

**MAKLUMAT INDUSTRI  
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COMMERCE & INDUSTRY**

# MIDAS BULLETIN

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## **MAKLUMAT PERDAGANGAN DAN PERNIAGAAN / TRADE AND COMMERCIAL INFORMATION**

### **PROTEOMICS MAY CHOOSE MALAYSIA AS REGIONAL BASE**

Proteomics International, a Western Australian biotechnology company, may choose Malaysia as a regional base to expand into the South-East Asian market, sources were quoted. Proteomics involves the study of the interaction of genes, proteins and disease. Proteomics has the potential to create significant alterations in pharmaceuticals. Existing research and development initiatives conducted by Proteomics International include agricultural, microbial and medical projects.

### **RM1.87BIL AUTO-RELATED PROJECTS APPROVED SINCE 2002**

Malaysia has approved a total of RM1.87 billion in new investment for automotive-related projects in the 21 months since January 2002, International Trade and Industry Minister Dato' Seri Rafidah Aziz said. Of the amount, RM1.2 billion went to projects involving the manufacture of automotive components and accessories, while RM672 million was for motor vehicle assembly and manufacturing projects, sources were quoted. Rafidah said both foreign and domestic investors had continued investing in the sector in view of Malaysia's expanding automotive market and its strategic location in the ASEAN Free Trade Area. She also said Malaysia's exports of automotive components, valued at RM598 million in the first nine months of 2002, had already exceeded the total amount achieved for the whole of the year before.

### **EXXONMOBIL STARTS OUTPUT AT LAST TWO SATELLITE PLATFORMS**

ExxonMobil Exploration and Production Malaysia Inc. (EMEPMI) has commenced oil production from Irong Barat B and Raya B, the last two of five satellite platforms installed under the Satellite Fields Development phase I (SFD I) project in 2001. By using a generic minimum facility design which optimizes the use of existing facilities, they are able to capitalize on time efficiencies, economies of scale and lessons learned to bring relatively small fields on stream quickly and economically to benefit the nation and to enhance their operations in Malaysia. The SFD I project represents a technological innovation in EMEPMI's approach to the development of small oil and gas reserves. About 70 million barrels of oil from six fields will be produced from the five satellite platforms, with peak production expected to total about 40,000 barrels per day, sources were quoted. EMEPMI, the operator, is developing the fields on behalf of its joint venture with Petronas Carigali Sdn Bhd (PCSB), a subsidiary of Petrolia Nasional Bhd (Petronas). EMEPMI is the largest crude oil producer in Malaysia and supplies two-thirds of Peninsular Malaysia's natural gas needs, producing about 280,000 barrels of oil per day and 1.3 billion cu ft of gas per day.

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## **RM957MIL IN R&D PROJECT FUNDING APPROVED**

A total of 1,793 projects amounting to RM956.8 million were approved under the various R&D funding schemes during the 2001-2003 review period of the Eighth Malaysia Plan. Under the National Biotechnology Directorate, a total of RM70.5 million was approved for biotechnology research on plants, animals, food, molecular and bio-pharmacy natural products. An allocation of RM98.6 million was also approved under the Industry Research Grant to enable private sector companies to collaborate with public universities and research institutions to conduct R&D in areas such as advanced manufacturing, electronics, photonics as well as machinery and equipment. To facilitate the commercialization of R&D findings, 16 projects amounting to RM18.3 million were approved under the Commercialization of Research and Development Fund during the review period. A sum of RM21.3 million was approved for 15 projects under the Technology Acquisition Fund to promote the development of indigenous technological capabilities and were given to a broad range of industries such as electrical and electronics, chemicals and pharmaceuticals, sources were quoted. R&D efforts were intensified to facilitate the development and transformation of the food-based industry into a high technology and knowledge-based industry. Companies were encouraged to invest in product development and market research to diversify products, improve product quality and increase competitiveness. A sum of RM29.7 million was provided to 966 SMEs and the Small and Medium Industries Development Corp provided assistance to SMEs to certify their products and processes to fulfill the requirements of importing countries. Since only 20% of SMEs were able to penetrate the export market, the Industrial Linkage Programme was implemented to develop SMEs to be reliable suppliers of parts, components and services.

