

Rosa

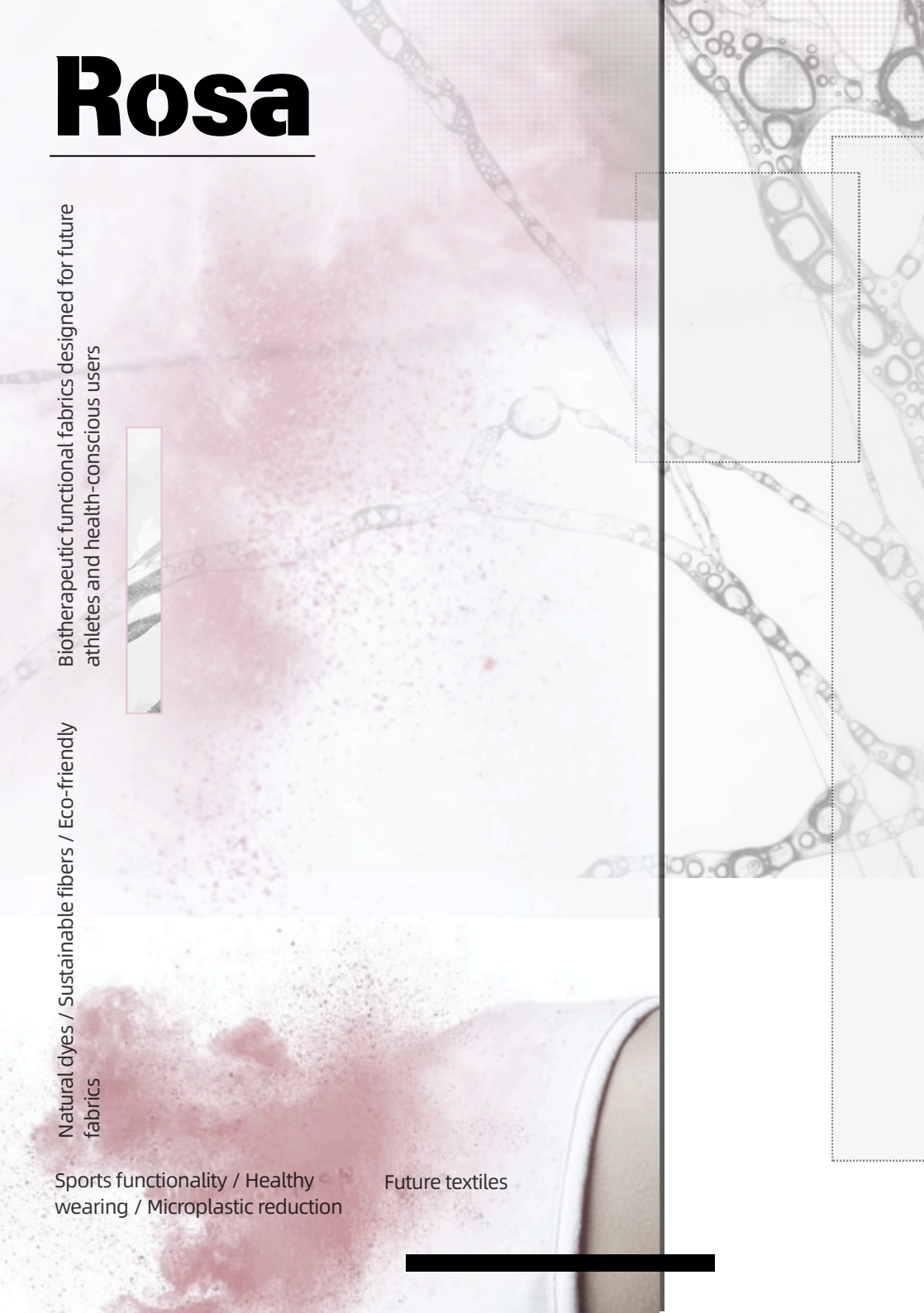
Biotherapeutic functional fabrics designed for future athletes and health-conscious users



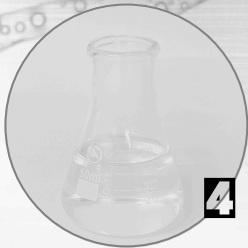
Natural dyes / Sustainable fibers / Eco-friendly fabrics

Sports functionality / Healthy wearing / Microplastic reduction

Future textiles

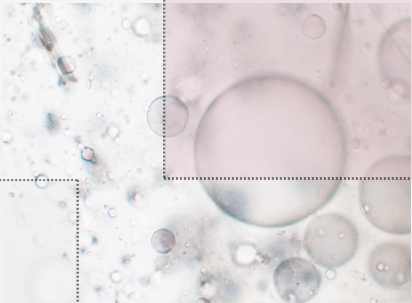
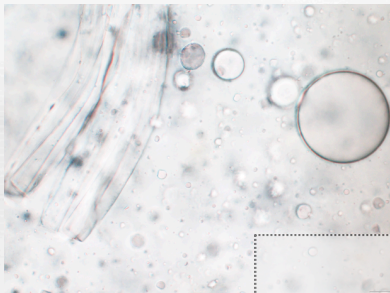


