

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2023/081142	International filing date (day/month/year) 08.11.2023	Priority date (day/month/year) 09.11.2022
International Patent Classification (IPC) or both national classification and IPC INV. C07D401/04 A01N43/56 C07D401/14 C07D405/14 C07D409/14 C07D487/04		
Applicant SYNGENTA CROP PROTECTION AG		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Bedel, Christian Telephone No. -0	
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed.
 - b. ☐ furnished subsequent to the international filing date for the purposes of international search (Rule 13ter.1(a)),
☐ accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
4. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established to the extent that a meaningful opinion could be formed without a WIPO Standard ST.26 compliant sequence listing.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-15</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-15</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43*bis*.1 and 70.10)
and / or
2. Non-written disclosures (Rules 43*bis*.1 and 70.9)
see form 210

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

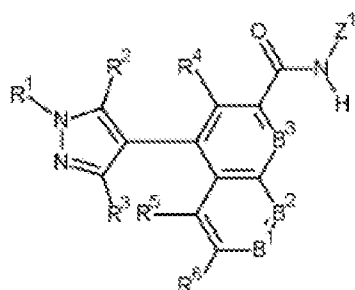
Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

- D1 WO 2016/038173 A1 (SYNGENTA PARTICIPATIONS AG [CH]) 17 March 2016 (2016-03-17)
- D2 WO 2005/002552 A2 (ASTEX TECHNOLOGY LTD [GB]; BERDINI VALERIO [GB] ET AL.) 13 January 2005 (2005-01-13)
- D3 WO 98/57931 A2 (SEPRACOR INC [US]; KUMARAVEL GNANASAMBANDAM [US] ET AL.) 23 December 1998 (1998-12-23)
- D4 PANDYA KEYUR M. ET AL: "Development of Antimicrobial, Antimalarial and Antitubercular Compounds Based on a Quinoline-Pyrazole Clubbed Scaffold Derived via Doebner Reaction", CHEMISTRY AFRICA, vol. 3, no. 1 11 March 2020 (2020-03-11), pages 89-98, XP093044862, ISSN: 2522-5758, DOI: 10.1007/s42250-019-00096-5 Retrieved from the Internet: URL:<http://link.springer.com/article/10.1007/s42250-019-00096-5/fulltext.html>

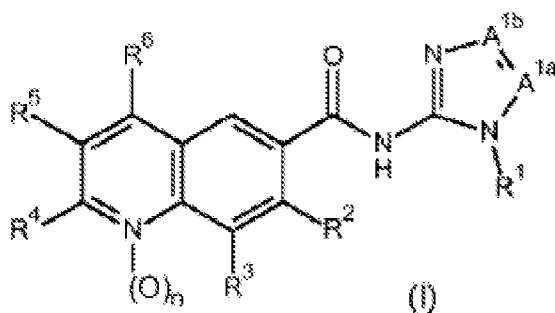
2 The present application concerns in claim 1 a compound of formula (I)



(I) wherein in particular B1-B3 represent a CR⁷⁻⁹ or a N and Z1 is an alkyl C1-6, eventually substituted (see details in claim 1) and R1 is hydrogen, C1-C4 alkyl, C2-C4alkenyl, C2-C4 alkynyl, or C3-C6cycloalkyl.

The claimed compounds are used as fungicides.

2.1 D1 is the closest prior art and discloses fungicides of the formula (I)



wherein R3 can be a 5-membered heteroaryl (see cl.1).

In particular, D1 discloses the compounds:

compound	R1	R2	R3	R4
2.210	Et	Cl	1-methyl-pyrazol-4-yl	Me
2.211	Me	Cl	1-methyl-pyrazol-4-yl	Me
2.212	<i>n</i> -Pr	Cl	1-methyl-pyrazol-4-yl	Me

They differ from presently claimed compounds by the amido substituent, wherein in present compounds R1 is an alkyl instead of the diazole group of D1. Furthermore, the substitution pattern of the quinoline core is different (position of N vis-à-vis the further substituents).

D2-D3 concern structurally remote compounds with antimicrobial compounds. No specific fungicide activity is envisaged.

2.2 D4 discloses a structurally close compound as follows:

- 1 D1 should be cited and commented.