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USO DE LAS PLANTAS COMESTIBLES COMO FUENTE DE COMPUESTOS ACTIVOS PARA EL TRATAMIENTO DE MASTITIS BOVINA

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Agere
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Focus

Antimicrobials (Animal Health and Cosmetics)

Anti-tumor (Melanoma cancer)

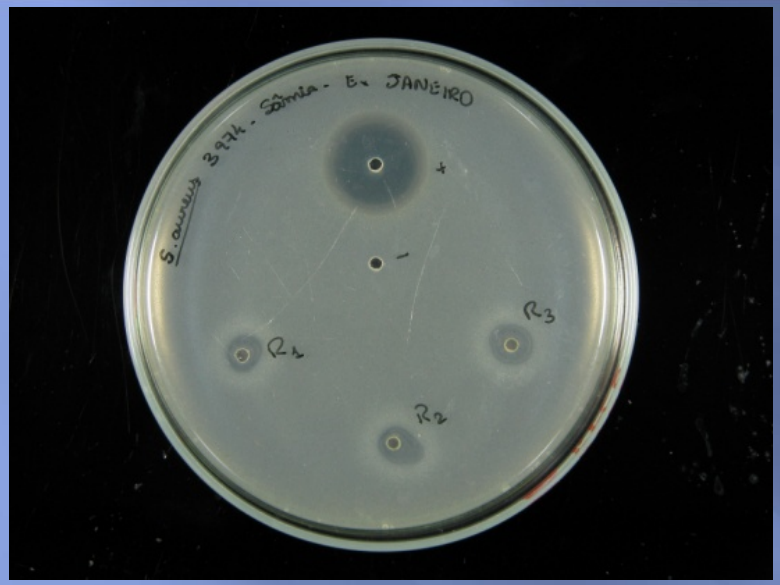
Healing

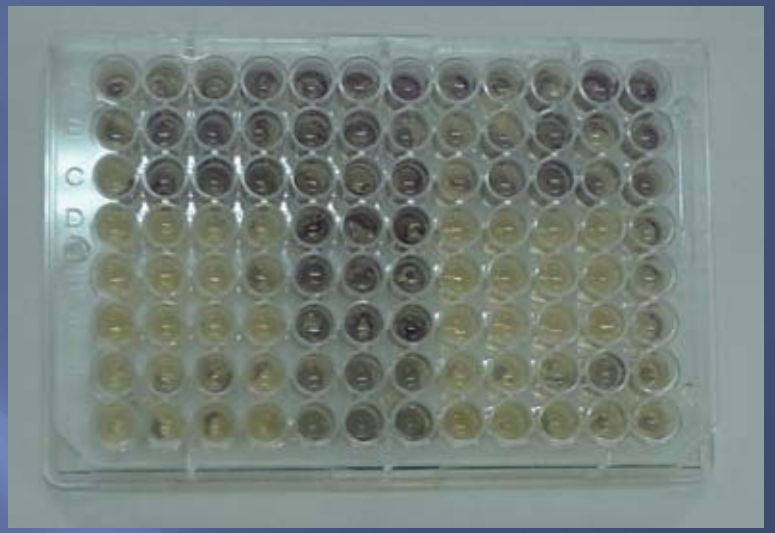
Steatosis

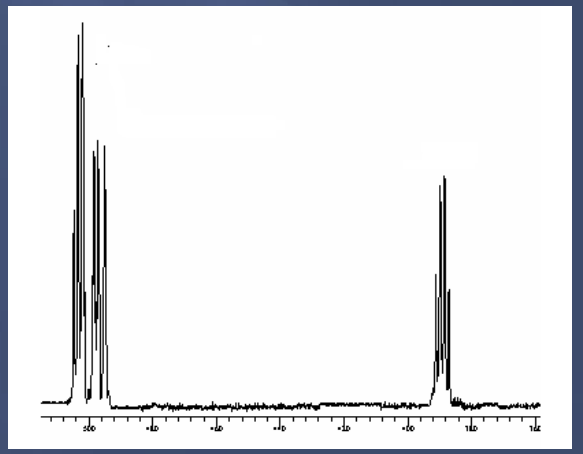
BIOPROSPECTION

Search of compounds with biological activity

Isolation and bioassay



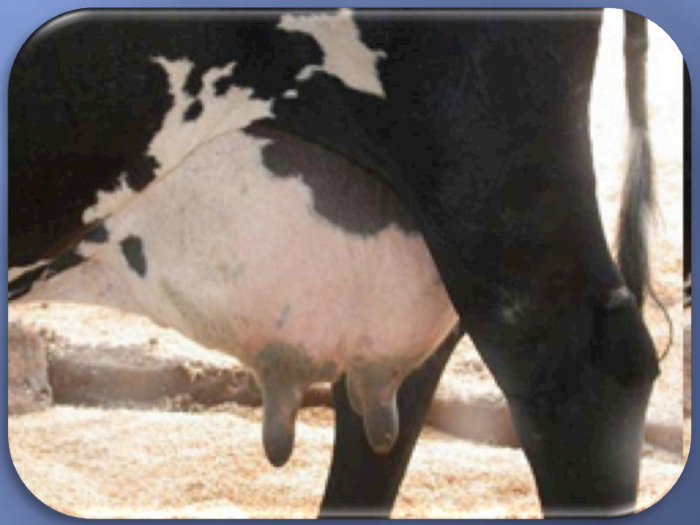




Antibiotics and Animal Health

Animal food
Prophylactic use

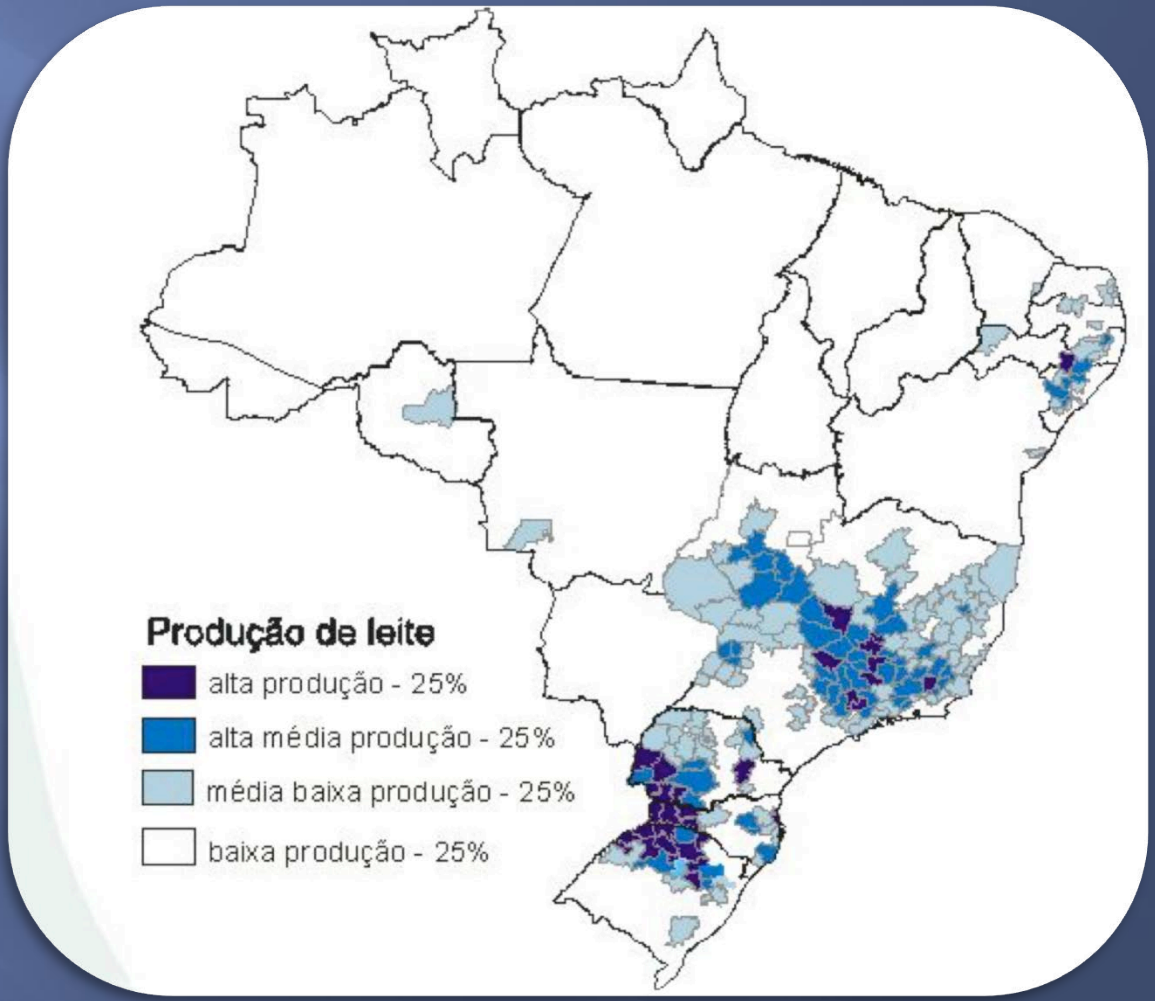
Bovine Mastitis



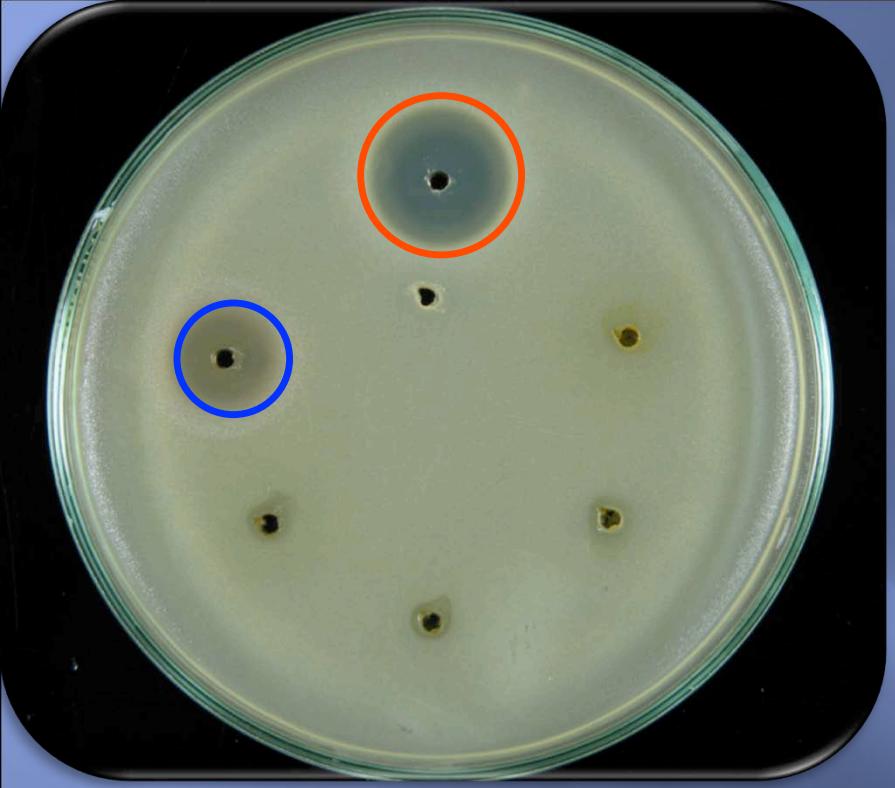
Interest

1. Decreased milk production;
2. Loss of one or more quarters of the udder;
3. Acidity of milk, almost always rejected by dairy products;
4. Commercial devaluation of the dairy cow, which becomes a beef animal;
