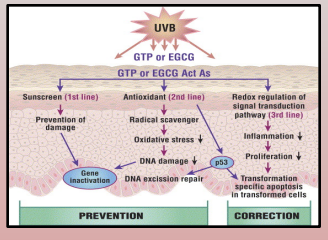
”MANDAMIENTOS”
que hay que SABER

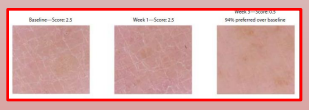


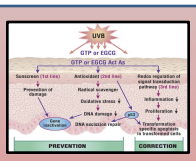
Minimizar Irritacion

Mejorar Apariencia

Beneficiar la piel

Beneficiar la piel





Conocimiento Quimico -Fisico

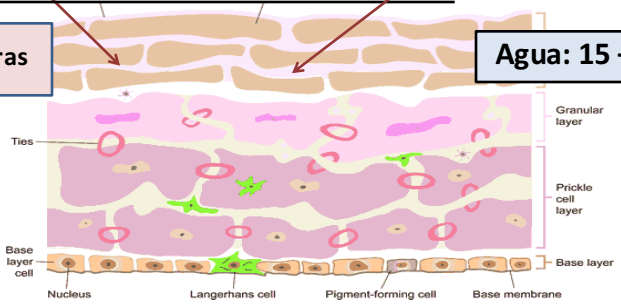
Piel

Corneocites

Lipids

10 – 40 micras

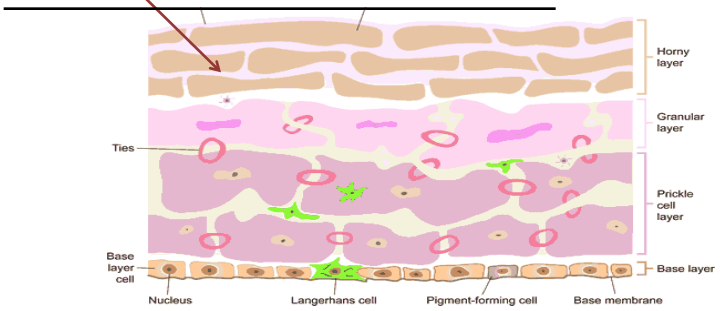
Agua: 15 – 30%

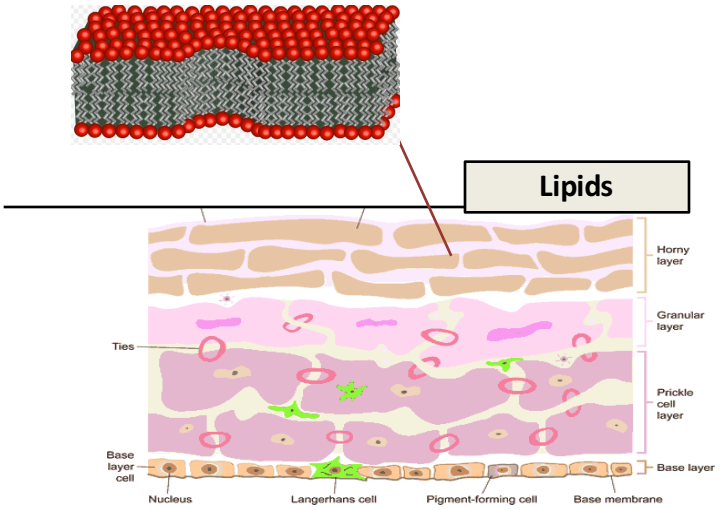


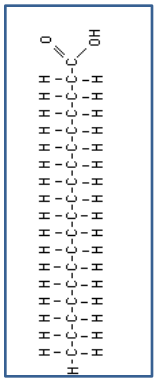
Celulas muertas rellenas de keratina (proteina)
"Natural Moisturizing Factors"

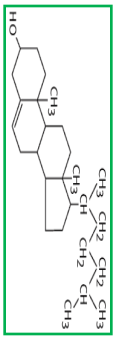
Barrera para UV
Absorben y almacenan agua

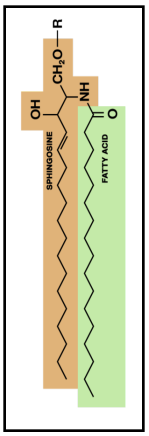
Corneocites



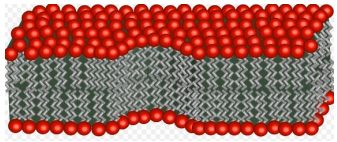




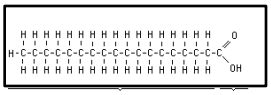


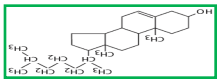


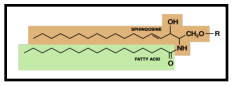
Lipids (15%)



Composicion Quimica

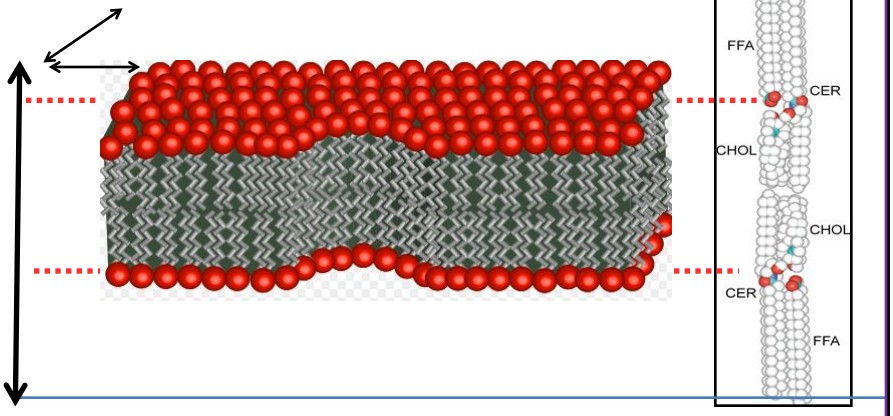


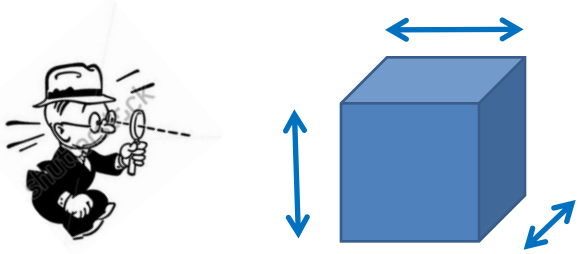


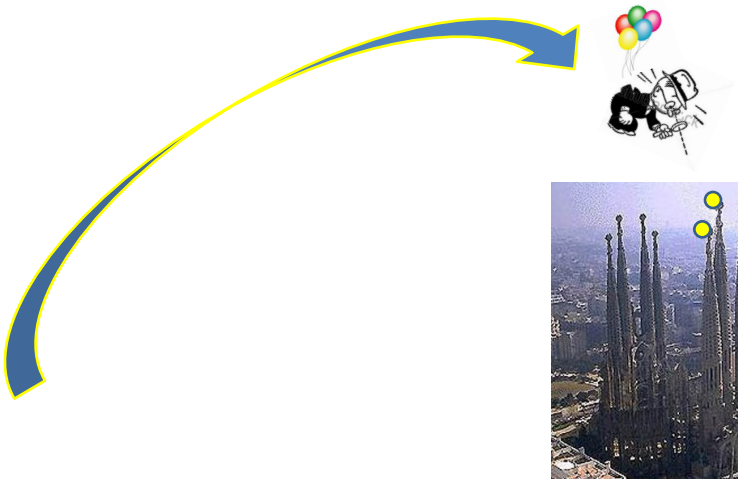


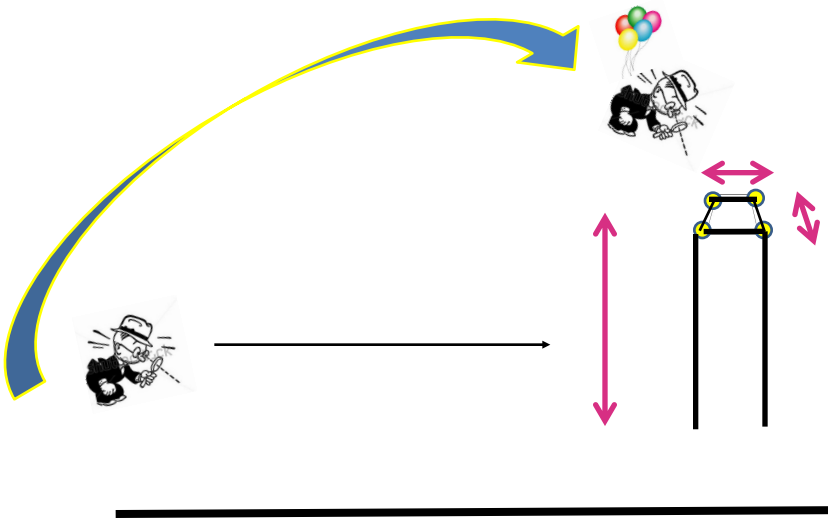
Fatty acids	19.7
stearic acid	*9.9*
myristic acid	*3.8*
palmitic acid	*36.8*
oleic acid	*33.1*
linoleic acid	*12.5*
palmitoleic acid	*3.6*
arachidic acid	*0.3*
Cholesterol	17.3
Cholesteryl oleate	6.0
Cholesteryl sulfate sodium salt	5.0
Phosphatidylethanolamine	4.0
Triolein	13.5
Squalene	6.0
Pristane	2.0
Ceramides	26.5

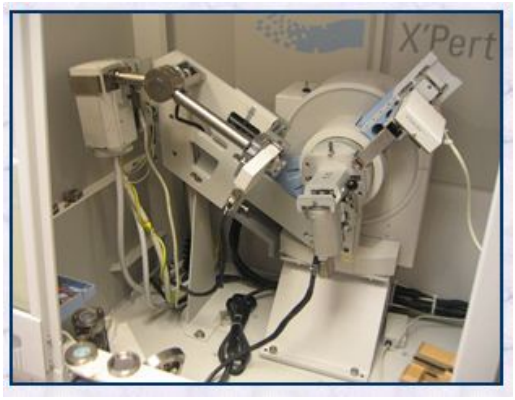
Estructura Fisica

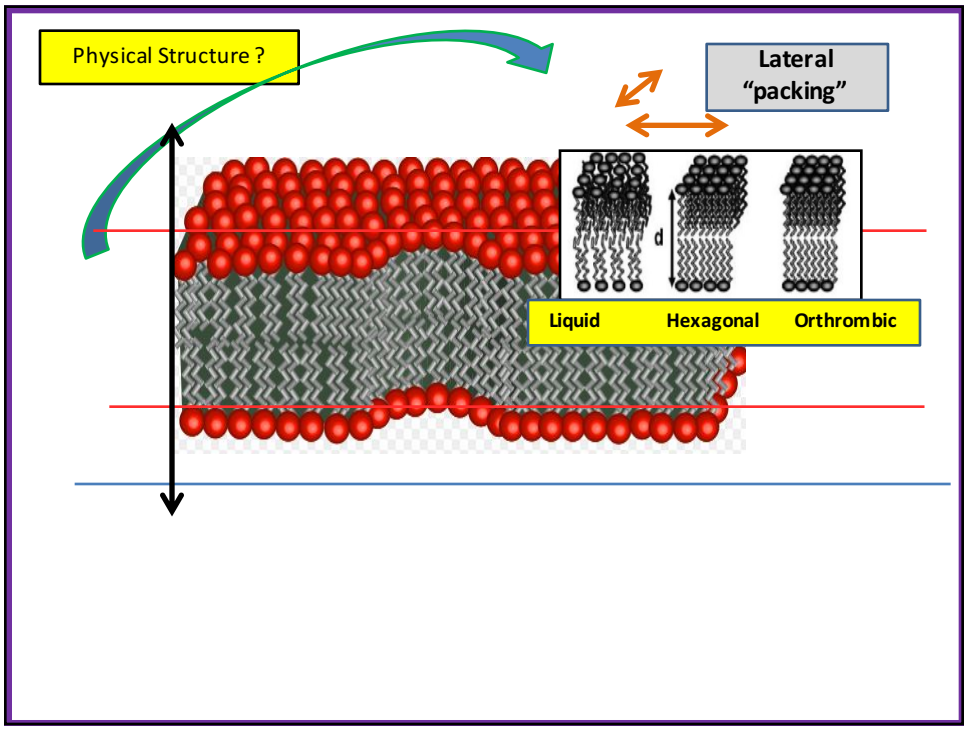


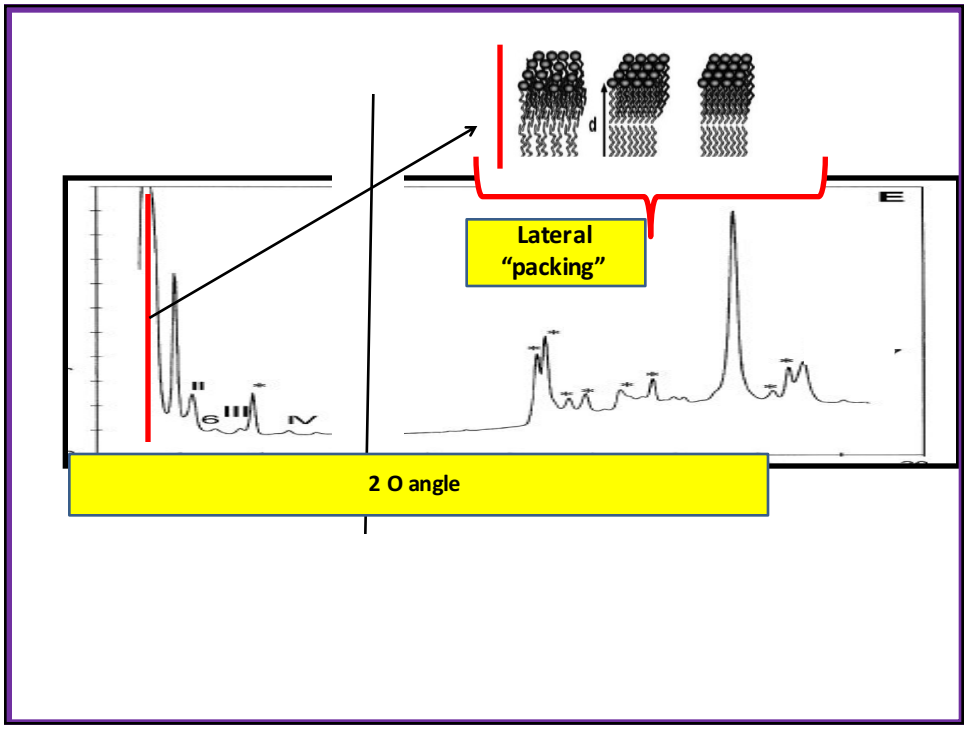


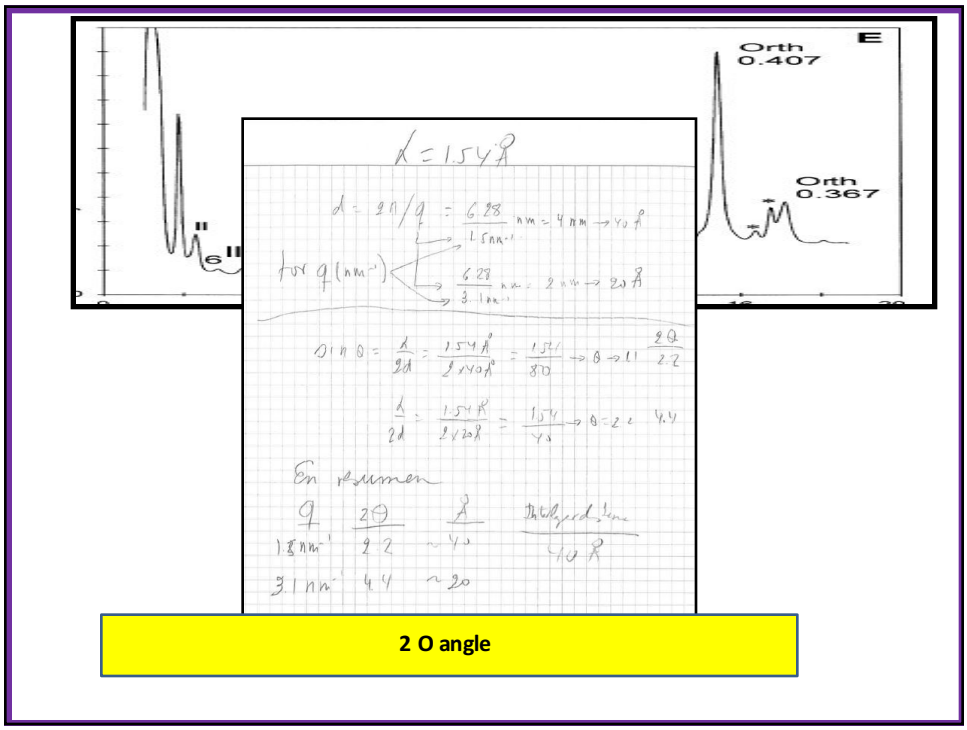





X'Pert


Physical Structure ?
Lateral
“packing”
d
Liquid
Hexagonal
Orthrombic


d
Lateral
“packing”
2 O angle



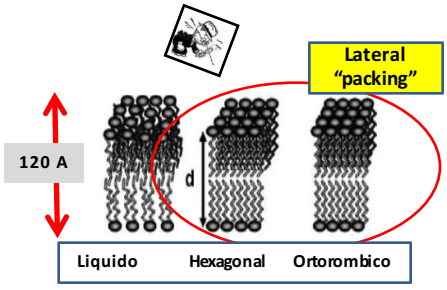
Piel saludable

Dermatitis

Ortorombico
Hexagonal

2 / 1

1 / 9



"Rinse – Off"

Del dicho al hecho…..

Fundamental
no irritar ni secar la piel

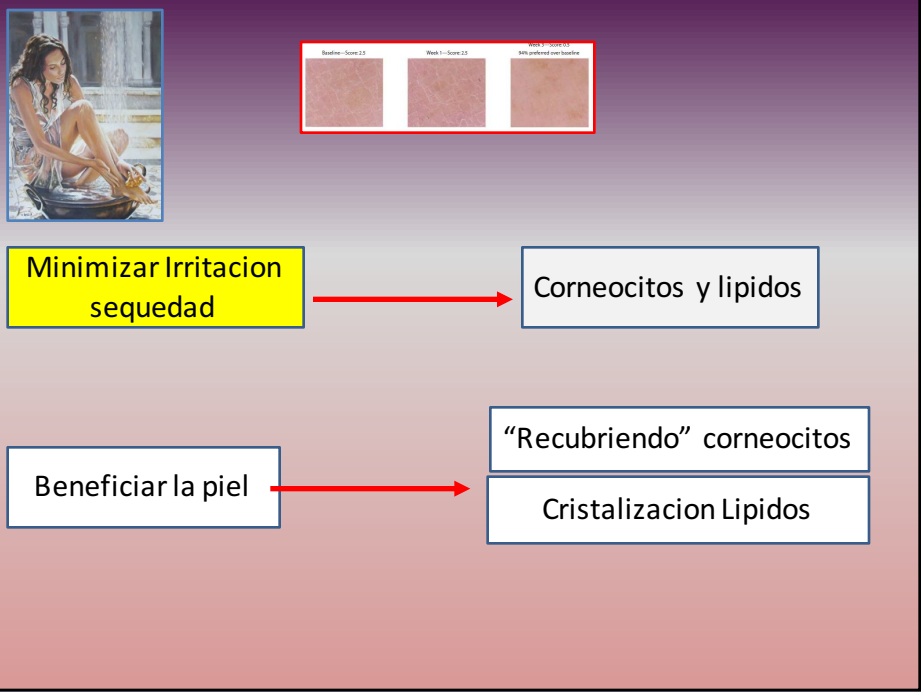
A Novel Technology in Mild and Moisturizing Cleansing Liquids

Kavssery P. Ananthapadmanabhan, PhD; Lin Yang, PhD; Carol Vincent, MS; Liang Tsaur, PhD; Kathryn Vetro, MS; Vickie Foy, BS; Shuliang Zhang, PhD; Amir Ashkenazi, PhD; Eugene Pashkovski, PhD; Vivek Subramanian, PhD

14 paginas

Minimizar Irritacion
Y sequedad

Beneficiar la piel



deposition of skin agents that are normally removed by cleansers under wash-off conditions. Cleanser systems that provide additional skin care benefits as outlined previously will result in novel technologies and products.

