



# Negotiated Skin

Freda Xinyue Xia

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# Soft Systems for Repair: Rethinking Material, Body, and Climate in Fashion



Transforming fashion systems by reducing fashion's impact on climate and nature through intelligent biodegradable materials.



# Cycle of Repair

Let's Hear from the Cocoon!



Hi,  
I'm a cocoon from China's Watson  
eco family farm.  
Freda transformed my skin into raw  
silk thread.



She then dyed me into a full color  
spectrum with natural dyes such as  
logwood, gardenia, madder, and fresh  
indigo leaves. With my readiness of  
embracing colors, she respected  
my temper. We worked together and  
achieved these colors with joy.



I was then able to compose visual  
music on a weaving loom with other  
threads Freda made with paper, corn  
silk and other natural matter.



Then she decided to challenge herself  
by putting me on a knitting machine  
with wool yarn and laser cut from her  
painting. With a lot of dropped stitches  
because of my untamed temper, she  
decided to repair me with my own  
skin - silk protein. She melted me  
down with the help of a friend who's  
a medical researcher who used silk  
protein for tissue repair.



She brushed the biomaterial on the  
knitted structure to repair and was  
inspired by healing not just as a  
concept, but an actual act of repairing.  
Then she realized that she could  
register shape with me and other  
biomaterials, enhancing the strength of  
each other, creating her own craft and  
carrying on her creative journey with  
me. :)



