

INNOVATIVE ELEMENTS TO AMELIORATE LIFE



ZLEY®VA

– ENVOVA2% –

「"Anti-Aging Transformer"」

「Powered by Flexible Microcapsule Coating Technology」

[High Stability/Preserved Bioactivity;

High Deformability/Enhanced Penetration;

Slow Release//Reduced Irritation」



WHO WE ARE

COMMITTED TO AMELIORATE LIVE, WITH TECHNOLOGY

Driven by a vision of innovation and development, we are dedicated to producing high-quality raw materials for the global personal care industry, addressing the growing demand for functional ingredients. Our products are designed to promote skin rejuvenation, brightening, antioxidant, and anti-inflammatory benefits.

「123」

1 factory located in Weinan, Shaanxi Province
2 Innovation research and development centers
3 subsidiaries: [China] Guangzhou [Hongkong] and [Singapore] Over 200 employees





PATENT CERTIFICATE

- **ZL 2022 1 1022382.9**
  Anti-inflammatory and Repairing Composition Containing Ethylene Glycol Salicylate and Its Preparation Method and Application
- **ZL 2022 1 1306298.X**
  Supramolecular Vesicle Aggregates of 4-Butylresorcinol and Their Preparation Method and Cosmetic Composition
- **ZL 2022 1 1147913.7**
  Microencapsulated Kava Extract and Its Preparation Method and Application
- **ZL 2016 1 0490027.2**
  Anti-Aging Cosmetic Composition and Its Preparation Method
- **ZL 2022 1 1648008.X**
  Composition Containing Amino Acid Derivatives for Regulating Skin Microbiota
- **ZL 2022 1 1038113.1**
  Anti-Acne, Whitening, and Antioxidant Essential Oil Composition Containing Ferulic Acid Derivatives and Its Preparation Method
- **ZL 2022 1 1187356.1**
  Composition for Skin Conditioning, Whitening, and Brightening, and Essence Lotion
- **ZL 2015 1 0077009.7**
  Preparation Method of High-Purity Piperazine
- **ZL 2023 1 0925891.0**
  Composition and Its Use in Improving Skin Barrier Function, and Skincare Product
- **ZL 2022 1 1251631.1**
  Liposomes Containing Ferulic Acid and Its Derivatives, Preparation Method, and Application
- **ZL 2015 1 0170034.X**
  Method for Synthesizing 2,4-Dihydroxyacetophenone and Recycling Wastewater
- **ZL 2014 1 0245210.7**
  Preparation Method of Half-Fumarate Quetiapine
- **ZL 2023 1 1500453.6**
  Deodorizing Composition, Its Preparation Method, and Application
- **ZL 2023 1 1366456.5**
  Peony Root Bark Extract-Based Perfume with Lemon Fragrance, Preparation Process, and Application
- **ZL 2024 1 0785149.9**
  Preparation Method of Highly Active Trigonella Extract and Its Uses in Care Products
- **ZL 2024 1 0726523.8**
  Preparation Method of Hydroxypinacolone Retinoate
- **ZL 2024 2 1028204.1 (Utility model patent)**
  Ultrasonic Cleaner for Cosmetic Testing
- **ZL 2024 1 0576240.X**
  Composition for Reducing Periorbital Skin Issues, Its Preparation Process, and Application
- **MORE PATENT APPLICATIONS ARE PENDING...**



WHAT WE DO

COMMITTED TO AMELIORATE LIVE, WITH TECHNOLOGY

「Herbalism」

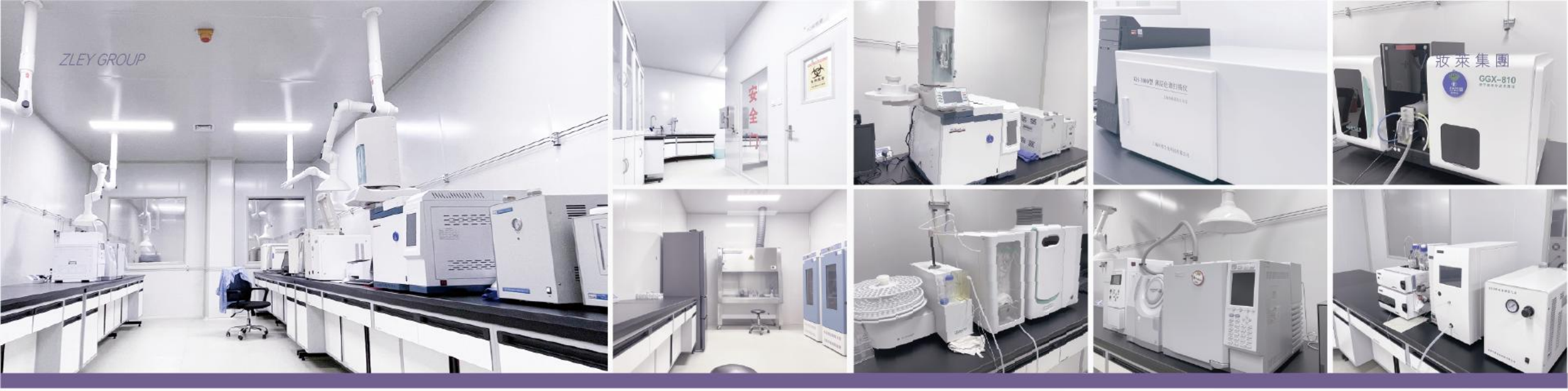
The cosmetic industry is actively exploring new neurocosmetic ingredients to enhance the connection between the skin and the nervous system. We harness plant extracts with soothing and anti-inflammatory properties to alleviate skin irritations, reduce redness, and support a healthier complexion.

「Metropolitan」

We are committed to continuously exploring innovative formulations for effective skin rejuvenation. Our team leverages advanced technologies and novel ingredients to push the boundaries and unlock new possibilities in this field.

「Revolution」

We utilize innovative technologies and ingredients to deliver exceptional results in skin brightening. Our ongoing research focuses on addressing pigmentation issues and promoting a radiant complexion.



I&D STRENGTH

「BIRI」

(Biotechnology Innovation Research Institute)

Our team of experienced biologists leads the R&D efforts to identify active skincare ingredients with proven efficacy, high potency, and stability through experimental protocols, strain culture, and fermentation optimization.

Our facility adheres to the national laboratory safety standards GB 19489-2011, including P2 and biochemical laboratory requirements.

「FOSCRC」

(Functionality of Skin Care Research Center)

As society progresses and technology advances, there is a growing demand for effective skin care and a deeper understanding of cosmetics. At our Functional Skincare Research and Development Center, we focus on exploring skincare products through chemical testing and cell assays to study their functions and properties.

「FOSCTEC」

(Functionality of Skin Care Testing&Evaluation Center)

We partner with a professional third-party testing institute specializing in cosmetics, cosmetic raw materials, and pharmaceutical intermediates to ensure rigorous and reliable product testing.



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Part . 01

「EFFICACY AND CHALLENGES OF RETINOL」

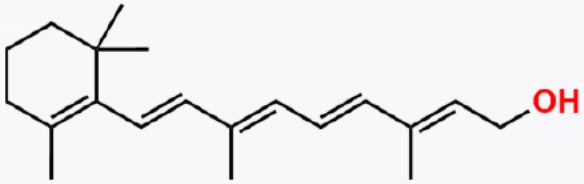


THE BENEFITS AND PAIN POINTS OF RETINOL

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

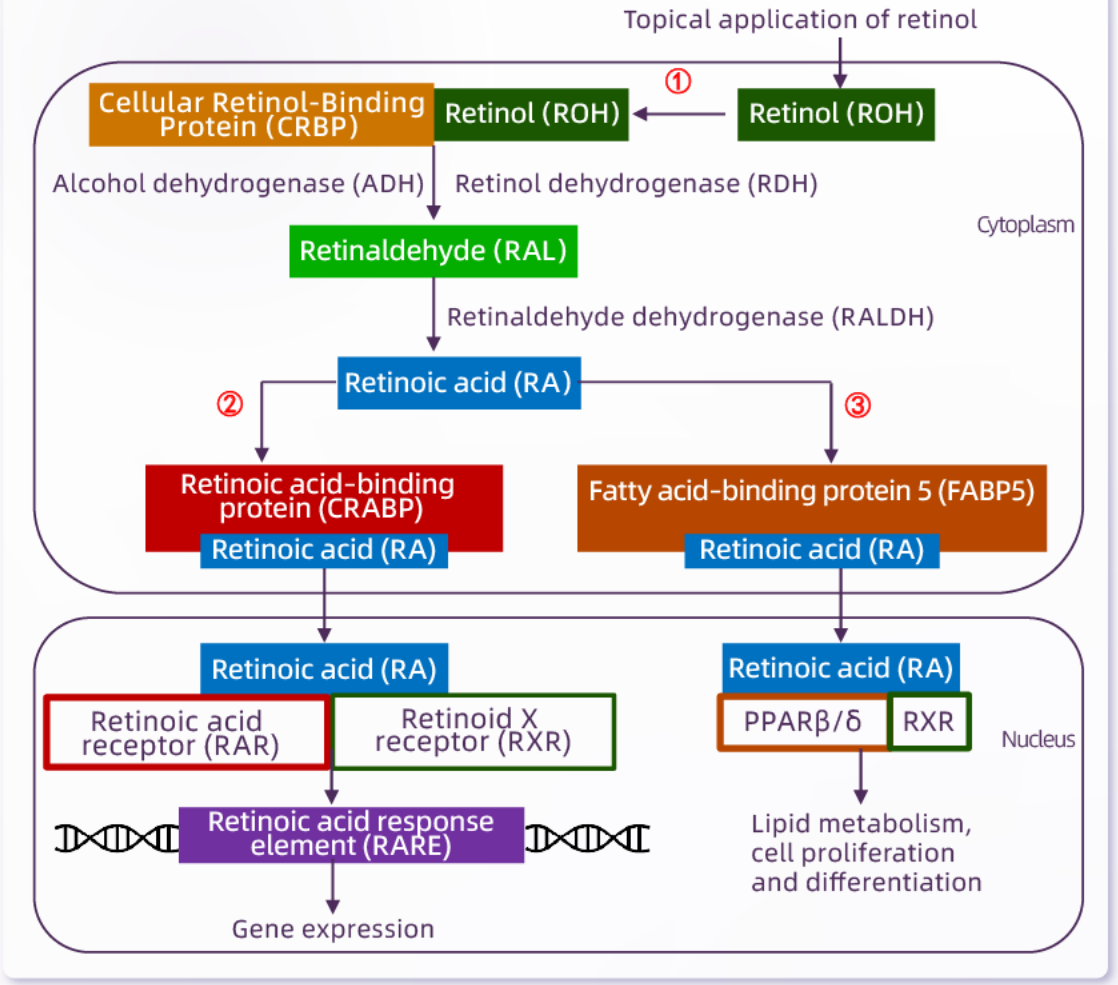
「Retinol – A Widely Recognized "Anti-Aging Powerhouse"」

Retinol, commonly known as vitamin A alcohol (vitamin A1), delivers multiple skincare benefits including wrinkle reduction, skin firming, fine line smoothing, brightening and acne improvement. Owing to its comprehensive efficacy, retinol is often referred to as a "multifunctional skincare active" and is highly favored by consumers.



