## Diastereoselective Catalytic C-H Amination


$\mathrm{X}=\mathrm{COOMe}, \mathrm{PO}(\mathrm{OEt})_{2}, \mathrm{SO}_{2} \mathrm{Ph}, \mathrm{NO}_{2}, \mathrm{CN}, \mathrm{OAc}$



Significance: The metal-mediated direct amination through $\mathrm{C}-\mathrm{H}$ bond insertion is a very powerful transformation. It usually requires a metal nitrene species which undergoes C-H insertion into the most nucleophilic C-H bond. Herein, the authors report their preliminary results of a diastereoselective version of this reaction applied to acyclic substrates of type $\mathbf{1}$, proceeding with an excellent degree of selectivity and high yields.

Comment: The authors found that especially substrates with bigger substituents $\left[\mathrm{X}=\mathrm{PO}(\mathrm{OEt})_{2}\right.$, $\left.\mathrm{SO}_{2} \mathrm{Ph}\right]$ gave the best selectivities. An important feature is that the $\mathrm{C}-\mathrm{H}$ amination process does not affect the configuration of the stereogenic center in $\beta$-position when the reaction was carried out with enantiomerically pure starting material. Furthermore, a possible explanation for the diastereoselective outcome of the transformation has been assumed by considering the staggered conformer $\mathbf{A}$ to be more favored than conformer $\mathbf{B}$ due to dipole repulsion.

[^0]DOI: 10.1055/s-0030-1258647; Reg-No.: L11010SF


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    Synfacts 2010, 10, 1141-1141 Published online: 22.09.2010

