Synthesis and in vitro evaluation of new ethyl and methyl quinoxaline-7-carboxylate 1,4-di-*N*-oxide against *Entamoeba histolytica*

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Abstract

In our search for new antiamoebic agents, a new series of ethyl and methyl quinoxaline-7-carboxylate 1,4-di-*N*-oxide derivatives have been synthesized using the Beirut reaction. All compounds were characterized by spectroscopic techniques and elemental analysis. Antiamoebic activity was evaluated in vitro against *Entamoeba histolytica* strain HM1:IMSS by the microdilution method, and the structure–activity relationship was analyzed. We found that eleven quinoxaline derivatives showed greater activity than metronidazole and nitazoxanide with IC50 values in the range 1.99–0.35 lM. Compounds T-001 and T-016 shows IC50 values of 1.41 and 1.47 lM, respectively, with a value of selectivity index >60.