

CF PLUS CHEMICALS

*Novel fluorinated chemical space*

*...simply delivered*

*CF Plus Chemicals is an ETH Zurich spin-off founded in 2014 in Brno, Czech Republic, focusing on life science applications of fluoroorganic chemistry.*

*Our mission is to make fluoroalkylation a widely used tool for effective modification of a complete scope of molecular targets, spanning from small molecules to large molecules - unlocking the full potential of drug candidates and enabling effective bioconjugation of biologically relevant entities.*

*In small molecule research, the company envisions to help their customers open new, hitherto unexplored chemical space in medicinal chemistry with reagents that are easy to use.*

*Our goal is to deliver, and help to deliver, better and cost-effective solutions for development of cures of devastating human diseases.*

*Dr. Václav Matoušek, CEO and founder*

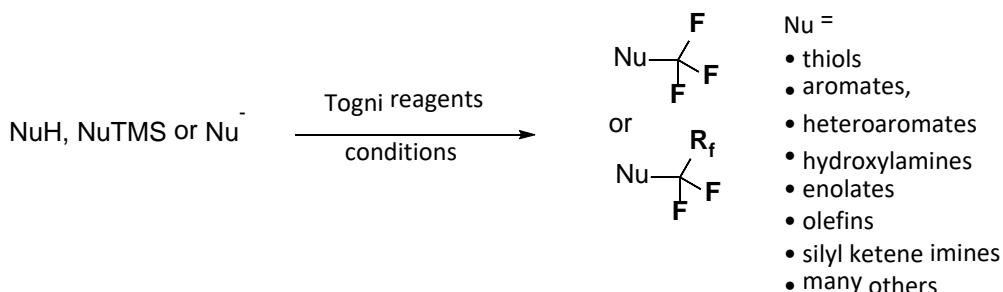
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## Fluoroalkylation portfolio

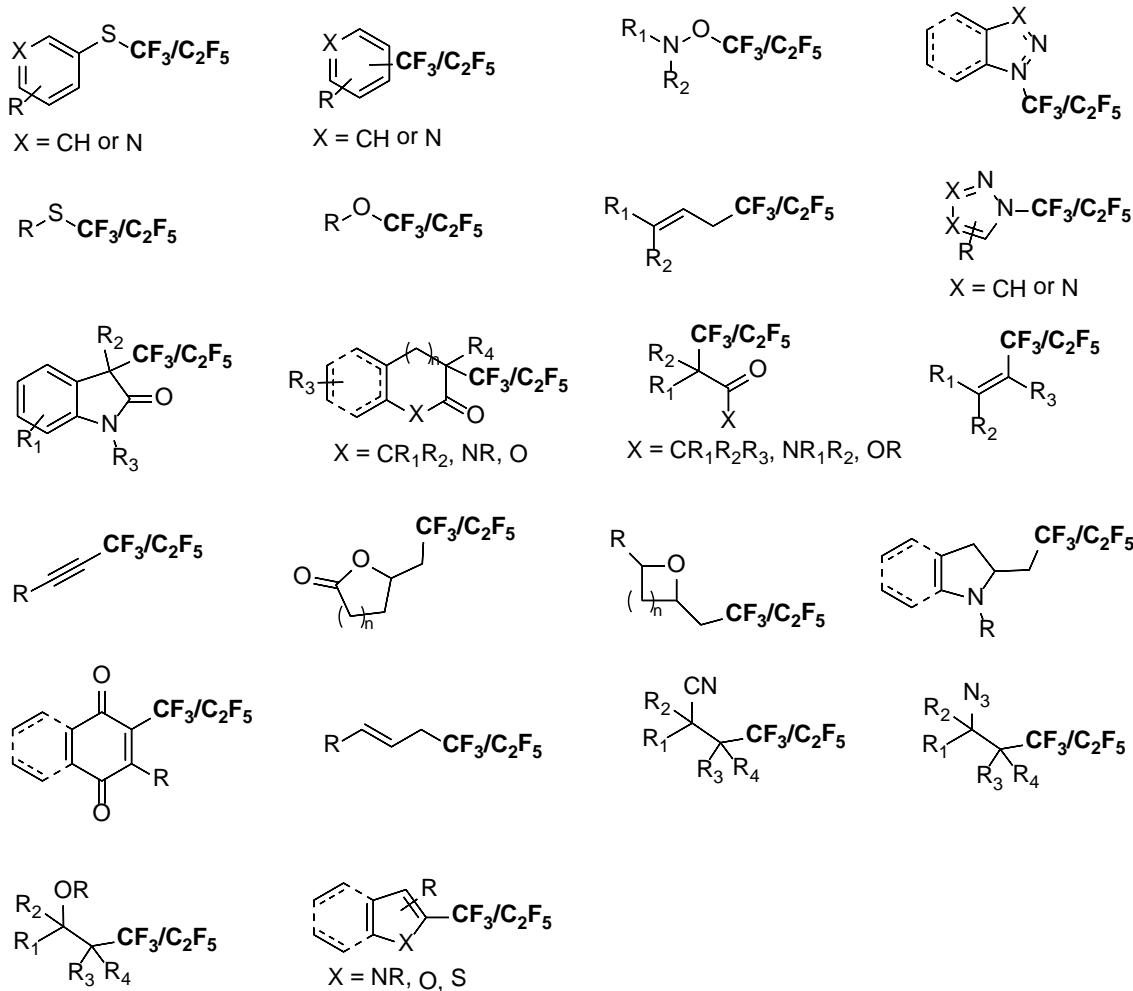
### Togni perfluoroalkyl reagents

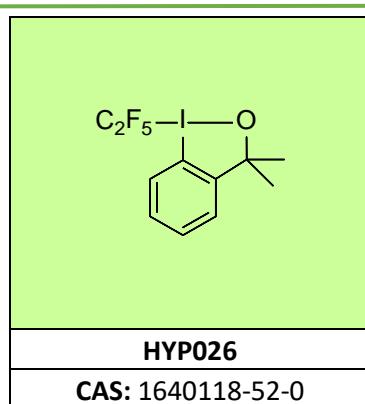
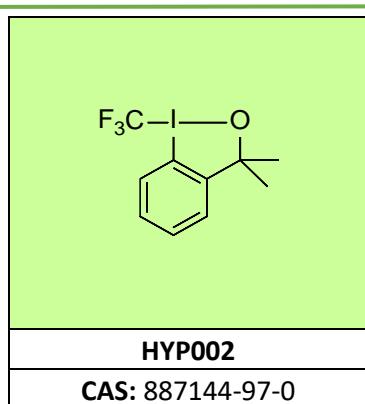
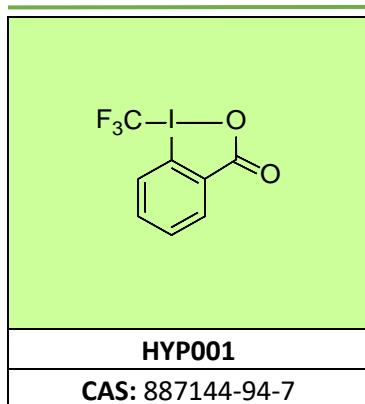
The so-called Togni reagents have over the last years become a standard tool that provides expedient access to trifluoromethylated and perfluoroalkylated compounds important for drug and pesticide discovery programs. In many cases, these reagents operate via trifluoromethyl or perfluoroalkyl radicals as the key reactive intermediates.



For a review, see: *Chem. Rev.*, 2015, 115, 650

#### Chemical space opened by Togni-perfluoroalkyl reagents:

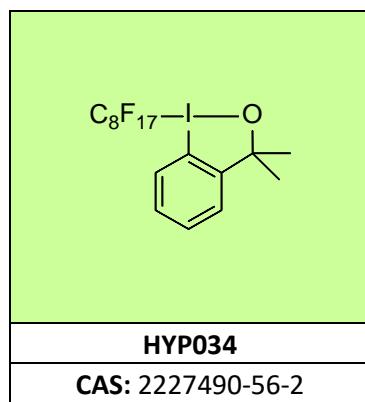
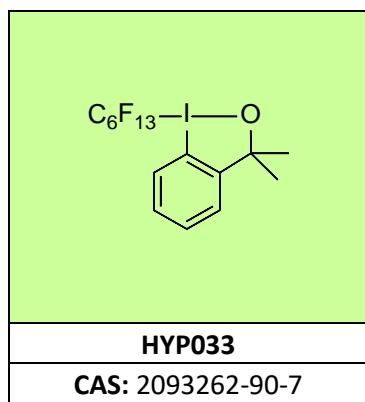
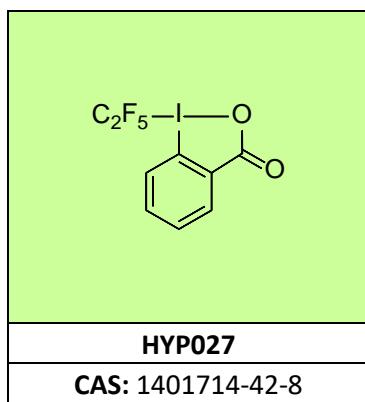




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1000 g	quote

1 g	52 EUR
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10 g	270 EUR
50 g	1 220 EUR
100 g	2 315 EUR

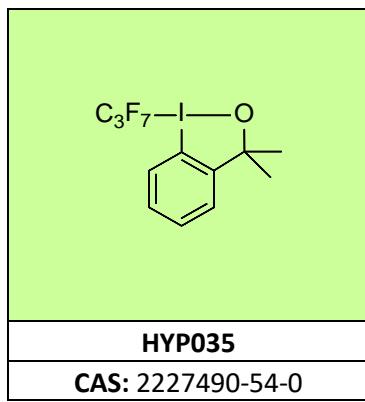
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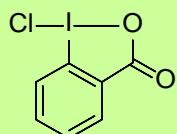
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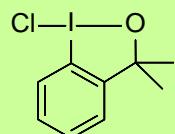
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## Other hypervalent iodine reagents

Cyclic hypervalent iodine reagents with increased hydrolytical and thermal stability have been described as mild and conveniently handled electrophilic chlorination, fluorination and azidations reagents. The shelf-stable fluorooiodane reagent allows to perform elegant fluorinative functionalisations and fluorocyclisations of olefins under mild conditions, while the azidoiodane reagent can be used to as a formally electrophilic azidation reagent for azidation of enolates.

**HYP004**

CAS: 59457-26-0

**HYP005**

CAS: 69352-04-1

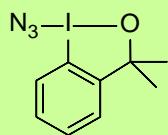
**HYP006**

CAS: 1391728-13-4

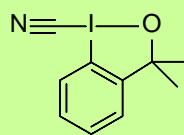
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1000 g	quote

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250 g	quote
1000 g	quote

10 g	330 EUR
50 g	1 200 EUR
100 g	2 100 EUR
250 g	quote
1000 g	quote

**HYP007**

CAS: 175786-57-9

**HYP037**

CAS: 172876-97-0

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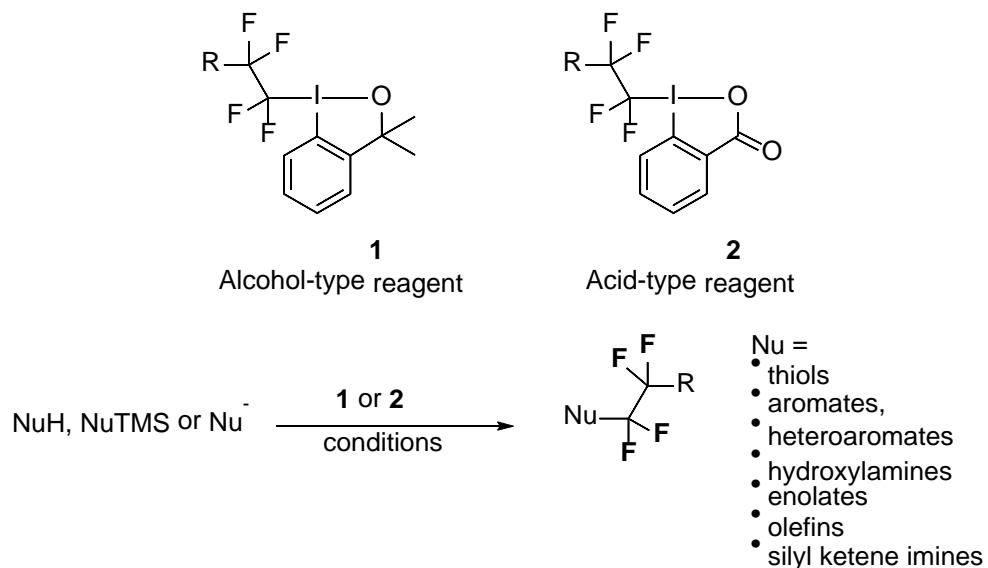
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## Togni - $\text{CF}_2\text{CF}_2\text{R}$ reagents

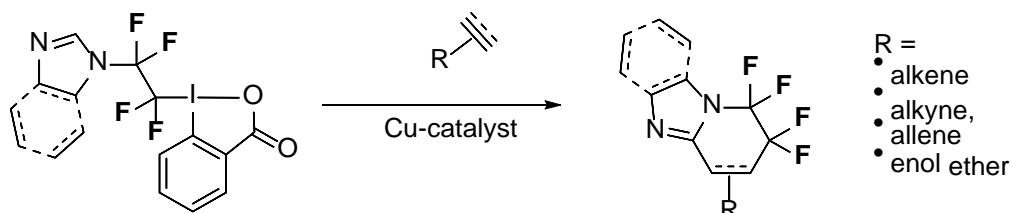
The second generation of Togni reagents („extended Togni reagents“) incorporate substituted tetrafluoroethyl groups instead of plain perfluoroalkyls. With essentially similar reactivity patterns as the original  $\text{CF}_3$ -analogues, many types of transformations that work well with  $\text{CF}_3$ -Togni reagents can be done with these reagents as well, providing access to rare and potentially attractive fluorinated chemical space.

