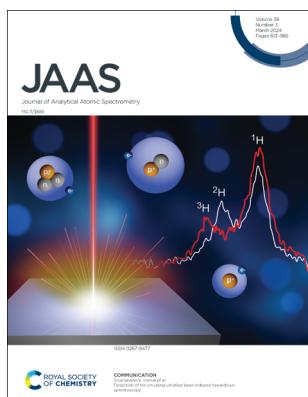


IN THIS ISSUE

ISSN 0267-9477 CODEN JASPE2 39(3) 613–986 (2024)



Cover

See Sivanandan S. Harilal *et al.*, pp. 699–703. Cover artwork was prepared by Michael Perkins, copyright Battelle Memorial Institute from *J. Anal. At. Spectrom.*, 2024, **39**, 699.

ATOMIC SPECTROMETRY UPDATES

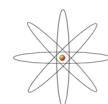
624

Atomic spectrometry update: review of advances in the analysis of clinical and biological materials, foods and beverages

Marina Patriarca,* Nicola Barlow, Alan Cross, Sarah Hill, Anna Robson and Julian Tyson



Atomic
Spectrometry
Updates

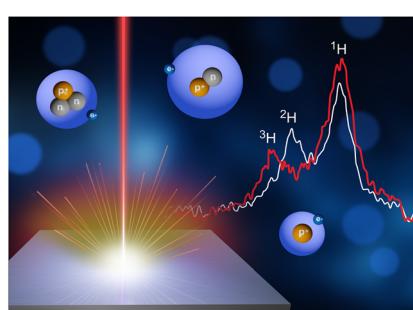


COMMUNICATION

699

Detection of tritium using ultrafast laser-induced breakdown spectroscopy

Sivanandan S. Harilal,* Abdul K. Shaik, Elizabeth J. Kautz, Arun Devaraj, Andrew M. Casella and David J. Senor





GOLD
OPEN
ACCESS

RSC Sustainability

Dedicated to sustainable
chemistry and new solutions

For an open, green and inclusive future

rsc.li/RSCSus

Fundamental questions
Elemental answers

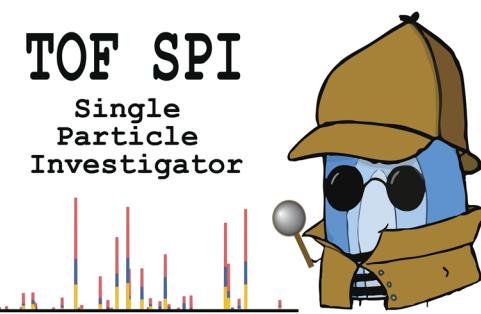
Registered charity number: 207890

TECHNICAL NOTES

704

Introducing “time-of-flight single particle investigator” (TOF-SPI): a tool for quantitative spICP-TOFMS data analysis

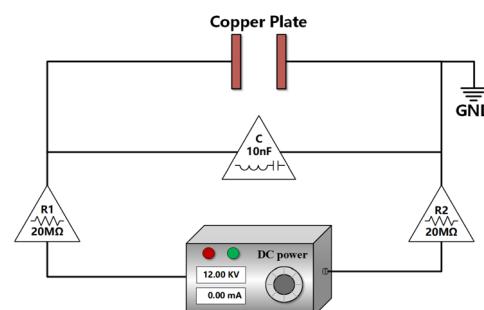
Alex Gundlach-Graham,* Stasia Harycki, Sarah E. Szakas, Tristen L. Taylor, Hark Karkee, Raven L. Buckman, Shahnaz Mukta, Rui Hu and Woolin Lee



712

Spectral enhancement and quantitative accuracy improvement of trace metal elements in aqueous solutions using electrostatic-assisted laser-induced breakdown spectroscopy

