

# CLOUD HIVE

A HOME FOR ALL

# HISTORICAL CONTEXT

The French duo are celebrated for their **innovative and versatile** approach to contemporary design.

Their design philosophy revolves around achieving a harmonious balance between **functionality, simplicity, and aesthetics.**

Focusing on **modularity** and **adaptability**, the duo often creates pieces that allow **user customization**, reflecting their commitment to versatility.

Designed by Ronan and Erwan Bouroullec



# CLOUD BOOKCASE

## Early 2000s Design Trends:

- Shift towards playful, organic, and modular designs

## Cultural shifts:

- Furniture becoming an extension of personal identity and creativity
- Focus on user interaction and individuality in design

## Early Environmental Awareness:

- Use of durable, recyclable materials



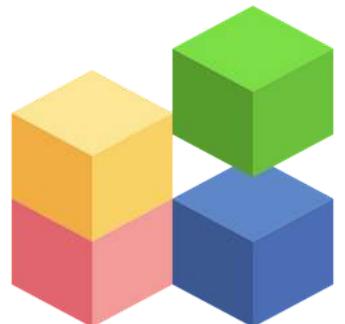
# SIGNIFICANCE

“NUAGES” BOOKCASE OR THE “CLOUD” BOOKCASE



## Organic forms

- Breaking away from rectangular forms, introducing organic and sculptural design



## Modularity

- Users can arrange the modular sections in different orientations, allowing the bookcase to fit various spaces and aesthetic preferences.



## Playfulness & interactivity

- Functional storage solution whilst doubling as art



## Sustainable

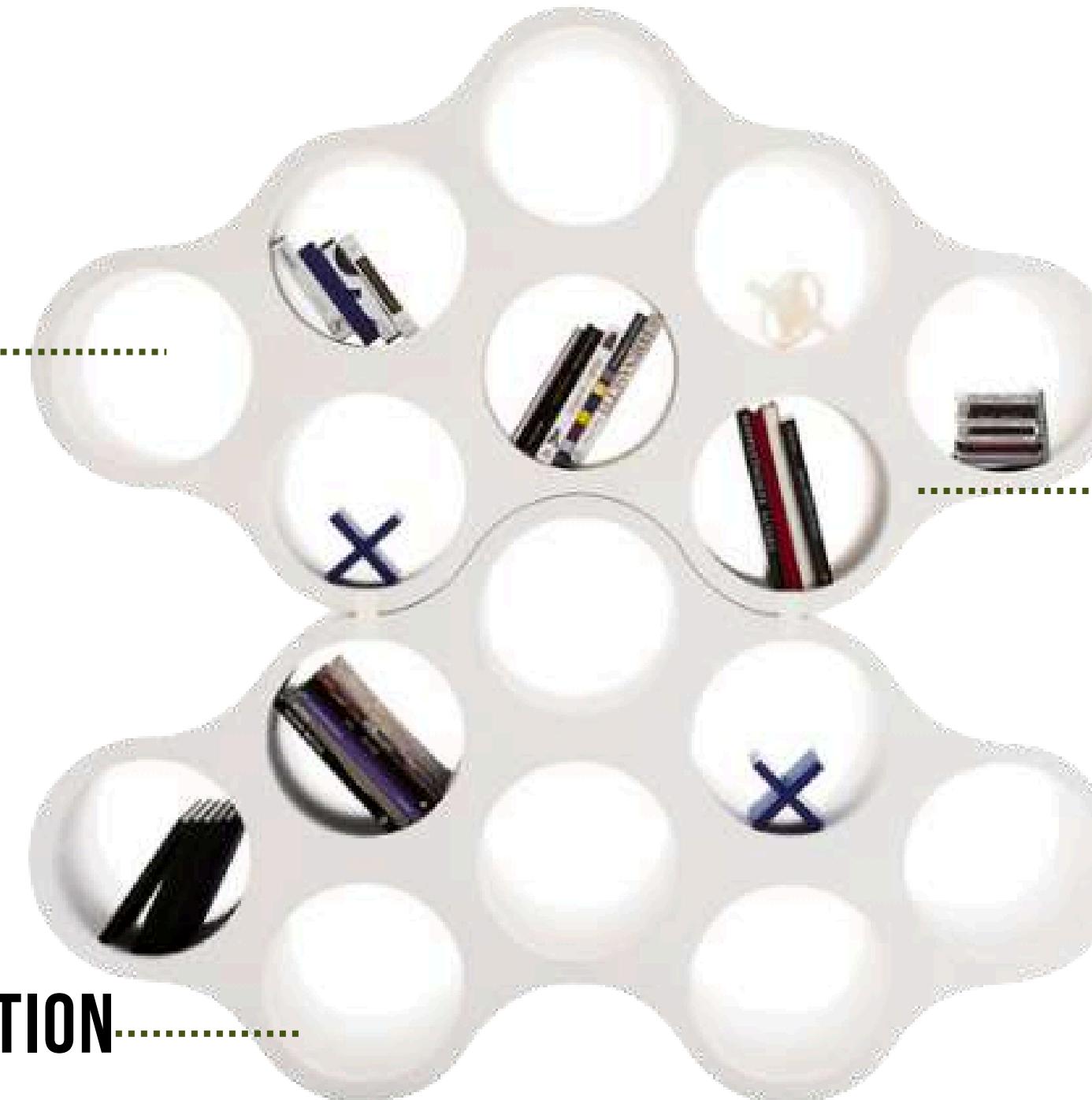
- Built to be durable to wear and tear
  - the way of construction also creates minimal waste

# POTENTIAL IMPROVEMENTS

FUNCTIONALITY

MATERIAL

MODULARITY & CUSTOMIZATION



# ADAPTATION FOR CONTEXT

## 1 ..... ECO-CONSCIOUS DESIGN

The re-design should embrace the **sustainable materials and eco-conscious practices**.

## 2 ..... ORGANIC DESIGN

It should preserve the design principles of **harmonizing functionality and aesthetics**, while prioritizing environmental sustainability.

## 3 ..... FUNCTIONAL DESIGN

## 4 ..... MODULAR DESIGN



# ADAPTATION FOR CONTEXT

1 ..... ECO-CONSCIOUS DESIGN

2 ..... ORGANIC DESIGN

3 ..... FUNCTIONAL DESIGN

4 ..... MODULAR DESIGN

Drawing inspiration from how the bookcase was based  
on clouds...

The redesign should be **organic**.



# ADAPTATION FOR CONTEXT

## 1 ECO-CONSCIOUS DESIGN

## 2 ORGANIC DESIGN

## 3 FUNCTIONAL DESIGN

## 4 MODULAR DESIGN

The re-design should maintain the functional versatility of the Cloud Bookcase, where **storage and display solutions are seamlessly integrated into its sculptural form.**

It should prioritize **practicality** by offering spacious compartments that cater to various items, ensuring both **ease of use and accessibility**.



# ADAPTATION FOR CONTEXT

- 1 ..... ECO-CONSCIOUS DESIGN
- 2 ..... ORGANIC DESIGN
- 3 ..... FUNCTIONAL DESIGN
- 4 ..... MODULAR DESIGN

The re-design should honor the Cloud Bookcase's **modular adaptability**, allowing users to combine, stack, or reconfigure units based on their preferences and spatial constraints.

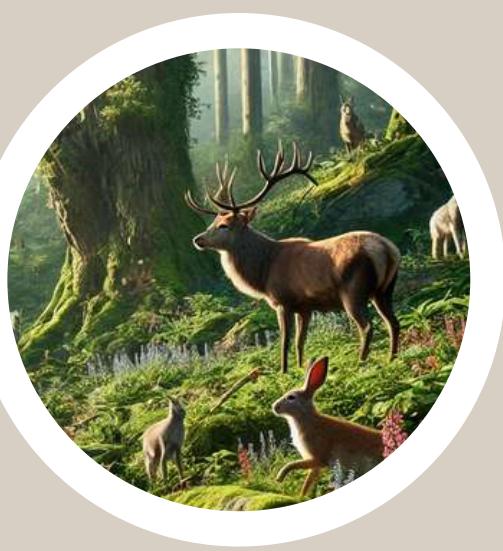




**OUR NARRATIVE**



**CLIMATE CHANGE  
HARMONY WITH NATURE**



**Flora & Fauna**

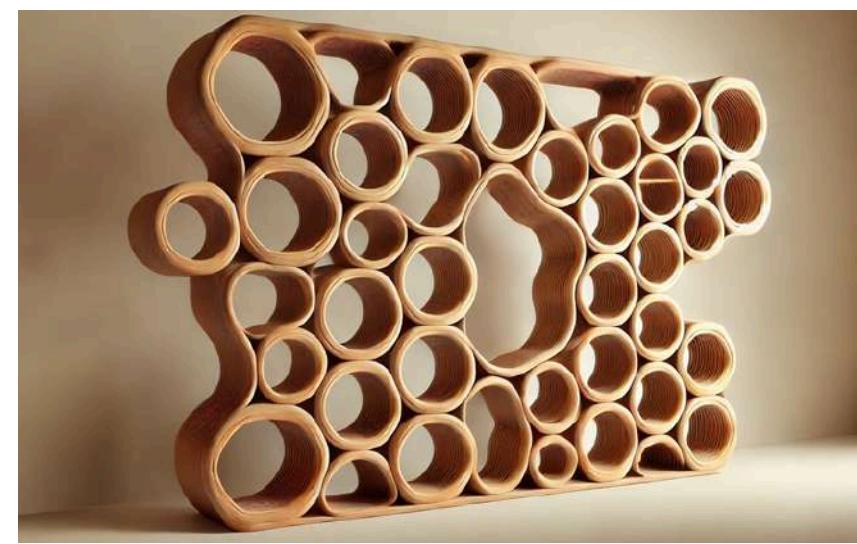
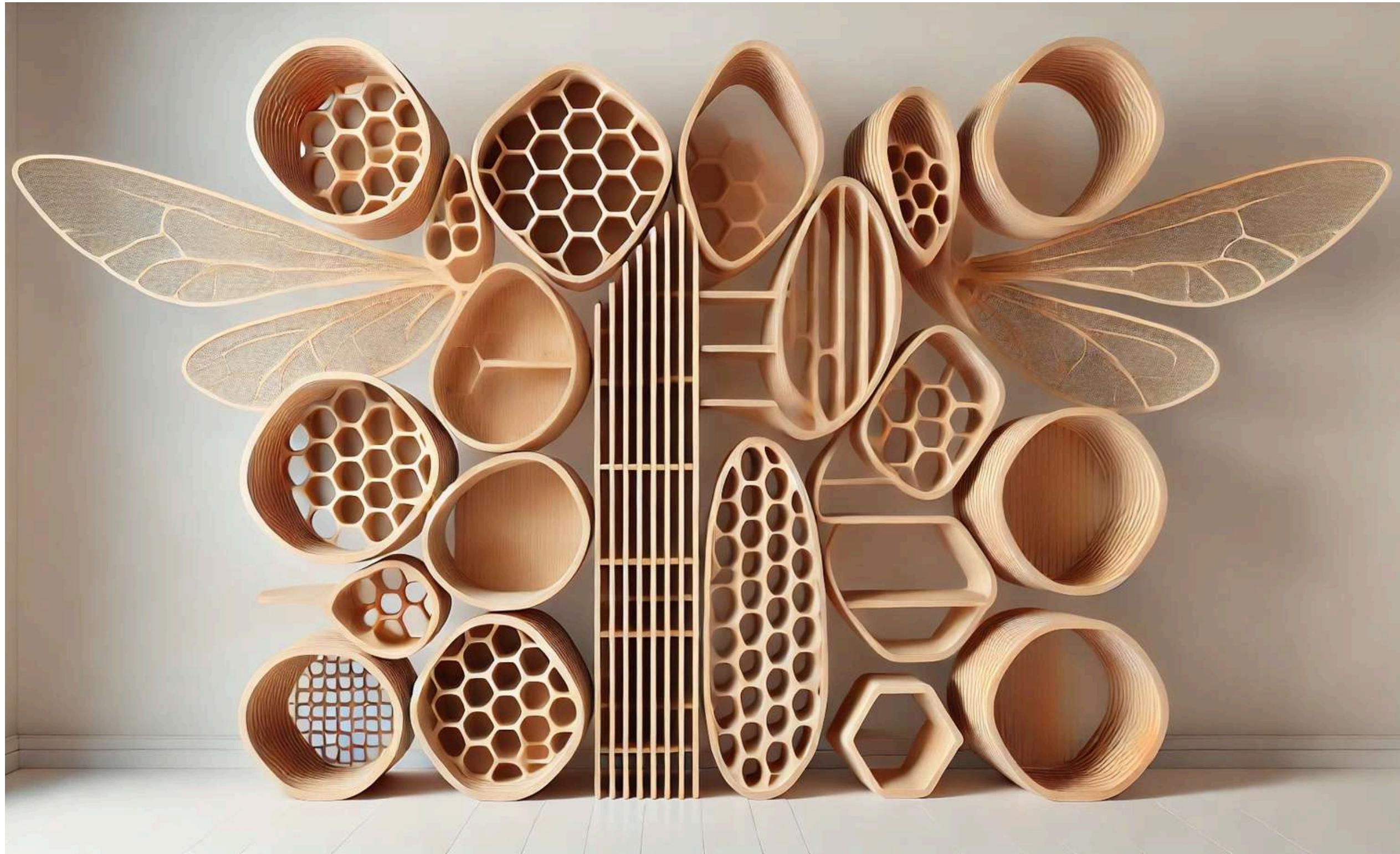


