UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON

CONFIRMATION NO. 1577

72960
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

PUBLICATION NOTICE

OC00000075807102

Title:BIOEFFECTIVE KRILL OIL COMPOSITIONS

Publication No.US-2015-0164963-A1
Publication Date:06/18/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	07/07/2015	9072752	AKBM-14409/US-11/CON	1577

72960 7590 06/17/2015

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Inge Bruheim, Volda, NORWAY;
AKER BIOMARINE ANTARCTIC AS, Stamsund, NORWAY;
Snorre Tilseth, Bergen, NORWAY;
Daniele Mancinelli, Orsta, NORWAY;

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1636
Examiner Name	
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4119619		1978-10-10	ROGOZHIN SERGEI VASILIEVICH et al.	
	2	5434183		1995-07-18	LARSSON-BACKSTROM	
Change(s) applied to document, /K.S.S./ 6/1/2015	3	6537787		2003-03-25	Breton ~~GILDAS~~	
	4	6800299		2004-10-05	BEAUDOIN & MARTIN	
	5	5266564		1993-11-30	MODELELL et al	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030044495		2003-03-06	KAGAN and BRAUN	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON	1577

72960 7590 06/03/2015

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

EXAMINER	
WARE, DEBORAH K	

ART UNIT	PAPER NUMBER
1651	

NOTIFICATION DATE	DELIVERY MODE
06/03/2015	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@casimirjones.com
pto.correspondence@casimirjones.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 14620784
Applicant : Bruheim
Filing Date : 02/12/2015
Date Mailed : 06/03/2015

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The informalities requiring correction are indicated in the attachment(s). If the informality pertains to the abstract, specification (including claims) or drawings, the informality must be corrected with an amendment in compliance with 37 CFR 1.121 (or, if the application is a reissue application, 37 CFR 1.173). Such an amendment may be filed after payment of the issue fee if limited to correction of informalities noted herein. See Waiver of 37 CFR 1.312 for Documents Required by the Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004). In addition, if the informality is not corrected until after payment of the issue fee, for purposes of 35 U.S.C. 154(b)(1)(iv), "all outstanding requirements" will be considered to have been satisfied when the informality has been corrected. A failure to respond within the above-identified time period will result in the application being ABANDONED.

See attachment(s).

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Kam Sin/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 14620784 **Drawings filed: 02/12/2015**

IDENTIFICATION OF DRAWING DEFICIENCIES

- [ ] There is a hole or the image thereof within the illustration. FIG(s)
- [ ] The illustration is penetrated or traversed by a solid or broken line that is not intended to be part of the drawing, such as a dark line caused by a flaw in the copying process. FIG(s)
- [ ] An ink stamp or the image thereof obscures part of the illustration. FIG(s)
- [ ] The drawing is marred by black smudges, obliterations, or fax/copier marks (for example, speckles or dots in a substantial portion of the drawing). FIG(s)
- [ ] Figure numbers are duplicated or missing. FIG(s)
- [ ] Drawing sheet or figure is missing. FIG(s)
- [ ] Numbers, letters, or reference characters in the drawing have been crossed out or are illegibly handwritten. FIG(s)
- [ ] The character of the lines, numbers, and letters is poor. FIG(s)
- [ ] The drawing's background shows that the original drawing was made on graph paper or other paper with a pattern or decoration. FIG(s)
- [ ] The FIG. number label is placed in a location that causes the drawing to be read upside down. FIG(s)
- [X] Data, a reference number, or part of the drawing is truncated or missing, or a lead line has no reference number. FIG(s) 1
- [ ] The drawing and/or the FIG. label contain(s) foreign language. FIG(s)
- [ ] This utility application contains a photograph of a view that is capable of being illustrated as a line drawing. FIG(s)
- [ ] A petition under 37 CFR 1.84(a)(2) to accept color drawings has been granted, but the brief description of the drawings in the specification does not contain (or has not been amended to contain) the paragraph required by 37 CFR 1.84(a)(2)(iii).
- [ ] This reissue application contains added and/or amended drawings that are not labeled as “New” or “Amended” or “Canceled” as required by 37 CFR 1.173(b)(3). FIG(s)
- [ ] This Design reissue application contains a drawing that is labeled as “Canceled” but is not surrounded by brackets, or a drawing that is surrounded by brackets but is not labeled as “Canceled.” See 37 CFR 1.173(b)(3). FIG(s)
- [ ] OTHER:
- [ ] COMMENTS:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Aker BioMarine Antarctic AS	Conf. No.:	1577
Serial No.:	14/620,784	Group No.:	1651
Filing Date:	12-Feb-2015	Examiner:	WARE
Entitled:	**BIOEFFECTIVE KRILL OIL COMPOSITIONS**		

RESPONSE TO THE NOTICE TO FILE CORRECTED APPLICATION PAPERS MAILED JUNE 3, 2015

EFS Web Filed
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In response to the Notice to File Corrected Application Papers mailed June 3, 2015, Applicant submits the following:

Amendments to the Drawings begin on page **2** of this paper.

Remarks begin on page **3** of this paper.

AMENDMENTS TO THE DRAWINGS

Please replace FIG. 1 (1 page) as originally filed in this application with Replacement FIG. 1 (1 page) attached hereto.

REMARKS

Replacement FIG. 1 is identical to FIG. 1 as filed and addresses the rejection raised in the Notice to File Corrected Application Papers as mailed on June 3, 2015. No new matter has been added to the figures.

No fees are believed to be due in connection with this filing. Nevertheless, if the Director finds any additional fees to be due in connection with this, or any other filing, authorization is given to charge said fees to Deposit Account No. 50-4302, referencing attorney docket number AKBM-14409/US-11/CON.

Respectfully,

Dated: June 3, 2015

/ J. Mitchell Jones /

J. Mitchell Jones
Registration No. 44,174
CASIMIR JONES, S.C.
2275 Deming Way Suite 310
Middleton, WI 53562
608 662 1277

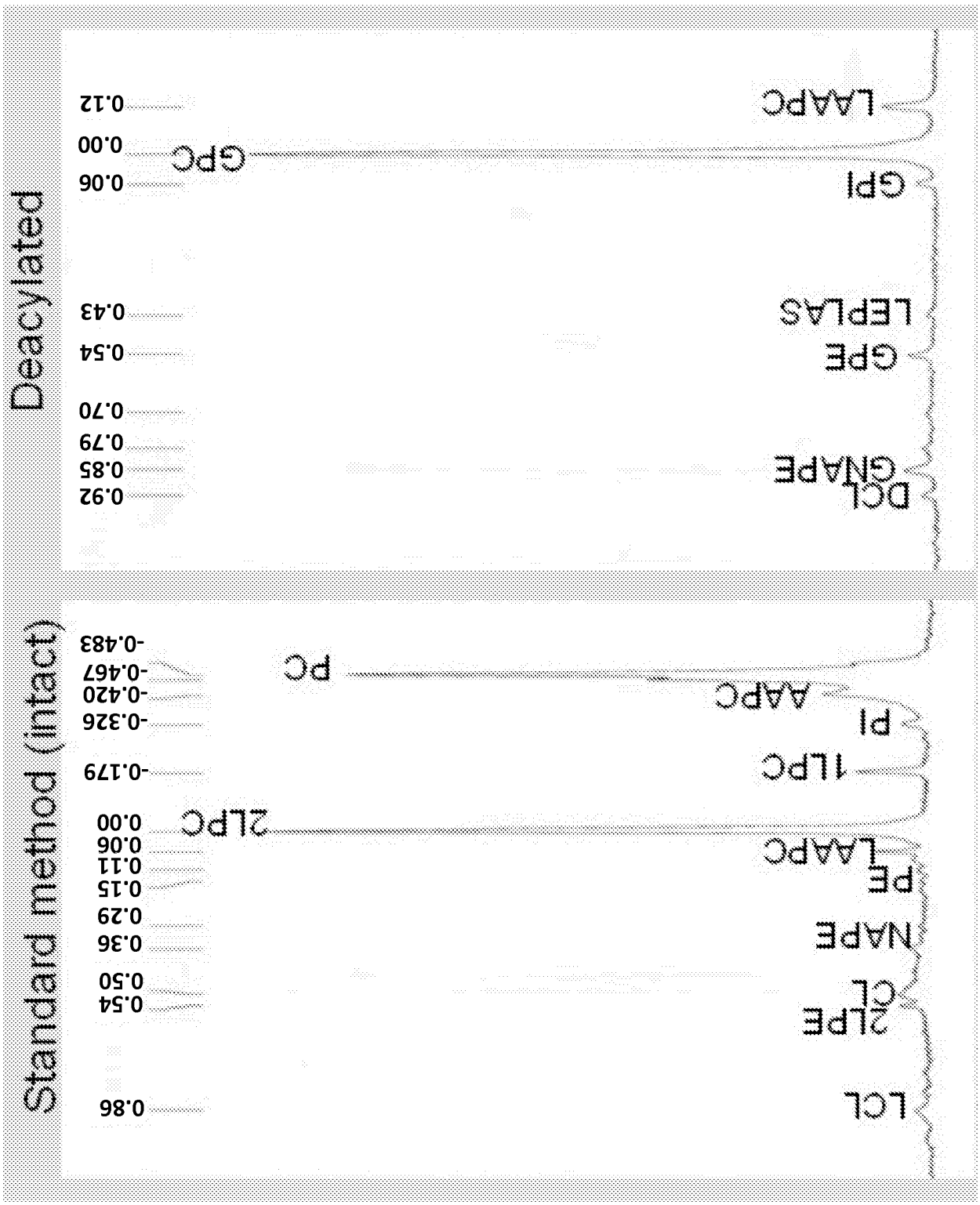


Fig. 1

Electronic Acknowledgement Receipt

EFS ID:	22525320
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	03-JUN-2015
Filing Date:	12-FEB-2015
Time Stamp:	16:02:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		14409US11CON_RespCorrectAppPapers.pdf	93173 afd68bf885c81b6528e0c201e751e0e2c473b260	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment after Notice of Allowance (Rule 312)	1	1
	Applicant Arguments/Remarks Made in an Amendment	2	3

Warnings:					
Information:					
2	Drawings-other than black and white line drawings	14409US11CON_ReplacementFig1.pdf	654203 8aaddd07aa6b2261d99cc13699a748e7e2549a40	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	747376		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 14620784 Document Date: 06/03/2015

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: August 26, 2013

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

72960 7590 05/27/2015
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON	1577

TITLE OF INVENTION: BIOEFFECTIVE KRILL OIL COMPOSITIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	08/27/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
WARE, DEBORAH K	1651	424-520000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Casimir Jones S.C.
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: AKER BIOMARINE ANTARCTIC AS

(B) RESIDENCE: (CITY and STATE OR COUNTRY): STAMSUND, NORWAY

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 504302 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
  NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
  NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ☐ Applicant changing to regular undiscounted fee status.
  NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /J. Mitchell Jones/ Date May 28, 2015

Typed or printed name J. Mitchell Jones Registration No. 44174

Electronic Patent Application Fee Transmittal

Application Number:	14620784
Filing Date:	12-Feb-2015
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Filer:	John Mitchell Jones/Mallory Checkett
Attorney Docket Number:	AKBM-14409/US-11/CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**960**

Electronic Acknowledgement Receipt

EFS ID:	22474419
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	28-MAY-2015
Filing Date:	12-FEB-2015
Time Stamp:	16:28:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$960
RAM confirmation Number	3109
Deposit Account	504302
Authorized User	JONES, J. MITCHELL

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	14409US11CON_IssueFeeTransmittal.pdf	98142 72d561ec5298a4976ef5bb1c3e8df153d96d36b0	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30627 d302af4285f428c75693cb5c98fbba8f378958e3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	128769		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

72960 7590 05/27/2015

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

EXAMINER
WARE, DEBORAH K

ART UNIT	PAPER NUMBER
1651	

DATE MAILED: 05/27/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON	1577

TITLE OF INVENTION: BIOEFFECTIVE KRILL OIL COMPOSITIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	08/27/2015

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

72960 7590 05/27/2015
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON	1577

TITLE OF INVENTION: BIOEFFECTIVE KRILL OIL COMPOSITIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	08/27/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
WARE, DEBORAH K	1651	424-520000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON	1577

72960 7590 05/27/2015

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

EXAMINER	
WARE, DEBORAH K	

ART UNIT	PAPER NUMBER
1651	

DATE MAILED: 05/27/2015

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	14/620,784	BRUHEIM ET AL.	
	Examiner	Art Unit	
	DEBBIE K. WARE	1651	

All participants (applicant, applicant's representative, PTO personnel):

(1) *DEBBIE K. WARE*. (3)_____.

(2) *JOHN MITCHELL JONES*. (4)_____.

Date of Interview: *22 April 2015*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☒112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *ALL PENDING CLAIMS*.

Identification of prior art discussed: *CLAIMS RENDERED FREE OF PRIOR ART WITH EXCEPTION OF ODP ISSUES*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

DISCUSSED CHANGES TO THE CLAIMS TO OVERCOME THE 35 USC 112, SECOND PARAGRAPH REJECTION. FURTHERMORE, ODP ISSUES WERE DISCUSSED IN THE CASE. APPLICANTS WILL RESPOND TO THE LAST OFFICE ACTION IN THIS CASE, DATED APRIL 8, 2015, AT WHICH TIME THE EXAMINER WILL RECONSIDER THE CLAIMS ON THE MERITS.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/DEBBIE K. WARE/ Primary Examiner, Art Unit 1651	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Notice of Allowability	Application No. 14/620,784	Applicant(s) BRUHEIM ET AL.	
	Examiner DEBBIE K. WARE	Art Unit 1651	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *04/22/2015*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1-20*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☒ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DEBBIE K. WARE/
Primary Examiner, Art Unit 1651

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with John Mitchell Jones on May 4, 2015.

The application has been amended as follows:

In the Claim(s)

Claim 14, line 2, after "ether phospholipids w/w" inserted --of said krill oil--.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE K. WARE whose telephone number is (571)272-0924. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taeyoon Kim can be reached on 571-272-9041. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah K. Ware/
Deborah K. Ware
Primary Examiner
Art Unit 1651

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	14/620,784	BRUHEIM ET AL.	
	Examiner	Art Unit	
	DEBBIE K. WARE	1651	

All participants (applicant, applicant's representative, PTO personnel):

(1) *DEBBIE K. WARE*. (3)_____.

(2) *JOHN MITCHELL JONES*. (4)_____.

Date of Interview: *04 May 2015*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *ALL PENDING CLAIMS*.

Identification of prior art discussed: *CLAIMS RENDERED FREE OF THE PRIOR ART* .

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

APPLICANTS' REPRESENTATIVE AUTHORIZED CHANGES BY EXAMINER AMENDMENT TO PLACE CASE INTO CONDITION FOR ALLOWANCE.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	14/620,784	BRUHEIM ET AL.	
	Examiner	Art Unit	
	DEBBIE K. WARE	1651	

All participants (applicant, applicant's representative, PTO personnel):

(1) *DEBBIE K. WARE*. (3)_____.

(2) *JOHN MITCHELL JONES*. (4)_____.

Date of Interview: *22 April 2015*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☒112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *ALL PENDING CLAIMS*.

Identification of prior art discussed: *CLAIMS RENDERED FREE OF PRIOR ART WITH EXCEPTION OF ODP ISSUES*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

DISCUSSED CHANGES TO THE CLAIMS TO OVERCOME THE 35 USC 112, SECOND PARAGRAPH REJECTION. FURTHERMORE, ODP ISSUES WERE DISCUSSED IN THE CASE. APPLICANTS WILL RESPOND TO THE LAST OFFICE ACTION IN THIS CASE, DATED APRIL 8, 2015, AT WHICH TIME THE EXAMINER WILL RECONSIDER THE CLAIMS ON THE MERITS.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/DEBBIE K. WARE/ Primary Examiner, Art Unit 1651	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

```
Connecting via Winsock to STN at pto-stn on port 23



Welcome to STN International!  Enter x:X

LOGINID:ssspt189dxw

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1  JAN 29  Instructor-led and on-demand STN training options available
                  from CAS
 NEWS  2  MAY 27  Get the Latest Version of STN Express, Version 8.5.2.1,
                  Available May 2014
 NEWS  3  JAN 09  Updated Enzyme Nomenclature Improves Access to Biological
                  Information in CAS REGISTRY
 NEWS  4  JAN 09  DEFULL - German (Deutschland, DE) Patents Full-text Database
                  New on STN
 NEWS  5  JAN 27  STN on the Web Now Compatible with Microsoft Windows 8.1 and
                  current Versions of Internet Explorer and Google Chrome
 NEWS  6  JAN 27  Annual MEDLINE Reload on STN Introduces New Searching
                  Capabilities and the Updated 2014 MeSH Thesaurus
 NEWS  7  FEB 03  DWPI: Latest Manual Code Revision goes live
 NEWS  8  FEB 03  DWPI: New coverage of Singapore PCT-transfers and grants
 NEWS  9  FEB 24  INFULL and DEFULL databases Now Available via STN Viewer
 NEWS 10  MAR 28  New STN Platform Enhancements Available, Increase Efficiency
                  of Search Workflow.
 NEWS 11  APR 25  New Format Adopted for Taiwanese Granted Patent Numbers
                  in CAS Databases and INPADOC.
 NEWS 12  MAY 2   New STN Global Value Pricing Empowers You to Maximize the
                  Value of STN
 NEWS 13  MAY 9   STN AnaVist, Version 2.1, Improves Operating System
                  Compatibility and Performance
 NEWS 14  MAY 19  Availability of Digital Object Identifiers (DOIs) Enhanced in
                  STN Databases
 NEWS 15  MAY 20  New Cluster NPS available for all Databases with the Numeric
                  Property Search feature
 NEWS 16  MAY 29  CAS REGISTRY BLAST Upgrade Improves Search Capabilities and
                  Results Ranking
 NEWS 17  JUN 10  MEDLINE on STN Now Updated Daily
 NEWS 18  JUL 1   CHEMCATS (Chemical Catalogs Online) on STN Enhanced with New
                  Search and Display Fields and More Frequent Updates
 NEWS 19  JUL 24  Batch search results for DGENE, USGENE and PCTGEN now
                  available for 30 days
 NEWS 20  JUL 28  Latest release of new STN now available, expands global
                  patent coverage and enhances search capabilities
 NEWS 21  SEP 4   KRFULL: New Full-text Database for Korean Patent
                  Publications Now Available on new STN
 NEWS 22  OCT 1   Cooperative Patent Classification (CPC) Combination Set Data
                  Now Available in CAplus, INPADOCDB and USPAT Databases
 NEWS 23  OCT 23  CPC Thesaurus based on official CPC Scheme
 NEWS 24  DEC 22  2015 MeSH Thesaurus Installed in MEDLINE with a Special
                  Message for Customers Doing Pharmacovigilance Research
 NEWS 25  DEC 24  CAS Expands Coverage of Reactions from Dissertations in
                  CASREACT
 NEWS 26  DEC 24  Additional Experimental Spectra Now Available in CAS REGISTRY
```

```
                  in STN
 NEWS 27  JAN 8   Latest Version of Emtree Introduces 937 New Terms
 NEWS 28  JAN 9   Derwent World Patents Index: Latest Manual Code Revision
                  Goes Live
 NEWS 29  JAN 26  Revision of DWPI Fragmentation Codes for 2015
 NEWS 30  JAN 26  Annual MEDLINE Reload on STN Features Enhanced Clinical Trial
                  Information and the 2015 MeSH Thesaurus
 NEWS 31  MAR 23  Enhanced Coverage of Latin America (AR, MX) in Derwent World
                  Patent Index

 NEWS EXPRESS 27 MAY 2014 CURRENT WINDOWS VERSION IS V8.5.2.1,
              AND CURRENT DISCOVER FILE IS DATED 26 JANUARY 2015.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
 NEWS TRAINING Find instructor-led and self-directed training opportunities

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN customer
  agreement.  This agreement limits use to scientific research.  Use
  for software development or design, implementation of commercial
  gateways, or use of CAS and STN data in the building of commercial
  products is prohibited and may result in loss of user privileges
  and other penalties.

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:48:37 ON 06 APR 2015

=> index bioscience
FILE 'WPIDS' ACCESS NOT AUTHORIZED
FILE 'WPINDEX' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.25       0.25

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHABS,
       BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB, CROPU, DDFB,
       DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE, ESBIOBASE, FOMAD,
       FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 11:49:01 ON 06 APR 2015

46 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s phospholipid and phosphatidycholine and krill(p)oil and ether(p)phospholipid?
          0*  FILE ADISNEWS
          0*  FILE BIOTECHABS
          0*  FILE BIOTECHDS
          0*  FILE BIOTECHNO
          0*  FILE CEABA-VTB
          0*  FILE CIN
          0*  FILE FOMAD
          0*  FILE FROSTI
          0*  FILE KOSMET
          0*  FILE NTIS
          0*  FILE PASCAL
  34 FILES SEARCHED...
```

```
   0 FILES HAVE ONE OR MORE ANSWERS,   46 FILES SEARCHED IN STNINDEX

L1   QUE PHOSPHOLIPID AND PHOSPHATIDYCHOLINE AND KRILL(P) OIL AND ETHER(P) PHOS
       PHOLIPID?

=> d hist

     (FILE 'HOME' ENTERED AT 11:48:37 ON 06 APR 2015)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS,
     BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB,
     CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE,
     ESBIOBASE, FOMAD, FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 11:49:01
     ON 06 APR 2015
               SEA PHOSPHOLIPID AND PHOSPHATIDYCHOLINE AND KRILL(P)OIL AND ETH
               ---------
               0*  FILE ADISNEWS
               0*  FILE BIOTECHABS
               0*  FILE BIOTECHDS
               0*  FILE BIOTECHNO
               0*  FILE CEABA-VTB
               0*  FILE CIN
               0*  FILE FOMAD
               0*  FILE FROSTI
               0*  FILE KOSMET
               0*  FILE NTIS
               0*  FILE PASCAL
L1             QUE PHOSPHOLIPID AND PHOSPHATIDYCHOLINE AND KRILL(P) OIL AND ET
               ---------

=> logoff
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       2.55       2.80

STN INTERNATIONAL LOGOFF AT 11:50:33 ON 06 APR 2015



Connecting via Winsock to STN at pto-stn on port 23



Welcome to STN International!  Enter x:X

LOGINID:ssspt189dxw

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1  JAN 29  Instructor-led and on-demand STN training options available
                  from CAS
 NEWS  2  MAY 27  Get the Latest Version of STN Express, Version 8.5.2.1,
                  Available May 2014
 NEWS  3  JAN 09  Updated Enzyme Nomenclature Improves Access to Biological
                  Information in CAS REGISTRY
```

```
 NEWS  4  JAN 09  DEFULL - German (Deutschland, DE) Patents Full-text Database
                  New on STN
 NEWS  5  JAN 27  STN on the Web Now Compatible with Microsoft Windows 8.1 and
                  current Versions of Internet Explorer and Google Chrome
 NEWS  6  JAN 27  Annual MEDLINE Reload on STN Introduces New Searching
                  Capabilities and the Updated 2014 MeSH Thesaurus
 NEWS  7  FEB 03  DWPI: Latest Manual Code Revision goes live
 NEWS  8  FEB 03  DWPI: New coverage of Singapore PCT-transfers and grants
 NEWS  9  FEB 24  INFULL and DEFULL databases Now Available via STN Viewer
 NEWS 10  MAR 28  New STN Platform Enhancements Available, Increase Efficiency
                  of Search Workflow.
 NEWS 11  APR 25  New Format Adopted for Taiwanese Granted Patent Numbers
                  in CAS Databases and INPADOC.
 NEWS 12  MAY 2   New STN Global Value Pricing Empowers You to Maximize the
                  Value of STN
 NEWS 13  MAY 9   STN AnaVist, Version 2.1, Improves Operating System
                  Compatibility and Performance
 NEWS 14  MAY 19  Availability of Digital Object Identifiers (DOIs) Enhanced in
                  STN Databases
 NEWS 15  MAY 20  New Cluster NPS available for all Databases with the Numeric
                  Property Search feature
 NEWS 16  MAY 29  CAS REGISTRY BLAST Upgrade Improves Search Capabilities and
                  Results Ranking
 NEWS 17  JUN 10  MEDLINE on STN Now Updated Daily
 NEWS 18  JUL 1   CHEMCATS (Chemical Catalogs Online) on STN Enhanced with New
                  Search and Display Fields and More Frequent Updates
 NEWS 19  JUL 24  Batch search results for DGENE, USGENE and PCTGEN now
                  available for 30 days
 NEWS 20  JUL 28  Latest release of new STN now available, expands global
                  patent coverage and enhances search capabilities
 NEWS 21  SEP 4   KRFULL: New Full-text Database for Korean Patent
                  Publications Now Available on new STN
 NEWS 22  OCT 1   Cooperative Patent Classification (CPC) Combination Set Data
                  Now Available in CAplus, INPADOCDB and USPAT Databases
 NEWS 23  OCT 23  CPC Thesaurus based on official CPC Scheme
 NEWS 24  DEC 22  2015 MeSH Thesaurus Installed in MEDLINE with a Special
                  Message for Customers Doing Pharmacovigilance Research
 NEWS 25  DEC 24  CAS Expands Coverage of Reactions from Dissertations in
                  CASREACT
 NEWS 26  DEC 24  Additional Experimental Spectra Now Available in CAS REGISTRY
                  in STN
 NEWS 27  JAN 8   New Version of Emtree Introduces Over 1,000 New Terms to
                  Embase on Classic STN and New STN
 NEWS 28  JAN 9   Derwent World Patents Index: Latest Manual Code Revision
                  Goes Live
 NEWS 29  JAN 26  Revision of DWPI Fragmentation Codes for 2015
 NEWS 30  JAN 26  Annual MEDLINE Reload on STN Features Enhanced Clinical Trial
                  Information and the 2015 MeSH Thesaurus
 NEWS 31  MAR 23  Enhanced Coverage of Latin America (AR, MX) in Derwent World
                  Patent Index
 NEWS 32  APR 15  USPATFULL/USPAT2 Now Include Corporate Patent Applicant
                  Information

 NEWS EXPRESS 27 MAY 2014 CURRENT WINDOWS VERSION IS V8.5.2.1,
              AND CURRENT DISCOVER FILE IS DATED 26 JANUARY 2015.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
 NEWS TRAINING Find instructor-led and self-directed training opportunities

Enter NEWS followed by the item number or name to see news on that
specific topic.
```

```
  All use of STN is subject to the provisions of the STN customer
  agreement.  This agreement limits use to scientific research.  Use
  for software development or design, implementation of commercial
  gateways, or use of CAS and STN data in the building of commercial
  products is prohibited and may result in loss of user privileges
  and other penalties.

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 14:19:06 ON 18 MAY 2015

=> d hist

     (FILE 'HOME' ENTERED AT 14:19:06 ON 18 MAY 2015)

=> index bioscience
FILE 'WPIDS' ACCESS NOT AUTHORIZED
FILE 'WPINDEX' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.25       0.25

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHABS,
       BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB, CROPU, DDFB,
       DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE, ESBIOBASE, FOMAD,
       FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 14:19:19 ON 18 MAY 2015

46 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s krill(p)oil and ether(p)phospholipid and phosphatidylcholine and composition?
          0*  FILE ADISNEWS
          0*  FILE BIOTECHABS
          0*  FILE BIOTECHDS
          0*  FILE BIOTECHNO
  11 FILES SEARCHED...
          0*  FILE CEABA-VTB
          0*  FILE CIN
          0*  FILE FOMAD
          0*  FILE FROSTI
          1   FILE IFIALL
          0*  FILE KOSMET
          0*  FILE NTIS
  33 FILES SEARCHED...
          0*  FILE PASCAL
  41 FILES SEARCHED...
         21   FILE USPATFULL
          3   FILE USPAT2

   3 FILES HAVE ONE OR MORE ANSWERS,   46 FILES SEARCHED IN STNINDEX

L1   QUE KRILL(P) OIL AND ETHER(P) PHOSPHOLIPID AND PHOSPHATIDYLCHOLINE AND COM
       POSITION?

=> file uspat2 uspatfull ifiall
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     2.55       2.80
```

```
FILE 'USPAT2' ENTERED AT 14:20:52 ON 18 MAY 2015
CA INDEXING COPYRIGHT (C) 2015 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 14:20:52 ON 18 MAY 2015
CA INDEXING COPYRIGHT (C) 2015 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'IFIALL' ENTERED AT 14:20:52 ON 18 MAY 2015
COPYRIGHT (C) 2015 IFI CLAIMS(R) Patent Services (IFI)

=> s L1
L2          25 L1

=> dup rem L2
PROCESSING COMPLETED FOR L2
L3           24 DUP REM L2 (1 DUPLICATE REMOVED)

=> d hist

     (FILE 'HOME' ENTERED AT 14:19:06 ON 18 MAY 2015)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS,
     BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB,
     CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE,
     ESBIOBASE, FOMAD, FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 14:19:19
     ON 18 MAY 2015
                SEA KRILL(P)OIL AND ETHER(P)PHOSPHOLIPID AND PHOSPHATIDYLCHOLIN
               ---------
               0*  FILE ADISNEWS
               0*  FILE BIOTECHABS
               0*  FILE BIOTECHDS
               0*  FILE BIOTECHNO
               0*  FILE CEABA-VTB
               0*  FILE CIN
               0*  FILE FOMAD
               0*  FILE FROSTI
               1   FILE IFIALL
               0*  FILE KOSMET
               0*  FILE NTIS
               0*  FILE PASCAL
              21   FILE USPATFULL
               3   FILE USPAT2
L1              QUE KRILL(P) OIL AND ETHER(P) PHOSPHOLIPID AND PHOSPHATIDYLCHOL
               ---------

     FILE 'USPAT2, USPATFULL, IFIALL' ENTERED AT 14:20:52 ON 18 MAY 2015
L2           25 S L1
L3           24 DUP REM L2 (1 DUPLICATE REMOVED)

=> d L3 1-24

L3   ANSWER 1 OF 24  USPATFULL on STN                    DUPLICATE 1
AN     2015:33475  USPATFULL
TI     Method for Processing Crustaceans to Produce Low Fluoride/Low Trimethyl
       Amine Products Thereof
IN     Bruheim, Inge, Volda, NORWAY
       Griinari, Mikko, Espoo, FINLAND
       Ervik, Jon Reidar, Aalesund, NORWAY
       Remoy, Stig Rune, Fosnavag, NORWAY
       Remoy, Even, Fosnavaag, NORWAY
       Cameron, John, Fosnavaag, NORWAY
USPA   OLYMPIC SEAFOOD AS, Fosnavaag, NORWAY
PI     US 20150030751      A1  20150129
```

```
AI     US 2014-14370324    A1  20121221 (14)
       WO 2012-IB3004          20121221
                               20140702  PCT 371 date
RLI    Continuation-in-part of Ser. No. US 2012-13342664, filed on 3 Jan 2012,
       Pat. No. US 8557297
DT     Utility
FS     APPLICATION
LN.CNT 2061
INCL   INCLM: 426/608.000
NCL    NCLM:  426/608.000
CPC    CPCI   A23L0001-33 [I]
IPC    IPCI   A23L0001-33 [I]
       IPCR   A23L0001-33 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 2 OF 24  USPAT2 on STN
AN     2015:4195  USPAT2
TI     Bioeffective krill oil compositions
IN     Bruheim, Inge, Volda, NORWAY
       Tilseth, Snorre, Bergen, NORWAY
       Mancinelli, Daniele, Orsta, NORWAY
PA     Aker Biomarine Antarctic AS, Stamsund, NORWAY (non-U.S. corporation)
PI     US 9028877          B2  20150512
AI     US 2014-14490176        20140918 (14)
RLI    Continuation of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI   US 2007-60920483        20070328 (60)
       US 2007-60975058        20070925 (60)
       US 2007-60983446        20071029 (60)
       US 2008-61024072        20080128 (61)
DT     Utility
FS     GRANTED
LN.CNT 2412
INCL   INCLM: 424/520.000
NCL    NCLM:  424/520.000
CPC    CPCI   A61K0035-612 [I]; A61K0031-23 [I], A61K2300-00; A61K0031-683 [I],
              A61K2300-00; A61K0031-685 [I], A61K2300-00; A61K0031-122 [I],
              A61K2300-00
       CPCI-2 A61K0035-612 [I]; A61K0009-4858 [I]; A61K0031-122 [I];
              A61K0031-23 [I]; A61K0031-683 [I]; A61K0031-685 [I]; A61K0045-06
              [I]; C11B0003-006 [I]; A61K0031-202 [I]; A61K0031-23 [I],
              A61K2300-00; A61K0031-683 [I], A61K2300-00; A61K0031-685 [I],
              A61K2300-00; A61K0031-122 [I], A61K2300-00
IPC    IPCI   A61K0035-56 [I]
       IPCI-2 A61K0045-06 [I]; A61K0031-23 [I]; A61K0031-122 [I]; A61K0009-48
              [I]; A61K0031-683 [I]; A61K0031-685 [I]; C11B0003-00 [I];
              A61K0031-202 [I]
       IPCR   A61K0035-56 [I]

L3   ANSWER 3 OF 24  USPATFULL on STN
AN     2015:55132  USPATFULL
TI     METHOD FOR MAKING KRILL MEAL
IN     Tilseth, Snorre, Bergen, NORWAY
       H.o slashed.stmark, .O slashed.istein, Loddefjord, NORWAY
USPA   Aker BioMarine AS, Oslo, NORWAY
PI     US 20150050403      A1  20150219
AI     US 2014-14490204    A1  20140918 (14)
RLI    Continuation of Ser. No. US 2008-201325, filed on 29 Aug 2008, PENDING
PRAI   US 2007-60968765        20070829 (60)
DT     Utility
FS     APPLICATION
LN.CNT 2192
INCL   INCLM: 426/417.000
```

```
       INCLS: 554/008.000
NCL    NCLM:  426/417.000
       NCLS:  554/008.000
CPC    CPCI   C11B0001-10 [I]; A23L0001-33 [I]; A23V2002-00
IPC    IPCI   C11B0001-10 [I]; A23L0001-33 [I]
       IPCR   C11B0001-10 [I]; A23L0001-33 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 4 OF 24  USPATFULL on STN
AN     2015:33442  USPATFULL
TI     OXIDIXABLE FATTY ACID COMPOSITION DELIVERY FORM
IN     Saebo, Asgeir, Eidsnes, NORWAY
PA     AKER BIOMARINE ANTARCTIC AS, Oslo, NORWAY (non-U.S. corporation)
PI     US 20150030718      A1  20150129
AI     US 2014-14384286    A1  20130311 (14)
       WO 2013-IB865           20130311
                               20140910  PCT 371 date
PRAI   US 2012-61609628        20120312 (61)
DT     Utility
FS     APPLICATION
LN.CNT 925
INCL   INCLM: 426/002.000
       INCLS: 426/576.000; 426/072.000; 426/073.000
NCL    NCLM:  426/002.000
       NCLS:  426/072.000; 426/073.000; 426/576.000
CPC    CPCI   A23G0003-40 [I]; A23G0003-368 [I]; A23V2002-00, A23V2250-1866,
              A23V2250-1868, A23V2250-187, A23V2250-1882, A23V2250-5432
IPC    IPCI   A23G0003-40 [I]; A23G0003-36 [I]
       IPCR   A23G0003-40 [I]; A23G0003-36 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 5 OF 24  USPATFULL on STN
AN     2015:4199  USPATFULL
TI     BIOEFFECTIVE KRILL OIL COMPOSITIONS
IN     Bruheim, Inge, Volda, NORWAY
       Tilseth, Snorre, Bergen, NORWAY
       Mancinelli, Daniele, Orsta, NORWAY
USPA   AKER BIOMARINE AS, Oslo, NORWAY
PI     US 20150004227      A1  20150101
AI     US 2014-14490221    A1  20140918 (14)
RLI    Continuation of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI   US 2007-60920483        20070328 (60)
       US 2007-60975058        20070925 (60)
       US 2007-60983446        20071029 (60)
       US 2008-61024072        20080128 (61)
DT     Utility
FS     APPLICATION
LN.CNT 1955
INCL   INCLM: 424/456.000
       INCLS: 424/522.000; 424/451.000
NCL    NCLM:  424/456.000
       NCLS:  424/451.000; 424/522.000
CPC    CPCI   A61K0035-612 [I]; A61K0031-23 [I], A61K2300-00; A61K0031-683 [I],
              A61K2300-00; A61K0031-685 [I], A61K2300-00; A61K0031-122 [I],
              A61K2300-00
IPC    IPCI   A61K0035-56 [I]
       IPCR   A61K0035-56 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 6 OF 24  USPATFULL on STN
AN     2015:4195  USPATFULL
TI     BIOEFFECTIVE KRILL OIL COMPOSITIONS
```

IN Bruheim, Inge, Volda, NORWAY
    Tilseth, Snorre, Bergen, NORWAY
    Mancinelli, Daniele, Orsta, NORWAY
USPA AKER BIOMARINE AS, Oslo, NORWAY
PI US 20150004223 A1 20150101
    US 9028877 B2 20150512
AI US 2014-14490176 A1 20140918 (14)
RLI Continuation of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI US 2007-60920483 20070328 (60)
    US 2007-60975058 20070925 (60)
    US 2007-60983446 20071029 (60)
    US 2008-61024072 20080128 (61)
DT Utility
FS APPLICATION
LN.CNT 1983
INCL INCLM: 424/451.000
    INCLS: 424/522.000
NCL NCLM: 424/520.000
CPC CPCI A61K0035-612 [I]; A61K0031-23 [I], A61K2300-00; A61K0031-683 [I], A61K2300-00; A61K0031-685 [I], A61K2300-00; A61K0031-122 [I], A61K2300-00
    CPCI-2 A61K0035-612 [I]; A61K0009-4858 [I]; A61K0031-122 [I]; A61K0031-23 [I]; A61K0031-683 [I]; A61K0031-685 [I]; A61K0045-06 [I]; C11B0003-006 [I]; A61K0031-202 [I]; A61K0031-23 [I], A61K2300-00; A61K0031-683 [I], A61K2300-00; A61K0031-685 [I], A61K2300-00; A61K0031-122 [I], A61K2300-00
IPC IPCI A61K0035-56 [I]
    IPCI-2 A61K0045-06 [I]; A61K0031-23 [I]; A61K0031-122 [I]; A61K0009-48 [I]; A61K0031-683 [I]; A61K0031-685 [I]; C11B0003-00 [I]; A61K0031-202 [I]
    IPCR A61K0035-56 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 24 USPAT2 on STN
AN 2011:117391 USPAT2
TI Methods of using krill oil to treat risk factors for cardiovascular, metabolic, and inflammatory disorders
IN Bruheim, Inge, Volda, NORWAY
    Tilseth, Snorre, Bergen, NORWAY
    Cohn, Jeffery, Sydney, AUSTRALIA
    Griinari, Mikko, Espoo, FINLAND
    Mancinelli, Daniele, Orsta, NORWAY
    Hoem, Nils, Oslo, NORWAY
    Vik, Hogne, Eiksmarka, NORWAY
    Banni, Sebastiano, Calgliari, ITALY
PA Aker Biomarine AS, Oslo, NORWAY (non-U.S. corporation)
PI US 8697138 B2 20140415
AI US 2010-790575 20100528 (12)
RLI Continuation-in-part of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI US 2007-60975058 20070925 (60)
    US 2007-60983446 20071029 (60)
    US 2008-61024072 20080128 (61)
    US 2009-61181743 20090528 (61)
    US 2007-60920483 20070328 (60)
DT Utility
FS GRANTED
LN.CNT 2694
INCL INCLM: 424/538.000
    INCLS: 424/283.100
NCL NCLM: 424/538.000; 424/522.000
    NCLS: 424/283.100; 426/002.000

CPC CPCI A61K0035-612 [I]
CPCI-2 A61K0035-612 [I]
IPC IPCI A61K0035-56 [I]; A61P0009-10 [I]; A61P0003-04 [I]; A61P0003-00 [I]
IPCI-2 A61K0035-64 [I]; A61K0045-00 [I]; A61K0047-44 [I]
IPCR A61K0035-64 [I]; A61K0045-00 [I]; A61K0047-44 [I]

