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分析化学

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分析化学

FENXI HUAXUE

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* 联系人

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Chinese Journal of Analytical Chemistry

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Vol.40 No.9(1311－1468) September 2012

Invited Paper

Progress in Xanthene-based Spectroscopic Probes for Reactive Oxygen Species

CHEN Wei, MA Hui-Min*

Chinese J. Anal. Chem., **2012**, 40(9): 1311－1321

Reactive oxygen species (ROS) play key roles in maintaining normal physiological function of organisms. In this respect, fluorescent probes have been widely used due to their high spatial and temporal resolution capability. In recent years, xanthene-based spectroscopic probes for ROS have become a research focus, because of their excellent properties, such as relatively long emission wavelengths, good photostability and high quantum yields. Herein, we mainly review the progress of the xanthene-based spectroscopic probes for ROS over the past five years, including the detection and fluorescence imaging of hydrogen peroxide, hypochlorous acid/hypochlorite, superoxide, hydroxyl, singlet oxygen, nitric oxide, and so on.

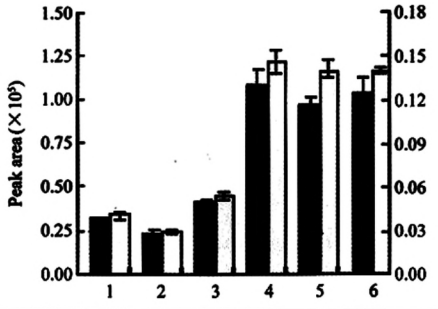
★**Serum and Urine Metabonomics Study of Human Bladder Cancer**

CHEN Yong-Jing, WANG Xiao-Hua, HUANG Zhen-Zhen, LIN Lin, GAO Yao, ZHU Er-Yi, XING Jin-Chun, ZHENG Jia-Xin, HANG Wei*

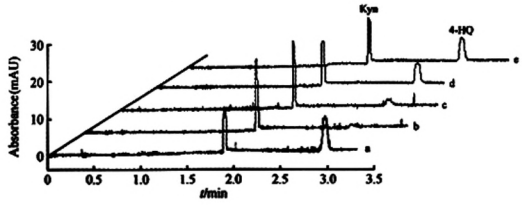
Chinese J. Anal. Chem., **2012**, 40(9): 1322－1328

Both serum and urine were investigated to enlarge the screening scope of bladder cancer (BC) related metabolites. Both reversed-phase liquid chromatography (RPLC) and hydrophilic interaction chromatography (HILIC) were used to get comprehensive metabolite profiling. Orthogonal partial least square-data analysis (OPLS-DA) was performed to discriminate metabolite profiles of 20 BC patients and 24 healthy controls. BC patients were clearly distinguished from healthy controls. 26 potential biomarkers were found out in serum and urine (13 each) using multivariate statistical analysis. Though most potential biomarkers are just common biomarkers existing in other diseases, the newly discovered serum metabolites, docosatrienol, azaprostanoic acid, and eicosatrienol, exhibit the potential for BC diagnosing. It suggests that liquid chromatography-mass spectrometry (LC-MS) based metabonomics with multivariate statistical analysis can be applied in human BC detection.

★**Determination of 3-Chloropropane Esters and 2-Chloropropane-1,3-diol Esters in Vegetable Oils by Gas Chromatography-Mass Spectrometry**
FU Wu-Sheng*, YAN Xiao-Bo, LÜ Hua-Dong, LI Nan, WU Shao-Ming, ZHENG Kui-Cheng, LIN Guang-Mei
Chinese J. Anal. Chem., **2012**, 40(9): 1329—1335



★**Screen of Monoamine Oxidase Inhibitors by Protein-Liposome Conjugate Capillary Electrophoresis**
Li Bing, LÜ Xue-Fei, Qing Hong, Deng Yu-Lin*
Chinese J. Anal. Chem., **2012**, 40(9): 1366—1340