Peijin Ju, Xun Gao,* Hailong Yu, Qiuyun Wang,* Yiping Dou and Jingquan Lin

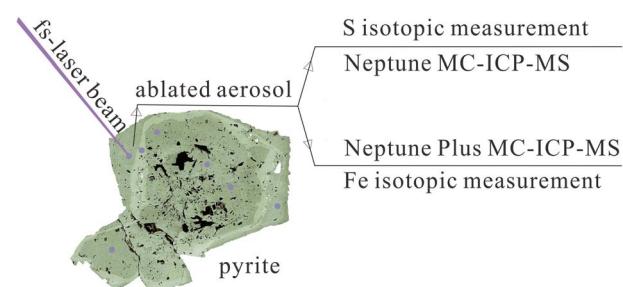


PAPERS

723

A study on a natural pyrite sample as a potential reference material for simultaneous measurement of sulfur and iron isotopes using fs-LA-MC-ICP-MSs

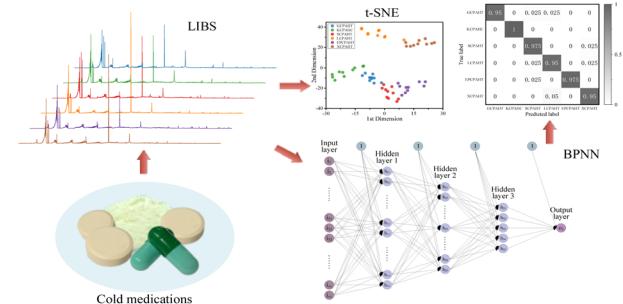
Lie-Wen Xie,* Xiao-Jun Wang, Hui-Min Yu, Jian-Feng Gao, Lei Xu, Chao Huang, Guo-Qiang Tang, Qian Mao, Lian-Jun Feng, Yue-Heng Yang, Shi-Tou Wu and Hao Wang



735

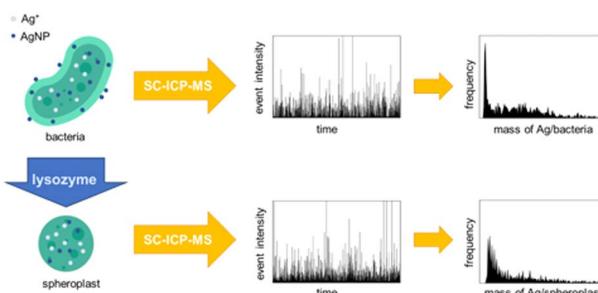
Traceability of cold medications with similar ingredients based on laser-induced breakdown spectroscopy

Lixing Yao, Jingwen Li, Yu Liu, Li Shen* and Cong Wang*



PAPERS

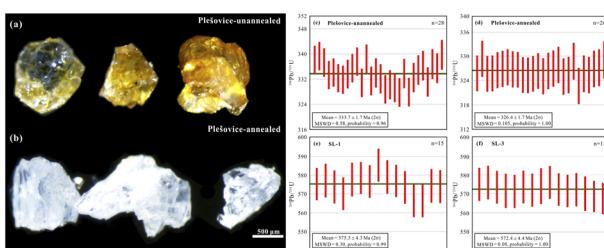
743



Performance of single-cell ICP-MS for quantitative biodistribution studies of silver interactions with bacteria

Ana C. Giménez-Ingalaturre, Isabel Abad-Álvaro,* Pilar Goñi, Karmen Billimoria, Heidi Goenaga-Infante and Francisco Laborda

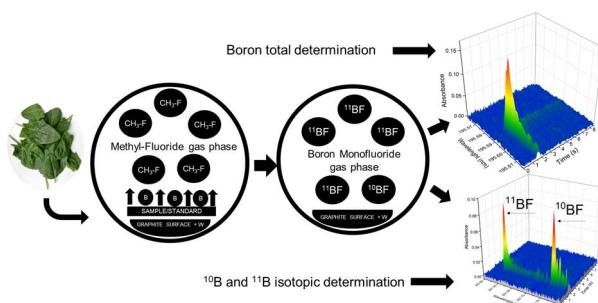
754



Optimization of standard zircon U–Pb dating: insights into high-temperature thermal annealing

