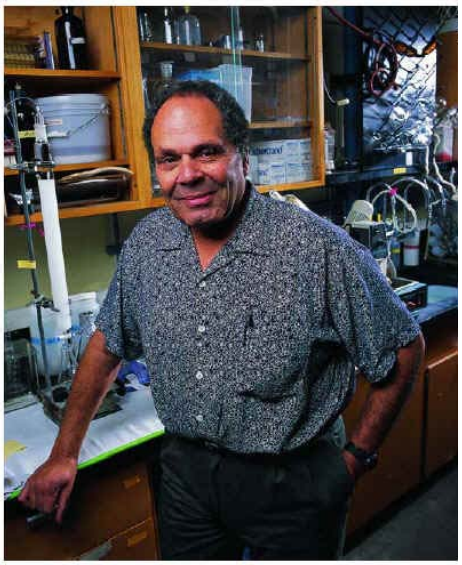
Phillip Crews
Professor of Chemistry



Education / Training

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of California at Los Angeles	B.S.	1966	Chemistry
University of California at Santa Barbara	Ph.D.	1969	Chemistry
Princeton University	Postdoc.	1969-70	Organic Chemistry

Positions and Employment

1986-2006 Professor of Chemistry, University of California, Santa Cruz
1977-86 Associate Professor of Chemistry, University of California, Santa Cruz
1970-77 Assistant Professor of Chemistry, University of California, Santa Cruz
1981 Visiting Professor, University of Arizona (Fall Quarter)
1974 Visiting Professor, University of Hawaii (Winter Quarter)

Other Experience and Professional Memberships

2004-present Editorial Advisory Board Member for Phytochemistry Letters
2000-present NIH RCMI Study Section Member
1998-present American Society of Enology and Viticulture
1994-present Director, Bridges to the Baccalaureate Program (ACCESS)
1989-present American Society of Pharmacognosy
1988-present National Organization of Black Chemists and Chemical Engineers
1966-present American Chemical Society
1996-2000 NIH BNP Study Section
1997 External Reviewer, Chemistry Program, San Francisco State University
External Advisor Wayne State University NCNPDDG meeting, Annapolis, MD
1995-1997 Study Section Member, U.S. Army Department of Defense Breast Cancer Research Program, Washington, D.C.
1994-1997 Director, Precollege Enrichment Program (PREP)
1995 Study Section Member, U.S. Army Department of Defense Breast Cancer Research Program, Baltimore, MD.
Site Visit Team to NIH LDDRD Fredrick, MD
1993-1994 Review of instrument infrastructure grant proposals for Chemistry Section of NSF
1989-94 NIH/NCI Division of Cancer Treatment, Board of Scientific Counselors

Honors

2008 Chair, 2008 Gordon Research Conference-Marine Natural Products, Ventura B each, CA.
2007 American Society of Pharmacognosy (ASP) Research Achievement Award

2006	Vice Chair, 2006 Gordon Research Conference-Marine Natural Products, Ventura Beach, CA.
2005	Best Paper, 2005 Journal of Natural Products, Arthur E. Schwarting Award
2003	Speaker, 2003 Annual American Pharmacognosy Meeting, Chapel Hill, NC
2001	Volding Memorial Lecture at MALTO, U. Mississippi, May
2000	J. Clarence Karcher Lecturer, University of Oklahoma, October
2000	AA Student Life Image Award, Spring Quarter
1999	Boehringer Ingelheim Distinguished Lecturer, Colorado State University, April
1993	King/Chavez/Park Visiting Lecturer, U. Michigan, Fall Quarter

Books

1. P. Crews, J. Rodriguez, M. Jaspars. Organic Structure Analysis, Oxford University Press: New York 1998

Research Support Selected Peer-reviewed Publications (of 176)

