

# Rhenium(I) tricarbonyl compounds of bioactive thiosemicarbazones: Synthesis, characterization and activity against *Trypanosoma cruzi*

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© 2017 Elsevier Inc. American Trypanosomiasis is a chronic infection discovered and described in 1909 by the Brazilian scientist Carlos Chagas. It is caused by the protozoan parasite *Trypanosoma cruzi*. Although it affects about 10 million people in Latin America, the current chemotherapy is still inadequate. The discovery of new drugs is urgently needed. Our group is focused on the development of prospective metal-based drugs mainly based on bioactive ligands and pharmacologically interesting metal ions. In this work three new rhenium(I) tricarbonyl compounds  $\text{fac-[Re(CO)}_3\text{Br(HL)]}$  where HL = 5-nitrofuryl containing thiosemicarbazones were synthesized and fully characterized in solution and in the solid state. The in vitro evaluation of the compounds on *T. cruzi* trypomastigotes (Dm28c strain) showed that the Re(I) compounds are 8 to 15 times more active than the reference drug Nifurtimox and show a 4 to 17 fold increase in activity in respect to the free (HL) ligands. Obtained compounds