

SYNTHESIS OF NEW CHIRAL DIPHOSPHINE LIGANDS PINENE DERIVATIVES AND THEIR APPLICATION IN ENANTIOSELECTIVE REACTIONS

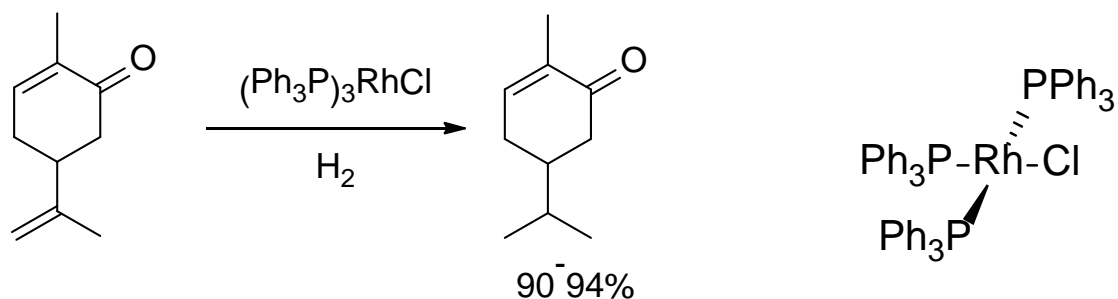
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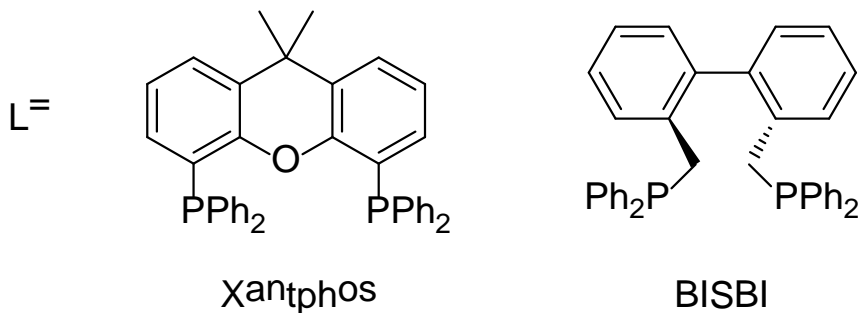
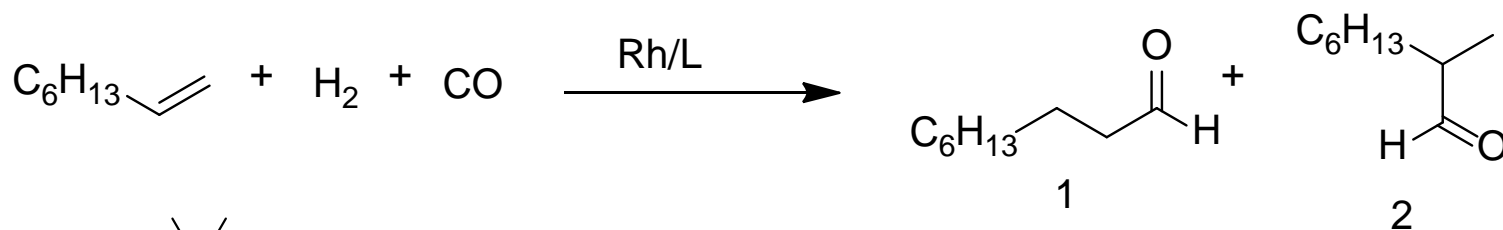


The 20th International Electronic Conference on Synthetic Organic Chemistry
(ECSOC-20)

HYDROGANATION WITH WILKINSON'S CATALYST



RHODIUM CATALYZED HYDROFORMYLATION WITH BISPHOSPHINE LIGANDS



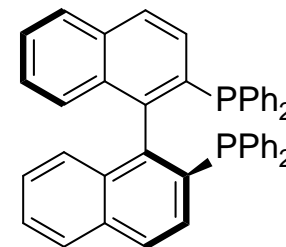
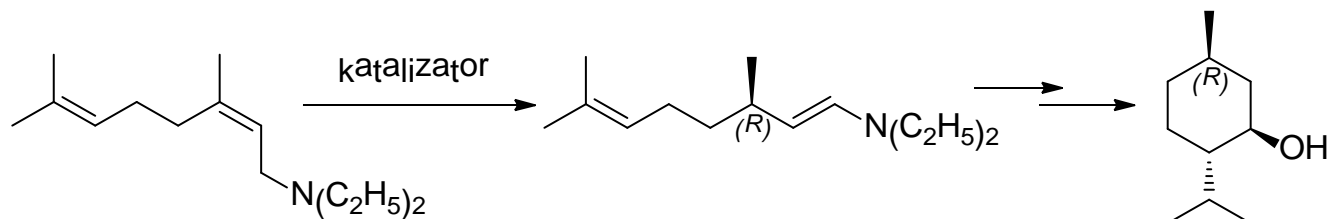
L/Product	1	2
Xantphos	98,3%	—
BISBI	95,5%	2,9%