**Humid**



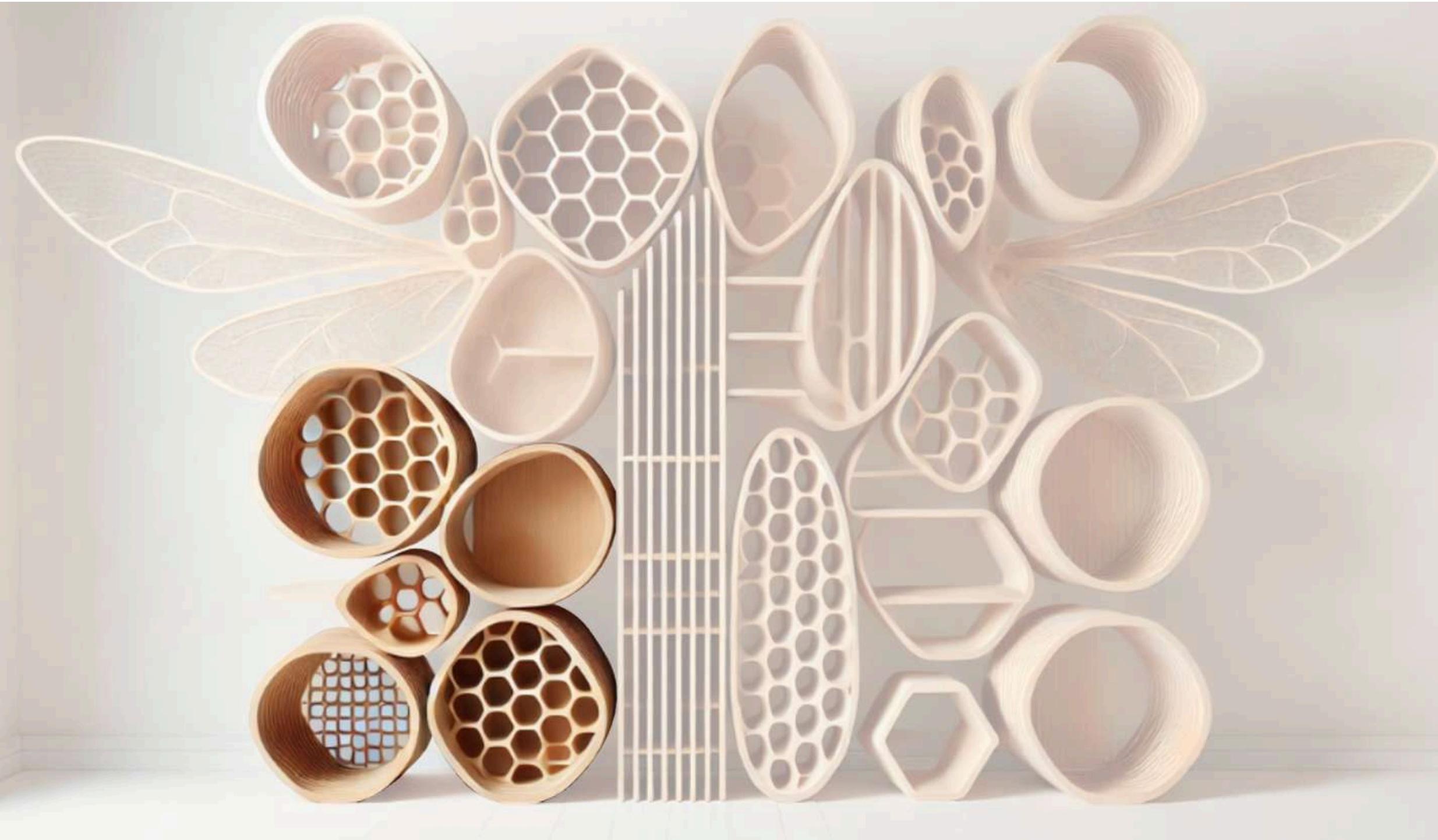
**Ecosystem Balance**

# AI GENERATIONS

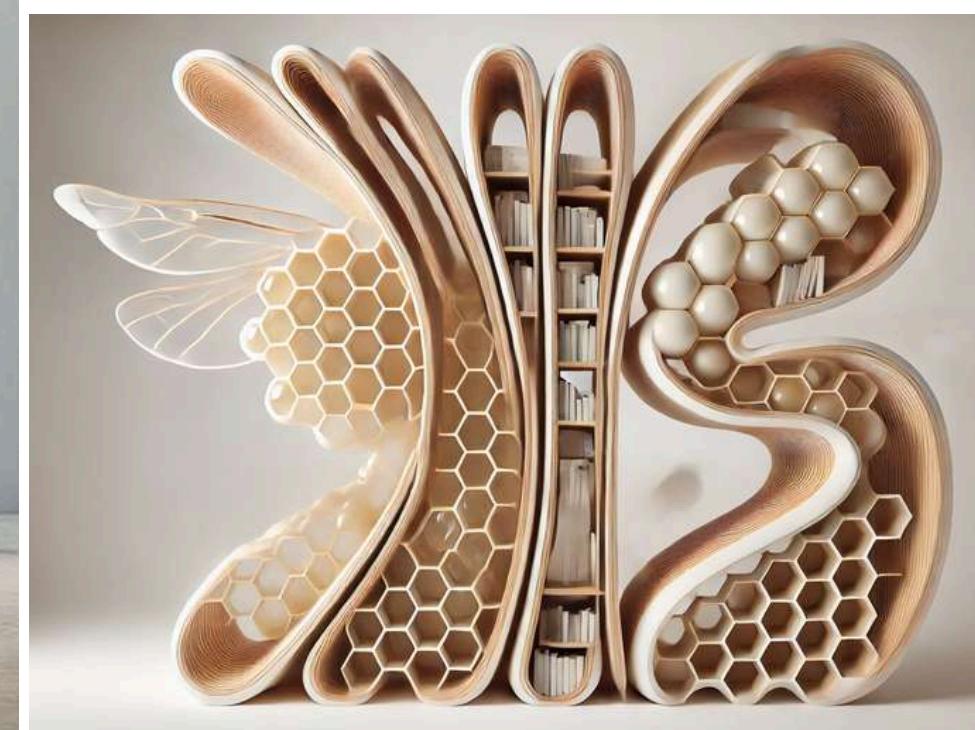
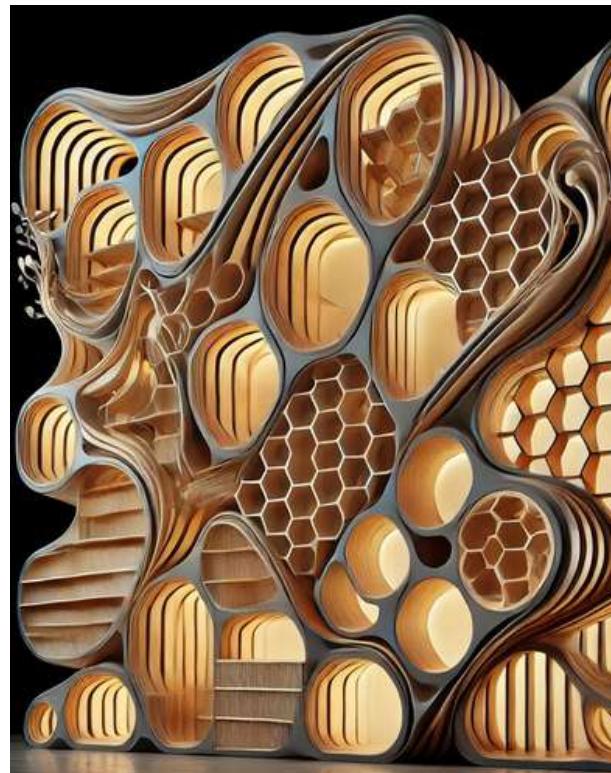
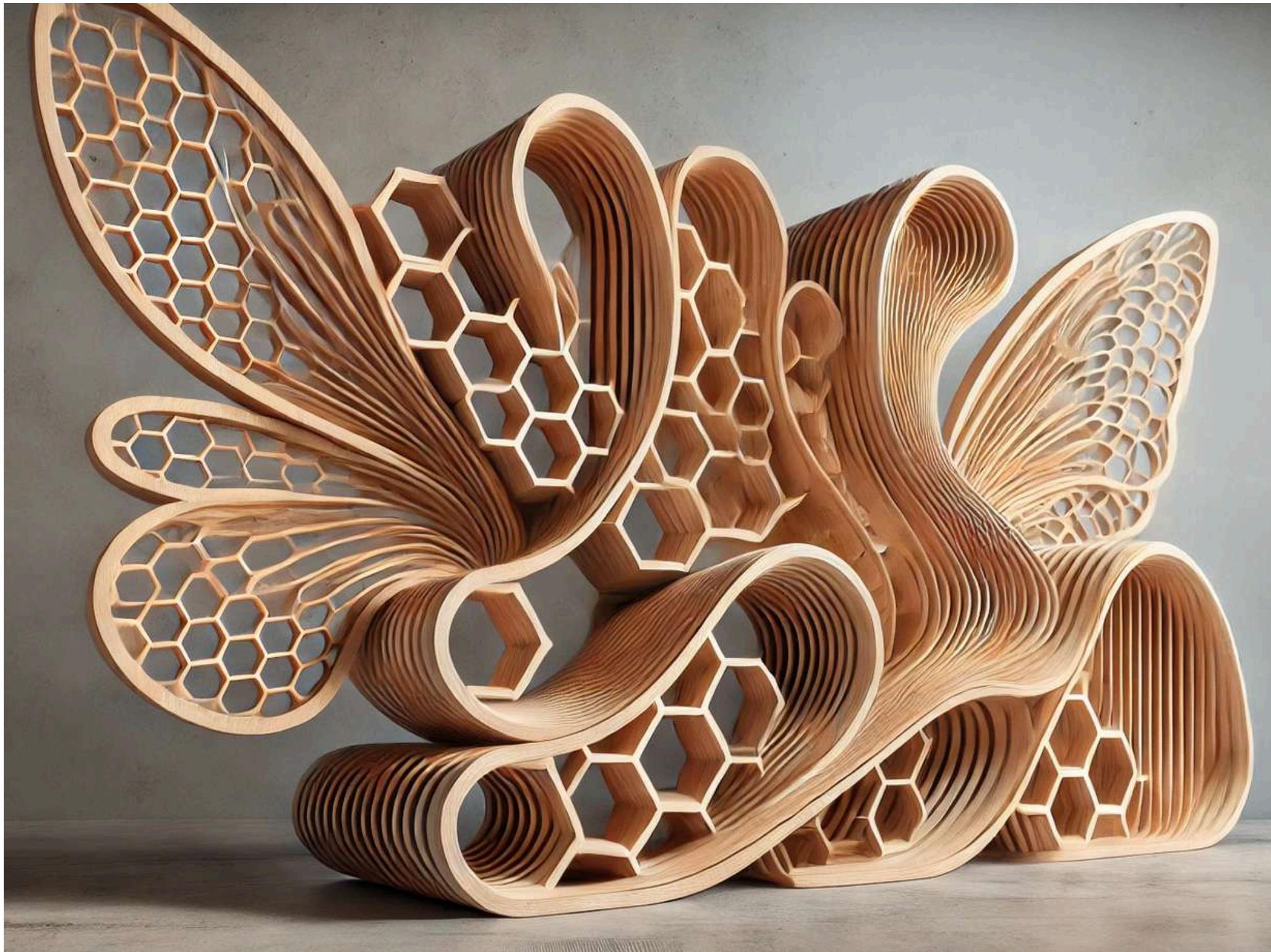


