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| http://images.magnetmail.net/images/clients/ACS/100312Brain_thumb.jpgNew evidence suggests that easing inflammation of nerve cells in the brain, like those pictured above, may be a promising approach for combating Alzheimer’s disease.Credit: Ingram Publishing/Thinkstock |

New research proves the validity of one of the most promising approaches for combating Alzheimer’s disease (AD) with medicines that treat not just some of the symptoms, but actually stop or prevent the disease itself, scientists are reporting. The study, in the journal ACS Medicinal Chemistry Letters, also identifies a potential new oral drug that the scientists say could lead the way.Wenhui Hu and colleagues point out that existing drugs for AD provide only “minimal” relief of memory loss and other symptoms, creating an urgent need for new medicines that actually combat the underlying destruction of brain cells. Research suggests that inflammation of nerve cells in the brain is a key part of that process. One medicine, Minozac, is in clinical trials. But Hu says Minozac still has more space to improve its efficacy. So the scientists sifted through compounds with a molecular architecture similar to Minozac in an effort to find more active substances. The report describes success in doing so. They discovered one compound that appeared especially effective in relieving nerve inflammation and in improving learning and memory in lab mice widely used in AD research. “In general, this study not only proves that countering neuroinflammation is indeed a potential therapeutic strategy for Alzheimer’s disease, but also provides a good lead compound with efficacy comparable to donepezil [an existing AD medicine] for further oral anti-AD drug discovery and development,” the report states.

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| http://images.magnetmail.net/images/clients/ACS/100312MCL_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20851695&m=2282404&u=ACS&j=11527035&s=http://web.1.c2.audiovideoweb.com/1c2web3536/100312MCL.jpg) for high-resolution image |

ARTICLE #1 **FOR IMMEDIATE RELEASE**“Identification of Aminopyridazine-Derived Anti-neuroinflammatory Agents Effective in An Alzheimer’s Mouse Model”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=20733075&m=2282404&u=ACS&j=11527035&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/ml3001769) CONTACT:Wenhui Hu, Ph.D.Guangzhou Institutes of Biomedicine and HealthChinese Academy of SciencesGuangzhou 510530PR ChinaPhone: +86 2032015211Fax: +86 2032015299Email: hu\_wenhui@gibh.ac.cn [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gifARTICLE #2 **FOR IMMEDIATE RELEASE****Ensuring high-quality dietary supplements with “quality-by-design”**Journal of Natural Products

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| http://images.magnetmail.net/images/clients/ACS/100312Flower_thumb.jpgA quality by design approach could ease concerns about the safety and effectiveness of dietary supplements like chamomile, shown blossoming in the picture, above.Credit: iStockphoto/Thinkstock |

If applied to the $5-billion-per-year dietary supplement industry, “quality by design” (QbD) — a mindset that helped revolutionize the manufacture of cars and hundreds of other products — could ease concerns about the safety and integrity of the herbal products used by 80 percent of the world’s population. That’s the conclusion of an article in ACS’ Journal of Natural Products.Ikhlas Khan and Troy Smillie explain that the U.S. Food and Drug Administration (FDA) regulates dietary supplements as a category of foods, rather than drugs. Manufacturers are responsible for the safety of their products. However, they need not obtain FDA approval to market supplements that contain ingredients generally regarded as safe. While manufacturers, packagers and distributors are required to follow good manufacturing practices, variations in growing, processing and even naming the plants used to make supplements opens the door to problems and introduces challenges with reproducibility. As a result, “the consumer must take it on faith that the supplement they are ingesting is an accurate representation of what is listed on the label, and that it contains the purportedly ‘active’ constituents they seek,” Khan and Smillie note. The authors looked for solutions in a review of more than 100 studies on the topic.They concluded that a QbD approach — ensuring the quality of a product from its very inception — is the best strategy. One key step in applying QbD to dietary supplements, for instance, would involve verifying the identities of the raw materials — the plants — used to make supplements. “It is clear that only a systematic designed approach can provide the required solution for complete botanical characterization, authentication and safety evaluation,” they say.The authors acknowledge funding from the [U.S. Food and Drug Administration](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594205&m=2282404&u=ACS&j=11527035&s=http://www.fda.gov/default.htm).