177. Deschamps, J. D.; Gautschi, J. T.; Whitman, S.; Johnson, T. A.; Gassner, N. C.; Crews, P.; Holman, T. R.; Discovery of platelet-type 12-human lipoxygenase selective inhibitors by high-throughput screening of structurally diverse libraries. *Bio. Med. Chem.* **2007,** *15,* 6900-6908.
176. Boot, C. M.; Gassner, N. C.; Compton, J. E.; Tenney, K.; Tamble, C. M.; Lokey, R. S.;Holman, T. R.; Crews, P.; Pinpointing Pseurotins from a Marine Derived *Aspergillus* as Tools for Chemical Genetics Using a Synthetic Lethality Yeast Screen. *J. Nat. Prod*. **2007**, In Press.
175. Robinson, S. J.; Tenney, K.; Yee, D. F.; Martinez, L.; Media, Joseph E.; Valeriote, F. A.; van Soest, Rob W. M.; Crews, P. Probing the Bioactive Constituents from Chemotypes of the Sponge *Psammocinia* aff. *Bulbosa. J. Nat. Prod.* **2007**, *70*, 1002-1009.
174. Hu, X.; Dang, Y.; Tenney, K.; Crews, P.; Cole, P.; Liu, J. O. Regulation of c-Scr Non-receptor Tyrosine Kinase Activity by Bengamide A Through Inhibition of Methionine Aminopeptidases. *Chem. Biol.* **2007,***14*, 764-774.
173. Li, H.; Amagata, T ; Tenney, K.; Crews, P. Additional Scalarane Sesterterpenes from the Sponge Phyllospongia papyracea. *J. Nat. Prod.* **2007**, *70*, 802-807.
172. Boot, C. M.; Amagata, T.; Tenney, K.; Compton, J. E.; Pietraszkiewicz, H.; Valeriote, F. A.; Crews, P. Four Classes of Structurally Unusual Peptides from two Marine-Derived Fungi: Structures and Bioactivities. *Tet.* **2007**, *63*, 9903-9914.
171. Johnson, T.; Tenney, K.; Cichewicz, R.; Morinaka, B.; White, K.; Amagata, T.; Subramanian, B.; Media, J.; Mooberry, S.; Valeriote, F. A.; Crews, P. Sponge-Derived Fijianolide Polyketide Class: Further Evaluation of Their Structural and Cytotoxicty Properties. *J. Med. Chem.* **2007**, *50, 3795-3803.*
170. Rubio, B. K.; van Soest, Rob W. M.; Crews, P. Extending the Record of Meroditerpenes from *Cacospongia* Marine Sponges. *J. Nat. Prod*. **2007**, *70*, 628-631.
169. Pina, I.; White, K.; Cabrera, G.; Rivero, E.; Crews, P. Bromopyrrole Carboxamide Biosynthetic Products from the Caribbean Sponge *Agelas dispar. J. Nat. Prod*. **2007**, *70*, 613-617.
168. Ralifo, P.; Sanchez, L.; Gassner, N.; Tenney, K.; Lokey, S.; Holman, T.; Valeriote, F. A.; Crews, P. Pyrroloacridine Alkaloids from *Plakortis quasiamphiaster*- Structures and Bioactivity. *J. Nat. Prod*. **2007**, *70*, 95-99**.**
167. Gassner, N.; Tamble, C.; Bock, J.; Cotton, N.; White, K.; Tenney, K.; Onge, R.; Proctor, M.; Giaever, G.; Davis, R.; Crews, P.; Holman, T.; Lokey, S. Accelerating the Discovery of Biologically Active Small Molecules Using a High-Throughput Yeast Halo Assay. *J. Nat. Prod.* **2007**, *70,* 383-390.
166. Wegerski, C.; Hammond, J.; Tenney, K.; Matainaho, T.; Crews, P. A Serendipitous Discovery of Isomotuporin-Containing Sponge Populations of *Theonella swinhoei. J.Nat. Prod.* **2007**, *70*, 89-94**.**
165. Ralifo, P.; Tenney, K.; Valeriote F. A.; Crews, P. A Distinctive Structural Twist in the Aminoimidazole Alkaloids from a Calcareous Marine Sponge-Isolation and Characterization of Leucosolenamines A and B. *J. Nat. Prod.* **2007**, *70,* 33-38.
164. Gautschi J. T.; Tenney, K.; Compton, J.; Crews, P. Chemical Investigations of a Deep Water Marine Derived Fungus: Simple Amino Acid Derivatives from an *Arthrinium* sp*. Nat. Prod. Comm.* **2007**, *2*, 541-546.

