

William L. Fitch

Professional Experience

Roche Palo Alto

Principal Research Scientist 2001-present

Responsible for managing mass spectrometers and identifying metabolites in the Drug Metabolism and Pharmacokinetics department of Roche Pharmaceutical Research

Affymax Research Institute

Research Fellow, Analytical Chemistry 1992-1999
Principal Scientist 1999-2001

I am responsible for purchasing, maintaining and operating mass spectrometers, NMRs and other analytical instruments in support of combinatorial chemistry efforts. We integrate instrumentation and data processing to provide routine turnkey applications for drug discovery. We use LC/MS and LC/MS/MS to perform structure determination of reaction products, drug candidates and impurities. Quantitative analysis is performed of drug substance in biological matrices. High throughput quantitation of cell metabolites was established with our spin-off, Maxygen using a TSQ7000.

Sandoz Agro Inc.

Group Leader (then Director), Analytical and Information Services 1981-1992

At Sandoz Agro (originally Zoecon Corp), I was responsible for performing and managing spectrometry, NMR, natural product structure determination, scale-up synthesis, analytical methods development (for both proteins and small molecules), stability testing, physical property measurement, quality control and residue analysis, working under GLP for registration of pesticides with the EPA.

Acurex Corp.

Group Leader, Instrumental Analysis Laboratory . 1978-1981

Using mass spectrometry for environmental quantitative analysis

Postdoctoral positions

Stanford University ,Genetics Dept 1977-1978
Syntex Pharmaceuticals, Institute for Molecular Biology 1976-1977
Yale University, Chemistry Dept 1974-1976

Education

Ph.D., organic chemistry, Stanford Univ. (with Carl Djerassi) 1974
B.S., chemistry, University of Michigan 1970

Recent Publications

Application of polarity switching in the identification of the metabolites of RO9237. William L. Fitch*, Limin He, Ya-Ping Tu and Ludmila Alexandrova Rapid Commun. Mass Spectrom. 2007; 21: 1661–1668

Analytical Tools and Approaches for Metabolite Identification in Early Drug Discovery. Yuan Chen, Mario Monshouwer and William L. Fitch Pharm Research 24, 248-257 (2007)

In silico pharmacogenetics of warfarin metabolism Yingying Guo, Paul Weller, Erin Farrell, Paul Cheung, Bill Fitch, Douglas Clark, Shao-yong Wu, Jianmei Wang, Guochun Liao, Zhaomei Zhang, John Allard, Janet Cheng, Anh Nguyen, Sharon Jiang, Steve Shafer, Jonathan Usuka, Mohammad Masjedizadeh & Gary Peltz **NATURE BIOTECHNOLOGY** VOLUME 24 NUMBER 5 MAY 2006, 531-536.

Understanding our drugs and our diseases. Guo, Yingying; Weller, Paul; Allard, John; Usuka, Jonathan; Masjedizadeh, Mohammad; Wu, Shao-Yong; Fitch, Bill; Clark, Douglas; Clark, J. David; Shafer, Steve; Wang, Jianmei; Liao, Guochun; Peltz, Gary Proceedings of the American Thoracic Society (2006), 3(5), 409-412.

Solvation in Electrospray Mass Spectrometry: Effects on the Reaction Kinetics of Fragmentation Mediated by Ion-Neutral Complexes. Tu, Ya-Ping; He, Limin; Fitch, William; Lam, Michelle Journal of Organic Chemistry (2005), 70(13), 5111-5118.

Fitch, William L.; Berry, Pamela W.; Tu, Yaping; Tabatabaei, Ali; Lowrie, Lee; Lopez-Tapia, Francisco; Liu, Yanzhou; Nitzan, Dov; Masjedizadeh, Mohammad R.; Varadarajan, Aravamuthan. **Identification of glutathione-derived metabolites from an IP receptor antagonist.** Drug Metabolism and Disposition (2004), 32(12), 1482-1490.

Zhang, Jing Jim; Fitch, William L.. **Characterization of split-pool encoded combinatorial libraries.** Chemical Analysis (New York, NY, United States) (2004), 163(Analysis and Purification Methods in Combinatorial Chemistry), 209-252.

Macleane, Derek; Holden, Frank; Davis, Ann M.; Scheuerman, Randall A.; Yanofsky, Stephen; Holmes, Christopher P.; Fitch, William L.; Tsutsui, Ken; Barrett, Ronald W.; Gallop, Mark A. **Agonists of the Follicle Stimulating Hormone Receptor from an Encoded Thiazolidinone Library.** Journal of Combinatorial Chemistry (2004), 6(2), 196-206.

Holden, Frank R.; Fitch, William L.; Lewis, Kenneth C. **Apparatus and methods for evaluating the quality of a combinatorial library of compounds.** U.S. Pat. Appl. Publ. (2002), 9 pp., Division of U.S. Ser. No. 223,096, abandoned.