5. May cause death of the animal, due to irreversible infection.

DAIRY production in Brazil in 2015 reached 35 billion liters With 3,073 liters per year per cow.



Effect of ethanolic extract of Salvia officinalis on *Staphylococcus aureus* of bovine origin

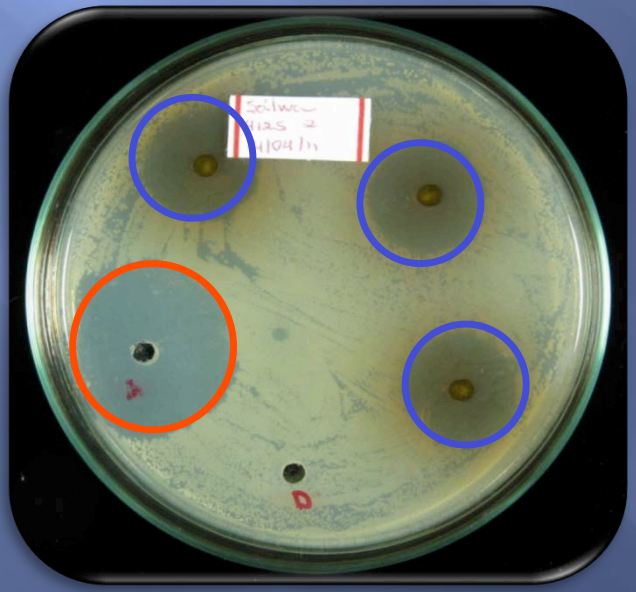


Cepa 3828

Extrato	Halo médio (mm)			
Salvia officinalis	3828	4157	4075	3993
	24	20	21	20

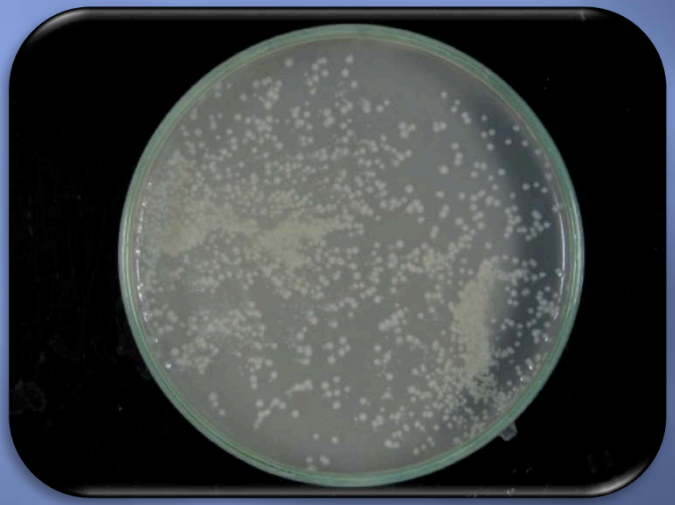
Extrato	MIC (mg/mL)	
	4125	3993
Salvia officinalis	0,3	0,3

Salvia was used in medieval cuisine to season greasy meats, wine, beer and omelettes. It was widely used in medicine at the time to gargle and treat the teeth. From the 17th century, its use in cooking throughout the world increased, especially in the United States and Italy

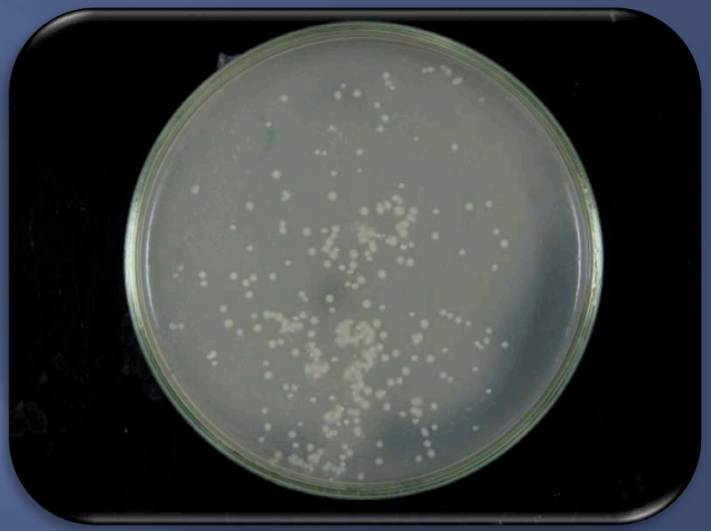


herbal soap

In vitro antibacterial activities of herbal soap produced with the active extract of *S. officinalis*



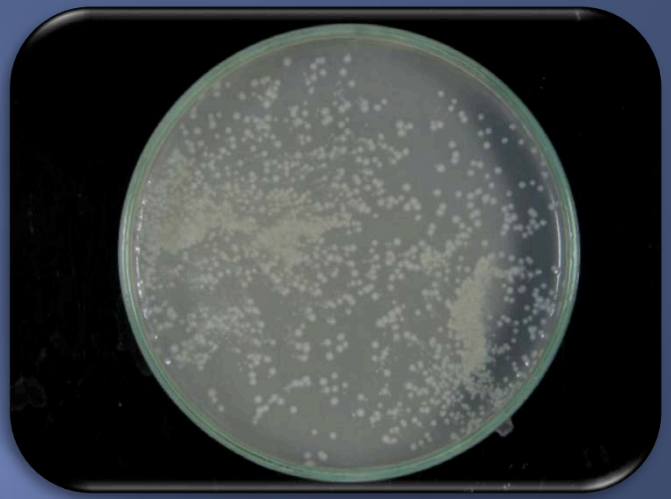
Control (soap without etanolic extract of *S. officinalis*)