Investigation of Interaction of Galacto-oligosaccharides with Ricinus Communis Agglutinin 120 and Erythrina Cristagalli Lectin by Glycochip
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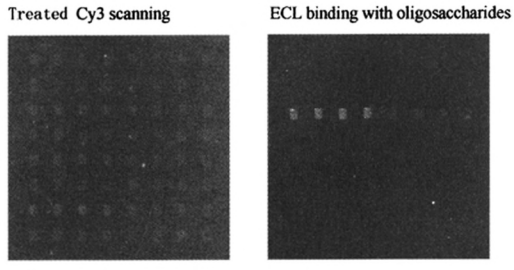
Chinese J. Anal. Chem., **2012**, 40(9): 1341—1346



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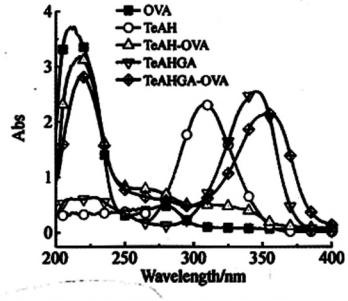
Chinese J. Anal. Chem., **2012**, 40(9): 1347—1352



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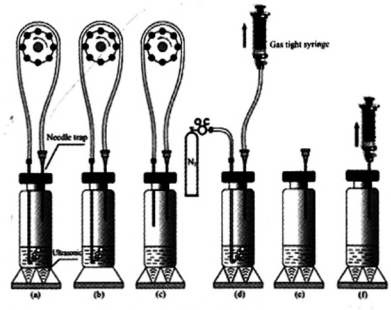
Chinese J. Anal. Chem., **2012**, 40(9): 1353—1359



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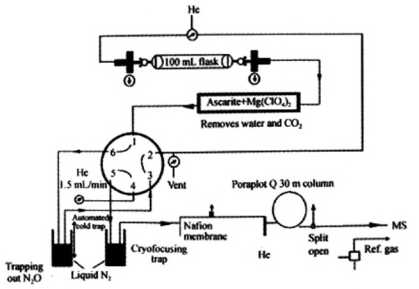
Chinese J. Anal. Chem., **2012**, 40(9): 1360—1365



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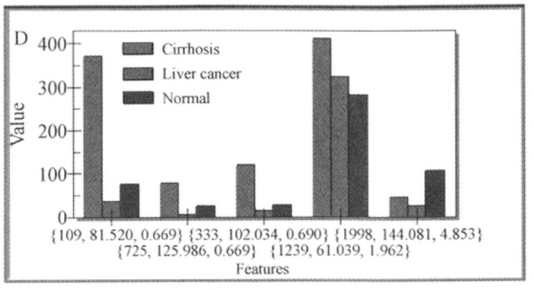

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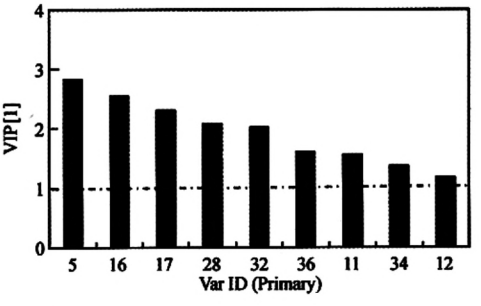
Chinese J. Anal. Chem., **2012**, 40(9): 1374—1378



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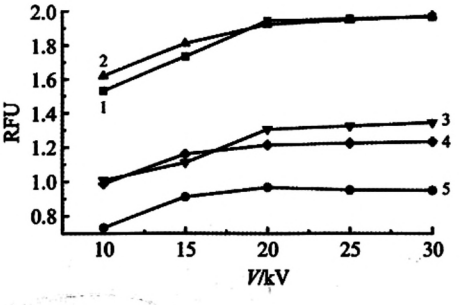
Chinese J. Anal. Chem., **2012**, 40(9): 1379—1384



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ZHENG Lin-Ling, LING Jian, LIU Yue,
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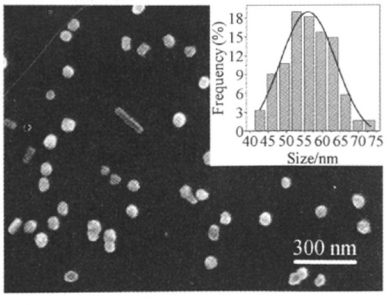
Chinese J. Anal. Chem., **2012**, 40(9): 1385—1390



