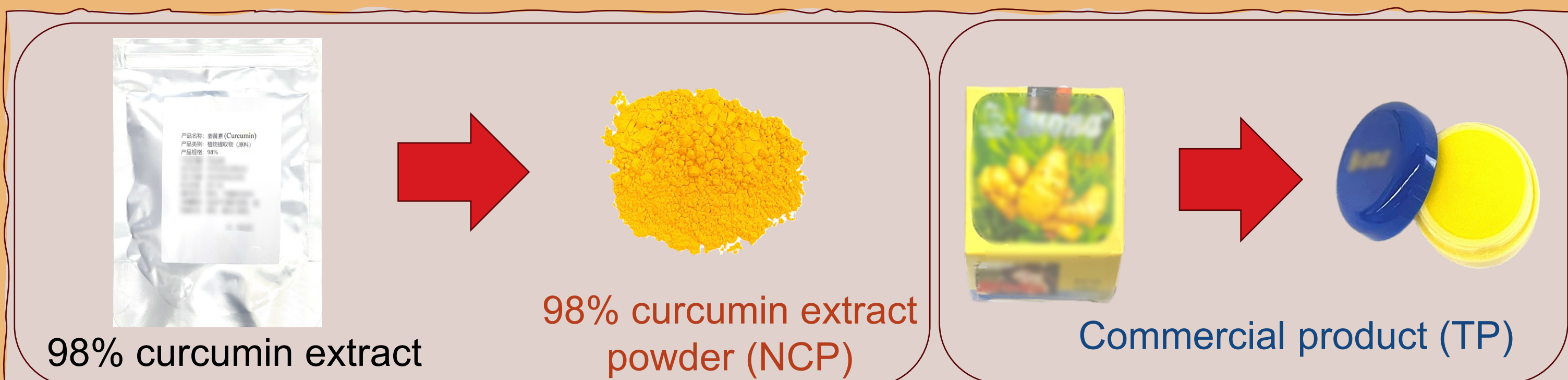


Design, Preparation, and Characterization of Chinese Medicinal Ointment – *Curcumae Longae Rhizoma*

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Research Background

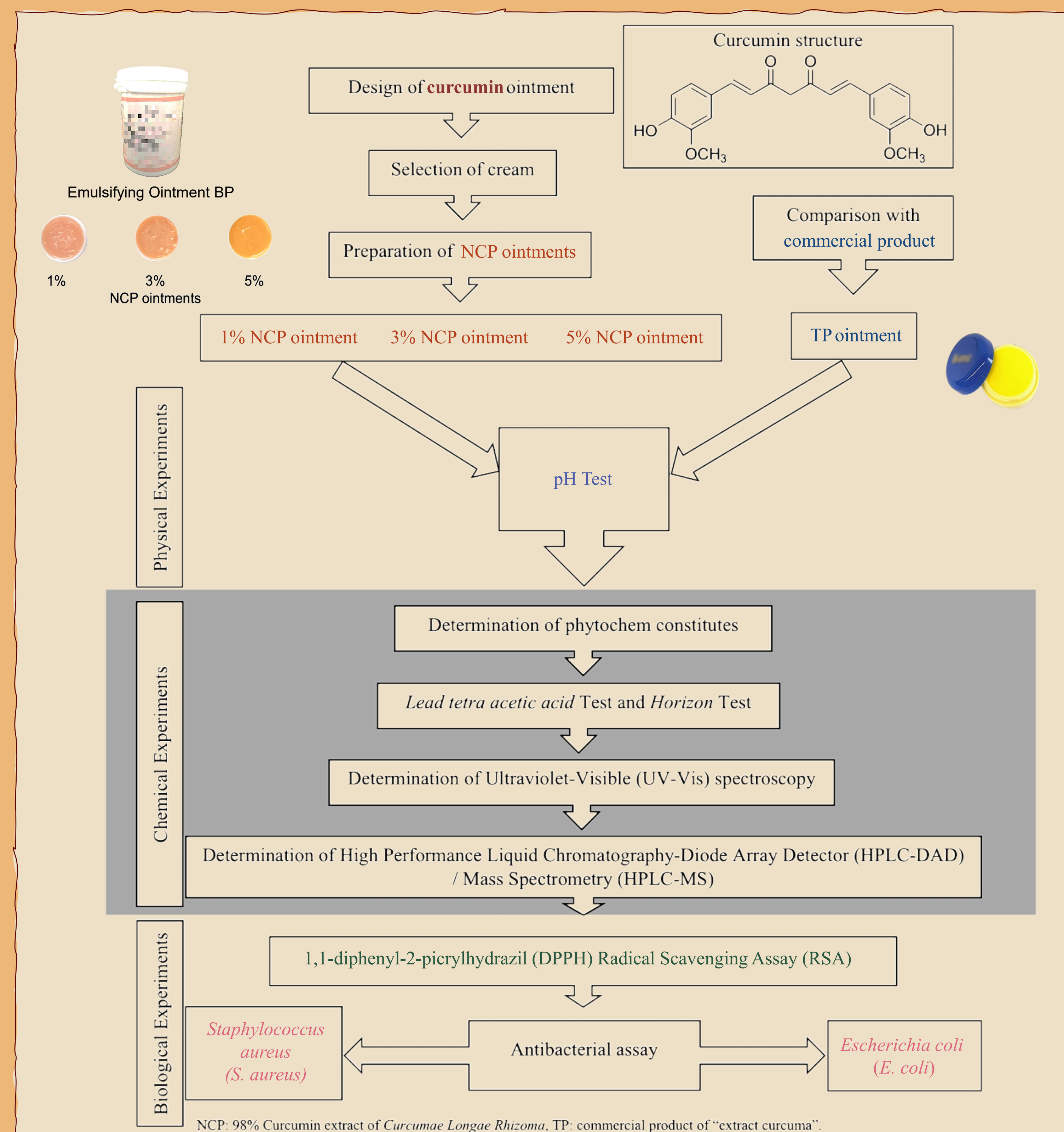
Cosmetics contain many preservatives and fragrances, such as phenoxyethanol and limonene, leading to skin allergies or diseases. Traditional Chinese Medicine (TCM) may be an alternative way to minimize these potential risks, for example, *Curcumae Longae Rhizoma*. Its extract has an active ingredient, “**curcumin**”, which possesses antibacterial and antioxidant properties to fight against skin disorders. Thus, this research project aimed to design and prepare a natural ointment from **98% curcumin extract powder (NCP)** to evaluate its effectiveness by comparing it with a **commercial product curcumin extract (TP)** ointment.