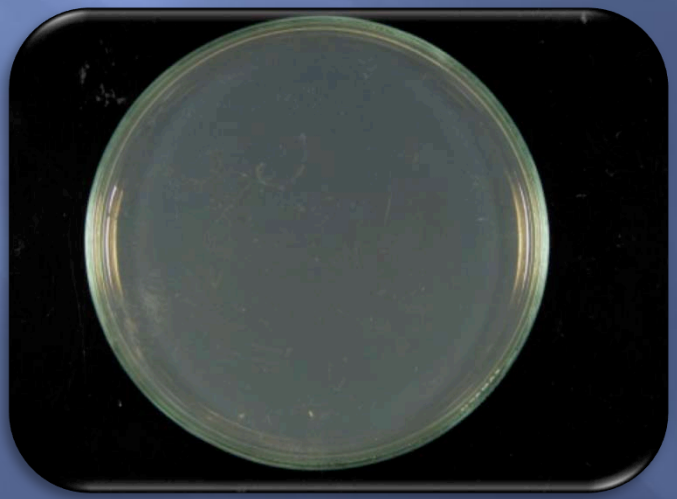
Herbal soap with ethanolic extract of *S. officinalis* (290±23,0 CFU)

In vivo antibacterial activities of the herbal soap with the active extract of *s. officinalis* in the milkers' gloves

Milker's gloves immersing in the soap solution

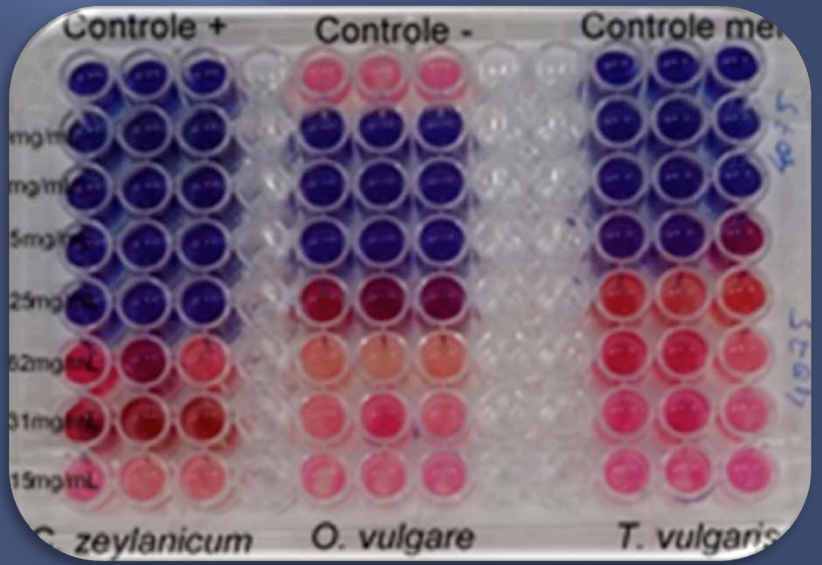


Result immersing the milker's gloves in the soup control (without active extract)



Result after the milker's gloves had been immersed in the herbal soap (with active extract).

Effect of essential oils of spice plants on *Staphylococccus aureus* of bovine origin



Twenty essential oils were used

Five were active:

Cinnamomum zeylanicum

Coriandrum sativum

Origanum vulgare

Syzygium aromaticun

Thymus vulgaris

Species	Popular name
Cinnamomum zeylanicum (1)	**Cinnamon**
Citrus aurantiifolia	Common Lima
Citrus limon (L.) Burm. f.	Sicilian Lemon
Citrus reticulata	Tangerine
Citrus sinensis	Sweet orange
Coffea arábica L.	Green coffee
Coriandrum sativum (7)	**Coriander**
Corymbia citriodora	Eucalyptus
Laurus nobilis	Laurus
Melaleuca alternifolia	Melaleuca
Mentha arvensis	Pepper mint
Mentha piperita	Pepper mint
Murraya koenigii	Curry
Myristica fragans	Nóz moscada
Origanum marjorana	Marjoram
Origanum vulgaris (16)	**Oregano**
Rosmarinus officinallis	Rosemary
Syzygium aromaticun (18)	**Clove**
Thymus vulgaris (19)	**White thyme**
Zingiber officinale	Ginger

Seven pos-dipping were formulated at concentration 1 and 3%

pos-dipping containing Cinnamomum zeylanicum

pos-dipping containing Coriandrum sativum

pos-dipping containing Origanum vulgare

pos-dipping containing Cinnamomum zeylanicum + Origanum vulgare

pos-dipping containing Cinnamomum zeylanicum + Coriandrum sativum

pos-dipping containing Coriandrum sativum + Origanum vulgare

pos-dipping containing Cinnamomum zeylanicum + Coriandrum sativum + Origanum vulgare

