

Graphical Abstracts/J. Fluorine Chem. 128 (2007) 571–574

Degradation of γ -irradiated linear perfluoroalkanes at high dosage

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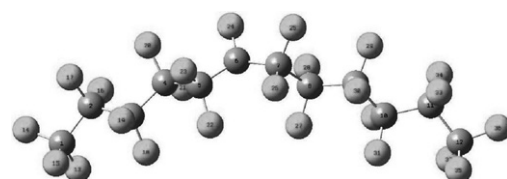
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A combined computational and experimental study of the irradiation of perfluoroalkanes and polytetrafluoroethylene shows that individual chains of the perfluoropolymer show less radiation damage than do polyethylene chains. The helical structure of individual perfluoroalkanes readily distorts on removal of a fluorine leading to loss of the mechanical stability of bulk polytetrafluoroethylene as compared to polyethylene.



J. Fluorine Chem., 128 (2007) 575

Synthesis of trifluoromethyl-imines by solid acid/superacid catalyzed microwave assisted approach

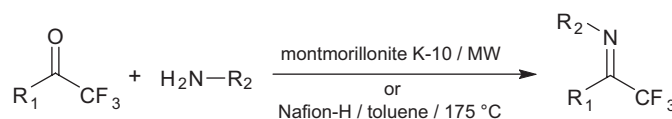
Mohammed Abid^{a,b}, Markku Savolainen^b, Shainaz Landge^{a,b}, Jinbo Hu^c, G.K. Surya Prakash^c, George A. Olah^c, Béla Török^{a,b}

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A new solid acid/superacid catalyzed microwave assisted synthesis of trifluoromethyl-imines using various α,α,α -trifluoromethylketones and primary amines is described.



J. Fluorine Chem., 128 (2007) 587

Synthesis and structure of environmentally relevant perfluorinated sulfonamides

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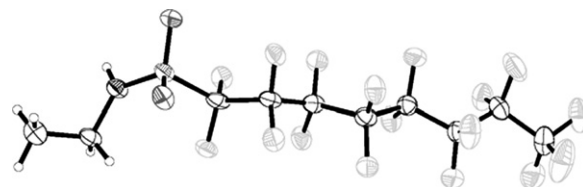
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Several perfluoroalkanesulfonamides were synthesized from the corresponding perfluoroalkanesulfonylfluorides. The X-ray crystal structures of *N*-ethyl-perfluorooctane-1-sulfonamide and two other perfluoroalkanesulfonamides are described.



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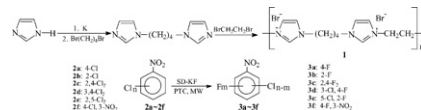
A polymer imidazole salt as phase-transfer catalyst in halox fluorination irradiated by microwave

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A new imidazole polymer salt was synthesized in order to develop a high efficiency phase-transfer catalyst for multi-phase reactions. The polymer salt was prepared easily by co-polymerization of 1-1'-(1,4-butamethylene)bis(imidazole) and 1,2-dibromoethane, and has the properties of excellent chemical and thermal stability and high ionic conductivity. It was applied as phase-transfer catalyst in the fluorination of chloronitrobenzene derivatives under the irradiation of microwave and gave excellent yields of corresponding fluoronitrobenzene derivatives. The yields of products under the optimum reaction conditions were in the range of 70.2–94.2%, and the reaction time can be shortened more or less when compared with conventional heating. The catalytic effect is better than other kind of polymer phase transfer catalysts. In addition, “non-thermal effect” of microwave was found in fluorination through comparing macroscopic kinetics between conventional heating and microwave heating.