L3 ANSWER 8 OF 24 USPATFULL on STN
AN 2014:414404 USPATFULL
TI LIPID EXTRACTION PROCESSES
IN Hoem, Nils, Oslo, NORWAY
Saebo, Asgeir, Eidsnes, NORWAY
USPA AKER BIOMARINE AS, Oslo, NORWAY
PI US 20140370115 A1 20141218
AI US 2014-14303835 A1 20140613 (14)
PRAI US 2013-61834965 20130614 (61)
US 2014-61925931 20140110 (61)
DT Utility
FS APPLICATION
LN.CNT 1942
INCL INCLM: 424/522.000
INCLS: 554/023.000; 514/114.000; 426/574.000
NCL NCLM: 424/522.000
NCLS: 426/574.000; 514/114.000; 554/023.000
CPC CPCI C11B0001-10 [I]; A23G0003-40 [I]; A23V2002-00
IPC IPCI C11B0001-10 [I]; A23G0003-40 [I]
IPCR C11B0001-10 [I]; A23G0003-40 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 24 USPATFULL on STN
AN 2014:407114 USPATFULL
TI METHODS OF USING KRILL OIL TO TREAT RISK FACTORS FOR CARDIOVASCULAR, METABOLIC, AND INFLAMMATORY DISORDERS
IN BRUHEIM, Inge, Volda, NORWAY
TILSETH, Snorre, Bergen, NORWAY
COHN, Jeffery, Sydney, AUSTRALIA
GRIINARI, Mikko, Espoo, FINLAND
BANNI, Sebastiano, Calgliari, ITALY
MANCINELLI, Daniele, Orsta, NORWAY
HOEM, Nils, Oslo, NORWAY
VIK, Hogne, Eiksmarka, NORWAY
PA AKER BIOMARINE AS, Oslo, NORWAY (non-U.S. corporation)
PI US 20140363517 A1 20141211
AI US 2014-14244532 A1 20140403 (14)
RLI Division of Ser. No. US 2010-790575, filed on 28 May 2010, Pat. No. US 8697138 Continuation-in-part of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI US 2007-60975058 20070925 (60)
US 2007-60983446 20071029 (60)
US 2008-61024072 20080128 (61)
US 2009-61181743 20090528 (61)
US 2007-60920483 20070328 (60)
DT Utility
FS APPLICATION
LN.CNT 2476
INCL INCLM: 424/522.000
NCL NCLM: 424/522.000
CPC CPCI A61K0035-612 [I]
IPC IPCI A61K0035-56 [I]
IPCR A61K0035-56 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

```
L3   ANSWER 10 OF 24  USPATFULL on STN
AN     2014:307870  USPATFULL
TI     OMEGA-3 PHOSPHOLIPID SUPPLEMENTS FOR IMPROVED BRAIN MATURITY
IN     Berge, Kjetil, Oslo, NORWAY
       Burri, Lena, Oslo, NORWAY
USPA   AKER BIOMARINE AS, Oslo, NORWAY
PI     US 20140274968      A1  20140918
AI     US 2014-14204592    A1  20140311 (14)
PRAI   US 2013-61783574        20130314 (61)
DT     Utility
FS     APPLICATION
LN.CNT 898
INCL   INCLM: 514/120.000
NCL    NCLM:  514/120.000
CPC    CPCI   A61K0031-661 [I]; A61K0031-23 [I]; A61K0031-194 [I]; A23V2002-00,
              A23V2200-322, A23V2250-1868, A23V2250-187
IPC    IPCI   A61K0031-661 [I]; A61K0031-194 [I]; A61K0031-23 [I]
       IPCR   A61K0031-661 [I]; A61K0031-194 [I]; A61K0031-23 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 11 OF 24  USPATFULL on STN
AN     2014:119010  USPATFULL
TI     New Method For Making Krill Meal
IN     Tilseth, Snorre, Bergen, NORWAY
       H.o slashed.stmark, .O slashed.istein, Loddefjord, NORWAY
PA     Aker BioMarine AS, Oslo, NORWAY (non-U.S. corporation)
PI     US 20140107072      A1  20140417
AI     US 2013-14136848    A1  20131220 (14)
RLI    Division of Ser. No. US 2008-201325, filed on 29 Aug 2008, PENDING
PRAI   US 2007-60968765        20070829 (60)
DT     Utility
FS     APPLICATION
LN.CNT 2214
INCL   INCLM: 514/078.000
NCL    NCLM:  514/078.000
CPC    CPCI   A61K0031-685 [I]; A23L0001-33 [I]; A61K0031-122 [I]; A61K0031-202
              [I]; A61K0031-133 [I]; A61K0031-575 [I]; A61K0031-198 [I]
IPC    IPCI   A61K0031-685 [I]; A61K0031-122 [I]; A61K0031-198 [I];
              A61K0031-133 [I]; A61K0031-575 [I]; A23L0001-33 [I]; A61K0031-202
              [I]
       IPCR   A61K0031-685 [I]; A23L0001-33 [I]; A61K0031-122 [I]; A61K0031-133
              [I]; A61K0031-198 [I]; A61K0031-202 [I]; A61K0031-575 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 12 OF 24  USPATFULL on STN
AN     2014:27043  USPATFULL
TI     ARTIFICIAL OIL BODIES
IN     Wijesundera, Rajendranatha Chakrapani, Dandenong North, AUSTRALIA
       Shen, Zhiping, Wyndham Vale, AUSTRALIA
       Boiteau, Thomas, Joue les tours, FRANCE
       Xu, Xinqing, Truganina, AUSTRALIA
       Lundin, Leif, Wandana Heights, AUSTRALIA
PA     Commonwealth Scientific and Industrial Research Organisation, Australian
       Capitol Territory, AUSTRALIA (non-U.S. corporation)
PI     US 20140024714      A1  20140123
AI     US 2013-13984219    A1  20120207 (13)
       WO 2012-AU103           20120207
                               20130927  PCT 371 date
PRAI   AU 2011-900383          20110207
DT     Utility
FS     APPLICATION
LN.CNT 2339
```

INCL INCLM: 514/560.000
      INCLS: 426/601.000; 426/495.000; 426/425.000; 514/773.000
NCL   NCLM: 514/560.000
      NCLS: 426/425.000; 426/495.000; 426/601.000; 514/773.000
CPC   CPCI   A23D0007-0053 [I]
IPC   IPCI   A23D0007-005 [I]
      IPCR   A23D0007-005 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 13 OF 24 USPATFULL on STN
AN   2014:11777 USPATFULL
TI   BIOEFFECTIVE KRILL OIL COMPOSITIONS
IN   Bruheim, Inge, Volda, NORWAY
      Tilseth, Snorre, Bergen, NORWAY
      Mancinelli, Daniele, Orsta, NORWAY
USPA AKER BIOMARINE AS, Oslo, NORWAY
PI   US 20140010888   A1 20140109
AI   US 2013-14020155   A1 20130906 (14)
RLI   Continuation of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI US 2007-60920483   20070328 (60)
      US 2007-60975058   20070925 (60)
      US 2007-60983446   20071029 (60)
      US 2008-61024072   20080128 (61)
DT   Utility
FS   APPLICATION
LN.CNT 1898
INCL INCLM: 424/522.000
NCL   NCLM: 424/522.000
CPC   CPCI   A61K0035-612 [I]; A61K0031-122 [I]; A61K0031-202 [I]; A61K0031-23
             [I], A61K2300-00; A61K0031-683 [I], A61K2300-00; A61K0031-685
             [I], A61K2300-00; A61K0031-122 [I], A61K2300-00
IPC   IPCI   A61K0035-56 [I]; A61K0031-202 [I]; A61K0031-122 [I]
      IPCR   A61K0035-56 [I]; A61K0031-122 [I]; A61K0031-202 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 14 OF 24 USPATFULL on STN
AN   2014:5400 USPATFULL
TI   BIOEFFECTIVE KRILL OIL COMPOSITIONS
IN   Bruheim, Inge, Volda, NORWAY
      Tilseth, Snorre, Bergen, NORWAY
      Mancinelli, Daniele, Orsta, NORWAY
USPA AKER BIOMARINE AS, Oslo, NORWAY
PI   US 20140005421   A1 20140102
AI   US 2013-14020162   A1 20130906 (14)
RLI   Continuation of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI US 2007-60920483   20070328 (60)
      US 2007-60975058   20070925 (60)
      US 2007-60983446   20071029 (60)
      US 2008-61024072   20080128 (61)
DT   Utility
FS   APPLICATION
LN.CNT 1908
INCL INCLM: 554/008.000
NCL   NCLM: 554/008.000
CPC   CPCI   C11B0003-006 [I]; A61K0031-23 [I], A61K2300-00; A61K0031-683 [I],
             A61K2300-00; A61K0031-685 [I], A61K2300-00; A61K0031-122 [I],
             A61K2300-00
IPC   IPCI   C11B0003-00 [I]
      IPCR   C11B0003-00 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 15 OF 24 USPAT2 on STN

```
AN     2010:256169  USPAT2
TI     Phospholipid and protein tablets
IN     Tilseth, Snorre, Bergen, NORWAY
       Hoem, Nils, Oslo, NORWAY
PA     Aker Biomarine ASA, Oslo, NORWAY (non-U.S. corporation)
PI     US 8372812          B2  20130212
AI     US 2010-711822          20100224 (12)
PRAI   US 2009-61155758        20090226 (61)
DT     Utility
FS     GRANTED
LN.CNT 3399
INCL   INCLM: 514/021.920
       INCLS: 514/762.000; 424/464.000; 424/476.000; 424/477.000
NCL    NCLM:  514/021.920; 514/005.500
       NCLS:  424/464.000; 424/476.000; 424/477.000; 514/762.000; 514/691.000
CPC    CPCI   A23L0001-0026 [I]; A23L0001-3006 [I]; A23L0001-305 [I];
              A23L0001-33 [I]; A61K0009-2009 [I]; A61K0009-2054 [I];
              A61K0009-2866 [I]; A61K0031-122 [I]; A61K0031-685 [I];
              A61K0035-612 [I]; A61K0031-122 [I], A61K2300-00 [I]; A61K0035-612
              [I], A61K2300-00 [I]; A61K0031-685 [I], A61K2300-00 [I]
       CPCI-2 A23L0001-0026 [I]; A23L0001-3006 [I]; A23L0001-305 [I];
              A23L0001-33 [I]; A61K0009-2009 [I]; A61K0009-2054 [I];
              A61K0009-2866 [I]; A61K0031-122 [I]; A61K0031-685 [I];
              A61K0035-612 [I]; A61K0031-122 [I], A61K2300-00 [I]; A61K0035-612
              [I], A61K2300-00 [I]; A61K0031-685 [I], A61K2300-00 [I]
IPC    IPCI   A61K0038-02 [I]
       IPCI-2 A61K0038-17 [I]; A61K0031-01 [I]; A61K0009-20 [I]; A61K0009-38
              [I]; A61K0009-42 [I]
       IPCR   A61K0038-17 [I]; A61K0009-20 [I]; A61K0009-38 [I]; A61K0009-42
              [I]; A61K0031-01 [I]

L3   ANSWER 16 OF 24  USPATFULL on STN
AN     2013:316770  USPATFULL
TI     COMPOSITION CONTAINING 2-ACYL-LYSOPHOSPHATIDYLSERINE AND METHOD FOR
       PRODUCING THE SAME
IN     Yazawa, Kazunaga, Minato-ku, JAPAN
       Susa, Tomoyuki, Minato-ku, JAPAN
       Gotoh, Shoji, Koto-ku, JAPAN
       Tashiro, Yasuhito, Koto-ku, JAPAN
       Kawashima, Junichi, Koto-ku, JAPAN
       Imamura, Shigeyuki, Izunokuni-shi, JAPAN
PA     MEIJI CO., LTD., Koto-ku, Tokyo, JAPAN (non-U.S. corporation)
PI     US 20130281404      A1  20131024
AI     US 2013-13824518    A1  20110926 (13)
       WO 2011-JP71900         20110926
                               20130610  PCT 371 date
PRAI   JP 2010-220880          20100930
DT     Utility
FS     APPLICATION
LN.CNT 959
INCL   INCLM: 514/077.000
       INCLS: 435/116.000
NCL    NCLM:  514/077.000
       NCLS:  435/116.000
CPC    CPCI   C12P0013-06 [I]; A61K0031-685 [I]
IPC    IPCI   C12P0013-06 [I]; A61K0031-685 [I]
       IPCR   C12P0013-06 [I]; A61K0031-685 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 17 OF 24  USPATFULL on STN
AN     2013:186762  USPATFULL
TI     PHOSPHOLIPID AND PROTEIN TABLETS
```

IN Tilseth, Snorre, Bergen, NORWAY
    Hoem, Nils, Oslo, NORWAY
PA AKER BIOMARINE ASA, Oslo, NORWAY (non-U.S. corporation)
PI US 20130165393 A1 20130627
AI US 2013-13748013 A1 20130123 (13)
RLI Continuation of Ser. No. US 2010-711822, filed on 24 Feb 2010, Pat. No. US 8372812
PRAI US 2009-61155758 20090226 (61)
DT Utility
FS APPLICATION
LN.CNT 3145
INCL INCLM: 514/021.920
    INCLS: 264/113.000
NCL NCLM: 514/021.920
    NCLS: 264/113.000
CPC CPCI A61K0031-122 [I]; A61K0038-1767 [I]; A61K0031-122 [I], A61K2300-00 [I]; A61K0035-612 [I], A61K2300-00 [I]; A61K0031-685 [I], A61K2300-00 [I]
IPC IPCI A61K0031-122 [I]; A61K0038-17 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 18 OF 24 USPATFULL on STN
AN 2013:158000 USPATFULL
TI Vegetable oil esterified lipoic acid
IN Laszlo, Joseph A., Peoria, IL, UNITED STATES
    Compton, David L., Peoria, IL, UNITED STATES
    Evans, Kervin O., Chillicothe, IL, UNITED STATES
PA The United States of America, as represented by the Secretary of Agriculture, Washington, DC, UNITED STATES (U.S. corporation)
PI US 8455666 B1 20130604
AI US 2011-13224565 20110902 (13)
DT Utility
FS GRANTED
LN.CNT 946
INCL INCLM: 549/039.000
NCL NCLM: 549/039.000
CPC CPCI C07D0339-04 [I]
IPC IPCI C07D0339-04 [I]
EXF 549/39
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 19 OF 24 USPATFULL on STN
AN 2011:356417 USPATFULL
TI Lecithin carrier vesicles and methods of making the same
IN Eley, Crispin G. S., Fullerton, CA, UNITED STATES
    Hodgson, Donald F., Fullerton, CA, UNITED STATES
PI US 20110318406 A1 20111229
AI US 2011-13135057 A1 20110623 (13)
PRAI US 2010-61357959 20100623 (61)
DT Utility
FS APPLICATION
LN.CNT 1360
INCL INCLM: 424/450.000
    INCLS: 514/785.000; 424/094.100; 514/169.000; 514/020.500; 514/731.000; 424/400.000; 426/662.000; 426/654.000; 426/072.000; 426/061.000; 426/602.000; 426/651.000
NCL NCLM: 424/450.000
    NCLS: 424/094.100; 424/400.000; 426/061.000; 426/072.000; 426/602.000; 426/651.000; 426/654.000; 426/662.000; 514/020.500; 514/169.000; 514/731.000; 514/785.000
CPC CPCI A61K0031-05 [I]; A23D0007-0053 [I]; A23D0007-011 [I]; A23L0001-0029 [I]; A23L0001-22016 [I]; A23L0001-222 [I];

A23L0001-3004 [I]; A23L0001-3006 [I]; A23V2002-00; A61K0009-127 [I]; A61K0031-56 [I]; A23V2002-00, A23V2200-224, A23V2200-254, A23V2250-1842, A23V2250-1846
IPC IPCI A61K0009-127 [I]; A61K0038-43 [I]; A61K0031-56 [I]; A61K0038-13 [I]; A61K0031-05 [I]; A23L0001-222 [I]; A61P0031-00 [I]; A61P0031-14 [I]; A23J0007-00 [I]; A23L0003-3454 [I]; A23L0001-302 [I]; A23D0007-00 [I]; A61K0047-44 [I]; A61K0009-00 [I]
IPCR A61K0009-127 [I]; A23D0007-00 [I]; A23J0007-00 [I]; A23L0001-222 [I]; A23L0001-302 [I]; A23L0003-3454 [I]; A61K0009-00 [I]; A61K0031-05 [I]; A61K0031-56 [I]; A61K0038-13 [I]; A61K0038-43 [I]; A61K0047-44 [I]; A61P0031-00 [I]; A61P0031-14 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 20 OF 24 USPATFULL on STN
AN 2011:117391 USPATFULL
TI METHODS OF USING KRILL OIL TO TREAT RISK FACTORS FOR CARDIOVASCULAR, METABOLIC, AND INFLAMMATORY DISORDERS
IN BRUHEIM, Inge, Volda, NORWAY
Tilseth, Snorre, Bergen, NORWAY
Cohn, Jeffery, Sydney, AUSTRALIA
Griinari, Mikko, Espoo, FINLAND
Mancinelli, Daniele, Orsta, NORWAY
Hoem, Nils, Oslo, NORWAY
Vik, Hogne, Eiksmarka, NORWAY
Banni, Sebastiano, Calgliari, ITALY
PA Aker BioMarine A.S.A., Oslo, NORWAY (non-U.S. corporation)
PI US 20110104297 A1 20110505
US 8697138 B2 20140415
AI US 2010-790575 A1 20100528 (12)
RLI Continuation-in-part of Ser. No. US 2008-57775, filed on 28 Mar 2008, PENDING
PRAI US 2007-60975058 20070925 (60)
US 2007-60983446 20071029 (60)
US 2008-61024072 20080128 (61)
US 2009-61181743 20090528 (61)
US 2007-60920483 20070328 (60)
DT Utility
FS APPLICATION
LN.CNT 2547
INCL INCLM: 424/522.000
INCLS: 426/002.000
NCL NCLM: 424/538.000; 424/522.000
NCLS: 424/283.100; 426/002.000
CPC CPCI A61K0035-612 [I]
CPCI-2 A61K0035-612 [I]
IPC IPCI A61K0035-56 [I]; A61P0009-10 [I]; A61P0003-04 [I]; A61P0003-00 [I]
IPCI-2 A61K0035-64 [I]; A61K0045-00 [I]; A61K0047-44 [I]
IPCR A61K0035-64 [I]; A61K0045-00 [I]; A61K0047-44 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 21 OF 24 USPATFULL on STN
AN 2010:256169 USPATFULL
TI PHOSPHOLIPID AND PROTEIN TABLETS
IN Tilseth, Snorre, Bergen, NORWAY
Hoem, Nils, Oslo, NORWAY
PA AKER BIOMARINE ASA, Oslo, NORWAY (non-U.S. corporation)
PI US 20100227792 A1 20100909
US 8372812 B2 20130212
AI US 2010-711822 A1 20100224 (12)
PRAI US 2009-61155758 20090226 (61)
DT Utility

```
FS     APPLICATION
LN.CNT 3112
INCL   INCLM: 514 2
NCL    NCLM:  514/021.920; 514/005.500
       NCLS:  424/464.000; 424/476.000; 424/477.000; 514/762.000; 514/691.000
CPC    CPCI   A23L0001-0026 [I]; A23L0001-3006 [I]; A23L0001-305 [I];
              A23L0001-33 [I]; A61K0009-2009 [I]; A61K0009-2054 [I];
              A61K0009-2866 [I]; A61K0031-122 [I]; A61K0031-685 [I];
              A61K0035-612 [I]; A61K0031-122 [I], A61K2300-00 [I]; A61K0035-612
              [I], A61K2300-00 [I]; A61K0031-685 [I], A61K2300-00 [I]
       CPCI-2 A23L0001-0026 [I]; A23L0001-3006 [I]; A23L0001-305 [I];
              A23L0001-33 [I]; A61K0009-2009 [I]; A61K0009-2054 [I];
              A61K0009-2866 [I]; A61K0031-122 [I]; A61K0031-685 [I];
              A61K0035-612 [I]; A61K0031-122 [I], A61K2300-00 [I]; A61K0035-612
              [I], A61K2300-00 [I]; A61K0031-685 [I], A61K2300-00 [I]
IPC    IPCI   A61K0038-02 [I]
       IPCI-2 A61K0038-17 [I]; A61K0031-01 [I]; A61K0009-20 [I]; A61K0009-38
              [I]; A61K0009-42 [I]
       IPCR   A61K0038-17 [I]; A61K0009-20 [I]; A61K0009-38 [I]; A61K0009-42
              [I]; A61K0031-01 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 22 OF 24  USPATFULL on STN
AN     2010:255355  USPATFULL
TI     LOW VISCOSITY PHOSPHOLIPID COMPOSITIONS
IN     Tilseth, Snorre, Bergen, NORWAY
PA     AKER BIOMARINE ASA, Oslo, NORWAY (non-U.S. corporation)
PI     US 20100226977      A1  20100909
AI     US 2010-711553      A1  20100224 (12)
RLI    Continuation-in-part of Ser. No. US 2008-201325, filed on 29 Aug 2008,
       PENDING
PRAI   US 2009-61155767        20090226 (61)
       US 2007-60968765        20070829 (60)
DT     Utility
FS     APPLICATION
LN.CNT 2394
INCL   INCLM: 424/456.000
       INCLS: 426/601.000; 426/417.000; 514/078.000
NCL    NCLM:  424/456.000
       NCLS:  426/417.000; 426/601.000; 514/078.000
CPC    CPCI   A23D0009-013 [I]; A23D0007-011 [I]; A23J0007-00 [I]; A23K0001-103
              [I]; A23K0001-1606 [I]; A23K0001-164 [I]; A23K0001-188 [I];
              A23L0001-30 [I]; A23L0001-3006 [I]; A23L0001-3008 [I];
              A23L0001-305 [I]; A23L0001-326 [I]; A61K0035-612 [I];
              C07F0009-103 [I]; C11B0001-06 [I]
IPC    IPCI   A61K0031-685 [I]; A23D0009-00 [I]; A23D0009-02 [I]; A61K0009-48
              [I]; A61P0009-00 [I]; A61P0019-00 [I]; A61P0029-00 [I]
       IPCR   A61K0031-685 [I]; A23D0009-00 [I]; A23D0009-02 [I]; A61K0009-48
              [I]; A61P0009-00 [I]; A61P0019-00 [I]; A61P0029-00 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 23 OF 24  USPATFULL on STN
AN     2009:67318  USPATFULL
TI     METHOD FOR MAKING KRILL MEAL
IN     Tilseth, Snorre, Bergen, NORWAY
       Hostmark, Oistein, Loddefjord, NORWAY
PA     Aker BioMarine ASA, Oslo, NORWAY (non-U.S. corporation)
PI     US 20090061067      A1  20090305
AI     US 2008-201325      A1  20080829 (12)
PRAI   US 2007-60968765        20070829 (60)
DT     Utility
FS     APPLICATION
```

```
LN.CNT 2307
INCL    INCLM: 426/602.000
        INCLS: 426/417.000; 210/149.000; 426/480.000; 426/609.000; 426/648.000;
               426/608.000; 366/145.000; 366/147.000
NCL     NCLM:  426/602.000
        NCLS:  210/149.000; 366/145.000; 366/147.000; 426/417.000; 426/480.000;
               426/608.000; 426/609.000; 426/648.000
CPC     CPCI   A61K0031-685 [I]; A23D0009-013 [I]; A23K0001-103 [I];
               A23K0001-1606 [I]; A23K0001-164 [I]; A23K0001-188 [I];
               A23L0001-3006 [I]; A23L0001-305 [I]; A23L0001-33 [I];
               A61K0031-122 [I]; A61K0031-133 [I]; A61K0031-198 [I];
               A61K0031-202 [I]; A61K0031-575 [I]; A61K0035-612 [I];
               C07F0009-103 [I]; C11B0001-06 [I]
IPC     IPCI   A23D0007-005 [I]; A23D0007-02 [I]; A23D0007-04 [I]; A23L0001-29
               [I]; B01F0015-06 [I]; A23L0001-33 [I]; A23L0001-326 [I];
               B01D0021-30 [I]
        IPCR   A23D0007-005 [I]; A23D0007-02 [I]; A23D0007-04 [I]; A23L0001-29
               [I]; A23L0001-326 [I]; A23L0001-33 [I]; B01D0021-30 [I];
               B01F0015-06 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3   ANSWER 24 OF 24  USPATFULL on STN
AN      2008:312554  USPATFULL
TI      BIOEFFECTIVE KRILL OIL COMPOSITIONS
IN      Bruheim, Inge, Volda, NORWAY
        Griinari, Mikko, Espoo, FINLAND
        Tilseth, Snorre, Bergen, NORWAY
        Banni, Sebastiano, Cagliari, ITALY
        Cohn, Jeffrey Stuart, Camperdown, AUSTRALIA
        Mancinelli, Daniele, Orsta, NORWAY
PA      AKER BIOMARINE ASA, Oslo, NORWAY (non-U.S. corporation)
PI      US 20080274203      A1  20081106
AI      US 2008-57775       A1  20080328 (12)
PRAI    US 2007-60920483        20070328 (60)
        US 2007-60975058        20070925 (60)
        US 2007-60983446        20071029 (60)
        US 2008-61024072        20080128 (61)
DT      Utility
FS      APPLICATION
LN.CNT 2199
INCL    INCLM: 424/522.000
        INCLS: 514/121.000; 514/078.000; 514/114.000; 426/601.000
NCL     NCLM:  424/522.000
        NCLS:  426/601.000; 514/078.000; 514/114.000; 514/121.000
CPC     CPCI   A61K0035-612 [I]; A61K0009-4858 [I]; A61K0031-122 [I];
               A61K0031-202 [I]; A61K0031-23 [I]; A61K0031-683 [I]; A61K0031-685
               [I]; A61K0045-06 [I]; C11B0003-006 [I]; A61K0031-23 [I],
               A61K2300-00; A61K0031-683 [I], A61K2300-00; A61K0031-685 [I],
               A61K2300-00; A61K0031-122 [I], A61K2300-00
IPC     IPCI   A61K0035-56 [I]; A61K0031-661 [I]; A61K0031-685 [I]; A61P0003-02
               [I]; A23D0009-00 [I]; A61K0031-66 [I]
        IPCR   A61K0035-56 [I]; A23D0009-00 [I]; A61K0031-66 [I]; A61K0031-661
               [I]; A61K0031-685 [I]; A61P0003-02 [I]
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


=> d hist

     (FILE 'HOME' ENTERED AT 14:19:06 ON 18 MAY 2015)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS,
     BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB,
```

```
     CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE,
     ESBIOBASE, FOMAD, FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 14:19:19
     ON 18 MAY 2015
                SEA KRILL(P)OIL AND ETHER(P)PHOSPHOLIPID AND PHOSPHATIDYLCHOLIN
               ---------
               0*  FILE ADISNEWS
               0*  FILE BIOTECHABS
               0*  FILE BIOTECHDS
               0*  FILE BIOTECHNO
               0*  FILE CEABA-VTB
               0*  FILE CIN
               0*  FILE FOMAD
               0*  FILE FROSTI
               1   FILE IFIALL
               0*  FILE KOSMET
               0*  FILE NTIS
               0*  FILE PASCAL
              21   FILE USPATFULL
               3   FILE USPAT2
L1              QUE KRILL(P) OIL AND ETHER(P) PHOSPHOLIPID AND PHOSPHATIDYLCHOL
               ---------

     FILE 'USPAT2, USPATFULL, IFIALL' ENTERED AT 14:20:52 ON 18 MAY 2015
L2           25 S L1
L3           24 DUP REM L2 (1 DUPLICATE REMOVED)

=> logoff
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                     ENTRY    SESSION
FULL ESTIMATED COST                                  40.35      43.15

STN INTERNATIONAL LOGOFF AT 14:21:25 ON 18 MAY 2015
```

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14620784	BRUHEIM ET AL.
	Examiner	**Art Unit**
	DEBBIE K WARE	1651

CPC						
Symbol					**Type**	**Version**
A61K		35	/	612	F	2013-01-01
A61K		31	/	122	I	2013-01-01
A61K		31	/	20	I	2013-01-01
A61K		9	/	48	I	2013-01-01
A61K		31	/	235	I	2013-01-01
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			
			/			

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/DEBBIE K WARE/ Primary Examiner.Art Unit 1651	05/18/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	None

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14620784	BRUHEIM ET AL.
	Examiner	**Art Unit**
	DEBBIE K WARE	1651

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION												
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED							
		A	6	1	K	35 / 612								
CROSS REFERENCE(S)		A	6	1	K	31 / 122 (2006.01.01)								
		A	6	1	K	31 / 20 (2006.01.01)								
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)	A	6	1	K	9 / 48 (2006.01.01)								

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/DEBBIE K WARE/ Primary Examiner.Art Unit 1651	05/18/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	None

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14620784	BRUHEIM ET AL.
	Examiner	**Art Unit**
	DEBBIE K WARE	1651

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		17												
	2		18												
	3		19												
	4		20												
	5														
	6														
	7														
	8														
	9														
	10														
	11														
	12														
	13														
	14														
	15														
	16														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/DEBBIE K WARE/ Primary Examiner.Art Unit 1651 (Primary Examiner)	05/18/2015 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure None

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14620784	BRUHEIM ET AL.
	Examiner	Art Unit
	DEBBIE K WARE	1651

CPC- SEARCHED		
Symbol	Date	Examiner
A61K2300/00 | A61K31/122 | A61K31/685 | A61K35/612 | A61K31/683 | A61K31/23 | A61K31/202 | A61K45/06 | A61K9/4858 | A61K31/133 | A61K31/198 | A61K31/201 | A61K31/232 | A61K31/575 | A61K31/661 | A61K35	04/2015	dkw
A61K2300/00 | A61K31/122 | A61K31/685 | A61K35/612 | A61K31/23 | A61K31/683 | A61K31/202 | A61K45/06 | A61K9/4858 | A61K31/133 | A61K31/198 | A61K31/575 | A61K38/1767 | A61K9/2009 | A61K9/2054 | A61K9	05/2015	dkw

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
CPC-West, INV and NPL Searches: see search history print out	04/2015	dkw
CPC-West, INV and NPL Searches: see search history print out	05/2015	dkw

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	WEST Interference Search- see search history print out	05/2015	dkw

WEST Search History for Application 14620784

Creation Date: 2015051814:16

Interference Searches

Query	DB	Op.	Plur.	Thes.	Date
krill.clm. and phospholipid.clm. and oil.clm. and ether.clm.	PGPB, USPT, UPAD	OR	YES		05-18-2015
(krill.clm. and phospholipid.clm. and oil.clm. and ether.clm.) and phosphatidylcholine.clm.	PGPB, USPT, UPAD	OR	YES		05-18-2015

Prior Art Searches

Query	DB	Op.	Plur.	Thes.	Date
krill and Euphausia and superba and oil	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(krill and Euphausia and superba and oil) and phospholipid and phosphatidylchoine and astaxanthin	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(krill and Euphausia and superba and oil) and "ether phospholipids"	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
Bruheim.in. and Inge.in.	PGPB, USPT,	OR	YES		04-06-2015

	USOC, EPAB, JPAB, DWPI, TDBD, FPRS				
Snorre.in. and Tilseth.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
Daniele.in. and Mancinelli.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Bruheim.in. and Inge.in.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Snorre.in. and Tilseth.in.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Daniele.in. and Mancinelli.in.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015

(Daniele.in. and Mancinelli.in. and krill.clm.) and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Snorre.in. and Tilseth.in. and krill.clm.) and oil.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Snorre.in. and Tilseth.in. and krill.clm. and oil.clm.) and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Bruheim.in. and Inge.in. and krill.clm.) and oil.clm. and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(krill and Euphausia and superba and oil and "ether phospholipids") and ((A61K2300/00 | A61K31/122 | A61K31/685 | A61K35/612 | A61K31/683 | A61K31/23 | A61K31/202 | A61K45/06 | A61K9/4858 | A61K31/133 | A61K31/198 | A61K31/201 | A61K31/232 | A61K31/575 | A61K31/661 | A61K35/60 | A61K38/1767 | A61K9/2009 | A61K9/2054 | A61K9/2866 | A61K31/194 | A23V2002/00 | A23V2250/1868 | A23V2250/187 | A23V2200/322 | A23V2250/1866 | A23V2250/1882 | A23V2250/5432 | A23L1/3006 | A23L1/305 | A23L1/33 | A23L1/3008 | A23L1/0026 | A23L1/30 | A23L1/302 | A23L1/326 | C11B3/006 | C11B1/06 | C11B1/10 | A23D9/013 | A23D7/011 | A23D9/00 | A23K1/103 | A23K1/1606 | A23K1/164 | A23K1/188 | C07F9/103 | C07F9/113 | A23J7/00 | A23G3/40 | A23G3/364 | A23G3/368 | A23G3/54 | C07C57/03).CPC.)	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015

20060193962	PGPB	OR	YES		04-06-2015
(20060193962) and krill and oil	PGPB	OR	YES		04-06-2015
20030113432	PGPB	OR	YES		04-06-2015
4814111.pn.	USPT	OR	YES		04-06-2015
(4814111.pn.) and krill	USPT	OR	YES		04-06-2015
"polar krill oil" and "phospholipids" and "phosphatidycholine"	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
krill and oil and phospholipid and phosphatidylcholine and "ether phospholipid"	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
Inge.in. and Bruheim.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
(Inge.in. and Bruheim.in.) and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
(Inge.in. and Bruheim.in. and phospholipid.clm.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD,	OR	YES		05-18-2015

	FPRS				
Snorre.in. and Tilseth.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
(Snorre.in. and Tilseth.in.) and krill.clm. and phospholipid.clm. and ether.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
Daniele.in. and Mancinelli.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
(Daniele.in. and Mancinelli.in.) and krill.clm. and oil.clm. and phospholipid.clm. and ether.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015
(krill and oil and phospholipid and phosphatidylcholine and "ether phospholipid") and ((A61K2300/00 | A61K31/122 | A61K31/685 | A61K35/612 | A61K31/23 | A61K31/683 | A61K31/202 | A61K45/06 | A61K9/4858 | A61K31/133 | A61K31/198 | A61K31/575 | A61K38/1767 | A61K9/2009 | A61K9/2054 | A61K9/2866 | A61K31/194 | A61K31/20 | A61K31/22 | A61K31/661 | A23V2002/00 | A23V2250/1868 | A23V2250/187 | A23V2200/322 | A23V2250/1866 | A23V2250/1882 | A23V2250/5432 | A23L1/3006 | A23L1/305 | A23L1/33 | A23L1/0026 | A23L1/30 | A23L1/3008 | A23L1/29 | A23L1/302 | A23L1/326 | C11B3/006 | C11B1/06 | C11B1/10 | A23D9/013 | A23D7/011 | A23D9/00 | A23K1/103 | A23K1/1606 | A23K1/164 | A23K1/188 | C07F9/103 |	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		05-18-2015

**A23J7/00	A23G3/40	A23G3/364	A23G3/368	A23G3/54).CPC.)**					

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/25 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION**
Application Number	14620784
Filing Date	12-Feb-2015
First Named Inventor	Inge Bruheim
Attorney Docket Number	AKBM-14409/US-11/CON
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
AKER BIOMARINE ANTARCTIC AS	100%

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

12057775 filed on 03/28/2008

as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○	I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

○ Small Entity

○ Micro Entity

◉ Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Registration Number 44174

○ A sole inventor

○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application

○ A joint inventor; all of whom are signing this request

Signature	/J. Mitchell Jones/
Name	J. Mitchell Jones

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	14620784
Filing Date:	12-Feb-2015
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Filer:	John Mitchell Jones/Mallory Checkett
Attorney Docket Number:	AKBM-14409/US-11/CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Statutory or Terminal Disclaimer	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**160**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 14620784

Filing Date: 12-Feb-2015

Applicant/Patent under Reexamination: Bruheim et al.

Electronic Terminal Disclaimer filed on April 22, 2015

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	22132885
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	22-APR-2015
Filing Date:	12-FEB-2015
Time Stamp:	14:57:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$160
RAM confirmation Number	1246
Deposit Account	504302
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Electronic Terminal Disclaimer-Filed	eTerminal-Disclaimer.pdf	34012 f6f87131cb05600e96e25eb724aebaea1ead3fd2	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30500 40d4e6a404afd4533923f901dd0fa3fdfbbfc816	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	64512		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed	PTO/SB/25 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION**
Application Number	14620784
Filing Date	12-Feb-2015
First Named Inventor	Inge Bruheim
Attorney Docket Number	AKBM-14409/US-11/CON
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
AKER BIOMARINE ANTARCTIC AS	100%

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

14490221 filed on 09/18/2014

as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

○	I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.

Applicant claims the following fee status:

○ Small Entity

○ Micro Entity

◉ Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

I certify, in accordance with 37 CFR 1.4(d)(4) that I am:

◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Registration Number 44174

○ A sole inventor

○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application

○ A joint inventor; all of whom are signing this request

Signature	/J. Mitchell Jones/
Name	J. Mitchell Jones

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	14620784
Filing Date:	12-Feb-2015
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Filer:	John Mitchell Jones/Mallory Checkett
Attorney Docket Number:	AKBM-14409/US-11/CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Statutory or Terminal Disclaimer	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**160**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 14620784

Filing Date: 12-Feb-2015

Applicant/Patent under Reexamination: Bruheim et al.

Electronic Terminal Disclaimer filed on April 22, 2015

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	22137491
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	22-APR-2015
Filing Date:	12-FEB-2015
Time Stamp:	15:54:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$160
RAM confirmation Number	2404
Deposit Account	504302
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Electronic Terminal Disclaimer-Filed	eTerminal-Disclaimer.pdf	34013 717669a9509d83b86980a84e3439fcb02b99e777	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30499 ed2191e0858fa1ec42b12a97c2d333e51bb863a6	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	64512		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Bruheim et al.	Art Unit: 1651
Serial No.:	14/620,784	Examiner: Ware
Filed:	02/12/2015	Confirmation: 1577
Entitled:	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

RESPONSE TO OFFICE ACTION MAILED APRIL 8, 2015

EFS WEB FILED
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Examiner Ware:

This communication is responsive to the Office Action mailed April 8, 2015. The Commissioner is hereby authorized to charge any fees during the entire pendency of this application, including fees due under 37 C.F.R. §§ 1.16 and 1.17 that may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-4302, referencing Attorney Docket No. **AKBM-14409/US-11/CON**. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

CLAIM AMENDMENTS:

1. (Currently amended) A polar krill oil comprising greater than about 40% phosphatidylcholine w/w of said krill oil and greater than about 5% ~~w/w~~ ether phospholipids w/w of said krill oil.

2. (Currently amended) The polar krill oil of claim 1, wherein said polar krill oil comprises greater than about 45% phosphatidylcholine w/w of said krill oil.

3. (Currently amended) The polar krill oil of claim 1, wherein said polar krill oil comprises less than about 25% triglycerides w/w of said krill oil.

4. (Currently amended) The polar krill oil of claim 1, wherein said polar krill oil comprises at least 36% ~~w/w~~ omega-3 fatty acids w/w of said krill oil.

5. (Currently amended) The polar krill oil of claim 1, wherein said polar krill oil comprises greater than about 6% ether phospholipids w/w of said krill oil.

6. (Currently amended) The polar krill oil of claim 1, wherein said polar krill oil comprises greater than about 7% ether phospholipids w/w of said krill oil.

7. (Original) The polar krill oil of claim 1, wherein said krill oil comprises astaxanthin.

8. (Original) The polar krill oil of claim 1, wherein said krill oil comprises greater than about 1000 mg/kg astaxanthin esters.

9. (Original) The polar krill oil of claim 1, wherein said krill oil comprises greater than about 1500 mg/kg astaxanthin esters.

10. (Original) The polar krill oil of claim 1, wherein said krill oil comprises greater than about 2000 mg/kg astaxanthin esters.

11. (Original) The polar krill oil of claim 1, wherein said krill oil is suitable for oral administration to a human.

12. (Original) The polar krill oil of Claim 1, wherein said krill oil is extracted from *Euphausia superba.*

13. (Original) A capsule comprising the polar krill oil of claim 1.

14. (Currently amended) A *Euphausia superba* krill oil comprising greater than about 45% phosphatidylcholine w/w of said krill oil, greater than about 5% ether phospholipids w/w, less than about 25% triglycerides w/w of said krill oil, at least 36% ~~w/w~~ omega-3 fatty acids w/w of said krill oil, and astaxanthin.

15. (Currently amended) The Euphausia superba krill oil of claim 14, wherein said polar krill oil comprises greater than about 6% ether phospholipids w/w of said krill oil.

16. (Currently amended) The Euphausia superba krill oil of claim 14, wherein said polar krill oil comprises greater than about 7% ether phospholipids w/w of said krill oil.

17. (Original) The Euphausia superba krill oil of claim 14, wherein said krill oil comprises greater than about 1000 mg/kg astaxanthin esters.

18. (Original) The *Euphausia superba* krill oil of claim 14, wherein said krill oil comprises greater than about 1500 mg/kg astaxanthin esters.

19. (Original) The *Euphausia superba* krill oil of claim 14, wherein said krill oil comprises greater than about 2000 mg/kg astaxanthin esters.

20. (Original) A capsule comprising the *Euphausia superba* krill oil of claim 14.

REMARKS

Claims 1-20 are pending and under examination following entry of this amendment. All amendments and cancellation of claims are made without acquiescing to any of the Examiner's arguments or rejections, and solely for the purpose of expediting the patent application process and without waiving the right to prosecute the cancelled claims (or similar claims) in the future.

Applicant thanks the Examiner for the Telephonic Interview on Wednesday April 22. The subject matter of the interview was the amendments to the claims to overcome the idefiniteness rejection. The Examiner also indicated that an additional terminal disclaimer would be needed over co-pending, and earlier filed, Appl. No. 14/490,221.

The pending rejections are addressed in order below.

Indefiniteness. The claims have been amended to clarify the use of "w/w" (weight/weight) in the claims. Applicant believes that the claims as amended traverse the indefiniteness rejection and are in condition for allowance.

Double patenting. The claims are rejected are rejected under provisional double patenting over co-pending application 12/057,775. Applicant has filed an electronic terminal disclaimer over that application. In addition, as requested by the Examiner, Applicant has filed an electronic terminal disclaimer over co-pending Appl. No. 14/490,221.

CONCLUSION

If a telephone interview would aid in the prosecution of this application, the Examiner is encouraged to call the undersigned collect at (608) 662-1277.

Dated: April 22, 2015

/J. Mitchell Jones/

John Mitchell Jones
Registration No. 44,174

Casimir Jones, S.C.
2275 Deming Way, Suite 310
Middleton, WI, 53562
(608) 662-1277

Electronic Acknowledgement Receipt

EFS ID:	22138035
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	22-APR-2015
Filing Date:	12-FEB-2015
Time Stamp:	16:33:20
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		14409US11CON_ROA_4-22-2015.pdf	116911 1a7c391764b7888fae528ab8587b3d4e63a88a3f	yes	4

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	3
	Applicant Arguments/Remarks Made in an Amendment	4	4
Warnings:			
Information:			
	Total Files Size (in bytes):	116911	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/620,784	Filing Date 02/12/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 04/22/2015

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/TAMMY ACREE/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON	1577

72960 7590 04/08/2015

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

EXAMINER
WARE, DEBORAH K

ART UNIT	PAPER NUMBER
1651	

MAIL DATE	DELIVERY MODE
04/08/2015	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 14/620,784	Applicant(s) BRUHEIM ET AL.	
	Examiner DEBBIE K. WARE	Art Unit 1651	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/12/2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-20* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Claims 1-20 are presented for examination on the merits. It is noted that this case is a continuation but not a divisional of 12/057775. Also the claims of the instant case are not the same claims set forth in the restriction of 12/057775.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on February 12, 2015, was received. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claim 1 is rendered vague and indefinite for recitation of “w/w” at line 1 since it is not clear what if being referred to per se in terms of weight by weight. In other words weight by weight of what, per se? Also, how does the "w/w" relate to the entire krill oil

of what it contains of the particular phospholipid and/or phosphatidycholine. The metes and bounds of the claims cannot be determined. The same rejection applies to claims 2, 3, 5, 6, 14, 15, and 16. Remaining claims not specifically discussed above are rejected because they depend from a rejected base claim and dependent claims contain the language from the rejected base claims from which they depend, therefrom.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of

activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit http://www.uspto.gov/forms/. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1, 2, 3, 5, and 6 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 50 and 52-54 of copending Application No. 12/057775. Although the claims at issue are not identical, they are not patentably distinct from each other because a reading of the copending claims makes obvious the claims rejected herein since the krill oil being produced reads on the krill oil claimed herein.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

Claims of instant case read on krill oil containing phospholipids. Note phosphatidylcholine is a phospholipid.

