



Graphical Abstracts/J. Fluorine Chem. 134 (2012) 1–7

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Preface

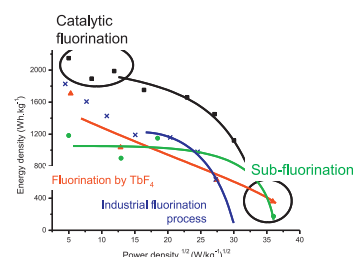
Henri Groult, Alain Tressaud

Université P. & M. Curie, Case 51, Laboratoire PECSA, UMR 7195, 4 place Jussieu, Bât. F74, 75005 Paris, France
 ICMCB, CNRS, Université Bordeaux I, 87, Av. Dr A. Schweitzer, 33608 Pessac Cedex, France

Applicative performances of fluorinated carbons through fluorination routes: A review

Katia Guérin, Marc Dubois, Axel Houdayer, André Hamwi

Clermont-Université, Laboratoire des Matériaux Inorganiques, UMR CNRS 6002-Université Blaise Pascal, 24 av. des Landais, 63171 Aubière Cedex, France



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Fluoride and oxyfluoride glasses for optical applications

V. Nazabal^a, M. Poulain^a, M. Olivier^a, P. Pirasteh^a, P. Camy^b, J.-L. Doualan^b, S. Guy^c, T. Djouama^e, A. Boutarfaia^d, J.L. Adam^a

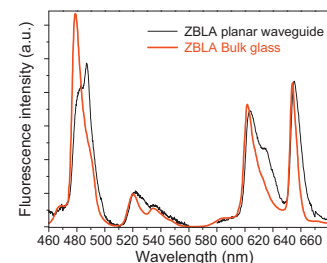
^aSciences Chimiques de Rennes, UMR-CNRS 6226, Equipe Verres et Céramiques, Université de Rennes1, 35042 Rennes, France

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Investigation of the purity of antimony pentafluoride using ^{19}F NMR

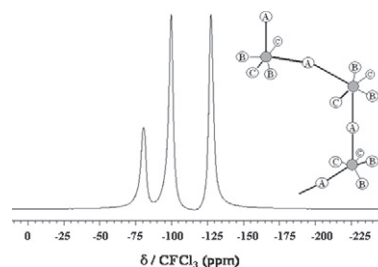
A. Bock^{ab}, M. Dubois^{ab}, P. Bonnet^{ab}, A. Hamwi^{ab}, D. Avignant^{ab}, L. Moch^c, B. Morel^c

^aClermont Université, Université Blaise Pascal, Laboratoire des Matériaux Inorganiques, 63171 Aubière, France

^bCNRS, UMR 6002, 63170 Aubière, France

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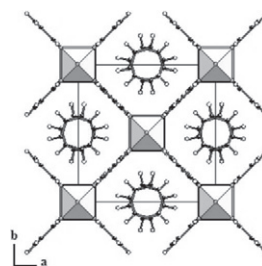
Mixed metal^{II}–metal^{IV} hybrid fluorides

Jérôme Lhoste, Karim Adil, Armel Le Bail, Marc Leblanc, Annie Hémon-Ribaud, Vincent Maisonneuve

Laboratoire des Oxydes et Fluorures, UMR CNRS 6010, Faculté des Sciences et Techniques, Université du Maine, Avenue Olivier Messiaen, 72085 Le Mans Cedex 09, France

Six type II mixed metal hybrid fluorides are obtained under solvothermal conditions assisted by microwave heating. The structures are determined either from single crystal or powder X-ray diffraction data.

