

**PETER ANTHONY CROOKS,
MSc, PhD, FRPharmS, CSci, CChem, FRSC**

George A. Digenis Professor in Drug Design and Discovery

University of Kentucky, College of Pharmacy
Department of Pharmaceutical Sciences
725 Rose Street
Lexington, KY 40536-0082
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Professor *

Graduate Center for Toxicology
University of Kentucky

**Joint Appointment*

I. General Information

Home Address: 409 W. Brannon Rd., Nicholasville, KY 40356
Telephone: (859) 223-5401; FAX (859) 257-7585;
Email: pcrooks@email.uky.edu
Social Security Number: available on request
Birthdate: October 17th, 1942

Licensure: Registered Pharmacist
Year Certified: 1969
Name of Speciality Board: Royal Pharmaceutical Society of Great Britain
State/Country: Great Britain
License Number: 63402

Marital Status: Married
Spouse Name: Denise Gail
Children: Stephen Edward (12-19-73), Sara Jane (8-29-79),
David Michael (7-12-85), Elizabeth Anne (6-19-90)

II. Education

1966 University of Manchester, United Kingdom
B.Sc. (Hons) First Class in Pharmacy

1967 University of Manchester, United Kingdom
M.Sc. in Pharmacy

1970 University of Manchester, United Kingdom
Ph.D. in Pharmacy

III. Professional Experiences

1966-1967 Preregistration pharmacy training, University of Manchester, UK

IV. Academic Appointments

- 1966-1967 Laboratory Demonstrator (full time),
University of Manchester, United Kingdom
- 1968-1970 Assistant Lecturer in Pharmacy (full time),
University of Manchester, United Kingdom
- 1969-1972 Assistant Warden and Tutor-in-residence,
Moberly Tower, Graduate Student Hall of Residence,
University of Manchester Campus, United Kingdom
- 1970-1980 Lecturer in Pharmacy (with tenure) (full time),
University of Manchester, United Kingdom
- 1976 Visiting Professor*, (Academic Links Scheme) (full time)
University of Naples, Italy
- 1976-1978 Research Associate*, (Secondment) (full time)
Yale Medical School,
Department of Pharmacology, USA
- 1980-1981 Senior Lecturer in Pharmacy (full time)
University of Manchester, United Kingdom
- 1981-1991 Associate Professor (full time)
College of Pharmacy University of Kentucky, USA
- 1983-pres. Associate Professor+ (joint appointment)
Graduate Center for Toxicology, University of Kentucky, USA
- 1988-1989 Visiting Scientist* (sabbatical leave) (full time)
Southern Research Institute, Birmingham, Alabama, USA
- 1991-pres. Professor (full time)
College of Pharmacy University of Kentucky, USA
- 1996-1997 Visiting Scientist* (sabbatical leave) (full time)
RJR/Targacept, Winston-Salem, North Carolina, USA
- 2002-4 Commonwealth University Professor in Pharmaceutical Sciences
College of Pharmacy, University of Kentucky, USA
- 2004-pres. George A. Digenis Professor in Drug Design and Discovery
Department of Pharmaceutical Sciences
College of Pharmacy, University of Kentucky, USA

Other Appointments

1986-pres. Member, Lucille P. Markey Cancer Center⁺

1989-pres. Member, Center on Aging⁺

1994-pres. Member, Center of Membrane Sciences⁺

*On leave of absence (secondment) from the University of Manchester

⁺Joint Appointment

^XOn leave of absence (sabbatical) from the University of Kentucky

V. Teaching Activity

Organic Chemistry for 1st Year Pharmacy Students, (4 credits, major responsibility), University of Manchester, Department of Pharmacy.

Advanced Heterocyclic and Alicyclic chemistry for Final Year Honors Pharmacy Students, (3 credits, major responsibility), University of Manchester, Department of Pharmacy.

Absorption Spectroscopy of Organic Compounds, (2 credits, major responsibility), University of Manchester, Department of Pharmacy.

Natural Products Chemistry/ Biogenesis of Natural Products of Medicinal Interest, (3 credits, major responsibility), University of Manchester, Department of Pharmacy.

Basic Understanding of Spectroscopic Methods in Pharmaceutical Chemistry and their Application to Drug Analysis, (3 credit didactic, 3 credit lab; secondary responsibility), University of Manchester, Department of Pharmacy.

Pharmaceutical Chemistry-Drug Design: Physico-chemical Aspects of Drug Actions, Drug-Receptor Interactions, Drug Metabolism and Chemotherapeutic Agents, (6 credit, 2 semester course, major responsibility), University of Manchester, Department of Pharmacy.

Bio-organic Mechanisms in Drug Action, (Honors option, 3 credit course, major responsibility), University of Manchester, Department of Pharmacy.

Principles of Medicinal Chemistry, (PHR 340) (4 credit hours, joint responsibility), University of Kentucky College of Pharmacy.

Bio-organic Mechanisms (PHR 762, (3 credit, primary responsibility), University of Kentucky College of Pharmacy.

Graduate Seminars in Medicinal Chemistry, (PHR 778) (1 credit per semester, 3 semester course), University of Kentucky College of Pharmacy.

All-College Graduate Seminar in Pharmacy (PHR 776) (Coordinator-Major responsibility), University of Kentucky College of Pharmacy.
Pharmaceutical Analysis (PHR 801), (4 credit course, secondary responsibility) University of Kentucky College of Pharmacy.

Drug Metabolism, Theory and Practice, (PHR 664) (3 credit course, primary responsibility), University of Kentucky College of Pharmacy.

Detoxification Mechanisms, (TOX 640), (3 credit course, secondary responsibility), University of Kentucky, Graduate Center for Toxicology.

Modern Methods in Pharmaceutical Analysis (PHR 510), (5 credit course, secondary responsibility), University of Kentucky College of Pharmacy.

Topics in Pharmaceutical Sciences - Use of High Field Nuclear Magnetic Resonance Spectroscopy in Structural Analysis (PHR 760-003) (2 credit course, primary responsibility), University of Kentucky College of Pharmacy.

Drug Form Design, (PHR 944), (3 credit course), University of Kentucky College of Pharmacy, primary responsibility.

Topics in Pharmaceutical Sciences: Drug Targets and Actions, (PHR 760-008, 3 credit course), University of Kentucky College of Pharmacy, secondary responsibility.

Special Topics in Pharmaceutical Sciences: Drug Design (FAGG 6213, 2 credit course, Fall 2004), School of Pharmacy, University of Puerto Rico San Juan, primary responsibility.

VI. Supervision of Graduate Students, Post-doctoral Fellows and Visiting Scientists

Major Professor for the following students who have graduated with the degree of Ph.D. or M.S.

Ph.D. Students

	<u>Graduation Year</u>
Howard E. Rosenberg (University of Cambridge)	1975
Richard Szyndler (University of Manchester)	1976
Trevor Deeks (University of Manchester)	1979
Peter Burn (University of Manchester)	1981
Eric Benghiat (University of London)	1982
Mohamad S. Shaker (University of Jordan)	1983
Kenneth C. Cundy (University of Manchester)	1984
Abdul Al-Ghani Hoodi (University of Baghdad)	1986
Samirah Hassan (University of Baghdad)	1987
Chukwemeka G. Nwosu (University of Pennsylvania)	1987
Riad Awad (University of Jordan)	1987
William F. Pool (University of California, San Diego)	1987

C. Steven Godin (University of Massachusetts)	1988
Hana Dannan (University of Damascus)	1988
Santosh C. Kottayil (University of Poona)	1993
Supinan Na-Phuket (University of the Phillipines)	1997
Jyothi Matharu (University of Bombay)	1997
Omar Ghosheh (University of Jordan)	2000
Michelle Howard-Sparks (University of Kentucky)	2000
Aimee Bence (Houghton College)	2001
Joshua T. Ayers (Dartmouth College)	2002

M.S. Students

Graduation Year

Trevor Deeks (University of Manchester)	1976
Nabil N. Daoud (University of Baghdad)	1981
Jeffrey Leigh (University of Manchester)	1982
Amal N. A. Al-Taae (University of Baghdad)	1983
Shyamala Chandrasekaran (University of Poona)	1993
(University of Beijing)	1996
David Worthen (St. Johns University)	1997
Jason Swango (Berea College)	1997

Research Supervision of the following Post-doctoral Fellows, Visiting Scientists, and Scholars:

Postdoctoral Fellows

Dr. Francesco DeSimone (Italy)	1974,1975
Dr. Eliseo Ramundo (Italy)	1975
Dr. Antonio Dini (Italy)	1975
Dr. E. Huq (Bangladesh)	1976 - 1977
Dr. Michio Sato (Japan)	1982 - 1983
Dr. Abdulghani A. Houdi (United Kingdom)	1985 - 1986
Dr. Terence Tita (U.S.A.)	1987
Dr. Chen-Yie Chien (U.S.A.)	1986 - 1988
Dr. Anita Rathore (India)	1989 - 1991
Dr. Balwinder Bhatti (India)	1990 - 1999
Dr. Alain Ravard (France)	1991 - 1995
Dr. Naranjan Deo (India)	1992 - 1995
Dr. Grazyna Cynkowska (Poland)	1993 - 2000
Dr. Tadeusz Cynkowski (Poland)	1993 - 2000
Dr. Latch Trifonov (Bulgaria)	1994 - 1995
Dr. Chongxi Yu (USA)	1995 - 1996
Dr. Muhammad Qureshi (Pakistan)	1996 - 1998
Dr. Haeil Park (South Korea)	1996 - 1998
Dr. Srishailkumar B. Hadimani (India)	1996 - 1999
Dr. Raj Puri (India)	1997 - 1998
Dr. Wenkui Li (Hong Kong)	1998 - 1999
Dr. Xu- Rui (People's Republic of China)	1998 - 2001
Dr. Xiaochen Wei (USA)	1999 - present
Dr. Vijayakumar Sonar (India)	2000 - present

Dr. Marhaba Hojahmat (Japan)	2000 - present
Dr. Neelakantan Sundar (India)	2000 - present
Dr. Guangrong Zheng (People's Republic of China)	2000 - present
Dr. Jianjun Gao (Japan)	2000 - 2001
Dr. Xiao Ming Yu (People's Republic of China)	2002 - 2003
Dr. Jianhong Chen (People's Republic of China)	2002 - present
Dr. Abeer M. Al Ghananeem (University of Kentucky)	2002 - present
Dr. Mohamed Hamad (University of Sudan)	2002 - present
Dr. Timothy Benson (University of Manchester, UK)	2003
Dr. Fang Zheng (People's Republic of China)	2003 - present
Dr. Zhenfa Zhang (People's Republic of China)	2004 - present
Dr. Ahmad Malkawi (University of Jordan)	2004 - present
Dr. Shama Nasim (University of Karachi)	2004 - present
Dr. Venkatraj Muthusamy (Bharathidasan University)	2005 - present

Visiting Scientists

Dr. Jerzy W. Krechniak (Poland)	1984 - 1985
Dr. Lyaquatali A. Damani (United Kingdom)	1985 - 1986
Dr. Zhao-Xia Fang (People's Republic of China)	1988 - 1991
Dr. Talal A. Aburjai (University of Jordan)	2004

Current Chairman or Member of the following Ph.D. dissertation committees (University of Kentucky):

Joshua Ayers (Chair)
 Marlon Jones (Chair)
 Freddie Hughes, Jr. (Member)
 Mike Clark (Member)
 Joshua Ring (Chair)
 Aaron Haubner (Chair)
 Chandra Patel (Co-Chair)
 Lisa Middleton (Member)
 Alison Anderson (Co-Chair)
 Dong Zhang (Co-Chair)
 Korie G. Sell (Co-Chair)
 Joseph Medendorp (Member)
 Paul Kipkemboi Kiptoo (Co-Chair)
 Tao Liu (Member)
 Jordan Clark (Member)
 Yolanda Williams (Member)
 Stan Banks (Co-Chair)

Past Chairman or Member of the following Ph.D. dissertation committees (University of Kentucky):

K. Abdul-Nabi Ali, Pharmaceutical Sciences (Member)
 Michael B. Maurin, Pharmaceutical Sciences (Member)
 William Rencher, Pharmaceutical Sciences (Member)
 George Garbolis, Pharmaceutical Sciences (Member)

