



Gianluigi Broggin

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Contact data

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Biography

Born in Varese, Italy, in 1961

1988: Degree in Chemistry, University of Milan

1993: Ph.D. in Chemical Sciences, University of Milan

1993 - 1994: Researcher at the Institute of Chemistry and Biochemistry
"G. Ronzoni", Milan

1995 - 1996: Post-doctoral fellowship, University of Milan

1996 - 1998: Lecturer of Chemistry at the University of Milan

1999 - 2002: Lecturer of Chemistry at the University of Insubria (Como)

From 2003: Permanent position (Researcher) at the School of Sciences
in the University of Insubria (Como)

Qualifications and awards

Co-Author of 75 Scientific Publications in Referee Journals

Co-Author of the two-volume textbook "Chimica degli Eterocicli"

Member of the Italian Chemical Society

Professional Habilitation in Chemistry

Research interests

Research activity is focused on the heterocyclic chemistry field and is
developing along two different directions:

1. Application and development of 1,3-dipolar cycloadditions, with
particular attention to their intramolecular version.
2. Studies and application of palladium catalyzed processes for the
synthesis of nitrogen-containing heterocycles.

Teaching experience and appointments

Environmental Organic Chemistry: 2003

Heterocyclic Chemistry: 1999 - present

Practical Organic Chemistry: 2003 - present

Representative publications

G. Broggin, L. Bruché, G. Zecchi, T. Pilati - 1,3-Dipolar Cycloadditions
to Nitrogen-substituted Allenes - J. Chem. Soc., Perkin Trans. 1, 533
(1990).

G. Broggin, L. Bruché, L. Garanti, G. Zecchi, - Medium- and Large-ring
Heterocyclic Systems by Intramolecular Nitrile Imine Cycloadditions - J.
Chem. Soc., Perkin Trans. 1, 433 (1994).

G. Broggin, G. Molteni, G. Zecchi - New Mechanistic Evidence on the

Reaction between Sulfonylallenes and Nitrile Oxides - *J. Org. Chem.*, 59, 8271 (1994).

G. Broggin, G. Molteni, G. Zecchi - The Intramolecular Azide Cycloaddition Route to Triazolam Analogues - *Synthesis*, 6, 647 (1995).

G. Broggin, C. La Rosa, G. Zecchi - 5-Heterosubstituted 4-Methylene-4,5-dihydroisoxazoles: Ready Accessibility and Versatile Reactivity - *Synlett*, 1208 (1995).

G. Broggin, F. Folcio, N. Sardone, M. Sonzogni, G. Zecchi - Synthesis of Enantiopure 3-Hydroxymethylchromanes via Intramolecular Nitron Cycloaddition - *Tetrahedron: Asymmetry*, 7, 797 (1996).

G. Broggin, G. Zecchi - A New Protocol for the Conversion of Isoxazolidines to 1,3-Aminoalcohols - *Synthesis*, 1280 (1996).

G. Broggin, F. Folcio, N. Sardone, G. Zecchi - Relative and Absolute Stereocontrol in Intramolecular Nitron Cycloadditions to the Cyclohexene Ring - *Tetrahedron*, 52, 11849 (1996).

G. Broggin, G. Zecchi - Peracid Oxidation of Chiral Isoxazolidines: Developments and Perspectives - *Tetrahedron: Asymmetry*, 8, 1431 (1997).

A. Arnone, G. Broggin, D. Passarella, A. Terraneo, G. Zecchi - Intramolecular Cycloadditions of Nitrones Derived from 1-Allyl-2-pyrrolecarbaldehyde as a Route to Racemic and Enantiopure Pyrrolizidines and Indolizidines - *J. Org. Chem.*, 63, 9279 (1998).

G. Broggin, L. Garanti, G. Molteni, G. Zecchi - The First Case of Asymmetric Induction in Intramolecular Nitrile Imine Cycloadditions: Synthesis of Enantiopure 3-Substituted 6-Oxo-2,3,3a,5-tetrahydro-4-carbomethoxy-furo[3,4-c]pyrazoles - *Tetrahedron: Asymmetry*, 10, 487 (1999).

G. Broggin, G. Zecchi - Pyrrolizidine and Indolizidine Synthesis Involving 1,3-Dipolar Cycloadditions - *Synthesis*, 905 (1999).

G. Broggin, L. Garanti, G. Molteni, T. Pilati, A. Ponti, G. Zecchi - Stereoselective Intramolecular Cycloadditions of Homochiral Nitrile Imines: Synthesis of Enantiomerically Pure 3,3a-Dihydro-pyrazolo[1,5-a][1,4]benzodiazepin-6(4H)-ones - *Tetrahedron: Asymmetry*, 10, 2203 (1999).

G. Broggin, G. Molteni, A. Terraneo, G. Zecchi - A Facile Synthesis of Flumazenil Analogues - *Tetrahedron*, 55, 14803 (1999).