Copending claims read on krill oil so produced by the claimed method which includes phospholipids, including ether phospholipids and triglycerides in an amount of

from about 3% to about 10% w/w ether phospholipids and 27% to 50% non-ether phospholipids.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to provide for the claimed krill oil based on the teachings of the copending claims. Each of the instant claim features are disclosed and one of skill in the art would have been motivated based on a reading of the copending claims to provide for the claimed polar krill oil. Thus, the claims are, therefore, rendered *prima facie* obvious over the copending application.

Claims, otherwise, are hereby rendered free of the cited prior art on the enclosed PTO-1449 Form. All references cited to show the state of the art at the time the claimed invention was filed in the USPTO.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEBBIE K. WARE whose telephone number is (571)272-0924. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taeyoon Kim can be reached on 571-272-9041. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Deborah K. Ware/
Deborah K. Ware
Primary Examiner
Art Unit 1651

```
Connecting via Winsock to STN at pto-stn on port 23



Welcome to STN International!  Enter x:X

LOGINID:ssspt189dxw

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1  JAN 29  Instructor-led and on-demand STN training options available
                  from CAS
 NEWS  2  MAY 27  Get the Latest Version of STN Express, Version 8.5.2.1,
                  Available May 2014
 NEWS  3  JAN 09  Updated Enzyme Nomenclature Improves Access to Biological
                  Information in CAS REGISTRY
 NEWS  4  JAN 09  DEFULL - German (Deutschland, DE) Patents Full-text Database
                  New on STN
 NEWS  5  JAN 27  STN on the Web Now Compatible with Microsoft Windows 8.1 and
                  current Versions of Internet Explorer and Google Chrome
 NEWS  6  JAN 27  Annual MEDLINE Reload on STN Introduces New Searching
                  Capabilities and the Updated 2014 MeSH Thesaurus
 NEWS  7  FEB 03  DWPI: Latest Manual Code Revision goes live
 NEWS  8  FEB 03  DWPI: New coverage of Singapore PCT-transfers and grants
 NEWS  9  FEB 24  INFULL and DEFULL databases Now Available via STN Viewer
 NEWS 10  MAR 28  New STN Platform Enhancements Available, Increase Efficiency
                  of Search Workflow.
 NEWS 11  APR 25  New Format Adopted for Taiwanese Granted Patent Numbers
                  in CAS Databases and INPADOC.
 NEWS 12  MAY 2   New STN Global Value Pricing Empowers You to Maximize the
                  Value of STN
 NEWS 13  MAY 9   STN AnaVist, Version 2.1, Improves Operating System
                  Compatibility and Performance
 NEWS 14  MAY 19  Availability of Digital Object Identifiers (DOIs) Enhanced in
                  STN Databases
 NEWS 15  MAY 20  New Cluster NPS available for all Databases with the Numeric
                  Property Search feature
 NEWS 16  MAY 29  CAS REGISTRY BLAST Upgrade Improves Search Capabilities and
                  Results Ranking
 NEWS 17  JUN 10  MEDLINE on STN Now Updated Daily
 NEWS 18  JUL 1   CHEMCATS (Chemical Catalogs Online) on STN Enhanced with New
                  Search and Display Fields and More Frequent Updates
 NEWS 19  JUL 24  Batch search results for DGENE, USGENE and PCTGEN now
                  available for 30 days
 NEWS 20  JUL 28  Latest release of new STN now available, expands global
                  patent coverage and enhances search capabilities
 NEWS 21  SEP 4   KRFULL: New Full-text Database for Korean Patent
                  Publications Now Available on new STN
 NEWS 22  OCT 1   Cooperative Patent Classification (CPC) Combination Set Data
                  Now Available in CAplus, INPADOCDB and USPAT Databases
 NEWS 23  OCT 23  CPC Thesaurus based on official CPC Scheme
 NEWS 24  DEC 22  2015 MeSH Thesaurus Installed in MEDLINE with a Special
                  Message for Customers Doing Pharmacovigilance Research
 NEWS 25  DEC 24  CAS Expands Coverage of Reactions from Dissertations in
                  CASREACT
 NEWS 26  DEC 24  Additional Experimental Spectra Now Available in CAS REGISTRY
```

```
                  in STN
 NEWS 27  JAN 8   Latest Version of Emtree Introduces 937 New Terms
 NEWS 28  JAN 9   Derwent World Patents Index: Latest Manual Code Revision
                  Goes Live
 NEWS 29  JAN 26  Revision of DWPI Fragmentation Codes for 2015
 NEWS 30  JAN 26  Annual MEDLINE Reload on STN Features Enhanced Clinical Trial
                  Information and the 2015 MeSH Thesaurus
 NEWS 31  MAR 23  Enhanced Coverage of Latin America (AR, MX) in Derwent World
                  Patent Index

 NEWS EXPRESS 27 MAY 2014 CURRENT WINDOWS VERSION IS V8.5.2.1,
              AND CURRENT DISCOVER FILE IS DATED 26 JANUARY 2015.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
 NEWS TRAINING Find instructor-led and self-directed training opportunities

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN customer
  agreement.  This agreement limits use to scientific research.  Use
  for software development or design, implementation of commercial
  gateways, or use of CAS and STN data in the building of commercial
  products is prohibited and may result in loss of user privileges
  and other penalties.

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:48:37 ON 06 APR 2015

=> index bioscience
FILE 'WPIDS' ACCESS NOT AUTHORIZED
FILE 'WPINDEX' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.25       0.25

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHABS,
       BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB, CROPU, DDFB,
       DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE, ESBIOBASE, FOMAD,
       FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 11:49:01 ON 06 APR 2015

46 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s phospholipid and phosphatidycholine and krill(p)oil and ether(p)phospholipid?
          0*  FILE ADISNEWS
          0*  FILE BIOTECHABS
          0*  FILE BIOTECHDS
          0*  FILE BIOTECHNO
          0*  FILE CEABA-VTB
          0*  FILE CIN
          0*  FILE FOMAD
          0*  FILE FROSTI
          0*  FILE KOSMET
          0*  FILE NTIS
          0*  FILE PASCAL
  34 FILES SEARCHED...
```

```
   0 FILES HAVE ONE OR MORE ANSWERS,   46 FILES SEARCHED IN STNINDEX

L1   QUE PHOSPHOLIPID AND PHOSPHATIDYCHOLINE AND KRILL(P) OIL AND ETHER(P) PHOS
       PHOLIPID?

=> d hist

     (FILE 'HOME' ENTERED AT 11:48:37 ON 06 APR 2015)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS,
     BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CROPB,
     CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGU, EMBAL, EMBASE,
     ESBIOBASE, FOMAD, FROSTI, FSTA, GENBANK, IFIALL, ...' ENTERED AT 11:49:01
     ON 06 APR 2015
               SEA PHOSPHOLIPID AND PHOSPHATIDYCHOLINE AND KRILL(P)OIL AND ETH
              ---------
              0*  FILE ADISNEWS
              0*  FILE BIOTECHABS
              0*  FILE BIOTECHDS
              0*  FILE BIOTECHNO
              0*  FILE CEABA-VTB
              0*  FILE CIN
              0*  FILE FOMAD
              0*  FILE FROSTI
              0*  FILE KOSMET
              0*  FILE NTIS
              0*  FILE PASCAL
L1             QUE PHOSPHOLIPID AND PHOSPHATIDYCHOLINE AND KRILL(P) OIL AND ET
              ---------

=> logoff
ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF
LOGOFF? (Y)/N/HOLD:y
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 2.55       2.80

STN INTERNATIONAL LOGOFF AT 11:50:33 ON 06 APR 2015
```

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14620784	BRUHEIM ET AL.
	Examiner	Art Unit
	DEBBIE K WARE	1651

CPC- SEARCHED		
Symbol	Date	Examiner
A61K2300/00 | A61K31/122 | A61K31/685 | A61K35/612 | A61K31/683 | A61K31/23 | A61K31/202 | A61K45/06 | A61K9/4858 | A61K31/133 | A61K31/198 | A61K31/201 | A61K31/232 | A61K31/575 | A61K31/661 | A61K35	04/2015	dkw

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
CPC-West, INV and NPL Searches: see search history print out	04/2015	dkw

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 1577

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/620,784	02/12/2015 RULE	424	1651	AKBM-14409/US-11/CON

APPLICANTS

AKER BIOMARINE ANTARCTIC AS, Stamsund, NORWAY, Assignee (with 37 CFR 1.172 Interest);

INVENTORS

Inge Bruheim, Volda, NORWAY;
Snorre Tilseth, Bergen, NORWAY;
Daniele Mancinelli, Orsta, NORWAY;

**** CONTINUING DATA ***************************

This application is a CON of 12/057,775 03/28/2008
which claims benefit of 60/920,483 03/28/2007
and claims benefit of 60/975,058 09/25/2007
and claims benefit of 60/983,446 10/29/2007
and claims benefit of 61/024,072 01/28/2008

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

02/24/2015

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /DEBBIE K WARE/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NORWAY	19	20	2

ADDRESS

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562
UNITED STATES

TITLE

BIOEFFECTIVE KRILL OIL COMPOSITIONS

FILING FEE RECEIVED		
1740	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8697138		2014-04-15	Bruheim et al.	
	2	7488503		2009-02-10	Porzio et al	
	3	4749522		1988-06-07	Kamarei	
	4	4814111		1989-03-21	Kearns et al.	
	5	4133077		1979-01-09	Jasniewicz	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20110130458		2011-06-02	Harald Breivik	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	2	20080166420		2008-07-10	Scott F. Sones		
	3	20060078625		2006-04-13	Susie Rockway		
	4	20020076468		2002-06-20	Saxby		
	5	20030113432		2003-06-19	Yoshitomi		
	6	20100143571		2010-06-10	Breivik		
	7	20100160659		2010-06-24	Catchpole		
	8	20080166419		2008-07-10	Sones		

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	40348	CL		1997-07-08	Tepual S.A.		☐
	2	89/01031	WO		1989-02-09	Pharmacia AB		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	3	89/10960	WO		1989-11-16	Pharmacia AB		☐
	4	97/38585	WO		1997-10-23	The University of British Columbia		☐
	5	98/34498	WO		1998-08-13	Biozyme Systems, Inc.		☐
	6	99/39589	WO		1999-08-12	Biozyme Systems Inc.		☐
	7	06/111633	WO		2006-10-26	SC DICOPHAR		☐
	8	07/123424	WO		2007-11-01	Catchpole		☐
	9	08/072563	WO		2008-06-19	Nippon Suisan Kaisha, Ltd.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	EP Opposition filed February 13, 2014 by Olympic Seafood AS, EP Patent Application No. EP087189l0l6	☐
	2	BRZUSTOWICZ, Michael R., et al., "Controlling Membrane Cholesterol Content. A Role for Polyunsaturated (Docosahexaenoate) Phospholipids," Biochemistry (2002), 41, pp. 12509-12519	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	3	JONG-HO LEE, "A Review: Antioxygenic and Peroxide-decomposing Activities of Antarctic Krill Lipids," J. Korean Soc. Food Mutr. 13(3) pp. 326-333 (1984)	☐
	4	KI WOONG CHO, et al., "Lipid and Fatty Acid Composition of the Antarctic Krill Euphausia superba," Ocean Research 21(2): 109-116 (1999)	☐
	5	HVATTUM, Erlend, et al., "Effect of soybean oil and fish oil on individual molecular species of Atlantic salmon...", Journal of Chromatography B, 748 (2000) 137-149	☐
	6	IGARASHI, Daisuke, et al., "Positional Distribution of DHA and EPA in Phosphatidylcholine and Phosphatidylethanolamine from Different Tissues of Squids," J. Oleo Sci. Vol. 50, No. 9 (2001)	☐
	7	TOCHIZAWA, Kaoru, et al., "Effects of Phospholipds Containing Docosahexaenoic Acid on Differentiation and Growth of HL-60 Human Promyelocytic Leukemia Cells," J. Jpn. Oil Chem. Soc. Vol. 46, No. 4 (1997)	☐
	8	ZEROUGA, Mustapha, et al., "Comparison of phosphatidylcholines containing one or two docosahexaenoic acyl chains on properties of phospholipid monolayers and bilayers," Biochimica et Biophysica Acta 1236 (1995) 266-272	☐
	9	EUNG-HO LEE, et al., "Studies on the Processing of Krill Sauce," J. Korean Soc. Food Nutr. 13(1) 97-106 (1984)	☐
	10	HYUN-KU KIM, et al., "Effects of Cooking and Drying Methods on the Polar Lipds Composition of Shrimp," Korean J. Food Sci. Technol. Vol. 21, No. 1, pp. 25-30 (1989)	☐
	11	SHON, Mi-Yae, et al., "Effects of Krill and Cadmium on Lipid Composition of Plasma in Cholesterol-Fed Rats," J. Korean Soc. Food Nutr. 23(1), 38-43 (1994)	☐
	12	Summons Materials downloaded from ESPACE on December 16, 2014 for EP Patent Application No. 08 718 910.6	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-12-16
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Bruheim
Art Unit	1651
Examiner Name	D.K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	2652235		1953-09-15	Samuelsen	
	2	5006281		1991-04-09	Rubin et al.	
	3	4251557		1981-02-17	Shimose et al.	
	4	4505936		1985-03-19	Meyers et al.	
	5	6214396		2001-04-10	Barrier	
	6	4036993		1977-07-19	Ikeda	
	7	6346276		2002-02-12	Tanouchi et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Receipt date: 02/12/2015

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775 14620784 - GAU: 1651
Filing Date	2008-03-28
First Named Inventor	Bruheim
Art Unit	1651
Examiner Name	D.K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	1098900	CA		1981-04-07	Inst. Elementoorganicheskikh So, et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	VALERI, D., et al., "Visocities of Fatty acids, triglycerides and their binary mixtures," JAOCS 74 (1997) pp. 1221-1226	☐
	2	CRC 2013-2014, 94th ed., pp. 6-231-6-235	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775 14620784 - GAU: 1651
Filing Date	2008-03-28
First Named Inventor	Bruheim
Art Unit	1651
Examiner Name	D.K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Bruheim
	Art Unit	1651
	Examiner Name	D.K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☒ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-06-12
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	D. K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4714571		1987-12-22	Kearns et al.	
	2	8278351		2012-10-02	Sampalis	
	3	8383675		2013-02-26	Sampalis	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2251265	CA		2000-04-21	Beaudoin		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2008-03-28
(Not for submission under 37 CFR 1.99)	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	2	60-153779	JP		1985-08-13	Honen Seiyu Co. Ltd.		☐
	3	H08-231391	JP		1996-09-10	Kanagawa Kagaku Kenkyuujo Co., Ltd. Et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button **Add**

NON-PATENT LITERATURE DOCUMENTS **Remove**

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	"Neptune Technologies & Bioressources Soon to Obtain a Major Patent in Over 30 Countries" ("2001 Press Release,")	☐
	2	Action Closing Prosecution, '348 patent	☐
	3	April 2, 2012 Response to Office Action, '351 patent	☐
	4	Balassa et al., Microencapsulation in the Food Industry, Critical Reviews in Food Technology, 2:2, 245-265 (1971) ("Balassa")	☐
	5	Bell and Dick, Molecular Species Composition of the Major Diacyl Glycerophospholipids from Muscle, Liver, Retina and Brain of Cod (Gadus morhua), Lipids, Vol. 26, No. 8, pp. 565-573 (1991) ("Bell and Dick")	☐
	6	Bell, Molecular Species Analysis of Phosphoglycerides from the Ripe Roes of Cod, Lipids, Vol. 24, No. 7 (1989)	☐
	7	Bell, Molecular Species Composition of Phosphatidylcholine from Crypthecodinium cohnii in Relation to Growth Temperature Lipids 25, 115-118 (1990)	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	8	Bergelson (ed.), Lipid Biochemical Preparations, Chapter I.1, pp. 1-13 (1980) ("Bergelson")	☐
	9	Bottino, N.R., "Lipid Composition of Two Species of Antarctic Krill: Euphausia Superba and E. Crystallorophias," Comp. Biochem. Physiol., 1975, Vol. 50B, pp. 479-484 ("Bottino")	☐
	10	Buchi R-220 Rotovapor® Manual	☐
	11	Buda, Structural order of membranes and composition of phospholipids in fish brain cells during thermal acclimatization, Proc. Natl. Acad. Sci. USA Vol. 91, pp. 8234-8238, August 1994	☐
	12	Certificate of translation of Ex. 1072: Fisheries Agency, General Report on Research and Development of Techniques in Processing and Utilization of Marine Products, Chapter 6, Development of technology for recovery of valuable substances (astaxanthin) from krill, by Takao Fujita, pp. 273-307 (March 1985); Japanese language document	☐
	13	Certificate of translation of Ex. 1074: Japanese Patent No. 60-153779, entitled "Nutritional Supplement"	☐
	14	Certificate of translation of Ex. 1076: Japanese Patent Publication No. H08-231391, entitled "Medicine for Improvement of Dementia Symptoms"	☐
	15	Certification of translation of Ex. 1070: Japanese Unexamined Patent Application Publication No. 02-215351	☐
	16	Certified translation of Ex. 1070: Japanese Unexamined Patent Application Publication No. 02-215351, titled Krill Phospholipids Fractioning Method ("Maruyama,"); Certificate of Translation provided as Ex. 1071.	☐
	17	Certified translation of Ex. 1072: Fisheries Agency, General Report on Research and Development of Techniques in Processing and Utilization of Marine Products, Chapter 6, Development of technology for recovery of valuable substances (astaxanthin) from krill, by Takao Fujita, pp. 273-307 (March 1985) ("Fujita") ; Certificate of Translation provided as Ex. 1073.	☐
	18	Certified translation of Ex. 1074: Japanese Patent No. 60-153779, entitled "Nutritional Supplement" ("Fukuoka "); Certificate of Translation provided as Ex. 1075	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	19	Certified translation of Ex. 1076: Japanese Patent Publication No. H08-231391, entitled "Medicine for Improvement of Dementia Symptoms" ("Yasawa"); Certificate of Translation provided as Ex. 1077.	☐
	20	Declaration of Bjorn Ole Haugsgjerd in support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Haugsgjerd")	☐
	21	Declaration of Bjorn Ole Haugsgjerd submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Haugsgjerd '348 Decl.")	☐
	22	Declaration of Dr. Albert Lee in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Lee")	☐
	23	Declaration of Dr. Albert Lee in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Lee")	☐
	24	Declaration of Dr. Chong Lee submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Yeboah Reexam Decl.")	☐
	25	Declaration of Dr. Earl White submitted during prosecution of parent patent U.S. 8,030,348 ("2011 White Decl.")	☐
	26	Declaration of Dr. Ivar Storrø in support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Storrø")	☐
	27	Declaration of Dr. Ivar Storrø in support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Storrø")	☐
	28	Declaration of Dr. Jacek Jaczynski from inter partes reexamination of the parent patent U.S. 8,030,348 ("Jaczynski Reexam. Decl.")	☐
	29	Declaration of Dr. Jaczynski submitted during prosecution of parent patent U.S. 8,278,351 (Jaczynski '351 Decl.")	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	30	Declaration of Dr. Jeff Moore in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Moore")	☐
	31	Declaration of Dr. Jeff Moore in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Moore")	☐
	32	Declaration of Dr. Richard van Breemen in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Van Breemen")	☐
	33	Declaration of Dr. Richard van Breemen in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Van Breemen")	☐
	34	Declaration of Dr. Shahidi submitted during inter partes reexamination of parent patent U.S. 8,030,348 (Shahidi Reexam. Decl.")	☐
	35	Declaration of Dr. Shahidi submitted during prosecution of parent patent U.S. 8,278,351 (Shahidi '351 Decl.")	☐
	36	Declaration of Dr. Suzanne Budge in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Budge")	☐
	37	Declaration of Dr. Suzanne Budge in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Budge")	☐
	38	Declaration of Dr. Thomas Brenna in support of Inter Partes Review of U.S. Pat. No. 8,278,351	☐
	39	Declaration of Dr. Thomas Brenna in support of Inter Partes Review of U.S. Pat. No. 8,383,675	☐
	40	Declaration of Dr. Thomas Gundersen submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Gundersen Decl.")	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	41	Declaration of Dr. Tina Sampalis submitted during inter partes reexamination of parent patent U.S. 8,030,348 (Sampalis")	☐
	42	Declaration of Dr. Van Breemen submitted during Ex parte Reexamination of the '351 patent (Van Breemen '351 Reexam. Decl."	☐
	43	Declaration of Dr. Van Breemen submitted during Inter partes Reexamination of the '348 patent (Van Breemen '348 Reexam Decl."	☐
	44	Declaration of Dr. Yeboah submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Yeboah Reexam Decl.")	☐
	45	Declaration of Dr. Yeboah submitted during prosecution of parent patent U.S. 8,278,351 ("Yeboah '351 Decl.")	☐
	46	Eichberg, "Lecithin – It Manufacture and Use in the Fat and Oil Industry," Oils and Soap 51-54, 1939 ("Eichberg")	☐
	47	Expert Witness Report of Dr. Theodore Welch submitted in relation to ITC Investigation No. 337-TA-877 ("Welch")	☐
	48	Farkas, Composition and Physical State of Phospholipids in Calanoid Copepods from India and Norway, LIPIDS, Vol. 23, No. 6 (1988)	☐
	49	Final Prospectus dated May 11, 2001 ("Final Prospectus")	☐
	50	Fisheries Agency, General Report on Research and Development of Techniques in Processing and Utilization of Marine Products, Chapter 6, Development of technology for recovery of valuable substances (astaxanthin) from krill, by Takao Fujita, pp. 273-307 (March 1985); Japanese language document	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-01-14
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	D. K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	1	Folch, et al., A Simple Method for the Isolation and Purification of Total Lipids from Animal Tissues. J. Biol. Chem., 226, 497-509 (1957)	☐
	2	Grant of Request for Ex parte Reexamination of the '351 patent	☐
	3	Grit et al., Hydrolysis of phosphatidylcholine in aqueous liposome dispersions, Int. J. Pharmaceutics 50:1-6 (1989)	☐
	4	Henderson et al., Lipid Composition of the Pineal Organ from Rainbow Trout (Oncorhynchus mykiss), Lipids, Vol. 29, No. 5, pp. 311-317 (1994) ("Henderson ")	☐
	5	Herman and Groves, The Influence of Free Fatty Acid Formation on the pH of Phospholipid-Stabilized Triglyceride Emulsions, Pharmaceutical Research 10(5):774-776 (1993)	☐
	6	Itano Refrigerated Food Co., Ltd., Bio & High Technology Announcement and Natural Astaxanthin & Krill Lecithin, pp. 1-16 (on or before December 28, 1994) ("Itano")	☐
	7	Johnson and Lucas, Comparison of Alternative Solvents for Oils Extraction, JAOCS 60(2):229-242 (1983)	☐
	8	Le Grandois et al., Investigation of Natural Phosphatidylholine Sources: Separation and Identification by Liquid Chromatography -Electrospray Ionization-Tandem Mass Spectrometry (LC-ESI-MS2) of Molecular Species, J. Agric. Food Chem., 57, 6014-20 (2009) ("Le Grandois")	☐
	9	Lin et al., Effect of Dietary N-3 Fatty Acids Upon the PhospholipidMolecular Species of the Monkey Retina, Invest Ophthalmol Vis Sci. 1994;35:794-803	☐
	10	Medina et al., C Nuclear Magnetic Resonance Monitoring of Free Fatty Acid Release After Fish Thermal Processing, J. Amer. Oil Chem. Soc. 71(5):479-82 (1994)	☐
	11	October 24, 2012 Office Action, '675 patent	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	12	Office Action dated January 5, 2012, '351 patent	☐
	13	Provisional Application No. 60/307,842 (Priority document for the '351 patent)	☐
	14	Supplemental Declaration of Bjorn Ole Haugsgjerd submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Haugsgjerd '348 Supp. Decl.")	☐
	15	Supplemental Declaration of Dr. Earl White submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("White Supp. Reexam. Decl.")	☐
	16	Supplemental Declaration of Dr. Earl White submitted during prosecution of parent patent U.S. 8,278,351 ("White Supp. Decl.")	☐
	17	Supplemental Declaration of Dr. Thomas Gundersen submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Gundersen Supp. Decl.")	☐
	18	Suzuki, T. and Shibata, N., "The utilization of Antarctic krill for human food," Food Rev. Int'l, 6:1, 119-147 (1990) ("Suzuki")	☐
	19	Takahashi et al., Compositional Changes in Molecular Species of Fish Muscle Phosphatidylcholine During Storage, Bull. Fac. Fish. Hokkaido Univ. 37(1), 80-84 1986.	☐
	20	Takahashi et al., Molecular Species of Fish Muscle Lecithin, Bulletin of the Japanese Society of Scientific Fisheries 48 (12), 1803-1814 (1982)	☐
	21	Takahashi et al., Prediction of Relative Retention Value of the Individual Molecular Species of Diacyl Glycerolipid on High Performance Liquid Chromatography, Bull. Fac. Fish. Hokkaido Univ. 38(4), 398-404. 1987	☐
	22	Tanaka, Biosynthesis of 1,2-dieicosapentaenoyl-sn-glycero-3-phosphocholine in Caenorhabditis elegans, Eur. J. Biochem. 263, 189±194 (1999)	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2008-03-28
(Not for submission under 37 CFR 1.99)	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	23	Tocher, Chapter 6, Glycerophospholipid metabolism, Biochemistry and molecular biology of fishes, vol. 4, Hochachka and Mommsen (eds.)(1995)	☐
	24	Watanabe et al., Effective Components in Cuttlefish Meal and Raw Krill for Improvement of Quality of Red Seabream Pagrus major Eggs, Nippon Suisan Gakkaishi 57(4):681-694 (1991)("Watanabe")	☐
	25	WHO News and Activities, Bulletin of the World Health Organization, 73(4), pp. 547-51 (1995) ("WHO Bulletin")	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-01-14
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2004/112767	WO		2004-12-29	Advanced Bionutrition Corp.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	1	European Search Report, EP Patent Application No. EP12187516, mailed June 10, 2013	☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☒ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2013-08-01
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2002322233	AU		2003-02-17	Neptune Technologies & Bioressources, Inc.		☐
	2	04057853	JP		1992-02-25	CHLORINE ENG CORP LTD		☒

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	AKBM-14409/US-5/ORD

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	CN Office Action mailed April 27, 2012, JP Patent Application No. 200880112125.6 (and English translation)	☒
	2	FRICKE, et al., Lipid, Sterol and Fatty Acid Composition of Antarctic Krill (Euphausia superba Dana), Lipids (1984) 19 (11): 821-827.	☐
	3	FRICKE, et al., 1-O-Alkylglycerolipids in Antarctic Krill (Euphausia Superba Dana), Comp. Biochem. Physiol. (1986) 85B(1): 131-134	☐
	4	GORDEEV, K.Y., et al. "Fatty Acid Composition of the Main Phospholipids of the Antarctic Krill, Euphausia superba," Chem. Nat. Cmpds. (1990) 26(2), pp. 143-147	☐
	5	GRANTHAM (1977) Southern Ocean Fisheries Survey Programme, FAO Rome, GLO/SO/77/3: 1-61.	☐
	6	RAVENTOS et al., Application and Posssibilities of Supercritical CO2 Extraction in Food Processing Industry: An Overview, Food Science and Technology International (2002) 8: 269-284	☐
	7	TANAKA, T., et al., Platelet-activating Factor (PAF)-like Phospholoipds Formed during Peroxidation of Phosphatidylcholines from Different Foodstuffs, Biosci. Biotech. Biochem. (1995) 59 (8), pp. 1389-93	☐
	8	WINTHER, et al., Elucidation of Phosphatidylcholine Composition in Krill Oil Extracted from Euphausia superba, Lipids (2011) 46: 25-36	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Receipt date: 02/12/2015

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775 14620784 - GAU: 1651
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	AKBM-14409/US-5/ORD

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-11-15
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of References Cited	Application/Control No. 12/057,775	Applicant(s)/Patent Under Reexamination BRUHEIM ET AL.	
	Examiner DEBBIE K. WARE	Art Unit 1651	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0113432	06-2003	Yoshitomi et al.	426/643
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	JP-A-S52-114046	JP		1977-09-24	Kokai		☐
	2	JP-A-S51-125774	JP		1976-11-02	Nichiro Gyogyo et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	JP Office Action mailed February 23, 2012, JP Patent Application No. 2010-522444 (and English translation)	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-03-21
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2003-530448	JP		2003-10-14	Westfalia Separator Industry GmbH		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	1	December 8, 2011 Office Action, KR Patent Application No. 10-2010-7006897 and its English translation	☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-02-20
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5266564		1993-11-30	Modolell	
	2	8030348		2011-10-04	Sampalis, Fotni	
	3	7666447		2010-02-23	Rockway	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20080166419		2008-07-10	Sones	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2004-534800	JP		2004-11-18	Kohyo		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	2	07/080515	WO		2007-07-19	Aker Biomarine ASA		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	SIKORSKI, E., "The Utilization of Krill For Food," Food Process Eng., 1:845-855 (1980)	☐
	2	BUDZINSKLI, E., et al., "Possibilities of processing and marketing of products made from Antarctic Krill", FAO Fish. Tech. Pap. (268) 46 pages (1985)	☐
	3	BUNEA R., et al.., "Evaluation of the Effects of Neptune Krill Oil on the Clinical Course of Hyperlipidemia," Alternative Medicine Review, Thorne Research Inc., Sandpoint, US, Vol. 9, No. 4, January 1, 2004	☐
	4	GORDEEV, K.Y., et al. "Fatty Acid Composition of the Main Phospholipids of the Antarctic Krill, Euphausia superba," Khim. Prirod. Soed. 2 (1990), pp. 181-187	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-01-24
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of References Cited	Application/Control No. 12/057,775	Applicant(s)/Patent Under Reexamination BRUHEIM ET AL.	
	Examiner DEBBIE K. WARE	Art Unit 1651	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2006/0193962	08-2006	Kamiya et al.	426/615
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1636
Examiner Name	
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4119619		1978-10-10	ROGOZHIN SERGEI VASILIEVICH et al.	
	2	5434183		1995-07-18	LARSSON-BACKSTROM	
	3	6537787		2003-03-25	GILDAS	
	4	6800299		2004-10-05	BEAUDOIN & MARTIN	
	5	5266564		1993-11-30	MODELELL et al	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030044495		2003-03-06	KAGAN and BRAUN	

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2008-03-28
(Not for submission under 37 CFR 1.99)	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	2	20040241249		2004-12-02	SAMPALIS	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	8701265	BR		1987-03-12	SATO		☐
	2	1098900	CA		1981-04-07	ROGOZHIN, et al		☐
	3	0609078	EP		1994-08-03	SCOTIA HOLDINGS PLC		☐
	4	1127497	EP		2001-08-29	NIPPON SUISAN KAISHA LTD		☐
	5	1406641	EP		2004-04-14	NEPTUNE TECHNOLOGIES & BIORESSOURCES INC.		☐
	6	670306	EP		1995-06-09	NIPPON OIL CO. LTD		☐
	7	2097014	GB		1982-10-27	BAIKOFF		☐
	8	921537	GB		1999-06-09	PICKER NORDSTAR INC.		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	12057775 14620784 - GAU: 1651
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1636
Examiner Name	
Attorney Docket Number	NATNUT-14409/US-5/ORD

	9	02049091	JP		1990-02-19	SUNTORY LTD		☐
	10	2215351	JP		1990-08-28	TAIYO FISHERY CO LTD.		☐
	11	2524217	JP		1996-08-14	TAIYO FISHERY CO LTD.		☐
	12	2963152	JP		1992-02-25	CHLORINE ENG CORP LTD		☐
	13	2000/23546	WO		2000-04-27	UNIV SHERBROOKE		☐
	14	3081692	JP		1994-07-19	CHLORINE ENG CORP LTD		☐
	15	3344887	JP		1997-07-08	IKEDA SHOKKEN KK		☐
	16	3467794	JP		2003-09-05	NIPPON OIL & FATS CO LTD		☐
	17	3486778	JP		2003-10-31	GREEN CROSS CORP		☐
	18	3611222	JP		1997-08-05	CHLORINE ENG CORP LTD		☐
	19	3678317	JP		2005-05-20	CHLORINE ENG CORP LTD		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	20	4012665	JP		1992-01-17	MATSUSHITA ELECTRIC IND CO LTD		☐
	21	61281159	JP		1986-12-11	SHISEIDO CO LTD; NIPPON SUISAN KAISHA LTD.		☐
	22	2001-158736	JP	A	2001-06-12	SNOW BRAND MILK PROD CO LTD		☐
	23	2003-003192	JP	A	2003-01-08	UNITIKA LTD		☐
	24	2003-048831	JP	A	2003-02-21	SUNTORY LTD		☐
	25	2003-146883	JP	A	2003-05-21	SNOW BRAND MILK PROD CO LTD		☐
	26	2003-531857	JP	A	2003-10-28	HENDERSON		☐
	27	2004-525180	JP	A	2004-08-19	YEDA RESEARCH AND DEVELOPMENT CO. LTD.		☐
	28	2004-536059	JP	A	2004-12-02	MARTEK BIOSCIENCES BOULDER CORPORATION		☐
	29	2005-245379	JP	A	2005-09-15	NIPPON SUISAN KAISHA LTD		☐
	30	2006-069948	JP	A	2006-03-16	HIROSE YUKIHIRO		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	31	2006-083136	JP	A	2006-03-30	SUNTORY LTD		☐
	32	2006-290784	JP	A	2006-10-26	HIROSE YUKIHIRO		☐
	33	2006-316073	JP	A	2006-11-24	IBR ISRAELI BIOTECHNOLOGY RESEARCH LTD		☐
	34	2006-328014	JP	A	2006-12-07	HIROSE YUKIHIRO		☐
	35	2006-502196	JP	A	2006-01-19	SUNTORY LIMITED		☐
	36	2006-528233	JP	A	2006-12-14	BTG INTERNATIONAL LIMITED		☐
	37	2007-126455	JP	A	2007-05-24	FUJI CHEM IND CO LTD		☐
	38	2007-246404	JP	A	2007-09-27	SNOW BRAND MILK PROD CO LTD		☐
	39	2007-502805	JP	A	2007-02-15	BTG INTERNATIONAL LIMITED		☐
	40	2007-509131	JP	A	2007-04-12	ENZYMOTEC LTD.		☐
	41	2007-518764	JP	A	2007-07-12	BRUZZESE		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	42	220741	SU		1971-01-06	KRGUCHKOV		☐
	43	1986/06082	WO		1986-10-23	MAT-CON RADGIVENDE INGENIØRFIRMA A/S		☐
	44	1990/05765	WO		1990-05-31	MIKALSEN		☐
	45	1993/24142	WO		1993-12-09	PHAIRSON MEDICAL AB		☐
	46	1997/38585	WO		1997-10-23	THE UNIVERSITY OF BRITISH COLUMBIA		☐
	47	1997/39759	WO		1997-10-30	BRIGHAM AND WOMEN'S HOSPITAL		☐
	48	1998/34498	WO		1998-08-13	BIOZYME SYSTEMS INC.		☐
	49	1999/39589	WO		1999-08-12	BIOZYME SYSTEMS INC.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	ANDO and HATANO, 1988, "Isolation of apolipoproteins from carotenoid-carrying lipoprotein in the serum of chum salmon, Oncorhynchus keta", J. Lipid Research, 29: 1264-1271	☐

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	2	AOI et al., 2003, "Astaxanthin limits exercise-induced skeletal and cardiac muscle damage in mice", Antioxidants & Redox Signaling, 5(1): 139-44	☐
	3	BRITTON, 1985, "General Carotenoid Methods", Methods in Enzymology, Vol 111, pp. 113-149	☐
	4	CALDER, 2006, "n-3 polyunsaturated fatty acids, inflammation, and inflammatory diseases", Am. J. Clin. Nutr., 83: 1505S	☐
	5	CHAREST et al., 2001, "Astaxanthin Extraction from Crawfish Shells by Supercritical CO2 with Ethanol as Cosolvent", J. Aquatic Food Product Technology, 10(3): 79-93	☐
	6	CHEN and MEYERS, 1982, "Extraction of Astaxanthin Pigment from Crawfish Waste Using a Soy Oil Process", J. Food Sci., 47: 892-896	☐
	7	CLARKE, 1980, "The Biochemical Composition of Krill, Euphausia superba dana,from South Georgia", J. Exp. Mar. Biol. Ecol., 43: 221-236	☐
	8	CZECZUGA, 1974, "Comparative Studies of Carotenoids in the Fauna of the Gullmar Fjord (Bohuslan, Sweden). II. Crustacea: Eupagurus bernhardus, Hyas coarctatus and Upogebia deltaura", Marine Biology, 28: 95-98	☐
	9	DE RITTER and PURCELL, 1981, "Carotenoid Analytical Methods", Carotenoids as Colorants and Vitamin A Precursors: Technological and Nutritional Applications, pp 815-882	☐
	10	DEUTCH, 1995, "Menstrual pain in Danish women correlated with low n-3 polyunsaturated fatty acid intake", Eur. J. Clin. Nutr., 49(7): 508-16	☐
	11	DIEZ et al., 2003, "The role of the novel adipocyte-derived hormone adiponectin in human disease", Eur. J. Endocrinol., 148(3): 293-300	☐
	12	ELLINGSEN et al., 1987, "Biochemistry of the autolytic processes in Antarctic krill post mortem. Autoproteolysis." Biochem. J. 246, 295-305	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	13	EMODI, 1978, "Carotenoids: Properties and Applications", Food Technology, 32(5): 38	☐
	14	FELIX-VALENZUELA et al., 2001, "Supercritical CO2/Ethanol Extraction of Astaxanthin from Blue Crab (Callinectes Sapidus) Shell Waste", Journal of Food Process Engineering, 24: 101-112	☐
	15	FOX and SCHEER, 1941, "Comparative Studies of the Pigments of Some Pacific Coast Echinoderms", The Biological Bulletin, 441-455	☐
	16	FRICKE, et al., 1984, "Lipid, Sterol and Fatty Acid Composition of Antarctic Krill (Euphausia superba Dana)", Lipids, 19 (11): 821-827	☐
	17	GEUSENS et al., 1994, "Long-term effect of omega-3 fatty acid supplementation in active rheumatoid arthritis. A 12-month, double-blind, controlled study", Arthritis Rheum., 37(6): 824-9	☐
	18	GILCHRIST and GREEN, 1960, "The Pigments of Artemia", Proceedings of the Royal Society, Series B Biological Sciences, Vol 152 No. 946, pp 118-136	☐
	19	GOODWIN and SRISUKH, 1949, "Some Observations on Astaxanthin Distribution in Marine Crustacea", Department of Biochemistry, University of Liverpool, pp. 268-270	☐
	20	GULYAEV and BUGROVA, 1976 "Removing fats from the protein paste "Okean". Konservnaya I Ovoshchesushil'naya Promyshlennost, (4), 37-8	☐
	21	HARDARDOTTIR and KINSELLA, 1988, "Extraction of Lipid and Cholesterol from Fish Muscle with Supercritical Fluids" Journal of Food Science, 53(6): 1656-1658	☐
	22	INTERNATIONAL AQUA FEED, 2006, Vol. 9	☐
	23	International Search Report and Written Opinion for PCT/GB2008/002934, Dated 2009-03-11	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	24	International Search Report and Written Opinion for PCT/IB2010/000512; dated 2010-06-24	☐
	25	International Search Report for PCT/IB2007/000098, dated: 2007-06-26	☐
	26	ITOH et al., 2007; "Increased adiponectin secretion by highly purified eicosapentaenoic acid in rodent models of obesity and human obese subjects", Arteriosclerosis, Thrombosis, and Vascular Biology; 27(9): 1918-1925	☐
	27	JOHNSON et al., 1978, "Simple Method for the Isolation of Astaxanthin from the Basidiomycetous Yeast Phaffia rhodozyma", Applied and Environmental Microbiology, 35(6): 1155-1159	☐
	28	KOLAKOWSKA, 1989, "Krill lipids after frozen storage of about one year in relation to storage time before freezing", Die Nahrung Food, 33(3): 241-244	☐
	29	KRIS-ETHERTON et al., 2002, "Fish Consumption, Fish Oil, Omega-3 Fatty Acids, and Cardiovascular Disease", Circulation, 106:2747-2757	☐
	30	KRISTENSEN et al., 1989, "Dietary supplementation with n-3 polyunsaturated fatty acids and human platelet function: a review with particular emphasis on implications for cardiovascular disease", J. Intern. Med. Suppl. 731:141-50	☐
	31	KUNESOVA et al., 2006, "The influence of n-3 polyunsaturated fatty acids and very low calorie diet during a short-term weight reducing regimen on weight loss and serum fatty acid composition in severely obese women", Physiol Res.; 55 (1):63-72	☐
	32	LAIGHT et al., 1999, "F2-isoprostane evidence of oxidant stress in the insulin resistant, obese Zucker rat: effects of vitamin E", Eur. J. Pharmacol. 377(1): 89-92	☐
	33	LAMBERTSON and BRAEKKAN, 1971, "Method of Analysis of Astaxanthin and its Occurrence in some Marine Products," J. Sci. Food. Agr., Vol 22(2): 99-101	☐
	34	LIBBY et al., 2006, "Inflammation and Atherothrombosis: From Population Biology and Bench Research to Clinical Practice", J. Amer. Coll. Card., 48 (9, Suppl. A): A33-A46	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	35	LOPEZ et al., 2004, "Selective extraction of astaxanthin from crustaceans by use of supercritical carbon dioxide", Talanta, 64: 726-731	☐
	36	MANDEVILLE, 1991, "Isolation and Identification of Carotenoid Pigments, Lipids and Flavor Active Components from Raw Commercial Shrimp Waste", Food Biotechnology, 5(2): 185-195	☐
	37	MEYERS and BLIGH, 1981, "Characterization of Astaxanthin Pigments from Heat-Processed Crawfish Waste", J. Agric. Food Chem., 29: 505-508	☐
	38	MEYERS, 1977, "Using Crustacean Meals and Carotenoid-Fortified Diets", Feedstuffs, Vol. 49(19)	☐
	39	MEYERS, 1994, "Developments in world aquaculture, feed formulations, and role of carotenoids", Pure & Appl. Chem, Vol. 66(5): 1069-1076	☐
	40	MILLS et al., 1989, "Dietary N-6 and N-3 fatty acids and salt-induced hypertension in the borderline hypertensive rat", Lipids, 24(1): 17-24	☐
	41	MOATES and VAN BENTEM, 1990, "Separating out the value", Food Science and Technology Today, 4(4): 213-214	☐
	42	NIKOLAEVA, 1967 "Amino acid composition of protein-coagulate in krill", VNIRO, 63:161-4	☐
	43	PHLEGER, et al. (2002) "Interannual and between species comparison in the lipids, fatty acids, and sterols of Antarctic krill from the US AMLR Elephant Island survey area: 1997 and 1998". Comp Biochem Physiol 131B:733–747	☐
	44	POPP-SNIJDERS et al., 1987, "Dietary supplementation of omega-3 polyunsaturated fatty acids improves insulin sensitivity in non-insulin-dependent diabetes", Diabetes Res. 4(3): 141-7	☐
	45	SACHINDRA, 2006, "Recovery of carotenoids from shrimp waste in organic solvents", Waste Management, 26: 1092-1098	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH./D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	46	SAETHER et al., 1986, "Lipids of North Atlantic krill", J Lipid Res., 27(3):274-85.	☐
	47	SHAHIDI et al., 1998, "Carotenoid Pigments in Seafoods and Aquaculture" Critical Reviews in Food Science, 38(1): 1-67	☐
	48	SIDEHU et al., 1970, "Biochmical Composition and Nutritive Value of Krill (Euphausia superb dana)", J. Sci Food Agr., Vol 21, 293-296	☐
	49	SIMOPOULOS, 1991, "Omega-3 fatty acids in health and disease and in growth and development", Am. Clin. Nutr. 54:438-63	☐
	50	SOMIYA, 1982, "'Yellow lens' eyes of a stomiatoid deep-sea fish, Malacosteus niger", Proc. R. Soc. Lond., 215: 481-489	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim, et al.
Art Unit	1651
Examiner Name	Susan Marie Hanley
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2000/25608	WO		2000-05-11	NIPPON SUISAN KAISHA, LTD.		☐
	2	2000/38708	WO		2000-07-06	PHAIRSON MEDICAL INC.		☐
	3	2002/102394	WO		2002-12-27	NEPTUNE TECHNOLOGIES & BIORESS		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.M.H./ /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	4	2003/011873	WO		2003-02-13	NEPTUNE TECHNOLOGIES & BIORESSOURCES INC.		☐
	5	2005/004393	WO		2005-01-13	KONIN-KLIJKE PHILIPS ELECTRONICS N.V.		☐
	6	2005/037848	WO		2005-04-28	ENZYMOTEC LTD.		☐
	7	2005/038037	WO		2005-04-28	ENZYMOTEC INC.		☐
	8	2007/080514	WO		2007-07-19	KRILL A/S		☐
	9	2007/080515	WO		2007-07-19	AKER BIOMARINE ASA		☐
	10	2007/108702	WO		2007-09-27	AKER SEAFOODS HOLDING AS		☐
	11	2008/006607	WO		2008-01-17	NATTOPHARMA ASA		☐
	12	2008/117062	WO		2008-10-02	AKER BIOMARINE ASA		☐
	13	2009/027692	WO		2009-03-05	AKER BIOMARINE ASA		☐
	14	2001/028526	WO		2001-04-26	TRUFFINI & REGGE FARMACEUTICI		☐

