

昆虫信息素研究 III: 拟蚜虫警戒素的研究

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摘要 合成了一系列碳数为十五和十四的倍半萜类蚜虫警戒素, 并进行了生物活性测定, 从中筛选有效化合物.

关键词 [生物活性](#) [倍半萜](#) [十一碳化合物](#) [昆虫激素](#) [十二碳化合物](#) [多烯烃 P](#) [信息素](#) [蚜科](#) [警戒素](#)

分类号 [0629](#) [TQ45](#)

Research on insect pheromones III: Studies on aphid alarm pheromone mimics

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Abstract Ten aphid alarm pheromone mimics I (R = H, Me, Et, Pr, CH:CH₂, Ph, CO₂Et, cyano, CH₂OAc) were prepared from citral through the following series of reactions, namely reduction of citral with NaBH₄ to give geranial which was converted to geranyl chloride by treatment with PCl₃. Reaction of geranyl chloride with Et acetoacetate in the presence of base gave geranylacetone which was converted to compounds I through the Wittig reaction. I (R = H, Me, CO₂Et) showed alarm activity to Aphis Laburini Karlebach, other compounds were inactive. Two isomers of I (R = H) (II) were synthesized stereoselectively. The more active mixture of (Z)-II and (E)-II (1:1) was obtained from the less active (Z)-II by isomerization.

Key words [BIOLOGICAL ACTIVITY](#) [SESQUITERPENE](#) [C11 COMPOUNDS](#) [INSECT HORMONE](#) [C12 COMPOUNDS](#) [POLYENE P](#) [PHEROMONE](#) [APHIDIDAE](#) [ALARM PHEROMONE](#)

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