

CONVERGENT APPROACH TO FUNCTIONALIZED ALKENES BASED ON A NEW METAL FREE RADICAL ALLYLATION

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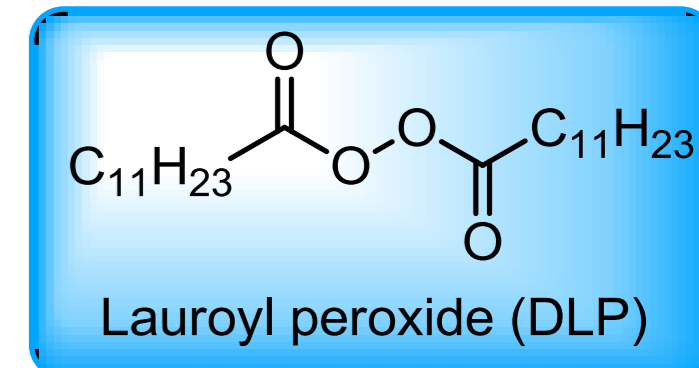
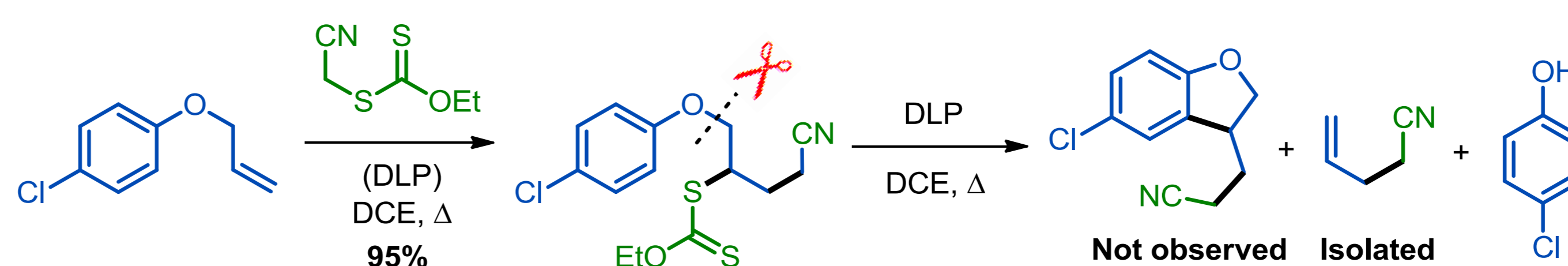


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Origin of the xanthate radical olefination

- Unexpected homolytic cleavage of the usually strong C–O bond while attempting to synthesize dihydrobenzofurans

