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Graphical Abstracts/J. Fluorine Chem. 186 (2016) v–ix

N-Vinyl-2-(trifluoroacetylethynyl)pyrroles and *E*-2-(1-bromo-2-trifluoroacetylethenyl)pyrroles: Cross-coupling *vs.* addition during C—H-functionalization of pyrroles with bromotrifluoroacetylacetylene in solid Al_2O_3 medium. H-bonding control

J. Fluorine Chem., 186 (2016) 1

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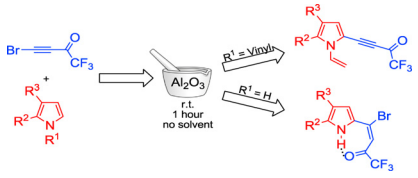

● Solid Al_2O_3 is used for trifluoroacetylethynylation or -bromoethenylation. ● Intramolecular hydrogen bonding responsible for reaction direction. ● Trifluoroacetyl group could be simply removed using solid Al_2O_3.

1,3-Bis(carboxymethyl)imidazolium bis(trifluoromethylsulfonyl) imide organic salt: Synthesis, single crystal structure, vibrational spectra, DFT calculations and physical-chemical properties

J. Fluorine Chem., 186 (2016) 7

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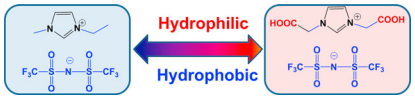

● The crystal structure of 1,3-bis(carboxymethyl)imidazolium bis(trifluoromethylsulfonyl) imide organic salt was determined. ● Its solubility in water is higher by about 10 ~ 20 times than that of *N*–alkyl-imidazolium TFSI. ● High designability of ionic liquid was verified.

Direct fluorination of para-aramid fibers 1: Fluorination reaction process of PPTA fiber

J. Fluorine Chem., 186 (2016) 12

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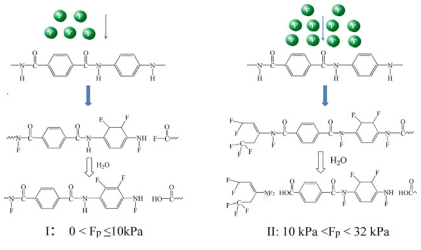

● The PPTA fiber was fluorinated with different partial pressure of F_2. ● The reaction of F_2 with the amide bonds is easier at low F_p ($F_p \leq 10$ kPa) while the reaction of F_2 with benzene rings is more favorable at high F_p. ● The results of FTIR prove that the reaction of F_2 with benzene rings is mainly an addition reaction, rather than a substitution reaction.

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J. Fluorine Chem., 186 (2016) 19

A group contribution model for prediction of the viscosity with temperature dependency for fluorine-containing ionic liquids

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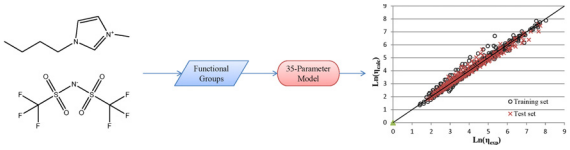
● A large and comprehensive dataset was used to develop a model. ● A linear GC model was developed to predict the viscosity of fluorine-containing ionic liquids. ● The model can estimate the reduction in viscosity by insertion of fluorine atom into the anion structure. ● New ionic liquids can be designed for specific range of viscosity.



J. Fluorine Chem., 186 (2016) 28

Detrifluoroacetylation of 4,4,4-trifluoro-3,3-dihydroxy-2-(hydroxyimino)butan-1-ones as a convenient synthetic strategy for acyl cyanides

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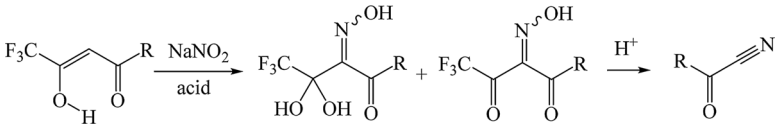
● Features of fluorinated 1,3-diketones nitrozation were studied. ● Hydrates of 1,1,1-trifluoro-3-(hydroxyimino) butan-2,4-diones were isolated. ● Novel acyl nitriles synthesis was elaborated. ● Detrifluoroacetylation of 1,3-diketone derivatives proceeds under acidic conditions.



J. Fluorine Chem., 186 (2016) 33

A novel strategy for synthesis of dichlorooctafluorocyclopentane and reaction mechanism investigation

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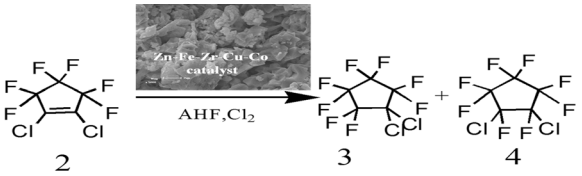
● A novel method of preparing dichlorooctafluorocyclopentane was reported. ● A series of single- and multi-component catalysts was prepared by improving components and methods. ● The co-precipitated catalyst containing Fe(+3), Zr(+4), Co(+2), Zn(+2) and Cu(+2) showed the highest catalytic activity. ● The catalytic reaction mechanism was put forward.



J. Fluorine Chem., 186 (2016) 40

A bismuth-based fluorous metal-organic framework for efficient degradation of Congo red

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● A new bismuth-based fluorous metal–organic framework with pentafluorobenzoate and 2, 2′-bipyridine has been obtained. ● The compound displays excellent properties of degradation Congo red in the absence of UV–vis radiation. ● FT-IR spectra analysis shows that Congo red presents on the surface of the compound. ● Adsorption kinetics study suggests that the adsorption of Congo red belongs to first-order reaction kinetics.