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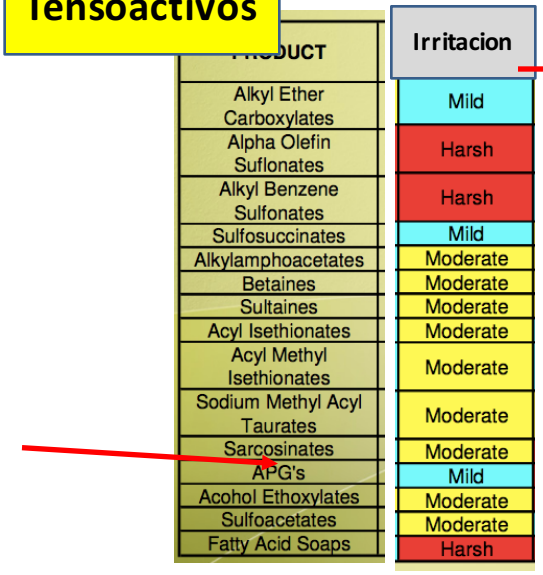
Realidad ALTERNATIVA

Irritaccion de Tensoactivos

Ejemplo

Tensoactivos



Piel?
Ocular?
Concentraccion?
Metodo?

Stepan

Stepan

Relative Mildness

Zein Score: Amount of Zein protein solubilized by a given surfactant compared to the amount solubilized by Sodium Lauryl Sulfate (SLS). The Zein Score for SLS is 100. The less protein solubilized, the milder the surfactant.

Stepan

Zein Protein Denaturation → **Indirect measurement** of surfactant effect on **corneocites in stratum cornea.**

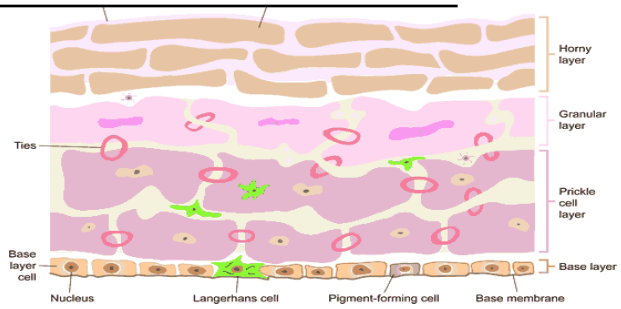
Zein Score: Amount of Zein protein solubilized by a given surfactant compared to the amount solubilized by Sodium Lauryl Sulfate (SLS). The Zein Score for SLS is 100. The less protein solubilized, the milder the surfactant.

Piel Irritada

Piel SECA (Rapido)

Corneocites (70%)

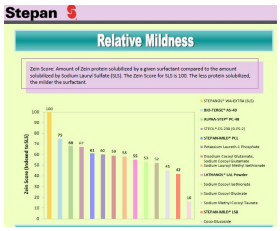
Lipids (15%)



PRUEBAS LABORATORIO

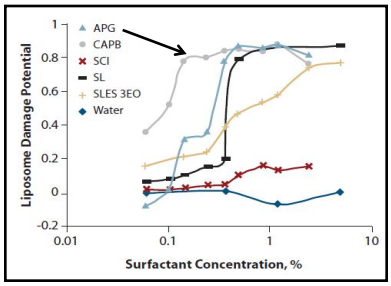
Corneocites

Zein Protein Denaturation



Lipids

"Liposome" test



IN - VIVO

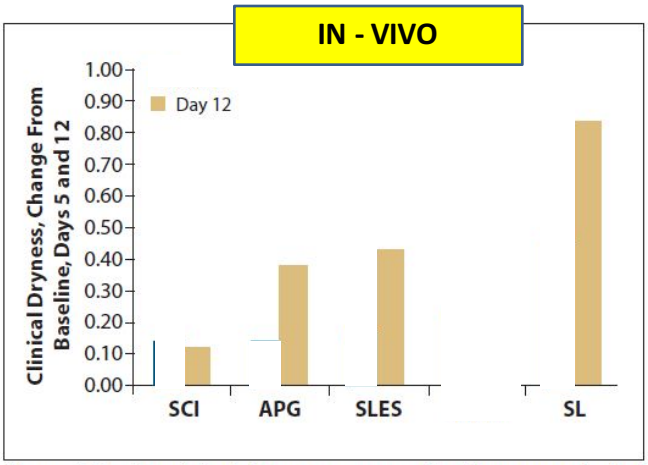
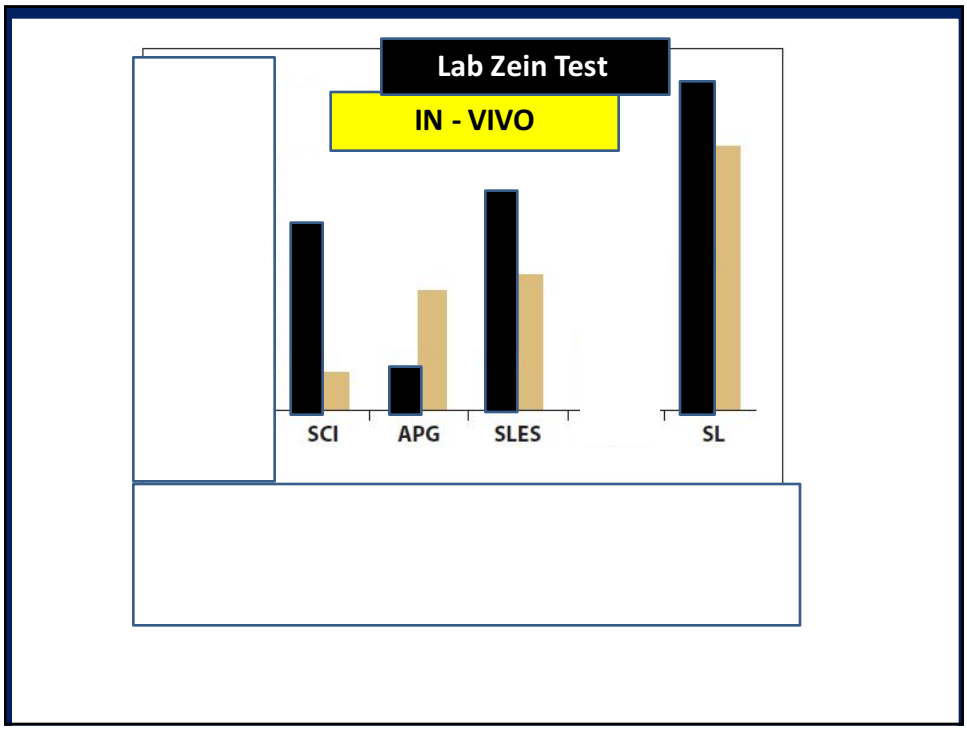
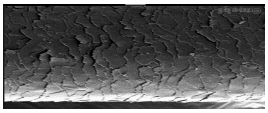
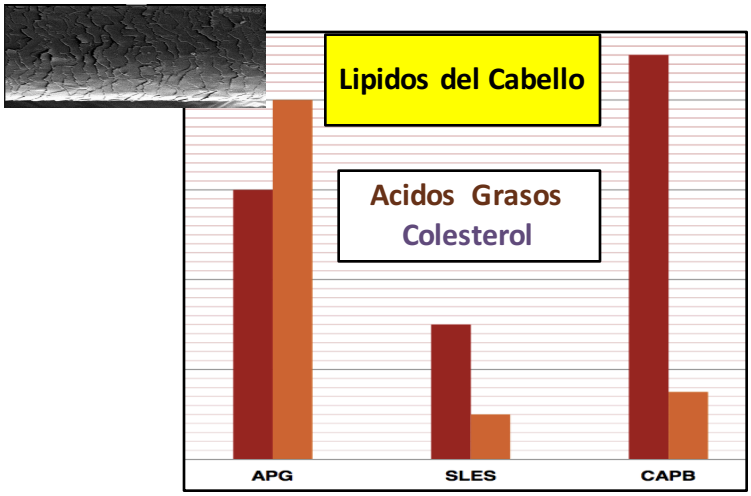


Figure 3. In vivo clinical dryness as assessed by forearm controlled application test after 5 and 12 days. Surfactant 12 wt %. SCI indicates sodium cocoyl isethionate; APG, alkyl polyglucoside; SLES, sodium laureth sulfate; CAPB, cocamidopropyl betaine; SL, sodium laurate.





Y el cabello?



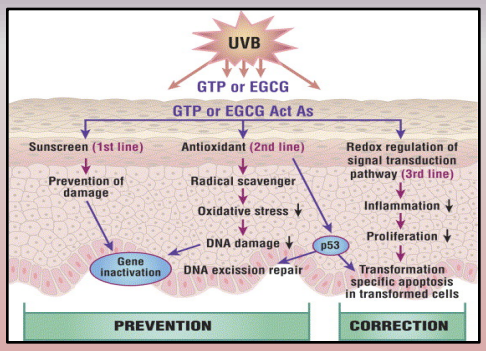
O sea.....

PRODUCT	Irritacion
Alkyl Ether Carboxylates	Mild
Alpha Olefin Suflonates	Harsh
Alkyl Benzene Sulfonates	Harsh
Sulfosuccinates	Mild
Alkylamphoacetates	Moderate
Betaines	Moderate
Sultaines	Moderate
Acyl Isethionates	Moderate
Acyl Methyl Isethionates	Moderate
Sodium Methyl Acyl Taurates	Moderate
Sarcosinates	Moderate
APG's	Mild
Acohol Ethoxylates	Moderate
Sulfoacetates	Moderate
Fatty Acid Soaps	Harsh

”MANDAMIENTOS”
que hay que SABER

1910

1910



1910

1950

1970

1990

2000

Y antes ?

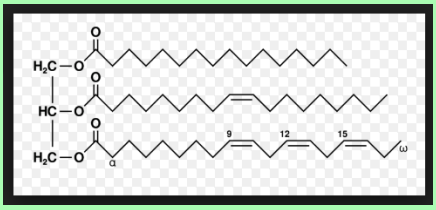
1910

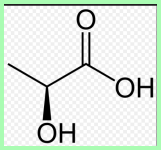
Aquellos dias en que todo era…

NATURAL

ORGANICO

RENOVABLE…





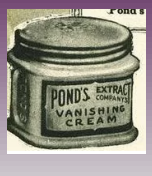
“CREMA ROMANUS”

3 ingredientes

Aceites

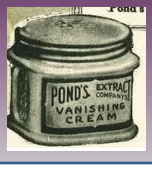
Cera de Abejas

Agua



1910

EMULSIONES



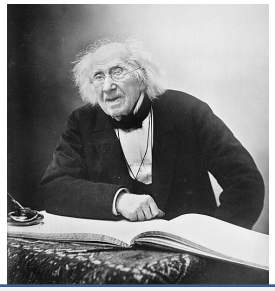
1910

EMULSIONES

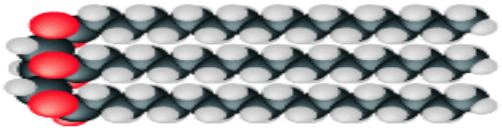
"Vanishing Cream"

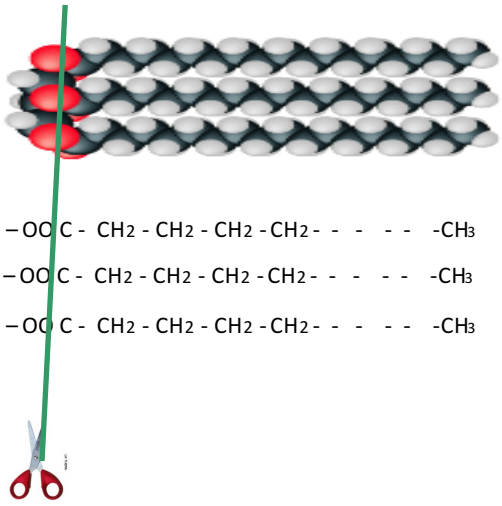
Acido estearico	18%
TEA estearato	2 %
Agua	

Leblanc process 1790



M. Chevreul 1823
Book available in Google





$CH_2-OOC-CH_2-CH_2-CH_2-CH_2-\text{- - - - -}CH_3$

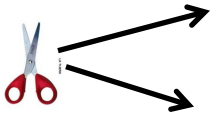
$CH-OOC-CH_2-CH_2-CH_2-CH_2-\text{- - - - -}CH_3$

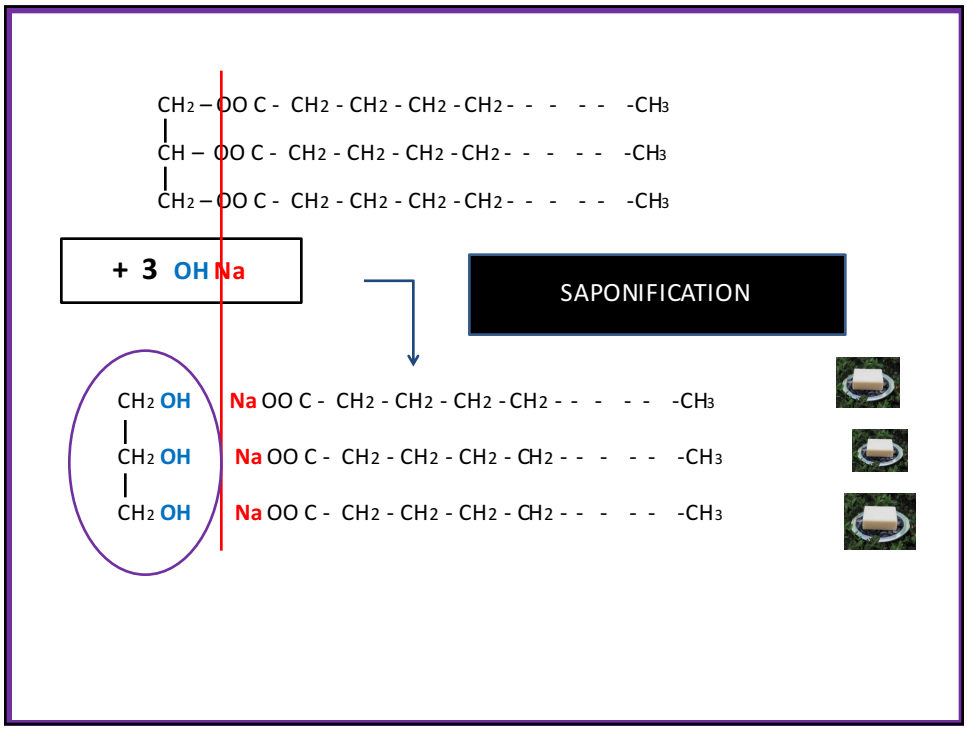
$CH_2-OOC-CH_2-CH_2-CH_2-CH_2-\text{- - - - -}CH_3$

$CH_2-OOC-CH_2-CH_2-CH_2-CH_2-\text{- - - - -}CH_3$

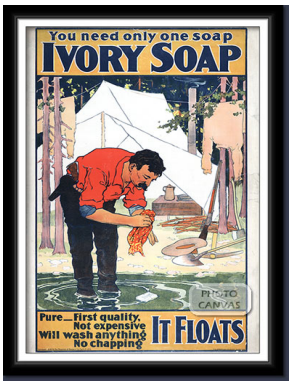
$CH-OOC-CH_2-CH_2-CH_2-CH_2-\text{- - - - -}CH_3$

$CH_2-OOC-CH_2-CH_2-CH_2-CH_2-\text{- - - - -}CH_3$




CH2 – OO C - CH2 - CH2 - CH2 - CH2 - - - - - -CH3
CH – OO C - CH2 - CH2 - CH2 - CH2 - - - - - -CH3
CH2 – OO C - CH2 - CH2 - CH2 - CH2 - - - - - -CH3
+ 3 OH Na
SAPONIFICATION
CH2 OH Na OO C - CH2 - CH2 - CH2 - CH2 - - - - - -CH3
CH2 OH Na OO C - CH2 - CH2 - CH2 - CH2 - - - - - -CH3
CH2 OH Na OO C - CH2 - CH2 - CH2 - CH2 - - - - - -CH3

1920's


You need only one soap
IVORY SOAP
Pure—First quality.
Not expensive
Will wash anything
No chapping
IT FLOATS


SUNLIGHT
SOAP
At a Glance
Sunlight Soap
Less Labour, Greater Comfort.


the Dionne Quins use only
PALMOLIVE
the soap made with
Gentle Olive Oil!

Water

?

$CH_2-OO\,C-(CH_2)_{14}-CH_3$

$CH-OO\,C-(CH_2)_{14}-CH_3$

$CH_2-OO\,C-(CH_2)_{14}-CH_3$

3 OH H

HYDROLYSIS

$CH_2\,OH$ $H\,OO\,C-(CH_2)_{14}-CH_3$

$CH_2\,OH$ $H\,OO\,C-(CH_2)_{14}-CH_3$

$CH_2\,OH$ $H\,OO\,C-(CH_2)_{14}-CH_3$

SAPONIFICATION with ALKALI

CH_2 –OH
|
CH – OH
|
CH_2 –OH

Glycerin

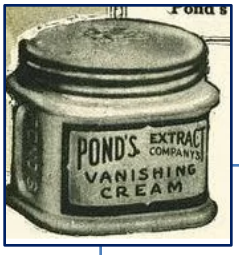
Na OO C - CH_2 - CH_2 - CH_2 - CH_2 - - - - - - $-CH_3$

Soap

HYDROLYSIS with WATER

H OO C - CH_2 - CH_2 - CH_2 - CH_2 - - - - - - $-CH_3$

Fatty Acid



SAPONIFICATION with ALKALI

CH_2 –OH
|
CH – OH
|
CH_2 –OH

Glycerin

Na OO C - CH_2 - CH_2 - CH_2 - CH_2 - - - - - - $-CH_3$

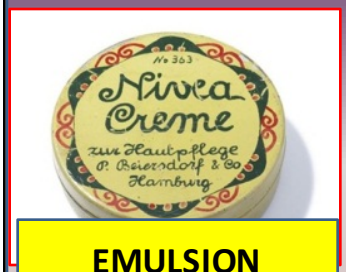
Soap

HYDROLYSIS with WATER

H OO C - CH_2 - CH_2 - CH_2 - CH_2 - - - - - - $-CH_3$

Fatty Acid

1910



EMULSION

EMULSIFICANTE FISICO

Valor Dermatologico

1910

Cremas estables olor y color

1950

SORPRESA !

