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BOOK OF ABSTRACTS

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Antitrypanosomal activity of natural and semi-synthetic ecdysteroids

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A neglected tropical disease, called Chagas disease, is caused by *Trypanosoma cruzi (T. cruzi*), and it affects the lives of several millions of patients, predominantly in Latin America but also in non-endemic areas. In the chronic stage of the disease, certain health issues (e.g., cardiac and gastrointestinal problems) might develop that may become life-threatening. Due to the limited therapeutic options (benznidazole, nifurtimox), there is a need for new drug candidates [1]. In this work, we screened fifty-eight natural and semi-synthetically modified ecdysteroids against *T. cruzi* epimastigotes. Antitrypanosomal activity was found for *E*- and *Z tert*-butyl oxime ether-containing ecdysteroids and ecdysteroid 2,22- and 3,22-dicinnamic esters [2,3]. Based on this, new derivatives were semi-synthesised, in which the newly identified pharmacophores were combined into new derivatives of 20-hydroxyecdysone. This led to more active compounds and provided the two best hits until now, both containing a cinnamic ester group at C-2 and an *E*- or *Z* tert-butyl oxime ether function at C-6. The compounds did not possess cytotoxic activity [4]. Our further goal is to prepare new ecdysteroid derivatives with enhanced antitrypanosomal activity, and this work is currently in progress.

References

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