Mingpu Fan, Xiaoming Liu, Shengsi Sun,* Yunpeng Dong and Zhian Bao

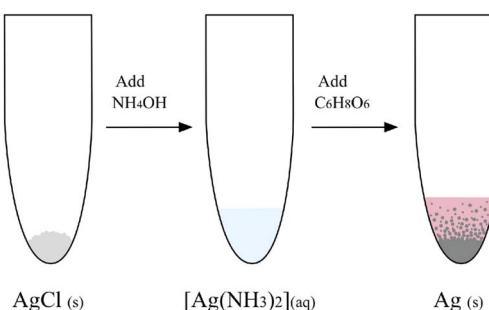
767



Boron elemental and isotopic determination via the BF diatomic molecule using high-resolution continuum source graphite furnace molecular absorption spectrometry

Maite Aramendía, André L. M. de Souza, Flávio V. Nakadi and Martín Resano*

780



Simplifying silver isotope analysis of metallic samples: using silver nitrate precipitation to avoid perilous chloride formation

Alex J. McCoy-West,* Alison M. Davis, Ashlea N. Wainwright and Andrew G. Tomkins

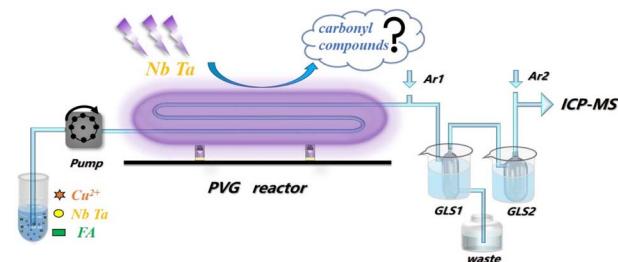


PAPERS

791

Transition metal ion assisted photochemical vapor generation of niobium and tantalum

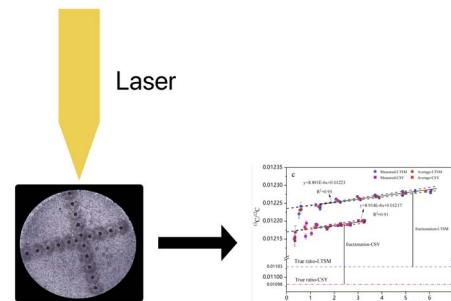
Liang Dong, Yongyan Ning, Jing Hu,* Weigao Wang, Ying Yu and Ying Gao*



800

***In situ* carbon stable isotope measurement for graphite using LA-MC-ICP-MS**

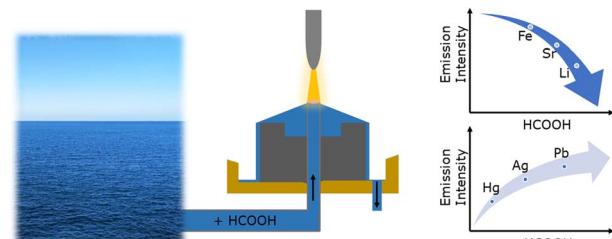
Jihao Zhang, Chao Li,* Xinwei Li, Wei Wang, PengYue Yu, Limin Zhou and Wenjun Qu



808

Concomitant ion matrix effects in SCGD-OES enhanced with formic acid

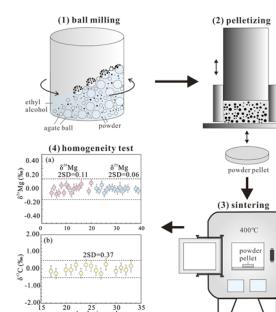
Yinchenxi Zhang, Jaime Orejas,* Jorge Pisonero* and Nerea Bordel



