

3rd Symposium of Young Researchers on Pharmacognosy



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BOOK OF ABSTRACTS



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Ecdysteroid ester derivatives – preparation and investigation

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Chagas disease, a chronic infectious disease, is one of the neglected tropical diseases, and deteriorates more than 6 million patients worldwide, mainly in Latin America. The causative agent of it is *Trypanosoma cruzi*, a protozoan parasite. The transmission is occurred often by the strings of the vector Triatominae bugs [1,2].

In our previous work a preliminary screening of 52 ecdysteroid derivatives was carried out on the *T. cruzi* epimastigote stage. Parasite selective promising activity was observed at 5 μ m with the 20-hydroxyecdysone (20E) 2,22- and 3,22 dicinnamic esters and 6-*E* and *Z*-tert-butyl-oximethers of 20-hydroxyecdysone diacetone [3].

Based on this, the objective of this study was to prepare new bioactive ecdysteroid cinnamic esters of 20E-6-tert-butyl-oximethers against *T. cruzi*. 20-hydroxyecdysone-6-*E*- and *Z*-tert-butyl-oximethers were reacted with cinnamic acid, EDC-HCl and DMAP in dry dichloromethane. RP-HPLC was applied for the purification. Four ecdysteroid derivatives were separated, and their structure evaluation is currently ongoing.

Another goal was to identify ecdysteroid fatty acid esters suspected to be present in mealworm extracts. Alkaline- and enzymatic hydrolysis were carried out. The products are under analytical investigation.

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