**With a set of „extended Togni reagents“ in hand, the lead compound can be diversified in the last stage of the synthesis to afford the hard-to-access fluoroalkyl-decorated derivatives.**

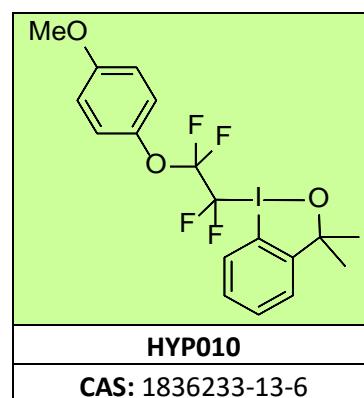
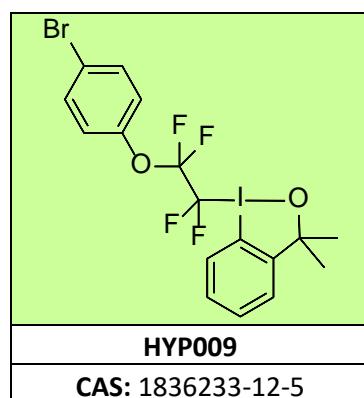
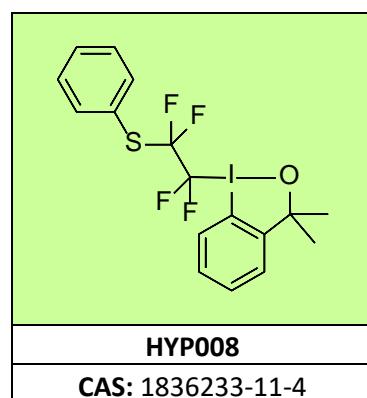
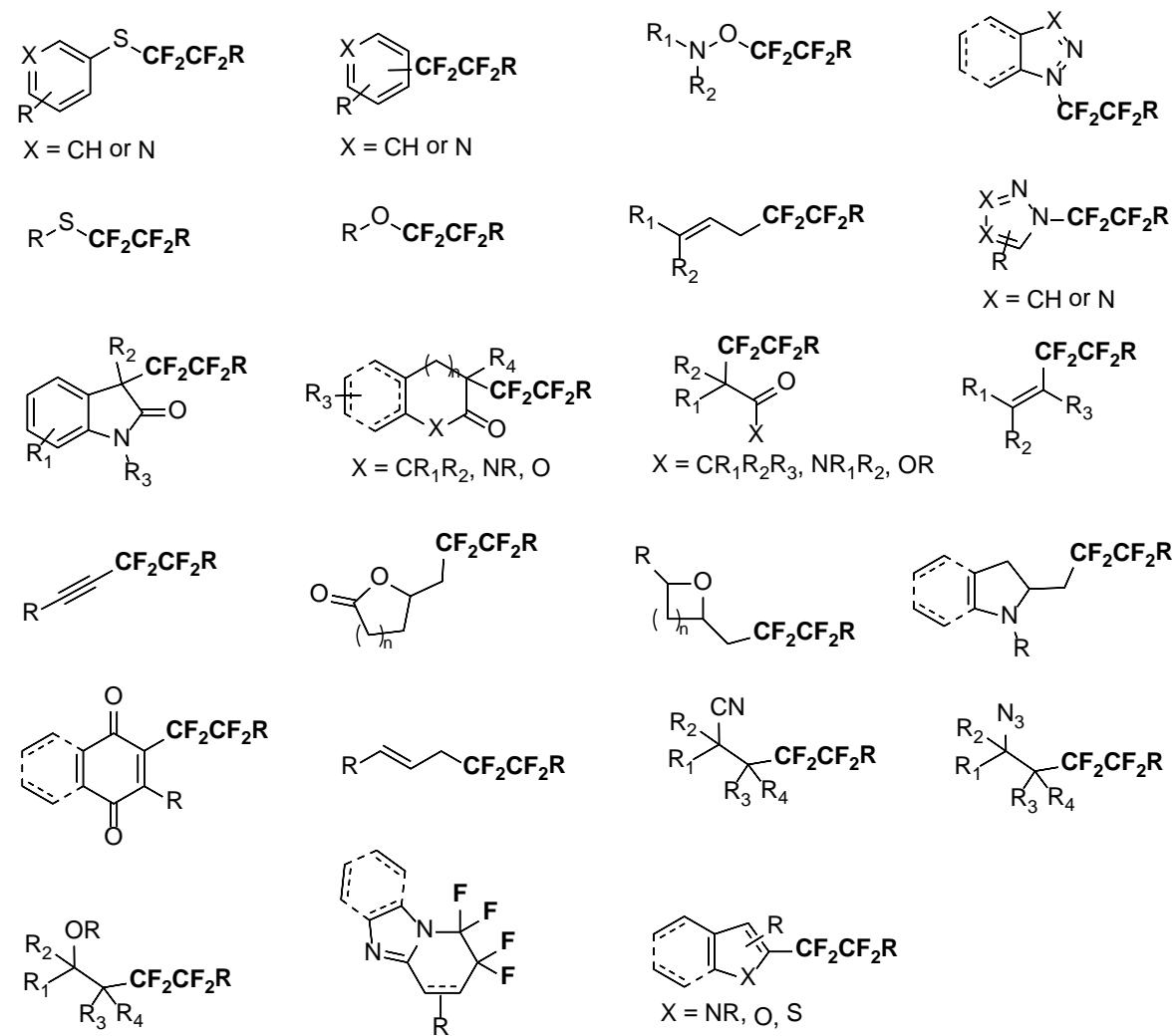
The azole-substituted  $-\text{CF}_2\text{CF}_2-$  „extended Togni reagents“ engage in a radical cyclisation reaction with olefins and acetylenes giving access to rare tetrafluorinated heterocycles. The incorporation of a  $-\text{CF}_2\text{CF}_2-$  moiety into a cyclic structure imparts the molecule a unique combination of properties called „polar hydrophobicity“ – a permanent dipole combined with the solvophobic behaviour of the tetrafluoroethylene unit.



Late stage introduction of  $-\text{CF}_2\text{CF}_2\text{R}$  moieties into molecules  
 Ref: *Chem. Eur. J.*, **2016**, 22, 417–424; Patent WO2016019475A1



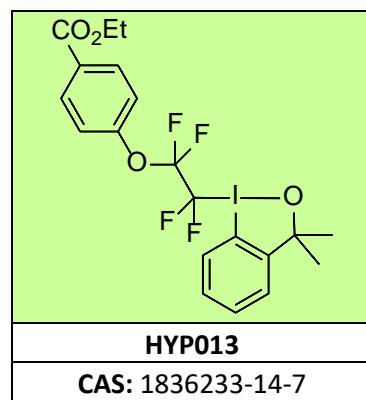
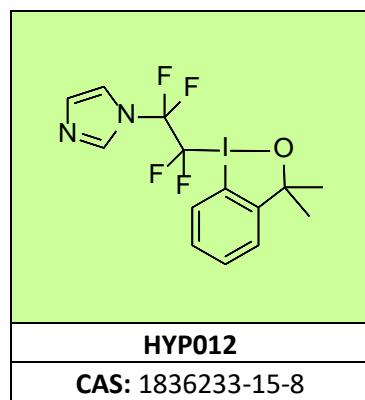
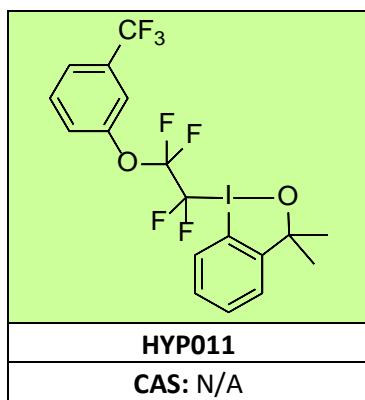
Access to tetrafluorinated di- and tetrahydro(benz)imidazopyridines  
 Ref: *Org. Lett.*, **2016**, 18, 756

Chemical space opened by Togni-CF<sub>2</sub>CF<sub>2</sub>R reagents:

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1 g	1 700 EUR
5 g	4 500 EUR

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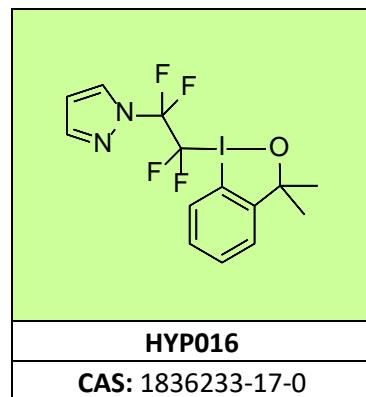
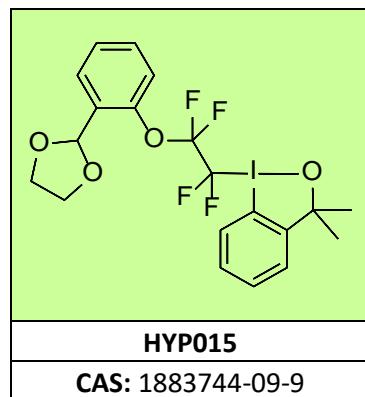
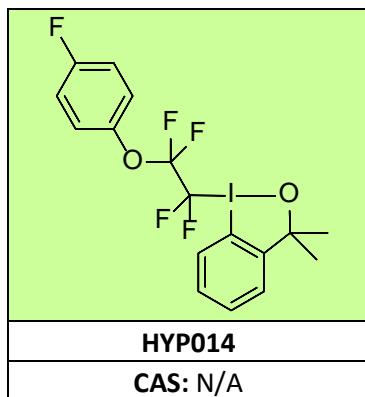
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0.25 g	500 EUR
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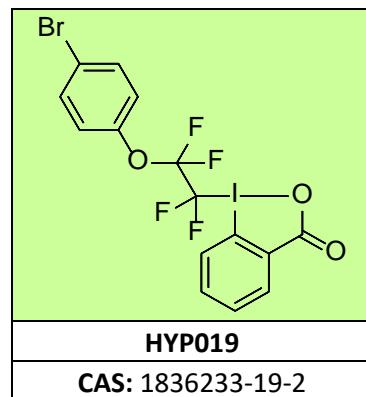
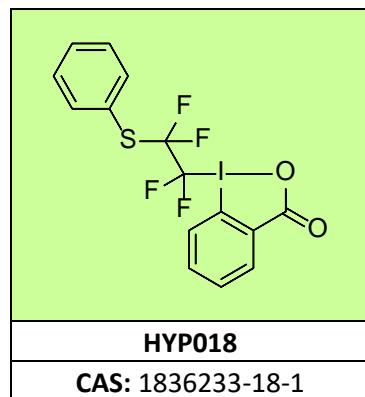
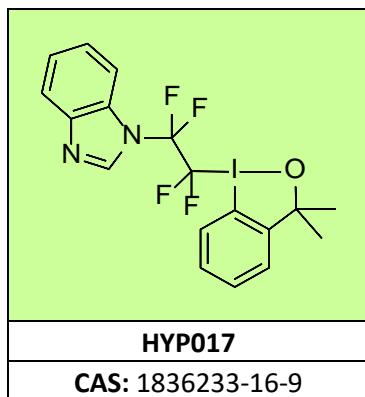
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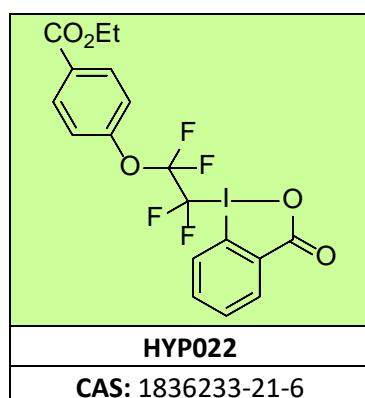
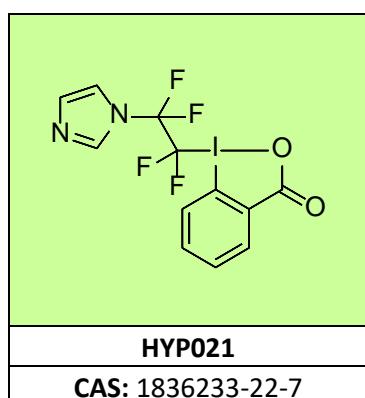
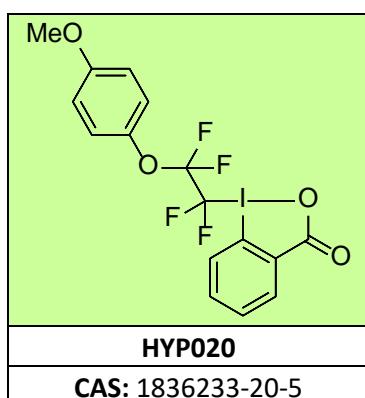
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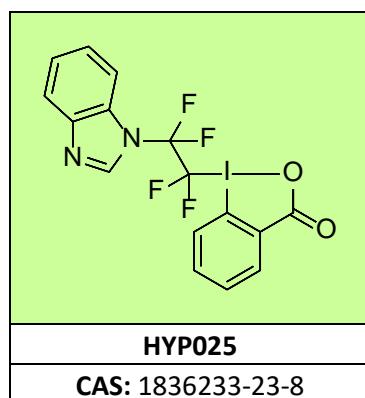
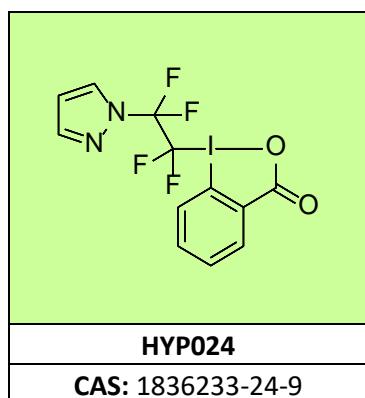
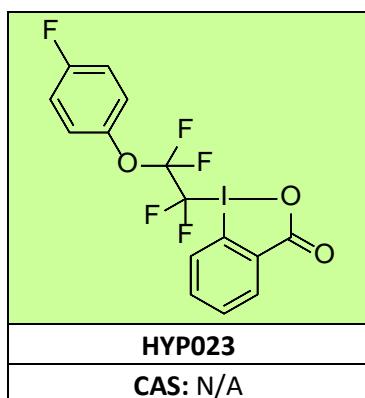
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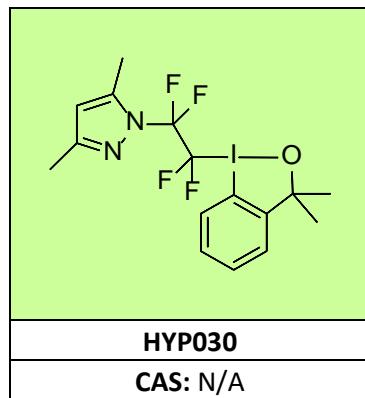
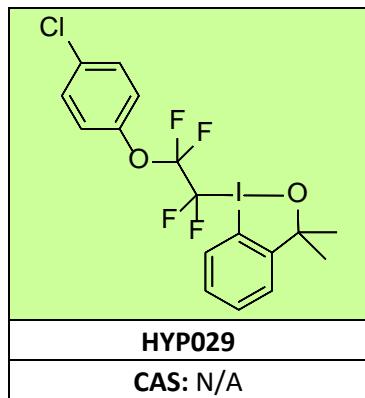
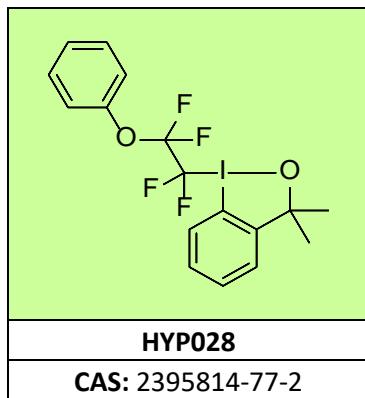
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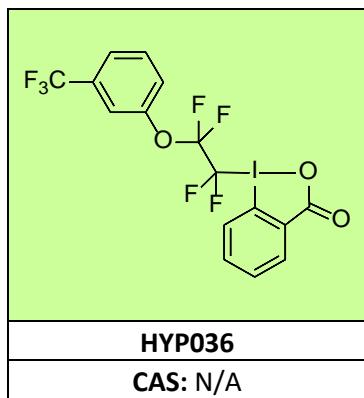
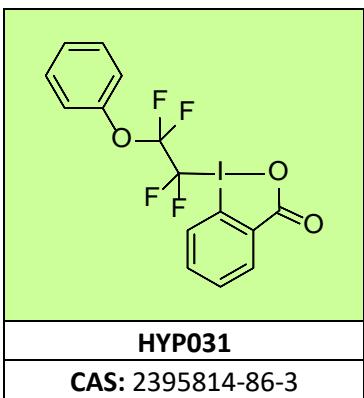
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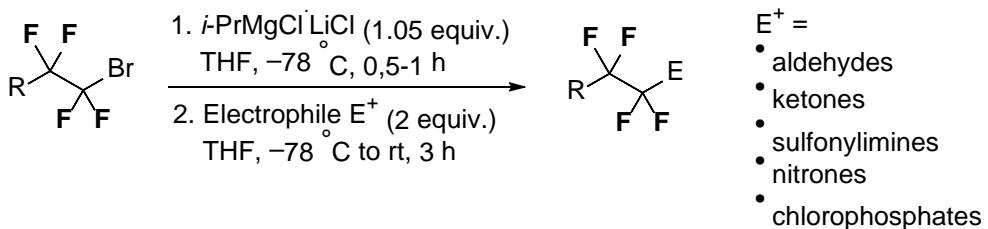


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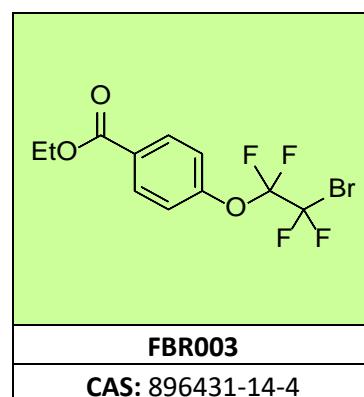
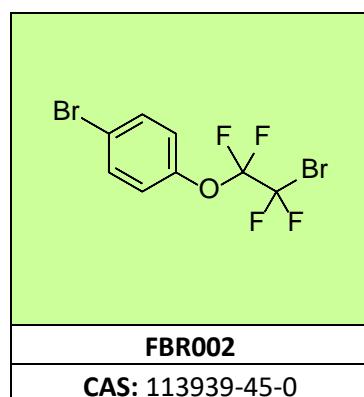
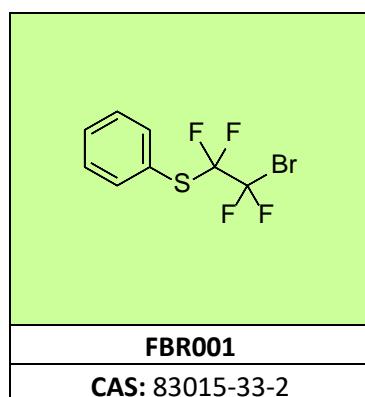
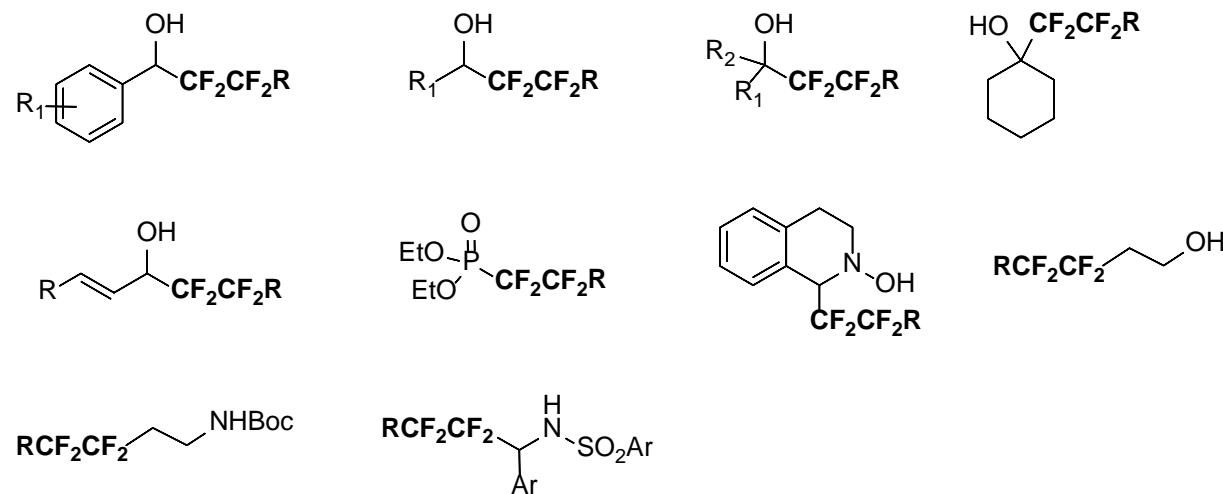
## Fluoroalkyl bromides

Substituted fluoroalkyl bromides turn into powerful nucleophilic fluoroalkylation reagents after being metallated with isopropyl magnesium chloride-lithium chloride complex (Turbo-Grignard). The *in-situ* generated fluoroalkyl magnesium chloride intermediate is moderately stable up to -40 °C and can be efficiently trapped with various electrophiles to afford the —CF<sub>2</sub>CF<sub>2</sub>— linked products.



Ref: *Org. Lett.*, 2016, 18, 5844

### Chemical space opened by the fluoroalkyl magnesium chemistry:



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5 g	1 250 EUR
10 g	1 800 EUR

1 g	450 EUR
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10 g	1 800 EUR

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**FBR004**

CAS: 2032375-46-3

**FBR005**

CAS: 134151-62-5

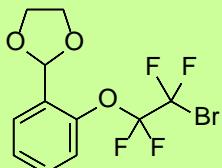
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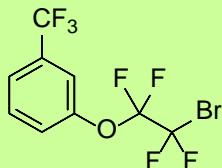
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10 g	1 800 EUR

1 g	450 EUR
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10 g	1 800 EUR

1 g	700 EUR
5 g	quote
10 g	quote

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CAS: 1883744-08-8

**FBR008**

CAS: 134130-31-7

**FBR009**

CAS: 900534-71-6

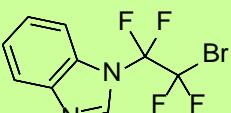
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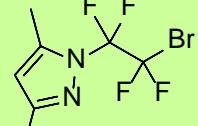
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**FBR011**

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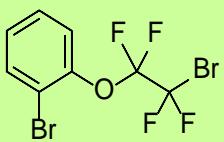
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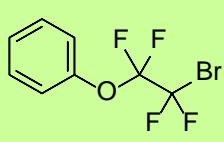
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**FBR014**

CAS: 83015-28-5

**FBR015**

CAS: 83015-29-6

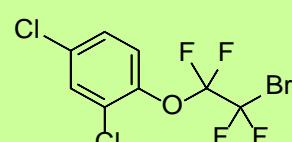
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**FBR017**

CAS: 1548651-96-2

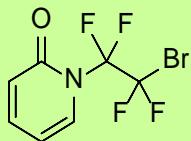
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CAS: 957372-61-1

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**FBR020**

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**FBR021**

CAS: 2748235-11-0

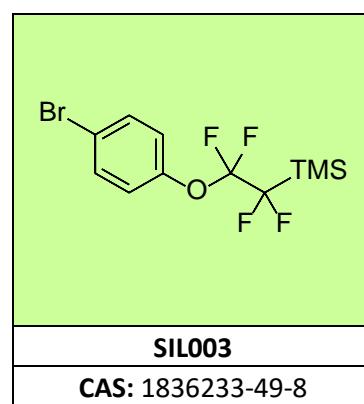
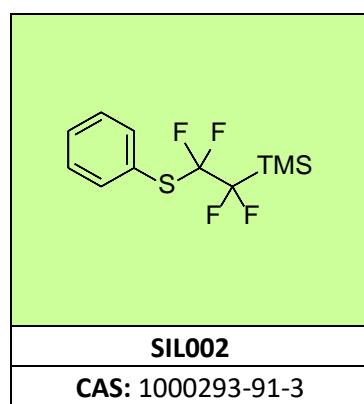
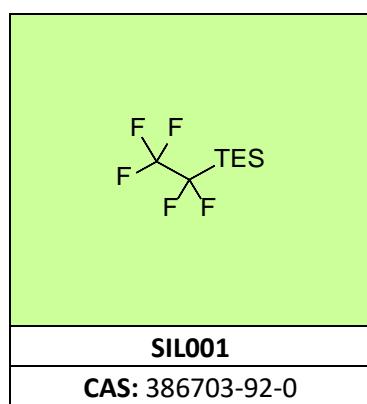
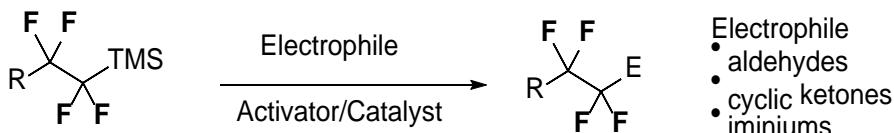
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10 g	2 100 EUR