Strains of *S. aureus* used

3008

3828

3917

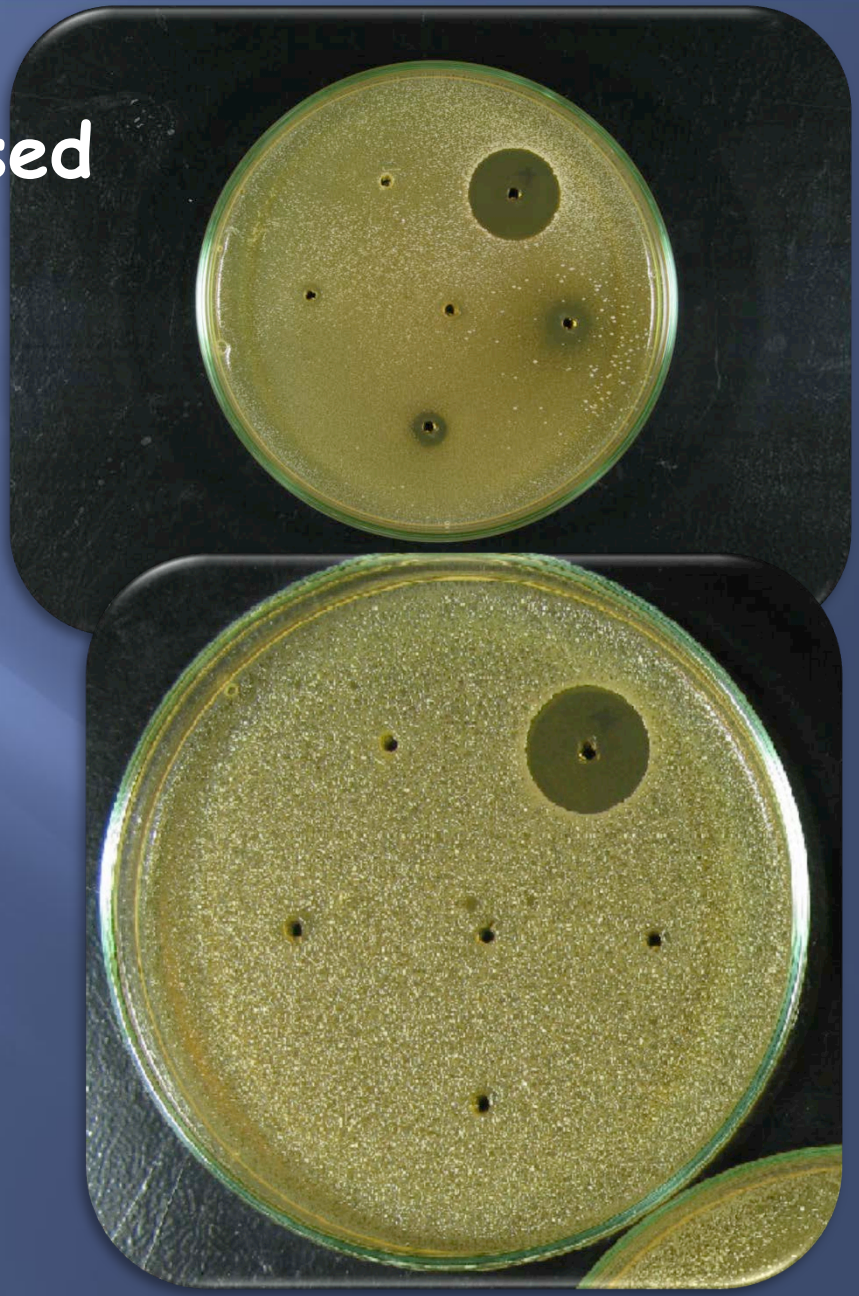
4075

4125

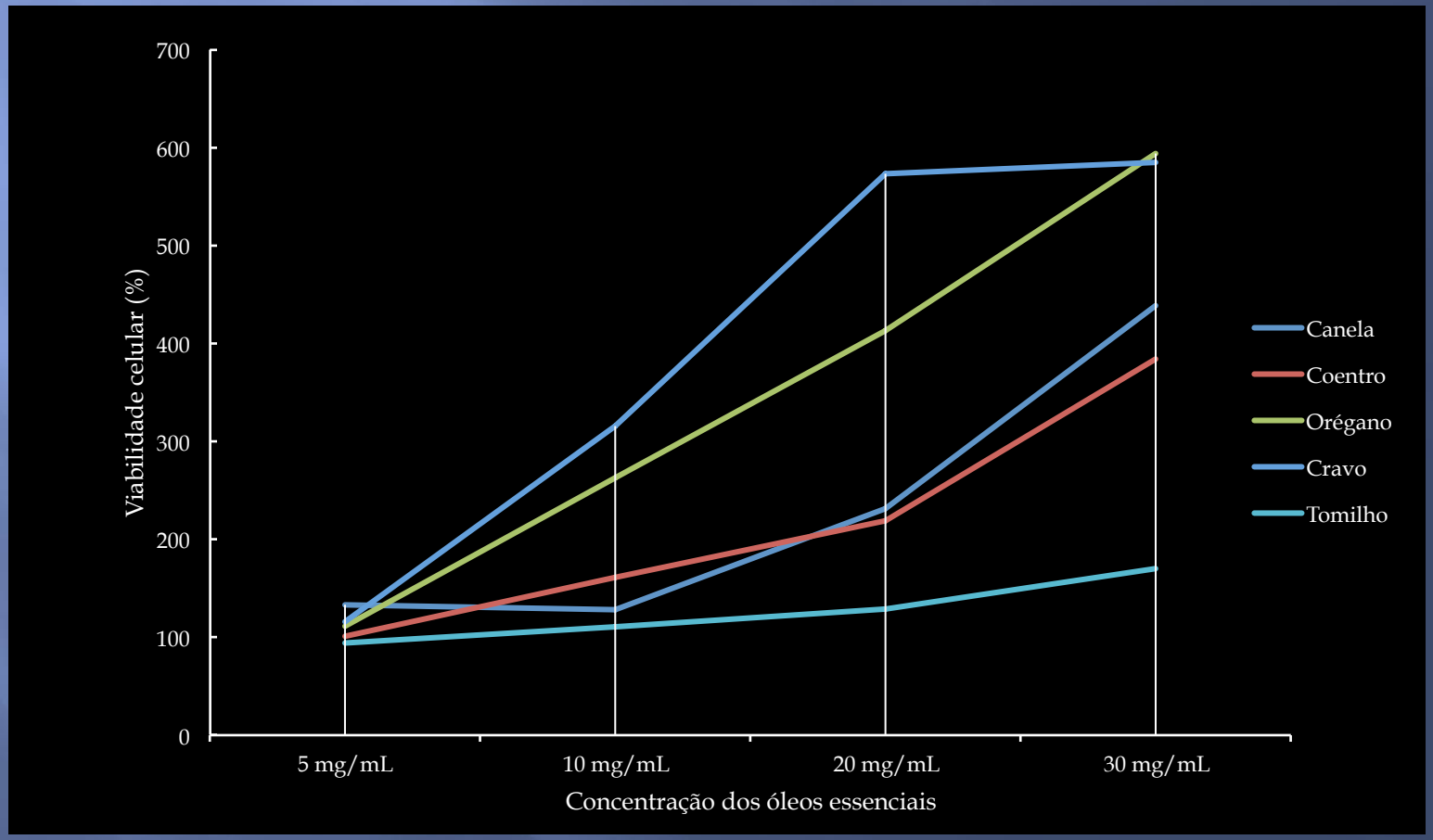
4157

4158

4182

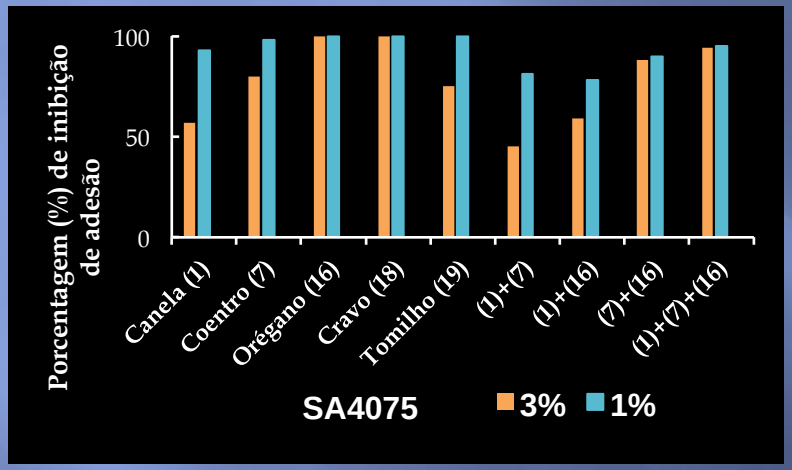


Evaluation of the cytotoxicity of essential oils on MAC-T cells.

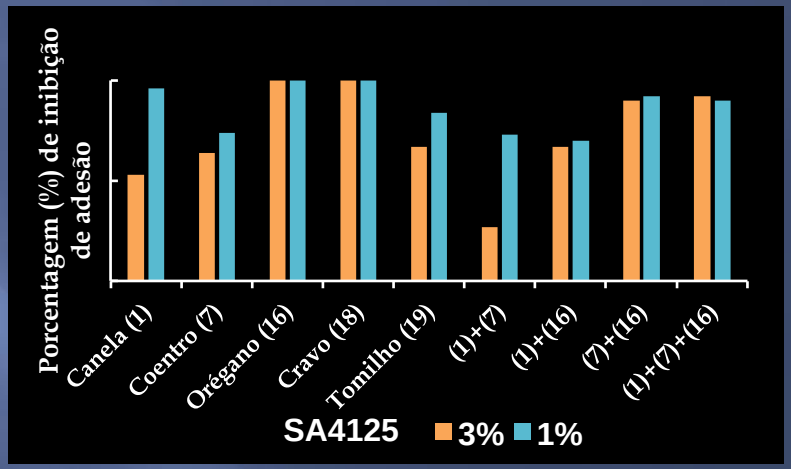


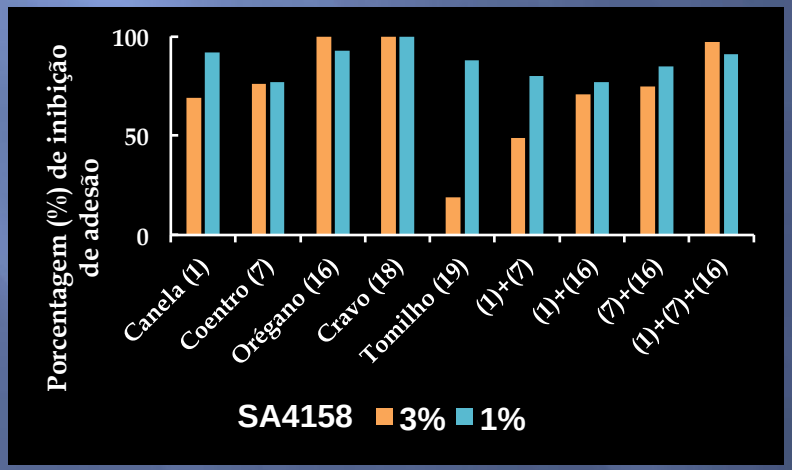
Evaluation of the activity of pos-dipping formulation on biofilm in formation

AS 4075 de *S. aureus*



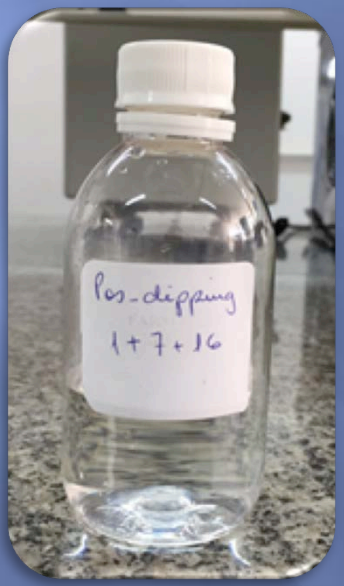
AS 4125 de S. aureus





AS 4158 de *S. aureus*

Active essential oils



INPI INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL

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Pedido nacional de Invenção, Modelo de Utilidade, Certificado de Adição de Invenção e entrada na fase nacional do PCT

Número do Processo: BR 10 2017 020222 4

Dados do Pedido

Natureza Patente: 10 - Patente de Invenção (PI)

Título da Invenção ou Modelo de Utilidade (54): Formulações Farmacêuticas à Base de Óleos Essenciais para Uso como Pós-Dipping

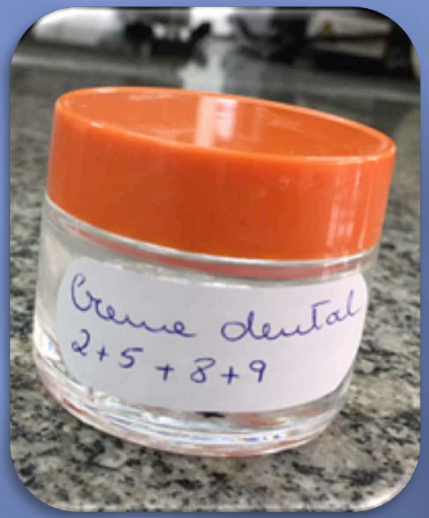
Resumo: A presente invenção refere-se a formulações pós-dipping à base de óleos essenciais, que são ativas contra Staphylococcus aureus e outros microrganismos. Essas formulações poderão ser usadas pela indústria farmacêutica na produção de domissaniantes do tipo pós-dipping para prevenção e controle de animais com mastite bovina.

