

From Skin to Hair:

Objectivated Efficacy of Phytosqualan Olive in Haircare

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Skinification and market context

2

Introducing Phytosqualan Olive

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Methodology and Ex vivo tests



Agenda

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Technical results and interpretation

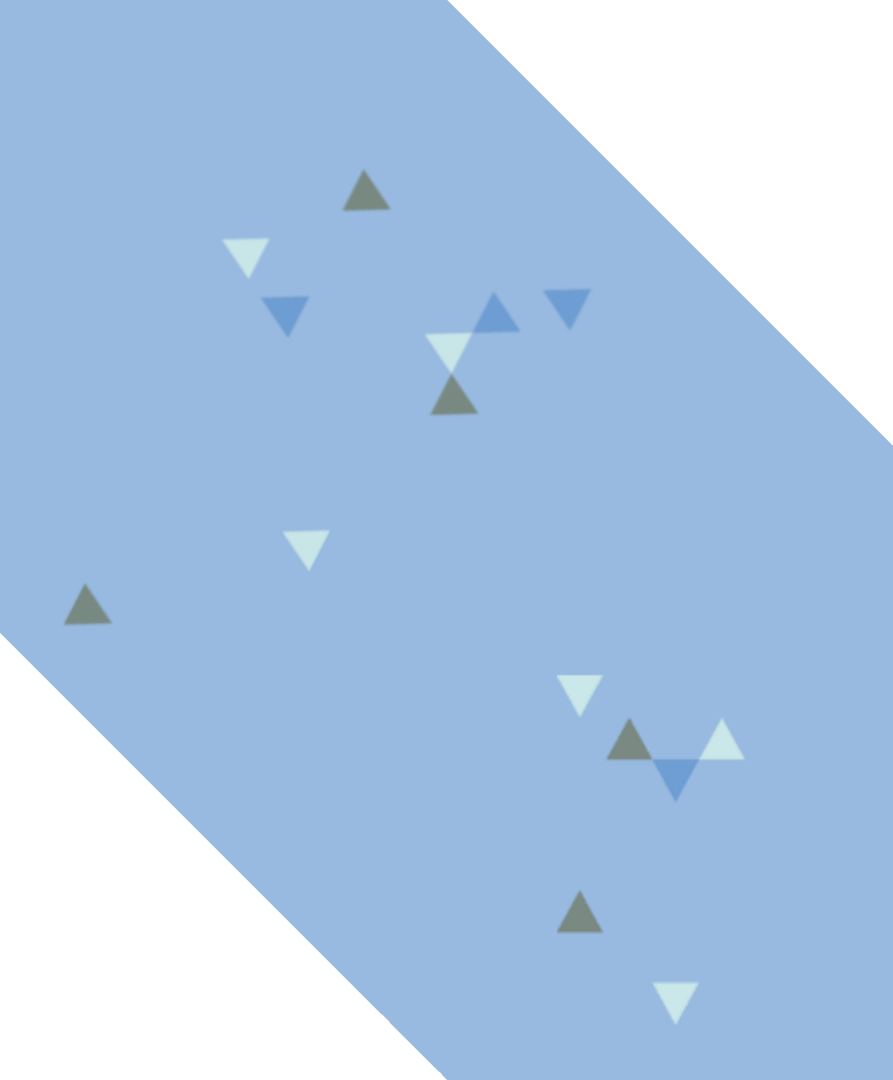
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Why it matters?

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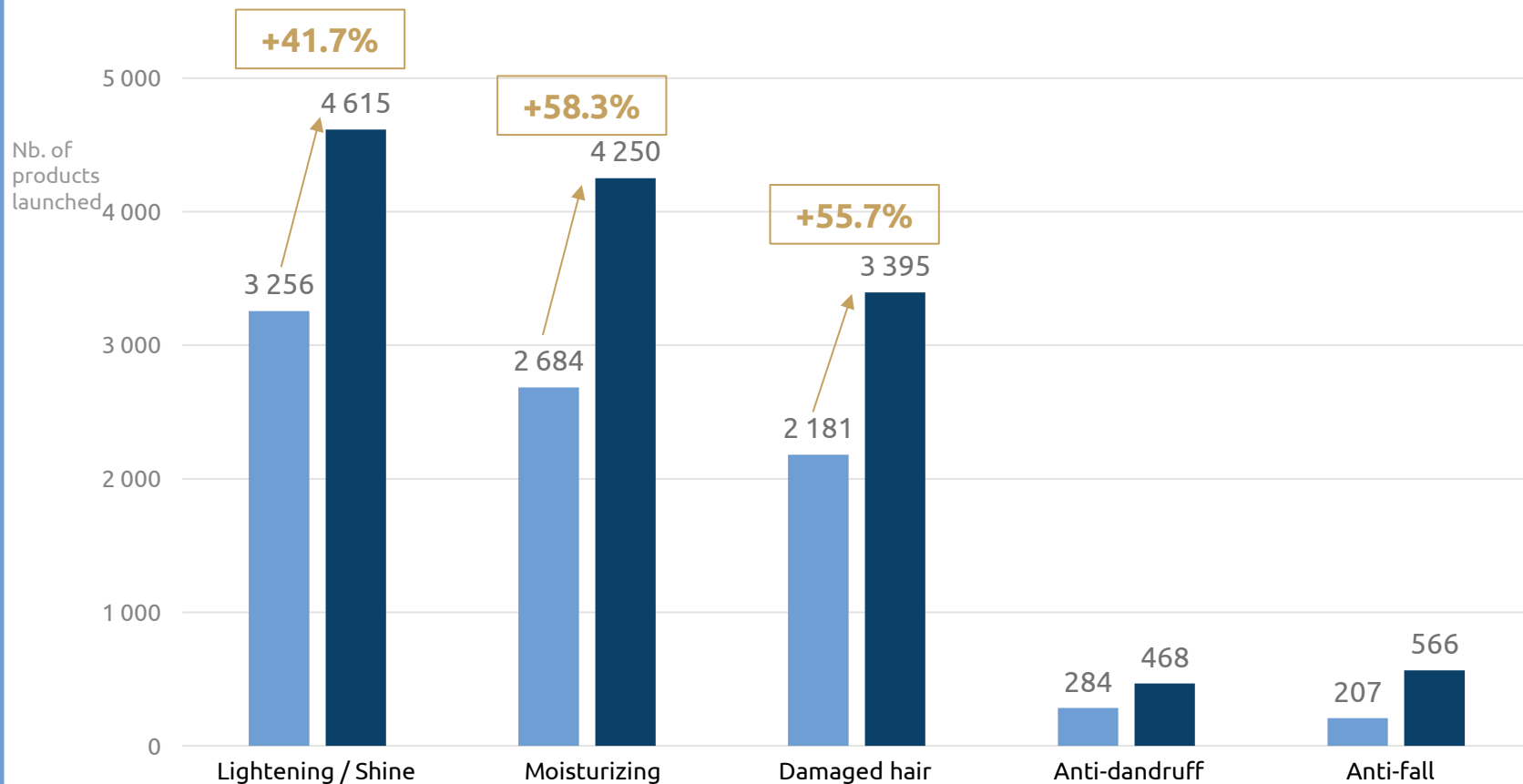
Conclusion