## **GENOMED PARTNERS WITH MALAYSIAN COMPANY TO REACH ASIA PACIFIC MARKETS.**

GenoMed, Inc., (GMED) a St. Louis, Missouri-based medical genomics company, announced that it has partnered with the Malaysian firm, PhenoMed, to expand its medical therapeutics services into the Asia Pacific region, sources were quoted. They are thrilled to have a Malaysian partner for a number of reasons essential to their rapid growth as a medical genomics company. From the public health point of view, PhenoMed gives them an immediate research base for conducting their clinical trial against SARS. Malaysia suffered somewhat from the SARS epidemic last spring, and is already gearing up for SARS recurrence this fall. It has proved difficult to acquire any SARS patients operating only from St. Louis. GenoMed also hopes to be able to offer their Next Generation Disease Management services for hypertension, diabetes, and emphysema to patients in Asia through PhenoMed. They also hope that PhenoMed will open the

doors to additional highly desirable partnerships in Asia, such as with pharmaceutical companies, clinical diagnostic laboratories, physician and patient groups, national health ministries, etc. Not least exciting is the extraordinary investment in biotechnology being made by the Malaysian government and by key individuals in Malaysia, from which they hope to benefit at least indirectly. PhenoMed is a development stage disease management and medical pharmaceutical therapeutic company.

## **MAKLUMAT PENGELUARAN / PRODUCT INFORMATION**

### **IBM UNVEILS LATEST DATA STORAGE SOLUTIONS**

IBM had unveiled its latest data storage solutions technology designed to allow customers to easily share millions of data files in a heterogeneous Storage Area Network (SAN) environment and transform the management of data through automation, sources were quoted. Based on the "Storage Tank" technology developed by IBM's Research Unit five years ago, the latest offering - IBM TotalStorage SAN File System - is designed to provide a single, centralized point of control to manage files and databases. This system also comes with multiple operating system (OS) support. Customers can choose to use IBM's very own AIX system or other OSs such as Windows 2000, Linux, Sun Solaris and Hewlett Packard's Cluster. The system could solve total cost of ownership (TCO) problems faced by many enterprises by reducing administration costs through a centralized management and policy based storage management, significantly reduces planned downtime and reduces backup costs.

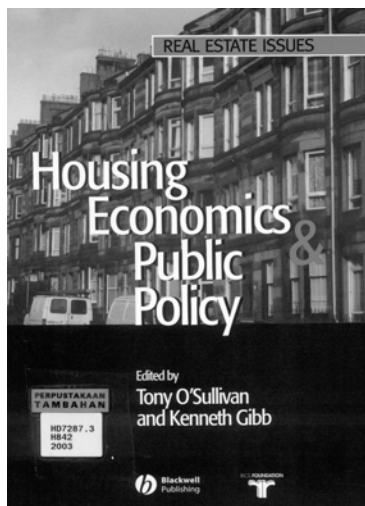
### **PERFORMANCE OF A R-134A-FILLED THERMOSYPHON.**

Heat pipes are low cost and efficient heat exchange equipment. They are suitable for low temperature heat or cold recovery systems. The latter could be employed to cool incoming warm fresh air in air-conditioned ventilation systems. R-134a is an environmentally friendly refrigerant and has been generally accepted as a substitute for R-12 and R-22. The thermal performance of a thermosyphon filled with R-134a was investigated. The effects of temperature difference between bath and condenser section, fill ratio and coolant mass flow rates on the performance of the thermosyphon were determined. The experimental results indicate that the heat flux transferred increased with increasing coolant mass flow rate, fill ratio and temperature difference between bath and condenser section, sources were quoted.

