CZU: 547.913.5:547.785

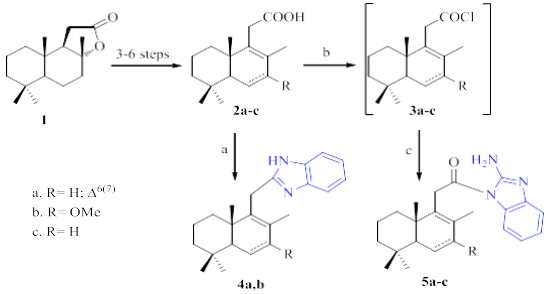
SYNTHESIS OF NEW POTENTIAL ACTIVE HOMODRIMANE SESQUITERPENOIDS WITH BENZIMIDAZOLE FRAGMENT

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Sesquiterpenoids, including those with a homodrimane skeleton, are natural compounds with a wide range of biological activities. Furthermore, the benzimidazole and its derivatives are considered interesting heterocycles since they possess important pharmacological activities. For this reason, synthesis of terpene compounds with heterocyclic fragments, especially benzimidazoles is a perspective direction of research in the field of biologically active compounds.

As starting material for the synthesis of title compounds 11-homodrim-6(7),8(9)-dien-12-oic acid **2a**, 7*α*-methoxi-11-homodrim-8(9)-en-12-oic acid **2b** and 11-homodrim- 8(9)-en-12-oic acid **2c**, previously obtained from commercial (+)-sclareolide **1** in 5, 3 and 5 steps, were used. After that, two methods of synthesis were proposed. The first method consists of interactions of one of the acids **2a,b** with *o*-phenylenediamine in the presence of triphenylphosphine (Ph_3P) and triethylamine (Et_3N), giving desired compounds **4a,b**. The second method includes the interaction of 2-aminobenzimidazole with one of the acid chlorides **3a-c** generated *in situ* from acids **2a-c**, giving desired compounds **5a-c** (Scheme).

The structure of all obtained compounds has been established using modern methods of analysis (ATR-FTIR, ^1H, ^{13}C and ^{15}N RMN spectroscopy).



Scheme. Synthesis of terpeno-benzimidazole hybrid compounds.

Reagents and condition: a. o-Phenylenediamine, Ph_3P, Et_3N, CCl_4, Δ, 4h, 46-57%. b. $(COCl)_2$, C_6H_6, r.t. 1h, Δ, 1h; c. 2-Aminobenzimidazole, CH_2Cl_2, r.t. 3h, Δ, 4h, 49-85%.

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