A large blue triangle on the left side of the slide, containing several smaller triangles in various shades of blue and green, some pointing up and some pointing down.

1. Skinification and market context

● What's driving innovation in haircare?



Source: GNPD MINTEL – Top 5 Hair claims « beauty enhancing » - Number of products launched - Category Hair Conditioning - 2019 - 2024

● The Skinification trend

SKINIFICATION = treating the hair with the same care as our skin

The principal aim is to create more targeted, effective and sensorially rich routines

Consumer expectations on skincare

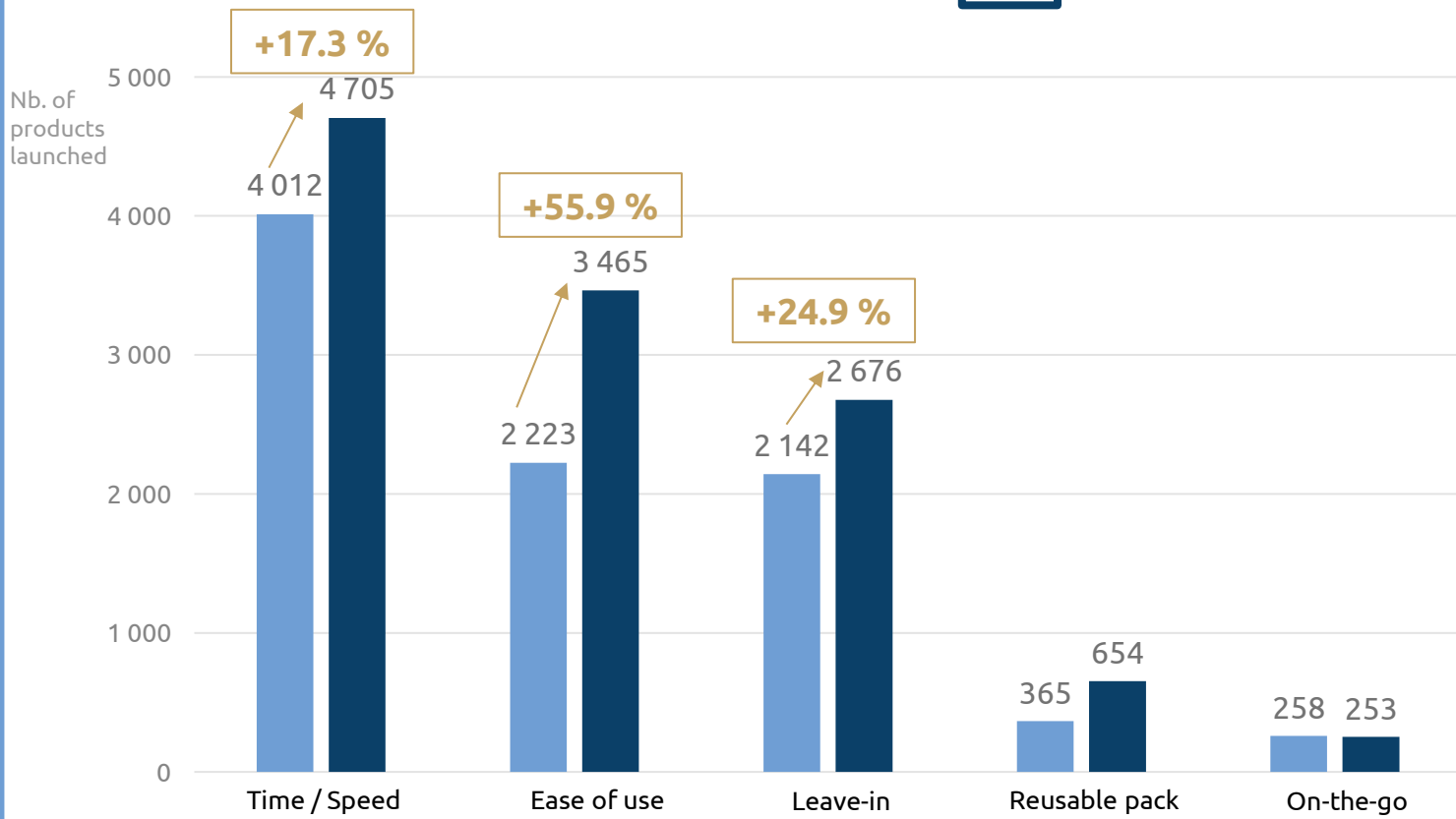
Sensoriality

**Visible
efficacy**

**Safe and proven
ingredients**

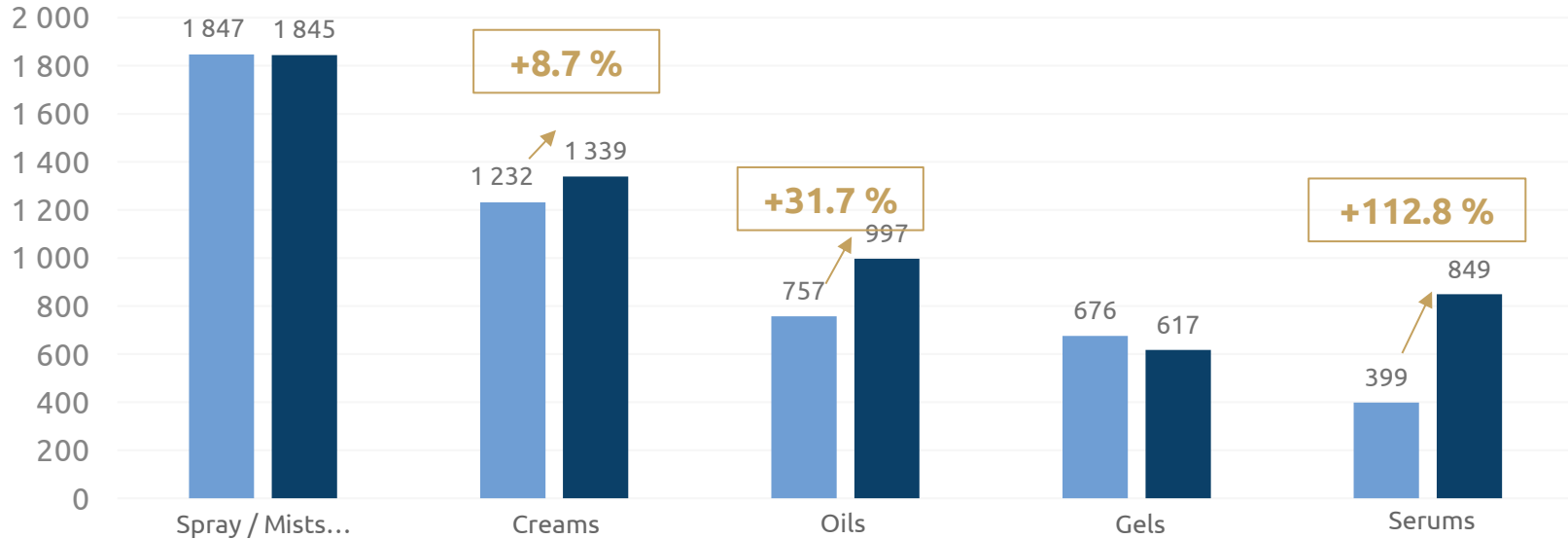
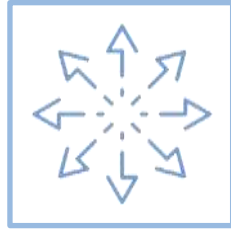


What do customers need today?

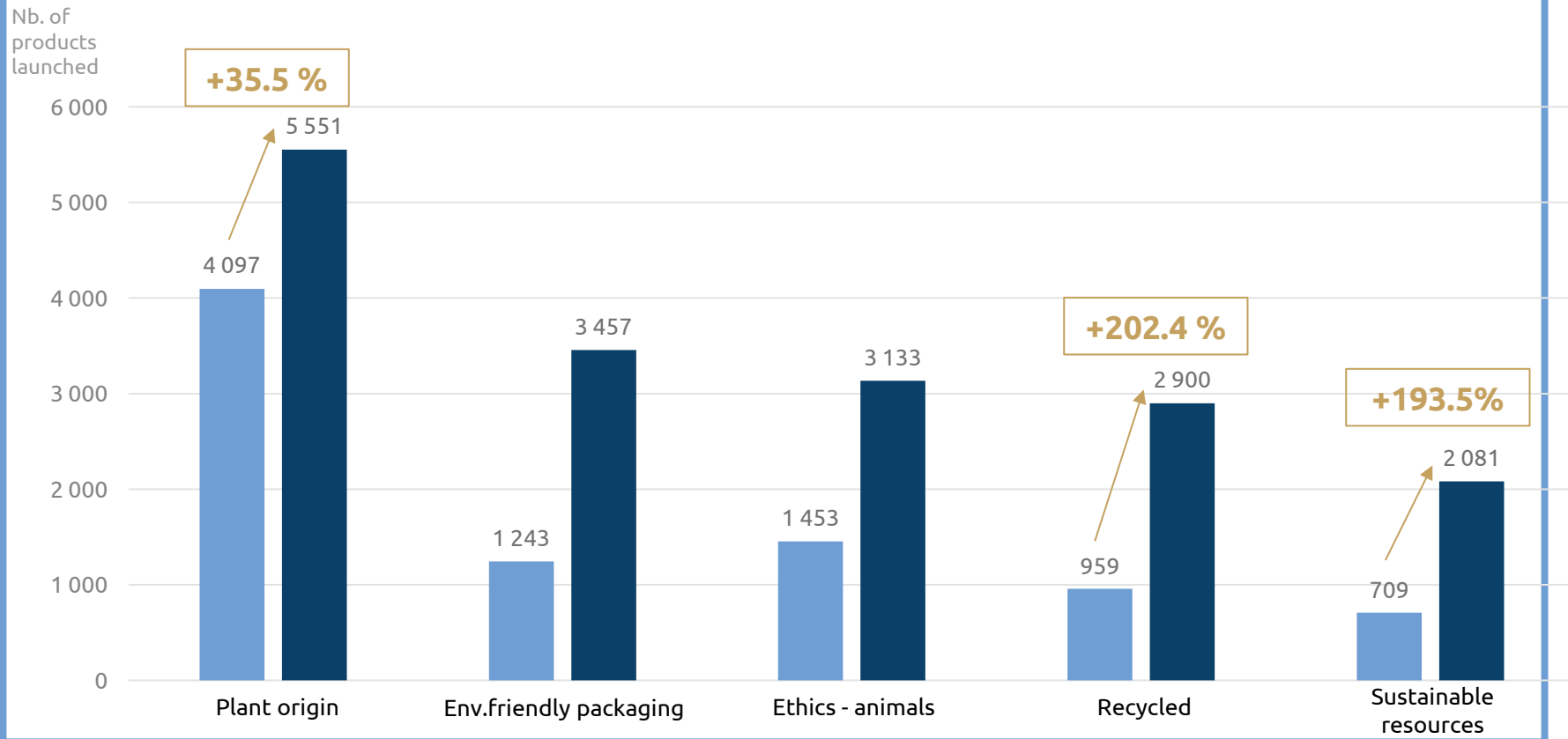


Source : GNPD MINTEL – Top 5 convenience hair claims - Number of products launched - Category Hair Conditioning - 2019 - 2024

