Journal of Fluorine Chemistry 130 (2009) 449–452

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# Graphical Abstracts/J. Fluorine Chem. 130 (2009) 449–452

*J. Fluorine Chem., 130 (2009) 453*

## Fluorine hydrogen short contacts and hydrogen bonds in substituted benzamides

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[a]*University of Leipzig, Institute of Organic Chemistry, Johannisallee 29, D-04103 Leipzig, Germany*
[b]*Universidad Nacional Mayor de San Marcos, Facultad de Quimica e Ingenieria Quimica, Av. Venezuela s/n, Lima 1, Perú*
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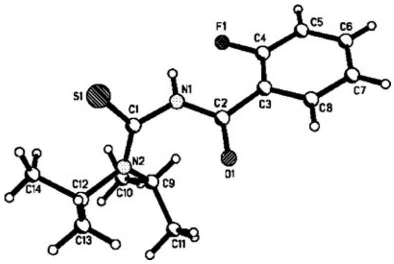
A series of fluorine substituted benzamides was synthesised and investigated by spectroscopic methods and X-ray structure analysis. The configuration of these compounds strongly depends on solvent, temperature and substitution pattern. Unexpectedly, some of these compounds form weak intramolecular hydrogen bonds/short N–H···F–C contacts in $CDCl_3$ solution and in the solid state.

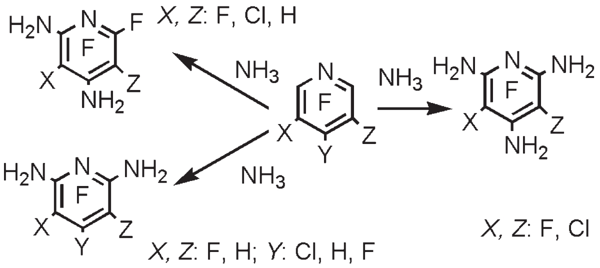


*J. Fluorine Chem., 130 (2009) 461*

## Direct di- and triamination of polyfluoropyridines in anhydrous ammonia

Soltan Z. Kusov, Vladimir I. Rodionov, Tamara A. Vaganova,
Inna K. Shundrina, Evgenij V. Malykhin

*N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry, Siberian Branch of the Russian Academy of Sciences, Lavrentiev Avenue 9, 630090 Novosibirsk, Russian Federation*



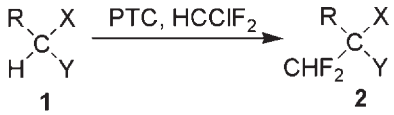
*J. Fluorine Chem., 130 (2009) 466*

## Difluoromethylation of some C–H acids with chlorodifluoromethane under conditions of phase transfer catalysis (PTC)

Ewelina Nawrot, Andrzej Jończyk

*Warsaw University of Technology, Faculty of Chemistry, Koszykowa Street 75, 00-662 Warszawa, Poland*

Selected C–H acids react with difluorocarbene generated from chlorodifluoromethane with concentrated aqueous solution of sodium hydroxide, and a catalyst, benzyltriethylammonium chloride (TEBAC) in benzene or THF affording C-difluoromethyl substituted derivatives.



doi:10.1016/S0022-1139(09)00099-2

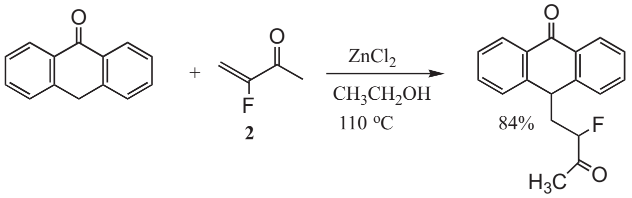
*J. Fluorine Chem., 130 (2009) 470*

## Acid-catalyzed conjugate additions to 3-fluorobutenone

Timothy B. Patrick, Upendra P. Dahal

*Department of Chemistry, Southern Illinois University, Edwardsville, IL 62026, USA*

3-Fluorobutenone (2) undergoes 1,4-addition with active methylene compounds and phenols under catalysis by $ZnCl_2$.



