



ISSN 0253-3820
CODEN FHHHDT
CN22-1125/O6

分析化学

FENXI HUAXUE

CHINESE JOURNAL
OF ANALYTICAL CHEMISTRY

第40卷
Vo1.40

第6期
No.6

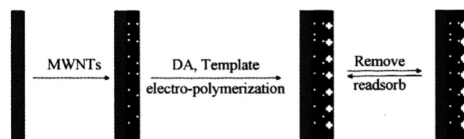
2012

中 国 化 学 会 主 办
中国科学院长春应用化学研究所
科 学 出 版 社 出版

Invited Paper

★ **Fabrication of Molecularly Imprinted Electrochemical Sensor for Selective Detection of Propranolol Hydrochloride**

LI Hui-Xiang, XU Xiao-Li,
CHEN Hui, ZHANG Song, KONG Ji-Lie*
Chinese J. Anal. Chem., 2012, 40(6): 817-822



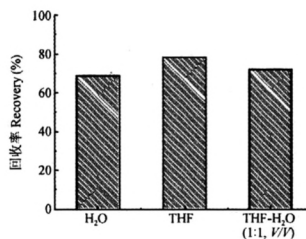
Research Progress in Electroanalysis of Cells

ZHAO Jing, ZHU Xiao-Li, LI Gen-Xi*
Chinese J. Anal. Chem., 2012, 40(6): 823-829

As the basic units of life organism, cells play a key role in the developmental and physiological process of the organism. Meanwhile, since the physiological activities of cells are usually coupled with electron transfer and/or electroactive species transferring, electroanalytical method has proven to be a very useful technique for the study of cells, which will be beneficial to the assay of cell activity, disease diagnosis and drug screening. Moreover, with the development of surface modification, nanotechnology and molecular recognition, more and more modified electrodes with biocompatible surface have been fabricated for electroanalytical study of cells, which may open more opportunities for the study of cells. Herein, we summarize the research progress of cell-based electroanalytical studies mostly in the recent three years to give a general overview to this field.

★ **Magnetic Solid Phase Extraction Followed by High Performance Liquid Chromatography for Determination of Urinary 1-Hydroxypyrene**

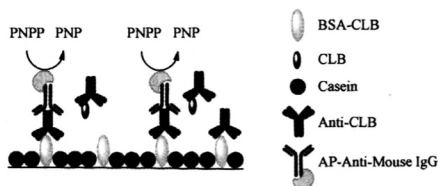
HUANG Wei, DING Jun, FENG Yu-Qi*
Chinese J. Anal. Chem., 2012, 40(6): 830-834



Scientific Papers

★ **Electrochemical Detection of Alkaline Phosphatase Using Ionic Liquid Modified Carbon Nanotubes Electrode**

RU Shi-Ping, WU Jian*, YING Yi-Bin,
JI Feng*
Chinese J. Anal. Chem., 2012, 40(6): 835-840



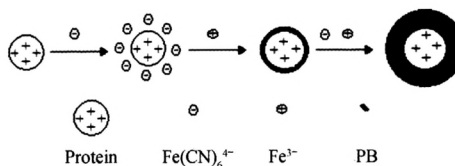
Electroluminescence Biosensor for DNA Determination Based on CdTe Quantum Dots Double-Tagging Fe₃O₄@Au Core/Shell Magnetic Nanoparticles

HAI Hong, YANG Feng, LI Jian-Ping*
Chinese J. Anal. Chem., 2012, 40(6): 841–846



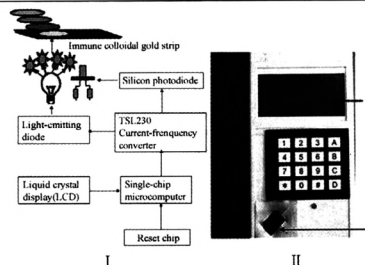
Prussian Blue-Enhanced Piezoelectric Homogeneous Immunoassay for Determination of Immunoglobulin G

DAI Wei-Wei, MO Zhi-Hong*, ZHANG Jing, LI Xian-Li, ZHAO Na
Chinese J. Anal. Chem., 2012, 40(6): 847–851