Aceite Mineral Petrolatum

1910

1950

1980

Diversificacion (materias primas)

Primera Expansion

'Leches'

Lociones

Cremas

Cremas De Noche

TEXTURA de las Emulsiones

Segunda Expansion

No EMULSIONES

Aceites

Serum

Geles

'Solidos'

1970'-80's

VISCOSIDAD de EMULSIONES

baja	media	alta	+alta




NO- EMULSIONES

aceite	serum	gel	solido




1910

1950

1980

Beneficio cutaneo

1990

COSMACEUTICALS

prescriptions but were only regulated as cosmetics. The father of the cosmaceutical, Dr. Albert Kligman coined the term to distinguish inactive and superficial ingredients from those that went "...beyond mere camouflage..." and could achieve real and often long-term results. While it's true that

COSMACEUTICALS

No reconocidos por la FDA
No hay normas
Todo vale

COSMACEUTICALS

1990's

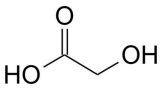
Los "ACTIVOS"

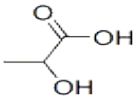
Acidos AHA's

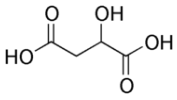
Creo el segmento de los "COSMACEUTICALS"

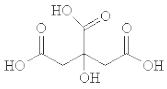
lactic acid	from sour milk
glycolic acid	from sugar cane
malic acid	from apples
citric acid	from citrus fruits
tartaric acid	from grape wine

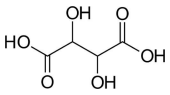
Must 'penetrate' into the SC to act







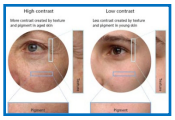


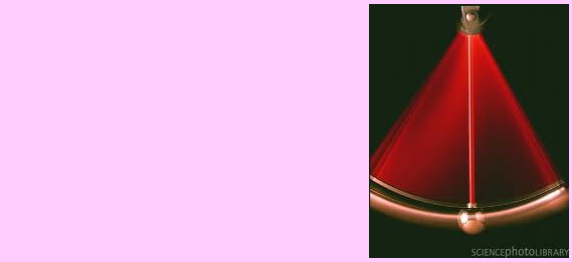


Charging as much as $132 per container, L'Oréal has sold Génifique nationwide since February 2009 at Lancôme counters in department stores and at beauty specialty stores.

Cosmetics company L'Oréal USA, Inc. has agreed to settle Federal Trade Commission charges of deceptive advertising about its Lancôme Génifique and L'Oréal Paris Youth Code skincare products. According to the FTC's complaint, L'Oréal made false and unsubstantiated claims that its Génifique and Youth Code products provided anti-aging benefits by targeting users' genes.

"It would be nice if cosmetics could alter our genes and turn back time," said Jessica Rich, Director of the FTC's Bureau of Consumer Protection. "But L'Oréal couldn't support these claims."





HYDRATION &
SPECIALIZED ACTION

HYDRATION

HYDRATION &
MULTI- ACTION

La HIDRATACION
como benificio basico

HIDRATACION

vs.

EMOLIENCIA

- El pan rallado como ejemplo

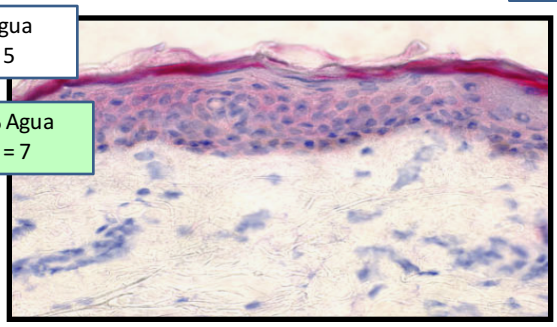
Percepcion vs Medicion

HIDRATACION
De ESPECIAL a COMUN

24 hr ?

25 % agua
pH = 5

70 % Agua
pH = 7



Como se mide?

Directamente

RAMAN SPECTROSCOPY

Indirectamente

- **Perdida** ("TEWL")
- **Retenida** Corneometria

Confocal Raman Spectroscopy (CRS)

In vivo skin characterization
by confocal Raman microspectroscopy

In vivo karakterisering van de huid
met confocale Raman microspectroscopie

Proefschrift

ter verkrijging van de graad van doctor aan de
Erasmus Universiteit Rotterdam
op gezag van de
Rector Magnificus

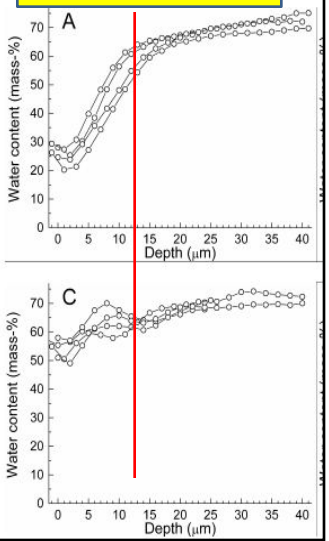
Prof.dr.ir. J.H. van Bemmel

en volgens besluit van het College voor Promoties.

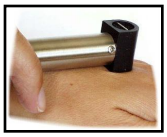
De openbare verdediging zal plaatsvinden op
woensdag 17 september 2003 om 13:45 uur
door

Peter Jacobus Caspers
geboren te Amsterdam

Antes de hidratar



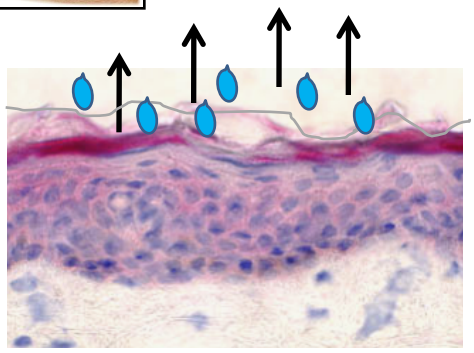
Despues de hidratar

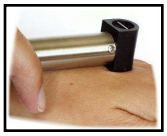


Medida indirecta

TEWL

Trans Epidermal Water Loss

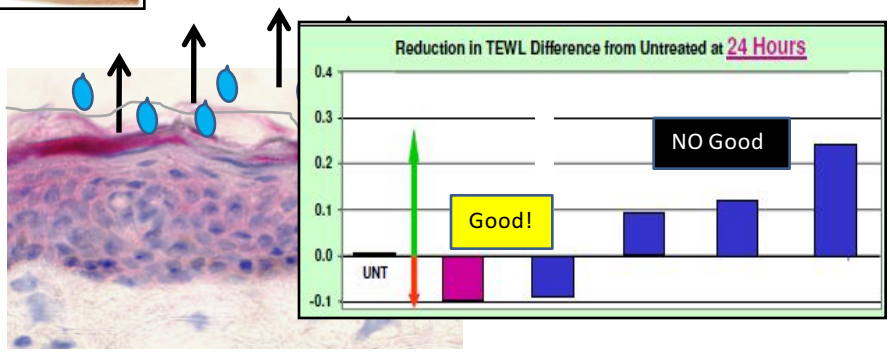




Medida indirecta

TEWL

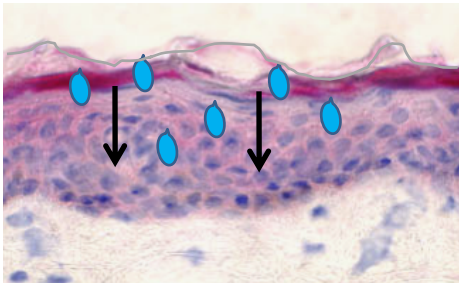
Trans Epidermal Water Loss



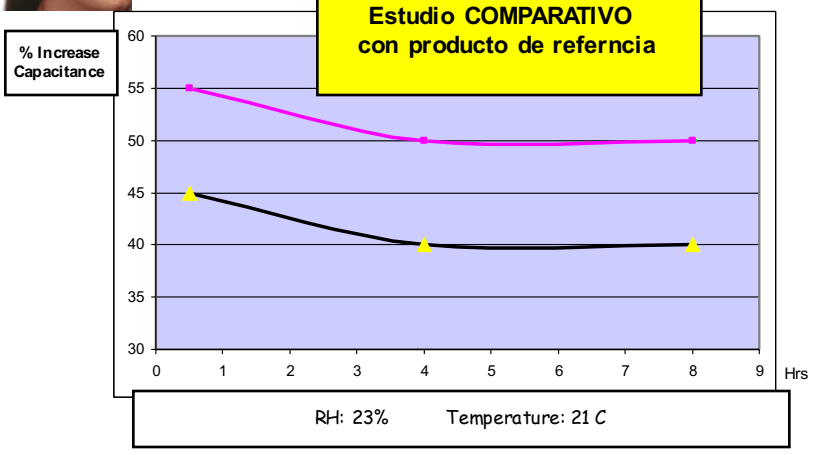
MEDIDA INDIRECTA

CORNEOMETER

Constante Dielectrica



Estudio COMPARATIVO con producto de referncia



panelist

1
2
3
11

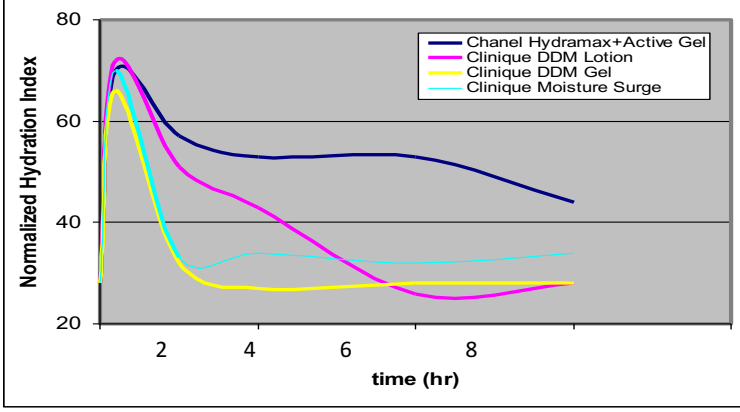
	0 hr	4 hr	8 hr	Ratio after 8 hr
Product(*)	20	37	36	1.8
Control	20	22	24	1.2
Product(*)	19	32	32	1.7
Control	24	22	24	1.0
Product(*)	27	50	46	1.7
Control	32	35	36	1.1
Product(*)	25	37	39	1.6
Control	27	29	27	1.0
Product(*)	16	26	25	1.6
Control	24	22	22	0.9
Product(*)	21	34	32	1.5
Control	21	23	25	1.2
Product(*)	26	36	36	1.4
Control	22	22	25	1.1
Product(*)	26	40	37	1.4
Control	25	25	25	1.0
Product(*)	36	46	46	1.3
Control	36	37	37	1.0
Product(*)	25	37	32	1.3
Control	26	23	24	0.9
Product(*)	39	45	39	1.0
Control	42	40	39	0.9
Product(*)	25	38	36	1.4
Control	27	27	28	1.0

60% improvement

NO improvement

EFICACIA muy DISTINTA

(ej: Productos Hidratantes en EEUU



1910

1950

1980

1990

2000

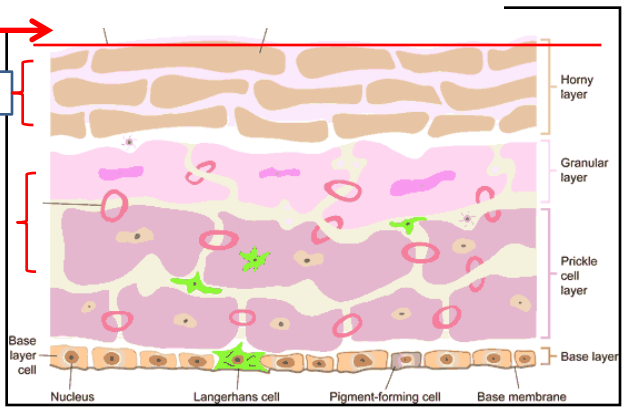
"Delivery of Actives"

Donde te dejo….?

Filtro Solar

Hidratacion

"Blanqueo"

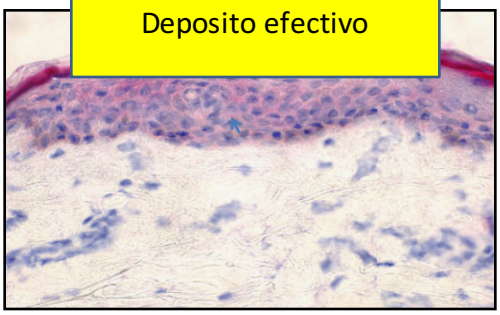


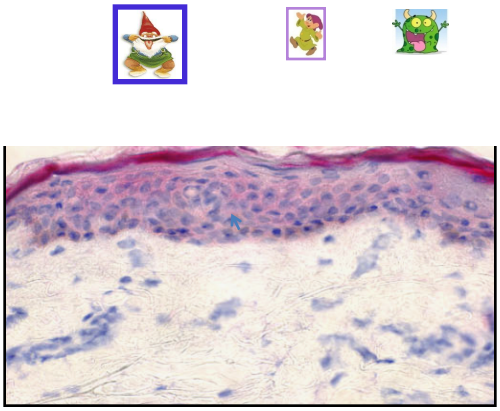
Beloved Cosmetic Industry Member
Johann Wiechers Passes Away

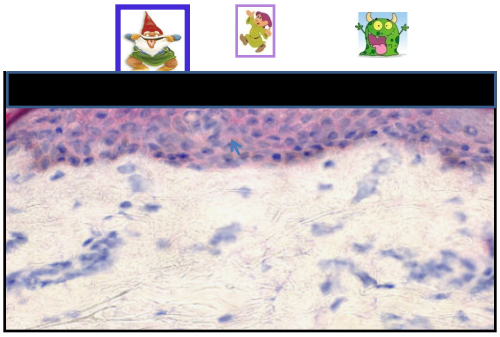
Posted: November 7, 2011

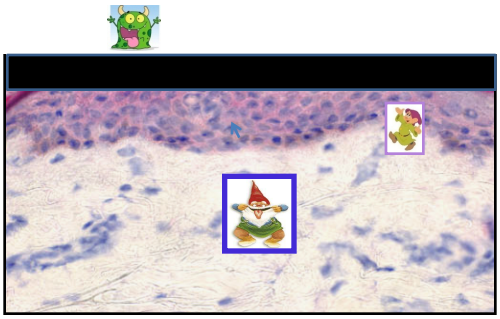
"Delivery of Actives"

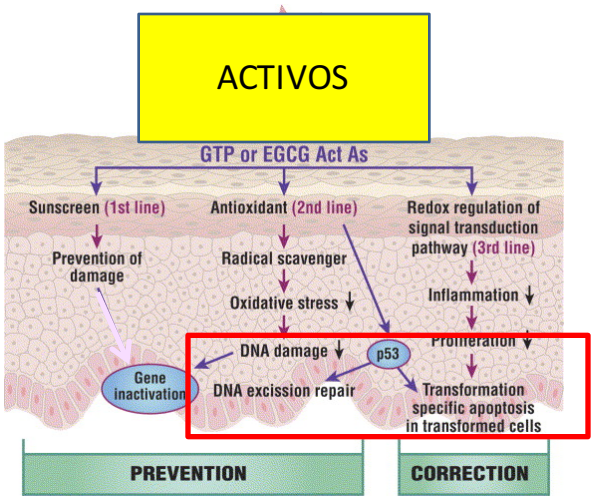
Activo efectivo
Cantidad efectiva
Deposito efectivo











Journal of the American Academy of Dermatology
Volume 52, Issue 6, June 2005, Pages 1049–1059

La emulsion ha sido y sigue siendo el vehiculo cosmetico mas importante para productos de cuidado de la piel.

emulsionante

"CREMA ROMANUS"

3 ingredientes

Aceites

Cera de Abejas

Agua

The controversial discovery

CLASSIFICATION OF SURFACE-ACTIVE AGENTS BY "HLB"†

By William C. Griffin

Atlas Powder Company, Wilmington, Del.

Since the introduction of the "HLB" system of classifying and selecting emulsifiers (6) numerous requests have been received concerning its derivation. The term "HLB" comes from the words hydrophile-lipophile balance. Emulsifiers consist of a molecule that combines both hydrophilic and lipophilic groups (or polar and nonpolar groups) and it is the balance of the size and strength of these two opposing groups that we call HLB.

Surface-active agents have been classified in many ways: including chemical types and according to ionization. Classification by HLB permits some prediction of behavior and reduces the amount of work involved in the selection of an emulsifier, wetting agent, or other type of agent.

Emulsifiers constitute one of the widest used subdivisions of surface-active agents and we will use this group as an illustration of the manipulation of the HLB system, with reference to other applications later.

A complete system for selecting an emulsifier would provide the *best* emulsifier to give the *desired form* of product for the desired *raw materials*. Thus, knowing the materials to be emulsified, the *most efficient* emulsifier could be chosen for the desired type of emulsion.

Action of Emulsifiers

An emulsifier has two actions that are distinctly different. The accepted action is that of promoting the formation of an emulsion; making the emulsion easier to prepare; producing a finer particle size; and aiding the stability of the emulsion. The second action, which occurs along with the preparation of the emulsion, consists in controlling the type of emulsion that is to be formed, O/W or W/O. This second action appears to be a function of HLB.

In evolving a system for the selection of emulsifiers, we will first consider briefly the theory of emulsification. For practical purposes, an emulsion consists of two immiscible liquids, one being dispersed as a multitude of small particles in the

† Presented at the October 11, 1949, Meeting, Chicago Chapter, Chicago, Ill.

311

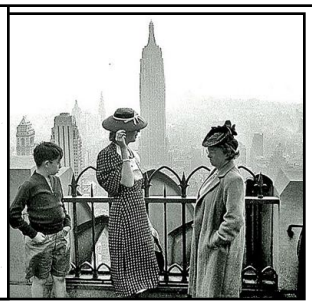
1949

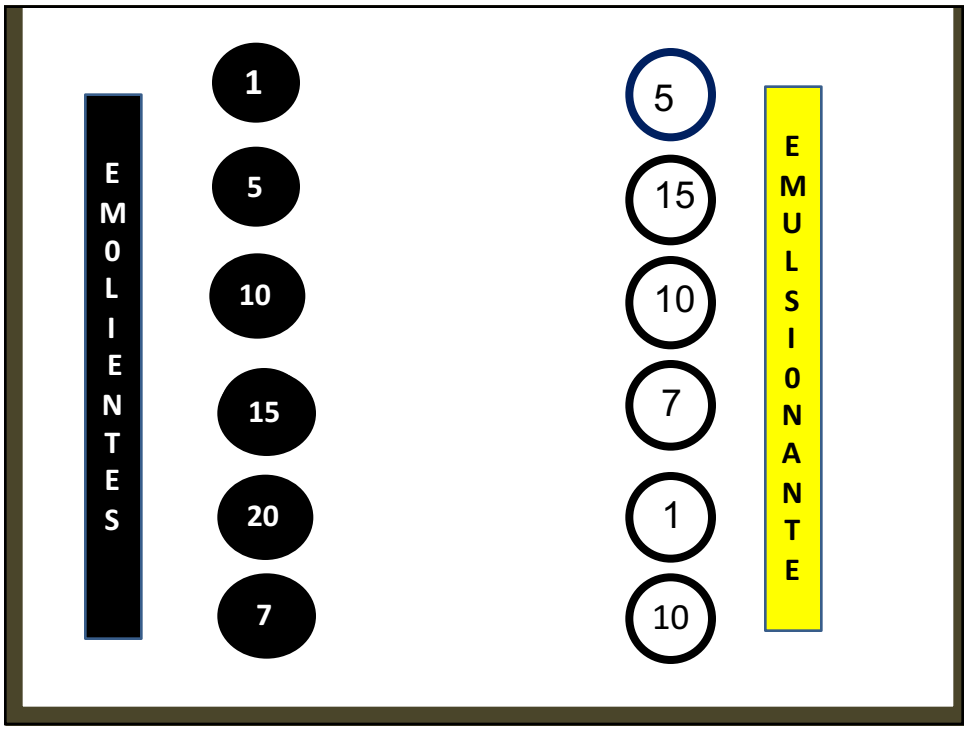
CLASSIFICATION OF SURFACE-ACTIVE AGENTS BY "HLB"