As illustrated in the figure on the right [1,2], the strong skincare efficacy of retinol (ROH) lies in its enzymatic conversion into retinoic acid (RA). Retinoic acid interacts with intracellular protein receptors and binds to specific regulatory sites on DNA, thereby initiating or suppressing the expression of a series of target genes. Through this mechanism, retinol regulates cellular growth, differentiation, and repair, ultimately delivering anti-wrinkle, firming, acne-improving, and skin-brightening effects.

Figure: Metabolic Conversion Pathway of Retinol in the Skin[1]



[1]Cosmetic retinoid use in photoaged skin: A review of the compounds, their use and mechanisms of action. Int J Cosmet Sci. 2025 Feb;47(1):45-57.
[2]视黄醇及视黄醇酯类在化妆品中的应用研究[J].当代化工研究,2020,(18):112-116.

「Development History of Retinoids in the Cosmetics Industry」

In 1969

Albert Kligman developed 0.005% all-trans retinoic acid, primarily for acne treatment, marketed as Retin-A.

In 1975

Lancaster launched a cream containing retinyl acetate, an ester form of vitamin A, and registered the corresponding patent.

In 1984

Albert Kligman later used retinoic acid to treat photoaged mice. After 10 weeks of treatment, significant collagen regeneration was observed.

In 1986

First clinical confirmation of the anti-aging effects of vitamin A :
Through human skin studies, Albert Kligman demonstrated that 3–12 months of topical application of 0.05% retinoic acid resulted in collagen regeneration and reconstruction of the elastic fiber network.

Around 2020

The Retinol Era Begins: Premium skincare brands entered the retinol-based anti-aging market.
Helena Rubinstein launched Replasty Age Recovery / Prodigy-type firming serums, combining Pro-Xylane™ with retinol.
Estée Lauder introduced its Advanced anti-wrinkle serum, formulated with retinol and borage oil.

资料来源：青眼&克琴科技《2023维A醇及其衍生物趋势洞察报告》

「Market Size of the Retinol Skincare Industry」

In the Chinese market, the commercial application of retinol-based skincare products started relatively late, yet has demonstrated strong and sustained growth momentum.

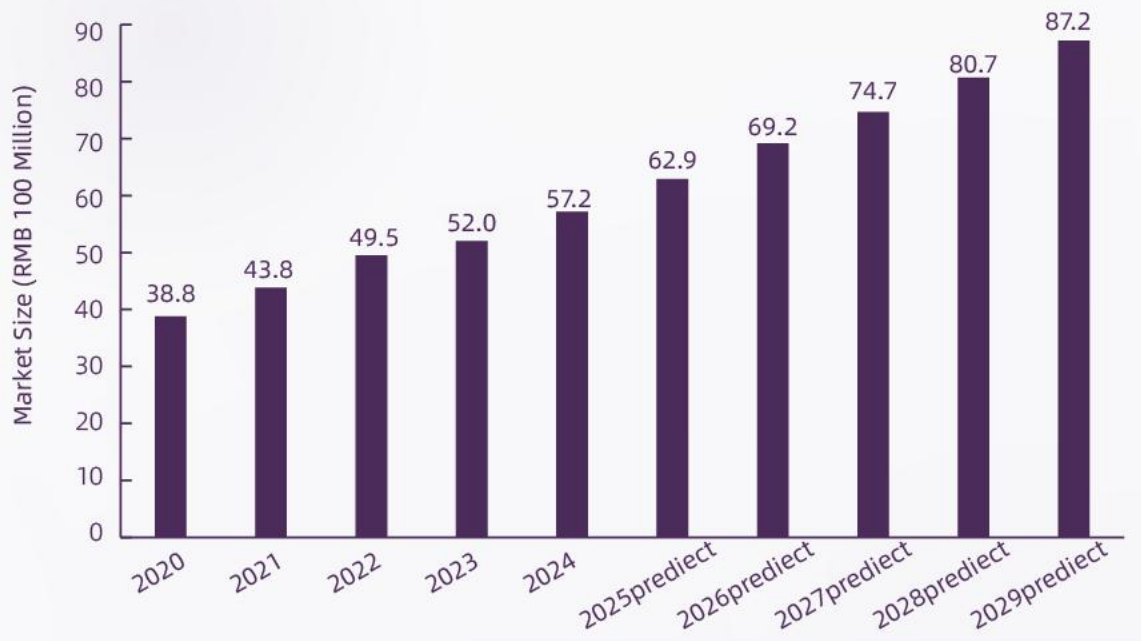
This growth is primarily driven by three core factors:

① A significant rise in early anti-aging demand among the core consumer group aged 25-40, accelerating the adoption of science-based skincare routines such as "Morning Vitamin C, Evening Retinol (AM C / PM A)".

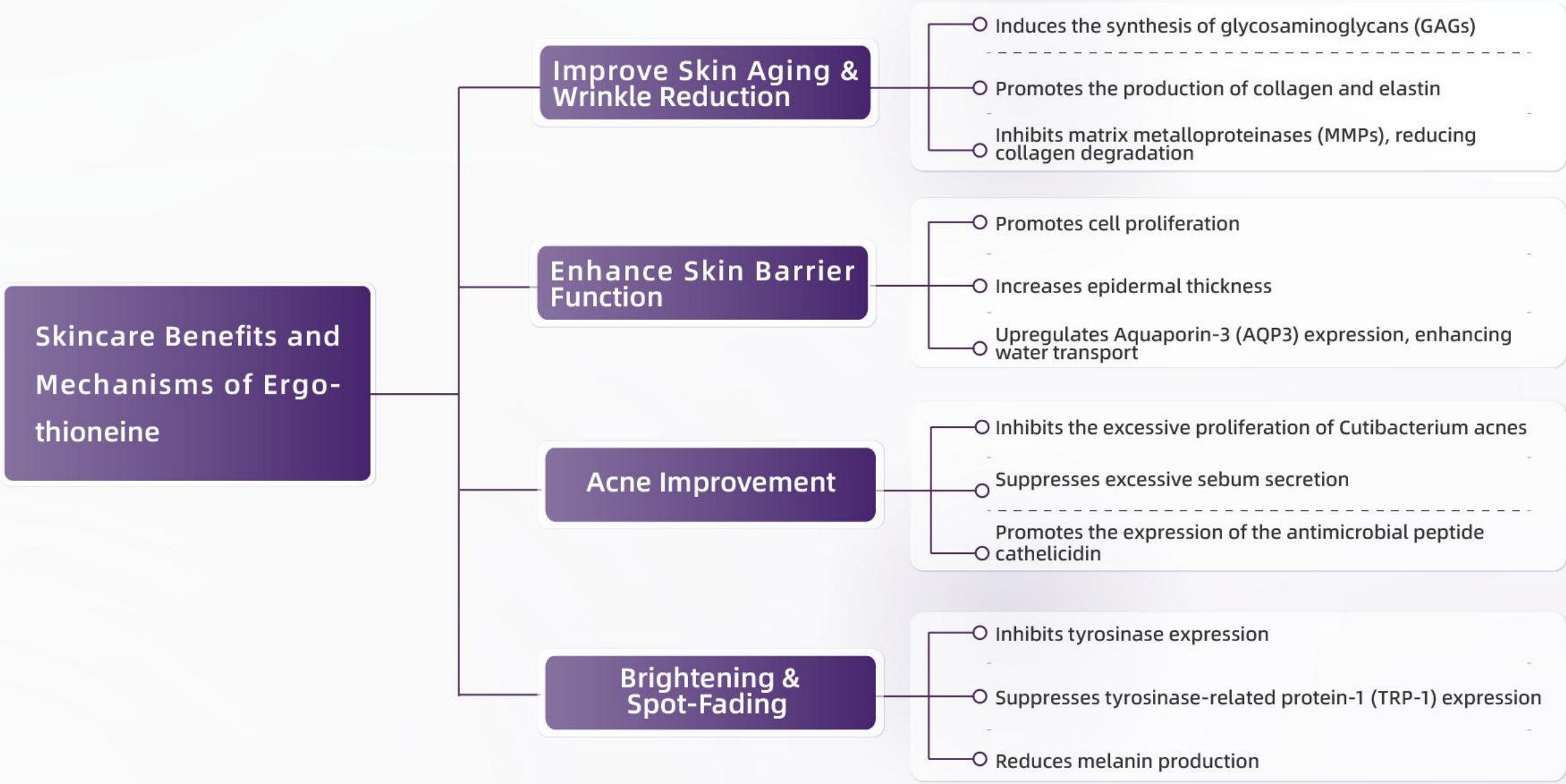
② Technological innovation by brands, including microencapsulation and sustained-release delivery systems, which effectively reduce retinol-related irritation and instability, thereby broadening the eligible consumer base.

③ The rapid expansion of the light medical aesthetics market, generating synergistic demand for post-procedure repair and at-home anti-aging care, further driving the penetration of professional-grade retinol products.

China Retinol Skincare Market Size (2020-2029)



资料来源：华经产业研究院《2025-2031年中国A醇护肤品行业市场需求预测及投资战略规划报告》



资料来源：青眼&克琴科技《2023维A醇及其衍生物趋势洞察报告》

「Challenges of Retinol 」

Poor Stability

- Retinol contains five conjugated double bonds, making it highly susceptible to absorbing light energy. It exhibits a strong absorption peak at 325 nm, allowing ultraviolet radiation to easily transfer energy to the molecule. This leads to isomerization, polymerization, and oxidative reactions, resulting in a significant loss of biological activity.
- Retinol is also highly sensitive to temperature and readily undergoes thermal degradation and inactivation.

