Priva

Private Company 🏶 🚯

Biocompatible adhesives and adhesion promoters

Beauty & skincare

Background

We are a beauty company with a strong presence in professional nail design and care, now expanding into durable, easy-to-apply alternatives that offer long-lasting wear and salon-quality results at home. People, especially younger generations, are gravitating towards artificial nails. Nail designs enhance personal style, boost confidence, and add a touch of creativity to daily life. Artificial nails allow consumers to complete a sophisticated manicure in under 20 minutes at home and at a lower price point compared to traditional methods (lacquer, gel). Artificial nails comprised of ABS (acrylonitrile butadiene styrene) plastic are often adhered using one of the following three methods: pressure-sensitive adhesive tabs (acrylates copolymer adhesive), cyanoacrylate glue, or UV-curable methacrylate chemistry (listed from weakest to strongest adhesion). Pop-off is common with the first two methods, which can be frustrating for the wearer and compromise the manicure. The third method provides strong adhesion but can only be used with clear artificial nails, as UV light must penetrate through the plastic to trigger polymerization. A key challenge is developing stronger, more reliable adhesives that avoid pop-off while remaining flexible or weak enough to not pull, hurt, or damage natural nails.

What we're looking for

We are seeking an innovative adhesion promoter suitable for non-transparent artificial nails. We are open to collaborating with experts in materials science, polymer chemistry, or biomedical engineering to develop a viable solution. Feasible cost is essential as the final product would be commercially available to consumers. **Solutions of interest include:**

- Next-gen glue formulations
- Smart adhesives (triggered by pressure, heat, or moisture)
- Novel polymer systems
- · Improved stick-on tabs with enhanced hold
- Adhesion promoters or surface treatments
- Functional adhesive tapes

Our must-have requirements are:

- Supported by rationale or existing evidence for safe use on skin and nails
- Adheres effectively to both ABS plastic and natural nail surfaces
- Adhesive performance lasts at least 2 weeks

Our nice-to-have's are:

- Supports easy consumer application and non-damaging removal
- Maintains aesthetic thickness (1-3 mm)

What's out of scope:

Solutions using hazardous substances or harsh chemicals harmful to nails or skin

Acceptable technology readiness levels (TRL): Levels 3-9

- 1. Basic principles observed
- 2. Concept development
- 3. Experimental proof of concept
- 4. Validated in lab conditions
- 5. Validated in relevant environment
- 6. Demonstrated in relevant environment
- 7. Regulatory approval
- 8. Product in production
- 9. Product in market

What we can offer you

Eligible partnership models:

- Supply/purchase
- Material transfer
- Co-development
- Sponsored research

Benefits:

Sponsored Research

Funding is proposal-dependent starting with proof-of-concept. **Tools and Technologies**

Partners may be provided with test methods and samples of current adhesives on the market. **Data**

Partners can access adhesion data on current methods.

Please contact the University of South Florida Technology Transfer office representative for submission - Karla Schramm at <u>kschramm@usf.edu</u>