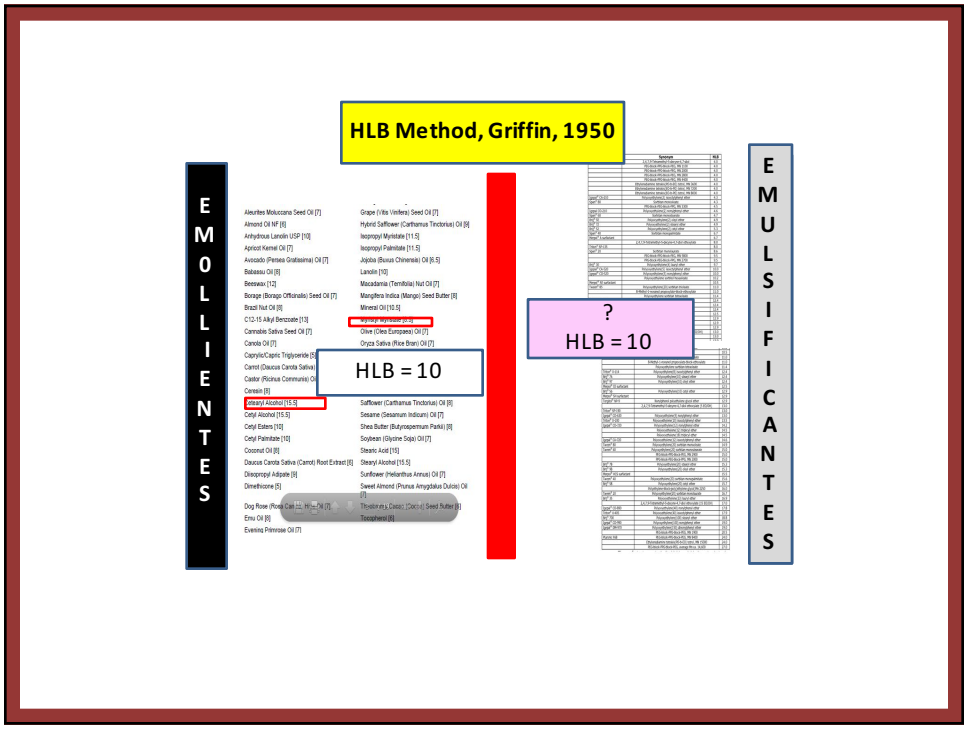
W. Griffin

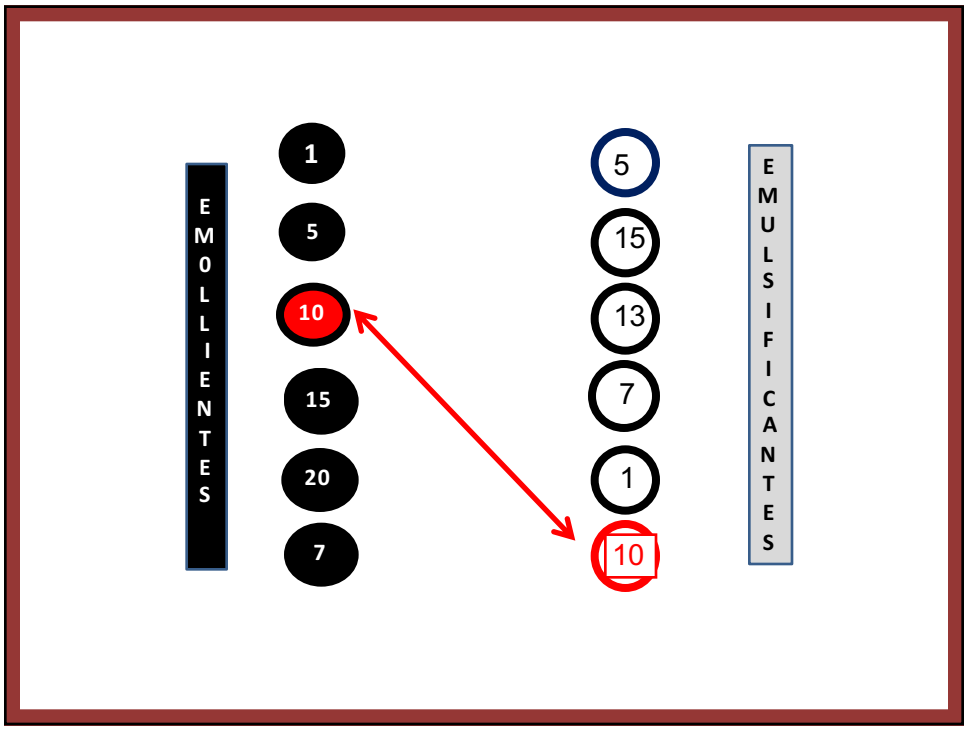
Atlas Powder Co.

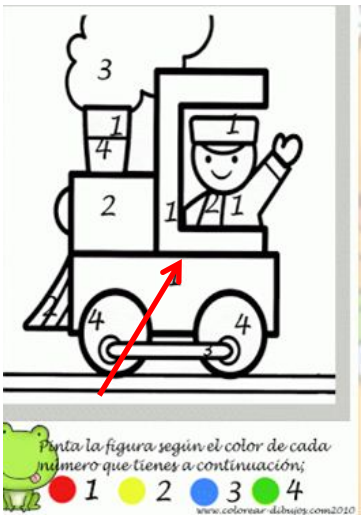
J. Soc. Cosmetic Chem. Vol 1, p 311-326, 1949

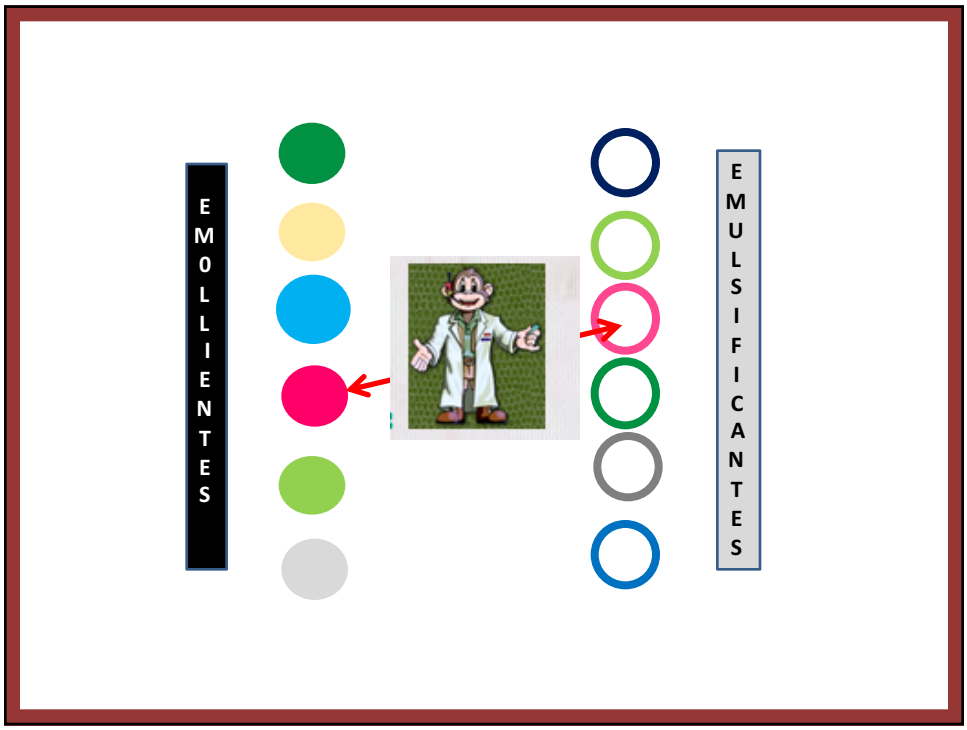


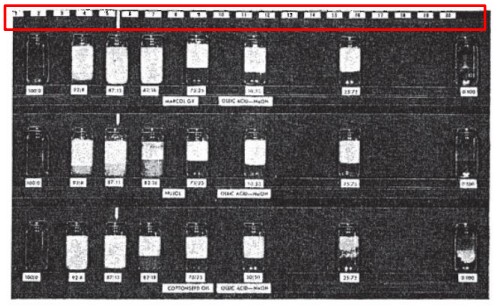

EMOLIENTES
1
5
10
15
20
7
5
15
10
7
1
10
EMULSIONANTE


HLB Method, Griffin, 1950
EMOLIENTES
HLB = 10
?
HLB = 10
EMULSIFICANTES


EMOLLIENTES
1
5
10
15
20
7
5
15
13
7
1
10
EMULSIFICANTES


Pinta la figura según el color de cada número que tienes a continuación;
1 2 3 4





HLB Method, Griffin, 1950

During the past four years it has become apparent that although the HLB method is useful as a rough guide to emulsifier selection, it has serious limitations. Although, as mentioned previously, the HLB number of a surfactant is indicative of neither its efficiency (the required concentration of the emulsifying agent) nor its effectiveness (the stability of the emulsion), but only of the type of emulsion that can be expected from it, data have accumulated that show that even this is not reliably related to the HLB number.

no es fiable

1978
Prof. Rosen

This is arguably the greatest contribution made to emulsion technology in history.

2009
M. Chandler

During the past four years it has become apparent that although the HLB method is useful as a rough guide to emulsifier selection, it has serious limitations. Although, as mentioned previously, the HLB number of a surfactant is indicative of neither its efficiency (the required concentration of the emulsifying agent) nor its effectiveness (the stability of the emulsion), but only of the type of emulsion that can be expected from it, data have accumulated that show that even this is not reliably related to the HLB number.

no es fiable

1978
Prof. Rosen

This is arguably the greatest contribution made to emulsion technology in history.

2009
M. Chandler

Empirismo

Ciencia

no es fiable

1978
Prof. Rosen

Emulsiones Emulsiones Cosmeticas

ESTABILIDAD

HLB Method

ESTABILIDAD
VISCOSIDAD
TEXTURA INICIAL
"RUPTURA"
TEXTURA FINAL

Deposicion de Activos

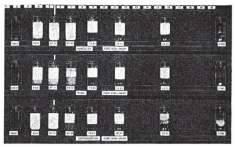
ANIONICS

Carboxylates (M+)

Sulfates (M+)

Phosphates (M+) → Ether Phosphates (M+)

Citrates (M+) → Ether Citrates (M+)



EMULSIONANTES

NON-IONICS

EO/ PO adducts

Ethoxylated F. Alcohols

Ethoxylated Esters

Glyceryl Esters → Ethoxylated Glyceryl Esters

Sorbitan Esters → Ethoxylated Sorbitan Esters

Polyglyceryl Esters

Glycosides Esters

Sucrose Esters

Griffin' HLB (1949)

Shinoda' PIT (1964)

Marszall' EIP Method (1975)

Lin' Solubilization Method (1977)

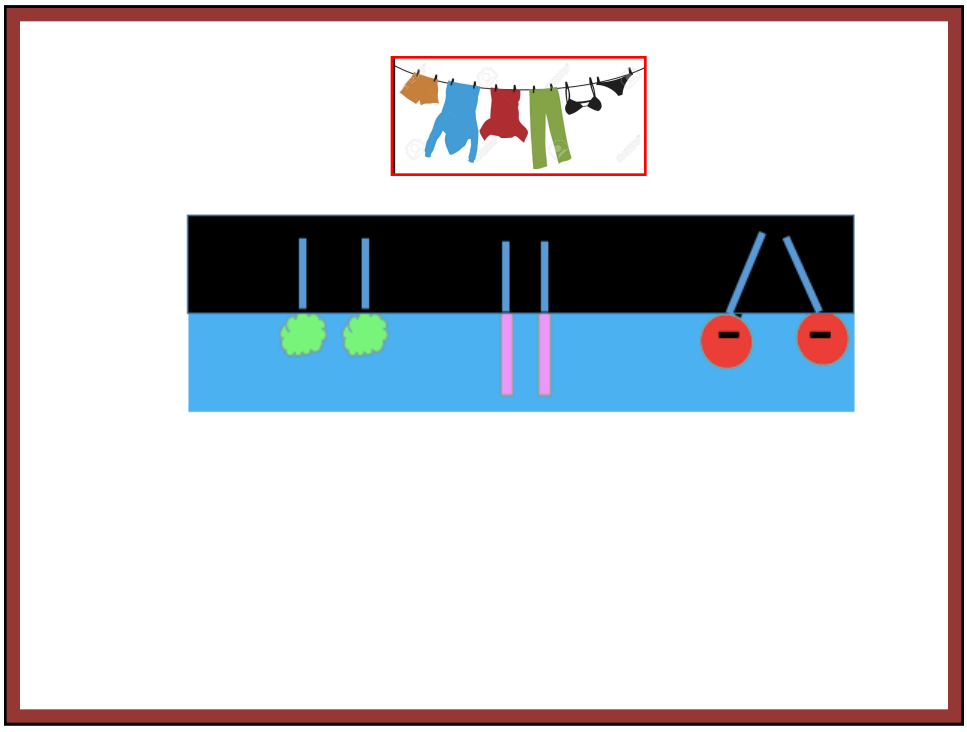
Harusawa Partition Coefficient (1982)

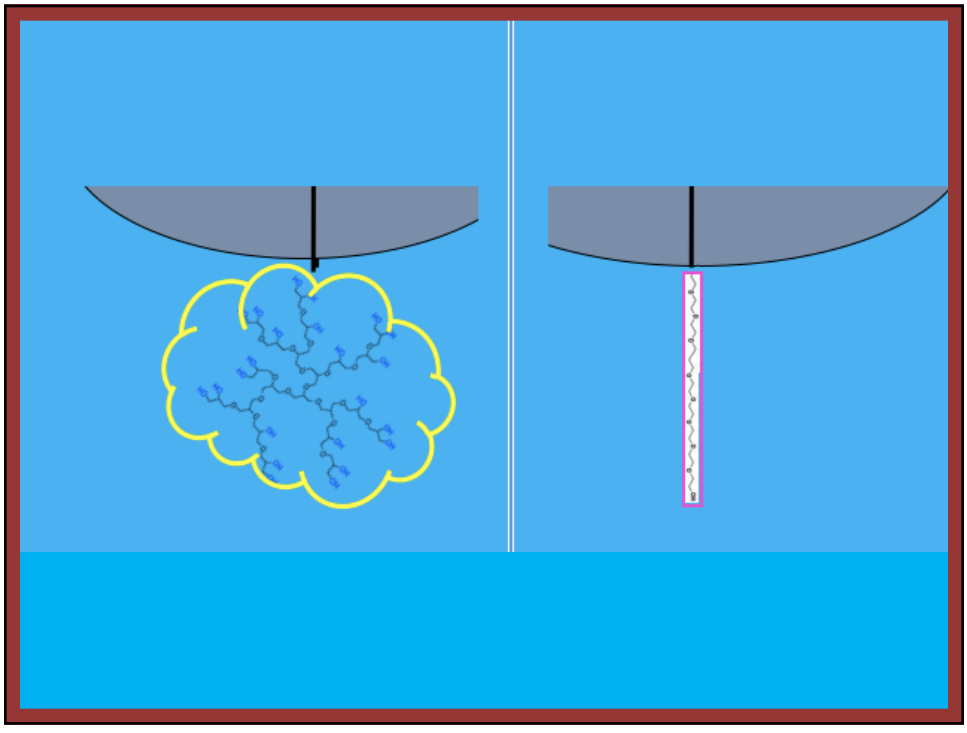
Wadle's CAPICO Method (1994)

