

Biological and chemical study of fused tri- and tetracyclic indazoles and analogues with important antiparasitic activity

Díaz-Urrutia, Christian A.

Olea-Azar, Claudio A.

Zapata, Gerald A.

Lapier, Michel

Mura, Francisco

Aguilera-Venegas, Benjamín

Arán, Vicente J.

López-Muñoz, Rodrigo A.

Maya, Juan D.

A series of fused tri- and tetracyclic indazoles and analogues compounds (NID) with potential antiparasitic effects were studied using voltamperometric and spectroscopic techniques. Nitroanion radicals generated by cyclic voltammetry were characterized by electron spin resonance spectroscopy (ESR) and their spectral lines were explained and analyzed using simulated spectra. In addition, we examined the interaction between radical species generated from nitroindazole derivatives and glutathione (GSH). Biological assays such as activity against *Trypanosoma cruzi* and cytotoxicity against macrophages were carried out. Finally, spin trapping and molecular modeling studies were also done in order to elucidate the potentials action mechanisms involved in the trypanocidal activity. © 2012 Elsevier B.V. All rights reserved.