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	15	2004/047554	WO		2004-06-10	PHARES PHARM RES NV		☐
	16	0973532	EP		2005-09-07	I.B.R ISRAELI BIOTECHNOLOGY RESEARCH LTD.		☐
	17	1123368	EP		2008-04-09	UNIVERSITE DE SHERBROOKE		☐
	18	1292294	EP		2009-03-18	ACCERA, INC.		☐
	19	2001/082928	WO		2001-11-08	HENDERSON		☐
	20	2003/013497	WO		2003-02-20	SUNTORY LIMITED		☐
	21	1419768	EP		2009-01-07	NEPTUNE TECHNOLOGIES & BIORESSOURCES, INC.		☐
	22	1385500	EP		2010-07-28	YEDA RESEARCH AND DEVELOPMENT CO. LTD		☐
	23	2002/083122	WO		2002-10-24	YEDA RESEARCH AND DEVELOPMENT CO. LTD		☐
	24	1392623	EP		2004-03-03	MARTEK BIOSCIENCES BOULDER CORPORATION		☐
	25	2002/092540	WO		2002-11-21	MARTEK BIOSCIENCES BOULDER CORPORATION		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	26	1406641	EP		2009-01-07	NEPTUNE TECHNOLOGIES & BIORESSOURCES, INC.		☐
	27	2005/070411	WO		2005-08-04	BRUZZESE		☐
	28	1542670	EP		2005-06-22	SUNTORY LIMITED	Identical to WO2004028529	☐
	29	2004/028529	WO		2004-04-08	SUNTORY LIMITED		☐
	30	1743531	EP		2007-01-17	NIPPON SUISAN KAISHA, LTD		☐
	31	1631280	EP		2008-03-08	BTG INTERNATIONAL LIMITED		☐
	32	2004/100943	WO		2004-11-25	BTG INTERNATIONAL LIMITED		☐
	33	1660071	EP		2006-05-31	BTG INTERNATIONAL LIMITED		☐
	34	2005/018632	WO		2005-03-03	BTG INTERNATIONAL LIMITED		☐
	35	2006/030552	WO		2006-03-23	SUNTORY LIMITED		☐
	36	1689413	EP		2006-08-16	ENZYMOTEC LTD.		☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2008-03-28
(Not for submission under 37 CFR 1.99)	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	37	1706106	EP		2009-07-15	BRUZZESE		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button [Add]

NON-PATENT LITERATURE DOCUMENTS [Remove]

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	TAKAICHI et al., 2003, "Fatty Acids of astaxanthin esters in krill determined by mild mass spectrometry", Comparative Biochemistry and Physiology Part B, Biochemistry and Molecular Biology, Elsevier, Oxford, Vol. 136, 1 January 2003, p. 317-322;	☐
	2	TANAKA et al., 2004, "Extraction of Phospholipids from Salmon Roe with Supercritical Carbon Dioxide and an Entrainer", J. Oleo Sci, 53(9): 417-424	☐
	3	TANAKA et al., 2005, "Extraction of Phospholipids from Unused Natrual Resources with Supercritical Carbon Dioxide and an Entrainer", Journal of Oleo Science, Vol. 54(11): 569-576	☐
	4	TODORIC et al., 2006, "Adipose tissue inflammation induced by high-fat diet in obese diabetic mice is prevented by n-3 polyunsaturated fatty acids", Diabetologia, 49(9): 2109-2119	☐
	5	TOU et al., 2007, "Krill for human consumption: nutritional value and potential health benefits.", Nutrition Rev 65 (2):63-77	☐
	6	TRAYHURN et al., 2004, "Adipokines: inflammation and the pleiotropic role of white adipose tissue", Br. J. Nutrition, 92(3): 347-355	☐
	7	TREBBLE et al., 2003, "Inhibition of tumour necrosis factor-alpha and interleukin 6 production by mononuclear cells following dietary fish-oil supplementation in healthy men and response to antioxidant co-supplementation", Br. J. Nutrition, 90(2): 405-412	☐
	8	UKKOLA et al., 2002, "Adiponectin: a link between excess adiposity and associated comorbidities?", J. Mol. Med., 80 (11): 696-702	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	9	VAN DER VEEN et al., 1971 "The Lipids of Krill (Euphausia Species) and Red Crab (Pleuroncodes Planipes)", Lipids, 6(7): 481-485	☐
	10	VIRTUE, et al. 1996, Reproductive trade-off in male Antarctic krill, Euphausia superba", Marine Biology, Volume 126, Number 3, Pages 521-527	☐
	11	YAMAGUCHI et al., 1983, "The Composition of Carotenoid Pigments in the Antarctic Krill Euphausia superba", Bulletin of the Japanese Society of Scientific Fisheries, 49(9): 1411-1415	☐
	12	YAMAGUCHI et al., 1986, "Supercritical Carbon Dioxide Extraction Of Oils From Antarctic Krill," Journal Of Agricultural And Food Chemistry, vol. 34, pp. 904-907	☐
	13	YANASE M; 1974, "Modification of a Russian method for separation of heat-coagulated protein from Antarctic krill", Database FSTA (online); International Food Information Service (IFIS); FRANKFURT-MAIN, DE	☐
	14	YEN et al., 1994, "Effect of dietary omega-3 and omega-6 fatty acid sources on PUVA-induced cutaneous toxicity and tumorogenesis in the hairless mouse", Arch. Dermatol. Res., 286(6): 331-6	☐
	15	DATABASE WPI Week 200682, Thomson Scientific, London, GB, 2006	☐
	16	ENGLISH ABSTRACT; JP 2003-531857; See abstract from corresponding WO 2001/082928 filed herewith	☐
	17	ENGLISH ABSTRACT; JP 2004-525180; See abstract from corresponding WO 2002/083122 filed herewith	☐
	18	ENGLISH ABSTRACT; JP 2006-528233; See abstract from corresponding WO 2004/100943 filed herewith	☐
	19	ENGLISH ABSTRACT; JP 2007-502805; See abstract from corresponding WO 2005/018632 filed herewith	☐

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

Receipt date: 02/12/2015	Application Number	12057775 14620784 - GAU: 1651
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	20	ENGLISH ABSTRACT; JP 2007-509131; See abstract from corresponding WO 2005/037848 filed herewith	☐
	21	ENGLISH ABSTRACT; JP 2007-518764; See abstract from corresponding WO 2005/070411 filed herewith	☐
	22	ENGLISH ABSTRACT; JP 2004-536059; See abstract from corresponding WO 2002/09254 filed herewith	☐
	23	ENGLISH ABSTRACT; JP 2006-502196; See abstract from corresponding WO 2004/028529 filed herewith	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/Deborah Ware/	Date Considered	04/06/2015

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W./

WEST Search History for Application 14620784

Creation Date: 2015040611:46

Prior Art Searches

Query	DB	Op.	Plur.	Thes.	Date
krill and Euphausia and superba and oil	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(krill and Euphausia and superba and oil) and phospholipid and phosphatidylchoine and astaxanthin	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(krill and Euphausia and superba and oil) and "ether phospholipids"	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
Bruheim.in. and Inge.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
Snorre.in. and Tilseth.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI,	OR	YES		04-06-2015

	TDBD, FPRS				
Daniele.in. and Mancinelli.in.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Bruheim.in. and Inge.in.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Snorre.in. and Tilseth.in.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Daniele.in. and Mancinelli.in.) and krill.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Daniele.in. and Mancinelli.in. and krill.clm.) and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Snorre.in. and Tilseth.in. and krill.clm.) and oil.clm.	PGPB, USPT, USOC, EPAB,	OR	YES		04-06-2015

	JPAB, DWPI, TDBD, FPRS				
(Snorre.in. and Tilseth.in. and krill.clm. and oil.clm.) and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(Bruheim.in. and Inge.in. and krill.clm.) and oil.clm. and phospholipid.clm.	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
(krill and Euphausia and superba and oil and "ether phospholipids") and ((A61K2300/00 | A61K31/122 | A61K31/685 | A61K35/612 | A61K31/683 | A61K31/23 | A61K31/202 | A61K45/06 | A61K9/4858 | A61K31/133 | A61K31/198 | A61K31/201 | A61K31/232 | A61K31/575 | A61K31/661 | A61K35/60 | A61K38/1767 | A61K9/2009 | A61K9/2054 | A61K9/2866 | A61K31/194 | A23V2002/00 | A23V2250/1868 | A23V2250/187 | A23V2200/322 | A23V2250/1866 | A23V2250/1882 | A23V2250/5432 | A23L1/3006 | A23L1/305 | A23L1/33 | A23L1/3008 | A23L1/0026 | A23L1/30 | A23L1/302 | A23L1/326 | C11B3/006 | C11B1/06 | C11B1/10 | A23D9/013 | A23D7/011 | A23D9/00 | A23K1/103 | A23K1/1606 | A23K1/164 | A23K1/188 | C07F9/103 | C07F9/113 | A23J7/00 | A23G3/40 | A23G3/364 | A23G3/368 | A23G3/54 | C07C57/03).CPC.)	PGPB, USPT, USOC, EPAB, JPAB, DWPI, TDBD, FPRS	OR	YES		04-06-2015
20060193962	PGPB	OR	YES		04-06-2015
(20060193962) and krill and oil	PGPB	OR	YES		04-06-2015
20030113432	PGPB	OR	YES		04-06-2015
4814111.pn.	USPT	OR	YES		04-06-2015
(4814111.pn.) and krill	USPT	OR	YES		04-06-2015
"polar krill oil" and "phospholipids" and "phosphatidycholine"	PGPB, USPT, USOC,	OR	YES		04-06-2015

	EPAB, JPAB, DWPI, TDBD, FPRS				

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON WI 53562

MAILED
MAR 16 2015
OFFICE OF PETITIONS

Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.: 14/620,784

1. THE REQUEST FILED February 12, 2015 IS **GRANTED.**

The above-identified application has met the requirements for prioritized examination

A. ☒ for an original nonprovisional application (Track I).
B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

A. filing a **petition for extension of time** to extend the time period for filing a reply;
B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;
C. filing a **request for continued examination**;
D. filing a notice of appeal;
E. filing a request for suspension of action;
F. mailing of a notice of allowance;
G. mailing of a final Office action;
H. completion of examination as defined in 37 CFR 41.102; or
I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Brian W. Brown at 571-272-5338.

/Brian W. Brown/
[*Signature*]

Petitions Examiner, Office of Petitions
(Title)

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON

CONFIRMATION NO. 1577

72960
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

POA ACCEPTANCE LETTER

OC000000073928728

Date Mailed: 03/12/2015

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/04/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/mtegene/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/620,784

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1600

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/620,784	02/12/2015	1655	1740	AKBM-14409/US-11/CON	20	2

CONFIRMATION NO. 1577

72960
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

UPDATED FILING RECEIPT

OC00000073928754

Date Mailed: 03/12/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Inge Bruheim, Volda, NORWAY;
Snorre Tilseth, Bergen, NORWAY;
Daniele Mancinelli, Orsta, NORWAY;

Applicant(s)

AKER BIOMARINE ANTARCTIC AS, Stamsund, NORWAY

Power of Attorney: The patent practitioners associated with Customer Number 72960

Domestic Priority data as claimed by applicant

This application is a CON of 12/057,775 03/28/2008
which claims benefit of 60/920,483 03/28/2007
and claims benefit of 60/975,058 09/25/2007
and claims benefit of 60/983,446 10/29/2007
and claims benefit of 61/024,072 01/28/2008

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 02/24/2015

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/620,784**

Projected Publication Date: 06/18/2015

Non-Publication Request: No

Early Publication Request: No

Title

BIOEFFECTIVE KRILL OIL COMPOSITIONS

Preliminary Class

424

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Inge Bruheim, *et al.*	
Serial No.:	14/620,784	Group No.: TBD
Filed:	February 12, 2015	Examiner: TBD
Entitled:	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

RESPONSE NOTICE TO FILE MISSING PARTS
FILED UNDER 37 CFR 1.53(b)

EFS Web Filed
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir or Madam:

In a Notice to File Missing Parts mailed February 26, 2015, Applicants were notified that they were given two months to file all required items. Applicants submit herewith the executed declarations and the required fee.

The $140.00 large entity surcharge is believed due. Please charge this fee to Deposit Account 50-4302. No other fee is believed due. However, should any other fee be due please charge it to Deposit Account 50-4302 referencing attorney docket number **AKBM-14409/US-11/CON.**

Dated: March 2, 2015

/J. Mitchell Jones/

J. Mitchell Jones
Registration No. 44,174
CASIMIR JONES, S.C.
2275 Deming Way Suite 310
Middleton, WI 53562
608 662 1277

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/620,784

filed on 12-Feb-2015

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Inge Bruheim Date (Optional): 2/12-2015

Signature: Inge Bruheim

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS

As the below named inventor, I hereby declare that:

This declaration is directed to:

- ☐ The attached application, or
- ☒ United States application or PCT international application number 14/620,784 filed on 12-Feb-2015

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Daniele Mancinelli Date (Optional): 17/02/2015

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/620,784

filed on 12-Feb-2015

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Snorre Tilseth Date (Optional): 2016 02 / 15

Signature: S. Tilseth

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/620,784	12-Feb-2015

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 72960

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

AKER BIOMARINE ANTARCTIC AS

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	
Name	Haiwei Hwei		
Title	CEO		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14620784
Filing Date:	12-Feb-2015
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Filer:	John Mitchell Jones/Mallory Checkett
Attorney Docket Number:	AKBM-14409/US-11/CON

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	1051	1	140	140
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**140**

Electronic Acknowledgement Receipt

EFS ID:	21637391
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	04-MAR-2015
Filing Date:	12-FEB-2015
Time Stamp:	15:27:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$140
RAM confirmation Number	2059
Deposit Account	504302
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	14409US11CON_RMP.pdf	116203 72296a0c9a72d72fbd4a4f7e5d3b4ce95d3b0734	no	1
Warnings:					
Information:					
2	Oath or Declaration filed	14409US11CON_Declarations_EXEC.pdf	392360 7f9e833a8cddc495f007357fab2130bb203910c3	no	6
Warnings:					
Information:					
3	Power of Attorney	14409US11CON_PowerofAttorney_EXEC.pdf	208202 52e1c91b30adf3a21261fa95f0cd88ae5e388e94	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30515 26a77a189d23b249e94fa2dad5ad95d43099ce56	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	747280		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/620,784	02/12/2015	1655	1600	AKBM-14409/US-11/CON	20	2

CONFIRMATION NO. 1577

72960
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

FILING RECEIPT

OC00000007359564 7

Date Mailed: 02/26/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Inge Bruheim, Volda, NORWAY;
Snorre Tilseth, Bergen, NORWAY;
Daniele Mancinelli, Orsta, NORWAY;

Applicant(s)

AKER BIOMARINE ANTARCTIC AS, Stamsund, NORWAY

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 12/057,775 03/28/2008
which claims benefit of 60/920,483 03/28/2007
and claims benefit of 60/975,058 09/25/2007
and claims benefit of 60/983,446 10/29/2007
and claims benefit of 61/024,072 01/28/2008

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 02/24/2015

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/620,784**

Projected Publication Date: 06/04/2015

Non-Publication Request: No

Early Publication Request: No

Title

BIOEFFECTIVE KRILL OIL COMPOSITIONS

Preliminary Class

424

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/620,784

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1600

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/620,784	02/12/2015	Inge Bruheim	AKBM-14409/US-11/CON

CONFIRMATION NO. 1577

72960
Casimir Jones, S.C.
2275 DEMING WAY, SUITE 310
MIDDLETON, WI 53562

FORMALITIES LETTER

OC000000073595648

Date Mailed: 02/26/2015

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing.

Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- Surcharge as set forth in 37 CFR 1.16(f) must be submitted.
  The surcharge is due for any one of:
  - late submission of the basic filing fee, search fee, or examination fee,
  - late submission of inventor's oath or declaration,
  - filing an application that does not contain at least one claim on filing, or
  - submission of an application filed by reference to a previously filed application.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are itemized below. No entity status discount is in effect. If applicant is qualified for small entity status, a written assertion of small entity status must be submitted to establish small entity status. (See 37 CFR 1.27). If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- $ **140** surcharge.
- $(**0**) previous unapplied payment amount.
- $ **140** TOTAL FEE BALANCE DUE.

Items Required To Avoid Processing Delays:

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

• A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Inge Bruheim
Snorre Tilseth
Daniele Mancinelli

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/makanno/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 14620784 Document Date: 02/12/2015

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: August 26, 2013

Doc Code: TRACK1.REQ
Document Description: TrackOne Request

PTO/AIA/424 (04-14)

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	Inge Bruheim	Nonprovisional Application Number (if known):	
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☑ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, **or** the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /J. Mitchell Jones/	Date 2015-02-12
Name (Print/Typed) J. Mitchell Jones	Practitioner Registration Number 44174

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☑ *Total of 1 forms are submitted.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	AKBM-14409/US-11/CON
	Application Number	
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Inge		Bruheim	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Volda	Country of Residence i	NO

Mailing Address of Inventor:

Address 1	Storhagen 24		
Address 2			
City	Volda	**State/Province**	
Postal Code	6100	**Country** i	NO

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Snorre		Tilseth	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Bergen	Country of Residence i	NO

Mailing Address of Inventor:

Address 1	Fantoftasen 27 A		
Address 2			
City	Bergen	**State/Province**	
Postal Code	5027	**Country** i	NO

Inventor 3 Remove

Legal Name

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	AKBM-14409/US-11/CON
	Application Number	
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

Prefix	Given Name	Middle Name	Family Name	Suffix
	Daniele		Mancinelli	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Orsta	Country of Residence i	NO

Mailing Address of Inventor:

Address 1	Vikegeila 15		
Address 2			
City	Orsta	**State/Province**	
Postal Code	6150	**Country** i	NO

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	72960		
Email Address	docketing@casimirjones.com	Add Email	Remove Email

Application Information:

Title of the Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS		
Attorney Docket Number	AKBM-14409/US-11/CON	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	19	**Suggested Figure for Publication (if any)**	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	AKBM-14409/US-11/CON
	Application Number	
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	72960		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12057775	2008-03-28
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12057775	non provisional of	60920483	2007-03-28
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12057775	non provisional of	60975058	2007-09-25
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12057775	non provisional of	60983446	2007-10-29
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
12057775	non provisional of	61024072	2008-01-28

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) [i]the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	AKBM-14409/US-11/CON
	Application Number	
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code [i] (if applicable)

Remove

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	AKBM-14409/US-11/CON
	Application Number	
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(●) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. [X]

Organization Name	AKER BIOMARINE ANTARCTIC AS

Mailing Address Information:

Address 1	J.M. Johansens vei 99		
Address 2			
City	Stamsund	**State/Province**	
Country [i]	NO	Postal Code	8340
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee is an Organization check here. [ ]

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	AKBM-14409/US-11/CON
	Application Number	
Title of Invention	BIOEFFECTIVE KRILL OIL COMPOSITIONS	

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:

Address 1	
Address 2	

City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the Add button. Add

Remove

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/J. Mitchell Jones/			Date (YYYY-MM-DD)	2015-02-12
First Name	J. Mitchell	Last Name	Jones	Registration Number	44174

Additional Signature may be generated within this form by selecting the Add button. Add

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

BIOEFFECTIVE KRILL OIL COMPOSITIONS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of pending U.S. Patent Application No. 12/057,775, filed March 28, 2008, which claims the benefit of expired U.S. Provisional Patent Application No. 60/920,483, filed March 28, 2007, expired U.S. Provisional Patent Application No. 60/975,058, filed September 25, 2007, expired U.S. Provisional Patent Application No. 60/983,446, filed October 29, 2007, and expired U.S. Provisional Patent Application No. 61/024,072, filed January 28, 2008, all of which are incorporated by reference herein in their entirety.

FIELD OF THE INVENTION

This invention relates to extracts from Antarctic krill that comprise bioactive fatty acids.

BACKGROUND OF THE INVENTION

In the Southern Ocean, off the coast of Antarctica, Antarctic krill (*Euphausia superba)* can be found in large quantities, ranging from 300-500 million metric tons of biomass. It feeds on phytoplankton during the short Antarctic summer. During winter, however, its food supply is limited to ice algae, bacteria, marine detritus as well as depleting body protein for energy.

In order to isolate the krill oil from the krill, solvent extraction methods have been used. See, e.g., WO 00/23546. Krill lipids have been extracted by placing the material in a ketone solvent (e.g. acetone) in order to extract the lipid soluble fraction. This method involves separating the liquid and solid contents and recovering a lipid rich fraction from the liquid fraction by evaporation. Further processing steps include extracting and recovering by evaporation the remaining soluble lipid fraction from the solid contents by using a solvent such as ethanol. See, e.g., WO 00/23546. The compositions produced by these methods are characterized by containing at least 75 μg/g astaxanthin, preferably 90 μg/g astaxanthin. Another krill lipid extract disclosed contained at least 250 μg/g canastaxanthin, preferably 270 μg/g canastaxanthin.

Krill oil compositions have been described as being effective for decreasing cholesterol, inhibiting platelet adhesion, inhibiting artery plaque formation, preventing hypertension, controlling arthritis symptoms, preventing skin cancer, enhancing transdermal transport, reducing

the symptoms of premenstrual symptoms or controlling blood glucose levels in a patient. See, e.g., WO 02/102394. In yet another application, a krill oil composition has been disclosed comprising a phospholipid and/or a flavonoid. The phospholipid content in the krill lipid extract could be as high as 60% w/w and the EPA/DHA content as high as 35% (w/w). See, e.g., WO 03/011873.

Furthermore, nutraceuticals, pharmaceuticals and cosmetics comprising the phospholipid extract were disclosed. Previously, it was also shown that supercritical fluid extraction using neat CO_2 could be used to prevent the extraction of phospholipids in order to extract the neutral lipid fraction from krill, which comprised of esterified and free astaxanthin. See, e.g., Yamaguchi et al., *J. Agric. Food Chem.* (1986), 34(5), 904-7. Supercritical fluid extraction with solvent modifier has previously been used to extract marine phospholipids from salmon roe, but has not been previously used to extract phospholipids from krill meal. See, e.g., Tanaka et al., J. Oleo Sci. (2004), 53(9), 417-424.

The methods described above rely on the processing of frozen krill that are transported from the Southern Ocean to the processing site. This transportation is both expensive and can result in degradation of the krill starting material. Data in the literature showing a rapid decomposition of the oil in krill explains why some krill oil currently offered as an omega-3 supplement in the marketplace contains very high amounts of partly decomposed phosphatidylcholine and also partly decomposed glycerides. Saether et al., Comp. Biochem Phys. B 83B(1): 51-55 (1986). The products offered also contain high levels of free fatty acids.

What is needed in the art are methods for processing krill that do not require transport of frozen krill material over long distances and the products produced by those methods.

SUMMARY OF THE INVENTION

In a first aspect of the invention is a composition characterized by comprising at least 65% (w/w) phospholipids.

In another aspect of the invention is a composition obtained from aquatic or marine sources, characterized by comprising 65% (w/w) phospholipids.

In yet another aspect of the invention is a composition obtained from krill, characterized by comprising at least 65% (w/w) phospholipids.

In another aspect of the invention is a composition obtained from krill, characterized by comprising at least 65% (w/w) phospholipids and at least 39% omega-3 fatty acids (w/w).

In yet another aspect of the invention is a composition obtained from krill, characterized by comprising at least 65% (w/w) phospholipids, at least 39% omega-3 fatty acids (w/w) and at least 580 mg/kg astaxanthin esters.

In another aspect of the invention is a composition obtained from krill, characterized by comprising at least 39% omega-3 fatty acids (w/w) and at least 580 mg/kg astaxanthin esters.

In yet another aspect of the invention is a composition obtained from krill, characterized by comprising at least 65% (w/w) phospholipids and at least 580mg/kg astaxanthin esters.

In yet another aspect, the present invention provides a krill oil effective for reducing insulin resistance, improving blood lipid profile, reducing inflammation or reducing oxidative stress.

In some embodiments, the present invention provides compositions comprising: from about 3% to 10% ether phospholipids on a w/w basis; from about 35% to 50% non-ether phospholipids on w/w basis, so that the total amount of ether phospholipids and non-ether phospholipids in the composition is from about 48% to 60% on a w/w basis; from about 20% to 45% triglycerides on a w/w basis; and from about 400 to about 2500 mg/kg astaxanthin. In some embodiments, the ether phospholipids are selected from the group consisting of alkylacylphosphatidylcholine, lyso-alkylacylphosphatidylcholine, alkylacylphosphatidylethanolamine, and combinations thereof. In some embodiments, the ether lipids are greater than 90% alkylacylphosphatidylcholine. In some embodiments, the non-ether phospholipids are selected from the group consisting of phosphatidylcholine, phosphatidylserine, phosphatidylethanolamine and combinations thereof. In some embodiments, krill oil composition comprises a blend of lipid fractions obtained from krill. In some preferred embodiments, krill is *Euphausia superba*, although other krill species also find use in the present invention. Other krill species include, but are not limited to *E. pacifica, E. frigida, E. longirostris, E. triacantha, E. vallentini, Meganyctiphanes norvegica, Thysanoessa raschii* and *Thysanoessa inermis*. In some embodiments, the compositions comprise from about 25% to 30% omega-3 fatty acids as a percentage of total fatty acids and wherein from about 80% to 90% of said omega-3 fatty acids are attached to said phospholipids. In some embodiments, the present invention provides a capsule containing the foregoing compositions.

In further embodiments, the present inventions provide compositions comprising: from about 3% to 10% ether phospholipids on a w/w basis; and from about 400 to about 2500 mg/kg astaxanthin. In some embodiments, the compositions further comprise from about 35% to 50% non-ether phospholipids on w/w basis, so that the total amount of ether phospholipids and non-ether phospholipids in the composition is from about 38% to 60% on a w/w basis. In some embodiments, the compositions further comprise from about 20% to 45% triglycerides on a w/w basis. In some embodiments, the ether phospholipids are selected from the group consisting of alkylacylphosphatidylcholine, lyso-alkylacylphosphatidylcholine, alkylacylphosphatidylethanolamine, and combinations thereof. In some embodiments, the ether lipids are greater than 90% alkylacylphosphatidylcholine. In some embodiments, the non-ether phospholipids are selected from the group consisting of phosphatidylcholine, phosphatidylserine, phosphatidylethanolamine and combinations thereof. In some embodiments, krill oil composition comprises a blend of lipid fractions obtained from krill. In some preferred embodiments, krill is *Euphausia superba*, although other krill species also find use in the present invention. Other krill species include, but are not limited to *E. pacifica, E. frigida, E. longirostris, E. triacantha, E. vallentini, Meganyctiphanes norvegica, Thysanoessa raschii* and *Thysanoessa inermis*. In some embodiments, the compositions comprise about 25% to 30% omega-3 fatty acids as a percentage of total fatty acids and wherein from about 80% to 90% of said omega-3 fatty acids are attached to said phospholipids. In some embodiments, the present invention provides a capsule containing the foregoing compositions.

In some embodiments, the present invention provides a composition comprising at least 65% (w/w) of phospholipids, said phospholipids characterized in containing at least 35% omega-3 fatty acid residues. In some preferred embodiments, the composition is derived from a marine or aquatic biomass. In some further preferred embodiments, the composition is derived from krill. In some embodiments, the composition comprises less than 2% free fatty acids. In some embodiments, composition comprises less than 10% triglycerides. In some preferred embodiments, the phospholipids comprise greater than 50% phosphatidylcholine. In some embodiments, the composition comprises at least 500 mg/kg astaxanthin esters. In some embodiments, the composition comprises at least 500 mg/kg astaxanthin esters and at least 36% (w/w) omega-3 fatty acids. In some embodiments, the composition comprises less than about

0.5g/100g total cholesterol. In some embodiments, the composition comprises less than about 0.45% arachidonic acid (w/w).

In some embodiments, the present invention provides a krill lipid extract comprising at least 500, 100, 1500, 2000, 2100, or 2200 mg/kg astaxanthin esters and at least 36% (w/w) omega-3 fatty acids. In further embodiments, the present invention provides a krill lipid extract comprising at least 100 mg/kg astaxanthin esters, at least 20% (w/w) omega-3 fatty acids, and less than about 0.45% arachidonic acid (w/w).

In some embodiments, the present invention provides methods comprising administering the foregoing compositions to a subject in an amount effective for reducing insulin resistance, reducing inflammation, improving blood lipid profile and reducing oxidative stress.

In some embodiments, the present invention provides a krill lipid extract comprising greater than about 80% triglycerides and greater than about 90, 100, 500, 1000, 1500, 200, 2100 or 2200 mg/kg astaxanthin esters. In some embodiments, the krill lipid extract is characterized in containing from about 5% to about 15% omega-3 fatty acid residues. In some embodiments, the krill lipid extract is characterized in containing less than about 5% phospholipids. In some embodiments, the krill lipid extract is characterized in comprising from about 5% to about 10% cholesterol.

In some embodiments, the present invention provides a krill meal composition comprising less than about 50g/kg total fat. In some embodiments, the krill meal composition comprises from about 5 to about 20 mg/kg astaxanthin esters. In some embodiments, the krill meal composition comprises greater than about 65% protein. In some embodiments, the krill meal composition of comprises greater than about 70% protein. In some further embodiments, the present invention provides an animal feed comprising the krill meal composition.

In some embodiments, the present invention provides methods of increasing flesh coloration in an aquatic species comprising feeding said aquatic species a composition comprising the krill meal described above. In some embodiments, the present invention provides methods of increasing growth and overall survival rate of aquatic species by feeding the krill meal described above.

In some embodiments, the present invention provides methods of producing krill oil comprising: a) providing krill meal; and b) extracting oil from said krill meal. In some embodiments, the krill meal is produced by heat-treating krill. In some embodiments, the krill

meal is stored prior to the extraction step. In some embodiments, the extracting step comprises extraction by supercritical fluid extraction. In some embodiments, the supercritical fluid extraction is a two step process comprising a first extraction step with carbon dioxide and a low concentration of a co-solvent (e.g., from about 1-10% co-solvent) and a second extraction step with carbon dioxide and a high concentration of a co-solvent (e.g., from about 10-30% co-solvent). In preferred embodiments, the co-solvent is a C_1-C_3 monohydric alcohol, preferably ethanol. In some embodiments, the present invention provides oil produced by the foregoing method.

In some embodiments, the present invention provides methods of production of krill oil comprising: a) providing fresh krill; b) treating said fresh krill to denature lipases and phospholipases in said fresh krill to provide a denatured krill product; and c) extracting oil from said denatured krill product. In some embodiments, the denaturation step comprises heating of said fresh krill. In some embodiments, the denaturation step comprises heating said fresh krill after grinding. In some embodiments, the methods further comprise storing said denatured krill product at room temperature or below between the denaturation step and the extraction step. In some embodiments, the enzyme denaturation step is achieved by application of heat. In some embodiments, the extraction step comprises use of supercritical carbon dioxide, with or without use of a polar modifier. In some embodiments, the extraction step comprises use of ethanol. In some embodiments, the extraction step is comprises ethanol extraction followed by acetone to precipitation of phospholipids. In some embodiments, the denatured krill product is a meal. In some embodiments, the present invention provides oil produced by the foregoing method.

In some embodiments, the present invention provides a composition comprising oil extracted from krill having a phosphatidylcholine content of greater then about 50% (w/w). In some embodiments, the oil has a phosphatidylcholine content of greater then about 70% (w/w). In some embodiments, the oil has a phosphatidylcholine content of greater then about 80% (w/w). In some embodiments, the composition comprises less than 2% free fatty acids. In some embodiments, the composition comprises less than 10% triglycerides. In some embodiments, the composition comprises at least 500 mg/kg astaxanthin esters. In some embodiments, the composition comprises less than about 0.45% arachidonic acid (w/w).

In some embodiments, the present invention provides composition comprising odorless krill oil. In some embodiments, the odorless krill oil comprises less than about 10 mg/kg (w/w)

trimethylamine. In some further embodiments, the present invention provides an odorless krill oil produced by the method comprising: extracting a neutral krill oil from a krill oil containing material by supercritical fluid extraction to provide a deodorized krill material, wherein said neutral krill oil contains odor causing compounds and extracting a polar krill oil from said deodorized krill material by supercritical fluid extraction with a polar entrainer to provide an essentially odorless krill oil.

In some embodiments, the present invention provides a composition comprising krill oil containing less than about 70 micrograms/kilogram (w/w) astaxanthin esters. In some embodiments, the compositions comprise less than about 50 micrograms/kilogram (w/w) astaxanthin esters. In some embodiments, the compositions comprise less than about 20 micrograms/kilogram (w/w) astaxanthin esters. In some embodiments, the compositions comprise less than about 5 micrograms/kilogram (w/w) astaxanthin esters.

In some embodiments, the present invention provides a krill oil produced by the process comprising: pumping fresh krill from a trawl onto a ship, heating the krill to provide a krill material, and extracting oil from the krill material.

In further embodiments, the present invention provides a blended krill oil composition comprising: from about 45% to 55% w/w phospholipids; from about 20% to 45% w/w triglycerides; and from about 400 to about 2500 mg/kg astaxanthin. In some embodiments, the blended krill oil product comprises a blend of lipid fractions obtained from *Euphausia superba*. In some embodiments, the composition comprises from about 25% to 30% omega-3 fatty acids as a percentage of total fatty acids and wherein from about 80% to 90% of said omega-3 fatty acids are attached to said phospholipids.

In still other embodiments, the present invention provides a *Euphausia superba* krill oil composition comprising: from about 30% to 60% w/w phospholipids; from about 20% to 50% triglycerides; from about 400 to about 2500 mg/kg astaxanthin; and from about 20% to 35% omega-3 fatty acids as a percentage of total fatty acids in said composition, wherein from about 70% to 95% of said omega-3 fatty acids are attached to said phospholipids.

In still further embodiments, the present invention provides a dietary supplement comprising encapsulated *Euphausia superba* krill oil comprising from about 30% to 60% w/w phospholipids; from about 20% to 50% triglycerides; from about 400 to about 2500 mg/kg astaxanthin; and from about 20% to 35% omega-3 fatty acids as a percentage of total fatty acids

in said composition, wherein from about 70% to 95% of said omega-3 fatty acids are attached to said phospholipids.

In some embodiments, the present invention provides methods of making a *Euphausia superba* krill oil composition comprising: contacting *Euphausia superba* with a polar solvent to provide a polar extract comprising phospholipids; contacting *Euphausia superba* with a neutral solvent to provide a neutral extract comprising triglycerides and astaxanthin; combining said polar extract and said neutral extract to provide *Euphausia superba* krill oil comprising from about 30% to 60% w/w phospholipids; from about 20% to 50% triglycerides; from about 400 to about 2500 mg/kg astaxanthin; and from about 20% to 35% omega-3 fatty acids as a percentage of total fatty acids in said composition, wherein from about 70% to 95% of said omega-3 fatty acids are attached to said phospholipids. In some embodiments, the methods further comprise the step of encapsulating the *Euphausia superba* krill oil. In some embodiments, the present invention provides a *Euphausia superba* krill oil produced by the methods described above.

In some embodiments, the present invention provides methods of producing a dietary supplement comprising; contacting *Euphausia superba* with a polar solvent to provide an polar extract comprising phospholipids; contacting *Euphausia* superba with a neutral solvent to provide a neutral extract comprising triglycerides and astaxanthin; combining said polar extract and said neutral extract to provide *Euphausia superba* krill oil comprising from about 30% to 60% w/w phospholipids; from about 20% to 50% triglycerides; from about 400 to about 2500 mg/kg astaxanthin; and from about 20% to 35% omega-3 fatty acids as a percentage of total fatty acids in said composition, wherein from about 70% to 95% of said omega-3 fatty acids are attached to said phospholipids; and encapsulating said *Euphausia superba* krill oil.

In some embodiments, the present invention provides methods of reducing diet-induced hyperinsulinemia, insulin insensitivity, muscle mass hypertrophy, serum adiponectin reduction or hepatic steatosis comprising in a subject exposed to a high fat diet: administering to said subject exposed to a high fat diet an effective amount of a krill oil composition under conditions such that a condition selected from the group consisting of diet-induced hyperinsulinemia, insulin insensitivity, muscle mass hypertrophy, serum adiponectin reduction and hepatic steatosis is reduced. The present invention is not limited to any particular krill oil composition. In some embodiments, the krill oil composition is a *Euphausia superba* krill oil composition. The present invention is not limited to any particular formulation of krill oil. In some embodiments, the krill

oil composition is encapsulated. In some preferred embodiments, the effective amount of a krill oil composition is from 0.2 grams to 10 grams of said krill oil composition. In some embodiments, the krill oil composition comprises: from about 45% to 55% w/w phospholipids; from about 20% to 45% w/w triglycerides; and from about 400 to about 2500 mg/kg astaxanthin. In some embodiments, the krill oil composition comprises a blend of lipid fractions obtained from *Euphausia superba*. In some embodiments, the krill oil composition comprises from about 25% to 30% omega-3 fatty acids as a percentage of total fatty acids and wherein from about 80% to 90% of said omega-3 fatty acids are attached to said phospholipids. In some embodiments, the krill oil composition comprises from about 30% to 60% w/w phospholipids; from about 20% to 50% triglycerides; from about 400 to about 2500 mg/kg astaxanthin; and from about 20% to 35% omega-3 fatty acids as a percentage of total fatty acids in said composition, and wherein from about 70% to 95% of said omega-3 fatty acids are attached to said phospholipids.

In some embodiments, the present invention provides methods of reducing diet-induced hyperinsulinemia, insulin insensitivity, muscle mass hypertrophy, serum adiponectin reduction or hepatic steatosis comprising in a subject consuming a high fat diet or a normal fat diet: administering to said subject consuming a high fat diet or a normal fat diet an effective amount of a krill oil composition under conditions such that a condition selected from the group consisting of diet-induced hyperinsulinemia, insulin insensitivity, muscle mass hypertrophy, serum adiponectin reduction and hepatic steatosis is reduced. The present invention is not limited to any particular krill oil composition. In some embodiments, the krill oil composition is a *Euphausia superba* krill oil composition. The present invention is not limited to any particular formulation of krill oil. In some embodiments, the krill oil composition is encapsulated. In some preferred embodiments, the effective amount of a krill oil composition is from 0.2 grams to 10 grams of said krill oil composition. In some embodiments, the krill oil composition comprises: from about 45% to 55% w/w phospholipids; from about 20% to 45% w/w triglycerides; and from about 400 to about 2500 mg/kg astaxanthin. In some embodiments, the krill oil composition comprises a blend of lipid fractions obtained from *Euphausia superba*. In some embodiments, the krill oil composition comprises from about 25% to 30% omega-3 fatty acids as a percentage of total fatty acids and wherein from about 80% to 90% of said omega-3 fatty acids are attached to said phospholipids. In some embodiments, the krill oil composition comprises from about 30% to 60% w/w phospholipids; from about 20% to 50% triglycerides; from about 400 to about

2500 mg/kg astaxanthin; and from about 20% to 35% omega-3 fatty acids as a percentage of total fatty acids in said composition, and wherein from about 70% to 95% of said omega-3 fatty acids are attached to said phospholipids.

In some embodiments, the present invention provides methods of inducing diuresis in a subject comprising: administering to said subject an effective amount of a krill oil composition under conditions such that diuresis is induced. In some embodiments, the present invention provides methods of increasing muscle mass in a subject, comprising:
administering to said subject an effective amount of a krill oil composition under conditions such that muscle mass is increased. In some embodiments, the present invention provides methods of decreasing protein catabolism in a subject, comprising: administering to said subject an effective amount of a krill oil composition under conditions such that protein catabolism is decreased. In some embodiments, the present invention provides methods of decreasing lipid content in the heart of a subject, comprising: administering to said subject an effective amount of a krill oil composition under conditions such that lipid content in the heart of the subject is decreased. In some embodiments, the present invention provides methods of decreasing lipid content in the liver of a subject, comprising: administering to said subject an effective amount of a krill oil composition under conditions such that lipid content in the liver of the subject is decreased.

