



PSNA News

Phytochemical Society of North America
Sociedad Fitoquímica de América del Norte
Société Phytochimique de L'Amérique du Nord

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The President's Message

A Great Time to be Part of PSNA!

Having been a member of PSNA for over 15 years, I have never before felt like the society held such a great future. Membership is once again growing annually, and the current and former Executive Committee officers are all working hard to keep the society moving in a direction focused on growth. The executives remain set on keeping the scientific programs in line with the society's journal *Phytochemistry* and striving for fair representation of all sub-disciplines of phytochemistry at annual meetings.

This year's joint meeting with the American Society of Pharmacognosy was a huge success with great representation by PSNA and an emphasis on scientific topics important to both our members and those in the ASP. With over 500 attendees, the local organizers and scientific committee worked tirelessly behind the scenes to provide everyone with the opportunities to present their current research. Todd Daviau and John Cronan Jr. are to be commended for

their tireless efforts for more than 2 years leading up to the meeting.

With last year's meeting behind us, it is time to get excited about the 2011 PSNA 50th Anniversary meeting. This is shaping up to be the largest PSNA meeting ever in terms of attendance and international representation. The venue, the big island, Hawai'i, could not be better and we are thrilled to have John Pezzuto and colleagues at the University of Hawai'i at Hilo as the local organizers. John Pezzuto and colleagues began planning this meeting 3 years in advance and they have been spectacular to work with. The scientific committee is being chaired by Norman Lewis who has already assembled representatives from 5 continents and at least 16 countries.

Due to the large attendance expected at this year's meeting, and the diversity of phytochemistry topics and programs, we expect three publications to be generated as a direct result of the meeting. All three will be peer-reviewed publications

and cited by Science Citation Index. A new volume of the long standing Recent Advances in Phytochemistry series will be generated and once again will be provided to all attendees within a year of the meeting. The Editor-in-Chief of *Phytochemistry*, Norman Lewis, has once again agreed to publish a special issue of *Phytochemistry* based on research presented at the meeting. Lastly, John Pezzuto plans to edit a Topics in Current Chemistry volume on "Natural Products in the Prevention of Cancer".

I hope that everyone recognizes the work, planning, and efforts being given by all committee members of the PSNA. Their time and commitment is on a completely volunteer basis and the society could not function without them. I encourage anyone with an interest in becoming more involved in the society to contact one of the Executive Committee members expressing their interest.

Sincerely,
Charles Cantrell



In this issue: 2010 meeting reports, and update on the 2011 meeting

This is the printed version of the PSNA Newsletter. The web PDF version can be downloaded from the website: www.psna-online.org.



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The Phytochemical Society of North America

The Phytochemical Society of North America (PSNA) is a nonprofit scientific organization whose membership is open to anyone with an interest in phytochemistry and the role of plant substances in related fields. Annual membership dues are U.S. \$60 for regular members and \$30 for student members. Annual meetings featuring symposium topics of current interest and contributed papers by conference participants are held throughout the United States, Canada, and Mexico. PSNA meetings provide participants with exposure to the cutting-edge research of prominent international scientists, but are still small enough to offer informality and intimacy that are conducive to the exchange of ideas. This newsletter is circulated to members to keep them informed of upcoming meetings and developments within the society, and to provide a forum for the exchange of information and ideas. If you would like additional information about the PSNA, or if you have material that you would like included in the newsletter, please contact the PSNA Secretary or visit our website at www.pсна-online.org. Annual dues and changes of address should be sent to the PSNA Treasurer. Also check the PSNA website for regular updates.

The PSNA is an all volunteer organization which depends on its membership to run the organization. We appreciate the time and effort these volunteers are putting in to keep the organization up and running. As a member, please consider volunteering to serve on one of these committees. The PSNA can always use more help!

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Dear PSNA Members

The dates for the 50th Anniversary Meeting of the PSNA are fast approaching. As many of you are aware, PSNA provides a variety of awards at our annual meeting available for all levels of scientists. The primary recurring awards consist of the Frank and Mary Loewus Student Travel Awards, the Arthur C. Neish Young Investigator Awards, and the Phytochemical Pioneer Awards. All awards are available through a competitive application process and details and deadlines for this year are given below.