## AMD LAUNCHES WORLD'S FIRST, ONLY WINDOWS-COMPATIBLE PROCESSORS

Advanced Micro Devices (AMD) had launched the world's first and only Windows-compatible 64-bit PC processor, the AMD Athlon 64 FX processor, and the AMD Athlon 64 processor for desktop and notebook computers, sources were quoted. The two 64-bit processors are said to deliver the highest overall 32-bit performance for today's demanding applications and the power of 64-bit computing for the next wave of software. The global supplier of integrated circuits for personal and network computers said the new processor is specifically designed for gamers, personal computer (PC) enthusiasts and digital content creators.

### ULASAN BUKU / *BOOK REVIEWS*

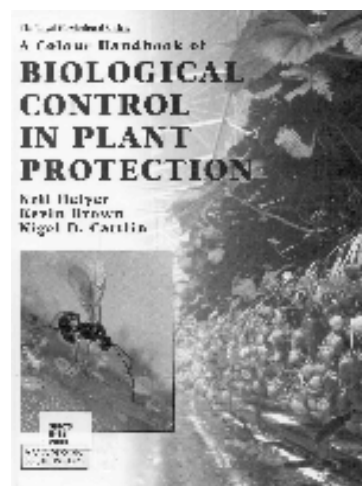


**HOUSING economics and public policy.** O'Sullivan, Tony & Gibb, Kenneth, eds. Oxford: Blackwell Science, 2003. (HD7287.3.H842 2003)

This book presents a contemporary survey of key issues in housing, from urban housing markets and sub-market modeling, to the economics of social housing, the basis for housing planning, economic analysis of neighbourhoods and the connections between academic work and policy development.

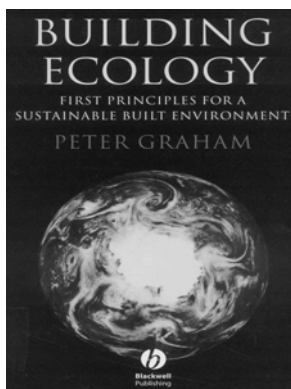
**WINDOWS Server 2003 security bible.** Rampling, Blair. Indianapolis, IN: Wiley Publishing, Inc., 2003. (QA76.76.P4R177 2003)

With the exponential growth of the Internet came the need for a level of security far beyond that built into the original infrastructure. This book provides sophisticated security options for both Internet-connected and private networks, and this comprehensive volume examines them in depth, supplying everything you need to secure any network against internal or external attacks. This book also covers Windows.NET Server and ISA Server, detailing key security threats, outlining the requirements for a secure Windows-based environment, and providing information on security architecture planning, how to secure applications, encrypt data, use authentication methods, and deploy security devices such as firewalls, public key infrastructure, IPSec, and certificate services.



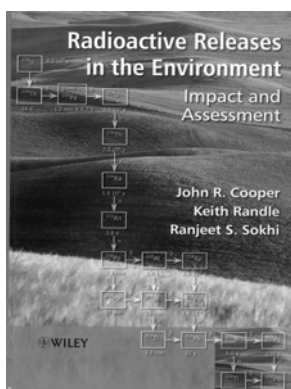
**A COLOUR handbook of biological control in plant protection.** Helyer, Neil, Brown, Kevin & Cattlin, Nigel D. London: Manson Publishing, 2003. (SB975.H486 2003)

This handbook containing profiles and colour photographs of as many examples of biological control organisms representative of as wide a global area as possible. Each profile is divided into four sections: species characteristics, including organism size, host food and closely related species; life cycle; crop/pest associations; and influences on growing practices. The section on crop/pest associations describes how and when the organism attacks its prey, the crops and environments in which it is likely to be found, and whether it is commercially available. The section on the influence on growing practices completes each profile by summarizing how growers can make best use of these natural enemies, and often makes mention of harmful, safe and IPM-compatible pesticides.



