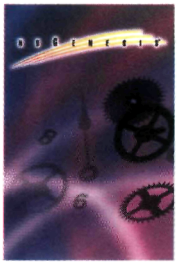
random ordering of the literature citations in the reference sections.

Another slightly bigger disappointment is the subject index. Although not an exhaustive index in the first place, an unusual number of entries are either set incorrectly (e.g., as a subheading of the previous main heading), or they refer to pages on which the keyword is not found.

Overall, I found this to be a useful, easy-to-read, and enjoyable book. This book would be a welcome addition to most laboratories, as a starting text for relative newcomers and as a refresher text for more advanced users.

Reviewed by Michael W. Ogden, R. J. Reynolds Tobacco Company

Collect Your Wandering Thoughts



NuGenesis 1.1
Mantra Software
91 Bartlett St.
Marlboro, MA 01752
(508) 786-9922
http://www.mantrasoft.com
$5000 workstation version; $15,000 and up for multiuser versions
Requires: Windows 95, 98, or 2000

Imagine a program that lets you configure a virtual printer that accepts the output from any Windows 95, 98, or 2000 application and directs it to a versatile database. Imagine that same program can store instrument output (e.g., images, text, tabular data, and plots) and Web pages. Add the ability to "tag" any of the stored objects with metadata, which makes the material searchable, sortable, and mergeable. Couple all this with output capabilities that can create compound documents with all of the object types, each fully scaleable and moveable, and you have Mantra Software's *NuGenesis*.

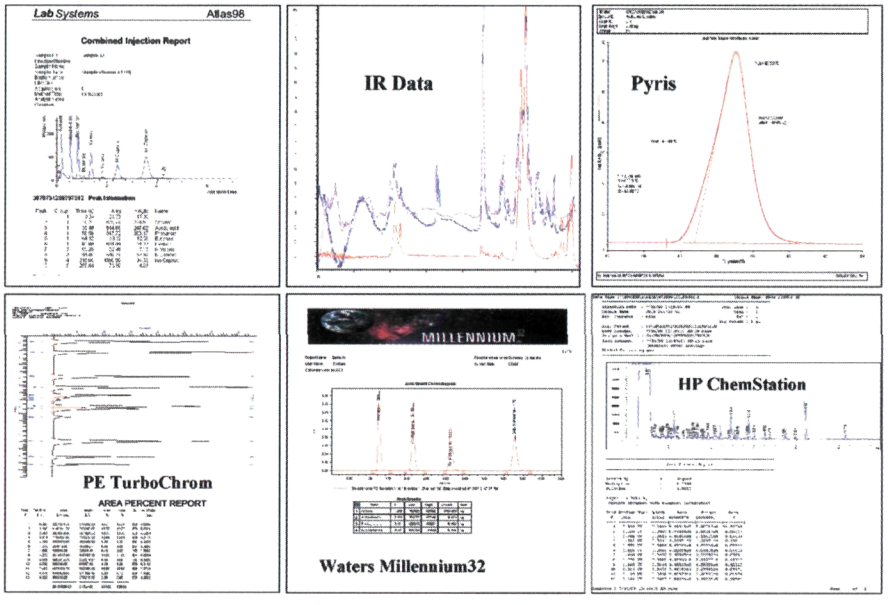
How can a program accomplish all this? It captures the print stream from the application; converts and stores the output as a vector-scaleable, text-searchable, compressed, and encrypted object labeled with metatags; and, in the process, provides security and compliance features. Your wandering thoughts can be collected, analyzed, shared, resolved, and archived.

The product offers lab managers the ability to electronically scissor and paste reports together from a variety of instrumental and personnel sources. Because the capture engine for the print stream will handle almost any instrument report output, a scientist can gather GC, LC, MS, MS/MS, MALDI, plate-reader, gel-scan, and other data into database entries with user-assigned tag identifiers. The records are stored as 32-bit objects with the possibility of 600 dpi color. Records can be resized without image degradation. Lossless image compression provides a 50-fold reduction in size, allowing experimental records to be stored long-term as vector-scalable information. The program supports conversion of text and tabular data to True-Type fonts, which store the letters as outlines that can be scaled and rotated. The patented database storage mechanism cleanly resolves the polyglot nature of the *Office 97* and *Office 2000* suites of programs, making the final merger quite seamless.

The various data types can be entered in a manual mode, which leaves the operator under complete control of every step, or in a batch mode, which facilitates the entry of many similar tests.

Once in the database, the items can be filtered to extract items with related tags, and these can be posted as a new record and consolidated for easy report generation. Tag fields include *log-in name, computer ID, domain name,* and *date/time,* as well as user-entered fields such as *batch ID, user name, report ID,* and a *comment* field. Tag fields can be filtered using Boolean, numeric, and wild-card options. Files may have hidden columns, and textual fields within the records may be searched.

NuGenesis 1.1 supports 32-bit architecture internally and 16-bit externally. The reviewed copy was supported by Microsoft *Access 97. NuGenesis* also supports *Oracle* database engines, making it a logical choice for use in regulated industries where multilevel entry security is required. The program's support of ODBC-compliant databases makes this possible. ODBC stands for Open DataBase Connectivity, a standard database access method developed by Microsoft. ODBC makes it possible to access any data from any application—regardless of which database management system (DBMS) is handling the data—by inserting a database driver. This middle layer translates the application's data queries into commands that the DBMS understands. Concurrent operation with *Access* and *Oracle* is, therefore, simple. Evolution to Microsoft's other database, *SQL Server 7.0,* is also possible. In *NuGenesis,* each database is assigned a "data source name" at creation. Up to four databases can be open at one time, making merges simple.