820

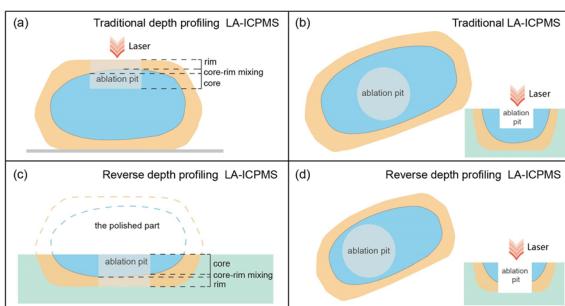
Dolomite reference material synthesized by pressureless sintering for laser ablation MC-ICP-MS carbon and magnesium isotope analysis

Jue Lu, Wei Chen,* Hong-Yun Jin, Jiao Jiang, Jie Lin, Ao Yang, Ming Li, Kui-Dong Zhao, Shao-Yong Jiang and Yong-Sheng Liu



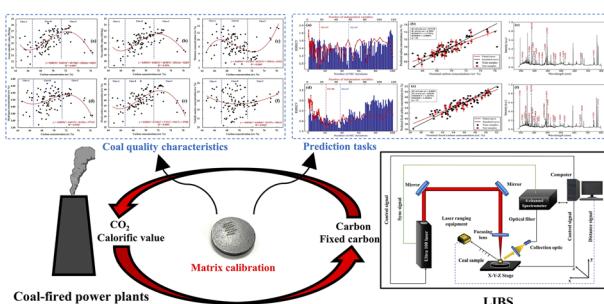
PAPERS

829

**A zircon LA-ICPMS reverse depth profiling analysis method and its geological application**

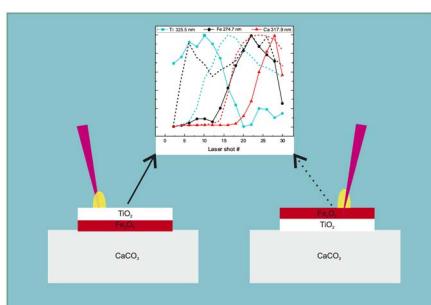
Yao Lu, Liang-Liang Zhang,* Li Liu,* Di-Cheng Zhu, Jin-Cheng Xie and Qing Wang

841

**LIBS analysis of elemental carbon and fixed carbon in coal by dual-cycle regression based on matrix-matched calibration**

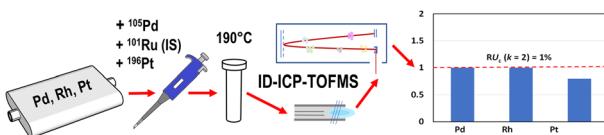
Shengen Zhu, Guangdong Song,* Wenhao Zhang,* Yu Zhang, Yubin Wei, Qinduan Zhang, Duo Chen, Jianfei Li and Tengfei Sun

854

**On the study of paintings' stratigraphy by fs-LIBS and MA-XRF techniques**

E. Kechaoglou, K. A. Agrafioti, G. P. Mastrotheodoros, D. F. Anagnostopoulos and C. Kosmidis*

868

**Inductively coupled plasma time-of-flight mass spectrometry (ICP-TOFMS) with desolvating sample introduction and He collision gas for high-accuracy determination of Rh, Pd and Pt in automobile catalytic converters**