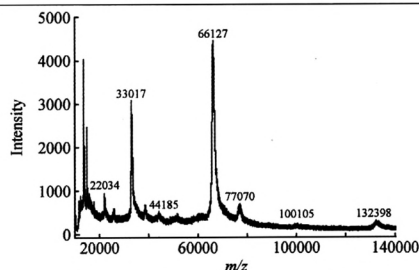
★ A Portable Photoelectric Sensor Based on Colloidal Gold Immunochromatographic Strips for Rapid Determination of Clenbuterol in Pig Urine

ZHANG Hong-Cai, LIU Chun-Yan, LIU Guo-Yan, CHEN Xiao-Lian, YE Yu-Dan, WANG Yi-Ru, CHAI Chun-Yan*
Chinese J. Anal. Chem., 2012, 40(6): 852–856



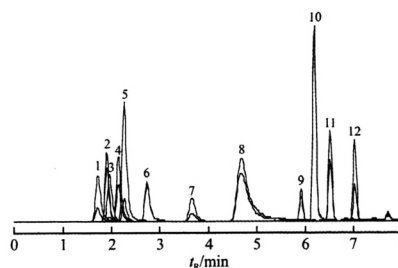
Study of Rabies Protein Antibodies Marked with Water-Soluble Quantum Dots

ZHAO Bin, ZHAO Su-Qing*, ZHOU Li-Hua, ZHANG Kun, ZHANG Jun
Chinese J. Anal. Chem., 2012, 40(6): 857–861



Simultaneous Determination of 12 Toxic Alkaloids in Urine and Gastric Juice Using Liquid Chromatography-Electrospray Ionization Tandem Mass Spectrometry

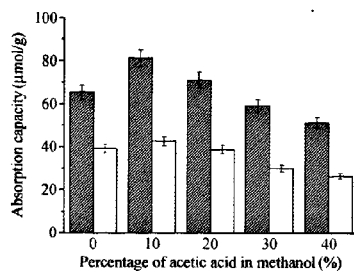
ZHANG Chun-Hua, WU Hui-Qin*, HUANG Xiao-Lan, ZHU Zhi-Xin, HUANG Fang, LIN Xiao-Shan, LUO Hui-Tai
Chinese J. Anal. Chem., 2012, 40(6): 862–869



Preparation of Bis(2-ethylhexyl) phthalate Imprinted Polymers Based on Multi-walled Carbon Nanotubes Surface and Its Application in Solid Phase Extraction

YANG Xiao, ZHANG Zhao-Hui*,
CHEN Xing, ZHANG Ming-Lei, LUO Li-Juan,
PENG Mi-Jun, NIE Li-Hua

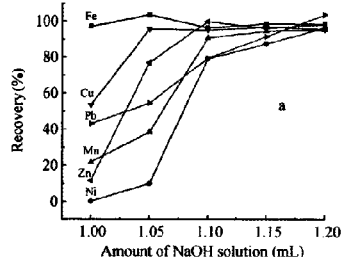
Chinese J. Anal. Chem., 2012, 40(6): 870–876



★ **Rapid Analysis of Heavy Metal Ions in Coastal Seawater Using Preconcentration with Precipitation/Co-precipitation on Membrane and Detection with X-Ray Fluorescence**

PENG Yuan-Zhen, HUANG Yong-Ming,
YUAN Dong-Xing*, LI Yan, GONG Zhen-Bin

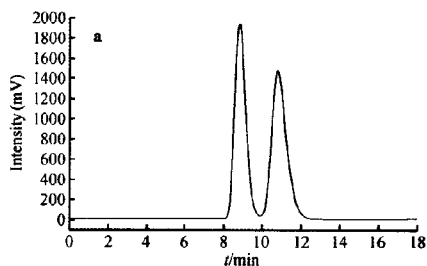
Chinese J. Anal. Chem., 2012, 40(6): 877–882



Determination of Ethiprole Enantiomers Residue in Rices Using Solid Phase Extraction-Liquid Chromatography Tandem Mass Spectrometry