G. Broggin, G. Molteni - Dipolarophilic Behaviour of (Arylsulfonyl)allenes towards Nitrilimines - *J. Chem. Soc., Perkin Trans. 1*, 1685 (2000).

E. M. Beccalli, G. Broggin, C. La Rosa, D. Passarella, T. Pilati, A. Terraneo, G. Zecchi - Access to Pyrrolo- and Pyrido[1,2-a]indole

Derivatives by Intramolecular Nitron Cycloadditions. Effect of Steric Factors on the Regioselective Product Formation - J. Org. Chem., 65, 8924 (2000).

M. Arrighi, G. Broggin, A. Terraneo – Conversion of Fused-ring Isoxazolidines to -(Hydroxymethyl)lactones by 3-Chloroperbenzoic Acid - Synthesis, 473 (2001).

G. Broggin, C. La Rosa, T. Pilati, A. Terraneo, G. Zecchi - Regiochemical Aspects of Intramolecular Cycloadditions of Nitrones Derived from N-(2-Alkenyl)-2-pyrrolicarbaldehydes. Competitive Entries to Pyrrolizidine and Indolizidine Derivatives - Tetrahedron, 57, 8323 (2001).

E. M. Beccalli, G. Broggin, A. Farina, L. Malpezzi, A. Terraneo, G. Zecchi – A Valuable Approach to Enantiopure Partially Saturated Pyrrolo- and Indolo[1,2-a]indoles by Intramolecular Nitron Cycloadditions to the Cyclohexene Ring – Eur. J. Org. Chem., 2080 (2002).

E. M. Beccalli, G. Broggin, A. Marchesini, E. Rossi – Intramolecular Heck Reaction of 2- and 3-Iodoindole Derivatives for the Synthesis of - and -Carbolinones - Tetrahedron, 58, 6673 (2002).

E. M. Beccalli, G. Broggin – Uncommon Intramolecular Palladium-catalyzed Cyclization of Indole Derivatives – Tetrahedron Lett., 44, 1919 (2003).

G. Abbiati, E. M. Beccalli, G. Broggin, C. Zoni – Regioselectivity on the Palladium-Catalyzed Intramolecular Cyclization of Indole Derivatives – J. Org. Chem., 68, 7625 (2003).

E. M. Beccalli, G. Broggin, G. Paladino, T. Pilati, G. Pontremoli – Diastereoselective Synthesis of Enantiopure (R)-2-Methyl-4-(phenylethyl)-1,2,3,4-tetrahydro-benzo[e][1,4]diazepin-5-ones – Tetrahedron: Asymmetry, 15, 687 (2004).

E. M. Beccalli, G. Broggin, G. Paladino, A. Penoni, C. Zoni – Regioselective Formation of Six- and Seven-Membered Ring by Intramolecular Pd-Catalyzed Amination of N-Allyl-anthranilamides – J. Org. Chem., 69, 5627 (2004).

E. M. Beccalli, G. Broggin, A. Contini, I. De Marchi, G. Zecchi, C. Zoni – Intramolecular Cycloadditions of Nitrones Derived from Optically Active 1-Alkenyl-2-imidazolecarbaldehydes. Regio- and Diastereoselectivity – Tetrahedron: Asymmetry, 15, 3181 (2004).

E. M. Beccalli, G. Broggin, G. Paladino, C. Zoni – Palladium-mediated Approach to Dibenzo[b,e][1,4]diazepines and Benzopyrido-analogues. An Efficient Synthesis of Tarpane – Tetrahedron, 61, 61 (2005).

E. M. Beccalli, G. Broggin, M. Martinelli, G. Paladino – Pd-Catalyzed Intramolecular Cyclization of Pyrrolo-2-carboxamides: Regiodivergent Routes to Pyrrolo-pyrazines and Pyrrolo-pyridines – Tetrahedron, 61, 1077 (2005).

G. Brogini, K. Chiesa, I. De Marchi, M. Martinelli, T. Pilati, G. Zecchi –
Efficient Approach to the Unknown Isoxazolo[3,4-d]thieno[2,3-b]
pyridine System by Regioselective Intramolecular Nitron
Cycloadditions – *Tetrahedron*, 61, 3525 (2005).

E. M. Beccalli, G. Brogini, M. Martinelli, G. Paladino, C. Zoni –
Synthesis of Tricyclic Quinolones and Naphthyridones via
Intramolecular Heck Cyclizations of Functionalized Electronrich
Heterocycles – *Eur. J. Org. Chem.*, 2091 (2005).

G. Brogini, I. De Marchi, M. Martinelli, G. Paladino, T. Pilati, A.
Terraneo – Effective Synthesis of Enantiopure [1,2,3]Triazolo[1,5-a]-
and Pyrazolo[1,5-a]-pyrrolo[2,1-c][1,4]benzodiazepines by
Diastereoselective Intramolecular Azide and Nitrilimine Cycloadditions
– *Synthesis*, 2246 (2005).