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About MX_3 and MX_2 ($\text{M}^{n+} = \text{Mg}^{2+}, \text{Al}^{3+}, \text{Ti}^{4+}, \text{Fe}^{3+}$; $\text{X}^{p-} = \text{F}^-, \text{O}^{2-}, \text{OH}^-$) nanofluorides

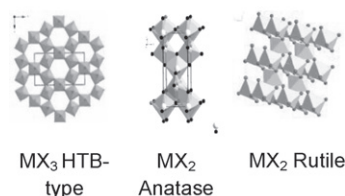
A. Demourgues, N. Penin, D. Dambournet, R. Clarenc, A. Tressaud, E. Durand

Institut de Chimie de la Matière Condensée de Bordeaux-CNRS, Université Bordeaux, 87, Avenue du Dr. A. Schweitzer, 33608 Pessac Cedex, France

Mg, Al, Ti and Fe-based nanofluorides with high surface area, containing mixed anions (F^- , O^{2-} , OH^-) and adopting HTB, anatase and rutile frameworks have been prepared by solvothermal routes and the structures have been determined.

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Structures of nanofluorides



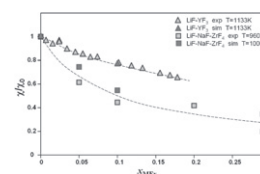
Structural effects on the electrical conductivity of molten fluorides: Comparison between LiF-YF_3 and LiF-NaF-ZrF_4

Anne-Laure Rollet, Mathieu Salanne, Henri Groult

UPMC Univ Paris 06, CNRS, ESPCI, Laboratoire PECSA, 4 place Jussieu, 75005 Paris, France

The electrical conductivity of molten alkali fluoride mixtures with ZrF_4 and YF_3 was determined from impedance experiments and molecular dynamics simulations. An important decrease was observed and analyzed in terms of the local structure of the multivalent metallic species.

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A fluorous copper(II)–carboxylate complex which magnetically and reversibly responds to humidity in the solid state

Artur Motreff^a, Rosenildo Correa da Costa^a, Hassan Allouchi^b, Mathieu Duttine^c, Corine Mathonière^c, Carole Duboc^d, Jean-Marc Vincent^a

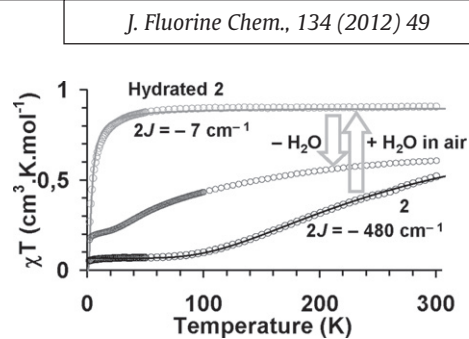
^aUniversité de Bordeaux, Institut des Sciences Moléculaires (CNRS-UMR 5255), Talence, France

^bUniversité de Tours, Laboratoire de Chimie Physique (PCMB-E.A 4244), Tours, France

^cCNRS, Université de Bordeaux, ICMCB, 87 av. du Dr Schweitzer, 33608 Pessac, France

^dUniversité Joseph Fourier, Département de Chimie Moléculaire (CNRS-UMR 5250), Grenoble, France

The fluorous dimeric copper(II)–carboxylate complex $[\text{Cu}_2(\text{C}_8\text{F}_{17}\text{CO}_2)_4(\text{acetone})_2]$ (**2**) magnetically and reversibly responds to humidity in the solidstate



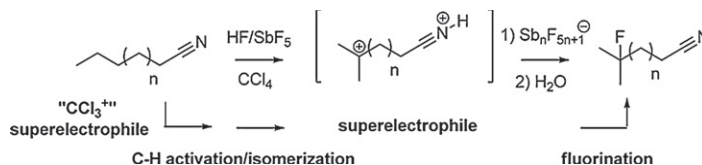
Dications in superacid HF/SbF_5 : When superelectrophilic activation makes possible fluorination and/or C–H bond activation

Agnès Martin-Mingot^a, Guillaume Compain^a, Fei Liu^a, Marie-Paule Jouannetaud^a, Christian Bachmann^b, Gilles Frapper^b, Sébastien Thibaudeau^a