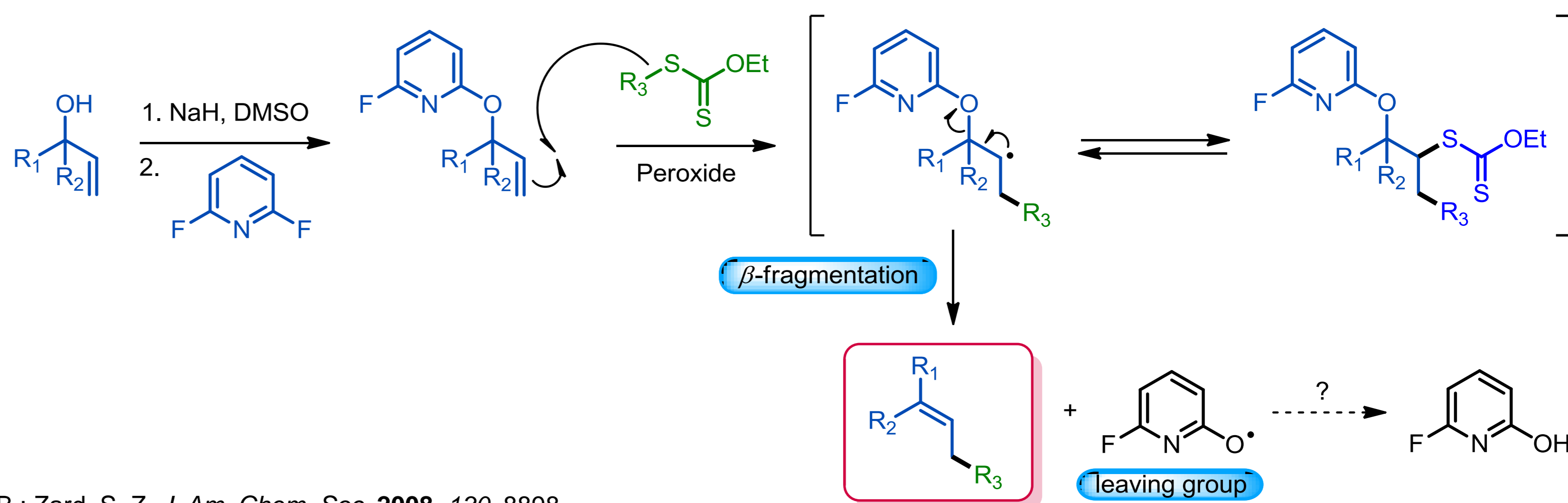


Radical formation of a new olefin

Ly, T.-M.; Quiclet-Sire, B.; Sortais, B.; Zard, S. Z. *Tetrahedron Lett.* **1999**, *40*, 2533.

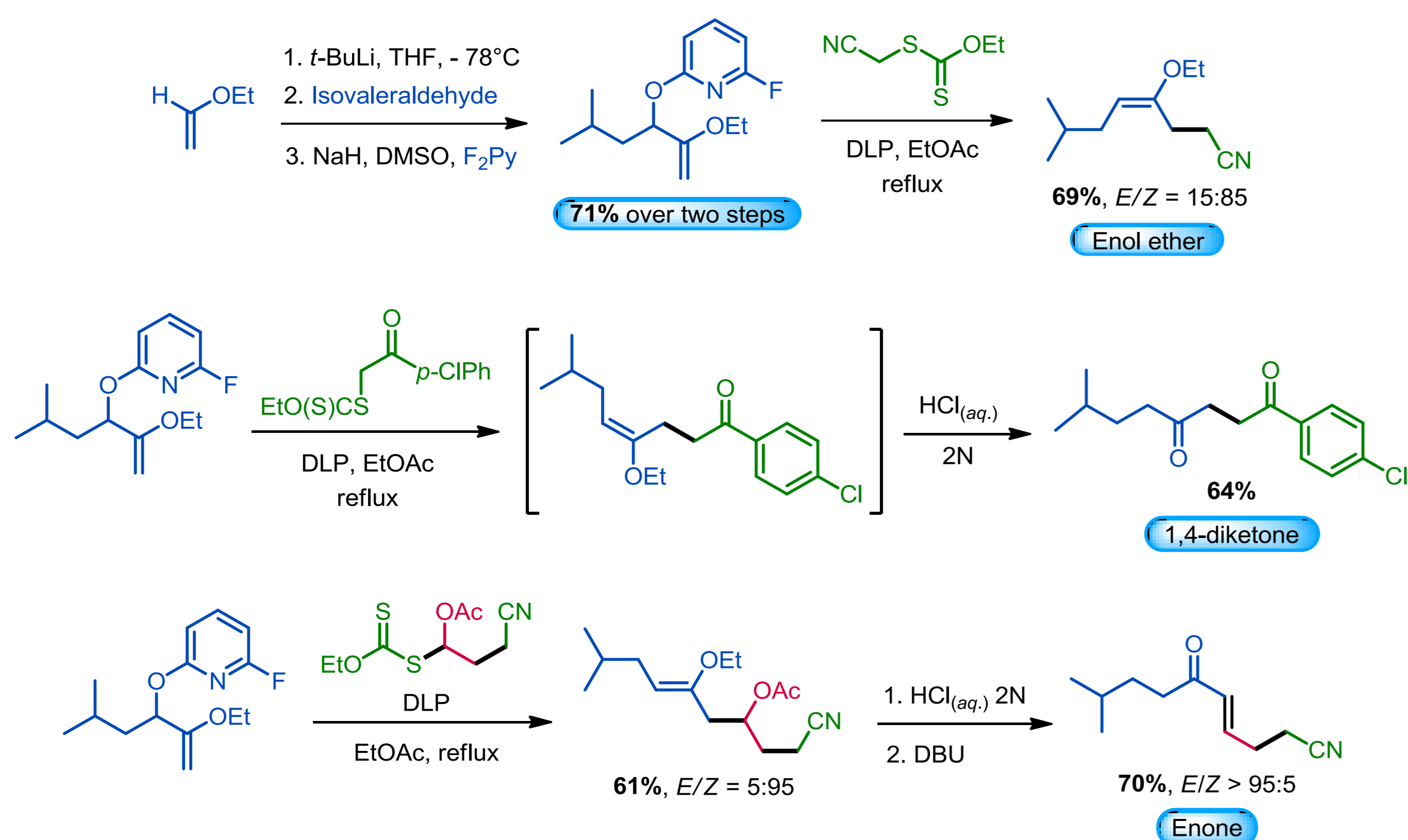
Allylic Alcohols : New Radical Allylating Agents