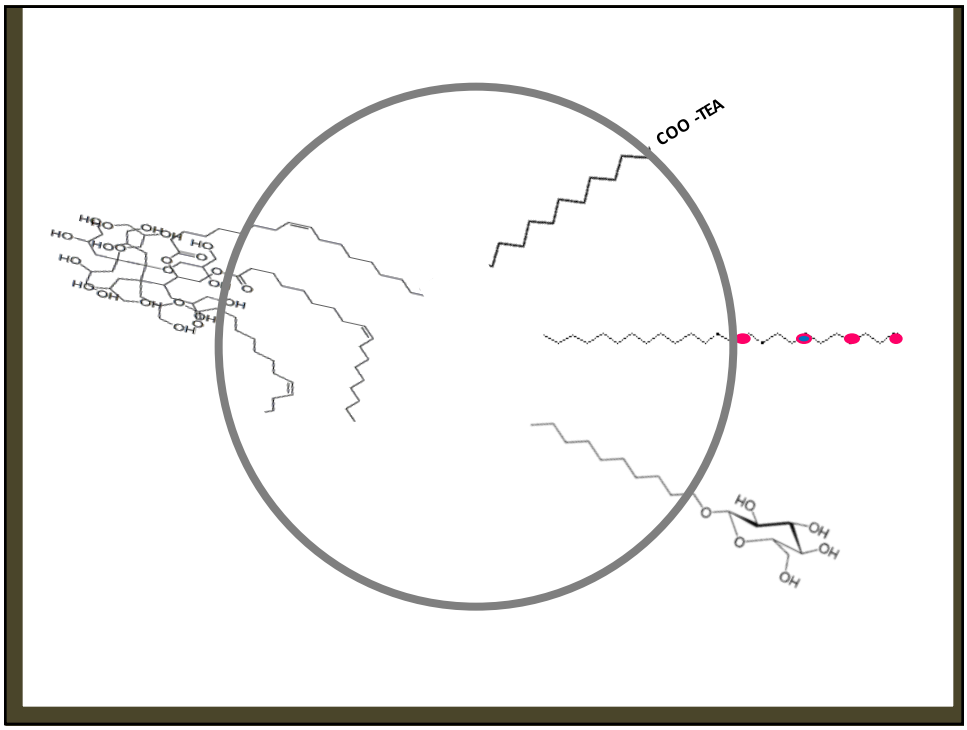
X = Y

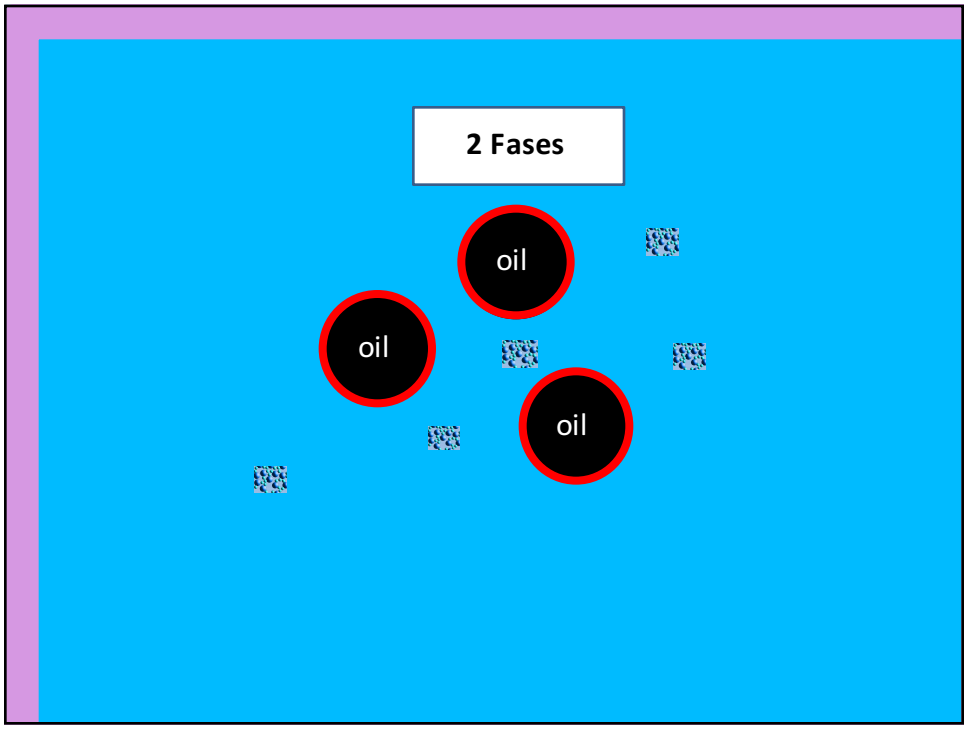

Fase
ACEITE
Emulsificante

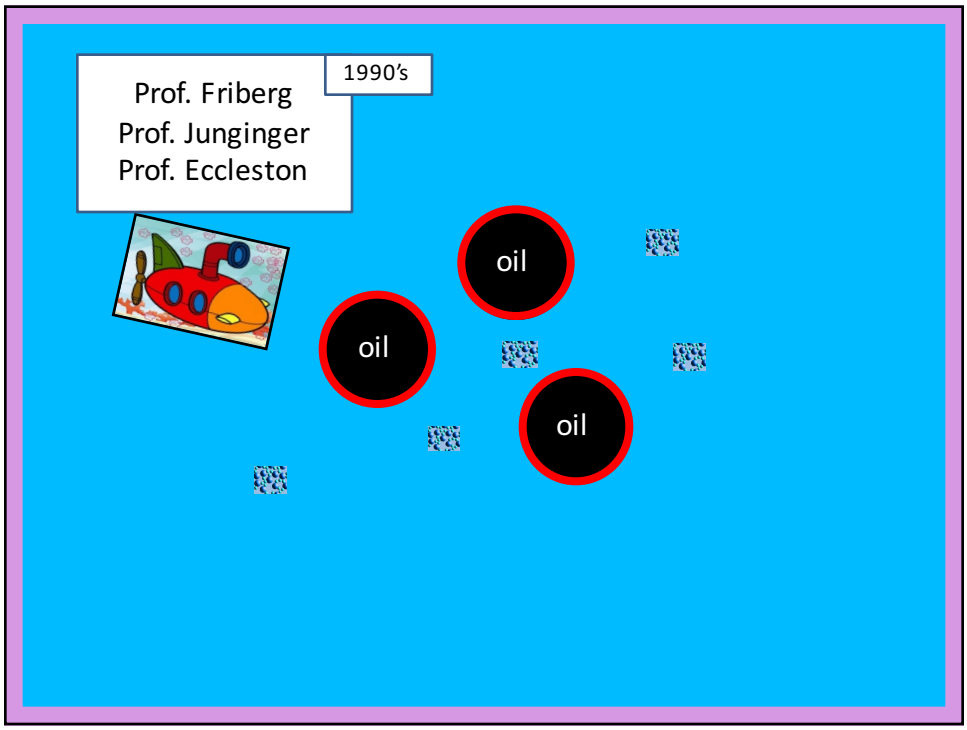

Fase
ACEITE
Emulsificante

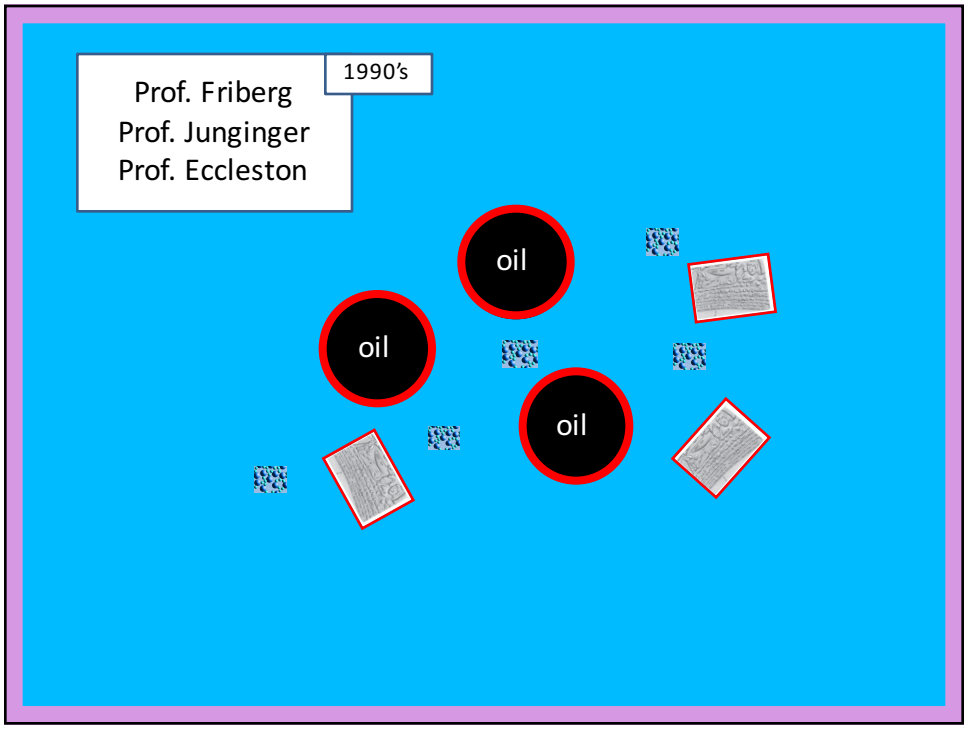


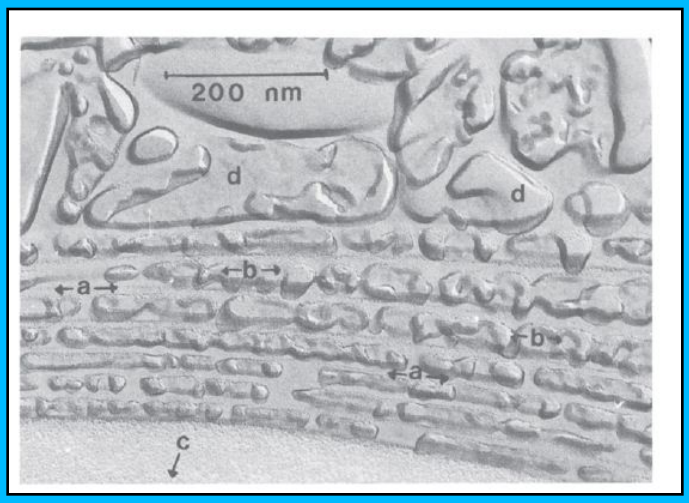



COO -TEA


2 Fases
oil
oil
oil


Prof. Friberg
Prof. Junginger
Prof. Eccleston
1990's
oil
oil
oil


Prof. Friberg
Prof. Junginger
Prof. Eccleston
1990's
oil
oil
oil



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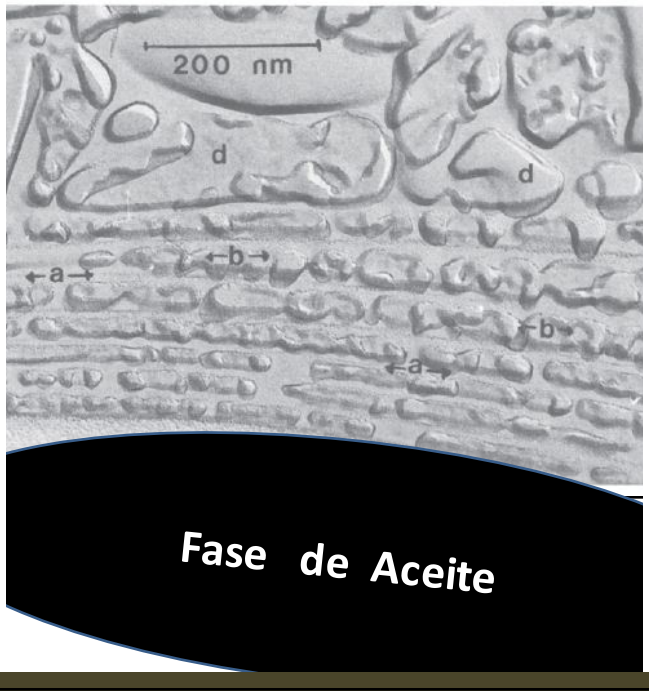
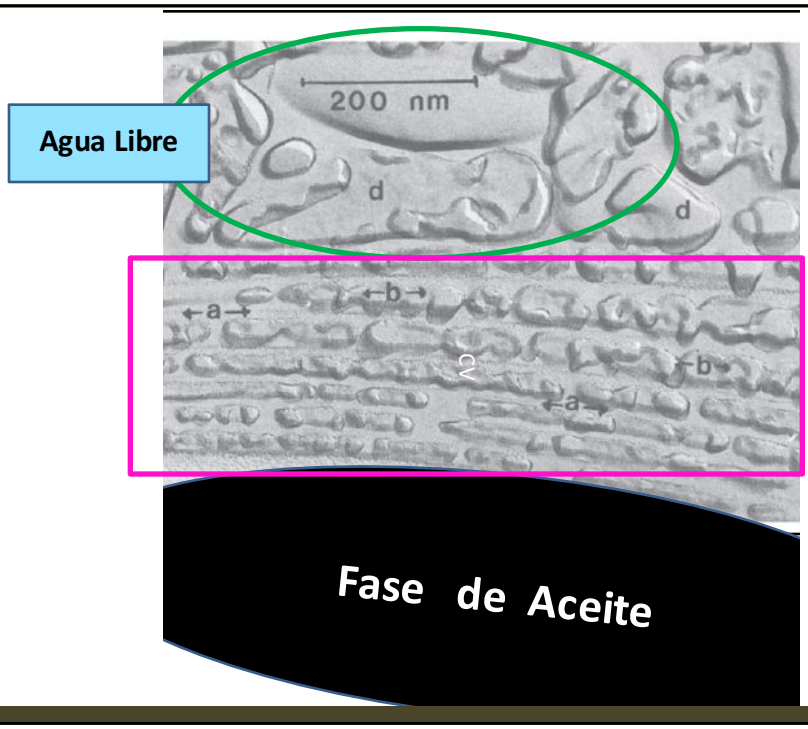


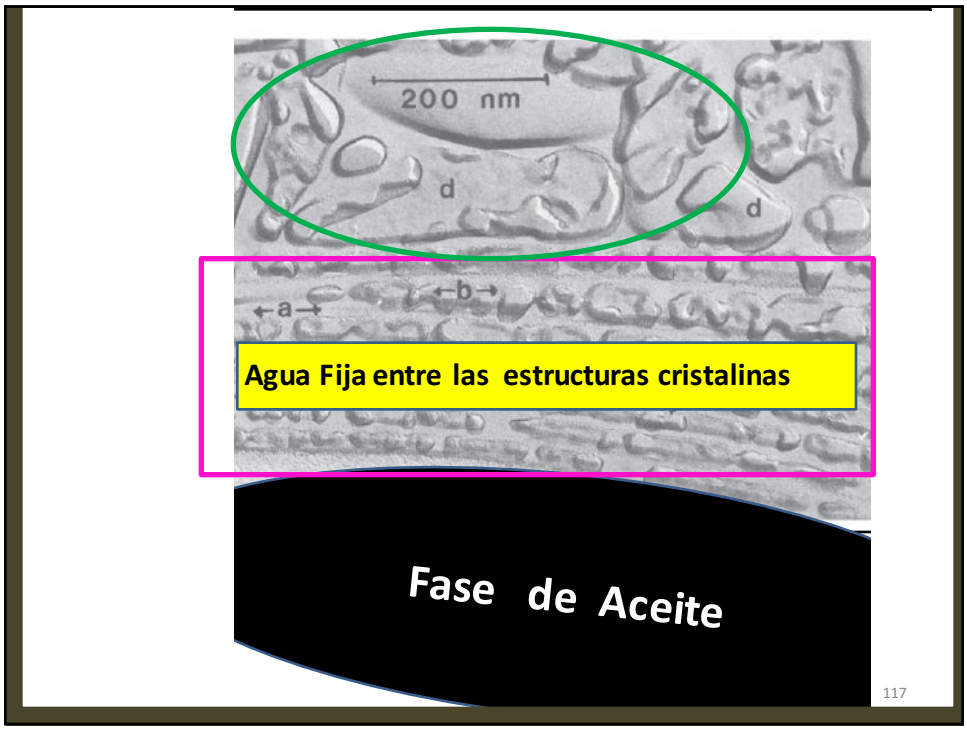
114

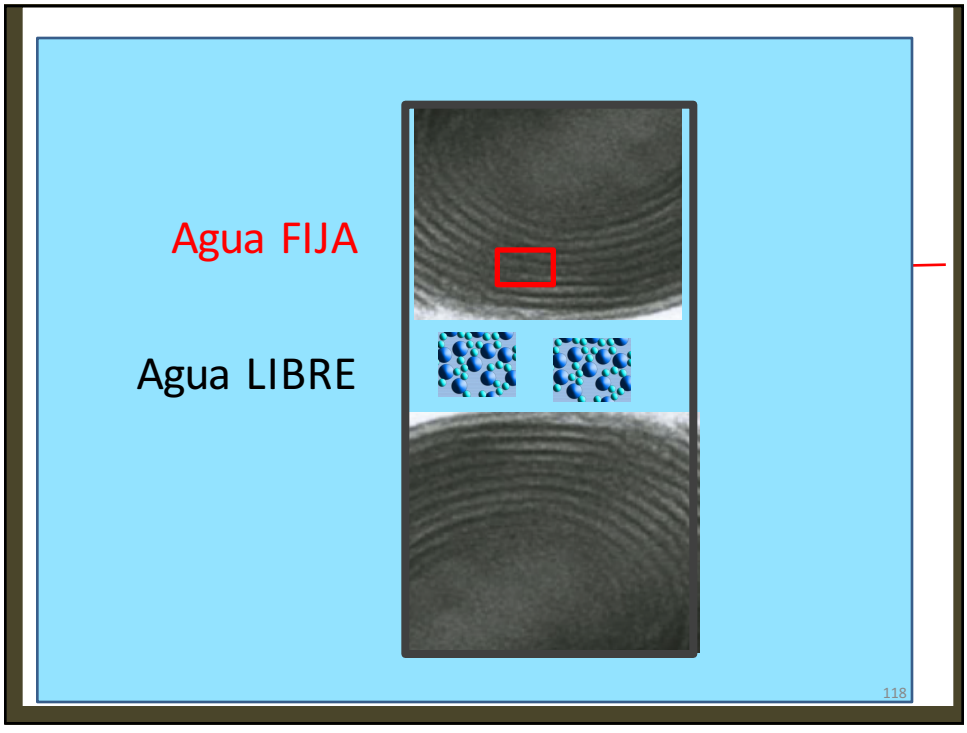
Emulsifier Crystal
Hydrated Crystal
Swollen Gel Phase
Liquid Crystal
Swollen Liquid Crystal

