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Beyond the Chemistry Web

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Beyond the Chemistry Web...

Bob Buchanan, Chemistry Librarian, Auburn University

There is something compelling about the "Molecule of the Month" (MOTM) concept. Several organizations regularly create a MOTM-like feature and a few have done so since the start of the web in the mid-1990s. MOTM archives have become increasingly useful as information sources, especially for teaching and outreach. This month's column looks at the most prominent MOTM collections.

The University of Bristol has generated a **Molecule of the Month** every month since 1996 (~200 molecules) that combines entertainment and science. The history and chemistry of each MOTM is presented in an engaging manner. Because it is written by a variety of academic authors, article length and content vary but most articles are the equivalent of 1-2 pages and contain visual aids, references, and a molecule viewing option (Jmol, Chime, or VRML). Use the alphabetical pull-down menu to find specific molecules or browse by date. **Review of the Molecule of the Month Website** gives the history of this MOTM and a few other collections.

http://www.chm.bris.ac.uk/motm/motm.htm

http://www.hsc.wvu.edu/sop/compchem/mdpi/molecules/papers/30100016.pdf

Oxford University's collection of over 400 **Molecules of the Month** is housed at **Chemistry, Structures & 3D Molecules @ 3Dchem.com**. Molecule summaries are shorter than those from the University of Bristol, more matter of a fact, and offer few (if any) visual aids, but it has better options for viewing and manipulating structures with Jmol.

http://www.3dchem.com/

ACS has created a **Molecule of the Week** since 2001. A brief description of each molecule is provided along with a link to the CAS Registry record, a search result from SciFinder, and a 2-D structure. Browse the Molecule of the Week Archive, from 2005 forward, to find specific molecules (~230 substances). Since site URLs tend to change, navigate from the ACS homepage.

http://portal.acs.org

David S. Goodsell and co-authors have written nearly 100 **RCSB PDB Molecule of the Month** articles which feature a protein from the Protein Data Bank. Each entry gives a short description of the protein, discusses its structure and function, and its importance in human health. The "exploring the structure" section offers a remarkably easy entry into sophisticated molecular modeling tools that use PDB data. Protein molecules can be found by an alphabetical list.

http://www.rcsb.org/pdb/static.do?p=education_discussion/molecule_of_the_month/index.html

JCE Featured Molecules (~90 articles) is created monthly by the *Journal of Chemical Education* (JCE) as part of JCE Digital Collection, which in turn is part of the National Science Digital Library (NSDL). Well-written and referenced 1-2 page articles of the sort you would expect from JCE. Usually several theme-related molecules are covered in each article. A search box to find specific molecules is provided, but the NSDL simple search works to find specific molecules. Contains several hundreds of molecules that include molecules of all sorts – inorganic, organic, polymers, and biological molecules. Click on the "View Jmol in a large display frame" for best control of the Jmol images.

http://www.jce.divched.org/JCEWWW/Features/MonthlyMolecules/index.html

http://nsdl.org/ (To search for specific MOTM)

Porous Science – Molecule of the Month (~200 MOTM) focuses exclusively on drug entities – released drugs and those in the R&D pipeline. Each article provides background on the drug(s), the condition it treats, mode of action, and regulatory status. Selection criteria for MOTM include the originality of the drug, singularity of its mode of action, and the degree to which it fills a therapeutic gap.

http://www.prous.com/molecules/default.asp

The journal *Current Topics in Medicinal Chemistry*

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has offered a **Molecule of the Month** column since 2007 (~30 articles). Aimed at medicinal chemists, the articles are up to 1 page in length, packed with information which is substantiated with references. Access requires a subscription to the journal.

http://www.bentham.org/ctmc/index.htm ❖