P413*

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Preliminary Evaluation of the Stability of a Liposomal Formulation of OmegaCalm Based on Active Peptides for Cosmetic Applications

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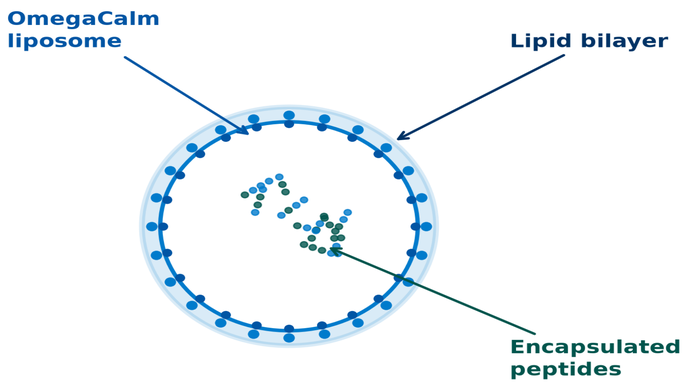
* https://doi.org/10.17952/38EPS.2026.P413

Introduction

The stability of liposomal systems is a **critical aspect** to guarantee their performance as vehicles for bioactive peptides in cosmetic applications.

Stability testing determines the **shelf life** of a finished product under specified storage conditions.

Liposome Structure



Preparation Method

Liposome Preparation Scheme

1. **Lipid Dissolution** — Phospholipids dissolved in organic solvent (CHCl3/MeOH)
2. **Thin-Film Formation** — Solvent evaporation under reduced pressure
3. **Hydration** — Aqueous phase with OmegaCalm peptides added
4. **Sonication / Extrusion** — Size reduction and homogenization
5. **Liposomal Dispersion** — Characterization: size, PDI, zeta potential
6. **Stability Evaluation** — Storage under controlled conditions (6 months)

Study Instruments

Stability Study Instruments

Storage Conditions: 25 C | 40 C | 4-10 C

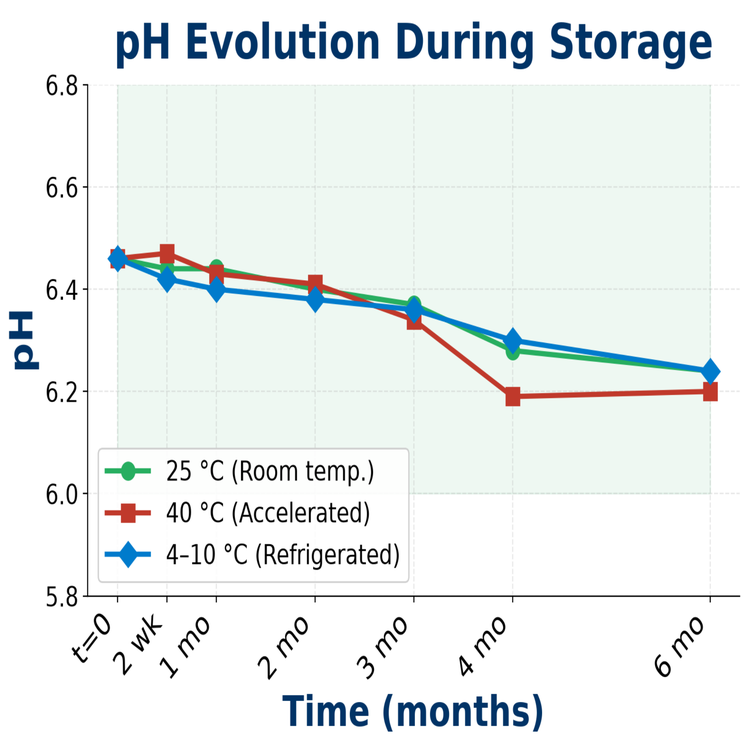
Analytical Instruments:

- **pH Meter** — pH measurement (6.0 - 7.0 range)
- **Viscometer** — Viscosity measurement (450-1300 cP range)