R.E. Ireland, P. Bey, *Org. Synth* **1973**, 53, 63

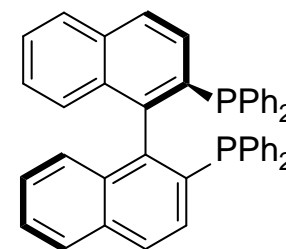
M. Kranenburg et al., *Organometallics* **1995**, 14, 3081-3089

ASYMMETRIC REACTIONS CATALYZED BY BISPHOSPHINE

Asymmetric isomerization



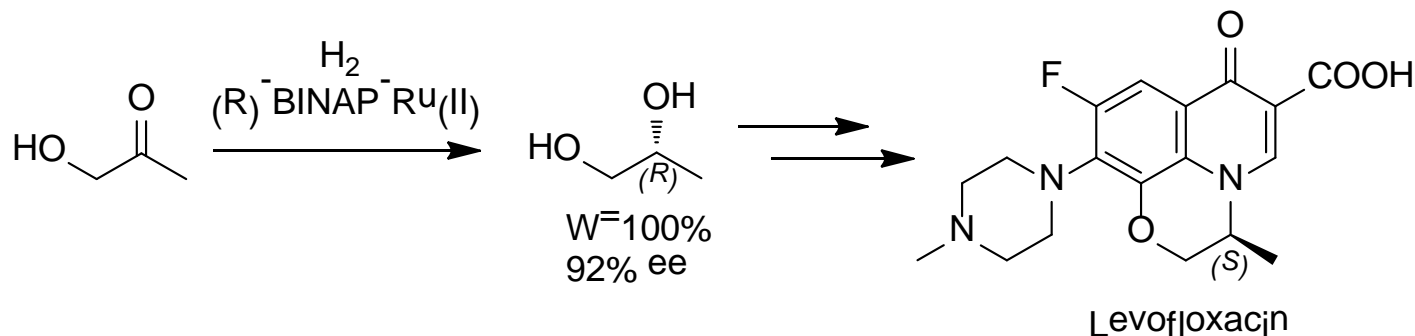
(S)-BINAP



(R)-BINAP

Catalysts	Yield [%]	ee [%]
[Rh{(R)-BINAP}(COD)] ⁺	100	97 (S)
[Rh{(S)-BINAP}(COD)] ⁺	100	97 (R)

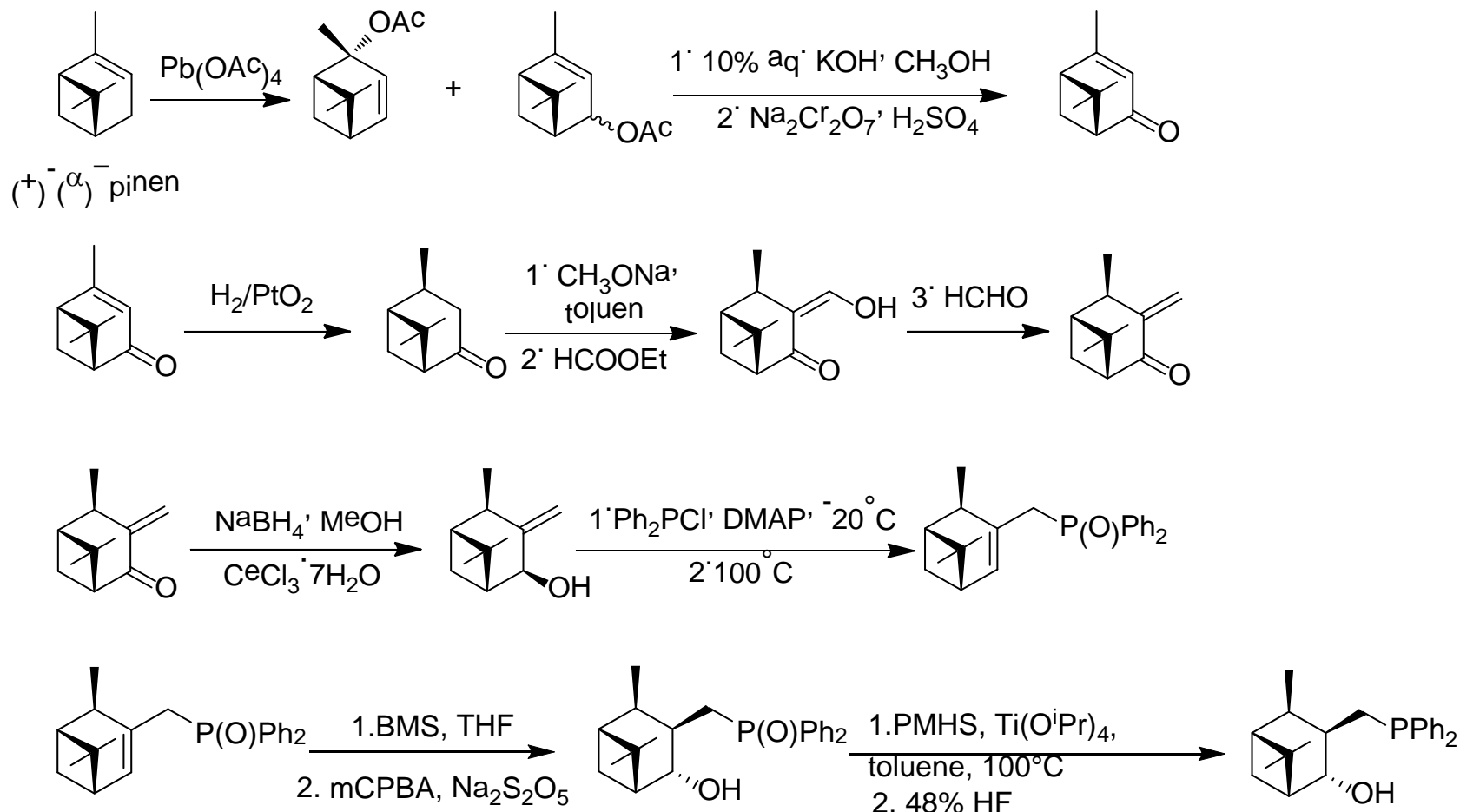
Asymmetric hydrogenation of 1-hydroxyacetone



