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(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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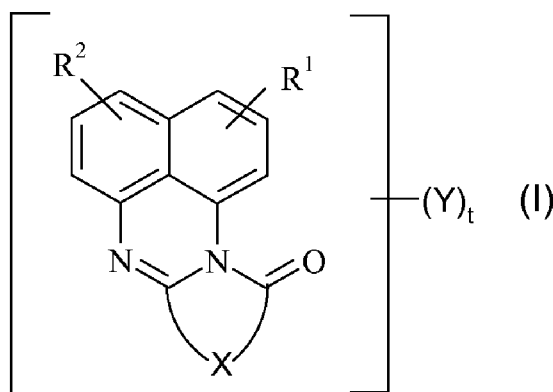
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- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) **Date of publication of the international search report:**

17 February 2011

(54) **Title:** DYES FOR POLYMER COLORATION, THEIR PREPARATION AND THEIR USE



(57) **Abstract:** The present invention relates to a dye of formula (I) where R^1 , R^2 , X, Y and t are each as defined in claim 1, to its preparation and to its use.

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2010/054953

A. CLASSIFICATION OF SUBJECT MATTER

INV. C09B57/12 C08K5/00 D06P3/79 C08K5/3465

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)

C08K C09B D06P

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, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 909 442 A (TUCKER ROBERT JEROME ET AL) 30 September 1975 (1975-09-30) cited in the application column 1, lines 34-37 column 2, lines 34-48 claims 1,2	1-3,9-11
X	US 2007/151046 A1 (SPECKBACHER MARKUS [DE] ET AL) 5 July 2007 (2007-07-05) compound of formula (V) paragraph [0015] claim 1	1-3,9
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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.

G document member of the same patent family

Date of the actual completion of the international search

26 October 2010

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Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2010/054953

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 024 144 A (GROLL MANFRED ET AL) 17 May 1977 (1977-05-17) compound of formula (IV) column 1, lines 27-51 column 7, line 33 - column 8, line 7 examples 9-11; table 3; compounds 1-13 claims 1-10 -----	1, 2, 4, 5, 9-11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2010/054953

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.:

3-5(completely); 1, 2, 9-11(partially)

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: 3-5(completely); 1, 2, 9-11(partially)

perinone derivatives of Markush formula (I) when X represents a naphthyl rest of formula (II) (also known as naphthaloperinones, X forms a 6-ring with the main skeleton leading to derivatives of formulae (Ia)-(Ic)); their preparation and their use for coloring of polymers;

2. claims: 6-8(completely); 1, 2, 9-11(partially)

alternative perinone derivatives of Markush formula (I) allegedly solved by those dyes where X represents a phenyl rest of formula (III) ((also known as phthaloperinones, X forms a 5-ring with the main skeleton leading to derivatives of formulae (Id)-(If)); their preparation and their use for coloring of polymers.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2010/054953

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