Frank and Mary Loewus Student Travel Awards

The awards are intended for both undergraduate and graduate students working in the field of Phytochemistry who are traveling to the meeting to present results of their research. The funds allotted annually by the Executive Committee are awarded on a competitive basis. If you have a student that you would like to nominate to receive travel support, please e-mail the following information by July 1st, 2011 to the PSNA Awards Committee chair, David Gang, at gangd@wsu.edu.

Provide the following for each student: student's name, student's presentation title, the degree the student is seeking, nominating faculty advisor, the name of the university they are attending, and the PSNA membership status of the student.

Postdoctoral Travel Awards

The awards are intended for post-doctoral researchers working in the field of Phytochemistry who are traveling to the meeting to present results of their research. The funds allotted annually by the Executive Committee are awarded on a competitive basis. If you are a postdoc that would like to receive travel support, please e-mail the following information by July 1st, 2011 to the PSNA Awards Committee chair, David Gang, at gangd@wsu.edu.

Please provide the following: presentation title and abstract, curriculum vitae, nomination letter, and your PSNA membership status.

Arthur C. Neish Young Investigator Awards

The Arthur C. Neish Young Investigator Awards are given each year by the PSNA to outstanding early career scientists (see definition below). The young investigators chosen will present their research at the annual meeting as part of the Arthur C. Neish Young Investigator Mini-symposium.

If you would like to nominate someone for the Neish Young Investigator Award, please e-mail the following information by March 30th, 2011 to the PSNA Awards Committee chair, David Gang, at gangd@wsu.edu.

Nominations should include: a CV of the nominee, presentation title and abstract, a support letter stating reasons for the nomination. For these awards, a new investigator is defined as someone within the first 2-3 years of establishing an independent research program and typically will be no more than 5-6 years past the award date of his or her Ph.D. (or equivalent) degree.

Phytochemical Pioneer Awards

If you would like to nominate someone for the Phytochemical Pioneer Award, please e-mail the following information by January 30th, 2011 to the President of the PSNA, Charles Cantrell at charles.cantrell@ars.usda.gov.

Nominations should include: a curriculum vitae of the nominee and at least one support letter stating reasons for the nomination.



PSNA Business Meeting Notes

July 13, 2010, Bird Key, Tradewinds Island Grand, St. Petersburg, FL

The meeting was called to order by President David Gang at 5:15 PM

Election results: President elect is Cecilia McIntosh

Treasurer: Franck Dayan would like to step down after two terms. The officers need to find a candidate in the next few months, an election needs to be held and hopefully have someone in place to transition with Franck by the end of the Hawaii meeting.

Treasurers Report: Assets as of the end of July 2009 are about \$100,000. We had to pay out for the Pullman meeting, the Towson meeting generated \$5000. For this meeting we will be paying for the Neish Award speakers. The pay pal system works very well, but we are still not getting a lot of new members or renewals this way. We currently have 175 paid members. We need to advertise to wider audience, we need to send bills/reminders to past members and current members. We currently only have 4 members from Mexico. Can we build it back?

The PSNA committees need to be reevaluated yearly. New members are needed, especially for the Young Members Committee, Newsletter/Website Committee, Fund Raising Committee, among others. All volunteers are welcome, but we need volunteers that will deliver.

Newsletter and Website Committee, Mark Berhow will maintain the website and do the Newsletter layout, but help is needed for content. Anything related to Phytochemistry is welcome. Especially, information from research programs. The Website and Newsletter can be used to advertise for open positions. We need material to try and get more newsletters out per year. We have

only been averaging 1 a year. Please submit material to the PSNA Secretary. It would be good if some short technical reviews were submitted to the newsletter as well. The PSNA needs help to create a list of contacts for the various departments and research centers that are doing any work that involves phytochemistry. This is need to contact these labs and locations to send them information about the PSNA and its meeting and to get feedback and information on the needs of current researchers that the PSNA can work to provide help and guidance.

Awards Committee: We have four Neish Speakers this year. Meeting organizers are reminded that we need to raise funds for the Neish speakers and for the Neish account. This also applies to the travel and poster awards. The PSNA has been averaging 2-4 poster awards and a number of travel awards based on the income from the previous year. Again, more funds raised would allow the PSNA to give more and larger awards. This year the PSNA will give 8 travel awards.

