

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference ZHPCT150006	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CN2015/091280	International filing date (<i>day/month/year</i>) 30 September 2015 (30.09.2015)	Priority date (<i>day/month/year</i>) 30 June 2015 (30.06.2015)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant UNIQUE BIOTECHNOLOGY CO., LTD.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 02 January 2018 (02.01.2018)
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PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	07.04.2016
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Applicant's or agent's file reference ZHPCT150006	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/CN2015/091280	International filing date (day/month/year) 30.09.2015	Priority date (day/month/year) 30.06.2015
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International Patent Classification (IPC) or both national classification and IPC
C25B1/10 (2006.01) i, C25B9/08 (2006.01) i

Applicant
UNIQUE BIOTECHNOLOGY CO., LTD.

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 or 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/CN	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2015/091280

Box No. I **Basis of this 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 filed or furnished:
 - a. (means)
 - on paper
 - in electronic form

 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search

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 in 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. PCT/CN2015/091280
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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
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1. Statement									
Novelty (N)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-16</td> <td style="width: 10%; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">None</td> <td style="padding: 2px;">NO</td> </tr> </table>	Claims	1-16	YES	Claims	None	NO	
Claims	1-16	YES							
Claims	None	NO							
Inventive step (IS)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-16</td> <td style="width: 10%; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">None</td> <td style="padding: 2px;">NO</td> </tr> </table>	Claims	1-16	YES	Claims	None	NO	
Claims	1-16	YES							
Claims	None	NO							
Industrial applicability (IA)		<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-16</td> <td style="width: 10%; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">None</td> <td style="padding: 2px;">NO</td> </tr> </table>	Claims	1-16	YES	Claims	None	NO	
Claims	1-16	YES							
Claims	None	NO							

2. Citations and explanations:	
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[1] The following reference document is cited:

[2] D1: TW M445586 U1 (21 January 2013)

[3] Novelty

[4] D1 discloses an electrolytic tank comprising a base 10, two membrane units 20 and two fixing plates 30, wherein an anode is disposed between the two fixing plates, the fixing plates 30 are pivoted at outer sides of the membrane units 20 by means of a combination of combination elements 40A and 40B and are made of titanium alloy so as to form a cathode, a cathode chamber B is formed by the fixing plates 30 and membranes 22 of the membrane units 20, conductive members 31 are disposed on the fixing plates 30 so as to power the fixing plates 30, a closed box body 32 (equivalent to an outer wall in claim 1) is disposed at a convex outer side surface of the fixing plate 30 (equivalent to a base wall in

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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

claim 1) so as to form a cooling chamber C within the box body 32, an overflow outlet 33 and a discharge outlet 34 penetrating the box body 32 are disposed at an upper side and a lower side of the fixing plate 30 respectively, and are not in communication with the cooling chamber C, a cooling water input inlet 35 is disposed at a lower portion of a side surface of the box body 32 so as to input water from the cooling water input inlet 35 to the cooling chamber C of the box body 32, a cooling water overflow outlet 36 is disposed at an upper portion of the other side surface of the box body 32, and an air outlet hole 37 is disposed at the upper side surface of the fixing plate 30, penetrates the fixing plate 30 and is not in communication with the cooling chamber C (see D1, page 5, paragraph 4, and page 6, paragraph 2, and figures 1 to 4). D1 at least does not disclose that a cathode device comprises a plurality of support members respectively connected to a base wall and an outer wall. Therefore, independent claim 1 is novel in the sense of PCT Article 33(2). Accordingly, dependent claims 2-8 are also novel in the sense of PCT Article 33(2). By the same reasoning, a cathode device set forth by claim 9 is novel in the sense of PCT Article 33(2). Accordingly, dependent claims 10-16 are also novel in the sense of PCT Article 33(2).

[5] Inventive Step

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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

- [6] D1 is considered to be the prior art closest to independent claim 1. The differences of claim 1 over D1 are described above.
- [7] A support member is added between a base wall and an outer wall in claim 1, deformation of the outer wall is avoided, cooling security is ensured, the outer wall can bear stronger water pressure, and flow of cooling water is accelerated so as to improve cooling efficiency. The technical solution of claim 1 would be not obtained from a combination of the prior art and common general knowledge in the art, the subject matter thereof would be not obvious to a person skilled in the art. Therefore, claim 1 involves an inventive step in the sense of PCT Article 33(3). Accordingly, dependent claims 2-8 involve an inventive step in the sense of PCT Article 33(3). By the same reasoning, the cathode device set forth by claim 9 involves an inventive step in the sense of PCT Article 33(3). Accordingly, dependent claims 10-16 also involve an inventive step in the sense of PCT Article 33(3).
- [8] Industrial Applicability
- [9] Claims 1-16 are industrially applicable in the sense of PCT Article 33(4).