

Natural and synthetic naphthoquinones active against *Trypanosoma cruzi*: An initial step towards new drugs for chagas disease

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Chagas disease is one of the most important endemic diseases in Latin America, caused by *Trypanosoma cruzi*. The drugs used for the treatment of this disease, nifurtimox and benznidazole, are toxic and present severe side effects. The need of effective drugs, without adverse effects, has stimulated the search for new compounds with potential clinical utility. An overview of a number of natural naphthoquinones tested against *T. cruzi* parasites is provided. Among natural naphthoquinones, lapachol, β -lapachone and its α -isomer have demonstrated useful trypanocidal activities. In the search for new trypanocidal agents, this review outlines different structural modifications of natural quinones, as well as synthetic quinones, which have been subjected to trypanocidal studies. This review summarizes the mechanism of action and structure-activity relationships of the quinone derivatives, including some theoretical calculations that discuss the correlation of stereo electronic properties with t