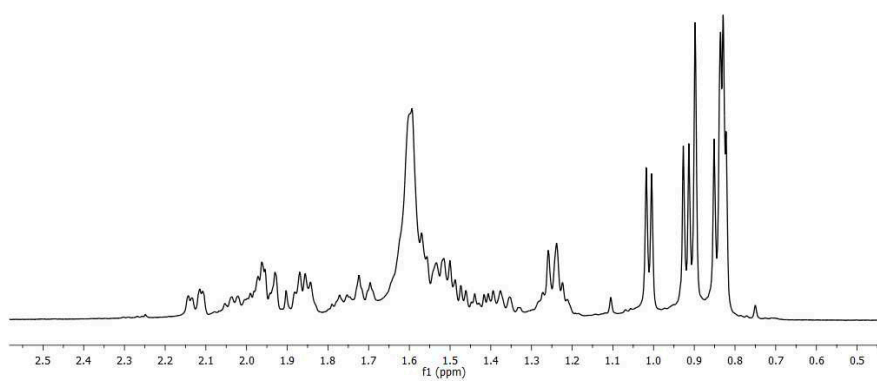
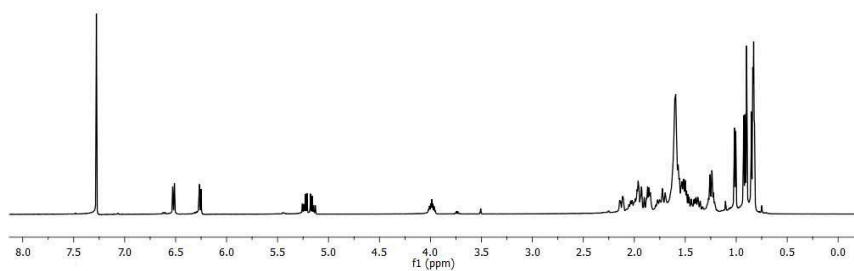


## SUPPEMENTARY INFORMATION

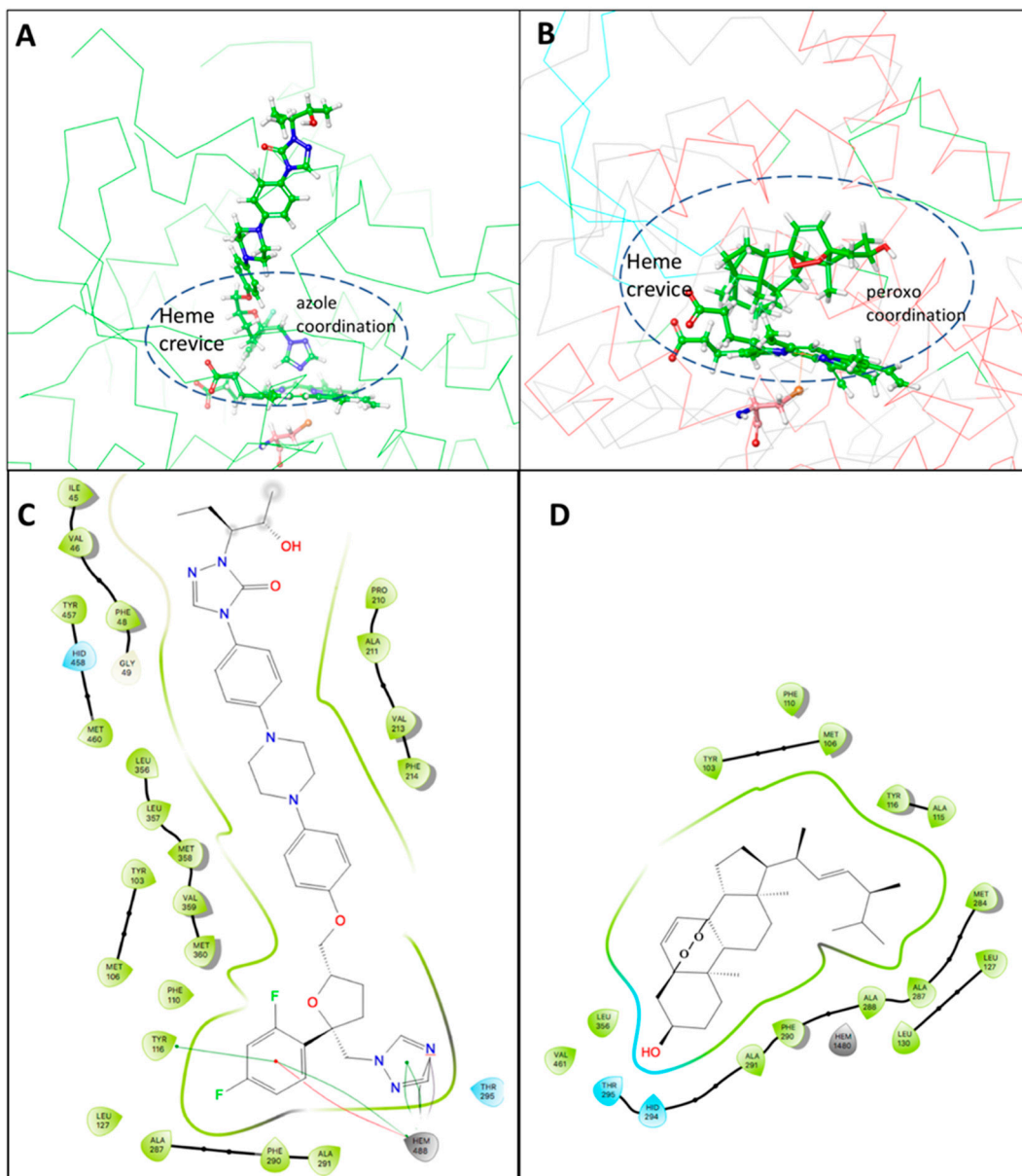
A)



B)



SI-1. Proton NMR spectrum for ergosterol peroxide ( $5\alpha,8\alpha$ -epidioxy- $22E$ -ergosta-6,22-dien- $3\beta$ -ol). In image A amplified spectrum and B complete signal spectrum.



SI-2 Comparison of posaconazole and ergosterol peroxide binding modes to CYP51 P450 of *T. cruzi* proteins: A) co-crystallized posaconazole complexed with CYP51 P450 (PDB code: 3K1O); B) ergosterol peroxide complexed with CYP51 P450 of *T. cruzi*. The binding site between both ligands is the same (next to the heme group, in its crevice); C) ligand interaction diagram of the whole interaction zone between posaconazole and CPY51 P450; D) ligand interaction diagram of the proposed interaction zone between ergosterol peroxide and CYP51 P450.