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(71) Applicant: SPECCHIASOL S.R.L. [IT/IT]; Via B. Rizzi  
1/3, 37012 Bussolengo (VR) (IT).

(72) Inventor: SCIALPI, Antonio; (IT).

(74) Agent: MOLA, Edoardo; c/o PRAXI INTELLECTUAL  
PROPERTY S.p.A., Corso Vittorio Emanuele II, 3, 10125  
Torino (IT).

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HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,  
KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME,  
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OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,  
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(54) Title: ASSOCIATION OF VEGETAL EXTRACTS FOR FOOD SUPPLEMENT OR MEDICAL DEVICE

(57) Abstract: Association of plant extracts including myrrh extract (commiphora myrrha) mixed with ginger extract (zingiber officinalis)





from the following claims, and in particular from an examination of the following description.

The composition object of the present invention includes the association of the following extracts:

- 5 - dry extract and/or myrrh liquid (*Commiphora myrrha*), capable of supplying quantities of furanodienes per daily dose ranging from 1 mg to 50 mg from dried extracts titrated from 1% to 40% in furanodienes;
- 10 - dry extract and/or ginger liquid (*Zingiber officinalis*), capable of supplying gingerols per daily dose ranging from 1 mg to 50 mg from dried extracts titrated between 1% and 40% in gingerols.

To these two mentioned mixed extracts, caffeine is preferably also added.

15 In this way an associative mixture is created able to moderate and/or to make tolerable painful sensations and disorders such as headaches, pain dependent on fever, joint pains, muscular pains in general, lumbosciatalgia, menstrual pains and the like, eliminating the gastric  
20 damage which some non-steroidal analgesic drugs (Aspirin, Nimesulide, Ibuprofen, naproxen etc.) currently in use can determine.

The aforementioned non-steroidal analgesic drugs in fact act by inhibiting some enzymes (COX) which govern  
25 the synthesis of some molecules called prostaglandins

which have the function of being mediators in the transmission of painful impulses, by interfering with the synthesis of prostaglandins.

Unfortunately, such prostaglandins in addition to  
5 mediating the pain symptoms also mediate the synthesis of an important layer of mucus which protects the stomach from damaging gastric juices and expose the gastric mucosa to important inflammations (gastritis) which then give rise to major ulcers.

10 In other words, such drugs are not able to act on the causes of the disturbances but only on the symptom.

Clinical studies in support of the analgesic activities of the extract being part of the association in object, to which the present invention makes explicit  
15 and direct reference, are:

- Phytother Res. 2014 Mar; 28 (3) : 412-5. doi: 10.1002/ptr.4996. Epub 2013 May 9

20 *"Comparison between the efficacy of ginger and sumatriptan in the ablative treatment of the common migraine . "* Maghbooli M, Golipour F, Moghimi Esfandabadi A, Yousefi M;

- Headache 2011 Jul-Aug; 51 (7) : 1078-86. doi: 10.1111 / j.1526-4610.2011.01910.x. Epub 2011 Jun 1 .

25 *"A double-blind placebo-controlled pilot study of sublingual feverfew and ginger (LipiGesic™ M) in*

*the treatment of migraine" )* Cady RK, Goldstein  
J, Nett R, Mitchell R, Beach ME, Browning R;  
- J Ethnopharmacol . 1990 Jul; 29 (3) : 267-73.

*"Ginger (Zingiber officinale) in migraine headache*  
5 . *"Mustafa T,* Srivastava KC;  
- Int J Physiol Pathophysiol Pharmacol. 2014 Jul  
12; 6 (2) : 125-36. eCollection 2014.