Kenneth Cundy, Pharmaceutical Sciences (Chairman)
Prince Hinson, Pharmaceutical Sciences (Member)
Rong Fong Shen, Pharmaceutical Sciences (Member)
Lee Young Chau, Chemistry (Member)
Carl Niehaus, Pharmaceutical Sciences (Member)
David Wells, Pharmaceutical Sciences (Member)
Ralph Bouvette, Pharmaceutical Sciences (Member)
Fatima Tawfig, Pharmaceutical Sciences (Member)
Riad Awad, Pharmaceutical Sciences (Co-Chairman)
Samirah Hassan, Pharmaceutical Sciences (Chairman)
Chukwuemeka Nwosu, Toxicology (Chairman)
William Pool, Toxicology (Chairman)
Steven Godin, Pharmaceutical Sciences (Chairman)
Hana Dannan, Pharmaceutical Sciences (Co-Chairman)
Nurul Islam, Chemistry (Member)
Chang-Jin Wang, Pharmaceutical Sciences (Member)
Margaret Britto, Pharmaceutical Sciences (Member)
Janan Jona, Pharmaceutical Sciences (Member)
Santosh C. Kottayil, Chemistry (Co-Chairman)
Paul Yeary, Chemistry (Member)
Trupti Deshmukh, Pharmaceutical Sciences (Member)
Zhinan Xia, Pharmaceutical Sciences (Member)
Bin-Sun, Chemistry (Co-Chairman)
Danita M. Saxon, Nutritional sciences (Member)
Randy Finch, Pharmaceutical Sciences (Member)
Shrong-Shi Lin, Pharmaceutical Sciences (Member)
Danny Kao, Pharmaceutical Sciences (Member)
Donna Isbell, Biochemistry (Member)
Yi Li, Chemistry, Chemistry (Member)
Min Li, Toxicology (Chairman)
Robert Trupp, Chemistry (Member)
Bassam Tashtoush, Pharmaceutical Sciences (Member)
Ashraf Traboulsi, Pharmaceutical Sciences (Member)
Prakash N. Nair, Toxicology (Member)
Mohammed S. Siddiqui, Chemistry (Member)
LiHong Teng, Toxicology (Member)
David Worthen, Pharmaceutical Sciences (Chairman)
Supinan Na Phuket, Pharmaceutical Sciences (Chairman)
Jyothi Matharu, Pharmaceutical Sciences (Chairman)
Chris Lockwood, Pharmaceutical Sciences (Member)
Mark Strohm, Pharmaceutical Sciences (Member)
Jason Swango, Pharmaceutical Sciences (Chairman)
Melissa Varner, Chemistry (Member)
Jaber Qasem, Pharmaceutical Sciences (Member)
Chinh Vu, Pharmaceutical Sciences (Member)
Omar Ghosheh, Pharmaceutical Sciences (Chairman)
Michelle Howard-Sparks, Pharmaceutical Sciences (Chairman)
Xiaochen Wei, Agronomy (Member)
Aimee Bence, Pharmaceutical Sciences (Chairman)
Lincoln Wilkins, Pharmaceutical Sciences (Member)

VII. Administrative Activity and University Service

At the University of Manchester

Staff-Student Committee, Department of Pharmacy	1968 - 1970
Member of the Board of the Faculty of Science	1970 - 1981
Secretary, Safety Committee, Department of Pharmacy	1978 - 1981
Member of Convocation, University of Manchester	1978 - on
Co-ordinator for Research Seminars	1978 - 1981
Senate Watchdog Committee (member)	1979 - 1980
Member of Postgraduate Committee, Faculty of Science	1980 - 1981
Postgraduate Admissions Officer, Department of Pharmacy	1980 – 1981

At the University of Kentucky

College

Student Affairs Committee (Member)	1981 - 1982
Graduate Program Committee (Member)	1981 - 1986
Curriculum Committee (Member)	1982 - 1985
Honors and Recognition Committee (Member)	1982 - 1984
Library Committee (Chairman)	1982 - 1985
Research and Seminar Committee (Member 1983-1984, Chairman 1984-1986; Member 1986-1988)	1983 - 1988
Pharmacy Residency Seminar Committee (Member)	1984 - 1985
Nominations Committee (Member)	1985 - 1986
Buildings, Space, Services and Safety Committee (Member, 1985-1986; Chairman, 1986-1987)	1985 - 1987
Administrative Council Committee (Member)	1985 - 1988
Building and Safety Committee (Chairman)	1987 - 1988
Nuclear Magnetic Resonance Committee (Chairman)	1987 - pres.
Graduate Program Coordinator, Division of Medicinal Chemistry and Pharmaceutics	1989 - 1992
Nominations Committee (Chairman)	1989 - 1990
Graduate Program Committee (Member)	1989 - 1996
Building and Lab Safety (Member)	1989 - 1996
History of Drugs and Pharmacy (Member)	1990 - 1991, and 1992 - 1993
Admissions Committee (Member)	1991 - 1996
Continuing Education (Member)	1991 - 1992
Honor Code Committee (Member)	1992 - pres.
College of Pharmacy Safety Committee(Chairman)	1997 - pres.
Executive Committee, Division of Pharmaceutical Sciences, College of Pharmacy (Member)	2000 -2002
Faculty Search Committee (Pharmaceutics Position)(Member)	2000 -2001
Faculty Search Committee (Drug Discovery and Design Positions) (Chairman)	2001 -2002
Nominations Committee	2003-2004
DGRC Committee	2004-pres.
DDD-AGS Coordinator	2004-pres

Medical Center

Medical Center Safety Committee (Member)	1987 - 1989
Nuclear Magnetic Resonance Imaging	1987 - pres.

Users Committee (Member)	
International Affairs Committee (Member)	1995 -1996
College of Medicine Unit Review Team	2002-2003

University

Graduate School (Member)	1982 - pres.
Faculty Forum (College of Pharmacy representative)	1984 - 1986
International Students Committee (Member)	1986 - 1990
Council for International Programs (Member)	1986 - 1990
Executive Committee, Graduate Center for Toxicology (Chairman)	1988 - 1990
Life Sciences Mass Spectroscopy Oversight Committee (Member)	1990 - pres.
Nuclear Magnetic Resonance Users Committee (Member)	1989 - pres.
International Affairs Committee (Member)	1995 -1996
Environmental Health and Safety Committee (Member)	1997 - 2002
Graduate Council (Member)	1999 - 2002
Chemical safety Committee	2002 –2004

Special Assignments

Self-Study Committee for ACPE Accreditation (Member)	1983 - 1984
College of Pharmacy Counselor for Foreign Students	1986 - 1988
Reviewer for University of Kentucky Scholarship Applications	1987 - 1988
Reviewer for Research Proposals submitted to the Clinical Research Center, University of Kentucky	1988 - pres.
Faculty Retreat Committee, May, 1988 (member and group moderator)	1988
Self-Study Committee for ACPE Accreditation, Chairman of Committee dealing with Financial Organization of the College	1989 - 1990
Chairman, College of Pharmacy, Division of Medicinal Chemistry and Pharmaceutics, Faculty Search Committee	1990 - 1991 and 1994
Member, Task Force on Professional Programs, College of Pharmacy	1991 - 1992
Chairman, Subcommittee on the Centralization of Mass Spectroscopy	1991 - pres.

VIII. Awards and Honors

County Bursary Major Scholarship for entry into University of Manchester Pharmacy Program (1962 - 1966)

Geigy Prize for Excellence in the B.Sc. (HONS) Pharmacy Course, University of Manchester, UK (1966)

United Kingdom Science Research Council Scholarship for Post-graduate Studies in the Pharmaceutical Sciences, University of Manchester, United Kingdom (1966 - 1968).

Wellcome Foundation Award (1976).

Designated a Chartered Chemist by the Royal Society of Chemistry (1992)

Nominated and elected by peer-review as a Fellow of the Royal Society of Chemistry, May (1992).

Nominated and elected by peer-review as a Fellow of the Royal Pharmaceutical Society of Great Britain (1992).

Nominated and elected by peer-review as a Fellow of the American Association of Pharmaceutical Scientists (2002).

American Association of Pharmaceutical Scientists Outstanding Manuscript Award in Analysis and Pharmaceutical Quality (1999).

Faculty Achievement Award, College of Pharmacy, University of Kentucky (2000).

Commonwealth University Professorship in Pharmaceutical Sciences, University of Kentucky Medical Center (2002).

Wethington Award for Meritorious Performance in Research (2002, 2003).

Inducted into the Honorable Order of Kentucky Colonels (2003).

Rho Chi Alumni Honor Roll Award (Alpha Xi Chapter) for Intellectual Leadership and the Pursuit of Excellence in Pharmacy (2004).

George A. Digenis Professor in Drug Design and Discovery, Department of Pharmaceutical Sciences, College of Pharmacy, University of Kentucky, USA (2004).

Designated a "Chartered Scientist", Royal Society of Chemistry, UK (2004).

Most Outstanding Teacher Award, Pharm. D. Class of 2007, College of Pharmacy, University of Kentucky (2005).

Member of the following Honor Societies:

Sigma Xi (Yale Chapter) Scientific Research Society

Rho Chi (Kentucky Chapter) Pharmaceutical Honor Society

Citations: National and International Biographical Directories

"American Men and Women in Science", 1989 Edition - pres.

"International Directory of Distinguished Leadership", Fourth Edition, 1991

"2,000 Notable American Men", First Illustrated Edition, 1992.

"The International Who's Who of Intellectuals", Tenth Commemorative Edition, 1992.

"International Register of Profiles", Eleventh Edition, 1992.

"Who's Who in the South and Southwest", 23rd Edition, Marquis Who's Who publications.

"Who's Who in Science and Engineering", 2nd Edition, Marquis Who's Who Publications.

"Men of Achievement", Fifteenth Edition, 1992.

"Dictionary of International Biography - The Biographical Record of Contemporary Achievement", Edition XXIII, 1994.

"Who's Who in Medicine and Healthcare", 1st Edition, Marquis Who's Who publications.

"Who's Who of American Inventors", 1998-1999 Edition.

"International Who's Who of Professionals", 1998 Edition.

"Strathmore's WHO's WHO", 2002-2003 Edition, Strathmore Directories Ltd.

"Empire Who's Who, 2003.

"United Who's Who, 2003.

"AcademicKeys Who's Who in Pharmaceutical Sciences Education (WWPSE), 2004.

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IX. Memberships and Fellowships in Professional Organizations

Fellow, Royal Pharmaceutical Society of Great Britain

Fellow, Royal Society of Chemistry

Fellow and Charter Member, American Association of Pharmaceutical Scientists,

Member of the American Chemical Society

Member of the American Association for the Advancement of Science,

Member of the International Society for the Study of Xenobiotics,

_X. Scientific Professional and Editorial Activities

Consultancies

Targacept

Marion Merrell Dow, Incorporated

Dynagen, Incorporated

R. J. Reynolds Tobacco Company

Viro-Kote, Incorporated

Endo Pharmaceuticals, Incorporated

Canadian Government, Patented Medicine Prices Review Board

Emlin Bioscience

Yaupon Therapeutics, Inc.

US World Medicines

Council of Healthcare Advisors

Novartis Pharmaceuticals

InSys, Inc.

Professional Activities

President of the University of Manchester Pharmaceutical Society - 1975.

Elected Member of the Conference Science Committee, Pharmaceutical Society of Great Britain - 1980-1982.

Symposium Organizer and Co-ordinator, Medicinal Chemistry Symposium, British Pharmaceutical Conference, Brighton - 1981.

Moderator and Podium Session Chairman, Medicinal Chemistry Section, 39th National Meeting and Exposition of the Academy of Pharmaceutical Sciences, American Pharmaceutical Association, Minneapolis, Minnesota, 1985.

Invited participant, Workshop on the Effects of Tobacco Smoke Components on Cellular and Biochemical Processes in the Lung, National Institutes of Health, National Heart, Lung and Blood Institute, Bethesda, MD, 1986.

Invited Plenary Lecturer - 40th National Meeting of the Association of Official Racing Chemists, Lexington, KY, 1986.

Member, National Institutes of Health Study Section - Drug Development and Drug Delivery (SBIR Study Section) 1992 - 1998.

Committee Member, Office of Extramural Program Review, Contracts Review Branch, National Institute on Drug Abuse, NIH, March, 1993 - present.

Reviewer for Merit Review Applications, Veterans Administration, Alcoholism and Drug Dependence Review Board, Augusta, Georgia, August, 1993.

External Examiner for the Ph.D. degree, Organic Chemistry, Banaras Hindu University, Varanasi, India, 1996-present

Chairman, Medicinal and Natural Products Chemistry Committee, American Association of Pharmaceutical Scientists South-East Regional Planning Committee, 1998-1999.

Moderator and Symposium Organizer, Medicinal Chemistry and Natural Products/Biotechnology Symposium: "Functional Genomics in Drug Discovery." 1999 Southeast Regional Meeting of the American Association of Pharmaceutical Scientists, June, 1999, Durham, NC.

Expert Witness for the Patented Medicine Prices Review Board, Government of Canada, Ottawa, Canada, June, 2000.

External Examiner (Dossier Evaluation) for Promotion of a Faculty member to Associate Professor, Applied Sciences University, Amman, Jordan, September, 2000.

External Examiner for the Ph.D. degree, Organic Chemistry, Indian Institute of Technology, Bombay, India, 2000-present.

Vice-Chair Elect, Drug Design and Discovery Section, American Association of Pharmaceutical Scientists, November, 2002.

Reviewer, National Institute on Drug Abuse - Cutting-Edge Basic Research Awards (NIDA-CEBRA), 2002.

Vice-Chair, Drug Design and Discovery Section, American Association of Pharmaceutical Scientists, 2002.

Member, American Association of Pharmaceutical Scientists 2003 Annual Meeting Program Committee (AMPC), 2003.

Member, American Association of Pharmaceutical Scientists Fellows Selection Committee, 2004-on.

Member, American Association of Pharmaceutical Scientists 2004 Annual Meeting Program Committee (AMPC), 2004.

Member, American Association of Pharmaceutical Scientists Program Coordination Committee (PPC), 2003-2005.

Member, American Association of Pharmaceutical Scientists Strategic Visioning Committee (SVC), 2003-2005.

Member, American Association of Pharmaceutical Scientists Membership Strategic Oversight Committee (MSOC), 2004-2005.

