Highly Enantioselective Addition of Allyltrimethylsilane to Aldehydes

Selected examples:

Significance: List and co-workers report the first general, highly enantioselective, organocatalytic addition of allyltrimethylsilane to aldehydes (the Hosomi–Sakurai reaction). This transformation is enabled by newly developed highly confined imidodiphosphorimidates **IDPi**. Various aromatic and aliphatic aldehydes are tolerated under the reaction conditions, affording the desired products in good to excellent yields and enantioselectivities (er $\leq$ 98:2).

Comment: The **IDPi** motif, which can be accessed by a single-flask synthesis from 3,3'-disubstituted BINOL derivatives, is a combination of the recently developed highly confined imidodiphosphates (*Nature* **2012**, 483, 315) and highly acidic BINOL-derived phosphoramidimides (*Synlett* **2016**, 27, 156).

SYNFACTS Contributors: Benjamin List, Grigory A. Shevchenko
Synfacts 2016, 12(12), 1301 Published online: 17.11.2016
DOI: 10.1055/s-0036-1589631; Reg-No.: B08016SF