Graphical abstracts

Recent advances in the synthesis of piperidones and piperidines

Tetrahedron 59 (2003) 2953

Philip M. Weintraub, Jeffrey S. Sabol,* John M. Kane and David R. Borcherding

Aventis Inc., P.O. Box 6800, Routes 202-206, Bridgewater, NJ 08807-0800, USA

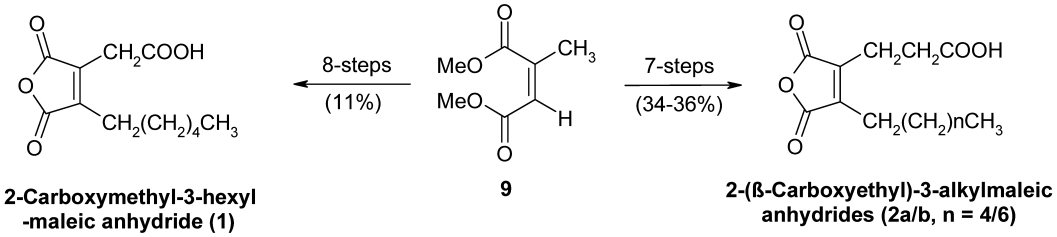
This report highlights recent methodologies that have been used to synthesize piperidones and piperidines, with a focus on the literature from mid-1999 to late-2002. The review is organized by bond formation or processes leading to the heterocyclic ring, and a variety of applications are presented.

A facile access to natural and unnatural dialkylsubstituted maleic anhydrides

Tetrahedron 59 (2003) 2991

Anirban Kar and Narshinha P. Argade*

Division of Organic Chemistry (Synthesis), National Chemical Laboratory, Pune 411 008, India

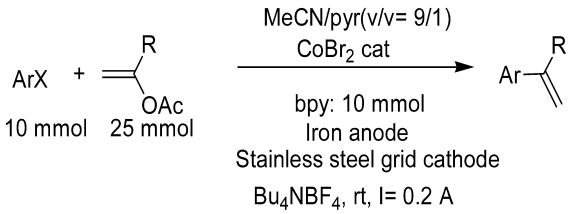


Cobalt-catalyzed electrochemical vinylation of aryl halides using vinylic acetates

Tetrahedron 59 (2003) 2999

Paulo Gomes, Corinne Gosmini* and Jacques Périchon

Laboratoire d'Electrochimie, Catalyse et Synthèse Organique, UMR 7582, Université Paris 12—C.N.R.S, 2, Rue Henri Dunant, F-94320 Thiais, France



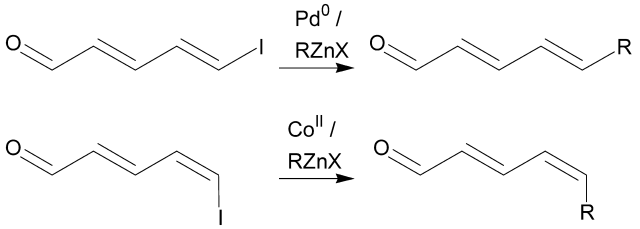
Synthesis and biological activity of α,β,γ,δ-unsaturated aldehydes from diatoms

Tetrahedron 59 (2003) 3003

Sven Adolph,[a] Serge A. Poulet[b] and Georg Pohnert[a,*]

[a]*Max-Planck-Institut für chemische Ökologie, Winzerlaer Str. 10, D-07745 Jena, Germany*
[b]*Station Biologique, CNRS, INSU, UPM, BP 74, F-29682 Roscoff, France*

A short and universal synthesis of α,β,γ,δ-unsaturated aldehydes and their biological activity as inhibitors of sea urchin egg cleavage is reported.



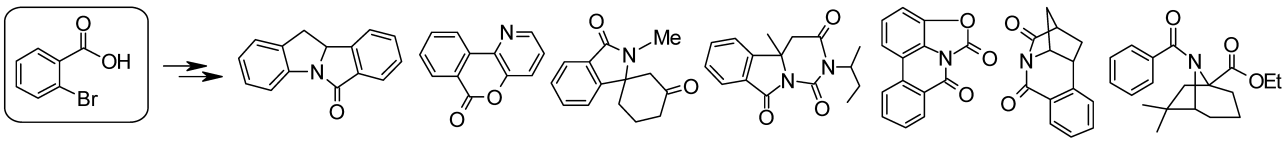
Free radical reactions for heterocycle synthesis. Part 6: 2-Bromobenzoic acids as building blocks in the construction of nitrogen heterocycles

Tetrahedron 59 (2003) 3009

Wei Zhang* and Georgia Pugh

Lead Discovery, DuPont Crop Protection, Stine-Haskell Research Center, Newark, DE 19714, USA

A general method for *N*-heterocycles by intramolecular free radical cyclization of 2-bromobenzoic acid derivatives is introduced.