DESCRIPTION OF THE FIGURES

Figure 1. 31P NMR analysis of polar lipids in krill oil.

Figure 2. Blood lipid profiles in Zucker rats fed different forms of omega-3 fatty acids (TAG = FO, PL1 = NKO and PL2 = Superba).

Figure 3. Plasma glucose concentration in Zucker rats fed different forms of omega-3 fatty acids.

Figure 4. Plasma insulin concentration in Zucker rats fed different forms of omega-3 fatty acids.

Figure 5. Estimated HOMA-IR values in Zucker rats fed different forms of omega-3 fatty acids.

Figure 6. The effect of dietary omega-3 fatty acids on TNF production by peritoneal macrophages.

Figure 7. The effect of dietary omega-3 fatty acids on lipid accumulation in the liver.

Figure 8. The effect of dietary omega-3 fatty acids on lipid accumulation in the muscle.

Figure 9. The effect of dietary omega-3 fatty acids on lipid accumulation in the heart.

Figure 10. Relative concentrations of DHA in the brain in Zucker rats supplemented with omega-3 fatty acids.

Figure 11. Mean group body weights (g) in the collagen-induced male DBA/1 arthritic mice. B - PL2 is the krill oil group. * $p<0.05$, significantly different from Group A (Positive Control - Fish Oil) and Group C (Control).

Figure 12. Body weight for the various treatment groups.

Figure 13. Muscle weight for the various treatment groups.

Figure 14. Muscle to body weight ratio for the various treatment groups.

Figure 15. Serum adiopnectin levels (ng/ml) for the various treatment groups.

Figure 16. Serum insulin levels for the various treatment groups.

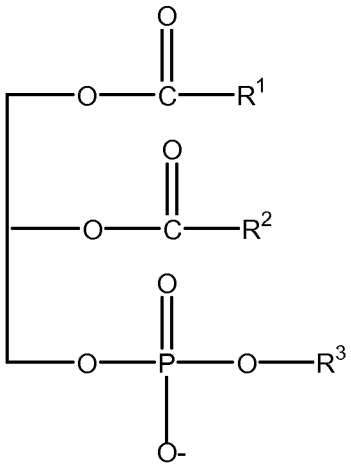
Figure 17. Blood glucose (mmol/l) levels in the various treatment groups.

Figure 18. HOMA-IR values for the various treatment groups.

Figure 19. Liver triglyceride levels (μmol/g) for the various treatment groups.

DEFINITIONS

As used herein, "phospholipid" refers to an organic compound having the following general structure:

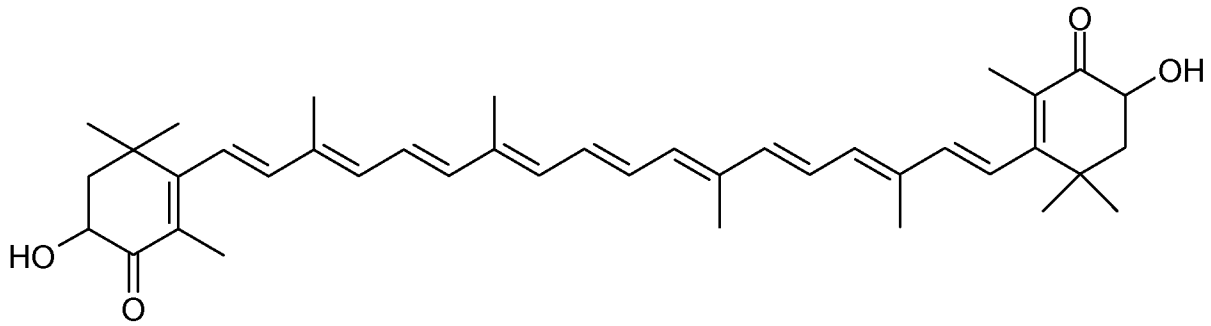


wherein R1 is a fatty acid residue, R2 is a fatty acid residue or –OH, and R3 is a –H or nitrogen containing compound choline ($HOCH_2CH_2N^+(CH_3)_3OH^-$), ethanolamine ($HOCH_2CH_2NH_2$), inositol or serine. R1 and R2 cannot simultaneously be OH. When R3 is an –OH, the compound is a diacylglycerophosphate, while when R3 is a nitrogen-containing compound, the compound is a phosphatide such as lecithin, cephalin, phosphatidyl serine or plasmalogen.

An "ether phospholipid" as used herein refers to a phospholipid having an ether bond at position 1 the glycerol backbone. Examples of ether phospholipids include, but are not limited to, alkylacylphosphatidylcholine (AAPC), lyso-alkylacylphosphatidylcholine (LAAPC), and alkylacylphosphatidylethanolamine (AAPE). A "non-ether phospholipid" is a phospholipid that does not have an ether bond at position 1 of the glycerol backbone.

As used herein, the term omega-3 fatty acid refers to polyunsaturated fatty acids that have the final double bond in the hydrocarbon chain between the third and fourth carbon atoms from the methyl end of the molecule. Non-limiting examples of omega-3 fatty acids include, 5,8,11,14,17-eicosapentaenoic acid (EPA), 4,7,10,13,16,19-docosahexanoic acid (DHA) and 7,10,13,16,19-docosapentanoic acid (DPA).

As used herein, astaxanthin refers to the following chemical structure:



As used herein, astaxanthin esters refer to the fatty acids esterified to OH group in the astaxanthin molecule.

As used herein, the term w/w (weight/weight) refers to the amount of a given substance in a composition on weight basis. For example, a composition comprising 50% w/w phospholipids means that the mass of the phospholipids is 50% of the total mass of the composition (i.e., 50 grams of phospholipids in 100 grams of the composition, such as an oil).

DETAILED DESCRIPTION OF THE INVENTION

This invention discloses novel krill oil compositions characterized by containing high levels of astaxanthin, phospholipids, included an enriched quantities of ether phospholipids, and omega-3 fatty acids. The krill oils compositions are extracted from krill meal using supercritical fluid extraction (SFE) with a co-solvent modifier. The krill meal has been processed on board a ship in Antarctica using live krill as starting material in order to ensure the highest possible quality of the krill meal. The krill oils are extracted from the krill meal in two stages, in step 1 the neutral fraction is extracted using neat supercritical CO_2 or in combination with 5% ethanol. The neutral fraction consisted mostly of triglycerides and cholesterol. In stage 2, the polar lipids (phospholipids) are extracted by adding at least 20% ethanol to the supercritical CO_2 extraction medium.

The present invention provides methods to avoid decomposition of glycerides and phospholipids in krill oil and compositions produced by those methods. The product obtained by these new methods is virtually free of enzymatically decomposed oil constituents. The solution to the problem is to incorporate a protein denaturation step on fresh krill prior to use of any extraction technology. Denaturation can be achieved by thermal stress or by other means. After denaturation, the oil can be extracted by an optional selection of nonpolar and polar solvents including use of supercritical carbon dioxide. Krill is adapted to a very efficient nutrient digestion at very low temperatures. Therefore the enzymes are sensitive to heat and the step of applying thermal denaturation of lipases and phospholipases does not imply use of very high temperatures. Surprisingly, it has been found that the use of mild denaturation conditions can greatly enhance the quality of krill oil.

Additionally, a major obstacle of several processes of extraction is the cost of removing water. This is particularly true for methods feasible for extraction of highly unsaturated lipids where freeze drying has been regarded as the method of choice to avoid oxidative breakdown of lipids. However, the lipids in krill are surprisingly stable against oxidative deterioration. Therefore, a process including moderate use of heat in the water removing process is feasible provided that the enzymes have been inactivated.

A. Krill Processing

The present invention provides methods for processing freshly caught krill at the site of capture and preferably on board a ship. After processing on board, the krill can be further subjected to extraction processes on board the ship or at a remote location away from the ship. The processing steps described herein also allow for the storage of krill material, preferably a krill meal for from about 1,2, 3, 4, 5, 6, 8, 9, 10, 11, or 12 months to about 24 to 36 months prior to processing.

In some preferred embodiments, freshly caught krill is first subjected to a protein denaturation step. The present invention is not limited to any particular method of protein denaturation. In some embodiments, the denaturation is accomplished by application of chemicals, heat, or combinations thereof. In some embodiments, freshly caught krill is wet pressed to obtain oil and meal. In some embodiments, the meal is then heated to a temperature of about 50°C to about 100°C for about 20 minutes to about an hour, preferably about 40 minutes to denature the proteins. In some embodiments, this material is then pressed to yield a press cake. When this method is used on krill, only a small amount of oil is released. Most of the oil is still present in the denatured meal. In some embodiments, antioxidants such as ethoxyquin or Vitamin E are added to the meal. However, as shown in the examples, the resulting meal is surprisingly stable. The stability can only partly be explained by addition of an antioxidant to the meal. This antioxidant can, after extraction of the oil from denatured meal, be removed by further processing steps. Alternatively the oil can be extracted rather shortly after production of the meal without any addition of antioxidant in the process. Further, storage conditions at a low to very low temperature can be applied if addition of antioxidant is not desired.

Krill oil extracted from denatured krill meal by supercritical fluid extraction even 19 months after the production of the meal contained virtually no decomposed phospholipids. This product turned out to be substantially different from samples of krill oil available in the market today. Previously described commercial krill processing procedures utilize krill that has been frozen immediately after catching followed by freeze drying and extraction at low temperatures. However, these processes only yield a suitable product if the time the krill is kept frozen is very short or the temperature is extremely low (-60°to -80°C). However, data provided herein clearly shows that if a step of denaturation of the proteins is added in front of an optional extraction method, an excellent krill oil can be produced even after a long time of storage. This

methodology also opens up for use of alternative methods to remove water prior to extraction, which in turn has a great impact on costs in full scale operation. If a long time of storage is desired, the denatured material should preferably be stored at low temperature preferably at -20°C.

In some embodiments, krill oil is extracted from the denatured krill meal. In some embodiments, the krill oil is extracted by contacting the krill meal with ethanol. In some embodiments, krill is then extracted with a ketone solvent such as acetone. In other embodiments, the krill oil is extracted by one or two step supercritical fluid extraction. In some embodiments, the supercritical fluid extraction uses carbon dioxide and neutral krill oil is produced. In some embodiments, the supercritical fluid extraction uses carbon dioxide with the addition of a polar entrainer, such as ethanol, to produce a polar krill oil. In some embodiments, the krill meal is first extracted with carbon dioxide followed by carbon dioxide with a polar entrainer, or vice versa. In some embodiments, the krill meal is first extracted with CO_2 supplemented with a low amount of a polar co-solvent (e.g., from about 1% to about 10%, preferably about 5%) such a C_1-C_3 monohydric alcohol, preferably ethanol, followed by extraction with CO_2 supplemented with a high amount of a polar co-solvent (from about 10% to about 30%, preferably about 23%) such as such a C_1-C_3 monohydric alcohol, preferably ethanol, or vice versa. Surprisingly, it has been found that use of a low amount of polar solvent in the CO_2 as an entrainer facilitates the extraction of neutral lipid components and astaxanthin in a single step. Use of the high of polar solvent as an entrainer in the other step facilitates extraction of ether phospholipids, as well as non-ether phospholipids.

The present invention is distinguished from previously described krill oil products, such as those described in U.S. Pat. No. 6,800,299 or WO 03/011873 and Neptune brand krill oil, by having substantially higher levels of non-ether phospholipids, ether phospholipids, and astaxanthin. The krill oils of the present invention also have unexpected and superior properties as compared to previously available krill oils. In particular, the krill oil of the present invention has been demonstrated to reduce blood LDL cholesterol levels, improve DHA transfer to the brain as well as reduce lipid accumulation in the liver and muscle while the previously described krill oil compositions do not have such a properties. Accordingly, in some embodiments, the present invention provides a krill oil composition, preferably a *Euphausia superba* krill oil composition, comprising from about 40% to about 60% w/w phospholipids, preferably from

about 45% to 55% w/w phospholipids and from about 300 mg/kg astaxanthin to about 2500 mg/kg astaxanthin, preferably from about 1000 to about 2200 mg/kg astaxanthin, more preferably from about 1500 to about 2200 mg/kg astaxanthin. In some preferred embodiments, the compositions comprise greater than about 1000, 1500, 1800, 1900, 2000, or 2100 mg/kg astaxanthin. In some preferred embodiments, the krill oil compositions of the present invention comprise from about 1%, 2%, 3% or 4% to about 8%, 10%, 12% or 15% w/w ether phospholipids or greater than about 4%, 5%, 6%, 7%, 8%, 9% or 10% ether phospholipids. In some embodiments the ether phospholipids are preferably alkylacylphosphatidylcholine, lyso-alkylacylphosphatidylcholine, alkylacylphosphatidyl-ethanolamine or combinations thereof. In some embodiments, the krill oil compositions comprise from about 1%, 2%, 3% or 4% to about 8%, 10%, 12% or 15% w/w ether phospholipids and from about 30%, 33%, 40%, 42%, 45%, 48%, 50%, 52%, 54%, 55% 56%, 58% to about 60% non-ether phospholipids so that the total amount of phospholipids (both ether and non-ether phospholipids) ranges from about 40% to about 60%. One of skill in the art will recognize that the range of 40% to 60% total phospholipids, as well as the other ranges of ether and non-ether phospholipids, can include other values not specifically listed within the range.

In further embodiments, the compositions comprise from about 20% to 45% w/w triglycerides; and from about 400 to about 2500 mg/kg astaxanthin. In some embodiments, the compositions comprise from about 20% to 35%, preferably from about 25% to 35%, omega-3 fatty acids as a percentage of total fatty acids in the composition, wherein from about 70% to 95%, or preferably from about 80% to 90% of the omega-3 fatty acids are attached to the phospholipids. In some embodiments, the present invention provides encapsulated *Euphausia superba* krill oil compositions. In some embodiments, the present invention provides a method of making a *Euphausia superba* krill oil composition comprising contacting *Euphausia superba* with a polar solvent to provide an polar extract comprising phospholipids, contacting *Euphausia superba* with a neutral solvent to provide a neutral extract comprising triglycerides and astaxanthin, and combining said polar extract and said neutral extract to provide the *Euphausia superba* krill oils described above. In some embodiments, fractions from polar and non-polar extractions are combined to provide a final product comprising the desired ether phospholipids, non-ether phospholipids, omega-3 moieties and astaxanthin. In other embodiments, the present invention provides methods of making a *Euphausia superba* (or other krill species) krill oil

comprising contacting a *Euphausia superba* preparation such as *Euphausia superba* krill meal under supercritical conditions with CO_2 containing a low amount of a polar solvent such as ethanol to extract neutral lipids and astaxanthin; contacting meal remaining from the first extraction step under supercritical conditions with CO_2 containing a high amount of a polar solvent such as ethanol to extract a polar lipid fraction containing ether and non-ether phospholipids; and then blending the neutral and polar lipid extracts to provide the compositions described above.

The krill oil extracted by the methods of the present invention contains few enzymatic breakdown products. Examples of the krill oil compositions of the present invention are provided in Tables 9-24. In some embodiments, the present invention provides a polar krill oil comprising at least 65% (w/w) of phospholipids, wherein the phospholipids are characterized in containing at least 35% omega-3 fatty acid residues. The present invention is not limited to the presence of any particular omega-3 fatty acid residues in the krill oil composition. In some preferred embodiments, the krill oil comprises EPA and DHA residues. In some embodiments, the krill oil compositions comprise less than about 5%, 4%, 3% or preferably 2% free fatty acids on a weight/weight (w/w) basis. In some embodiments, the krill oil compositions comprise less than about 25%, 20%, 15%, 10% or 5% triglycerides (w/w). In some embodiments, the krill oil compositions comprise greater than about 30%, 40%, 45%, 50%, 55%, 60%, or 65% phosphatidyl choline (w/w). In some embodiments, the krill oil compositions comprise greater than about 100, 200, 300, 400, or 500 mg/kg astaxanthin esters and up to about 700 mg/kg astaxanthin esters. In some embodiments, the present invention provides krill oil compositions comprising at least 500, 1000, 1500, 2000, 2100, or 2200 mg/kg astaxanthin esters and at least 36% (w/w) omega-3 fatty acids. In some embodiments, the krill oil compositions of the present invention comprise less than about 1.0g/100g, 0.5g/100g, 0.2g/100g or 0.1g/100g total cholesterol. In some embodiments, the krill oil compositions of the present invention comprise less than about 0.45

In some embodiments, the present invention provides a neutral krill oil extract comprising greater than about 70%, 75% 80%, 85% or 90% triglycerides. In some embodiments, the krill oil compositions comprise from about 50 to about 2500 mg/kg astaxanthin esters. In some embodiments, the krill oil compositions comprise from about 50, 100, 200, or 500 to about 750, 1000, 1500 or 2500 mg/kg astaxanthin esters. In some embodiments, the compositions comprise

from about 1% to about 30% omega-3 fatty acid residues, and preferably from about 5%-15% omega-3 fatty acid residues. In some embodiments, the krill oil compositions comprise less than about 20%, 15%, 10% or 5% phospholipids.

In some embodiments, the present invention provides krill oil containing less than about 70, 60, 50, 40, 30, 20, 10, 5 or 1 micrograms/kilogram (w/w) astaxanthin esters. In some embodiments, the krill oil is clear or only has a pale red color. In some embodiments, the low-astaxanthin krill oil is obtained by first extracting a krill material, such as krill oil, by supercritical fluid extraction with neat carbon dioxide. It is contemplated that this step removes astaxanthin from the krill material. In some embodiments, the krill material is then subjected to supercritical fluid extraction with carbon dioxide and a polar entrainer such as ethanol, preferably about 20% ethanol. The oil extracted during this step is characterized in containing low amounts of astaxanthin. In other embodiments, krill oil comprising astaxanthin is extracted by countercurrent supercritical fluid extraction with neat carbon dioxide to provide a low-astaxanthin krill oil.

In some embodiments, the present invention provides krill oil that is substantially odorless. By substantially odorless it is meant that the krill oil lacks an appreciable odor as determined by a test panel. In some embodiments, the substantially odorless krill oil comprises less than about 10, 5 or 1 milligrams/kilogram trimethylamine. In some preferred embodiments, the odorless krill oil is produced by first subjecting krill material to supercritical fluid extraction with neat carbon dioxide to remove odor causing compounds such as trimethylamine, followed by extraction with carbon dioxide with a polar entrainer such as ethanol.

In some embodiments, the present invention provides a delipidated krill meal produced after extraction of lipids from the krill meal. In some embodiments, the delipidated krill meal comprises krill protein. In some embodiments, the delipidated krill meal comprises less than about 200, 150, 120, 100, 75, 65, 60, 55, or 50 g/kg total fat. In some embodiments, the delipidated krill meal comprises from about 1 to about 100 mg/kg astaxanthin esters, and preferably from about 5 to about 20 mg/kg astaxanthin esters. In some embodiments, the delipidated krill meal comprises greater than about 60%, 65%, 70% or 75% krill protein. In some embodiments, the present invention provides animal feeds comprising the delipidated krill meal. In some embodiments, the animal feed is a fish feed or aquatic organism feed, such as shrimp feed, crab feed, or crawfish feed. In preferred embodiments, the krill meal is incorporated into

complete ration for the target organism. In preferred embodiments, the feed is provided in pelleted form. In many instances, compounds such as astaxanthin are removed during delipidation. The methods of the present invention provide a delipidated krill meal that retains significant amounts of astaxanthin. Accordingly, in some embodiments, the present invention provides methods of feeding aquatic organisms, comprising providing to the aquatic organism a feed comprising the delipidated krill meal described above. In other embodiments, the present invention provides methods of increasing flesh coloration in an aquatic species comprising feeding the aquatic species a comprising the delipidated krill meal described above.

B. Compositions Containing Krill Oil

In some embodiments, the compositions of this invention (such as those described in the preceding sections) are contained in acceptable excipients and/or carriers for oral consumption. The actual form of the carrier, and thus, the composition itself, is not critical. The carrier may be a liquid, gel, gelcap, capsule, powder, solid tablet (coated or non-coated), tea, or the like. The composition is preferably in the form of a tablet or capsule and most preferably in the form of a soft gel capsule. Suitable excipient and/or carriers include maltodextrin, calcium carbonate, dicalcium phosphate, tricalcium phosphate, microcrystalline cellulose, dextrose, rice flour, magnesium stearate, stearic acid, croscarmellose sodium, sodium starch glycolate, crospovidone, sucrose, vegetable gums, lactose, methylcellulose, povidone, carboxymethylcellulose, corn starch, and the like (including mixtures thereof). Preferred carriers include calcium carbonate, magnesium stearate, maltodextrin, and mixtures thereof. The various ingredients and the excipient and/or carrier are mixed and formed into the desired form using conventional techniques. The tablet or capsule of the present invention may be coated with an enteric coating that dissolves at a pH of about 6.0 to 7.0. A suitable enteric coating that dissolves in the small intestine but not in the stomach is cellulose acetate phthalate. Further details on techniques for formulation for and administration may be found in the latest edition of Remington's Pharmaceutical Sciences (Maack Publishing Co., Easton, PA).

The dietary supplement may comprise one or more inert ingredients, especially if it is desirable to limit the number of calories added to the diet by the dietary supplement. For example, the dietary supplement of the present invention may also contain optional ingredients including, for example, herbs, vitamins, minerals, enhancers, colorants, sweeteners, flavorants,

inert ingredients, and the like. For example, the dietary supplement of the present invention may contain one or more of the following: ascorbates (ascorbic acid, mineral ascorbate salts, rose hips, acerola, and the like), dehydroepiandosterone (DHEA), Fo-Ti or Ho Shu Wu (herb common to traditional Asian treatments), Cat's Claw (ancient herbal ingredient), green tea (polyphenols), inositol, kelp, dulse, bioflavinoids, maltodextrin, nettles, niacin, niacinamide, rosemary, selenium, silica (silicon dioxide, silica gel, horsetail, shavegrass, and the like), spirulina, zinc, and the like. Such optional ingredients may be either naturally occurring or concentrated forms.

In some embodiments, the dietary supplements further comprise vitamins and minerals including, but not limited to, calcium phosphate or acetate, tribasic; potassium phosphate, dibasic; magnesium sulfate or oxide; salt (sodium chloride); potassium chloride or acetate; ascorbic acid; ferric orthophosphate; niacinamide; zinc sulfate or oxide; calcium pantothenate; copper gluconate; riboflavin; beta-carotene; pyridoxine hydrochloride; thiamin mononitrate; folic acid; biotin; chromium chloride or picolonate; potassium iodide; sodium selenate; sodium molybdate; phylloquinone; vitamin D3; cyanocobalamin; sodium selenite; copper sulfate; vitamin A; vitamin C; inositol; potassium iodide. Suitable dosages for vitamins and minerals may be obtained, for example, by consulting the U.S. RDA guidelines.

In further embodiments, the compositions comprise at least one food flavoring such as acetaldehyde (ethanal), acetoin (acetyl methylcarbinol), anethole (parapropenyl anisole), benzaldehyde (benzoic aldehyde), N butyric acid (butanoic acid), d or l carvone (carvol), cinnamaldehyde (cinnamic aldehyde), citral (2,6 dimethyloctadien 2,6 al 8, gera nial, neral), decanal (N decylaldehyde, capraldehyde, capric aldehyde, caprinaldehyde, aldehyde C 10), ethyl acetate, ethyl butyrate, 3 methyl 3 phenyl glycidic acid ethyl ester (ethyl methyl phenyl glycidate, strawberry aldehyde, C 16 aldehyde), ethyl vanillin, geraniol (3,7 dimethyl 2,6 and 3,6 octadien 1 ol), geranyl acetate (geraniol acetate), limonene (d , l , and dl), linalool (linalol, 3,7 dimethyl 1,6 octadien 3 ol), linalyl acetate (bergamol), methyl anthranilate (methyl 2 aminobenzoate), piperonal (3,4 methylenedioxy benzaldehyde, heliotropin), vanillin, alfalfa (Medicago sativa L.), allspice (Pimenta officinalis), ambrette seed (Hibiscus abelmoschus), angelic (Angelica archangelica), Angostura (Galipea officinalis), anise (Pimpinella anisum), star anise (Illicium verum), balm (Melissa officinalis), basil (Ocimum basilicum), bay (Laurus nobilis), calendula (Calendula officinalis), (Anthemis nobilis), capsicum (Capsicum frutescens), caraway (Carum carvi), cardamom (Elettaria cardamomum), cassia, (Cinnamomum cassia), cayenne pepper

(Capsicum frutescens), Celery seed (Apium graveolens), chervil (Anthriscus cerefolium), chives (Allium schoenoprasum), coriander (Coriandrum sativum), cumin (Cuminum cyminum), elder flowers (Sambucus canadensis), fennel (Foeniculum vulgare), fenugreek (Trigonella foenum graecum), ginger (Zingiber officinale), horehound (Marrubium vulgare), horseradish (Armoracia lapathifolia), hyssop (Hyssopus officinalis), lavender (Lavandula officinalis), mace (Myristica fragrans), marjoram (Majorana hortensis), mustard (Brassica nigra, Brassica juncea, Brassica hirta), nutmeg (Myristica fragrans), paprika (Capsicum annuum), black pepper (Piper nigrum), peppermint (Mentha piperita), poppy seed (Papayer somniferum), rosemary (Rosmarinus officinalis), saffron (Crocus sativus), sage (Salvia officinalis), savory (Satureia hortensis, Satureia montana), sesame (Sesamum indicum), spearmint (Mentha spicata), tarragon (Artemisia dracunculus), thyme (Thymus vulgaris, Thymus serpyllum), turmeric (Curcuma longa), vanilla (Vanilla planifolia), zedoary (Curcuma zedoaria), sucrose, glucose, saccharin, sorbitol, mannitol, aspartame. Other suitable flavoring are disclosed in such references as Remington's Pharmaceutical Sciences, 18th Edition, Mack Publishing, p. 1288-1300 (1990), and Furia and Pellanca, Fenaroli's Handbook of Flavor Ingredients, The Chemical Rubber Company, Cleveland, Ohio, (1971), known to those skilled in the art.

In other embodiments, the compositions comprise at least one synthetic or natural food coloring (e.g., annatto extract, astaxanthin, beet powder, ultramarine blue, canthaxanthin, caramel, carotenal, beta carotene, carmine, toasted cottonseed flour, ferrous gluconate, ferrous lactate, grape color extract, grape skin extract, iron oxide, fruit juice, vegetable juice, dried algae meal, tagetes meal, carrot oil, corn endosperm oil, paprika, paprika oleoresin, riboflavin, saffron, tumeric, tumeric and oleoresin).

In still further embodiments, the compositions comprise at least one phytonutrient (e.g., soy isoflavonoids, oligomeric proanthcyanidins, indol 3 carbinol, sulforaphone, fibrous ligands, plant phytosterols, ferulic acid, anthocyanocides, triterpenes, omega 3/6 fatty acids, conjugated fatty acids such as conjugated linoleic acid and conjugated linolenic acid, polyacetylene, quinones, terpenes, cathechins, gallates, and quercitin). Sources of plant phytonutrients include, but are not limited to, soy lecithin, soy isoflavones, brown rice germ, royal jelly, bee propolis, acerola berry juice powder, Japanese green tea, grape seed extract, grape skin extract, carrot juice, bilberry, flaxseed meal, bee pollen, ginkgo biloba, primrose (evening primrose oil), red clover,

burdock root, dandelion, parsley, rose hips, milk thistle, ginger, Siberian ginseng, rosemary, curcumin, garlic, lycopene, grapefruit seed extract, spinach, and broccoli.

In still other embodiments, the compositions comprise at least one vitamin (e.g., vitamin A, thiamin (B1), riboflavin (B2), pyridoxine (B6), cyanocobalamin (B12), biotin, ascorbic acid (vitamin C), retinoic acid (vitamin D), vitamin E, folic acid and other folates, vitamin K, niacin, and pantothenic acid). In some embodiments, the particles comprise at least one mineral (e.g., sodium, potassium, magnesium, calcium, phosphorus, chlorine, iron, zinc, manganese, flourine, copper, molybdenum, chromium, selenium, and iodine). In some particularly preferred embodiments, a dosage of a plurality of particles includes vitamins or minerals in the range of the recommended daily allowance (RDA) as specified by the United States Department of Agriculture. In still other embodiments, the particles comprise an amino acid supplement formula in which at least one amino acid is included (e.g., l-carnitine or tryptophan).

C. Uses of Krill Oil

Previously, it was disclosed that omega-3 fatty acids have anti-inflammatory properties. See, e.g., Calder. Am. J. Clin. Nutr. 83 (2006) 1505S. In addition, in it was disclosed that a phospholipid emulsion derived from a marine and/or synthetic origin comprising polyunsaturated fatty acids have anti-inflammatory and/or immuno-suppressive effects. See, e.g., 5,434,183. An embodiment of this invention is a krill oil composition effective for reducing inflammation i.e. reducing the levels of TNF-α, IL-1 beta, IL-6, IL-10, TGF beta and fibrinogen in the blood.

Type 2 diabetes is a metabolic disorder characterized by impaired glycemic control (high blood glucose levels). In type 2 diabetes, it is the tissue wide insulin resistance that contributes to the development of the disease. Strategies reducing insulin resistance or improving tissue sensitivity to insulin are recognized as beneficial in preventing type 2 diabetes. In healthy humans, a 3-week supplementation with fish oil (1.1 g EPA/d and 0.7 g DHA/d) decreased the insulin response to an oral glucose load by 40%. Omega-3 PUFA dietary enrichment resulted in lower glucose oxidation, higher fat oxidation, and increased glycogen storage; the glycemic response was unchanged, however, which indicates an improved sensitivity to insulin. In another embodiment of this invention is a krill oil composition effective for reducing the insulin resistance.

Krill oil has not been disclosed as being effective in treating one of the most important life style problems of modern societies, i.e., excess weight gain and obesity. Excess adipose tissue mass (overweight and obesity) is associated with low grade inflammation in adipose tissue and in the whole body reflecting the inflammatory mediators "spilling over" from fat tissue. Trayhurn et al., Br. J. Nutrition (2004), 92(3), 347-355. Inflammation appears to be an important link between obesity and metabolic syndrome/type-II diabetes as well as cardiovascular disease. Libby et al., J. Amer. Coll. Card. (2006), 48(9, Suppl. A), A33-A46. Thus, excess adipose tissue is an unhealthy condition. Weight reduction will improve the inflammatory condition, but persistent weight reduction is difficult to achieve. Omega-3 fatty acid supplementation may alleviate the inflammatory condition in adipose tissue and thus ideally complement the principal strategies of weight reduction i.e. low calorie diet and exercise. There are clinical studies in humans that demonstrate that omega-3 enhance the effect of very low calorie diet and exercise in reducing body fat mass. Kunesova et al., Physiological research / Academia Scientiarum Bohemoslovaca (2006), 55(1), 63-72. Although diet and exercise regime may fail to result in consistent decrease in weight in long term, the effect of omega-3 fatty acids alleviating the inflammatory condition in the adipose tissue may persist generating a condition that can be described as "healthy adipose tissue". Previously, it was shown that dietary omega-3 fatty acids can be used to reduce inflammation in adipose tissue without influencing level of obesity. Todoric et al., Diabetologia (2006), 49(9), 2109-2119. Reduction in adipose tissue inflammation was demonstrated by an increase in circulating levels of adiponectin. Adiponectin is an adipose tissue derived anti-inflammatory hormone. Results on the treatment of obese people with omega-3 fatty acids to alleviate circulating levels of inflammatory markers are inconclusive. Trebble et al., Br. J. Nutrition (2003), 90(2), 405-412. However, duration of these studies may not have been sufficient given the slow turnover of adipose tissue in humans. Itoh et al. found that 1.8 g/d of EPA increased adiponectin, a marker of adipose tissue derived inflammation, in a group of overweight subjects with metabolic syndrome. Itoh et al., Arteriosclerosis, Thrombosis, and Vascular Biology (2007), 27(9), 1918-1925.

An embodiment of the invention is the use of krill oil to increase serum adiponectin levels. Adiponectin is a protein hormone that modulates a number of metabolic processes, including glucose regulation and fatty acid catabolism. Adiponectin is exclusively secreted from adipose tissue into the bloodstream and is very abundant in plasma relative to many hormones.

Levels of the hormone are inversely correlated with body mass index (BMI). The hormone plays a role in alleviating the metabolic dysregulation that may result in type 2 diabetes, obesity, atherosclerosis and non-alcoholic fatty liver disease (NAFLD). Díez et al., Eur. J. Endocrinol. 148 (3): 293-300; Ukkola et al., J. Mol. Med. 80 (11): 696-702.

Another embodiment of the invention is to use krill oil in an overweight and obese subjects for alleviating diet induced adipose tissue dysfunction and diet induced changes in the lipid metabolism.

In further embodiments, krill oil is effective in reducing risk factors of type 2 diabetes such as hyperinsulinemia and insulin resistance and cardiovascular disease risk factors in overweight subjects. In addition this invention discloses that krill oil is effective in preventing accumulation of fat in muscles and in the liver (liver steatosis).

It is well known in the art that the obese Zucker rat is a useful rat model to study metabolic Syndrome X and non-insulin dependent diabetes mellitus, including glucose tolerance, insulin resistance and hyperinsulinaemia. It has also been shown previously that astaxanthin is a powerful antioxidant, useful for prevention of oxidative stress in vivo and in Zucker rats using vitamin E. See, e.g., Aoi et al., (2003). Antioxidants & Redox Signaling. 5(1):139-44; Laight et al., Eur. J. Pharmacol. 377 (1999) 89.

In yet another embodiment of the invention is a krill oil composition effective of improving the blood lipid profile by increasing the HDL cholesterol levels, decreasing the LDL cholesterol and triglyceride levels. Hence the novel krill oil composition is effective for treating metabolic syndrome. Metabolic syndrome is defined as the coexistence of 3 or more components selected from the group: abdominal obesity, high serum triglyceride levels, low HDL levels, elevated blood pressure and high fasting plasma glucose levels.

In another embodiment of the invention, the krill oil compositions are found to be effective and safe for the treatment of metabolic syndrome in humans.

In still other embodiments, the krill oil compositions of the present invention find use in increasing or inducing diuresis. In some embodiments, the krill oil compositions of the present invention find use in decreasing protein catabolism and increasing the muscle mass of a subject.

In some embodiments, the kill oil composition of the present invention find use in the treatment of fatty heart disease and non-alcoholic fatty acid liver disease. Thus, the krill oil

compositions are useful for decreasing the lipid content of the heart and/or liver and/or muscle of a subject.

In yet another embodiment of the invention is a method to increase the transfer of DHA to the brain.

EXAMPLE 1

Antarctic krill (*Euphausia superba*) was captured and brought on board alive, before it was processed into krill meal, an oil (asta oil) and stickwater. The composition and properties of the krill meal was monitored during the processing and compared to a commercial competitor (Table 1 and 2). Furthermore, the amino acid composition of the krill meal and stickwater was determined (Table 3), showing that krill meal is a suitable feed source for to be used in aquaculture due to the presences of all the essential amino acids teleost fish require. During the krill meal processing a neutral oil (asta oil) is recovered, the chemical composition of the asta oil is shown in Tables 4 and 5.

Table 1. Composition of products from the processing line

	Round frozen krill	After decanter	After drier	Konstruktor Koshkin (Ukranian vessel)
Protein	13,5 g/100 g	20,9 g/100 g	58,5 g/100 g	60,2 g/100 g
Moisture	76,3 g/100 g	65,6 g/100 g	9,1 g/100 g	9,6 g/100 g
Lipid (Folch)	8,6 g/100 g	10 g/100 g	21,8 g/100 g	21,4 g/100 g
Free fatty acids	29,8 g/100 g	25,3 g/100 g	24,8 g/100 g	23,3 g/100 g
Total astaxanthin	53,3 mg/kg	81,3 mg/kg	145 mg/kg	126 mg/kg

Table 2. Lipid class composition in products from the processing line

Crude protein	Round frozen krill (g/100 g)	After decanter (g/100 g)	After drier (g/100 g)	Konstruktor Koshkin (Ukranian vessel) (g/100 g)
Wax ester/cholesterol ester	2,5	3,0	1,9	3,3
Triglycerides/pigments	30,2	33,7	29,3	32,2
Free fatty acids	15,1	2,5	9,0	5,9
Monoglycerides	3,9	Nd	1,3	Nd
PE	6,6	10,4	7,9	6,3

PS	1,2	1,6	1,4	2,7
PI	1,9	2,0	2,1	3,5
PC	28	35,9	32,0	32,1
Sphingomyeline/lyso PC	2,0	0,5	3,0	3,0

Nd= not detected

Table 3. Amino acids in krill meal and stick water

Amino acid	Total in meal (g/100 g protein)	Free in meal (g/100g protein)	Free in stickwater (g/100 g protein)
Aspartic acid	10,5	0,02	0,22
Glutamic acid	13,5	0,007	0,51
Hydroxiproline	<0,5	<0,001	<0,05
Serine	4,2	0,02	0,13
Glycine	4,4	0,18	3,28
Histidine	2,1	<0,01	<0,05
Arginine	6,7	0,56	4,86
Threonine	4,1	<0,01	0,22
Alanine	5,4	0,08	0,87
Proline	3,8	0,53	2,32
Tyrosine	4,0	0,01	0,2
Valine	5,0	0,02	0,13
Methionine	2,9	<0,01	0,12
Isoleucine	5,0	0,02	0,1
Leucine	7,8	0,14	0,19
Phenylalanine	4,4	0,01	0,1
Lysine	7,8	0,02	0,27
Cysteine/Cystine	1,4	<0,01	<0,05
Thryptophan	1,1	<0,02	<0,05
Creatinine		<0,01	<0,05
Asparagine		<0,01	0,05

Glutamine		<0,01	<0,05
3-aminopropanoic acid		0,5	8,99
Taurine		0,5	8,52
4-aminobutanoic acid		<0,01	<0,05
Citrulline		0,04	0,14
Carnosine		<0,01	<0,05
Anserine		<0,01	<0,05
Ornithine		0,02	1,04

3-aminopropanoic acid is also known as β-alanine

4-aminobutanoic acid is alos known as γ-aminobutyric acid or GABA

Table 4. Composition and quality parameters of asta oil.

Moisture	0,14 g/100 g
Insoluble impurities	0,02 g/100 g
Unsaponifable matter	1,5 g/100 g
Nitrogen	0,5 g/100 g
Free fatty acids	0,3 g/100 g
Peroxide value	<2 meq peroxide/kg oil
Ansidine value	<1
Phosphorous	23 mg/kg
Phopspholipids	575 mg/kg
Astaxanthin	1245 mg/kg

Table 5. Fatty acid composition of the asta oil

Fatty Acid	**Asta oil**
File	
C4:0	0,00
C6:0	0,00
C8:0	0,00
C10:0	0,00
C12:0	0,00
C14:0	17,5
C14:1	0,00
C15:0	0,00
C16:0	19,3
C16:1	9,7
C18:0	1,2
C18:1	22,6
C18:2N6	1,4
C18:3N6	0,1

C18:3N3	0,7
C18:4N3	3,0
C20:0	0,1
C20:1	1,3
C20:2N6	<0,1
C20:3N6	0,1
C20:4N6	0,1
C20:3N3	<0,1
C20:4N3	0,2
C20:5N3 (EPA)	5,6
C22:0	0,1
C22:1	0,3
C22:2N6	0,0
C22:4N6	<0,1
C22:5N6	0,00
C22:5N3	0,2
C22:6N3 (DHA)	2,00
C24:1	0,03
Total	88,4
Saturated	38,0
Monounsaturated	33,9
Polyunsaturated	16,4
Total	88,4
Omega-3	11,9
Omega-6	1,6

EXAMPLE 2

The krill meal obtained in example 1 was then ethanol extracted according to the method disclosed in JP02215351. The results showed that around 22% fat from the meal could be extracted, somewhat lower than was extracted using Folch (25%). Table 6 shows the fatty acid composition of the krill meal and the krill oil extracted from the meal using ethanol. Table 7 shows the composition and properties of the krill meal and products before and after extraction, whereas table 8 shows the lipid composition.

Table 6. Fatty acid distribution in krill meal (g/100 g lipid) and the ethanol extracted krill oil.

Fatty Acid	Krill meal	EtOH KO
File		
C4:0	0,00	
C6:0	0,00	
C8:0	0,00	
C10:0	0,00	
C12:0	0,00	
C14:0	7,8	6,4
C14:1	0,00	
C15:0	0,00	
C16:0	15,8	14,7
C16:1	5,1	4,2
C18:0	0,9	0,7
C18:1	13,4	11,8
C18:2N6	1,1	1,2
C18:3N6	0,1	0,1
C18:3N3	0,4	0,4
C18:4N3	1,1	0,1
C20:0	0,1	0,1
C20:1	0,8	0,6
C20:2N6	<0,1	<0,1
C20:3N6	0,1	<0,1
C20:4N6	0,2	0,2
C20:3N3	<0,1	<0,1
C20:4N3	0,2	0,2
C20:5N3 (EPA)	10,5	10,4
C22:0	<0,1	<0,1
C22:1	0,5	0,4
C22:2N6	<0,1	<0,1
C22:4N6	<0,1	
C22:5N6	0,00	
C22:5N3	0,2	
C22:6N3 (DHA)	5,4	4,8
C24:1	0,03	
Saturated	24,6	21,9
Monounsaturated	19,9	17,0
Polyunsaturated	21,0	19,4
Total	65,5	58,2

Omega-3	18,2	17,0
Omega-6	1,3	

Table 7. Composition and properties of the krill meal and products after extraction

	Krill meal	Delipidated krill meal	EtOH extracted krill oil
Crude protein	586 g/kg	735 g/kg	
Fat (Folch)	250 g/kg	30 g/kg	
Moisture/ethanol	71 g/kg	134 g/kg	85 g/kg
Astaxanthin esters	144 mg/kg	10 mg/kg	117 mg/kg
Diesters	110 mg/kg	8,5 mg/kg	117 mg/kg
Monoesters	33 mg/kg	1,8 mg/kg	37 mg/kg
Biological digestable protein	854 g/kg protein	870 g/kg protein	
Flow number	4,8	1,9	
NH3	9 mg N/100 g	0	3 mg N/100 g
TMA	2 mg N/100 g	0	70 mg N/100 g
TMAO	125 mg N/100 g	0	456 mg N/100 g

Table 8. Lipid class distribution

	Krill meal	Delipidated krill meal	EtOH extracted KO
Cholesterol ester	3,5		
TG	32,7	37,4	31,1
FFA	7,8	14,1	16,0
Cholesterol	9,1	8,0	12,6
DG	1,1		3,3
MG	3,7		
Sphingolipid			2,8
PE	6,5	2,5	2,7
Cardiolipin		4,2	
PI	1,1	11,0	
PS	1,4		
PC	28,6	20,2	25,3
LPC	2,9	2,6	6,2
Total polar lipids	40,6	40,5	36,9

Total neutral lipids	54,2	59,5	63,1

EXAMPLE 3

The krill meal obtained in example 1 was then subjected to a supercritical fluid extraction method in two stages. During stage 1, 12.1% fat (neutral krill oil) was removed using neat CO_2 only at 300 bars, 60° C and for 30 minutes. In stage 2, the pressure was increased to 400 bar and 20% ethanol was added (v/v) for 90 minutes. This resulted in further extraction of 9% polar fat which hereafter is called polar krill oil. The total fatty acid composition of the polar krill oil, the neutral krill oil and a commercial product obtained from Neptune Biotech (Laval, Quebec, Canada) are listed in Table 9. In addition the fatty acid composition for the phospholipids (Table 10), the neutral lipids (Table 11), the free fatty acids, diglycerides (Table 12), triglycerides, lyso-phosphatidylcholine (LPC) (Table 13), phosphatidylcholine (PC), phosphatidylethanolamine (PE) (Table 14), phosphatidylinositol (PI) and phosphatidylserine (PS) (Table 15) are shown. Table 16 shows the level of astaxanthin and cholesterol for the different fractions.