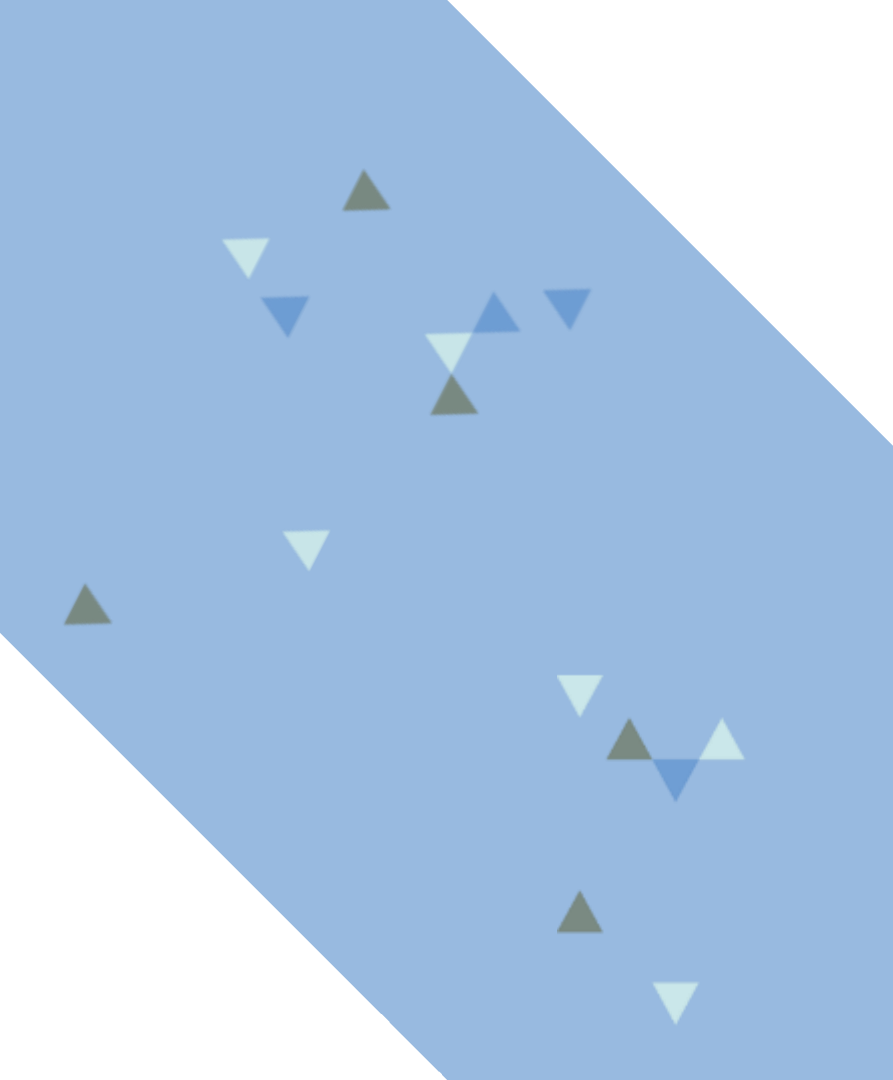
● What do formulators need today?



● At the heart of formulations : Naturalness



Source : GNPD MINTEL – Top 5 Hair claims « Natural» & « Ethical/environmental » - Number of products launched - Category Hair Conditioning - 2019 - 2024



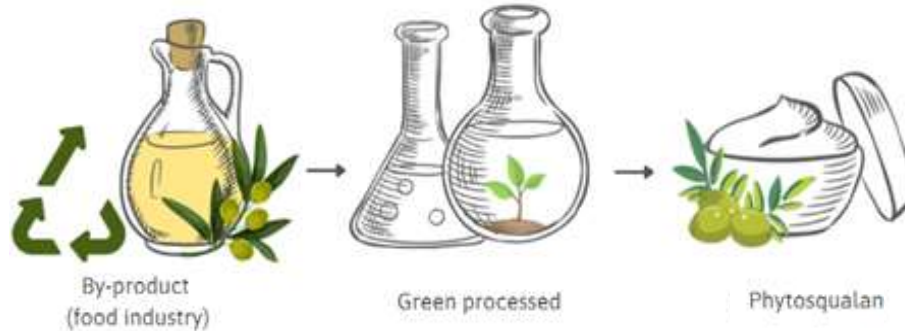
2. Introducing Phytosqualan Olive

an ingredient that ticks all the boxes

● What is Phytosqualan?

Produced from upcycling

Phytosqualan is a natural olive squalane produced from distillates of olive oil production. SOPHIM enhances this by-products by extracting the squalene and hydrogenating it into high-quality squalane.



UPCYCLED



PROXIMITY TO OUR
RAW MATERIAL



LOW WATER USAGE

● What is Phytosqualan?

Process

Step 1: Esterification-Distillation

Step 2: Saponification

Step 3: Hydrogenation

Step 4 & 5: Purification

Phytosqualan is COSMOS and NATRUE approved



**COSMOS
APPROVED**



NATRUE Approved



WASTE
PREVENTION



ATOM
ECONOMY



LESS HAZARDOUS
SYNTHESES



DESIGNING SAFER
CHEMICALS



SAFER SOLVENTS
& AUXILIARIES



DESIGN FOR
ENERGY EFFICIENCY



CATALYSIS



REDUCE
DERIVATIVES



USE OF RENEWABLE
FEEDSTOCKS



DESIGN FOR
DEGRADATION



REAL-TIME
POLLUTION PREVENTION



SAFER CHEMISTRY FOR
ACCIDENT PREVENTION

Phytosqualan

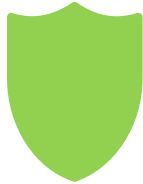
A unique lightweight
& dry touch



● Skincare proven benefits

Phytosqualan's efficiency

TEWL



Phytosqualan promotes a faster restoration of the skin barrier function

MOISTURIZING



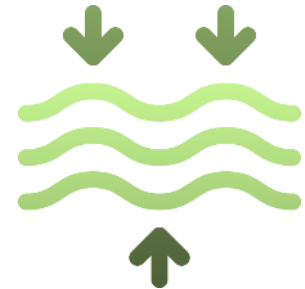
After 28 days the use of Phytosqualan improves skin moisturizing by 14,7 %

