

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 S41462WO01	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2018/004787	International filing date (<i>day/month/year</i>) 13 February 2018 (13.02.2018)	Priority date (<i>day/month/year</i>) 28 February 2017 (28.02.2017)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant SUMITOMO CHEMICAL COMPANY, LIMITED			

<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 11 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 border="0"> <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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<p align="center">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 03 September 2019 (03.09.2019)</p>
	<p>Authorized officer</p> <p align="center">Mineko Mohri</p> <p>e-mail: pct.team8@wipo.int</p>

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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)	01.05.2018
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Applicant's or agent's file reference S41462W001	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2018/004787	International filing date (day/month/year) 13.02.2018	Priority date (day/month/year) 28.02.2017
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International Patent Classification (IPC) or both national classification and IPC
G02B5/30 (2006.01) i, B32B7/02 (2006.01) i, B32B27/08 (2006.01) i, B32B27/18 (2006.01) i, B32B27/30 (2006.01) i

Applicant
SUMITOMO CHEMICAL COMPANY, LIMITED

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

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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:
 - 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:

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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)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="border-bottom: 1px solid black;">2</td> <td style="width: 10%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td style="border-bottom: 1px solid black;">1, 3-6</td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	2	YES	Claims	1, 3-6	NO	
Claims	2	YES							
Claims	1, 3-6	NO							
	Inventive step (IS)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="border-bottom: 1px solid black;"></td> <td style="width: 10%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td style="border-bottom: 1px solid black;">1-6</td> <td style="text-align: right;">NO</td> </tr> </table>	Claims		YES	Claims	1-6	NO	
Claims		YES							
Claims	1-6	NO							
	Industrial applicability (IA)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">Claims</td> <td style="border-bottom: 1px solid black;">1-6</td> <td style="width: 10%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	1-6	YES	Claims		NO	
Claims	1-6	YES							
Claims		NO							
2. Citations and explanations:									
<p>Document 1: JP 2011-221186 A (NITTO DENKO CORP.) 04 November 2011, claims 1, 7, 9, paragraphs [0027], [0077], examples</p> <p>Document 2: JP 2007-334307 A (NITTO DENKO CORP.) 27 December 2007, claim 1, paragraphs [0048], [0078], [0084], examples 1-4</p> <p>Document 3: JP 2005-049698 A (FUJI PHOTO FILM CO., LTD.) 24 February 2005, paragraphs [0027], [0083], [0119], examples, fig. 1 (B)</p> <p>Document 4: JP 2014-505274 A (LG CHEM, LTD.) 27 February 2014, examples 1-9 & US 2013/0279003 A1, examples</p> <p>Document 5: JP 2008-257199 A (SUMITOMO CHEMICAL CO., LTD.) 23 October 2008, example 23</p> <p>Document 6: JP 2016-122054 A (NITTO DENKO CORP.) 07 July 2016, paragraphs [0087], [0138], [0159], fig. 2</p> <p>Document 7: WO 2008/066157 A1 (GUNZE LIMITED) 05 June 2008, paragraphs [0081], [0082]</p> <p>Document 8: JP 2015-052765 A (NITTO DENKO CORP.) 19 March 2015, paragraph [0028]</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

Claims 1, 3-5

Claims 1 and 3-5 lack novelty and do not involve an inventive step in light of document 1 and, alternatively, do not involve an inventive step in light of documents 1 and documents 6, 7.

Document 1 describes

an adhesive polarizing plate (corresponding to the "polarizing film") including a curable resin layer (corresponding to the "first cured product layer") and a polarizer including iodine and polyvinyl alcohol resin, wherein said curable resin layer is directly formed on at least one surface of said polarizer, and an adhesive layer is formed on the outer surface of said curable resin layer (see claims 1, 7, 9, paragraph [0077], the examples, etc.). In view of the material composition, high cross-linking density, etc., of the curable resin layer (see the examples, paragraph [0027], etc.), there is a high probability that there would be little absorption with respect to the iodine and the absorbance increase rate in present invention would be at or below 30%.

The adhesive layer disclosed in document 1 is to be stuck onto the various members of a liquid crystal display device or an organic EL display device. Such devices typically have a layer, such as an electrode layer or charging prevention layer, corresponding to the "conductive layer" of the present invention. From the disclosures of paragraphs [0012], [0152], etc., of the description of the present application, the arrangement of the various layers of the present invention does not exclude the presence of other intervening layers

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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

therebetween, so long as the order thereof is satisfied. Thus, the invention disclosed in document 1 could be said to be obtained by laminating a polarizer, a curable resin layer, an adhesive layer, and a conductive layer in that order. Even if such were not the case, such an arrangement for a laminate is well known in liquid-crystal display devices and organic EL display devices (see, for example, document 6, paragraphs [0087], [0138] and [0159], fig. 2, and document 7, paragraphs [0081], and [0082], etc.). Moreover, a person skilled in the art could easily arrange a conductive layer by interposing an adhesive layer, as necessary.

The features specified in claims 3-5 do not differ from those disclosed in document 1.

Claims 1 and 3-5

Claims 1 and 3-5 do not involve an inventive step in light of document 2 and documents 6 and 7.

Document 2 describes

a polarizing plate capable of being used in various types of image display devices, such as liquid crystal display devices (LCD) or EL displays (ELD), the polarizing plate including a polarizer (corresponding to the "polarizing film") and a curable resin layer (corresponding to the "first cured product layer"), wherein said curable resin layer is directly formed on at least one surface of said polarizer (see claim 1, paragraph [0078], examples 1-4, etc.). In view of the material composition, high cross-linking density, etc. of the curable resin layer, (see the examples, paragraph [0048], etc.), there is a high probability that there would be little absorption with respect to the iodine,

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and the absorbance increase rate in the present invention would be at or below 30%.