Phototoxicity

- The photochemical reactions of retinol include photoisomerization, photopolymerization, photooxidation, and photodegradation, which may subsequently induce phototoxic or photosensitizing reactions.

High Irritancy

- Retinol exerts its biological effects after being converted into retinoic acid. Retinoic acid acts as an agonist of the TRPV1 receptor, activating nociceptive sensory neurons and triggering neurogenic inflammation. This process induces the release of pro-inflammatory cytokines such as MCP-1 and IL-8, thereby promoting inflammatory responses and ultimately causing pain, burning sensations, erythema, and post-inflammatory hyperpigmentation.
- In addition, retinoic acid can lead to the overexpression of Aquaporin-3 (AQP3) in human skin, disrupting intercellular desmosomes and impairing the expression of barrier-related structural proteins. This increases transepidermal water loss (TEWL), resulting in skin dryness and desquamation.

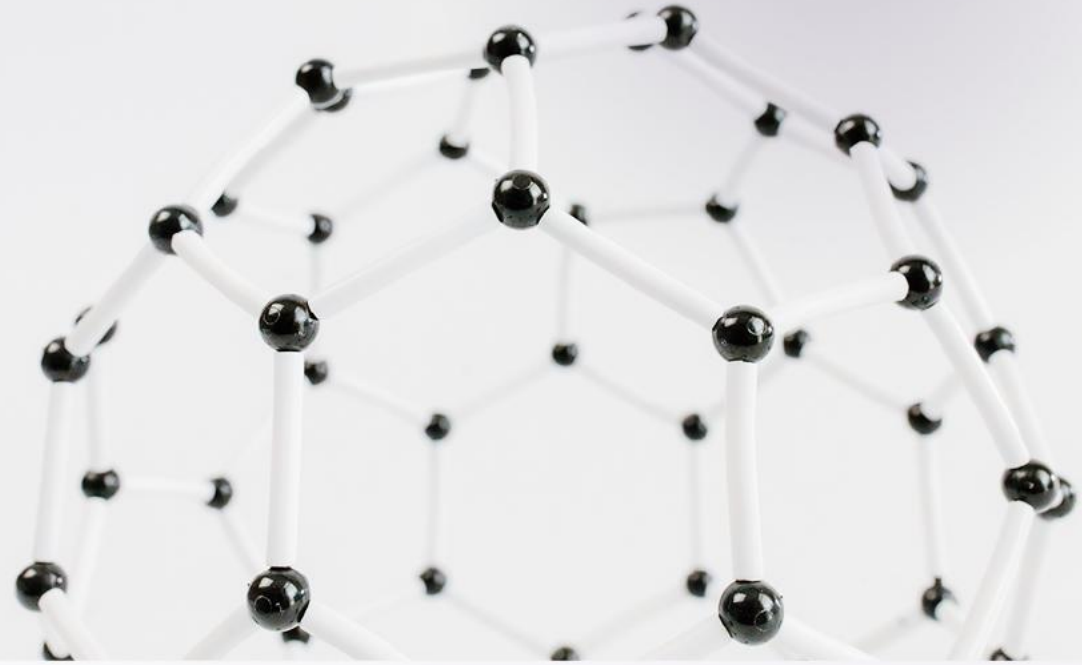


「How to break through」

资料来源：青眼&克琴科技《2023维A醇及其衍生物趋势洞察报告》

Part . 02

「"TRANSFORMER"- FLEXIBLE LIPOSOME TECHNOLOGY」



"TRANSFORMERS" - FLEXIBLE LIPOSOMES

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

「Innovation, upgrading and iteration」

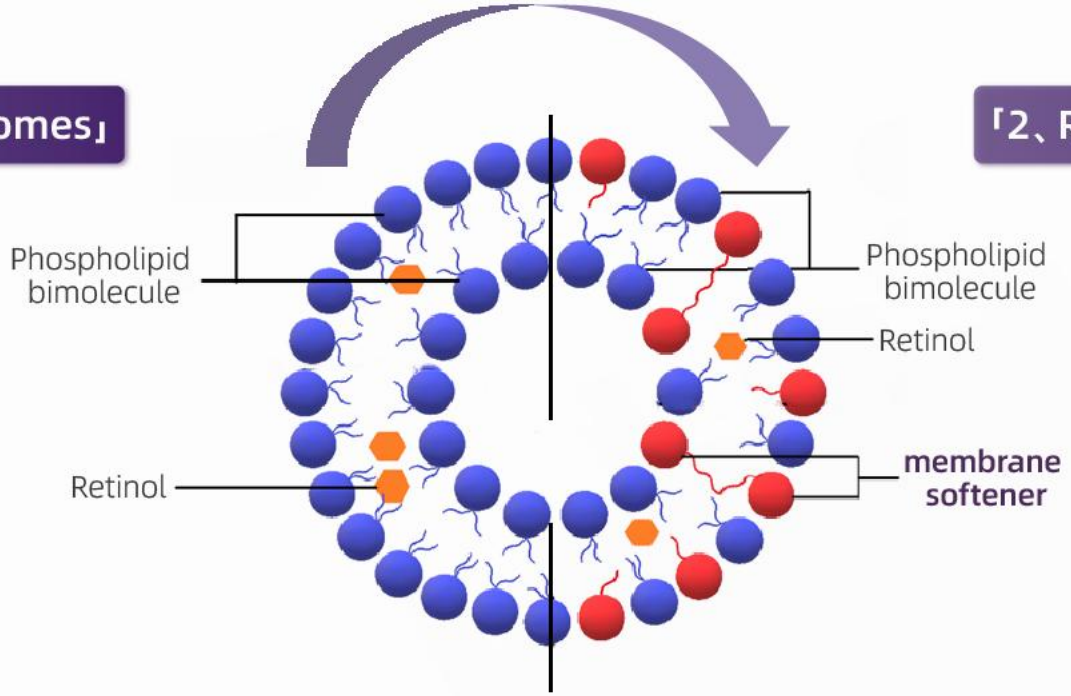
「1、Traditional retinol liposomes」

Poor deformability

(membrane structures are relatively rigid, brittle, and easily broken).

Low permeability

(it mostly stays on the skin surface and has ifficulty penetrating the stratum corneum.)



「2、Retinol flexible liposomes」

High deformability

Highly efficient penetration

Unlike traditional liposomes, **flexible liposomes are a "novel transdermal drug delivery carrier".!**

「 “Transformer” - Flexible Liposome Technology 」

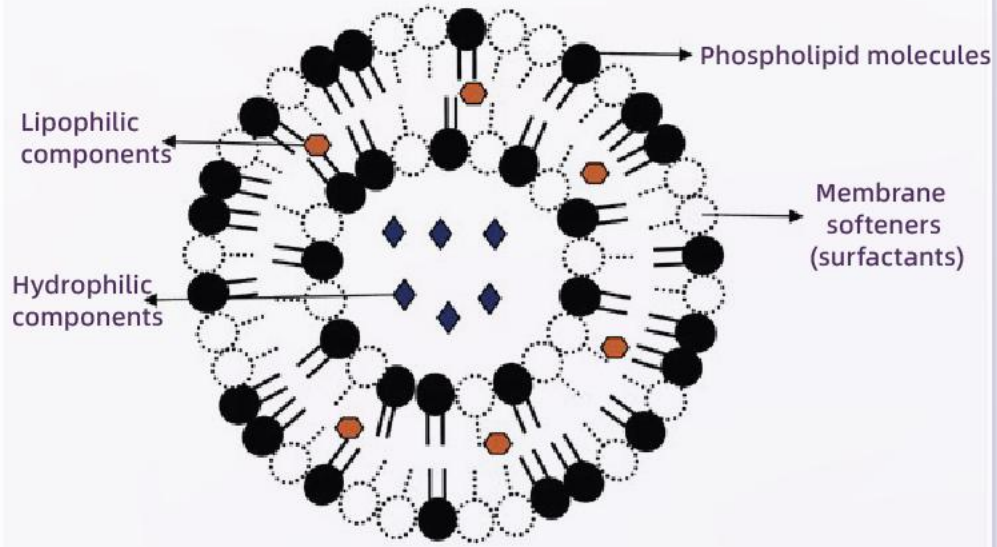
Flexible Liposomes

Also known as transfersomes, flexible liposomes are a novel type of deformable lipid vesicles characterized by high deformability and enhanced skin penetration, and have attracted significant attention in the field of transdermal drug delivery.

Flexible liposomes are primarily composed of phospholipids and membrane softeners, with commonly used softeners being surfactants such as sodium cholate, sodium deoxycholate, and polysorbate 80 (Tween 80).

In addition to sharing the advantages of conventional liposomes–such as low toxicity, high biocompatibility, and excellent sustained-release performance–flexible liposomes also exhibit exceptional deformability and superior penetration capability. After topical application, they can significantly enhance transdermal drug delivery and intradermal drug retention, making them an ideal carrier system for transdermal administration.

Figure: Structure of flexible liposomes



[1]王维,黄巧玲.柔性脂质体在经皮给药系统中的研究进展[J].中国现代应用药学,2021,38(04):495-502.
[2]李梓茜,陈潇,曹德英,等.可变形纳米囊载体-传递体在透皮制剂中的研究进展[J].医药导报,2024,43(08):1302-1308.