- 2-Fluoropyridyl allylic ethers react with xanthates to give di-, tri- and tetra-substituted alkenes.
- Readily accessible substrates starting from aldehydes and ketones
- Broad functionality tolerance, 15 examples: **57-78% yield**

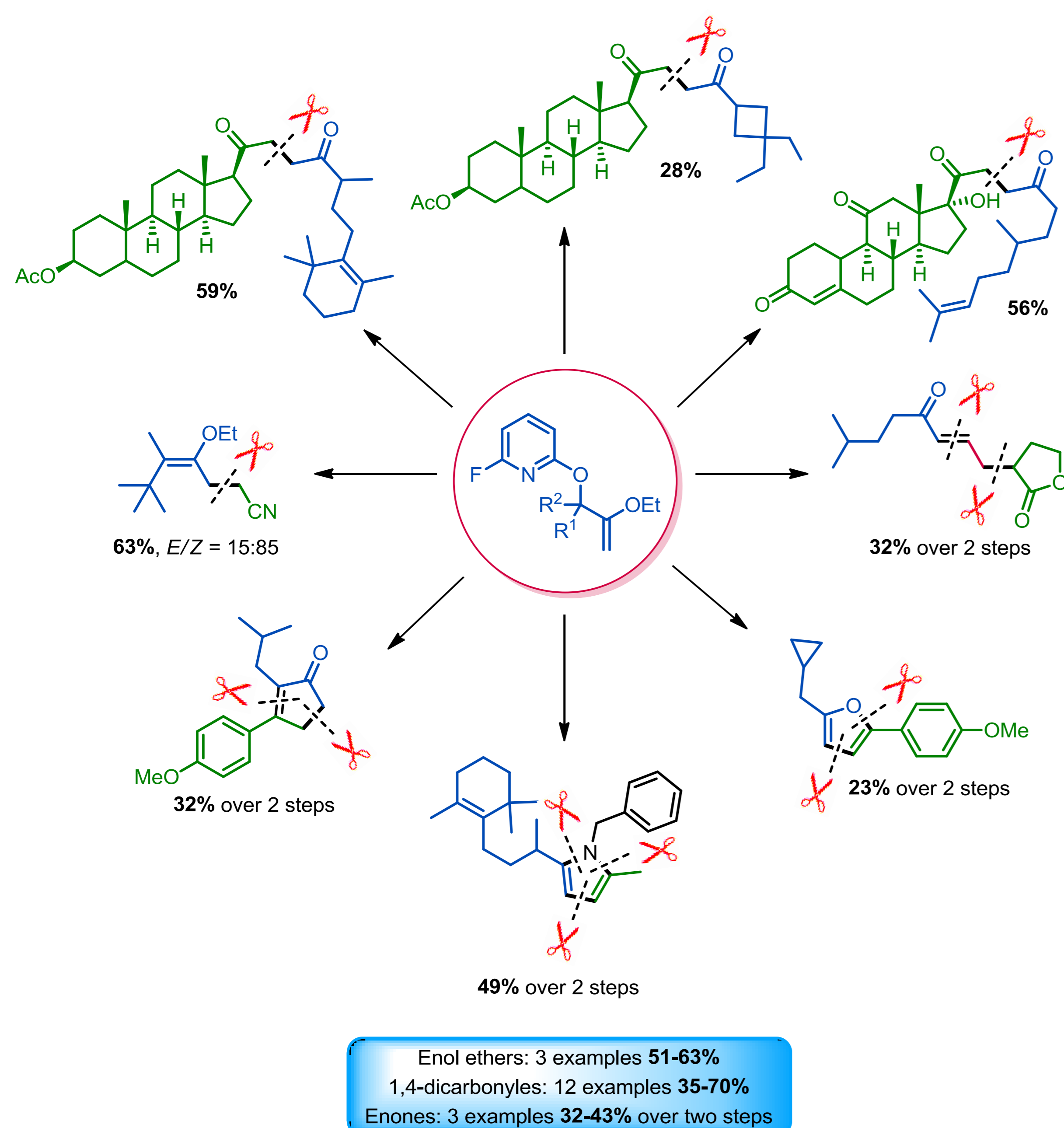


Synthesis of Saturated and Unsaturated Ketones

- Ketones: key and versatile building block in organic chemistry
- 1 strategy, 3 targets: enol ethers, 1,4-dicarbonyles and enones