163. Amagata, T.; Morinaka, B.; Amagata, A.; Tenney, K.; Valeriote, F. A.; Lobkovsky, E.; Clardy, J.; Crews, P. A Chemical Study of Cyclic Depsipeptides Produced by a Sponge-Derived Fungus. *J. Nat. Prod*. **2006,** *69*, 1560-1565.
162. Wegerski, C.; Sonnenschein, R. N.; Valeriote F. A.; Matainaho F. A.; Crews, P. Stereochemical Challenges In Characterizing Nitrogenous Spiro-Axane Sesquiterpenes from the Indo-Pacific sponges *Amorphinopsis* and *Axinyssa. Tetrahedron,* **2006**, *62*, 10393-10399.
161. Sonnenschein, R. N.; Johnson, T. A.; Tenney, K.; Valeriote F. A.; Crews, P. A Reassignment of (-) and the Isolation of the Related Diol. *J. Nat. Prod.* **2006**, *69*, 145-147.
160. Boot, C. M.; Tenney, K.; Valeriote, F. A.; Crews, P. Highly N-Methylated Linear Peptides Produced by an Atypical Sponge-Derived *Acremonium* sp. *J. Nat. Prod.* **2006**, *69,* 83-92.
159. Subramanian, B.; Nakeff, A.; Tenney, K.; Crews, P.; Gunatilaka, L.; Valeriote, F. A. A New Paradigm for the Development of Anticancer Agents from Natural Products. *J. Exp. Therap. Onc.* **2006**, *5*, 195-204.
158. Christian, O. E.; Compton, J.; Christian; K. R.; Mooberry, S. L.; Valeriote, F. A.; Crews, P. Using Jasplankinolide to Turn on Pathways that Enable the Isolation of New Chaetoglobosins from *Phomospis asparagi*. *J. Nat. Prod.* **2005**, *68*, 1592-1597.
157. Segraves, N. L.; Crews, P. Investigation of Brominated Tryptophan Alkaloids from Two Thorectidae Sponges: *Thorectandra* and *Smenospongia*. *J. Nat. Prod*. **2005**, *68*, 1484-1488.
156. Cichewicz, R. H.; Clifford, L. J.; Lassen, P. R.; Cao, X.; Freedman, T. B.; Nafie, L. A.; Deschamps, J. D.; Kenyon, V. A.; Flanary, J. R.; Holman, T. R.; Crews, P. Stereochemical Determination and Bioactivity Assessment of (*S*)-(+)-curcuphenol Dimers Isolated from the Marine Sponge Didiscus aceratus and Synthesized through Laccase Biocatalysis. *Bioorg. Med. Chem*. **2005**, *13*, 5600-5612.
155. Flatt, P. M.; Gautschi, J. T.; Thacker, R. W.; Musafija-Girt, M.; Crews, P.; Gerwick, W. H. Identification of the Cellular Site of Polychlorinated Peptide Biosynthesis in the Marine Sponge *Dysidea (Lamellodysidea) herbacea* and Symbiotic cyanobacterium *Oscillatoria spongeliae* by CARD FISH Analysis. *Mar. Bio*. **2005**, *147*, 761-774.
154. Crews, P.; Gerwick, W. H.; Schmitz, F. J.; France, D.; Blair, K. W.; Wright, A. M.; Hallock, Y. Molecular Approaches to Discover Marine Natural Product Anticancer Leads – An Update from a Drug Discovery Group Collaboration. *Pharm. Biol.* **2004**, *41*, 39-52.
153. Segraves, N. L.; Crews, P. A Madagascar Sponge *Batzella* sp. as a Source of Alkylated Iminosugars. *J. Nat. Prod.* **2005**, *68*, 118-121.
152. Ralifo, P.; Crews, P. A New Structural Theme in the Imidazole Containing Alkaloids from a Calcareous *Leucetta* Sponge. *J. Org. Chem*. **2004**, *69*, 9025-9029.
151. Cichewicz, R. H.; Kenyon, V. A.; Whitman, S.; Morales, N. M.; Arguello, J. F.; Holman, T. R.; Crews, P. Redox Inactivation of Human 15-Lipoxygenase by Marine- Derived Meroditerpenes and Synthetic Chromanes: Archetypes for a Unique Class of Selective and Recyclable Inhibitors. *J. Am. Chem. Soc*. **2004**, *126*, 14910-14920.
150. Wegerski, C. J.; France, D.; Cornell-Kennon, S.; Crews, P. Using a Kinase Screen to Investigate the Constituents of Sponge *Stelleta clavosa* Obtained from Diverse Habitats. *Bioorg. Med. Chem*. **2004**, *12*, 631-5637.
149. Segraves, E. N.; Shah, R. R.; Segraves, N. L.; Johnson, T. A.; Whitman, S.; Sui, J. K.; Kenyon, V. A.; Cichewicz, R. H.; Crews, P.; Holman, T. R. Probing the Activity Differences of Simple and Complex Brominated Aryl Compounds against 15-Soybean, 15-Human and 12-Human Lipoxygenases. J. Med. Chem. **2004**, *47*, 4060-4065.
148. Gautschi, J. T.; Whitman, S.; Holman, T. R.; Crews, P. An Analysis of Phakellin and Oroidin Structures Stimulated by Further Study of an Agelas Sponge. J. Nat. Prod. **2004**, *67*, 1256-1261.
147. Vilozny, B.; Amagata, T.; Mooberry, S. L.; Crews, P. A New Dimension to the Biosynthetic Products Isolated from the Sponge Negombata magnifica. J. Nat. Prod. **2004,** *67*, 1055-1057.
146. Wichewicz, R. H.; Valeriote, F. A.; Crews, P. Psymberin, A Potent Sponge- Derived Cytotoxin from Psammocinia Distantly Related to the Pederin Family. Org. Lett. **2004**, *6*, 1951-1954.
145. Segraves, N. L.; Robinson, S. J.; Garcia, D.; Said, S. A.; Fu, X.; Schmitz, F. J.; Petraszkiewicz, H.; Valeriote, F. A.; Crews, P. Comparison of Fascaplysin and Related Alkaloids: A Study of Structures, Cytotoxicities, and Sources. J. Nat. Prod. **2004**, *67*, 783-792.
144. Gautschi, J. T.; Amagata, T.; Amagata, A.; Valeriote, F. A.; Mooberry, S. L.; Crews, P. Expanding the Strategies in Natural Product Studies of Marine-Derived Fungi: A Chemical Investigation of Penicillium Obtained from Deep Water Sediment. J. Nat. Prod. **2004**, *67*, 362-367.