# Innovation in Material Research & Development

## Gelatin-based biomaterial persistence test under 70°C water



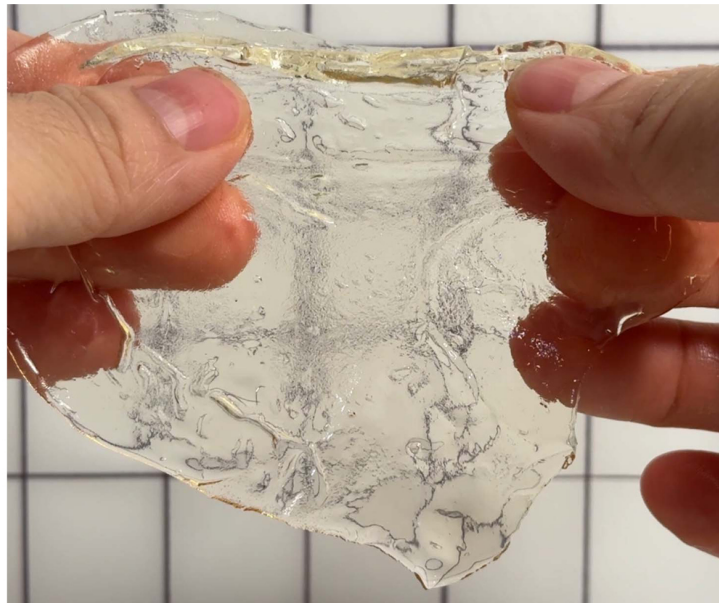
1. Before



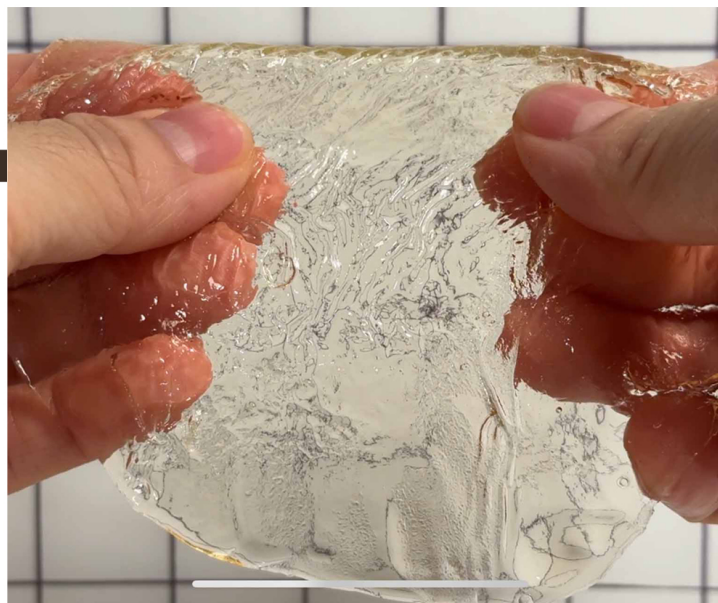
2. During



3. After

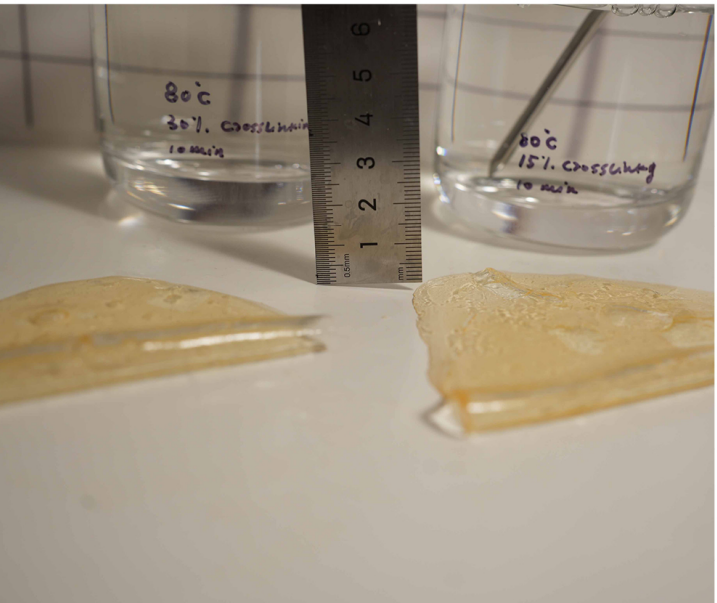


4. 30% cross-linking

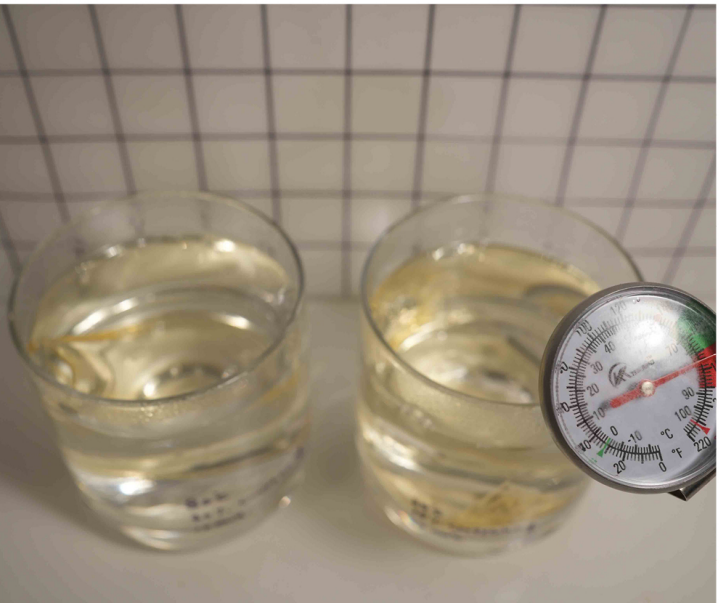


5. 15% cross-linking

## Gelatin-based biomaterial persistence test under 80°C water



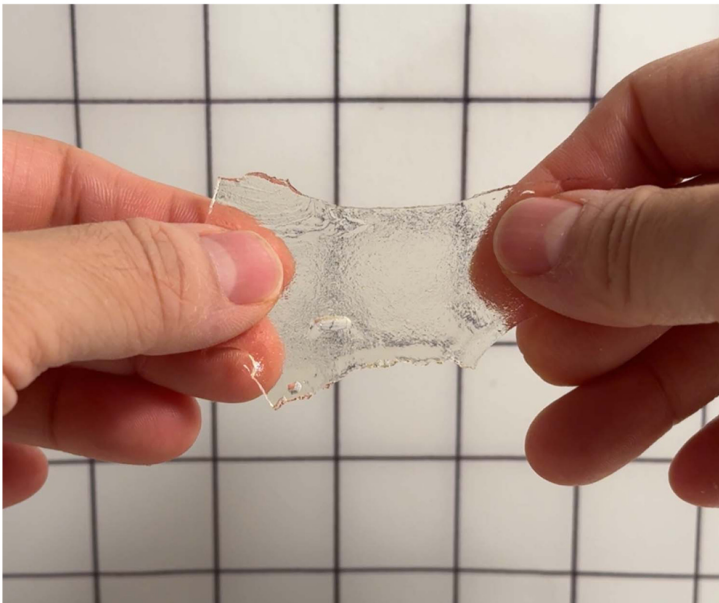
1. Before



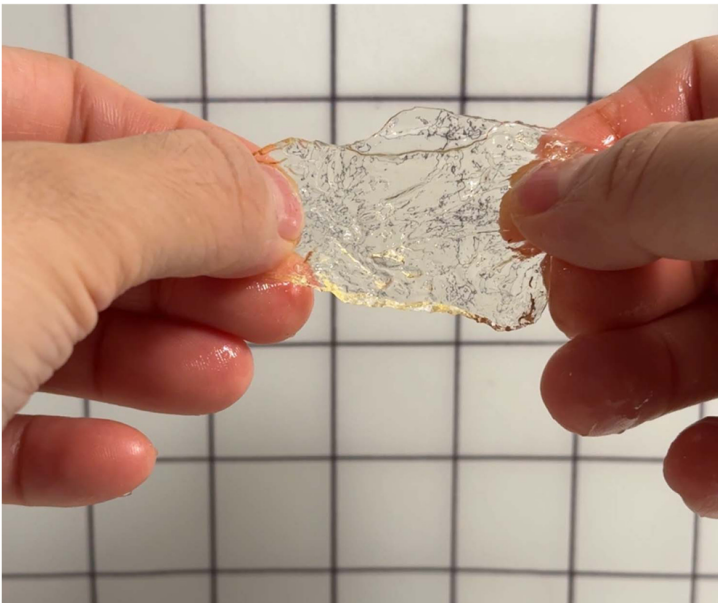
2. During



3. After



4. 30% cross-linking



5. 15% cross-linking

Under heat (70–80°C), the Gelatin membrane does not dissolve. At 80°C, it remains structurally intact. What shifts is its resistance. A higher crosslinking concentration (30%) better maintains tension and limits deformation compared to 15%. At 70°C, this difference nearly disappears. The material operates within a narrow threshold. Stable, yet responsive, form is retained while softness continues to adjust under heat. Our body is in symbiosis with the environment and continuously informing and reforming one another. Nature's climate change impacts our body temperature and our body also responds to its change.

Today, synthetic fibers account for approximately 69% of global textile production, with polyester alone making up more than half of all garments. Derived from fossil fuels, these materials contribute to greenhouse gas emissions, persist in the environment for decades, and generate microplastic pollution. In fashion, these materials are often used to create thin, transparent, or structural surfaces, such as synthetic organza or plastic-based films. In response, I develop gelatin-based biomaterials as alternatives to these materials. Rather than persisting as waste, these membrane structures are biodegradable, responsive, and capable of returning to natural systems, reducing long-term environmental impact by avoiding persistent waste and microplastic pollution associated with synthetic fibers. By shifting material logic from persistence to transformation, this ongoing project examines alternative ways of reducing environmental impact while proposing a different relationship between material, body, and time.



Material Moodboard



第一批实验: gelatine + corn oil  
200ml water | Cold  
48g gelatine | 120ml water  
8-12g glycerin