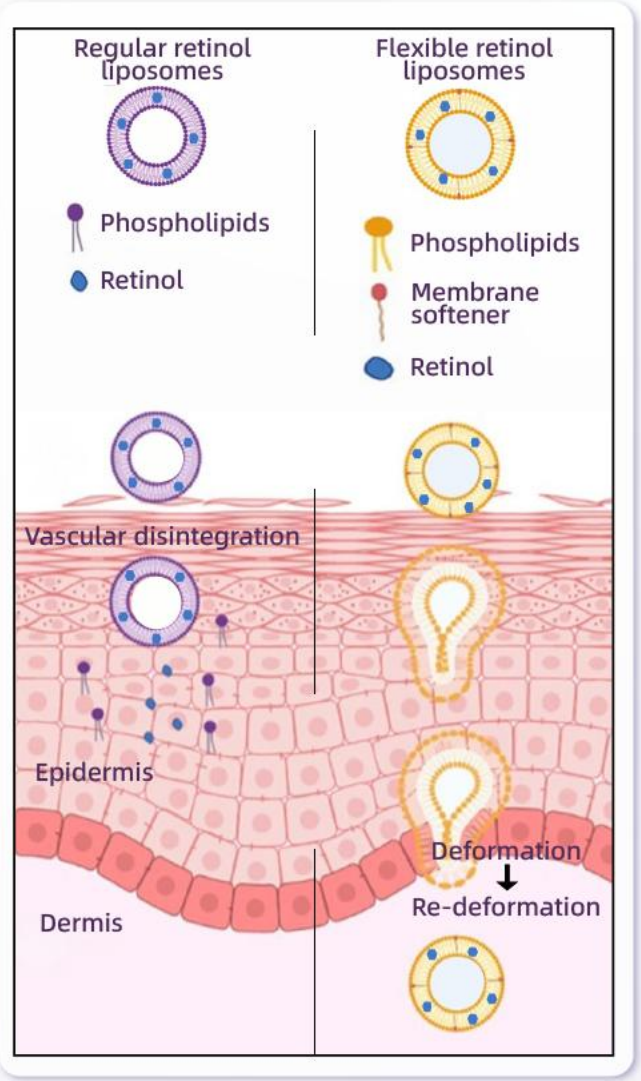
① High Deformability

- Studies have shown that, **the deformability of flexible liposomes is approximately five orders of magnitude greater than that of conventional liposomes.**

a. Pure phospholipid bilayer: The lipid molecules are tightly packed, resulting in a rigid membrane structure—comparable to stiff cardboard.

b. Role of membrane softeners: Membrane softeners (surfactants) embedded within the phospholipid bilayer act like flexible fibers incorporated into rigid cardboard.

- They reduce the overall membrane rigidity while significantly enhancing membrane fluidity and elasticity;
- flexible liposomes are endowed with exceptional deformability, enabling them to actively and adaptively squeeze through pores several times smaller than their own diameter—such as the microscopic intercellular gaps within the stratum corneum—while maintaining their particle size and physicochemical properties before and after penetration. This effectively prevents the common issue observed with conventional liposomes, where membrane rupture during penetration leads to premature leakage and loss of active ingredients.



[1]王维,黄巧玲.柔性脂质体在经皮给药系统中的研究进展[J].中国现代应用药学,2021,38(04):495-502.
[2]Transfersomes: a Revolutionary Nanosystem for Efficient Transdermal Drug Delivery. AAPS PharmSciTech. 2021 Dec 1;23(1):7.

② High Transdermal Penetration Efficiency

As illustrated in the figure on the right, the transdermal delivery mechanisms of flexible liposomes can be classified into three distinct pathways:
the intracellular pathway (fusion mechanism), the intercellular pathway (deformable penetration mechanism), and the skin appendage pathway.

a. Fusion Mechanism： Flexible liposomes are capable of fusing with the lipid layers of the epidermal lipid barrier, allowing them to penetrate through inter-lipid spaces and deliver active ingredients into deeper layers of the skin.

b. Deformable Penetration Mechanism： Owing to their exceptional deformability, flexible liposomes can, under appropriate conditions, pass intact through skin pores several times smaller than their own diameter, effectively overcoming the stratum corneum barrier and reaching deeper skin layers.

c. Skin Appendage Pathway： Skin appendages—including sweat glands, hair follicles, and sebaceous glands—are abundant, widely distributed within the deeper layers of the skin, and open onto the epidermal surface.Accordingly, flexible liposomes can also utilize these appendageal pathways to deliver active ingredients efficiently into deeper skin structures.

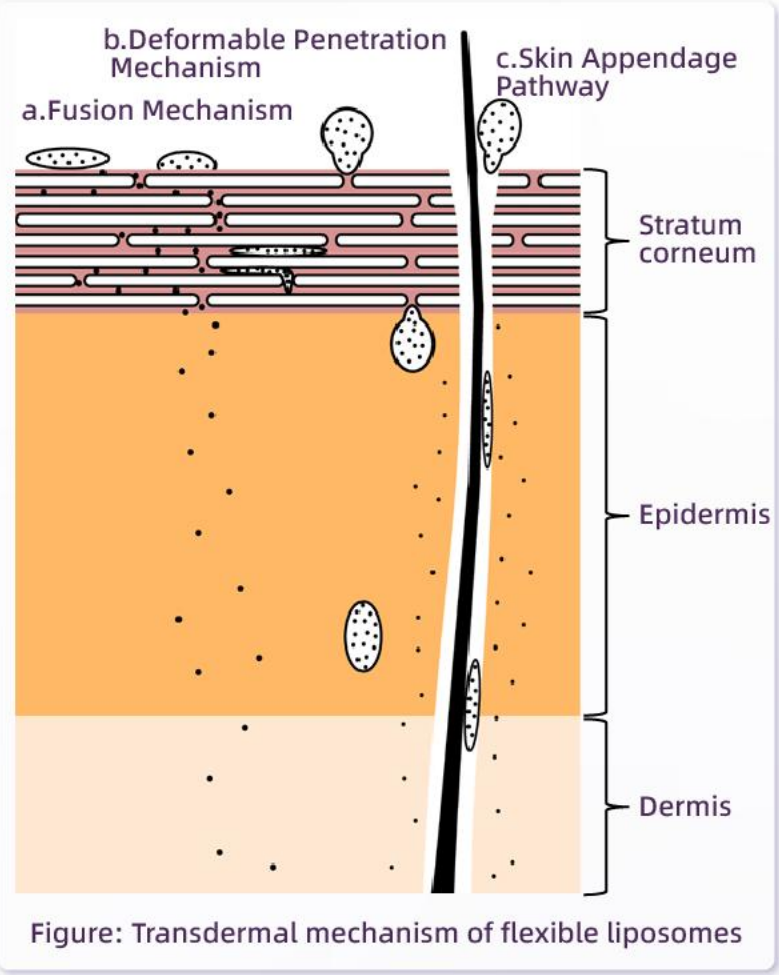


Figure: Transdermal mechanism of flexible liposomes

[1]王维,黄巧玲.柔性脂质体在经皮给药系统中的研究进展[J].中国现代应用药学,2021,38(04):495-502.
[2]Transdermal delivery from liposomal formulations - Evolution of the technology over the last three decades. J Control Release. 2016 Nov 28;242:126-140.



「Product Development Concept」

Designed to overcome the inherent limitations of conventional retinol—**instability, poor skin penetration, and high irritation**, the ZLEYGROUP R&D team has pioneered an innovative Flexible Microcapsule Coating Technology,creating **the anti-aging "Transforming Powerhouse" – VA envova2%.**

Protective armor to preserve retinol activity

Adaptive deformability to enhance deep skin penetration

Controlled release to minimize irritation,

Unlocking the full anti-aging and skin-renewing potential of retinol—**powerful, stable, and skin-friendly.**

Part . 03

「PRODUCT INTRODUCTION」



「 “Anti-Aging Transformer” – VA ENVOVA2% 」

Breakthrough Innovation: Flexible Microcapsule Coating Technology!

- Hydrogenated Lecithin forms a “nutrient-lock microcapsule,” tightly encapsulating retinol to preserve its bioactivity.
- Polyglyceryl-10 Myristate imparts exceptional deformability, enabling the active to flexibly navigate skin barriers and penetrate into deeper layers.
- Tocopherol builds an antioxidant shield, protecting retinol from external oxidative stress and ensuring long-term stability.

Through precise triple synergy, 2% retinol is securely encapsulated within the microcapsule system, giving rise to a next-generation, highly stable and highly active anti-aging solution –With three core performance advantages:

High stability & activity preservation

High deformability & enhanced penetration

Slow release & reduced irritation

VA envova 2% decisively overcomes the long-standing challenges of conventional retinol–instability, limited penetration, and high irritation, unlocking the full potential of retinol-driven skin renewal and anti-aging efficacy.