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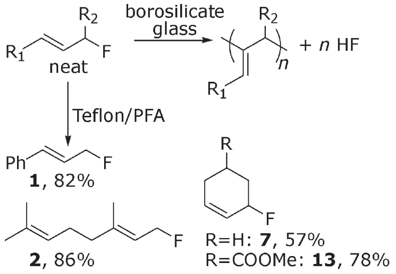
*J. Fluorine Chem., 130 (2009) 474*

## On the isolation of neat allylic fluorides

Eunsung Lee, Dmitry V. Yandulov

*Department of Chemistry, Stanford University, Stanford, CA 94305-5080, United States*

Common allylic fluorides undergo spontaneous decomposition on contact with borosilicate glass and catalytic quantities of moderately strong acids that consists in polycondensation with elimination of HF initiated by electrophilic abstraction of $F^-$. Use of fluorinated equipment enables their isolation in the neat state.



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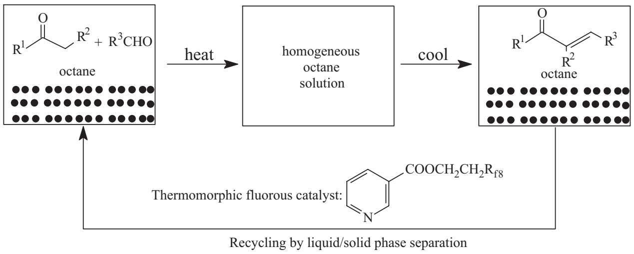
*J. Fluorine Chem., 130 (2009) 484*

## Perfluoroalkylated-pyridine catalyzed Aldol condensations of aldehydes and ketones in a fluorous biphasic system without fluorous solvent

Wen-Bin Yi, Chun Cai

*Chemical Engineering College, Nanjing University of Science and Technology, 200 Xlaolingwei, Nanjing 210094, China*

Aldol condensation proceeds efficiently in the presence of catalytic amount of perfluoroalkylated-pyridine under homogeneous conditions in *n*-octane at 80 °C. The catalyst can be recovered by simple liquid/solid phase separation at 0 °C in the absence of fluorous solvent.



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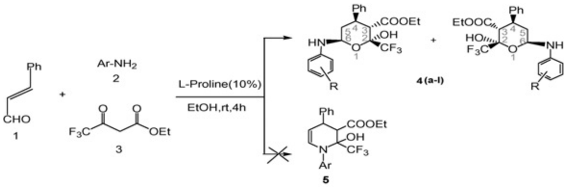
*J. Fluorine Chem., 130 (2009) 488*

## Three-component synthesis of novel trifluoromethyl-containing tetrahydropyran derivatives

Jun Zhang[a], Min Zhang[a], Weiguo Cao[ab], Liping Song[ab], Qun Qian[a], Jiwen Tan[a], Min Shao[c]

[a]*Department of Chemistry, College of Science, Shanghai University, Shanghai 200444, China*
[b]*Key Laboratory of Organofluorine Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 354 Fenglin Lu, Shanghai 200032, China*
[c]*Instrumental Analysis and Research Center, Shanghai University, Shanghai 200444, China*

L-Proline-catalyzed reaction of ethyl 4,4,4-trifluoroacetoacetate, cinnamaldehyde and anilines provides a novel method for preparation of 2-trifluoromethyl-tetrahydro-pyran derivatives in good yields.



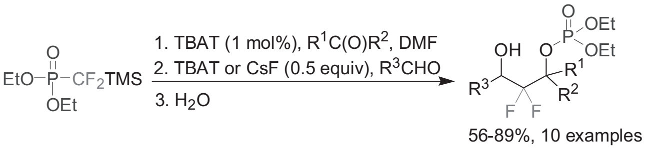
*J. Fluorine Chem., 130 (2009) 493*

## Nucleophilic difluoromethylenation of aldehydes and ketones using diethyl difluoro(trimethylsilyl)methylphosphonate

Anastasia V. Alexandrova, Petr Beier

*Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, Flemingovo nám. 2, 166 10 Prague 6, Czech Republic*

Direct nucleophilic introduction of $CF_2$ group to aldehydes and ketones starting from diethyl difluoro(trimethylsilyl)methylphosphonate was achieved. Phosphates of *syn* and *anti* 2,2-difluoro-1,3-diols were produced in one reaction sequence and under mild conditions using catalytic amount of fluoride initiator.



