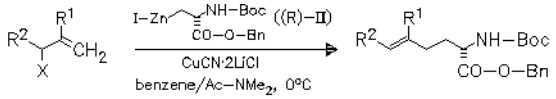
amino acids, peptides

U 0400

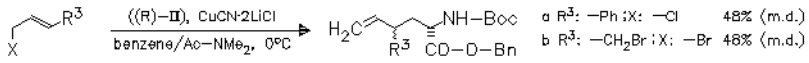
34 - 227

Synthesis of Enantiomerically Pure Unsaturated α-Amino Acids Using Serine-Derived Zinc/Copper Reagents. — The reaction of allylic halides and tosylates with a zinc/copper reagent, obtained by treatment of the serine-derived organo-zinc compound (II) with CuCN·2 LiCl, yields enantiomerically pure substitution products such as (III) and (V) (11 examples). The same reaction can be carried out with propargylic compounds forming terminal allenes as demonstrated by (VII). A useful extension is the corresponding reaction with the iodide (VIII), in which the carboxylic acid is protected as a methyl ester. — (DUNN, M. J.; JACKSON, R. F. W.; PIETRUSZKA, J.; TURNER, D.; J. Org. Chem. 60 (1995) 7, 2210-2215; Dep. Chem., Univ., Newcastle upon Tyne NE1 7RU, UK; EN)



I (S)-III

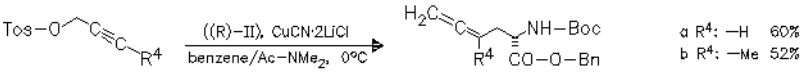
a R^1, R^2: —H; X: —Cl 65%
b R^1, R^2: —H; X: —Br, —O—Tos 32/51%
c R^1: —H; R^2: $—CH_2Cl$; X: —Cl 55%
d R^1: —CO—O—Me; R^2: —H; X: —Br 51%



IV V*

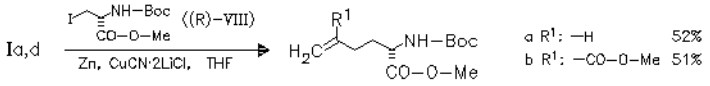
a R^3: —Ph; X: —Cl 48% (m.d.)
b R^3: $—CH_2Br$; X: —Br 48% (m.d.)

m.d.: mixture of diastereomers



VI (S)-VII

a R^4: —H 60%
b R^4: —Me 52%



(S)-IX

a R^1: —H 52%
b R^1: —CO—O—Me 51%