FIRMNESS



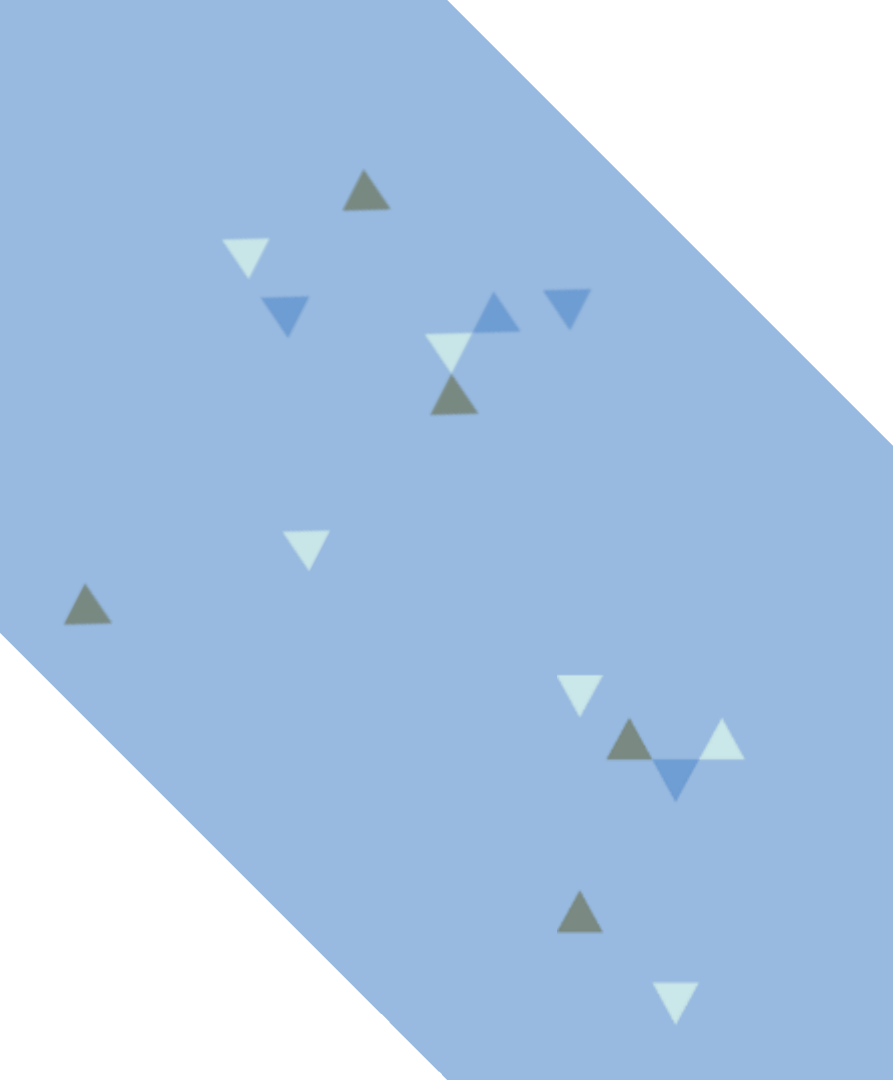
After 28 days the use of Phytosqualan improves skin firmness by 4,9 %

ELASTICITY



After 28 days the use of Phytosqualan improves skin elasticity by 3,9 %

Can these effects be applied to the hair fiber?



3. Hair testing : Methodology and Tests

Methodology and Ex vivo tests

● Study design

Type of study:

Ex vivo tests on standardized hair strands

Type of formula:

Rinse-off conditioner

Protocol:

Shampoo – Drying – Treatment (conditioning) – Drying for 24 hours – Measurements

3 formulas

Formula A
1% Phytosqualan

Formula B
2% Phytosqualan

Placebo

● Why these 3 indicators?