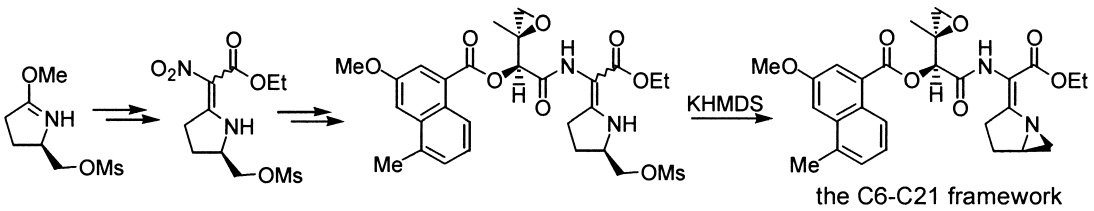


Synthetic studies of carzinophilin. Part 1: Synthesis of 2-methylidene-1-azabicyclo[3.1.0]hexane systems related to carzinophilin

Tetrahedron 59 (2003) 3019

Masaru Hashimoto,* Miyoko Matsumoto and Shiro Terashima*

Sagami Chemical Research Center, 2743-1, Hayakawa, Ayase, Kanagawa 252-1193, Japan

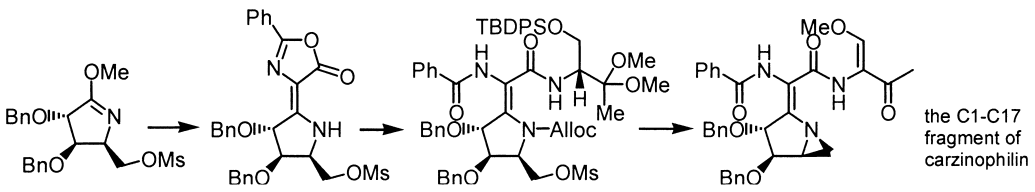


Synthetic studies of carzinophilin. Part 2: Synthesis of 3,4-dibenzyloxy-2-methylidene-1-azabicyclo[3.1.0]hexane systems corresponding to the C1–C17 fragment of carzinophilin

Tetrahedron 59 (2003) 3041

Masaru Hashimoto,* Miyoko Matsumoto and Shiro Terashima*

Sagami Chemical Research Center, 2743-1, Hayakawa, Ayase, Kanagawa 252-1193, Japan

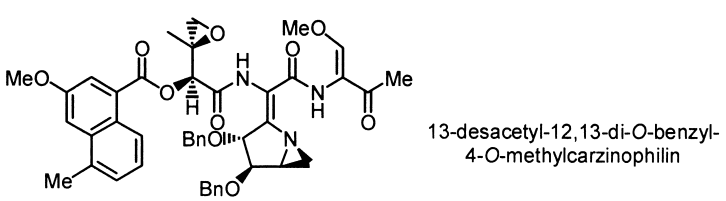


Synthetic studies of carzinophilin. Part 3: Synthetic approach toward carzinophilin and successful synthesis of 13-*O*-desacetyl-12,13-di-*O*-benzyl-4-*O*-methylcarzinophilin

Tetrahedron 59 (2003) 3063

Masaru Hashimoto,* Masaharu Sugiura and Shiro Terashima*

Sagami Chemical Research Center, 2743-1, Hayakawa, Ayase, Kanagawa, 252-1193, Japan

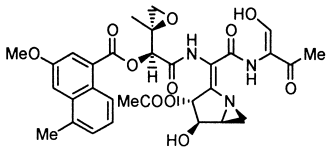


Synthetic studies of carzinophilin. Part 4: Chemical and biological properties of carzinophilin analogues

Tetrahedron 59 (2003) 3089

Masaru Hashimoto,* Miyoko Matsumoto, Kaoru Yamada and Shiro Terashima*

Sagami Chemical Research Center, 2743-1, Hayakawa Ayase, Kanagawa 252-1193, Japan

