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THE ACTIVE INGREDIENTS REVOLUTION: HOW ARTIFICIAL INTELLIGENCE IS SHAPING THE FUTURE OF COSMETICS

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ABOUT ME

Dr. Hilla Ben-Hamo Arbel

CEO & CO-FOUNDER @MENOW

- 10+ Years of Experience in Business Development & Sales in AI-Based Startups
- Signed sales agreements in 17 countries, including top-tier companies
- PhD in Biotechnology Engineering – Bridging Science and Innovation

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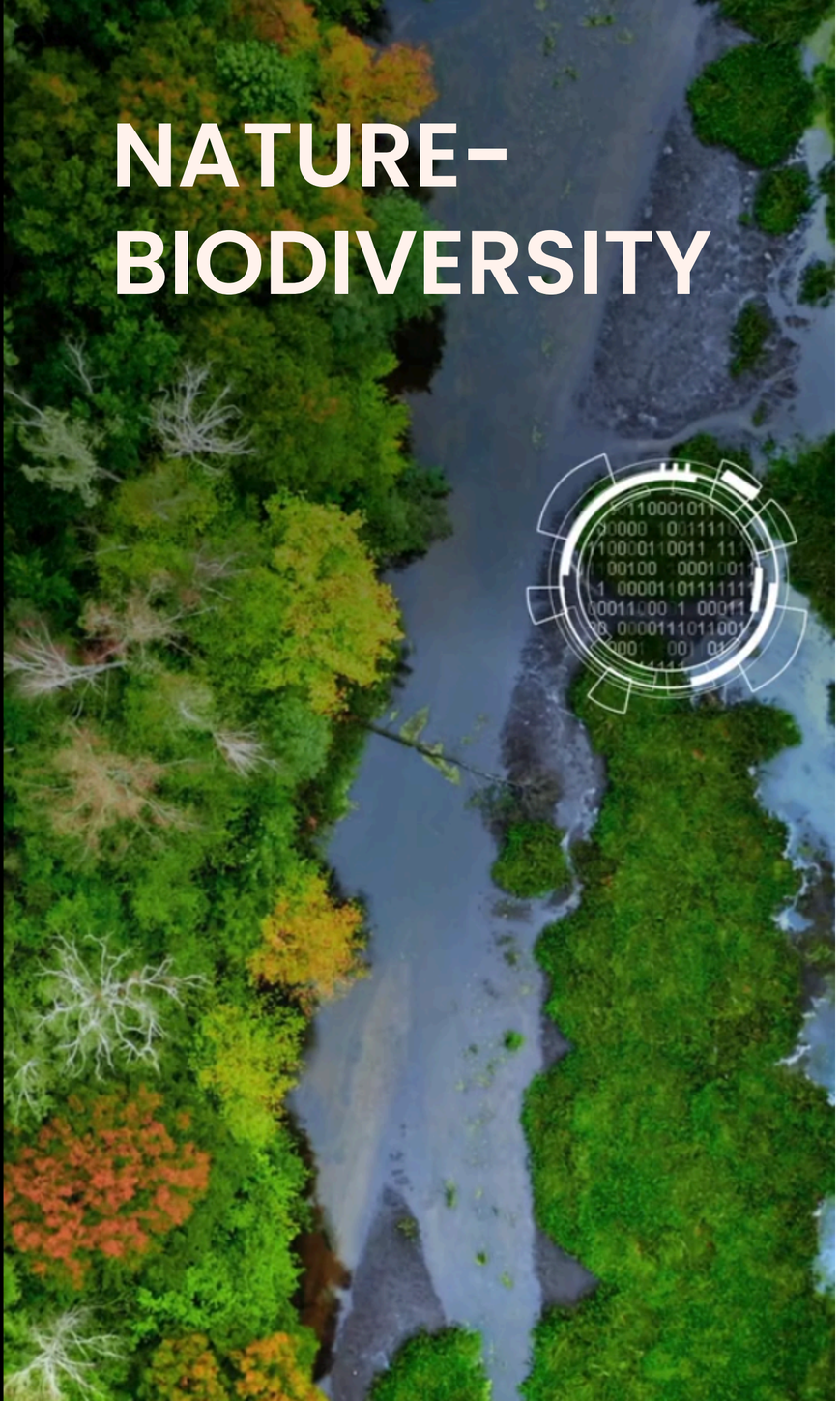
Billions of $$$ are poured into the search for the next breakthrough star ingredient