Table 9. Total fatty acids compositions of the krill oil products (% (w/w))

	Total Fatty Acids		
Fatty Acid	**Neutral KO**	**Polar KO**	**NKO**
File			
C4:0	0,00	0,00	0,00
C6:0	0,00	0,00	0,00
C8:0	0,00	0,00	0,00
C10:0	0,00	0,00	0,00
C12:0	0,47	0,04	0,24
C14:0	22,08	3,28	12,48
C14:1	0,33	0,01	0,17
C15:0	0,58	0,36	0,52
C16:0	27,03	29,25	23,25
C16:1	0,07	0,01	8,44
C18:0	1,72	1,03	1,42
C18:1	30,29	13,57	18,92
C18:2N6	2,10	1,96	1,71
C18:3N6	0,30	0,21	0,00
C18:3N3	0,69	1,02	1,32
C18:4N3	0,05	1,81	3,50
C20:0	0,06	0,00	0,05
C20:1	1,87	0,80	1,16
C20:2N6	0,05	0,05	0,05

C20:3N6	0,22	0,73	0,04
C20:4N6	0,00	0,00	0,49
C20:3N3	0,09	0,09	0,06
C20:4N3	0,24	0,51	0,33
C20:5N3 (EPA)	7,33	29,88	16,27
C22:0	0,01	0,06	0,05
C22:1	0,64	1,78	0,82
C22:2N6	0,00	0,00	0,00
C22:4N6	0,00	0,00	0,07
C22:5N6	0,00	0,03	0,00
C22:5N3	0,21	0,67	0,36
C22:6N3 (DHA)	3,51	12,61	8,17
C24:0	0,05	0,00	0,01
C24:1	0,03	0,25	0,11
Total	100,00	100,00	100,00
Saturated	52,00	34,01	38,01
Monounsaturated	33,22	16,43	29,61
Polyunsaturated	14,77	49,56	32,37
Total	100,00	100,00	100,00
Omega-3	12,11	46,58	30,02
Omega-6	2,67	2,98	2,35

Table 10. Fatty acid composition of the phospholipid fraction (% (w/w)).

	Total Phospholipid		
Fatty Acid File	**Neutral KO**	**Polar KO**	**Neptune KO**
C4:0	0,00	0,00	0,00
C6:0	0,00	0,00	0,00
C8:0	0,00	0,00	0,00
C10:0	0,00	0,00	0,00
C12:0	0,00	0,00	0,00
C14:0	0,01	0,00	0,00
C14:1	0,42	0,01	0,01
C15:0	2,52	0,00	0,00
C16:0	4,73	35,78	32,81
C16:1	0,19	0,17	0,19
C18:0	6,31	1,18	1,55
C18:1	38,40	15,58	13,54
C18:2N6	4,18	2,16	1,90
C18:3N6	0,18	0,22	0,19

C18:3N3	1,02	1,05	1,48
C18:4N3	3,08	1,62	2,15
C20:0	0,27	0,00	0,07
C20:1	2,55	1,02	0,78
C20:2N6	0,19	0,06	0,06
C20:3N6	0,00	0,14	0,10
C20:4N6	0,57	0,62	0,64
C20:3N3	0,43	0,08	0,09
C20:4N3	0,17	0,45	0,42
C20:5N3 (EPA)	20,58	25,53	26,47
C22:0	0,14	0,06	0,00
C22:1	0,00	2,09	1,94
C22:2N6	0,25	0,71	0,85
C22:4N6	0,44	0,00	0,03
C22:5N6	0,11	0,00	0,00
C22:5N3	0,00	0,60	0,63
C22:6N3 (DHA)	10,93	10,30	13,34
C24:0	1,77	0,30	0,37
C24:1	0,59	0,28	0,38
Total	100,00	100,00	100,00
Saturated	15,74	37,32	34,81
Monounsaturated	42,14	19,15	16,84
Polyunsaturated	42,12	43,53	48,34
Total	100,00	100,00	100,00
Omega-3	36,22	39,62	44,56
Omega-6	5,91	3,90	3,78

Table 11. Fatty acid composition of the total neutral lipid fraction (% (w/w)).

	Total neutral lipid		
Fatty Acid File	**Neutral KO**	**Polar KO**	**Neptune KO**
C4:0	0,00	0,00	0,00
C6:0	0,00	0,00	0,00
C8:0	0,00	0,00	0,00
C10:0	0,00	0,00	0,00
C12:0	0,00	0,00	0,00
C14:0	20,35	11,31	18,44
C14:1	0,30	0,29	0,25
C15:0	0,53	1,53	0,62

C16:0	23,79	0,49	24,11
C16:1	12,42	5,22	11,86
C18:0	1,54	3,27	1,67
C18:1	26,81	33,09	23,82
C18:2N6	1,68	2,37	1,79
C18:3N6	0,20	0,23	0,25
C18:3N3	0,59	0,62	0,03
C18:4N3	0,03	1,27	0,05
C20:0	0,07	0,00	0,06
C20:1	1,63	1,41	1,39
C20:2N6	0,04	0,00	0,05
C20:3N6	0,18	0,94	0,01
C20:4N6	0,00	0,00	0,00
C20:3N3	0,09	0,00	0,01
C20:4N3	0,18	0,41	0,23
C20:5N3 (EPA)	5,88	19,26	9,68
C22:0	0,02	0,00	0,03
C22:1	0,56	0,60	0,53
C22:2N6	0,00	0,00	0,00
C22:4N6	0,00	0,00	0,04
C22:5N6	0,01	0,00	0,00
C22:5N3	0,17	0,27	0,22
C22:6N3 (DHA)	2,74	17,22	4,64
C24:0	0,15	0,00	0,17
C24:1	0,03	0,21	0,06
Total	100,00	100,00	100,00
Saturated	46,45	16,60	45,10
Monounsaturated	41,75	40,82	37,91
Polyunsaturated	11,80	42,59	16,99
Total	100,00	100,00	100,00
Omega-3	9,68	39,05	14,86
Omega-6	2,11	3,54	2,14

Table 12. Fatty acid composition of the diglyceride and free fatty acids (% (w/w)).

	Diglycerides			**Free fatty acids**		
Fatty Acid File	**Neutral KO**	**Polar KO**	**Neptune KO**	**Neutral KO**	**Polar KO**	**Neptune KO**
C4:0	0,00	0,00	0,00	0,00	0,00	0,00
C6:0	0,00	0,00	0,00	0,00	0,00	0,00
C8:0	0,00	0,00	0,00	0,00	0,00	0,00

C10:0	0,00	0,00	0,00	0,00	0,00	0,00
C12:0	0,00	0,00	0,00	0,00	0,00	0,00
C14:0	13,85	14,35	12,22	5,86	7,19	5,45
C14:1	0,18	0,00	0,17	0,05	0,00	0,08
C15:0	0,49	1,08	0,66	0,46	1,60	0,45
C16:0	23,68	35,24	25,81	28,30	29,37	21,12
C16:1	9,49	6,80	0,09	3,27	3,08	4,91
C18:0	1,56	3,63	1,89	1,13	2,43	0,99
C18:1	23,67	19,85	23,82	14,50	14,77	17,41
C18:2N6	1,79	0,21	1,90	1,69	0,97	1,86
C18:3N6	0,17	0,00	0,01	0,14	0,00	0,22
C18:3N3	0,69	0,00	1,19	0,85	0,00	1,34
C18:4N3	1,92	0,00	2,75	1,30	0,00	2,72
C20:0	0,00	0,00	0,00	0,00	0,00	0,00
C20:1	1,09	0,00	1,01	0,48	0,00	0,57
C20:2N6	0,00	0,00	0,00	0,00	0,00	0,00
C20:3N6	0,13	0,00	0,00	0,08	0,00	0,05
C20:4N6	0,45	0,00	0,64	0,78	0,00	1,43
C20:3N3	0,00	0,00	0,00	0,00	0,00	0,00
C20:4N3	0,35	0,00	0,43	0,39	0,00	0,43
C20:5N3 (EPA)	14,03	9,80	18,00	24,33	23,57	25,36
C22:0	0,18	0,00	0,10	0,00	0,00	0,05
C22:1	0,41	0,00	0,57	0,80	0,69	0,37
C22:2N6	0,28	0,00	0,50	0,46	0,00	0,54
C22:4N6	0,00	0,00	0,00	0,00	0,00	0,00
C22:5N6	0,00	0,00	0,00	0,00	0,00	0,00
C22:5N3	0,20	0,00	0,27	0,34	0,00	0,32
C22:6N3 (DHA)	4,74	9,04	7,53	14,31	16,33	13,95
C24:0	0,64	0,00	0,42	0,49	0,00	0,39
C24:1	0,00	0,00	0,00	0,00	0,00	0,00
Total	100,00	100,00	100,00	100,00	100,00	100,00
Saturated	40,40	54,30	41,10	36,24	40,59	28,45
Monounsaturated	34,84	26,64	25,66	19,09	18,54	23,34
Polyunsaturated	24,77	19,06	33,24	44,67	40,87	48,22
Total	100,00	100,00	100,00	100,00	100,00	100,00
Omega-3	21,95	18,85	30,18	41,51	39,90	44,13
Omega-6	2,82	0,21	3,05	3,15	0,97	4,09

Table 13. Fatty acid composition of the triglyceride and lyso-phophatidylcholine fractions (% (w/w)).

Fatty Acid File	Triglycerides			Lyso PC		
	Neutral KO	Polar KO	Neptune KO	Neutral KO	Polar KO	Neptune KO
C4:0	0,00	0,00	0,00	0,00	0,00	0,00
C6:0	0,00	0,00	0,00	0,00	0,00	0,00
C8:0	0,00	0,00	0,00	0,00	0,00	0,00
C10:0	0,00	0,00	0,00	0,00	0,00	0,00
C12:0	0,00	0,00	0,00	0,00	0,00	0,00
C14:0	23,06	26,65	25,13	19,38	4,27	2,87
C14:1	0,36	0,93	0,36	0,00	0,08	0,00
C15:0	0,56	2,64	0,78	0,00	0,52	0,45
C16:0	23,17	4,93	27,80	41,00	44,14	30,56
C16:1	13,68	11,58	0,04	0,00	1,84	2,24
C18:0	1,52	3,12	1,99	0,76	1,59	1,32
C18:1	27,83	34,39	27,92	6,65	14,24	11,29
C18:2N6	1,64	2,05	1,92	0,00	1,75	2,07
C18:3N6	0,20	0,00	0,30	0,00	0,00	0,06
C18:3N3	0,51	0,00	0,00	7,95	0,67	1,75
C18:4N3	1,99	0,00	4,83	0,00	1,11	2,46
C20:0	0,06	0,00	0,08	0,00	0,00	0,00
C20:1	1,67	0,00	1,76	0,00	0,52	0,00
C20:2N6	0,04	0,00	0,05	0,00	0,00	0,00
C20:3N6	0,05	0,00	0,01	0,00	0,00	0,54
C20:4N6	0,00	0,00	0,00	0,00	0,40	0,00
C20:3N3	0,05	0,00	0,07	0,00	0,00	0,00
C20:4N3	0,11	0,00	0,17	0,00	0,31	0,55
C20:5N3 (EPA)	2,10	7,97	4,44	0,00	18,59	28,48
C22:0	0,02	0,00	0,04	0,00	0,00	0,00
C22:1	0,37	0,00	0,42	0,00	1,46	0,91
C22:2N6	0,00	0,00	0,00	0,00	0,00	0,00
C22:4N6	0,01	0,00	0,01	0,00	0,00	0,00
C22:5N6	0,00	0,00	0,01	0,00	0,00	0,00
C22:5N3	0,10	0,00	0,16	0,00	0,41	0,62
C22:6N3 (DHA)	0,67	3,97	1,42	24,26	7,79	13,82
C24:0	0,26	1,78	0,26	0,00	0,32	0,00
C24:1	0,00	0,00	0,03	0,00	0,00	0,00
Total	100,00	100,00	100,00	100,00	100,00	100,00
Saturated	48,64	39,12	56,08	61,14	50,83	35,21
Monounsaturated	43,90	46,89	30,52	6,65	18,14	14,44
Polyunsaturated	7,45	13,99	13,41	32,20	31,02	50,35
Total	100,00	100,00	100,00	100,00	100,00	100,00

Omega-3	5,51	11,94	11,11	32,20	28,87	47,69
Omega-6	1,94	2,05	2,30	0,00	2,15	2,66

Table 14. Fatty acid composition of the phosphatidylcholine and the phosphatidylserine fractions (% (w/w)).

	PC			PS		
Fatty Acid File	**Neutral KO**	**Polar KO**	**Neptune KO**	**Neutral KO**	**Polar KO**	**Neptune KO**
C4:0	0,00	0,00	0,00	0,00	0,00	0,00
C6:0	0,00	0,00	0,00	0,00	0,00	0,00
C8:0	0,00	0,00	0,00	0,00	0,00	0,00
C10:0	0,00	0,00	0,00	0,00	0,00	0,00
C12:0	0,00	0,00	0,00	0,00	0,00	0,00
C14:0	0,75	3,29	2,77	7,60	9,52	2,31
C14:1	2,07	0,04	0,02	0,00	0,00	0,00
C15:0	1,34	0,00	0,00	3,83	0,00	0,00
C16:0	16,65	31,92	29,83	30,44	43,61	19,49
C16:1	0,96	0,01	0,17	9,96	3,47	2,79
C18:0	1,33	1,06	1,33	2,08	3,34	2,24
C18:1	34,34	13,55	11,16	0,00	7,37	11,87
C18:2N6	10,55	2,27	1,90	0,00	0,00	0,00
C18:3N6	1,44	0,25	0,20	0,00	0,00	0,00
C18:3N3	2,49	1,19	1,54	0,00	0,00	0,00
C18:4N3	2,38	1,92	2,41	0,00	0,00	0,00
C20:0	2,79	0,03	0,05	0,00	0,00	0,00
C20:1	2,42	0,82	0,74	0,00	0,00	0,00
C20:2N6	0,56	0,05	0,06	0,00	0,00	0,00
C20:3N6	0,67	0,13	0,09	0,00	0,00	0,00
C20:4N6	1,85	0,61	0,56	0,00	0,00	0,00
C20:3N3	3,94	0,07	0,06	0,00	0,00	0,33
C20:4N3	4,32	0,50	0,46	0,00	0,00	0,00
C20:5N3 (EPA)	1,08	29,85	30,09	25,84	15,81	16,35
C22:0	0,00	0,05	0,02	0,00	0,00	0,00
C22:1	2,77	0,00	1,87	0,00	0,00	0,00
C22:2N6	0,00	0,81	0,97	0,00	0,00	0,00
C22:4N6	0,00	0,01	0,02	0,00	0,00	0,00
C22:5N6	1,49	0,01	0,00	0,00	0,00	0,00
C22:5N3	1,48	0,67	0,68	0,00	0,00	0,00
C22:6N3 (DHA)	0,00	10,53	12,49	20,25	16,89	44,63
C24:0	2,34	0,10	0,18	0,00	0,00	0,00
C24:1	0,00	0,25	0,34	0,00	0,00	0,00
Total	100,00	100,00	100,00	100,00	100,00	100,00

Saturated	25,19	36,46	34,18	43,95	56,47	24,04
Monounsaturated	42,56	14,67	14,29	9,96	10,84	14,65
Polyunsaturated	32,25	48,87	51,53	46,09	32,69	61,31
Total	100,00	100,00	100,00	100,00	100,00	100,00
Omega-3	15,69	44,73	47,73	46,09	32,69	61,31
Omega-6	16,56	4,13	3,81	0,00	0,00	0,00

Table 15. Fatty acid composition of the phosphatidylinositol and phophatidylethanolamine fractions (% (w/w)).

	PI			**PE**		
Fatty Acid File	**Neutral KO**	**Polar KO**	**Neptune KO**	**Neutral KO**	**Polar KO**	**Neptune KO**
C4:0	0,00	0,00	0,00	0,00	0,00	0,00
C6:0	0,00	0,00	0,00	0,00	0,00	0,00
C8:0	0,00	0,00	0,00	0,00	0,00	0,00
C10:0	0,00	0,00	0,00	0,00	0,00	0,00
C12:0	0,00	0,00	0,00	0,00	0,00	0,00
C14:0	11,15	5,82	5,72	14,42	4,60	0,83
C14:1	3,03	0,66	0,00	0,00	0,00	0,10
C15:0	5,86	1,95	3,18	0,00	1,30	0,23
C16:0	37,02	30,66	31,39	35,91	31,21	18,38
C16:1	18,05	2,24	1,16	0,00	1,51	0,75
C18:0	6,72	2,83	5,56	12,72	16,70	1,84
C18:1	18,15	24,77	14,23	36,96	19,91	18,45
C18:2N6	0,00	2,67	0,00	0,00	2,62	0,85
C18:3N6	0,00	0,00	0,00	0,00	0,00	0,00
C18:3N3	0,00	0,00	0,00	0,00	0,00	0,33
C18:4N3	0,00	0,00	0,00	0,00	0,00	0,00
C20:0	0,00	0,00	0,00	0,00	0,00	0,00
C20:1	0,00	0,00	0,00	0,00	0,00	0,00
C20:2N6	0,00	0,00	0,00	0,00	0,00	0,00
C20:3N6	0,00	0,00	0,00	0,00	0,00	1,15
C20:4N6	0,00	0,00	0,00	0,00	0,00	0,00
C20:3N3	0,00	0,00	0,00	0,00	0,00	0,00
C20:4N3	0,00	0,00	0,00	0,00	0,00	0,00
C20:5N3 (EPA)	0,00	17,60	20,45	0,00	10,76	21,26
C22:0	0,00	0,00	0,00	0,00	0,00	0,00
C22:1	0,00	0,00	0,00	0,00	0,00	0,00

C22:2N6	0,00	0,00	0,00	0,00	0,00	0,00
C22:4N6	0,00	0,00	0,00	0,00	0,00	0,00
C22:5N6	0,00	0,00	0,00	0,00	0,00	0,00
C22:5N3	0,00	0,00	0,00	0,00	0,00	0,67
C22:6N3 (DHA)	0,00	10,79	18,32	0,00	11,39	35,16
C24:0	0,00	0,00	0,00	0,00	0,00	0,00
C24:1	0,00	0,00	0,00	0,00	0,00	0,00
Total	100,00	100,00	100,00	100,00	100,00	100,00
Saturated	60,76	41,26	45,84	63,04	53,81	21,28
Monounsaturated	39,24	27,67	15,39	36,96	21,42	19,30
Polyunsaturated	0,00	31,07	38,77	0,00	24,77	59,42
Total	100,00	100,00	100,00	100,00	100,00	100,00
Omega-3	0,00	28,40	38,77	0,00	22,15	57,43
Omega-6	0,00	2,67	0,00	0,00	2,62	1,99

Table 16. Compositional data for the novel krill oil composition obtained and NKO krill oil.

Compounds	**Neptune KO**	**Ethanol extracted KO**	**Polar KO**	**Neutral KO**
Astaxanthin esters	472 mg/kg	117 mg/kg	580 mg/kg	98 mg/kg
Astaxanthin free	11 mg/kg	< 1 mg/kg	<1 mg/kg	<1 mg/kg
Total cholesterol	1 g/100g	12 g/100g	< 0,5 g/100g	5,7 g/100g

EXAMPLE 4

Neutral lipids were extracted from krill meal (138 kg) using SFE with neat CO_2 (solvent ratio 25 kg/kg) at 500 bar and 75 °C. The neutral lipids were fractionated at 200 bar (75 °C) and at 60 bar (35 °C) at separator S1 and S2, respectively. The extract obtained in S1 (19,6 kg) were characterized and the results can be found in Tables 17A-C. The extract in table S2 (0,4 kg) were rich in water and were not further used. Next, the polar lipids were extracted using CO_2 at 500 bar, 20% ethanol and at a temperature of 75 °C. Using a solvent ratio of 32 (kg/kg) and collecting an extract of 18,2 kg using a separator at 60 bars and 35°C. The polar lipids were collected and analyzed (Tables 18A-C). Next, the polar lipids were mixed in a 50/50 ratio with the neutral

lipids collected from S1 before finally the ethanol was removed carefully by evaporation. The product obtained was red and transparent. If the ethanol is removed before the mixing if the fractions a transparent product is not obtained. The composition of the 50/50 red and transparent product can be found in Tables 19A-C.

Table 17A Fatty acid composition of the extract collected in S1

Fatty acid	**Unit**	**Amount**
14:0	g/100g	18,4
16:0	g/100g	22,2
18:0	g/100g	1,5
16:1 n-7	g/100g	10,9
18:1 (n-9) + (n-7) + (n-5)	g/100g	25,6
20:1 (n-9) + (n-7)	g/100g	1,8
22:1 (n-11) + (n-9) + (n-7)	g/100g	0,5
16:2 (n-4)	g/100g	1,3
16:4 (n-1)	g/100g	1,2
18:2 n-6	g/100g	1,3
18:3 n-3	g/100g	0,8
18:4 n-3	g/100g	2,9
20:5 n-3	g/100g	4,1
22:6 n-4	g/100g	1,7

Table 17B. Lipid class composition of the extract collected in S1

Lipid	**Unit**	**Amount**
Triacylglycerol	g/100g	84
Diacylglycerol	g/100g	0,7
Free fatty acids	g/100g	1,5
Cholesterol	g/100g	2,7
Cholesterol esters	g/100g	0,9

Table 17C. Miscellaneous analysis of the extract in S1.

Compound	Unit	Amount
Free astaxanthin	mg/kg	4,3
Astaxanthin esters	mg/kg	462
Trimethylamin	mg N/100 g	<1
Trimethylamineoxide	mg N/100 g	2

Table 18A Fatty acid composition of the extract collected after CO_2 and 20% ethanol in S1.

Fatty acid	Unit	Amount
14:0	g/100g	1,3
16:0	g/100g	13,8
18:0	g/100g	0,6
16:1 n-7	g/100g	0,9
18:1 (n-9) + (n-7) + (n-5)	g/100g	6,5
20:1 (n-9) + (n-7)	g/100g	0,6
22:1 (n-11) + (n-9) + (n-7)	g/100g	0,1
16:2 (n-4)	g/100g	<0,1
16:4 (n-1)	g/100g	<0,1
18:2 n-6	g/100g	0,8
18:3 n-3	g/100g	0,6
18:4 n-3	g/100g	1,0
20:5 n-3	g/100g	14,7
22:6 n-4	g/100g	6,5

Table 18B. Lipid class composition of the extract collected after CO_2 and 20% ethanol in S1.

Lipid	Unit	Amount
Triacylglycerol	g/100g	<0,5
Cholesterol	g/100g	<0,5
Phophatidylethanolamine	g/100g	1,6
Phosphatidylcholine	g/100g	67
Lyso-phophatidylcholine	g/100g	4,4

5

Table 18C. Miscellaneous analysis of the extract in S1.

Compound	**Unit**	**Amount**
Trimethylamin	mg N/100 g	422
Trimethylamineoxide	mg N/100 g	239

Table 19A Fatty acid composition of the final blended product obtained in Example 4 in S1.

Fatty acid	**Unit**	**Amount**
14:0	g/100g	9,7
16:0	g/100g	18,5
18:0	g/100g	1,0
16:1 n-7	g/100g	5,8
18:1 (n-9) + (n-7) + (n-5)	g/100g	16,0
20:1 (n-9) + (n-7)	g/100g	1,2
22:1 (n-11) + (n-9) + (n-7)	g/100g	1,0
16:2 (n-4)	g/100g	0,3
16:4 (n-1)	g/100g	<0,1
18:2 n-6	g/100g	1,0
18:3 n-3	g/100g	0,8
18:4 n-3	g/100g	2,1
20:5 n-3	g/100g	10,7
22:6 n-4	g/100g	4,7

Table 19B. Lipid class composition of the final blended product obtained in Example 4.

Lipid	**Unit**	**Amount**
Triacylglycerol	g/100g	53
Diacylglycerol	g/100g	1,3
Free fatty acids	g/100g	0,5
Cholesterol	g/100g	0,6
Cholesterol esters	g/100g	<0,5
Phophatidylethanolamine	g/100g	<1

Phosphatidylcholine	g/100g	42
Lyso-phophatidylcholine	g/100g	5,9

Table 19C. Miscellaneous analysis of the final blended product obtained in example 4.

Compound	**Unit**	**Amount**
Free astaxanthin	mg/kg	1,1
Astaxanthin esters	mg/kg	151
Trimethylamin	mg N/100 g	109
Trimethylamineoxide	mg N/100 g	80

EXAMPLE 5

The asta oil obtained in example 1 was blended with the polar lipids obtained in example 4 in a ratio of 46:54 (v/v). Next the ethanol was removed by evaporation and a dark red and transparent product was obtained. The product was analyzed and the results can be found in Tables 20A-C. Furthermore, the product was encapsulated into soft gels successfully. During the encapsulation it was observed that any further increase in phospholipids and thereby viscosity will make it very difficult to encapsulate the final product.

Table 20A Fatty acid composition of the final blended product obtained in Example 5.

Fatty acid	**Unit**	**Amount**
14:0	g/100g	8,2
16:0	g/100g	17,7
18:0	g/100g	1,0
16:1 n-7	g/100g	4,9
18:1 (n-9) + (n-7) + (n-5)	g/100g	14,9
20:1 (n-9) + (n-7)	g/100g	1,1
22:1 (n-11) + (n-9) + (n-7)	g/100g	1,0
16:2 (n-4)	g/100g	0,4
16:4 (n-1)	g/100g	<0,1
18:2 n-6	g/100g	1,2

18:3 n-3	g/100g	0,8
18:4 n-3	g/100g	1,8
20:5 n-3	g/100g	10,6
22:6 n-4	g/100g	4,8

Table 20B. Lipid class composition of the final blended product obtained in Example 5.

Lipid	**Unit**	**Amount**
Triacylglycerol	g/100g	41
Diacylglycerol	g/100g	0,8
Free fatty acids	g/100g	1,2
Cholesterol	g/100g	0,4
Cholesterol esters	g/100g	0,3
Phophatidylethanolamine	g/100g	0,6
Phosphatidylcholine	g/100g	51
Lyso-phophatidylcholine	g/100g	<0,5
Total polar lipids	g/100g	52,4
Total neutral lipids	g/100g	43,6

Table 20C. Miscellaneous analysis of the final blended product obtained in Example 5

Compound	**Unit**	**Amount**
Free astaxanthin	mg/kg	12
Astaxanthin esters	mg/kg	1302
Trimethylamin	mg N/100 g	193
Trimethylamineoxide	mg N/100 g	1,7

EXAMPLE 6

Fresh krill was pumped from the harvesting trawl directly into an indirect steam cooker, and heated to 90C. Water and a small amount of oil were removed in a screw press before

ethoxyquin (antioxidant) was added and the denatured meal was dried under vacuum at a temperature not exceeding 80C. After 19 months storage in room temperature, a sample of the denatured meal was extracted in two steps with supercritical CO_2 in laboratory scale at a flow rate of 2ml/min at 100C and a pressure of 7500 psi. In the second step 20% ethanol was added to the CO_2. The two fractions collected were combined and analyzed by HPLC using ELS detection. The phosphatidylcholine was measured to 42.22% whereas the partly decomposed phosphatidylcholine was 1.68%. This data strongly contrasts the data obtained by analysis of a krill oil sample in the marketplace that showed a content of 9.05% of phosphatidylcholine and 4.60% of partly decomposed phosphatidylcholine.

EXAMPLE 7

Krill lipids were extracted from krill meal (a food grade powder) using supercritical fluid extraction with co-solvent. Initially, 300 bar pressure, 333°K and 5% ethanol (ethanol:CO_2, w/w) were utilized for 60 minutes in order to remove neutral lipids and astaxanthin from the krill meal. Next, the ethanol content was increased to 23% and the extraction was maintained for 3 hours and 40 minutes. The extract was then evaporated using a falling film evaporator and the resulting krill oil was finally filtered. The product obtained was then analyzed and the results can be found in Table 21.

Table 21. Analysis of the krill oil obtained using supercritical fluid extraction.

Parameter	**Value**
Ethanol	1.11% w/w
Water Content	2.98 % w/w
C20:5 n-3 (EPA)	19.9
C22:6 n-3 (DHA)	11.3
Total Omega 3	35.7
Total Omega 6	3.0
Total Phospholipids	50.55 wt%
Ratio Omega3-PL/Total Omega 3	77.6 % w/w
Ratio EPA- PL/Total EPA	84.4 %w/w
Ratio DHA-PL/Total DHA	74.7 %w/w
Triglycerides	25.9 g/100g
Astaxanthin	2091 mg/kg
Peroxide Value	<0.1

EXAMPLE 8

Krill oil was prepared according to the method described in example 7 extracting from the same krill meal. The oil was subjected to ^{31}P NMR analysis for the identification and quantification of the various forms of phospholipids. The analysis was performed according to the following methods: Samples (20 – 40 mg) were weighed into 1.5 ml centrifuge tubes. Next, NMR detergent (750 µl -10% Na cholate, 1% EDTA, pH 7.0 in H_2O+D_2O, 0.3 g L-1 PMG internal standard) was added. Next, the tube was placed in a oven at 60°C and periodically shaken/sonicated until completely dispersed. The solution was then transferred to a 5 ml NMR tube for analysis. Phosphorus NMR spectra were recorded on the two-channel Bruker Avance300 with the following instrument settings: spectrometer frequency 121.498MHz, sweep width 24,271 Hz, 64,000 data points, 30 degree excitation pulse, 576 transients were normally taken, each with an 8 second delay time and f.i.d. acquisition time of 1.35 sec. Spectra were processed with a standard exponential weighting function with 0.2 Hz line broadening before Fourier transformation.

Peaks were identified using known chemical shifts. Deacylation of samples with monomethylamine was also used on two samples for confirmation of peak identity and to achieve better peak resolution. Example spectra are presented in Figure 1. Peak area integration gave relative molar amounts of each lipid class. Weight percent values were calculated using molecular masses calculated from a krill sample fatty acid profile (average chain length = 18.6). Total PL levels were calculated from the PMG internal standard peak. The quantification of the phospholipids are shown in table 25 for both the raw material, the final product and for a commercially available krill oil (Neptune Krill Oil). The main polar ether lipids of the krill meal are alkylacylphosphatidylcholine (AAPC) at 7-9 % of total polar lipids, lyso-alkylacylphosphatidylcholine (LAAPC) at 1 % of total polar lipids (TPL) and alkylacylphosphatidyl-ethanolamine (AAPE) at < 1 % of TPL.

Table 22: Phospholipid profiles

	Type B krill powder	**NKO**	**Krill Oil obtained in Example 7**
PC	**66.0**	**68.6**	**75.3**
AAPC	**12.0**	**7.0**	**13.0**
PI			
1LPC	**1.2**	**1.3**	**0.4**
PS			
2LPC	**7.4**	**13.8**	**2.9**
LAAPC	**2.2**	**1.2**	**0.9**
PE	**6.0**	**3.4**	**3.4**
AAPE			**1.5**
SM			
GPC		**1.3**	
DHSM			
NAPE		**3.4**	
CL	**5.3**		**2.1**
LPE			**0.5**
LCL			
% PL in powder or lipid sample	**8.3**	**30.0**	**47.9**

Analysis has been carried out on the fatty acid and ether/alcohol profiles of the AAPC. The following results are presented in Table 23.

Table 23. Fatty acid profile of the alkylacylphosphatidylcholine.

AAPC fatty acid composition	AAPC alcohol composition alcohol	%
20:5(n-3) – 46.9%;	16:0	47.6
22:6(n-3) – 36.1%;	18:1	17.8
18:1(n-9) – 4.6%	16:1	14.1
22:5(n-3) – 2.6%	14:0	10
20:4(n-6) – 1.9%	18:0	8.6

21:5(n-3) – 1.5%	18:2	5.1
18:2(n-6) – 0.9%	17:0	4.4
16:1(n-9) – 0.8%	15:0-i	2.1
16:0 – 0.7%	15:0	1.7
phytanic – 0.6%	20:1	1.4
18:3(n-3) – 0.5%	15:0-a	1.3
18:4(n-3) – 0.4%	18:0-i	0.4
18:1(n-7) – 0.4%		
24:1 – 0.4%		
14:0 – 0.3%		

The rest of alcohols (i17:0, etc.), were less than 0.3% each. Only part of 20:1 was confirmed by GC-MS. Alcohol moieties composition of Krill AAPC was determined (identification was performed in the form of 1-alkyl-2,3-diTMS glycerols on GC-MS, % of total fatty alcohols were obtained by GC with FID). Ten other fatty acids were all below 0.3 % by mass.

EXAMPLE 9

The purpose of this experiment was to investigate the effect of different omega-3 fatty acid sources on metabolic parameters in the Zucker rat. The Zucker rat is a widely used model of obesity and insulin resistance. Obesity is due to a mutation in the leptin receptor which impairs the regulation of intake. Omega-3 sources compared in this study were fish oil (FO) and two types of krill oil. The krill oil were either from a commercial supplier (Neptune Krill oil) or prepared according to example 7 (Superba^{TM}). Four groups of rats (n = 6 per group) were fed *ad lib* either a control diet (CTRL) or a diet supplemented with a source of omega-3 fatty acids (FO, NKO, Superba). All diets supplied same amount of dietary fatty acids, oleic acid, linoleic acid and linolenic acid. Omega-3 diets (FO, NKO and Superba^{TM}) were additionally balanced for EPA and DHA content. The Zucker rats were 4 wk old at the start of the study with average initial weight of 250 g. At this stage the Zucker rats can be characterized as being pre-diabetic. Rats were fed the test diets for 4 wk after which they were sacrificed and blood and tissue samples were collected. Data presented in the following figures are means ± SE. This example shows that supplementation of the Zucker rat with krill oil prepared as in example 7 results in an improvement of metabolic parameters characteristic of the obesity induced type two diabetic condition. The effect induced by the novel krill oil is often more pronounced than the effect of

FO an in several cases greater than the effect induced by NKO. Specifically, the effects of the two types of krill oil differentiated with respect to the reduction of blood LDL cholesterol levels as well as lipid accumulation in the liver and muscle (Figure 2-9). Furthermore, the efficacy of transfer of DHA from the diet to the brain tissue was greatest with the krill oil prepared as in example 7 (Figure 10).

EXAMPLE 11

This example describes the effect of the supplementation of human diets with krill oil, fish oil (positive control), or a negative control oil (no omega-3 fatty acids) on blood urea nitrogen (BUN).

BUN measures the amount of nitrogen in the blood that comes from urea. BUN is used as a measure of renal function. Serum creatinine is, however, considered to be a more specific measure of renal function. In this study, krill oil decreased BUN by 11.8% while creatinine levels were unchanged. Thus, it is likely that the decrease in BUN is due to some other effect than improved renal function. BUN decreases if krill oil induced diuresis i.e. excretion of urine (diuretic effect).

BUN also decreases if body protein catabolism is reduced. Protein catabolism is a normal feature of body protein turnover. Many tissues express high protein turnover rates. For example the gastrointestinal system expresses high rates of protein turnover. In growing animals a reduction in GI protein catabolism improves weight gain. Mice supplemented with krill oil grew at a faster rate than mice supplemented with fish oil or control diet (Figure 11).

Table 24. The effect on blood urea nitrogen in humans for the different treatment groups.

	Control	Krill Oil	Menhaden oil	p
	n = 23	n = 24	n = 25	
BUN, mg/dL				
Baseline	11.5 (7.8, 13.8)	11.5 (9.5, 13.5)	11.5 (9.5, 14.0)	0.523
Δ from baseline, %	11.0 (-14.3, 26.1)	-11.8 (-20.0, 1.5)	9.1 (-9.1, 35.7)	0.014r

Creatinine, mg/dL				
Baseline	0.9 (0.7, 0.9)	0.9 (0.7, 0.9)	0.8 (0.8, 1.0)	0.952r (r)
Δ from baseline, %	0.0 (-9.6, 2.9)	0.0 (-2.0, 5.9)	0.0 (-5.9, 6.7)	0.416

EXAMPLE 12

The purpose of this experiment was to investigate the effect of dietary krill oil on metabolic parameters in high-fat fed mice and to compare the effect of dietary krill oil with that of fish oil containing the same amount of omega-3 fatty acids. Four groups of C57BL/6 mice (n = 10 per group) were fed 1) chow (N), 2) high fat diet comprising 21% butter fat and 0.15% cholesterol (HF), 3) high fat diet + krill oil (HFKO) or 4) high fat diet + fish oil (HFFO). Treatment 3 contained 2.25% (w/w) krill oil as prepared in example 5 (except that the astaxanthin content was 500 ppm) which were equivalent to 0.36% omega-3 fatty acids. Treatment 4 also contained 0.36% omega-3 fatty acids obtained from regular 18-12 fish oil. The diets were fed to the mice for 7 weeks with free access to drinking water. Data represented in this example means ± SE. Columns not sharing a common letter are significantly different ($P < 0.05$) by ANOVA followed by Tukey's multiple comparison test. N = normal chow diet (n = 10); HF = high-fat diet (n = 10); HFFO = high-fat diet supplemented with fish oil (n = 9); HFKO = high-fat diet supplemented with krill oil (n = 8). The data are presented in Figures 18-25.

This example shows that supplementation of high-fat fed mice with krill oil results in an amelioration of diet-induced hyperinsulinemia, insulin resistance, increase in muscle lipid content (measured as a change in muscle mass), serum adiponectin reduction and hepatic steatosis. These potentially beneficial atheroprotective effects were similar or greater than those achieved with a supplement containing a comparable level of omega-3 fatty acids (Figure 12-19).

CLAIMS

1. A polar krill oil comprising greater than about 40% phosphatidylcholine w/w and greater than about 5% w/w ether phospholipids.

2. The polar krill oil of claim 1, wherein said polar krill oil comprises greater than about 45% phosphatidylcholine w/w.

3. The polar krill oil of claim 1, wherein said polar krill oil comprises less than about 25% triglycerides w/w.

4. The polar krill oil of claim 1, wherein said polar krill oil comprises at least 36% w/w omega-3 fatty acids.

5. The polar krill oil of claim 1, wherein said polar krill oil comprises greater than about 6% ether phospholipids w/w.

6. The polar krill oil of claim 1, wherein said polar krill oil comprises greater than about 7% ether phospholipids w/w.

7. The polar krill oil of claim 1, wherein said krill oil comprises astaxanthin.

8. The polar krill oil of claim 1, wherein said krill oil comprises greater than about 1000 mg/kg astaxanthin esters.

9. The polar krill oil of claim 1, wherein said krill oil comprises greater than about 1500 mg/kg astaxanthin esters.

10. The polar krill oil of claim 1, wherein said krill oil comprises greater than about 2000 mg/kg astaxanthin esters.

11. The polar krill oil of claim 1, wherein said krill oil is suitable for oral administration to a human.

12. The polar krill oil of Claim 1, wherein said krill oil is extracted from *Euphausia superba*.

13. A capsule comprising the polar krill oil of claim 1.

14. A *Euphausia superba* krill oil comprising greater than about 45% phosphatidylcholine w/w, greater than about 5% ether phospholipids w/w, less than about 25% triglycerides w/w, at least 36% w/w omega-3 fatty acids, and astaxanthin.

15. The Euphausia superba krill oil of claim 14, wherein said polar krill oil comprises greater than about 6% ether phospholipids w/w.

16. The Euphausia superba krill oil of claim 14, wherein said polar krill oil comprises greater than about 7% ether phospholipids w/w.

17. The Euphausia superba krill oil of claim 14, wherein said krill oil comprises greater than about 1000 mg/kg astaxanthin esters.

18. The *Euphausia superba* krill oil of claim 14, wherein said krill oil comprises greater than about 1500 mg/kg astaxanthin esters.

19. The *Euphausia superba* krill oil of claim 14, wherein said krill oil comprises greater than about 2000 mg/kg astaxanthin esters.

20. A capsule comprising the *Euphausia superba* krill oil of claim 14.

Abstract

This invention discloses new krill oil compositions characterized by having high amounts of phospholipids, astaxanthin esters and/or omega-3 contents. The krill oils are obtained from krill meal using supercritical fluid extraction in a two stage process. Stage 1 removes the neutral lipid by extracting with neat supercritical CO_2 or CO_2 plus approximately 5% of a co-solvent. Stage 2 extracts the actual krill oils by using supercritical CO_2 in combination with approximately 20% ethanol. The krill oil materials obatined are compared with commercially available krill oil and found to be more bioeffective in a number of areas such as anti-inflammation, anti-oxidant effects, improving insulin resistances and improving blood lipid profile.