Akutagawa S.; *Topics in Catalysis*; **1997**; 4; 271-274

Noyori R., *Acta Chem. Scand.*, **1996**, 50, 380-390

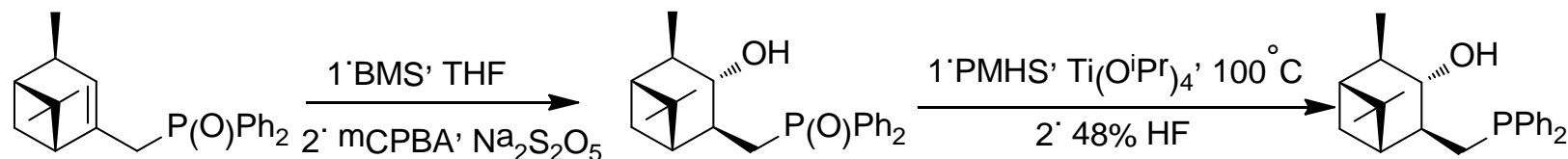
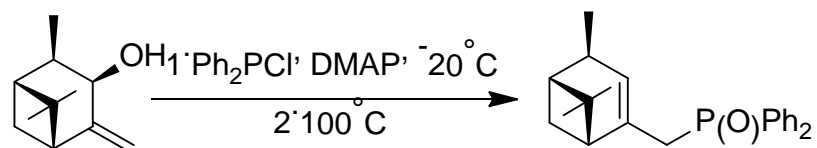
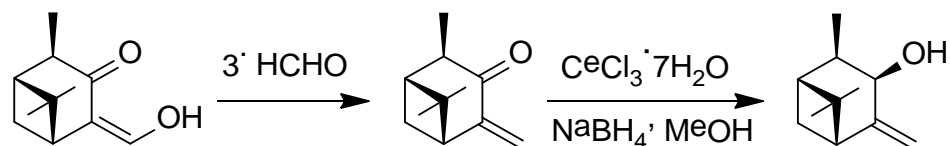
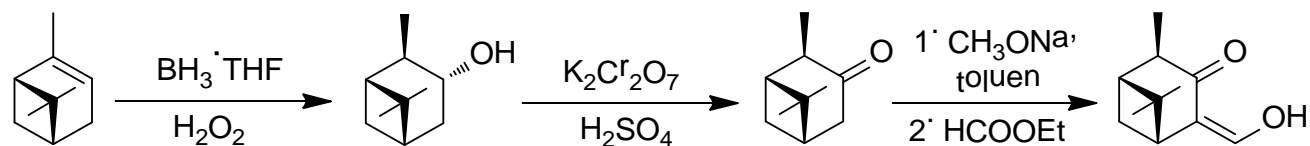
SYNTHESIS OF ((1*R*,2*R*,3*R*,4*R*,5*R*)-(+)-4-HYDROXY-PINAN-3-YL)METHYLENEDIPHENYLPHOSPHINE



Paquette L.; *Org. Synth.*; **1995**; *57*, 72.

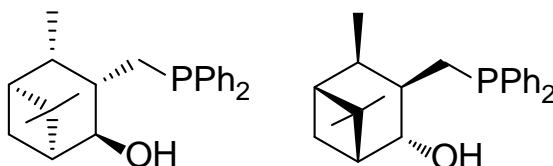
Andrei V. Malkov, et al., *J. Org. Chem.* **2003**, *68*, 4727.

SYNTHESIS OF ((1*R*,2*R*,3*S*,4*S*,5*S*)-(+)-3-HYDROXY-PINAN-4-YL)METHYLENEDIPHENYLPHOSPHINE



SUMMARY

- We obtain two diphenylphosphine verbenol derivatives



- We obtain two diphenylphosphine isopinocampheol derivatives