NATURE-BIODIVERSITY

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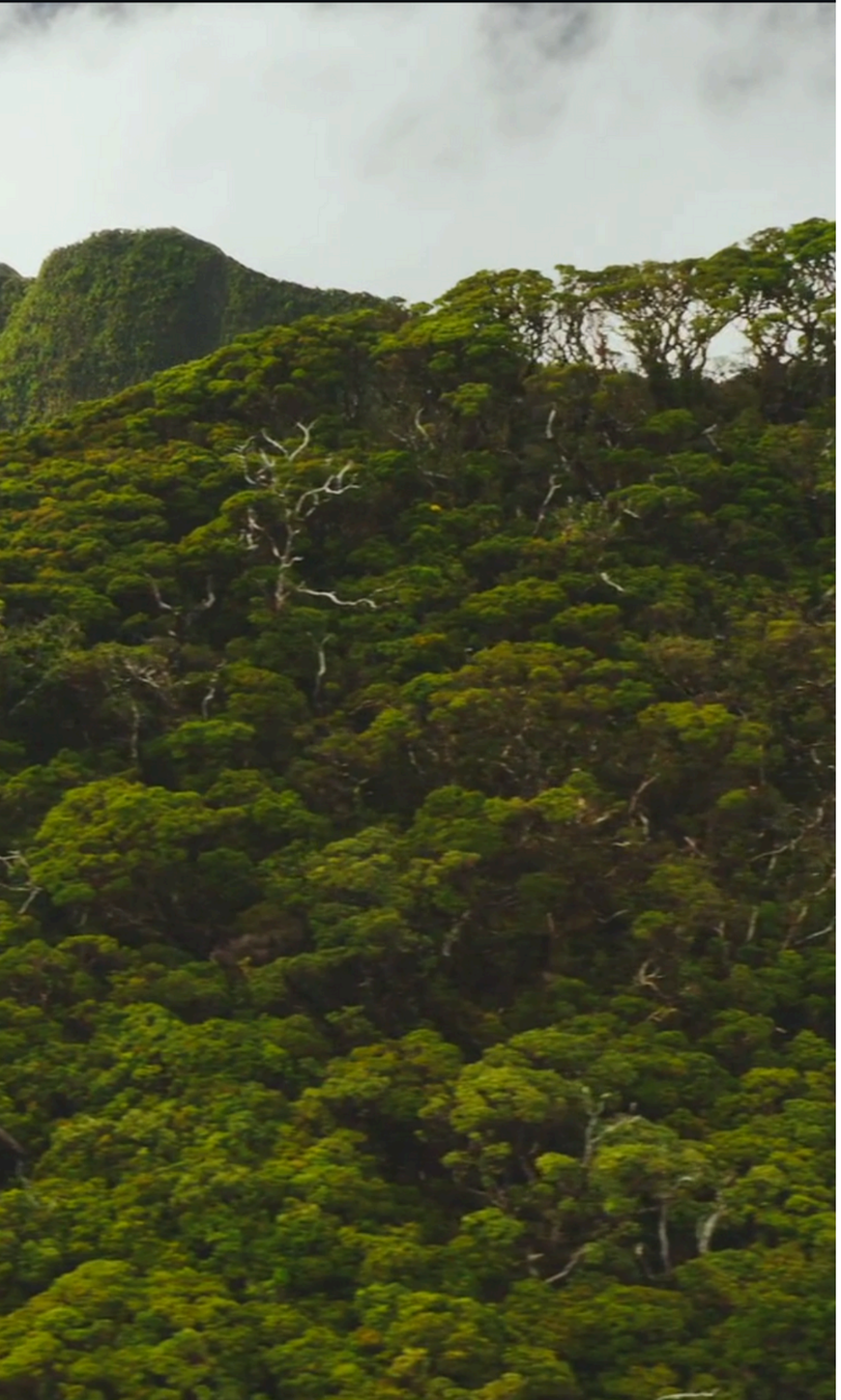
Nature's biodiversity holds immense potential for revolutionary and innovative advancements in the functional ingredients industry.

Yet, less than 1% of natural molecules have been characterized, leaving the vast majority of nature's possibilities untapped.



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Less than 1% of Natural Molecules Have Been Characterized

The vast majority of nature's potential remains unexplored

NATURAL PRODUCT DEVELOPMENT :
THE HIDDEN CHALLENGES

>900

Of tests, including *in-vitro* & **animal testing** , safety and efficacy validation, and clinical trials.