ZHANG Hu, QIAN Ming-Rong,
WANG Xin-Quan, LIU Fei,
WANG Xiang-Yun, XU Hao, QI Pei-Pei,
WANG Ming-Hua*

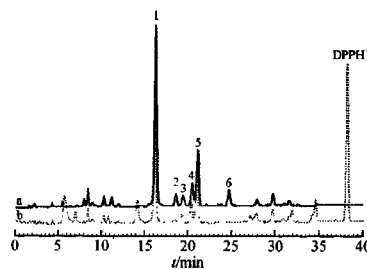
Chinese J. Anal. Chem., 2012, 40(6): 883–887



Rapid Screening and Structures Characterization of Antioxidants from Methanol Extract of Scutellariae Radix by High Performance Liquid Chromatography-Mass Spectrometry

YANG Si-Min, CHEN Rui-Zhan*,
DONG Hang, LI Yuan, LI Shi-Zhe,
LI Xin-Long, SONG Feng-Rui, LIU Zhi-Qiang

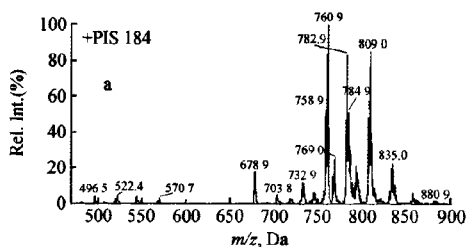
Chinese J. Anal. Chem., 2012, 40(6): 888–892



Determination of Phospholipids from Ctenopharyngodon Idellus Muscle by Direct-injection Electrospray Ionization Tandem Mass Spectrometry

WANG You-Yi, ZHANG Hong*,
DAI Zhi-Yuan

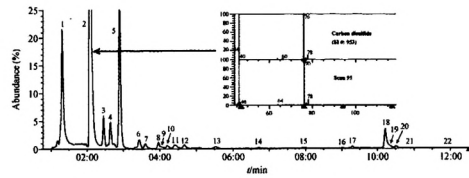
Chinese J. Anal. Chem., 2012, 40(6): 893–898



On-site Detection of Volatile Organic Compounds During Composting Treatment of Livestock and Poultry Manure by GC-MS

WANG Yu-Jun, XING Zhi-Xian,
ZHANG Xiu-Fang, HOU Zhi-Guang,
ZHAO Xiao-Song, DOU Sen,
ZHOU Mi-Ping*

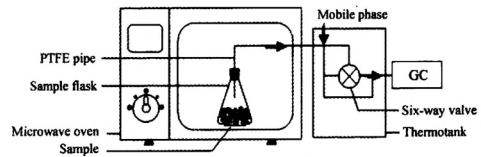
Chinese J. Anal. Chem., 2012, 40(6): 899–903



Direct Determination of Acetophenone in Ethylene Vinyl Acetate Plastic by Microwave Assisted Solid Headspace-Gas Chromatography

CHEN Hua*, WU Yan-Lei, FU Xiao-Hong,
XIA Zhi-Ning

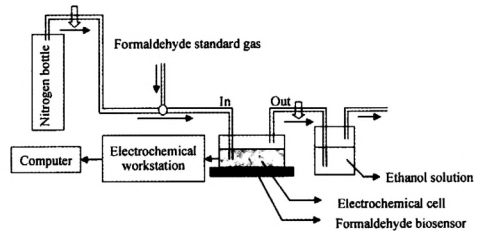
Chinese J. Anal. Chem., 2012, 40(6): 904–908



An Formaldehyde Biosensor Based on Carbon Nanotubes Modified Electrode

ZHANG Ren-Yan, ZHANG Xue-Ao*,
JIA Hong-Hui, LI Xin-Hua

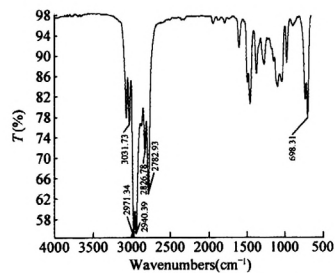
Chinese J. Anal. Chem., 2012, 40(6): 909–914