Member, American Association of Pharmaceutical Scientists National Biotechnology Conference 2005 Planning Committee, 2004-2005.

Chair Elect, Drug Design and Discovery Section, American Association of Pharmaceutical Scientists, November, 2003

Chair, Drug Design and Discovery Section, American Association of Pharmaceutical Scientists, November, 2004-2005.

Member, National Institutes of Health Study Section, Special Emphasis Panel – National Cooperative Drug Discovery groups for the Treatment of Mood Disorders or Nicotine Addiction (NIMH/NIDA ZMH1 BRB-S (09)), 2004.

Moderator and Symposium Co-Organizer, "Naturceuticals (Natural Products), Nutraceuticals, Herbal Botanicals, and Psychoactives: Drug discovery and Drug-Drug Interactions", NIDA-AAPS Symposium, November 5-7, 2004, Baltimore, MD.

Moderator and Symposium Organizer, "Neuronal Nicotinic Receptors and Ligands: New Targets for Medications Development" AAPS Symposium, November 8th, 2004, Baltimore, MD.

Moderator and Symposium Co-Organizer, "Predictive Intestinal Drug Absorption" AAPS Symposium, November 10th, 2004, Baltimore, MD.

Member, American Association of Pharmaceutical Scientists Nominations Committee, 2005-on

Media Events

University of Kentucky Press Release; "UK Researcher Develops Nicotinic Drugs with R.J. Reynolds", July 27th, 1999, <http://www.mc.uky.edu/mcpr/1999/july/nicotine.htm>

Science Daily Press Release; "University of Kentucky Researcher Develops Nicotinic Drugs with R.J.Reynolds", July 28th, 1999, <http://www.sciencedaily.com>

Interviewee, WKYT (CBS Lexington) Evening News, August 2nd, 1999; "Development of New Drugs from Nicotine".

Interviewee, WKYT (CBS Lexington) Evening News, April 26th, 2000, "Development of New Analgesic Drugs from Morphine".

University of Kentucky Press Release; "UK Researcher Develops Morphine Derivative", June 14th, 2000. <http://www.mc.uky.edu/mcpr/news/2000/June/morphine.htm>

AAPS Announces 2002 Fellows: Ten Honored for Professional Excellence in Pharmaceutical Sciences, October 17th, 2002.
<http://www.aapspharmaceutica.com/about/press/newsreleases/2002/101702.asp>

Lexington Herald Leader, lead article: "Plant Possible Addiction Treatment", Oct. 30th, 2000, page C5.
<http://www.kentuckyconnect.com/health/stories/features/1030lobeline.htm>

Lexington Herald Leader, article: "It's All About the e's", Section C, January 27th, 2003.

National Institute on Drug Abuse: "Director's Report to the National Advisory Council on Drug Abuse", February, 2003.

<http://www.drugabuse.gov/Dirreports/Dirrep203/DirectorReport1.html>

Lexington Herald Leader, lead article: "Cures and Currency: Success Story Inspires Hope for UK-Business Partnerships", March 9th, 2003, page A13.

<http://www.kentucky.com/mld/heraldleader/5351696.htm>

University of Kentucky: Odyssey Online Exclusive. "Faculty Entrepreneurs Linda Dvoskin and Peter Crooks: Research Findings to Crow About". October 14th, 2003.

<http://www.rgs.uky.edu/ca/odyssey/exclusive/index.html>

Louisville Courier Journal: "Kentucky Puts Hopes in Natural-Products Sector".

November 9th, 2003. <http://www.courier-journal.com/business/news2003/11/09/biz-front-natural09-6013.html>

University of Kentucky Press Release; "Nicotine is Focus of Record Grant". November 13th, 2003, http://www.uky.edu/PR/News/03-11_nicotine_grant.htm

WKYT (CBS Lexington) Mid-day and Evening News, November 13th, 2003; "UK Receives Record Grant to Study New Treatments for Nicotine Adiction".

WLEX (NBC Lexington) Mid-day and Evening News, November 13th, 2003; "UK Professors get \$6 million Grant to Develop New Drugs for Nicotine Adiction".

WLKY (NBC Louisville) Mid-day and Evening News, November 13th, 2003; "UK Researchers Get Record Grant to Study Nicotine Adiction".

Lexington Herald Leader, front page story: "UK Gets \$6 Million to Help Kick Nicotine: Grant Award is Boost for College ", November 13th, 2003.

<http://www.kentucky.com/mld/kentucky/news/7259103.htm>

The Louisville Courier Journal, front page story: "UK Effort on Quitting Smoking Wins Grant: Researchers' Drug Aims to Stop Craving Without Nicotine", November 13th, 2003.

<http://www.courier-journal.com/localnews/2003/11/14ky/met-front-grant1114-5650.html>

Kentucky Kernel: "Researchers get Record Grant: \$6 Million Grant Helps College of Pharmacy Study Nicotine, Tobacco", November 13th, 2003. <http://www.kykernel.com/>

UK News: "Pharmacy gets Record Grant", November 24th, 2003.

http://www.uky.edu/PR/UK_News/welcome.html

UK News: **UK**Research-Spotlight, November 29th, 2004.

http://www.uky.edu/PR/UK/Nov_29_2004/UKResearch.html

Crooks named George A. Digenis Professor in Drug Design and Discovery, January 28th, 2005. http://www2.mc.uky.edu/pharmacy/news_archive.asp?id=15

Editorial Activities

Regional Editor (U.S.A.) of the *Journal of Enzyme Inhibition*, 1987 - 2001.

Member of the Editorial Board, *Drug Metabolism and Drug Interactions*, 1987 - on.

Member of the Editorial Board, *Journal of Biopharmaceutical Sciences*, 1989 -1995.

Regional Editor (U.S.A.) of the *Journal of Enzyme Inhibition and Medicinal Chemistry*, 2002 - on

Member of Editorial Board of the *AAPS PharmSciTech*, 2001 - on.

Member of the Editorial Board of the *Journal of Pharmaceutical Sciences* 2001-on.

Member of the Editorial Advisory Board of *Drug Design Reviews-Online* 2003-on.

Act as manuscript reviewer for the following research journals:

Journal of Biopharmaceutical Sciences
Journal of Pharmacy and Pharmacology
Journal of Medicinal Chemistry
Biochemical Pharmacology
Journal of Pharmaceutical Sciences
Journal of Chromatography
Journal of Chromatography-Biomedical Applications
Analytical Chemistry
The FASEB Journal
Chirality
Journal of Pharmacology and Experimental Therapeutics
Chemical Toxicology Research
Chemical Communications
Pharmaceutical Research
Pharmaceutical Development and Technology
Tetrahedron
Drug Metabolism and Drug Interactions
AAPS Pharmaceutical Science and Technology
Biomarkers
Industrial Crops and Products
European Journal of Medicinal Chemistry
Bioorganic and Medicinal Chemistry Letters
Bioorganic and Medicinal Chemistry
Cell Biology International
Molecular and Cellular Biochemistry
Life Sciences
Phytochemical Analysis

Entrepreneurial Activities

Companies founded:

DeNovo, Inc., 1995-1998.

Founding Scientist, President and CEO

Yaupon Therapeutics, Inc., 2002-present.

Founding Scientist and Chief Scientific Officer

LeuChemix, Inc., 2003-present

Founding Scientist

Genesis Molecular Discovery, Inc., 2004-present

Founding Scientist

XI. Invited Research Seminars

"Analysis of polyoxyethylene sorbitan esters by proton magnetic resonance and mass spectrometry," Pharmaceutical Society of Great Britain, Pharmaceutical Analysis Group Meeting, May, 1973, Bloomsbury Square, London, UK.

"Some aspects of the chemistry of aromatic triones," Research Seminar, April, 1975, University of Naples, Department of Pharmaceutical Chemistry and Toxicology, April, 1975, Italy.

"Structure-activity studies in a series of conformationally restricted phenethylamines," University of Yale, Sterling Hall of Medicine, Department of Pharmacology, Research Seminar, December, 1977, Connecticut, USA.

"Metabolism of catecholamines in cell culture systems," Gordon Research Conferences, August, 1977, New Hampshire, USA.

"S-Tubercidinylhomocysteine - A metabolically stable inhibitor of S-adenosylmethionine-dependent methyltransferases," University of London, School of Pharmacy, Research Seminar, November, 1979, London, UK.

"*In Vitro* metabolism of metyrapone to an alpha-pyridone metabolite in the rat," United Kingdom Drug Metabolism Group, Research Paper, November 1980, Manchester, UK.

"Mechanism of methyl group transfer in the catechol-O-methyltransferase reaction," University of Bradford, School of Pharmacy, Research Seminar, February, 1981, Bradford, UK.

"Inhibition of S-adenosylmethionine-dependent methyltransferases in cultured cell systems," University of Wales, Institute of Science and Technology, Department of Pharmacy, Research Seminar, March, 1981, Cardiff, UK.

"*In Vivo* metabolism of pyridine - species variation," United Kingdom Drug Metabolism Group, Research Paper, April, 1981, St. Mary's Hospital, London, UK.

"Progress in the rational design of specific inhibitors of S-adenosyl-methionine dependent methyltransferases," University of Kentucky, College of Pharmacy, Research Seminar, June, 1981, Lexington, KY, USA.

"Inhibitors of RNA methyltransferases as potential chemotherapeutic agents," University of Kentucky Research Foundation, Mini-Forum on Anti-Tumor`Drugs and Drug DNA interactions, May, 1981, Lexington, KY, USA.

"Rationally designed inhibitors of transmethylases," University of Kentucky, Department of Chemistry, Research Seminar, October, 1982, Lexington, KY, USA.

"Recent studies on the mechanism and inhibition of biological methylation reactions," University of Louisville, Department of Pharmacology and Toxicology, March, 1983, Louisville, KY, USA.

"Rigid Analogs of Phenethylamines," Addiction Research Center, National Institute on Drug Abuse, Department of Health and Human Services, March, 1983, Lexington, KY, USA.

"S-Adenosylmethionine-Dependent N-Methyltransferases." Section on Enzymes and Cellular Biochemistry, National Institutes of Arthritis, Diabetes and Digestive and Kidney Diseases, National Institute of Health, Bethesda, Maryland, October, 1984.

"Stereo-specific Nicotine Metabolism in the Guinea Pig." Department of Pharmacy, University of Aston in Birmingham, Birmingham, Great Britain, April, 1984.

"Biotransformation of Nicotine in the Guinea Pig," Department of Pharmacy, University of Manchester, Manchester, Great Britain, April, 1984.

"N-Methylation as a Route of Xenobiotic Metabolism". University of Toronto, Faculty of Pharmacy, Toronto, Canada, September, 1985.

"The Formation of Quaternary N-Methylated Biotransformation Products -Studies Using Nicotine as a Model Xenobiotic", Department of Pharmacology, Medical Center, University of Kentucky, Lexington, Kentucky, February, 1986.

"Recent Studies on the Metabolism of Nicotine", R.J. Reynolds Tobacco Company, Winston-Salem, North Carolina, June, 1986.

"Mechanism-based Methyltransferase Inhibitors", G.D. Searle and Company, Research and Development Division, Skokie, Illinois, August, 1986.

"Stereochemistry of Drugs and Drug Metabolism", 40th National Meeting of the Association of Official Racing Chemists, Lexington, Kentucky, April, 1986.

"Effect of Nicotine on Histamine Metabolism in the Guinea Pig", National Institutes of Health, National Heart, Lung and Blood Institute, Workshop on the Effects of Tobacco Smoke on Pulmonary Cells and Synthesis and Regulation of Pulmonary Macromolecules, Bethesda, Maryland, May, 1986.

"One-Carbon Transfer Reactions in Xenobiotic Metabolism", Graduate Center for Toxicology, University of Kentucky, Lexington, KY, November 1987.

"Chirodiastaltic Effects in Radiotracer Studies", Bristol Myers Co., Drug Metabolism and Pharmacokinetics Division, Syracuse, NY, USA, May, 1988.

"Metabolic Rates and Processes in the Lung", Invited Speaker, Symposium on Respiratory Drug Delivery, University of Kentucky, Lexington, KY, USA, May, 1988.

"Sulphonium Salts", Invited Keynote Speaker, First International Symposium on Sulphur Xenobiochemistry, London, UK, September, 1988.

"Methyltransferases: Mechanisms, Inhibitor Design, and Role in Drug Metabolism", Department of Pharmacology, Medical Center, University of Kentucky, Lexington, KY, USA, September, 1988.

"Methyltransferases: Enzyme Mechanism, Inhibitor Design, and Opportunities for Drug Discovery", Department of Pharmacy, University of Sydney, New South Wales, Australia, November, 1988.

"Mechanism-Based Approach to Methyltransferase Inhibition", Southern Research Institute, Birmingham, AL, USA, January, 1989.

"Peptidases of the Nasal and Respiratory Tracts". Invited Speaker, Department of Pharmaceutics - New Product Development, Rorer Pharmaceuticals, Fort Washington, PA, USA, March, 1989.

"The Role of Peptidases of the Nasal and Respiratory Tract in the Bioavailability of Nasally Administered Peptides". Invited Speaker, Eighth Annual Robert S. Roxman Memorial Symposium, Drug Metabolism Discussion Group, Fort Washington, PA, June 1989.

"Lung Peptidases and their Activities". Invited Speaker, Second International Symposium on Respiratory Drug Delivery, Keystone, CO, U.S.A., March, 1990.

