

# Isolation of a Terpenoid Compound from *Mikania* sp. with Activity on *Trypanosoma cruzi* †

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**Abstract:** American trypanosomiasis or Chagas disease is caused by the protozoan *Trypanosoma cruzi* and affects 6-7 million people worldwide. Drugs available for its treatment have limited efficacy and are associated with serious adverse effects. Therefore, there is an urgent need to find new, safer, and more effective drugs for their treatment. Natural compounds have been considered an important strategy for finding new drugs with antiparasitic activity. Thus, this work aimed to isolate compounds with anti-*T. cruzi* activity from the active dichloromethane extract of *Mikania periplocifolia* (Asteraceae). The fractionation and purification of the extract, performed by chromatographic methods, allowed the isolation of a pure compound (A) that was tested on *T. cruzi*. The isolated compound was a terpenoid with a  $\gamma$ -lactone moiety. This compound showed moderate activity against trypomastigotes with a 50% inhibitory concentration (IC<sub>50</sub>) of 57.8  $\mu$ g/ml. On amastigotes, this compound presented an IC<sub>50</sub>=7.7  $\mu$ g/ml. The cytotoxicity was evaluated on mammalian cells (CC<sub>50</sub>=37.9  $\mu$ g/ml). These results demonstrate that compound A was active and selective against the intracellular form of *T. cruzi*. Further analysis will be encouraged to complete its identification. The evaluation of the *in vivo* activity of compound A will also be considered.

**Keywords:** *Trypanosoma cruzi*; *Mikania* sp.; terpenoid.

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### **Conflicts of Interest**

The authors declare no conflict of interest.