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Characterisation and properties of new ionic liquids with the difluoromono[1,2-oxalato(2-)-O,O']borate anion

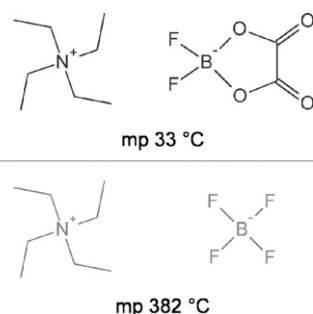
Tobias Herzig^a, Christian Schreiner^a, Dirk Gerhard^b, Peter Wasserscheid^b, Heiner Jakob Gores^a

^aInstitut für Physikalische und Theoretische Chemie, Universität Regensburg, Universitätsstrasse 31, D-93040 Regensburg, Germany

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Substitution of the $[\text{BF}_4]^-$ anion by $[\text{BF}_2\text{Ox}]^-$ in $[\text{NEt}_4]^+$ salts leads to a significant decrease of the melting point proving that ionic liquids can be also based on reduced symmetry of the anion even if the cation is highly symmetrical.

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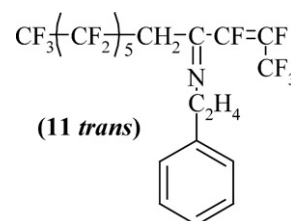
Fluorinated cotelomers based on vinylidene fluoride (VDF) and hexafluoropropene (HFP): Synthesis, dehydrofluorination and grafting by amine containing an aromatic ring

A. Taguet, L. Sauguet, B. Ameduri, B. Boutevin

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The synthesis of a model molecule (**11 trans**) for the grafting of an amine containing an aromatic ring onto a cotelomer containing vinylidene fluoride (VDF) and hexafluoropropene (HFP) is presented:

J. Fluorine Chem., 128 (2007) 619



'Total fluorine' analysis of seed of Australian *Gastrolobium* spp. showing temporal, spatial and morphological variation

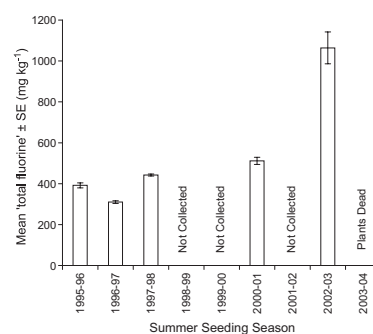
David E. Peacock^a, Brian D. Williams^a, Per E. Christensen^b

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'Total fluorine' from 1.6 to 1063.9 mg kg⁻¹ was found in *Gastrolobium* seed. Fluorine was largely organically bound, with significant inter- and intra-species variation. Approximately 87% of seed 'total fluorine' was found in the seed cotyledons.

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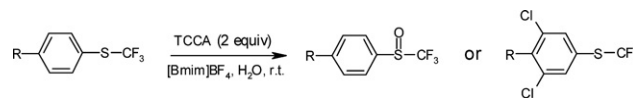
J. Fluorine Chem., 128 (2007) 636

Selective oxidation and chlorination of trifluoromethylsulfide using trichloroisocyanuric acid in ionic liquid

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A route to chemoselective oxidation and chlorination of aryltrifluoromethylsulfide using trichloroisocyanuric acid (TCCA) in ionic liquid, an efficiently *O*-methylation reaction and a reduction of nitro- to amido- in excellent yields have been developed.

*J. Fluorine Chem.*, 128 (2007) 641

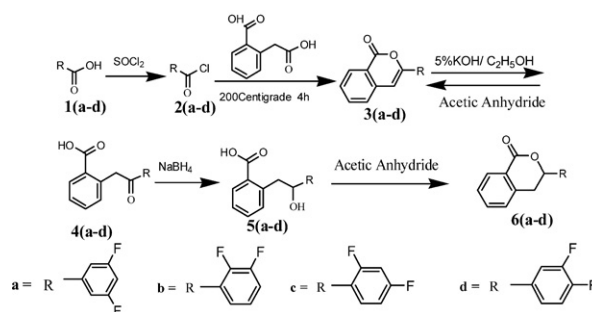
Synthesis and anti-inflammatory activity of fluorinated isocoumarins and 3,4-dihydroisocoumarins

Ghulam Qadeer^a, Nasim Hasan Rama^a, M.L. Garduño-Ramírez^b

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The 3-difluorophenylisocoumarin and their dihydroderivative were prepared and their anti-inflammatory and antioxidant activities were evaluated.