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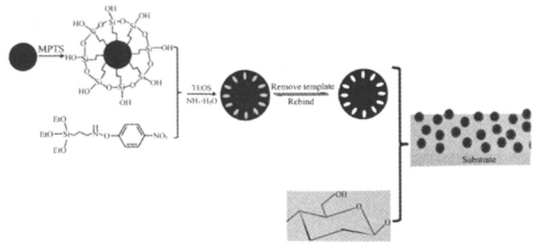
REN Chi, SUN Xiang-Ying*, LIU Peng-Chao

Chinese J. Anal. Chem., **2012**, 40(9): 1391—1396



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SUN Wen-Jia, SHEN Yu-Dong,
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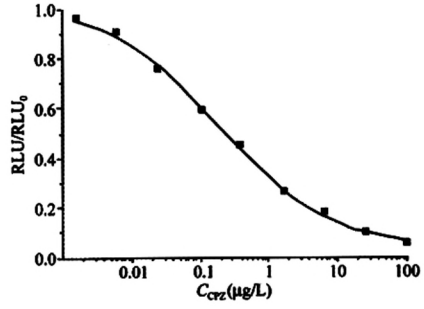
Chinese J. Anal. Chem., **2012**, 40(9): 1397—1402



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XING Yuan-Na*, WANG Xin,
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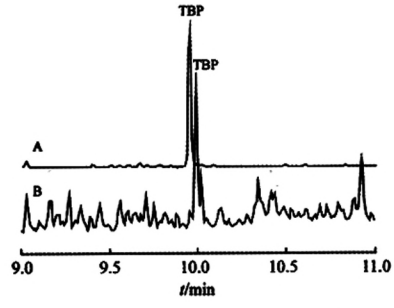

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TAN Xiao-Wang, SONG Yan-Xi*,
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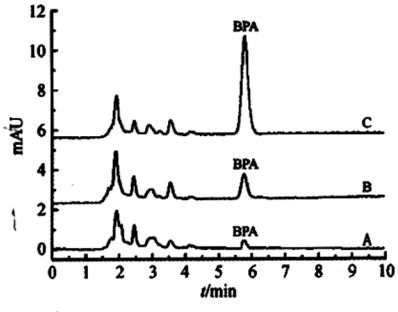
Chinese J. Anal. Chem., **2012**, 40(9): 1409—1414



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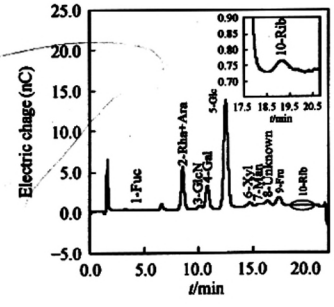
LI Jing*, LI Ren-Yong, LIANG Li-Na

Chinese J. Anal. Chem., **2012**, 40(9): 1415—1420



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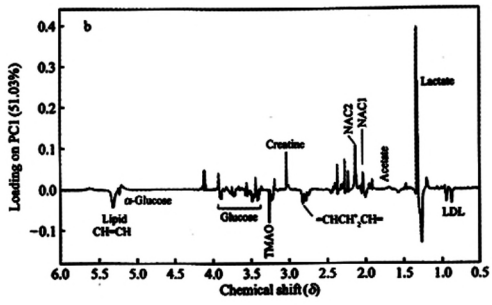
LIAO Pei-Qiu, XUE Rong, WU Yi-Jie, PEI Feng-Kui, LI Xiao-Jing*

Chinese J. Anal. Chem., **2012**, 40(9): 1421—1428



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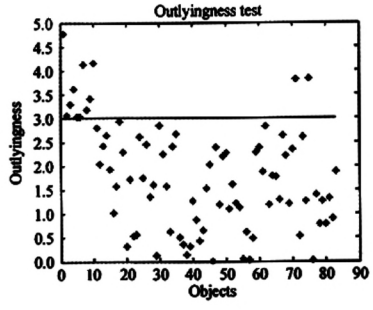

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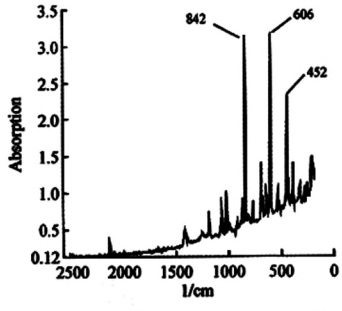
XIONG Yan-Mei, Tang Guo, DUAN Jia, Li Chun-Zi, MIN Shun-Geng*