^aUniversité de Poitiers, UMR 6514, Laboratoire "Synthèse et Réactivité des Substances Naturelles", 40 Avenue du Recteur Pineau, F-86022 Poitiers Cedex, France

^bUniversité de Poitiers, UMR 6503, Laboratoire de Catalyse en Chimie Organique, 40 Avenue du Recteur Pineau, F-86022 Poitiers Cedex, France

The reactivity of aliphatic amides/ketones/imines and nitriles was studied in superacid HF/SbF_5 in the presence of CCl_4 . After the identification of the reaction intermediates by in situ NMR experiments, we propose that the $\text{sp}^3\text{C-H}$ bond functionalization (fluorination) by the superacid system is strongly dependant on the superelectrophilic character of the distonic dicationic intermediates.



A diglucosylated fluorinated surfactant to handle integral membrane proteins in aqueous solution

Maheer Ablat^a, Grégory Durand^{ab}, Cécile Breyton^{cde}, Simon Raynal^{ab}, Christine Ebel^{cde}, Bernard Pucci^{ab}

^aUniversité d'Avignon et des Pays de Vaucluse, Equipe Chimie Bioorganique et Systèmes Amphiphiles, 33 rue Louis Pasteur, F-84000 Avignon, France

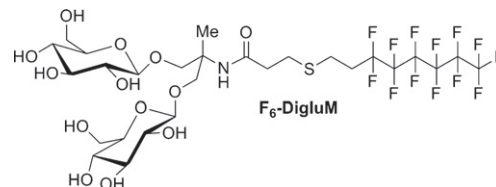
^bInstitut des Biomolécules Max Mousseron (UMR 5247), 15 avenue Charles Flahault, F-34093 Montpellier Cedex 05, France

^cCEA, Institut de Biologie Structurale (IBS), F-38027 Grenoble, France

^dCNRS, UMR 5075, IBS, Grenoble, France

^eUniversité Joseph Fourier - Grenoble 1, IBS, Grenoble, France

The synthesis of F6-DigluM is based on a one-pot reduction/alkylation of a fluorinated thioacetate onto an acrylamido-type polar head precursor, using NaBH_4 /methanol under reflux. F6-DigluM exhibits a critical micellar concentration of 0.4 mM and forms small and well-defined globular micelles. The homogeneity and the stability of bacteriorhodopsin solubilised in F6-DigluM were observed.



Polymer electrolytes based on new aryl-containing lithium perfluorosulfonates

E. Paillard^a, F. Toulgoat^b, C. Iojoiu^c, F. Alloin^c, J. Guindet^c, M. Medebielle^d, B. Langlois^d, J.Y. Sanchez^c

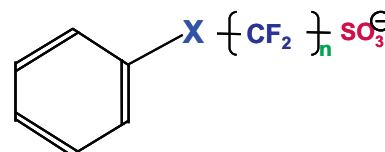
^aUniversity of Münster, Institut für Physikalische Chemie, Corrensstraße 28/30, 48149 Münster, Germany

^bUMR UDS/CNRS 7200, Faculté de Pharmacie Strasbourg, 74 route du Rhin, BP. 24, 67401 Illkirch, France

^cUMR 5246 ICBMS, Bâtiment Raulin, Université Claude Bernard Lyon 1, 43 Bd du 11 Novembre 1918, 69622 Villeurbanne cedex, France

^dLEPMI, UMR 5279 CNRS - G-INP, UJF, Uds, BP. 75, 38402 Saint-Martin-d'Hères cedex, France

The paper gathers new results obtained from a series of aryl-containing lithium perfluorosulfonates dissolved in a macromolecular solvent i.e. poly(oxyethylene). The anion syntheses starting from an aryl sulphide or an aryl ketone, a variety of new salts can be designed by changing the nature of the aryl moiety.