# AI GENERATIONS

## WHAT WE LIKED

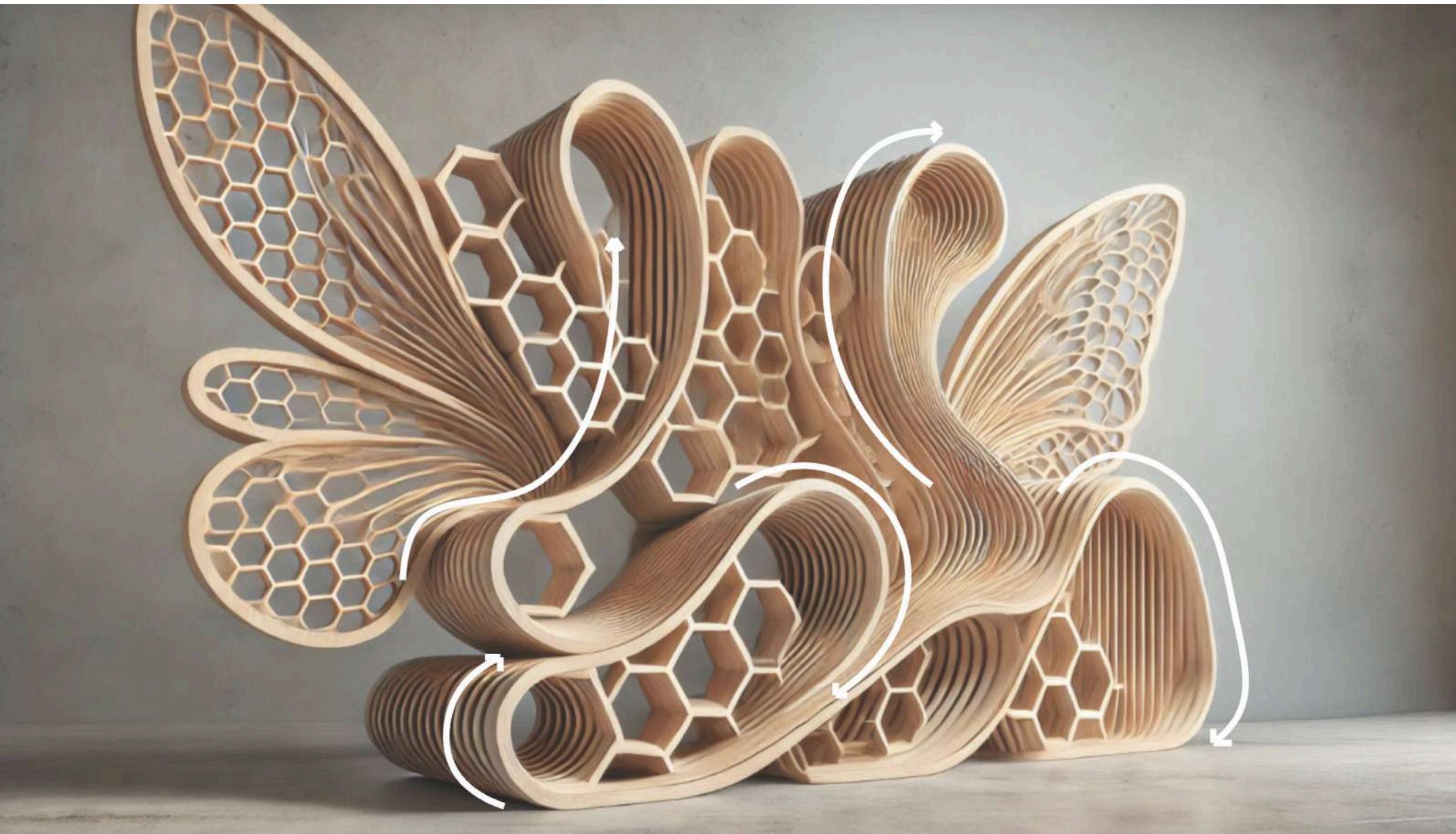


# AI GENERATIONS



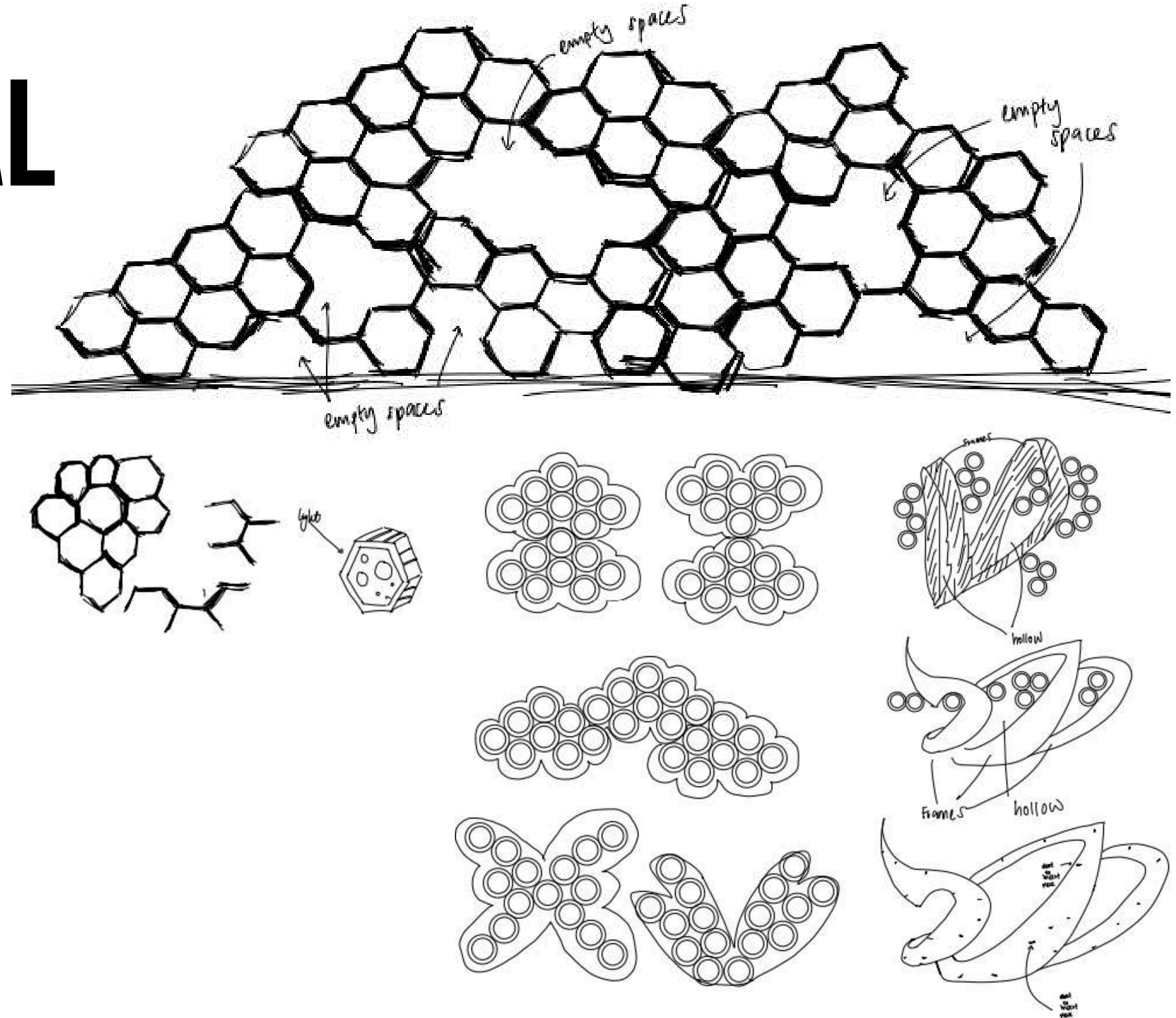
# AI GENERATIONS

## WHAT WE LIKED



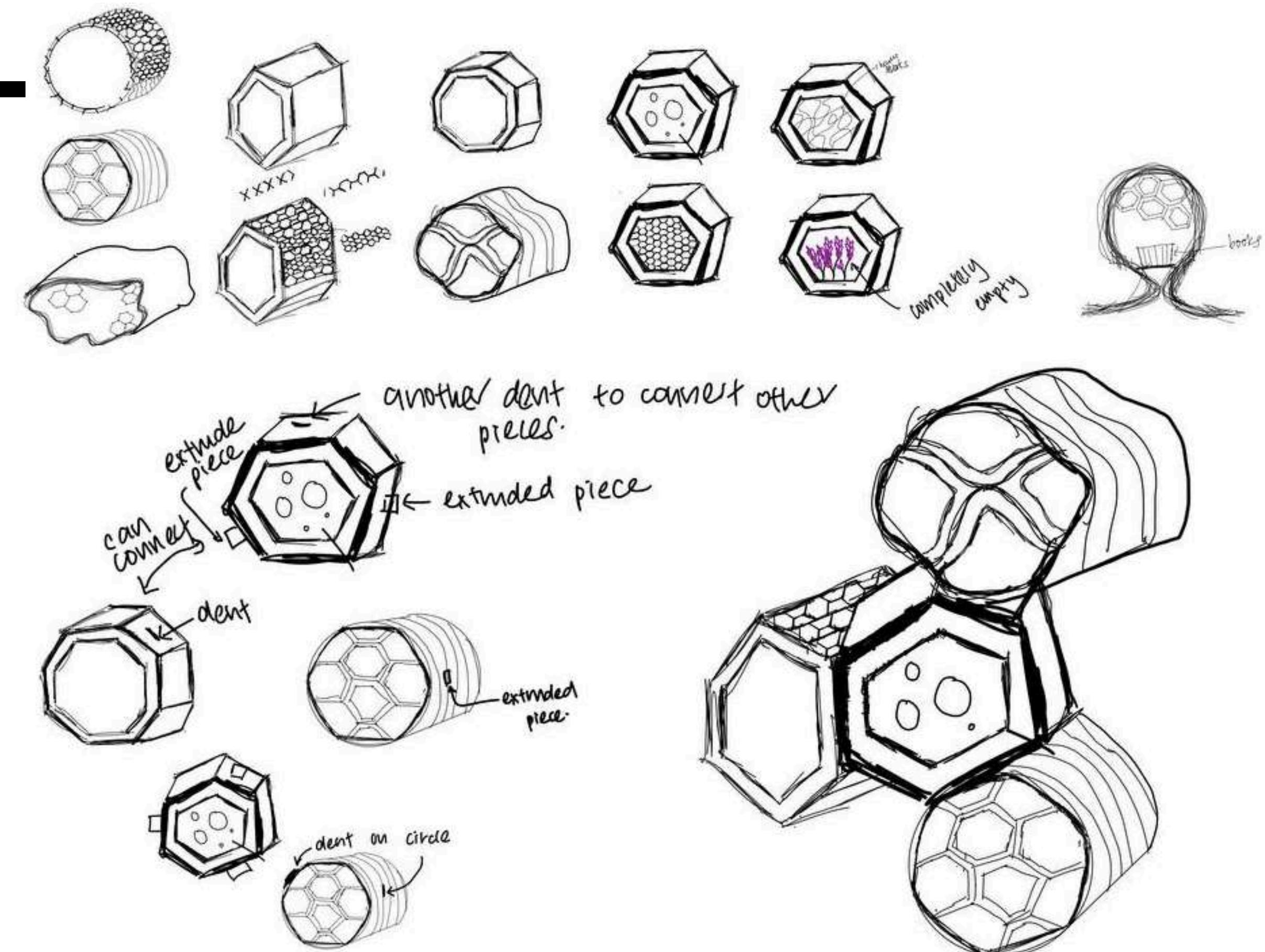
