

Synthesis, antioxidant and antichagasic properties of a selected series of hydroxy-3-arylcoumarins

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© 2016 Elsevier Ltd Oxidative stress is involved in several parasitic diseases such as Chagas.

Agents able to selectively modulate biochemical processes involved in the disease represent promising multifunctional agents for the delay or abolishment of the progression of this pathology. In the current work, differently substituted hydroxy-3-arylcoumarins are described, exerting both antioxidant and trypanocidal activity. Among the compounds synthesized, compound 8 showed the most interesting profile, presenting a moderate scavenging ability for peroxy radicals (ORAC-FL = 2.23) and a high degree of selectivity towards epimastigotes stage of the parasite *T. cruzi* (IC₅₀ = 1.31 μ M), higher than Nifurtimox (drug currently used for treatment of Chagas disease).

Interestingly, the current study revealed that small structural changes in the hydroxy-3-arylcoumarin core allow modulating both activities, suggesting that this scaffold has desirable properties for the development of promising classe