The Phytochemical Pioneer Award is the most prestigious award the PSNA currently gives. Nominations for future awards are being sought by the committee.

For the Neish awards, the PSNA wants to honor excellent independent trend setting researchers who are setting up new labs. Again, funds from outside donors need to be sought to add to this award. Award nominations can be accepted by the committee members any time.

The Constitution and Bylaws Committee has pretty much finished their work and the revised materials are posted on the website.

Proceedings Committee has finished their work on the Recent Advances in Phytochemistry from the meeting last year and volume is in press. Work will begin on this years volume. There were a few techni-

cal and organizational glitches that slowed things up last year, but that should be fixed for next year.

Young members committee has been productive over the past three years. This year they had a good event this meeting. New members are needed to keep the committee going. A list of students is needed and an email recruiting drive is needed. Email to researchers in the society is needed as well.

Future Meetings

Hawaii 2011

London, ONT 2012

Oxford/North Carolina 2013

Banff 2014

2015

2016

Elsevier is planning to be more involved with meeting planning and running.

Committees were initiated in 2006, they were set up, now new members need to be recruited for the committees.

Manuscript submissions are a problem these days, many are submitted with a number of errors, especially in the use of biochemical, chemical and physical terms and absolute stereochemical structure. A series of papers on the proper use of terminology and structure elucidation is really needed. These need to run periodically in the PSNA newsletter and other phytochemically related journals.



49th Annual Meeting the Phytochemical Society of North America A Joint Meeting with the American Society of Pharmacognosy

July 13-16, 2010

The Tradewinds Grand Resort

St. Petersburg, Florida

The PSNA met with the American Society of Pharmacognosy at the Tradewinds Grand Resort in St. Petersburg, Florida. It was a bit more ostentatious than our usual digs, the resort was a large complex of three separate room structures and an additional complex of rooms a bit further up the beach. Transportation to and from the airport was pretty convenient. The organizers had done a good job of organizing the registration on the web and at the meeting. It was good to see how the other half lives!

The meeting theme was “Natural Solutions to 21st Century Problems - - from Discovery to Commercialization” underscoring the globe turn to environmental awareness and the “green” movement towards more environmentally friendly so-



lutions to health and environmental problems. The symposia included “Natural Products in Agriculture”; “Biodiversity”; “Drug Discovery

-- Problematic Diseases”; “Issues in Botanicals”; “Natural Products: Ecological Roles and Tritrophic Interactions”; “Bioassays and Tar-

gets”; “Metabolism and Metabolomics”; and “Metabolomic Engineering and Biotechnology” -- all topics of keen interest to both the PSNA and ASP. The meeting had over 50 oral presentations in six sessions and over 300 posters presented in two poster sessions.

The keynote speakers included A. Douglas Kinghorn, the recipient of the ASP Norman R. Farnsworth Research Achievement Award; Mark Blumenthal the recipient of the ASP Varro E. Tyler Award; Eric Schmidt the recipient of the ASP Matt Suffness Young Investigator Award.

The PSNA award winners were Meinhart Zenk, recipient of the Phytochemical Pioneer Award, and Nikolas Fokialakis, Robert W. Nicol, Taiji Nomura and Kye Won Kim the recipients of the 2010 Arthur C. Neish Young Investigator Awards.

Both societies owe a large debt of thanks to organizing committees including Todd Daviau, John Cronan, Jr. of Magellan BioScience, Inc., Bill Baker, and John Romeo of the university of South Florida who served as the local organizing and program committee, with John Beck (USDA/ARS), Charles Cantrell (USDA/ARS), Mark O’Neil Johnson (Sequoia), Cedric Pearce (Mycosynthetix), Mike Tempesta (Phenolics), Lyndon West (FAU), and Amy Wright (FAU) serving on the Scientific Advisory Committee.

The societies should also thank the sponsors who assisted both financially and by their participation at the meeting including Pinellas County Convention and Visitors Bureau, The University of South Florida, the NIH Office of Dietary Supplements, Eisai Research Institute, the National Cancer Institute, Tom’s of Maine, and Bruker Biospin. Also all the exhibitors who took the time and effort to attend the meeting.

