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Recent IUPAC technical reports and recommendations that affect the many fields of pure and applied chemistry.
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How to Name New Chemical Elements (IUPAC Recommendations 2016)

Willem H. Koppenol, John Corish, Javier García-Martínez, Juris Meija, and Jan Reedijk
Pure and Applied Chemistry, 2016
Volume 88, Issue 4, pp. 401-405

A procedure is proposed to name new chemical elements. After the discovery of a new element is established by the joint IUPAC-IUPAP Working Group, the discoverers are invited to propose a name and a symbol to the IUPAC Inorganic Chemistry Division. Elements can be named after a mythological concept, a mineral, a place or country, a property, or a scientist. After examination and acceptance by the Inorganic Chemistry Division, the proposal follows the accepted IUPAC procedure and is then ratified by the Council of IUPAC. This document is a slightly amended version of the 2002 IUPAC Recommendations; the most important change is that the names of all new elements should have an ending that reflects and maintains historical and chemical consistency. This would be, in general, “-ium” for elements belonging to groups 1-16, including the f-block elements, “-ine” for elements of group 17, and “-on” for elements of group 18.

<http://dx.doi.org/10.1515/pac-2015-0802>

Vocabulary of Concepts and Terms in Chemometrics (IUPAC Recommendations 2016)

David B. Hibbert
Pure and Applied Chemistry, 2016
Volume 88, Issue 4, pp. 407-443

Recommendations are given concerning the terminology relating to chemometrics. Building on ISO definitions of terms for basic concepts in statistics, the vocabulary is concerned with mainstream chemometric methods. Where methods are used widely in science, definitions are given that are most useful to chemical applications. Vocabularies are given for general data processing, experimental design, classification, calibration, and general multivariate methods.

<http://dx.doi.org/10.1515/pac-2015-0605>

Glossary of Terms Used in Extraction (IUPAC Recommendations 2016)

Colin Poole, Zoltan Mester, Manuel Miró, Stig Pedersen-Bjergaard and Janusz Pawliszyn
Pure and Applied Chemistry, 2016
Volume 88, Issue 5, pp. 517-558

Approaches for analytical-scale extraction are developing rapidly as new strategies are implemented to improve sample throughput, minimize material use in laboratory methods, and develop on-site capabilities. In this contribution, definitions and recommendations for symbols for the terms used in analytical extraction are presented. Exhaustive, microextraction, elevated temperature, microwave- and ultrasound-assisted, parallel batch, flow through system, and membrane extraction approaches are discussed.

<http://dx.doi.org/10.1515/pac-2015-0903>

Extraction for Analytical Scale Sample Preparation (IUPAC Technical Report)

Colin Poole, Zoltan Mester, Manuel Miró, Stig Pedersen-Bjergaard and Janusz Pawliszyn
Pure and Applied Chemistry, 2016
Volume 88, Issue 7, pp. 649-687

Approaches for sample preparation are developing rapidly as new strategies are implemented to improve sample throughput, minimize material and solvent use in laboratory methods, and develop on-site capabilities. In the majority of cases, the key step in sample preparation is extraction, typically used to separate and enrich compounds of interest from the matrix in the extraction phase. In this contribution, the topic of analytical scale extraction is put in perspective, emphasising the fundamental aspects of the underlying processes and discussing the similarities and differences between different approaches. Classification of extraction techniques according to mass transfer principles is provided.

<http://dx.doi.org/10.1515/pac-2015-0705>