

## 目 次

有毒与有害物质

- 单波长激发-能量色散 X 射线荧光光谱法检测蔬菜中多种重金属元素 ..... 石洪玮 刘晓静 刘贵巧 徐东辉 毛雪飞(1)

微波消解-石墨炉原子吸收光谱法测定食用菌中总砷 ..... 宋 玥 周天慧 张 萍 姚晓慧 刘丽萍 韩丹丹(9)

预富集单波长激发能量色散 X 射线荧光光谱法现场测定地表水中 10 种重金属 ..... 杏 艳 杨 震 窦蓓蕾 郭 峰 陈 静 宋 瑗 张霖琳(18)

便携式 X 射线荧光光谱法快速测定化肥中砷、镉、铅、铬、汞 ..... 黄河清 王 露 杨桂兰 马欣萍 孙 华 章明洪(28)

电感耦合等离子体原子发射光谱(ICP-AES)和电感耦合等离子体质谱(ICP-MS)法测定大气降尘中的铅、镉、铬、锌、锰、镍、铜、铊 ..... 李 恒(34)

大体积进样-原子荧光光谱法测定海水中痕量汞 ..... 崔艳红 常 亮 邱 煜 孔维恒 冯 婷 薛辰全 刘 鑫(40)

电感耦合等离子体发射光谱(ICP-OES)法测定水泥熟料中铬的干扰研究 ..... 刘德金 田 荣 吴思聪 车 敏 黄 勇(45)

电感耦合等离子体原子发射光谱(ICP-AES)法测定进口酸泥中砷和汞 ..... 王劲榕(51)

综述与评论

- 核酸工具酶辅助的金属稳定同位素标记方法在生物分析中的应用 ..... 周 静 李紫嫣 胡建煜 刘 睿 吕 弈(55)

基于大科学装置的空间金属组学和单细胞/单颗粒金属组学 ..... 范玉芹 崔丽巍 王黎明 赵甲亭 李 柏 李玉锋(63)

非传统稳定同位素在土壤重金属源解析方面的应用 ..... 李 薇 易 甜 姚晶晶(75)

激光诱导击穿光谱(LIBS)在煤质检测中的应用现状 ..... 倪明辉 李 燕 易镇鑫 朱顺官 朱晨光(80)

X 射线荧光光谱在物证鉴定中的应用进展 ..... 吴世豪 张云峰 王继芬 赵 鹏 宋祥瑞 吴小军 常 靖(89)

资源与环境

- ..... 李盛冬 倪明辉 许斐 韦伟 李燕(97)  
万方数据

## 金作保护剂铅试金分离富集-石墨炉原子吸收光谱法测定矿石中痕量铑

..... 王 楠 周 宇 陈明丽 高春英 任士远 曲虹郦(103)

## 冶金与材料

### 高纯金属中痕量元素的快速测定——激光溅射电离飞行时间质谱法

..... 冀家越 杭 乐 徐周毅 马思媛 杭 纶 黄本立(109)

### 电感耦合等离子体发射光谱(ICP-OES)法测定废钴钼催化剂中关键助剂元素钛

..... 石雪峰 王志坚 刘荣丽 张曼宁 陈燕群(115)

### 石墨炉原子吸收光谱法测定工业生产芳腈催化剂废水中钒 .....

..... 熊 锋 顾龙勤 王建强(121)

### 辉光放电质谱法测定高纯材料中痕量硫杂质

..... 李 铭 刘 国 江 鹏 杨紫君 莽雯倩 高旭升 周文斌(126)

### 碱熔-电感耦合等离子体原子发射光谱(ICP-AES)法测定废弃加氢脱硫(HDS)催化剂中的钒

..... 张 琳 韩 晓 李华昌(131)

### 激光剥蚀高分辨电感耦合等离子体质谱的表面成像技术在钢板线状缺陷分析中的应用探讨

..... 朱 莉 张 穗 于永波 李 龙 胡 莹 纪红玲(136)

## 食品与生物

### 基于低分散激光剥蚀系统-电感耦合等离子体飞行时间质谱的快速元素成像

..... 李冬月 郑令娜 常盼盼 汪 冰 竺 云 王 萌 丰伟悦(142)

## 其他

### 火焰原子吸收光谱法最佳燃助比的实验方法研究 .....

..... 黄志中 曾宪平(148)

## 广告

北京海光仪器公司(前插 1);北矿检测技术有限公司(封底)

化学工业园区规划环评指标体系及园区环境保护分析——评《绿色化工环境保护导论》

中学数学与化学的思维建构——评《数学走进现代化学与生物》

凡向本刊所投稿件,视为作者将该论文的复制权、发行权、信息网络传播权、翻译权、汇编权等权利转让给本刊。

稿件一经刊用,付给作者的稿酬包括印刷版、光盘版和网络版等各种使用方式著作权使用费。

万方数据

# CHINESE JOURNAL OF INORGANIC ANALYTICAL CHEMISTRY

Vol .12 ,No.4

(Bimonthly)

August ,2022

## CONTENTS

### Toxic & Hazardous Substances

#### Determination of Heavy Metals in Vegetables by Single Wavelength Excitation -Energy Dispersive X-ray

Fluorescence Spectrometry ..... SHI Hongwei ,LIU Xiaojing ,LIU Guiqiao ,XU Donghui ,MAO Xuefei(1)

#### Determination of Total Arsenic in Edible Mushrooms by Furnace Atomic Absorption Spectrometry with

Microwave Digestion ..... SONG Yue ,ZHOU Tianhui ,ZHANG Ping ,YAO Xiaohui ,LIU Liping ,HAN Dandan(9)

