# In this issue

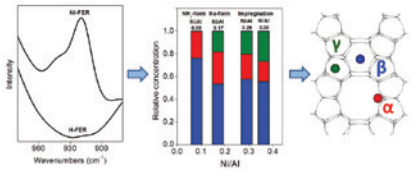
Mariia Lemishka, Jiri Dedecek, Kinga Mlekodaj, Zdenek Sobalik, Stepan Sklenak and Edyta Tabor

**Speciation and siting of divalent transition metal ions in silicon-rich zeolites. An FTIR study**

https://doi.org/10.1515/pac-2018-1228
Pure Appl. Chem. 2019; 91(11): 1721–1732

**Conference paper:** Siting and distribution of bare divalent cations in ferrierite were analyzed. Methods for maximum possible concentration of bare cations in zeolite were developed.

**Keywords:** Brønsted acid; cobalt; infrared; manganese; nickel; SSC-2018; transition-metal catalysis; zeolites.



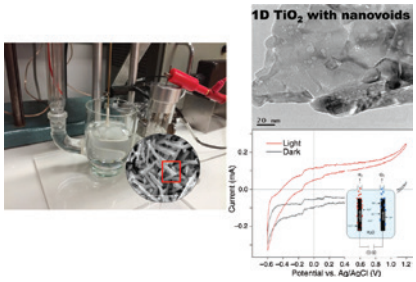

Filip Mamon, Radek Fajgar, Vera Jandova, Eva Koci, Ivo Jakubec, Alexander Zhigunov, Tatjana Brovdyova and Snejana Bakardjieva

**$TiO_2$ microrods with stacked 3D nanovoids for photoelectrochemical water splitting**

https://doi.org/10.1515/pac-2018-1116
Pure Appl. Chem. 2019; 91(11): 1733–1747

**Conference paper:** Experimental setup and schematic diagram of the PEC water splitting for the $TiO_2$ MRs photoanode under 100W mercury lamp illumination.

**Keywords:** nanovoids; photo-electrochemistry; SSC-2018; $TiO_2$ microrods; water splitting.



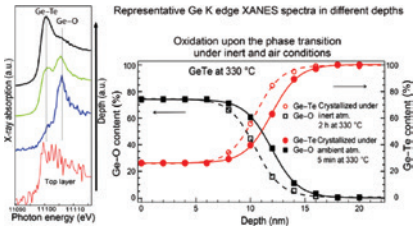
Milos Krbal, Alexander V. Kolobov, Paul Fons, Kiyofumi Nitta, Tomoya Uruga and Junji Tominaga

**Investigation of the oxidation process in GeTe-based phase change alloy using Ge K-edge XANES spectroscopy**

https://doi.org/10.1515/pac-2018-1229
Pure Appl. Chem. 2019; 91(11): 1769–1775

**Conference paper:** The oxidation study of the GeTe alloy in the amorphous and crystalline states and during the phase transition under inert and air conditions.

**Keywords:** local structure; oxidation; phase-change memory; SSC-2018; X-ray absorption spectroscopy.



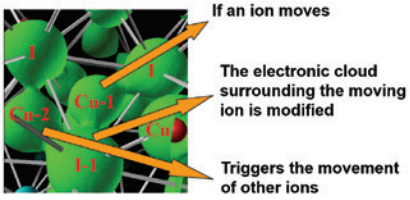
Masaru Aniya

**Bonding character and ionic conduction in solid electrolytes**

https://doi.org/10.1515/pac-2018-1220
Pure Appl. Chem. 2019; 91(11): 1797–1806

**Conference paper:** The bond fluctuation model of ionic conduction suggests that ion movements are accompanied by electronic cloud deformation. According to this model, the superionic transport is favored when different types of bonding coexist. The figure illustrates the mechanism of correlated ionic motion suggested by the model.

**Keywords:** bond fluctuation model; chemical bonding; elastic constants; glasses; medium range structure; non-Arrhenius ionic conductivity; solid electrolytes; SSC-2018; superionic conductors.



Peter P. M. Steur, Inseok Yang,
Jin Seog Kim, Tohru Nakano,
Keisuke Nagao and Franco Pavese

**An inter-comparison of isotopic composition of neon *via* chemical assays and thermal analyses (IUPAC Technical Report)**

https://doi.org/10.1515/pac-2017-1203
Pure Appl. Chem. 2019; 91(11): 1869–1882

**IUPAC Technical Report:** Results are given on a comparison of chemical/isotopic assay showing their quality [**repeatability?**] to be overall inadequate for thermometric needs. These results were obtained in the course of an international thermometric effort to determine the dependence of the Neon Triple Point on $^{22}$Ne content.

**Keywords:** chemical purity assay; international intercomparison; isotopes; isotopic composition assay; neon; thermal analysis; triple point temperature.