*"Active ingredients of ginger as a potential*  
*candidate in the prevention and treatment of diseases*  
10 *via modulation of biological activities ."*

Rahmani AH , Shabrmi EM, Aly SM;

- BioMed Research International  
Volume 2017 (2017), Article ID 3804356, 11  
pages

15 <https://doi.org/10.1155/2017/3804356> Clinical Study

*"A Pilot Study on Bioactive Constituents and*  
*Analgesic Effects of MyrLiq®, a Commiphora*  
*myrrha Extract with a High Furanodiene Content ."*

Antonio Germano, - Andrew Occhipinti , - Francesca  
20 Barbero, and Massimo E. Maffei ;

- Cephalalgia . 2014 Nov; 34 (13) : 1070-8. doi: 10.1177  
/ 0333102414530527. Epub 2014 Apr 14.

"Results of a multicenter , double-blind , randomized,  
parallel-group , placebo-controlled, single-dose  
study comparing the fixed combination of  
acetaminophen , acetylsalicylic acid, and caffeine  
with ibuprofen for acute treatment migraine ."

Goldstein J , Hagen M , Gold M ;

- J Headache Pain. 2017 Oct 24; 18 (1) : 107. doi:  
10.1186 / S10194-017-0806-2 .

"Caffeine in the management of patients with  
headache."

Lipton RB, Diener HC, Robbins MS, Garas SY, K  
Patel .

It is also possible to refer to the following texts  
and graphs, incorporated directly in the present  
description for clarity:

- *ACTIVITY OF MIRRA EXTRACT.*

Male and female volunteers were selected based on  
different categories of pain:

HEADACHE

PAIN DEPENDENT FROM FEVER

ARTICULAR PAINS

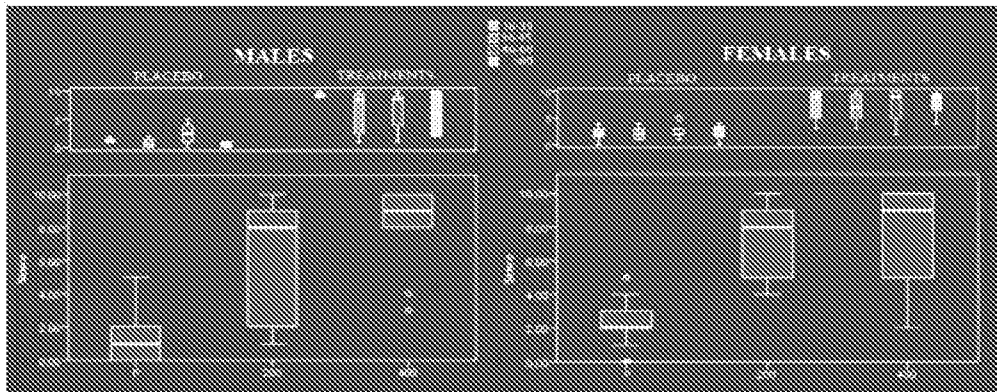
MUSCLE PAIN

LOMBOSCIATALGIA

MENSTRUAL PAINS

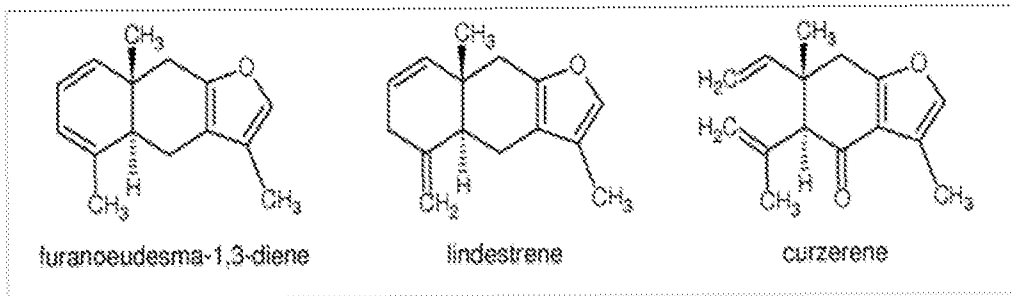
Volunteers were asked to compare the effects of Mirrh extract with the drug which they regularly use to treat specific pain (DI = diclofenac; KE = ketoprofen; IB = 5 ibuprofen; PA = paracetamol; TR = tramadol; KT = ketorolac). Volunteers were asked to evaluate the effects of the extract on a scale from 0 to 10, where 0 indicates no effect and 10 indicates an effect similar to that of the drug they used to treat pain.