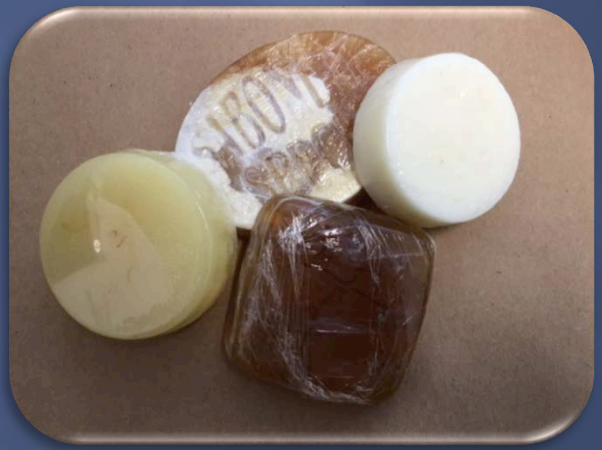
Figura a publicar: 1

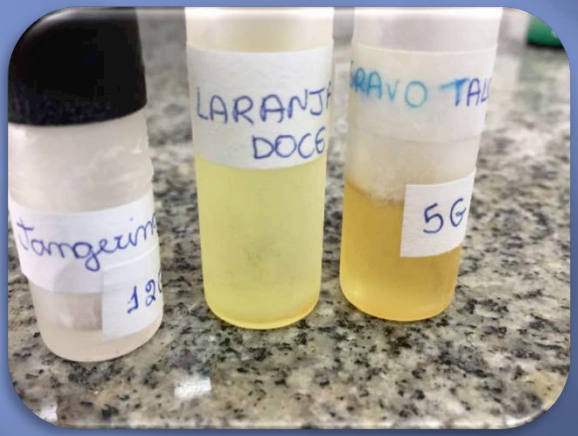
Patent Br 10 2017 0202224

Pos-dipping formulation

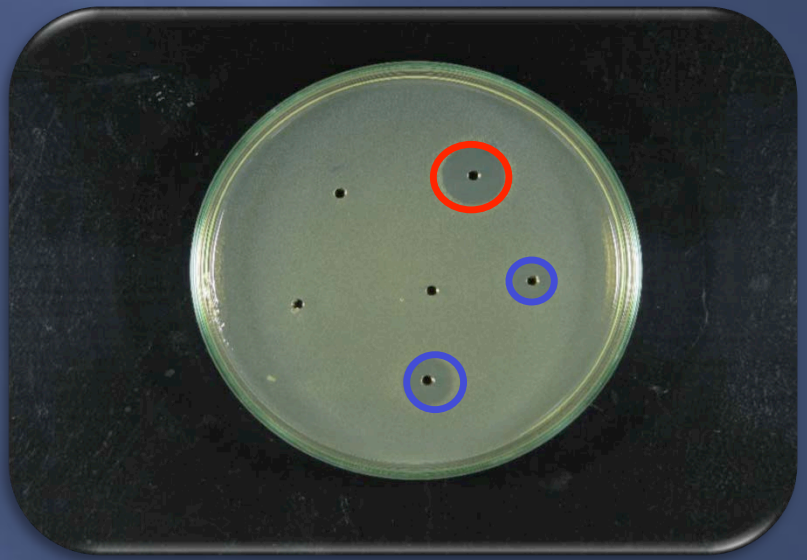
Antibiotics for cosmetic use







Antibacterial activity of essential oils and herbal toothpaste on cariogenic bacteria



Thirteen essential oils were used

Four were active:

Cinnamomum zeylanicum

Eugenia caryophyllata

Origanum vulgare

Thymus vulgaris

Scientific name	Popular name
Rosmarinus officinalis	Rosemary
(2) Cinnamomum zeylanicum	Cinnamon
Melaleuca alternifolia	Melaleuca
Myristica fragrans	Nutmeg
(5) Eugenia caryophyllata	Clove
Zingiber officinale	Ginger
Citrus sinensis	Orange
(8) Origanum vulgare	Oregano
(9) Thymus vulgaris	White thyme
Citrus reticulata	Tangerine
Citrus aurantifolia	Common Lima
Corymbia citriodora	Eucalyptus
Mentha Piperita	Pepper mint

Nine toothpaste were formulated at concentation 3 and 5%

Toothpaste containing *Cinnamomum zeylanicum*

Toothpaste containing *Eugenia caryophyllata*

Toothpaste containing *Origanum vulgare*

Toothpaste containing *Thymus vulgaris*

Toothpaste containing *Cinnamomum zeylanicum* + *Eugenia caryophyllata*

Toothpaste containing *Cinnamomum zeylanicum* + *Thymus vulgaris*

Toothpaste containing *Eugenia caryophyllata* + *Origanum vulgare*

Toothpaste containing *Origanum vulgare* + *Thymus vulgaris*

Toothpaste containing *Cinnamomum zeylanicum* + *Eugenia caryophyllata* + *Origanum vulgare* + *Thymus vulgaris*

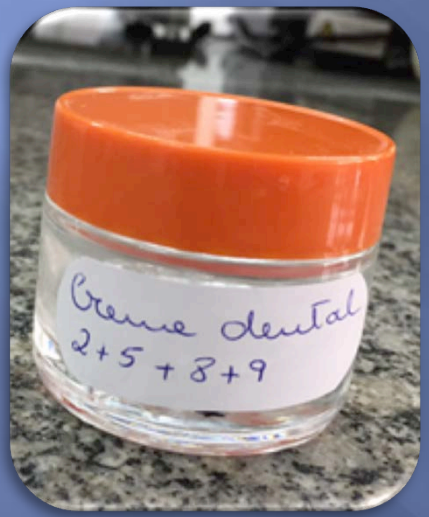
Microorganisms used:

S. mutans ATCC 25175,

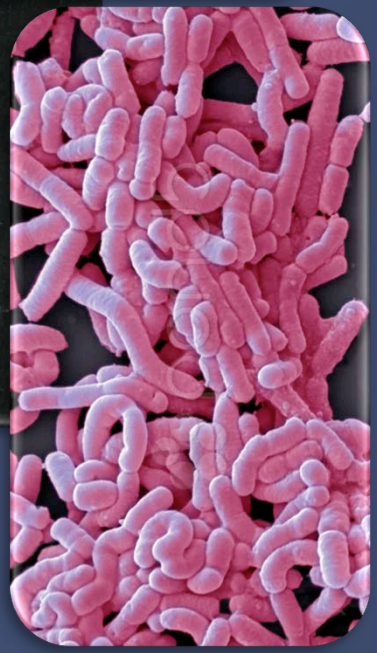
S. aureus ATCC 25923,

Lactobacillus sp.

Enterococcus sp.