*J. Fluorine Chem.*, 128 (2007) 647

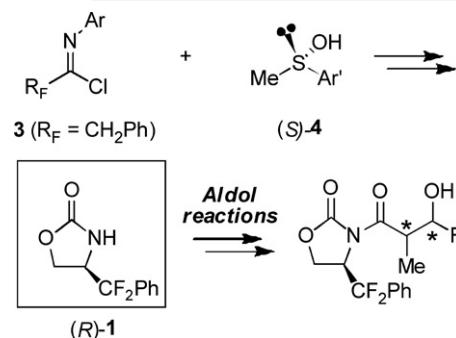
Synthesis of a new fluorinated oxazolidinone and its reactivity as a chiral auxiliary in Aldol reactions

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The synthesis of a new enantiomerically pure fluorinated oxazolidinone and its use as a chiral auxiliary in Aldol condensations are described.

*J. Fluorine Chem.*, 128 (2007) 654

Catalytic asymmetric synthesis and anticancer effects of the novel non-calcemic analog of vitamin D, 2α-fluoro-19-nor-22-oxa-1α,25-dihydroxyvitamin D₃ in metastatic lung carcinoma

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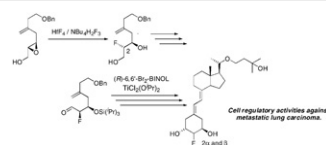
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^dChugai Pharmaceutical Co. Ltd., Tokyo 104-8301, Japan

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Hybrid 1α,25-dihydroxyvitamin D₃ (1α,25-D₃) analog, synthesized via the highly regio- and stereo-selective ring opening 2α-fluorination and catalytic asymmetric carbonyl-ene cyclization, with 2α-fluoro, 19-nor, and 22-oxa modification exhibits unique cell regulatory activities against the development of metastatic lung carcinoma.



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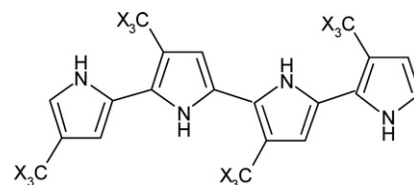
DFT study of molecular structure and electronic properties of fluoromethylpyrrole oligomers including di-, tri- and tetramer

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Structural and electronic properties of fluoromethylpyrroles (FMPs), $\text{NC}_4\text{H}_4\text{--CH}_n\text{F}_3\text{--}$ with $n = 0, 1, 2, 3$, oligomers including dimer, trimer and tetramer and their radical cations have been studied using DFT-B3LYP method with 6-31G(d, p) basis set. Structure scheme used for FMP tetramers where --CX_3 stands for --CH_3 , $\text{--CH}_2\text{F}$, --CHF_2 and --CF_3 .

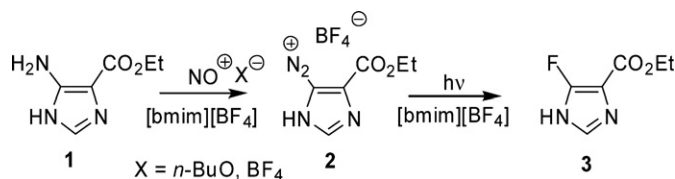
*J. Fluorine Chem.*, 128 (2007) 674

Photochemical Schiemann reaction in ionic liquids

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In order to obviate competition between fluoride and solvent water as nucleophiles, the photochemical Schiemann reaction of imidazole derivative **1** was carried out in 1-butyl-3-methylimidazolium tetrafluoroborate ionic liquid [bmim][BF₄] as solvent.

*J. Fluorine Chem.*, 128 (2007) 679

Facile protection of carbonyl compounds as oxathiolanes and transoxathioacetalization of oxyacetals promoted by iron(III) trifluoroacetate or trifluoromethanesulfonate as chemoselective and recyclable catalysts

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