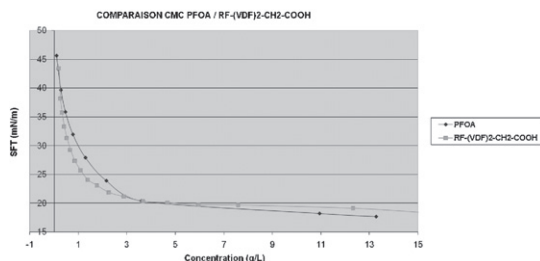


New fluorinated surfactants based on vinylidene fluoride telomers

G. Boutevin^a, D. Tiffes^a, C. Loubat^a, B. Boutevin^b, B. Ameduri^b

^aSpecific Polymers, Avenue de l'Europe–Cap Alpha, 34830 Clapiers, France

^bIngénierie et Architectures Macromoléculaires, UMR (CNRS) 5253, Institut Charles Gerhardt, Ecole Nationale Supérieure de Chimie de Montpellier, 8 Rue Ecole Normale, 34296 Montpellier Cedex 5, France



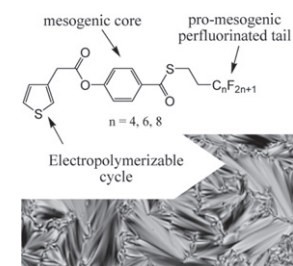
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Synthesis, characterization and surface wettability of polythiophene derivatives containing semi-fluorinated liquid-crystalline segment

Thierry Darmanin, Elisabeth Taffin de Givenchy, Sonia Amigoni, Frédéric Guittard

Université de Nice – Sophia Antipolis, Laboratoire Chimie des Matériaux Organiques et Métalliques, Equipe chimie organique aux interfaces, Parc Valrose, 06108 Nice Cedex 2, France

Original semi-fluorinated liquid crystalline monomers, containing a single phenyl unit as mesogenic core linked to a thiophene moiety, potentially usable for the construction of efficient anti wetting surfaces by electro-copolymerization.



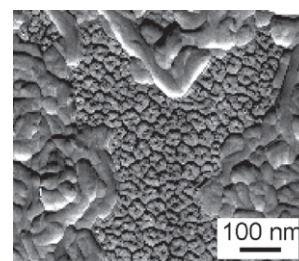
J. Fluorine Chem., 134 (2012) 85

Strasbourg's SOFFT team—Soft functional systems self-assembled from perfluoroalkylated molecular components

Marie Pierre Krafft

Systèmes Organisés Fluorés à Finalités Thérapeutiques (SOFFT), Institut Charles Sadron (CNRS UPR 22), Université de Strasbourg, 23 rue du Loess, 67034 Strasbourg Cedex 2, France

The SOFFT team focuses on the design, synthesis, investigation and potential applications of self-assembled functional fluorinated molecular systems. Here is a multilayered thin surface film with discrete and continuous layers of self-assembled (F-alkyl)alkyl diblocks.



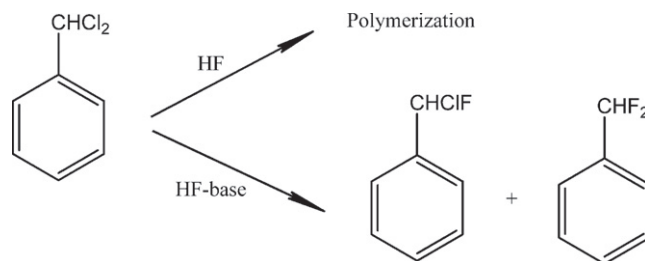
J. Fluorine Chem., 134 (2012) 90

Catalytic fluorination of dichloromethylbenzene by HF in liquid phase. Preparation of fluorinated building blocks

Alexandre Piou, Stephane Celerier, Sylvette Brunet

Laboratoire de Catalyse en Chimie Organique, UMR CNRS 6503, Université de Poitiers Faculté des Sciences Fondamentales et Appliquées 40, Avenue du Recteur Pineau 86022, Poitiers cedex, France

The selective fluorination by successive Cl/F exchanges of the dichloromethylbenzene, was studied in the presence of HF as the fluorinating agent. The influence of the presence of a catalyst or a basic solvent (such as dioxane, pyridine, tributylphosphate) in order to favour the fluorination was investigated.



