**Announcements**

2015

**Sep. 3 – 5**
(Chiba, Japan)
Royal Society of Chemistry Tokyo International Conference 2015.
Contact: Prof. Akihide Hibara, Tokyo Institute of Technology (e-mail: ahibara@chem.titech.ac.jp; Website: http://www.jaima.or.jp/ic/rsc-tic).

**Sep. 9 – 11**
(Fukuoka, Japan)
The 64th Annual Meeting of the Japan Society for Analytical Chemistry.*

**Oct. 5 – 8**
(Yokohama, Japan)
Asia Steel International Conference 2015 (Asia Steel 2015).
Contact: Asia Steel 2015 Secretariat, c/o ISS, INC., Kojimachi 311 Bldg. 9F, 3-1-1 Kojimachi, Chiyoda, Tokyo 102-0083, Japan (e-mail: asiasteel2015@issjp.com; Website: http://www.asiasteel2015.com/).

**Oct. 25 – 30**
(Shimane, Japan)
10th International Symposium on Atomic Level Characterizations for New Materials and Devices ’15 (ALC ’15).
Contact: Secretary of ALC ’15 Steering Committee (e-mail: alc15@jsps141.surf.nuqe.nagoya-u.ac.jp; Website: https://jsps141.surf.nuqe.nagoya-u.ac.jp/acl15/).

2016

**Nov. 29 – Dec. 2**
(Kyoto, Japan)
Contact: Secretariat for WECC2015 (c/o Congress Corp.), Kohsai-Kaikan Bldg., 5-1 Kojimachi, Chiyoda, Tokyo 102-8481, Japan (e-mail: wecc2015-reg@congre.co.jp; Website: http://www.congre.co.jp/wecc2015/).

**Dec. 2 – 4**
(Busan, Korea)
The 36th Symposium on UltraSonic Electronics (USE2015).
Contact: USE2015 Symposium on Ultrasonic Electronics Organizing Committee (e-mail: onodera@iuse.or.jp; Website: http://use-jp.org/).

**Dec. 15 – 20**
(Hawaii, USA)
The International Chemical Congress of Pacific Basin Societies (Pacifichem 2015).
Contact: Pacifichem 2015 Congress Secretariat, c/o American Chemical Society, 1155 16th St. N.W., Washington, D.C. 20036, USA (e-mail: pacifichem@acs.org; Website: http://www.pacifichem.org/).

2017

**April 3 – 8**
(Osaka, Japan)
26th IUPAC International Symposium on Photochemistry.
Contact: Prof. Tetsuro Majima, Chairman, Osaka University (e-mail: majima@sanken.osaka-u.ac.jp; Website: http://web.apollon.nta.co.jp/iupac2016/).

*Contact: The Japan Society for Analytical Chemistry, 1-26-2 Nishigotanda, Shinagawa, Tokyo 141-0031, Japan.*
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We are pleased to announce that Analytical Sciences administers the abstracts of selected papers published in Bunseki Kagaku. Bunseki Kagaku is an article magazine (monthly publication in Japanese) of The Japan Society for Analytical Chemistry. Bunseki Kagaku publishes peer-reviewed original, technical and review articles, analytical data and techno reports that pertain to various aspects of analytical chemistry. The insertion of the abstracts in Analytical Sciences will help readers all over the world to be aware of recent advances in all fields of analytical chemistry.