Anti-Aging “Transformer” – VA envova 2%

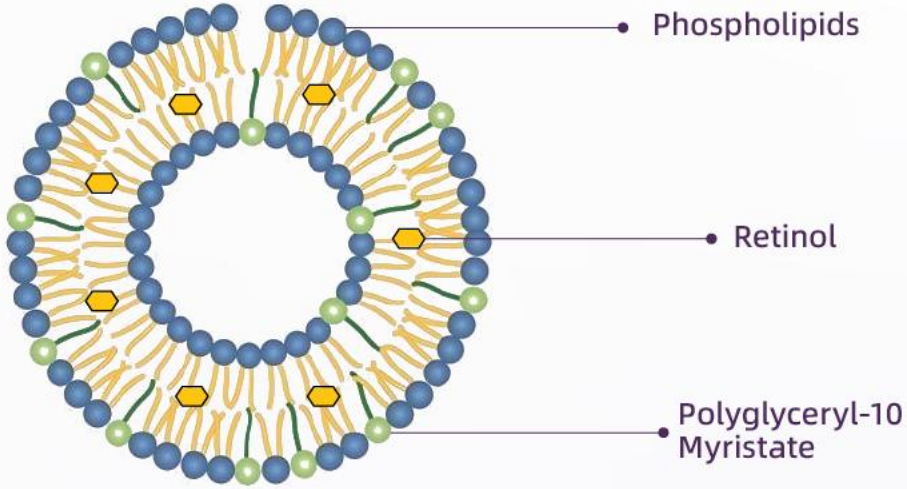
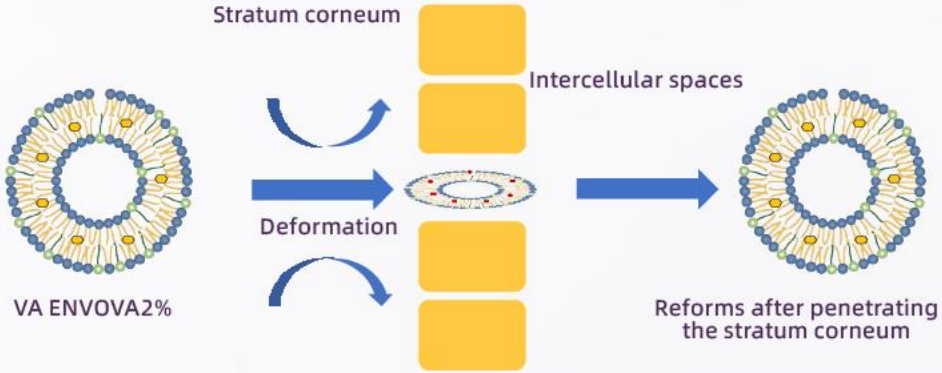
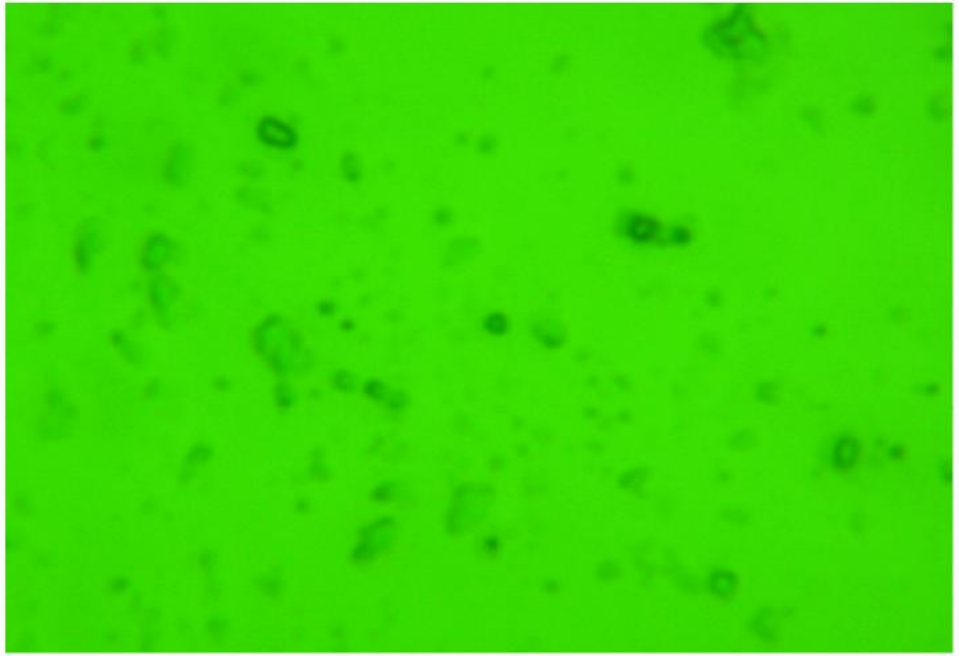


Figure: Deformable Transdermal Penetration Mechanism of VA envova 2%



「Flexible Microcapsule Coating Technology」

2% Retinol Compound Solution (Simple Dissolution and Mixing)

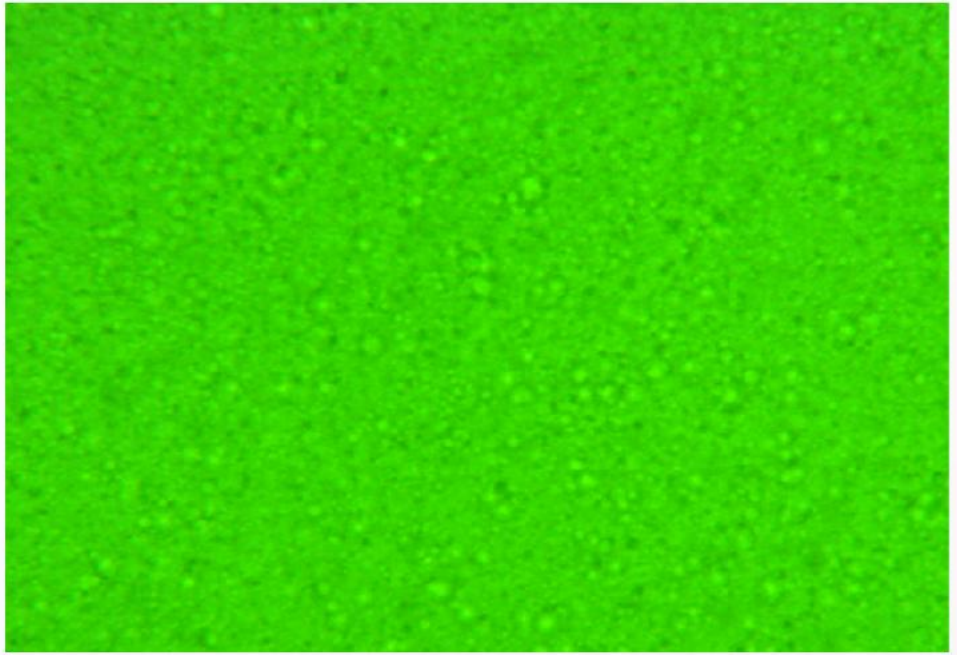


「"Relatively Dispersed, Irregularly Shaped Particulate Distribution"」

Ultrasonic Homogenization

Microfluidic Treatment

ZLEY®VA envova2%

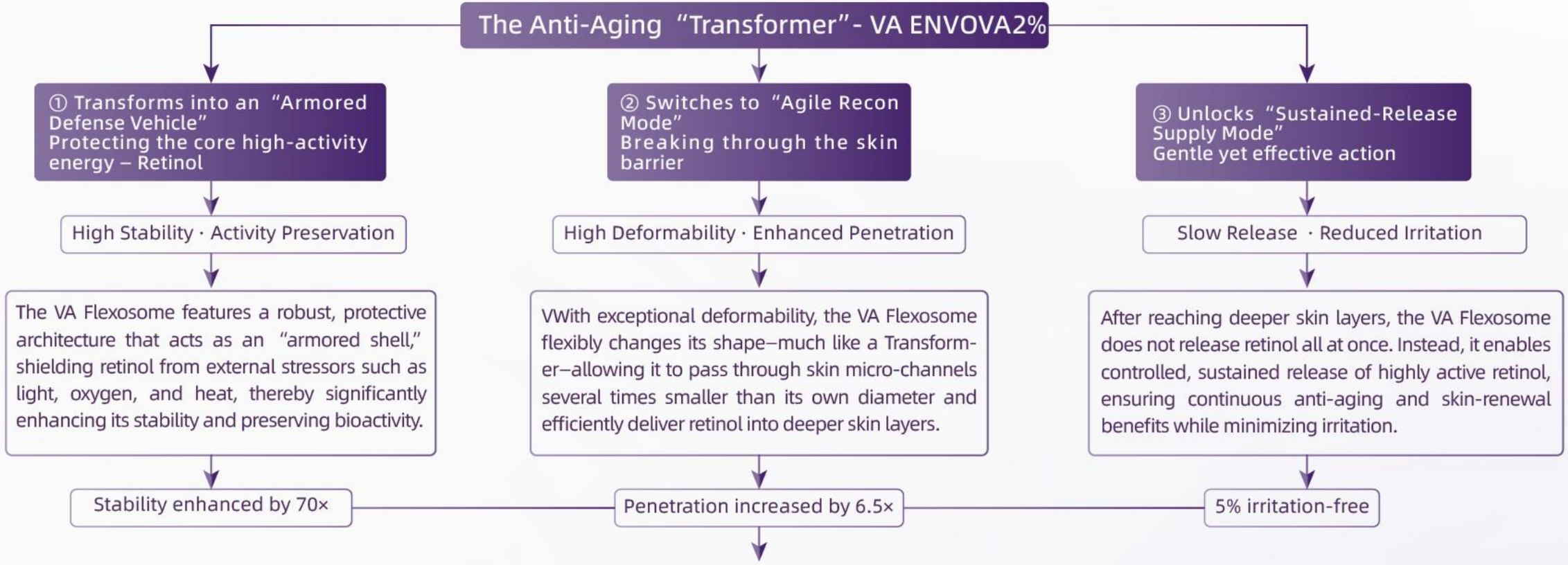


「Uniform, Fine Spherical Vesicle Distribution」

Under a microscope (40×), the VA flexible body prepared using "flexible microcapsule coating technology" exhibits a uniform, fine spherical vesicle distribution, allowing retinol to be released and absorbed more stably and effectively, thereby improving product efficacy.

Data sourced from internal research at the ZLEYGROUP Efficacy Lab; for reference only.

「Three Core Advantages of VA ENVOVA2%」



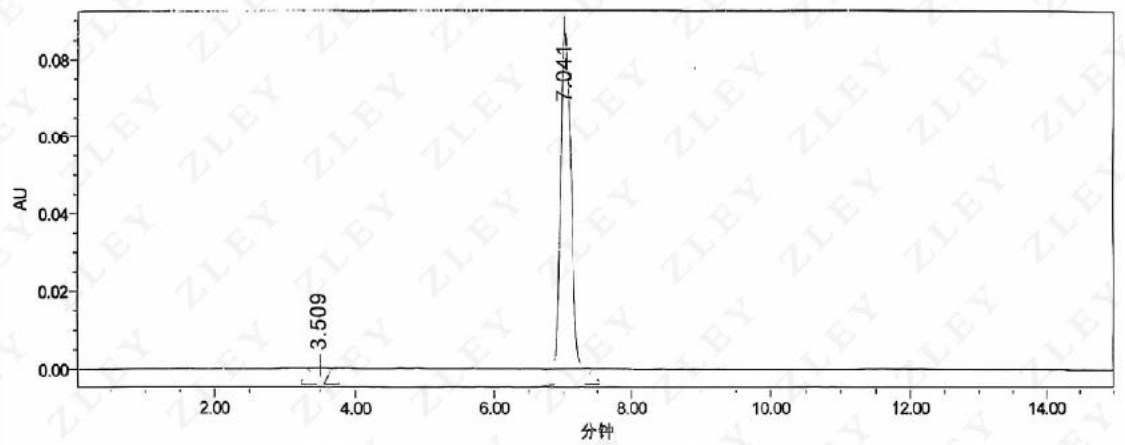
The Anti-Aging "Transformer" – VA ENVOVA2%

By leveraging "armored protection" to preserve activity, "flexible deformation" to enhance penetration, and "sustained-release capability" to reduce irritation, VA ENVOVA2% decisively overcomes the key limitations of conventional retinol–instability, poor penetration, and high irritation, unlocking the full potential of retinol-powered anti-aging and skin renewal.