**BUILDING ecology: first principles for a sustainable built environment.** Graham, Peter. Boston: Blackwell Science, 2003. (TH880.G741 2003)

This book sets out the current scientific view of how nature works and how buildings link with and affect nature. It provides fundamental knowledge for building in harmony with nature and keeping Earth's life-supporting ecosystems healthy.

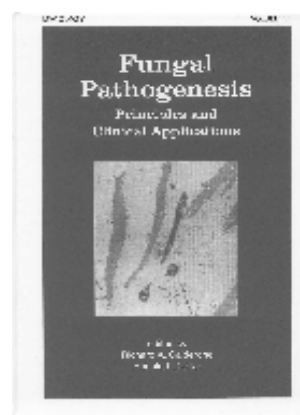


**RADIOACTIVE releases in the environment: impact and assessment.** Copper, John R., Randle, Keith & Sokhi, Ranjeet S. New York: John Wiley & Sons, 2003. (TD196.R3C777 2003)

This book is aimed at all those studying, at undergraduate and graduate levels, radioactivity in the environment and its impact of man. It will also serve as a handbook for workers in the fields of radiochemical analysis and environmental modeling and for scientists, consultants and environmental health and pollution officers who have to provide radiological data or information for legislative and related purposes.

**TRAINING the trainer: performance-based training for today's workplace.** Dolasinski, Mary Jo. Upper Saddle River: Prentice Hall, 2004. (HF5549.5.T7D659 2004)

In today's workplace, performance-based training is complete, measurable, and active for learners. Written by a corporate trainer, this concise, easy-to-read text focuses on the how-to's of training. It addresses industry issues such as: retention of employees; the integration of technology into training; different training styles and methods; the workplace and the needs of the diverse workers in it; and the management, evaluation, and performance of training. Reader will find practical tips and advice for creating training materials, analyzing the impact of training, and training with impact.



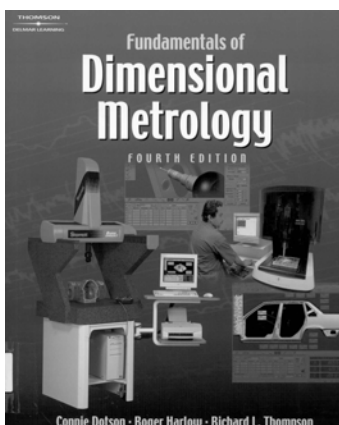
**FUNGAL pathogenesis: principles and clinical applications.** Calderone, Richard A., Cihlar, Ronald L., eds. New York: Marcel Dekker, 2002. (RC117.F981 2002)

This volume gives a comprehensive overview of human pathogenic fungi. It offers a current and concise survey of virulence factors, host responses and recognition, treatment and diagnosis of infections, invasive enzymes, intracellular survival, morphogenesis, adaptation, and properties of major fungal pathogens that contribute to disease. Focusing on human fungal infections, including candidiasis, pneumocystosis, aspergillosis, and cryptococcosis. With over 3700 references to accommodate continuing study, *Fungal Pathogenesis* covers natural and acquired immunity, vaccine development, and immune reconstitution; outlines rapid identification of major mycoses utilizing antigen capture and molecular assays; details signaling and phenotypic switching; discusses the value of genomics in validation; highlights state-of-the-art molecular methodologies to study disease causing organisms; describes available and potential antifungal drug targets and drug development; considers predicting the consequences of drug resistance on patient management; presents epidemiological observations on strain typing and variation and others.



**SUCCESSFUL project management.** Gido, Jack & Clements, James P. 2nd ed. Cincinnati: South-Western, 2003. (HD69.P75G453 2003)

At one time or another, every successful business person must face the task of managing a project. Successfully completing such projects is a prerequisite for climbing the corporate ladder. This book shows readers from start to finish, how to plan, organize, schedule, and lead project management tasks. With an emphasis on the practical, and using real world examples, this book gives readers the knowledge and skills needed to complete projects on time, within budget, to complete satisfaction.



