

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 **see form PCT/ISA/210**
(day/month/year)

Applicant's or agent's file reference 2005P1216WO		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2006/064048	International filing date (day/month/year) 10.07.2006	Priority date (day/month/year) 11.07.2005
International Patent Classification (IPC) or both national classification and IPC C08G73/00, C08G73/06, G02F1/00, G02F1/061, G02F1/15, G02F1/361, C09K9/00, C09K9/02		
Applicant SIEMENS 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 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.

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Box No. I	Basis of this opinion
1.	<p>With regard to the language, this opinion has been established on the basis of:</p> <p><input checked="" type="checkbox"/> the international application in the language in which it was filed</p> <p><input type="checkbox"/> the translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).</p>
2.	<p>With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:</p> <p>a. type of material</p> <p><input type="checkbox"/> a sequence listing</p> <p><input type="checkbox"/> table(s) related to the sequence listing</p> <p>b. format of material</p> <p><input type="checkbox"/> on paper</p> <p><input type="checkbox"/> in electronic form</p> <p>c. time of filing/furnishing</p> <p><input type="checkbox"/> contained in the international application as filed</p> <p><input type="checkbox"/> filed together with the international application in electronic form</p> <p><input type="checkbox"/> furnished subsequently to this Authority for the purposes of search</p>
3.	<p><input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto 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.</p>
4.	<p>Additional comments:</p>

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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																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 2px;">Novelty (N)</td> <td style="padding: 2px;">Claims _____</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims <u>1-6</u></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> <tr> <td style="padding: 2px;">Inventive step (IS)</td> <td style="padding: 2px;">Claims _____</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims <u>1-6</u></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> <tr> <td style="padding: 2px;">Industrial applicability (IA)</td> <td style="padding: 2px;">Claims <u>1-6</u></td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims _____</td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Novelty (N)	Claims _____	YES		Claims <u>1-6</u>	NO	Inventive step (IS)	Claims _____	YES		Claims <u>1-6</u>	NO	Industrial applicability (IA)	Claims <u>1-6</u>	YES		Claims _____	NO	
Novelty (N)	Claims _____	YES																	
	Claims <u>1-6</u>	NO																	
Inventive step (IS)	Claims _____	YES																	
	Claims <u>1-6</u>	NO																	
Industrial applicability (IA)	Claims <u>1-6</u>	YES																	
	Claims _____	NO																	
2. Citations and explanations:																			
<p>1. Reference is made to the following documents:</p> <p style="margin-left: 40px;">D1: US 2003/206326 A1 (BERNETH HORST ET AL) 6 November 2003 (2003-11-06)</p> <p style="margin-left: 40px;">D2: EP-A-1 045 275 (NIPPON MITSUBISHI OIL CORPORATION) 18 October 2000 (2000-10-18)</p> <p style="margin-left: 40px;">D3: US-A-4 898 923 (KATRITZKY ET AL) 6 February 1990 (1990-02-06)</p> <p style="margin-left: 40px;">D4: EP-A-0 319 156 (MINNESOTA MINING AND MANUFACTURING COMPANY) 7 June 1989 (1989-06-07)</p> <p style="margin-left: 40px;">D5: US-A-3 856 714 (MOORE P, US ET AL) 24 December 1974 (1974-12-24)</p> <p style="margin-left: 40px;">D6: US-A-3 641 034 (MYRON S. SIMON) 8 February 1972 (1972-02-08)</p> <p style="margin-left: 40px;">D7: LIJUN LIANG ET AL: "PREPARATION OF VIOLOGEN POLYMERS WITH CARBON CHAIN SPACERS AND THEIR APPLICATION TO THE ELECTRON-TRANSFER REACTION IN HETEROPHASES" POLYMERS FOR ADVANCED TECHNOLOGIES, WILEY & SONS, BOGNOR REGIS, GB, vol. 10, 1/2, January 1999 (1999-01), pages 60-64, XP000799437 ISSN: 1042-7147</p> <p style="margin-left: 40px;">D8: AKIRA HARADA ET AL: "COMPLEX FORMATION OF</p>																			

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CYCLODEXTRINS WITH CATIONIC POLYMERS" POLYMER
JOURNAL, SOCIETY OF POLYMER SCIENCE, TOKYO,
JP, vol. 28, 2, 15 February 1996 (1996-02-15),
pages 159-163, XP000581235 ISSN: 0032-3896

2. It would appear from the description at page 3 lines 20-22 that the following feature is essential to the definition of the invention:

It is essential that the polymer formed only possesses the improved properties when it is prepared exactly according to the method in the working examples. Of particular significance is the performance of the reaction at temperatures of 80°C-120°C, preferably 85°C (acetonitrile). This ensures that oligomers and monofunctionalized 4,4'-pyridiniopyridines are also present in the reaction product as well as polymers.

Since independent claims 1, 4-6 do not contain this feature, they do not meet the requirement of PCT Article 6 in conjunction with PCT Rule 6.3(b) that each independent claim must include all the technical features essential to the definition of the invention.

3. Claims 1, 4-6 have been drafted as separate independent claims.

It is a customary prerequisite of patent law that an application may only contain more than one independent claim in a particular category when the subject matter claimed falls within the following exceptional situations: (a) several mutually

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connected products; (b) various uses of a product or of a device; (c) alternative solutions to a particular problem when it is not appropriate to state these alternatives in a single claim. However, this is not the case in the present application. The applicant should file an amended set of claims or state convincingly why the current set of claims does satisfy these stipulations.

4. In claims 4-6, the incomplete expression "*with...*" has not been considered.
5. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-6 is not novel under PCT Article 33(2). The subject matter of claims 1-3 is disclosed in D8 (pages 158-159) because D8 explicitly mentions a polymer with polymeric 4,4'-bipyridinium structures which are separated from one another by an alkylene spacer comprising 12 carbon atoms. D1-D7 too mentions similar polymeric 4,4'-bipyridinium structures and their use in electrochromic objects.
6. The application does not contain any further information which either indicates the presence of an inventive step or clarifies to what degree the novel subject matter possibly contributes to the present state of the art. Accordingly, the subject matter of claims 1-6 is considered to be an obvious alternative to the subject matter according to documents D1-D8. The application therefore cannot be

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considered to be inventive (PCT Article 33(3)).