样品信息

样品名称：	视黄醇-对照	采集者：	System
样品类型：	未知	采集时间：	2025/9/19 10:13:58 CST
瓶号：	65	采集方法组：	视黄醇
进样次数：	1	处理日期：	2025/9/29 17:06:50 CST
进样体积：	20.00 ul	处理方法：	视黄醇
运行时间：	15.0 Minutes	通道名称：	2487通道 1
样品组名称：	9月	处理通道注释：	2487通道 1

自动标尺色谱图



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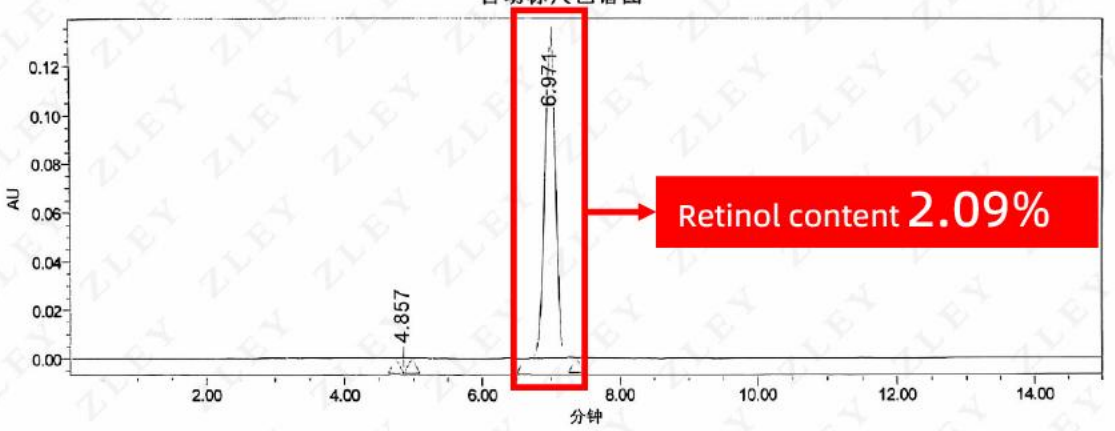
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2	2487通道 1	7.041	914828	99.61	88379

样品信息

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瓶号：	68	采集方法组：	视黄醇
进样次数：	1	处理日期：	2025/9/29 17:05:53 CST
进样体积：	20.00 ul	处理方法：	视黄醇
运行时间：	15.0 Minutes	通道名称：	2487通道 1
样品组名称：	9月	处理通道注释：	2487通道 1

自动标尺色谱图



SampleName 2%VA-2方案 20250620 4℃; Vial 68; Injection 1; Channel 2487通道 1; Date Acquired 2025/9/19 11:26:15 CST

处理通道:**2487通道 1**

	处理通道	保留时间(分钟)	面积	% 面积	峰高
1	2487通道 1	4.857	3052	0.22	469
2	2487通道 1	6.971	1407999	99.78	132175

Data sourced from internal research at the ZLEYGROUP Efficacy Lab; for reference only.

Part . 04

「STABILITY PERFORMANCE – APPEARANCE & CONTENT」

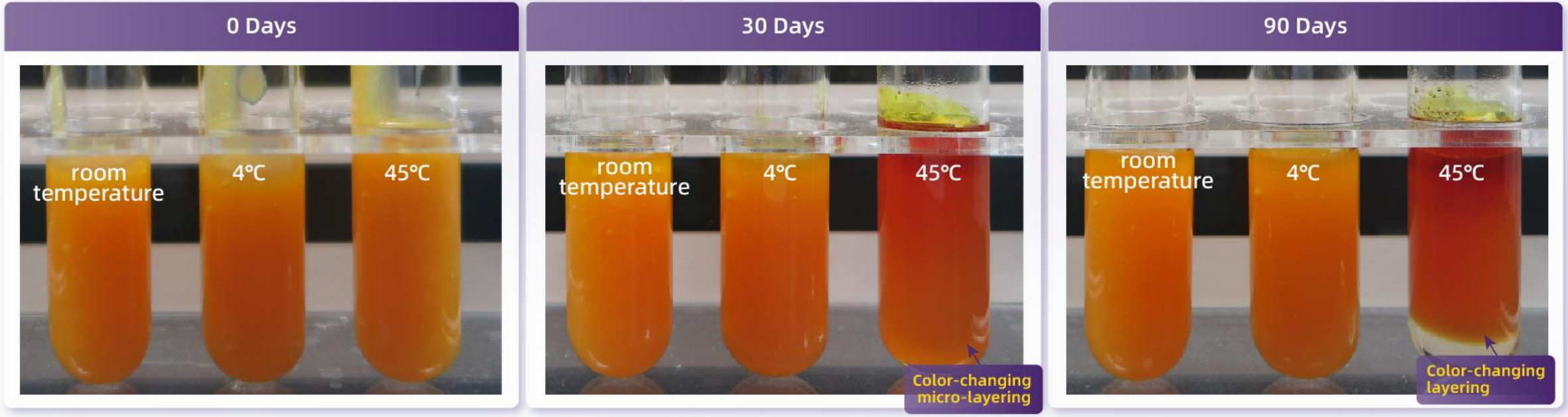


STABILITY - APPEARANCE, CONTENT

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

「01）90 Days: No Phase Separation, Precipitation, or Discoloration at Room Temperature and 4℃」

Appearance (ZLEY®VA envova2%) : Pale yellow to yellow viscous solution



As shown in the figure above, after 90 days of observation, the ZLEY®VA envova 2% showed no delamination, precipitation, or discoloration issues at room temperature and 4℃.

Data sourced from internal research at the ZLEYGROUP Efficacy Lab; for reference only.

「02）80% Retinol Content Retention After 90 Days」

Figure 1: Changes in retinol content in ZLEY®VA envova 2%

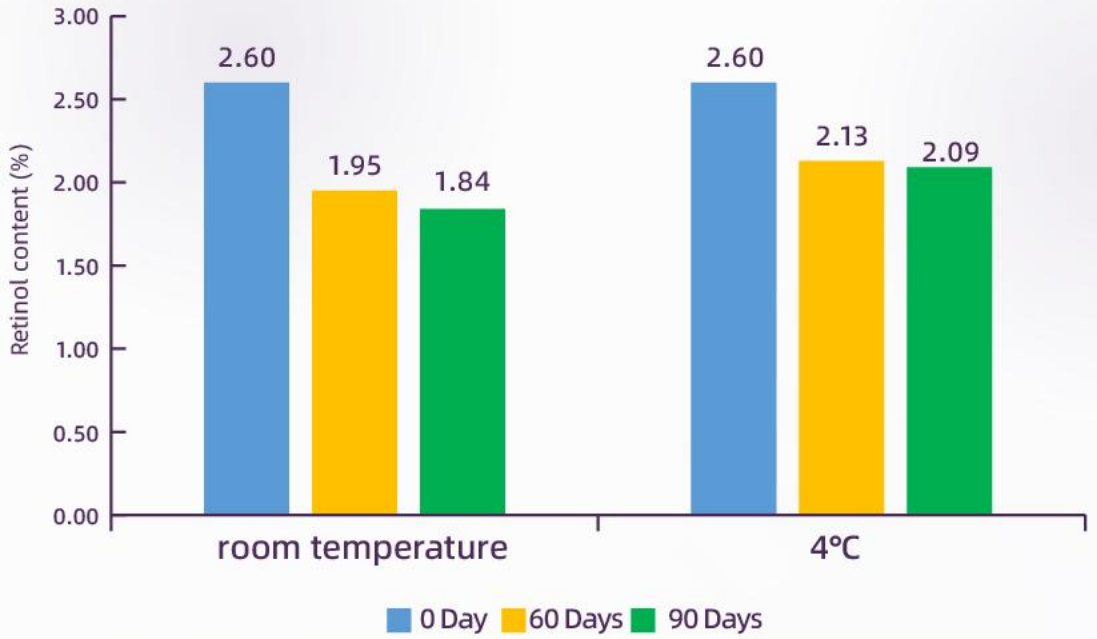
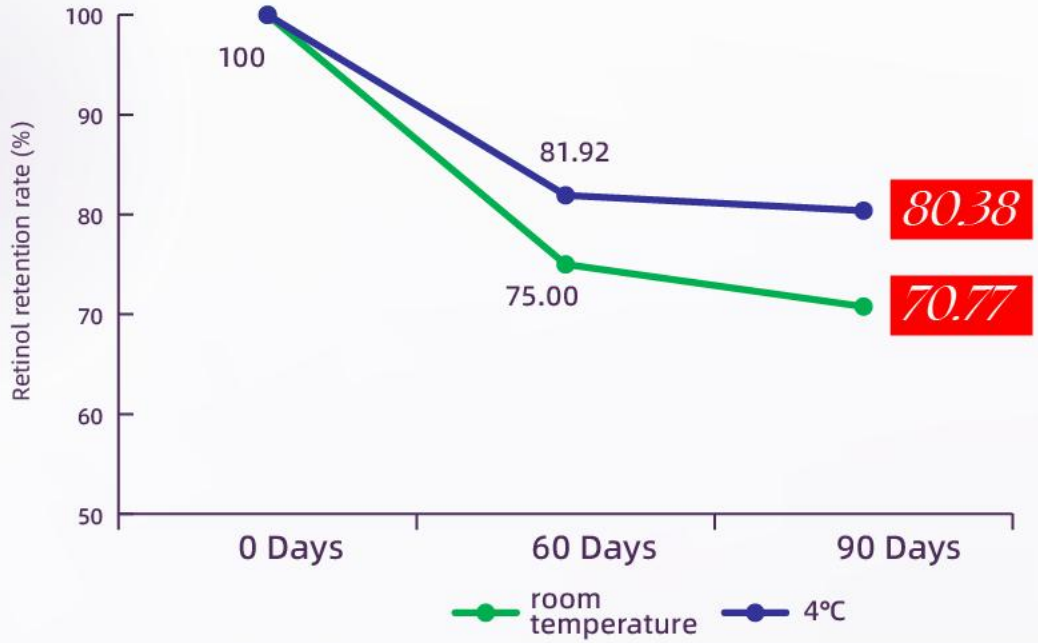


Figure 2: Retinol retention rate in ZLEY®VA envova 2%



As shown in the figure above, after 90 days of observation, the ZLEY®VA envova 2% showed no delamination, precipitation, or discoloration issues at room temperature and 4℃.