Objectives

- To design and prepare a Chinese medicinal ointment using an active ingredient of “**curcumin**” in **1%, 3%, and 5%** concentrations extracted from the *Curcumae Longae Rhizoma*;
- To predict the suitable **pH** from the selected cream and evaluate the prepared Chinese medicinal ointment's (**NCP**) **antioxidant** and **antibacterial** properties by comparing it to a **commercial product with curcumin extract (TP)**.

Methodology

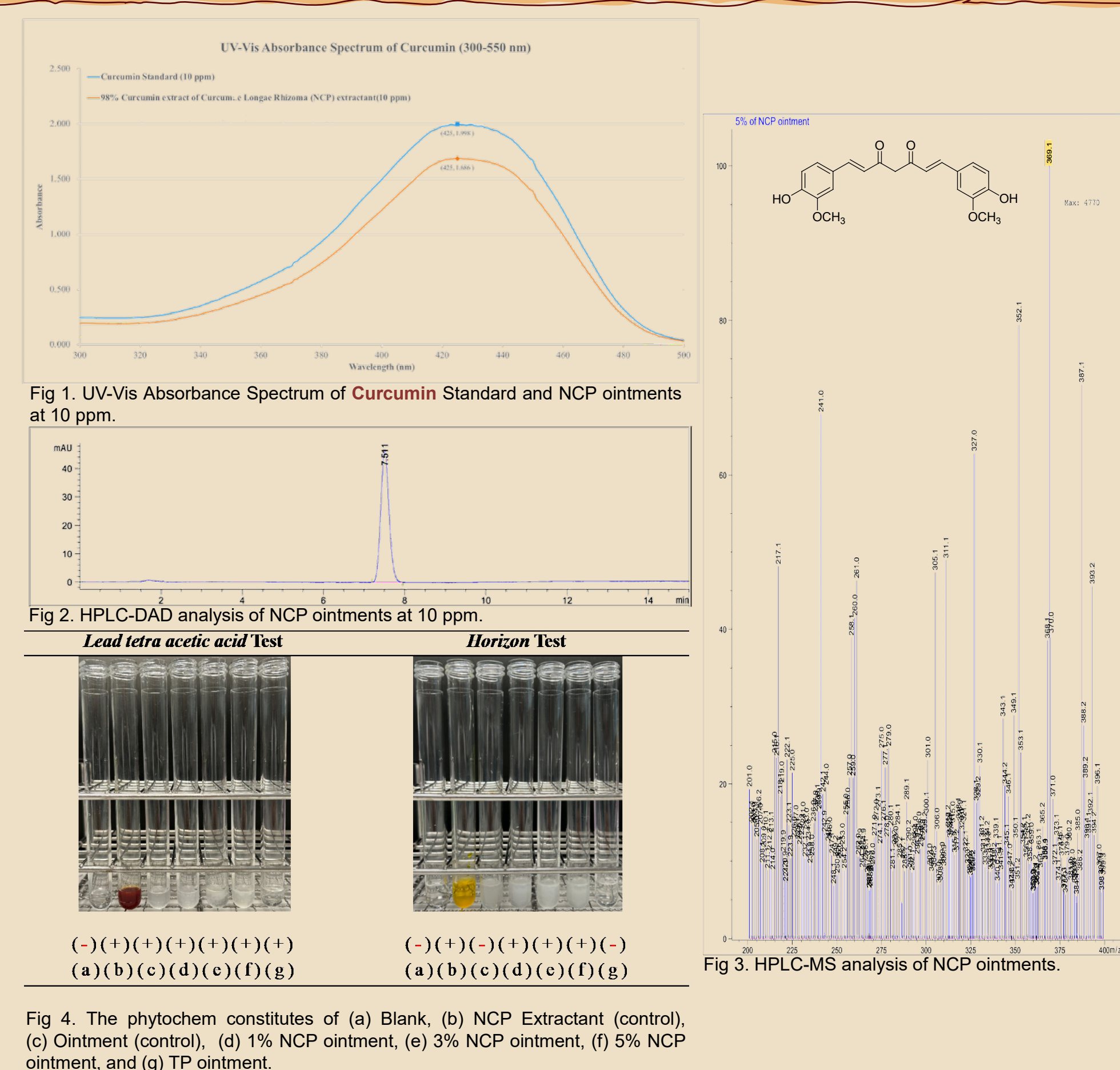


Reference