**FUNDAMENTALS of dimensional metrology.** Dotson, Connie, Harlow, Roger & Thompson, Richard. 4th ed. New York: Delmar, 2003. (T50.B977 2003)

*Fundamentals of dimensional metrology* offers a direct path to understanding and applying the principles, techniques and devices used within the dimensional metrology field today. This edition uses both the Metric and Imperial systems, yet emphasizes Metric measurement devices and concepts in all examples for greater consistency with the latest industry trends. Information on particular devices and concepts, previously presented in separate chapters, has been combined to improve the logical flow of the material. New chapter-end questions have also been added to eliminate the potential for ambiguity, allowing readers to gauge their understanding as they progress through the book.

**MAKLUMAT PENYELIDIKAN  
DARI USM / RESEARCH INFORMATION  
FROM USM**

**MELT REACTION OF POLY  
(3-HYDROXYBUTYRATE) (PHB) AND  
EPOXIDIZED NATURAL RUBBER (ENR) AND  
THEIR BLENDS.**

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**ABSTRACT**

Poly(3-hydroxybutyrate) (PHB) is natural aliphatic polyesters. At high temperature (above the melting point of the polymers), this material will degrade and shorter chains with carboxyl chain ends will be produced. Therefore, these carboxyl chain ends may trigger a complex reaction mechanism with other materials at relatively high temperature. Epoxidized natural rubber (ENR) with 50% epoxidation level is selected as the second component to be blended with PHB. It contains both epoxide and unsaturated sites. The epoxidized groups provide sites for crosslinking with polyfunctional chemicals. Studies on the melting and crystallization behaviour by using differential scanning calorimetry (DSC), radial growth rate of the growing spherulite and morphology by using polarized optical microscope (POM) reveal immiscibility of the blends for all blend compositions in steps of 10 %. Consequently, the objectives of the study are to induce chemical reactivity across the polymers to be blended in melt and to study the precise time dependence and temperature dependence of the effects for the reaction in melt of the blends. When the sample was heated from room temperature to sufficiently high temperature and held at the chosen temperature ( $T_a$ ) (185 - 199 °C) until reaction was complete by using DSC, an exothermic peak can be observed. Kinetic of the reaction can be studied through the evolution of the enthalpy of reaction. The rate of reaction increases as the  $T_a$  is elevated for all blend compositions. At  $T_a = 199$  °C, the rate of reaction of all the compositions of the blends are almost constant. Morphological studies by using POM reveal PHB is still capable to crystallize after it is subjected to the above thermal history when the content of PHB is in excess. Phase separation occurs in melt for the blends with more than 40% content of ENR.

## QUANTIFYING VEHICLE EMISSION AT TRAFFIC LIGHT JUNCTION: CASE STUDY AT INTERSECTIONS IN A DEVELOPING TOWN

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### ABSTRACT

Air pollution due to transportation especially in town areas is the result of emissions from stoichiometry, rich and lean combustion. Main components released to the air are particulate matter, carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), and hydrocarbon (HC). Concentration and relative mixtures of these pollutants are influenced by vehicle speed, acceleration, deceleration, idling time, stopping and waiting especially at major junctions in urban areas. Traffic flow delays are due to either an increase in traffic volume, improper junction geometry, improper signal phasing or inadequate signal timing. Motorists are 'forced' to spend a substantial amount of their time idling and waiting at junctions. Properly designed, traffic light junctions will minimize delay, hence reducing the amount of pollutants emitted from idling and traversing vehicles. In this paper, the effects of traffic light junction's configuration and number of vehicles on the amount of pollutant emitted are investigated using SIDRA at one traffic light junction in Parit Buntar, Perak. Improvements to the junction in terms of providing proper signal timing, signal phasing, and minor geometrical modifications are proposed. The relative change in the amount of pollutants emitted by vehicles as the result of improvements in the design of traffic light junctions to maintain the optimization are highlighted.