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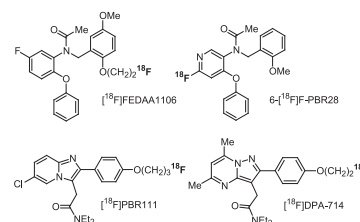
Synthesis of fluorine-18-labelled TSPO ligands for imaging neuroinflammation with Positron Emission Tomography

Dirk Roeda, Bertrand Kuhnast, Annelaure Damont, Frédéric Dollé

CEA, Institut d'imagerie biomédicale, Service Hospitalier Frédéric Joliot, 4 place du Général Leclerc, F-91401 Orsay, France

[¹⁸F]FEDAA1106, 6-[¹⁸F]F-PBR28, [¹⁸F]PBR111 and [¹⁸F]DPA-714 are four selected fluorine-18 labelled radioligands produced in our laboratory for imaging the translocator protein 18 kDa with Positron Emission Tomography. Various aspects of fluorine-18-radiochemistry, such as radiotracer design rationales, radioisotope production and [¹⁸F] fluoride activation, radio-fluorination procedures, purification and formulation are addressed based on these structures.

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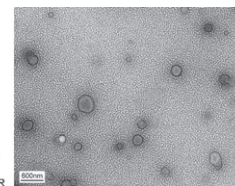
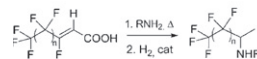
Synthesis and self-assembling behavior of F-amphiphilic functionalized amines

Nicolas Dupuy^a, Andreea Pasc^a, Estelle Mayot^a, Sedat Cosgun^b, Christine Gérardin-Charbonnier^a

^aLERMaB, EA 4370, IFR 110, Faculté des Sciences et Technologies, Université Henri Poincaré, Nancy, BP 70239, 54506 Vandoeuvre-lès-Nancy, France

^bDepartment of Chemistry, Fatih University, Istanbul, Turkey

A very simple and efficient access to novel fluorinated/hydrogenated secondary amines, starting from commercially available fluorinated acids and a variety of primary hydrogenated amines, is described. By combining a rigid fluorinated hydrophobic tag and a flexible ethylenoxide moiety, one can design original monocatenar lipids, which are able to spontaneously form vesicles in water.

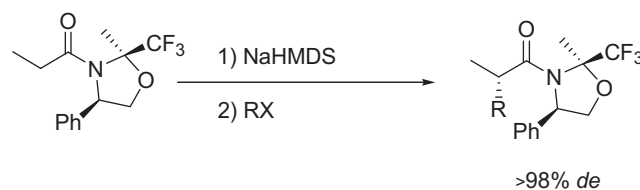


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2-Trifluoromethyl-2-methyl-4-phenyloxazolidine: A new chiral auxiliary for highly diastereoselective enolate alkylation

Arnaud Tessier, Julien Pytkowicz, Thierry Brigaud

Université de Cergy-Pontoise, Laboratoire SOSCO, F-95000 Cergy-Pontoise, France



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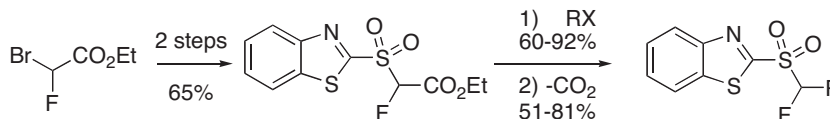
Decarboxylation of fluorosulfones for the preparation fluoroalkylidene precursors

