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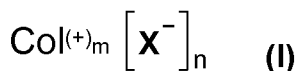
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(54) Title: CATIONIC DYE BEARING AN ANIONIC ORGANIC COUNTERION, DYE COMPOSITION COMPRISING THEM AND PROCESS FOR DYEING KERATIN FIBRES USING THESE DYES



(57) Abstract: The invention relates to the dyeing of human keratin fibres, especially the hair, using cationic direct dyes bearing a particular sulf(on)ate, carboxylate, or phosph(on)ate counterion of formula (I) in which formula (I) Col⁽⁺⁾_m, X⁻, m and n are as defined in the description. The invention relates to a dye composition comprising a cationic dye of formula (I), and to a process for dyeing keratin fibres such as the hair, using the said composition. Similarly, the invention relates to novel cationic compounds of formula (I) and to the uses thereof for dyeing keratin fibres. This composition makes it possible to obtain chromatic, powerful and particularly fast coloration on keratin fibres and particularly lightening coloration via an optical effect on dark hair.



WO 2013/174987 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2013/060769

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.:

1-3, 5-17(all partially)

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.:

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2013/060769

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K8/49 A61Q5/06 A61K8/36
ADD.
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)
A61K A61Q
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 practicable, search terms used)
EPO-Internal, 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	WO 03/076518 A2 (CIBA SC HOLDING AG [CH]; MOECKLI PETER [CH]) 18 September 2003 (2003-09-18)	1-3,5-17
Y	page 2, paragraph 2 - page 4, paragraph 1; claims; examples page 8, paragraph 3 page 12, paragraph 1-3 page 65, last paragraph	1-3,5-17
X	FR 2 888 746 A1 (OREAL [FR]) 26 January 2007 (2007-01-26) cited in the application	1-3, 5-10, 13-17
Y	claims; examples	1-3,5-17
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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 application or patent 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 14 November 2014	Date of mailing of the international search report 21/11/2014
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Pregetter, Magdalena

INTERNATIONAL SEARCH REPORT

 International application No
 PCT/EP2013/060769

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FR 2 822 698 A1 (OREAL [FR]) 4 October 2002 (2002-10-04) cited in the application page 14, lines 1-7; claims; examples page 2, lines 19-29 -----	1-3,5-17
Y	EP 1 149 575 A1 (OREAL [FR]) 31 October 2001 (2001-10-31) paragraphs [0024] - [0027]; claims; examples -----	1-3, 5-10, 12-16
Y	US 5 635 461 A (ONITSUKA SATOSHI [DE] ET AL) 3 June 1997 (1997-06-03) claims; examples -----	1-3, 5-10, 12-16
Y	US 2004/244126 A1 (VENA LOU ANN CHRISTINE [US] ET AL) 9 December 2004 (2004-12-09) claims; example 3 -----	1-3, 5-10, 12-16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2013/060769

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 03076518	A2	18-09-2003	AT 366287 T 15-07-2007
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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-3, 5-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) is represents a monoanionic counterion of the type: carboxylate i) Ra-Co2-.

2. claims: 1-3, 5-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) r represents a colorant according to formula (II) or (II') and X(-) is represents a monoanionic counterion of the type: ii) .

3. claims: 1-3, 5-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) is represents a monoanionic counterion of the type: iii).

4. claims: 1-3, 6-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) represents a monoanionic counterion of the type: iv).

5. claims: 1, 2, 6-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) represents a monoanionic counterion of the

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

type: v).

6. claims: 1, 2, 6-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) represents a monoanionic counterion of the type: vi).

7. claims: 1, 2, 6-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) represents a monoanionic counterion of the type: vii).

8. claims: 1, 2, 4, 6-17(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (II) or (II') and X(-) represents a monoanionic counterion of the type: viii).

9. claims: 1-3, 5-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the type: carboxylate i) Ra-CO2-.

10. claims: 1-3, 5-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

type ii).

11. claims: 1-3, 5-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the type iii).

12. claims: 1-3, 6-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the type iv).

13. claims: 1, 2, 6-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the type v).

14. claims: 1, 2, 6-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the type vi).

15. claims: 1, 2, 6-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

type vii).

16. claims: 1, 2, 4, 6-10, 12-16(all partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant according to formula (III) and X(-) represents a monoanionic counterion of the type viii).

17. claims: 1-17(partially)

Process for treating keratin fibres, for dyeing and lightening dark keratin fibres, compound, composition and uses for dyeing or for optically lightening (dark) keratin fibres by the use of a "cationic dye" of formula (I) in which Col(+) represents a colorant other than formula (II),(II') or (III) and X(-) any counter ion.