"Nicotine Metabolism Studies". Invited Speaker, R.J. Reynolds Tobacco Company, Winston-Salem, North Carolina, November, 1990.

"Studies on SAM-dependent Methyltransferases with Special Emphasis on Drug Discovery and Xenobiotic Biotransformation". Invited Speaker, Department of Biochemistry, Loyola University, Chicago, Illinois, November, 1990.

"DNA Analogs Containing Sulfonate Ester and Sulfonamide Internucleoside Linkages". Invited Presentation, International Conference on Nucleic Acid Therapeutics, International Union of Biochemistry, Clearwater Beach, Florida, January, 1991.

"Stereoselectivity in Nicotine Biotransformation Pathways" Invited Speaker, First R.J. Reynolds Research Seminar, Department of Chemistry, Wake Forest University, Winston-Salem, North Carolina, February, 1991.

"N-Oxidation, N-Demethylation and N-Conjugation Reactions of Nicotine". Invited Presentation, International Symposium on the Absorption, Distribution, Metabolism and Excretion of Nicotine and Related Compounds, IUTOX Satellite Meeting, Salsomaggiore Terme, Italy, June 1992.

"Nicotine Metabolism and CNS Activity of Nicotine Metabolites", Invited Research Seminar, University of Louisville, Department of Pharmacology, January, 1993.

"Chirodiastaltic Phenomena in Radiochromatography: A Potentially Useful Tool for Detecting Stereoselective Processes in Drug Metabolism" Invited Speaker, CIBA-GEIGY Corporation, Ardsley, New York, March, 1993.

"Synthesis of Nicotine Analogs as Potential Anti-Alzheimer Compounds". Invited Speaker and Participant, Nicotine Pharmacology and Neurodegenerative Diseases Conference, R. J. Reynolds Tobacco Company, Winston-Salem, N. C., May, 1993.

"Chemical and Physical Properties of 2S, 6R, 8S (-)Lobeline." Invited Speaker, Dynagen, Inc., Massachusetts, Cambridge, March, 1994.

"Quality Control Issues in the Formulation of Lobeline." Invited Speaker, Bristol-Myers, Hillside, New Jersey, May, 1994.

"Morphine-6-O-sulfate Analogs as Potent, Centrally Active Analgesics". MCP Division Seminar, College of Pharmacy, University of Kentucky, Lexington, Kentucky, March, 1995.

"Medicinal Chemistry of Nicotinoids". Targacept, Inc., Winston-Salem, N.C., July, 1997.

"3-O-Acylmorphine-6-O-Sulfate Esters: Potent, Centrally Acting Morphine Derivatives". Invited Presentation, American Chemical Society National Meeting, Division of Chemical Toxicology, Las Vegas, Nevada, September, 1997.

"Polar, Centrally Acting Morphine Conjugates." Invited presentation, School of Pharmacy, Texas Technical University Health Sciences, Amarillo, Texas, December, 1997.

"Synthetic Morphine Analogues as Potent Analgesics." Invited presentation, Endo Pharmaceuticals, Inc., Philadelphia, PA, April, 1999.

"Development of a Novel Class of Subtype Selective Nicotinic Receptor Antagonists." Invited presentation, International Business Communications 2nd International Symposium on Nicotinic Acetylcholine Receptors: Advances in Molecular Pharmacology and Drug Development, Annapolis, MD, May, 1999.

"Drug Discovery and Medicinal Chemistry Research." Invited lecture, Department of Physiology and Pharmacology, Wake Forest University Medical School, Winston-Salem, NC, October, 1999.

"Converting the Nicotine Molecule from an Agonist to an Antagonist at Neuronal Nicotinic Receptors." Center of Membrane Sciences Colloquium, University of Kentucky, Lexington, KY, November, 1999.

"Conformationally Restrained Analogues of NONI and NDNI are Selective Antagonists at the Putative Alpha3beta2 Nicotinic Acetylcholine Receptor (nAChR) Subtype." College on Problems of Drug Dependence, Sixty-Second Annual Scientific Meeting, San Juan, Puerto Rico, June 17-22, 2000.

"Subtype-Selective Nicotinic Receptor Antagonists", Targacept, Winston-Salem, NC, November, 2000.

"Development of Neuronal Nicotinic Acetylcholine Receptor Ligands: New Opportunities in Drug Discovery", College of Pharmacy, University of Tennessee, Memphis, TN, May, 2001.

"Development of Neuronal Nicotinic Acetylcholine Receptor Agonists and Antagonists", Endo Pharmaceuticals, Inc., Philadelphia, PA, August, 2001.

"Arginine Analogues and the Sensitization of Drug-Resistant Tumor Cells", Invited Speaker, Sixth International Meeting on Guanidino Compounds in Biology and Medicine, Cincinnati, OH, September, 2001.

"Development of Subtype-specific Neuronal Nicotinic Acetylcholine Receptor Ligands", invited speaker, IMD³ Symposium 2002, Louisville, Kentucky, March, 2002.

"Progress in the Design of Sub-type Selective Neuronal Nicotinic Receptor Ligands", Pharmaceutical Sciences 2002 Postgraduate Conference, College of Pharmacy, University of Kentucky, Lexington, KY, May, 2002.

"Nicotine Analogs as Subtype-selective Ligands for Neuronal Nicotinic Acetylcholine Receptors", Southern Research Institute, Birmingham, AL, May, 2002.

"Lobeline and Lobeline Analogs for the Treatment of Psychostimulant Abuse", Invited Talk, National Institute of Drug Abuse, Rockville, MD, September, 2002.

"Development of Subtype-Selective Nicotinic Receptor Ligands as Receptor Antagonists", Invited Speaker, College on Problems of Drug Dependence: Special Symposium Series. Neuronal Nicotinic Receptors and Ligands: Targets for Medication. Bal Harbor, Florida, June, 2003.

"Recent Progress in the Design of Neuronal Nicotinic Acetylcholine Receptor Ligands". Department of Molecular and Biomedical Pharmacology, College of Medicine, University of Kentucky, Lexington, KY, September, 2003.

"Yaupon Therapeutics, Inc.", First Kentucky Conference on Natural Products Innovation: A Forum for Kentucky's Growing Natural Products Sector, Lexington, KY, November, 2003.

"Parthenolides versus Cancer: Have You Hugged a Chrysanthemum Today?". Invited Presentation, Markey Cancer Center, Chandler Medical Center, University of Kentucky, Lexington, KY, November, 2003.

"Natural Product Research and Related Entrepreneurial Activities at the College of Pharmacy, University of Kentucky". Kentucky Innovation Commission Meeting, Office of the New Economy, State Capitol, Frankfort, KY, November, 2003.

"Recent Progress in the Design of Neuronal Nicotinic Acetylcholine Receptor Ligands". Targacept, Inc., Winston-Salem, NC, December, 2003.

"Entrepreneurial Activities in Natural Products Research at the University of Kentucky College of Pharmacy", Invited Speaker, 2004 Ohio Valley Affiliates for Life Sciences

(OVALS) Symposium; Life Sciences Without Boundaries: Leveraging Resources, Converging Interests, Louisville, KY, March, 2004.

“Recent Progress in the Design of Neuronal Nicotinic Acetylcholine Receptor Ligands”, University of Michigan College of Pharmacy, Department of Medicinal Chemistry, Invited Research Seminar, Ann Arbor, MI, March, 2004.

“Parthenolides as Potential Treatments for Lung Cancer”, Kentucky Lung Cancer Research Program-Early Detection and Prevention Working Group, Interstate Video-Conference, Lexington, KY, April, 2004.

“Progress in the Identification of Novel Compounds that Block Neuronal Nicotinic Receptors”. University of Toronto, Faculty of Pharmacy, Invited Research Seminar, Toronto, Canada, May, 2004.

“The Pharmacy Program at the University of Kentucky”. University of Puerto Rico School of Pharmacy, San Juan, Puerto Rico, Invited Seminar, June, 2004.

“Development of Subtype-selective Nicotinic Receptor Ligands as Antagonists at the Dopamine Releasing Receptor Subtype”. Invited Speaker, Nicotinic Acetylcholine Receptors Symposium, 228th American Chemical Society National Meeting, Philadelphia, PA, August, 2004.

“Development of Nicotinic Receptor Antagonists as Smoking Cessation Agents”. Invited Research Seminar, University of Pittsburgh School of Pharmacy, Pittsburgh, PA, March, 2005.

XII. Publications

Original Research Articles Published in Peer-Reviewed Journals

1. "Thermal Indolisation of 4-Pyrimidylhydrazones and 4-Pyridylhydrazones". By Peter A. Crooks and Brian Robinson, Chemistry and Industry (London), 1967, 547-548.
2. "Isolation and Structure of an Indole Alkaloid of Biogenetic Interest from *Tabernamontana cumminsii*". By Peter A. Crooks, Brian Robinson and George F. Smith, J. Chem. Soc., Chem. Comm., 1968, 1210.
3. "Azaindoles. Part I. The Synthesis of 5-aza- and 5,7-Diazaindoles by the Non-catalytic Thermal Indolisation of 4-Pyridyl- and 4-Pyrimidylhydrazones, respectively". By Peter A. Crooks and Brian Robinson, Can. J. Chem., 1969, 47, 2061-2067.
4. "The Isolation and Identification of Quininone from *Cinchona ledgeriana*". By Peter A. Crooks and Brian Robinson, J. Pharm. Pharmacol., 1970, 22, 469-470.
5. "The Isolation and Identification of Jollyanine from *Tabernamontana cumminsii*". By Peter A. Crooks and Brian Robinson, J. Pharm. Pharmacol. 1970, 22, 471-474.
6. "The Isolation and Identification of (-)-Apparicine from *Tabernamontana cumminsii*". By Peter A. Crooks and Brian Robinson, J. Pharm. Pharmacol., 1970, 22, 799-800.
7. "Conopharyngine pseudoindoxyl, a new Alkaloid from *Tabernamontana pachysiphon* Stapf. var. *cumminsii* (Stapf.) H. Huber". By Peter A. Crooks and Brian Robinson, J. Pharm. Pharmacol., 1973, 25, 820-823.
8. "Effects of Amphetamine, 2-Aminoindane and 2-Aminotetralin on the Concentration of Whole Brain Noradrenaline, Dopamine, 5-Hydroxytryptamine and 5-Hydroxyindoleacetic Acid in the Mouse". By Peter A. Crooks, Hilary J. Little and John M.H. Rees, J. Pharm. Pharmacol., 1973, 25, 124P.
9. "Synthesis of β -Amino Alcohols via Spiro-Oxiran Intermediates". By Peter A. Crooks and Richard Szyndler, Chemistry and Industry (London), 1973, 1111-1112.
10. "The Determination of the Hydrophile-Hydrophobe Proton Ratio in a Series Polyoxyethylene Sorbitan esters". By Peter A. Crooks, John H. Collett and Roger Withington, Pharm. Acta Helv., 1974, 49, 274-276.
11. "A New Synthesis of 2-Aminoindanes". By Peter A. Crooks, Chemistry and Industry (London), 1974, 495.
12. "Reaction of Ninhydrin with N-alkylacetamides". By Peter A. Crooks, Chemistry and Industry (London), 1975, 176-177.

13. "Reaction of Ninhydrin with Urea and N-substituted Ureas". By Peter A. Crooks and Trevor Deeks, Chemistry and Industry (London), 1975, 793-794.
14. "Rearrangement Products from the Reaction of Diphenyltriketone with Ureas". By Peter A. Crooks, Trevor Deeks and Francesco DeSimone, Chemistry and Industry (London), 1976, 323-324.
15. "The Intramolecular Condensation of 2-Acylamino-3-hydroxyphenalene-1-ones and Related Compounds:.". By Peter A. Crooks, Antonio Dini and Francesco DeSimone, Rend. Acc. Fis. Mat. Napoli, 1976, Seri 4, XLIII, 37-44.
16. "The ¹³C-Nuclear Magnetic Resonance Spectra of Physostigmine and Related Compounds". By Peter A. Crooks, Brian Robinson and Otto Meth-Cohn, Phytochemistry, 1976, 15, 1903-1904.
17. "Synthesis and Antinociceptive Properties of Spiro[indan-2,2'-pyrrolidine], Spiro[tetralin-2,2'-pyrrolidine] and their N-Methyl Derivatives". By Peter A. Crooks and Howard E. Rosenberg, J. Pharm. Pharmacol., 1976, 28, 83P.
18. "Rearrangement of the Carbobenzyloxy Group - An Example of an Oxo-Wittig Rearrangement". By Peter A. Crooks, Ronald H.B. Galt and Zbigniew S. Matusiak, Chemistry and Industry (London), 1976, 693-694.
19. "Antinociceptive and Sympathomimetic Activities of *Exo*- and *Endo*-2-aminobenzonorbornene and their N-Methylated Derivatives". By Peter Burn, Peter A. Crooks and John M.H. Rees, J. Pharm. Pharmacol., 1976 28, 80P.
20. "The Structure of Some Reaction Products of 2,3-Dihydrophenalene-1,2,3-trione with Urea and its Homologues". By Peter A. Crooks, Trevor Deeks and Francesco DeSimone, Gazz. Chim. Ital., 1976, 107, 353-354.
21. "A Carbon-13 NMR Study of Benzonorbornene Isomers". By Peter K. Burn, Peter A. Crooks and Otto Meth-Cohn, Org. Magnet. Resonance., 1978, 11, 370-372.
22. "Synthesis of Spiro[tetralin-2,2'-pyrrolidine] and Spiro[indan-2,2'-pyrrolidine] Derivatives as Potential Analgesics". By Peter A. Crooks and Howard E. Rosenberg, J. Medicin. Chem., 1978, 21, 585-587.
23. "Extensive Conjugation of Dopamine (3,4-Dihydroxyphenethylamine) Metabolites in Cultured Human Skin Fibroblasts and Rat Hepatoma Cells". By Peter A. Crooks, Xandra O. Breakefield, Christopher H. Sulens, Carmela M. Castiglione and James K. Coward, Biochem. J., 1978, 176, 187-196.
24. "Catecholamine Metabolism and Drug Effects in Cultured Mammalian Cells: Analysis by HPLC". By Peter A. Crooks, Xandra O. Breakefield and James K. Coward, Proc. 4th Int. Catecholamine Symp., 1978, 1, 210-213.
25. "Determination of 5-Hydroxytryptamine Metabolites in Isolated Perfused Rabbit Lung by High-Performance Liquid Chromatography". By Peter A. Crooks, Robert N. Dreyer,

