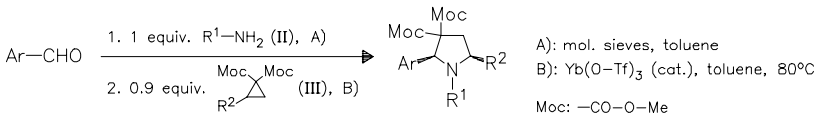
Pyrrole derivatives

R 0120

06- 110

Diastereoselective Synthesis of Pyrrolidines via the Yb(OTf)$_3$ Catalyzed Three-Component Reaction of Aldehydes, Amines, and 1,1-Cyclopropanediesters. — The methodology allows an efficient and stereoselective approach to highly substituted pyrrolidines of type (IV). — (CARSON, C. A.; KERR*, M. A.; J. Org. Chem. 70 (2005) 20, 8242-8244; Dep. Chem., Univ. West. Ont., London, Ont. N6A 5B7, Can.; Eng.) — Jannicke



I IV

a Ar, R^2: —Ph ; R^1: —iPr 62% (>98% d.e.)

b Ar, R^1, R^2: —Ph 63% (10% d.e.)

c Ar:  ; R^1: —Bn ; R^2: —Ph 95% (>98% d.e.)

d Ar:  ; R^1: —Bn ; R^2: —Ph 0%

e Ar:  ; R^1: —Bn ; R^2: —Ph 96% (70% d.e.)

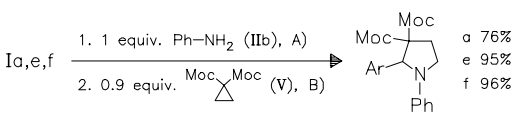
f Ar:  ; R^1: —Bn ; R^2: —Ph 93% (10% d.e.)

g Ar: —Ph ; R^1: —Bn ; R^2: —CH=CH$_2$ 84% (66% d.e.)

h Ar: —Ph ; R^1: —Bn ; R^2:  84% (82% d.e.)

i Ar:  ; R^1: —Bn ; R^2:  76% (70% d.e.)

j Ar:  ; R^1: —Bn ; R^2:  73% (48% d.e.)



VI