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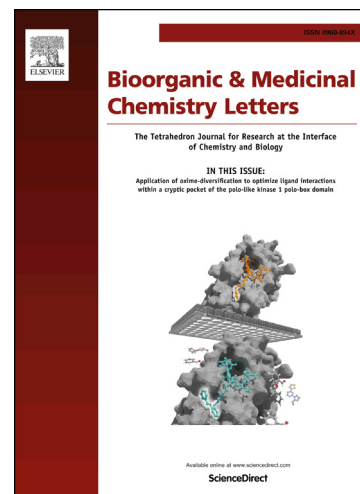
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Design, synthesis, and bioactivities of novel oxadiazole-substituted pyrazole oximes

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ABSTRACT

A series of novel pyrazole oxime derivatives containing a substituted oxadiazole group were designed and synthesized. The bioassay results indicated that some title compounds displayed good acaricidal and insecticidal activities against *Tetranychus cinnabarinus*, *Aphis medicaginis*, *Oriental armyworm*, and *Nilaparvata lugens*. Especially, compounds **7a**, **7b**, and **7c** had 80%, 90%, and 90% insecticidal activities against *A. medicaginis* at 20 µg/mL, respectively. Interestingly, some of the designed compounds displayed wonderful fungicidal activities in vivo against cucumber *Pseudoperonospora cubensis*. Furthermore, compounds **7a** (EC₅₀ = 4.97 µg/mL) and **7h** (EC₅₀ = 0.51 µg/mL) showed excellent fungicidal activity against *P. cubensis* comparable or better than that of the control Pyraclostrobin (EC₅₀ = 4.59 µg/mL).

Keywords: Oxadiazole, Pyrazole oxime, Synthesis, Biological activity

In recent years, pyrazole derivatives have attracted considerable interest due to their versatile pharmacological and biological properties.¹ Particularly, in agricultural field, pyrazole ring is

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