# CONCEPTUAL SKETCHES

## STRUCTURE OF BOOKCASE



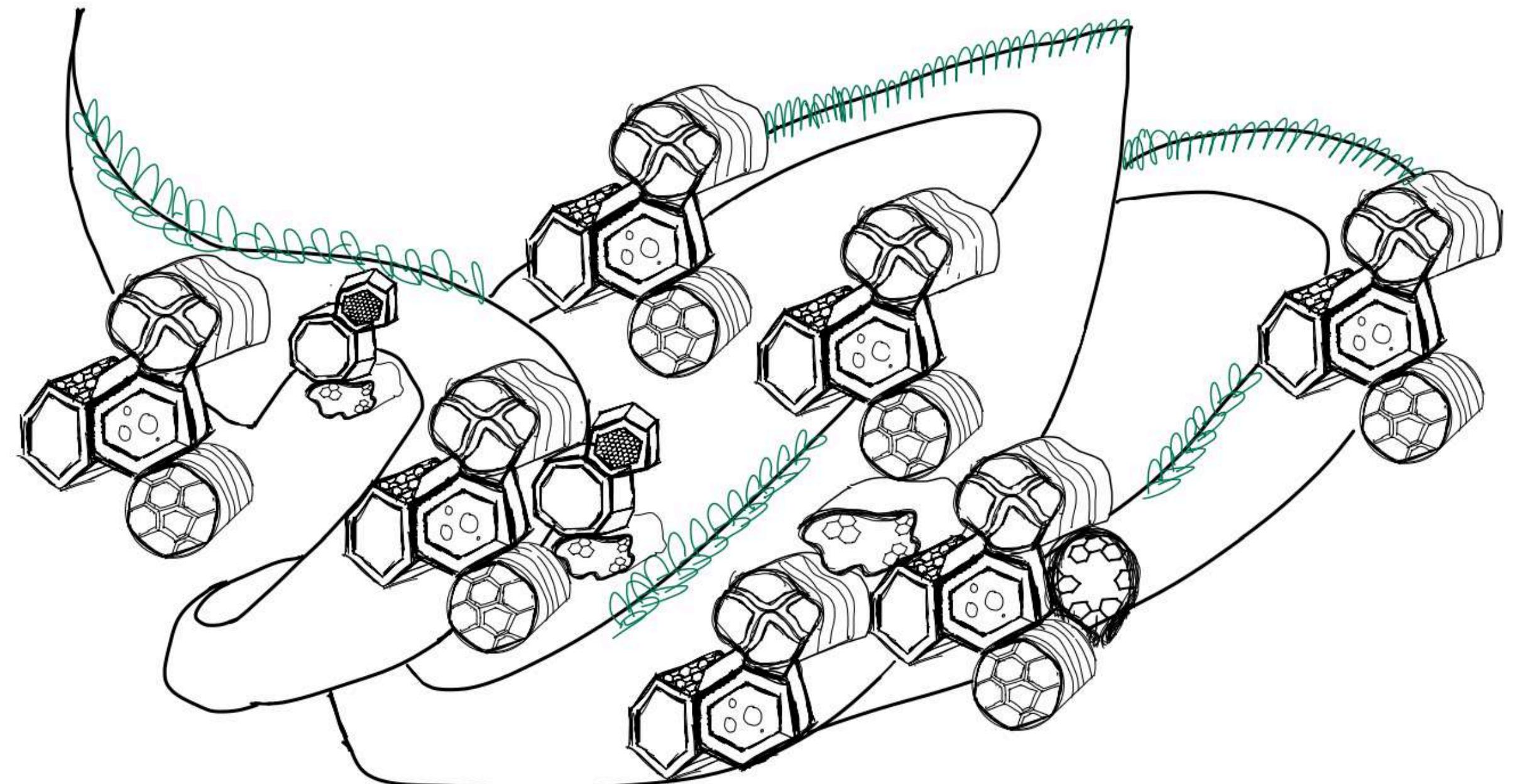
# CONCEPTUAL SKETCHES

## MODULES

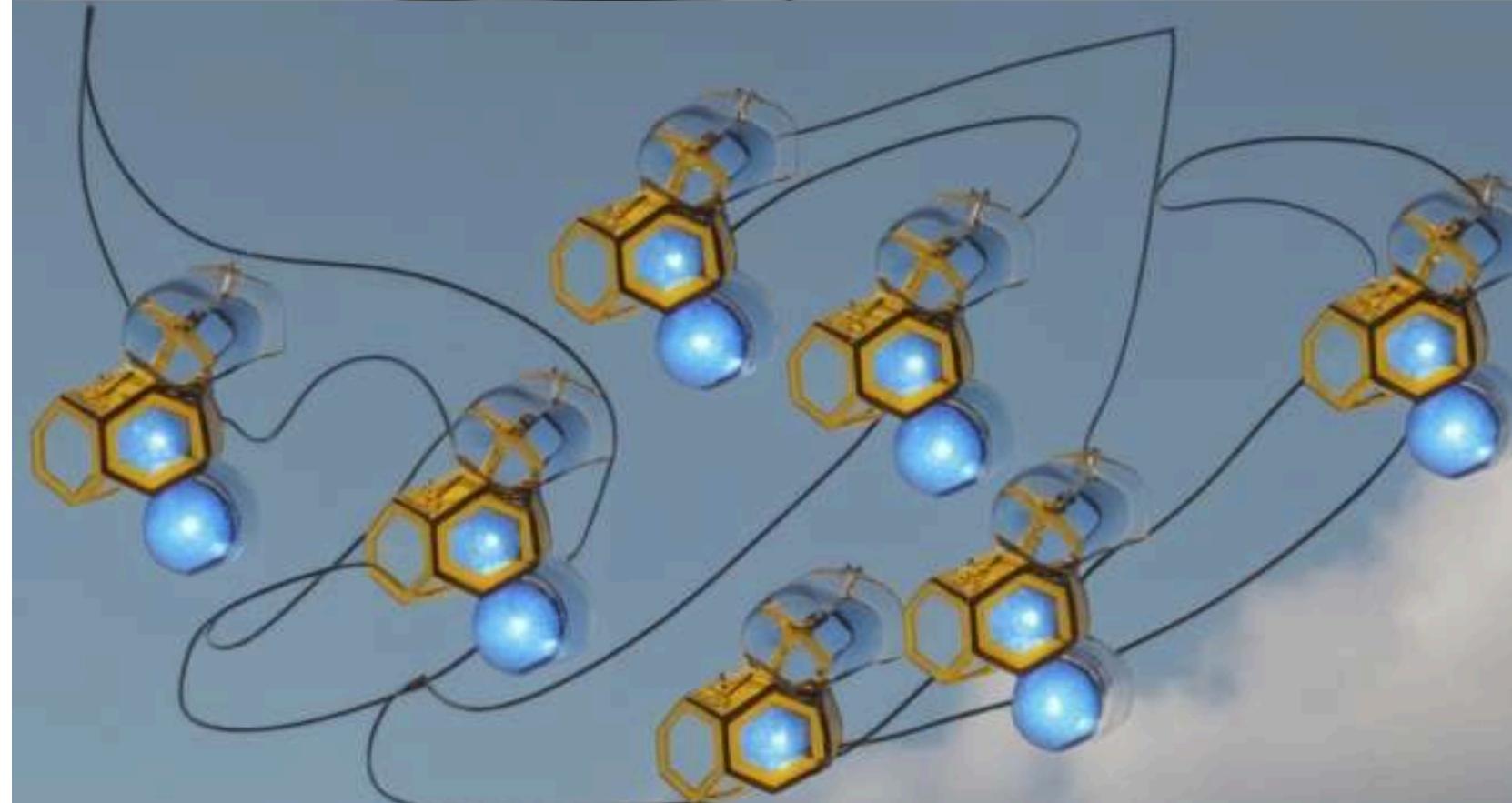
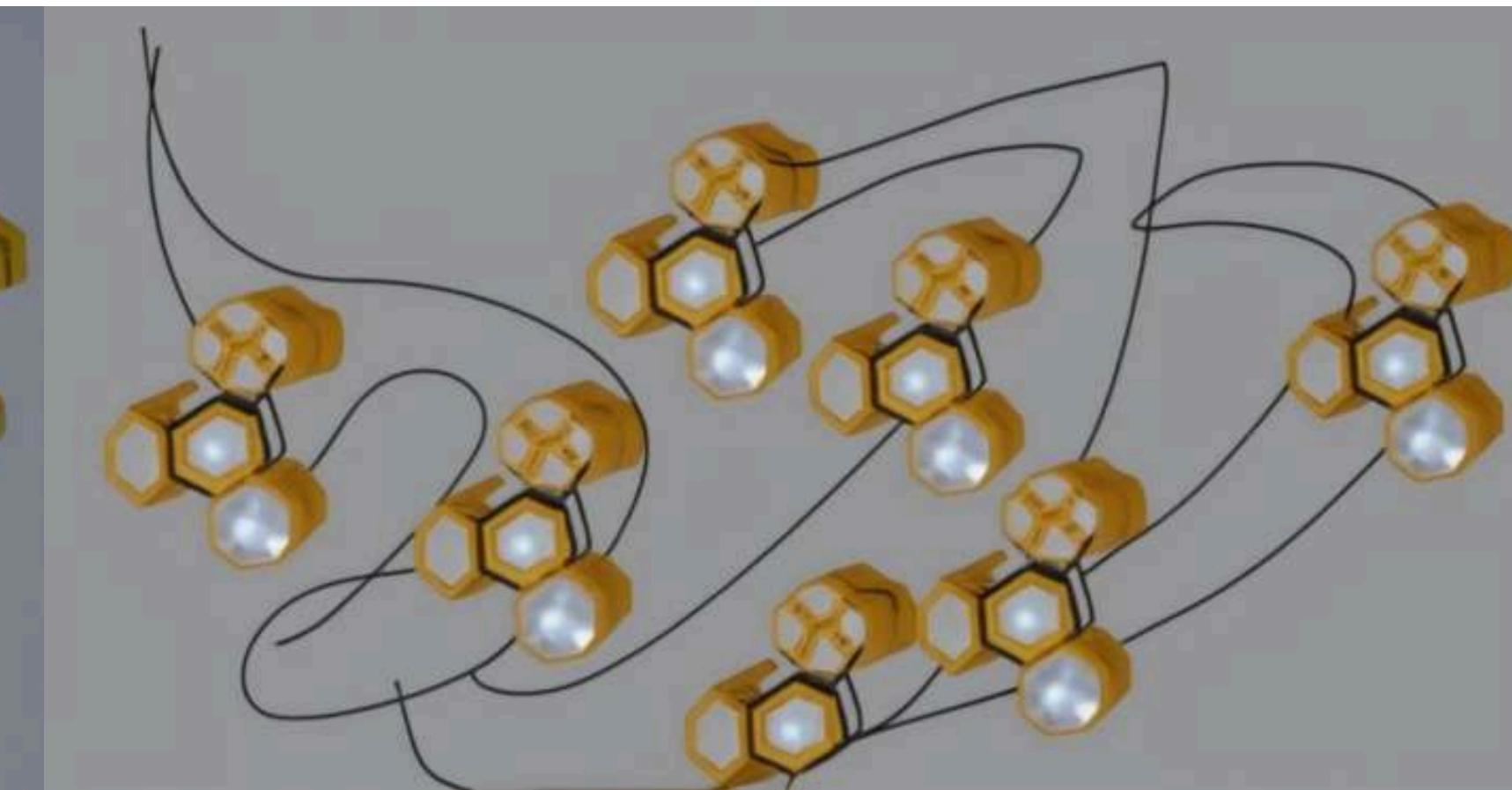
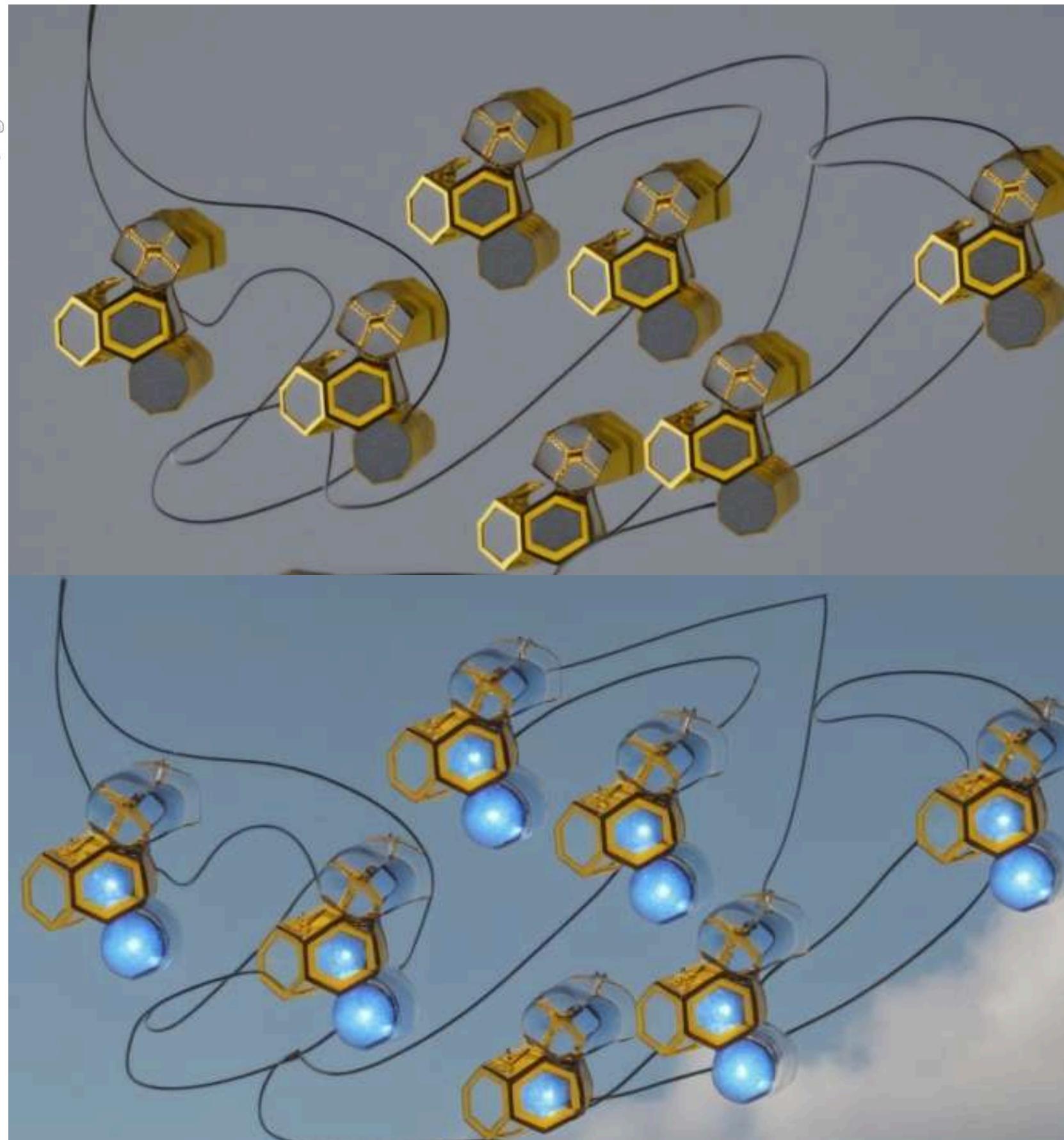


