Indian Journal of Heterocyclic Chemistry
Vol. 31 - Number 03 (Jul-Sep 2021) 417-421
DocID: https://connectjournals.com/01951.2021.31.417

ISSN (Print) : 0971-1627
ISSN (Online) : 2456-4311

Synthesis, Nematicidal Activity, and Molecular Docking of Some 3-*Iso*propyl-1-methyl-1*H*-pyrazole-5-carboxamide Compounds

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ABSTRACT Seven 3-*iso*propyl-1-methyl-1*H*-pyrazole-5-carboxamide compounds were designed and synthesized. The structures of seven 3-*iso*propyl-1-methyl-1*H*-pyrazole-5-carboxamide compounds were confirmed by ^{1}H-nuclear magnetic resonance and MS. The primarily nematicidal activity results indicated that some of them exhibited moderate activity against *Meloidogyne incognita* at 10 ppm. Among them, compounds (*R*)-4-chloro-*N*-(1-(4-chlorophenyl)ethyl)-3-*iso*propyl-1-methyl-1*H*-pyrazole-5-carboxamide (5b) and 4-chloro-3-*iso*propyl-*N*,1-dimethyl-*N*-(3,4,5-trimethoxybenzyl)-1*H*-pyrazole-5-carboxamide (5g) exhibited the best activity. Furthermore, molecular docking results indicated that compound **5b** interacted with succinate dehydrogenase by hydrogen bond. It provided useful information for further design novel nematicides.

KEYWORDS Pyrazole carboxamide, Synthesis, Nematicidal activity, Molecular docking

How to cite this article: Wen, Y.H., Han, L.R., Han, L., Xu, T.M., Liu, X.H., Peng, W.L (2021) Synthesis, Nematicidal Activity, and Molecular Docking of Some 3-*Iso*propyl-1-methyl-1*H*-pyrazole-5-carboxamide Compounds. *Indian J. Heterocycl. Chem.* **2021**, *31*, 417–421. *(DocID: https://connectjournals.com/01951.2021.31.417)*