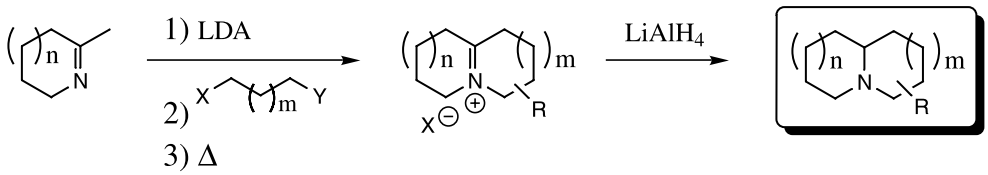


Novel synthesis of indolizidines and quinolizidines

Tetrahedron 59 (2003) 3099

Kourosch Abbaspour Tehrani, Matthias D'hooghe and Norbert De Kimpe*

Department of Organic Chemistry, Faculty of Agricultural and Applied Biological Sciences, Ghent University, Coupure Links 653, B-9000 Ghent, Belgium

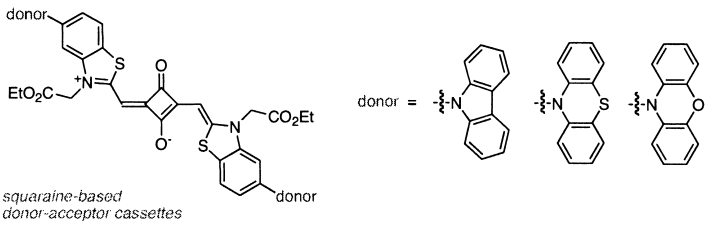


Syntheses and spectroscopic properties of energy transfer systems based on squaraines

Tetrahedron 59 (2003) 3109

Guan-Sheng Jiao,[a] Aurore Loudet,[a] Hong Boon Lee,[a] Stanislav Kalinin,[b] Lennart B.-Å. Johansson[b] and Kevin Burgess[a,*]

[a]*Department of Chemistry, Texas A&M University, P.O. Box 30012, College Station, TX 77841-3012, USA*
[b]*Department of Chemistry: Biophysical Chemistry, Umeå University, S-90 187 Umeå, Sweden*



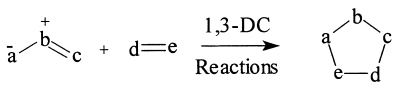
Quantitative characterization of the global electrophilicity pattern of some reagents involved in 1,3-dipolar cycloaddition reactions

Tetrahedron 59 (2003) 3117

Patricia Pérez,[a,*] Luis R. Domingo,[b,*] M. José Aurell[b] and Renato Contreras[c]

[a]*Departamento de Ciencias Químicas, Facultad de Ecología y Recursos Naturales, Universidad Andrés Bello, República 217, Santiago, Chile*
[b]*Departamento de Química Orgánica, Instituto de Ciencia Molecular, Universidad de Valencia, Dr. Moliner 50, E-46100 Burjassot, Valencia, Spain*
[c]*Departamento de Química, Facultad de Ciencias, Universidad de Chile, Casilla 653 Santiago, Chile*

Scale of Electrophilicity Power



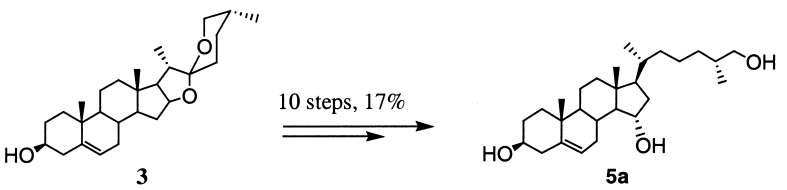
Synthesis of the aglycone of 26-*O*-deacetyl pavoninin-5

Tetrahedron 59 (2003) 3183

John R. Williams,* Deping Chai, James D. Bloxton, II, Hua Gong and William R. Solvibile

Department of Chemistry, Temple University, Philadelphia, PA 19122-2585, USA

The aglycone of 26-*O*-deacetyl pavoninin-5, (25R)-cholest-5-en-3β,15α,26-triol, **5a**, was synthesized in 10 steps in 17% overall yield from diosgenin, **3**.



3 **5a**