# CONCEPTUAL SKETCHES

ITERATIONS



# VISUALISATION



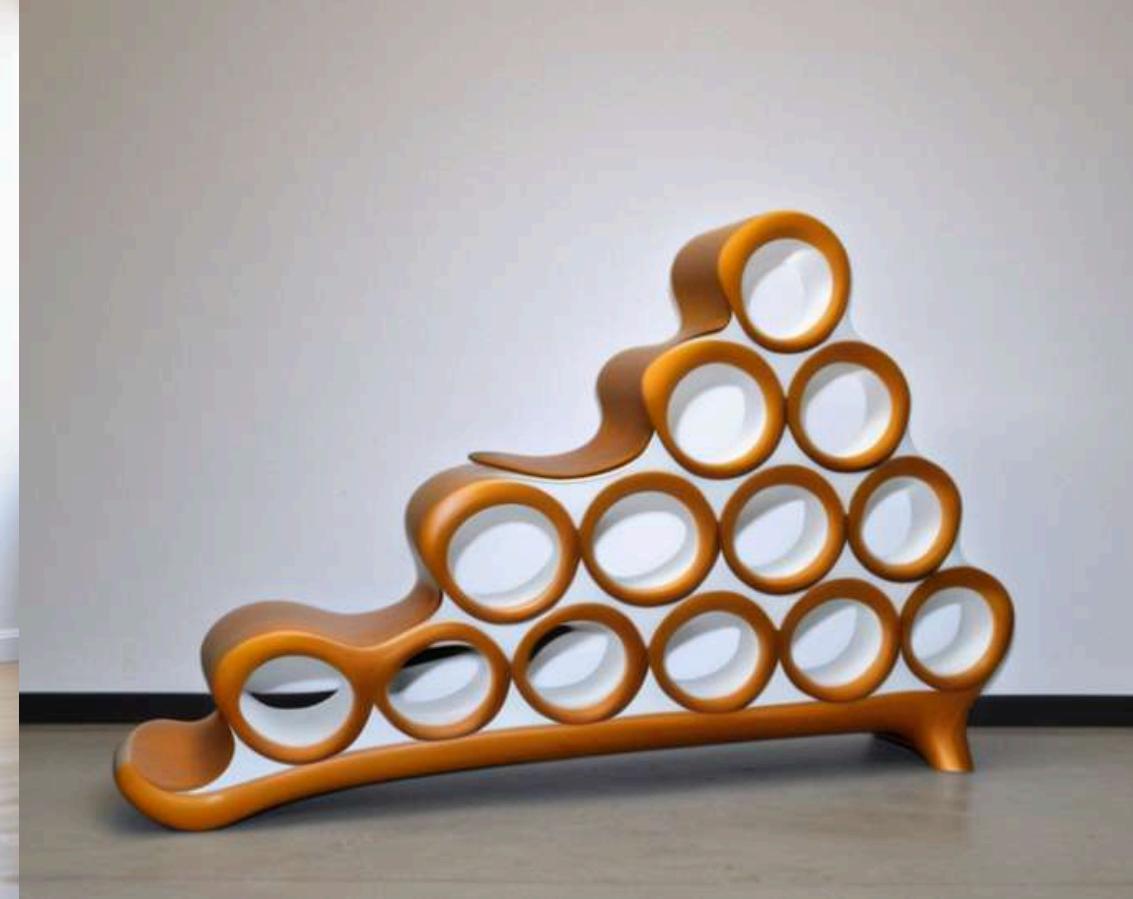
ITERATIONS

# VISUALISATION



# ITERATIONS

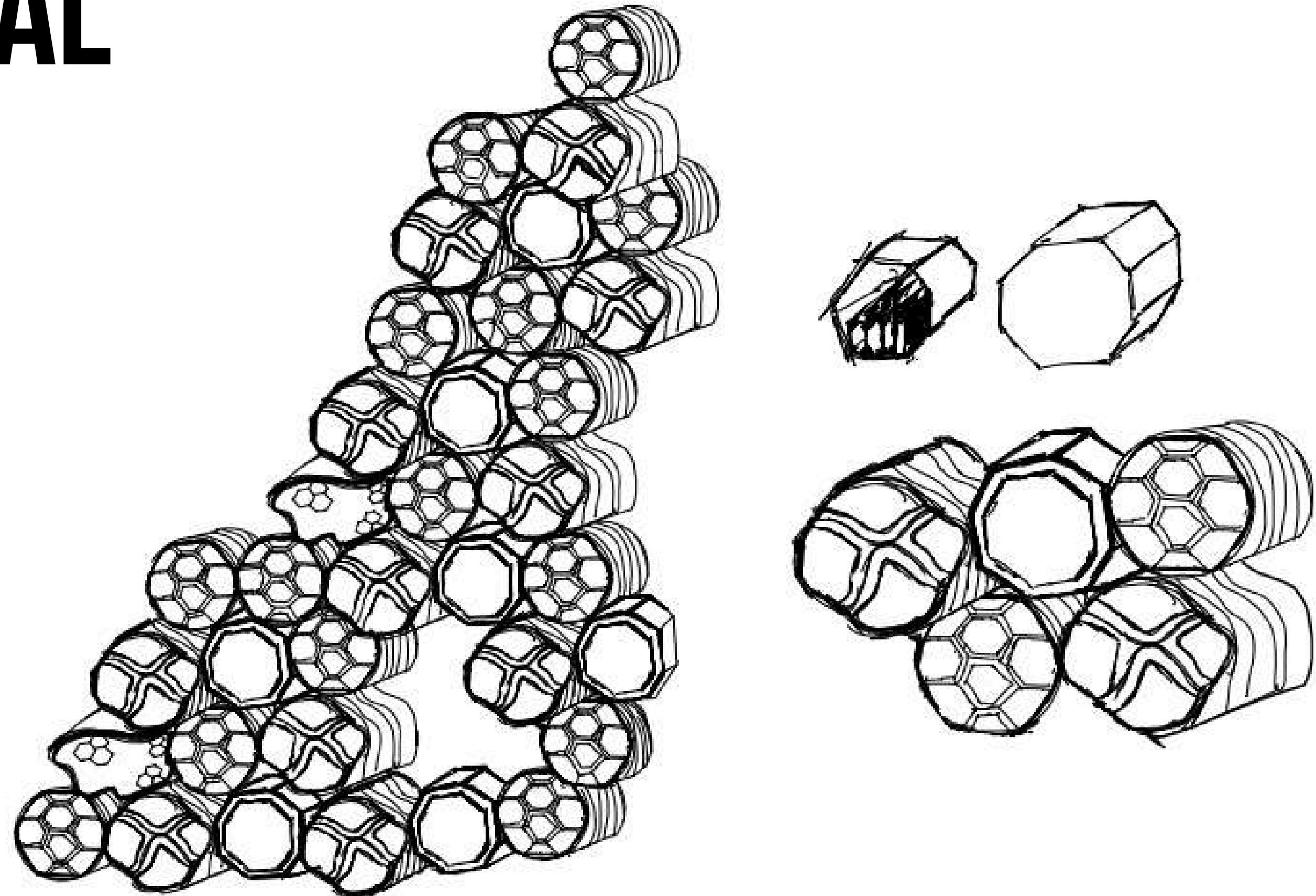
# VISUALISATION



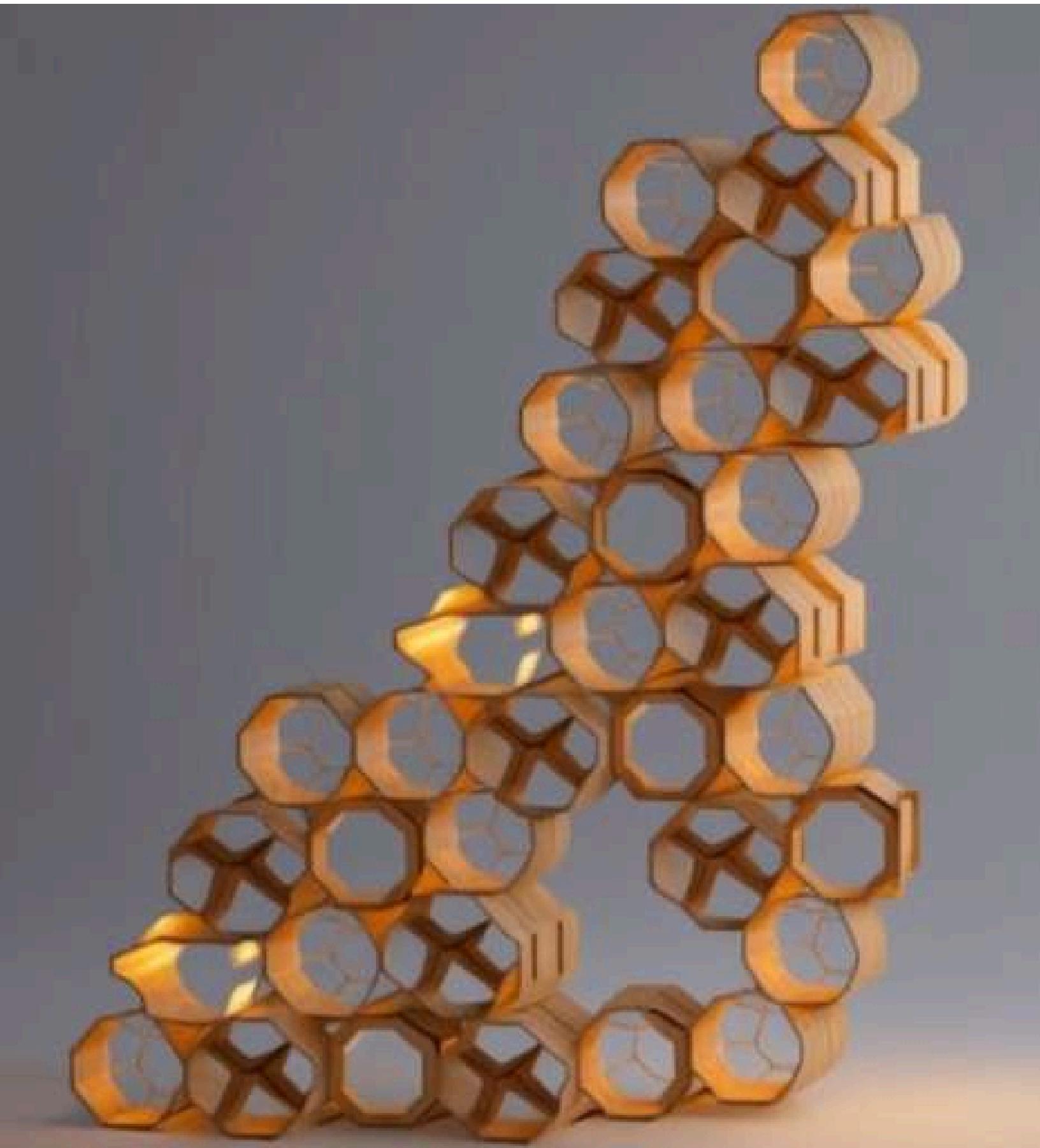
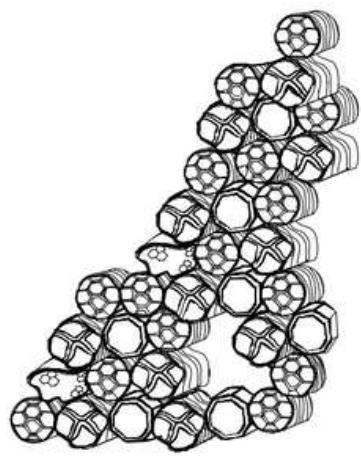
ITERATIONS

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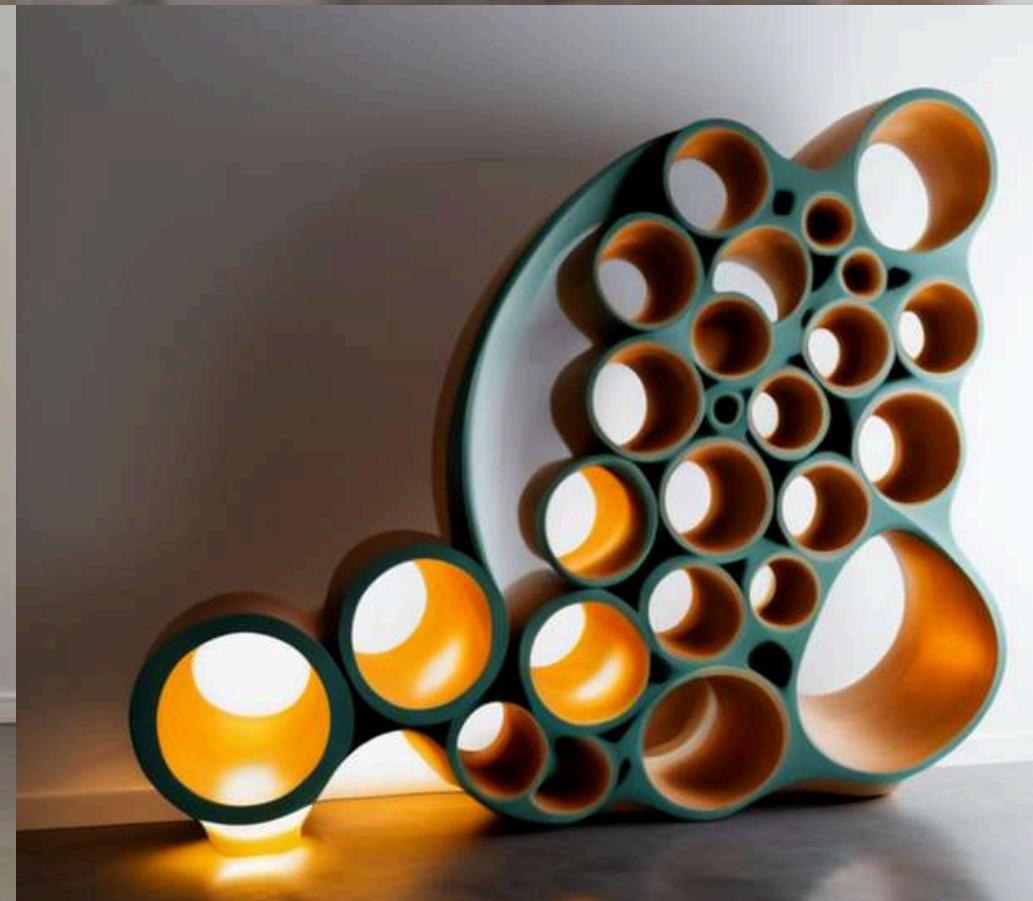
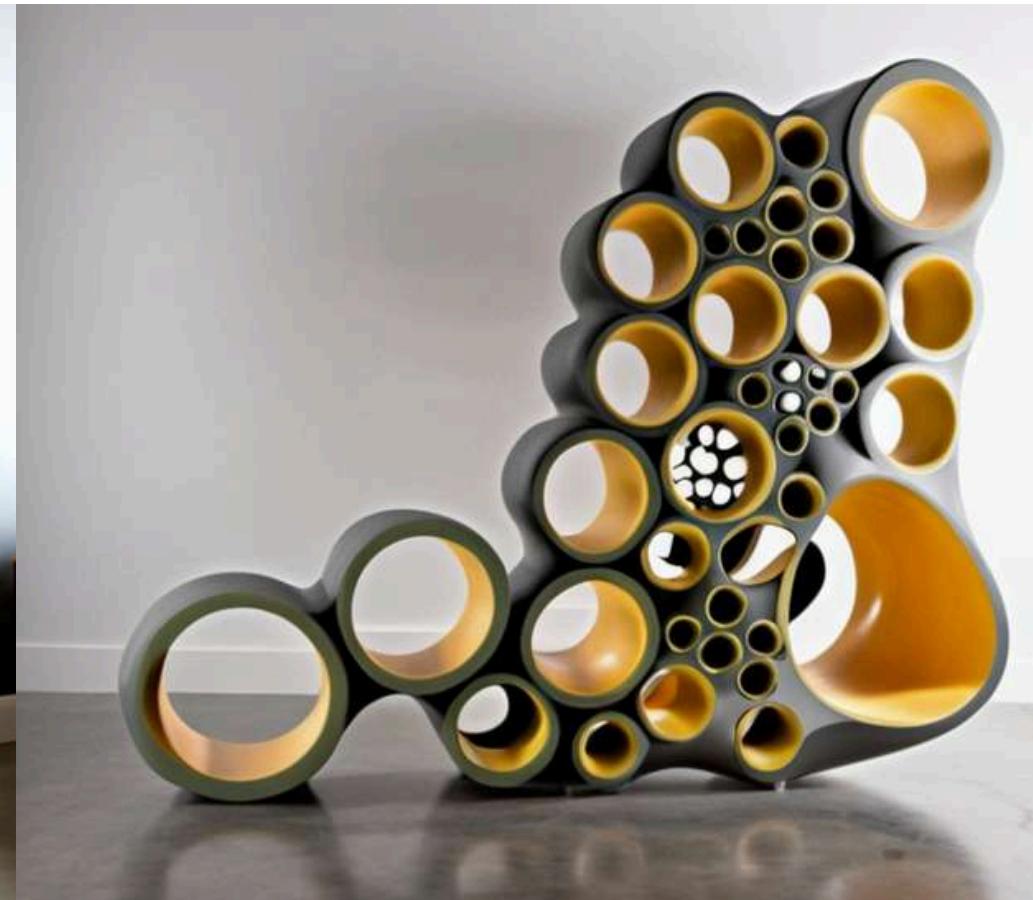
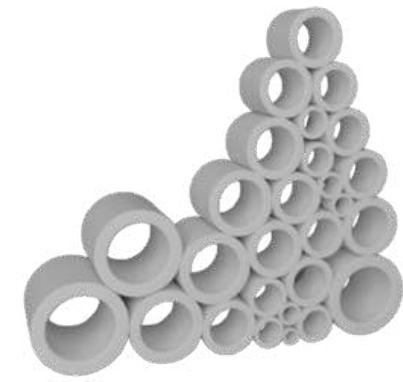