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| http://images.magnetmail.net/images/clients/ACS/100312JNP_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20866696&m=2282404&u=ACS&j=11527035&s=http://web.1.c2.audiovideoweb.com/1c2web3536/100312jnp.jpg) for high-resolution image |

ARTICLE #2 **FOR IMMEDIATE RELEASE**“Implementing a ‘Quality by Design’ Approach to Assure the Safety and Integrity of Botanical Dietary Supplements”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=20733076&m=2282404&u=ACS&j=11527035&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/np300434j)CONTACT:Ikhlas A. Khan, Ph.D.The University of MississippiUniversity, Miss. 38677Phone: 662-915-1090Fax: 662-915-7989Email: ikhan@olemiss.edu [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gifARTICLE #3 **FOR IMMEDIATE RELEASEA complete solution for oil-spill cleanup**Energy & Fuels

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| http://images.magnetmail.net/images/clients/ACS/091912Oil_thumb.jpgA complete solution for oil-spill cleanup may lie in a new superabsorbent material that transforms an oil slick into a soft, easily removed gel.Credit: iStock |

Scientists are describing what may be a “complete solution” to cleaning up oil spills — a superabsorbent material that sops up 40 times its own weight in oil and then can be shipped to an oil refinery and processed to recover the oil. Their article on the material appears in ACS’ journal Energy & Fuels.T. C. Mike Chung and Xuepei Yuan point out that current methods for coping with oil spills like the 2010 Deepwater Horizon disaster are low-tech, decades-old and have many disadvantages. Corncobs, straw and other absorbents, for instance, can hold only about 5 times their own weight and pick up water, as well as oil. Those materials then become industrial waste that must be disposed of in special landfills or burned.Their solution is a polymer material that transforms an oil spill into a soft, solid oil-containing gel. One pound of the material can recover about 5 gallons of crude oil. The gel is strong enough to be collected and transported. Then, it can be converted to a liquid and refined like regular crude oil. That oil would be worth $15 when crude oil sells for $100 a barrel. “Overall, this cost-effective new polyolefin oil-SAP technology shall dramatically reduce the environmental impacts from oil spills and help recover one of our most precious natural resources,” the authors said.The authors acknowledge funding from the [National Science Foundation](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594207&m=2282404&u=ACS&j=11527035&s=http://www.nsf.gov/) and [Ben Franklin Technology Partners](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594208&m=2282404&u=ACS&j=11527035&s=http://benfranklin.org/).

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| http://images.magnetmail.net/images/clients/ACS/100312enf_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20866697&m=2282404&u=ACS&j=11527035&s=http://web.1.c2.audiovideoweb.com/1c2web3536/100312enf.jpg) for high-resolution image |

ARTICLE #3 **FOR IMMEDIATE RELEASE**“A Novel Solution to Oil Spill Recovery; Using Thermodegradable Polyolefin Oil Super-absorbent (oil-SAP)”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=20733077&m=2282404&u=ACS&j=11527035&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/ef300388h)CONTACT:T. C. Mike Chung, Ph.D.The Pennsylvania State UniversityUniversity Park, Pa. 16802Email: chung@ems.psu.edu [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gif ARTICLE #4 **FOR IMMEDIATE RELEASE: A PressPac Instant Replay\*****Concern about plans to close unique Canadian environmental project**Environmental Science & Technology

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| http://images.magnetmail.net/images/clients/ACS/090512Lakes_thumb.jpgPhoto of the Experimental Lakes Area (ELA); a curtain divides a lake in half for an experiment.Credit: Coalition to Save ELA[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20733078&m=2282404&u=ACS&j=11527035&s=http://web.1.c2.audiovideoweb.com/1c2web3536/090512lakes.jpg) for high-resolution image |

