



**ProShine**  
Intense shine  
and color  
enhancement



**CHEMYUNION**

Inspiring Innovation

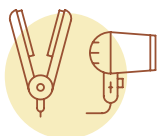
## ProShine

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100% plant-based esters, with a high-refractive index, which activate the intense shine of the hair when interacting with hair fiber proteins. Active, designed within the main guidelines of Green Chemistry, ensures high shine performance and color enhancement in natural, bleached or dyed hair.

## Factors that can cause a reduction in shine

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### Heat treatments

- Hair straightener
- Blow dryer



### Chemical treatments

- Lightening process
- Straightening process
- Perm



### Excessive exposure to UV radiation



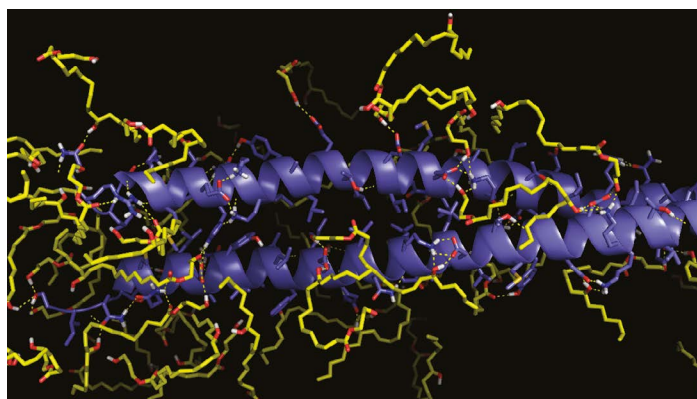
### Physical stress caused by rough combing/brushing

## How ProShine works

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**ProShine** interacts with the main keratin structures of the hair fiber, forming a uniform molecular coating with a high-refractive index – a key property for intense shine.

The intermolecular interaction between the hydroxyl group of the **ProShine** esters and the amino acids present on hair (tyrosine, arginine, lysine and aspartic acid), can be confirmed by *in silico* modulation.



Molecular dynamics (*in silico*) of the keratin-**ProShines** interaction.

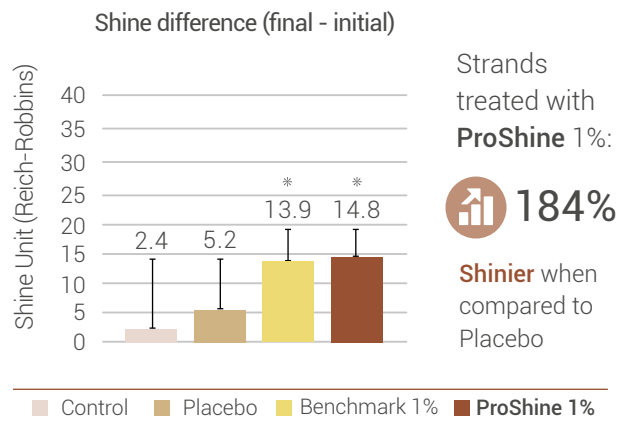
# Efficiency

## 1. Shine assessment with application of pure ProShine in a finisher product:



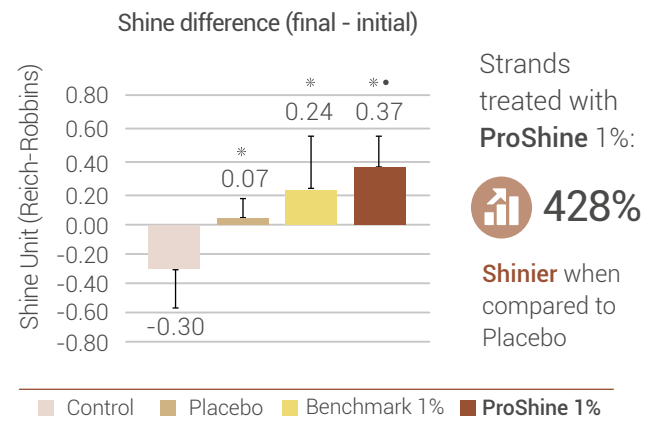
## 2. Shine assessment with ProShine at 1% in conditioner:

### In virgin hair strands



\* Significant increase compared to Control (P<0.001), Placebo (P<0.01) and Benchmark (P<0.05).

### In bleached hair strands



\* Significant increase compared to the Control group (P<0.05). Significant increase compared to the Placebo group (P<0.01).

## Benefits

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- **High-shine performance**
  - 127% more shine for bleached hair, 42% for dyed hair and 19% for natural hair
  - 428% more shine compared to placebo for bleached hair and 184% more shine compared to placebo for virgin hair
- **Enhances natural color of dyed hair**
- **Environmentally friendly:**
  - Follows the main principles of Green Chemistry
  - 100% biodegradable
  - 100% plant-based origin

## Application

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Shampoos, conditioners, hair masks, leave-ins, combing creams and finishing products.

## Stability and Compatibility

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Stable and compatible with anionic, cationic and non-ionic bases  
Soluble in oil and in low HLB surfactants.

## Concentration of Use

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Shampoo 0.5-1.0%

Conditioners, hair masks, leave-ins, combing creams and finishing products from 1.0%

## INCI

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Castor Oil Propanediol Esters