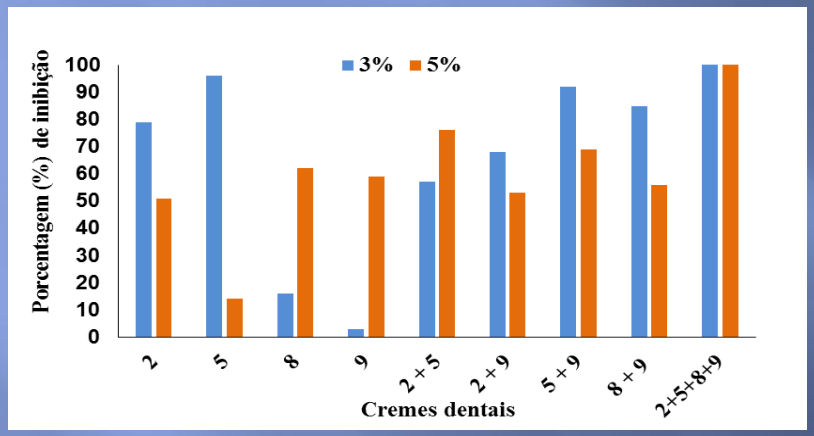


Toothpaste

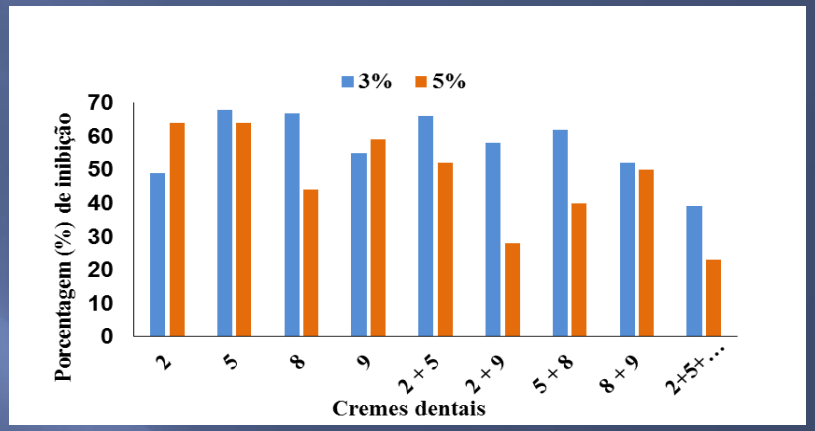


Pre-formed biofilm inhibition of herbal toothpaste

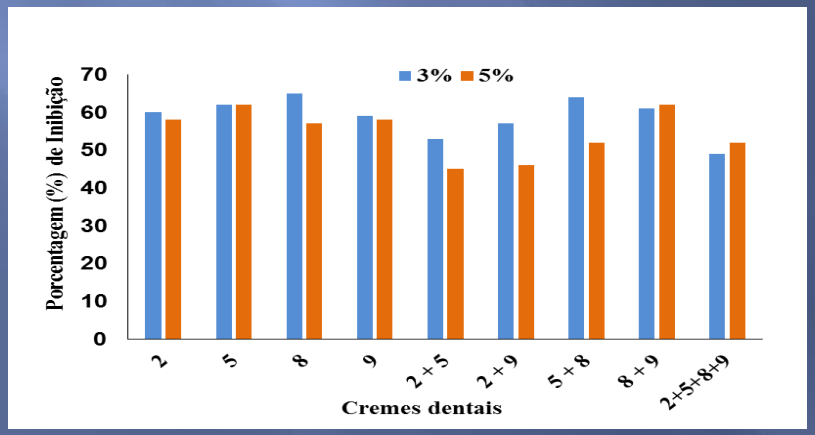
Streptococcus mutans



Enterococcus sp



Staphylococcus aureus



C. zeylanicum

E. caryophyllata

O. vulgare

T. vulgaris

Herbal soap for cosmetic purposes containing essential oils and macauba seed oil (Acrocomia aculeate)

REPÚBLICA FEDERATIVA DO BRASIL
MINISTÉRIO DA INDÚSTRIA, COMÉRCIO EXTERIOR E SERVIÇOS
INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL

CARTA PATENTE Nº PI 1005633-5

O INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL concede a presente PATENTE DE INVENÇÃO, que outorga ao seu titular a propriedade da invenção caracterizada neste título, em todo o território nacional, garantindo os direitos dela decorrentes, previstos na legislação em vigor.

(21) Número do Depósito: PI1005633-5

(22) Data do Depósito: 22/12/2010

(43) Data da Publicação do Pedido: 18/11/2014

(51) Classificação Internacional: A61Q 19/10

(52) Classificação CPC: A61Q 19/10

(54) Título: PROCESSO DE FABRICAÇÃO E FORMULAÇÃO DE SABONETE PARA FINS COSMÉTICOS CONTENDO ÓLEO DESSENTE DE MACAÚBA (ACROCOMIA ACULEATA) E O PRODUTO OBTIDO

(73) Titular: UNIVERSIDADE FEDERAL DE VIÇOSA, CGC/CPF: 25944650000196. Endereço: Av. P.H. Rolfs, S/N, Campus universitário, Viçosa, MG, BRASIL(BR), 36570-000; FUNDAÇÃO DE AMPARO À PESQUISA DO ESTADO DE MINAS GERAIS - FAPEMIG, CGC/CPF: 21349888000183. Endereço: Rua Raul Pompeia, 101 - 11º andar, São Pedro, Belo Horizonte, MG, BRASIL(BR), 30330-080

(72) Inventor: MARISA ALVES NOGUEIRA DIAZ; SÉRGIO YOSHIMITSU MOTOIKE; FRANCISCO DE ASSIS LOPES; VIRGINIA RAMOS PEZZOLO

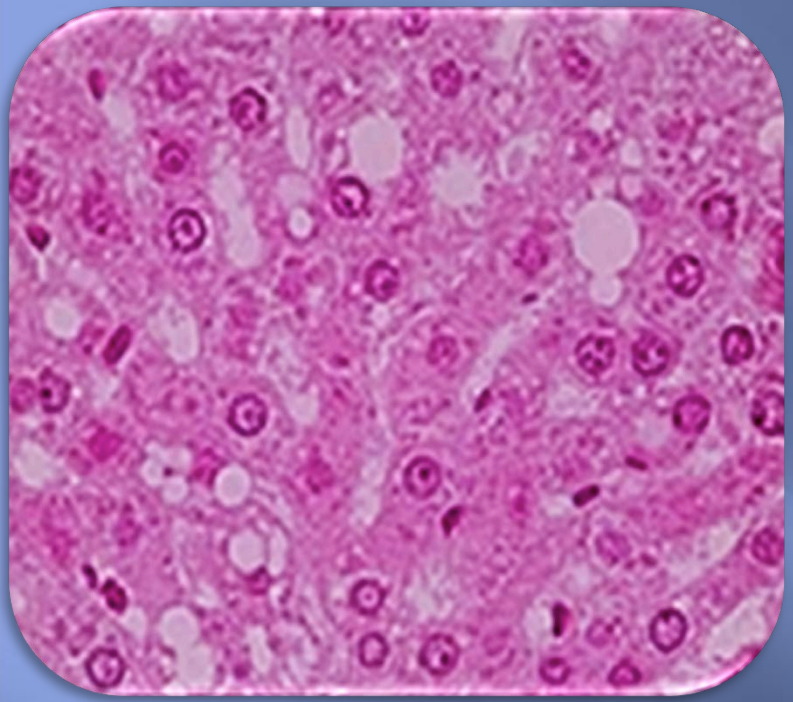
Prazo de Validade: 20 (vinte) anos contados a partir de 22/12/2010, observadas as condições legais

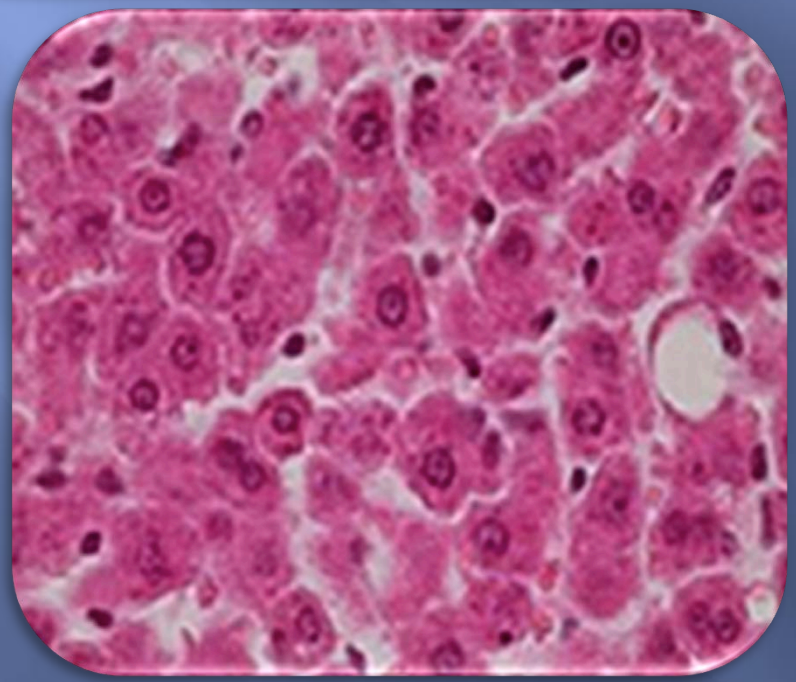
Expedida em: 11 de Julho de 2017.

