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International Bureau



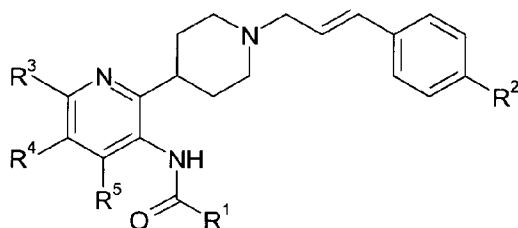
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- (74) **Agents:** WARD, Steven Paul et al.; Intellectual Property Department, Syngenta Limited, P.O. Box 3538, Jealott's Hill Research Centre, Bracknell, RG42 6YA (GB).
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- Published:**
- with international search report (Art. 21(3))
 - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- (88) **Date of publication of the international search report:**
21 January 2010

(54) **Title:** INSECTICIDAL COMPOUNDS



(I)

(57) **Abstract:** A compound of formula (I): wherein R¹ is pyrid-4-yl optionally substituted by one to four substituents independently selected from halogen, C₁₋₃ alkyl or C₁₋₃ haloalkyl; R² is hydrogen, halogen, C₁₋₄ haloalkyl or C₁₋₄ haloalkoxy; R³ is trifluoromethyl, difluoromethyl or difluoromethoxy and R⁴ is hydrogen, fluoro or chloro, or R³ is fluoro, chloro or bromo and R⁴ is fluoro, chloro or trifluoromethyl; and R⁵ is hydrogen or halogen; or salts or N-oxides thereof. Furthermore, the present invention relates to intermediates used to prepare compounds of formula (I), to methods of using them to combat and control insect, acarine, mollusc and nematode pests and to insecticidal, acaricidal, molluscicidal and nematocidal compositions comprising them.



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INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/003395

A. CLASSIFICATION OF SUBJECT MATTER INV. C07D401/14 C07D401/04 A01N43/40				
According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) C07D				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, BEILSTEIN Data, CHEM ABS Data				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	WO 2006/003494 A (SYNGENTA PARTICIPATIONS AG [CH]; MAIENFISCH PETER [CH]; MOLLEYRES LOUI) 12 January 2006 (2006-01-12) cited in the application formulae Iym, Iyn; claims; examples 21,23,24 -----	1-7		
<input type="checkbox"/> Further documents are listed in the continuation of Box C.				
<input checked="" type="checkbox"/> See patent family annex.				
* Special categories of cited documents :				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed </td> <td style="width: 50%; border: none; vertical-align: top;"> *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family </td> </tr> </table>			*A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family
A document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family			
Date of the actual completion of the international search <p style="text-align: center; font-weight: bold;">12 August 2009</p>	Date of mailing of the international search report <p style="text-align: center; font-weight: bold;">09/12/2009</p>			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer <p style="text-align: center; font-weight: bold;">Ladenburger, Claude</p>			

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2009/003395

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4, 5(part), 6, 7

relating to the compounds of formula I and to the compounds of formulae II to VI wherein R3 and R4 are as in formula I

2. claim: 5(part)

relating to the compounds of formulae IV and V wherein R3 and R5 are hydrogen and R4 is fluoro, chloro or trifluoromethyl

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2009/003395

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006003494 A	12-01-2006	AP 1970 A	30-04-2009
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		BR PI0512659 A	01-04-2008
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		KR 20070029214 A	13-03-2007
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		ZA 200609687 A	30-01-2008
