

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 P01-2656/WO1	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2011/067340	International filing date (<i>day/month/year</i>) 04 October 2011 (04.10.2011)	Priority date (<i>day/month/year</i>) 07 October 2010 (07.10.2010)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant BOEHRINGER INGELHEIM MICROPARTS GMBH			

<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 09 April 2013 (09.04.2013)
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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) **see form PCT/ISA/210**

Applicant's or agent's file reference
P01-2656/W01

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2011/067340

International filing date (day/month/year)
04.10.2011

Priority date (day/month/year)
07.10.2010

International Patent Classification (IPC) or both national classification and IPC
B01L3/00

Applicant
BOEHRINGER INGELHEIM MICROPARTS GMBH

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.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

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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 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 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
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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		
1.	Statement		
	Novelty (N)	Claims _____	YES
		Claims 1-19 _____	NO
	Inventive step (IS)	Claims _____	YES
		Claims 1-19 _____	NO
	Industrial applicability (IA)	Claims 1-19 _____	YES
		Claims _____	NO
2.	Citations and explanations:		
<p>The following documents (D) are cited; the same numbering will be used throughout the remainder of the procedure:</p> <p style="margin-left: 40px;">D1 US 2009/130766 A1 (WEEKAMP JOHANNES WILHELMUS [NL]) 21 May 2009 (2009-05-21)</p> <p style="margin-left: 40px;">D2 US 2009/065368 A1 (DAVIS GRAHAM [US] ET AL) 12 March 2009 (2009-03-12)</p> <p style="margin-left: 40px;">D3 US 5 096 669 A (LAUKS IMANTS R [US] ET AL) 17 March 1992 (1992-03-17)</p> <p style="margin-left: 40px;">D4 US 2002/1 19486 A1 (OBERHARDT BRUCE [US]) 29 August 2002 (2002-08-29)</p> <p>1 D1 discloses (figures 2 and 11j) a microfluidic substrate comprising flexible elements (4) mounted on the substrate, a removable cover-like component which encompasses the substrate and can be brought into a position such that said element moves a liquid by changing its shape and/or its volume, e.g. [0077]-[0089]; [0095]; [0117]-[0119]; [0123] and [0161].</p>			

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

1.1 The features of claims 1 and 15 are therefore not novel (PCT Article 33(2)).

2 D2 discloses a microfluidic platform comprising an element which is changeable in shape (actuator, [0063]) and a component (analyzer, [0063]) which can be moved relative to the platform, is connected to the platform, and can be brought into a position which causes a liquid to be moved owing to a change in shape of the element ([0063]).

2.1 The features of claims 1 and 15 are therefore not novel (PCT Article 33(2)).

3 D3 discloses a microfluidic platform comprising an element which is changeable in shape (figure 12, reference sign 102) and a component (figure 11, reader, reference sign 150) which can be moved relative to the platform, is connected to the platform, and can be brought into a position which causes a liquid to be moved owing to a change in shape of the element (figure 12).

3.1 The features of claims 1 and 15 are therefore not novel (PCT Article 33(2)).

4 D4 discloses a microfluidic platform comprising an element (LAM) which is changeable in shape and volume and is fastened to a component for connection to the platform (e.g. figures 43-61), it being possible to bring the element into a

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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
	<p>position such that a liquid in the platform is moved ([0221] and [0238]).</p> <p>4.1 The features of claims 1 and 15 are therefore not novel (PCT Article 33(2)).</p> <p>5 The features of dependent claims 2-14 and 16-19, in combination with the features of the claims to which they refer, do not appear to meet the requirements of the EPC in respect of novelty or inventive step (PCT Article 33(2) and (3)), see D1-D4 as cited in the European search report.</p>