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5 g	2 500 EUR
10 g	quote

1 g	450 EUR
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10 g	1 800 EUR

## Fluoroalkyl silanes

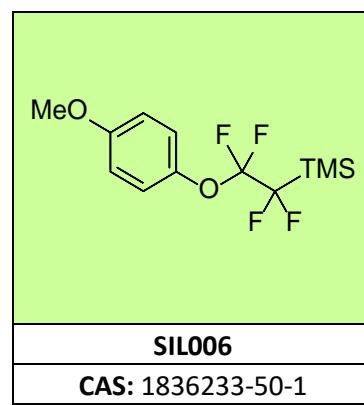
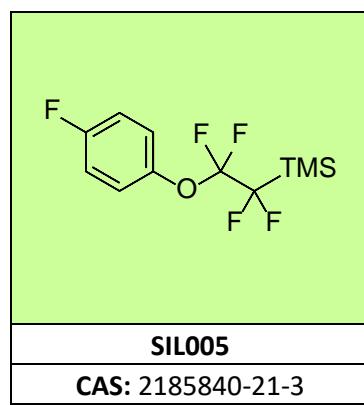
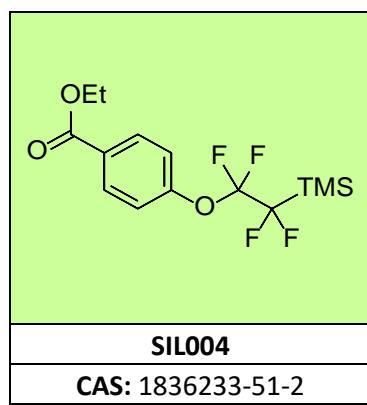
Substituted fluoroalkyl silanes serve as traditional nucleophilic sources of the fluoroalkyl synthon. Upon activation with catalytic fluoride or alkoxide, they can fluoroalkylate a range of aldehydes, reactive ketones or iminiums. The silanes can also engage in transition-metal catalyzed formation of R-CF<sub>2</sub>CF<sub>2</sub><sup>-</sup> substituted aromatics.



1 g	60 EUR
5 g	250 EUR
10 g	450 EUR

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

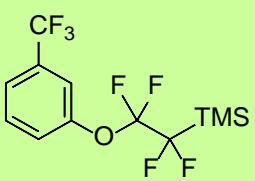
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR



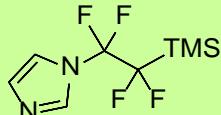
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

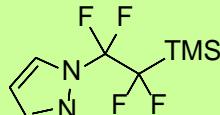
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR



**SIL007**  
CAS: 2185840-22-4



**SIL008**  
CAS: 722491-59-0

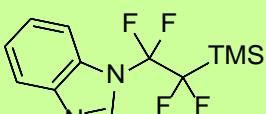


**SIL009**  
CAS: 1125518-71-9

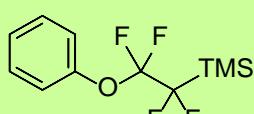
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

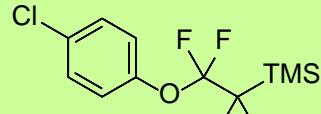
1 g	700 EUR
5 g	2 100 EUR
10 g	3 200 EUR



**SIL010**  
CAS: 1125518-69-5



**SIL012**  
CAS: 386703-91-9

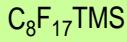


**SIL013**  
CAS: 2185840-33-7

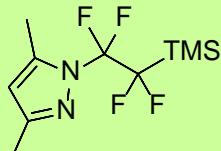
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

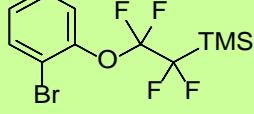
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR



**SIL014**  
CAS: 52112-19-3



**SIL015**  
CAS: 1125518-74-2

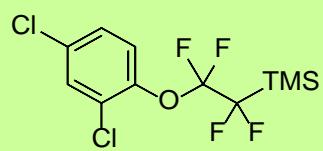


**SIL016**  
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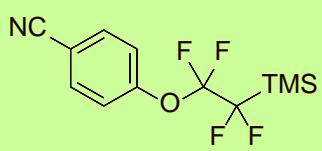
1 g	50 EUR
5 g	200 EUR
10 g	300 EUR

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

**SIL017**

CAS: 2368872-08-4

**SIL020**

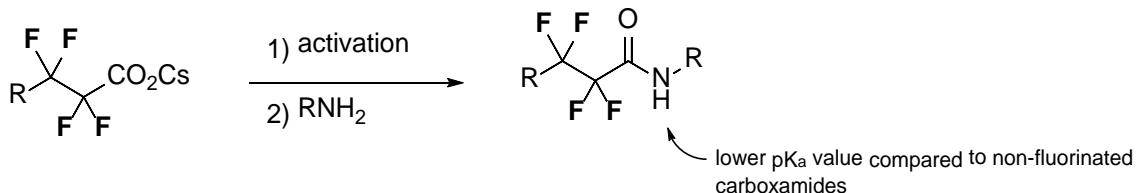
CAS: 2749846-95-3

1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

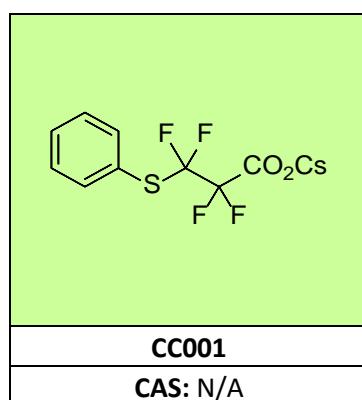
1 g	610 EUR
5 g	1 990 EUR
10 g	2 990 EUR

## Fluoroalkyl carboxylate

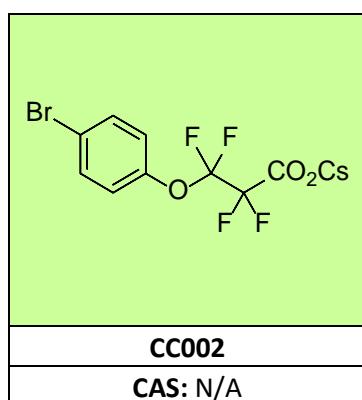
$\beta$ -Substituted cesium tetrafluoropropionates are convenient starting materials for construction of fluoroalkyl carboxamides. The  $pK_a$  values of such amide groups are significantly lower than their non-fluorinated counterparts, offering potential to modulate the behaviour of drug candidates.



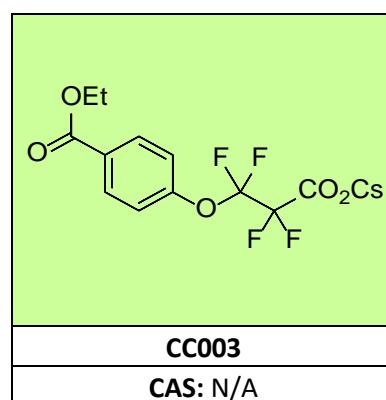
The cesium salts can be easily handled on air due to their reduced hygroscopicity compared to the highly hygroscopic free carboxylic acids.



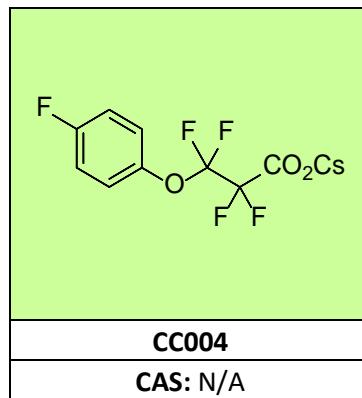
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR



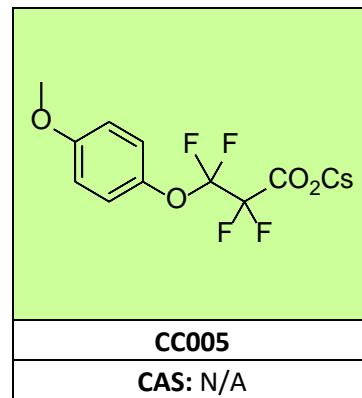
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR



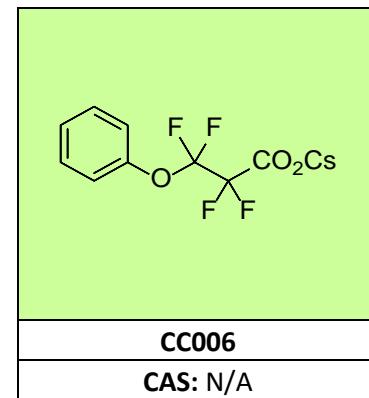
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR



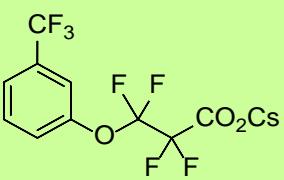
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR



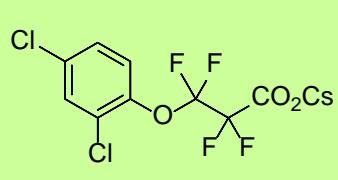
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR



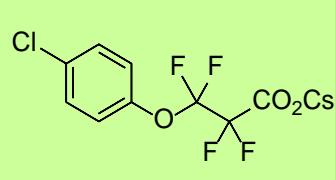
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

**CC007**

CAS: N/A

**CC008**

CAS: N/A

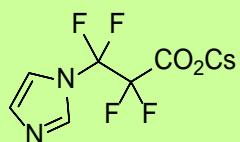
**CC009**

CAS: N/A

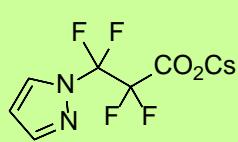
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

**CC010**

CAS: N/A

**CC011**

CAS: N/A

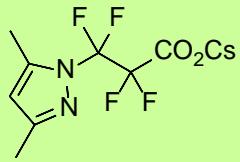
**CC012**

CAS: N/A

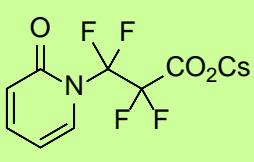
0.25 g	390 EUR
0.5 g	550 EUR
1 g	950 EUR
5 g	2 100 EUR

0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

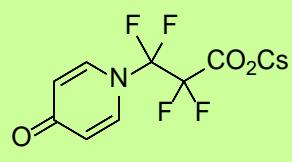
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

**CC013**

CAS: N/A

**CC014**

CAS: N/A

**CC015**

CAS: N/A

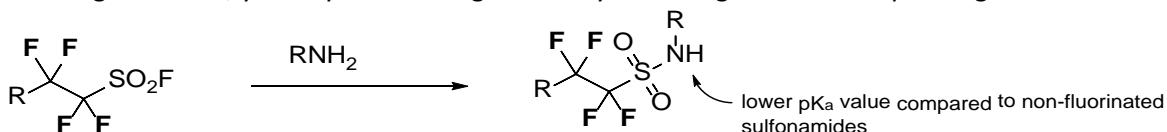
0.25 g	340 EUR
0.5 g	500 EUR
1 g	850 EUR
5 g	1 990 EUR

0.25 g	410 EUR
0.5 g	600 EUR
1 g	990 EUR
5 g	2 390 EUR

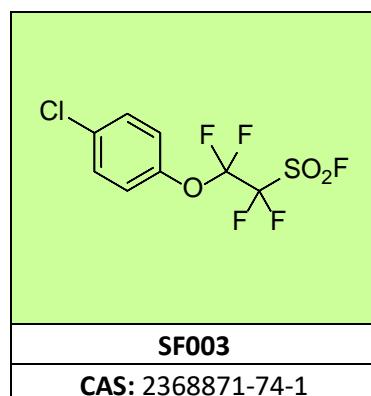
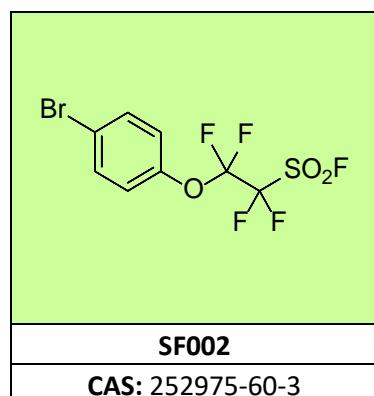
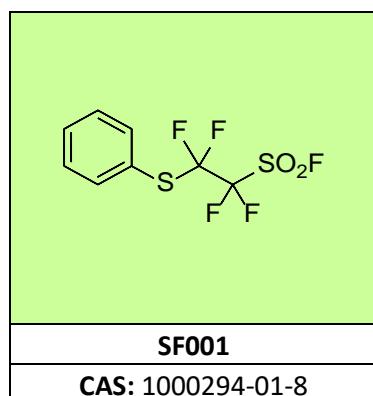
0.25 g	410 EUR
0.5 g	600 EUR
1 g	990 EUR
5 g	2 390 EUR

## Fluoroalkyl sulfonylfluorides

Fluoroalkyl sulfonyl fluorides can be used as moderately reactive electrophilic fluoroalkyl sulfonylation reagents. Whereas the related fluoroalkyl sulfonyl chlorides can also behave as electrophilic chlorination reagents towards amines affording undesirable *N*-chloroamines, the fluoroalkyl sulfonyl fluorides give slower, yet very clean nitrogen sulfonylation to give the corresponding sulfonamides.