143. Sonnenshein, R. N., Fariaw, J.J., Tenney, K., Mooberry, S.L., Lobkovsky, E., Clardy, J., Cres, P.A Further Study of the cytotoxic constituents of a Milnamide Producing Sponge. Org. lett. **2004**, *6*, 779-782.
142. Lepourcelet, M.; Chen, Y.-N. P.; France, D. S.; Wang, H.; Crews, P.; Petersen, F.; Bruseo, C.; Wood, A. W.; Shivdasani, R. A. Small-Molecule Antagonists of the Oncogenic Tcf/□-Catenin Protein Complex. Cancer Cell **2004**, *5*, 91-102.
141. Amagata, T.; Amagata, A.; Tenney, K.; Valeriote, F. A.; Lobkovsky, E.; Clardy, J.; Crews, P. Unusual C25 Steroids Produced by a Sponge-Derived Penicillium citrinum. Org. Lett. **2003**, *5*, 4393-4396.
140. Amagata, T.; Rath, C.; Rigot, J. F.; Tarlov, N.; Tenney, K.; Valeriote, F. A.; Crews, P. Structures and Cytotoxic Properties of Trichoverroids and their Macrolide Analogues Produced by Saltwater Culture of Myrothecium verrucaria. J. Med. Chem. **2003**, *46*, 4342-4350.
139. Edrada, R. A.; Stessman, C. C.; Crews, P. Uniquely Modified Imidazole Alkaloids from a Calcareous