3-5 y

Average time to develop new natural products

70%

R&D projects
FAILURE RATE

*Cosmetics, food additives and functional ingredients

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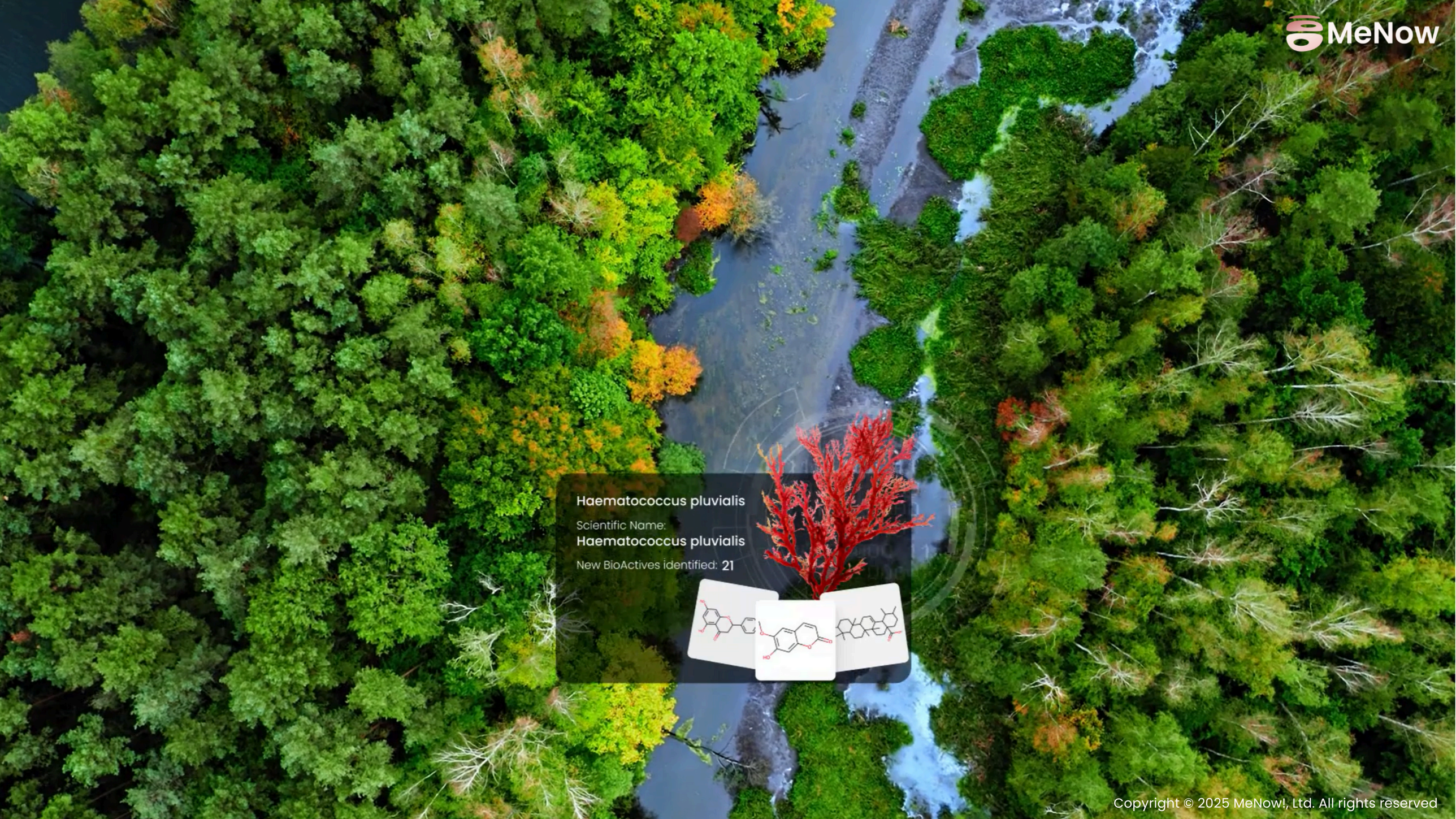
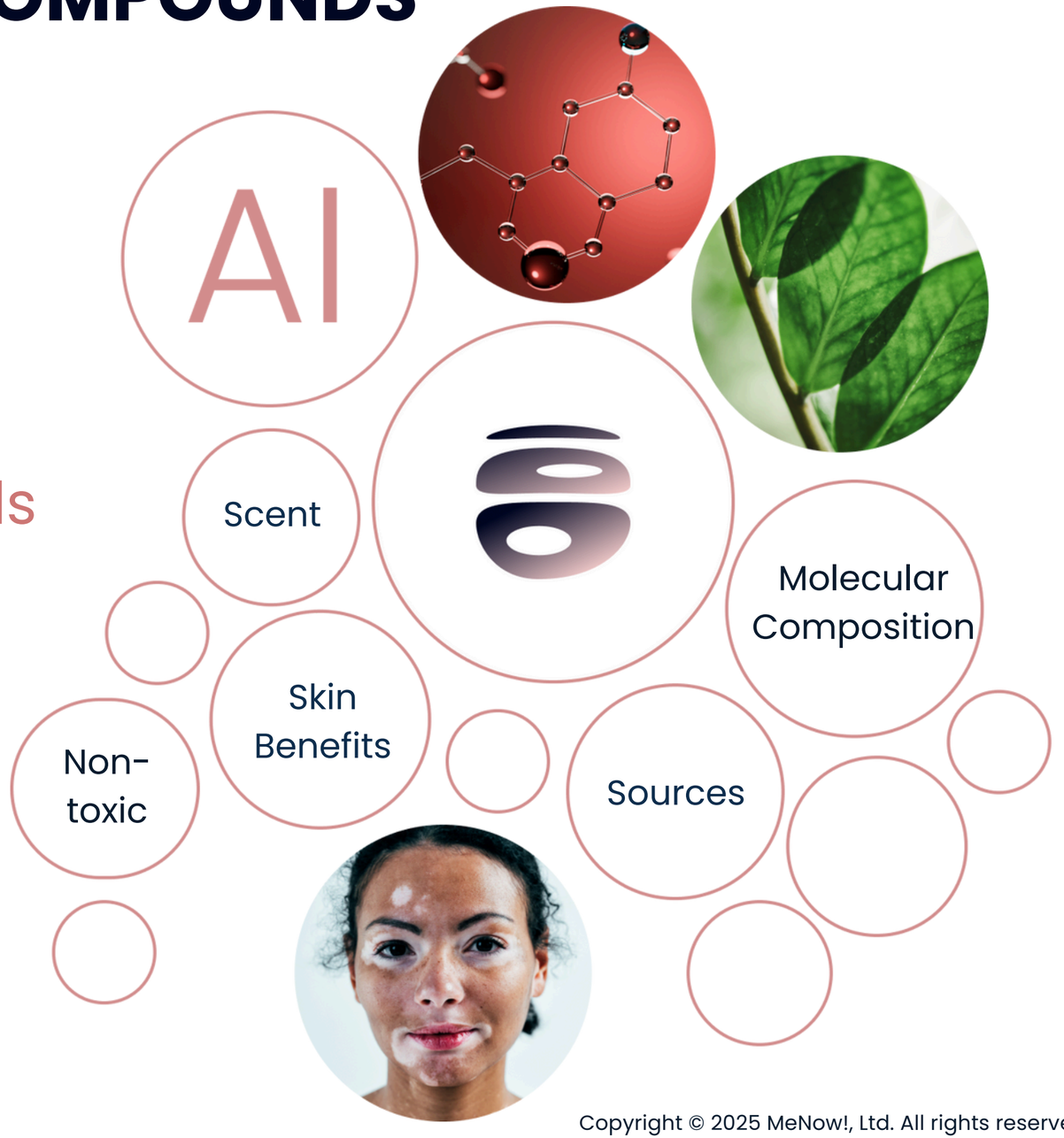


