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Chiral Amino Alcohols

a) R = -Me b) R = -CHMe₂ c) R = -CH₂Ph d) R = -s-Bu e) R = -i-Bu

Optically active β -amino alcohols (1 and 2) have been used extensively during the past ten years in a variety of important chemical applications. Aldrich offers several of these useful products in high chemical and optical purity. Some recent examples, which only touch on the tremendous potential of these important chiral reagents, are described below.

Meyers employed **2b** as a chiral auxiliary in the key step of the total synthesis of the sesquiterpene (-)- α -cuparenone (3) (eq. 1).

Chiral aziridines have been prepared under mild and neutral conditions in excellent yields (eq. 2).²

Brown has used (S)-(+)-pyrrolidinemethanol (4) to enhance the % ee in the asymmetric hydroboration of certain olefins with disopinocampheylborane (Ipc₂BH).^{3,4}

Chiral β -amino alcohols have been used to prepare asymmetric organotin enamines which react with electrophilic alkenes to afford optically active α -substituted cyclohexanones (eq. 4).

Borane-THF was modified by reaction with optically active amino alcohols on polymer supports and the resulting reagents (5) have been used to reduce prochiral ketones with good asymmetric induction (eq. 5).

References:

(1) Meyers, A.I.; Lefker, B.A. J. Org. Chem. 1986, 51, 1541. (2) Kelly, J.W.; Eskew, N.L.; Evans, Jr., S.A. ibid. 1986, 51, 95. (3) Brown, H.C.; Desai, M.C.; Jadhav, P.K. ibid. 1982, 47, 5065. (4) Brown, H.C.; Prasad, J.V.N.V. ibid. 1986, 51, 4526. (5) Stetin, C.; deJeso, B.; Pommier, J.C. ibid. 1985, 50, 3863. (6) Itsuno, S.; Ito, K. J. Chem. Soc., Perkin Trans. 1 1984, 2887.

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25g \$7.00

100g \$18.00

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