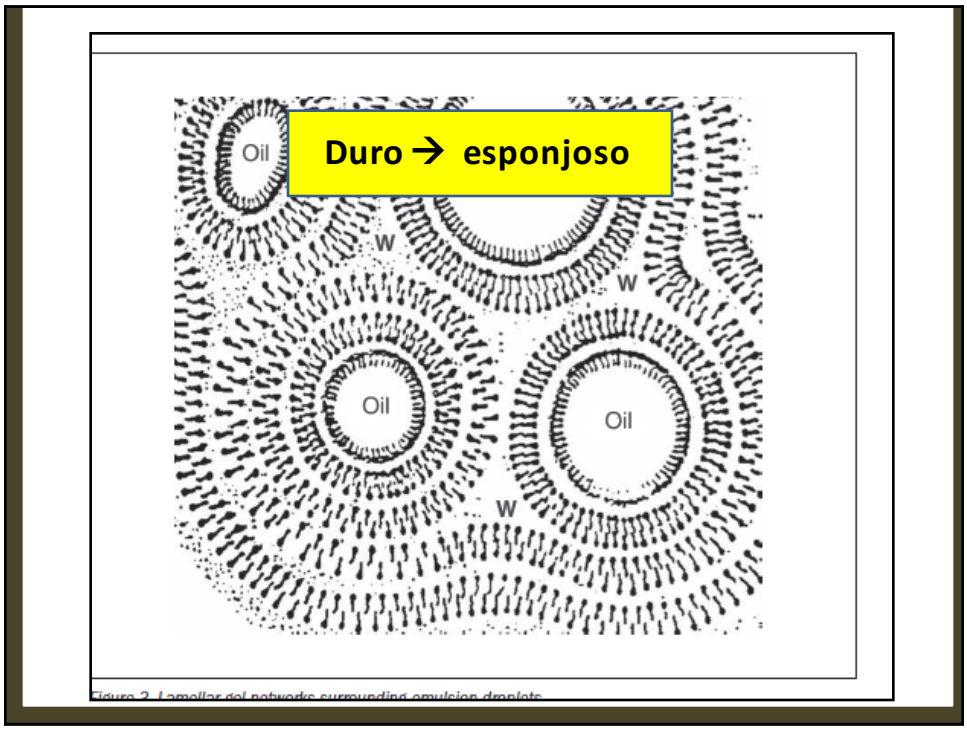
115

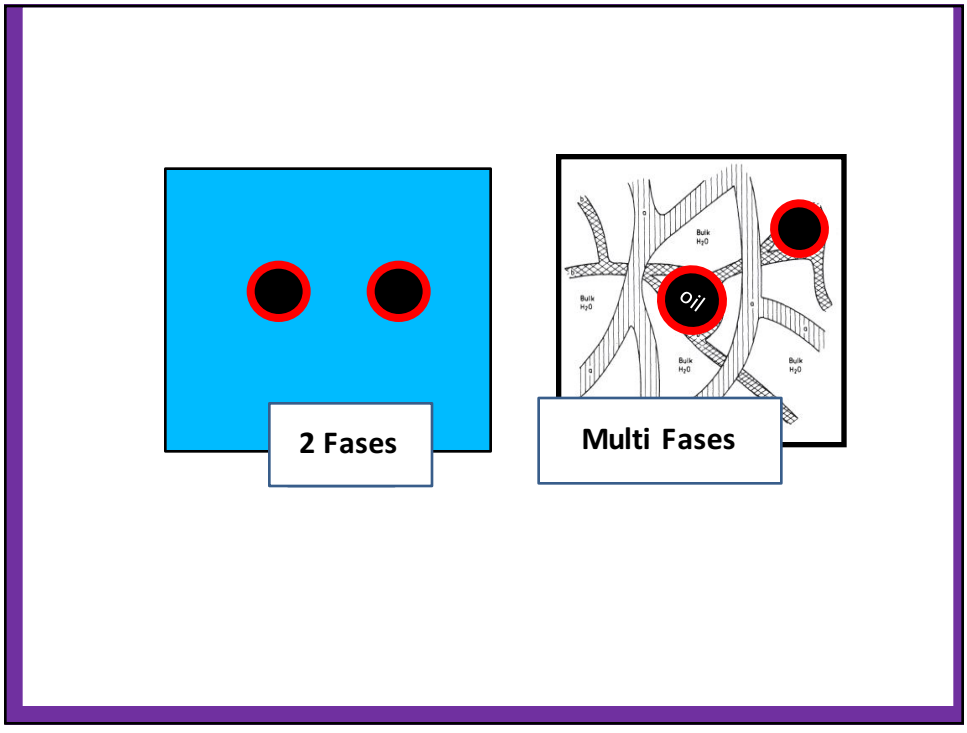


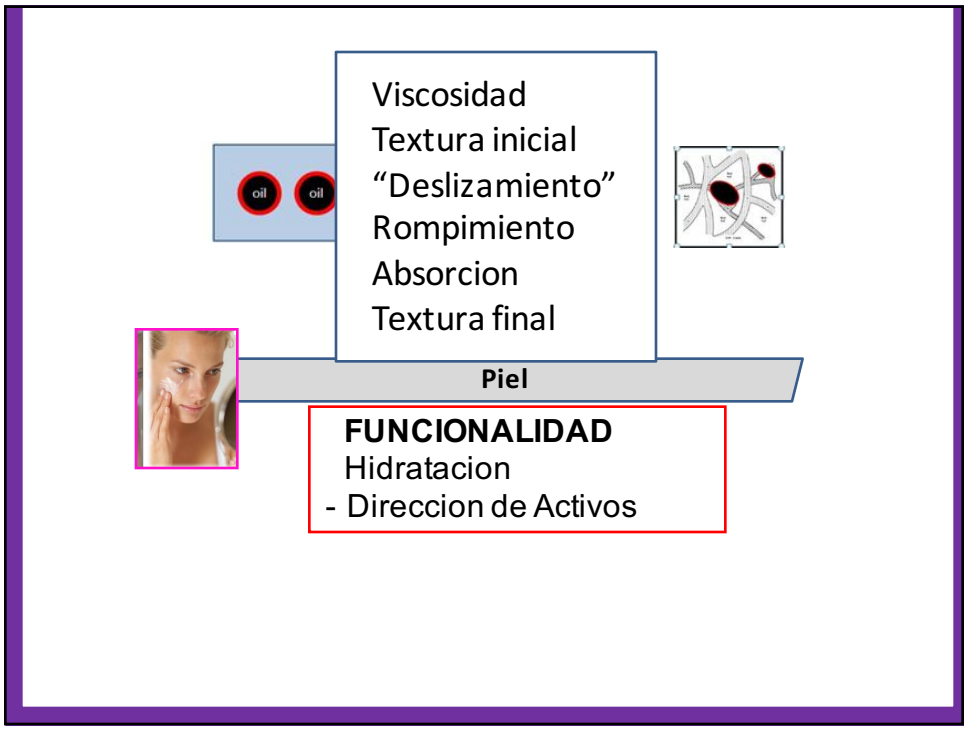
116

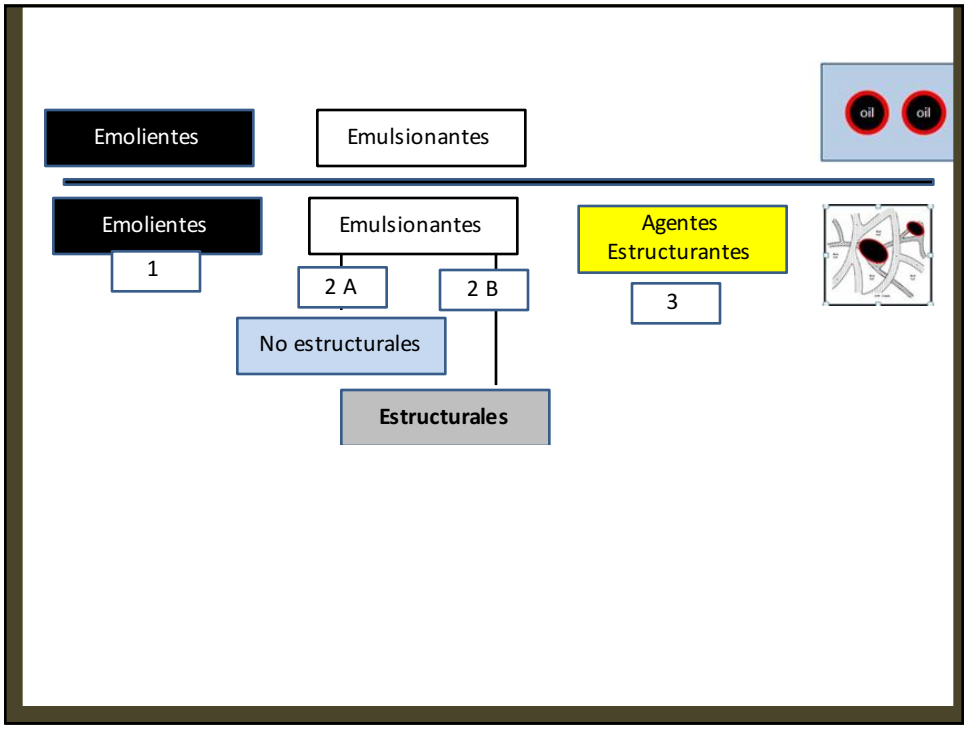

200 nm
d
d
←a→
←b→
Agua Fija entre las estructuras cristalinas
Fase de Aceite
117


Agua FIJA
Agua LIBRE
118

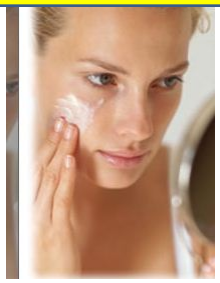

Oil
Duro → esponjoso
W
W
Oil
Oil
W


2 Fases
Oil
Multi Fases

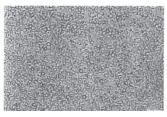

Viscosidad
Textura inicial
“Deslizamiento”
Rompimiento
Absorcion
Textura final
Piel
FUNCIONALIDAD
Hidratacion
- Direccion de Activos

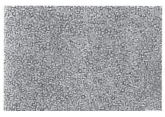

Emolientes
Emulsionantes
Emolientes
1
Emulsionantes
2 A
2 B
No estructurales
Estructurales
Agentes Estructurantes
3

Y ahora que pasa?



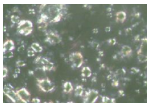
70% agua inicial



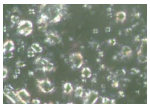


Luz polarizada

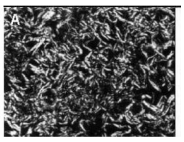
70% agua inicial

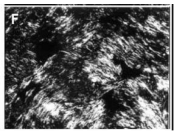


70% agua inicial

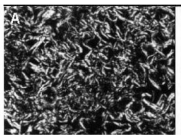
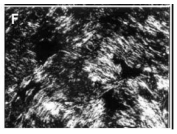


Deposito sobre la piel



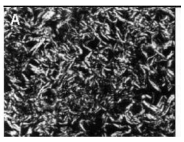
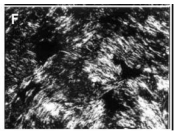


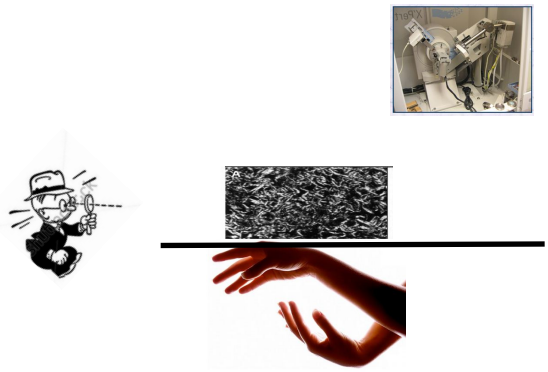
Deposito sobre la piel

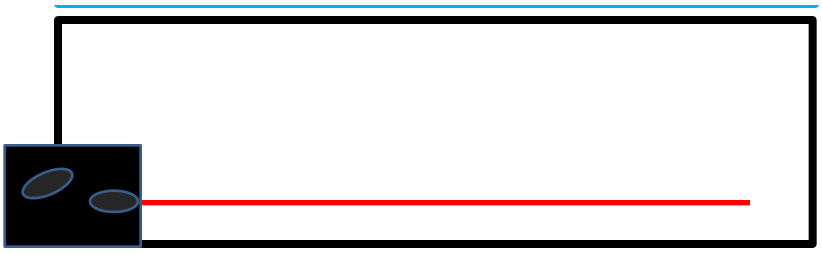

Deposito sobre la piel

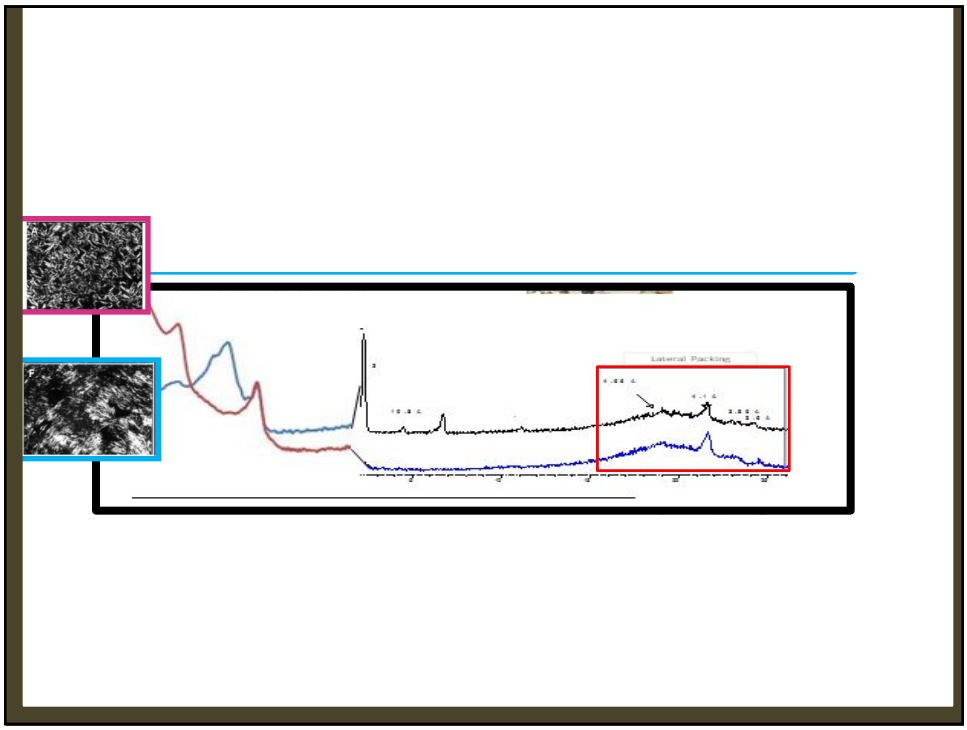


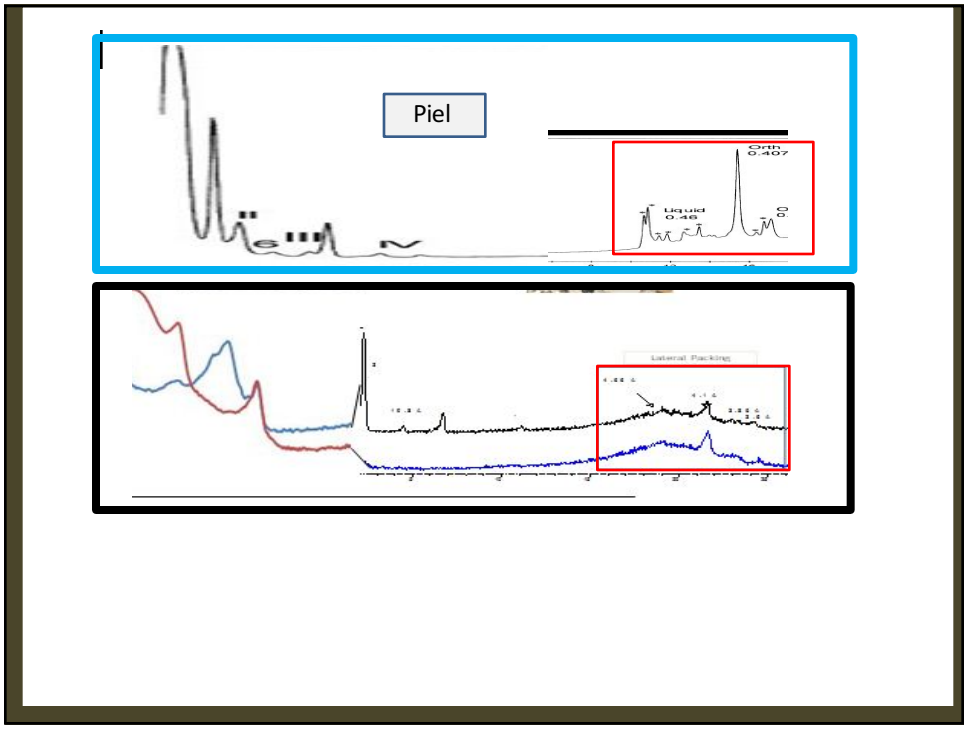



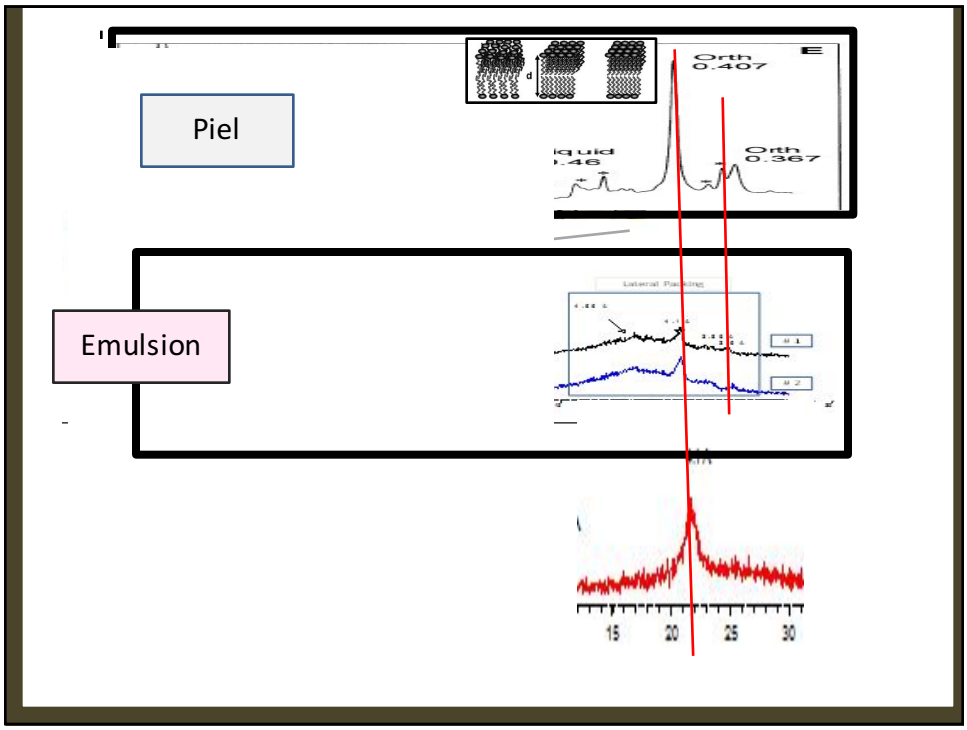


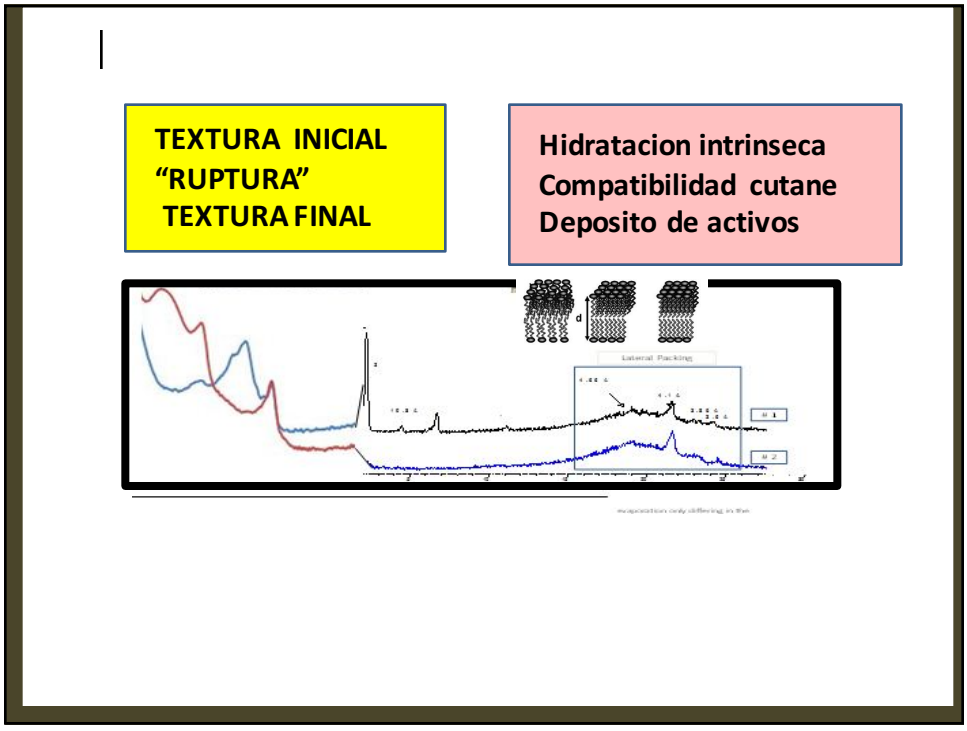
Deposito sobre la piel






Piel


Piel
Emulsion
Orth
0.407
Orth
0.367
15
20
25
30


TEXTURA INICIAL
"RUPTURA"
TEXTURA FINAL
Hidratacion intrinseca
Compatibilidad cutane
Deposito de activos

"NEW COURSE"

EMULSIFIERS FOR COSMETICS: STRUCTURES AND PRACTICAL APPLICATION

OCTOBER 9, 2014
SCC NATIONAL OFFICE – NEW YORK, NY
INSTRUCTED BY RICARDO DIEZ, Ph.D.

COURSE OUTLINE

This course discusses the chemical composition and physical structure of the sixteen types of emulsifiers commonly used in cosmetic products, correlating their physicochemical characteristics with the application in a wide range of products with emphasis on cosmetic emulsions. The course discusses the replacement of ethoxylated emulsifiers with other materials. It also describes the selection of emulsifiers in applications such as cleansers, makeup removers, anhydrous systems, rinse-off products, fragrance solubilization, etc.

1- PHYSICO - CHEMISTRY OF EMULSIFIERS
- Sixteen types of emulsifiers: chemical structures and physical parameters.
- Key performance differences of anionics, cryto-anionics, and nonionics. - Emulsifiers vs. structuring agents.
- Importance of oligomeric, discrete or polymeric structures on emulsifier efficiency
- Impact of the packing parameter, molar volume and melting point on performance differences

2- CAN ETHOXYLATED EMULSIFIERS BE REPLACED WITH NON-ETHOXYLATED MATERIALS?
- Reasons for the failure of the HLB concept for emulsifier replacement.
- Alternative strategy: replacement under the approach of oligomeric vs. discrete chemical structure and the physical packing parameter.
- Effect of direct vs. inverse solubility with temperature.

3- APPLICATION OF EMULSIFIER SELECTION

3a- Emulsions: Creams and Lotions
Importance of interfacial tension and symmetry of emulsifiers and emollients
Shortcomings of Griffin's HLB method. Alternatives by Shinoda, Marszall, Lin, Harasawa, and Wadle.
Effect of the emulsifier system on the sensorial attributes, hydration, and stability of creams and lotions
Impact on the initial crystalline structure of the emulsion and after application on the skin. Changes during water evaporation.

3b- Effect Of Emulsifiers On Delivery of Active Ingredients
Examples in various vehicles: solutions, emulsions, micro emulsions, liposomes and nano lamellar systems

3c- Non-Emulsion Products
Application and selection of emulsifiers in fragrance solubilization, cleansers, make-up removers, soft solids and balms, rinsing aids in anhydrous products, etc

FEES

	Early Fee	Late Fee (After 00/00/14)
SCC Member	**$350.00**	**$400.00**
SCC Student Member	**$200.00**	**$225.00**
Non-Member	**$475.00**	**$525.00**

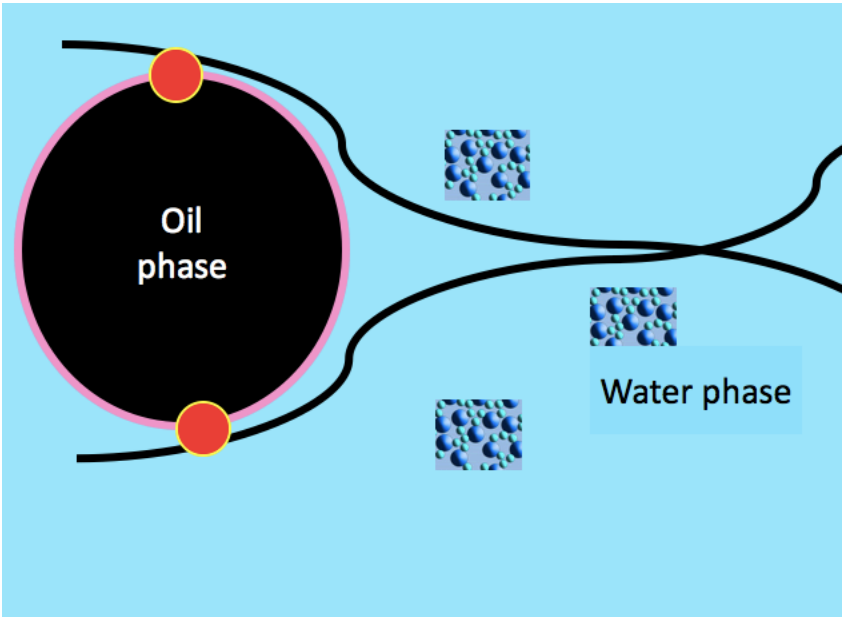
Y los polimeros …..