将果冻放入 gelatine + 油中

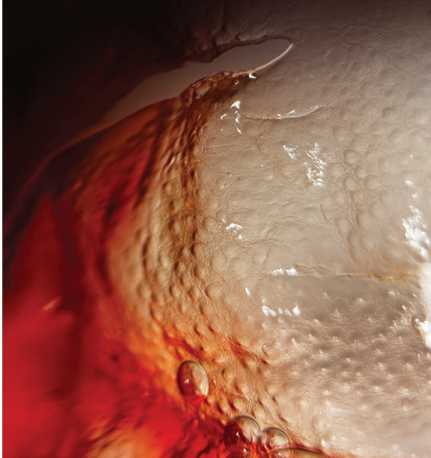


ugly orange  
丑桔

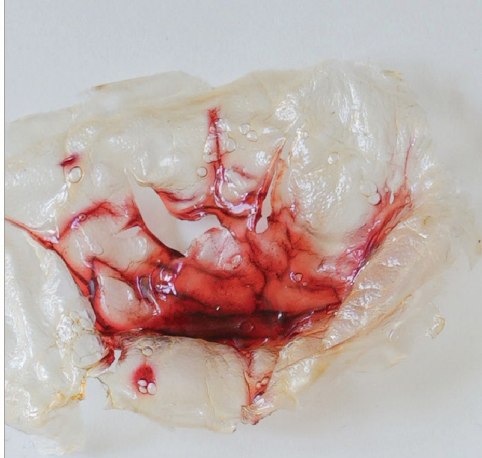
1) peel off skin



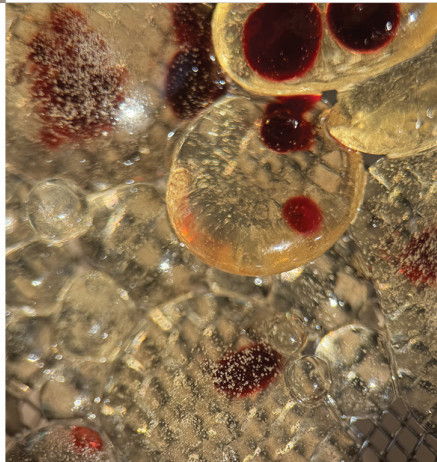
Pomelo skin



micro scope



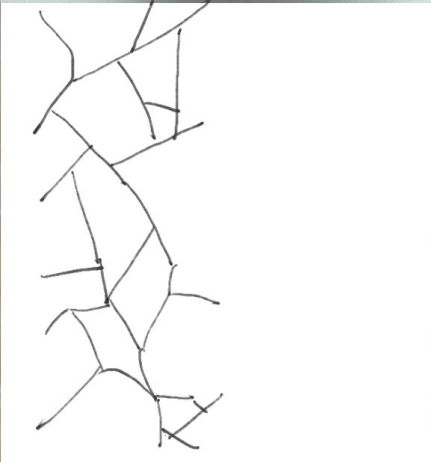
1. Pomelo skin



第二批:  
珠中珠

→ gelatine + gelatine  
pure Beet root

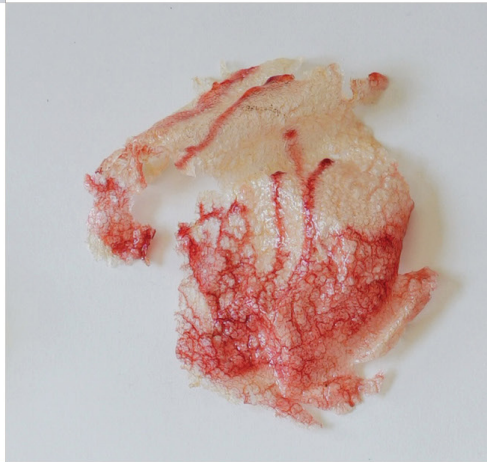








8. Pomelo skin ( soft )





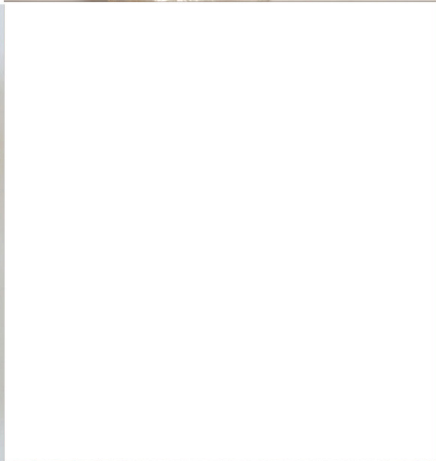
将果冻中 Beet root  
再次染色内部 gelatine  
呈现渗透效果。