In liquid-crystal display devices or organic EL display devices, a configuration in which a layer corresponding to the "conductive layer" of the present invention, such as an electrode layer or charging prevention layer, is laminated onto a polarizing plate with an adhesive layer interposed therebetween is well known (see, for example, document 6, paragraphs [0087], [0138] and [0159], fig. 2, and document 7, paragraphs [0081], and [0082] and so on). A person skilled in the art could easily laminate a conductive layer onto the polarizing plate disclosed in document 2 with an adhesive layer interposed therebetween, in accordance with required specifications, etc.

The features specified in claims 3-5 do not differ from those disclosed in document 2.

Claims 1, 5 and 6

Claims 1, 5, and 6 lack novelty and do not involve an inventive step in light of document 3, and, alternatively, do not involve an inventive step in light of document 3, and documents 6 and 7.

Document 3 describes

a polarizing plate that is provided with a protective film comprising cellulose triacetate on both faces of the polarizer (corresponding to the "polarizing film"), wherein a functional optical film is adhered onto the plate via an adhesive (corresponding to the "adhesive layer"), and a charging prevention layer is further provided (see paragraphs [0027], [0083] and [0119], the examples, fig. 1(B), etc.). The protective

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film is manufactured using a solution of a composition, which is not different at all from simply referring to a "cured product", and thus the protective film in question corresponds to the "first cured product layer". Moreover, given that a charging prevention layer typically has conductivity, the charging prevention layer corresponds to the "conductive layer". Even such were not the case, a person skilled in the art could easily utilize a well-known conductive layer as a charging prevention layer. Given that the protective film would be considered to be fairly thick and that typically, a cellulose triacetate film would not have strong absorption for iodine, there is a high probability that the absorbance increase rate in the present invention would be at or below 30%.

The features specified in claims 5 and 6 do not differ from those disclosed in document 3.

Claims 1 and 3-5

Claims 1 and 3-5 do not involve an inventive step in light of document 4 and document 6 and 7.

Document 4 discloses a polarizing plate wherein an adhesive layer (corresponding to the "first cured product layer") and a transparent film are laminated, in that order, on a polarizer (corresponding to the "polarizing film"), the polarizing plate being used in a liquid crystal display device (see examples 1-9 and so on). Given that, for example, the adhesive layer contains a large amount of an oxetane compound and an epoxy compound, the same would have little absorption with respect to iodine, and there is a high probability that the absorbance increase rate in the present invention would be at or below 30%.

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In liquid crystal display devices, a configuration in which a layer corresponding to the "conductive layer" of the present invention, such as an electrode layer or charging prevention layer, is laminated onto a polarizing plate with an adhesive layer interposed therebetween is well known (see, for example, document 6, paragraphs [0087], [0138] and [0159], fig. 2, and document 7, paragraphs [0081], and [0082], etc.). Thus, a person skilled in the art could easily laminate a conductive layer onto the polarizing plate disclosed in document 4 with an adhesive layer interposed therebetween, in accordance with required specifications, etc. Note that as discussed previously, another layer could be interposed between the layers in the present invention.

The features specified in claims 3-5 do not differ from those disclosed in document 4.

Claims 1 and 3-6

Claims 1 and 3-6 do not involve an inventive step in relation to document 5 and documents 6 and 7.

Document 5 describes a polarizing plate wherein an adhesive (corresponding to the "first cured product layer") and a protective film are laminated in that order on a polarizer (corresponding to the "polarizing film"), the polarizing plate being used in a liquid crystal display device (see examples 1-9, etc.). Given that, for example, the aforementioned adhesive layer contains a large amount of an oxetane compound and an epoxy compound, the same would have little absorption with respect to iodine, and there is a high probability that the absorbance increase rate in the present invention would be at or below 30%.

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In liquid crystal display devices, a configuration in which a layer corresponding to the "conductive layer" of the present invention, such as an electrode layer or charging prevention layer, is laminated onto a polarizing plate with an adhesive layer interposed therebetween is well known (see, for example, document 6, paragraphs [0087], [0138] and [0159], fig. 2, and document 7, paragraphs [0081], and [0082], etc.). Thus, a person skilled in the art could easily laminate a conductive layer onto the polarizing plate disclosed in document 5 with an adhesive layer interposed therebetween, in accordance with required specifications, etc. Note that as discussed previously, another layer could be interposed between the layers in the present invention.

The features specified in claims 3-6 do not differ from those disclosed in document 5.

Claim 2

Claim 2 does not involve inventive step in light of document 4 or 5 and documents 6 and 7.

Documents 4 and 5 are as discussed above. Given that the adhesive layer of document 4 and the adhesive of document 5 include at least 40 parts by mass of an oxetane compound having two or more oxetanyl groups, there is no difference in this respect.

Given that the adhesive layer and the conductive layer are as discussed above, in the inventions disclosed document 4 and 5, a person skilled in the art could easily laminate a conductive layer onto a polarizing plate with an adhesive layer interposed therebetween, in accordance with required specifications.

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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 6

Claim 6 does not involve an inventive step in light of document 1 and documents 3 and 8, or any of documents 1, 2 and 4 and documents 3 and 6-8.

As a protective film for a polarizing plate, using a substance having low permeability in order to prevent deterioration of the polarizer is well known (see, for example, document 3, paragraph [0027] and document 8, paragraph [0028], etc.).

A person skilled in the art could, as appropriate and as necessary, use a substance having low permeability in order to prevent deterioration of the polarizer in the inventions disclosed in any of documents 1, 2 and 4.