C. F. Barbas III

*The author presented on this page has recently published his **10th article** since 2000 in Angewandte Chemie:* "*anti*-Selective Asymmetric Michael Reactions of Aldehydes and Nitroolefins Catalyzed by a Primary Amine/Thiourea": H. Uehara, C. F. Barbas III, *Angew. Chem.* **2009**, *121*, 10032–10036; *Angew. Chemie. Int. Ed.* **2009**, *48*, 9848–9852.

C. F. Barbas III has also featured on the cover of Angewandte Chemie: "Catalytic Enantioselective Retro-Aldol Reactions: Kinetic Resolution of β-Hydroxyketones with Aldolase Antibodies": G. Zhong, D. Shabat, B. List, J. Anderson, S. C. Sinha, R. A. Lerner, C. F. Barbas III, *Angew. Chem.* **1998**, *110*, 2609–2612; *Angew. Chem. Int. Ed.* **1998**, *37*, 2481–2484.

Carlos F. Barbas III

Date of birth:	November 5, 1964
Position:	Kellogg Professor of Chemistry and Molecular Biology, The Scripps Research Institute (USA)
Education:	1981–1985 BS in Chemistry and Physics, Eckerd College, Florida (USA) 1985–1989 PhD with Chi-Huey Wong, Texas A&M University (USA) 1989–1991 Postdoc with Richard Lerner and Steven Benkovic, The Scripps Research Institute (USA)
Professional associations:	ACS; Fellow of the AAAS; Protein Society; Director of Cold Spring Harbor Laboratory Annual Course on "Phage Display Of Proteins & Peptides"; Board of Consulting Editors for Bioorganic & Medicinal Chemistry Letter and Bioorganic & Medicinal Chemistry; American Society for Microbiology; International Advisory Editorial Board for Chemical Society Reviews; Editorial Board, MedChemComm; Founder of the biotechnology companies Prolifaron, CovX, and Zyngenia and inventor of their underlying core technologies
Awards:	**2009** Arthur C. Cope Scholar Award; **2009** Tetrahedron Young Investigator Award—Bioorganic & Medicinal Chemistry; Since **2003**, ISI Highly Cited Researcher; **2000** Co-recipient of the Presidential Green Chemistry Challenge Award; **1993–1997** Investigator Award, Cancer Research Institute; **1992–1995** Scholar of The American Foundation for AIDS Research
Current research interests:	Advancing the science of therapeutic antibodies, vaccines, zinc-finger technology, and asymmetric catalysis with organic molecules through studies at the interfaces of chemistry, biology, and medicine; Chemical reactivity and molecular recognition; Development of new classes of drugs and vaccines for cancer and HIV-1
Hobbies:	Travel, hiking, scuba diving, snow boarding, anything with my children

My biggest inspiration is … the life work of Paul Ehrlich.

My favorite subject at school was … science, of course.

A good work day begins with … an espresso and the New York Times.

The biggest problem that scientists face is … educating the public and lobbying governments to fund science properly.

The biggest challenge facing scientists is … species loss, habitat destruction, and the development of efficient environmentally sound approaches to synthesis and energy management.

If I could have dinner with three famous scientists from history, they would be … Leonardo da Vinci, Charles Darwin, and Paul Ehrlich.

The most important future applications of my research are … new and environmentally sound processes to synthesize drugs, new treatments for cancer, inflammation, and diabetes, as well as new approaches to vaccines.

If I were not a scientist, I would be … an astronaut, but right now I think I have the greatest job in the world.

My most exciting discovery to date has been … understanding and generalizing enamine catalysis with enzymes and amines and inventing chemically programmed antibodies and phage antibody technologies.

The most exciting thing about my research … is the potential to impact the lives of many in a positive way through discovery and invention.

My 5 top papers:

1. "Efficient Aldolase Catalytic Antibodies That Use the Enamine Mechanism of Natural Enzymes": J. Wagner, R. A. Lerner, C. F. Barbas III, *Science* **1995**, *270*, 1797–1800.
2. "Proline-Catalyzed Direct Asymmetric Aldol Reactions": B. List, R. A. Lerner, C. F. Barbas III, *J. Am. Chem. Soc.* **2000**, *122*, 2395–2396.
3. "Enamine-Based Organocatalysis with Proline and Diamines: The Development of Direct Catalytic Asymmetric Aldol, Mannich, Michael, and Diels–Alder Reactions": W. Notz, F. Tanaka, C. F. Barbas III, *Acc. Chem. Res.* **2004**, *37*, 580–591.
4. "Organocatalysis Lost: Modern Chemistry, Ancient Chemistry, and an Unseen Biosynthetic Apparatus": C. F. Barbas III, *Angew. Chem.* **2008**, *120*, 44–50; *Angew. Chemie. Int. Ed.* **2008**, *47*, 42–47.
5. "Instant Immunity Through Chemically Programmable Vaccination And Covalent Self-Assembly": M. Popkov, B. Gonzalez, S. Sinha, C. F. Barbas III, *Proc. Natl Acad Sci, U.S.A* **2009** *106*, 4378–4383.

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