Assinado digitalmente por:
Liane Elizabeth Caldeira Lage
Diretora de Patentes, Subscritora

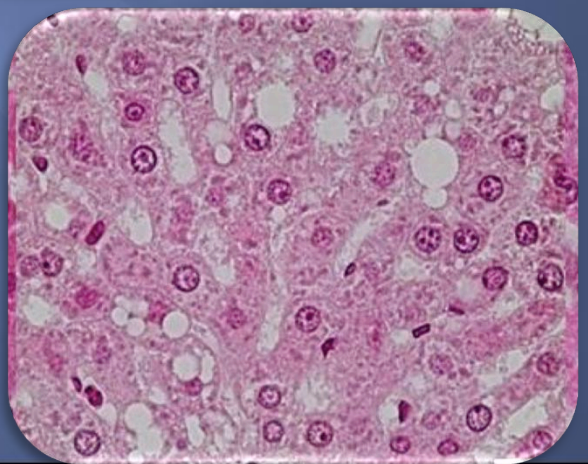
PI 1005633-5

Steatosis





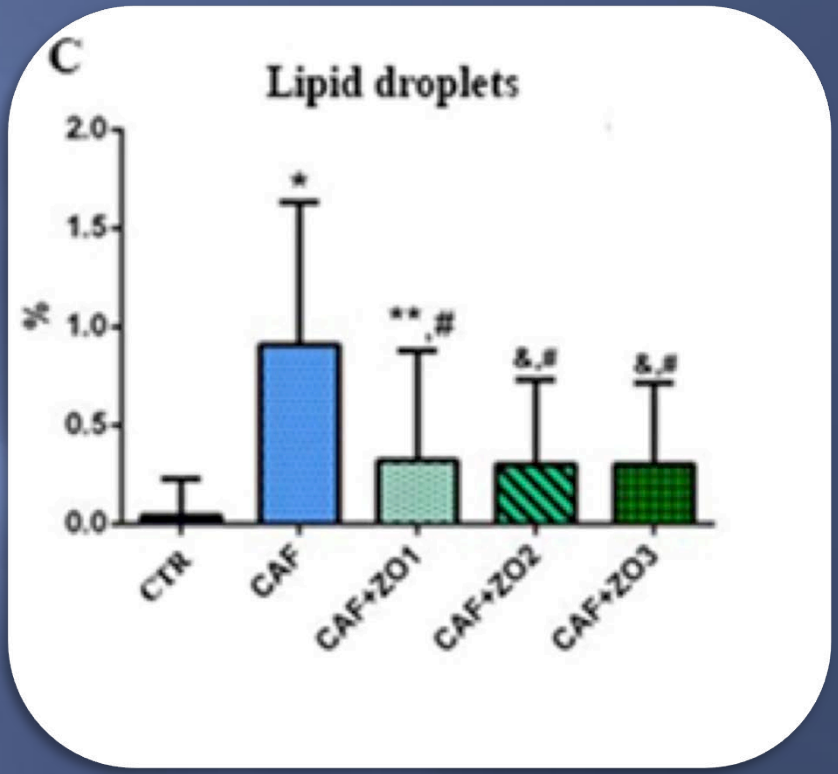
Non-alcoholic fatty liver disease (NAFLD) is a highly prevalent metabolic complication, which is directly associated with imbalance in food intake and obesity. Its reversibility is possible from changes in dietary behavior and by specific nutritional therapies



Effects of herbal formulation containing ginger (*zingiber oficinalle* roscoe) in wistar rats fooded by cafeteria diet

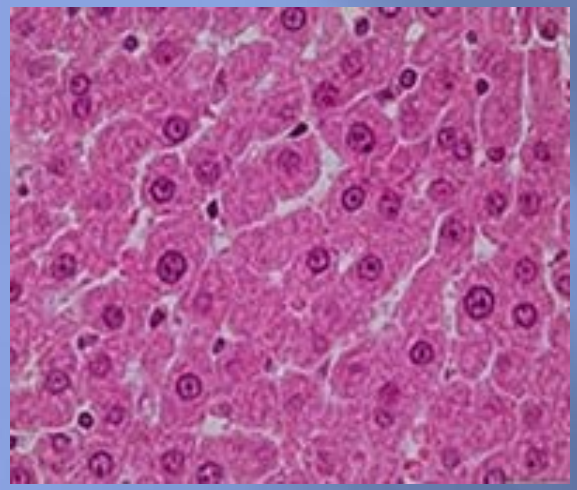
Ginger (*Zingiber officinale*) is a widely consumed food in the world, which contains compounds that have been shown to have antioxidant and anti-inflammatory activities, inhibit tumor necrosis factor alpha (TNF-α), through the adipocyte adiponectin negative regulation, and reduce lipid peroxidation and type 2 diabetes

The CAF diet also increased the total area of hepatocytes and of the hepatocyte nuclei compared to CTR group. ZO2 and ZO3 demonstrated to prevent and/or reverse the increase of both measurements ($p<0.01$). Animals fed a CAF diet, with or without ZO, presented higher volume density of hepatic sinusoids compared to the animals of the CTR group ($p<0.0001$), with higher values found in the ZO2 group.

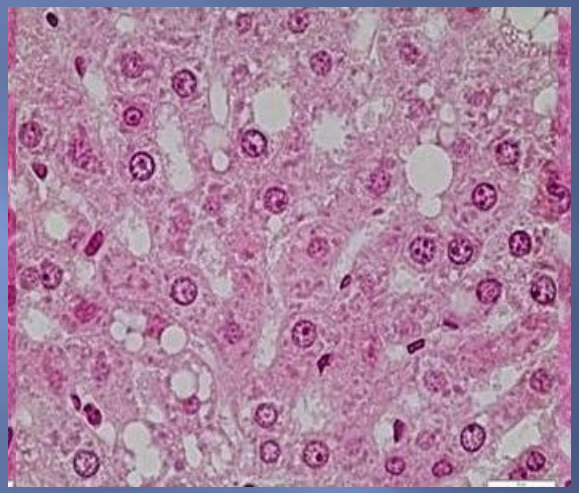


CTR Control
CAF Diet
CAF+ ZO1 Diet = ginger formulated 75mg/kg
CAF + ZO2 Diet = ginger formulated 150mg/kg
CAF + ZO3 Diet = ginger formulated 300 mg/kg

