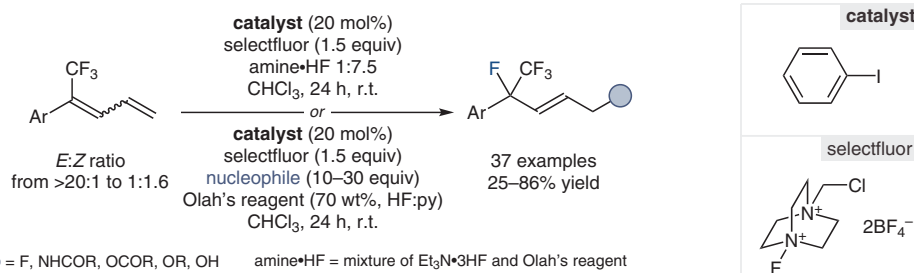


Y.-J. YU, M. SCHÄFER, C. G. DANILIU, R. GILMOUR\* (WESTFÄLISCHE WILHELMS-UNIVERSITÄT MÜNSTER, GERMANY)

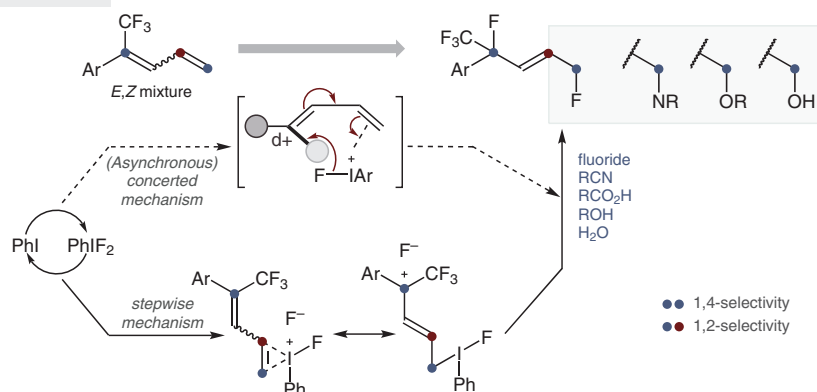
Catalytic, Regioselective 1,4-Fluorodifunctionalization of Dienes

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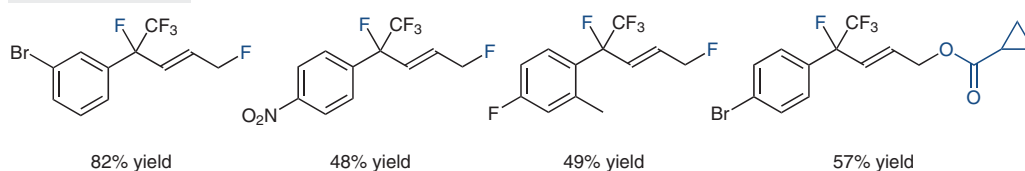
# Hypervalent Iodine Catalyst Grants Access to 1,4-Difunctionalized Fluorinated Olefins



## Plausible mechanisms:



## Selected examples:



**Significance:** Gilmour and co-workers report an iodine(I)/iodine(III)-catalyzed 1,4-difluorination of trifluoromethyl-substituted 1,3-dienes. *E,Z* mixtures of dienes are converted into a single (*E*)-isomer in moderate to very good yields. The approach was further developed to enable heterodifunctionalization with a variety of nucleophiles, including nitriles, carboxylic acids, alcohols and water.

**Comment:** The reported method expands the well-established series of catalytic 1,1-, 1,2- and 1,3-difluorination strategies and facilitates access to highly functionalized structures. The regioselectivity (1,4:1,2 from 2:1.1 to >20:1) is dependent on the electronic properties of the aryl substituents, which supports the suggested stepwise mechanism. We look forward to a report on the authors' efforts toward an enantioselective variant of the method.

**SYNFACTS Contributors:** Benjamin List, Margareta M. Poje  
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