AI SCREENING OF NATURAL COMPOUNDS

Our A.I. system has mapped:

- **over 60,000** organisms
- **over 500,000** natural compounds

99% of the data consists of
unique AI-driven predictions



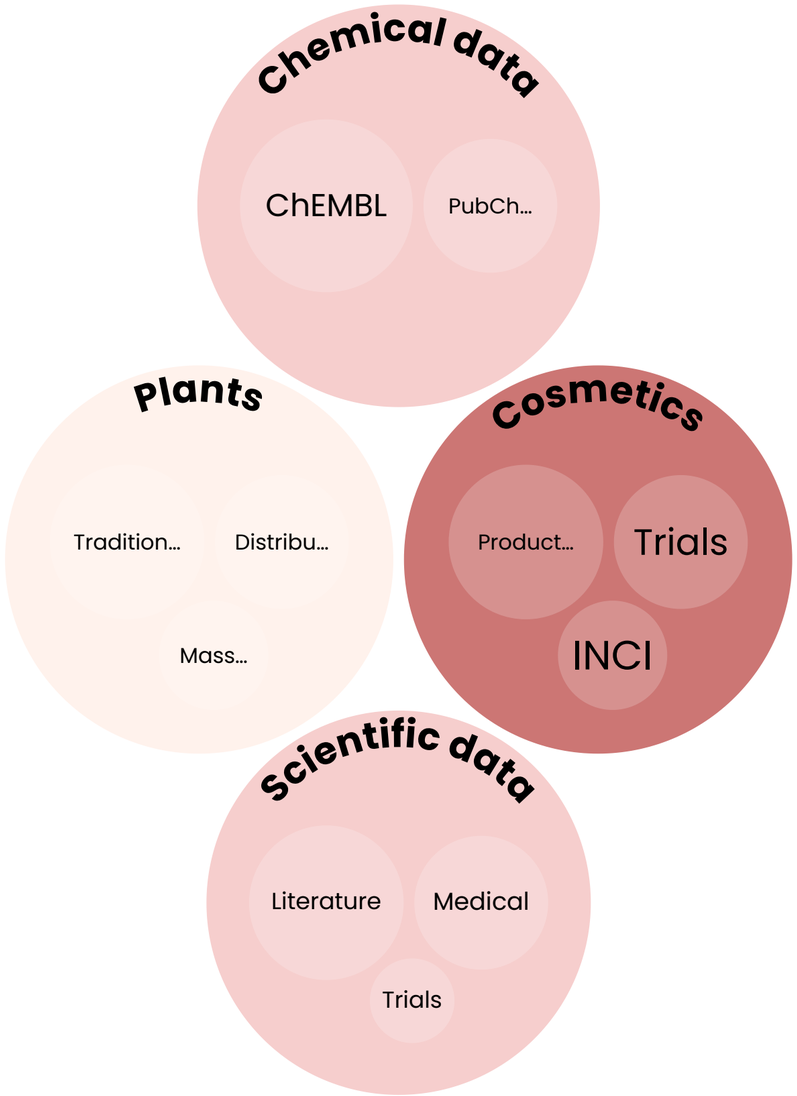
(ONE OF)THE FIRST AI-DEVELOPED COSMETIC PRODUCTS