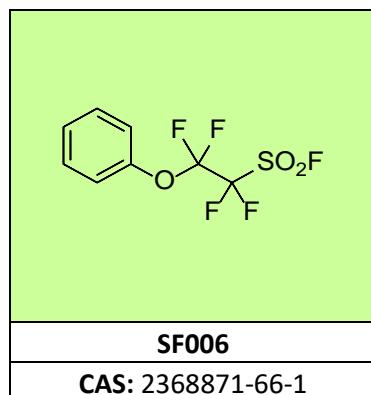
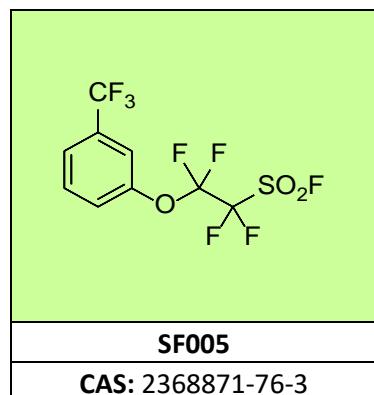
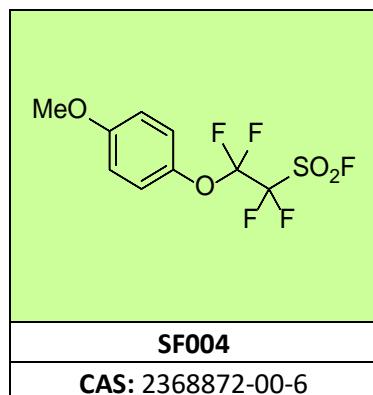
Fluoroalkyl sulfonylation of the amine nitrogen greatly lowers the  $pK_a$  value of NH group and can be used to modulate the behaviour of the drug candidate or build additional molecular complexity around the highly acidic fluoroalkyl sulfonamide nitrogen.



0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR

0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR

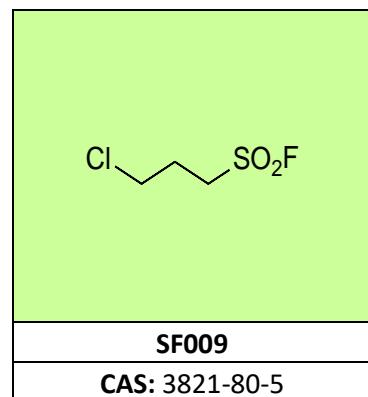
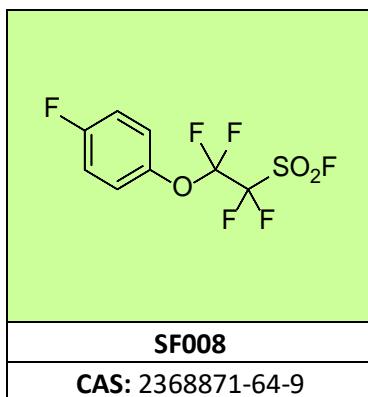
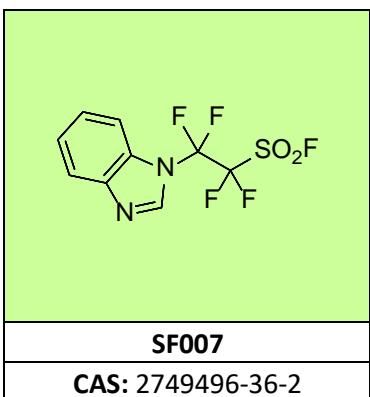
0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR



0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR

0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR

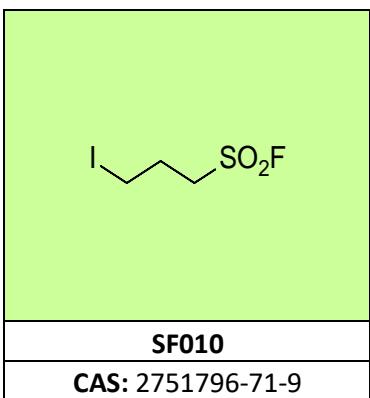
0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR



0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR

0.25 g	450 EUR
0.5 g	700 EUR
1 g	1 200 EUR
5 g	3 990 EUR

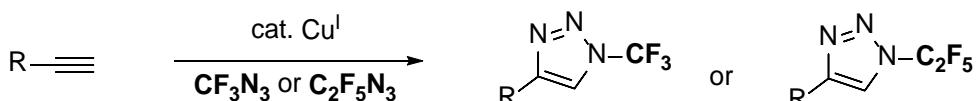
0.25 g	65 EUR
0.5 g	115 EUR
1 g	175 EUR
5 g	500 EUR



0.25 g	195 EUR
0.5 g	345 EUR
1 g	525 EUR
5 g	1 500 EUR

## Fluoroalkylazides

Trifluoromethyl azide, pentafluoroethyl azide, difluoromethyl azide and trifluoroethyl azide represent four examples of exotic fluoroalkyl azides that are potentially very attractive for medicinal chemistry and agrochemistry discovery programmes. Generally, fluoroalkyl azides show much higher thermal stability than their alkyl counterparts, resulting in a good safety profile. Using the well-established copper catalyzed alkyne-azide cycloaddition, various alkynes can be reacted with trifluoromethyl azide or pentafluoroethyl azide affording regioselectively the 1,4-disubstituted *N*-CF<sub>3</sub> or *N*-C<sub>2</sub>F<sub>5</sub> triazoles that would be otherwise very hard to access. *N*-trifluoromethylated azoles have been shown to be robust alternatives to potentially metabolically weak *N*-methyl analogues.

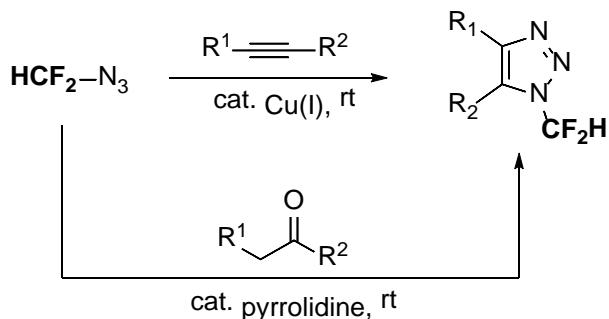


Straightforward and regioselective access to rare *N*-CF<sub>3</sub> and *N*-C<sub>2</sub>F<sub>5</sub>-1,4-disubstituted triazoles

Ref: *Angew. Chem. Int. Ed.* **2017**, *56*, 346

Difluoromethyl azide shares practically the same reactivity as trifluoromethyl azide in copper catalyzed alkyne-azide cycloadditions, providing expedient access to five-membered *N*-CF<sub>2</sub>H heterocycles. Difluoromethyl azide provides similar synthetic benefits as other fluoroalkyl azides – a broad substrate scope of regiochemically defined *N*-difluoromethyl azoles can be accessed in a much simpler manner than with other synthetic routes.

Besides the established copper catalyzed alkyne-azide cycloaddition, difluoromethyl azide was shown to undergo an enamine mediated azide-ketone [3+2] cycloadditions, affording the corresponding *N*-CF<sub>2</sub>H triazoles.



Ref: *Eur. J. Org. Chem.*, **2018**, 5087-5090

2,2,2-Trifluoroethyl azide represents a complementary fluorinated azide that can be used to access *N*-trifluoroethylated triazoles in a regioselective fashion using the established copper catalyzed azide-alkyne cycloaddition.

$\text{CF}_3\text{N}_3$
0,5 M in THF
<b>FAZ001</b>
<b>CAS:</b> 3802-95-7

$\text{C}_2\text{F}_5\text{N}_3$
0,15 M in THF
<b>FAZ002</b>
<b>CAS:</b> 2055167-74-1

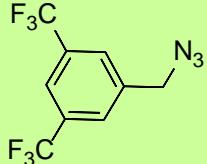
$\text{HCF}_2\text{N}_3$
0,5 M in DME
<b>FAZ003</b>
<b>CAS:</b> 41796-84-3

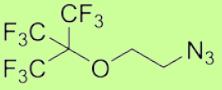
5 ml	555 EUR
10 ml	800 EUR
25 ml	1 100 EUR

5 ml	335 EUR
10 ml	490 EUR
25 ml	990 EUR

5 ml	315 EUR
10 ml	515 EUR
25 ml	780 EUR

$\text{CF}_3\text{CH}_2\text{N}_3$
0,5 M in DME
<b>FAZ004</b>
<b>CAS:</b> 846057-92-9


<b>FAZ005</b>
<b>CAS:</b> 620533-92-8

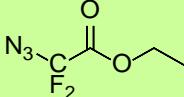

<b>FAZ006</b>
<b>CAS:</b> 1262207-12-4

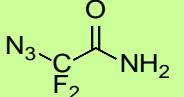
5 ml	210 EUR
10 ml	325 EUR
25 ml	660 EUR

50 mg	88 EUR
0.1 g	132 EUR
0.25 g	210 EUR

50 mg	500 EUR
0.1 g	750 EUR
0.25 g	1 250 EUR

$\text{HCF}_2\text{CF}_2\text{CH}_2\text{N}_3$
0.5 M in DME
<b>FAZ007</b>
<b>CAS:</b> 846057-93-0


<b>FAZ008</b>
<b>CAS:</b> 153755-61-4


<b>FAZ009</b>
<b>CAS:</b> 2102183-90-2

5 ml	250 EUR
10 ml	390 EUR
25 ml	790 EUR

50 mg	100 EUR
0.1 g	150 EUR
0.25 g	250 EUR

50 mg	415 EUR
0.1 g	600 EUR
0.25 g	1 000 EUR

HCF <sub>2</sub> CH <sub>2</sub> N <sub>3</sub> 0.5 M in DME
<b>FAZ012</b>
<b>CAS:</b> 1251037-67-8

0.25 M in water
<b>FAZ013</b>
<b>CAS:</b> N/A

<b>FAZ014</b>
<b>CAS:</b> N/A

5 ml	295 EUR
10 ml	455 EUR
25 ml	925 EUR

1 ml	195 EUR
2.5 ml	350 EUR
5 ml	500 EUR

50 mg	950 EUR
0.1 g	1 650 EUR
0.25 g	3 500 EUR

<b>FAZ015</b>
<b>CAS:</b> N/A

<b>FAZ016</b>
<b>CAS:</b> 2111135-36-3

<b>FAZ017</b>
<b>CAS:</b> 2111135-38-5

50 mg	610 EUR
0.1 g	975 EUR
0.25 g	1 950 EUR

50 mg	650 EUR
0.1 g	900 EUR
0.25 g	1 600 EUR

50 mg	650 EUR
0.1 g	900 EUR
0.25 g	1 600 EUR

<b>FAZ018</b>
<b>CAS:</b> 1227164-39-7

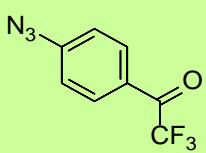
<b>FAZ019</b>
<b>CAS:</b> N/A

<b>FAZ020</b>
<b>CAS:</b> 1988738-07-3

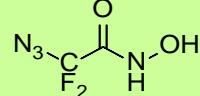
50 mg	650 EUR
0.1 g	900 EUR
0.25 g	1 600 EUR

50 mg	850 EUR
0.1 g	1 350 EUR
0.25 g	2 750 EUR

50 mg	450 EUR
0.1 g	750 EUR
0.25 g	1 600 EUR



**FAZ021**  
CAS: 1417724-43-6



**FAZ022**  
CAS: N/A



**FAZ023**  
CAS: 2055167-76-3

50 mg	210 EUR
0.1 g	300 EUR
0.25 g	500 EUR

50 mg	350 EUR
0.1 g	650 EUR
0.25 g	1 300 EUR

1 g	quote
-----	-------

HCF<sub>2</sub>CF<sub>2</sub>N<sub>3</sub>  
0.25 M in THF

**FAZ024**  
CAS: 1516-69-4

5 ml	quote
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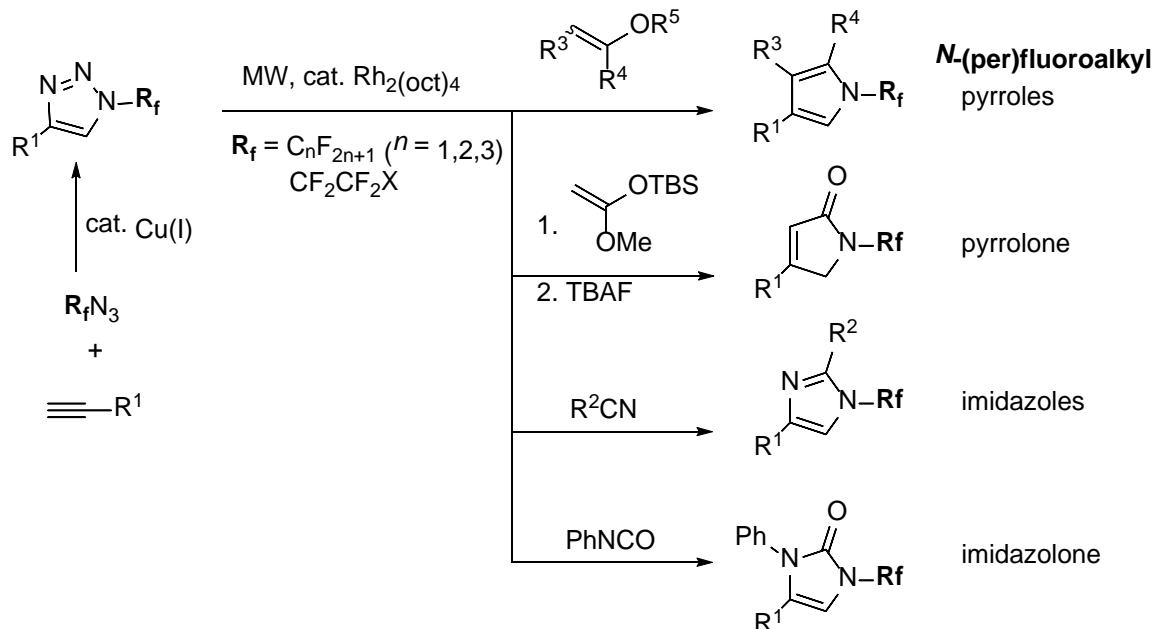
## Fluoroalkyl triazoles

So far, *N*-fluoroalkyl triazoles have been very rare motifs in medicinal chemistry due to their limited synthetic availability, but thanks to the robust click chemistry based on *N*-fluoroalkyl azides, the attractive chemical space of *N*-fluoroalkyl triazoles is now unlocked.

