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(+)-α-Pinene in the synthesis of optically active macro-cycles containing azine, cyclobutane and ester fragments

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Abstract

On the basis of the available natural monoterpene (+)-α-pinene (*ee* 50%) efficient synthesis of optically active symmetric macrocyclic diesterazines has been carried out with the use of successively proceeding reactions of [2+1]-interaction of 1'-[(1*S*,3*S*)-3-(2-hydroxyethyl)-2,2-dimethylcyclobutyl]etanone with acid chlorides of glutaric and adipic acids and [1+1]-condensation of intermediate diketodiesters with hydrazinehydrate.