## In this issue

Alexander V. Kutchin, Svetlana A. Rubtsova, Olga M. Lezina, Denis V. Sudarikov, Larisa L. Frolova, Irina V. Loginova, Alexey V. Popov and Olga N. Grebyonkina

Studies on oxidative transformations of thiols, sulfides and alcohols in the presence of chlorine dioxide

DOI 10.1515/pac-2016-1209 Pure Appl. Chem. 2017; 89(10): 1379–1401

Conference paper: Our recent studies on the chemical reactivity of chlorine dioxide in the reactions with sulfur and oxygen containing compounds are reviewed. A special attention is given to chlorine dioxide interaction with alkyl, aryl, heteroaryl, monoterpenyl thiols, sulfides and disulfides. The data on the oxidation of monoterpene alcohols and phenols are also presented. The directions of reactions depending on the structure of the compounds were identified.

**Keywords:** alcohols; chlorine dioxide; disulfides; heteroaryl; Mendeleev XX; oxidation; phenols; sulfides; terpenoids; thiols.

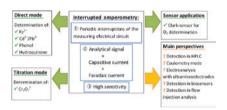
R<sub>1</sub>, R<sub>2</sub> = Alkyl, Aryl, Heteroaryl, Terpenyl

Ekaterina Semenova, Daria Navolotskaya and Sergey Ermakov

Interrupted amperometry: the new possibilities in electrochemical measurements

DOI 10.1515/pac-2017-0302 Pure Appl. Chem. 2017; 89(10): 1459–1469 Conference paper: The advantages of interrupted amperometry over conventional amperometric methods are discussed, with particular reference to determination of lead, cadmium and iron ions, phenol and hydroquinone, dichromate ion via titration, and dissolved oxygen in water by a Clark-type sensor. Perspectives and limitations of the technique are considered.

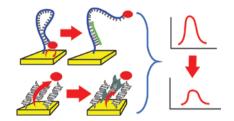
**Keywords:** amperometry; analytical chemistry; aqueous solutions; chemical sensors; electrochemistry; electrodes; heavy metals; iron; Mendeleev XX; oxygen; phenol; sensitivity; trace elements.



Gennady A. Evtugyn, Anna V. Porfireva and Ivan I. Stoikov Electrochemical DNA sensors based on spatially distributed redox mediators: challenges and promises

DOI 10.1515/pac-2016-1124 Pure Appl. Chem. 2017; 89(10): 1471-1490 Conference paper: Application of spatially distributed redox indicators for DNA sensor and aptasensor assembling is reviewed and illustrated by various biological targets detection.

**Keywords:** aptasensor; DNA damage; DNA sensor; E-sensor; mediated electron transfer; Mendeleev XX; pillar[5]arene; thiacalix[4]arene.

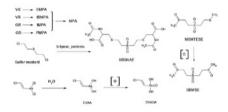


Igor V. Rybalchenko, Igor A. Rodin, Timur M. Baygildiev, Andrey N. Stavrianidi, Arcady V. Braun, Yury I. Morozik and Oleg A. Shpigun

Novel analytical approaches to determination of chemical warfare agents and related compounds for verification of nonproliferation of chemical weapons

DOI 10.1515/pac-2016-1208 Pure Appl. Chem. 2017; 89(10): 1491–1503 Conference paper: In this paper developed complex of approaches for fast and sensitive determination of the majority of known chemical weapon degradation products is described.

**Keywords:** biomonitoring; chemical warfare agents; lewisite; mass spectrometry; Mendeleev XX; nerve agent; sulfur mustard.



Mikhail G. Zuev, Vladislav G. Il'ves, Sergey Yu. Sokovnin, Andrei A. Vasin and Elena Yu. Zhuravleva

New amorphous nanophosphors obtained by evaporation of silicates and germanates REE

DOI 10.1515/pac-2016-1118 Pure Appl. Chem. 2017; 89(10): 1505-1520 **Conference paper:** The TEM pictures of the NP (a) and the PL spectra of bulk- (b) and nanophosphors based on Ca<sub>2</sub>La<sub>6.4</sub>Eu<sub>1.6</sub>Ge<sub>6</sub>O<sub>2.6</sub> (c).

**Keywords:** Eu<sup>2+</sup>; Eu<sup>3+</sup>; luminescence; Mendeleev XX; nanophosphors; nanotechnology; synthesis; UV-visible spectroscopy; vibrational spectra; X-ray diffraction.