Reduction of fat deposition

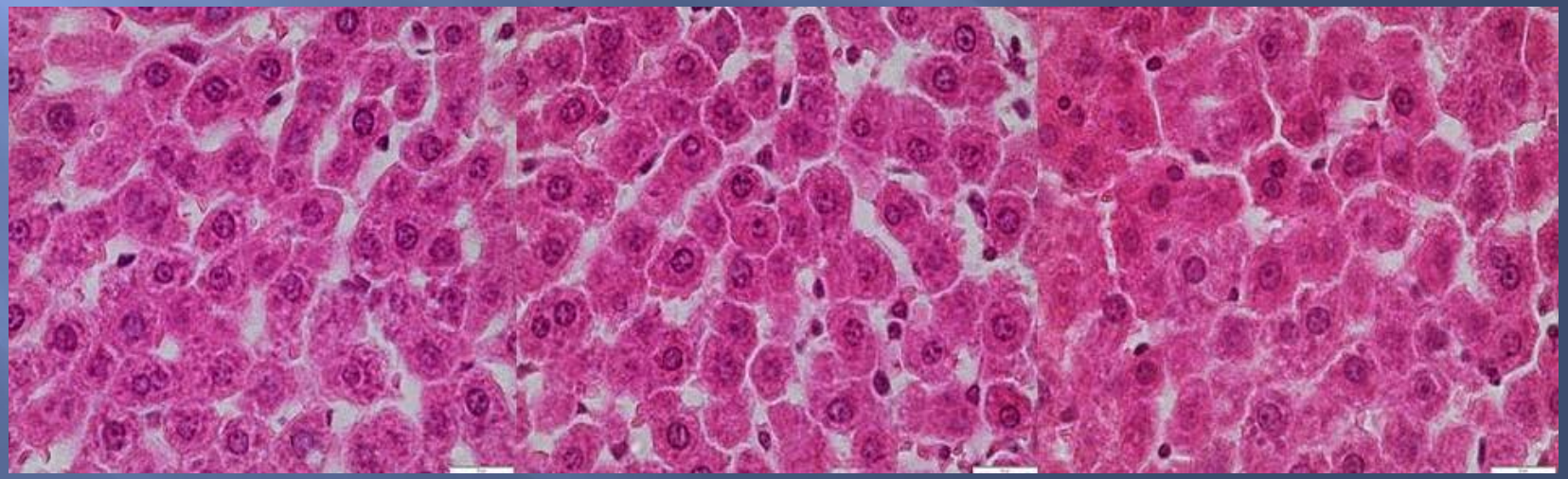


CTR



G2 Diet

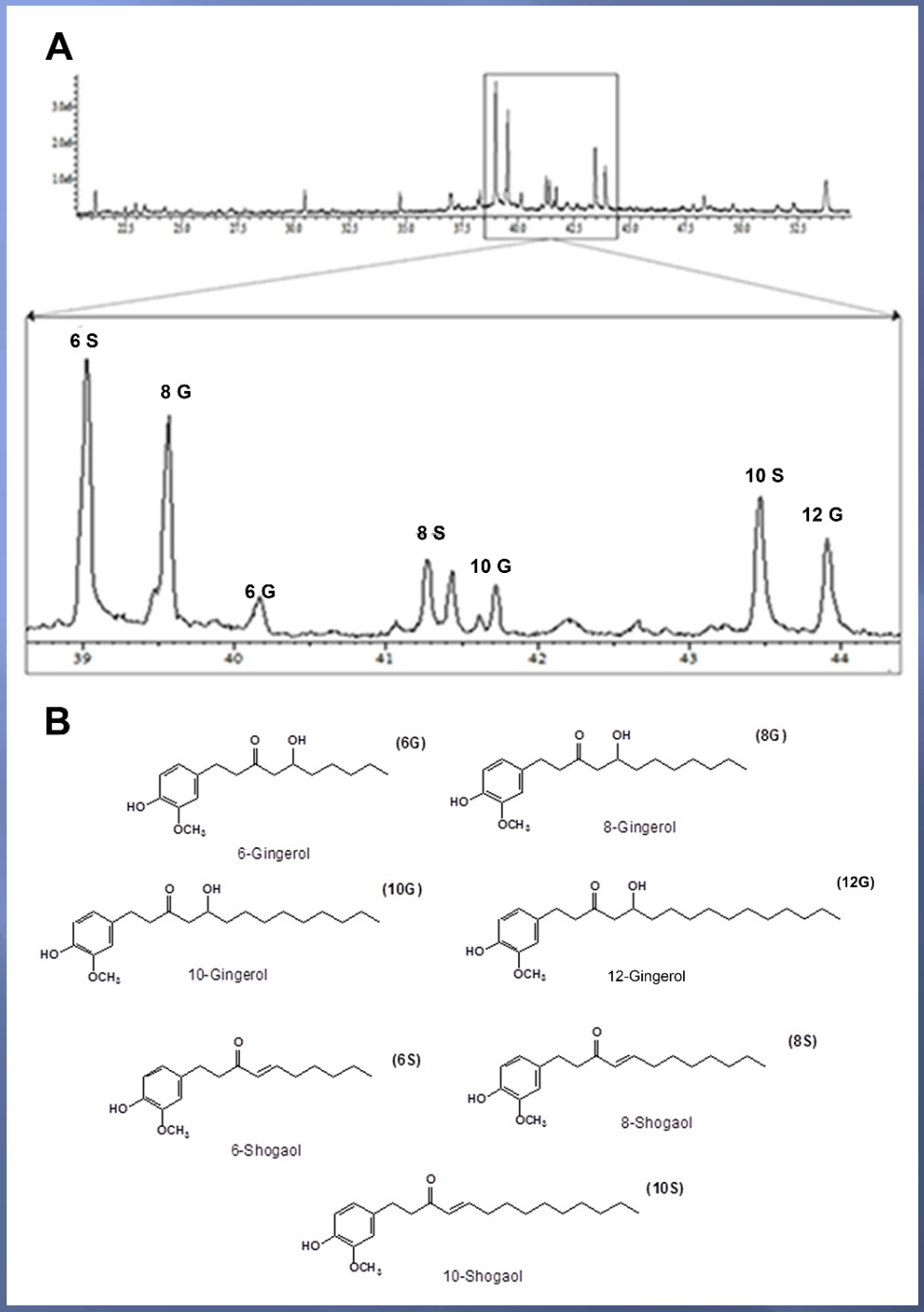
The CAF diet promoted increased hepatic fat deposition compared to the animals of CTR group ($p < 0.05$). The 20-day treatment with ginger was able to reverse and/or prevent the accumulation of fat in the liver promoted by the CAF diet



CAF+ ZO1

CAF + ZO2

CAF + ZO3



The qualitative chromatographic profile of the ethanolic extract of ginger indicated the presence of six important bioactive compounds of the gingerol and shogaol families.

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Pedido nacional de Invenção, Modelo de Utilidade, Certificado de Adição de Invenção e entrada na fase nacional do PCT

Número do Processo: BR 10 2016 022937 5

Dados do Pedido

Natureza Patente: 10 - Patente de Invenção (PI)

Título da Invenção ou Modelo de Utilidade (54): COMPOSIÇÃO FARMACÊUTICA À BASE DE EXTRATO DE Zingiber officinale ROSCOE E USO DESTA PARA PREVENÇÃO E CONTROLE DA ESTEATOSE HEPÁTICA

Resumo: A presente invenção refere-se a composição à base de extrato etanólico do rizoma de Zingiber officinale Roscoe para tratamento, prevenção e controle da esteatose hepática e que poderá ser usada pela indústria farmacêutica na produção de medicamentos e fitoterápicos, podendo ser administrado na forma oral ou por qualquer outra forma farmaceuticamente aceitável.

Figura a publicar: 1

Patent 10 2016 0229375

Future Projects

"Desarrollo de films comestibles a partir de residuos de frutas de la industria Sugal Chile Lta. para envoltorio de alimentos",

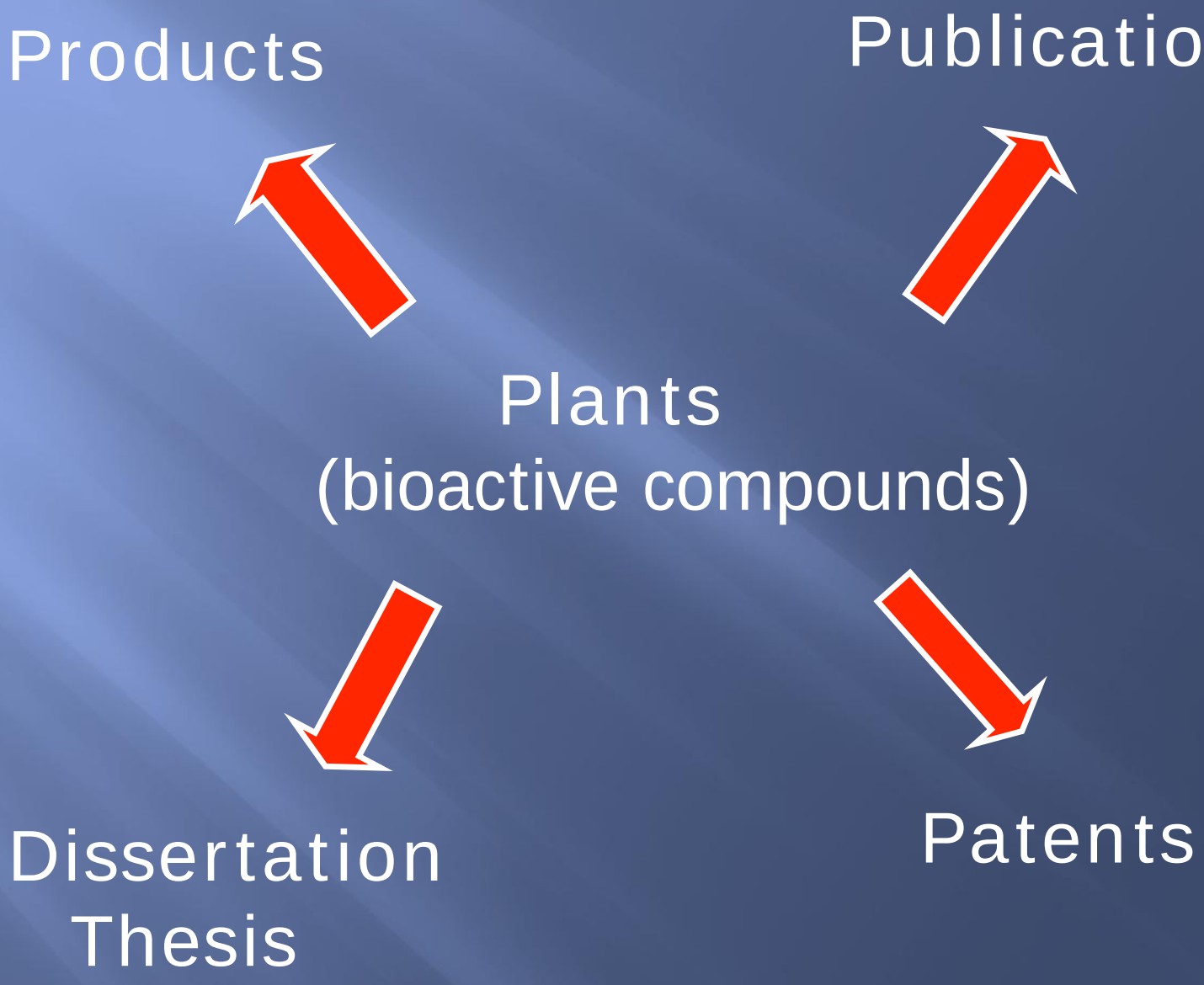
Partnership UFV and University of Talca (Chile)

UFV

Universidade Federal de Viçosa

BioNat

UNIVERSIDAD DE TALCA


Products
Publication
Plants
(bioactive compounds)
Dissertation
Thesis
Patents

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