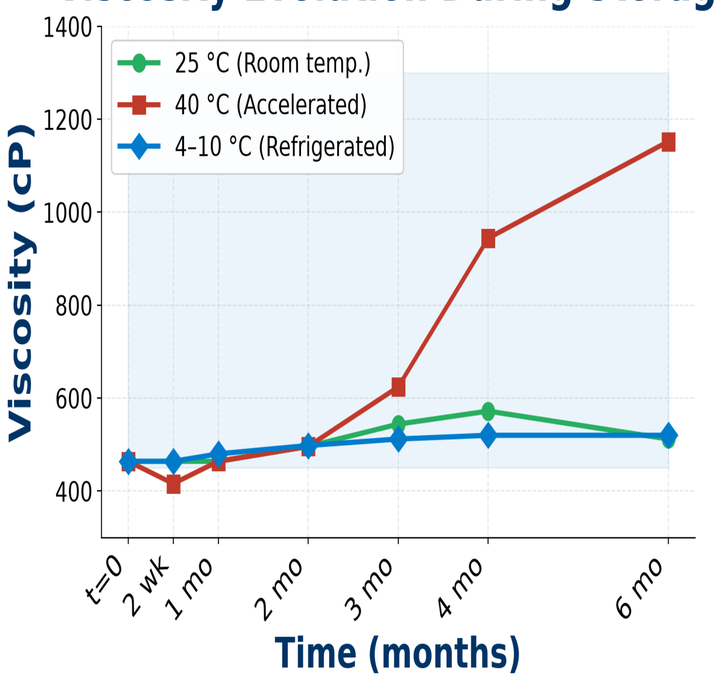
Timeline: t=0 | 2 wk | 1, 2, 3, 4, 6 months | Total: 18 samples

Results

pH Evolution During Storage



Viscosity Evolution During Storage





OmegaCalm liposomal formulation samples

KEY RESULTS & CONCLUSIONS

24

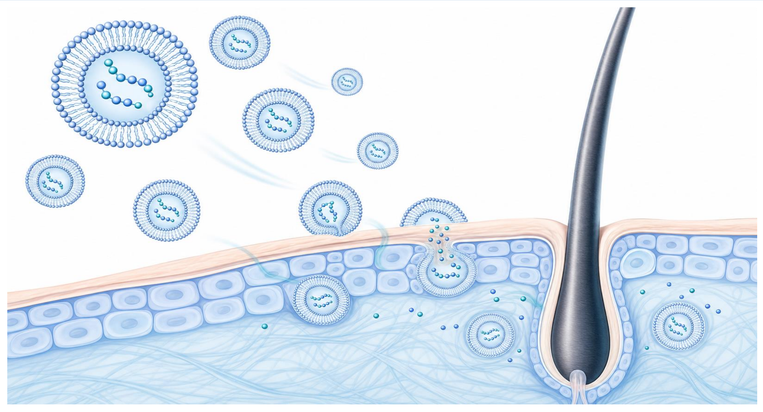
months

pH: 6.0 - 7.0

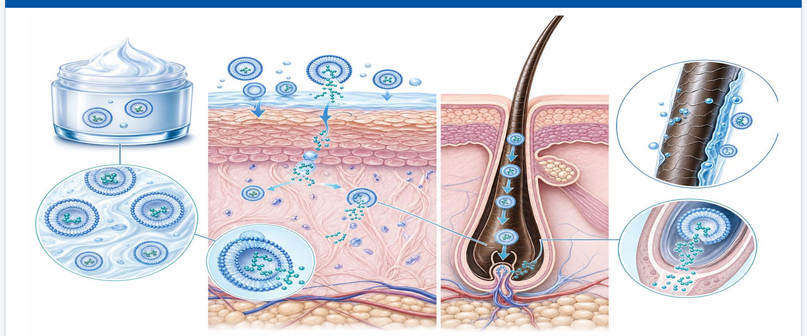
Viscosity: 450 - 1300 cP

Normal storage: room temperature, protected from light

Cosmetic Application



Multiple Applications



Skin care: anti-aging, hydration
Hair care: follicle delivery, protection
Topical formulations: creams, serums

pH Stability

✓ **6.0 - 7.0**

Stable across all conditions

Viscosity at 40 C

! **1152 cP**

Increase from month 3 (accelerated)

Shelf Life

★ **24 months**

Under normal storage conditions

Acknowledgements

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