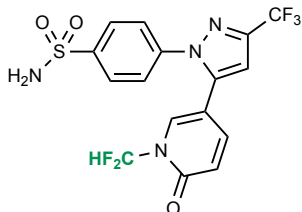
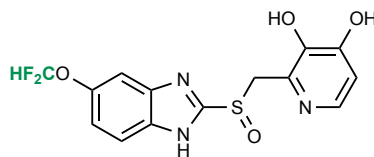


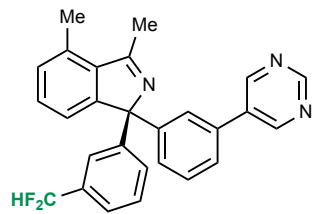
Anti-inflammatory



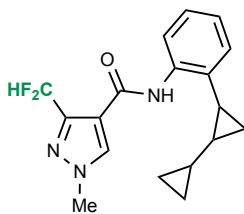
Cyclooxygenase Inhibitor



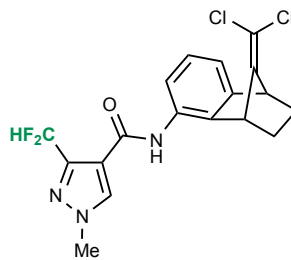
Proton Pump Inhibitor



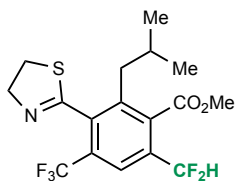
BACE Inhibitor



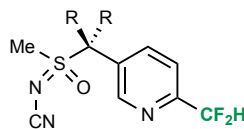
Fungicide



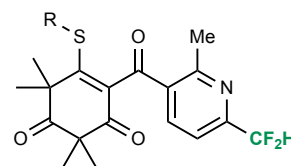
Fungicide



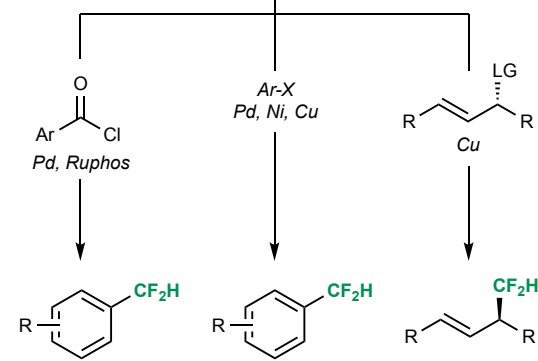
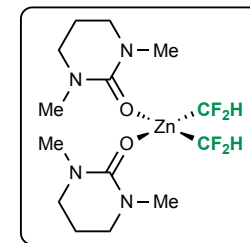
Herbicide



Insecticide

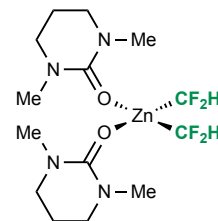
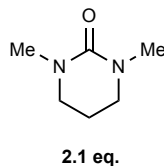
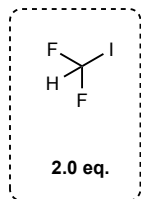
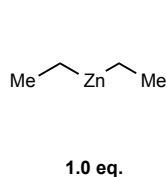


Herbicide



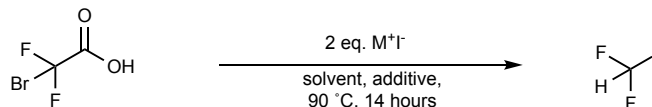
- Mild difluoromethylation of numerous electrophiles
- Unstable at room temperature
- Decomposition liberates CH_2F_2
- No procedures for large scale synthesis

Reported Synthesis

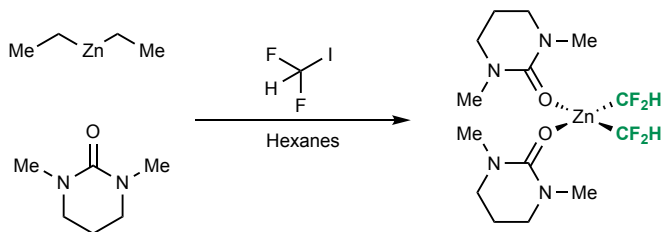
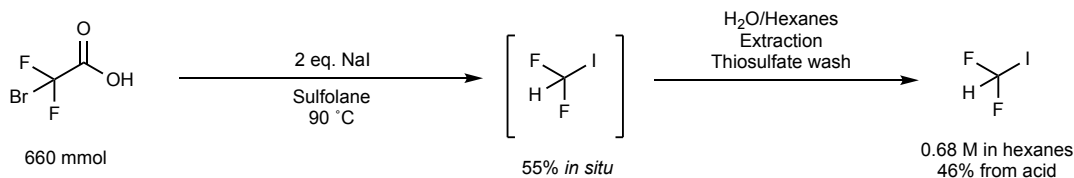


Reported procedure for < 1g scale
Difluoroiodomethane expensive (~ \$50/g)
On-demand, scalable synthesis required

Org. Process Res. Dev. **2020**, 24, 1077–1083. <https://doi.org/10.1021/acs.oprd.0c00089>
Eur. J. Chem. **2017**, 23, 14676–14701. <https://doi.org/10.1002/chem.201702311>,
J. Am. Chem. Soc. **2016**, 138, 2536–2539. <https://doi.org/10.1021/jacs.6b00053>



Reported routes to difluoroiodomethane impractical on scale:
 - Multiple steps
 - Stoichiometric generation of Ph₃P=O, silver or mercury salts



DMPU water content (ppm)	Color of iodide	Yield (%)
2700	Brown	Not isolable
465	Brown	57
447	Colorless	87
175	Colorless	86

Product insolubility drives reaction
 Water in DMPU causes gelling
 Iodine in starting material decreases yield