# VISUALISATION



ITERATIONS

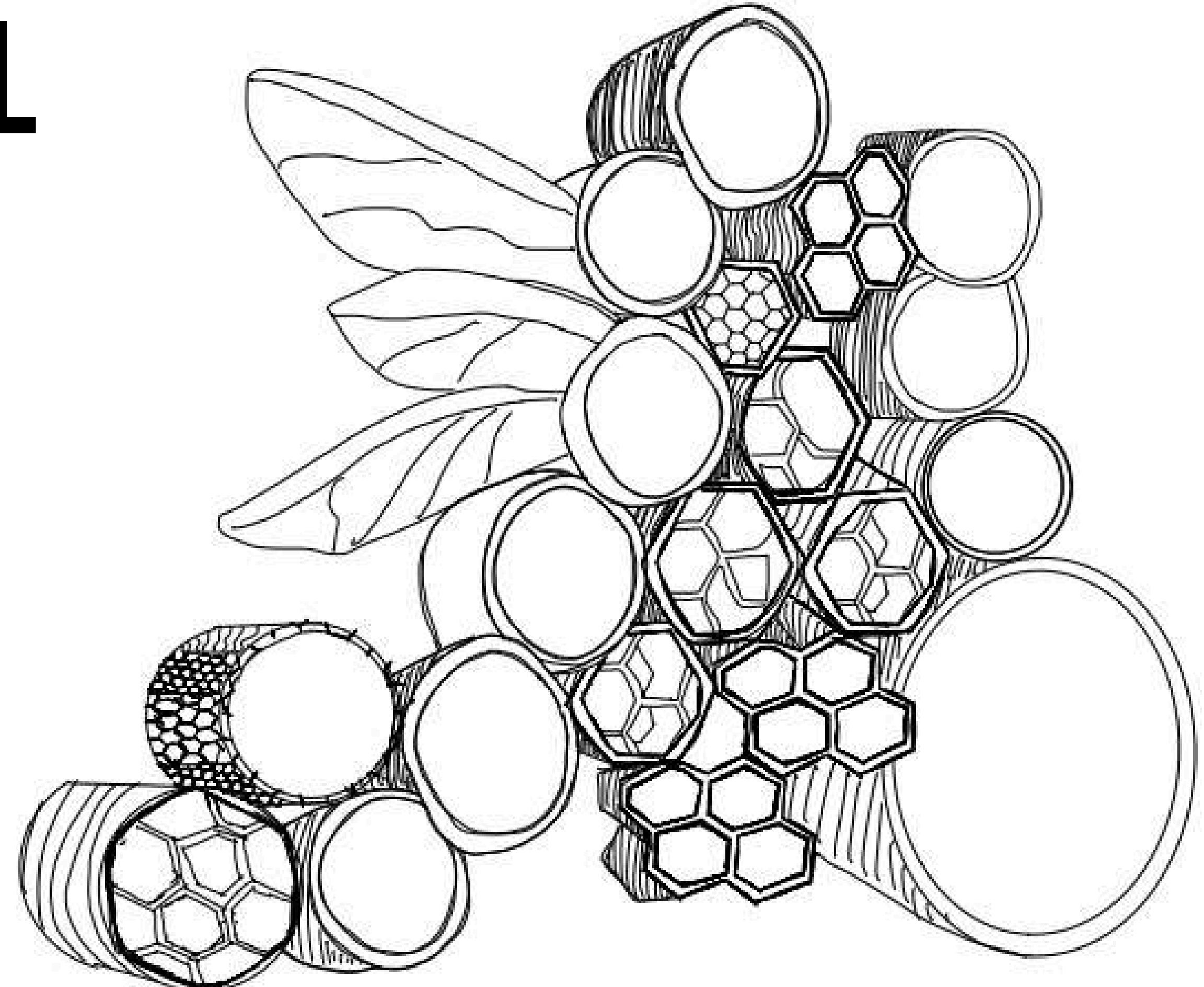
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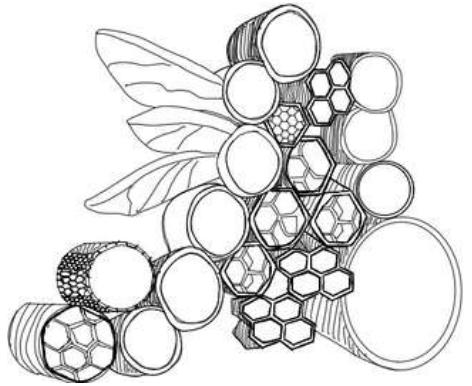
ITERATIONS

