Uniwersytet Wrocławski

Repozytorium

Plik pochodzi z repozytorium Wydziału Chemii Uniwersytetu Wrocławskiego

Lactones 43.New biologically active lactones:β-cyclocitral derivatives.

Autorzy

Marcelina Mazur

Witold Gładkowski

Magdalena Podkowik

Jacek Bania

Jan Nawrot

Agata Białońska

Czesław Wawrzeńczyk

Rok wydania

2014

Czasopismo

Pest Management Science

Numer woluminu

70

Strony

286-294

DOI

10.1002/ps.3557

Kolekcja

Naukowa

Język

Angielski

Typ publikacji

Artykuł

Streszczenie

In our previous studies bicyclic γ-lactones with cyclohexane ring exhibited high antifeedant activity against storage pests. The activity was correlated with the type and number of substituents in the cyclohexane ring. One of the most potent group of antifeedant agents was δ-iodo-γ-lactones.

Results: We present the synthesis of new bicyclic γ-lactones with the cyclohexane ring containing different halogen atoms. To determine the impact of halogen type on biological activity the lactone without halogen atom was also synthesized. The lactones were tested for their antifeedant activity toward the granary weevil beetle (Sitophilus granarius L.), the khapra beetle (Trogoderma granarium Everts) and the confused flour beetle (Tribolium confusum Du Val.). The results of the tests proved that the highest activity was observed for chlorolactone (7) towards larvae and adults of Tribolium confusum. Antibacterial activity of new lactones was also evaluated. Lactone without halogen atom (8) was active against Staphylococcus aureus and Listeria monocytogenes.

Conclusions: Studies on the biological activity of synthesised lactones revealed high selectivity towards insect pests as well as bacterial strains. Only the halolactones exhibited significant antifeedant activity. In contrast, antibacterial activity was shown only by the lactone (8) without halogen.

Słowa kluczowe

antibacterial compound, antifeedant activity, feeding deterents, lactones, synthesis.

Adres publiczny

http://dx.doi.org/10.1002/ps.3557

Strona internetowa wydawcy

onlinelibrary.wiley.com

Plik został wygenerowany dnia 2026-11-09 13:22:14
Adres w repozytorium https://old.chem.uni.wroc.pl/pl/repozytorium/7qlGaZ1.