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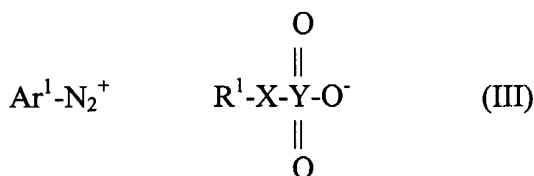
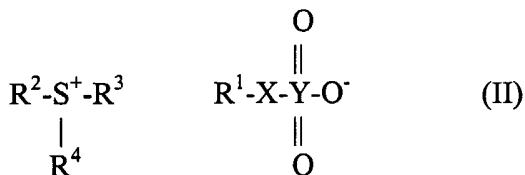
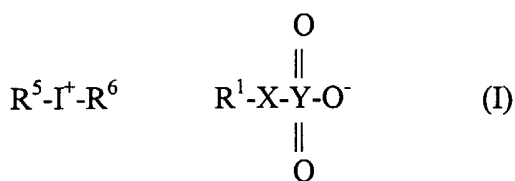
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- (21) International Application Number: PCT/US2003/016118 (81) Designated States (*national*): BR, CN, JP.
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- (71) Applicant: **KODAK POLYCHROME GRAPHICS LLC** [US/US]; 401 Merritt 7, Norwalk, CT 06851 (US). (88) Date of publication of the international search report: 7 October 2004
- (72) Inventors: **TAO, Ting**; 7308 Avondale Road, Fort Collins, CO 80525 (US). **HUANG, Jianbing**; 1057 Daniels Farm Road, Trumbull, CT 06611 (US). For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ACID GENERATING AGENTS AND THEIR USE IN PROCESSES FOR IMAGING RADIATION-SENSITIVE ELEMENTS



(57) Abstract: An acid generating agent useful for imaging photo-sensitive elements, the acid generating agent having formula (I), (II) or (III) wherein: R¹ an unsubstituted or substituted hydrocarbon or aryl group, X is oxygen, sulfur or selenium; Y is sulfur, selenium or tellurium; Ar¹ is an unsubstituted or substituted aryl group; R², R³ and R⁴ are each independently an unsubstituted or substituted hydrocarbon or aryl group, or any two of R², R³ and R⁴ are bonded together to form a ring structure; and R⁵ and R⁶ are each independently selected an unsubstituted or substituted hydrocarbon or aryl group, or R⁵ and R⁶ are bonded to each other to form a ring structure.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/16118

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G03F7/004 C08F2/50

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)

IPC 7 G03F B41C

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, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 164 127 A (TOYO GOSEI KOGYO CO., LTD.) 19 December 2001 (2001-12-19)	1,2,4
Y	page 4, formulae 16 and 17 page 5, formulae 18 and 19 page 17; example 16 page 20, paragraph 138 -----	7-10
X	DATABASE WPI Section Ch. Week 199411 Derwent Publications Ltd., London, GB; Class A60, AN 1994-089340 XP002280763 & JP 06 041215 A (NIPPON KAYAKU KK) 15 February 1994 (1994-02-15) abstract -/--	1,2

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in 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

18 May 2004

Date of mailing of the international search report

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Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/16118

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	& JP 06 041215 A (NIPPON KAGAKU KK) 15 February 1994 (1994-02-15) page 5, column 8, paragraph 15 - paragraph 16	
Y	----- US 5 919 601 A (M.T. NGUYEN ET AL.) 6 July 1999 (1999-07-06) cited in the application claims 1-7	7-10
A	----- US 6 291 129 B1 (N. SHIDA ET AL.) 18 September 2001 (2001-09-18) column 26, line 58 - line 67 column 27, line 1 - line 16 -----	1,2,4, 7-10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/16118

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 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 fee, this Authority did not invite payment of any additional fee.
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.:

see annex

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ 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 (part), 2, 4, 7(part)-10(part)

an acid generating agent having formula (I) or (II) wherein X is oxygen and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

2. claims: 1 (part), 2, 4, 5, 6(part), 7(part)-10(part)

an acid generating agent having formula (III) wherein X is oxygen and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

3. claims: 1 (part), 3, 7(part)-10(part)

an acid generating agent having formula (I) wherein X is sulfur and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

4. claims: 1 (part), 3, 7(part)-10(part)

an acid generating agent having formula (II) wherein X is sulfur and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

5. claims: 1 (part), 3, 5, 6(part), 7(part)-10(part)

an acid generating agent having formula (III) wherein X is sulfur and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

6. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is selenium and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

7. claims: 1 (part), 7(part)-10(part)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

an acid generating agent having formula (II) wherein X is selenium and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

8. claims: 1 (part), 5, 7(part)-10(part)

an acid generating agent having formula (III) wherein X is selenium and Y is sulfur / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

9. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is oxygen and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

10. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (II) wherein X is oxygen and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

11. claims: 1 (part), 5, 7(part)-10(part)

an acid generating agent having formula (III) wherein X is oxygen and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

12. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is sulfur and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

13. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (II) wherein X is sulfur and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

14. claims: 1(part), 5, 7(part)-10(part)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

an acid generating agent having formula (III) wherein X is sulfur and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

15. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is selenium and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

16. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (II) wherein X is selenium and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

17. claims: 1 (part), 5, 7(part)-10(part)

an acid generating agent having formula (III) wherein X is selenium and Y is selenium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

18. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is oxygen and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

19. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (II) wherein X is oxygen and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

20. claims: 1 (part), 5, 7(part)-10(part)

an acid generating agent having formula (III) wherein X is oxygen and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

21. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is sulfur and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

22. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (II) wherein X is sulfur and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

23. claims: 1 (part), 5, 7(part)-10(part)

an acid generating agent having formula (III) wherein X is sulfur and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

24. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (I) wherein X is selenium and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

25. claims: 1 (part), 7(part)-10(part)

an acid generating agent having formula (II) wherein X is selenium and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

26. claims: 1 (part), 5, 7(part)-10(part)

an acid generating agent having formula (III) wherein X is selenium and Y is tellurium / a radiation-sensitive composition / a radiation-sensitive imaging element / a process of imaging a radiation-sensitive element

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/16118

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			US 6620957 B1	16-09-2003
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