- Christopher H. Sulens, C. Norman Gillis and James K. Coward, Analyt. Biochem., 1979, 93, 143-152.
26. "Synthesis of 5-Hydroxy- and 5,6-Dihydroxy- derivatives of Spiro[indan-2,2'-pyrrolidine], Rigid Analogues of Tyramine and Dopamine Respectively". By Peter A. Crooks and Howard E. Rosenberg, J. Chem. Soc., Perkin Trans. I, 1979, 11, 2719-2726.
 27. "*In Vitro* and *In Vivo* Effects of S-Tubercidinylhomocysteine - A Physiologically Stable Methylase Inhibitor". By James K. Coward and Peter A. Crooks, Transmethylation, 1979, 5, 215-224.
 28. "Metabolism of S-Adenosylhomocysteine and S-Tubercidinylhomocysteine in Neuroblastoma Cells". By Peter A. Crooks, Robert N. Dreyer and James K. Coward, Biochemistry, 1979, 18, 2601-2610.
 29. "The Synthesis and *In Vitro* Pharmacological Evaluation of Some Novel Enkephalin Analogues". By Trevor Deeks, Peter A. Crooks and Roger D. Waigh, J. Pharm. Pharmacol., 1979, 31, 62P.
 30. "High-Performance Liquid-Chromatographic Method for the Determination of *In Vitro* Metabolites of Metyrapone." By Lyaquatali A. Damani, Peter A. Crooks and John W. Gorrod, J. Pharm. Pharmacol., 1979, 31, 95P.
 31. "Sympathomimetic Effects of *Exo*- and *Endo*-isomers of 2-Aminobenzonorbornene *In Vitro* and *In Vivo*". By Peter Burn, Peter A. Crooks, Brian L. Ratcliffe and John M.H. Rees, J. Pharm. Pharmacol., 1980, 32, 87-91.
 32. "Synthesis and Analgesic Properties of Some Conformationally Restricted Analogues of Profadol". By Peter A. Crooks and Richard Szyndler, J. Medicin. Chem., 1980, 23(6), 679-682.
 33. "Synthesis of 2-Amino-1,3-dihydroxyindanes". By Peter A. Crooks, Chemistry and Industry (London), 1980, 467-468.
 34. "5,6- and 6,7-Dihydroxyspiro[tetralin-1,3'-pyrrolidine]: Conformationally Restricted Analogues of Dopamine". By Peter A. Crooks, Richard Szyndler and Barry Cox, Pharm. Acta Helv., 1980, 55(5), 134-137.
 35. "Stereochemical Course of the Transmethylation Catalysed by Catechol O-Methyltransferase". By Ronald W. Woodard, Ming-Daw Tsai, Heinz G. Floss, Peter A. Crooks and James K. Coward, J. Biol. Chem., 1980, 255, 9124 -9127.
 36. "The Role of Brain 5-Hydroxytryptamine in the Analgesic Action of Centrally Acting Sympathomimetics". By O.T. Ginarvi, Peter Burn, Peter A. Crooks and John M.H. Rees, J. Pharm. Pharmacol., 1980, 32, 77P.
 37. "Synthesis of N-Oxide Derivatives of Metyrapone and their Detection as *In Vitro* Metabolites". By Peter A. Crooks, Lyaquatali A. Damani and David A. Cowan, J. Pharm. Pharmacol., 1981, 33, 309-312.

38. "Metabolism of Metyrapone. 2. Chromatographic and Mass Spectral Properties of the N-oxides of Metyrapone and Metyrapol". By Lyaquatali A. Damani, Peter A. Crooks and David A. Cowan, Biomed. Mass Spectrom., 1981, 8, 270-277.
39. "Metabolism of Metyrapone. III. Formation of an α -Pyridone Metabolite by Rat Hepatic Soluble Enzymes". By Lyaquatali A. Damani, Peter A. Crooks and David A. Cowan, Drug Metab. Disposit., 1981, 9(3), 270-273.
40. "Baeyer-Villiger Oxidation of Metyrapone during N-Oxide Formation". By Peter A. Crooks, Lyaquatali A. Damani and David A. Cowan, Chemistry and Industry (London), 1981, 335-336.
41. "Synthesis of Isomeric 2-Amino-1,3-Dihydroxyindanes from Ninhydrin". By Peter A. Crooks, Trevor Deeks, Francesco DeSimone and Eliseo Ramundo, Chemistry and Industry (London), 1981, 392-393.
42. "Inhibition of Bacterial DNA Methylation by S-Tubercidinylhomocysteine." By Malcolm J. Tribe, Richard J. Pinney and Peter A. Crooks, J. Pharm. Pharmacol., 1981, 33, 80P.
43. "Identification of Component Alkyl Chains Within Commercial Samples of Benzalkonium Chloride Mixtures by Chemical Ionisation Mass Spectrometry". By Nabil N. Daoud, Peter A. Crooks and Peter Gilbert, J. Pharm. Pharmacol., 1981, 33, 8P.
44. "Metabolic C- and N-Oxidation, and N-Methylation of [2-¹⁴C]Pyridine *In Vivo*: Determination of Urinary Metabolites by HPLC". By Mahmoud S. Shaker, Peter A. Crooks and Lyaquatali A. Damani, J. Pharm. Pharmacol., 1981, 33, 10P.
45. "Alpha-Adrenoceptor Properties of Some Dihydroxybenzonorbornenes Designed as Rigid Catecholamines". By Peter Burn, Peter A. Crooks, Christopher Waldron and Peter E. Hicks, J. Pharm. Pharmacol., 1981, 33, 83P.
46. "Oxidative Metabolism of Heterocyclic Ring Systems". By Lyaquatali A. Damani and Peter A. Crooks, Invited Chapter in Metabolic Basis of Detoxification, Chapter 4, pp 69-89. Edit. William Jakob, John R. Bend and John Caldwell, Academic Press, Inc., New York, 1982.
47. "The Synthesis and Analgesic Activities of Some Spiro [indan-1, 3'-pyrrolidine] Derivatives Designed as Rigid Analogs of Profadol". By Peter A. Crooks and Richard Sommerville, J. Pharm. Sci., 1982, 71, 291-294.
48. "Synthesis and Dopaminergic Properties of Some *Exo*- and *Endo*-2-Aminobenzonorbornenes Designed as Rigid Analogues of Dopamine". By Peter Burn, Peter A. Crooks, Frank Heatley, Brenda Costall, Robert J. Naylor and Virinder Nohria, J. Medicin. Chem., 1982, 25, 363-368.
49. "High-Performance Liquid Chromatographic Analysis of the *In Vivo* Metabolites of ¹⁴C-Pyridine". By Mamhoud S. Shaker, Peter A. Crooks, Lyaquatali A. Damani, J. Chromatography, 1982, 237, 489-495.

50. "Species Differences in the Metabolic C- and N-Oxidation, and N-Methylation of [¹⁴C]-Pyridine *In Vivo*". By Lyaquatali A. Damani, Peter A. Crooks, Mamhoud S. Shaker, John Caldwell, J. D'Souza and R.L. Smith, Xenobiotica, 1982, 12, 527-534.
51. "Determination of Benzalkonium Chloride by Chemical Ionization Mass Spectroscopy". By Nabil N. Daoud, Peter A. Crooks, Richard Speak and Peter Gilbert, J. Pharm. Sci., 1983, 72, 290-292.
52. "Synthesis of 7-Deazaguanine (2-amino-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one) analogues substituted at C-8". By Eric Benghiat and Peter A. Crooks, Chemistry and Industry (London), 1982, 661-662.
53. "Synthesis of 2,3,3a,8a-Tetrahydroindeno[2,1-b]pyrrole Derivatives". By Peter A. Crooks, Francesco DeSimone and Eliseo Ramundo, J. Heterocyclic Chem., 1982, 19, 1433-1436.
54. "Preparation of S-(3-Indolemethyl) Derivatives of Mercaptoamino Acids". By Eric Benghiat and Peter A. Crooks, Synthesis, 1982, 12, 1033-1036.
55. "Synthesis and Analgesic Properties of Two Leucine-Enkephalin Analogues Containing a Conformationally Restrained N-Terminal Tyrosine Residue. By Trevor Deeks, Peter A. Crooks and Roger D. Waigh, J. Medicin. Chem., 1983, 26, 762-765.
56. "Synthesis of S-3-Indolemethyl Derivatives of 5'-Deoxy-5'-thioadenosine". By Eric Benghiat and Peter A. Crooks, J. Heterocyclic Chem., 1983, 20, 423-425.
57. "Synthesis of S-5-Pyrrolo[2,3-b]pyridinemethyl and S-5- and S-6-Pyrrolo[2,3-d]pyrimidinemethyl Derivatives of 5'-Deoxy-5'-thioadenosine". By Eric Benghiat and Peter A. Crooks, J. Heterocyclic Chem., 1983, 20, 677-680.
58. "α-2-Adrenoceptor Agonist Properties of *Exo*- and *Endo*-isomers of 2-Amino-6, 7-dihydroxybenzonorbornenes Designed as Rigid Catecholamines". By Peter Hicks, Christopher Waldron, Peter Burn and Peter A. Crooks, J. Pharm. Pharmacol., 1983, 35, 94-99.
59. "Leucine Enkephalin Analogues Containing A Conformationally Restrained N-Terminal Amino Acid Residue". By Trevor Deeks, Peter A. Crooks and Roger D. Waigh, J. Pharm. Sci., 1984, 73, 457-460.
60. "Multisubstrate Adducts as Potential Inhibitors of S-Adenosylmethionine Dependent Methylases: Inhibition of Indole N-Methyltransferase by (5'-Deoxyadenosyl)[3-(3-indolyl)prop-1-yl]methylsulfonium and (5'-Deoxyadenosyl)[4-(3-indolyl)but-1-yl]methylsulfonium Salts". By Eric Benghiat and Peter A. Crooks, J. Medicin. Chem., 1983, 26, 1470-1477.
61. "Reaction of 2-Acetamido-3,7-dihydropyrrolo[2,3-d]pyrimidin-4-one with Dimethylamine and Formaldehyde. Formation of Two Isomeric Mannich Bases" By Eric Benghiat and Peter A. Crooks, J. Heterocyclic Chem., 1983, 20, 1023-1025.

62. "Synthesis of *Endo*- and *Exo*-2-Amino-6-hydroxybenzonorbornenes - Rigid Analogues of Tyramine". By Peter A. Crooks and Peter Burn, Chemistry and Industry (London), 1983, 644-645.
63. "High-Performance Liquid Chromatographic Method for the Determination of N-Methylated Metabolites of Nicotine". By Kenneth C. Cundy and Peter A. Crooks, J. Chromatogr. Biomed. Appl., 1984, 306, 291-301.
64. "Unexpected Phenomenon in the High-Performance Liquid Chromatographic Analysis of Racemic ¹⁴C-Labeled Nicotine: Separation of Enantiomers in a Totally Achiral System". By Kenneth C. Cundy and Peter A. Crooks, J. Chromatography, 1983, 281, 17-23.
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111. "Azatricyclo[3.3.1.1]decane Derivatives and Pharmaceutical Compositions Containing Them." By Merouane Bencherif, Patrick M. Lippiello, Peter A. Crooks, Haeil Park, Balwinder S. Bhatti, William S. Caldwell, and Gary M. Dull, European Patent No. EP 1068208 B1, May 14th, 2003.
112. "Cis-2,6-disubstituted Piperidines for the Treatment of Psychostimulant Abuse and Withdrawal, Eating Disorders, and Central Nervous System Diseases and Pathologies." By Linda P. Dvoskin, Peter A. Crooks, and Marlon D. Jones, U.S. Patent Application, Publication No. US 2003/0100547 A1, Publication date May 29th, 2003.
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126. "Derivados do Azatriciclo 3.3.1.1 Decano e Composicoes Farmaceuticas Contendo os Mesmos." By Peter A. Crooks, Haeil Park, and Gary M. Dull, Portuguese Patent No. PT 1,068,208T, September 30th, 2003.
127. "Analgesics and Methods of Use." By Richard Smith-Carliss, Frank S. Caruso, Peter A. Crooks, Kenneth J. Keller, and Yingxian Xiao, International Patent No. WO 03018004 A3, May 22nd, 2003.
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131. "Bioactive Peptide-based Probes." By Clair L. Hicks and Peter A. Crooks (Docket No. 434-286, UKRF Disclosure No. 999), U.S. Patent Application No. 10/795,174, filed March 5th, 2004.
132. "Disubstituted Piperidine and Piperazine Compounds". By Peter A. Crooks, Linda P. Dvoskin, Guangrong Zheng, Marlon Jones, Dennis K. Miller, Seth Norrholm, and Sairam Krishnamurthy (Docket No. 64684-024), U.S. Patent Application, filed April 1st, 2004.
133. "Analgetic Pyrroline Derivatives". By Richard Smith-Carliss, Frank S. Caruso, Peter A. Crooks, Kenneth J. Keller, and Yingxian Xiao, European Patent Application No. EP 02,761,550.9-2123, filed August 29th, 2002.

