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SciFinder (Review)

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Another government database, *TOXNET* <http://toxnet.nlm.nih.gov/> (CH, Aug'01, 38-Sup-358), contains similar information and uses a one-step word search. However, users must wade through a large results list to get the information they need. *ChemView* is a valuable resource for users with some chemistry knowledge who are seeking out the presence of pollutants in a large variety of industrial and household products. The website also provides links to other EPA information about pollutants. **Summing Up:** Highly recommended. ★★★ All students, researchers/faculty, professionals/practitioners, and informed general audiences.—*B. R. Shmaefsky, Lone Star College - Kingwood*

51-3850 QD181 2013-3194 CIP
Phosphorus, food, and our future, ed. by Karl A. Wyant, Jessica R. Corman and Jim J. Elser. Oxford, 2013. 224p bibl index afp ISBN 9780199916832, $98.50

Phosphorus (chemical symbol P) is the chemical element most scarce in relation to its use in supporting agriculture and other biospheric activities. Unlike nitrogen (cf. H. S. Gorman's *The Story of N*, CH, Sep'13, 51-0242), which is abundantly available in Earth's environment, P must be weathered or mined from relatively rare phosphate rocks. This odd little book, based on the results of an international conference, "Sustainable Phosphorus Summit," held in Arizona in 2011, presents the economic and environmental cycles of P. Its ten brief chapters are written at a level appropriate for undergraduate students of environmental sciences, with each chapter decorated with a sketchy bit of "art" meant to introduce or summarize its content. Refreshingly, phosphorus is not cast, as in many environmental screeds, as purely a nuisance; too much of it in the wrong places causes eutrophication of natural waters, but too little in agricultural settings limits and stunts crops. Properly, the goal is careful control of P flows toward sustainable closed cycles. Conclusions are bolstered by reasonable quantitative arguments. The editing is uniform but shaky; e.g., Garrett Hardin is called "Harding," and Gro Harlem Brundtland goes as "H. Brundtland." Good bibliographies. **Summing Up:** Recommended. ★★ Lower- and upper-division undergraduates in environmental studies programs.—*T. R. Blackburn, formerly, American Chemical Society Petroleum Research Fund*

51-3851 QD467 2013-10052 MARC
Scerri, Eric. **A tale of seven elements.** Oxford, 2013. 270p bibl index afp ISBN 0195391314, $19.95; ISBN 9780195391312, $19.95

Scerri (UCLA), a pioneer in the modern movement to describe chemistry through the lens of world history, complements his previous works, *The Periodic Table: Its Story and Its Significance* (CH, Sep'07, 45-0289) and *The Periodic Table: A Very Short Introduction* (CH, Sep'12, 50-0289), with *A Tale of Seven Elements*. This new book offers an exclusive focus on the protracted discoveries of the seven most elusive elements, despite their conspicuous presence predicted by De Chancourtois, Newlands, Odling, Hinrichs, (Lothar) Meyer, and Mendeleev. Scerri's yarns of the many spurious and nonreproducible claims that plagued each element's discovery entertainingly underscore the urgency yet seeming impossibility of such an undertaking. Unique to this book are original quotes and photographs, transporting readers to an era when research and professional notoriety were profoundly influenced by religious bigotry; aptly, each chapter dedicated to elemental discovery concludes by returning to the 21st century with discussions of current applications. Unfortunately, the target audience is often incongruous, as Scerri uses pages to explain atomic orbitals and quantum numbers, yet presumes the audience has implicit knowledge of isotopes, radioactive decay, and spectroscopy, thereby disregarding the colossal importance of these tools in elemental discovery. Still, *Seven Elements* offers an enjoyable reflection into chemical history. **Summing Up:** Recommended. ★★ Lower-division undergraduates and general readers.—*D. L. Jacobs, Rider University*

51-3852 [Internet Resource]
SciFinder. CAS (Chemical Abstracts Service). Various site licensing options; contact publisher for details.
URL: https://www.cas.org/products/scifinder

[Visited Dec'13] Produced by Chemical Abstracts Service (CAS), *SciFinder* (previously reviewed, *SciFinder Scholar*, CH, Aug'07, 44-6577) is a subscription-based online resource for searching the chemical literature. CAS began abstracting the chemical literature in 1907 with volunteer abstractors; it is currently done electronically, based on published abstracts. *SciFinder* contains millions of records from several CAS databases (e.g., *CAplus*, *CAS REGISTRY*, *CASREACT*, *CHEMCATS*) as well as *MEDLINE*. Users begin their research through the Explore section. This section allows bibliographic searching by research topic, author, company name, etc.; substance searching by chemical structure, Markush structure (used in patents), formula, property, or substance identifier; or reaction searching by structure. Search results can be refined in several ways; users can also access substances, reactions, related articles, and selected full text for retrieved references. *SciFinder* provides links to numerous free full-text articles/patents and allows users to access full text from their institution's e-journal holdings. The Saved Searches section allows users to save queries or save the search output, and also request weekly "keep me posted" searches. SciPlanner provides various options for dealing with multiple search results.

During 2013, CAS made several upgrades to the system, resulting in improved functionality and ease of use. Probably the biggest improvement is in the help functions, which are now ubiquitous, and the tutorials (including some video tutorials), on-screen help pop-ups for most functions, and annotation on many menu choices. Within search results, the addition of a "quick view" function facilitates a brief look at individual references for suitability without the need to leave the results page. This makes wading through a large number of results much easier. It is also much easier to return to the previous screen with this update. CAS recently partnered with Springer to include their experimental procedures for chemical reactions, derived from Springer journals from 1985 to the present, which are available for searching. Another nice touch is that CAS numbers can be used to add structures to the structure input page, greatly simplifying structure generation for structure searching.

Free alternatives for chemical searching include *PubChem* <http://pubchem.ncbi.nlm.nih.gov/> (CH, Jan'06, 43-2566), *ChemIDplus* <http://chem.sis.nlm.nih.gov/chemidplus/> (CH, Jan'09, 46-2669), and *ChemSpider* <http://www.chemspider.com/> (CH, Nov'08, 46-1485). All three are mainly for substance searching and are far more limited in their database of compounds. *ChemIDplus* is primarily a repository of toxicity and physical data. *ChemSpider* is also a source of property data, along with links to commercial sources. These sites are useful for searching for data on a specific compound, but none allow general concept searches, as does *SciFinder*. The students at this reviewer's institution routinely use *SciFinder* and find it fairly intuitive. It is a valuable learning and research tool for both undergraduate and graduate students. Pricing information is available at http://www.cas.org/products/scifinder/pricing. **Summing Up:** Highly recommended. ★★★ Lower-division undergraduates and above.—*J. H. Glans, Sacred Heart University*