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FROM PLANTS TO PHARMACY SHELF

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BOOK OF ABSTRACTS

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BISBIBENZYLS IN *PRIMULA* SPECIES

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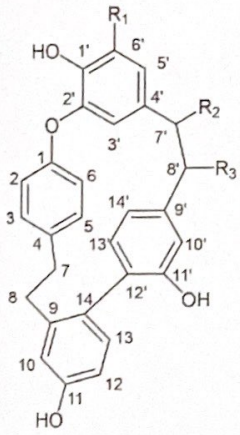
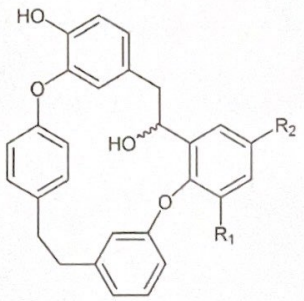
Bisbibenzyls represent chemical class of compounds containing two bibenzyl units mutually connected by an oxygen atom and/or directly by the "C-C" bonds. They are chemical markers of liverworts, the ancestors of higher vascular plants. Marchantin A from *Marchantia polymorpha* was the first discovered bisbibenzyl. More than 120 chemically characterized bisbibenzyls were reported up to 2020 with numerous biological activities [1]. The first report on bisbibenzyls in higher (vascular) plants was published in 2007, when Kosenkova et al. (2007) isolated riccardin C in *Primula veris* subsp. *macrocalyx* from Mt. Altay in Russia as the dominant compound in the extract of the whole plant [2]. In the repeated study of the same species, Kosenkova et al. (2009) confirmed their findings discovering an additional bisbibenzyl constituent, perrottetin E [3].

In this investigation from the CH_2Cl_2/CH_3OH (1:1) extract of the air-dried, powdered roots nine bisbibenzyls, five new, have been isolated from *P. veris* subsp. *columnae* and *P. acaulis* using dry column flash chromatography followed by semipreparative HPLC chromatography and identified on the basis of 1D and 2D NMR, IR, UV and HRESIMS data.



compound	R_1	R_2	R_3
1:	H	H	H
2:	OH	H	H
3:	H	H	=O
4:	H	=O	=O



compound	R_1	R_2
5:	OH	H
6:	H	OH

This investigation widens the knowledge about the presence of bisbibenzyls in vascular plants since only two bisbibenzyls have been previously found in vascular plants, in *Primula veris* subsp. *macrocalyx*.

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References:

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[2] Kosenkova YS, et al. (2007) Chemistry of Natural Compounds 43: 712-713.
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