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Synthesis, Anti-*Toxoplasma gondii* and Antimicrobial Activities of 2-hydrazolyl-3-phenyl-5-(4-nitrobenzylidene)-4-thiazolidinone Substituted Derivatives

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SUMMARY. A novel series of 2-hydrazolyl-3-phenyl-5-(4-nitrobenzylidene)-4-thiazolidinone substituted (**3a-p**) has been synthesized. The intermediates 2-hydrazolyl-3-phenyl-4-thiazolidinone substituted (**2a-p**) were prepared by condensation of benzaldehyde 4-phenyl-3-thiosemicarbazone substituted (**1a-p**) with ethyl chloroacetate. Theses intermediates were submitted to reaction with ethyl 2-cyano-3-(4-nitrophenyl)-acetate to give the title compounds. The 4-thiazolidinones were screened for their anti-*Toxoplasma gondii,* and all derivatives promoted decrease of percentage of infection of Vero cells, with elimination of intracellular tachyzoites. The LD_{50} ranged around 0.5 mM for the intracellular parasites and were higher than 10 mM for Vero cells. According to results of antimicrobial activity, only two compounds showed significant inhibition against *M. luteus,* but demonstrated higher values of MIC and MBC when compared with standard drug.

KEY WORDS: Antimicrobial activity, Anti-*Toxoplasma gondii* activity, 4-thiazolidinone, thiosemicarbazone.

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