenyuan Zhu, Xiaoyong Zou

A label-free and PCR-free electrochemical assay for multiplexed microRNA profiles by ligase chain reaction coupling with quantum dots barcodes

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Xinyu Zhu (College of Chemistry and Molecular Engineering, Peking University, Beijing, China)

A Novel Method to Fabrication of Metal Nanoelectrodes