Florent Larnaud^{ab}, Emmanuel Pfund^a, Bruno Linclau^b, Thierry Lequeux^a

^aLaboratoire de Chimie Moléculaire et Thioorganique, UMR CNRS 6507 & FR3038, ENSICAEN, Université de Caen Basse-Normandie, 6 boulevard du Maréchal Juin, 14050, Caen, France

^bSchool of Chemistry, University of Southampton, Highfield, Southampton SO17 1BJ, UK

Krapcho decarboxylation of benzothiazolyl-sulfones opens up an improved route for the synthesis of fluorosulfones as Julia-Kocienski reagents



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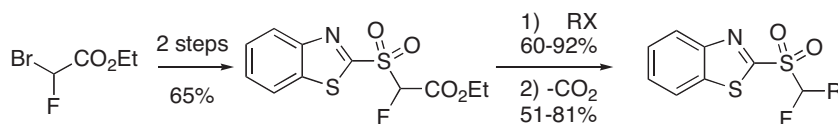
J. Fluorine Chem., 134 (2012) 136

Synthesis and evaluation of fluorinated analogues of monoamine reuptake inhibitors

Christine Philippe, Julia Kaffy, Thierry Milcent, Danièle Bonnet-Delpon

Laboratoire BioCIS-CNRS, Faculté de Pharmacie, Univ Paris-Sud, Rue J. B. Clément, F-92296 Châtenay-Malabry,

Two series of fluorinated analogs of monoamines reuptake inhibitors have been synthesized through the incorporation of fluorinated organometallic reagents. Their binding affinities have been determined on different monoamine transporters.

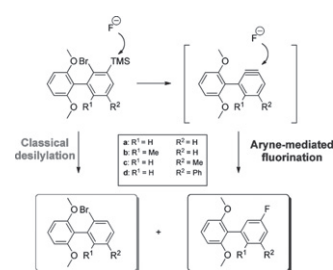


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Aryne-mediated fluorination: Synthesis of fluorinated biaryls via a sequential desilylation–halide elimination–fluoride addition process

Vincent Diemer, Juan Sanz Garcia, Frédéric R. Leroux, Françoise Colobert

CNRS/Université de Strasbourg (ECPM), UMR 7509, 25 Rue Becquerel, F-67087 Strasbourg Cedex 2, France

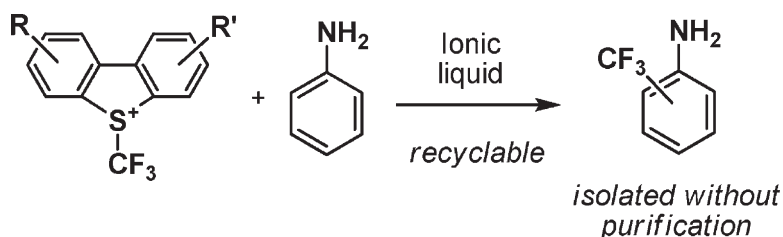


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Ionic liquids as new media for electrophilic trifluoromethylation reactions

Bruce Pégot, Yohan Macé, Céline Urban, Patrick Diter, Jean-Claude Blazejewski, Emmanuel Magnier

Institut Lavoisier de Versailles (ILV), UMR CNRS 8180,
Université de Versailles, 45 avenue des Etats-Unis, 78035
Versailles Cedex, France



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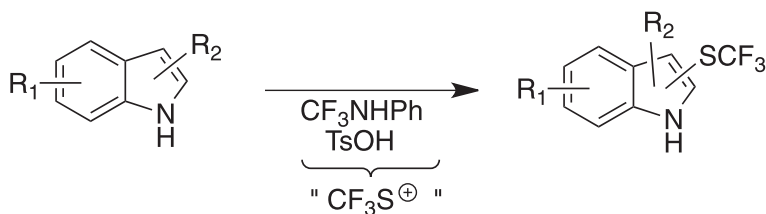
Electrophilic trifluoromethanesulfanylation of indole derivatives