The Canadian government’s plans to discontinue in 2013 a unique environmental research project that has yielded insights into water pollution, climate change and other topics for almost 40 years would be a “huge loss not only to science but to the scientific heritage of humanity.” That’s the focus of a viewpoint article in ACS’ journal Environmental Science & Technology.J. G. Hering, D. L. Swackhamer and W. H. Schlesinger explain that the Experimental Lakes Area (ELA) comprises 58 freshwater lakes and their watersheds in remote areas of the province of Ontario, where researchers can study how human influences impact complex, real-world waterways. The governments of Canada and Ontario put these waters under protection in 1968. Since then, scientists from around the world have conducted numerous long-term and ecosystem-scale experiments, producing 750 peer-reviewed reports, that the authors say would have been impossible elsewhere.The Canadian government’s plans to shutter the ELA fostered [widespread concern](http://www.mmsend88.com/link.cfm?r=800557068&sid=20733079&m=2282404&u=ACS&j=11527035&s=http://saveela.org/) among scientists. The authors reflect that concern in arguing: “In a world facing unprecedented effects of global climate change, we can ill afford to abandon a facility that offers the unique combination of long-term monitoring and the capacity for ecosystem-scale experimentation.”

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| http://images.magnetmail.net/images/clients/ACS/100312EST_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20851696&m=2282404&u=ACS&j=11527035&s=http://web.1.c2.audiovideoweb.com/1c2web3536/100312est.jpg) for high-resolution image |

ARTICLE #4 **FOR IMMEDIATE RELEASE**“An Unparalleled Scientific Resource Endangered”[DOWNLOAD FULL TEXT ARTICLE](http://www.mmsend88.com/link.cfm?r=800557068&sid=20733080&m=2282404&u=ACS&j=11527035&s=http://pubs.acs.org/stoken/presspac/presspac/full/10.1021/es3030512)CONTACT:J. G. Hering, Ph.D.Eawag, Swiss Federal Institute of Aquatic Science and TechnologyDubendorf, SwitzerlandEmail: janet.hering@eawag.ch**\* A previous PressPac item that you may have missed**   [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gifARTICLE #5 **FOR IMMEDIATE RELEASE****Celebrating the centennial of a landmark in culinary chemistry**Chemical & Engineering News

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| http://images.magnetmail.net/images/clients/ACS/100312CEN_thumb.jpg[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20851697&m=2282404&u=ACS&j=11527035&s=http://web.1.c2.audiovideoweb.com/1c2web3536/100312cen.jpg) for high-resolution image. |

