aldehyde derivatives (acyclic compounds)

P 0190

46 - 077

Hydroformylation of Epoxides Catalyzed by Cobalt and Hemilabile P–O Ligands. — A new route for the synthesis of 1,3-diols or 3-hydroxyaldehydes is developed. Thus, for the first time hemilabile P–O ligands and cobalt metal salts are successfully used for the catalyzed hydroformylation of different epoxides. For the preparation of hydroxy aldehydes in high selectivities and yields the ligand must be able to form a chelate with cobalt, preferably a five-membered ring chelate. Also, ligand to metal ratio has a strongly influence on the activity and selectivity of the reaction. An excess of the hemilabile ligands enhances the yield. — (WEBER, R.; ENGLERT, U.; GANTER, B.; KEIM, W.; MOETHRATH, M.; Chem. Commun. (Cambridge) (2000) 15, 1419-1420; Inst. Tech. Macromol. Chem., RWTH Aachen, D-52074 Aachen, Germany; EN)