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135. "3-Pyridyl-1-Azabicycloalkan-Derivate Zur Behandlung Von ZNS-Erkrankungen." By Niranjana M. Deo, Alain Ravard, William S. Caldwell, Merouane Bencherif, Gary M. Dull, Peter A. Crooks, Patrick M. Lippiello, and Balwinder S. Bhatti, Austrian Patent No. AT 261443T, March 15th, 2004.
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137. "Compostos Azatricilicos." By Peter A. Crooks and Niranjana M. Deo, Portuguese Patent No. PT 1,066,287T, January 30th, 2004.
138. "Analgetic Pyrroline Derivatives". By Richard Smith-Carliss, Frank S. Caruso, Peter A. Crooks, Kenneth J. Keller, and Yingxian Xiao, Canadian Patent Application No. CA 2,458,015, filed March 3rd, 2003.
139. "Kombinierte Wirkstoffe als Methode Zur Gezielten Wirkstoffe-Freisetzung". By Paul Ashton, Peter A. Crooks, Robert M. Riggs, Tadeusz Cynkowski, Grazyna Cynkowska, Austrian Patent No. AT 267,798T, June 15th, 2004.
140. "Analgesic Uses of Norketamine and Ketamine/Norketamine Prodrugs". By Peter A. Crooks and Miguel Rivera, International Patent No. WO 2004-045601, June 3rd, 2004.
141. "Pharmaceutical Compounds and Methods for Use". By Peter A. Crooks and Niranjana M. Deo, Spanish Patent No. ES 2,205,778T, May 1st, 2004.
142. "Method for Treatment of Cancer". By Peter A. Crooks and Robert Alonso, U.S. Patent Application (Docket No. YAUP-3920), filed July 8th, 2004.
143. "3-Pyridyl-1-Aza-Bicyclo-Alkane Derivatives for Prevention and Treatment of CNS Disorders". By Alain Ravard, Balwinder S. Bhatti, Niranjana M. Deo, Patrick M. Lippiello, Peter A. Crooks, William S. Caldwell, Merouane Bencherif, and Gary M. Dull, Danish Patent No. DK 994,875, June 26th, 2004.
144. "Permeable, Water Soluble, Non-Irritating Prodrugs of Chemotherapeutic Agents with Alkanoic Acids". By Peter A. Crooks, Tadeusz Cynkowski, Grazyna Cynkowska, Hong Guo, and Paul Ashton, U.S. Patent No. US 6,765,019 July 20th, 2004.
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146. "Codrugs as a Method of Controlled Drug Delivery". By Paul Ashton, Peter A. Crooks, Robert M. Riggs, Tadeusz Cynkowski, Grazyna Cynkowska, European Patent No. EP 0,740,650 B1, May 26th, 2004.

147. "Aryl Substituted Olefinic Amines and Their Use As Cholinergic Receptor Agonists". By Patrick M. Lippiello, Merouane Bencherif, Peter A. Crooks, Jared M. Wagner, Srishaikumar B. Hadimani, Gary M. Dull, Balwinder S. Bhatti, William S. Caldwell, and Haeil Park, European Patent No. EP 1,086,082 B1, August 18th, 2004.
148. "Pharmaceutical Compounds and Methods for Use". By Peter A. Crooks and Naranjan M. Deo, German Patent No. DE 69,910,993T, July 22nd, 2004.
149. "Analgetic Pyrroline Derivatives". By Richard Smith-Carliss, Frank S. Caruso, Peter A. Crooks, Kenneth J. Keller, and Yingxian Xiao, European Patent Application No. EP 1420781 A2, May 26th, 2004.
150. "3-Pyridyl-1-Aza-Bicyclo-Alkane Derivatives for Prevention and Treatment of CNS Disorders". By Alain Ravard, Balwinder S. Bhatti, Niranjana M. Deo, Patrick M. Lippiello, Peter A. Crooks, William S. Caldwell, Merouane Bencherif, and Gary M. Dull, German Patent No. DE 69,822,300D, May 15th, 2004.
151. "3-Pyridyl-1-Aza-Bicyclo-Alkane Derivatives for Prevention and Treatment of CNS Disorders". By Alain Ravard, Balwinder S. Bhatti, Niranjana M. Deo, Patrick M. Lippiello, Peter A. Crooks, William S. Caldwell, Merouane Bencherif, and Gary M. Dull, European Patent No. EP 0994,875 B1, March 10th, 2004.
152. "Derivados De 3-Piridil-1-aza-biciclo-alcano Para A Prevencao E Tratamento De Desordens Do SNC". By Alain Ravard, Balwinder S. Bhatti, Niranjana M. Deo, Patrick M. Lippiello, Peter A. Crooks, William S. Caldwell, Merouane Bencherif, and Gary M. Dull, Portuguese Patent No. PT 994875T, June 30th, 2004.
153. "Arylsbstituierete Olefinische Amine und Ihre Verwendung als Cholinergische Rezeptoragonisten" By Patrick M. Lippiello, Merouane Bencherif, Peter A. Crooks, Jared M. Wagner, Srishaikumar B. Hadimani, Gary M. Dull, Balwinder S. Bhatti, William S. Caldwell, and Haeil Park, Austrian Patent No. AT 273,956T, September 15th, 2004.
154. "Use of Parthenolide Derivatives as Antileukemic and Cytotoxic Agents." By Peter A. Crooks, Xiachem Wei and Craig Jordan, U.S. Patent Application No. 10/888,274, July 9th, 2004.
155. "Codrugs as a Method of Controlled Drug Delivery". By Paul Ashton, Peter A. Crooks, Robert M. Riggs, Tadeusz Cynkowski, Grazyna Cynkowska, Danish Patent No. DK 740650T, September 27th, 2004.
156. "3-Pyridyl-1-Aza-Bicyclo-Alkane Derivatives for Prevention and Treatment of CNS Disorders". By Gary M. Dull, Patrick M. Lippiello, Merouane Bencherif, Balwinder S. Bhatti, William S. Caldwell, and Peter A. Crooks, Spanish Patent No. ES 2,214,707T, September 16th, 2004.
157. "2,6-Disubstituted Piperidines and Piperazine Compounds". By Peter A. Crooks, Linda P. Dwoskin, Marlon D. Jones, Dennis K. Miller, Seth D. Norholm, Guangrong Zheng, and Sairam Krishnamurthy, U.S. Patent Application No. 10/813,647, March 31st, 2004.
158. "Cis-2,6-disubstituted Piperidines for the Treatment of Psychostimulant Abuse and Withdrawal, Eating Disorders, and Central Nervous System Diseases and

- Pathologies." By Linda P. Dvoskin, Peter A. Crooks, and Marlon D. Jones, U.S. Patent Application, No. 10/231,156, August 30th, 2002.
159. "Permeable, Water Soluble, Non-Irritating Prodrugs of Chemotherapeutic Agents with Alkanoic Acids". By Peter A. Crooks, Tadeusz Cynkowski, Grazyna Cynkowska, Hong Guo, and Paul Ashton, U.S. Patent No. US 2004/214784, October 28th, 2004.
 160. "Compounds Capable of Activating Cholinergic Receptors". By William S. Caldwell, Gary M. Dull, Balwinder S. Bhatti, Srishaikumar B. Hadimani, Haeil Park, Jared M. Wagner, and Peter A. Crooks, U.S. Patent No. US 2004/214784, October 28th, 2004.
 161. "Arylsubstituerede Olefiiske Aminer og deres Anvendelse som Cholinerge Receptoragonister". By Patrick M. Lippiello, Merouane Bencherif, Peter A. Crooks, Jared M. Wagner, Srishaikumar B. Hadimani, Gary M. Dull, Balwinder S. Bhatti, William S. Caldwell, and Haeil Park, Danish Patent No. DK 1,086,082T, November 22nd, 2004.
 162. "Analgesic Uses of Norketamine and Ketamine/Norketamine Prodrugs". By Peter A. Crooks and Miguel Rivera, U.S. Patent No. US2004/0248964 A1, December 9th, 2004.
 163. "Compounds of Use in the Treatment of Epilepsy, Seizer, and Electroconvulsive Disorders". By Peter A. Crooks, Aimee K. Bence, and David R. Worthen, U.S. Patent No. US2004/266737, December 30th, 2004.
 164. "2,6-Disubstituted Piperidines and Piperazine Compounds". By Peter A. Crooks, Linda P. Dvoskin, Guangrong Zheng, Dennis K. Miller, Seth D. Norholm, Krishnan Sairam, and Marlon D. Jones, U.S. Patent No. US2004/266824, December 30th, 2004.
 165. "Use of Parthenolide Derivatives as Antileukemic and Cytotoxic Agents". By Peter A. Crooks, Craig T. Jordan, and Xiaochen Wei, International Patent No. WO2005007103, January 27th, 2005.
 166. "Use of Parthenolide Derivatives as Antileukemic and Cytotoxic Agents". By Peter A. Crooks, Craig T. Jordan, and Xiaochen Wei, U.S. Patent Application No. US 2005/0032886, February 10th, 2005.
 167. "Novel Oral Bioavailable prodrugs". By Peter A. Crooks, Mohamed O. Hamad, and Audra L. Stinchcomb, International Patent No. WO 2005/009377 A2, February 3rd, 2005.
 168. "2,6-Disubstituted Piperidines for the Treatment of Psychostimulant Abuse and Withdrawal, Eating Disorders, and Central Nervous System Diseases and Pathologies". By Peter A. Crooks, Linda P. Dvoskin, and Marlon D. Jones, U.S. European Patent No. EP1513513, March 16th, 2005.
 169. "Scopolamine Sublingual Spray for the Treatment of Motion Sickness". By Peter A. Crooks, Abeer M. Al Ghananeem, and Ahmad Malkawi, U.S. Provisional Patent Application, filed February 10th, 2005.
 170. "Lofexidine Enantiomers for Use as a Treatment for CNS Diseases and

- Pathologies". By George A. Digenis, Peter A. Crooks, and Abeer M. Al Ghananeem, U.S. Patent Application No. US60/661,525, filed March 14th, 2005.
171. "Sublingual Oxycodone for Acute Pain Management". By Peter A. Crooks, Abeer M. Al Ghananeem, and Ahmad Malkawi, U.S. Provisional Patent Application, filed March 21st, 2005
 172. "Use of 3-Aryl/Heteroaryl-2-thiophene-3-yl-acrylonitriles as Anticancer Agents". By Peter A. Crooks and Vijayakumar Sonar, U.S. Patent Application, submitted to the University of Kentucky Intellectual Property Committee, March 22nd, 2005.
 173. "Use of Substituted *N*-(1*H*-Indol-3-ylmethylene)-*N*-alkyl-*N*-phenylhydrazines as Anticancer Agents". By Peter A. Crooks and Vijayakumar Sonar, U.S. Patent Application, submitted to the University of Kentucky Intellectual Properties Committee, March 23rd, 2005.
 174. "Use of *N*-Indol-3-ylmethylene)- and *N*-alkyl-*N*-benzo[b]thiophen-3-ylmethylene-*N*-phenylhydrazines as Antitubercular Agents". By Peter A. Crooks and Vijayakumar Sonar, U.S. Patent Application, submitted to the University of Kentucky Intellectual Properties Committee, March 25th, 2005.
 175. "Use of 3-(2-Nitrovinyl)- and 3-(2-Nitropropenyl)indoles as Anticancer Agents". By Peter A. Crooks and Vijayakumar Sonar, U.S. Patent Application, submitted to the University of Kentucky Intellectual Properties Committee, March 29th, 2005.
 176. "Analgesic Uses of Norketamine and Ketamine/Norketamine Prodrugs". By Peter A. Crooks and Miguel Rivera, Australian Patent No. AU 2003,291,037, June 15th, 2004.
 177. "Codrugs as a Method of Controlled Drug Delivery". By Paul Ashton, Peter A. Crooks, Robert M. Riggs, Tadeusz Cynkowski, Grazyna Cynkowska, Danish Patent No. DK 740650T, September 27th, 2004. Spanish Patent No. ES 2,222,455T, February 1st, 2005.