Ongoing Research Support

ACTIVE

2 U19 CA052955 (Phil Crews) 09/30/97-04/30/2010 10%AY 9%S
NIH/NCI $1,113,732/yr
Targeted Discovery of Marine-derived Anticancer Leads
The emphasis is on the use of assays, which detect biochemical differences between tumor cells and their normal counterparts. The mechanism-based screens emphasize those, which inhibit specific biochemical targets including oncogene products, signal transducers, enzymes, which impact tumor invasion and metastasis, or mediator of multi-drug resistance

2 R25 GM51765 (Crews) 09/30/2006 – 09/29/2009 0%AY 5%S
NIH $358,633/yr
Baccalaureate Bridges to the Biomedical Sciences (ACCESS)
The major goal of this project is to target students from underrepresented ethnic groups in biomedically relevant fields of science.
Overlap: None.

R01 CA047135-19 (Crews) 04/89/ – 01/31/2012 10%AY 10%S
NIH/NCI $461,782/yr
Molecular Approaches to Discover novel cytotoxic Marine Natural Products from marine sponges and fungi.
The major goal of this research is to obtain new marine natural products with bioactivity against solid tumors, especially colon, breast, prostate, and lung cancers.
Overlap: None.

R019918-01 NCRR High End Instrumentation 07/01/2004-07/31/2008 0%AY 1%S
NIH $271,601 Total Award
Acquisition of a Varian 600 MHz High-Resolution NMR
Role: PI
Overlap: None

CHE-0342912 (Crews) 02/01/2004 – 11/30/2008 0%AY 1%S
NSF $449,600 Total Award
Acquisition of a 600 MHz NMR Spectrometer
This is an equipment grant to obtain a 600 MHz NMR Spectrometer to further current and future research for the Department of Chemistry and Biochemistry at University of California, Santa Cruz.
Role: PI
Overlap: None.

CHE-0243786 05/01/2006-05/01/2009 0%AY 5%S
Title: Summer Undergraduate Research Fellowship (SURF) $141,020 per year.
Project Goals: This "Research Experiences for Undergraduates" called 'SURF' (Summer Undergraduate Research Fellowship) is designed to give students research experience in a laboratory under the mentorship of UCSC faculty members.
Role: PI

Tosk-UC Discovery-Bio 05-10532 04/25/06-04/24/09 1% AY 2
Title: Improving the Effectiveness of Anti-Tumor Agents Cisplatin & Methotre (TOSK) $239,225
Role PI

NSF-DFG SC200060507 07/01/2006-06/30/2009 5%AY 2%S
NSF $254,767 per year
Title: Using the Marine Natural Product Psymberin as a Discovery Template for Biosynthetic Engineering and Metabolemics Investigations
Role: PI

COMPLETED

NIH Grant #TW-00983 (Fogarty International Center) Crews (PI) 10/98-9/02
Title: Antitumor Fijian Sponge-Derived Ketide-Amino Acids
Project Goals: Investigate extracts from marine sponges and sponge-derived fungi from specific orders collected in the Fijian Islands, in collaboration with the University of the South Pacific, Suva, Fiji (Aalbersberg). Crews used bio-assay guided purification to isolate and characterize pure compounds.
Role: PI

University of Michigan (prime: NIH 5 P01 CA83155) Sherman (PI) 9/23/99-2/28/05 (NCTE)
Title: Combinatorial Creation of New Anticancer Agents
Project Goals: Isolation of biosynthetic pathways via screening of libraries with known PKS/nRPS DNA sequence probes. Crews will isolate genomic DNA from marine sponges and elucidate the chemistry of microbial isolates derived from both marine sponge and sediment samples.
Role: Subaward