The program opened up on Saturday with four workshops presented by the exhibitors and a great





opening reception. Sunday began the regular program with a symposium in the morning and the afternoon dedicated to contributed oral presentations, followed by the first poster session that evening. Monday followed with three more symposia, an evening poster session and an excellent beach party served out on the resort decks, complete with staff to chase away the food seeking gulls. Tuesday continued with 1 symposia and the afternoon off to visit the surrounding attractions of the Tampa Bay area. Wednesday concluded the meeting with the final three symposia, followed by more oral contributed presentations and the joint meeting reception and banquet. It was a very full agenda.

Naturally, the highlights of the meeting were a number of excellent talks and presentations that were given. The advantage to these meetings was a chance to mingle with researchers from both PSNA and ASP, an opportunity that is often hard to do these days. With the small size of the meeting, and the low key meeting schedule, one really gets an opportunity to catch up with old colleagues and make some new ones. Isn't that what this all about?

I especially enjoyed this years awards banquet to see how the ASP does things and to hear some recognition of researchers from a variety of disciplines. The PSNA recognized the truly pioneering research work and guidance provided by Professor Meinhart Zenk, who not only has directly contributed original work to the field of phytochemistry, but through his work as an editor in journals, textbooks and reviews has done an outstanding job of interpreting and evaluating research in this field and related fields.

Next years PSNA will be the 50th annual meeting of the society. It will be held from December 10-15, 2011 on the Kona coast of the Big Island of Hawaii and hosted by the Univer-





sity of Hawaii at Hilo. It should be a wonderful meeting and all members (and prospective members) should try to make plans to attend. The planning process is well underway.

2010 PSNA Award Recipients

Neish Award Recipients

Dr. Kye Won Kim, jkwkim@wsu.edu
Washington State University

Dr. Nikolas Fokialakis, fokialakis@pharm.uoa.gr,
University of Athens, Greece

Dr. Robert W. Nicol, micol@ridgetownc.uoguelph.ca,
University of Guelph, Canada

Dr. Taiji Nomura, tnomura@pu-toyama.ac.jp, Toyama Prefectural
University, Japan

Student Travel Award Recipients

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University of Alabama in Huntsville

Ifedayo V. Ogungbe
University of Alabama in Huntsville

Twaskia S. Johnson
University of Alabama in Huntsville

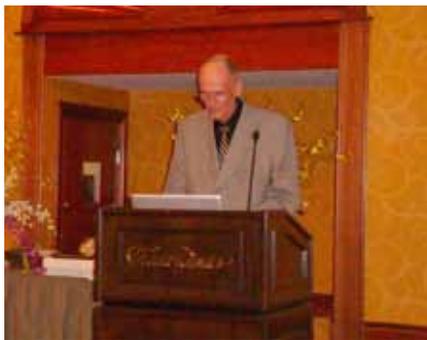
Oliver Corea
Washington State University

Anye Wamucho
East Tennessee State University

Zhangfan Lin
East Tennessee State University

Deborah Hayford
East Tennessee State University





Professor Meinhart Zenk

Dick Mansell

Professor Meinhart Zenk has been one of the most productive and influential scientists in the field of Phytochemistry over the past 40+ years. His prolific publication list and diversity of research topics is likely without equal. One needs only to peruse his *Vitae* to be amazed at his mastery and accomplishments within the field.

I had the good fortune of working with Meinhart on two different occasions while he was Lehrstuhl at the Ruhr University in Bochum. What an exciting institute it was! We were a group of about 30 individuals and the diversity of research areas was remarkable. We worked long days and weekends but Meinhart matched us hour for hour. One of the daily routines took place in the mid-morning hours when Meinhart would don his long white lab-coat then proceed to do his whirlwind tour of each of the labs. He would enter with a big smile, his left hand was always inserted between the buttons of the lab-coat, [this was his Napoleonic pose] and we would review the activities of the previous day and future plans. Then he was off to the next laboratory. I found his interest to be quite inspirational and motivating, and in the true Germanic way, we worked hard and played hard.

Another feature that characterized Meinhart's group was the scientific rigor that went into every study. Nothing was assumed and everything needed to be proven beyond

a doubt. One instance that I shall never forget is when we were working on the reduction of ferulic acid to coniferyl alcohol. Efforts to demonstrate this reaction had been underway for many years, at various universities, but without success. We were able to demonstrate this reaction in a cell-free system derived from fresh cambial tissue and I had no doubt of the results. However, when Meinhart saw the results his immediate response was: "I don't believe it!" "Impossible!" "Make a derivative!" So it was back to the lab.