Fig. 1

Fig. 2

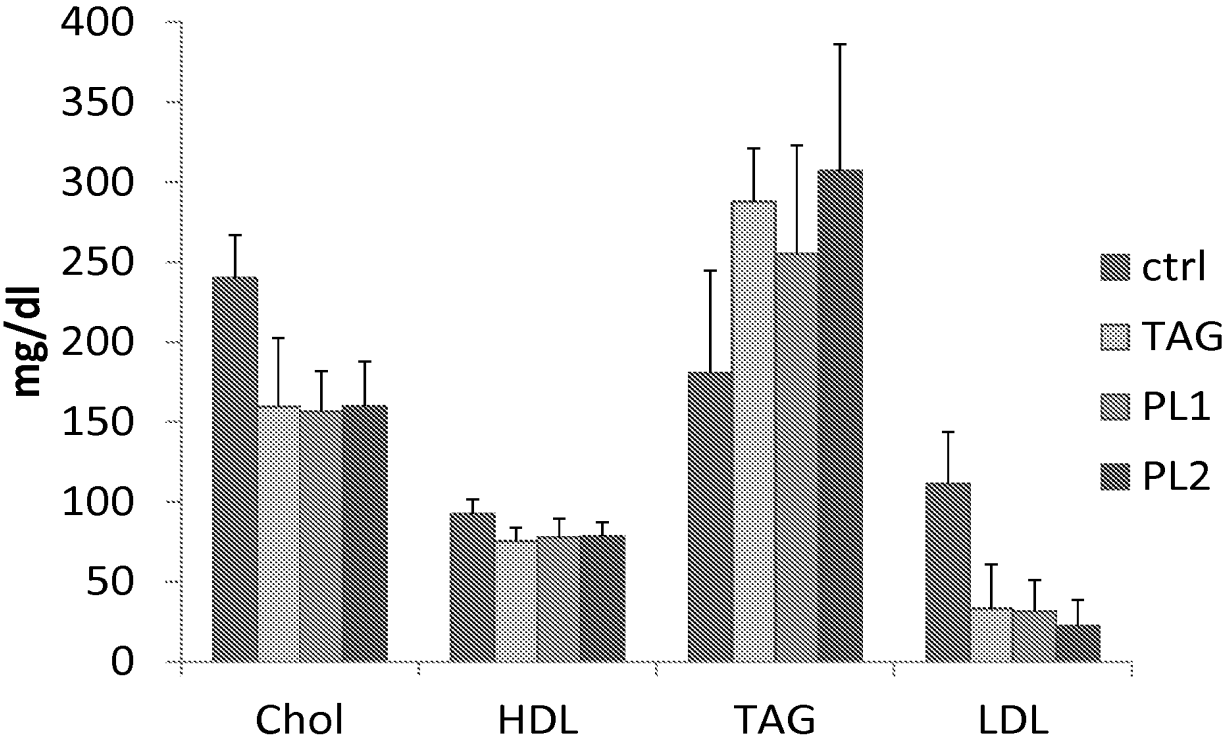


Fig. 3

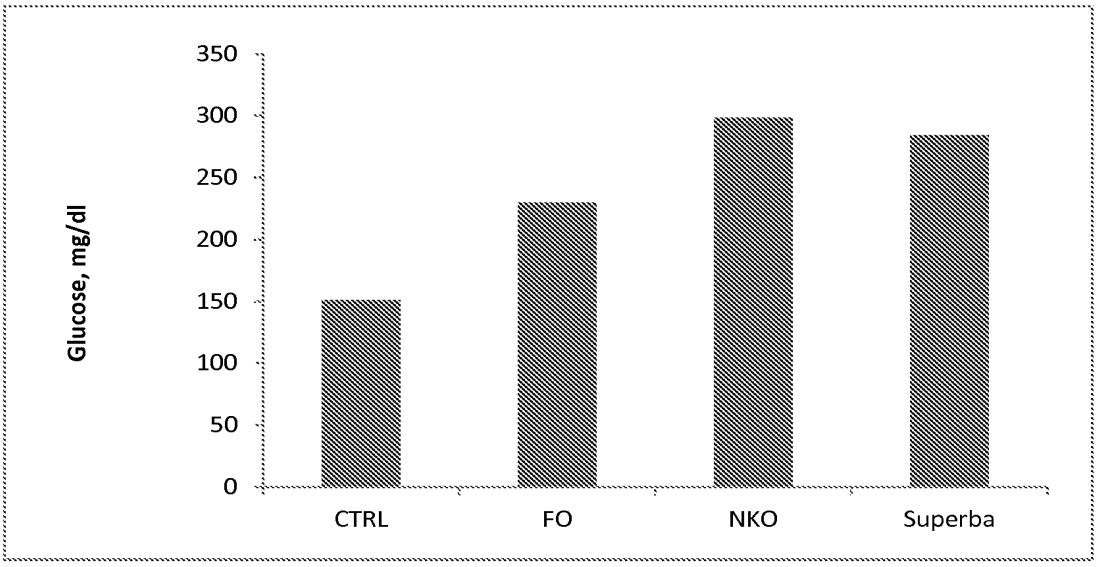


Fig. 4

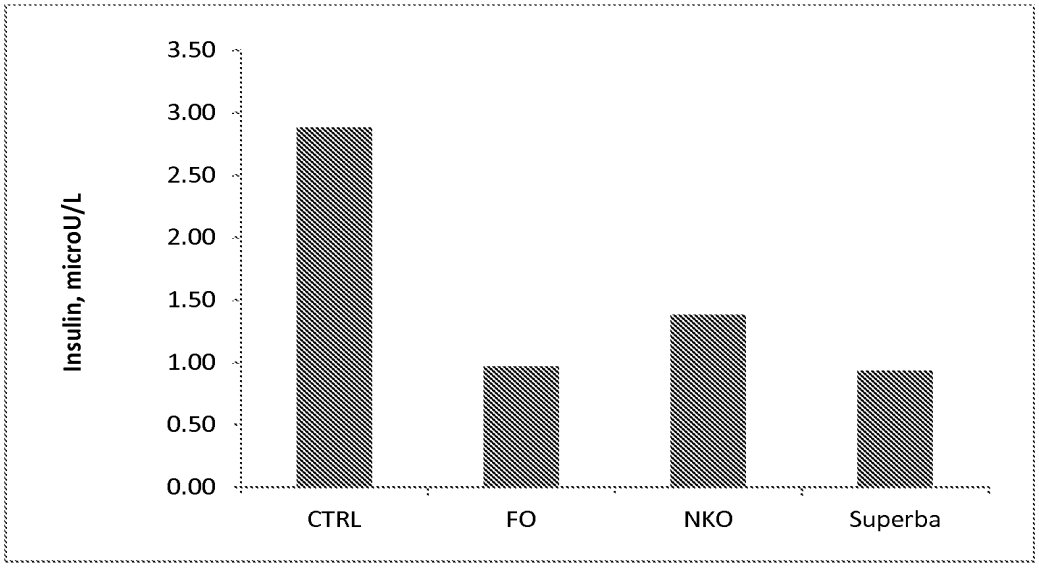


Fig. 5

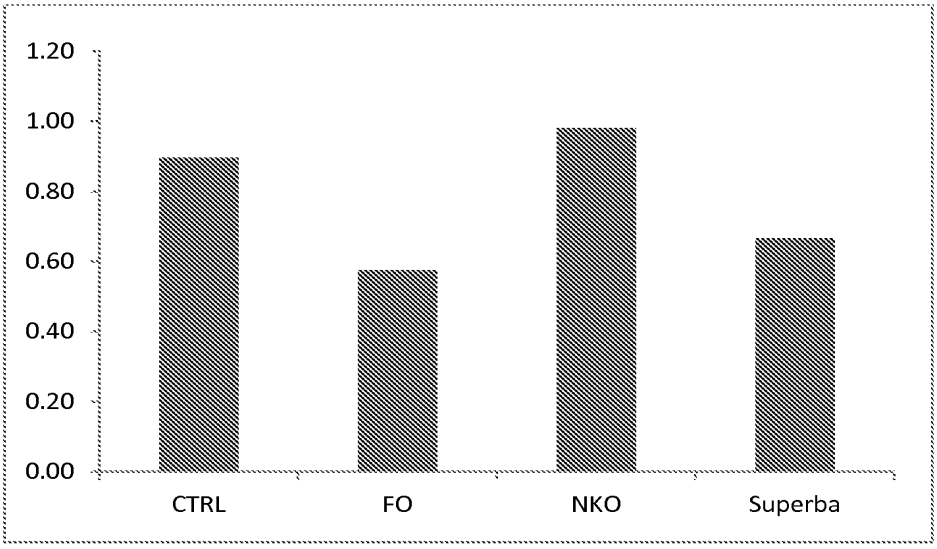


Fig. 6

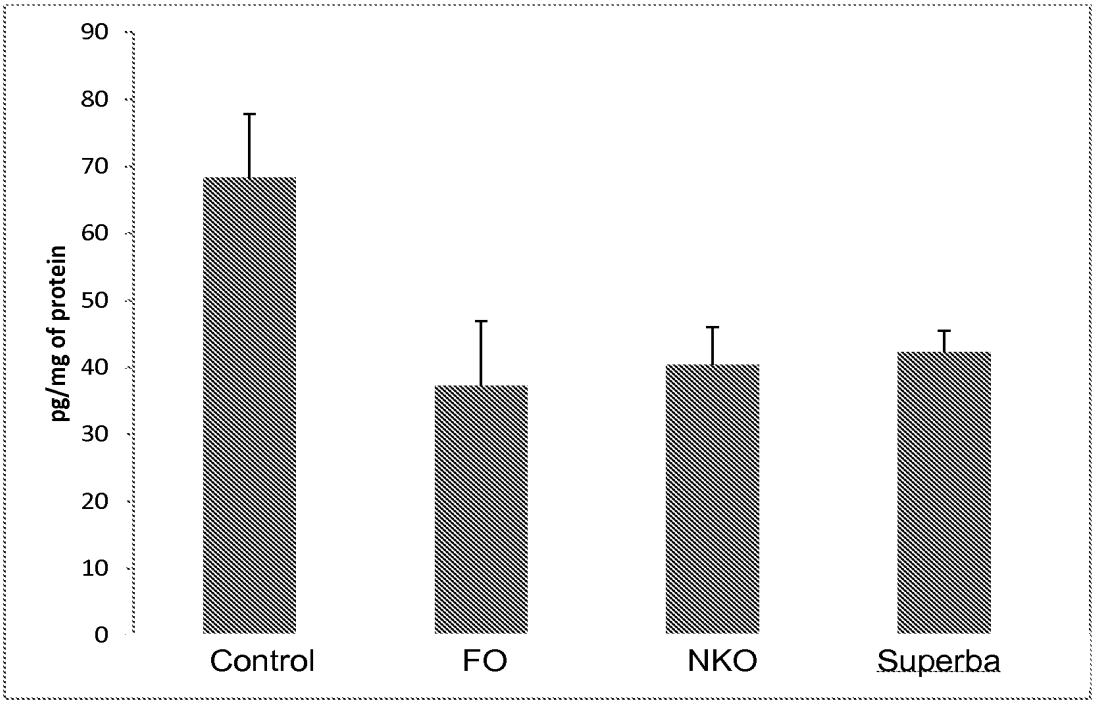


Fig. 7

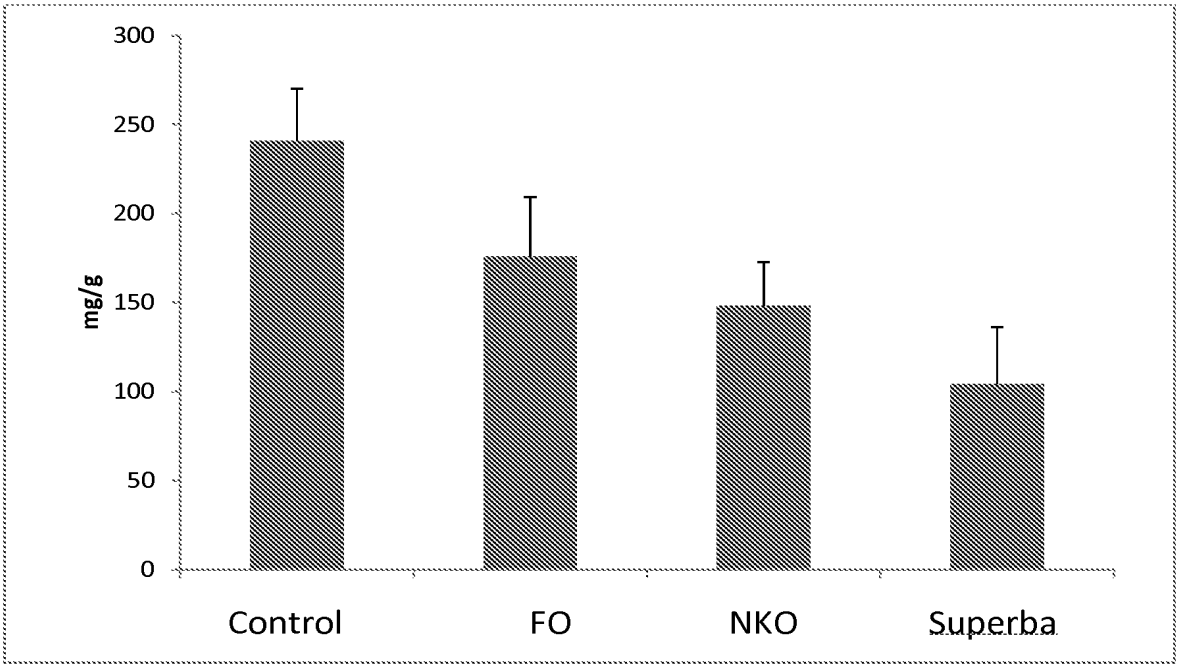


Fig. 8

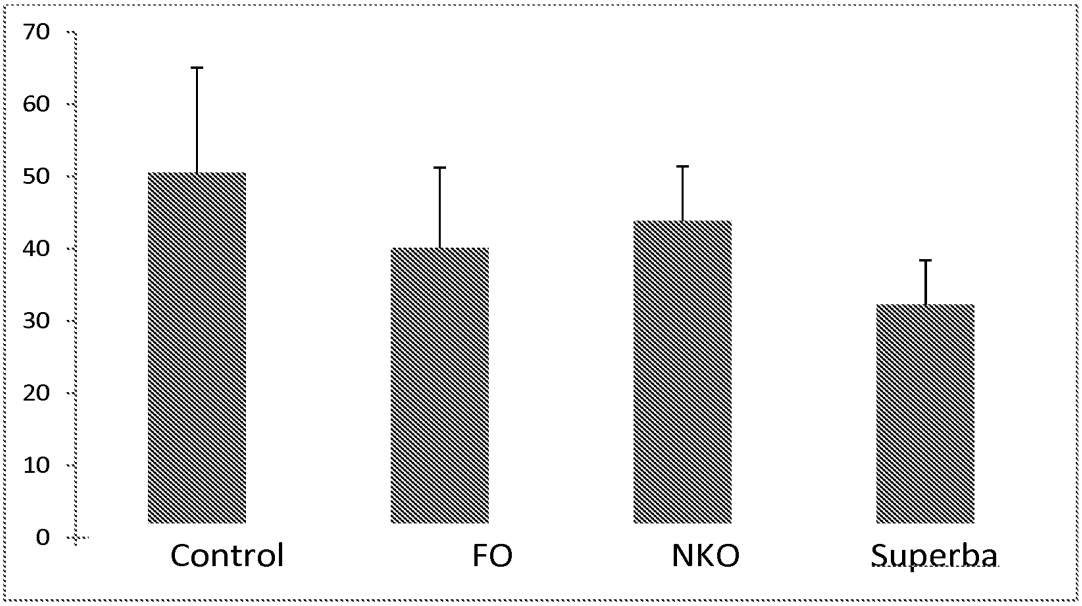


Fig. 9

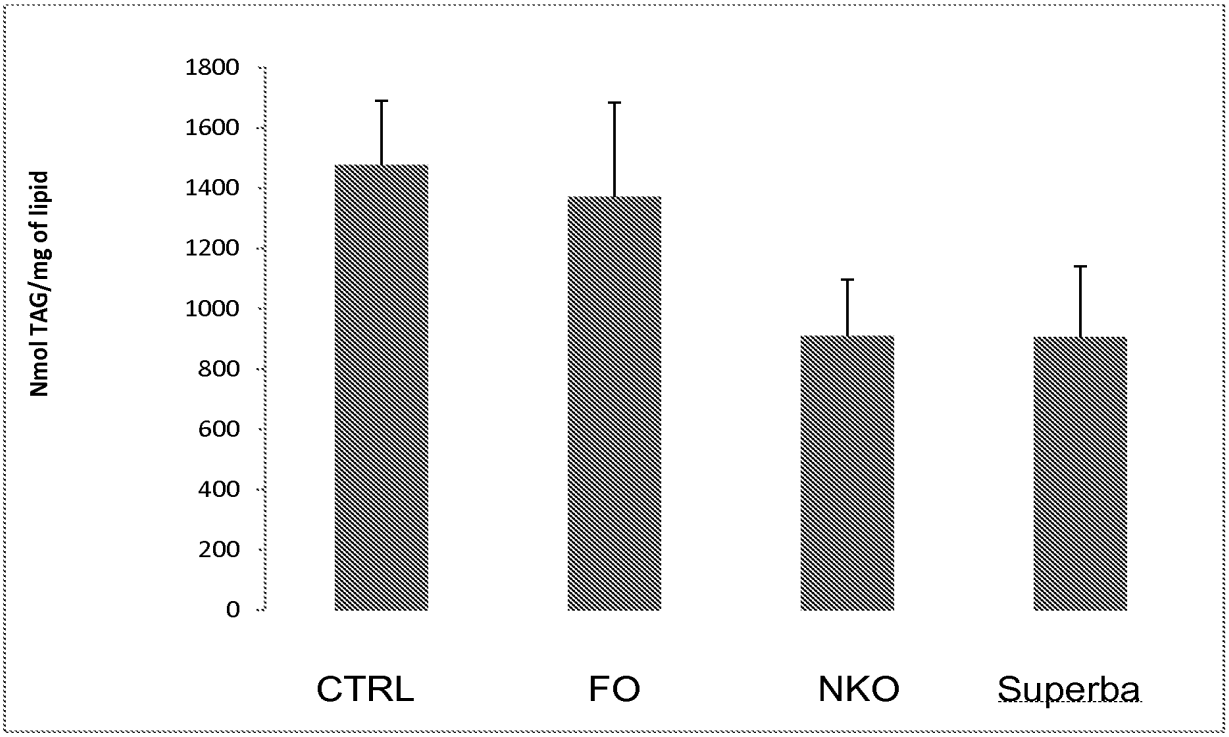
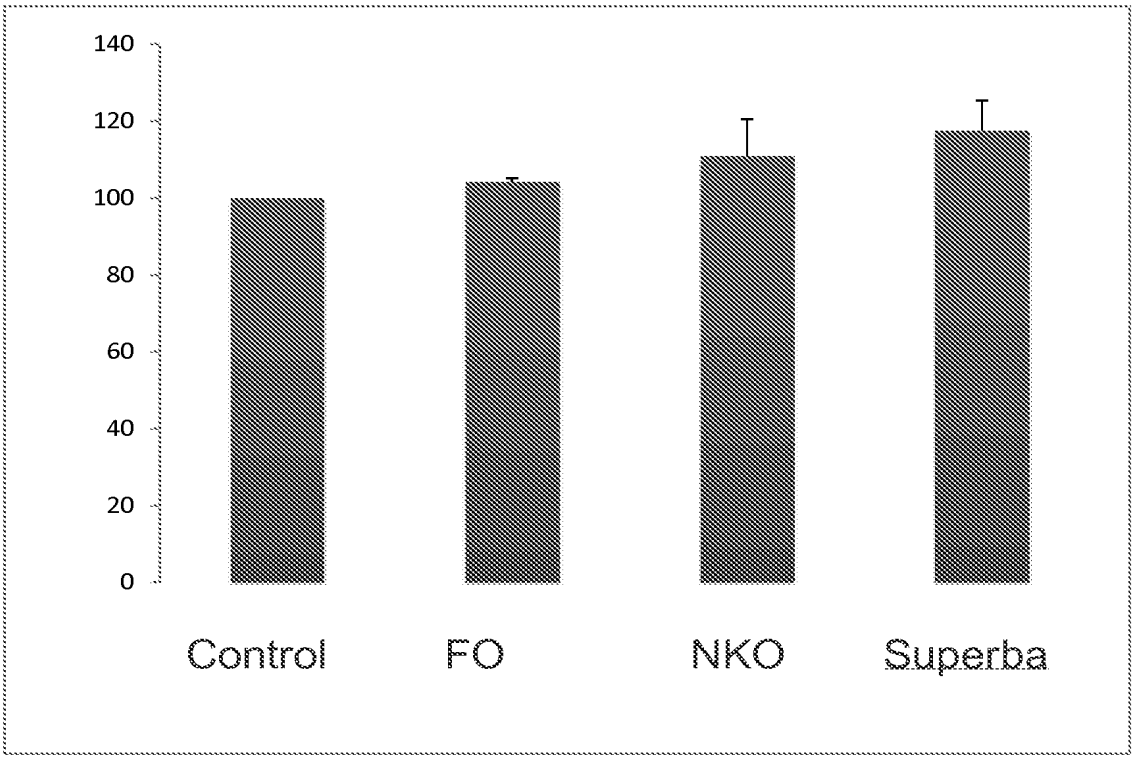


Fig. 10



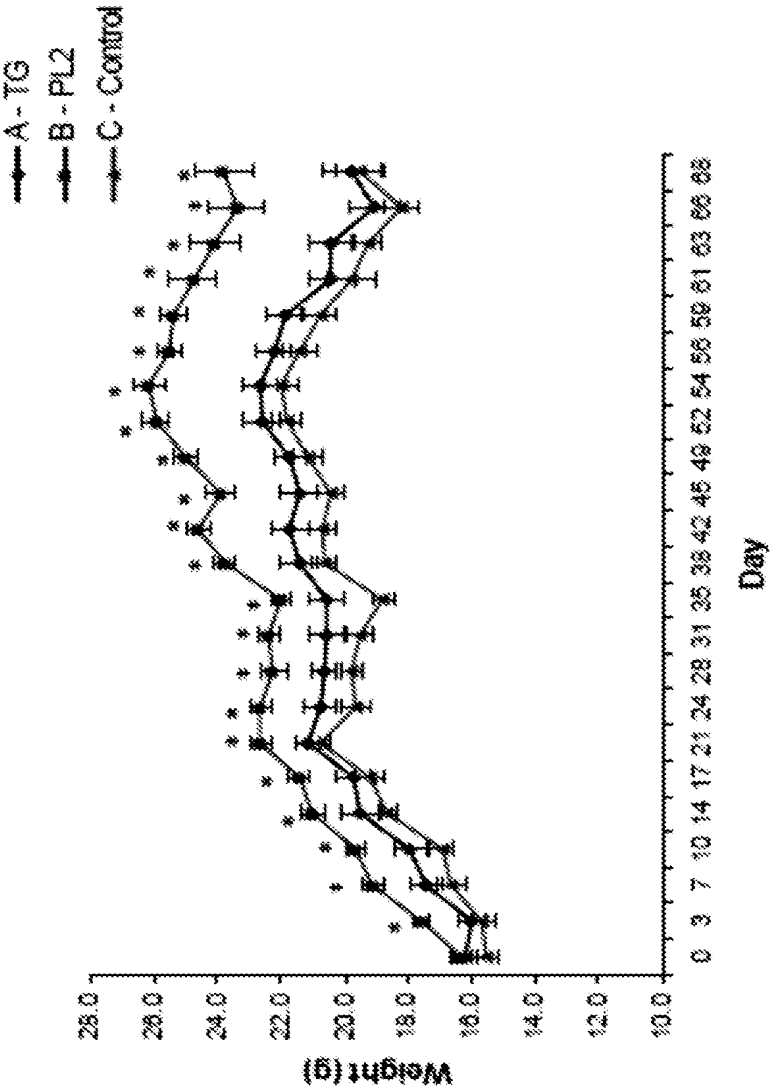


Fig. 11

Fig. 12

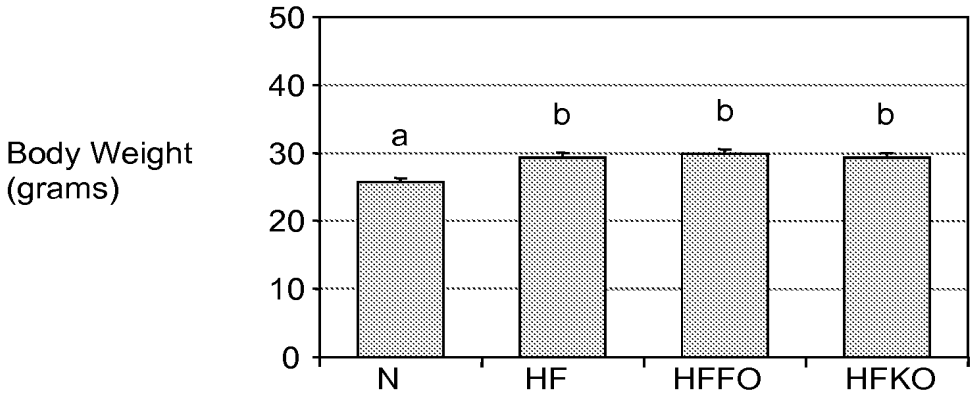


Fig. 13

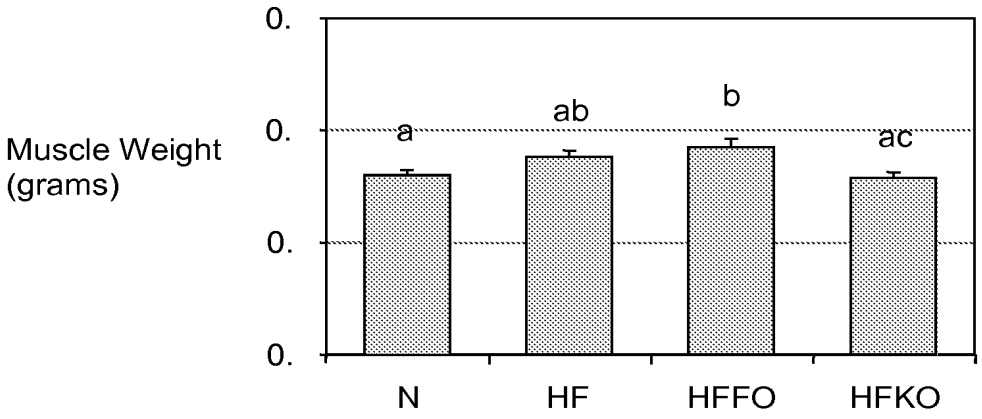


Fig. 14

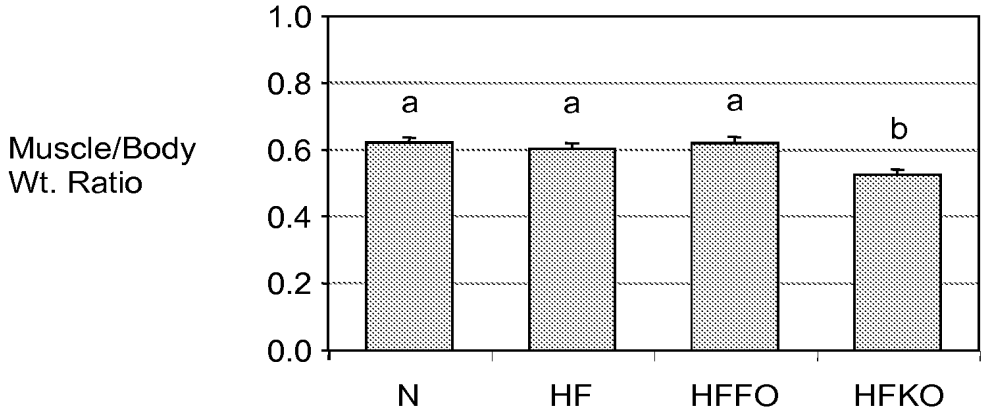


Fig. 15

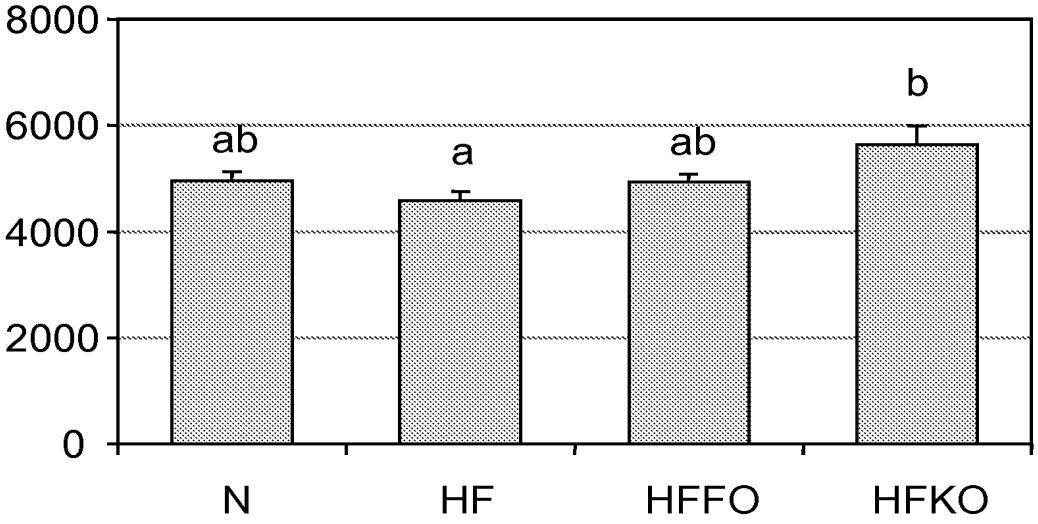


Fig. 16

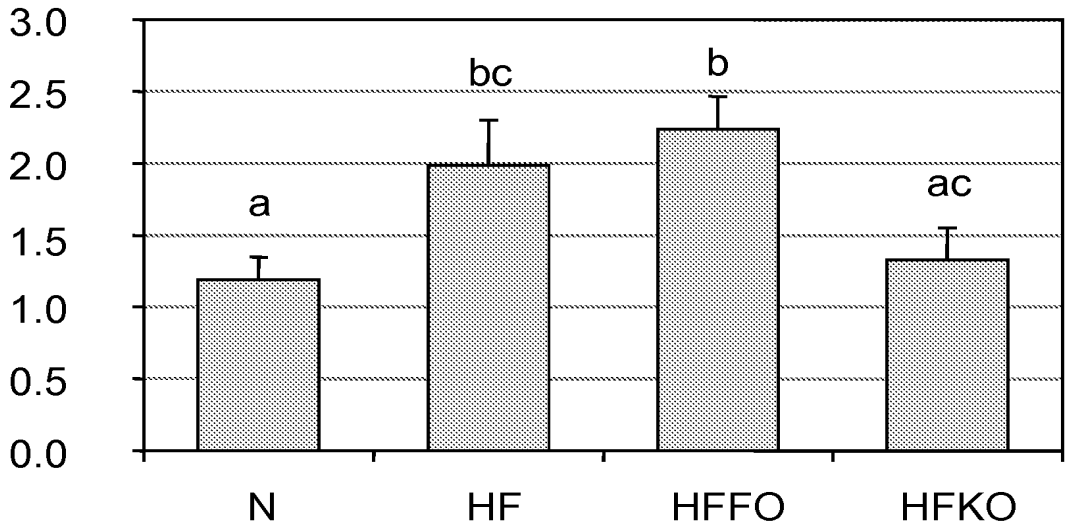


Fig. 17

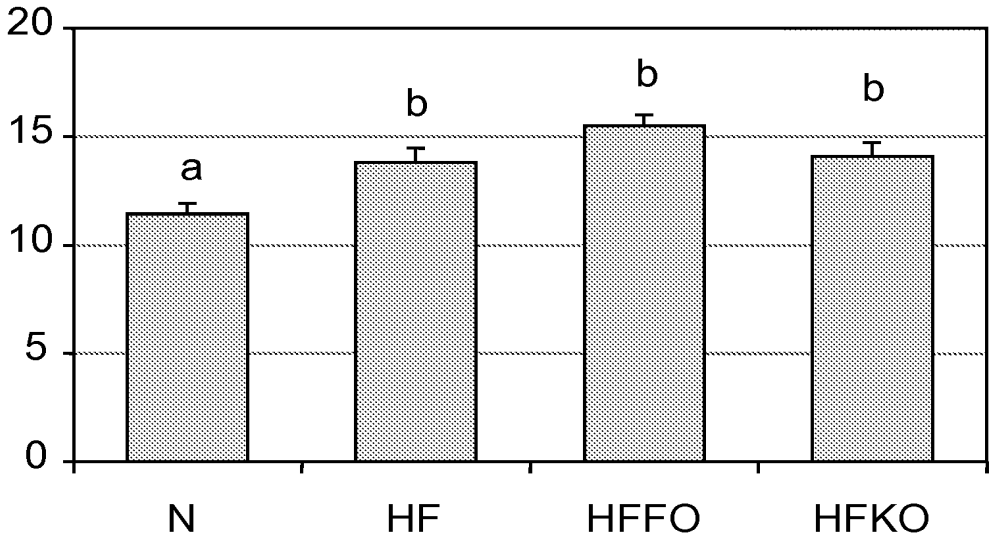


Fig. 18

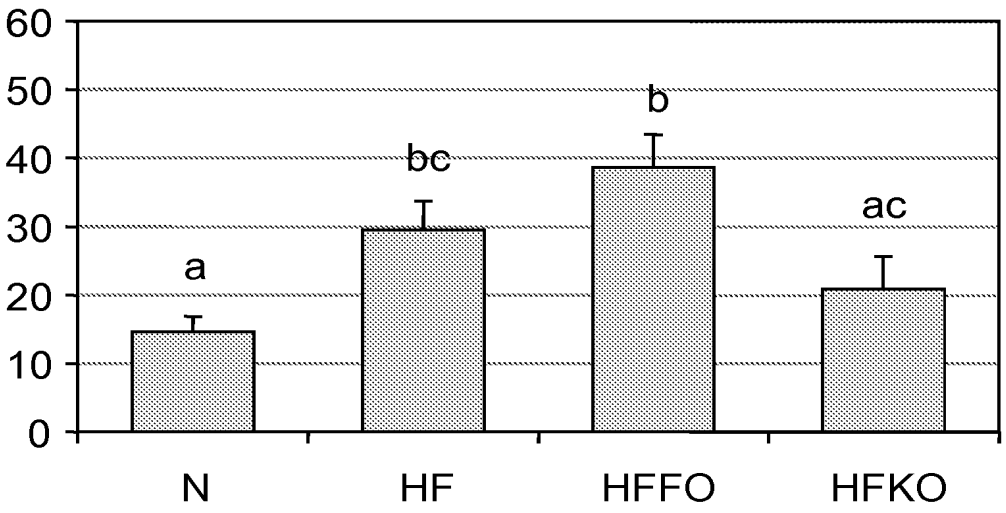
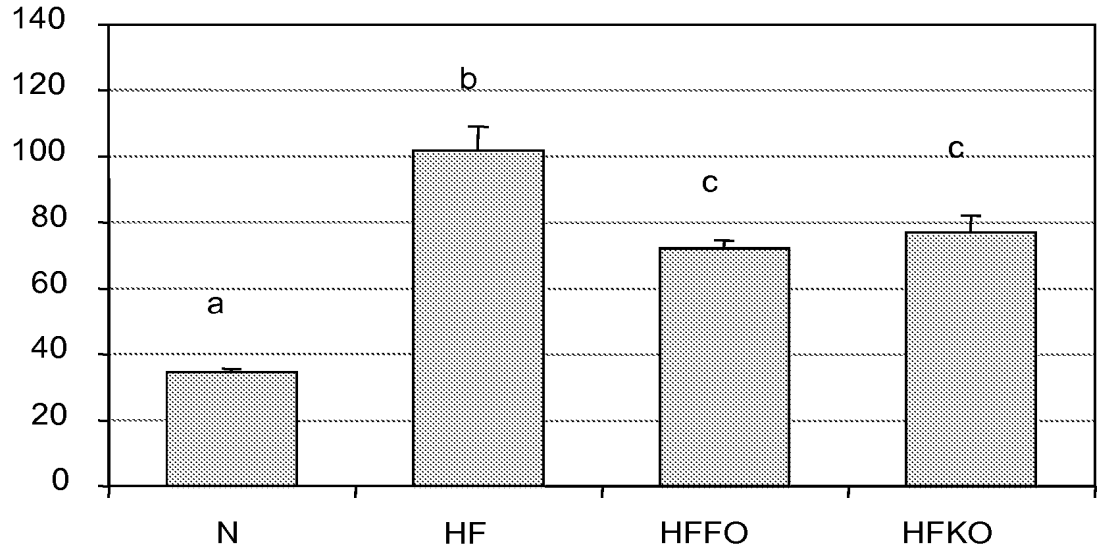


Fig. 19



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Inge Bruheim et al.	Group No.:	NA
Serial No.:	NA	Examiner:	NA
Filed:	Herewith		
Entitled:	BIOEFFECTIVE KRILL OIL COMPOSITIONS		

INFORMATION DISCLOSURE STATEMENT LETTER

EFS WEB FILED
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Examiner:

The citations listed in the attached IDS Form PTO-SB08 may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. §§ 1.56 and 1.97. The Examiner is requested to make these citations of official record in this application.

Applicants wish to bring to the Examiner's attention that the references supplied in this IDS are from parent U.S. Patent Application No. 12/057,775 and copies of any foreign and non-patent literature documents can be found in the file wrapper of that application.

This Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

This submission is being filed before the mailing of a first Office Action and no fees are believed to be due. However, the Commissioner is hereby authorized to charge any required fees or credit any overpayments to Attorney Deposit Account No.: 50-4302, referencing Attorney Docket No.: AKBM-14409/US-11/CON.

Respectfully submitted,

Dated: 12 February 2015

/J. Mitchell Jones/
J. Mitchell Jones
Registration No. 44,174
CASIMIR JONES, S.C.
2275 Deming Way, Suite 310
Middleton, WI 53562
608.662.1277

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Inge Bruheim et al.	Group No.:	NA
Serial No.:	NA	Examiner:	NA
Filed:	Herewith		
Entitled:	BIOEFFECTIVE KRILL OIL COMPOSITIONS		

INFORMATION DISCLOSURE STATEMENT LETTER

EFS WEB FILED
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Examiner:

The citations listed in the attached IDS Form PTO-SB08 may be material to the examination of the above-identified application, and are therefore submitted in compliance with the duty of disclosure defined in 37 C.F.R. §§ 1.56 and 1.97. The Examiner is requested to make these citations of official record in this application.

Applicants wish to bring to the Examiner's attention that the references supplied in this IDS are from parent U.S. Patent Application No. 12/057,775 and copies of any foreign and non-patent literature documents can be found in the file wrapper of that application.

This Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97 is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any one or more of these citations constitutes prior art.

This submission is being filed before the mailing of a first Office Action and no fees are believed to be due. However, the Commissioner is hereby authorized to charge any required fees or credit any overpayments to Attorney Deposit Account No.: 50-4302, referencing Attorney Docket No.: AKBM-14409/US-11/CON.