Billions of people around the world today will unknowingly perform a chemical reaction first reported 100 years ago. And the centennial of the Maillard reaction — which gives delightful flavor to foods ranging from grilled meat to baked bread to coffee — is the topic of a fascinating article in the current edition of Chemical & Engineering News. C&EN is the weekly news magazine of the American Chemical Society, the world’s largest scientific society.Sarah Everts, C&EN senior editor, explains in the article that French chemist Louis-Camille Maillard took a first stab at explaining the culinary delight that occurs when proteins and sugars in food interact at high temperature in a 1912 research paper. Focusing on the delicious flavors and appetizing colors that result from that chemistry, the research also established the foundations of modern food science.Noting that Maillard can stake a claim to being the world’s most widely practiced chemical reaction, the C&EN article explains that the reaction has a dark side. It also can produce potential carcinogens in certain foods. And scientists have discovered that the Maillard reaction also occurs spontaneously in the human body, producing substances linked to aging and a variety of diseases.ARTICLE #5 **FOR IMMEDIATE RELEASE**"The Maillard Reaction Turns 100"This story is available at: [http://cenm.ag/maillard](http://www.mmsend88.com/link.cfm?r=800557068&sid=20874587&m=2282404&u=ACS&j=11527035&s=http://cenm.ag/maillard)  [To Top](#top)http://images.magnetmail.net/images/clients/ACS/goldline.gif **Journalists’ Resources****About the Weekly PressPac**The ACS Weekly PressPac consists of summaries of research published in the American Chemical Society’s more than 40 peer-reviewed journals and its weekly newsmagazine, Chemical & Engineering News. ACS journals publish more than 35,000 articles annually. Although not traditional press releases, PressPac content can be used to prepare news stories, in conjunction with the full-text PDF and an interview with the authors. PressPac stories and the accompanying full-text PDFs also can be an excellent resource for features and background.**Press releases, briefings and more from ACS’ 244th National Meeting**[www.eurekalert.org/acsmeet.php](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594210&m=2282404&u=ACS&j=11527035&s=http://www.eurekalert.org/acsmeet.php) [http://www.ustream.tv/channel/acslive](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594211&m=2282404&u=ACS&j=11527035&s=http://www.ustream.tv/channel/acslive%20) **Inside Science News Service**For thoroughly enjoyable multimedia coverage of the science behind the news — a valuable resource for journalists and news media organizations everywhere. [Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594212&m=2282404&u=ACS&j=11527035&s=http://www.insidescience.org/) to visit the Inside Science News website.**C&EN Video Spotlight: Taming Explosive Boiling with a Coating**It looks pretty cool when water skitters across the surface of a hot frying pan. But that same phenomenon, called the Leidenfrost effect, can be big trouble for equipment exposed to water at high temperatures, such as nuclear reactors, because sometimes the transition away from it leads to explosive boiling. An international team of researchers has now developed a strategy that tames the process, which was published in the journal Nature. As explained by C&EN Senior Correspondent Mitch Jacoby, the research team started with steel spheres, then applied a patented coating which is normally used to keep rain from accumulating on car side mirrors. The coating renders the spheres super-water-repellent. And it leads to smooth, nearly bubble-less boiling. The researchers plan to examine scaleup possibilities for the coating soon.[Click here](http://www.mmsend88.com/link.cfm?r=800557068&sid=20851698&m=2282404&u=ACS&j=11527035&s=http://www.youtube.com/watch?v=Aq8IssCqrug) to view the video.**Must-Read from C&EN: Finding New Uses for Old Drugs**With the cost of putting a single new drug on the market ranging into the hundreds of millions of dollars, a new strategy is emerging: Repurposing, repositioning, reusing, rediscovery — finding new uses for approved drugs and shelved drug candidates. For the full story, contact newsroom@acs.org. **ACS Pressroom Blog** The ACS Office of Public Affairs' [pressroom blog](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594213&m=2282404&u=ACS&j=11527035&s=https://communities.acs.org/community/science/science_news) highlights research from ACS’ more than 40 peer-reviewed journals and National Meetings. **Bytesize Science Blog** Educators and kids, put on your thinking caps: The American Chemical Society has [a blog for Bytesize Science](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594214&m=2282404&u=ACS&j=11527035&s=http://www.bytesizescience.com), a science podcast for kids of all ages.  **ACS Satellite Pressroom: Daily news blasts on Twitter** The satellite press room has become one of the most popular science news sites on Twitter. To get our news blasts and updates, create a free account at [https://twitter.com/signup](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594215&m=2282404&u=ACS&j=11527035&s=https://twitter.com/signup). Then visit [http://twitter.com/ACSpressroom](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594216&m=2282404&u=ACS&j=11527035&s=http://twitter.com/ACSpressroom) and click the ‘join’ button beneath the press room logo. **C&EN on Twitter**Follow @cenmag <[http://twitter.com/cenmag](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594217&m=2282404&u=ACS&j=11527035&s=http://twitter.com/cenmag)> for the latest news in chemistry and dispatches from C&EN's blog, CENtral Science <[http://centralscience.org](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594218&m=2282404&u=ACS&j=11527035&s=http://centralscience.org)>.**ACS Press Releases** [Press releases](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594219&m=2282404&u=ACS&j=11527035&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_NEWSRELEASES&node_id=222&use_sec=false&sec_url_var=region1&__uuid=50b5ab93-801d-4d0d-868f-b9507ff9d709) on a variety of chemistry-related topics.[To Top](#top)http://images.magnetmail.net/images/clients/acs/goldline.gif**ACS Videos**The American Chemical Society encourages news organizations, museums, educational organizations and other web sites to embed links to these videos.**Spellbound: How Kids Became Scientists**