*N*-fluoroalkyl triazoles can serve various purposes in drug design, depending on the nature of the fluoroalkyl, spanning from improved metabolic stability, use as hydrophobic amide bioisosteres or lipophilic hydrogen bond donors.

1,4-disubstituted *N*-fluoroalkyl triazoles with three different reactive handles (alcohol, amine and carboxylic acid) can be easily incorporated into synthesis routes, generating novel and potentially promising drug and pesticide candidates.

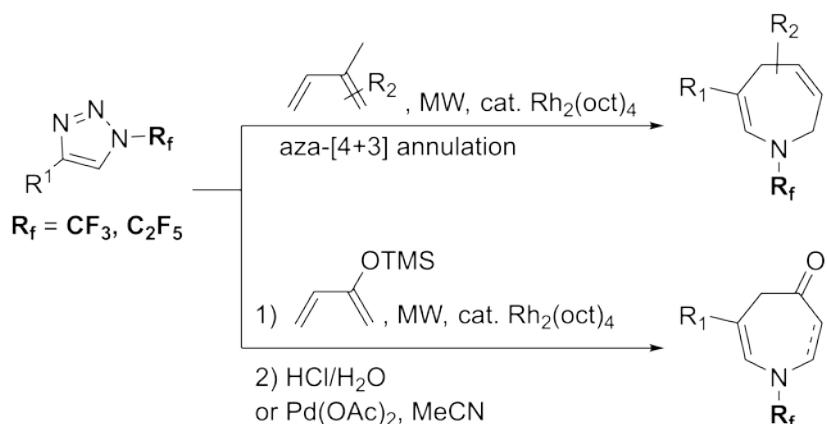
Beier *et al.* demonstrated that the triazoles prepared by copper catalyzed azide-alkyne cycloaddition can be transformed into a plethora of hitherto unreported five-membered *N*-(per)fluoroalkyl heterocycles using the Rh-carbene chemistry



Conversion of fluoroalkyl triazoles to *N*-fluoroalkyl heterocycles using Rh-carbene chemistry

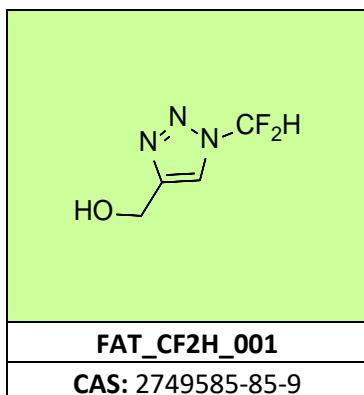
Ref: *Chem. Commun.*, 2018, 54, 3258

Very recently, the same group showed that *N*-fluoroalkyl triazoles can undergo chemoselective and regioselective Rh-catalyzed [4+3] annulation with 1,3-dienes, providing access to otherwise hardly accessible *N*-fluoroalkyl azepines.



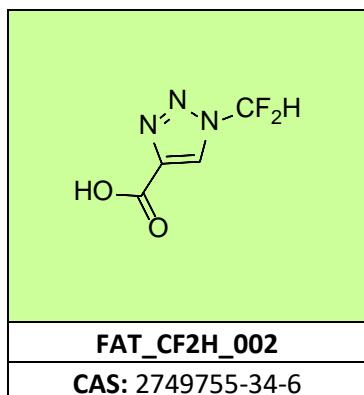
## Construction of *N*-fluoroalkyl azepines from *N*-fluoroalkyl triazoles

Ref: *J.Org.Chem.*, in press, DOI: 10.1021/acs.joc.8b02472



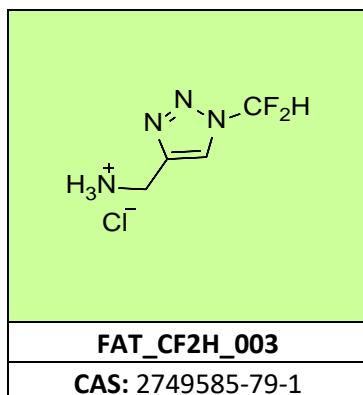
FAT CF2H 001

CAS: 2749585-85-9



FAT CF2H 002

CAS: 2749755-34-6



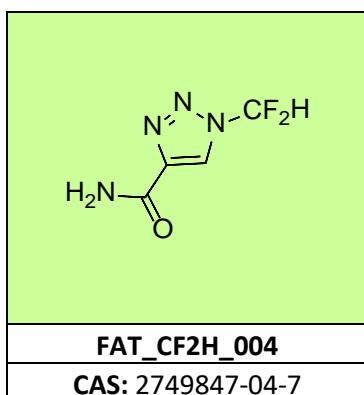
FAT CF2H 003

CAS: 2749585-79-1

0.25 g	530 EUR
0.5 g	930 EUR
1 g	1 450 EUR
5 g	2 580 EUR

0.25 g	800 EUR
0.5 g	1 400 EUR
1 g	2 200 EUR
5 g	3 900 EUR

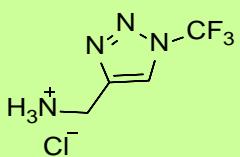
0.25 g	580 EUR
0.5 g	930 EUR
1 g	1 500 EUR
5 g	quote



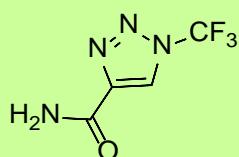
FAT CF2H 004

CAS: 2749847-04-7

0.25 g	800 EUR
0.5 g	1 400 EUR
1 g	2 200 EUR
5 g	3 900 EUR

**FAT\_CF3\_003**

CAS: 2701642-78-4

**FAT\_CF3\_004**

CAS: 2749496-32-8

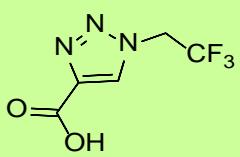
**FAT\_CF3\_007**

CAS: 2749747-73-5

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0.5 g	930 EUR
1 g	1 500 EUR
5 g	quote

0.25 g	910 EUR
0.5 g	1 590 EUR
1 g	2 500 EUR
5 g	quote

0.25 g	580 EUR
0.5 g	930 EUR
1 g	1 500 EUR
5 g	quote

**FAT\_C2F3\_002**

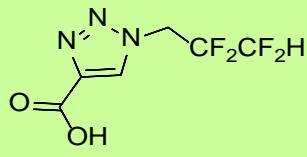
CAS: 856905-32-3

**FAT\_C2F3\_003**

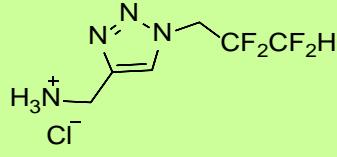
CAS: 2749496-26-0

0.25 g	910 EUR
0.5 g	1 590 EUR
1 g	2 500 EUR
5 g	quote

0.25 g	580 EUR
0.5 g	930 EUR
1 g	1 500 EUR
5 g	quote

**FAT\_C3F4\_002**

CAS: 1879807-92-7

**FAT\_C3F4\_003**

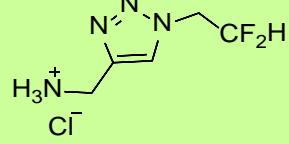
CAS: 2748350-64-1

0.25 g	910 EUR
0.5 g	1 590 EUR
1 g	2 500 EUR
5 g	quote

0.25 g	580 EUR
0.5 g	930 EUR
1 g	1 500 EUR
5 g	quote

**FAT\_C2F2\_002**

CAS: 1251336-20-5

**FAT\_C2F2\_003**

CAS: N/A

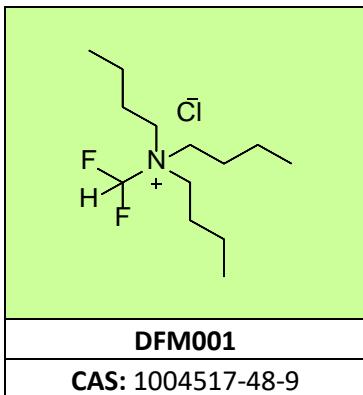
0.25 g	910 EUR
0.5 g	1 590 EUR
1 g	2 500 EUR
5 g	quote

0.25 g	580 EUR
0.5 g	930 EUR
1 g	1 500 EUR
5 g	quote

## Difluoromethylation reagents

*N*-Difluoromethyltributylammonium chloride is an effective source of difluorocarbene for difluoromethylation of O-,S-,N-,C- centred nucleophiles under mild conditions. Using only 1.2 equivalent of this reagent, difluoromethylated products can be obtained in moderate to excellent yields under mild conditions.

Ref: *Chin. J. Chem.*, **2011**, 29, 2717-1721



10 g	500 EUR
50 g	quote

## Sulfinites

DFMS-Na provides a direct approach to fluorinated heteroarylether bioisosteres by appending a 1,1-difluoromethyl group operationally simple and robust protocol. This reagent shared similarity with sulfinites developed by the Baran Group and is one of several reagents for the direct alkylation of heterocycles.

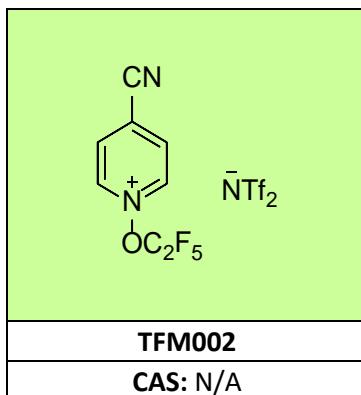
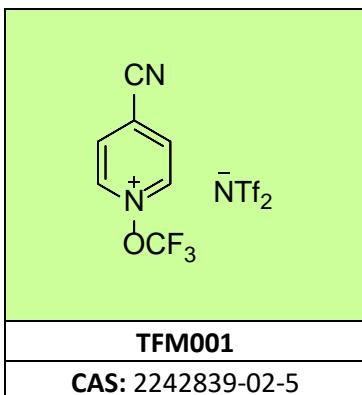
<b>SULF013</b>
CAS: 275818-95-6

1 g	135 EUR
5 g	540 EUR

## Perfluoroalkoxylation reagents

4-Cyano-N-trifluoromethoxypyridinium bis(trifluoromethanesulfonyl)imide acts as a formally electrophilic trifluoromethoxylation reagents operating via trifluoromethoxy radical as the key intermediate, enabling for example direct C-H trifluoromethoxylation of aromatics and heteroaromatics.

Ref: *Angew. Chem. Int. Ed.* **2018**, 57, 13784



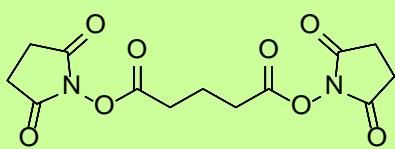
0.1 g	90 EUR
0.25 g	180 EUR
0.5 g	285 EUR
1 g	450 EUR

0.1 g	195 EUR
0.25 g	390 EUR
0.5 g	650 EUR
1 g	1 000 EUR

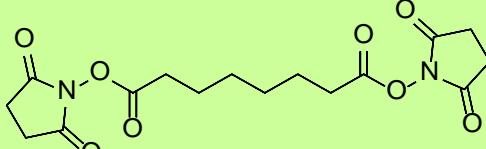
## Bioconjugation portfolio

### Protein crosslinkers

Protein cross-linkers are chemical reagents that play an important role in immunotechnology, structural biochemistry and biology. Protein cross-linking agents can be used to elucidate protein structure and study various protein-protein interactions. Formation of stable covalent bonds between reactive groups contained in protein framework allows easy identification of spatially close domains. The cross-linked conjugates can be identified for example by mass-spectroscopy.