Respectfully submitted,

Dated: 12 February 2015

/J. Mitchell Jones/
J. Mitchell Jones
Registration No. 44,174
CASIMIR JONES, S.C.
2275 Deming Way, Suite 310
Middleton, WI 53562
608.662.1277

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8697138		2014-04-15	Bruheim et al.	
	2	7488503		2009-02-10	Porzio et al	
	3	4749522		1988-06-07	Kamarei	
	4	4814111		1989-03-21	Kearns et al.	
	5	4133077		1979-01-09	Jasniewicz	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20110130458		2011-06-02	Harald Breivik	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	2	20080166420		2008-07-10	Scott F. Sones	
	3	20060078625		2006-04-13	Susie Rockway	
	4	20020076468		2002-06-20	Saxby	
	5	20030113432		2003-06-19	Yoshitomi	
	6	20100143571		2010-06-10	Breivik	
	7	20100160659		2010-06-24	Catchpole	
	8	20080166419		2008-07-10	Sones	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	40348	CL		1997-07-08	Tepual S.A.		☐
	2	89/01031	WO		1989-02-09	Pharmacia AB		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	3	89/10960	WO		1989-11-16	Pharmacia AB		☐
	4	97/38585	WO		1997-10-23	The University of British Columbia		☐
	5	98/34498	WO		1998-08-13	Biozyme Systems, Inc.		☐
	6	99/39589	WO		1999-08-12	Biozyme Systems Inc.		☐
	7	06/111633	WO		2006-10-26	SC DICOPHAR		☐
	8	07/123424	WO		2007-11-01	Catchpole		☐
	9	08/072563	WO		2008-06-19	Nippon Suisan Kaisha, Ltd.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	EP Opposition filed February 13, 2014 by Olympic Seafood AS, EP Patent Application No. EP087189l0l6	☐
	2	BRZUSTOWICZ, Michael R., et al., "Controlling Membrane Cholesterol Content. A Role for Polyunsaturated (Docosahexaenoate) Phospholipids," Biochemistry (2002), 41, pp. 12509-12519	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	3	JONG-HO LEE, "A Review: Antioxygenic and Peroxide-decomposing Activities of Antarctic Krill Lipids," J. Korean Soc. Food Mutr. 13(3) pp. 326-333 (1984)	☐
	4	KI WOONG CHO, et al., "Lipid and Fatty Acid Composition of the Antarctic Krill Euphausia superba," Ocean Research 21(2): 109-116 (1999)	☐
	5	HVATTUM, Erlend, et al., "Effect of soybean oil and fish oil on individual molecular species of Atlantic salmon...", Journal of Chromatography B, 748 (2000) 137-149	☐
	6	IGARASHI, Daisuke, et al., "Positional Distribution of DHA and EPA in Phosphatidylcholine and Phosphatidylethanolamine from Different Tissues of Squids," J. Oleo Sci. Vol. 50, No. 9 (2001)	☐
	7	TOCHIZAWA, Kaoru, et al., "Effects of Phospholipds Containing Docosahexaenoic Acid on Differentiation and Growth of HL-60 Human Promyelocytic Leukemia Cells," J. Jpn. Oil Chem. Soc. Vol. 46, No. 4 (1997)	☐
	8	ZEROUGA, Mustapha, et al., "Comparison of phosphatidylcholines containing one or two docosahexaenoic acyl chains on properties of phospholipid monolayers and bilayers," Biochimica et Biophysica Acta 1236 (1995) 266-272	☐
	9	EUNG-HO LEE, et al., "Studies on the Processing of Krill Sauce," J. Korean Soc. Food Nutr. 13(1) 97-106 (1984)	☐
	10	HYUN-KU KIM, et al., "Effects of Cooking and Drying Methods on the Polar Lipds Composition of Shrimp," Korean J. Food Sci. Technol. Vol. 21, No. 1, pp. 25-30 (1989)	☐
	11	SHON, Mi-Yae, et al., "Effects of Krill and Cadmium on Lipid Composition of Plasma in Cholesterol-Fed Rats," J. Korean Soc. Food Nutr. 23(1), 38-43 (1994)	☐
	12	Summons Materials downloaded from ESPACE on December 16, 2014 for EP Patent Application No. 08 718 910.6	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-12-16
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Bruheim
Art Unit	1651
Examiner Name	D.K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	2652235		1953-09-15	Samuelsen	
	2	5006281		1991-04-09	Rubin et al.	
	3	4251557		1981-02-17	Shimose et al.	
	4	4505936		1985-03-19	Meyers et al.	
	5	6214396		2001-04-10	Barrier	
	6	4036993		1977-07-19	Ikeda	
	7	6346276		2002-02-12	Tanouchi et al.	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Bruheim
	Art Unit	1651
	Examiner Name	D.K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	1098900	CA		1981-04-07	Inst. Elementoorganicheskikh So, et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	VALERI, D., et al., "Visocities of Fatty acids, triglycerides and their binary mixtures," JAOCS 74 (1997) pp. 1221-1226	☐
	2	CRC 2013-2014, 94th ed., pp. 6-231-6-235	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Bruheim
	Art Unit	1651
	Examiner Name	D.K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Bruheim
Art Unit	1651
Examiner Name	D.K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☒ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-06-12
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	D. K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4714571		1987-12-22	Kearns et al.	
	2	8278351		2012-10-02	Sampalis	
	3	8383675		2013-02-26	Sampalis	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2251265	CA		2000-04-21	Beaudoin		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	2	60-153779	JP		1985-08-13	Honen Seiyu Co. Ltd.		☐
	3	H08-231391	JP		1996-09-10	Kanagawa Kagaku Kenkyuujo Co., Ltd. Et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	"Neptune Technologies & Bioressources Soon to Obtain a Major Patent in Over 30 Countries" ("2001 Press Release,")	☐
	2	Action Closing Prosecution, '348 patent	☐
	3	April 2, 2012 Response to Office Action, '351 patent	☐
	4	Balassa et al., Microencapsulation in the Food Industry, Critical Reviews in Food Technology, 2:2, 245-265 (1971) ("Balassa")	☐
	5	Bell and Dick, Molecular Species Composition of the Major Diacyl Glycerophospholipids from Muscle, Liver, Retina and Brain of Cod (Gadus morhua), Lipids, Vol. 26, No. 8, pp. 565-573 (1991) ("Bell and Dick")	☐
	6	Bell, Molecular Species Analysis of Phosphoglycerides from the Ripe Roes of Cod, Lipids, Vol. 24, No. 7 (1989)	☐
	7	Bell, Molecular Species Composition of Phosphatidylcholine from Crypthecodinium cohnii in Relation to Growth Temperature Lipids 25, 115-118 (1990)	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	8	Bergelson (ed.), Lipid Biochemical Preparations, Chapter I.1, pp. 1-13 (1980) ("Bergelson")	☐
	9	Bottino, N.R., "Lipid Composition of Two Species of Antarctic Krill: Euphausia Superba and E. Crystallorophias," Comp. Biochem. Physiol., 1975, Vol. 50B, pp. 479-484 ("Bottino")	☐
	10	Buchi R-220 Rotovapor® Manual	☐
	11	Buda, Structural order of membranes and composition of phospholipids in fish brain cells during thermal acclimatization, Proc. Natl. Acad. Sci. USA Vol. 91, pp. 8234-8238, August 1994	☐
	12	Certificate of translation of Ex. 1072: Fisheries Agency, General Report on Research and Development of Techniques in Processing and Utilization of Marine Products, Chapter 6, Development of technology for recovery of valuable substances (astaxanthin) from krill, by Takao Fujita, pp. 273-307 (March 1985); Japanese language document	☐
	13	Certificate of translation of Ex. 1074: Japanese Patent No. 60-153779, entitled "Nutritional Supplement"	☐
	14	Certificate of translation of Ex. 1076: Japanese Patent Publication No. H08-231391, entitled "Medicine for Improvement of Dementia Symptoms"	☐
	15	Certification of translation of Ex. 1070: Japanese Unexamined Patent Application Publication No. 02-215351	☐
	16	Certified translation of Ex. 1070: Japanese Unexamined Patent Application Publication No. 02-215351, titled Krill Phospholipids Fractioning Method ("Maruyama,"); Certificate of Translation provided as Ex. 1071.	☐
	17	Certified translation of Ex. 1072: Fisheries Agency, General Report on Research and Development of Techniques in Processing and Utilization of Marine Products, Chapter 6, Development of technology for recovery of valuable substances (astaxanthin) from krill, by Takao Fujita, pp. 273-307 (March 1985) ("Fujita") ; Certificate of Translation provided as Ex. 1073.	☐
	18	Certified translation of Ex. 1074: Japanese Patent No. 60-153779, entitled "Nutritional Supplement" ("Fukuoka "); Certificate of Translation provided as Ex. 1075	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	19	Certified translation of Ex. 1076: Japanese Patent Publication No. H08-231391, entitled "Medicine for Improvement of Dementia Symptoms" ("Yasawa"); Certificate of Translation provided as Ex. 1077.	☐
	20	Declaration of Bjorn Ole Haugsgjerd in support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Haugsgjerd")	☐
	21	Declaration of Bjorn Ole Haugsgjerd submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Haugsgjerd '348 Decl.")	☐
	22	Declaration of Dr. Albert Lee in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Lee")	☐
	23	Declaration of Dr. Albert Lee in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Lee")	☐
	24	Declaration of Dr. Chong Lee submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Yeboah Reexam Decl.")	☐
	25	Declaration of Dr. Earl White submitted during prosecution of parent patent U.S. 8,030,348 ("2011 White Decl.")	☐
	26	Declaration of Dr. Ivar Storrø in support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Storrø")	☐
	27	Declaration of Dr. Ivar Storrø in support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Storrø")	☐
	28	Declaration of Dr. Jacek Jaczynski from inter partes reexamination of the parent patent U.S. 8,030,348 ("Jaczynski Reexam. Decl.")	☐
	29	Declaration of Dr. Jaczynski submitted during prosecution of parent patent U.S. 8,278,351 (Jaczynski '351 Decl.")	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	30	Declaration of Dr. Jeff Moore in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Moore")	☐
	31	Declaration of Dr. Jeff Moore in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Moore")	☐
	32	Declaration of Dr. Richard van Breemen in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Van Breemen")	☐
	33	Declaration of Dr. Richard van Breemen in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Van Breemen")	☐
	34	Declaration of Dr. Shahidi submitted during inter partes reexamination of parent patent U.S. 8,030,348 (Shahidi Reexam. Decl.")	☐
	35	Declaration of Dr. Shahidi submitted during prosecution of parent patent U.S. 8,278,351 (Shahidi '351 Decl.")	☐
	36	Declaration of Dr. Suzanne Budge in Support of Inter Partes Review of U.S. Pat. No. 8,278,351 ("Budge")	☐
	37	Declaration of Dr. Suzanne Budge in Support of Inter Partes Review of U.S. Pat. No. 8,383,675 ("Budge")	☐
	38	Declaration of Dr. Thomas Brenna in support of Inter Partes Review of U.S. Pat. No. 8,278,351	☐
	39	Declaration of Dr. Thomas Brenna in support of Inter Partes Review of U.S. Pat. No. 8,383,675	☐
	40	Declaration of Dr. Thomas Gundersen submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Gundersen Decl.")	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	41	Declaration of Dr. Tina Sampalis submitted during inter partes reexamination of parent patent U.S. 8,030,348 (Sampalis")	☐
	42	Declaration of Dr. Van Breemen submitted during Ex parte Reexamination of the '351 patent (Van Breemen '351 Reexam. Decl."	☐
	43	Declaration of Dr. Van Breemen submitted during Inter partes Reexamination of the '348 patent (Van Breemen '348 Reexam Decl."	☐
	44	Declaration of Dr. Yeboah submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Yeboah Reexam Decl.")	☐
	45	Declaration of Dr. Yeboah submitted during prosecution of parent patent U.S. 8,278,351 ("Yeboah '351 Decl.")	☐
	46	Eichberg, "Lecithin – It Manufacture and Use in the Fat and Oil Industry," Oils and Soap 51-54, 1939 ("Eichberg")	☐
	47	Expert Witness Report of Dr. Theodore Welch submitted in relation to ITC Investigation No. 337-TA-877 ("Welch")	☐
	48	Farkas, Composition and Physical State of Phospholipids in Calanoid Copepods from India and Norway, LIPIDS, Vol. 23, No. 6 (1988)	☐
	49	Final Prospectus dated May 11, 2001 ("Final Prospectus")	☐
	50	Fisheries Agency, General Report on Research and Development of Techniques in Processing and Utilization of Marine Products, Chapter 6, Development of technology for recovery of valuable substances (astaxanthin) from krill, by Takao Fujita, pp. 273-307 (March 1985); Japanese language document	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-01-14
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	D. K. Ware
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	1	Folch, et al., A Simple Method for the Isolation and Purification of Total Lipids from Animal Tissues. J. Biol. Chem., 226, 497-509 (1957)	☐
	2	Grant of Request for Ex parte Reexamination of the '351 patent	☐
	3	Grit et al., Hydrolysis of phosphatidylcholine in aqueous liposome dispersions, Int. J. Pharmaceutics 50:1-6 (1989)	☐
	4	Henderson et al., Lipid Composition of the Pineal Organ from Rainbow Trout (Oncorhynchus mykiss), Lipids, Vol. 29, No. 5, pp. 311-317 (1994) ("Henderson ")	☐
	5	Herman and Groves, The Influence of Free Fatty Acid Formation on the pH of Phospholipid-Stabilized Triglyceride Emulsions, Pharmaceutical Research 10(5):774-776 (1993)	☐
	6	Itano Refrigerated Food Co., Ltd., Bio & High Technology Announcement and Natural Astaxanthin & Krill Lecithin, pp. 1-16 (on or before December 28, 1994) ("Itano")	☐
	7	Johnson and Lucas, Comparison of Alternative Solvents for Oils Extraction, JAOCS 60(2):229-242 (1983)	☐
	8	Le Grandois et al., Investigation of Natural Phosphatidylholine Sources: Separation and Identification by Liquid Chromatography -Electrospray Ionization-Tandem Mass Spectrometry (LC-ESI-MS2) of Molecular Species, J. Agric. Food Chem., 57, 6014-20 (2009) ("Le Grandois")	☐
	9	Lin et al., Effect of Dietary N-3 Fatty Acids Upon the PhospholipidMolecular Species of the Monkey Retina, Invest Ophthalmol Vis Sci. 1994;35:794-803	☐
	10	Medina et al., C Nuclear Magnetic Resonance Monitoring of Free Fatty Acid Release After Fish Thermal Processing, J. Amer. Oil Chem. Soc. 71(5):479-82 (1994)	☐
	11	October 24, 2012 Office Action, '675 patent	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	12	Office Action dated January 5, 2012, '351 patent	☐
	13	Provisional Application No. 60/307,842 (Priority document for the '351 patent)	☐
	14	Supplemental Declaration of Bjorn Ole Haugsgjerd submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Haugsgjerd '348 Supp. Decl.")	☐
	15	Supplemental Declaration of Dr. Earl White submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("White Supp. Reexam. Decl.")	☐
	16	Supplemental Declaration of Dr. Earl White submitted during prosecution of parent patent U.S. 8,278,351 ("White Supp. Decl.")	☐
	17	Supplemental Declaration of Dr. Thomas Gundersen submitted during inter partes reexamination of parent patent U.S. 8,030,348 ("Gundersen Supp. Decl.")	☐
	18	Suzuki, T. and Shibata, N., "The utilization of Antarctic krill for human food," Food Rev. Int'l, 6:1, 119-147 (1990) ("Suzuki")	☐
	19	Takahashi et al., Compositional Changes in Molecular Species of Fish Muscle Phosphatidylcholine During Storage, Bull. Fac. Fish. Hokkaido Univ. 37(1), 80-84 1986.	☐
	20	Takahashi et al., Molecular Species of Fish Muscle Lecithin, Bulletin of the Japanese Society of Scientific Fisheries 48 (12), 1803-1814 (1982)	☐
	21	Takahashi et al., Prediction of Relative Retention Value of the Individual Molecular Species of Diacyl Glycerolipid on High Performance Liquid Chromatography, Bull. Fac. Fish. Hokkaido Univ. 38(4), 398-404. 1987	☐
	22	Tanaka, Biosynthesis of 1,2-dieicosapentaenoyl-sn-glycero-3-phosphocholine in Caenorhabditis elegans, Eur. J. Biochem. 263, 189±194 (1999)	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

	23	Tocher, Chapter 6, Glycerophospholipid metabolism, Biochemistry and molecular biology of fishes, vol. 4, Hochachka and Mommsen (eds.)(1995)	☐
	24	Watanabe et al., Effective Components in Cuttlefish Meal and Raw Krill for Improvement of Quality of Red Seabream Pagrus major Eggs, Nippon Suisan Gakkaishi 57(4):681-694 (1991)("Watanabe")	☐
	25	WHO News and Activities, Bulletin of the World Health Organization, 73(4), pp. 547-51 (1995) ("WHO Bulletin")	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	D. K. Ware
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2014-01-14
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2004/112767	WO		2004-12-29	Advanced Bionutrition Corp.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	1	European Search Report, EP Patent Application No. EP12187516, mailed June 10, 2013	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☒ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2013-08-01
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	AKBM-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2002322233	AU		2003-02-17	Neptune Technologies & Bioressources, Inc.		☐
	2	04057853	JP		1992-02-25	CHLORINE ENG CORP LTD		☒

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	AKBM-14409/US-5/ORD

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	CN Office Action mailed April 27, 2012, JP Patent Application No. 200880112125.6 (and English translation)	☒
	2	FRICKE, et al., Lipid, Sterol and Fatty Acid Composition of Antarctic Krill (Euphausia superba Dana), Lipids (1984) 19 (11): 821-827.	☐
	3	FRICKE, et al., 1-O-Alkylglycerolipids in Antarctic Krill (Euphausia Superba Dana), Comp. Biochem. Physiol. (1986) 85B(1): 131-134	☐
	4	GORDEEV, K.Y., et al. "Fatty Acid Composition of the Main Phospholipids of the Antarctic Krill, Euphausia superba," Chem. Nat. Cmpds. (1990) 26(2), pp. 143-147	☐
	5	GRANTHAM (1977) Southern Ocean Fisheries Survey Programme, FAO Rome, GLO/SO/77/3: 1-61.	☐
	6	RAVENTOS et al., Application and Posssibilities of Supercritical CO2 Extraction in Food Processing Industry: An Overview, Food Science and Technology International (2002) 8: 269-284	☐
	7	TANAKA, T., et al., Platelet-activating Factor (PAF)-like Phospholoipds Formed during Peroxidation of Phosphatidylcholines from Different Foodstuffs, Biosci. Biotech. Biochem. (1995) 59 (8), pp. 1389-93	☐
	8	WINTHER, et al., Elucidation of Phosphatidylcholine Composition in Krill Oil Extracted from Euphausia superba, Lipids (2011) 46: 25-36	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	AKBM-14409/US-5/ORD

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	AKBM-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-11-15
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of References Cited	Application/Control No. 12/057,775	Applicant(s)/Patent Under Reexamination BRUHEIM ET AL.	
	Examiner DEBBIE K. WARE	Art Unit 1651	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2003/0113432	06-2003	Yoshitomi et al.	426/643
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	JP-A-S52-114046	JP		1977-09-24	Kokai		☐
	2	JP-A-S51-125774	JP		1976-11-02	Nichiro Gyogyo et al.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	JP Office Action mailed February 23, 2012, JP Patent Application No. 2010-522444 (and English translation)	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-03-21
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2003-530448	JP		2003-10-14	Westfalia Separator Industry GmbH		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	1	December 8, 2011 Office Action, KR Patent Application No. 10-2010-7006897 and its English translation	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-02-20
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1651
Examiner Name	Ware, Deborah K.
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5266564		1993-11-30	Modolell	
	2	8030348		2011-10-04	Sampalis, Fotni	
	3	7666447		2010-02-23	Rockway	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20080166419		2008-07-10	Sones	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2004-534800	JP		2004-11-18	Kohyo		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	2	07/080515	WO		2007-07-19	Aker Biomarine ASA		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	SIKORSKI, E., "The Utilization of Krill For Food," Food Process Eng., 1:845-855 (1980)	☐
	2	BUDZINSKLI, E., et al., "Possibilities of processing and marketing of products made from Antarctic Krill", FAO Fish. Tech. Pap. (268) 46 pages (1985)	☐
	3	BUNEA R., et al.., "Evaluation of the Effects of Neptune Krill Oil on the Clinical Course of Hyperlipidemia," Alternative Medicine Review, Thorne Research Inc., Sandpoint, US, Vol. 9, No. 4, January 1, 2004	☐
	4	GORDEEV, K.Y., et al. "Fatty Acid Composition of the Main Phospholipids of the Antarctic Krill, Euphausia superba," Khim. Prirod. Soed. 2 (1990), pp. 181-187	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1651
	Examiner Name	Ware, Deborah K.
	Attorney Docket Number	NATNUT-14409/US-5/ORD

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/J. Mitchell Jones/	Date (YYYY-MM-DD)	2012-01-24
Name/Print	J. Mitchell Jones	Registration Number	44174

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of References Cited	Application/Control No. 12/057,775	Applicant(s)/Patent Under Reexamination BRUHEIM ET AL.	
	Examiner DEBBIE K. WARE	Art Unit 1651	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2006/0193962	08-2006	Kamiya et al.	426/615
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim
Art Unit	1636
Examiner Name	
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4119619		1978-10-10	ROGOZHIN SERGEI VASILIEVICH et al.	
	2	5434183		1995-07-18	LARSSON-BACKSTROM	
	3	6537787		2003-03-25	GILDAS	
	4	6800299		2004-10-05	BEAUDOIN & MARTIN	
	5	5266564		1993-11-30	MODELELL et al	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20030044495		2003-03-06	KAGAN and BRAUN	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	2	20040241249		2004-12-02	SAMPALIS	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	8701265	BR		1987-03-12	SATO		☐
	2	1098900	CA		1981-04-07	ROGOZHIN, et al		☐
	3	0609078	EP		1994-08-03	SCOTIA HOLDINGS PLC		☐
	4	1127497	EP		2001-08-29	NIPPON SUISAN KAISHA LTD		☐
	5	1406641	EP		2004-04-14	NEPTUNE TECHNOLOGIES & BIORESSOURCES INC.		☐
	6	670306	EP		1995-06-09	NIPPON OIL CO. LTD		☐
	7	2097014	GB		1982-10-27	BAIKOFF		☐
	8	921537	GB		1999-06-09	PICKER NORDSTAR INC.		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	9	02049091	JP		1990-02-19	SUNTORY LTD		☐
	10	2215351	JP		1990-08-28	TAIYO FISHERY CO LTD.		☐
	11	2524217	JP		1996-08-14	TAIYO FISHERY CO LTD.		☐
	12	2963152	JP		1992-02-25	CHLORINE ENG CORP LTD		☐
	13	2000/23546	WO		2000-04-27	UNIV SHERBROOKE		☐
	14	3081692	JP		1994-07-19	CHLORINE ENG CORP LTD		☐
	15	3344887	JP		1997-07-08	IKEDA SHOKKEN KK		☐
	16	3467794	JP		2003-09-05	NIPPON OIL & FATS CO LTD		☐
	17	3486778	JP		2003-10-31	GREEN CROSS CORP		☐
	18	3611222	JP		1997-08-05	CHLORINE ENG CORP LTD		☐
	19	3678317	JP		2005-05-20	CHLORINE ENG CORP LTD		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	20	4012665	JP		1992-01-17	MATSUSHITA ELECTRIC IND CO LTD		☐
	21	61281159	JP		1986-12-11	SHISEIDO CO LTD; NIPPON SUISAN KAISHA LTD.		☐
	22	2001-158736	JP	A	2001-06-12	SNOW BRAND MILK PROD CO LTD		☐
	23	2003-003192	JP	A	2003-01-08	UNITIKA LTD		☐
	24	2003-048831	JP	A	2003-02-21	SUNTORY LTD		☐
	25	2003-146883	JP	A	2003-05-21	SNOW BRAND MILK PROD CO LTD		☐
	26	2003-531857	JP	A	2003-10-28	HENDERSON		☐
	27	2004-525180	JP	A	2004-08-19	YEDA RESEARCH AND DEVELOPMENT CO. LTD.		☐
	28	2004-536059	JP	A	2004-12-02	MARTEK BIOSCIENCES BOULDER CORPORATION		☐
	29	2005-245379	JP	A	2005-09-15	NIPPON SUISAN KAISHA LTD		☐
	30	2006-069948	JP	A	2006-03-16	HIROSE YUKIHIRO		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	31	2006-083136	JP	A	2006-03-30	SUNTORY LTD		☐
	32	2006-290784	JP	A	2006-10-26	HIROSE YUKIHIRO		☐
	33	2006-316073	JP	A	2006-11-24	IBR ISRAELI BIOTECHNOLOGY RESEARCH LTD		☐
	34	2006-328014	JP	A	2006-12-07	HIROSE YUKIHIRO		☐
	35	2006-502196	JP	A	2006-01-19	SUNTORY LIMITED		☐
	36	2006-528233	JP	A	2006-12-14	BTG INTERNATIONAL LIMITED		☐
	37	2007-126455	JP	A	2007-05-24	FUJI CHEM IND CO LTD		☐
	38	2007-246404	JP	A	2007-09-27	SNOW BRAND MILK PROD CO LTD		☐
	39	2007-502805	JP	A	2007-02-15	BTG INTERNATIONAL LIMITED		☐
	40	2007-509131	JP	A	2007-04-12	ENZYMOTEC LTD.		☐
	41	2007-518764	JP	A	2007-07-12	BRUZZESE		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	42	220741	SU		1971-01-06	KRGUCHKOV		☐
	43	1986/06082	WO		1986-10-23	MAT-CON RADGIVENDE INGENIØRFIRMA A/S		☐
	44	1990/05765	WO		1990-05-31	MIKALSEN		☐
	45	1993/24142	WO		1993-12-09	PHAIRSON MEDICAL AB		☐
	46	1997/38585	WO		1997-10-23	THE UNIVERSITY OF BRITISH COLUMBIA		☐
	47	1997/39759	WO		1997-10-30	BRIGHAM AND WOMEN'S HOSPITAL		☐
	48	1998/34498	WO		1998-08-13	BIOZYME SYSTEMS INC.		☐
	49	1999/39589	WO		1999-08-12	BIOZYME SYSTEMS INC.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	ANDO and HATANO, 1988, "Isolation of apolipoproteins from carotenoid-carrying lipoprotein in the serum of chum salmon, Oncorhynchus keta", J. Lipid Research, 29: 1264-1271	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	2	AOI et al., 2003, "Astaxanthin limits exercise-induced skeletal and cardiac muscle damage in mice", Antioxidants & Redox Signaling, 5(1): 139-44	☐
	3	BRITTON, 1985, "General Carotenoid Methods", Methods in Enzymology, Vol 111, pp. 113-149	☐
	4	CALDER, 2006, "n-3 polyunsaturated fatty acids, inflammation, and inflammatory diseases", Am. J. Clin. Nutr., 83: 1505S	☐
	5	CHAREST et al., 2001, "Astaxanthin Extraction from Crawfish Shells by Supercritical CO2 with Ethanol as Cosolvent", J. Aquatic Food Product Technology, 10(3): 79-93	☐
	6	CHEN and MEYERS, 1982, "Extraction of Astaxanthin Pigment from Crawfish Waste Using a Soy Oil Process", J. Food Sci., 47: 892-896	☐
	7	CLARKE, 1980, "The Biochemical Composition of Krill, Euphausia superba dana,from South Georgia", J. Exp. Mar. Biol. Ecol., 43: 221-236	☐
	8	CZECZUGA, 1974, "Comparative Studies of Carotenoids in the Fauna of the Gullmar Fjord (Bohuslan, Sweden). II. Crustacea: Eupagurus bernhardus, Hyas coarctatus and Upogebia deltaura", Marine Biology, 28: 95-98	☐
	9	DE RITTER and PURCELL, 1981, "Carotenoid Analytical Methods", Carotenoids as Colorants and Vitamin A Precursors: Technological and Nutritional Applications, pp 815-882	☐
	10	DEUTCH, 1995, "Menstrual pain in Danish women correlated with low n-3 polyunsaturated fatty acid intake", Eur. J. Clin. Nutr., 49(7): 508-16	☐
	11	DIEZ et al., 2003, "The role of the novel adipocyte-derived hormone adiponectin in human disease", Eur. J. Endocrinol., 148(3): 293-300	☐
	12	ELLINGSEN et al., 1987, "Biochemistry of the autolytic processes in Antarctic krill post mortem. Autoproteolysis." Biochem. J. 246, 295-305	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	13	EMODI, 1978, "Carotenoids: Properties and Applications", Food Technology, 32(5): 38	☐
	14	FELIX-VALENZUELA et al., 2001, "Supercritical CO2/Ethanol Extraction of Astaxanthin from Blue Crab (Callinectes Sapidus) Shell Waste", Journal of Food Process Engineering, 24: 101-112	☐
	15	FOX and SCHEER, 1941, "Comparative Studies of the Pigments of Some Pacific Coast Echinoderms", The Biological Bulletin, 441-455	☐
	16	FRICKE, et al., 1984, "Lipid, Sterol and Fatty Acid Composition of Antarctic Krill (Euphausia superba Dana)", Lipids, 19 (11): 821-827	☐
	17	GEUSENS et al., 1994, "Long-term effect of omega-3 fatty acid supplementation in active rheumatoid arthritis. A 12-month, double-blind, controlled study", Arthritis Rheum., 37(6): 824-9	☐
	18	GILCHRIST and GREEN, 1960, "The Pigments of Artemia", Proceedings of the Royal Society, Series B Biological Sciences, Vol 152 No. 946, pp 118-136	☐
	19	GOODWIN and SRISUKH, 1949, "Some Observations on Astaxanthin Distribution in Marine Crustacea", Department of Biochemistry, University of Liverpool, pp. 268-270	☐
	20	GULYAEV and BUGROVA, 1976 "Removing fats from the protein paste "Okean". Konservnaya I Ovoshchesushil'naya Promyshlennost, (4), 37-8	☐
	21	HARDARDOTTIR and KINSELLA, 1988, "Extraction of Lipid and Cholesterol from Fish Muscle with Supercritical Fluids" Journal of Food Science, 53(6): 1656-1658	☐
	22	INTERNATIONAL AQUA FEED, 2006, Vol. 9	☐
	23	International Search Report and Written Opinion for PCT/GB2008/002934, Dated 2009-03-11	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	24	International Search Report and Written Opinion for PCT/IB2010/000512; dated 2010-06-24	☐
	25	International Search Report for PCT/IB2007/000098, dated: 2007-06-26	☐
	26	ITOH et al., 2007; "Increased adiponectin secretion by highly purified eicosapentaenoic acid in rodent models of obesity and human obese subjects", Arteriosclerosis, Thrombosis, and Vascular Biology; 27(9): 1918-1925	☐
	27	JOHNSON et al., 1978, "Simple Method for the Isolation of Astaxanthin from the Basidiomycetous Yeast Phaffia rhodozyma", Applied and Environmental Microbiology, 35(6): 1155-1159	☐
	28	KOLAKOWSKA, 1989, "Krill lipids after frozen storage of about one year in relation to storage time before freezing", Die Nahrung Food, 33(3): 241-244	☐
	29	KRIS-ETHERTON et al., 2002, "Fish Consumption, Fish Oil, Omega-3 Fatty Acids, and Cardiovascular Disease", Circulation, 106:2747-2757	☐
	30	KRISTENSEN et al., 1989, "Dietary supplementation with n-3 polyunsaturated fatty acids and human platelet function: a review with particular emphasis on implications for cardiovascular disease", J. Intern. Med. Suppl. 731:141-50	☐
	31	KUNESOVA et al., 2006, "The influence of n-3 polyunsaturated fatty acids and very low calorie diet during a short-term weight reducing regimen on weight loss and serum fatty acid composition in severely obese women", Physiol Res.; 55 (1):63-72	☐
	32	LAIGHT et al., 1999, "F2-isoprostane evidence of oxidant stress in the insulin resistant, obese Zucker rat: effects of vitamin E", Eur. J. Pharmacol. 377(1): 89-92	☐
	33	LAMBERTSON and BRAEKKAN, 1971, "Method of Analysis of Astaxanthin and its Occurrence in some Marine Products," J. Sci. Food. Agr., Vol 22(2): 99-101	☐
	34	LIBBY et al., 2006, "Inflammation and Atherothrombosis: From Population Biology and Bench Research to Clinical Practice", J. Amer. Coll. Card., 48 (9, Suppl. A): A33-A46	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	35	LOPEZ et al., 2004, "Selective extraction of astaxanthin from crustaceans by use of supercritical carbon dioxide", Talanta, 64: 726-731	☐
	36	MANDEVILLE, 1991, "Isolation and Identification of Carotenoid Pigments, Lipids and Flavor Active Components from Raw Commercial Shrimp Waste", Food Biotechnology, 5(2): 185-195	☐
	37	MEYERS and BLIGH, 1981, "Characterization of Astaxanthin Pigments from Heat-Processed Crawfish Waste", J. Agric. Food Chem., 29: 505-508	☐
	38	MEYERS, 1977, "Using Crustacean Meals and Carotenoid-Fortified Diets", Feedstuffs, Vol. 49(19)	☐
	39	MEYERS, 1994, "Developments in world aquaculture, feed formulations, and role of carotenoids", Pure & Appl. Chem, Vol. 66(5): 1069-1076	☐
	40	MILLS et al., 1989, "Dietary N-6 and N-3 fatty acids and salt-induced hypertension in the borderline hypertensive rat", Lipids, 24(1): 17-24	☐
	41	MOATES and VAN BENTEM, 1990, "Separating out the value", Food Science and Technology Today, 4(4): 213-214	☐
	42	NIKOLAEVA, 1967 "Amino acid composition of protein-coagulate in krill", VNIRO, 63:161-4	☐
	43	PHLEGER, et al. (2002) "Interannual and between species comparison in the lipids, fatty acids, and sterols of Antarctic krill from the US AMLR Elephant Island survey area: 1997 and 1998". Comp Biochem Physiol 131B:733–747	☐
	44	POPP-SNIJDERS et al., 1987, "Dietary supplementation of omega-3 polyunsaturated fatty acids improves insulin sensitivity in non-insulin-dependent diabetes", Diabetes Res. 4(3): 141-7	☐
	45	SACHINDRA, 2006, "Recovery of carotenoids from shrimp waste in organic solvents", Waste Management, 26: 1092-1098	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim
	Art Unit	1636
	Examiner Name	
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	46	SAETHER et al., 1986, "Lipids of North Atlantic krill", J Lipid Res., 27(3):274-85.	☐
	47	SHAHIDI et al., 1998, "Carotenoid Pigments in Seafoods and Aquaculture" Critical Reviews in Food Science, 38(1): 1-67	☐
	48	SIDEHU et al., 1970, "Biochmical Composition and Nutritive Value of Krill (Euphausia superb dana)", J. Sci Food Agr., Vol 21, 293-296	☐
	49	SIMOPOULOS, 1991, "Omega-3 fatty acids in health and disease and in growth and development", Am. Clin. Nutr. 54:438-63	☐
	50	SOMIYA, 1982, "'Yellow lens' eyes of a stomiatoid deep-sea fish, Malacosteus niger", Proc. R. Soc. Lond., 215: 481-489	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	12057775
Filing Date	2008-03-28
First Named Inventor	Inge Bruheim, et al.
Art Unit	1651
Examiner Name	Susan Marie Hanley
Attorney Docket Number	NATNUT-14409/US-5/ORD

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2000/25608	WO		2000-05-11	NIPPON SUISAN KAISHA, LTD.		☐
	2	2000/38708	WO		2000-07-06	PHAIRSON MEDICAL INC.		☐
	3	2002/102394	WO		2002-12-27	NEPTUNE TECHNOLOGIES & BIORESS		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	4	2003/011873	WO		2003-02-13	NEPTUNE TECHNOLOGIES & BIORESSOURCES INC.		☐
	5	2005/004393	WO		2005-01-13	KONIN-KLIJKE PHILIPS ELECTRONICS N.V.		☐
	6	2005/037848	WO		2005-04-28	ENZYMOTEC LTD.		☐
	7	2005/038037	WO		2005-04-28	ENZYMOTEC INC.		☐
	8	2007/080514	WO		2007-07-19	KRILL A/S		☐
	9	2007/080515	WO		2007-07-19	AKER BIOMARINE ASA		☐
	10	2007/108702	WO		2007-09-27	AKER SEAFOODS HOLDING AS		☐
	11	2008/006607	WO		2008-01-17	NATTOPHARMA ASA		☐
	12	2008/117062	WO		2008-10-02	AKER BIOMARINE ASA		☐
	13	2009/027692	WO		2009-03-05	AKER BIOMARINE ASA		☐
	14	2001/028526	WO		2001-04-26	TRUFFINI & REGGE FARMACEUTICI		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	15	2004/047554	WO		2004-06-10	PHARES PHARM RES NV		☐
	16	0973532	EP		2005-09-07	I.B.R ISRAELI BIOTECHNOLOGY RESEARCH LTD.		☐
	17	1123368	EP		2008-04-09	UNIVERSITE DE SHERBROOKE		☐
	18	1292294	EP		2009-03-18	ACCERA, INC.		☐
	19	2001/082928	WO		2001-11-08	HENDERSON		☐
	20	2003/013497	WO		2003-02-20	SUNTORY LIMITED		☐
	21	1419768	EP		2009-01-07	NEPTUNE TECHNOLOGIES & BIORESSOURCES, INC.		☐
	22	1385500	EP		2010-07-28	YEDA RESEARCH AND DEVELOPMENT CO. LTD		☐
	23	2002/083122	WO		2002-10-24	YEDA RESEARCH AND DEVELOPMENT CO. LTD		☐
	24	1392623	EP		2004-03-03	MARTEK BIOSCIENCES BOULDER CORPORATION		☐
	25	2002/092540	WO		2002-11-21	MARTEK BIOSCIENCES BOULDER CORPORATION		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	26	1406641	EP		2009-01-07	NEPTUNE TECHNOLOGIES & BIORESSOURCES, INC.		☐
	27	2005/070411	WO		2005-08-04	BRUZZESE		☐
	28	1542670	EP		2005-06-22	SUNTORY LIMITED	Identical to WO2004028529	☐
	29	2004/028529	WO		2004-04-08	SUNTORY LIMITED		☐
	30	1743531	EP		2007-01-17	NIPPON SUISAN KAISHA, LTD		☐
	31	1631280	EP		2008-03-08	BTG INTERNATIONAL LIMITED		☐
	32	2004/100943	WO		2004-11-25	BTG INTERNATIONAL LIMITED		☐
	33	1660071	EP		2006-05-31	BTG INTERNATIONAL LIMITED		☐
	34	2005/018632	WO		2005-03-03	BTG INTERNATIONAL LIMITED		☐
	35	2006/030552	WO		2006-03-23	SUNTORY LIMITED		☐
	36	1689413	EP		2006-08-16	ENZYMOTEC LTD.		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	37	1706106	EP		2009-07-15	BRUZZESE		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	TAKAICHI et al., 2003, "Fatty Acids of astaxanthin esters in krill determined by mild mass spectrometry", Comparative Biochemistry and Physiology Part B, Biochemistry and Molecular Biology, Elsevier, Oxford, Vol. 136, 1 January 2003, p. 317-322;	☐
	2	TANAKA et al., 2004, "Extraction of Phospholipids from Salmon Roe with Supercritical Carbon Dioxide and an Entrainer", J. Oleo Sci, 53(9): 417-424	☐
	3	TANAKA et al., 2005, "Extraction of Phospholipids from Unused Natrual Resources with Supercritical Carbon Dioxide and an Entrainer", Journal of Oleo Science, Vol. 54(11): 569-576	☐
	4	TODORIC et al., 2006, "Adipose tissue inflammation induced by high-fat diet in obese diabetic mice is prevented by n-3 polyunsaturated fatty acids", Diabetologia, 49(9): 2109-2119	☐
	5	TOU et al., 2007, "Krill for human consumption: nutritional value and potential health benefits.", Nutrition Rev 65 (2):63-77	☐
	6	TRAYHURN et al., 2004, "Adipokines: inflammation and the pleiotropic role of white adipose tissue", Br. J. Nutrition, 92(3): 347-355	☐
	7	TREBBLE et al., 2003, "Inhibition of tumour necrosis factor-alpha and interleukin 6 production by mononuclear cells following dietary fish-oil supplementation in healthy men and response to antioxidant co-supplementation", Br. J. Nutrition, 90(2): 405-412	☐
	8	UKKOLA et al., 2002, "Adiponectin: a link between excess adiposity and associated comorbidities?", J. Mol. Med., 80 (11): 696-702	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	9	VAN DER VEEN et al., 1971 "The Lipids of Krill (Euphausia Species) and Red Crab (Pleuroncodes Planipes)", Lipids, 6(7): 481-485	☐
	10	VIRTUE, et al. 1996, Reproductive trade-off in male Antarctic krill, Euphausia superba", Marine Biology, Volume 126, Number 3, Pages 521-527	☐
	11	YAMAGUCHI et al., 1983, "The Composition of Carotenoid Pigments in the Antarctic Krill Euphausia superba", Bulletin of the Japanese Society of Scientific Fisheries, 49(9): 1411-1415	☐
	12	YAMAGUCHI et al., 1986, "Supercritical Carbon Dioxide Extraction Of Oils From Antarctic Krill," Journal Of Agricultural And Food Chemistry, vol. 34, pp. 904-907	☐
	13	YANASE M; 1974, "Modification of a Russian method for separation of heat-coagulated protein from Antarctic krill", Database FSTA (online); International Food Information Service (IFIS); FRANKFURT-MAIN, DE	☐
	14	YEN et al., 1994, "Effect of dietary omega-3 and omega-6 fatty acid sources on PUVA-induced cutaneous toxicity and tumorogenesis in the hairless mouse", Arch. Dermatol. Res., 286(6): 331-6	☐
	15	DATABASE WPI Week 200682, Thomson Scientific, London, GB, 2006	☐
	16	ENGLISH ABSTRACT; JP 2003-531857; See abstract from corresponding WO 2001/082928 filed herewith	☐
	17	ENGLISH ABSTRACT; JP 2004-525180; See abstract from corresponding WO 2002/083122 filed herewith	☐
	18	ENGLISH ABSTRACT; JP 2006-528233; See abstract from corresponding WO 2004/100943 filed herewith	☐
	19	ENGLISH ABSTRACT; JP 2007-502805; See abstract from corresponding WO 2005/018632 filed herewith	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	12057775
	Filing Date	2008-03-28
	First Named Inventor	Inge Bruheim, et al.
	Art Unit	1651
	Examiner Name	Susan Marie Hanley
	Attorney Docket Number	NATNUT-14409/US-5/ORD

	20	ENGLISH ABSTRACT; JP 2007-509131; See abstract from corresponding WO 2005/037848 filed herewith	☐
	21	ENGLISH ABSTRACT; JP 2007-518764; See abstract from corresponding WO 2005/070411 filed herewith	☐
	22	ENGLISH ABSTRACT; JP 2004-536059; See abstract from corresponding WO 2002/09254 filed herewith	☐
	23	ENGLISH ABSTRACT; JP 2006-502196; See abstract from corresponding WO 2004/028529 filed herewith	☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Filer:	John Mitchell Jones/Mallory Checkett
Attorney Docket Number:	AKBM-14409/US-11/CON

Filed as Large Entity

Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Request for Prioritized Examination	1817	1	4000	4000
Pages:				
Claims:				
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Publ. Fee- Early, Voluntary, or Normal	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	1830	1	140	140

Petition:	
Patent-Appeals-and-Interference:	
Post-Allowance-and-Post-Issuance:	
Extension-of-Time:	
Miscellaneous:	
Total in USD ($)	**5740**

Electronic Acknowledgement Receipt

EFS ID:	21483886
Application Number:	14620784
International Application Number:	
Confirmation Number:	1577
Title of Invention:	BIOEFFECTIVE KRILL OIL COMPOSITIONS
First Named Inventor/Applicant Name:	Inge Bruheim
Customer Number:	72960
Filer:	John Mitchell Jones/Mallory Checkett
Filer Authorized By:	John Mitchell Jones
Attorney Docket Number:	AKBM-14409/US-11/CON
Receipt Date:	12-FEB-2015
Filing Date:	
Time Stamp:	15:45:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$5740
RAM confirmation Number	2197
Deposit Account	504302
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	TrackOne Request	14409US11CON_Track1_Request.pdf	114115 be1f3f58b58112eb69ea9c09c799a944a67d2ef8	no	2
Warnings:					
Information:					
2	Application Data Sheet	14409US11CON_ApplicationDataSheet.pdf	1505780 fcf63ffe61423a97d967cb4aeb84e36865d96e1c	no	7
Warnings:					
Information:					
3		14409US11CON_Application.pdf	268485 f9ece5ac6288e81f1157d187cf9323fa09ef1766	yes	53

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	50
Claims	51	52
Abstract	53	53

Warnings:					
Information:					
4	Drawings-other than black and white line drawings	14409US11CON_FIGURES.pdf	463936 ffb92b531c19b2c77765877ca7ad9e179e0d2d06	no	19
Warnings:					
Information:					
5	Transmittal Letter	14409US11CON_IDSLetter.pdf	95113 ba61e7ce9b57fa17fbe72a15bb1db90dca1f23b2	no	1
Warnings:					
Information:					
6	Information Disclosure Statement (IDS) Form (SB08)	14409US11CON_IDSdocs.pdf	1957611 ff594b1ce11e75f14f83a84c9dd9400de7ab4d3bc	no	68

Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
7	Fee Worksheet (SB06)	fee-info.pdf	40466 ab58d6409e68d2038b5da7786789e585506662f9	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	4445506	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.