

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 February 2002 (14.02.2002)

PCT

(10) International Publication Number
WO 02/012131 A3

(51) International Patent Classification⁷: **C02F 1/68**,
A61K 7/00, C02F 1/00

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(21) International Application Number: PCT/US01/24546

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(22) International Filing Date: 1 August 2001 (01.08.2001)

(81) Designated States (*national*): AU, CA, JP.

(25) Filing Language: English

(84) Designated States (*regional*): European patent (AT, BE,
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE, TR).

(26) Publication Language: English

(30) Priority Data:
09/632,059 3 August 2000 (03.08.2000) US

Published:
— with international search report

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(88) Date of publication of the international search report:
30 October 2003

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*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: ANTIOXIDANTS IN CLUSTERS OF STRUCTURED WATER

(57) Abstract: The invention relates to structured water and its antioxidant activity. In addition, the present invention to antioxidants incorporated within the cluster structure of either electropositive (S water) or electronegative (I water). The structured water, having the antioxidant within the cluster structure, has a stabilizing effect on the antioxidant. In addition, the antioxidant activity inherent to structured water is enhanced by the presence of the antioxidant within its cluster structure. The present invention also includes methods of removing or reducing free radicals on the skin and thereby preventing the signs of skin aging and the risks of cancer associated with the presence of free radicals in the skin.



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INTERNATIONAL SEARCH REPORT

PCT/US 01/24546

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C02F1/68 A61K7/00 C02F1/00

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 C02F A61K

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)

EP0-Internal, PAJ, WPI Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 736 027 A (NAKAMURA TADAMASA) 7 April 1998 (1998-04-07) the whole document ---	1-5
E	EP 1 162 176 A (MIKUNI KOGYO KK ; HANAOKA KOHKICHI (JP)) 12 December 2001 (2001-12-12) the whole document ---	1-5
A	GB 2 335 142 A (COLOR ACCESS INC) 15 September 1999 (1999-09-15) cited in the application the whole document ---	1
A	US 5 846 397 A (IONITA-MANZATU VASILE ET AL) 8 December 1998 (1998-12-08) cited in the application the whole document ---	1
-/-		

☒ 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

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"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.

"Z" document member of the same patent family

Date of the actual completion of the international search

14 February 2002

Date of mailing of the international search report

02. 07. 2002

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 826 636 A (NIHON TRIM CO LIMITED) 4 March 1998 (1998-03-04) the whole document	1
A	--- SHIRAHATA S ET AL: "ELECTROLYZED-REDUCED WATER SCAVENGES ACTIVE OXYGEN SPECIES AND PROTECTS DNA FROM OXIDATIVE DAMAGE" BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, ACADEMIC PRESS INC. ORLANDO, FL, US, vol. 234, no. 1, 1997, pages 269-274, XP000978700 ISSN: 0006-291X the whole document -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/24546

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.:

1-5

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: 1-5

STRUCTURED WATER WITH AN ANTIOXIDANT

2. Claims: 6-9

COSMETIC OR PHARMACEUTICAL COMPOSITION CONTAINING STRUCTURED WATER

3. Claims: 10-13

COSMETIC OR PHARMACEUTICAL COMPOSITION CONTAINING STRUCTURED WATER AND A WATER SOLUBLE ANTIOXIDANT

4. Claim : 14

STABILIZING AN ANTIOXIDANT WITH STRUCTURED WATER

5. Claims: 15-16

REMOVING OXYGEN FREE RADICALS WITH STRUCTURED WATER

6. Claims: 17-18

REDUCING THE RISK OF CANCER WITH STRUCTURED WATER

7. Claims: 19-20

PREVENTING OR REDUCING FREE RADICAL FORMATION WITH STRUCTURED WATER

INTERNATIONAL SEARCH REPORT

PCT/US 01/24546

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