来源于妆莱功效实验室内部研究数据

「03）80% Retinol Content Retention After 90 Days」

Figure 1: Changes in retinol content at room temperature

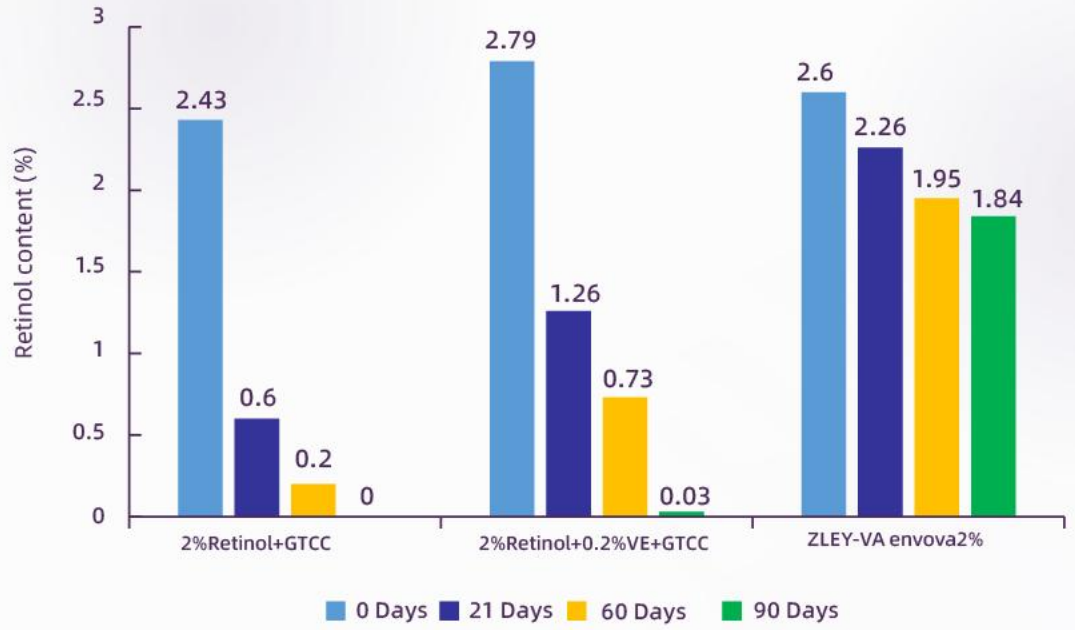
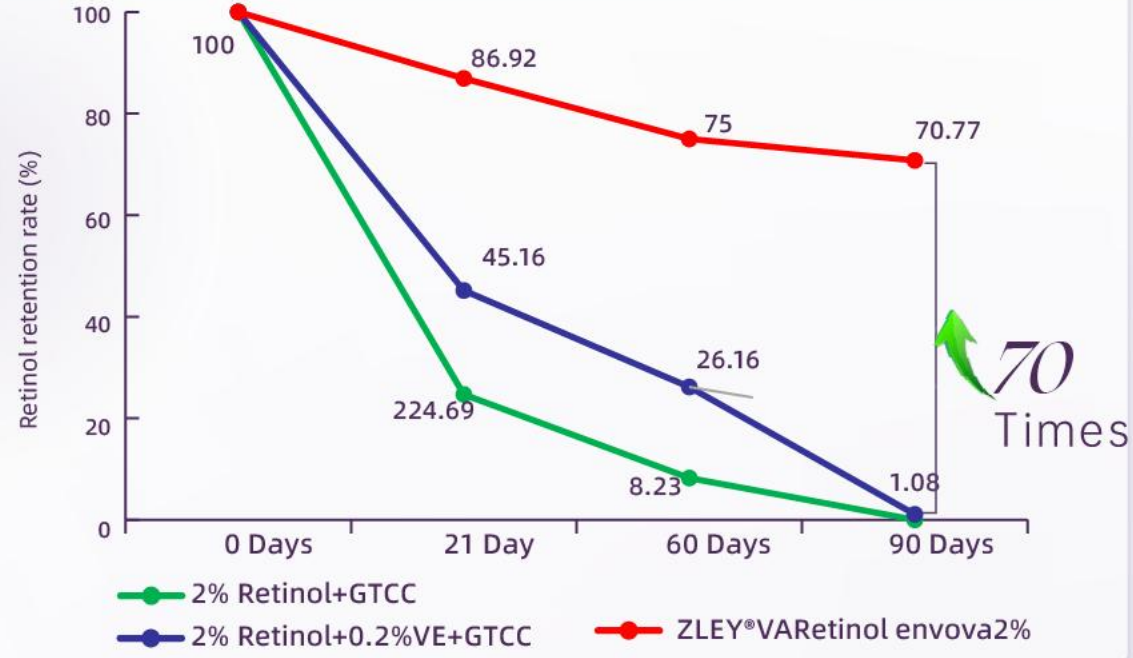


Figure 2: Retinol retention rate at room temperature



Retinol content stability at room temperature: ZLEY®VA envova 2% ≫ 2% retinol in GTCC oil solution.
Compared to GTCC oil solution of retinol, ZLEY®VA envova 2% better protects the stability of retinol content, with a significant 70-fold improvement in stability.

Data sourced from internal research at the ZLEYGROUP Efficacy Lab; for reference only.

Part . 05

「EFFICACY EVALUATION」



EFFICACY EVALUATION

INNOVATIVE ELEMENTS TO AMELIORATE LIFE

「01」 6.5-Fold Enhancement in Transdermal Penetration」

① Test Item:

Permeation Rate (Test Model: Transdermal Absorption)

② Test Standard:

Cosmetics Absorption – In Vitro Test Method (GB/T 27818-2011)

③ Test Method:

Based on a porcine skin-Franz diffusion cell system, Franz diffusion experiments were conducted using dorsal skin from suckling pigs treated with different test samples. The transdermal permeation capacity of each sample across excised porcine dorsal skin was evaluated. The cumulative amount of retinol permeated into the receptor compartment at different time points was subsequently quantified to characterize the in vitro transdermal permeation behavior.

④ Test Samples:

0.5% Retinol Gel, 25% VA envova2% Gel

⑤ Test Result:

Compared with conventional retinol, the VA envova2% exhibited a 6.5-fold increase in transdermal permeation.

+6.5 Times VS Retinol Gel

「24-hour transdermal permeability」

来源于妆莱功效实验室内部研究数据

「02）100%Gentle and Non-Irritating」

5% VA envova2%

100% Gentle and Non-Irritating

4. 试验方法：选用合格的斑试器材，以封闭型斑贴试验方法，将受试物约 0.020mL-0.025mL（液体）置于斑试器内，外用低致敏胶带贴敷于受试者背部，24 小时后去除受试物，分别于去除后 0.5、24、48 小时观察皮肤反应，按《化妆品安全技术规范》（2015 年版）中皮肤反应分级标准记录其结果。

皮肤封闭型斑贴试验皮肤反应分级标准

反应程度	评分等级	皮肤反应
-	0	阴性反应
±	1	可疑反应，仅有微弱红斑
+	2	弱阳性反应（红斑反应）；红斑、浸润、水肿、可有丘疹
++	3	强阳性反应（疱疹反应）；红斑、浸润、水肿、丘疹、疱疹；反应可超出受试区
+++	4	极强阳性反应（融合性疱疹反应）；明显红斑、严重浸润、水肿、融合性疱疹；反应超出受试区

二、试验结果

化妆品人体皮肤斑贴试验结果汇总

组别	受试人数	观察时间	斑贴试验不同皮肤反应人数				
			0	1	2	3	4
受试物	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0
对照	30	0.5h	30	0	0	0	0
		24h	30	0	0	0	0
		48h	30	0	0	0	0

注：30 例受试者不同观察时间皮肤反应情况见附件。

结果显示：人体皮肤斑贴试验结果显示，30 人中 0 例出现皮肤不良反应。

「03-In vivo test」

- **Test Product:** 5% VA Flexosome serum emulsion
- **Usage period:** 14 days
- **Application Method:** Twice daily (morning and evening)
- **Testing instrument:** VISIA Skin Analysis System

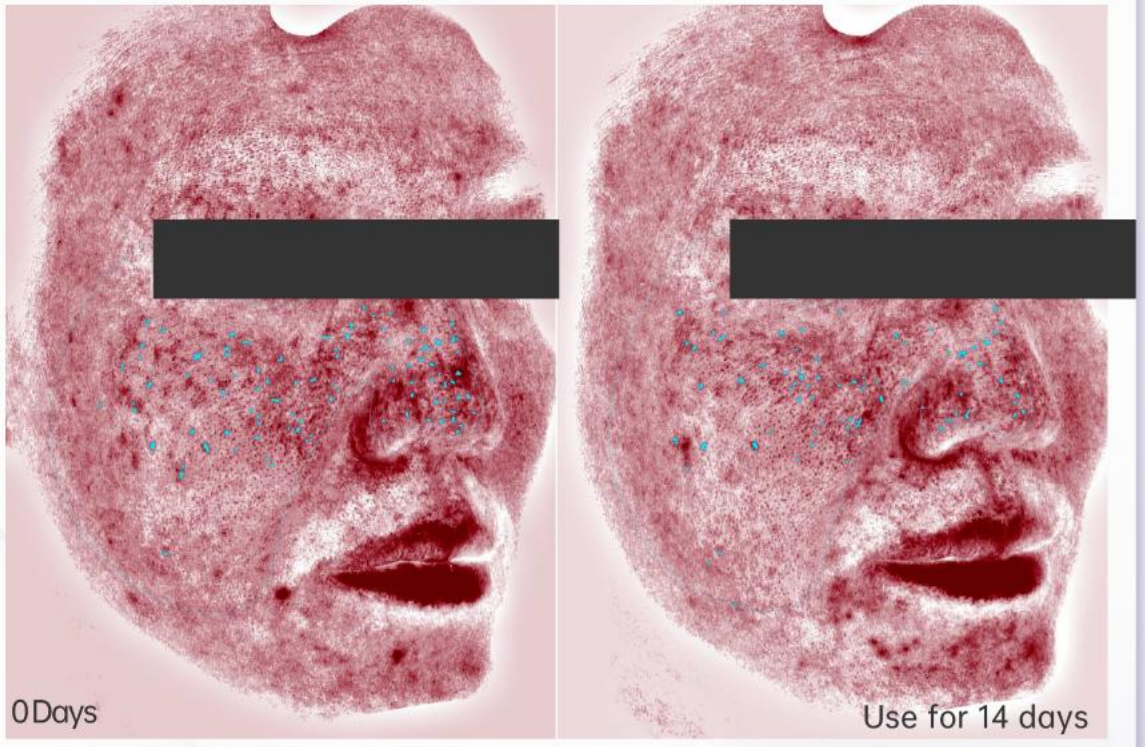
Ingredient List - 5% VA Flexosome serum emulsion

