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(54) Title: OXIME SULFONATES AND THE USE THEREOF AS LATENT ACIDS



(57) Abstract: Compounds of the formula (I), (II) or (III), wherein R₁ is for example C₁-C₁₈alkylsulfonyl, C₁-C₁₀haloalkylsulfonyl, camphorylsulfonyl, phenyl-C₁-C₃alkylsulfonyl, phenylsulfonyl, naphthylsulfonyl, anthrylsulfonyl, phenanthrylsulfonyl or heteroarylsulfonyl, R'₁ is for example phenylenedisulfonyl, R₂ is for example CN, C₁-C₁₀haloalkyl or C₁-C₁₀haloalkyl which is substituted by (IV); Ar₁ is for example phenyl optionally substituted by a group of formula (IV); Ar'₁ is for example phenylene which optionally is substituted by a group of formula (IV); A₁, A₂ and A₃ independently of each other are for example hydrogen, halogen, CN, or C₁-C₁₈alkyl; D₂ is for example a direct bond, O, (CO)O, (CO)S, SO₂, OSO₂ or C₁-C₁₈alkylene; or A₃ and D₂ together form C₃-C₃₀cycloalkenyl; or A₂ and D₂ together with the carbon of the ethylenically unsaturated double bond to which they are attached form C₃-C₃₀cycloalkyl; D₃ and D₄ for example independently of each other are a direct bond, O, S, C₁-C₁₈alkylene or C₃-C₃₀cycloalkylene provided that at least one of the radicals R₂, Ar₁ or Ar'₁ comprises a group of the formula (IV); are suitable as photolabile acid donors and for the preparation of corresponding polymers to be employed in chemically amplified photoresists.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2007/055936

A. CLASSIFICATION OF SUBJECT MATTER

INV. G03F7/039 G03F7/027 C07C309/00 G03C1/73

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07C G03F G03C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, CHEM ABS Data, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 199 672 A1 (CIBA GEIGY AG [CH]) 29 October 1986 (1986-10-29)	1
Y	col. 7 compounds from line 42; col. 9, compounds 1,3,5,8 and 9, col. 13, first compound; col. 11 second and last compound; col. 19, last compound ;example 4	1-26
Y	EP 0 293 058 A2 (NIPPON PAINT CO LTD [JP]) 30 November 1988 (1988-11-30) page 5; claims; examples; compound VI	1-26
Y	JP 05 019477 A (FUJI PHOTO FILM CO LTD) 29 January 1993 (1993-01-29) the whole document	1-26
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Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

1 October 2007

Date of mailing of the international search report

07/03/2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2007/055936

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 519 128 A (NIPPON PAINT CO LTD [JP]) 23 December 1992 (1992-12-23) examples	1-26
Y	GB 2 348 644 A (CIBA SC HOLDING AG [CH]) 11 October 2000 (2000-10-11) cited in the application corresponds to US6261738 cited in the application the whole document	1-26
X	FANG K ET AL: "A bifunctional photoaffinity probe for ligand/receptor interaction studies [14]" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC, US, vol. 120, no. 33, 26 August 1998 (1998-08-26), pages 8543-8544, XP002339631 ISSN: 0002-7863 scheme 2, after step f, compound 8	1
X	US 4 736 055 A1 (DIETLIKER KURT [CH] ET AL) 5 April 1988 (1988-04-05) cited in the application in col 7 the compounds 3,4,6-7 and 10 in col. 9 the compounds 2-5, and in col. 11 the second compound.. columns 7,9,11	1-26

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2007/055936

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-26 (part)

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-26 (part)

The subject-matter of claims 1-26 insofar as they concern the compounds of formula I.

2. claims: 1-26 (part)

The subject-matter of claims 1-26 insofar as they concern the compounds of formula II.

3. claims: 1-26 (part)

The subject-matter of claims 1-26 insofar as they concern the compounds of formula III.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2007/055936

Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
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