O39

ASYMMETRIC SYNTHESIS OF FLUOROCARBOHYDRATES

Pierfrancesco Bravo, Giuseppe Resnati* and Fiorenza Viani
C.N.R., Centro Studio Sostanze Organiche Naturali,
Dipartimento di Chimica, Politecnico di Milano,
Piazza Leonardo da Vinci 32, I-20133 Milan (Italy)

We are pursuing an approach of asymmetric synthesis of fluorinated analogues of biologically active compounds. The framework of chiral carbon atoms of the target molecule is built up around a chiral fluorinated synthon, of synthetic origin, in which an optically pure sulphinyl residue works as a chiral auxiliary agent. The tranformation of the (2S,3R)-3-fluoro-1-[(R)-(4-methylphenyl)sulphinyl]-5-hexen-2-ol (1), obtained starting from (R)-methyl 4-methylphenyl sulphoxide, ethyl fluoroacetate, and allyl bromide, into the 2,3-dideoxy-3-fluoro-D-erythro-pentose (2) and into the 3,4-dideoxy-3-fluoro-D-arabino-hexose (3) will be described. The synthesis of other monofluoro-pentoses and hexoses will be described and we will report also the preparation of some nitrogen-containing compounds.