## TASTE SENSING SYSTEM FOR HERBAL ANALYSIS

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### ABSTRACT

A taste sensing system was developed to be applied in herbal standardization. Research focuses on two main problems covering the qualitative and quantitative aspects. Analysis is done in three successive steps; to check the presence of herb in solution, to determine the effect of technology used in the drying of the

herbal extracts and to classify the sample according to its discrete concentration. The multistage classifications are performed using artificial neural networks. Simulations of the neural networks are done to find the optimum number of hidden nodes and training data epoch that produce the highest percentage of correct classification. In this work, disposable lipid membrane taste sensor developed by School of Chemical Sciences, University Science of Malaysia is used in data collection. Results show that the networks are able to detect the presence of the herb in solution and more than 90% of the data are correctly classified according to the drying technology used and its concentration.

## A REGION STREAM PUMPING SCHEME FOR VIDEO-ON-DEMAND SERVICES

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### ABSTRACT

VOD system provides a service to users to browse and to watch any videos at any time with interactive VCR operation: fast rewind/forward and pause. One of the most challenging aspects in designing VOD system is to design data storage for a VOD server that is capable to eliminate latency for maximum number of simultaneous streams as well as to support VCR operation. The difficulty is due to the real time characteristic possessed by video data. This research presents a new data storage scheme called region stream pumping for VOD server that eliminates latency and hence producing maximum number of simultaneous streams. The scheme introduces a disk-region layout technique on an array of disks. The region layout and data distribution are derived using a special mathematical theory that leads to a simple retrieval mechanism and a good load balancing. The scheme is designed to support the VCR implementation.

**PERKHIDMATAN KESEDARAN KINI /  
CURRENT AWARENESS SERVICE**

#### AGRICULTURE

- 1) CROP traits related to weed suppression in water-seeded rice (*Oriza sativa L.*) Gibson, Kevin D. *et al. Weed science*. 2003: 51(1), 87-93.
- 2) FERTILIZERS, manure or biosolids? Researchers compare the benefits and risks of fertilizers and soil amendments. Spicer, Steve. *Water environment & technology*. 2002: 14(7), 32-35.
- 3) GROWTH and yield responses of cocoa to phosphate fertilizer application on volcanic soils in North Sumatera Province, Indonesia. Manjit, Sidhu. *et al. The Planter*. 2003: 79(924), 149-167.
- 4) PERMITTING agricultural source of water pollution. Dimura, Joseph. *Water environment & technology*. 2003: 15(5), 50-53.

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- 5) ANTIMICROBIAL resistance of intestinal *Aeromonas spp.* and *Enterococcus spp.* in fish cultured in integrated broiler-fish farms in Thailand. Petersen, Andreas *et al. Aquaculture*. 2003: 219(1-4), 71-82.
- 6) A COMPARISON of development opportunities for crab and shrimp aquaculture in southwestern Bangladesh, using GIS modeling. Salam, M. Abdus *et al. Aquaculture*. 2003: 220(1-4), 477-494.
- 7) CULTURE-based fisheries: an underutilized opportunity in aquaculture development. De Silva, Sena S. *Aquaculture*. 2003: 221(1-4), 221-243.
- 8) DEVELOPMENT of microsatellite markers in black tiger shrimp (*Penaeus monodon fabricius*). Wuthisuthimethavee, Suwit *et al. Aquaculture*. 2003: 224(1-4), 39-50.
- 9) The EFFECTS of size grading and length of nursery period on growth and population structure of freshwater prawns stocked in temperate zone ponds with added substrates. Tidwell, James H. *et al. Aquaculture*. 2003: 218(1-4), 209-218.
- 10) The FEASIBILITY of industrial production of Spirulina (*Arthrospira*) in Southren Spain. Jimenez, Carlos *et al. Aquaculture*. 2003: 217(1-4), 179-190.
- 11) HYBRIDIZATION between the freshwater prawns *Macrobrachium rosenbergii* (De Man) and *M. carcinus* (L.). Graziani, Cesar *et al. Aquaculture*. 2003: 217(1-4), 81-91.
- 12) RELATIONSHIP between physicochemical variables and productivity in open ponds for the production of Spirulina: a predictive model of algal yield. Jimenez, Carlos *et al. Aquaculture*. 2003: 221(1-4), 331-345.
- 13) SPAT collection of the pearl oyster (*Pinctada margaritifera cumingii*) in French Polynesia: variability of wild and farmed populations after 20 years of commercial exploitation. Arnaud-Haond, S. *et al. Aquaculture*. 2003: 219(1-4), 181-192.
- 14) WATER quality control using *Spirulina platensis* in shrimp culture tanks. Chuntapa, Benjamas *et al. Aquaculture*. 2003: 220(1-4), 335-364.