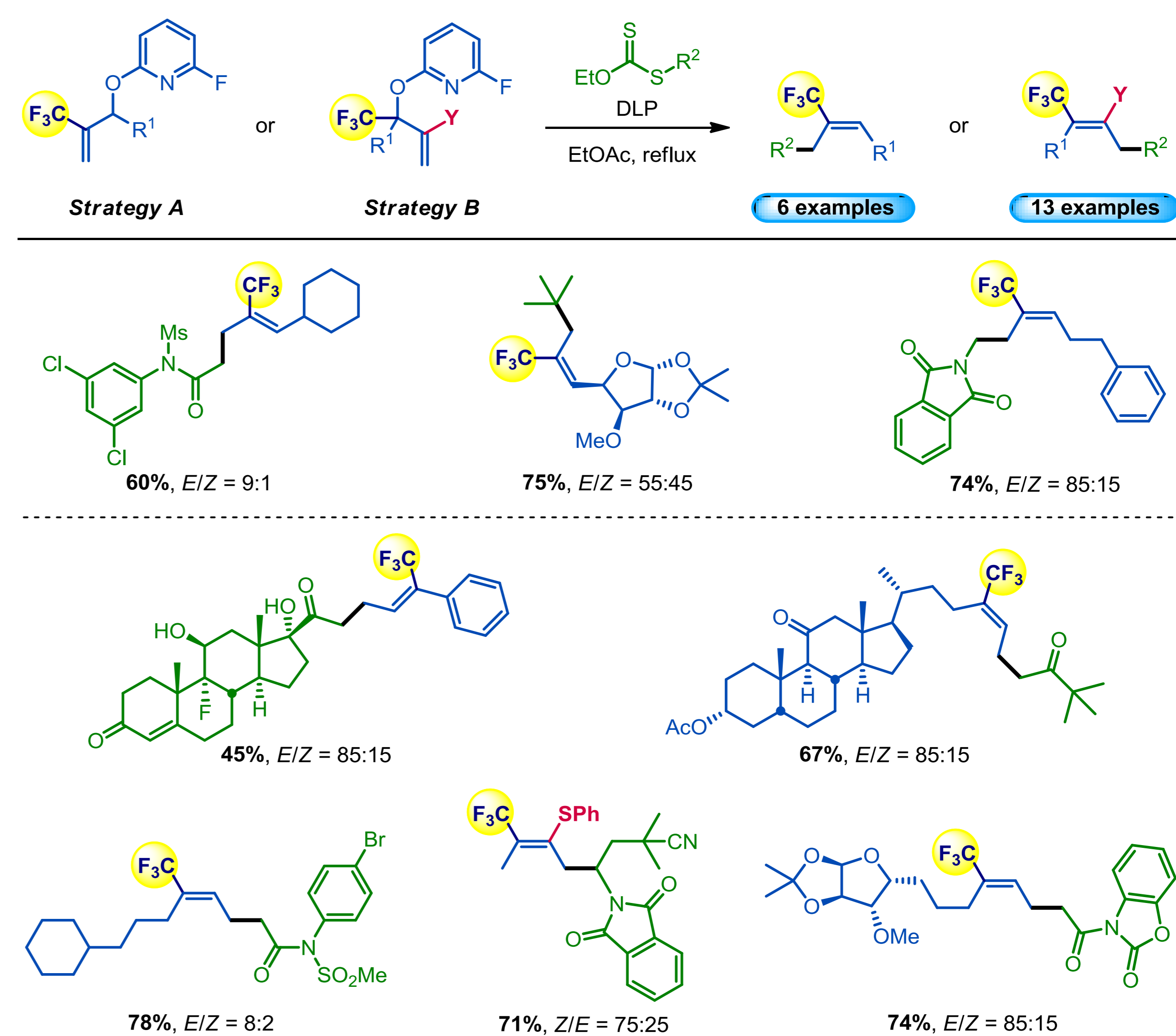
- Scope of the reaction and synthesis of 5 membered carbo- and hetero-cycles



Debien, L.; Quiclet-Sire, B.; Zard, S. Z. *Org. Lett.* **2011**, *13*, 5676.