Identification of Amphetamine-type Stimulants Using Gas Chromatography Coupled with Fourier Transform Infrared Spectroscopy

ZHANG Run-Sheng, WANG Kua-Dou,
GONG Fei-Jun, YE Hai-Ying,
ZHANG Yu-Rong, YAN Song-Mao,
DU Yi-Ping, ZHANG Wei-Bing*

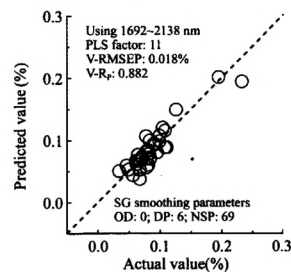
Chinese J. Anal. Chem., 2012, 40(6): 915–919



Waveband Optimization for Near-Infrared Spectroscopic Analysis of Total Nitrogen in Soil

PAN Tao*, WU Zhen-Tao, CHEN Hua-Zhou

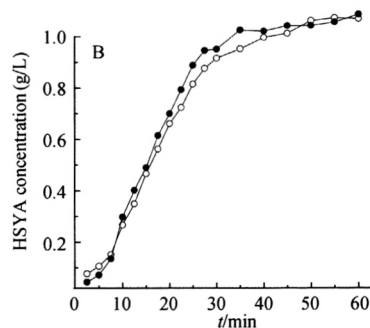
Chinese J. Anal. Chem., 2012, 40(6): 920–924



★ **Application of Particle Swarm Optimization Based Least Square Support Vector Machine in Quantitative Analysis of Extraction Solution of Safflower Using Near-infrared Spectroscopy**

JIN Ye, YANG Kai, WU Yong-Jiang,
LIU Xue-Song, CHEN Yong*

Chinese J. Anal. Chem., 2012, 40(6): 925–931

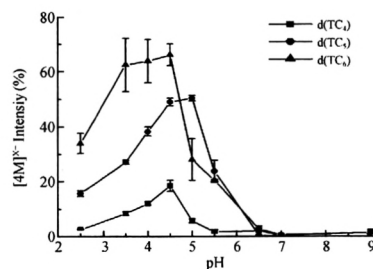


Research Notes

Oligonucleotide Forming Tetramolecular i-Motif Structure Studied by Electrospray Ionization Mass Spectrometry

QIN Yu-Jiao, WEI Shi-Gang,
LIU Zheng-Shuang, WANG Bing,
GUO Xin-Hua*

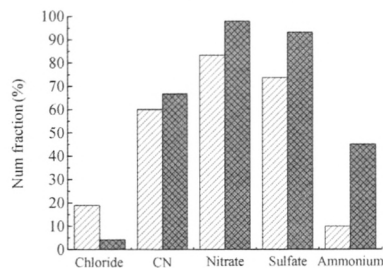
Chinese J. Anal. Chem., 2012, 40(6): 932–935



★ **Analysis of Cigarette Smoke Aerosol by Single Particle Aerosol Mass Spectrometer**

LI Mei, DONG Jun-Guo, HUANG Zheng-Xu,
LI Lei, GAO Wei, NIAN Hui-Qing,
FU Zhong, CHENG Ping, ZHOU Zhen*

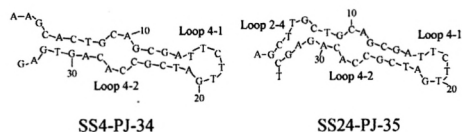
Chinese J. Anal. Chem., 2012, 40(6): 936–939



Active Site Analysis and Modification of Organophosphorus Pesticides Aptamers Based on Molecular Beacon

WANG Li, ZHANG Cun-Zheng, LIU Yuan,
TU Kang, SANG Hong-Qing, LIU Xian-Jin*

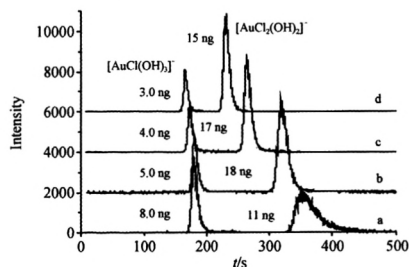
Chinese J. Anal. Chem., 2012, 40(6): 940–944