将果冻中  
加入 Alum 液  
1:120 ml water



→ 油中因重力差异  
形成了层状结构  
2层泡泥  
中层 tube  
7层 夹心珠中珠，  
形成壳层。

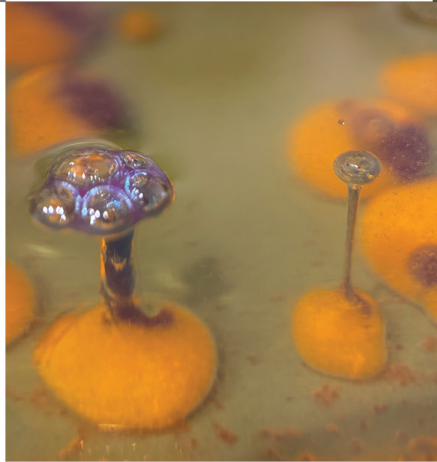






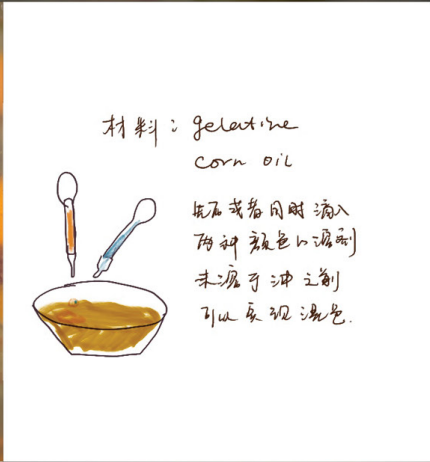






材料: gelatine  
corn oil

将果冻同时放入  
两种颜色中浸泡  
未浸泡部分立刻  
可以呈现混色

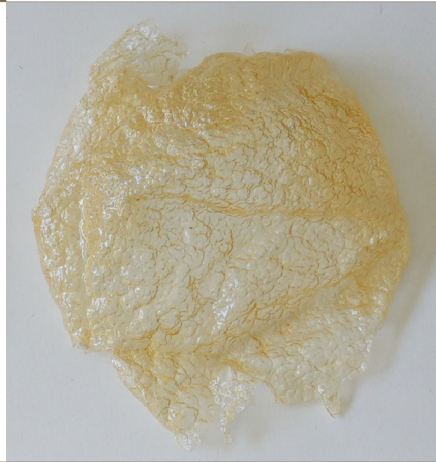




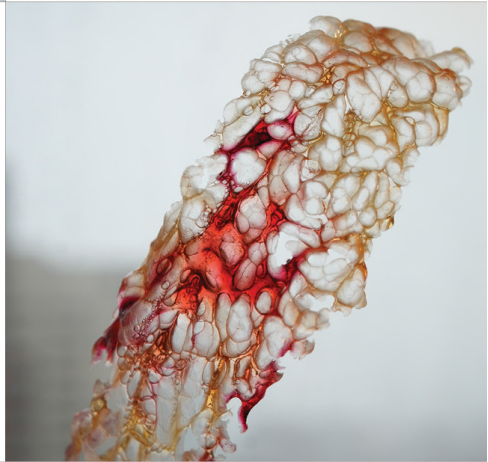
5. Broccoli







4. Cantaloupe



蓝色 - Blue Spirulina powder  
藻蓝蛋白

黄色 - 姜黄

红 - Beet root.