Gloss



Surface uniformity

Combability

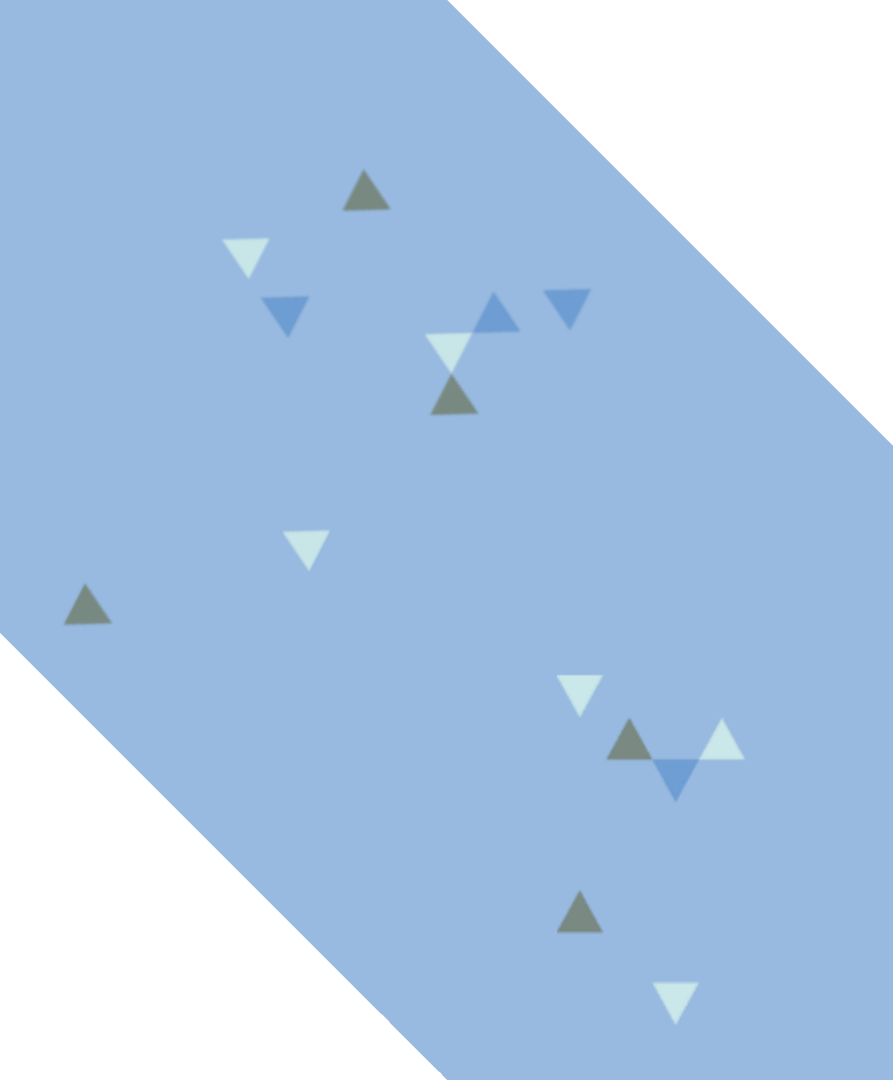


Friction / cuticle cohesion

Frizz



**Response to humidity /
fiber structure**

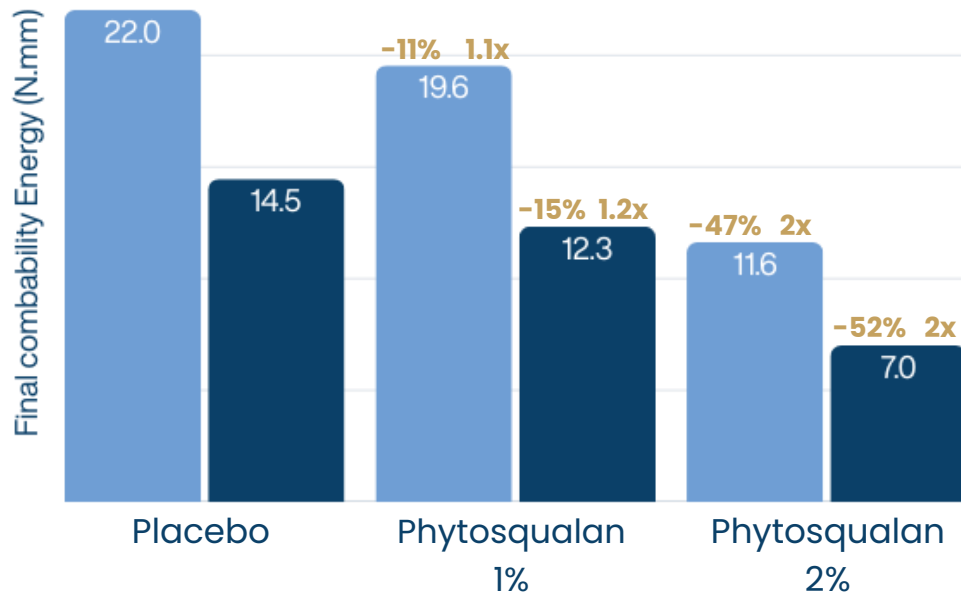


4. Technical results and interpretation

Evaluating the Haircare Performance of
Phytosqualan Olive Across Key Indicators

Hair combability

Protocol: Five double-bleached Caucasian hair tresses are pre-cleaned with shampoo, measured wet, then dried for 24h before initial dry measurements. Conditioner treatments (Placebo, Phytosqualan 1%, Phytosqualan 2%) are applied, followed by final wet measurements, 24h drying, and final dry measurements.



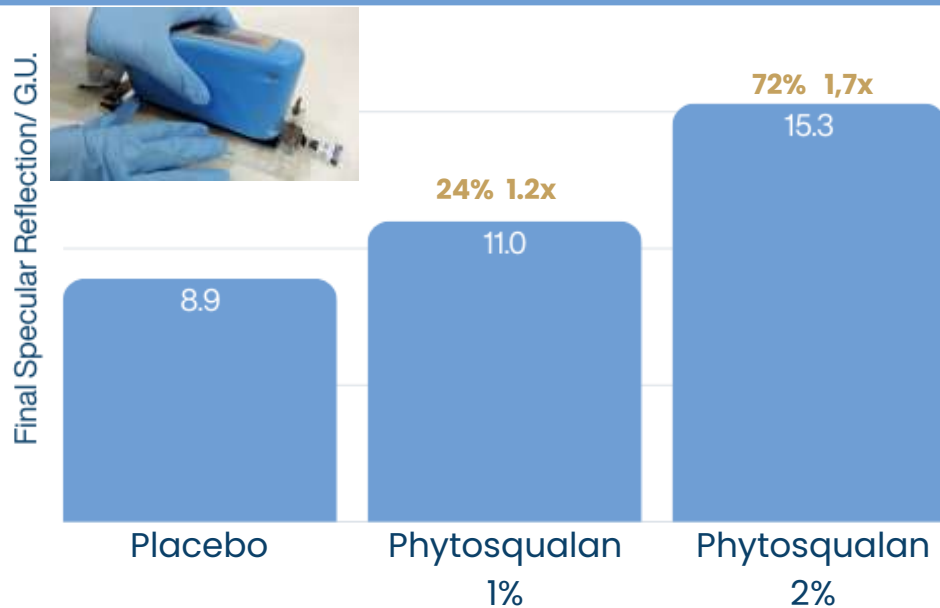
Instron 23-2S test device with comb holder

- Wet combability
- Dry combability
- % or number of times it is easier to comb hair

ALL STATISTICAL RESULTS WERE FOUND TO BE SIGNIFICANT

3. Hair gloss

Protocol: Five natural Caucasian hair tresses are pre-cleaned with shampoo, dried for 24h, and undergo initial gloss measurements. Conditioner treatments (Placebo, Phytosqualan 1%, Phytosqualan 2%) are applied, followed by another 24h drying and final gloss measurements.