Stanislav Strekopytov, John Entwistle, Sarah Hill and Heidi Goenaga-Infante*

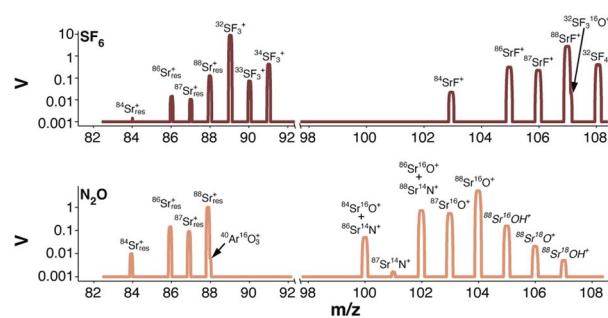


PAPERS

879

(LA)-MC-ICPMS/MS measurement of Sr radiogenic isotope ratios

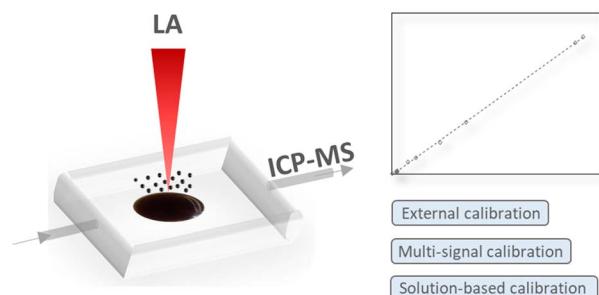
Philippe Télouk and Vincent Balter*



888

A comparison of calibration strategies for quantitative laser ablation ICP-mass spectrometry (LA-ICP-MS) analysis of fused catalyst samples

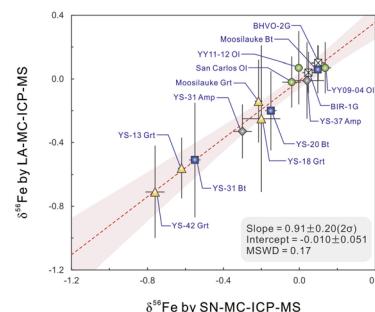
Ana Rua-Ibarz, Thibaut Van Acker, Eduardo Bolea-Fernandez, Marina Boccongelli and Frank Vanhaecke*



900

Non-matrix-matched analysis of Fe isotopes in silicates by laser ablation MC-ICP-MS and potential silicate in-house standards for microbeam Fe isotopic analysis

Lei Xu,* Jin-Hui Yang, Hao Wang, Hui Ye, Lie-Wen Xie, Yue-Heng Yang, Chao Huang and Shi-Tou Wu



917

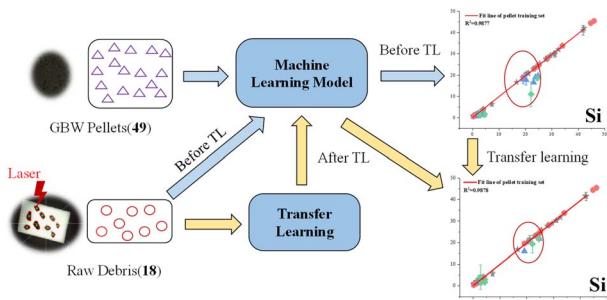
Potential tourmaline reference materials for microbeam B and Sr isotopic analyses

Qijing Chen, Ri-Jing Wang, Hong-Xia Yu, Guanhong Zhu, Yan-Qiang Zhang, Xiao-Ping Xia, Zhong-Yuan Ren and Le Zhang*



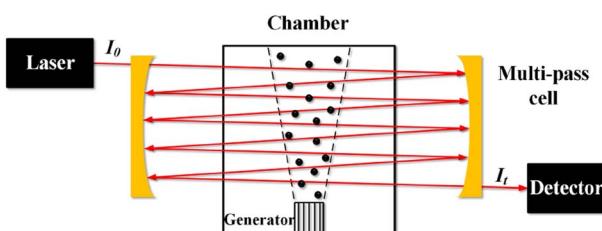
PAPERS

925

**Rapid quantitative analysis of raw rocks by LIBS coupled with feature-based transfer learning**

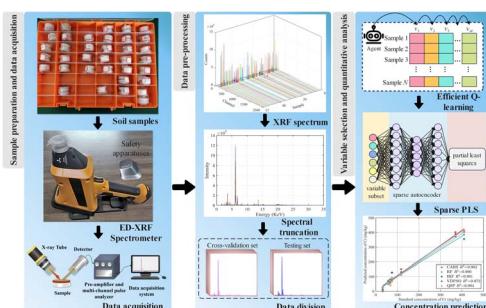
Yu Rao, Wenxin Ren, Weiheng Kong, Lingwei Zeng, Mengfan Wu, Xu Wang, Jie Wang, Qingwen Fan, Yi Pan, Jiebin Yang* and Yixiang Duan*

