

ABSTRACT

SYNTHESIS AND CHARACTERIZATION OF FERROCENYL CHALCONES AND THEIR USE AS NEMATOCIDAL AGENTS

A series of thirty-three ferrocenyl chalcones were synthesized and characterized by proton NMR, FTIR spectroscopy, and UV-vis spectroscopy. Their nematocidal activities were examined with respect to the model organism *C. elegans*. It was found that in concentrations of 10^{-4} M, 1-(4'-fluorophenyl)-3-ferrocenyl-2-propen-1-one (**10f**), 1-(2'-furyl)-3-ferrocenyl-2-propen-1-one (**10j**), and 1-(2'-thiophenyl)-3-ferrocenyl-2-propen-1-one (**10k**) were effective in killing the worms and inhibiting reproduction. After seven days in the test solutions **10f**, **10j**, and **10k** gave the following data: 65.6%, 57.6%, and 66.3% dead, respectively and 19.4%, 9.0%, and 7.3% reproduced, respectively. From these data, an SAR was observed in which the position of the carbonyl played a central role.

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