● % or number of times of gloss increase



ALL STATISTICAL RESULTS WERE FOUND TO BE SIGNIFICANT

● Frizz control

- Assessment of frizz reduction at 85% RH (relative humidity)
- Images are converted to grayscale. Frizz is determined as the % area of black pixels (rebellious hairs)



Ex. of images converted to black & white binary mode

Results

With **1% Phytosqualan**:

- Reduces frizz up to **60%** in high humidity for Hair type II
 - Reduces frizz up to **55%** in high humidity for Hair type IV
- vs control group at 85% humidity*

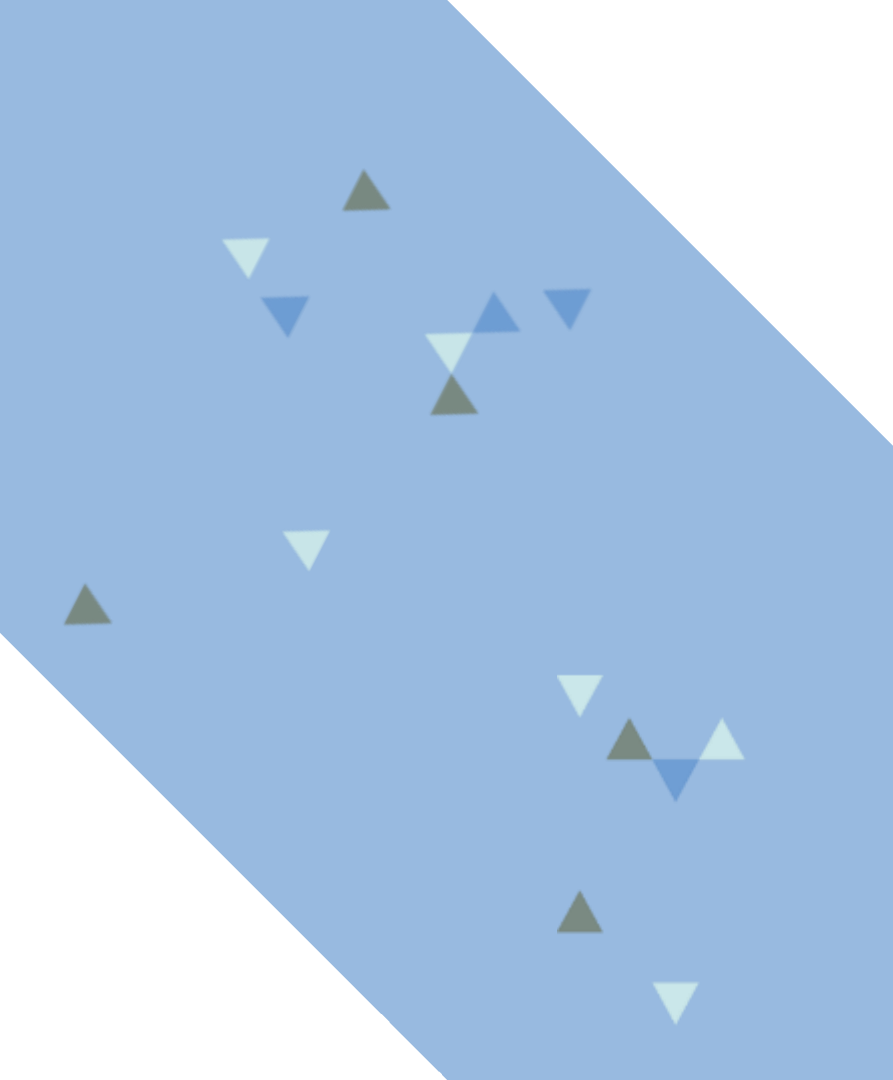
With **2% Phytosqualan**:

- Reduces frizz up to **61% %** in high humidity for Hair type II
 - Reduces frizz up to **65%** in high humidity for Hair type IV
- vs control group at 85% humidity*

Visual summary of results

	Control of the frizz effect		Hair combability		Hair gloss
	Hair Type II	Hair Type IV	Wet hair	Dry hair	
1% Phytosqualan	-60%	-55%	-11%	-15%	+24%
2% Phytosqualan	-61%	-65%	-47%	-52%	+72%
	Reduction of Frizz, vs control group at 85% humidity		Combability energy needed, vs placebo		vs placebo

ALL STATISTICAL RESULTS WERE FOUND TO BE SIGNIFICANT



5. Why it matters?

● Haircare meets skincare science



Validated science for premium care

In the premium haircare segment, objective tests are now essential to demonstrate product superiority and justify added value.

Rising demand for efficacy data

Consumers and brands expect measurable results to back up claims, moving from “nice to have” to “must have.”



Performance as a storytelling driver

Scientific data reinforces storytelling: credibility builds trust, and trust drives desirability.

● What makes Phytosqualan olive unique



Natural, proven & multifunctional

An olive-based ingredient with proven efficacy across multiple benefits, from hydration to frizz control.



Compatible with all galenic forms

Easily integrates into serums, mists, balms, creams or oils, ensuring formulation flexibility.



Perfect fit for clean & performance beauty

Aligns with clean beauty standards while supporting high-impact marketing claims based on efficacy and safety.

● Conclusion – The future of haircare



Skinification: a new haircare area

Skincare-inspired routines are shaping premium haircare, where science meets sensoriality.



Phytosqualan olive : modern expectations, one solution

A technical and sensory ingredient (olive-based, multifunctional) answering consumer and brand needs.



Objectivation = trust through evidence

Proven results transform marketing stories into tangible claims.



Thank you!

Any inquiries?

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Formulations

Formula A – 1% Phytosqualan

Phase	INCI	%
A	Aqua	qsp
	Disodium EDTA	0.10
	Propanediol	2.00
B	Cetrimonium Chloride	3.00
	Isopropyl myristate	2.50
	Cetearyl Alcohol	6.00
C	Phytosqualan	1.00
	Phenoxyethanol/ Ethylhexylglycerin	0.60

