# **CHEMISTRY**

The News Magazine of the International Union of Pure and Applied Chemistry (IUPAC)

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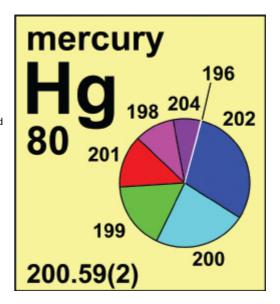
## The Project Place

Information about new, current, and complete IUPAC projects and related initiatives.

See also <a href="https://www.iupac.org/projects">www.iupac.org/projects</a>

#### The Periodic Table of the Isotopes: First Release

For almost 150 years, the Periodic Table of the Elements has served as a guide to the world of elements by highlighting similarities and differences in atomic structure and chemical properties. To introduce students, teachers, and society to the existence and importance of isotopes of the chemical elements, an IUPAC Periodic Table of the Isotopes (IPTI) has been prepared and can be found as a supplement to this issue (see supplement). Where the Periodic Table of the Elements indicates the similarities of the properties of chemical elements, the IPTI emphasizes the uniqueness of each element.



### The IPTI supports IUPAC's

leadership role in the 2011 International Year of Chemistry and is the first outcome of IUPAC project 2007-038-3-200 (Development of an Isotopic Periodic Table for the Educational Community). A unique feature of this periodic table is that it shows the isotopic abundance of each stable isotope of an element in a pie diagram, revealing easily the number of stable isotopes (and their mass numbers) of each element. Color-coded-element cells on the IPTI distinguish between elements having no stable isotopes, one stable isotope, and two or more stable isotopes. The standard atomic weights of the 10 elements assigned as intervals in December 2010 by IUPAC are also clearly designated. The IPTI is also available from the website of the Commission on Isotopic Abundances and Atomic Weights < <a href="https://www.ciaaw.org">www.ciaaw.org</a>>.

An interactive IPTI is in preparation and is being field tested by a select group of teachers and students. It illustrates many applications of stable and radioactive isotopes in research, as well as in daily life. A mouse-click on any chemical-element cell will display a short description of selected applications of stable and/or radioactive isotopes, including figures and illustrations. In addition, a student's introduction, a teacher's guide, and a list of references are being developed.

Members of the project task group who contributed to this first release include N.E. Holden (Brookhaven National Laboratory), T.B. Coplen (U.S. Geological Survey), J.K. Böhlke (U.S. Geological Survey), M.E. Wieser (University of Calgary, Canada), G. Singleton (U.S. Department of Energy), T.R. Walczyk (National University of Singapore), S. Yoneda (National Museum of Nature and Science, Japan), P.G. Mahaffy (King's University College, Edmonton, Canada), and L.V. Tarbox (U.S. Geological Survey).

For more information, contact Task Group Chair N.E. Holden <a href="mailto:holden@bnl.gov">holden@bnl.gov</a>>. See insert/supplement.

www.iupac.org/web/ins/2007-038-3-200

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