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A Chemistry Spell-Check Dictionary for Word Processors

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Supporting Information

ABSTRACT: A free, downloadable spell-checker add-on for word processors, created by the author, is described. The add-on checks the spelling (in American English) of over 100,000 technical chemistry words. The file includes words not found in the user's native dictionary: chemical compounds, systematic nomenclature fragments, laboratory techniques, and chemical descriptors are included. The spell-check file supplements, but does not overwrite, any native or custom dictionaries already functioning on the user's computer.

KEYWORDS: *General Public, Graduate Education/Research, Upper-Division Undergraduate, Curriculum, Communication/Writing, Descriptive Chemistry, Undergraduate Research*

Performing quality chemistry research is fruitless unless the findings can be communicated with the broader chemical community, typically in written form. From beginning students writing laboratory reports to graduate students writing dissertations and professors writing laboratory manuals, textbooks, or journal articles, writing is a fundamental and essential component of scientific endeavors.

Yet students can sometimes complete an entire chemistry course without a single writing assignment. For this reason, schools have gradually modified pedagogical approaches to increase the writing requirement placed upon students in both lecture and laboratory courses.[1−4] Calibrated peer review (CPR) is one tool which has shown promise in introducing students to the process of scholarly writing and reviewing.[5,6] This pedagogical crisis, of course, is not a new phenomenon, as educators have been emphasizing writing for decades.[7−11]

Correct spelling is perhaps the second most important part of writing a well-written scientific paper, aside from content. A common source of frustration for students, faculty, and all chemistry professionals is the lack of technical scientific words in the native dictionary file of the word processor.

Unchecked, the number of words flagged as "misspelled" rapidly multiplies until the author often ignores the errant feedback. Unless manually and meticulously proofread before submission, actual misspellings can lead to lower grades for students, returned manuscripts, or—if no one notices—articles ultimately published with technical or, more embarrassingly, common words misspelled.

In 2011, the author published version 3.0 of a chemistry spell-check dictionary file, which is an add-on to the most common word processors. Version 2.0, released in 2008, included almost 100,000 chemical terms mined from a list of over 1 million chemical identifiers graciously supplied by chemspider.com.[12] Version 3.0 includes user-submitted additions to the dictionary file as well as a one-click dictionary extension for OpenOffice.org Writer.[13]

The dictionary file includes more than 104,000 technical chemistry words in American English and, while by no means an exhaustive list, significantly reduces unnecessary misspellings in chemistry writing. To be clear, the dictionary file does not mine text, recognize words as chemicals, or link them to a structure or formula, as other software—also called *dictionaries*—do.[14] The dictionary file simply informs the writer if a technical chemistry word or chemical name is spelled correctly.

The dictionary file is hosted on the Chemistry Blog[15] and is available there for free download. It is compatible with Microsoft Word, iWork, and OpenOffice.org Writer and works on PC, Macintosh, or Linux systems. An installation file is included in the download. The dictionary file is licensed under the Creative Commons Attribution 3.0 license.[16] It was compiled by an organic chemist, but will be useful for chemists of all disciplines.

■ ASSOCIATED CONTENT

Supporting Information

Chemistry dictionary files. This material is available via the Internet at http://pubs.acs.org.

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