Trifluoromethylated Olefins

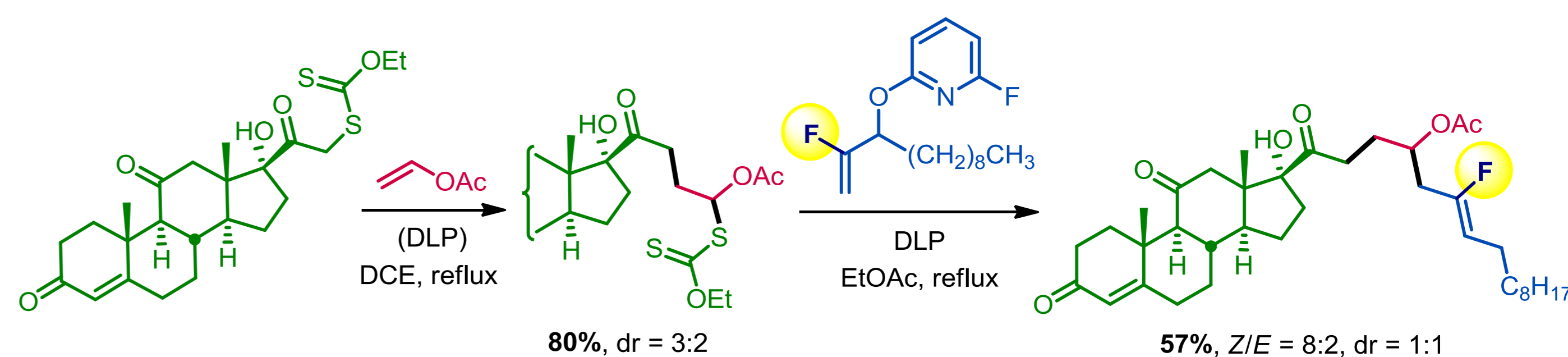
- 2 strategies giving access to different regioisomers of highly functionalized tri- and tetra-substituted trifluoromethylated olefins
- Good *E/Z* selectivity



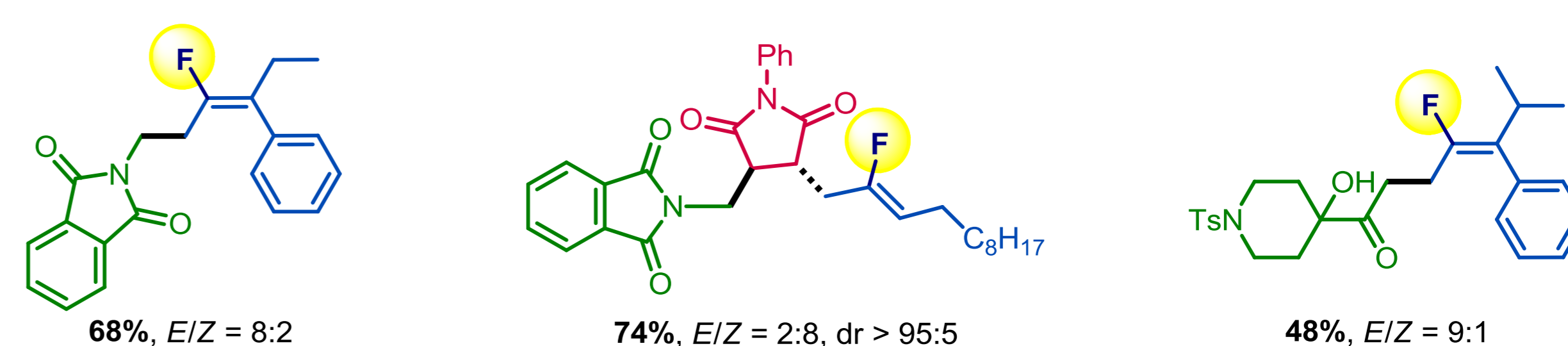
Debien, L.; Quiclet-Sire, B.; Zard, S. Z. *Org. Lett.* **2012**, *14*, 5118.

Monofluoro-olefins

- 3 components convergent synthesis of complex molecules



- Highly functionalized monofluoro-olefins : 8 examples



Debien, L.; Quiclet-Sire, B.; Zard, S. Z. *Org. Lett.* **2012**, *14*, 5118.