Aurélien Ferry^a, Thierry Billard^a, Eric Bacqué^b, Bernard R. Langlois^a

^aUniversité de Lyon, Université Lyon 1, CNRS ICBMS (UMR CNRS
5246) – Laboratoire SURCOOF, 43 Bd du 11 novembre 1918,
Bat Chevreul, F-69622 Villeurbanne, France

^bSanofi-Aventis S.A. 136, Quai Jules Guesde, BP 14,
94403 Vitry-Sur-Seine Cedex, France

Electron-rich aromatic compounds, in particular indoles, were trifluoromethanesulfanylated by trifluoromethanesulfanylamides under acidic activations.



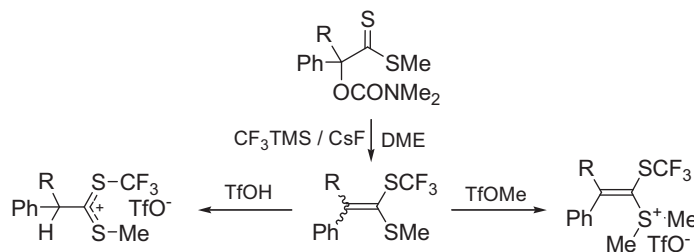
Thiophilic nucleophilic trifluoromethylation of α -substituted dithioesters. Access to *S*-trifluoromethyl ketene dithioacetals and their reactivity with electrophilic species

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Sonia Gouault-Bironneau, Vadim M. Timoshenko, Fabienne Grellepois, Charles Portella

Institut de Chimie Moléculaire de Reims, Université de Reims-Champagne-Ardenne – CNRS (UMR 6229), UFR Sciences, BP 1039, 51687 REIMS Cedex 2, France

α -Dimethylcarbamoyldithioesters react with CF_3TMS under fluoride activation to lead to the title compounds. The latter are methylated at sulfur, and protonated at carbon. The corresponding salts are characterized.

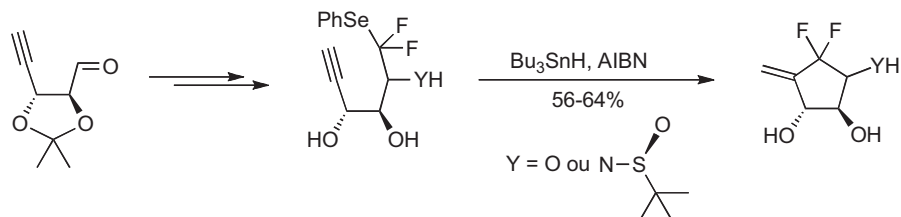


Synthesis of *exo*-methylenedifluorocyclopentanes as precursors of fluorinated carbasugars by 5-*exo*-dig radical cyclization

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Gaëlle Fourrière, Eric Leclerc, Jean-Charles Quirion, Xavier Pannecoucke

Université et INSA de Rouen, CNRS, UMR 6014 C.O.B.R.A. – IRCOF, 1 rue Tesnière, 76821 Mont Saint-Aignan Cedex, France



Towards chemical libraries based on heterocyclic scaffolds with monofluorinated and difluoroalkyl side chains

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Pierre Bannwarth^a, Danielle Grée^a, Saibal Das^b, Jhillu Singh Yadav^b, René Grée^a

^aUniversité de Rennes 1, Laboratoire Sciences Chimiques de Rennes CNRS UMR 6226 and Laboratoire Chimie et Photonique Moléculaires CNRS UMR 6510, Avenue du Général Leclerc, 35042 Rennes Cedex, France

^bOrganic Chemistry Division I, Indian Institute of Chemical Technology, 500607 Hyderabad, India

Focused chemical libraries of heteroaromatic systems with mono- and gemdifluoroalkyl side chains have been prepared. Starting from corresponding scaffolds, Pd-catalyzed reactions have been performed, including by automated procedures, to afford libraries of molecules designed for biological applications.

