

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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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/EP2020/078252	International filing date (day/month/year) 08.10.2020	Priority date (day/month/year) 09.10.2019
International Patent Classification (IPC) or both national classification and IPC INV. C07D401/04 A01N43/653 C07D401/14 C07D403/04 A61P33/14 A61K31/44 A61K31/506 A01P7/02 A01P7/04		
Applicant BAYER AKTIENGESELLSCHAFT		

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 Lewis, Sara Telephone No. +49 89 2399-0
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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:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
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>1-16</u>
	No: Claims	<u>17</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-17</u>
Industrial applicability (IA)	Yes: Claims	<u>1-17</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

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 2017/192385 A1 (ELANCO TIERGESUNDHEIT AG [CH]; LILLY CO ELI [US]) 9 November 2017 (2017-11-09)cited in the application

D2 WO 2019/170626 A1 (BAYER AG [DE]) 12 September 2019 (2019-09-12)cited in the application

2 Novelty

D1 and D2 disclose 1,2,4-triazoles for controlling animal pests. The present application differs from D1 and D2 due to the presence of a halogen atom at R⁵. The intermediates according to claim 5-6 are novel over the prior art due to R⁵. Thus the subject matter of claims 1-16 meets the requirements of novelty pursuant to Article 33(2) PCT.

Claims for products defined in terms of a process of manufacture are allowable only if the products as such fulfil the requirements for patentability, i.e. inter alia that they are new and inventive. A product is not rendered novel merely by the fact that it is produced by means of a new process. In this case, it does not appear that the product of claim 17 is novel over any seed made available to the public.

3 Inventive step

The present application discloses 1,2,4-triazoles for controlling animal pests. D1 discloses 1,2,4-triazoles having the same activity and may be considered as the closest prior art for the assessment of inventive step. The present application differs from D1 as the hydrogen atom at R⁵ has been replaced by a halogen atom. The problem to be solved in the light of D1 is the provision of further 1,2,4-triazoles for controlling animal pests. Given the small structural difference between the current application and D1, the compounds of present claim 1 may

only be regarded as inventive if the compounds of formula (I) present unexpected effects or properties in relation to the compounds disclosed in D1 however no such effects or properties are indicated in the application.

Furthermore it must be made credible that essentially all the claimed matter solves the given problem. With the present scope of the claims this is not the case. It is for instance noted that in all the examples R¹ is H, Y is a direct bond, R³ is Me and X is O. An inventive step can only be acknowledged for a breadth of claim for which it is credible that the desired activity is present. Reasonable predictions of relationships between chemical structure and biological activity are possible in principle however there is a limit beyond which no such prediction can be validly made. At present the number of compounds claimed is such that it is unlikely that all the compounds of the current application possess the desired activity therefore inventive step cannot be acknowledged. Therefore no inventive step is present in the subject matter of claims 1-17.

Re Item VIII

Certain observations on the international application

There appears to be a typographical error in the dependency of claims 13-15 and 17. Claim 13 depends on claim 11 and claims 14-15 depend on claims 11-12 however claim 11 is directed to a method. It seems that claim 13 should refer to claim 12 and claims 14-15 should refer to claims 12-13. Claim 17 should refer to claim 16.

Independent claim 6 comprises intermediates of formula (a). Hence claim 6 comprises all the features of claim 5 and is therefore not appropriately formulated as a claim dependent on the latter (Rule 6.4 PCT).