Formula B – 2% Phytosqualan

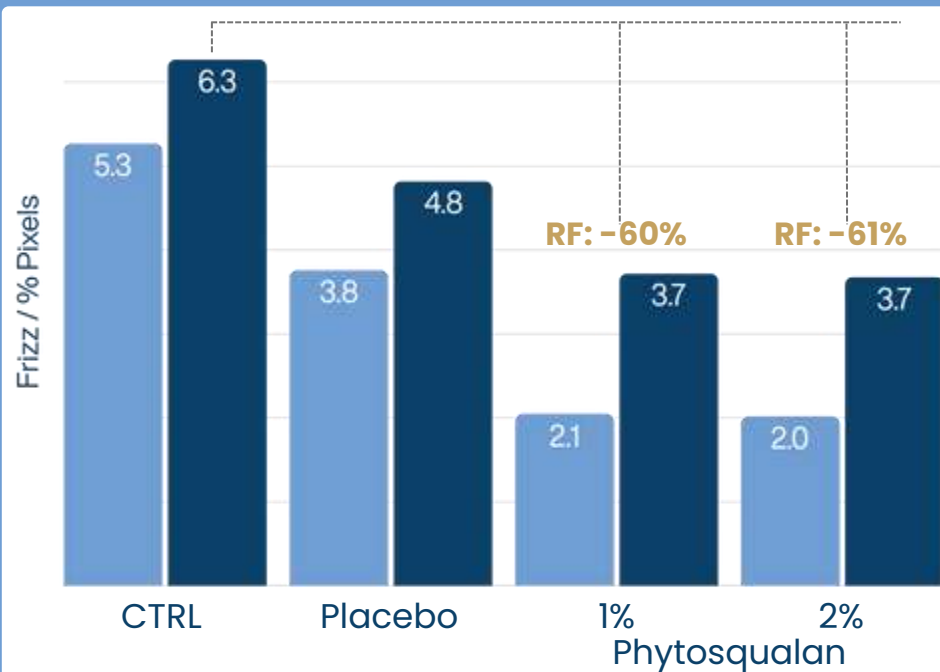
Phase	INCI	%
A	Aqua	qsp
	Disodium EDTA	0.10
	Propanediol	2.00
B	Cetrimonium Chloride	3.00
	Isopropyl myristate	2.50
	Cetearyl Alcohol	6.00
C	Phytosqualan	2.00
	Phenoxyethanol/ Ethylhexylglycerin	0.60

Placebo

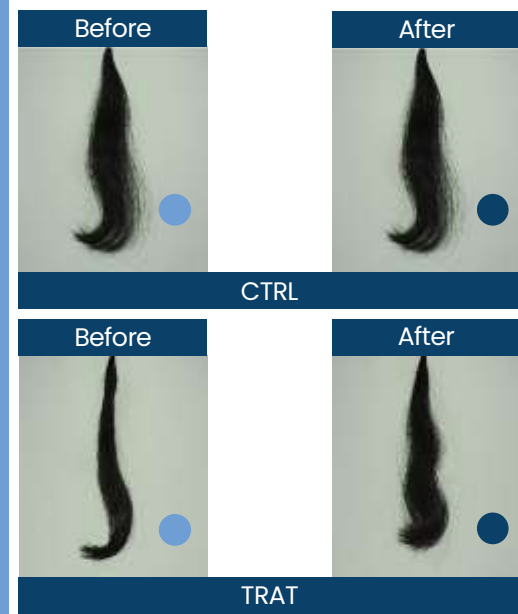
Phase	INCI	%
A	Aqua	qsp
	Disodium EDTA	0.10
	Propanediol	2.00
B	Cetrimonium Chloride	3.00
	Isopropyl myristate	2.50
	Cetearyl Alcohol	6.00
C	Phenoxyethanol/ Ethylhexylglycerin	0.60

1. Control of the frizz effect - Hair Type II

Protocol: Twenty Caucasian hair tresses (Type II) are pre-cleaned with shampoo and dried for 24h before treatment application (Placebo, Phytosqualan 1%, Phytosqualan 2%), followed by another 24h drying. Initial images are taken, tresses are kept in high humidity for 24h, and final images are captured.



Results for 2% Phytosqualan - Type II



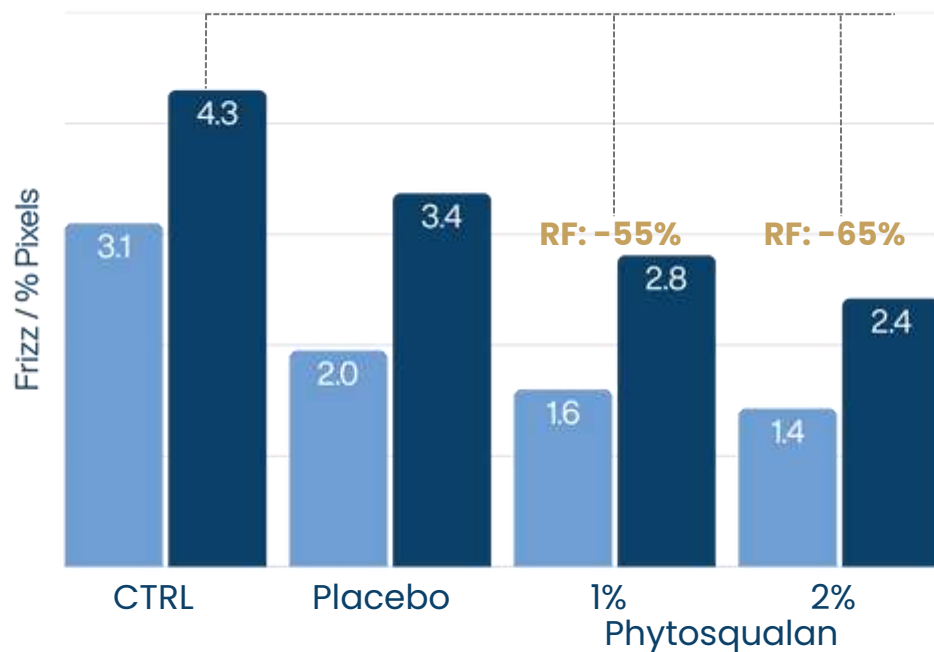
● Before high humidity exposure ● After 24h high humidity exposure

● Reduction of Frizz: $RF = 100 * (Frizz\ Final\ TRT - Frizz\ Final\ CTRL) / (Frizz\ Init\ TRT - Frizz\ Final\ CTRL)$

ALL STATISTICAL RESULTS WERE FOUND TO BE SIGNIFICANT

1. Control of the frizz effect - Hair Type IV

Protocol: Twenty Caucasian hair tresses (Type IV) are pre-cleaned with shampoo and dried for 24h before treatment application (Placebo, Phytosqualan 1%, Phytosqualan 2%), followed by another 24h drying. Initial images are taken, tresses are kept in high humidity for 24h, and final images are captured.



Results for 2% Phytosqualan - Type IV



- Before high humidity exposure
- After 24h high humidity exposure
- Reduction of Frizz: $RF = 100 * (Frizz\ Final\ TRT - Frizz\ Final\ CTRL) / (Frizz\ Init\ TRT - Frizz\ Final\ CTRL)$

ALL STATISTICAL RESULTS WERE FOUND TO BE SIGNIFICANT