



H. Grützmacher

The author presented on this page has recently published his **25th article** since 2000 in *Angewandte Chemie*:
“Phosphanation of Carbon Monoxide: A Simple Synthesis of Sodium Phosphaethynolate (NaOCP)”: F. F. Puschmann, D. Stein, D. Heift, C. Hendriksen, Z. A. Gal, H.-F. Grützmacher, H. Grützmacher, *Angew. Chem.* **2011**, 123, 8570–8574; *Angew. Chem. Int. Ed.* **2011**, 50, 8420–8423.



The work of H. Grützmacher has been featured on the cover of *Angewandte Chemie*:
“Making the True ‘CP’ Ligand”: J. G. Cordaro, D. Stein, H. Rüegger, H. Grützmacher, *Angew. Chem.* **2006**, 118, 6305–6308; *Angew. Chem. Int. Ed.* **2011**, 45, 6159–6162.

Hansjörg Grützmacher

Date of birth:	March 24, 1959
Position:	Professor of Inorganic Chemistry at ETH Zürich (Switzerland)
E-mail:	hgruetzmacher@ethz.ch
Homepage:	www.gruetzmacher.ethz.ch
Education:	1978–1984 Chemistry Studies, Georg-August-University Göttingen (Germany) 1984–1986 PhD with H. W. Roesky, Georg-August-University Göttingen 1987–1988 Postdoc with Guy Bertrand, CNRS Toulouse (France)
Awards:	1993 Carl Duisberg Medal of the German Chemical Society; 2006 Kohler Lecturer at the University of California, Riverside; 2007 Sandmeyer Award of the Swiss Chemical Society; 2009 Xerox lecture, University of British Columbia; 2011 Egon Wiberg lecture at the Ludwig-Maximilians-University Munich
Current research interests:	1) phosphorus radicals; 2) structures and reactivity of alkali metal phosphides; 3) the development of phosphorus-based photoinitiators; 4) transition-metal olefin and amine/amido complexes; 5) redox chemistry of organometallics; 6) unconventional catalytic hydrogenation and dehydrogenation reactions promoted by transition-metal complexes
Hobbies:	Sailing and speeding (I don't have time for anything else...)

I chose chemistry as a career because ... I didn't feel confident enough to study art design.

In my opinion, the word “scientist” means ... adventurer at the edge of knowledge.

The most significant scientific advance of the last 100 years has been ... the contraceptive pill.

The greatest scientific advance in the next decade will be ... the development of efficient systems for energy production, storage, and consumption under environmentally benign conditions.

The most important thing I learned from my parents is ... being critical (especially against myself), patient, and to believe that good days will come after bad ones.

My best investment was ... the time I spent to learn how to set up a Z-matrix from Odile Eisenstein in Malcolm Chisholm's office in 1989.

My secret/not-so-secret passions are ... cars, flat and fast.

If I were not a scientist, I would be ... a boat builder.

My most exciting discovery to date has been ... that simple molecular complexes can be used as catalysts in fuel-cell electrodes.

The best stage in a scientist's career is ... always ahead of him.

Guaranteed to make me laugh is ... a dinner with my old friends talking about old stories.

The best advice I have ever been given is ... “When you come to a cross road, take a decision and never look back”.

I can never resist ... a good meal or a good movie.

The downside of my job is ... to be in meetings with time-robbars.

When I'm frustrated, I ... jump into a low-riding piece of engineering on four wheels and head down to Italy on winding alpine roads.

The most amusing chemistry adventure in my career was ... when a student started a distillation of about 1 L of solvent and without wondering recovered over 3 L (because he had not noticed that the cooler had broken and his distillate was diluted with water).

My top three films of all time are ... The Good, the Bad, and the Ugly (Sergio Leone); Notting Hill (Roger Michell); Some Like It Hot (Billy Wilder).

My favorite song/piece of music is ... anything that rocks.

Has your approach to publishing your results changed since the start of your career?

No. I always tried to identify a research topic, which I thought needed to be solved. We tried to thoroughly investigate this problem and then aimed at a publication in a high-ranking journal, in which we published only the most interesting findings. In this respect, the possibility to publish supplementary material was an enormous step forward, because the findings of broad interest can be reported in the style of a communication while

the information relevant to the specialist is made available to the public in the Supporting Information.

What do you think the future holds for your field of research?

The future of research is the need of more research. Or as my teachers told me: “With one scientific finding you open the door to ten new ones”. And I believe this is true for any field of research.

My 5 top papers:

1. “Main Group Element Analogues of Carbenes, Olefins, and Small Rings”: M. Driess, H. Grützmacher, *Angew. Chem.* **1996**, *108*, 900–929.
This paper summarizes fundamental work performed on low-coordination main-group element compounds and small heterocycles. I believe that this paper is still a good reference in the field. It also marks the end of my habilitation time and the one of Matthias Driess in Heidelberg, who became one of my best personal friends.
2. “Tris(chalcogenato)carbenium Ions $[C(XR)_3]^+$ (X = O, S, Se, Te): An Experimental and Quantum-Chemical Comparison”: D. Ohlmann, C. M. Marchand, H. Grützmacher, G. S. Chen, D. Framer, R. Glaser, A. Currao, R. Nesper, H. Pritzkow, *Angew. Chem.* **1996**, *108*, 317–320; *Angew. Chem. Int. Ed. Engl.* **1996**, *35*, 300–303.
In this paper we report that the p donor capacity of main group element centers from higher periods is very efficient in contrast to common opinions. It is also my first paper that brought me into contact with high-level ab initio computations that were performed by G. Chen, R. Glaser, A. Currao, and R. Nesper.
3. “A Stable Aminyl Radical Metal Complex”: T. Büttner, J. Geier, G. Frison, J. Harmer, C. Calle, A. Schweiger, H. Grützmacher, *Science*, **2005**, *307*, 235–238.
In this paper we report the first isolated metal complex that can be described as an aminyl radical complex. This result initiated a new line of research in my group. Moreover the work was performed in cooperation with

- Arthur Schweiger, a wonderful colleague at the ETH who died much too early. We celebrated the acceptance of the paper in a nice restaurant in the surroundings of Zurich, a place to which I return from time to time.
4. “A Biologically Inspired Organometallic Fuel Cell (OMFC) That Converts Renewable Alcohols into Energy and Chemicals”: S. P. Annen, V. Bambagioni, M. Bevilacqua, J. Filippi, A. Marchionni, W. Oberhauser, H. Schönberg, F. Vizza, C. Bianchini, H. Grützmacher, *Angew. Chem.* **2010**, *122*, 7387–7391; *Angew. Chem. Int. Ed.* **2010**, *49*, 7229–7233.
Again a paper that reports the results of an especially fruitful cooperation and friendship. The foundation to this communication was laid while picking olives in the gardens of Claudio Bianchini—which by itself is an unforgettable event. Currently, we have an intense scientific cooperation and hope to develop electrodes for fuel cell applications that eventually will operate with very low loadings of nonprecious metals.
 5. “Phosphanation of Carbon Monoxide: A Simple Synthesis of Sodium Phosphaethynolate (NaOCP)”: F. F. Puschmann, D. Stein, D. Heift, C. Hendriksen, Z. A. Gal, H.-F. Grützmacher, H. Grützmacher, *Angew. Chem.* **2011**, *123*, 8570–8574; *Angew. Chem. Int. Ed.* **2011**, *50*, 8420–8423.
This paper is important to me because it is my latest publication—which evidently contains results I find especially exciting—and at the same time my first publication in *Angewandte Chemie* together with my father.

DOI: 10.1002/anie.201107165