935

**Highly sensitive spectral measurement of rubidium isotopes using open multi-pass cell in tunable diode laser absorption spectroscopy**

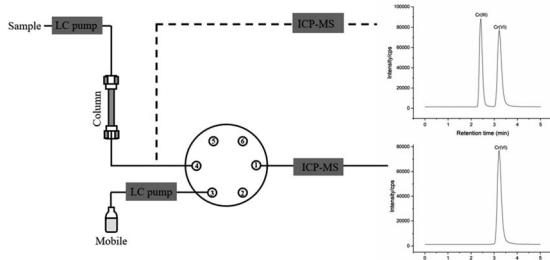
Gang Qi, Yin-Bo Huang, Jun Huang, Xing-Ji Lu, Tao Yang and Zhen-Song Cao*

942

**Quantitative analysis of potentially toxic elements in soil by XRF based on efficient reinforcement learning and sparse partial least squares**

Shubin Lyu, Fusheng Li,* Wanqi Yang, Qinglun Zhang, Jin Su, Ruqing Zhao and Xin Lu

954

In-line matrix elimination for Cr(VI) analysis by LV-LC-ICP-MS**Determination of ultra-trace level Cr(vi) in seawater using large-volume direct injection by LC-ICP-MS with in-line matrix elimination**

Zhenzhen Yao, Bingru Li, Zhihong Ma and Beihong Wang*

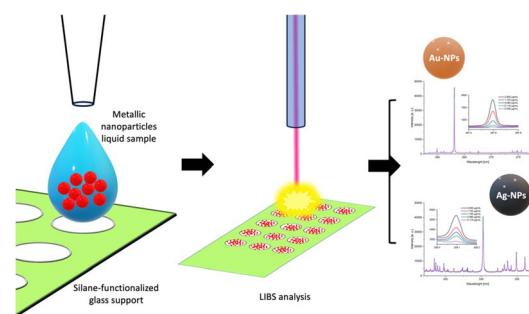


PAPERS

962

A chemically functionalized glass support for gold and silver metallic nanoparticle analysis with LIBS

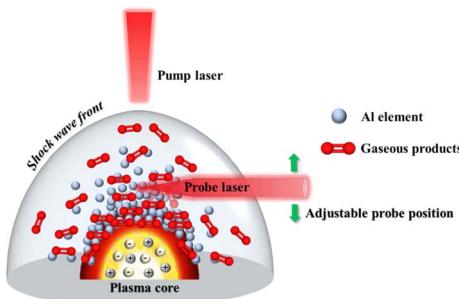
J. Cárdenas-Escudero, V. Gardette, A. Villalonga, A. Sánchez, R. Villalonga,* V. Motto-Ros,* D. Galán-Madruga* and J. O. Cáceres*



974

Determination of propellant products by time resolved and spatial distribution LIPS combined with high-speed schlieren imaging

Xinyu Zhang, An Li, Ying Zhang, Yunsong Yin, Xianshuang Wang, Yage He, Jing Lyv, Yuheng Shan, Xiaodong Liu, Wen Yi, Lin Zhong, Yiping Ren, Min Xia* and Ruibin Liu*



CORRECTIONS

982

Correction: Optimization of a CE-ICP-MS/MS method for the investigation of liposome–cisplatin nanosystems and their interactions with transferrin

Anna Maria Wróblewska, Jan Samsonowicz-Górski, Ewelina Kamińska, Marcin Drozd and Magdalena Matczuk*



984

Correction: On the study of paintings' stratigraphy by fs-LIBS and MA-XRF techniques

E. Kechaoglou, K. A. Agrafioti, G. P. Mastrotheodoros, D. F. Anagnostopoulos and C. Kosmidis*