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QSAR for Binding Affinity of Substituted Dibenzoylhydrazines to Intact Sf-9 Cells

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Abstract:
The binding affinity to intact Sf-9 cells was measured in a series of *N*-*t*-butyl-*N*,*N*′-dibenzoylhydrazine congeners. The benzene ring close to the *t*-butyl group of the compounds was substituted with Cl at the *ortho*-position and the other benzene ring was variously substituted at the *para*-position. The effects of the substituent on the binding affinity were analyzed quantitatively using the Hansch–Fujita QSAR method. The introduction of hydrophobic and electron-donating substituents at the *para*-position enhanced the binding affinity toward the ecdysone receptor protein. Steric repulsion between the substituent and receptor surface was also suggested. © Pesticide Science Society of Japan

Keywords:
QSAR, dibenzoylhydrazines, Sf-9 cells, *Spodoptera frugiperda*, ecdysone agonists, ponasterone A

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