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ITERATIONS

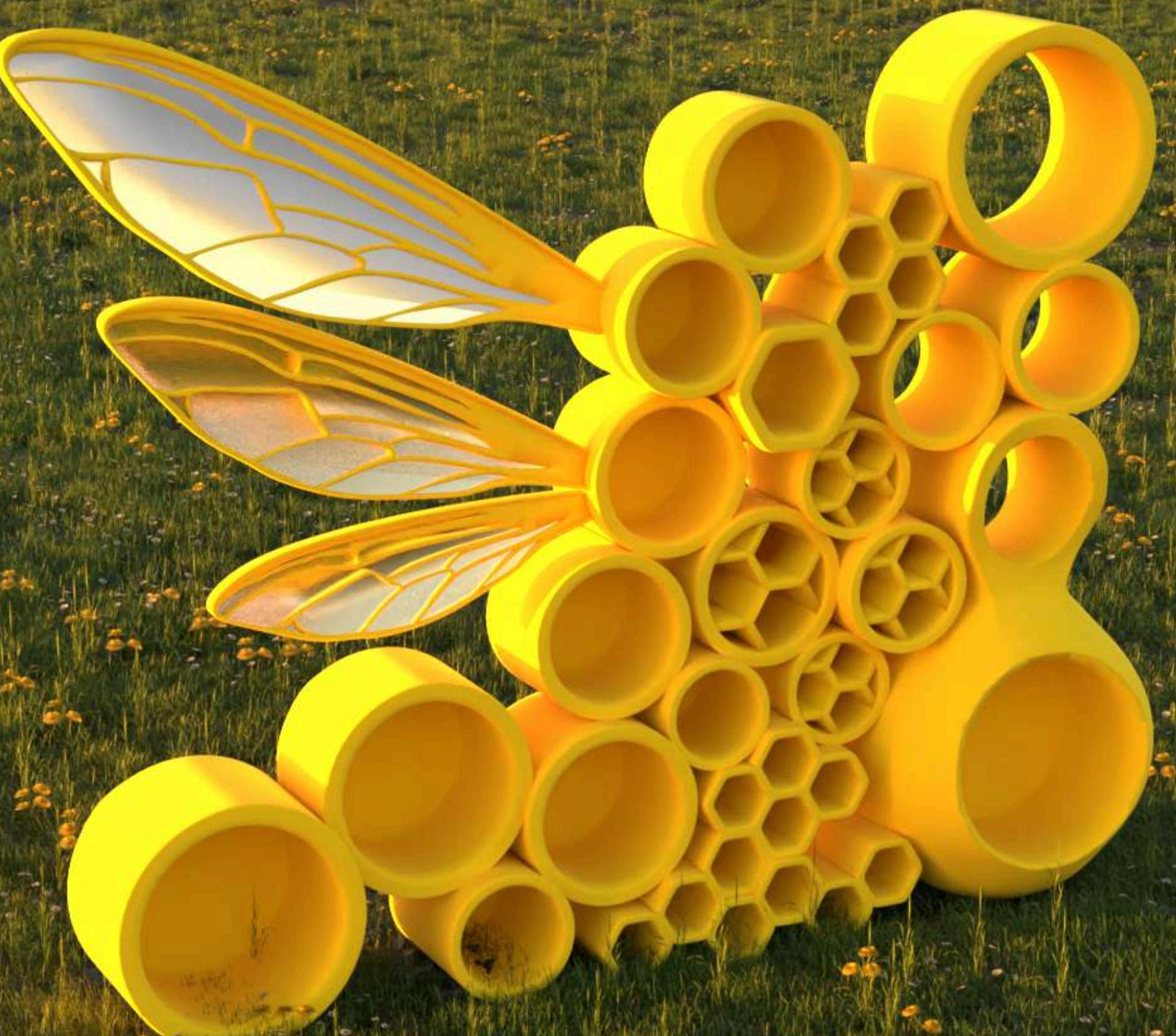


# AI GENERATION

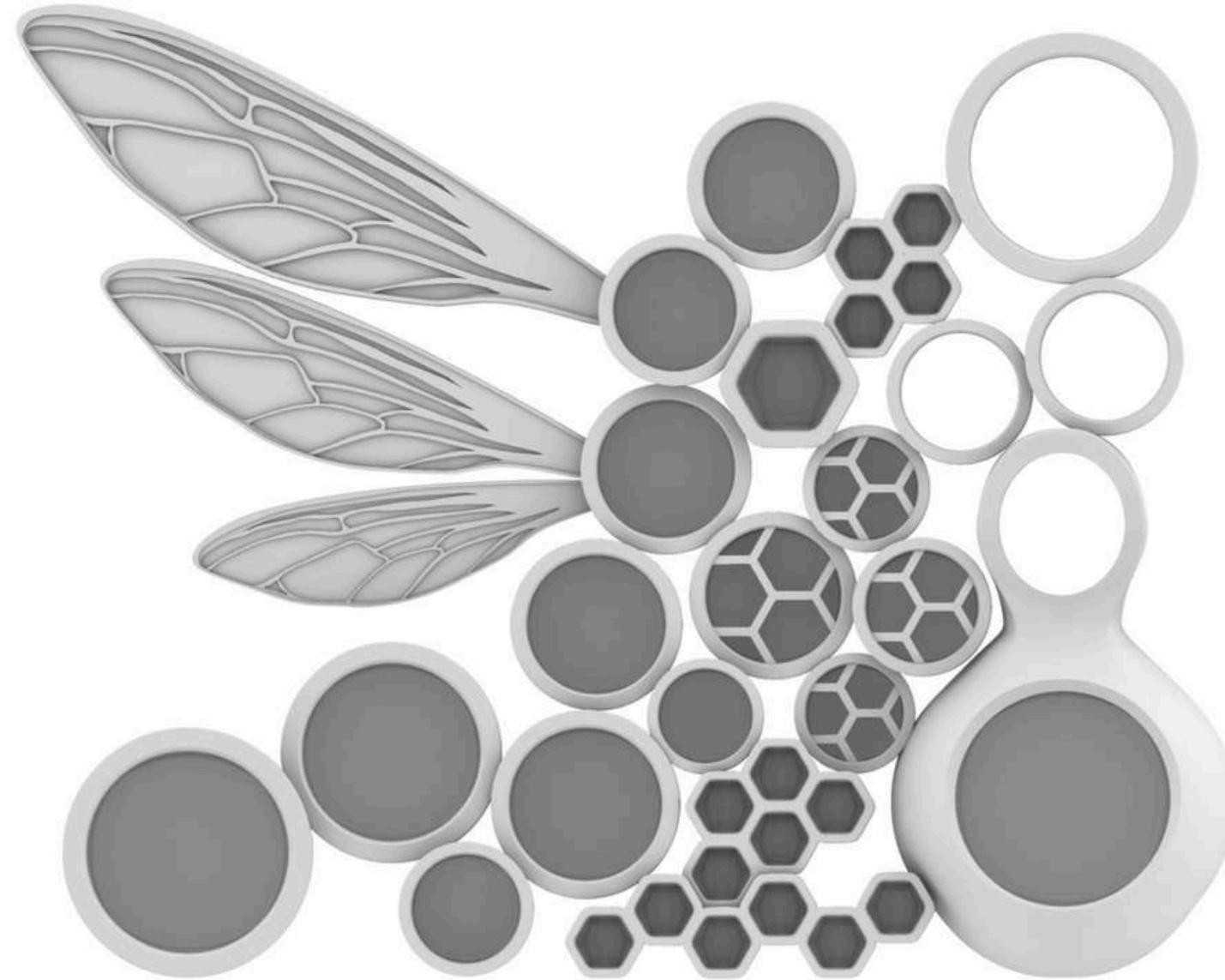


# ITERATIONS

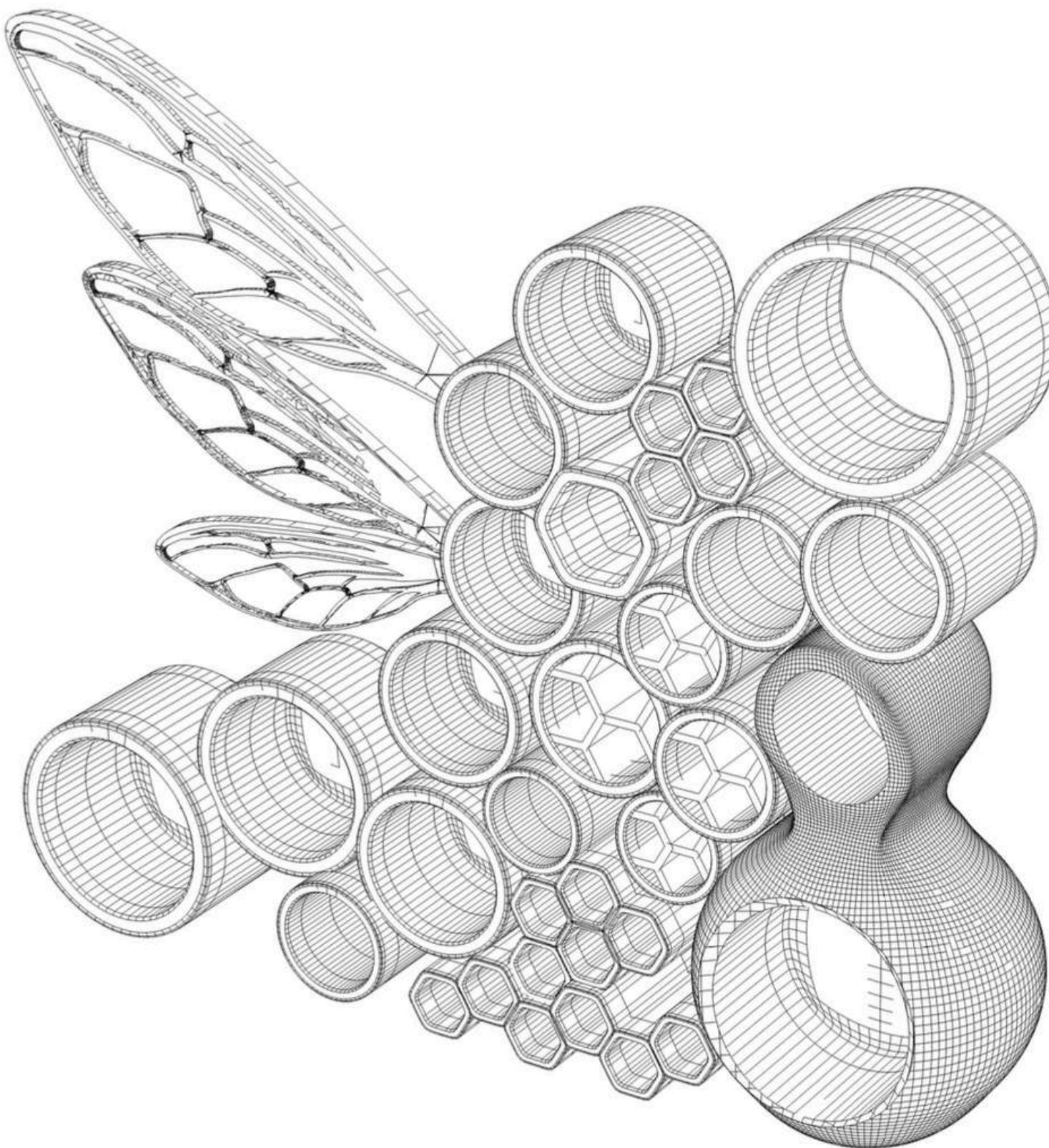
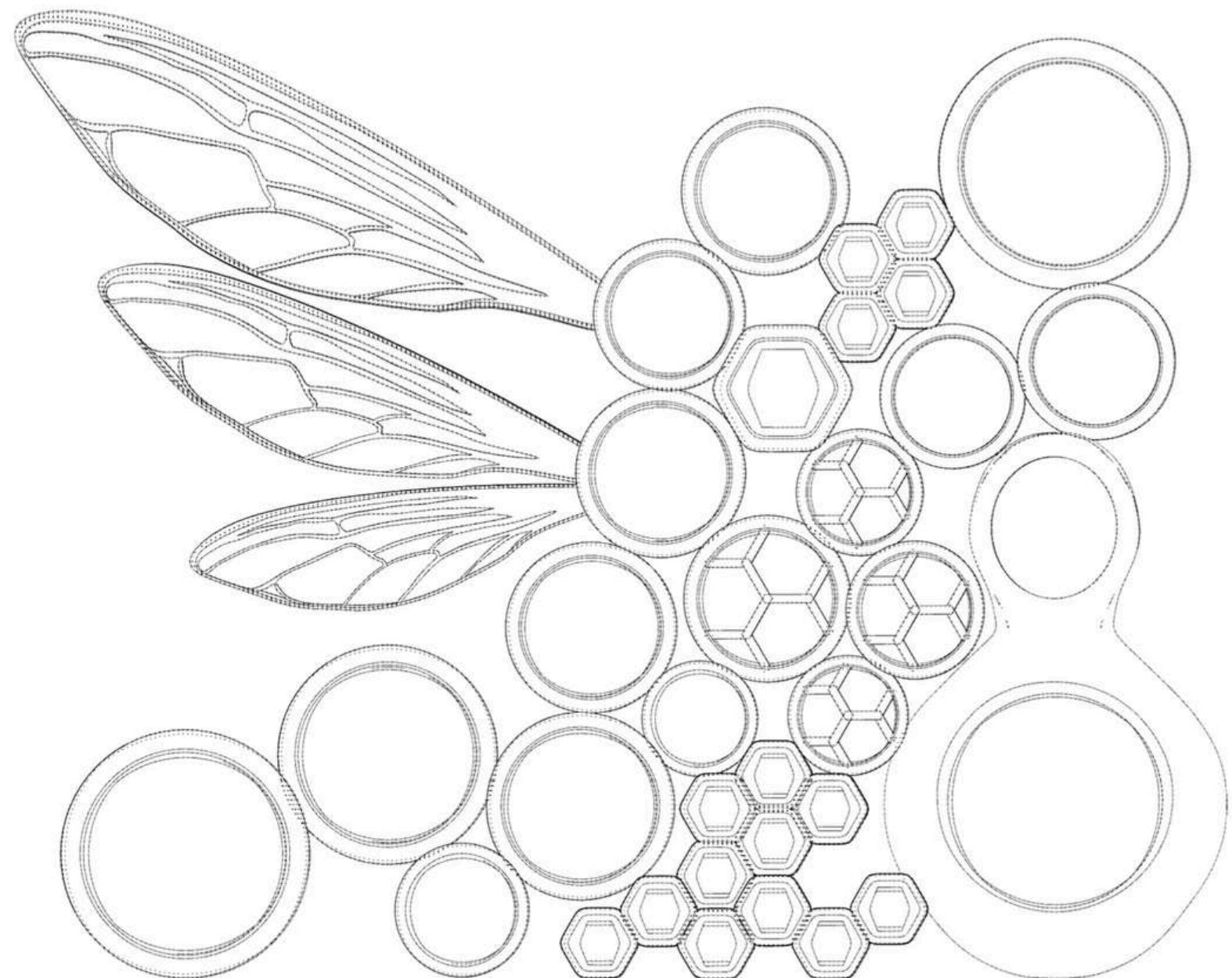
# FINAL DESIGN



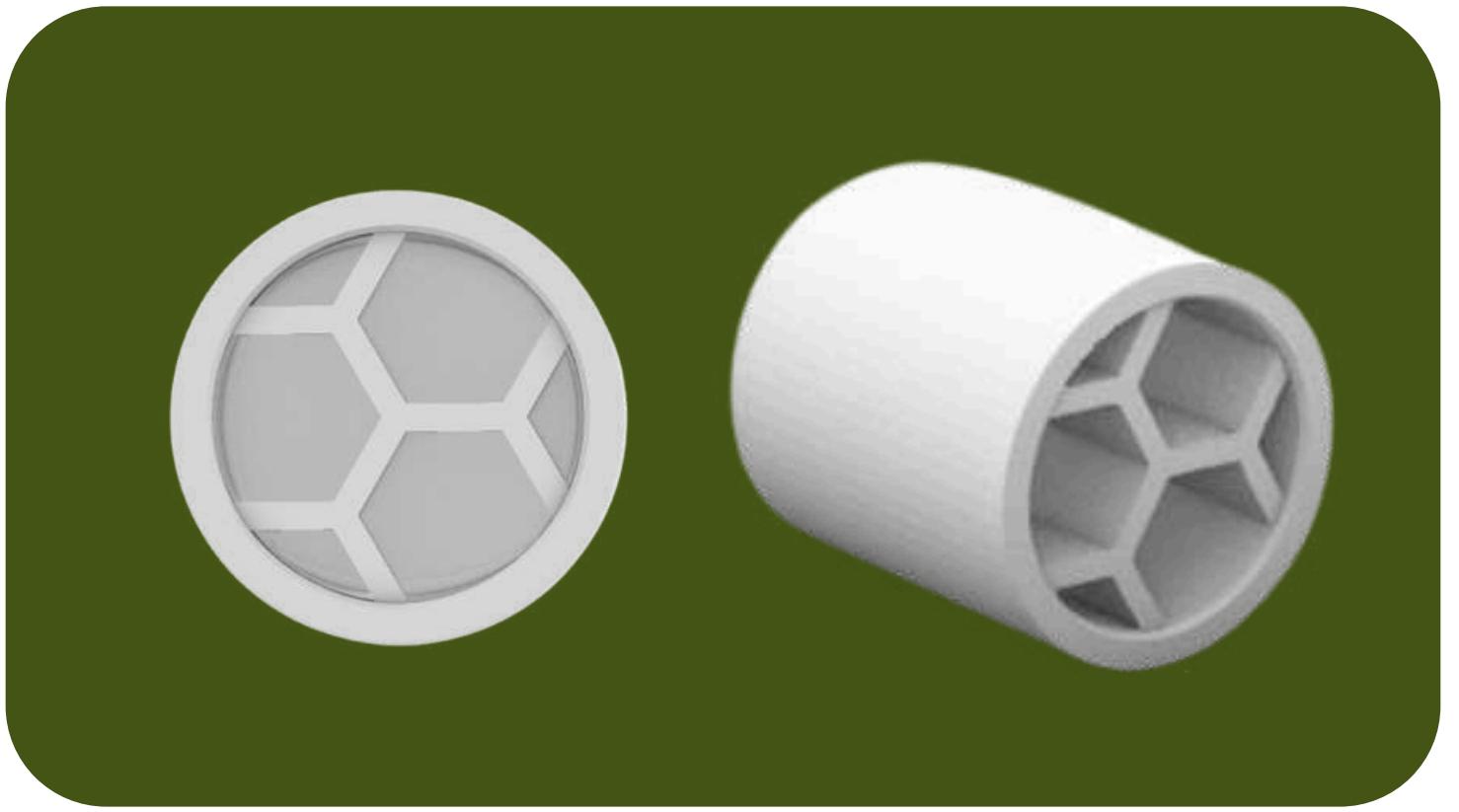
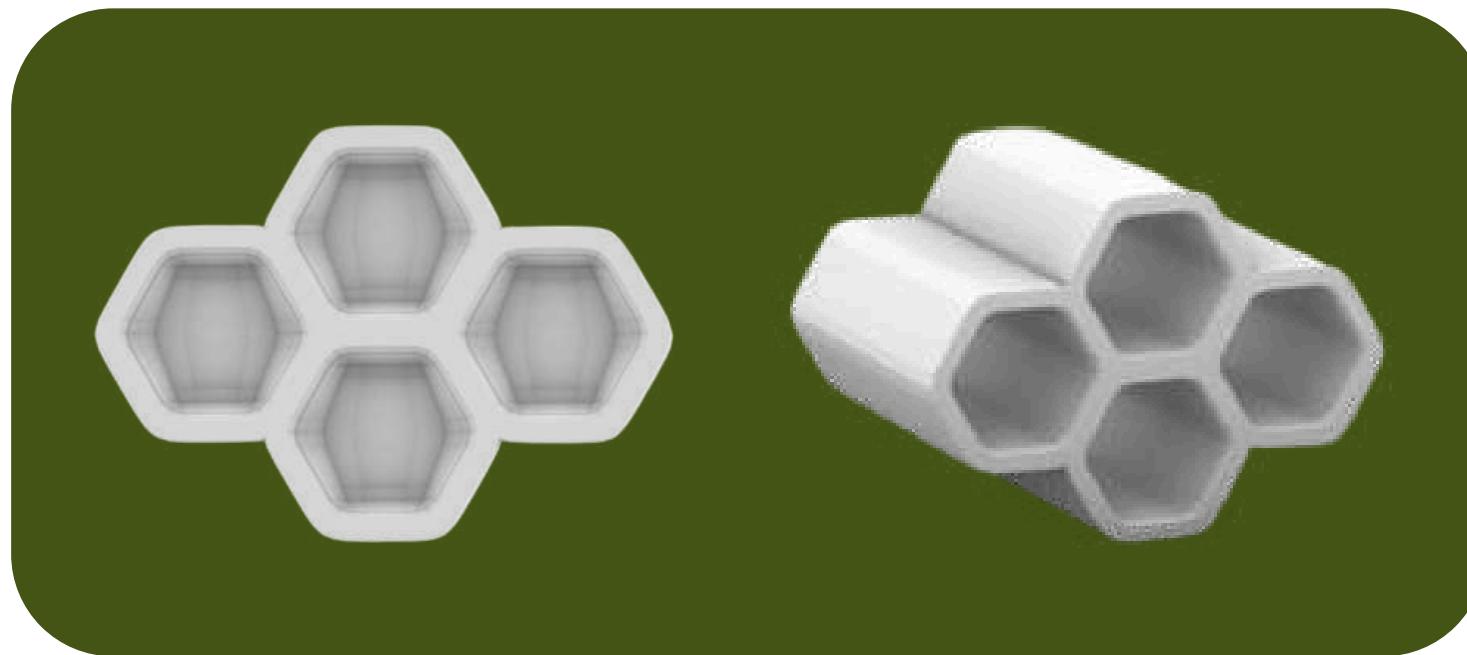
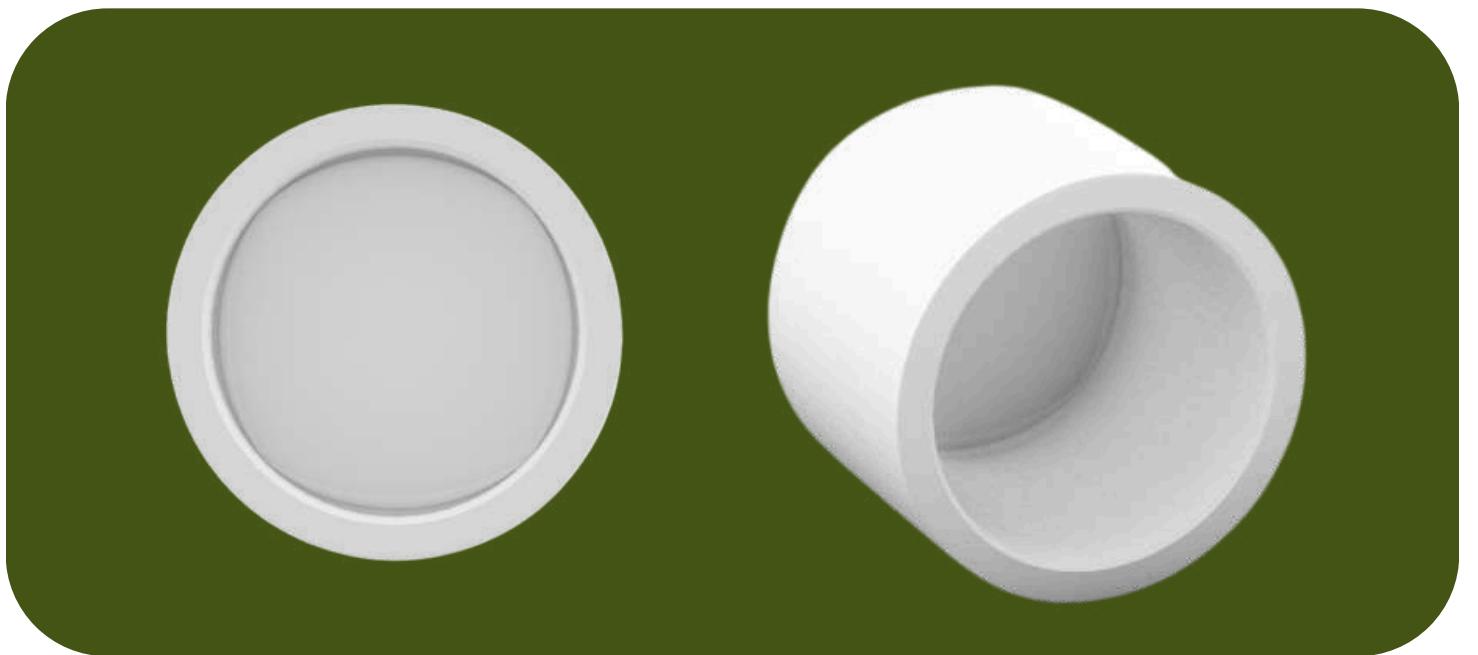
# 3D MODELS | OVERALL STRUCTURE



