

5th Symposium of Young Researchers on Pharmacognosy



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BOOK OF ABSTRACTS



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Isolation and structure elucidation of compounds from *Euphorbia systyloides*

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Euphorbiaceae, a diverse plant family, includes large desert succulents, trees, and small herbaceous types. Numerous species produce toxic milky juice and exhibit significant medicinal properties [1]. *Euphorbia* species are notable for their anti-inflammatory and anticancer active constituents, particularly diterpenes and triterpenes [2].

This work aims at the isolation, structure elucidation, and pharmacological investigation of specialized plant metabolites, especially diterpenes and triterpenes from *Euphorbia* species.

Euphorbia systyloides is a toxic, tropical plant that has never been investigated from phytochemical or pharmacological points of view. The methanol extract obtained from the aerial parts of the plant was evaporated *in vacuo*, dissolved in 50% methanol, and then subjected to solvent–solvent partition with *n*-hexane, chloroform, and ethyl acetate, respectively. The antiproliferative activity of the three fractions was tested *in vitro* against COLO 205, COLO 320, and HeLa cell lines. The chloroform phase was then further purified by different chromatographic methods, vacuum column chromatography (VCC), flash chromatography (FC), and finally reversed-phase high-performance liquid chromatography (RP-HPLC). 1D and 2D NMR spectra were recorded in methanol-*d*₄ on a Bruker Avance DRX 500 spectrometer at 500 MHz (¹H) and 125 MHz JMOD (¹³C).

So far, three tirucallane triterpenes have been isolated, among them two novel compounds. Furthermore, one gallic acid and a megastigmane derivative were also isolated from the plant.

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References

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