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*J. Fluorine Chem., 130 (2009) 501*

## Cascade iodination–fluorination synthesis of 2-fluorothiophene and 5-fluoro-2-thienyliodonium salts

Petro P. Onys'ko[a], Tetyana V. Kim[a], Olena I. Kiseleva[a], Yuliya V. Rassukana[a], Andrei A. Gakh[b]

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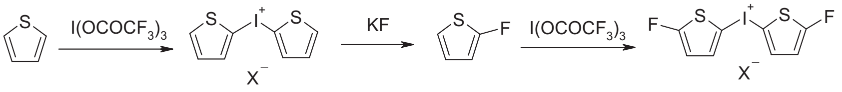
[b]*Oak Ridge National Laboratory, Oak Ridge, TN 37831-6242, USA*

The title method was successfully used for the preparation of 2-fluorothiophene and corresponding iodonium salts. The best results were achieved using thermolysis of hexafluorophosphates in the presence of KF.



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*J. Fluorine Chem., 130 (2009) 505*

## A TFAA–$H_3PO_4$-mediated direct, metal-free and high-speed synthesis of aryl carboxylate esters from phenols

Kavitha Kankanala[ab], Vangala Ranga Reddy[c], Khagga Mukkanti[a], Sarbani Pal[b]

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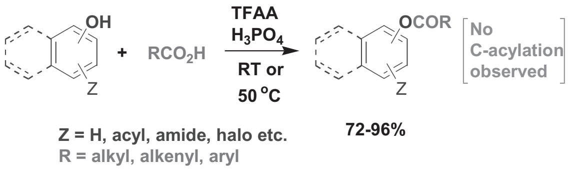
[b]*Department of Chemistry, MNR Degree and PG College, Kukatpally, Hyderabad 500072, India*
[c]*Dr. Reddys Laboratories Limited, Integrated Product Development, Bachupally, Hyderabad 500055, India*



We disclose TFAA–$H_3PO_4$-mediated direct O-acylation of phenols and 2-naphthol (or 1-naphthol) using a free carboxylic acid without generating any C-acylated side products. The present methodology works well either at room temperature or at 50 °C and provides the O-acylated products in good to excellent yields within few minutes.

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## Unique sodium dithionite initiated coupling of $CF_3CHClBr$ with 1,3,5-trimethoxybenzene: Synthesis and structure of trifluoromethyl-bis(2,4,6-trimethoxyphenyl)methane

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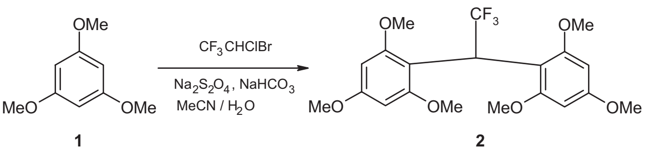
Sodium dithionite initiated reaction of 1-bromo-1-chloro-2,2,2-trifluoroethane with 1,3,5-trimethoxy-benzene in an acetonitrile-water mixture gives trifluoromethyl-bis(2,4,6-trimethoxyphenyl)methane as the only isolable product in over 32% yield. The structure of this compound was evidenced by spectral methods and X-ray crystal analysis.

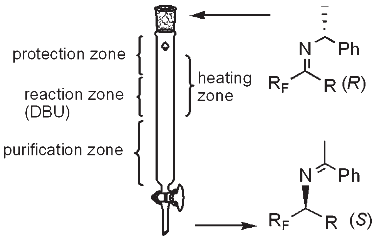


J. Fluorine Chem., 130 (2009) 512

# Continuous-flow asymmetric biomimetic transamination

Vadim A. Soloshonok[ab], Hector T. Catt[ab], Taizo Ono[ab]

[a]*National Institute of Advanced Industrial Science and Technology (AIST), 2266-98 Anagahora, Shimoshidami, Moriyama-ku, Nagoya, Aichi Prefecture 463-8560, Japan*
[b]*Department of Chemistry and Biochemistry, University of Oklahoma, Norman, OK 73019, United States*



Continuous-flow on-column reaction process: improved chemical yields and enantioselectivity

R = Ph, Alkyl;
$R_F = CF_3, C_3F_7$