les bois

AI-Developed Serum

Validated by clinical trials

AI IN COSMETICS



Identify patterns
Extract features

Generate new information

PATENT-PENDING TECHNOLOGY :
AI-BASED PLATFORM FOR MOLECULAR SCORING

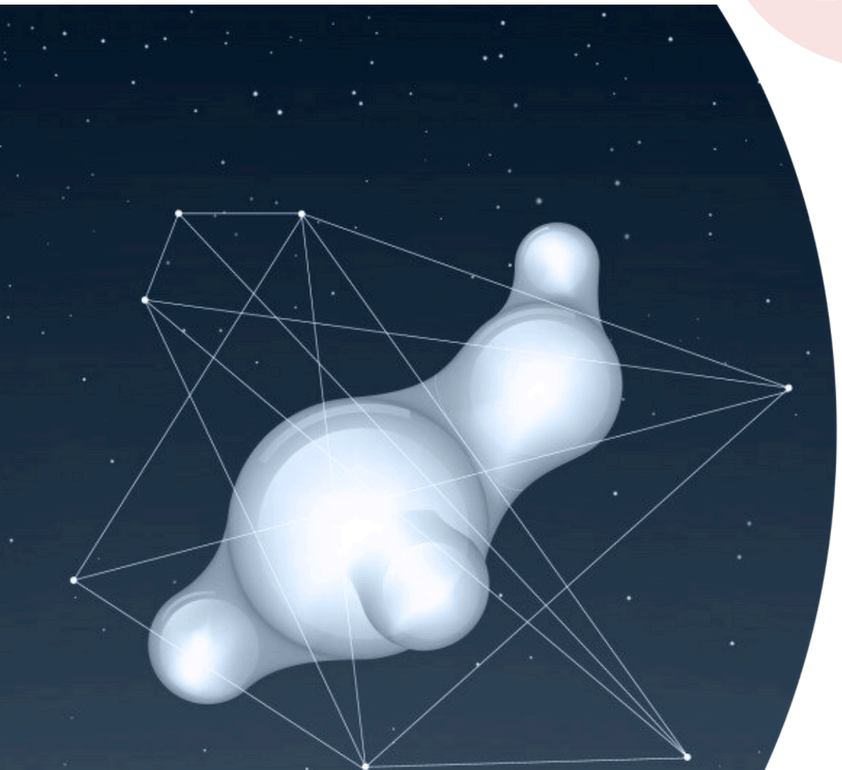
3D molecular reconstruction

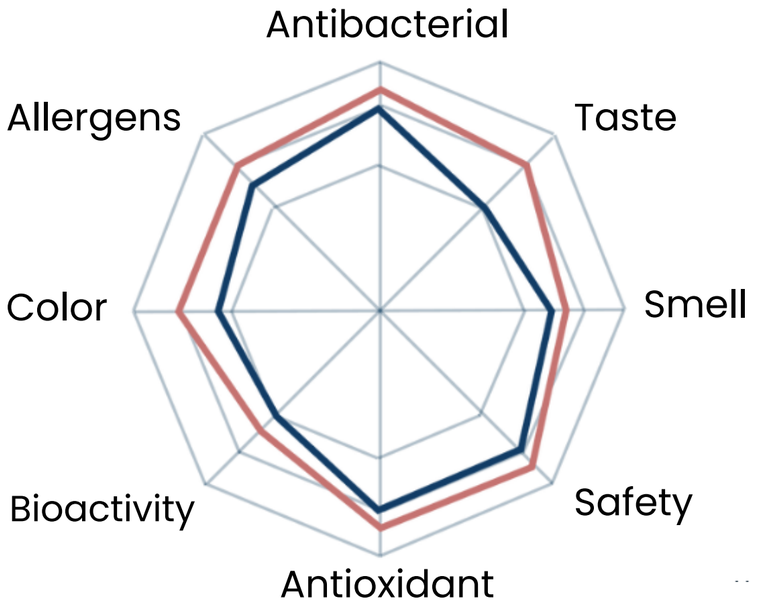
Deep QSAR algorithm

Sensory and biological predictions

Virtual Tissue Model

Synergy prediction



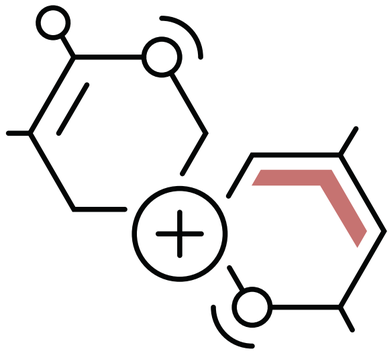


WHY SYNERGY IS CRUCIAL WHEN FORMULATING ?