此篇进行混色实验。



10. Chinese Cabbage



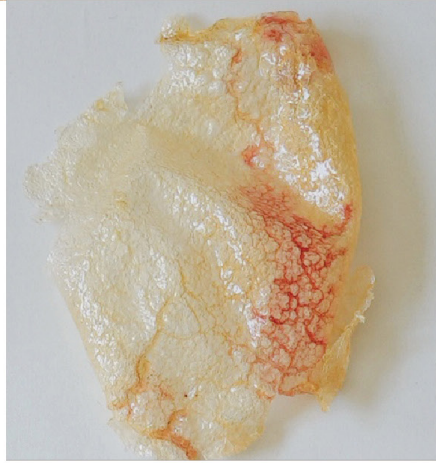
7. Pineapple



2. Sumo Citrus



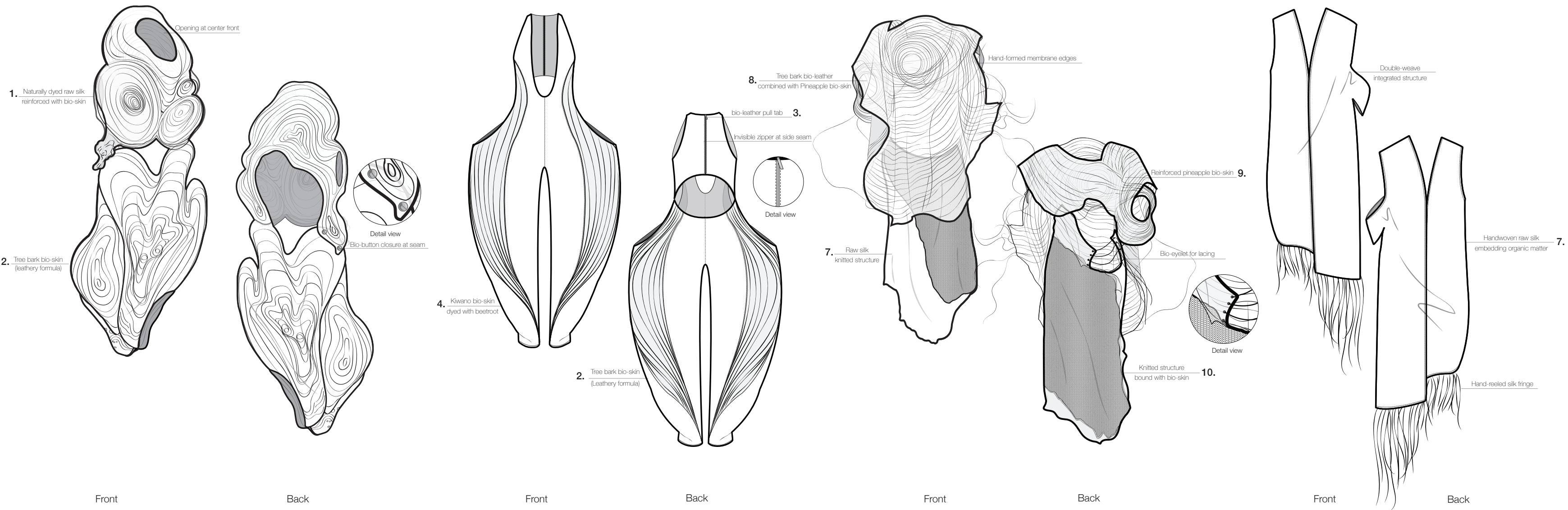
3. Kale



9. Kiwano Horned Melon



# Blueprints

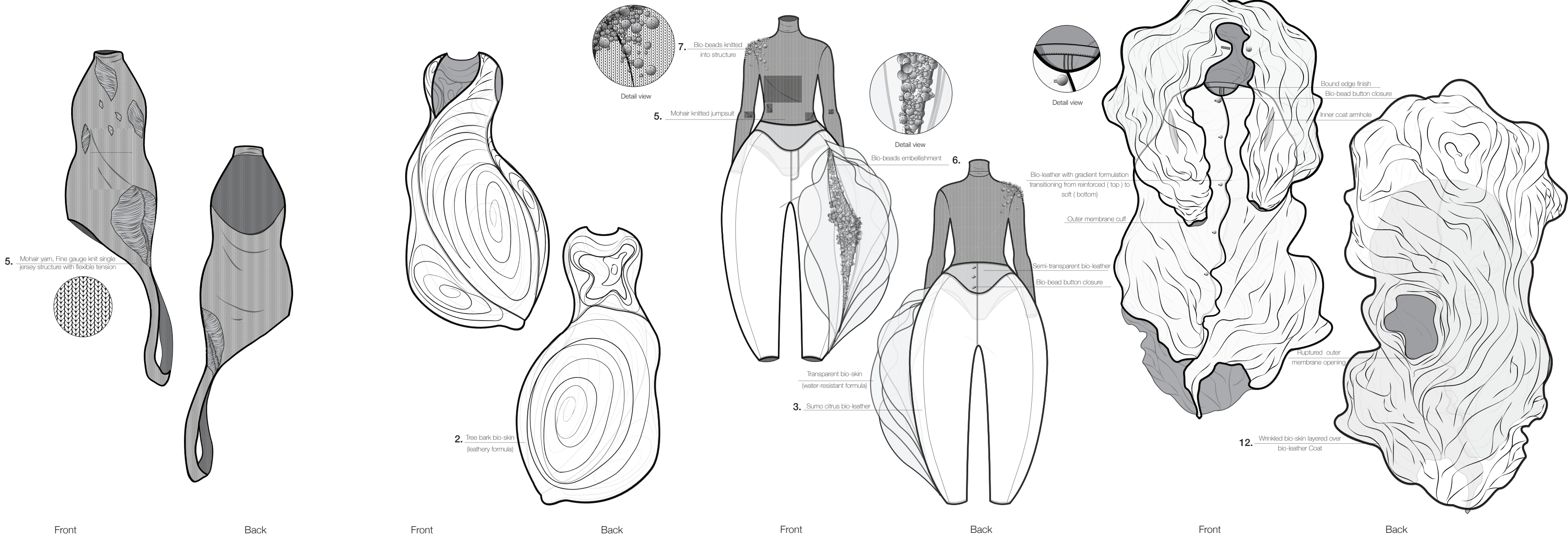


Look 01. Emergence of Surface

Look 02. Shifting Structure

Look 03. Layered Growth

Look 04. Forming Skin