Capillary Electrochromatography / Laser-Induced Fluorescence (CEC/LIF) Method for Separation and Detection of Dansylated Dialkylamine Tags in Encoded Combinatorial Libraries Liu, X., Takahashi, L., Fitch, W., Rozing, G., Bayle, C. and F. Courderc.. J. Chromatogr. A., (2001) 924 (1-2), 323-29.

Prediction of Ultraviolet Spectral Absorbance using Quantitative Structure: Property Relationships. William L. Fitch, Malcolm McGregor, Alan R. Katritzky, Andre Lomaka, Ruslan Petrukhin, Mati Karelson in preparation

Integration of Software and Hardware for Automating Analysis of Encoded Combinatorial Libraries. William L. Fitch*, Nikhil Shah, Glenn I. Ouchi, Robert L. Wilgus, Steven Muskal. In preparation.

Section 1.1.2 Characterizing split-pool libraries, encoded with dialkylamine LC tags. William L. Fitch and Derek Maclean in Combinatorial Analysis Handbook, James Kyranos, ed. Submitted

A Networked Mass Spectrometry Information System. Shah, N., Teeter, S., Fitch, W.L., Wilgus, R.L., Koch, C. submitted to Scientif. Comput.

Fitch, W. L. (2001). Databases of Ultraviolet-Visible Spectra. in UV-Visible spectrophotometry of water and wastewater. O. Thomas and C. Burgess, Elsevier. 2001

Methods for Quantitative Analysis of Compound Cleavage from Solid Phase Resins. Nikhil Shah, George Detre, Stephen Raillard, William L. Fitch. B. Yan, A. Czarnik, eds. Optimization of solid-phase combinatorial synthesis. Marcel Dekker, New York, 2001.

On-line sample preparation for high throughput reversed-phase LC/MS analysis of combinatorial chemistry libraries. Tang, Liang; Fitch, William L.; Smith, Peter; Tumelty, David; Cao, Kathy; Ferla, Steven W. *Comb. Chem. High Throughput Screening* (2001), 4(3), 287-293.

Expediting the Method Development and Quality Control of Reversed-Phase Liquid Chromatography Electrospray Ionization Mass Spectrometry for Pharmaceutical Analysis by Using an LC/MS Performance Test Mix. Tang, Liang; Fitch, William L.; Alexander, Michael S.; Dolan, John W. *Anal. Chem.* (2000), 72(21), 5211-5218.

A Novel Approach to High-Throughput Quality Control of Parallel Synthesis Libraries. Shah, Nikhil; Gao, Mark; Tsutsui, Ken; Lu, Amy; Davis, Jennifer; Scheuerman, Randall; Fitch, William L.; Wilgus, Rob L. *J. Comb. Chem.* (2000), 2(5), 453-460.

Analytical methods for quality control of combinatorial libraries. Fitch, William L. *Annu. Rep. Comb. Chem. Mol. Diversity* (1999), 2 33-39.

Improved Methods for Encoding and Decoding Dialkylamine-Encoded Combinatorial Libraries. Fitch, William L.; Baer, Ted A.; Chen, Weiwei; Holden, Frank; Holmes, Christopher P.; Maclean, Derek; Shah, Nikhil; Sullivan, Edward; Tang, Michael; Waybourn, Phaedra; Fischer, Steven M.; Miller, Christine A.; Snyder, Lloyd R. *J. Comb. Chem.* (1999), 1(3), 188-194.

Characterization of a split-pool combinatorial library. Lewis, Kenneth C.; Fitch, William L.; Maclean, Derek. *LC-GC* (1998), 16(7), 644, 646, 648-649.

Analytical chemistry issues in combinatorial organic synthesis. Fitch, William L.; Look, Gary C.; Detre, George. *Comb. Chem. Mol. Diversity Drug Discovery* (1998), 349-368.

Methods for hard-tagging an encoded synthetic library. Gallop, Mark A.; Gordon, Eric; Ni, Zhi-Jie; Maclean, Derek; Holmes, Christopher; Fitch, William; Shah, Nikhil. U.S. Patent 30 pp.

Process for producing microcapsules. Curtis, R., Jain, R., Creech, D.C., Fitch, W.L. U.S. Patent Number 5,462,915 issued Oct. 31, 1995.

New methods for analyzing compounds on polymeric supports. Gallop, Mark A.; Fitch, William L. *Curr. Opin. Chem. Biol.* (1997), 1(1), 94-100.

Analytical methods for the quality control of combinatorial libraries. Fitch, William L. *Annu. Rep. Comb. Chem. Mol. Diversity* (1997), 1, 59-68.

Chemiluminescent nitrogen detection for HPLC: an important new tool inorganic analytical chemistry. Fitch, William L.; Szardenings, A. Katrin; Fujinari, Eugene M. *Tetrahedron Lett.* (1997), 38(10), 1689-1692.

High-Resolution ¹H NMR in Solid-Phase Organic Synthesis. Fitch, William L.; Detre, George; Holmes, Christopher P.; Shoolery, James N.; Keifer, Paul A. *J. Org. Chem.* (1994), 59(26), 7955-6.