XIII

Grant Activity and Research Support

1970-1974

"Semi-Rigid Heterocyclic Compounds with Potential Analgesic Activity", Imperial Chemical Industries, Alderely Park, England, 1972-1975, \$18,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

Pharmaceutical Society of Great Britain Award for Graduate Student Support for the Project - "Synthesis and Pharmacological Profile Within the CNS of Some Rigid and Semi-Rigid Analogues of Phenylethylamines", 1972, \$14,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

Pharmaceutical Society of Great Britain Award for Graduate Student Support for the Project - "Synthesis of Novel Enkephalin Analogues", 1974, \$15,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

Society of Great Britain Award for Graduate Student Support for the Project - "Conformationally Defined Analogues of Dopamine, Tyramine and Phenylethylamine", 1974, \$15,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

1975-1979

"Novel, Rigid Phenethylamine Analogues", Imperial Chemical Industries, Alderely Park, England, 1975-1976, \$8,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

"Rigid Analogues of Dopamine", The Wellcome Foundation, United Kingdom, 1978-1979, \$8,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

Science Research Council Award for Graduate Student Support for the Project - "Development of Transition - State Analogue Inhibitors of DNA Adenine N⁶-Methyltransferase", 1979, \$15,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

"Synthesis of Novel Heterocycles from Ninhydrin", British Council - CNR (Italy), Academic Links Scheme, 1979-80, \$6,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

1980-1984

Science Research Council Award for Graduate Student Support for the Project - "Synthesis of Mechanism - Based Inhibitors of RNA Guanine 7-Methyltransferase", 1980, \$15,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

"Synthesis and Evaluation of Methyltransferase Inhibitors", Science Research Council, 1981-1982, \$12,000 (approximate U.S. equivalent) (P.I. Peter A. Crooks).

"Role of Methylation in Nicotine Toxicity", Tobacco and Health Research Institute, 1982-1983, \$65,101 (P.I. Peter A. Crooks).

"The Role of Methylation in Nicotine Toxicity", Tobacco and Health Research Institute, June 1982-December 1985, \$11,799 (P.I. Peter A. Crooks).

"Laboratory Equipment for Research", Biomedical Research Support Grant, 1982, \$2,124 (P.I. Peter A. Crooks) - funded.

"Role of Methylation in Nicotine Toxicity", (2nd year renewal) Tobacco and Health Research Institute, 1983-1984, \$59,677 (P.I. Peter A. Crooks).

"Alterations of Rat Trachea and Lung Polyamine Biosynthesis by Cigarette Smoke Components", Tobacco and Health Research Institute, 1983-1984, \$56,379 (P.I. J. Olson, Co-Investigator, Peter A. Crooks).

"Synthesis and Evaluation of Multisubstrate Adducts as Selective Inhibitors of Phenylethanolamine-N-methyltransferase", Isabell Kirscher Research Award, 1983-1984, \$5,000.00 (P.I. Peter A. Crooks).

"Development of Irreversible Inhibitors of Aminoalkyltransferases", University of Kentucky Research Foundation Research Project Award, 1983-1984, \$1,500 (P.I. Peter A. Crooks).

"Role of Methylation in Nicotine Toxicity (3rd year renewal), Tobacco and Health Research Institute, 1984-1985, \$66,426 (P.I. Peter A. Crooks).

"Closed-System Metabolic Cages", Tobacco and Health Research Institute - Special Equipment Award, 1984, \$4,598 (P.I. Peter A. Crooks).

"A Campus Facility for the Packing of High-Pressure Liquid Chromatographic Columns", UKMC Major Equipment Award, 1984, \$3,017 (P.I. Peter A. Crooks).

"Metabolic Fate of Dichloroacetonitrile", University of Kentucky Medical Center Research Award, 1984-1985, \$4,230 (P.I. Peter A. Crooks).

1985-1989

"An *In Vivo* Study of the Effect of Chronic Nicotine Administration on Tissue and Plasma Levels of Histamine", Tobacco and Health Research Institute, 1985, \$19,917 (P.I. Peter A. Crooks).

"Role of Methylation in Nicotine Toxicity - Potential Toxicity of N-Methylnicotinium Ion", Tobacco and Health Research Institute, January 1986 - December 1986, \$24,382 (P.I. Peter A. Crooks).

"Chromatographic Resolution of (\pm)-[¹⁴C-2]-Nicotine", R.J. Reynolds Tobacco Company, 1987-1988, \$14,748 (P.I. Peter A. Crooks).

"(\pm)-[¹⁴C-2]-Nicotine", R.J. Reynolds Tobacco Company, 1987, supplied as a gift (value \$33,780) (P.I. Peter A. Crooks).

"Nicotine Methylation Studies", Tobacco and Health Research Institute, January 1 to June 1987, \$11,748 (P.I., Peter A. Crooks).

"Super HPTLC System", University of Kentucky Bond Issue Equipment Proposal, 1987, \$50,000 (P.I. Peter A. Crooks).

"Metabolism and Pharmacology of Triazoline Anticonvulsants", National Institutes of Health, 1987-1990, \$170,493 (P.I. Pankaja K. Kadaba, Co-Investigator, Peter A. Crooks).

"Liquid Chromatography Flow-Through Optical Activity Detector", University of Kentucky Bond Issue Equipment Proposal, 1987, \$20,158 (P.I. Peter A. Crooks).

"Diode Array Flow-Through Rapid Spectrum Detector", University of Kentucky Bond Issue Equipment Proposal, 1987, \$18,900 (P.I., Peter A. Crooks).

"Gradient High Performance Liquid Chromatography System", University of Kentucky Bond Issue Equipment Proposal, 1987, \$10,222 (P.I. Peter A. Crooks).

"Research Personnel Support Grant", Tobacco and Health Research Institute, July, 1987, \$1,500 (P.I. Peter A. Crooks).

"Development of New Antiviral Agents", Faculty Development Program Support, 1988, \$4,500 (P.I. Peter A. Crooks).

"Synthesis of Nicotine Derivatives", R.J. Reynolds Tobacco Company, 1988-1989, \$35,535 (P.I. Peter A. Crooks).

"Synthesis of Inhibitors of Phenylethanolamine N-Methyltransferase as Prototypes for the Development of Antihypertensive Agents", Southern Research Institute, March, 1989, \$9,500 (P.I. Peter A. Crooks, Co.P.I. S. Niwas).

"Synthesis of Nicotine Derivatives", (Second Year) R.J. Reynolds Tobacco Company, \$38,378, 1989-1990 (P.I. Peter A. Crooks).

1990-1994

"Practical Approaches to Enhancing the Stability of Aspartame in Aqueous Solutions", The Nutrasweet Company, 1990-1991, \$50,625, (P.I. Anwar A. Hussain, Co.P.I. Peter A. Crooks).

"Development of Novel Antisense Oligonucleotides", UKMC Major Equipment Research Fund, January 1990 to December 31, 1990, \$19,352 (P.I. Peter A. Crooks, Co-Investigator, R.M. Riggs).

"Synthesis of Glucuronide Conjugates of Nicotine, Cotinine and 3'-Hydroxycotinine", R.J. Reynolds Tobacco Company, \$25,080, 1990-1992 (P.I. Peter A. Crooks).

"Development of Antisense Oligonucleotides with Potential Chemotherapeutic Value in the Treatment of AIDS", Biomedical Research Support Grant, NIH, \$3,900, 1990-1991 (P.I. Peter A. Crooks).

"Pharmaceutical Preparations for Addiction Treatment," National Institutes of Health, NIDA, 1991-1996, \$1,936,422, (P.I. Rajinder Matharu, Co-P.I., Peter A. Crooks).

"CNS Pharmacology of Nicotine and Its Metabolites", Tobacco and Health Research Institute, 1991-1992, \$54,000 (P.I. Linda Dwoskin, Co-P.I. Peter A. Crooks).

"Synthesis of Compounds as Therapeutic Agents in Alzheimer's Disease", R.J. Reynolds Tobacco Company, 1992-1993, \$83,000 (P.I. Peter A. Crooks).

"CNS Pharmacology of Nicotine and Its Metabolites", Tobacco and Health Research Institute, 1992-1993, \$56,442, 2nd year renewal (P.I.s Linda Dwoskin, Peter A. Crooks).

"Nasal Absorption of Oxymetazoline, Azatadine Hydrochloride and Chlorpheniramine Maleate in Rats Using *In-Vivo In-Situ* Technique", Schering-Plough Health Care Products, 4-1-92 to 10-1-92, \$44,000 (P.I.'s Dr. Anwar Hussain, Dr. Peter A. Crooks).

"Synthesis of Compounds as Therapeutic Agents in Alzheimer's Disease", R.J. Reynolds Tobacco Company, 1993-1994, \$130,000, 2nd year renewal (P.I. Peter A. Crooks).

"Synthesis of Prodrugs for Ophthalmic Delivery", Control Delivery Systems, Inc., 1993-1994, \$71,520, (P.I. Peter A. Crooks, Co-P.I. Robert M. Riggs).

"Synthesis of dl-NAM and Related Amino Acid Nitrogen Mustards", NIH, National Institute on Aging, 1993-1996, \$50,000, for contract synthesis (P.I., Peter A. Crooks).

"CNS Pharmacology of Nicotine and its Metabolites", Tobacco and Health Research Institute, 1993-1994, \$63,692, 3rd year renewal, (P.I.'s Linda Dwoskin, Peter A. Crooks).

"Synthesis of Prodrugs for Ophthalmic Delivery", Control Delivery Systems, Inc., 1994-1995, \$86,058, 2nd year renewal (P.I. Peter A. Crooks).

"Synthesis of Compounds as Therapeutic Agents in Alzheimer's Disease", R.J. Reynolds Tobacco Company, 1994-1995, \$130,000, 3rd year renewal (P.I. Peter A. Crooks).

"CNS Pharmacology of Nicotine and its Metabolites", Tobacco and Health Research Institute, 1994-1995, \$71,639 (P.I.'s Linda Dwoskin and Peter A. Crooks), fourth year renewal.

"Enantioselective Synthesis of Nornicotine", UKMC Research fund, 1994-1995, \$9,500 (P.I. Peter A. Crooks).

1995-1999

"Synthesis of Prodrugs for Ophthalmic Delivery", Control Delivery Systems, Inc., 1995-1996, \$107,100, 3rd year renewal (P.I. Peter A. Crooks).

"Synthesis of Compounds as Therapeutic Agents in Alzheimer's Disease", R.J. Reynolds Tobacco Company, 1995-1996, \$131,000, 4th year renewal (P.I. Peter A. Crooks).

"CNS Pharmacology of Nicotine and its Metabolites", Tobacco and Health Research Institute, \$79,705, 7/01/95 to 6/30/96 (Co P.I.s Linda Dwoskin and Peter A. Crooks), fifth year renewal.

"Acylated Amino Acids and Peptides: Use as Antioxidants and Emulsifiers in Foods", NRICGP/CSRS/USDA, \$137,236.75, 9/15/95 to 9/30/96, (P.I. Clair L. Hicks, Co.P.I., Peter A. Crooks).

"Synthesis of Prodrugs for Ophthalmic Delivery", Control Delivery Systems, Inc., 3/1/96 - 2/28/97, \$124,220, 4th year renewal (P.I. Peter A. Crooks).

"CNS Pharmacology of Nicotine and its Metabolites", Tobacco and Health Research Institute, \$83,466, 7/01/96 to 6/30/97 (Co P.I.'s Linda Dwoskin and Peter A. Crooks), sixth year renewal.

"Genetic Manipulation of Tobacco Plants to Produce Molecular Diversity", Tobacco and Health Research Institute, Collaborative In-House Project, \$155,500, 7/1/96 - 6/30/97, P.I.'s Peter A. Crooks, Abdulghani Houdi and John Littleton.

"Synthesis of Compounds as Therapeutic Agents in Alzheimer's Disease," R.J. Reynolds Tobacco Company, 1996-1997, \$181,303, 5th year renewal (P.I. Peter A. Crooks).

"Normicotine Contribution to the CNS Effect of Nicotine", National Institutes of Health, \$421,000 4/01/97 to 3/30/00 (Co P.I.s Linda Dwoskin and Peter A. Crooks).

"Development of Selective Nicotinic Receptor Antagonists", National Institutes of Health, \$989,051, 12/1/97 to 11/30/01 (Co P.I.s Linda Dwoskin and Peter A. Crooks).

"Synthesis of Prodrugs for Ophthalmic Delivery", Control Delivery Systems, Inc., 3/01/97-2/28/98, \$144,900, 5th year renewal (P.I. Peter A. Crooks).

"CNS Pharmacology of Nicotine and its Metabolites", Tobacco and Health Research Institute, \$52,000, 7/01/97-6/30/98 (Co-P.I.s Linda Dwoskin and Peter A. Crooks), seventh year renewal.

"Synthesis of Compounds as Therapeutic Agents in Alzheimer's Disease." R.J. Reynolds Tobacco Company, 6/01/97 – 6/30/00, \$195,000, (P.I. Peter A. Crooks).

"Genetic Manipulation of Tobacco Plants to Produce Molecular Diversity." Tobacco and Health Research Institute, Collaborative In-House Project, \$175,000, 7/1/97 – 6/30/98 (P.I.s Peter A. Crooks, Deane Falcone, and John Littleton), second year renewal.

"Synthesis of Prodrugs for Ophthalmic Delivery." Control Delivery Systems, Inc., 3/01/98 – 2/28/99, \$152,680, 6th year renewal, (P.I. Peter A. Crooks).

"CNS Pharmacology of Tobacco Alkaloids." Tobacco and Health Research Institute, \$93,792, 7/01/98 – 6/30/99 (CoP.I.s Linda Dwoskin and Peter A. Crooks), eighth year renewal.