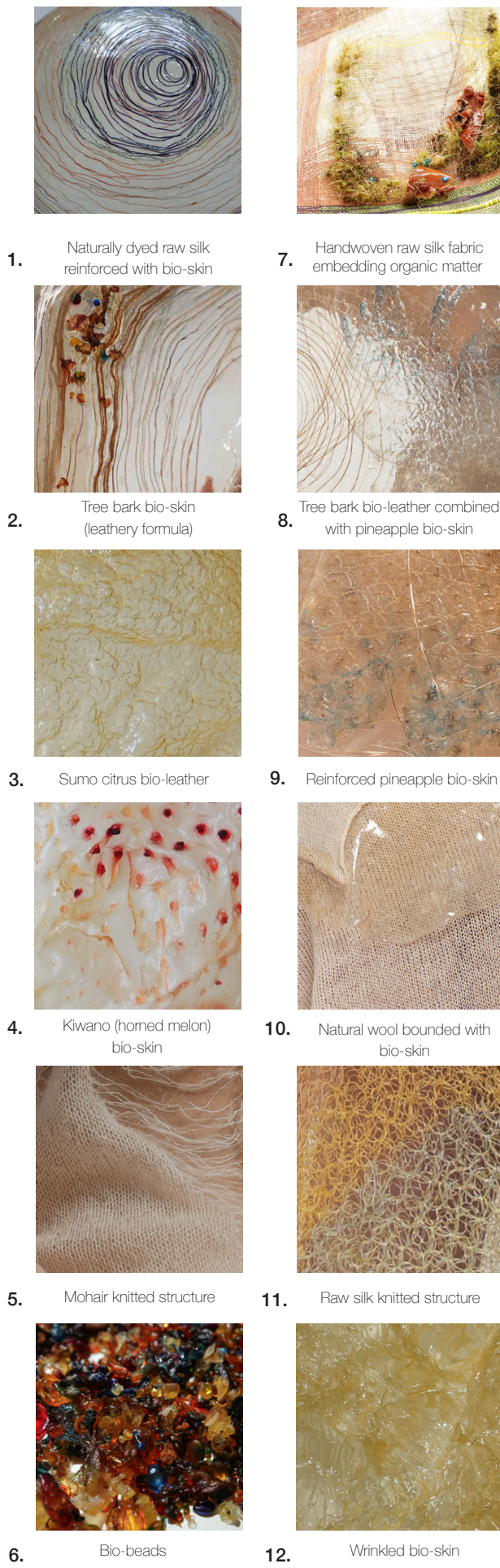


Look 05. Exposure / Vulnerability

Look 06. Inflammation

Look 07. Ruptured layer

Look 08. Inhabited Skin





# Membrane Forming







## Membrane as Boundary



Membranes act as shifting boundaries between  
inside and outside.





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