Experimental materials
(fabrics)

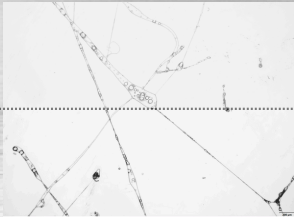
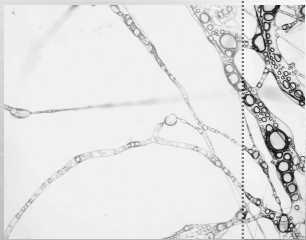
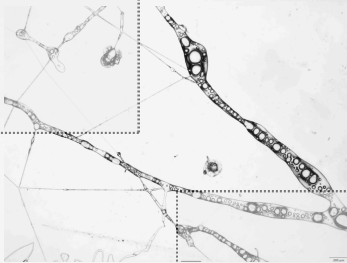
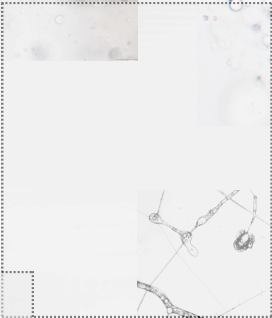


Seaweed fibre
fabrics (part1)

Seaweed fibre + recycled
spandex 40x under the
microscope



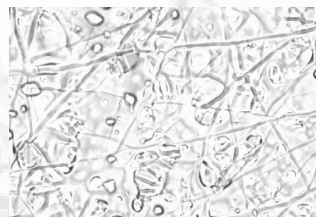
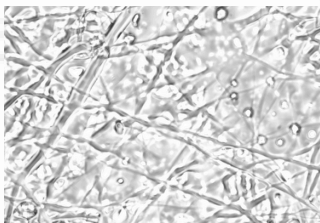
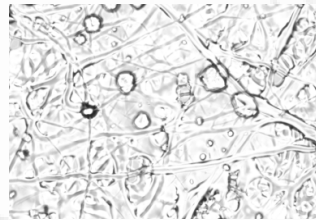
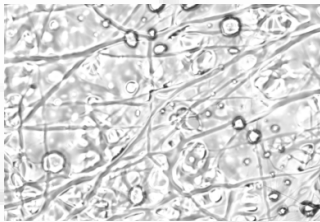
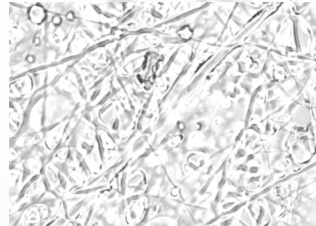
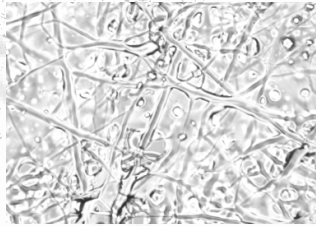
Seaweed fibre + recycled
spandex 200x under the
microscope



**Seaweed
fibre fabric
samples**



Test on Perspiration Property of Seaweed Fiber

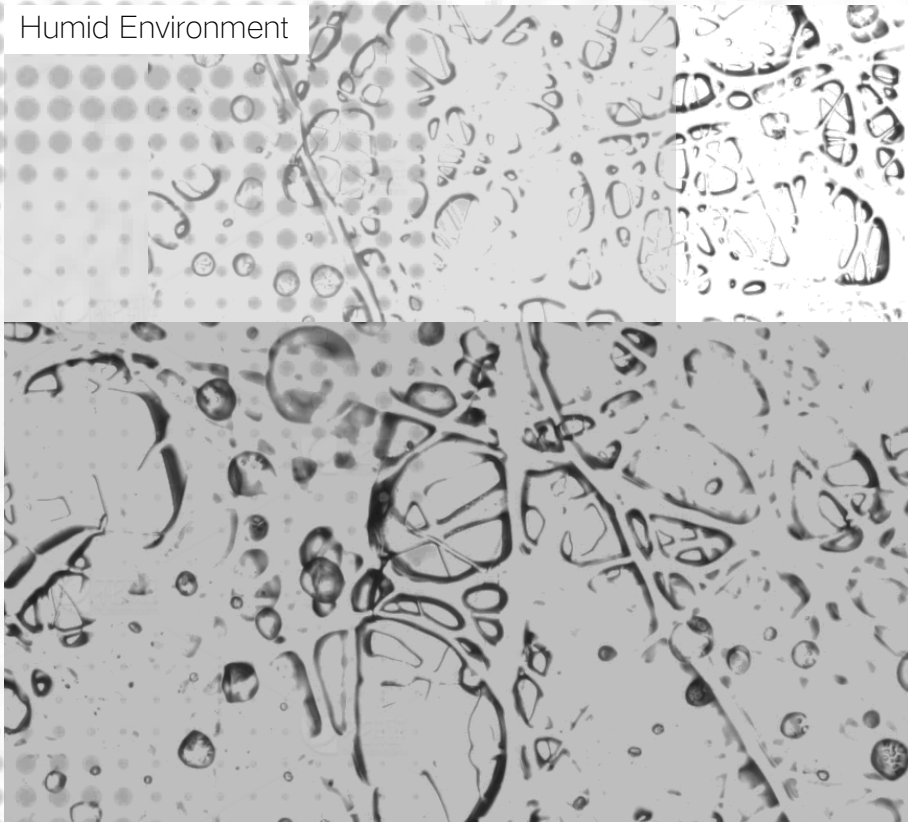


Dry Environment

Seaweed fibre + recycled
spandex 50x microscope
(fuller fabric)