After making a derivative and purifying it to constant specific activity he was again shown the data. "No," he said, "I still don't believe it; make a derivative of the derivative and if the results are the same, then I will believe it." Once that was done and the results of the first derivative confirmed, he was finally convinced. We spent all day Saturday writing the manuscript and once that was done, he drove it to the editor in Frankfurt. For me this was an exciting experience and one could only admire such care and caution. It was great experience to learn from such a noble teacher.

The field of Phytochemistry has come a very long way in the past four or five decades and we owe a debt of gratitude to Meinhart for all his worthy contributions. His tireless efforts to uncover many aspects of natural product metabolism have resulted in significant advances across this diverse group of compounds. He has been a true pioneer in this field and we can only stand in awe of the vast amount of new scientific information he and his groups have provided.



Biographies of Neish Award Recipients

Dr. Nikolas Fokialakis
Lecturer
Department of Pharmacognosy and
Natural Products Chemistry
Faculty of Pharmacy
University of Athens
Greece

Title of presentation: "Novel Indole Alkaloids from *Raputia simulans*"

Dr. Nikolas Fokialakis obtained his B.Sc. (1998), M.Sc. (2001) and Ph.D. (2004) degrees from the Faculty of Pharmacy, University of Athens. He worked as a post-doctoral fellow at American institutions including ARS (USDA, Oxford, MS) and UIC (Chicago, IL). In 2007 he became a faculty member at the University of Athens. Dr. Fokialakis has more than 40 publications in peer-reviewed international scientific journals and three patents. He contributed to the organization of several international conferences, such as the 7th Joint meeting of ASP, GA, PSE, APERP and SIF, that was held in Athens in 2008. Dr. Fokialakis has obtained several fellowships and awards, among others an OECD fellowship in 2005 and the Research Starter Grant of the American Society of Pharmacognosy in 2006. The main research interests of Dr. Fokialakis are: the phytochemical analysis of plants of the Greek, Mediterranean flora as well as plants from Oceania and Amazonia, the chemical investigation of edible mushrooms and filamentous fungi, the synthesis of natural products, and the exploitation of bioactive natural products as pharmaceuticals, nutraceuticals, and biopesticides.

Dr. Taiji Nomura
Assistant professor
Department of Biotechnology,
Faculty of Engineering,
Toyama Prefectural University,
Imizu, Toyama
Japan

Title of presentation: “Recent progress in Ipecac alkaloid biosynthesis”

Dr. Taiji Nomura received a B.Agr. (Plant Biochemistry, 1999), M.Agr. (Plant Biochemistry, 2001), and Ph.D. (Plant Biochemistry, 2004) from Kyoto University, where he studied the biochemical and molecular genetic aspects of biosynthesis of defense-related secondary metabolites in wheat and barley. In 2004, he joined the Plant Genetics laboratory in Kyoto University as a postdoctoral fellow where he extended his work to the evolution and the molecular regulation of secondary metabolite biosynthetic pathways in polyploid wheat. In 2007, Dr. Nomura moved to the US to join the Dr. Toni Kutchan’s laboratory at the Donald Danforth Plant Science Center, where he contributed to the elucidation of the biosynthetic pathway of Ipecac alkaloids, a series of monoterpenoid-tetrahydroisoquinoline alkaloids in the medicinal plant *Psychotria ipecacuanha*. In 2009, Dr. Nomura was hired as an Assistant Professor in the Department of Biotechnology at the Toyama Prefectural University, Japan. His current research focuses on the elucidation of biosynthetic pathways of biologically active plant secondary metabolites and of molecular basis of the biosynthetic gene regulation.



