MH P 6

Divergentna sinteza i antiproliferativna aktivnost (−)-kleistenolida i (−)-5-*epi*-kleistenolida

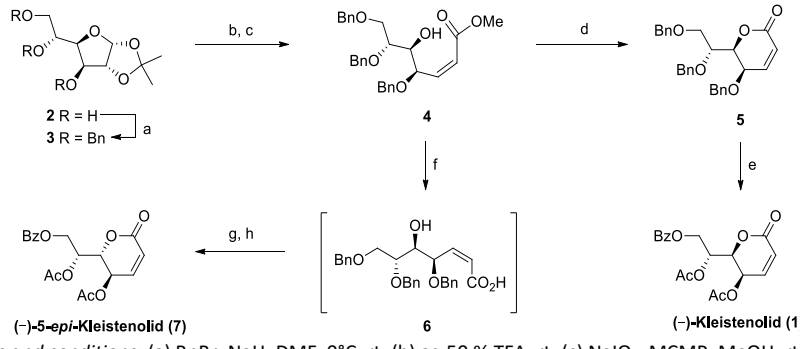
Goran Benedeković, Mirjana Popsavin, Ivana Kovačević, Jovana Francuz, Vesna Kojić, Velimir Popsavin
Departman za hemiju, biohemiju i zaštitu životne sredine, Prirodno-matematički fakultet, Trg D. Obradovića 3, Novi Sad

Ostvarena je divergentna sinteza prirodnog laktona (−)-kleistenolida (**1**) i njegovog analoga, (−)-5-*epi*-kleistenolida (**7**) polazeći iz monoacetonida D-glukoze (**2**). Jedinjenje **2** je prevedeno u *Z*-olefin **4** višefaznom sintetičkom sekvencom prikazanom na reakcionoj shemi. Ciklizacijom **4** dobija se intermedijer **5** koji je *one-pot* metodom preveden u prirodni proizvod **1**. Intermedijerni *Z*-olefin **4** je, nakon hidrolize, *Mitsunobu*-ove ciklizacije i *one-pot* debenzilovanja/acilovanja, preveden u izomer **7**.

Divergent synthesis and antiproliferative activity of (−)-cleistenolide and (−)-5-*epi*-cleistenolide

Goran Benedeković, Mirjana Popsavin, Ivana Kovačević, Jovana Francuz, Vesna Kojić, Velimir Popsavin
Department of Chemistry, Biochemistry and Enviromental Protection, Faculty of Sciences, Trg D. Obradovića 3, Novi Sad

A divergent synthesis of natural product **1** and its analogue (−)-5-*epi*-cleistenolide (**7**) was achieved. Monoacetonide D-glucose (**2**) was converted to the divergent intermediate, *Z*-olefine (**4**), through a multi-step sequence outlined in reaction scheme. Natural products **1** can be accessed from **4** after cyclization and *one-pot* debenzilation/acylation process. *Z*-olefin **4** is converted to the isomer **7** after hydrolysis, *Mitsunobu's* cyclization and the the mentioned *one-pot* method.



Reagents and conditions: (a) BnBr, NaH, DMF, 0°C, rt; (b) aq 50 % TFA, rt; (c) $NaIO_4$, MCMP, MeOH, rt; (d) TsOH, CH_2Cl_2, rt; (e) BzBr, AcBr, $FeCl_3$, CH_2Cl_2, rt; (f) LiBr, Et_3N, aq CH_3CN, rt; (g) Ph_3P, DEAD, EtOAc, rt; (h) BzOH, Bz_2O, AcBr, $FeCl_3$, CH_2Cl_2, rt.

***Acknowledgement**: The work was supported by a grant from the Ministry of Education, Science and Technological Development (Project 172006).*