"Genetic Manipulation of Tobacco Plants to Produce Molecular Diversity." Tobacco and Health Research Institute, Collaborative In-House Project, \$163,985, 7/1/98 – 6/30/99 (P.I.s Peter A. Crooks, Deane Falcone, and John Littleton), third year renewal.

"Research Training in Drug Abuse Behavior." NIDA T32 DA 07304-01, \$782,836, 7/1/98-6/30/03 (P.I. Tim F. Garrity, P.G.F. Peter A. Crooks, 5% effort).

"Synthesis of Prodrugs for Ophthalmic Delivery.", Control Delivery Systems, Inc., 3/01/99 – 2/28/03, \$172,179, 7th year renewal, (P.I. Peter A. Crooks).

"CNS Pharmacology of Tobacco Alkaloids.", Tobacco and Health Research Institute, \$80,000, 7/01/99 – 6/30/00 (Co P.I.s Linda Dwoskin, Peter A. Crooks, Michael Bardo), ninth year renewal.

"Genetic Manipulation of Tobacco Plants to Produce Molecular Diversity." Tobacco and Health Research Institute, Collaborative In-House Project, \$175,000, 7/1/99 – 6/30/00 (P.I.s Peter A. Crooks, Deane Falcone, and John Littleton), fourth year renewal.

"Preparation of Analgesic Molecules." Endo Pharmaceuticals, Inc. \$20,000, 3/01/99-9/30/99. (P.I. Peter A. Crooks).

"Development of Nicotinic Receptor Antagonist Molecules." Layton Biosciences, Inc. \$103,000, 10/1/99 - 9/30/01 (P.I. Peter A. Crooks, CoP.I. Linda Dwoskin).

"Development of Screens for Drugs in Alcohol Dependence." NIH RFA-AA-99-004 (In Vivo Medication Development for Alcohol-Related Conditions) \$2,709,686, 9/30/99-8/31/04 (P.I. J. Littleton, Co P.I. Peter A. Crooks, 10% effort).

2000-2004

"Enhanced Glycolysis for Hypothermic Heart Preservation." NIH R01 \$1,388,298, 7/1/00-6/30/05 (P.I. S. Chien, Co P.I. Peter A. Crooks, 5% effort).

"Development of Novel Therapies for Methamphetamine Abuse." NIDA RO1 \$1,158,800, 7/15/00-6/14/04 (P.I. Linda P. Dwoskin, Co. P.I. Peter A. Crooks, 15% effort).

"Graduate Training in Environmental Toxicology" NIEHS \$871,302, 7/1/00-6/30/05 (P.I. Mary Vore, P.G.F. Peter A. Crooks, 5% effort).

"CNS Pharmacology of Tobacco Alkaloids.", Tobacco and Health Research Institute, \$60,000, 7/01/00 – 6/30/01 (Co P.I.s Linda Dwoskin, Peter A. Crooks, Michael Bardo), tenth year renewal.

"Genetic Manipulation of Tobacco Plants to Produce Molecular Diversity." Tobacco and Health Research Institute, Collaborative In-House Project, \$180,000, 7/1/00 – 6/30/01 (P.I.s Peter A. Crooks, Deane Falcone, and John Littleton), fifth year renewal.

"Preparation of Analgesic Molecules." Endo Pharmaceuticals, Inc. \$30,000, 8/01/00-9/30/01. (P.I. Peter A. Crooks).

"Lobeline Analogs as a Potential Treatment for Drug Abuse." \$36,120, 6/15/00-6/14/01, NIH Predoctoral Fellowship awarded to Marlon D. Jones (1 F31 DA06061), sponsor: Peter A. Crooks.

"CNS Pharmacology of *Lobelia inflata* Alkaloids and Related Compounds.", Tobacco and Health Research Institute, \$50,345, 7/01/01 – 6/30/02 (Co P.I.s Linda Dwoskin, Peter A. Crooks, Michael Bardo).

"Genetic Manipulation of Tobacco Plants to Produce Molecular Diversity." Tobacco and Health Research Institute, Collaborative In-House Project, \$191,153, 7/1/01 – 6/30/02 (P.I.s Peter A. Crooks, Deane Falcone, and John Littleton), sixth year renewal.

"Novel Nicotine Analogs" Targacept, Inc., 2/01/02 – 1/31/03, \$149,167, (P.I. Peter A. Crooks, 10% effort).

"Naltrexone Prodrugs for Transdermal Delivery", NIH (NIDA), \$1,160,000, 1/1/02 - 12/31/05 (P.I. Audra Stinchcomb, Co. P.I. Peter A. Crooks, 10% effort).

"Transdermal Crodrugs for Treatment of Alcohol Abuse ", NIH (NIAAA; RFA-AA-02-004, "New Approaches to Developing Pharmacotherapy for Alcoholism"), \$1,149,167, 7/1/02 - 6/30/06 (P.I. Audra Stinchcomb, Co P.I. Peter A. Crooks, 10% effort).

"Development of Bioactive Probes Derived from Bacteriophage", KSEF, \$15,000 annual direct costs, 1/1/02 - 12/31/02 (P.I. Clair Hicks, Co P.I. Peter A. Crooks, 3.5% effort).

"Drug Development Research", Kentucky Science and Technology Committee (KSTC), \$335,888, 6/1/02-5/31/05, \$125,333 annual direct costs, (P.I. Peter A. Crooks, 8% effort).

"Design and Discovery of Novel Subtype-Selective Nicotinic Receptor Agonists and Antagonists, Utilizing Animal-Free Cell Culture and Microplate Technologies", International Foundation for Ethical Research, \$15,000 7/1/02-6/30/03, Predoctoral Fellowship awarded to Aaron Hubner, (Sponsor: Peter A. Crooks, 0% effort).

"Development of Novel Treatments for Nicotine Addiction", NIH-NIDA (U19; DA017548), National Cooperative Drug Discovery Groups (NCDDG-MD/NA), \$6,600,575, 7/1/03-6/30/08, (Program Director: Linda P. Dvoskin; P.I.s Linda P. Dvoskin, Peter A. Crooks (40% effort), Michael T. Bardo). Scientific Core: "Scale-up, Pharmacophore Modeling, Pharmacokinetics and Metabolism", \$439,823 direct costs, 7/1/03-6/30/08 (P.I. Peter A. Crooks, 10% effort). Project 1: "Synthesis of Novel Analogs", \$1,063,272 direct costs, 7/1/03-6/30/08 (P.I. Peter A. Crooks, 25% effort). Project 2: "Nicotinic Receptor Subtype Selectivity", \$1,727,763, direct costs, 7/1/03-6/30/08 (P.I. Linda P. Dvoskin, Co P.I. Peter A. Crooks, 5% effort).

"Post-doctoral Fellowship", Yaupon Therapeutics, Inc.; \$101,240, 7/1/03-6-30-05, (P.I. Peter A. Crooks, 0% effort).

"Viral Peptides Used to Develop a Model System for Rapid Assay Probes", KSEF; \$202,004, 7/1/03-6/31/05, (P.I. Clair Hicks, CoP.I. Peter A. Crooks, 8% effort).

"Transdermal Delivery of Nornicotine", KSTC, \$100,000, 3/1/03-2/28/04, (P.I. Audra Stinchcomb, CoP.I. Peter A. Crooks, 16.7% effort).

"Nornicotine Enantiomers and Nicotine Self Administration", NIH/NIDA (STTR); \$100,000, 4/1/03-3/31/04, (P.I. Michael Bardo, CoP.I. Peter A. Crooks, 5% effort).

"Norketamine for Treatment of Pain", NIH (STTR); \$100,000, 11/4/03-10/3/04, (Joseph Holtman P.I., CoP.I. Peter A. Crooks, 5% effort), funded.

"N-Demethylation of S-(-)-Nicotine as an Economical Source of S-(-)-Nornicotine, a Potential Smoking Cessation Agent", NSF/UK Natural Product Alliance, \$30,000, 6/1/03-5/31/04, (P.I. Peter A. Crooks, 5% effort).

"Parthenolides as Potential Treatments for Lung Cancer", KLCRP; \$209,998, 1/1/04-12/1/06, (P.I. Peter A. Crooks, 2% effort).

"Development of Screens for Drugs in Alcohol Abuse", NIH-NIAAA; \$1,886,380 direct costs, 5/1/04-4/30/08, (P.I. John M. Littleton, CoP.I. Peter A. Crooks, 10% effort).

"Training in Drug Abuse Related Research", NIH/NIDA-K; \$1,147,537, 6/1/04-5/31/09. (P.I. Louis Hersh, P.G.F. Peter A. Crooks, 5% effort).

"Radiosensitization by the Cellular Heat Shock Response", PPG NIH/NCI; \$11,044,020, 7/1/04-6/30/09, (Program Director, Joseph Roti-Roti) \$352,061, 7/1/04-6/30/09, subcontract with the University of Washington, (P.I. Peter A. Crooks, 2% effort).

"Polyamine Inhibition: a Target for Biodefense in *Y. pestis*" NIH/SERCEB, \$230,000, 10/1/04-2/28/06. (P.I. Marcos Oliviera, 5% Effort).

"Nornicotine as a Treatment for Nicotine Abuse", STTR Phase 2/NIH/NIDA; \$750,000, 11/1/04-12/31/06. (P.I. Michael Bardo, 5% effort), priority score 205, slated for funding.

2005-2009

"Bone-Targeting and Bone Anabolic Compounds", KSTC, 1/1/05-12/31/05 (P.I. William M. Pierce, CoP.I. Peter A. Crooks, subcontract, \$22,000, 1.5% effort).

"Thymoquinone as a Chemoprotective/Cancer Cytotoxic Agent", STTR Phase 1/NIH/NCI; \$100,000, 4/1/05-3/31/06. (P.I. Val Adams, 5% effort), pending.

"Optimizing Direct ATP Delivery to Ischemic Tissues", PAR/NIH/Bioengineering Research Partnerships; \$6,274,179, 7/1/05-6/30/10, (Program Director Sufan Chien) \$156,752, 7/1/05-6/30/08, subcontract with the University of Louisville), (P.I. Peter A. Crooks, 5% effort), pending.

"Stress, Coping, Nicotine Dependence & Cotinine In Blacks" R21/NIH/NIDA, \$275,000, 3/1/05-2/28/07. (P.I. Anita Fernander, 5% effort), pending.

"Use of Phage Peptides to Create a Rapid Assay Probe for *Salmonella*" NineSigma/RFP 30382-2, \$563,574, 3/1/05-2/28/08. (P.I. Clair Hicks, 5% effort), pending.

"Norketamine for Treatment of Pain" STTR Phase 2/NIH/NIDA, \$750,000, 7/1/05-6/30/07. (P.I. Joseph Holtman, CoP.I. Peter A. Crooks, 10% effort), pending.

"Nornicotine as a Treatment for Nicotine Abuse", STTR Phase 2/NIH/NIDA; \$750,000, 7/1/05-6/30/07. (P.I. Michael Bardo, 5% effort), pending.

"Preparation of Lofexidine Hydrochloride Enantiomers", STTR Phase 1/NIH/NIDA; \$100,000, 7/1/05-6/30/07. (P.I. Peter A. Crooks, 10% effort), pending.

“Choline Acetyltransferase and Congenital Myasthenic Syndrome”, Muscular Dystrophy Association (MDA), \$290,847, 7/1/05-6/30/08, (P.I. David Rodgers, CoP.I. Peter A. Crooks, 10% effort), pending.

“Race-Related Stress, Coping, and Smoking Topography Among African Americans”, R01, NIH/NIDA; \$1,830,750, 12/1/05-11/30/10, (P.I. Anita Fernander, Co.I. Peter A. Crooks, 5% Effort), pending.

“Centers for Medical Countermeasures Against Radiation”, RFA-A104045, NIH/NIAI; \$24,177,387, 9/1/05-8/3/10 (Center Director, Simon Powell; Leader, “Medicinal Chemistry Core D”, Peter A. Crooks, \$1,410,704, 10% effort, 9/1/06-8/3/10; P.I. Peter A. Crooks, Project 3, “Directed Development of Radioprotective Compounds”, \$1,053,736, 25% effort, 9/1/06-8/3/10), pending.

“Arginine Decarboxylase of *Y. pestis*: a Unique Mg⁺ and PLP-Dependent Enzyme”, PA-04-119 (Biodefense and Emerging Infectious Disease opportunities)/NIH; \$1,402,256, 12/01/05-11/30/10 (P.I. Marcos Oliveira, Co P.I. Peter A. Crooks, 5% effort), pending.

“Development of Novel Therapies for Methamphetamine Abuse”, NIH/NIDA; \$3,101,858, 12/01/05-11/30/10 (P.I. Linda Dwoskin, Co P.I. Peter A. Crooks, 15% effort), pending.

“Choline Acetyltransferases and Neuromuscular Disorders”, NIH; \$1,647,675, 4/1/05-3/31/10 (P.I. David Rodgers, Co P.I. Peter A. Crooks, 10% effort), pending.

“High Resolution NMR with Special Equipment for Drug-Discovery Research”. NIH/DHHS; \$500,000, 4/4/06-3/31/07 (P.I. Jurgen Rohr, CoP.I. Peter A. Crooks, 0% effort), pending.