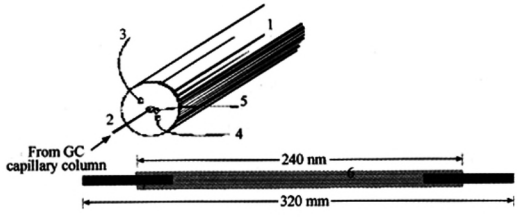
Chinese J. Anal. Chem., **2012**, 40(9): 1434—1438



★ **Combustion Reactor for Compound Specific of Carbon Isotope Ratio Analysis**

LI Zhong-Ping*, LI Li-Wu, TAO Ming-Xin, DU Li, CAO Chun-Hui, WANG Guang, XU Yi

Chinese J. Anal. Chem., **2012**, 40(9): 1439—1444

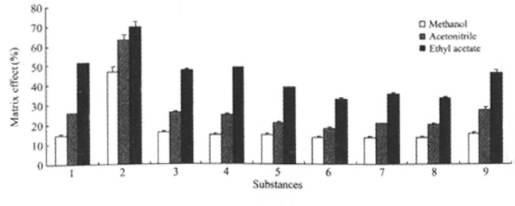


Research Notes

Matrix Effect in Analysis of β-Agonist Residue in Swine Tissues with Liquid Chromatography-Tandem Mass Spectrometry

WANG Li-Qi, ZENG Zhen-Ling, SHU Jian-Hua, WANG Xu-Feng, HE Li-Min*, LIU Min, ZHANG Gao-Kui

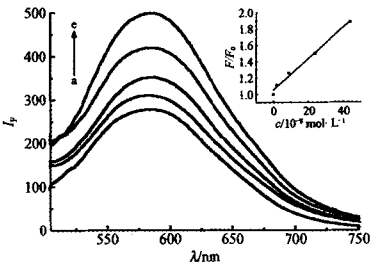
Chinese J. Anal. Chem., **2012**, 40(9): 1445—1449



A New Type CdTe Quantum Dots "Switch" and Its Application in Determination of Norfloxacin

LI Shu-Huai, TAO Hui-Lin*, XU Ming-Ze, QIN Ya-Fu

Chinese J. Anal. Chem., **2012**, 40(9): 1450—1453



Review and Progress

★ **Advanced Solid-Contact Ion Selective Electrode Based on Electrically Conducting Polymers**

HUANG Mei-Rong*, GU Guo-Li, DING Yong-Bo, FU Xiao-Tian, LI Rong-Gui

Chinese J. Anal. Chem., **2012**, 40(9): 1454—1460

Advanced solid-contact ion selective electrodes (ISE) based on electrically conducting polymers are systematically summarized based on the latest literatures and our latest work. Conjugated conductive polymers can act as ion-to-electron transducer and therefore achieve sensing and detection for ions owing to their feature as both electronic and ionic conductivity. The solid-contact ISE based on conducting polymers, such as polyaniline, polypyrrole and polythiophene, as intermediate layers could detect for ions at nanomolar level concentration. It can be expected that they could play an important role in many areas such as environmental monitoring, drug manufacturing, medical treatment and food safety.

Research and Application of Nanostructured Molecularly Imprinted Polymers in Pharmaceutical Analysis

LI Jie, LIU Tie-Bing*, XIAO De-Li, Dramou Pierre, ZOU Wen-Yue, HE Hua*

Chinese J. Anal. Chem., **2012**, 40(9): 1461—1468

Nanotechnology is an emerging technology with enormous potential due to their specific structures and properties that differ from traditional materials. Molecularly imprinting is a technique for the preparation of polymers of predetermined specificity based on imitating the way of interaction between antigen and antibody. Compared to conventional molecularly imprinted polymer, nanostructured molecularly imprinted polymer has many advantages: high afinity and selectivity, more accessible sites, fast association kinetics. Thus, nanostructured molecularly imprinting technique receives more and more attention by scientific researchers in recent years. This review covers the synthesis, characterization and latest advances of zero-dimensional (0-D), one-dimensional (1-D) and second-dimensional (2-D) nanostructured molecularly imprinted polymer.

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