Wong, C., Law, S.K., Wu, X.X., Tong, C.W.S., Wang, Y., Chow, W. Y. L., & Au, D. C. T. (2025). Development of Chinese Medicinal Ointment with Antibacterial properties from *Tripterygium wilfordii*. *Pharmacogn. Mag*, 0(0). <https://doi.org/10.1177/09731296241309430>

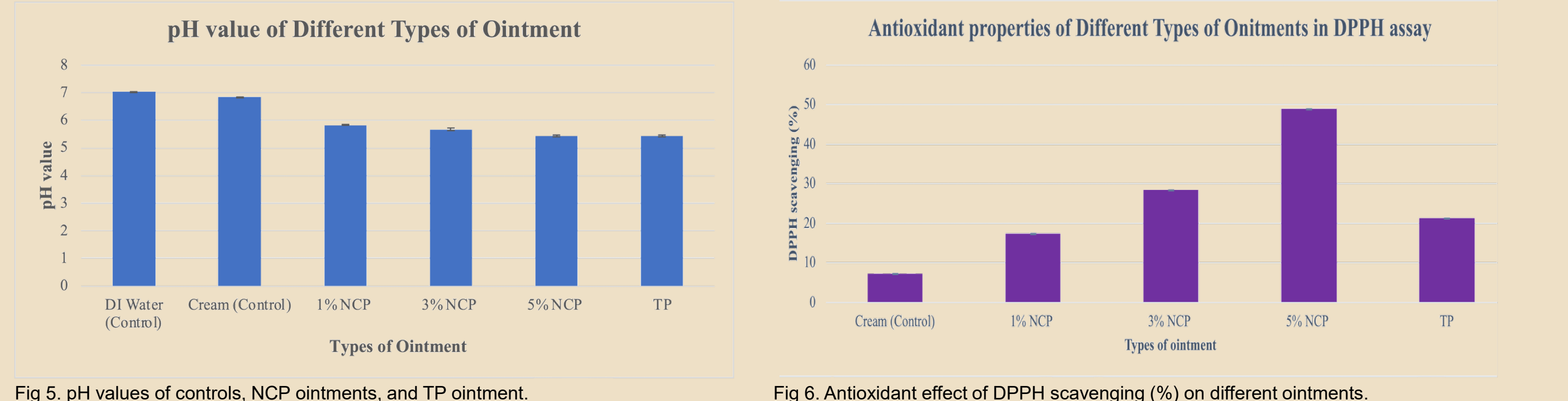
Findings

Emulsifying Ointment

BP was selected to prepare **NCP** ointments and confirm **1%, 3% and 5%** of **curcumin** via UV-Vis, HPLC-DAD, HPLC-MS, and phytochem constituents (Figs. 1-4).

