ONE - STEP SELECTIVE SYNTHESIS OF 13-EPI-MANOYL OXIDE

Olga Morarescu\textsuperscript{a}, Marionela Traistari\textsuperscript{b}, Alic Barba\textsuperscript{a}, Gheorghe Duca\textsuperscript{a},
Nicon Ungur\textsuperscript{a}, Veaceslav Kulci\textsuperscript{ki} \textsuperscript{a}\textsuperscript{*}

\textsuperscript{a}Institute of Chemistry, 3, Academiei str., Chisinau MD-2028, Republic of Moldova
\textsuperscript{b}Moldova State University, 60, Mateevici str., Chisinau MD-2009, Republic of Moldova
\textsuperscript{*}e-mail: kulci\textsuperscript{ki}@yahoo.com; veaceslav.kulci\textsuperscript{ki}@ichem.md; phone/fax (+373 22) 73 97 75

Abstract. The selective one-step synthesis of 13-epi-manoyl oxide is reported based on a low-temperature superacidic cyclization of sclareol. The reaction conditions have been finely tuned in order to achieve a 9:1 ratio between epimeric oxides in favour of the desired 13-epi-oxide. The structures were confirmed by \textsuperscript{1}H and \textsuperscript{13}C NMR, and composition of the crude reaction products determined by GC-MS. These results have been interpreted by a hypothetical S\textsubscript{N}2 mechanism which occurs with inversion of configuration around the C-13 chiral center of the starting substrate. The preparative value of the elaborated procedure is demonstrated on a gram-scale experiment.

Keywords: sclareol, cyclization, superacid, ether, labdane.

Received: 01 March 2021/ Revised final: 11 May 2021/ Accepted: 14 May 2021