10

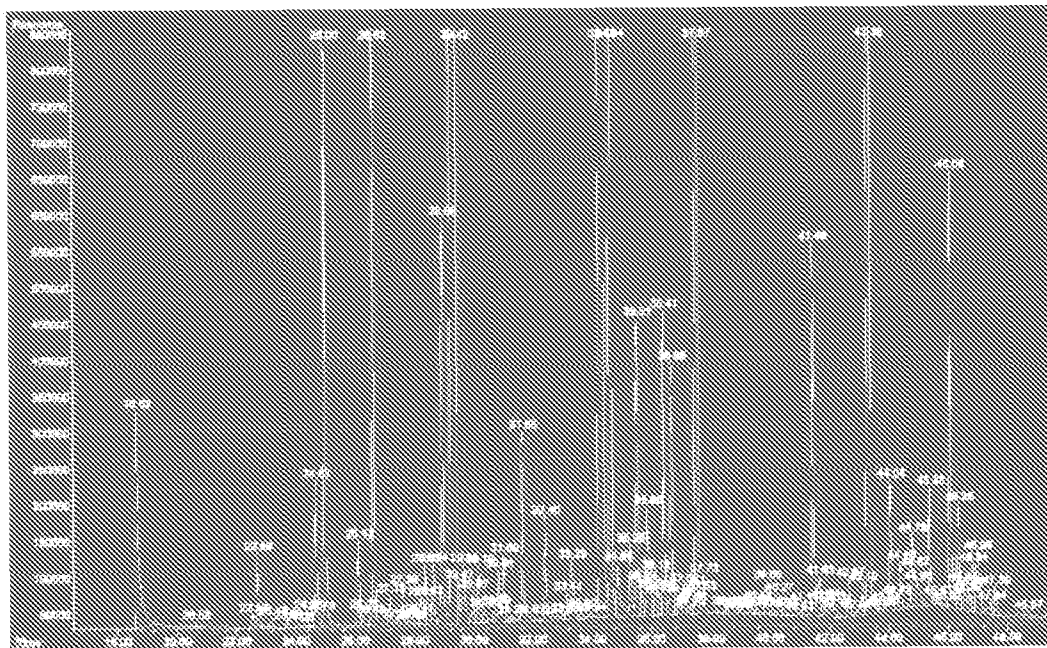


- EXTRACT OF MIRRA (*Commiphora myrra*) TITRATED AND STANDARDIZED IN FURANODIENES .

The chemical composition of the dried extracts of 15 Mirra includes several furanodienes, such as the bioactive compounds curzerene, furanoedesma-1,3-diene and lindestrene (Figure 1). The presence of these three main furanodienes is typical of the 20 genus *Commiphora* and these compounds are primarily responsible for the analgesic effects of myrrh extracts.



Myrrh extracts are analyzed by gas chromatography (GC) coupled to mass spectrometry (MS) for the qualitative analysis of compounds and by means of GC  
 5 coupled with flame ionization detector (FID) for quantitative analysis. Figure 2 shows a typical GC-MS profile of a dry extract of Mirra :



10

Figure 2 : GC-MS chromatographic profile of a Mirra extract



MOLECULE	CONTENTS (g/Kg <sup>-1</sup> )	% FURANODIENES	
Curzerene	17.93 (0.20)	12.31	(0.05)
Furanoeudesma-1,3-diene	27.44 (0.17)	18.84	(0.02)
Lindestrene	9.08 (0.06)	6.23	(0.01)
Diidrolinderalattone	1.91 (0.02)	1.31	(0.02)
Acethoxy-furanodiene (MW = 274)	0.87 (0.05)	0.59	(0.03)
Acethoxy-furanodiene (MW = 232)	1.85 (0.04)	1.27	(0.03)
TOTAL	59.07 (0.43)	40.56	(0)

CLAIMS

1. Association of plant extracts including myrrh extract (*Commiphora myrrha*) mixed with ginger extract (*Zingiber officinalis*) .

