



APOLLO SCIENTIFIC

DIFLUOROMETHOXY COMPOUNDS

Difluoromethoxy benzene derivatives have a plethora of different applications within the chemical industry with their functionality being investigated and utilised in medicinal, technological and agricultural fields.

In medicine, research has spanned a number of different areas. Difluoromethoxy aromatics have been subject to research into their efficacy as antibacterial products and anaesthetics.⁽¹⁾ The motif also features as part of the commercially available drug, Roflumilast (Figure 1), a selective enzyme inhibitor used as an anti-inflammatory for the treatment of chronic obstructive pulmonary disease.⁽²⁾

The technological interest in this collection of compounds lies primarily with the development of liquid crystal displays. The high polarity of the electronegative fluorine atoms, combined with the potential aromatic stacking interactions of the phenyl groups, make difluoromethoxy phenyls invaluable components for construction of nematic liquid crystals containing permanent dipoles.⁽³⁾

The Difluoromethoxy phenyl motif also features in a number of pesticides and herbicides such as Flucythrinate (Figure 2) and Pyraflufen.⁽⁴⁾

We have a number of newly developed difluoromethoxy benzene derivatives available, a selection of which is presented below.

- (1) J. Heterocyclic Chem. , 47, 441-445
- (2) J. Med. Chem., 2008, 51, 7673-7688
- (3) Liquid Crystals, 2006, 33
- (4) The Pesticide Encyclopaedia, 2014, 249

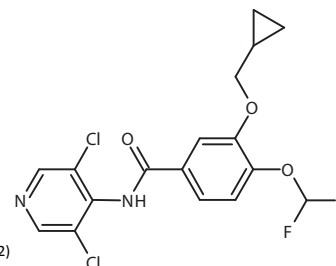


Figure 1: Roflumilast

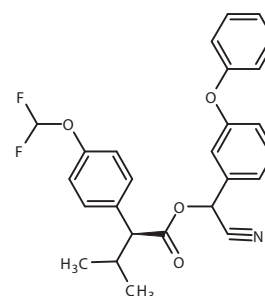
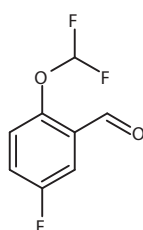
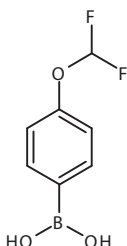


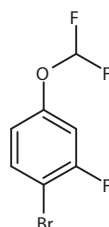
Figure 2: Flucythrinate



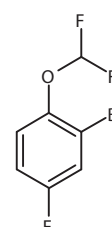
PC53174
2-(Difluoromethoxy)-
5-fluorobenzaldehyde
1214326-36-9



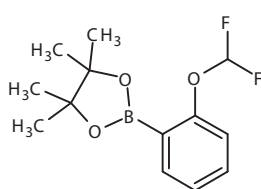
PC1431
4-(Difluoromethoxy)
benzeneboronic acid
688810-12-0



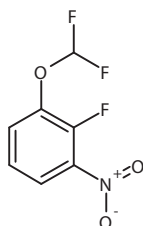
PC53076
4-(Difluoromethoxy)-2-
fluorobromobenzene
1242258-38-3



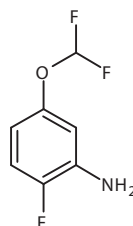
'PC53074
2-(Difluoromethoxy)-
5-fluorobromobenzene
936249-94-4



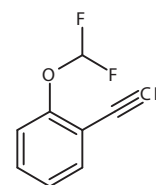
PC48609
2-(Difluoromethoxy)
benzeneboronic acid, pinacol ester
960067-33-8



PC501868
3-(Difluoromethoxy)-2-
fluoronitrobenzene
1214326-24-5



PC501851
5-(Difluoromethoxy)-2-
fluoroaniline
1261573-56-1



PC500482
2-(Difluoromethoxy)
phenylacetylene
1342158-87-5