#### BEVERAGES

- 16) DEVELOPMENTS in beverage processing. Clark, J. Peter. *Food technology feature*. 2003: 57(1), 72-74.
- 17) FUNGUS in your tea, sir? Randerson, James. *New scientist*. 2003: 178(2401), 10.
- 18) PREPARATION and functional properties of beverages made from sea algae. Nagai, Takeshi *et al. Food chemistry*. 2003: 81(3), 327-332.
- 19) VARIOUS antibrowning agents and green tea extract during processing and storage. Wang, Li-Fei *et al. Journal of food processing and preservation*. 2003: 27(3), 213-226.

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- 20) BIOPHARMACEUTICAL earnings weaken: revenues rose significantly for 30 top firms, but their combined earnings declined in 2002. Thayer, Ann M. *Chemical & engineering news*. 2003: 18(11), 15-16.
- 21) BIOTECH companies get lean and mean: a shortage of capital is driving cost cutting, deal-making, shutdowns, and consolidation. Thayer, Ann. *Chemical & engineering news*. 2003: 81(4), 41-44.
- 22) BIOTECH thrives in historic Uppsala. Short, Patricia L. *Chemical & engineering news*. 2003: 81(24), 11-14
- 23) BREEDING profits: codexis seeks to turn proven biotechnology into a money-making business. McCoy, Micheal. *Chemical & engineering news*. 2003: 81(33), 28-30.
- 24) CAN GM-Technologies help the poor? The impact of Bt Cotton in Makhathini flats, KwaZulu-Natal. Thirtle, Colin *et al. World development*. 2003: 31(4), 717-732.
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- 27) The CHEMICAL side of the double helix: the double helix has played a role in chemical research in the past 50 years, inspiring chemists to solve biological problems. Henry, Celia M. *Chemical & engineering news*. 2003: 81(10), 49-60.
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- 30) ELECTRONICS chemicals: semiconductor materials companies try cooperation of many kinds to solve technological and financial challenges. McCoy, Micheal. *Chemical & engineering news*. 2003: 81(25), 21-25.
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- 35) PINCH sting: the scorpionates. Ritter, Stephen K. *Chemical engineering progress*. 2003: 81(17), 40-43.
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- 37) The SMALL-molecule approach to biology: chemical genetics and diversity-oriented organic synthesis make possible the systematic exploration of biology. *Chemical & engineering news*. 2003: 81(9), 51-56, 58-61.

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- 38) CENTRINO? Pentium M? PC labs look beyond the name game. Karagiannis, Konstantinos. *PC magazine*. 2003: 22(6), 32-48.
- 39) A MIRACLE of micro engineering. Dahmer, Jurgen and Wiechmann, Bodo. *British plastics & rubber*. 2003: Feb., 4-6.
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- 54) FUELING the future: China seeks to turn coal into clean fuel to reduce pollution, increase energy security. Tremblay, Jean-Francois. *Chemical & engineering news*. 2003: 81(3), 13.
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