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Discovery of the elements with atomic numbers *Z* = 113, 115 and 117 (IUPAC Technical Report)

P. J. Karol, R.C. Barber, B.M. Sherrill, E. Vardaci, and T. Yamazaki
Pure and Applied Chemistry 2016
Volume 88, Issue 1-2, pp. 139-153

The fourth IUPAC/IUPAP Joint Working Party (JWP) on the priority of claims to the discovery of new elements 113, 115, 117 and 118 has reviewed the relevant literature pertaining to several claims. In accordance with the Criteria for the discovery of elements previously established by the 1991 IUPAC/IUPAP Transfermium Working Group (TWG), and reinforced in subsequent IUPAC/IUPAP JWP discussions, it was determined that the RIKEN collaboration has fulfilled those Criteria for element *Z* = 113. The Dubna–Livermore–Oak Ridge collaborations claims for 115 and 117 are also in compliance. The discussion of element *Z* = 118 will appear in a subsequent report. A synopsis of experiments and related efforts is presented along with some commentary guiding future applications of the Criteria.

http://dx.doi.org/10.1515/pac-2015-0502

Discovery of the element with atomic number *Z* = 118 completing the 7th row of the periodic table (IUPAC Technical Report)

P. J. Karol, R.C. Barber, B.M. Sherrill, E. Vardaci, and T. Yamazaki
Pure and Applied Chemistry 2016
Volume 88, Issue 1-2, pp. 155-160

The fourth IUPAC/IUPAP Joint Working Party (JWP) on the priority of claims to the discovery of new elements 113, 115, 117 and 118 has reviewed the relevant literature pertaining to several claims. In accordance with the criteria for the discovery of elements previously established by the 1991 IUPAC/IUPAP Transfermium Working Group (TWG), and reinforced in subsequent IUPAC/IUPAP JWP discussions, it was determined that the Dubna-Livermore collaboration has fulfilled those criteria for element *Z* = 118. A synopsis of experiments and related efforts is presented.

http://dx.doi.org/10.1515/pac-2015-0501

Glossary of terms used in computational drug design, part II (IUPAC Recommendations)

Y. C. Martin, R. Abagyan, G. G. Ferenczy, V. J. Gillet, T. I. Oprea, J. Ulander, D. Winkler, and N. S. Zefirov
Pure and Applied Chemistry 2016
Volume 88, Issue 3, in press

Computational drug design is a rapidly changing field that plays an increasingly important role in medicinal chemistry. Since the publication of the first glossary in 1997, substantial changes have occurred in both medicinal chemistry and computational drug design. This has resulted in the use of many new terms and the consequent necessity to update the previous glossary. For this purpose a Working Party of eight experts was assembled. They produced explanatory definitions of more than 150 new and revised terms.

http://dx.doi.org/10.1515/pac-2012-1204

Standard electrode potentials involving radicals in aqueous solution: inorganic radicals (IUPAC Technical Report)

D.A. Armstrong, R.E. Huie, W.H. Koppenol, S.V. Lymar, G. Merényi, P. Neta, B. Ruscic, D. M. Stanbury, S. Steenken, and P. Wardman
Pure and Applied Chemistry 2015
Volume 87, Issue 11-12, pp. 1139-1150

Recommendations are made for standard potentials involving select inorganic radicals in aqueous solution at 25 °C. These recommendations are based on a critical and thorough literature review and also by performing derivations from various literature reports. The recommended data are summarized in tables of standard potentials, Gibbs energies of formation, radical pK_a's, and hemicolligation equilibrium constants. In all cases, current best estimates of the uncertainties are provided. An extensive set of Data Sheets is appended that provide original literature references, summarize the experimental results, and describe the decisions and procedures leading to each of the recommendations.

http://dx.doi.org/10.1515/pac-2014-0502