

TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

PCT

RAPPORT PRÉLIMINAIRE INTERNATIONAL SUR LA BREVETABILITÉ

(chapitre I du Traité de coopération en matière de brevets)

(règle 44bis du PCT)

Référence du dossier du déposant ou du mandataire LI2135-17062	POUR SUITE À DONNER	Voir le point 4 ci-dessous
Demande internationale no. PCT/EP2016/079869	Date du dépôt international (<i>jour/mois/année</i>) 06 December 2016 (06.12.2016)	Date de priorité (<i>jour/mois/année</i>) 11 December 2015 (11.12.2015)
Classification internationale des brevets (8 ^e édition, sauf indication d'une édition antérieure) Voir les informations pertinentes dans le formulaire PCT/ISA/237		
Déposant LIPHATECH		

1.	Le présent rapport préliminaire international sur la brevetabilité (chapitre I) est établi par le Bureau international au nom de l'administration chargée de la recherche internationale selon la règle 44bis.1.a).																								
2.	Ce RAPPORT comprend un total de 7 feuilles, y compris la présente feuille de couverture.																								
<p>Dans les feuilles jointes, toute référence à l'opinion écrite de l'administration chargée de la recherche internationale doit être entendue, à la place, comme une référence au rapport préliminaire international sur la brevetabilité (chapitre I).</p>																									
3.	<p>Le présent rapport contient des indications relatives aux points suivants :</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 5%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 25%;">Cadre n° I</td> <td style="width: 70%;">Base de l'opinion</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° II</td> <td>Priorité</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° III</td> <td>Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° IV</td> <td>Absence d'unité de l'invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Cadre n° V</td> <td>Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° VI</td> <td>Certains documents cités</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° VII</td> <td>Certaines irrégularités relevées dans la demande internationale</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Cadre n° VIII</td> <td>Certaines observations relatives à la demande internationale</td> </tr> </table>	<input checked="" type="checkbox"/>	Cadre n° I	Base de l'opinion	<input type="checkbox"/>	Cadre n° II	Priorité	<input type="checkbox"/>	Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle	<input type="checkbox"/>	Cadre n° IV	Absence d'unité de l'invention	<input checked="" type="checkbox"/>	Cadre n° V	Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration	<input type="checkbox"/>	Cadre n° VI	Certains documents cités	<input type="checkbox"/>	Cadre n° VII	Certaines irrégularités relevées dans la demande internationale	<input checked="" type="checkbox"/>	Cadre n° VIII	Certaines observations relatives à la demande internationale
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4.	Le Bureau international communiquera le présent rapport aux offices désignés conformément aux règles 44bis.3.c) et 93bis.1 mais pas avant l'expiration du délai de 30 mois à compter de la date de priorité (règle 44bis.2), sauf si le déposant a présenté une requête expresse à cet égard en vertu de l'article 23.2).																								

	Date d'établissement du présent rapport 12 June 2018 (12.06.2018)
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From the INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing <i>(day/month/year)</i> 09 February 2017	
Applicant's or agent's file reference LI2135-17062	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2016/079869	International filing date <i>(day/month/year)</i> 06 December 2016
Priority date <i>(day/month/year)</i> 11 December 2015	
International Patent Classification (IPC) or both national classification and IPC C07D 311/56(2006.01)i; A01N 43/16(2006.01)i	
Applicant LIPHATECH	

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 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/	Date of completion of this opinion	Authorized officer
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2016/079869

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 43*bis*.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 13*ter*.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 13*ter*.1(a)).
 - on paper or in the form of an image file (Rule 13*ter*.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:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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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		
1. Statement			
Novelty (N)	Claims	1-11	YES
	Claims	_____	NO
Inventive step (IS)	Claims	1-11	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims	_____	NO
2. Citations and explanations :			
See Supplemental Box			

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/EP2016/079869**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 Supplemental Box

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

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

1 Reference is made to the following documents:

D1	EP 0 147 052 A2 (ICI PLC [GB]) 3 July 1985
D2	AVDAGIC, AMIR ET AL: "Long-distance control in stereoselective reduction of 3-[3-(4'-bromo[1,1'-biphenyl]-4-yl)-3-keto-1-phenylpropyl]-4-hydroxy-2H-1-benzopyran-2-one: ...", CHIRALITY, vol. 9, no. 5/6, 1997, pages 512-522, XP002755639
D3	HUNTER, K. ET AL: "Determination of diastereoisomers of bromadiolone,..", JOURNAL OF CHROMATOGRAPHY, vol. 435, no. 1, 1988, pages 83-95, XP002755640
D4	KOEPPE ET AL: "Liquid chromatographic determination", JOURNAL OF THE ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, THE ASSOCIATION, ARLINGTON, VA, US, vol. 73, no. 3, 1 January 1990, pages 429-430, XP009186066

2 Novelty

Documents D1 to D4 describe either a racemic mixture (D1) or pairs of diastereoisomers of the bromadiolone (D2 to D4). D1 to D4 do not disclose the separation or production of a single stereoisomer (enantiomer) of the bromadiolone.

The subject matter of claims 1 to 11 is consequently considered to be novel and therefore satisfies the requirements of PCT Article 33(2).

3. Inventive step

The application relates to the production of an enantiomer of bromadiolone and the use of same for combating targeted rodent pests.

Document D1 is the closest prior art, since this prior art document also describes bromadiolone compositions and the use of same for combating targeted rodent pests.

The feature which distinguishes the subject matter of the application in relation to D1 must be seen in the stereochemical configuration of the bromadiolone; i.e. the enantiomer E3 in relation to the racemic mixture.

The application contains biological data demonstrating a surprising effect associated with this difference. According to figure 3, the enantiomer E3 is more persistent in the liver of female rats than it is in the liver of male rats. As a consequence, a rodenticidal bait according to the application makes it possible to primarily target the females in a rat population. The problem on which the application is based must therefore be seen as that of producing a bromadiolone-based composition having improved rodenticidal properties. The solution proposed is the use of the enantiomer referred to as E3 of the bromadiolone.

Starting from the technical teaching described in D1, nothing in D2 to D4 would have enabled a person skilled in the art to separate the enantiomers from the racemic mixtures of D1 and to foresee that the enantiomer referred to as E3 according to the application has improved rodenticidal properties. As a consequence, the subject matter of claims 1 to 11 is considered to involve an inventive step (PCT Article 33(3)).

Supplemental Box

Box VIII**Certain observations on the international application**

1 The expression “enantiomer E3” is an arbitrary designation, which does not have any technical meaning. The independent product claims 1 and 2 containing this expression are therefore unclear, in addition to the dependent claims thereof, claims 3 to 9.

2 The product claims in which the product is defined by the method of production thereof or parameters are admissible, according to the PCT Guidelines, Chapter 5, paragraph 5.36, only if the product cannot be defined by other means, which is not the case here, since the enantiomer E3 according to the application is indeed one of the four enantiomers of the bromadiolone selected from among the enantiomers 1R,3R; 1R,3S; 1S,3R or 1S,3S. The enantiomer “E3” can therefore be defined by the IUPAC nomenclature or by a chemical formula, for example, according to the Cahn-Ingold-Prelog rules.

Therefore, claims 1 and 2 are not admissible, in addition to dependent claims 3 to 9.