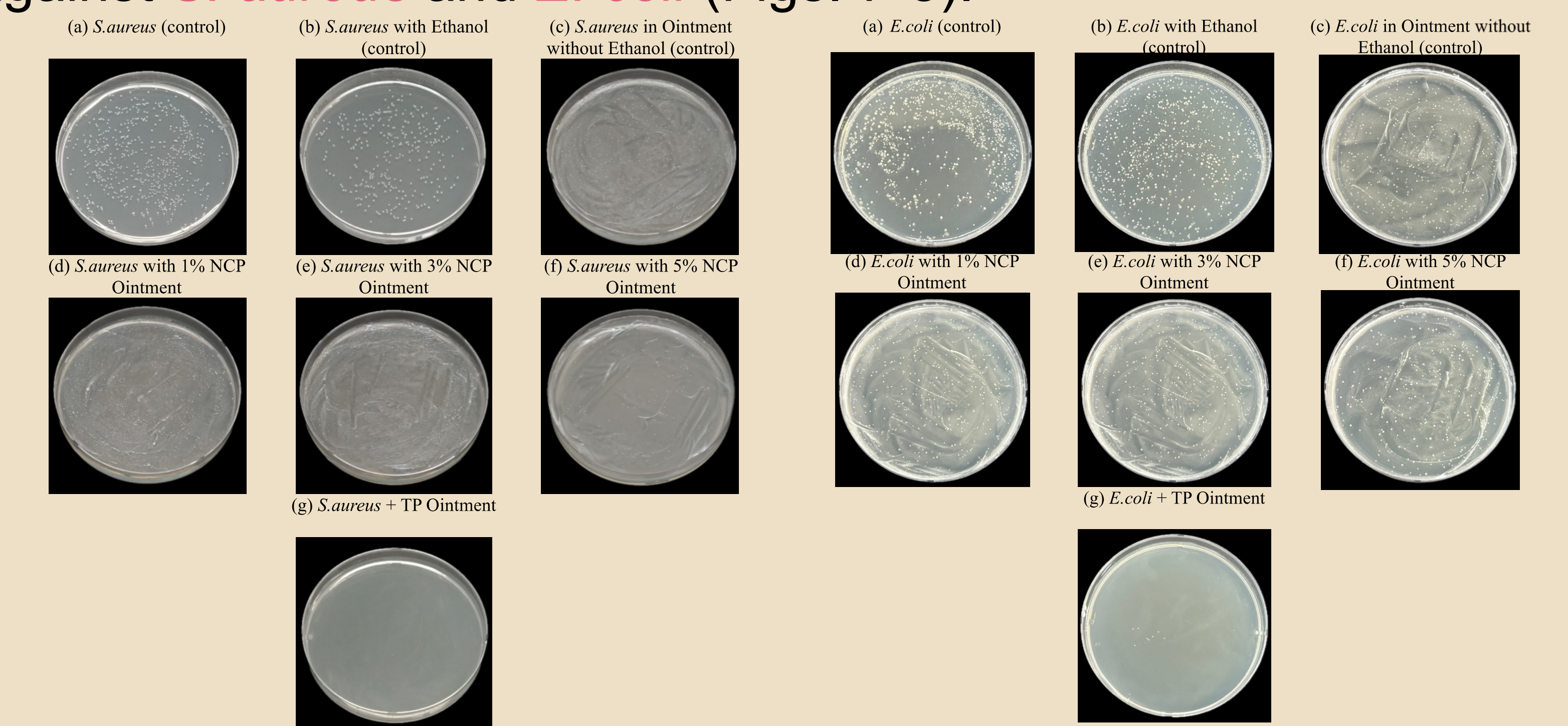


The **pH** value of **NCP**, and **TP** were 5.83 ± 0.02 , 5.67 ± 0.04 , 5.43 ± 0.04 , and 5.44 ± 0.04 (Fig. 5); an effect of antioxidant was **19.07%**, **28.42%**, **49.01%**, and **21.29%** (Fig. 6).



Antibacterial properties –

NCP: **76.07%**, **79.59%**, and **87.29%** against *S. aureus*; **25.58%**, **50.16%**, and **53.59%** against *E. coli*. **TP**: **99.42%** and **99.44%** against *S. aureus* and *E. coli* (Figs. 7-8).



Conclusion

Chinese medicinal **1%, 3%, and 5% NCP** ointments were successfully developed using an **Emulsifying Ointment BP** and the Chinese medicinal plant “*Curcumae Longae Rhizoma*”. The **pH** value of **NCP** ointments were slightly acidic. An active ingredient of **NCP** ointments, “**curcumin**” was determined using HPLC-DAD, HPLC-MS, and phytochem constituents studies, as well as to evaluate its effectiveness for **antioxidant** and **antibacterial** properties. **3% and 5% NCP** ointments possessed higher **antioxidants** but lower **antibacterial** properties than **TP** ointment. These **NCP** ointments offered a basic insight into the designation and preparation of skincare products. However, much more work needs to be done in the next milestone, such as safety assessments of human skin for the **NCP** ointments.

***The contents of this poster have been accepted to the “**Pharmacognosy magazine**” for publication.
Lai, M.T., Law, S.K., Ng, S.W., Wang, Y., & Wu, X.X*. (2025). Design the Chinese Medicinal “Curcumin” ointment and study its antioxidant or antibacterial properties compared with a commercial product. *Pharmacogn. Mag* (Accepted and waiting to publish).