- Get higher efficacy than additive: super-star complex

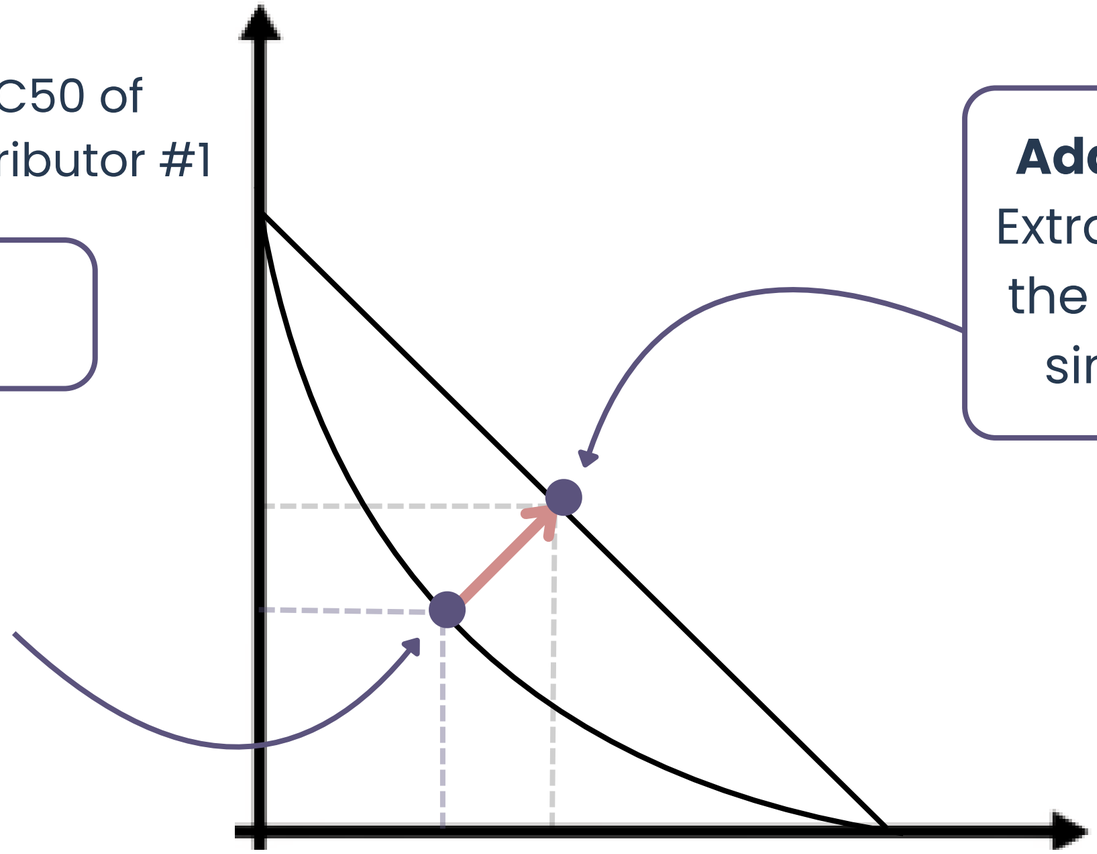
1 + 1 = 3

- Use a lower concentration: less side effects



- Crucial for patent applications

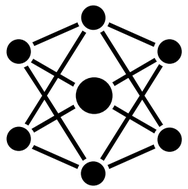
IN VITRO COMPUTATION :
AI PREDICTIONS OF SYNERGISTIC EFFECTS



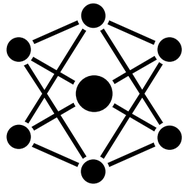
Lab Results

Additive Effects only:
Extrapolation based on the efficacy results for single contributors