**PCL001**

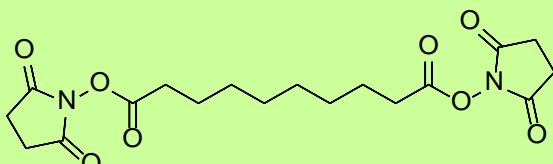
CAS: 79642-50-5

**PCL002**

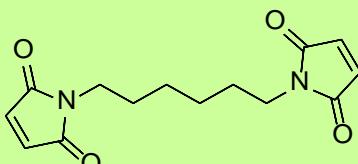
CAS: 68528-80-3

1 g	110 EUR
5 g	420 EUR
10 g	670 EUR
50 g	2 300 EUR

1 g	50 EUR
5 g	190 EUR
10 g	300 EUR
50 g	1 350 EUR

**PCL003**

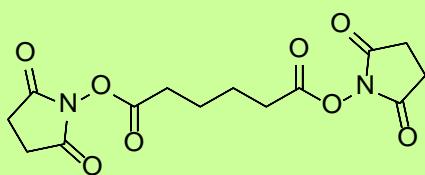
CAS: 23024-29-5

**PCL004**

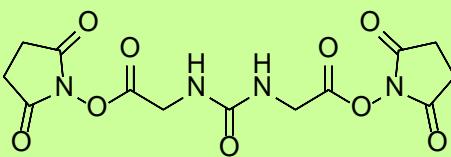
CAS: 4856-87-5

1 g	50 EUR
5 g	190 EUR
10 g	300 EUR
50 g	1 350 EUR

1 g	450 EUR
5 g	1 500 EUR
10 g	2 400 EUR
50 g	quote

**PCL005**

CAS: 59156-70-6

**PCL006**

CAS: 211029-82-2

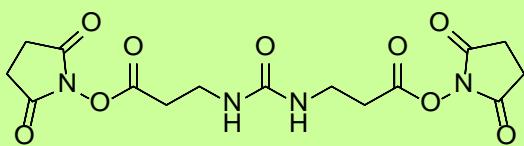
1 g	75 EUR
5 g	300 EUR
10 g	540 EUR
50 g	2 100 EUR

50 mg	400 EUR
100 mg	750 EUR
0.5 g	quote
1 g	quote

The urea-based MS-cleavable crosslinkers are based on the concept pioneered by Prof. Dr. Andrea Sinz of the Halle University. (Ref.: *Anal. Chem.*, **2010**, *82*, 6958 and *Rapid Commun. Mass Spectrom.*, **2011**, *25*, 155)

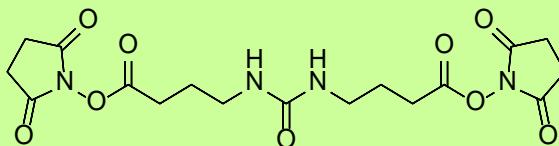
The ureido-4,4'-dibutyric acid bis(hydroxysuccinimide) ester, also known as DSBU or BuUrBU (**PCL008**), is the first described, longest version of MS-cleavable urea-based lysine-lysine reactive homobifunctional cross-linkers, featuring a C4-arm. At neutral or slightly basic pH, it irreversibly crosslinks the neighbouring lysine groups. The presence of the symmetrical urea moiety which is prone to collision-induced dissociation allows to perform unambiguous distinguishing of crosslinks in tandem CID-MS experiments. Another advantage of these crosslinkers is that the energy required for cleavage of the central urea unit lies approximately in the same region as the energy required to cleave the peptide bonds. Therefore, this feature enables to simultaneously observe both the characteristic doublets arising from the central urea cleavage as well as the typical fragmentation patterns of the peptide backbone.

The shorter C3-arm (**PCL007**) and C2-arm (**PCL006**) version extend the toolbox of these reagents and enable proteomic researchers to get a much deeper proteome XL-MS information than was previously possible.