(The editorial committee of Bunseki Kagaku)

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Direct Determination of Polycyclic Aromatic Hydrocarbons in PM$_{2.5}$ by Thermal Desorption-GC/MS and Analysis of Their Diurnal/Seasonal Variations and Field Burning in Kumamoto

Dai Yamasaki$^1$, Hidetaka Kajiwara$^1$, Masataka Kirii$^1$, Shinichi Ohira$^1$ and Kei Toda*$^1$

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In order to establish a simple and highly sensitive analytical method, thermal desorption followed by gas chromatography/mass spectrometry (TD-GC/MS) was investigated for polycyclic aromatic hydrocarbons (PAHs) in PM$_{2.5}$. In this work, the TD condition was optimized for PAHs in filter samples, and the performance was compared with those by the solvent extraction method (SE). Even the TD method was much simpler, sensitivity is much higher compared to that of the SE method. TD-GC/MS was highly sensitive and PAHs could be detected with shorter sampling time. Accordingly, detailed seasonal variations were obtained with relatively shorter sampling time (1~3 days) for the long term. While the PM$_{2.5}$ concentration changed in small ratio in different seasons, the PAH concentrations were much higher in the winter and spring when PAHs were largely emitted on the Chinese continent and transferred to Japan. The TD-GC/MS is highly sensitive, and a daily variation was obtained with a 4 h resolution. Furthermore the PAHs compositions emitted in the field burning could be determined just by sampling the air by driving a car for a half an hour through the burning grass field. The ratio of low molecular PAHs (3~4 rings) was higher in the field burning sample compared to those in PM$_{2.5}$ sampled in Kumamoto-city for days. The TD-GC/MS is superior in both analytical cost and performance, and is expected to be used for many applications in atmospheric analysis and air monitoring.

Keywords: polycyclic aromatic hydrocarbons; thermal desorption; gas chromatography; PM$_{2.5}$; air pollution; field burning.
Simultaneous Determination of Paraquat and Diquat in Human Plasma Using HPLC with Chemiluminescence Detection

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Paraquat and diquat are most widely used herbicides, but they have significant acute toxicity to humans. The aim of the present study is to develop a high-performance liquid chromatography (HPLC)-chemiluminescence (CL) detection system that allows simultaneous determinations of paraquat and diquat. The proposed HPLC-CL method is useful to evaluate health risk and origin of paraquat and diquat. Paraquat and diquat are separated by silica-gel HPLC, and CL detection is based on the luminol-detecting CL of superoxide anion radicals, which are generated by the redox cycle reaction between paraquat or diquat and dithiothreitol. Under the optimum conditions, paraquat and diquat were detected at 16.0 and 13.0 min, respectively, and the limit of detection (S/N=3) was 40 nM for paraquat and 53 nM for diquat. Using the proposed HPLC-CL method, the peaks corresponding to paraquat and diquat in human plasma could be selectively detected on chromatograms without any interference from plasma components by simple deproteinization with 50% trichloroacetic acid.

Keywords: paraquat; diquat; chemiluminescence; HPLC; human plasma.

Double Filter Concentration Method as a Pretreatment for the Determination of Iron in Ultra-supercritical Pressure Boiler Feedwater

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We developed a concentration method using a double filter as a pre-treatment. We call it the "Double filter concentration method". It is a pre-treatment method for the determination of traces of iron by 2,4,6-tris(2-pyridyl)-1,3,5-triazine (TPTZ) absorption photometry. It is important to monitor iron concentration in an ultra-supercritical pressure boiler applying an oxygen treatment method as a water treatment. Because the iron in feedwater forms a hematite, it is necessary to control the iron concentration in the feedwater at less than 2 μg L−1 so as to prevent problems. Therefore, a quick and effective analysis method is necessary on site. The double filter is constructed in the membrane filter and chelate filter having iminodiacetic acid groups. Iron particles are trapped by the membrane filter, and the dissolved iron are trapped by the chelate filter. When we applied this developed method, we were able to measure the low range iron concentrations. This method is suitable for on-site analysis because it can also shorten the analysis time.

Keywords: membrane filter; chelate filter; TPTZ; iron.
Synthesis and Crystal Structures of Dinuclear Dioxidovanadium(V) and Tetranuclear Oxidovanadium(IV) Complexes with 2,6-Bis(hydroxymethyl)-4-methylphenol

Masahiro MIKURIYA, Masami FUKUTANI, and Daisuke YOSHIOKA

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