IN SILICO COMPUTATION :
AI PREDICTIONS OF SYNERGISTIC EFFECTS



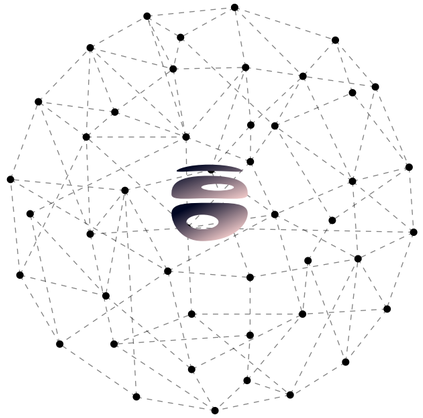
Contributor 1



Contributor 2

Extrapolation of additive effects

Synergistic effects

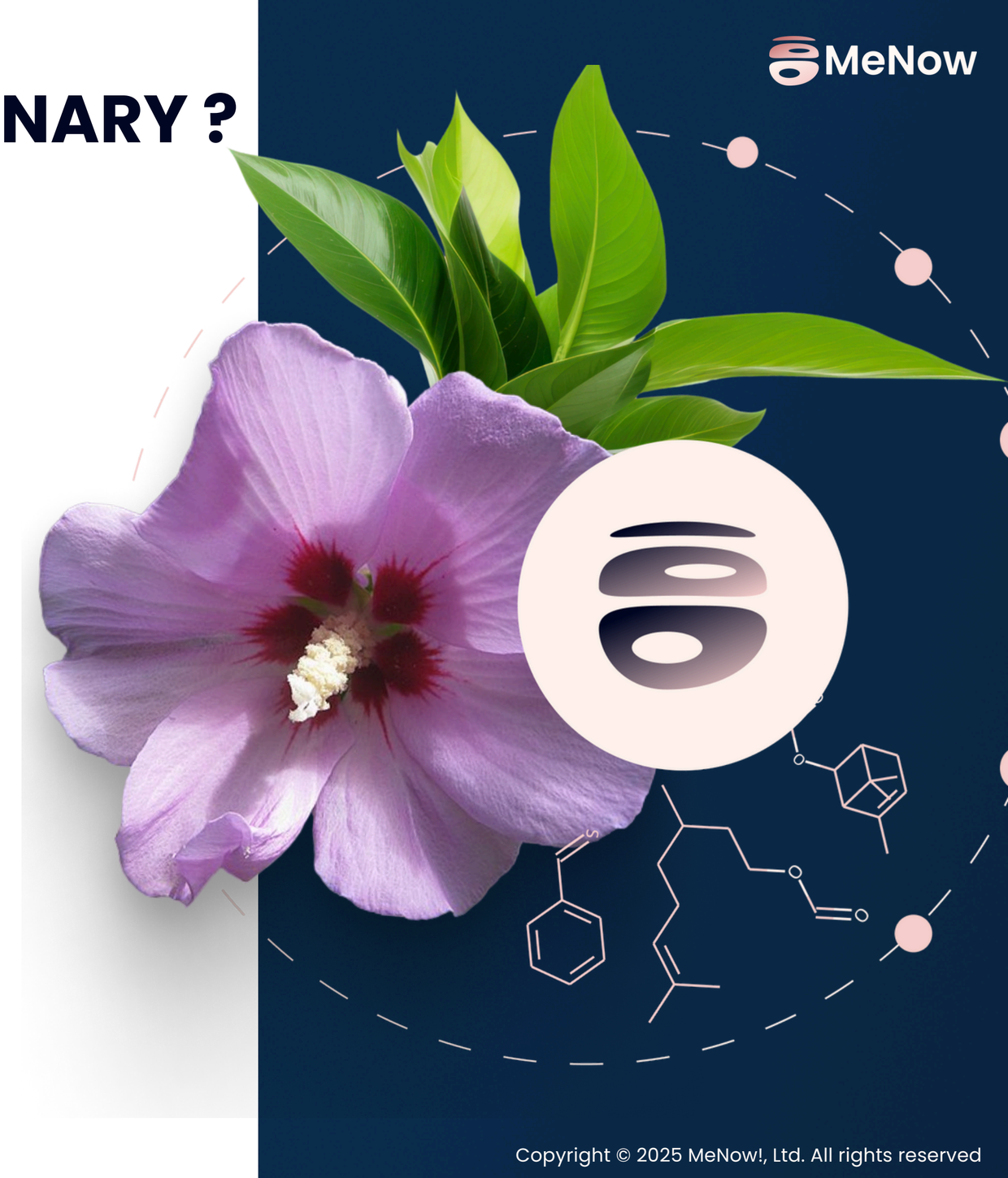


Contributor 1
+
Contributor 2

Prediction of efficiency for the combination

HOW WILL THIS BE REVOLUTIONARY ?