Phase	Product Name	INCI Name	ω/%	Supplier
A	Water	Water	5.00	—
	Glycerin	Glycerin	6.00	—
	Butylene Glycol	Butylene Glycol	5.00	—
	Trehalose	Trehalose	1.50	—
	AVC	Acrylamidodimethyltaurate/Vp Copolymer	0.50	—
	SK425	Ammonium Polyacryloyldimethyl Taurate	0.12	—
	Beta-Glucan	Beta-Glucan	0.02	—
	Sodium Hyaluronate	Sodium Hyaluronate	0.03	—
	Xanthan Gum	Xanthan Gum	0.08	—
	Allantoin	Allantoin	0.20	—
	ZLEY®BIOCARE-ZHD	1,2-Hexanediol	0.50	ZLEY
	Sodium Hyaluronate	Sodium Hyaluronate	3.00	—
A2	SG	Sodium Stearoyl Glutamate	0.30	—
B	GTCC	Caprylic/Capric Triglyceride	3.0	—
	IPM	Isopropyl Myristate	3.50	—
	Helianthus Annuus (Sunflower) Seed Oil	Helianthus Annuus (Sunflower) Seed Oil	0.30	—
	Hydrogenated Lecithin (80H)	Hydrogenated Lecithin	0.60	—
	A165	Glyceryl Stearate (And) Peg-100 Stearate	0.50	—
	PMX-0345Z	Cyclopentasiloxane, Cyclohexasiloxane	3.50	—
	Tocopherol	Tocopherol	0.20	—
C	ZLEY®VA ENVOVA 2%	Retinol、Caprylic/Capric Triglyceride、Polyglyceryl-10 Myristate、Hydrogenated Lecithin、Tocopherol、1,2-Hexanediol、Glycerin、Water	5.00	ZLEY
	Water	Water	10.00	—

Pores(1367-1091, ↓20.19%)



redness(197-129, ↓34.52%)



After 14 consecutive days of using a 5% VA Flexosome serum emulsion, subjects showed significant improvements in facial pores and redness.

- **Test Product:** 3% VA Flexosome serum emulsion
- **Usage Period:** 7 days
- **Application Method:** Twice daily (morning and evening)
- **Evaluation Instrument:** VISIA Skin Analysis System

Wrinkles (76-45, ↓ 40.79%)



Part . 06

「TECHNICAL INFORMATION」



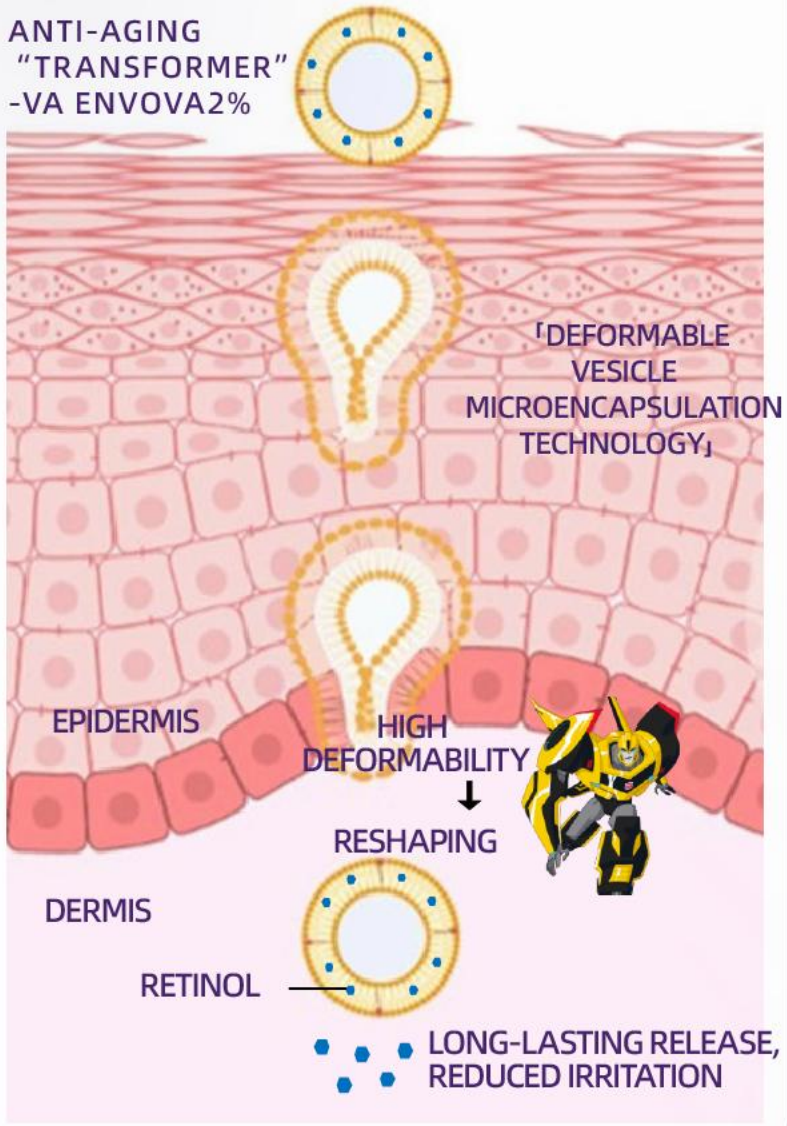
PRODUCT INFORMATION

INNOVATIVE ELEMENTS TO AMELIORATE LIFE



「Product Information」

Product Name	ZLEY®VA ENVOVA2%
INCI NAME	RETINOL、CAPRYLIC/CAPRIC TRIGLYCERIDE、POLYGLYCERYL-10 MYRISTATE、HYDROGENATED LECITHIN、TOCOPHEROL、1,2-HEXANEDIOL、GLYCERIN、WATER
CAS No.	11103-57-4、65381-09-1、87390-32-7、92128-87-5、10191-41-0、6920-22-5、56-81-5、7732-18-5
Safety Risk	Green
Comedogenic Risk	None
Active Content (Retinol)	2%
Product Benefits	Anti-wrinkle, skin firming and fine line reduction, acne improvement, skin brightening and spot fading
Appearance	Light yellow to yellow viscous solution
Recommended Dosage	1.0–20%
Solubility	Water-dispersible
Processing Instructions	Add to the formulation at room temperature and mix until evenly dispersed



High Stability & Bioactivity Preservation,

[After 90 days, more than 80% of the retinol activity is retained, and the stability is improved by 70 times.]

High Deformability & Enhanced Penetration

[Compared to retinol, VA ENVOVA2% polyps have 6.5 times better transdermal permeability.]

Slow Release with Reduced Irritation

[5% mild and non-irritating]

The Anti-Aging "Transformer" -VA ENVOVA2%
Empowered by an innovative Deformable Vesicle Microencapsulation Technology,
it delivers three core advantages – High Stability & Bioactivity Preservation, High Deformability & Enhanced Penetration, and Sustained Release with Reduced Irritation – effectively overcoming the inherent limitations of traditional retinol, including instability, poor skin penetration, and high irritation.
By unlocking retinol's full potential, it maximizes anti-aging and skin-renewing performance.

Phase	Product Name	INCI Name	ω/%	Supplier
A	Water	Water	5.00	—
	Glycerin	Glycerin	6.00	—
	Butylene Glycol	Butylene Glycol	5.00	—
	Trehalose	Trehalose	1.50	—
	AVC	Acrylamidodimethyltaurate/Vp Copolymer	0.50	—
	SK425	Ammonium Polyacryloyldimethyl Taurate	0.12	—
	Beta-Glucan	Beta-Glucan	0.02	—
	Sodium Hyaluronate	Sodium Hyaluronate	0.03	—
	Xanthan Gum	Xanthan Gum	0.08	—
	Allantoin	Allantoin	0.20	—
	ZLEY®BIOCARE-ZHD	1,2-Hexanediol	0.50	ZLEY
	Sodium Hyaluronate	Sodium Hyaluronate	3.00	—
A2	SG	Sodium Stearoyl Glutamate	0.30	—
B	GTCC	Caprylic/Capric Triglyceride	3.0	—
	IPM	Isopropyl Myristate	3.50	—
	Helianthus Annuus (Sunflower) Seed Oil	Helianthus Annuus (Sunflower) Seed Oil	0.30	—
	Hydrogenated Lecithin (80H)	Hydrogenated Lecithin	0.60	—
	A165	Glyceryl Stearate (And) Peg-100 Stearate	0.50	—
	PMX-0345Z	Cyclopentasiloxane, Cyclohexasiloxane	3.50	—
	Tocopherol	Tocopherol	0.20	—
C	ZLEY®VA ENVOVA 2%	Retinol、Caprylic/Capric Triglyceride、Polyglyceryl-10 Myristate、Hydrogenated Lecithin、Tocopherol、1,2-Hexanediol、Glycerin、Water	5.00	ZLEY
	Water	Water	10.00	—

▶ **Formula Name:** VA Flexosome Serum Emulsion

▶ **Formula Code:** T25082801

▶ **Product Claim:** Anti-wrinkle

▶ **Appearance:** Light yellow, smooth emulsion

▶ **pH (10% Solution):** 6.69

▶ **Viscosity (25°C):** 5873 mPa·s (Spindle #3, 12 rpm)

▶ **Processing Parameters:**

- Accurately weigh Phase A, mix thoroughly to form the aqueous phase, heat in a water bath to 75–80° C, homogenize for 1–2 minutes, and allow uniform swelling.
- Add Phase A2 to the aqueous phase, stir until completely dissolved, and set aside.
- Accurately weigh Phase B, heat to 70–80 ° C until fully dissolved and transparent. Add Phase B into the aqueous phase and homogenize for 1–3 minutes to obtain a uniform emulsion.
- Stir the batch while cooling to below 50 ° C. Disperse Phase C evenly in water at room temperature, then add it to the batch. Homogenize, continue stirring, cool down, and discharge the finished product.

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