Viscosidad
Emulsificacion

No crean estructuras cristalinas

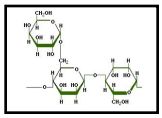
Crean estructuras tipo **GEL**

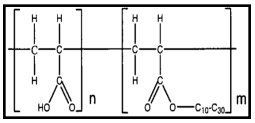
Distintas propiedades sensoriales

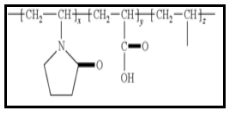


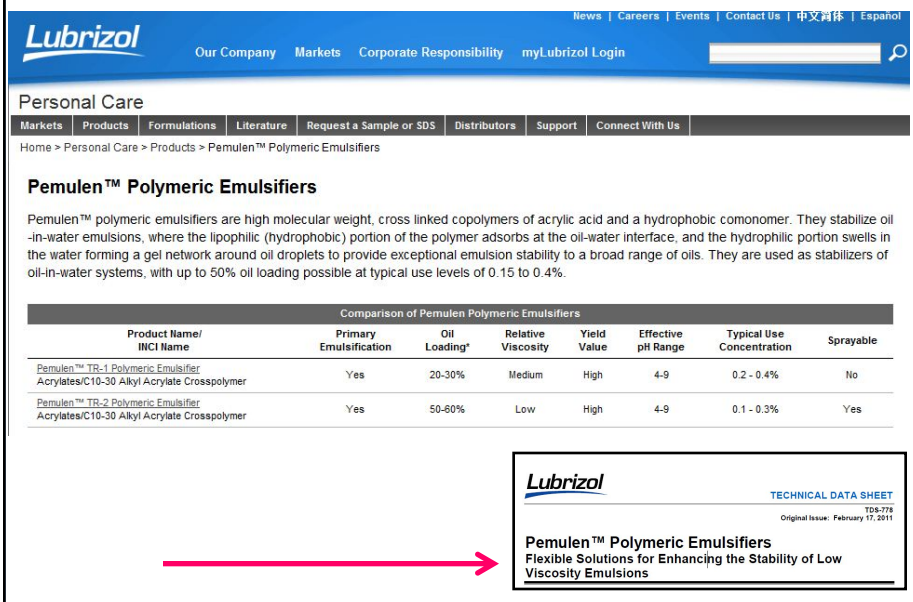
Polymers for SKIN CARE

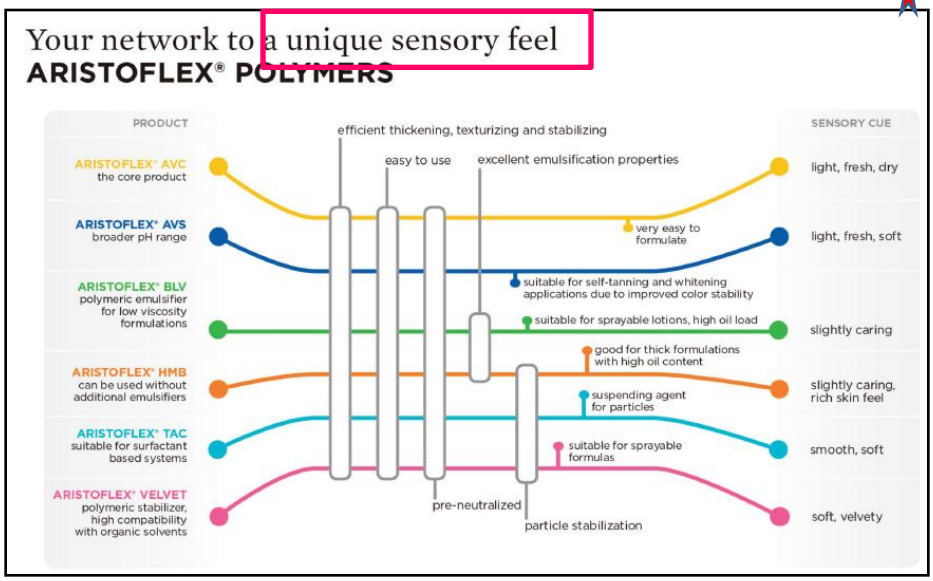
Thickening	Thickening & Emulsification	Thickening & Emulsification & **Great Feel**
↓	↓	↓
Gums	Acrylic	Acrylic +
↓	↓	↓
Cellulose Xantham Guar	"Pemulen" Lubrizol	"Aristoflex" Clariant

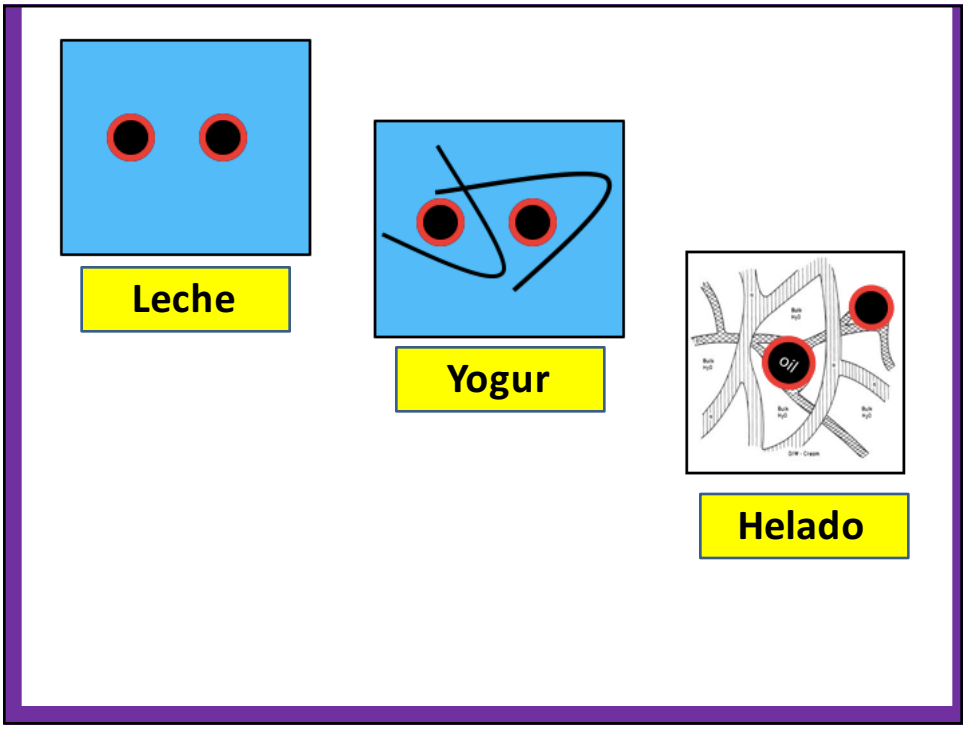


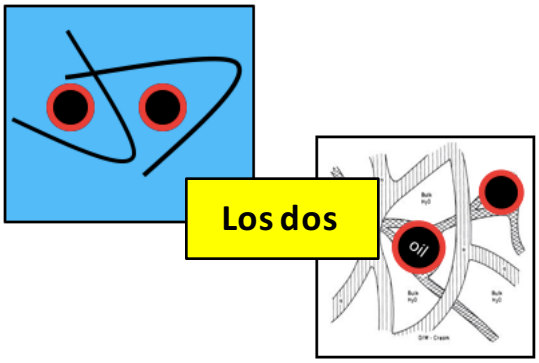




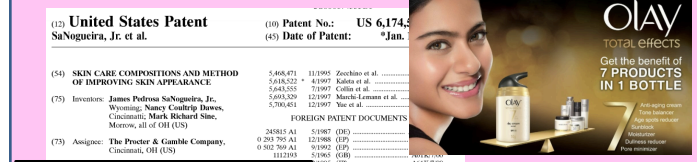



Your network to a unique sensory feel
ARISTOFLEX® POLYMERS
PRODUCT
SENSORY CUE
efficient thickening, texturizing and stabilizing
easy to use
excellent emulsification properties
ARISTOFLEX® AVC
the core product
light, fresh, dry
very easy to formulate
ARISTOFLEX® AVS
broader pH range
light, fresh, soft
suitable for self-tanning and whitening applications due to improved color stability
ARISTOFLEX® BLV
polymeric emulsifier for low viscosity formulations
suitable for sprayable lotions, high oil load
slightly caring
good for thick formulations with high oil content
ARISTOFLEX® HMB
can be used without additional emulsifiers
suspending agent for particles
slightly caring, rich skin feel
ARISTOFLEX® TAC
suitable for surfactant based systems
suitable for sprayable formulas
smooth, soft
ARISTOFLEX® VELVET
polymeric stabilizer, high compatibility with organic solvents
pre-neutralized
particle stabilization
soft, velvety


Leche
Yogur
oil
Helado



Los dos



(12) **United States Patent**
SaNogueira, Jr. et al.

(10) **Patent No.:** US 6,174,
(45) **Date of Patent:** *Jan.

(54) **SKIN CARE COMPOSITIONS AND METHOD OF IMPROVING SKIN APPEARANCE**

(75) Inventors: **James Pedrosa SaNogueira, Jr.**, Wyoming; **Nancy Coultrip Dawes**, Cincinnati; **Mark Richard Sine**, Morrow, all of OH (US)

(73) Assignee: **The Procter & Gamble Company**, Cincinnati, OH (US)

5,468,471	11/1995	Zecchino et al.	
5,618,522 *	4/1997	Kaleta et al.	
5,643,555	7/1997	Collin et al.	
5,693,329	12/1997	Marchi-Lemann et al.	
5,700,451	12/1997	Yue et al.	

FOREIGN PATENT DOCUMENTS

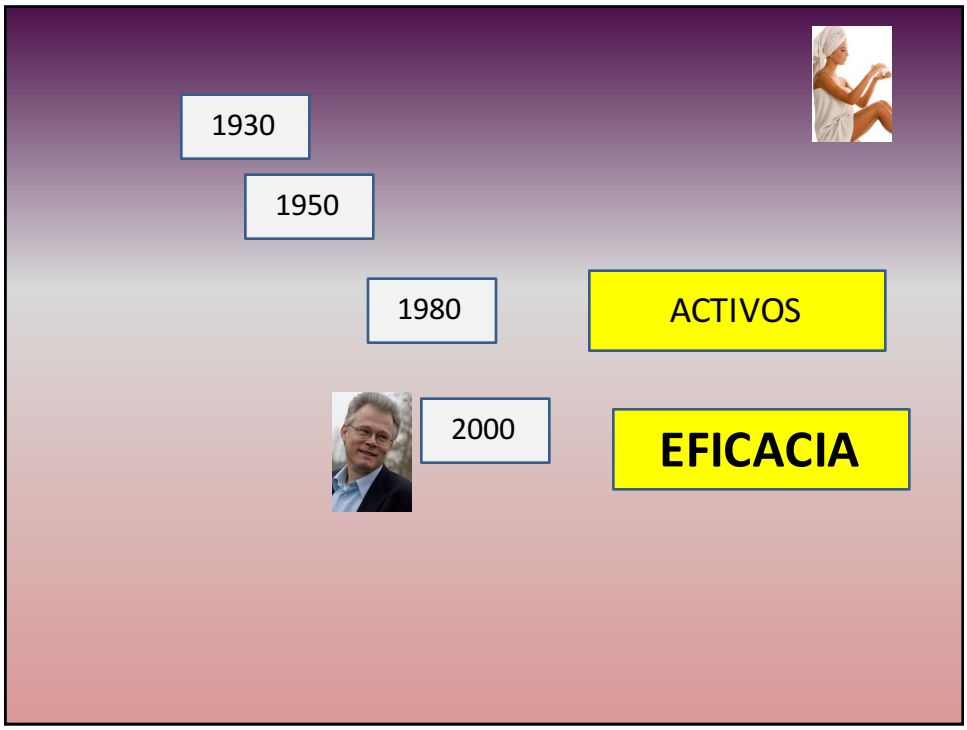
245815 A1	5/1987	(DE)	
0 293 795 A1	12/1988	(EP)	
0 502 769 A1	9/1992	(EP)	
1112103	5/1965	(GB)	
	/1995	(JP)	A61K/7/00
	/1996	(JP)	A61K/7/02
	/1996	(JP)	A61K/7/02
	/1994	(WO)	A61K/7/48
	/1996	(WO)	A61K/7/48

THER PUBLICATIONS

Emolientes
Emulsificantes

Los dos

Agentes Estructurantes
Polimeros


1930
1950
1980
ACTIVOS
2000
EFICACIA


EFICACIA

EFICACIA

4 Ejemplos

Ejemplo # 1

J. Soc. Cosmet. Chem., 47, 97–107 (March/April 1996)

Hace 20 anos…

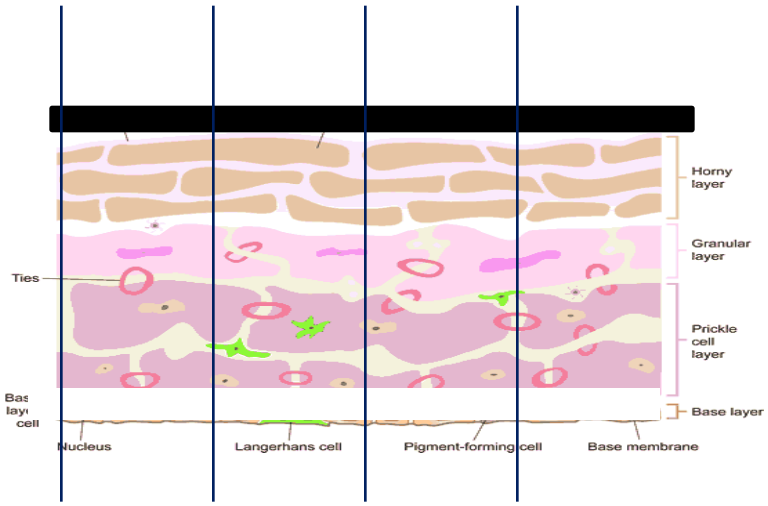
Influence of formulation type on the deposition of glycolic acid and glycerol in hairless mouse skin following topical *in vivo* application

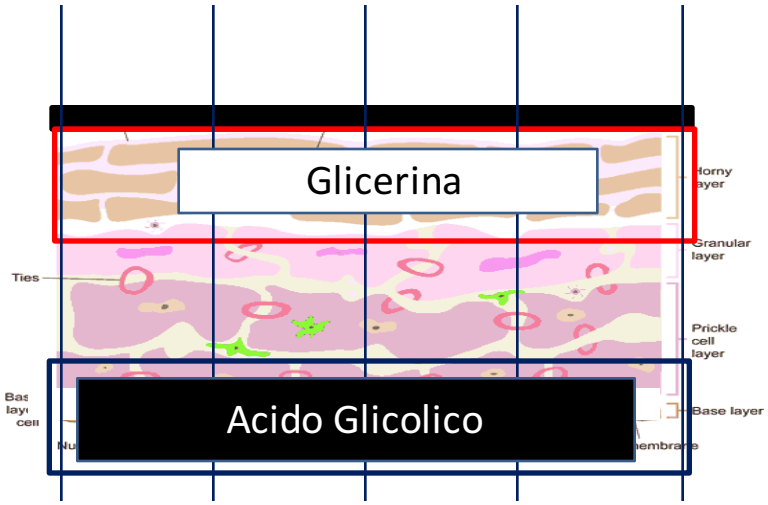
M. OHTA, C. RAMACHANDRAN, and N. D. WEINER,
Cosmetics Laboratory, Kanebo Ltd., Odawara, Kanagawa, Japan (M.O.), and College of Pharmacy, University of Michigan, Ann Arbor, MI 48109-1065 (C.R., N.D.W.).

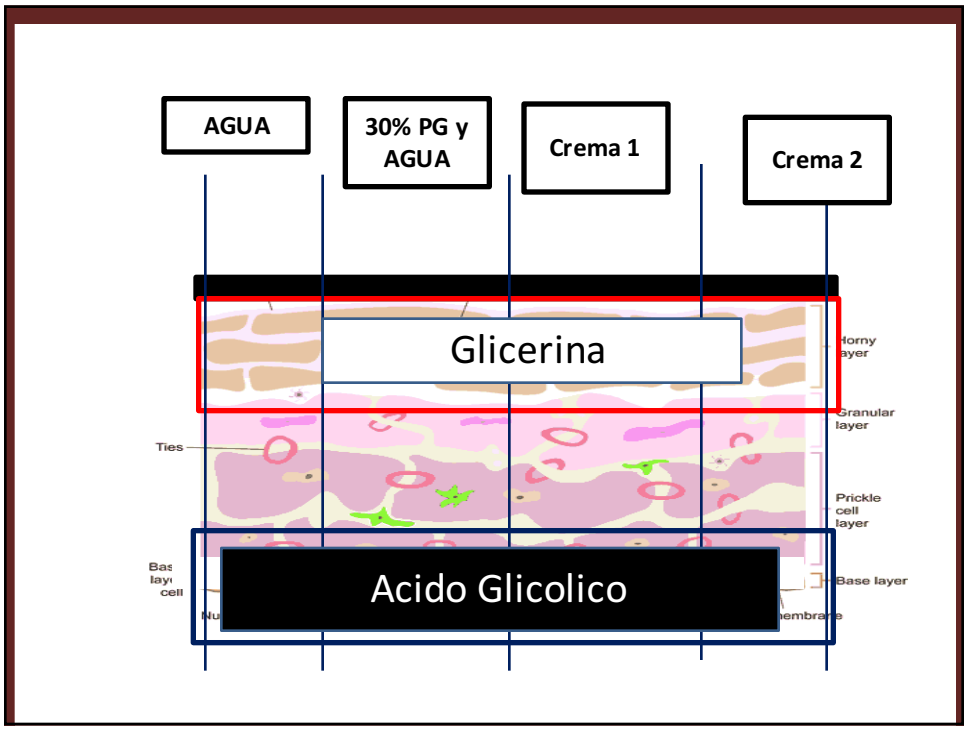
The stratum corneum is the most important barrier to penetration through the skin and also acts as a reservoir for molecules applied to the skin (6). For some cosmetic ingredients such as glycerol, it is more important that they be retained in the stratum corneum in order to maintain skin moisturizing effects than to penetrate into the living strata. On the other hand, it may be necessary to transport compounds such as glycolic acid into the living skin strata in order for them to exert their therapeutic action resulting in improvement of the appearance of the skin.