Structured fibres
lead to better breathability and perspiration.

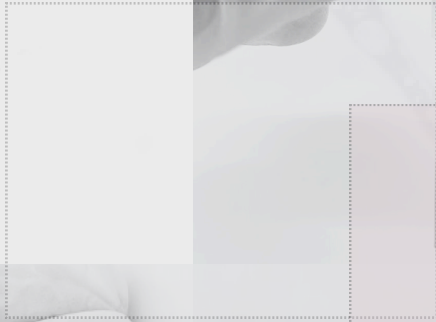
Humid Environment



Experiment record images

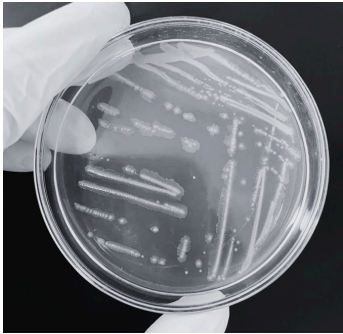
Metabolite dyes of Roseobacter clade (part2)

Extract bacteria from seaweed

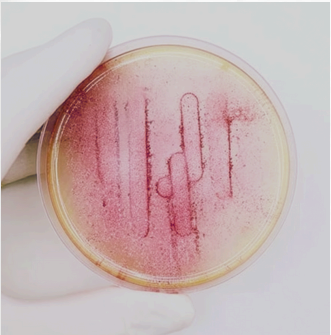
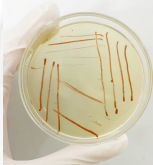
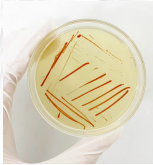
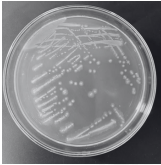


Cultivate

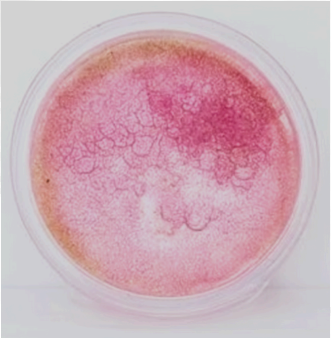
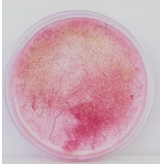
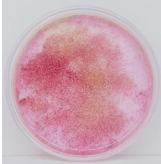
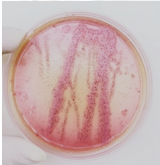
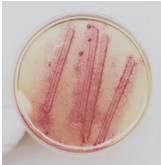




incubation process

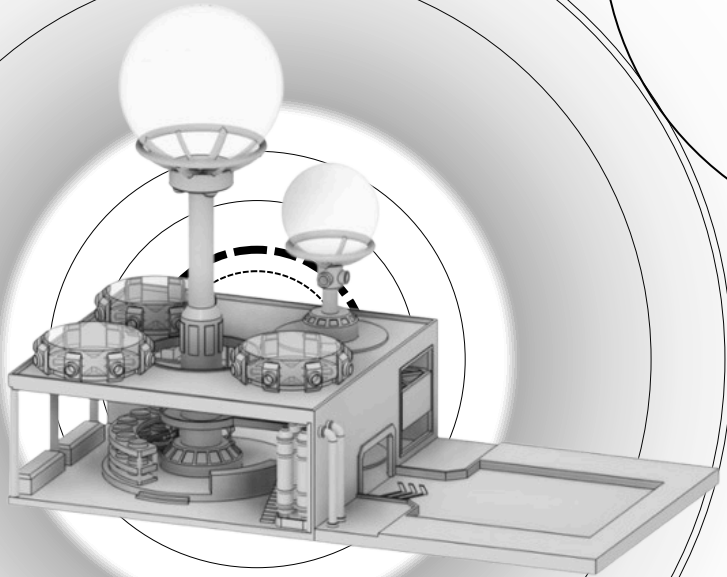


Colour extraction



Production Guide on Dyes and Fabrics

Prototype of future biomaterials factory



This prototype simulates a future biomaterials factory, integrating systems for the future batch cultivation of seaweeds and the production of bio-based fibres, microbial dye cultures and sustainable textile processing. It visualises how algal fibres and bio-dyes (pigments of bacterial origin from the *Roseobacter* taxon) can be produced at scale and standardised

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