#### On-site Determination of 10 Heavy Metals in Surface Water by Pre-enriched Single-wavelength Excitation

#### Energy Dispersive X-ray Fluorescence Spectrometry

..... XING Yan ,YANG Zhen ,DOU Beilei ,GUO Feng ,CHEN Jing ,SONG Wei ,ZHANG Linlin(18)

#### Rapid Determination of As ,Cd ,Pd ,Cr ,Hg in Chemical Fertilizer by Portable X-ray Fluorescence Spectrometry

..... HUANG Heqing ,WANG Lu ,YANG Guilan ,MA Xinpeng ,SUN Hua ,ZHANG Minghong(28)

#### Determination of Pb ,Cd ,Cr ,Zn ,Mn ,Ni ,Cu ,Tl in Atmospheric Dust by ICP-AES and ICP-MS

..... LI Heng(34)

#### Determination of Trace Mercury in Seawater by Large Volume Injection -Atomic Fluorescence Spectrometry

..... CUI Yanhong ,CHANG Liang ,QIU Ye ,KONG Weiheng ,FENG Ting ,XUE Chenquan ,LIU Xin(40)

#### Study on the Interference in the Determination of Chromium in Cement Clinker by ICP -OES

..... LIU Dejin ,TIAN Rong ,WU Sicong ,CHE Min ,HUANG Yong(45)

#### Determination of Arsenic and Mercury in Imported Acid Mud by Inductively Coupled Plasma Atomic Emission

Spectrometry ..... WANG Jinrong(51)

### Review & Comment

#### Application of Nucleic Acid Tool Enzyme-assisted Metal Stable Isotope Tagging in Biological Analysis

..... ZHOU Jing ,LI Ziyan ,HU Jianyu ,LIU Rui ,LYU Yi(55)

#### Large Research Infrastructures Based Spatial Metallomics and Single-cell /Single-particle Metallomics

..... FAN Yuqin ,CUI Liwei ,WANG Liming ,ZHAO Jiating ,LI Bai ,LI Yu-feng(63)

#### Application of Non-traditional Stable Isotopes on the Sources Apportionment of Heavy Metals in Soil

..... LI Wei ,YI Tian ,YAO Jingjing(75)

## **Application Status of Laser Induced Breakdown Spectroscopy in Coal Quality Detection**

..... NI Minghui , LI Yan , YI Zhenxin , ZHU Shunguan , ZHU Chenguang (80)

## **Application Progress of X-ray Fluorescence Spectroscopy in Physical Evidence Identification**

..... WU Shihao , ZHANG Yunfeng , WANG Jifen , ZHAO Peng , SONG Xiangrui , WU Xiaojun , CHANG Jing (89)

## **Resources & Environment**

### **LIBS Coal Ash Analysis Based on Mahalanobis Distance and Baseline Estimation and Denoising Using Sparsity**

**Data Preprocessing** ..... LI Shengdong , NI Minghui , XU Fei , WEI Yi , LI Yan (97)

### **Determination of Trace Rhodium in Ore Sample by Graphite Furnace Atomic Absorption Spectrometry with Gold as Protective and Lead Fire Assay for Separation and Preconcentration**

..... WANG Nan , ZHOU Yu , CHEN Mingli , GAO Chunying , REN Shiyuan , QU Hongli (103)

## **Metallurgy & Material**

### **Rapid Analysis of Trace Elements in High Purity Metal by High Irradiance Laser Ablation and Ionization Time-of-flight Mass Spectrometry**

..... JI Jiayue , HANG Le , XU Zhouyi , MA Siyuan , HANG Wei , HUANG Benli (109)

### **Determination of Titanium as Key Promoter in Waste Cobalt-Molybdenum Catalyst by ICP-OES**

..... SHI Xuefeng , WANG Zhijian , LIU Rongli , ZHANG Manning , CHEN Yanqun (115)

### **Determination of Vanadium in Industrial Wastewater Produced during Synthesis of Aromatic Nitriles by Graphite Furnace Atomic Absorption Spectrometry**

..... XIONG Feng , GU Longqin , WANG Jianqiang (121)

### **Determination of Trace Sulfur Impurity in High-purity Materials by Glow Discharge Mass Spectrometry**

..... LI Ming , LIU Guo , JIANG Peng , YANG Zijun , MANG Wenqian , GAO Xusheng , ZHOU Wenbin (126)

### **Determination of Vanadium in Waste Hydrodesulfurization (HDS) Catalyst by Inductively Coupled Plasma Atomic Emission Spectrometry**

..... ZHANG Lin , HAN Xiao , LI Huachang (131)

### **Study on Mapping Analysis in Line Defect Analysis of Steel Plate by Laser Ablation HR Inductively Coupled Plasma Magnetic Mass Spectrometry**

..... ZHU Li , ZHANG Yi , YU Yongbo , LI Long , HU Ying , JI Hongling (136)

## **Food and Biology**

### **Fast Elemental Bio-Imaging with Low Dispersion Laser Ablation System Coupled to Inductively Coupled**

#### **Plasma Time-of-Flight Mass Spectrometry**

..... LI Dongyue , ZHENG Lingna , CHANG Panpan , WANG Bing , ZHU Yun , WANG Meng , FENG Weiyue (142)

## **Others**

### **Study on the Experimental Method of FAAS for the Optimum Combustion Ratio**

..... HUANG Zhizhong , ZENG Xianping (148)