**PCL007**

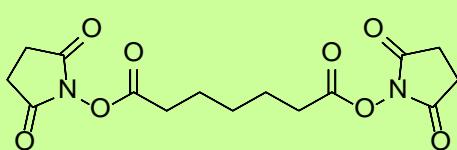
CAS: 2185840-20-2

50 mg	350 EUR
100 mg	600 EUR
0.5 g	quote
1 g	quote

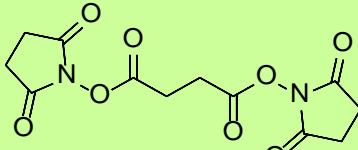
**PCL008**

CAS: 1240387-33-0

50 mg	175 EUR
100 mg	300 EUR
0.5 g	quote
1 g	quote

**PCL009**

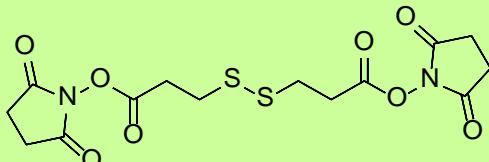
CAS: 74648-14-9

**PCL010**

CAS: 30364-60-4

1 g	85 EUR
5 g	340 EUR
10 g	600 EUR
50 g	2 200 EUR

1 g	120 EUR
5 g	400 EUR
10 g	640 EUR
50 g	2 490 EUR

**PCL011**

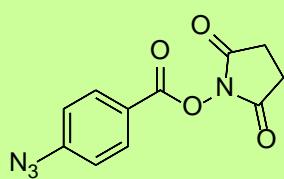
CAS: 57757-57-0

1 g	95 EUR
5 g	305 EUR
10 g	485 EUR

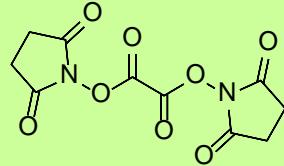
**PCL012**

CAS: 96602-46-9

0.5 g	400 EUR
1 g	750 EUR

**PCL013**

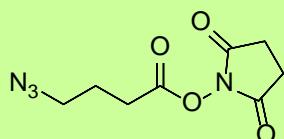
CAS: 53053-08-0

**PCL014**

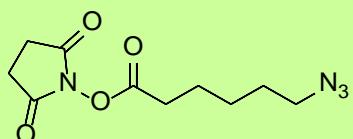
CAS: 57296-03-4

0.5 g	200 EUR
1 g	300 EUR
5 g	1 100 EUR
10 g	1 490 EUR

1 g	190 EUR
5 g	500 EUR

**PCL015**

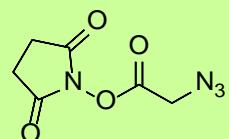
CAS: 943858-70-6

**PCL021**

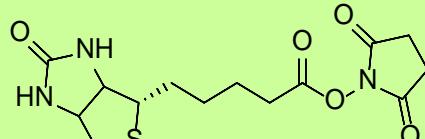
CAS: 866363-70-4

0.25 g	150 EUR
0.5 g	240 EUR
1 g	385 EUR
5 g	quote

0.25 g	60 EUR
0.5 g	90 EUR
1 g	150 EUR
5 g	quote

**PCL022**

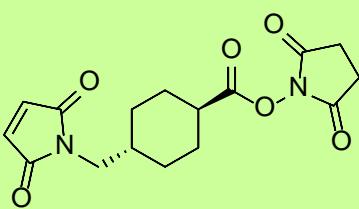
CAS: 824426-32-6

**PCL023**

CAS: 35013-72-0

1 g	180 EUR
5 g	600 EUR
10 g	960 EUR
50 g	quote

1 g	65 EUR
5 g	220 EUR
10 g	350 EUR
50 g	quote

**PCL025**

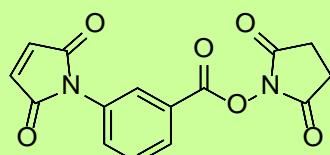
CAS: 71875-81-5

**PCL026**

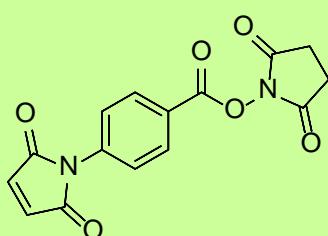
CAS: 1337538-59-6

50 mg	18 EUR
100 mg	25 EUR
0.25 g	40 EUR
1 g	90 EUR

0.1 g	205 EUR
0.25 g	450 EUR
1 g	1600 EUR

**PCL027**

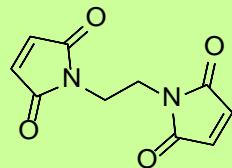
CAS: 58626-38-3

**PCL028**

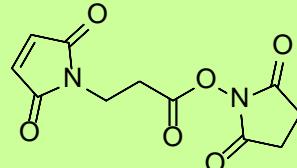
CAS: 64191-06-6

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0.25 g	90 EUR
1 g	200 EUR

0.1 g	45 EUR
0.25 g	90 EUR
1 g	200 EUR

**PCL029**

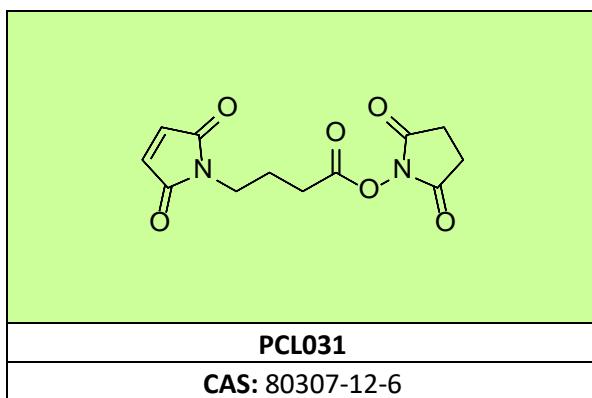
CAS: 5132-30-9

**PCL030**

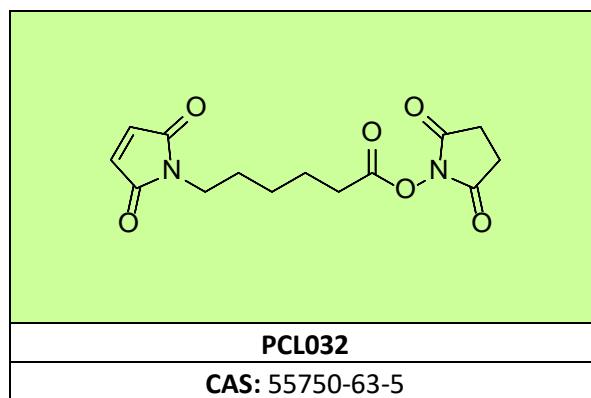
CAS: 55750-62-4

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100 mg	quote

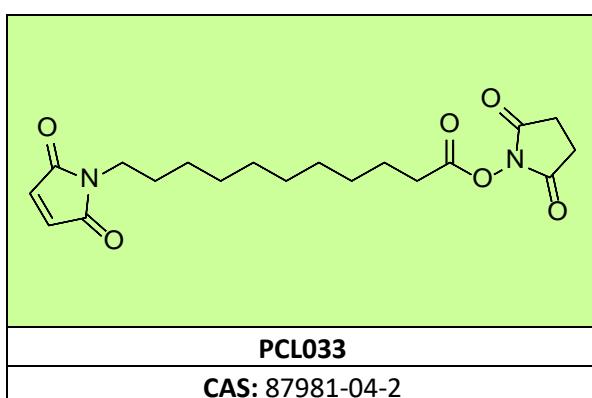
50 mg	quote
100 mg	quote



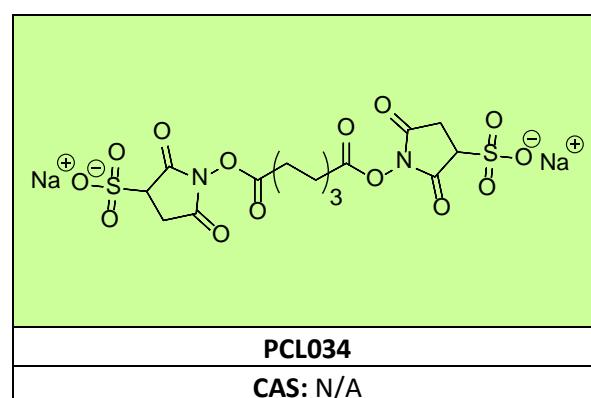
50 mg	quote
100 mg	quote



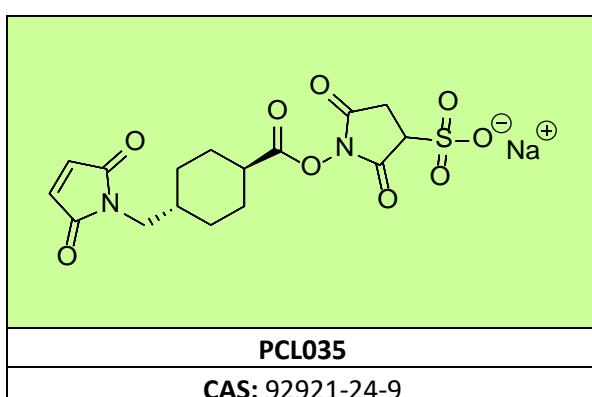
50 mg	quote
100 mg	quote



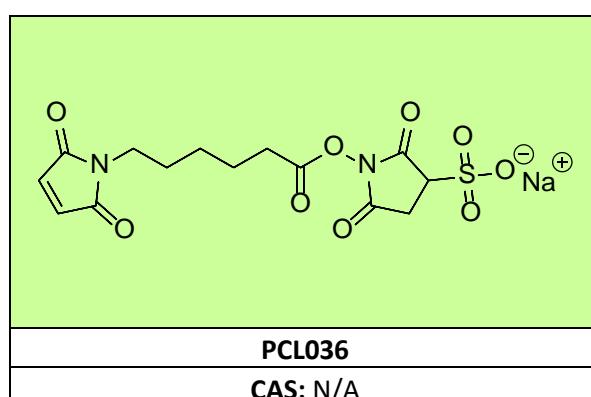
50 mg	quote
100 mg	quote



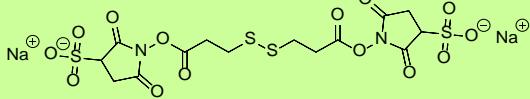
50 mg	quote
100 mg	quote



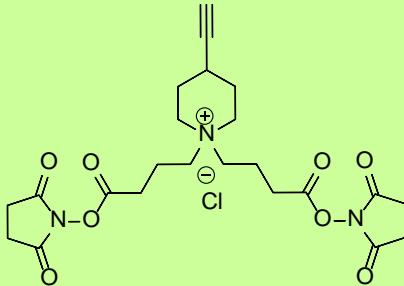
50 mg	quote
100 mg	quote



50 mg	quote
100 mg	quote

**PCL037**

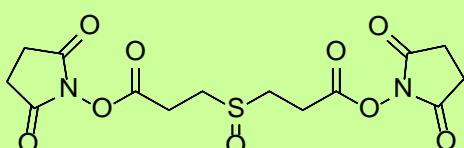
CAS: N/A

**PCL038**

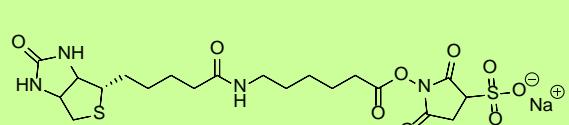
CAS: 2215090-72-3

50 mg	quote
100 mg	quote

50 mg	quote
100 mg	quote

**PCL039**

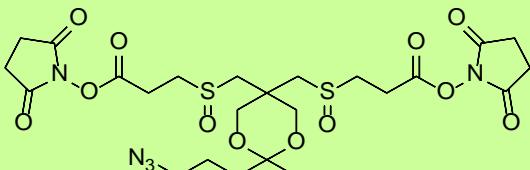
CAS: 1351828-03-9

**PCL040**

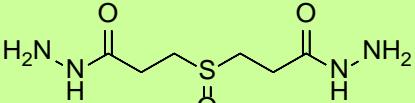
CAS: 127062-22-0

50 mg	quote
100 mg	quote

50 mg	quote
100 mg	quote

**PCL041**

CAS: 1704097-02-8

**PCL042**

CAS: 1971857-82-5

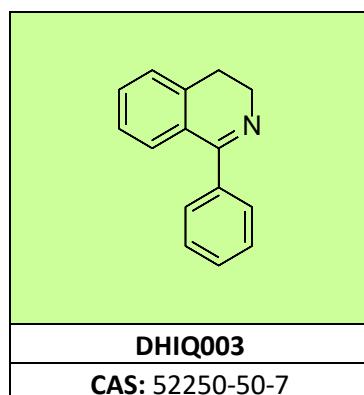
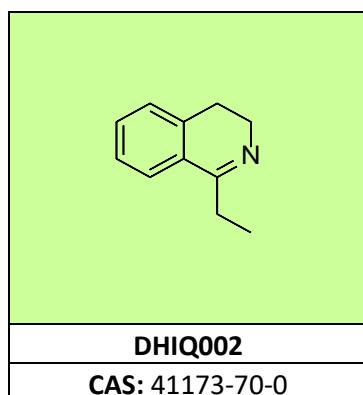
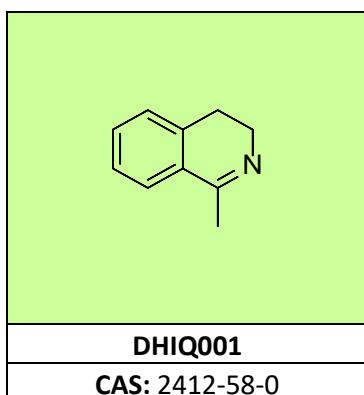
50 mg	quote
100 mg	quote

50 mg	quote
100 mg	quote

## Speciality chemicals

### Dihydroisoquinolines

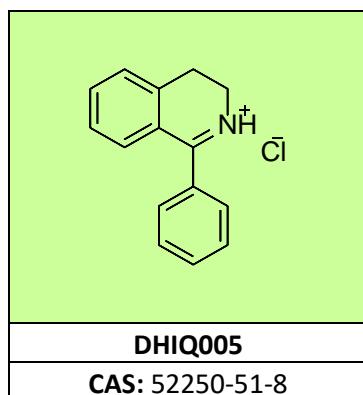
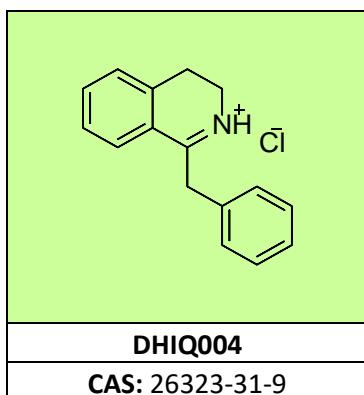
Substituted dihydroisoquinolines serve as useful entry points to synthesis of enantiopure tetrahydroisoquinolines by asymmetric hydrogenation, for example by the established enantioselective Ru-catalyzed transfer hydrogenation pioneered by Noyori *et. al.* Furthermore, the imine moiety of the dihydroisoquinolines can be oxidized to the corresponding nitrones which undergo a (3+2) cycloaddition with a range of olefins and acetylenes.



1 g	100 EUR
5 g	300 EUR
10 g	500 EUR

1 g	280 EUR
5 g	900 EUR
10 g	1 430 EUR

1 g	40 EUR
5 g	130 EUR
10 g	210 EUR

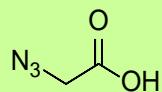


1 g	35 EUR
5 g	100 EUR
10 g	quote

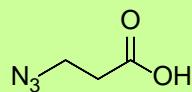
1 g	90 EUR
5 g	290 EUR
10 g	460 EUR

## Azide building blocks

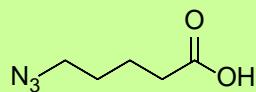
We offer a selection of azide building blocks for synthesis.

**AZ001**

CAS: 18523-48-3

**AZ002**

CAS: 18523-47-2

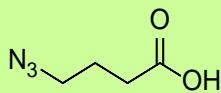
**AZ003**

CAS: 79583-98-5

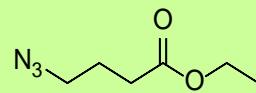
1 g	50 EUR
5 g	140 EUR
10 g	200 EUR
25 g	450 EUR

1 g	70 EUR
5 g	195 EUR
10 g	300 EUR
50 g	960 EUR

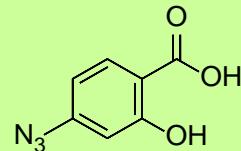
0.25 g	95 EUR
1 g	190 EUR
5 g	600 EUR
10 g	1 100 EUR

**AZ004**

CAS: 54447-68-6

**AZ005**

CAS: 51453-79-3

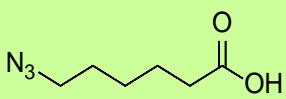
**AZ006**

CAS: 66761-27-1

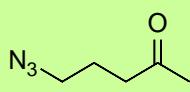
1 g	100 EUR
5 g	300 EUR
10 g	500 EUR
50 g	1 870 EUR

1 g	90 EUR
5 g	270 EUR
10 g	450 EUR
50 g	1 690 EUR

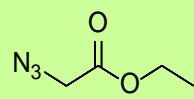
0.25 g	180 EUR
0.5 g	290 EUR
1 g	460 EUR
5 g	1 470 EUR



**AZ007**  
CAS: 79598-53-1



**AZ008**  
CAS: 84702-73-8

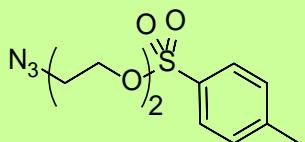


**AZ009**  
CAS: 637-81-0

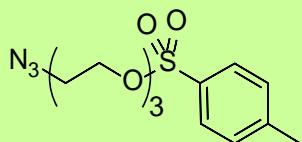
0.25 g	50 EUR
0.5 g	60 EUR
1 g	80 EUR
5 g	285 EUR

1 g	quote
5 g	quote

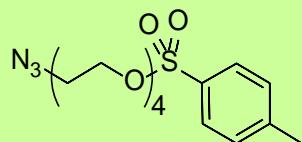
1 g	quote
5 g	quote



**AZ010**  
CAS: 182347-24-6



**AZ011**  
CAS: 178685-33-1

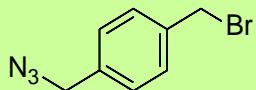


**AZ012**  
CAS: 168640-82-2

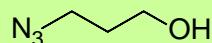
0.25 g	quote
0.5 g	quote
1 g	quote

0.25 g	quote
0.5 g	quote
1 g	quote

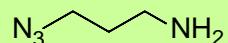
0.25 g	quote
0.5 g	quote
1 g	quote



**AZ013**  
CAS: 1144106-67-1



**AZ014**  
CAS: 72320-38-8



**AZ015**  
CAS: 1144106-67-1

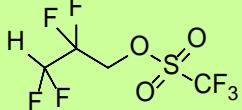
0.25 g	quote
0.5 g	quote
1 g	quote

1 g	quote
5 g	quote

1 g	quote
5 g	quote

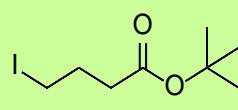
## Miscellaneous compounds

We offer a selection of many more various compounds from our portfolio.



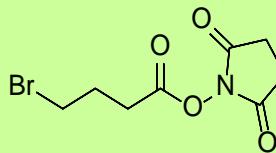
OCP003

CAS: 6401-02-1



OCP008

CAS: 6182-78-1



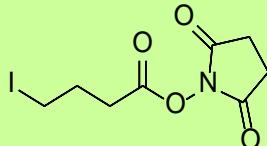
OCP009

CAS: 42014-52-8

1 g	quote
5 g	quote

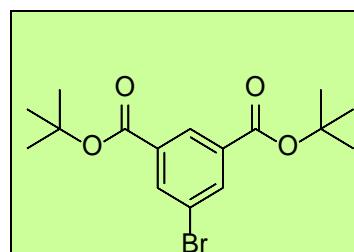
1 g	quote
5 g	quote

0,25 g	quote
0,5 g	quote
1 g	quote



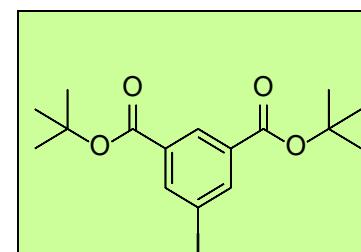
OCP10

CAS: N/A



OCP11

CAS: N/A



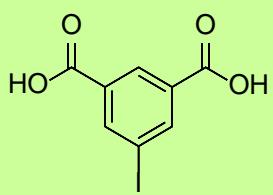
OCP12

CAS: 196929-06-3

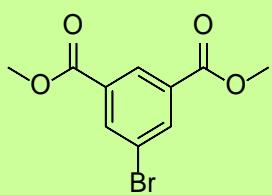
0,25 g	quote
0,5 g	quote
1 g	quote

1 g	quote
5 g	quote

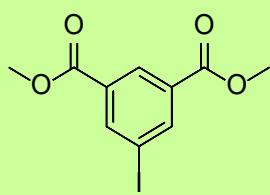
1 g	quote
5 g	quote

**OCP013**

CAS: 51839-16-8

**OCP014**

CAS: 51760-21-5

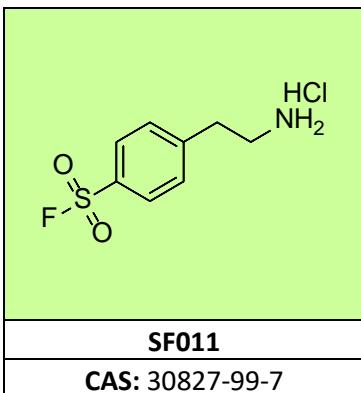
**OCP015**

CAS: 51839-15-7

1 g	quote
5 g	quote

1 g	quote
5 g	quote

1 g	quote
5 g	quote

**SF011**

CAS: 30827-99-7

1 g	60 EUR
5 g	175 EUR
10 g	250 EUR
50 g	750 EUR
100 g	1 150 EUR
500 g	3 700 EUR
1000 g	6 000 EUR

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