A study of Trace Gold Chloride and Hydroxide Speciation in Weak Alkaline Solution by Ion Chromatography-Inductively Coupled Plasma Mass Spectrometry

LIU De-Ye*, ZHU Chun, MA Yong-Jian

Chinese J. Anal. Chem., 2012, 40(6): 945–949



Application of Least Square Twins Support Vector Machine in Near Infrared Spectrometry

SONG Xiang-Zhong, CHEN Chang-Zhou,
MIN Shun-Geng, HE Xiong-Kui, LI Zheng,
MI Jin-Rui, ZHANG Lu-Da*

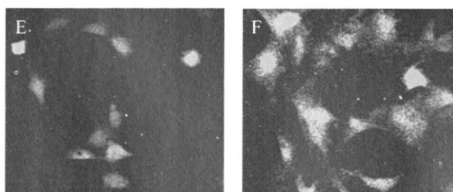
Chinese J. Anal. Chem., 2012, 40(6): 950–954

The identification model was established by the least square twins support vector machine (LSTSVM) algorithm with MATLAB. 98 rhubarb samples were used for the investigation. To establish NIR-LSTSVM identification model, the samples were divided into training set with 60 samples and testing set with 38 samples randomly. The parameters of the model were optimized by the leave 1/5 out cross validation method for the training set. And then the optimal recognition model was established by using the selected optimal parameters and near infrared spectra.

Fluorescence Immunoassay and Chemical Analysis of Effect of Taurine on Neonatal Rat Myocardial Cells Antioxidant Role

ZHANG Xin-Guang, YI Gui-Yan,
LÜ Xiao-Feng*, LIU Han-Ju, XU Xiu-Ping,
JIAO Xiu-Min

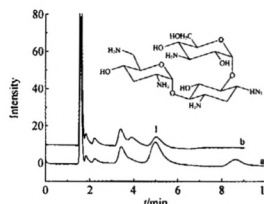
Chinese J. Anal. Chem., 2012, 40(6): 955–959



Analysis of Tobramycin in Human Drainage Tissue Fluid by Ion Chromatography with Pulsed Integrated Amperometric Detection

SHOU Dan, ZHU Zuo-Yi, ZHANG Yang,
DONG Yu, SHEN Li-Feng, ZHU Yan*

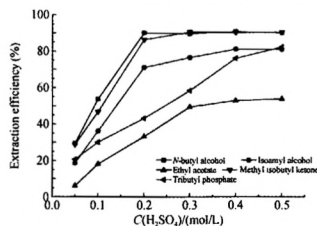
Chinese J. Anal. Chem., 2012, 40(6): 960–963



Indirect Determination of Molybdenum in Tea with N-butyl Alcohol Extraction by Atomic Fluorescence Spectrometry

LIAO Chao-Dong, GENG Guo-Xing,
LU Jian-Ping*, TANG Yan-Kui

Chinese J. Anal. Chem., 2012, 40(6): 964–967

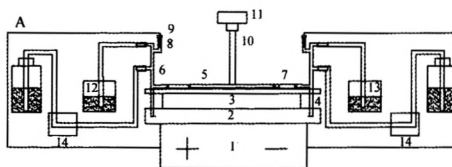


Experimental Technique and Instrument

Novel Principle and Device of Acid-base Titration via Moving Neutralization Boundary Electrophoresis

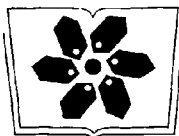
WANG Hou-Yu, YANG Qing,
DONG Jing-Yu, ZHANG Wei, FAN Liu-Yin,
ZHANG Wei-Bing, CAO Cheng-Xi*

Chinese J. Anal. Chem., 2012, 40(6): 968–972



* The author to whom the correspondence should be addressed

★ The English electronic version of the article is published by Elsevier BV on ScienceDirect (<http://www.sciencedirect.com/science/journal/18722040>)