- **MeNow** AI:
  Unlocking 25x More New Ingredients
- Accelerate innovation
- Predict synergistic and antagonistic interactions



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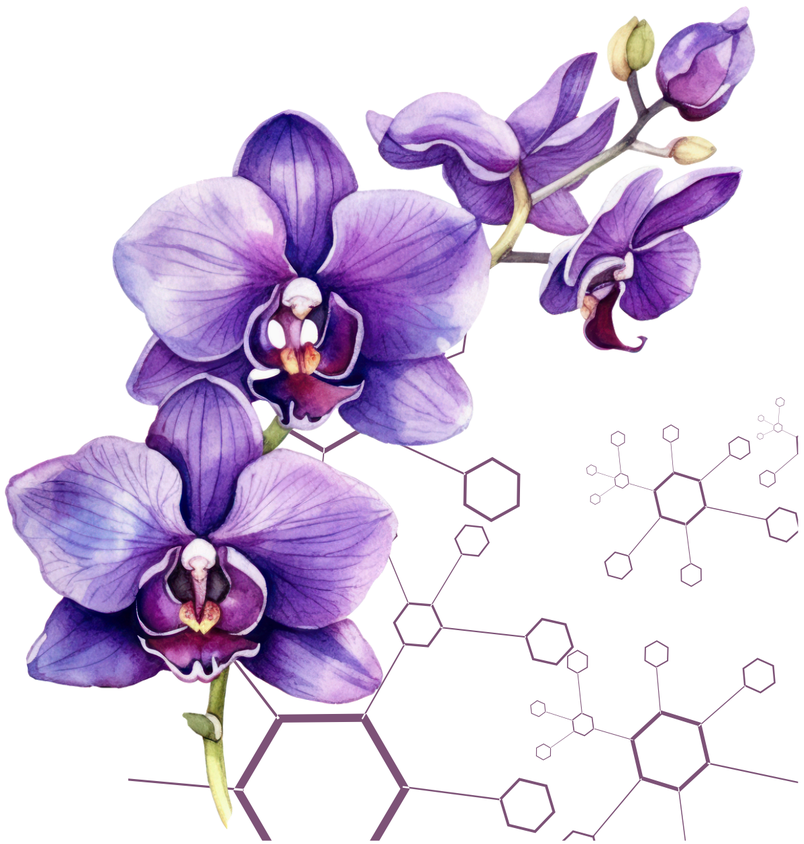
Working with MeNow has **significantly added value to our product development processes**. Using their AI, they quickly and efficiently delivered unique plant-based bioactives and synergistic plant combinations not documented elsewhere, notably accelerating our research.

Dr Laurence Du-Thumm
Global Senior Director, External Technology Innovation R&D
COLGATE-PALMOLIVE

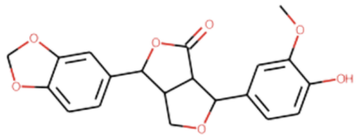
SELECTING THE BEST EXTRACTION METHOD USING AI



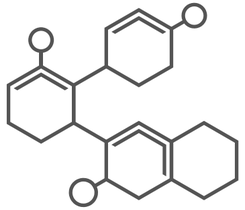
- Identify the most relevant molecules
- Explore internal synergies
- Predict the molecular composition according to the extraction method and part of plants

CHALLENGE: MISSING INFORMATION ON PART OF PLANTS

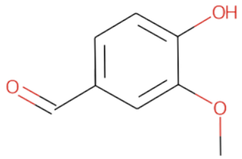
Leaf



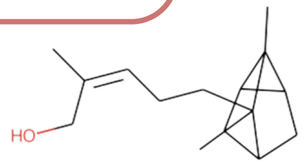
Fruit



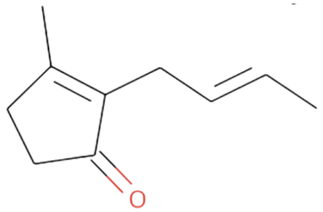
Experimental Data



Flower



Bark



Seed

Molecular composition of the whole plant

AI predictor

- 3D reconstruction
- Fingerprints extraction
- Deep neuronal networks ML

Molecular composition for one part

Reconstructing where each molecule is found

Prediction for other parts

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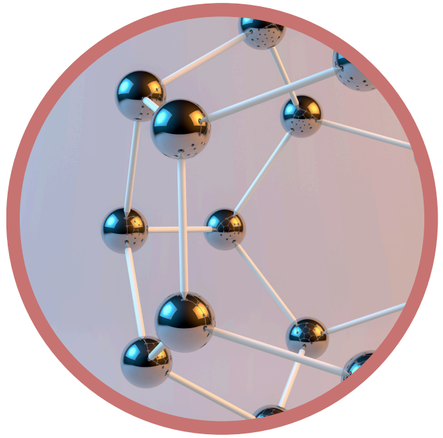
PREDICTION OF PART OF PLANTS AND SUSTAINABILITY

Vineyard Pruning

Generates waste

Predicts possible uses for excess plant materials



Innovation

Discovery of new sustainable actives

“WILL AI TAKE YOUR JOB ?”

NVIDIA CEO Jensen Huang

https://www.youtube.com/shorts/VyfEj67k8-o?feature=share

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AI gateway to cosmetics

HOW TO KEEP AHEAD AS NON AI EXPERTS ?

- Look for tools that are easy to use as Google but with high scientific accuracy
- Make using it an habit
- Keep your creative spirit

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THANKS!

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