Six different instrument outputs captured, archived in a database, and merged into a single, expressive Word *document using* NuGenesis.

NuGenesis 2.0, which was scheduled for release in June, is fully 32-bit compliant. It allows Windows *Explorer*-like database management and customization of up to 50 different user-identified tag fields. In addition, tag data can be entered manually by selecting from a "most recently used" list or from a locked list.

This reviewer found *NuGenesis* ideal as a personal electronic lab notebook. Its robust, intuitive, graphical user interface lends itself to intra- and interlaboratory applications. It provides a superb "virtual chemist" front end for Documentum's *Enterprise Document Management System* (http://www.documentum.com). In addition, Mantra Software says *NuGenesis* meets the U.S. Food and Drug Administration's 21 CFR 11 requirements governing electronic records (http://www.fda.gov/cder/esig/index.htm), expanding the program's utility to regulated environments. Pharmaceutical companies, outsourcing contract labs, inhouse physical measurement labs, discovery teams, formulation labs, and individual scientists will find the product the perfect solution for getting IT all together. This is worth a strong look.

Reviewed by Ray Dessy, Virginia Tech

BOOKS RECEIVED

HPLC: A Practical Guide

T. Hanai
The Royal Society of Chemistry
Thomas Graham House, Science Park
Milton Road, Cambridge CB4 OWF, U.K.
1999, 134 pp, $84

This book covers the basic concepts of HPLC in six distinct chapters. Instrumentation, stationary-phase materials, and column efficiency are just a few of the topics that are covered. The book does not focus on the specifics in HPLC applications and is intended for laboratory staff in industry and academia, as well as undergraduate-level students.

Separation of Fullerenes by Liquid Chromatography

Edited by Kiyokatsu Jinno
The Royal Society of Chemistry
Thomas Graham House, Science Park
Milton Road, Cambridge CB4 OWF, U.K.
1999, 179 pp, $98

This book describes up-to-date innovations devoted to separation techniques and the different stationary phases. The isolation techniques involved with fullerenes are covered in detail, including the expansion of those techniques on a large-scale basis.

SOFTWARE RELEASED

ChemDraw Ultra 5.0

CambridgeSoft
100 Cambridge Park Dr.
Cambridge, MA 02140
800-315-7300
http://www.chemsw.com
$1395 list, $699 academic (Inquire about student and upgrade prices.)
Requires: Windows 95, 98, or NT or Macintosh System 7.5

ChemDraw Ultra is a chemical drawing package that includes atomic reaction mapping, automatic structure cleanup, and the ability to search by structure or substructure. Version 5.0 can draw a structure when given only its name (Name=Struct capability), and, conversely, it incorporates Beilstein's *AutoNom 2.1,* which assigns standard names to new structures. Structures can be saved in *tif* or *png* formats. In addition, *ChemDraw Ultra 5.0* can display estimated NMR line spectra and *spc* and *jcamp* spectral files.

Handbook of Chemistry and Physics

CRCnetBASE
2000 N.W. Corporate Blvd.
Boca Raton, FL 33431
800-272-7737
http://www.crcpress.com
$149 (Inquire about site licenses and subscriptions.)
Requires: Windows 95 or higher, CD-ROM drive

The 79th edition of the *Handbook of Chemistry and Physics* is now available on CD-ROM. The handbook catalogs the properties of fluids, solids, polymers, elements, and inorganic compounds. Subjects covered include symbols, terminology, electrochemistry, analytical chemistry, molecular structure and spectroscopy, and atomic and molecular physics. Characteristics ranging from the aqueous solubility of organic compounds to the flash points of common substances are cataloged. The electronic version features cross-table and Boolean searching, structure viewing, index and synonym browsing, unit conversions, hyperlinking, and high-resolution printing of text and graphics. Three purchase options are available: stand-alone, site license, or annual subscription.

Pharmaceutical Excipients Library

Nicolet Instrument Corporation
5225 Verona Rd.
Madison, WI 53711
608-276-6100 or 800-232-1472
http://www.nicolet.com
$995 list for IR or Raman version, $1595 for both
Requires: Windows 95 or higher, and OMNIC software

This library contains 600 IR and Raman spectra (300 each) from the most commonly used pharmaceutical excipients (i.e., the nonactive components). The data were collected using FT-IR and FT-Raman spectrometers and are available in a high-resolution format, which features 2 cm^{-1} spacing and 4 cm^{-1} resolution. In addition, all solid-phase excipients were sampled for FT-IR analysis using diffuse reflectance to ensure that the IR spectra represented the physical nature of the pharmaceutical solids. The library is available as an IR, Raman, or IR–Raman database, and it includes a textbook with explanations of spectroscopy techniques and the spectra of pharmaceutical excipients.

IPLab 2.3

Scanalytics
8550 Lee Highway, Ste. 400
Fairfax, VA 22031
703-208-2230
http://www.scanalytics.com
$1800 Windows; $2000 Macintosh
Requires: (Macintosh only) Macintosh OS 8.0

IPLab 2.3 (Windows) or *3.2.4* (Macintosh) provides a variety of image-enhancement and visualization techniques. Filtering, rotation, scaling, and profile plotting are available for image enhancement. Analysis options include Fourier and cosine transforms, intensity statistics, 8-bit pseudocolor, and up to 48-bit full color. Objects can be identified by intensity, size, or shape; density and shape analyses can be conducted. Time-lapse and 3-D sequence animation are possible. Software scripts can be written to perform routine tasks, and C or Pascal code can be added for custom extension modules. Also available is *MicroArray Suite,* an *IPLab*-compatible extension for acquiring and analyzing gene-expression microarray data.