Dr. Kye Won Kim,
Institute of Biological Chemistry
Washington State University,
Pullman, WA

Title of presentation: “The dirigent protein multigene family: differential DP stereoselectivities in monolignol radical-radical coupling/ lignin biosynthesis in vivo and in vitro”

Dr. Kye-Won Kim received her BSc (Microbiology) from Kyung-Pook National University in 1992, and her MSc from the same institution in 1995 under the supervision of Professor Jong-Guk Kim. Her research was a part of a *Bacillus subtilis* genome sequencing project. After that, her interests gravitated towards plants with her PhD studies being undertaken in the Division of Biochemistry, National Institute of Agricultural Science and Technology (NIAST), Rural Development Administration (RDA). Graduating in 2001, her PhD thesis involved studying capsaicinoid biosynthesis-related genes and metabolic engineering of their genes in pepper (*Capsicum annuum* L.) in order to modify capsaicinoid contents.

In 2001, she joined Dr. Norman G Lewis’ laboratory at the Institute of Biological Chemistry at Washington State University as a Research Associate. Her research studies focused initially on the underlying reasons for distinct enantioselectivities of pinoresinol/lariciresinol reductases (PLRs), as well as on a laccase gene expression project. Dr. Kim’s work then included the study of dirigent proteins, with the exciting discovery of a second form of dirigent proteins in *Arabidopsis* able to facilitate stereoselective coupling of coniferyl alcohol to afford (-) pinoresinol. Prior to that, our lab had discovered corresponding (+) pinoresinol-forming dirigent proteins. In her award talk, she compared and

contrasted the basis for these different stereoselectivities, including key findings from site-directed mutagenesis and protein modeling.

Dr. Robert Nicol
Assistant Professor
Ridgetown Campus
University of Guelph
Ridgetown, ON
Canada

Title of presentation: “The biorefinery model: foods, fuels and chemicals from traditional and alternative plant feedstocks”

Dr Robert Nicol obtained a B.E.S. (Environment/Resource Studies and Biology, University of Waterloo), M.Sc. (Biology, University of Ottawa) and a Ph.D. in 2003 (Plant science, University of Western Ontario). He spent three years in working as a post-doctoral fellow at Purdue University and as a research scientist at a Boston area biotechnology company. In the fall of 2007, Dr. Nicol joined the University of Guelph – Ridgetown Campus as an Assistant Professor. His research interests encompass the broad area of chemical ecology (i.e. how natural chemicals mediate interactions between organisms) and the discovery of new biofuels, and agricultural, industrial and therapeutic chemicals. He is also investigating the potential of plant-microbe interactions to remediate contaminated soil in the Alberta oil sands. He teaches in the environmental management program and is the acting executive director of the University of Guelph’s Centre for Agricultural Renewable Energy and Sustainability (CARES).



E Komo Mai (Welcome) to Hawai`i!

Chosen as the site of the recognition of the 50th Anniversary of the Phytochemical Society of North America (PSNA), we are honored to invite you to share this extraordinary opportunity to network with your colleagues, present your latest research and learn from world-renowned experts while celebrating PSNA's 50th year anniversary in one of the Greatest Living Laboratories in the world – Hawai`i's Big Island.

Hosted by the College of Pharmacy, University of Hawai`i at Hilo, you will appreciate the joy of science while exploring the Big Island's exquisite Outdoor Classrooms! With 11 of the world's 13 climate zones, diverse environments and multi-cultural population, you'll discover the wonders of the Big Island of Hawai`i as you examine the science and diversity of this unique environment.

PSNA VENUE: The Fairmont Orchid, Hawai`i is the perfect meeting venue for PSNA's 2011 conference. In honor of PSNA's 50th Anniversary, the exquisite Fairmont Orchid Hotel is offering discounted rates for PSNA delegates. Hotel reservations are now being accepted for the PSNA Conference. Book early to secure the special conference rate of \$159.00 + tax. Learn, teach, and discover. I ku ka makemake e hele mai, hele no me ka malo`elo`e: If you wish to come do not be hesitant, for you are welcome!

We look forward to hosting you on Hawai`i's Big Island at PSNA's 2011 conference!

Mahalo,
John M. Pezzuto, Ph.D.
Professor and Dean
College of Pharmacy
University of Hawai`i at Hilo
34 Rainbow Drive
Hilo, Hawai`i 96720



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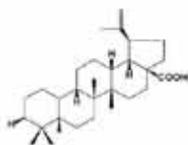
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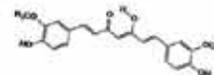
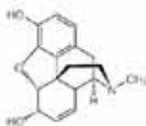


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