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Linderman

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(54) **PESTICIDAL ACTIVITY OF FUNCTIONALIZED ALKENES**

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(58) **Field of Search** 514/532, 570, 514/617, 543, 569, 875, 951; 424/84

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,204,071 A	5/1980	Anderson et al.	
4,880,624 A *	11/1989	Metcalf et al.	424/84
4,897,397 A	1/1990	Shih et al.	
5,011,909 A	4/1991	Borovsky et al.	530/328
5,130,253 A	7/1992	Borovsky et al.	435/320.1
5,358,934 A	10/1994	Borovsky et al.	514/17
5,555,366 A	9/1996	Teig et al.	
5,747,537 A	5/1998	Gordon et al.	

FOREIGN PATENT DOCUMENTS

EP	0428276 A2	5/1991
GB	2005271 A	4/1979
WO	WO 00/18920	4/2000

OTHER PUBLICATIONS

Ansell et al.; *Reduced Cyclic Compounds. Part XI. The Cyclisation of ω-Arylalkenoic Acids.*, *J. Chem. Soc.*, p. 206–212 (1961).

Dov Borovsky et al.; Confidential Copy of U.S. patent application Ser. No. 09/295,996, filed Apr. 21, 1999 entitled “*Novel Peptides and the Use Thereof to Control Pests*”.

Kishore, Nandini S., et al., *The Substrate Specificity of Saccharomyces cerevisiae Myristoyl-CoA:Protein N-Myristoyltransferase*; *The Journal of Biological Chemistry*, vol. 266, No. 14, pp. 8835–8855 (May 15, 1991).

International Search Report, International Application No. PCT/00/31558 dated Jun. 6, 2001.

International Search Report, International Application No. PCT/US00/31558 dated Apr. 25, 2002.

* cited by examiner

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(57) **ABSTRACT**

The present invention provides non-peptide organic compounds that have a structure analogous to or reminiscent of the TMOF structure and have pesticidal activity. Thus the present invention concerns pesticidal compounds that inhibit digestion in pests by terminating or otherwise blocking synthesis of digestive enzymes by activating a TMOF receptor (collectively referred to herein as “pesticidal compounds”). The pesticidal compounds and other compounds of the present invention are usefully employed in the control of pests, particularly insect pests such as mosquitoes, which ingest blood.

47 Claims, No Drawings