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The road to a Nobel Prize began for one scientist in elementary school when his father placed a sign on his bedroom door proclaiming him to be a “doctor.” This is just one of the many experiences that helped launch the careers of scientists from diverse backgrounds who are featured in a new ACS video series called [Spellbound: How Kids Became Scientists](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594220&m=2282404&u=ACS&j=11527035&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=1355&content_id=CNBP_028033&use_sec=true&sec_url_var=region1&__uuid=e8e6ee76-0abe-4e78-84c4-3717c995c65e). **Prized Science video series**

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Prized Science: How the Science Behind ACS Awards Impacts Your Life video series is new for 2012! The first episode features the research of Dr. Robert Langer, winner of the 2012 ACS Priestley Medal. He is a professor at the Massachusetts Institute of Technology. The Priestley Medal is the highest honor of the ACS, and it recognizes Langer’s pioneering work making body tissues in the lab by growing cells on special pieces of plastic. Langer’s team has used the approach to make skin for burn patients, for instance, with the goal of eventually making whole organs for transplantation. The second episode features Dr. Chad Mirkin, winner of the 2012 ACS Award for Creative Invention. His research has provided patients with faster diagnoses for influenza and other respiratory infections, and new tests that improve care for heart disease. More episodes will appear later in the year. The series is available at the [Prized Science](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594221&m=2282404&u=ACS&j=11527035&s=http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=446&content_id=CTD1_018821&use_sec=true&sec_url_var=region1&__uuid=594bce97-0b05-4df7-b759-1a0f9156c5d8) website and on DVD. **The Periodic Table Table Featuring Theo Gray**

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Some people collect stamps. Wolfram Research co-founder and author Theo Gray collects elements. Step into his office, and you'll see a silicon disc engraved with Homer Simpson, a jar of mercury, uranium shells and hundreds of other chemical artifacts. But his real DIY masterpiece is the world's first ["periodic table table."](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594222&m=2282404&u=ACS&j=11527035&s=http://www.bytesizescience.com/index.cfm/2012/2/22/The-Periodic-Table-Table-Featuring-Theo-Gray) Within this masterfully constructed table-top lay samples of nearly every element known to man, minus the super-radioactive ones.**Healing the voice: Synthetic vocal cords**

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[Synthetic vocal cords](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594223&m=2282404&u=ACS&j=11527035&s=http://www.bytesizescience.com/index.cfm/2012/5/22/Bytesize-Science-Healing-the-voice-with-synthetic-vocal-cords%20) may someday heal the voices of singers like Julie Andrews -- whose legendary voice was permanently damaged in a 1997 operation. Filmed in the lab of 2012 ACS Priestley Medalist and MIT Institute Professor Robert Langer, our latest video explains how artificial polymer vocal cords may help repair damaged vocal tissue.[The Chemistry of Beer](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594224&m=2282404&u=ACS&j=11527035&s=http://youtu.be/2xKpQ11CpVE)[The Chemistry of Cheese](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594225&m=2282404&u=ACS&j=11527035&s=http://youtu.be/jMAlToEYHJM)[Without a scratch: Self-Healing Materials](http://www.mmsend88.com/link.cfm?r=800557068&sid=20594226&m=2282404&u=ACS&j=11527035&s=http://youtu.be/Bx3WTSSD5f0) [To Top](#top)  http://images.magnetmail.net/images/clients/ACS/goldline.gif**ACS Podcasts**

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