中国科学院科学出版基金资助出版

分析化学

FENXI HUAXUE

第 40 卷 第 6 期 2012 年 6 月



国家自然科学基金资助
Supported by NSFC

创刊 40 周年特约来稿

- ★ 盐酸普萘洛尔分子印迹电化学传感器的制备与研究 李会香 许小丽 陈惠 张松 孔继烈* (817)
- 细胞电化学分析的研究进展 赵婧 朱小立 李根喜* (823)
- ★ 磁固相萃取-高效液相色谱联用测定尿样中的 1-羟基萘 黄维 丁俊 冯钰婧* (830)

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- ★ 基于离子液体修饰碳纳米管电极的碱性磷酸酶电化学检测 茹楠平 吴坚* 应义斌 季峰* (835)
- 量子点双标记的 Fe₃O₄@Au 磁性纳米 DNA 电致发光型传感器 海洪 杨峰 李建平* (841)
- 普鲁士蓝增敏压电均相免疫分析法测定免疫球蛋白 G 代薇薇 莫志宏* 张静 李先丽 赵娜 (847)
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 液相色谱-电喷雾串联质谱同时检测尿液和胃液中 12 种有毒生物碱
..... 张春华 吴惠勤* 黄晓兰 朱志鑫 黄芳 林晓珊 罗辉泰 (862)
- 多壁碳纳米管表面邻苯二甲酸二(2-乙基)己酯印迹聚合物的制备及其在固相萃取中的应用
..... 杨潇 张朝晖* 陈星 张明磊 罗丽娟 彭密军 聂丽华 (870)
- ★ 沉淀/共沉淀-膜富集-X 射线荧光法快速分析近岸海水中的重金属
..... 彭因珍 黄勇明 袁东星* 李炎 弓振斌 (877)
- 固相萃取-液相色谱质谱法测定稻米中乙虫腈对映体残留
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- 高效液相色谱-质谱联用快速筛选并鉴定黄芩甲醇提取物中抗氧化活性成分
..... 杨思敏 陈瑞战* 董航 李元 李世哲 李新龙 宋凤瑞 刘志强 (888)
- 直接进样电喷雾串联质谱法测定草鱼肌肉组织中磷脂 王友谊 张虹* 戴志远 (893)
- 便携式气相色谱-质谱联用仪现场测定畜禽粪便堆肥中挥发性有机物
..... 王玉军 邢志贤 张秀芳 侯志广 赵晓松 窦森 周米平* (899)
- 微波辅助固相顶空-气相色谱法直接测定乙烯-醋酸乙烯共聚塑料中的苯乙酮
..... 陈华* 吴彦蕾 傅小红 夏之宁 (904)
- 基于碳纳米管修饰电极的甲醛生物传感器 张仁彦 张学懿* 贾红辉 李新华 (909)
- 苯丙胺类毒品及其衍生物的气相色谱-红外光谱分析
..... 张润生 王跨院 冀飞君 叶海英 张玉荣 严松茂 杜一平 张维冰* (915)
- 土壤总氮近红外光谱分析的波段优选 潘涛* 吴振涛 陈华舟 (920)
- 基于粒子群算法的最小二乘支持向量机在红花提取液近红外定量分析中的应用
..... 金叶 杨凯 吴永江 刘雷松 陈勇* (925)

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- 序列形成 i-Motif 四聚体的电喷雾质谱分析 秦玉娇 魏士刚 刘振爽 汪兵 国新华* (932)
- ★ 单颗粒气溶胶飞行时间质谱仪分析香烟烟气气溶胶
..... 李梅 董俊国 黄正旭 李磊 高伟 粘慧青 傅忠 程平 周振* (936)
- 基于分子信标的有机磷农药适配体活性位点分析及改造
..... 王丽 张存政 刘媛 屠康 桑宏庆 刘贤进* (940)

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会议通知

中国化学会分析化学委员会关于申请“分析化学基础研究梁树权奖”的通知(851)、中国化学会第十一届全国分析化学年会(第二轮通知)(869)、2012年全国有机质谱学术会议(第一轮通知)(914)、第六届上海国际分析化学研讨会(944)、庆祝《分析实验室》创刊30周年暨分析测试技术学术交流会(949)

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