The synthesis of novel hybrid compounds containing 5-nitrothiazole moiety as potential antiparasitic agents

Abstract

Abstract: A number of novel compounds containing 5-nitrothiazole moiety as potential antiparasitic agents have been synthesized through known chemical routes. The structures of the new compounds were confirmed by spectroscopic techniques, ^{1}H NMR, ^{13}C NMR, and mass spectrometry, and by elemental analyses. The prepared compounds were evaluated in vitro for their antigiardial and antitrichomonal activities. All tested compounds exhibited remarkable antigiardial activity with IC50 values ranging from 2.2 to 6.9 μg/cm^3 as compared to the reference drug metronidazole (IC50 = 7.3 μg/cm^3). In addition, three of the prepared compounds exhibited significant antitrichomonal activity with IC50 values of 4.3, 5.0, and 7.9 μg/cm^3, respectively, as compared to the reference drug metronidazole (8.5 μg/cm^3). Graphical abstract: [Figure not available: see fulltext.]