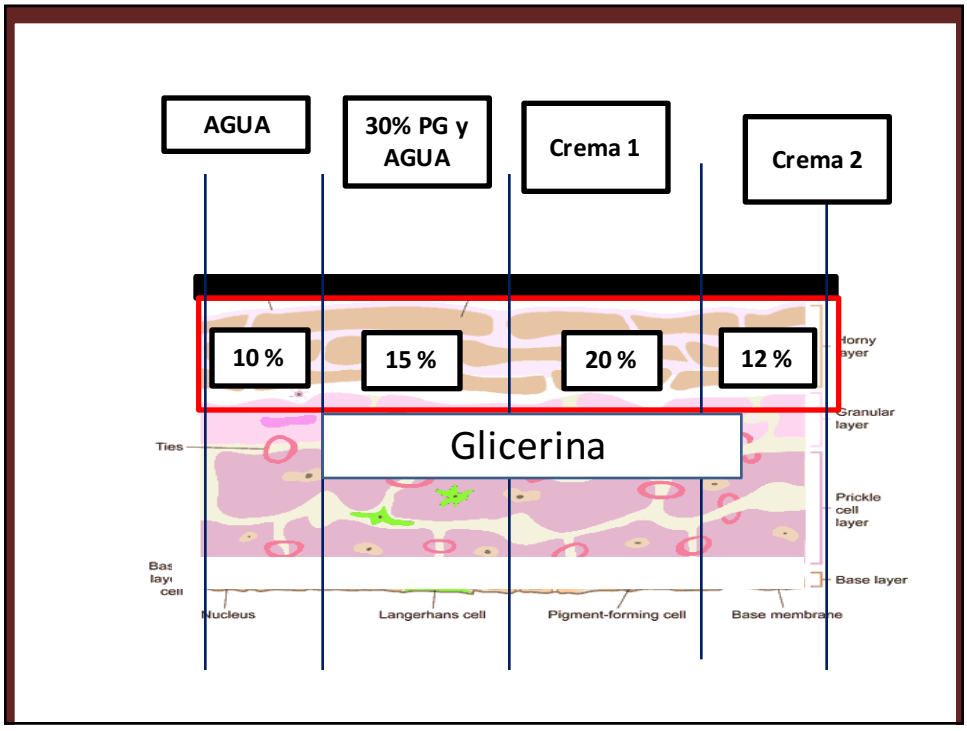
4 Formulas

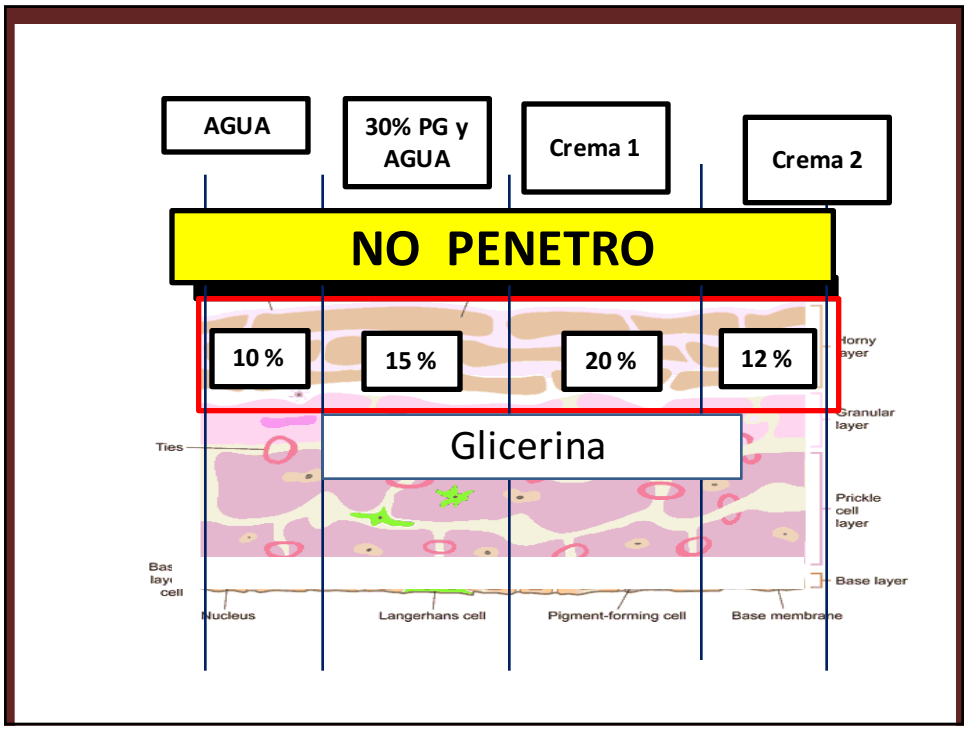
ACTIVOS: 5% Glicerina y Acido Glicolico (solubles en agua)

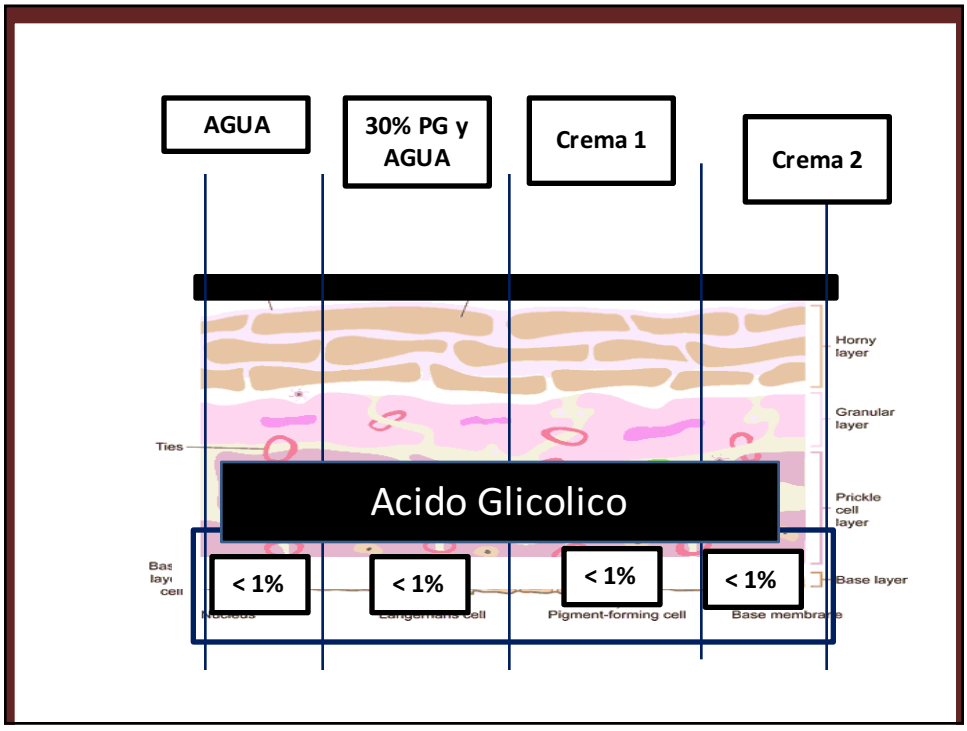





AGUA
30% PG y AGUA
Crema 1
Crema 2
Glicerina
Acido Glicolico
Ties
Granular layer
Prickle cell layer
Base layer


AGUA
30% PG y AGUA
Crema 1
Crema 2
10 %
15 %
20 %
12 %
Glicerina
Ties
Granular layer
Prickle cell layer
Base layer
Nucleus
Langerhans cell
Pigment-forming cell
Base membrane


AGUA
30% PG y AGUA
Crema 1
Crema 2
NO PENETRO
10 %
15 %
20 %
12 %
Glicerina
Horny layer
Granular layer
Ties
Prickle cell layer
Base layer
Nucleus
Langerhans cell
Pigment-forming cell
Base membrane


AGUA
30% PG y AGUA
Crema 1
Crema 2
Horny layer
Granular layer
Ties
Acido Glicolico
Prickle cell layer
< 1%
< 1%
< 1%
< 1%
Base layer
Pigment-forming cell
Base membrane

J. Cosmet. Sci., 52, 225–236 (July/August 2001)

Ejemplo # 2 (2001)

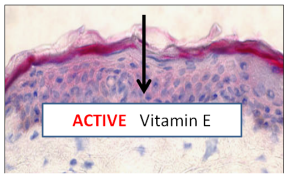
Effect of formulation on the delivery and metabolism of α-tocopheryl acetate

MEERA RANGARAJAN and JOEL L. ZATZ, *Schering Plough Research Institute, Kenilworth, NJ 07033-0530 (M.R.), and Rutgers–The State University of New Jersey, Department of Pharmaceutics, College of Pharmacy, 160 Frelinghuysen Road, Piscat*

ACTIVO ES SOLUBLE EN ACEITE

Accept
were p
Chemists, Toronto, Ontario, May 11–12, 2000.

Vitamin E Acetate must diffuse into skin to become Vitamin E to be effective



5 % Vitamina E Acetato

	Aceite	Crema 1	Crema 2	Sol. Etanolica
	Isp.Myristate	Isp.Myristate PEG-20 Sorb. Laurate Water	Diisopropyl Malleate Mineral Oil Cetyl Phosphate Water	Ethanol Thichener Water
Vitamin E	62%	30%	50 %	30 %

Example 3 (1998)

Difusion de Activo Soluble en Agua
6 Emulsiones, con diferente emulsificante

	1	2	3	4	5	6	Reference
Oily phase							
Caprilic/capric triglycerides	15	15	15	15	15	15	0
Aqueous phase							
Active	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Sodium hydroxide	0.5	0.5	0.5	1.5	0.5	0.5	0
Diazolidilyl ures	0.2	0.2	0.2	0.2	0.2	0.2	0
Water	q.s.p. 100	q.s.p. 100	q.s.p. 100	q.s.p. 100	q.s.p. 100	q.s.p. 100	q.s.p. 100
Surfactants							
Polysorbate 60	3	0	0	0	0	0	0
Steareth-2	0	1.5	0	0	0	0	0
Steareth-21	0	1.5	0	0	0	0	0
Poloxamer 407	0	0	3	0	0	0	0
Sorbitan stearate and sucrose cocoate	0	0	0	3	0	0	0
Acrylates/C_{10-30} alkyl acryalte crosspolymer	0	0	0	0	0.5	0	0
Triethanolamine stearate	0	0	0	0	0	3	0

PERCUTANEOUS DIFFUSION OF A HYDROPHILIC SUNSCREEN 9

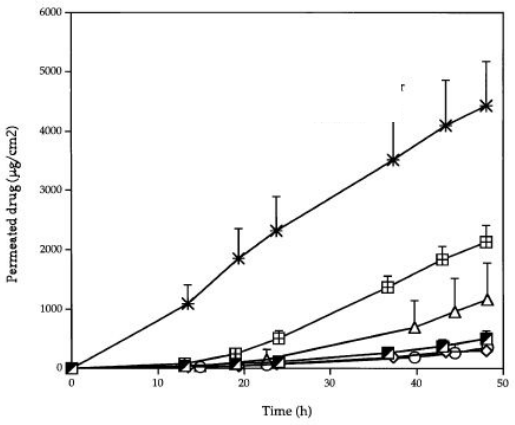


Figure 4. Transcutaneous permeation profiles of benzophenone-4 from the six emulsions and from the reference.

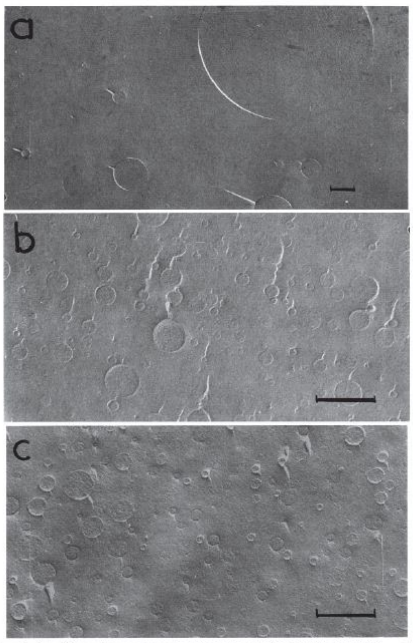


Figure 2. Freeze-fracture electron micrographs of the simple emulsions containing acrylates/C_{10-30} alkyl acrylate crosspolymer (a), polysorbate 60 (b), and poloxamer 407 (c). The scale bar indicates 0.5 μm.

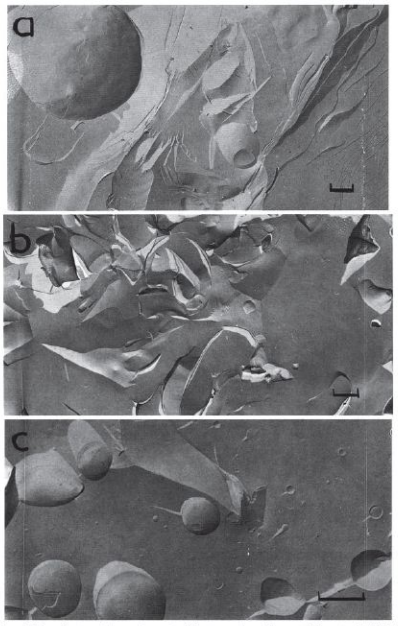


Figure 3. Freeze-fracture electron micrographs of the structured emulsions containing steareth-2/-21 (a), sorbitan stearate and sucrose cocoate (b), and triethanolamine stearate (c). The scale bar indicates 1 μm.

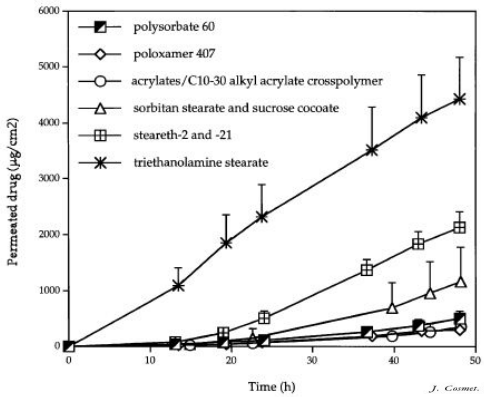


Figure 4. Transcutaneous permeation profiles of benzophenone-4 from the six emulsi reference.

J. Cosmet. Sci., 49, 1–11 (January/February 1998)

Influence of lamellar liquid crystal structure on percutaneous diffusion of a hydrophilic tracer from emulsions

LAURE BRINON, SANDRINE GEIGER, VALERIE ALARD, JEAN-FRANÇOIS TRANCHANT, THIERRY POUGET, and GUY COUARRAZE, *Laboratoire de Physique Pharmaceutique, URA CNRS 1218, Université Paris-Sud, 92290 Châtenay-Malabry, France (L.B., S.G., G.C.), and Laboratoire de Recherche Christian-Dior, 45804 St. Jean de Braye, France (L.B., V.A., J.-F.T., T.P.).*

Accepted for publication February 10, 1998.

Emulsiones
(Cremas y Lociones)

Beloved Cosmetic Industry Member
Johann Wiechers Passes Away
Posted: November 7, 2011

Emulsiones
(Cremas y Lociones)

ACTIVO ES SOLUBLE EN ACEITE
Quitar Manchas en la PIEL

Wiecher emulsion

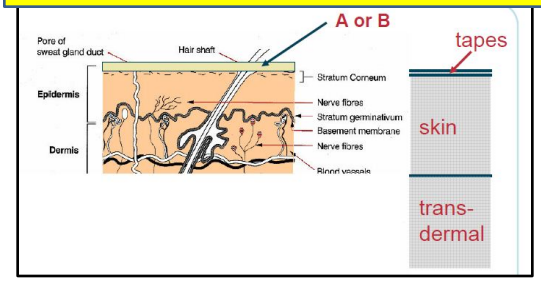
Active (Dioc Acid)	2
PG Isostearate	15
Triethylhexanion	3
Steareth - 2	1
Steareth - 21	5
Glycerin	4
Water	

Control emulsion

Log P : 16

Active (Dioc Acid)	2
Capr. Triglycerides	13
Steareth - 2	1
Steareth – 21	5
Glycerin	4
Water	

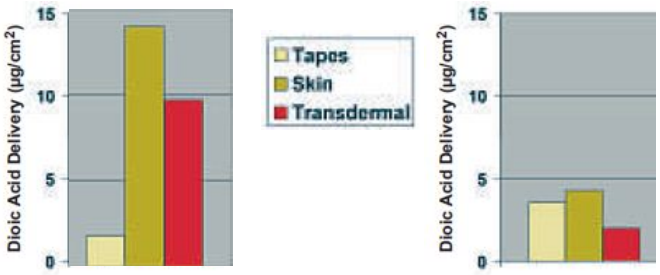
Formulations applied on Pig Skin
Active diffusion analyzed after 24 hr



Wiecher emulsion

Active (Dioc Acid)	2
PG Isostearate	15
Triethylhexanion	3
Steareth - 2	1
Steareth - 21	5
Glycerin	4
Water	

Active (Dioc Acid)	2
Capr. Triglycerides	13
Steareth - 2	1
Steareth – 21	5
Glycerin	4
Water	



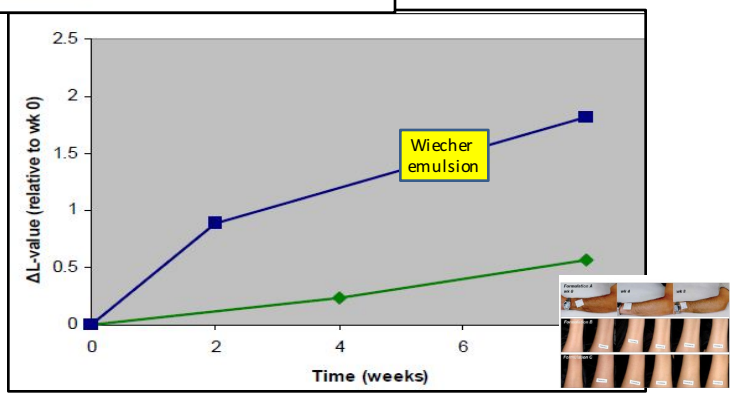
IFSCC

Clinical Proof for Validity of the »Formulating for Efficacy« Concept: Enhanced Skin Delivery Results in Enhanced Skin Efficacy and Both Can Be Predicted

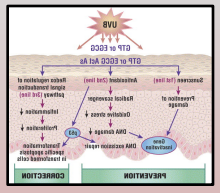
Johann W. Wiechers
JW Solutions, Gouda, The Netherlands

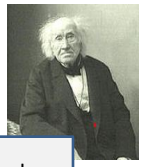
2011

Correlates skin diffusion with actual performance in-vivo

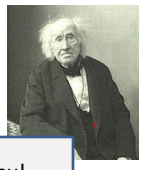


2017





M. Chevreul
1823-1913



M. Chevreul
1823-1913

Hasta 1920

Solo habia jabon

1920- 1950

1920- 1950

Crearon….

- nuevas materias primas

  tensoactivos, emolientes, emulsionantes

- la industria cosmetica moderna

1950 - 1980

1950 - 1980

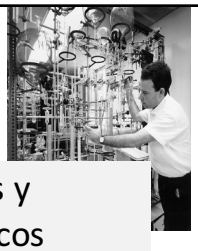
- Hicieron posible la manufactura de las materias primas a gran escala, gran calidad y bajo costo

1950 - 1980

- Hicieron posible la manufactura de las materias primas a gran escala, gran calidad y bajo costo
- Crearon las dos industrias cosmeticas: materias primas y productos al consumidor

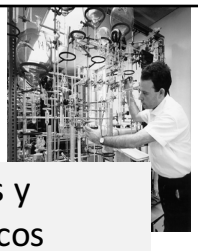
1980 - 2010

1980 - 2010



- Refinado y extension de materias primas y explosion de nuevos productos cosmeticos

1980 - 2010



- Refinado y extension de materias primas y explosion de nuevos productos cosmeticos

- Grandes progresos en bioquimica de la piel , ingredientes activos y ciencia de tensoactivos

2010 - 2040

2010 - 2040

Industria madura

2010 - 2040

Industria madura

Productos tipo “moda”

2010 - 2040

Industria madura

Productos tipo “moda”

La bendicion / maldicion de la internet

1920 - 1950

1950 - 1980

1980 - 2010

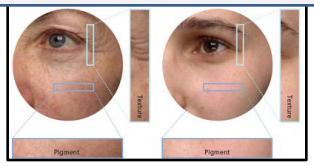
CONOCIMIENTO

1920 - 1950

1950 - 1980

1980 - 2010

CONOCIMIENTO

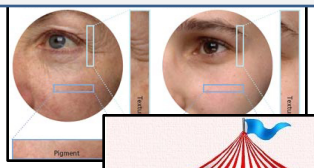


1920 - 1950

1950 - 1980

1980 - 2010

CONOCIMIENTO



Antoine Lavoisier (1743 -1794)

Padre de la Quimica Moderna