5 2. Association according to claim 1, with the addition of caffeine.

3. Association according to claim 1 or 2, wherein said extracts of myrrh and ginger are both titrated and standardized dried extracts and dry extracts without  
10 titration .

4. Food supplement comprising the association according to one or more of the previous claims.

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INTERNATIONAL SEARCH REPORT

International application No  
PCT/ I B20 18/059864

A. CLASSIFICATION OF SUBJECT MATTER  
 I NV . A23 L33/ 105 A6 1K36/9068 A6 1K45/06 A6 1K3 1/522 A6 1K36/328  
 A6 1P29/00  
 ADD .  
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED  
 Minimum documentation searched (classification system followed by classification symbols)  
 A23 L A6 1K A6 1P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 EPO- I nterna l , FSTA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EPODOC [Online] EUROPEAN PATENT OFFICE, THE HAGUE, NL; 21 October 2013 (2013-10-21), SYED TANVIR ALI DR [IN]; GURMUKH SINGH GHULDU [IN]: "A NOVEL COMPOSITION FOR ARTHRITIS", XP002790825, Database accession no. IN-3120DE2013-A Full text of application (English translation); page 3; claims 1,4-6	1,3,4
X	----- WO 2017/066474 A1 (PRELEVE THERAPEUTICS LLC) 20 April 2017 (2017-04-20) paragraph [0017]; claims 1,8,9,14,21 ----- -/--	1,3,4

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Kanbier, Titia

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2018/059864

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	page 57; example Formulation 56 page 25, lines 10-12,22-30 page 27, lines 8-10	2
X	----- WO 2009/040824 A2 (GOKARAJU GANGA RAJU) 2 April 2009 (2009-04-02)	1,3,4
X	page 15, paragraph 2; claims 5-7,13-16; figures 4-5	
X	----- KAUR G ET AL: "ANTIOBESITY EFFECT OF A POLYHERBAL FORMULATION, OB-200G IN FEMALE RATS FED ON CAFETARIA AND ATHEROGENIC DIETS", INDIAN JOURNAL OF PHARMACO, MEDKNOW PUBLICATIONS AND MEDIA PVT. LTD, IN, vol. 32, no. 5, 1 October 2000 (2000-10-01), pages 294-299, XP009060472, ISSN: 0253-7613	1,3,4
X	page 294, right-hand column, paragraph 3 - page 295, left-hand column, paragraph 1	
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Y	page 3, paragraphs 14,17; claims 1-3	2
X	----- CN 105 918 912 A (UNIV SHAOXING) 7 September 2016 (2016-09-07)	1,3,4
X	claim 1; examples 1-3	
X	----- CN 103 610 070 A (QINGDAO JIARILONG SEAFOOD CO) 5 March 2014 (2014-03-05)	1,3,4
X	claim 1	
X	----- US 2008/057162 A1 (BRUCKER D ET AL) 6 March 2008 (2008-03-06)	2-4
Y	page 56; claims 1,4,11,12	
Y	----- US 2015/182548 A1 (ARMSTRONG E T) 2 July 2015 (2015-07-02)	2
Y	paragraphs [0060], [0075]; claim 7	
Y	----- WO 2006/042479 A1 (SHIAO SHIN-JEN) 27 April 2006 (2006-04-27)	2
A	example 75	
A	----- CN 102 078 520 B (CHUNLING DONG) 4 July 2012 (2012-07-04)	1-4
	pages 10-11,12; claim 1; examples embodiments 1-3	
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International application No  
PCT/IB2018/059864

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 3 130 336 A1 (GRAAL S R L) 15 February 2017 (2017-02-15) page 5, line 55 -----	1-4

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Information on patent family members

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