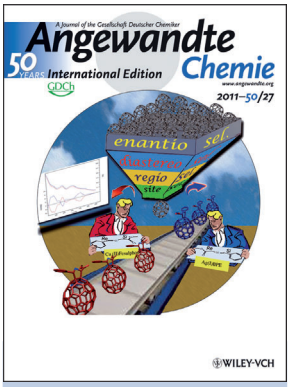
F. P. Cossío

*The author presented on this page has recently published his **10th article** since 2000 in Angewandte Chemie*: "Hierarchical Selectivity in Fullerenes: Site-, Regio-, Diastereo-, and Enantiocontrol of the 1,3-Dipolar Cycloaddition to C70": E. E. Maroto, A. de Cózar, S. Filippone, Á. Martin-Domenech, M. Suarez, F. P. Cossío, N. Martín, *Angew. Chem.* **2011**, *123*, 6184 – 6188; *Angew. Chem. Int. Ed.* **2011**, *50*, 6060 – 6064.




*The work of F. P. Cossío has been featured on the inside cover of Angewandte Chemie:* "Hierarchical Selectivity in Fullerenes: Site-, Regio-, Diastereo-, and Enantiocontrol of the 1,3-Dipolar Cycloaddition to C70": E. E. Maroto, A. de Cózar, S. Filippone, Á. Martin-Domenech, M. Suarez, F. P. Cossío, N. Martín, *Angew. Chem.* **2011**, *123*, 6184 – 6188; *Angew. Chem. Int. Ed.* **2011**, *50*, 6060 – 6064.

# Fernando P. Cossío

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| **Date of birth:** | November 14, 1960 |
| **Position:** | Professor of Organic Chemistry, University of the Basque Country UPV/EHU, San Sebastian-Donostia (Spain) |
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| **Homepage:** | http://www.qo.ehu.es/s0040-home1/es/ |
| **Education:** | 1977–1982 BS University of Zaragoza (Spain)<br>1984–1986 PhD with Prof. Claudio Palomo, UPV/EHU, San Sebastian-Donostia<br>1987–1988 Postdoctoral Fellow with Prof. Jean-Paul Picard, UA 35, CNRS, Talence-Bordeaux (France) |
| **Awards:** | **1987** Almirall Award from The Spanish Society of Medicinal Chemistry; **2007** Dr. Antonio Esteve Foundation Award; **2011** Ignacio Rivas Medal from the Organic Chemistry Group of the Spanish Society of Chemistry |
| **Current research interests:** | We are interested in the origins of the stereocontrol in C–C-bond-forming reactions, with special emphasis on aldol and aldol-like reactions, thermal cycloadditions, and electrocyclic reactions. We also combine experimental and computational methods to understand the mechanisms of these transformations. We try to apply this information to the design and synthesis of molecules of biological interest such as inhibitors of integrin–ligand interactions, histone deacetylases, and DNA methyl transferases. More recently, we are extending this combined methodology to the design and development of new chiral catalysts. |
| **Hobbies:** | Diving, books, photography, music, traveling, family, and friends |

**The biggest challenge facing scientists is …** the molecular basis of consciousness.

**My favorite quote is …** "Never publish faster than you think" (Prof. P. M. Etxenike).

**When I was eighteen I wanted to be …** a scientist, a painter, an architect… becoming a chemist was the obvious choice.

**The most significant historic event of the past 100 years was …** the discovery and development of antibiotics, as well as the health system that made them available. Without this event, many of us would not be here to think about it.

**What I appreciate most about my friends is …** their patience and unconditional support.

**My favorite painters are …** Picasso, Magritte, Edward Hopper, Antonio López…

**My motto is …** Dignitatis memores ad optima intenti (Loose translation: Those who are aware of their dignity try to do their best).

**My 5 top papers:**

1. "In-Plane Aromaticity in 1,3-Dipolar Cycloadditions. Solvent Effects, Selectivity, and Nucleus-Independent Chemical Shifts": F. P. Cossío, I. Morao, H. Jiao, P. v. R. Schleyer, *J. Am. Chem. Soc.* **1999**, *121*, 6737 – 6746. (In this paper we studied the different types of aromaticity in cycloadducts and transition structures.)
2. "Application of Stereocontrolled Stepwise [3+2] Cycloadditions to the Preparation of Inhibitors of $\alpha_4\beta_1$-Integrin-Mediated Hepatic Melanoma Metastasis": A. Zubia, L. Mendoza, S. Vivanco, E. Aldaba, T. Carrascal, B. Lecea, A. Arrieta, T. Zimmerman, F. Vidal-Vanaclocha, F. P. Cossío, *Angew. Chem.* **2005**, *117*, 2963 – 2967; *Angew. Chem. Int. Ed.* **2005**, *44*, 2903 – 2907. (We developed a new method for the synthesis of enantiopure nitropyrrolidines.)
3. "The Mechanism of the Ketene-Imine (Staudinger) Reaction in Its Centennial: Still an Unsolved Problem?": F. P. Cossío, A. Arrieta, M. A. Sierra, *Acc. Chem. Res.* **2008**, *41*, 925 – 936. (This paper covers experimental and theoretical studies on this important reaction.)
4. "On the Stereodivergent Behavior Observed in the Staudinger Reaction between Methoxyketene and (*E*)-*N*-Benzylidenearyl Amines": B. K. Banik, B. Lecea, A. Arrieta, A. de Cózar, F. P. Cossío, *Angew. Chem.* **2007**, *119*, 3088 – 3092; *Angew. Chem. Int. Ed.* **2007**, *46*, 3028 – 3032. (We demonstrated that it is possible to apply numerical and computational methods to the analysis of the stereocontrol of reactions having a complex kinetic profile.)
5. "Quantitative Evaluation of the Catalytic Activity of Dendrimers with Only One Active Center at the Core: Application to the Nitroaldol (Henry) Reaction": A. Zubia, F. P. Cossío, I. Morao, M. Rieumont, X. Lopez, *J. Am. Chem. Soc.* **2004**, *126*, 5243 – 5252. (We reported a kinetic analysis and a theoretical model on different generations of dendrimers possessing catalytic activity.)

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