# TECHNICAL DRAWINGS

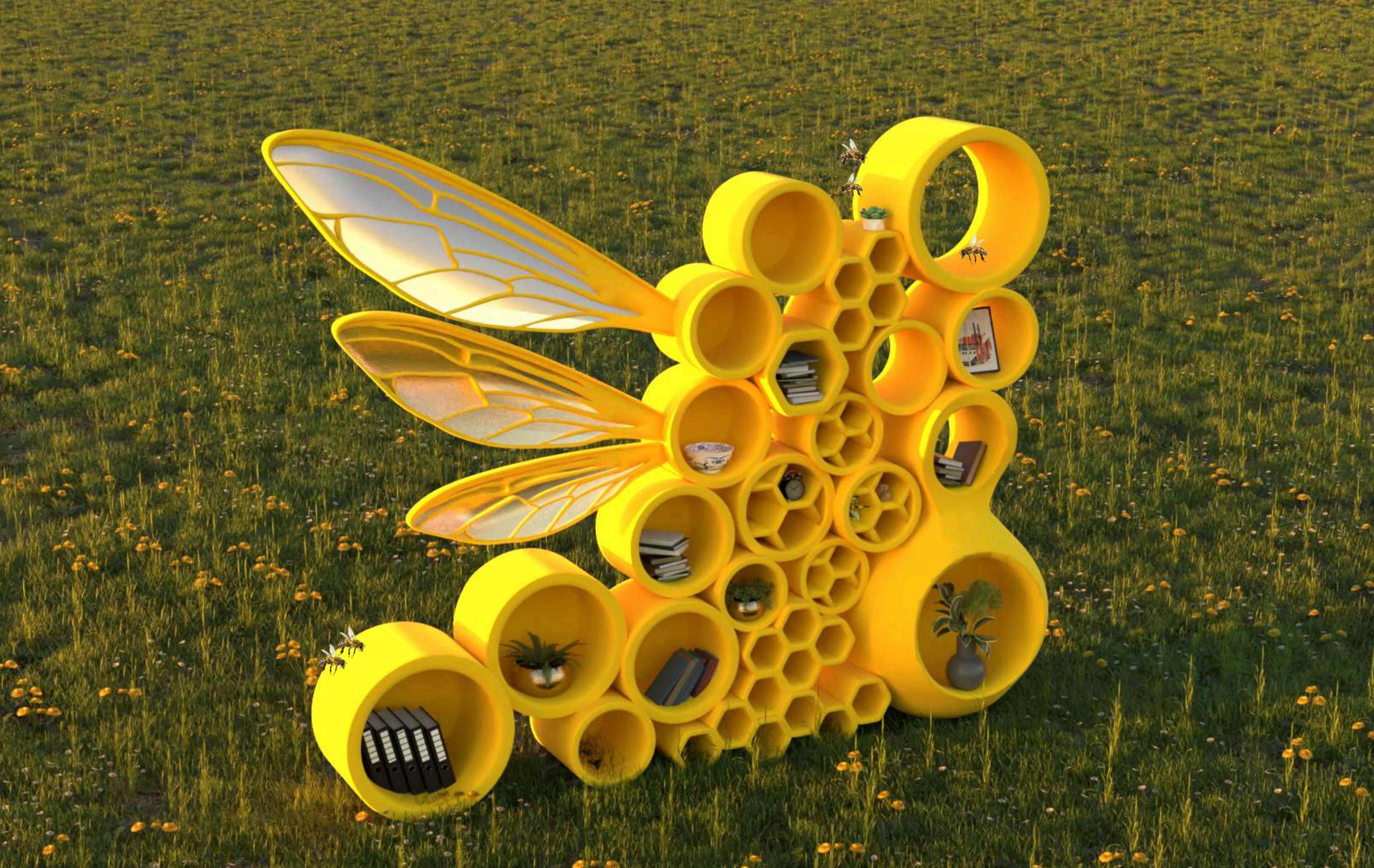


# 3D MODELS | MODULES

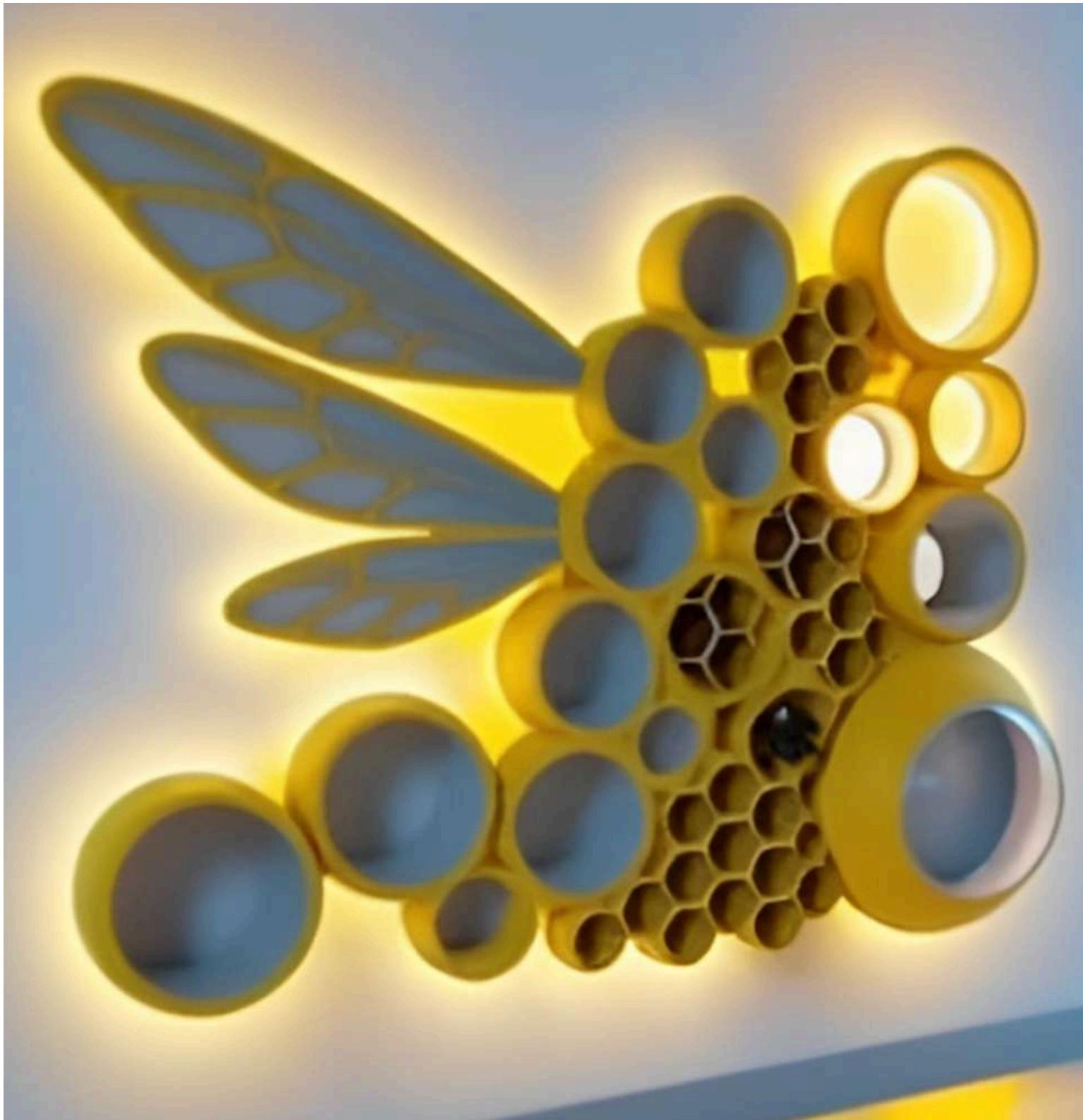




**OUTDOORS**



# AI GENERATION



# INDOORS



# INDOORS



# FLOATING BOOKCASE



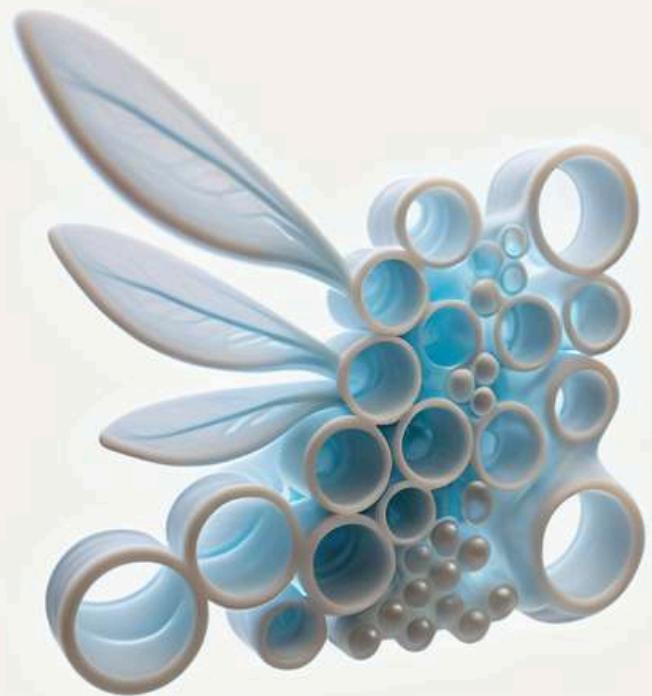
# MATERIALS



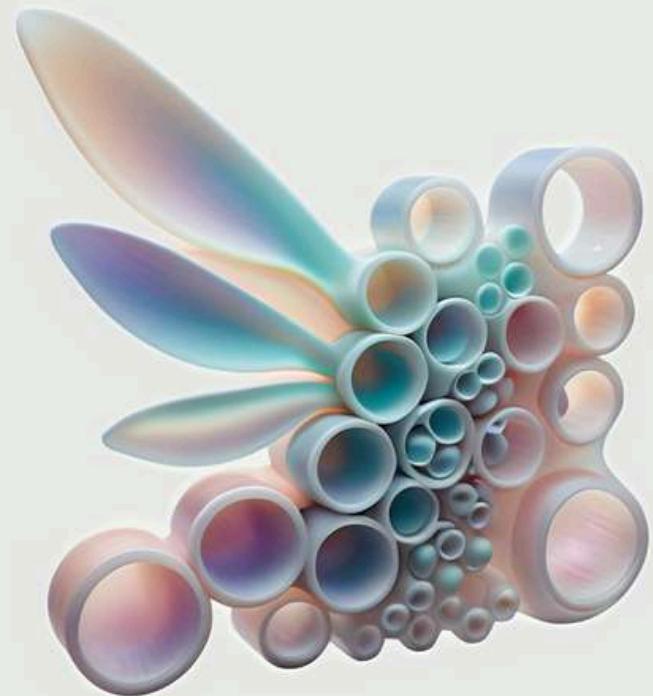
Bamboo composite



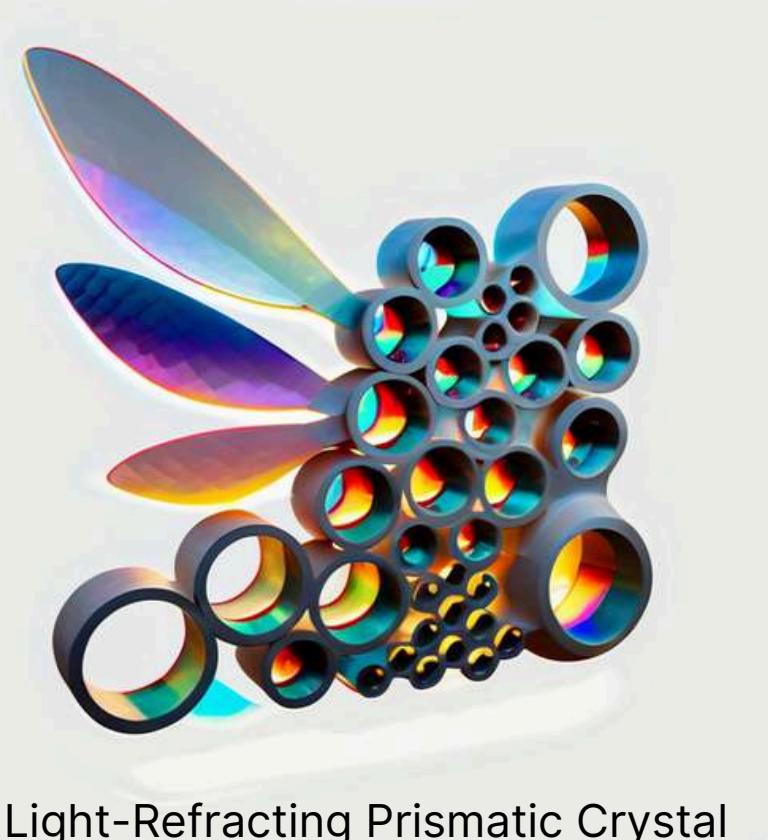
Mycelium



Aerogel



Frosted Iridescent Polymer



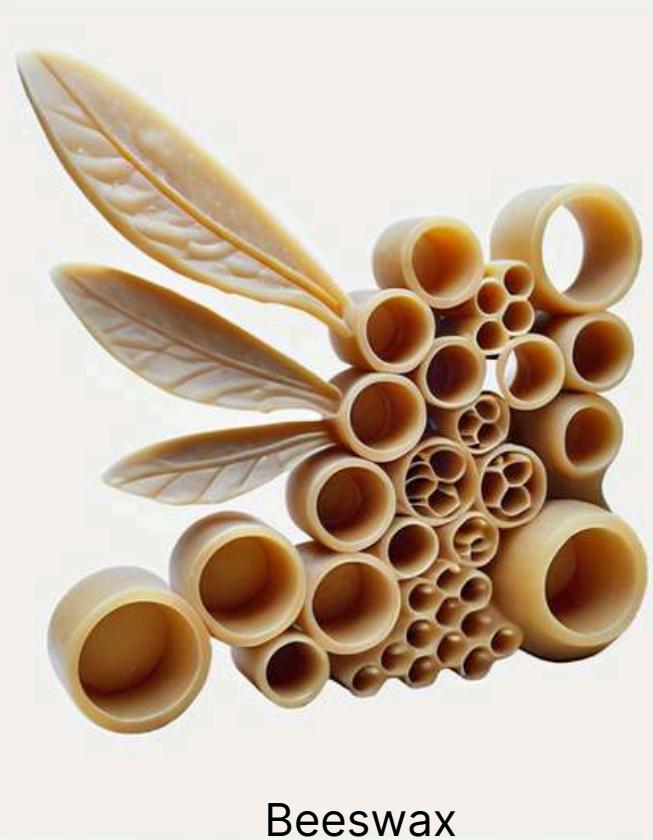
Light-Refracting Prismatic Crystal



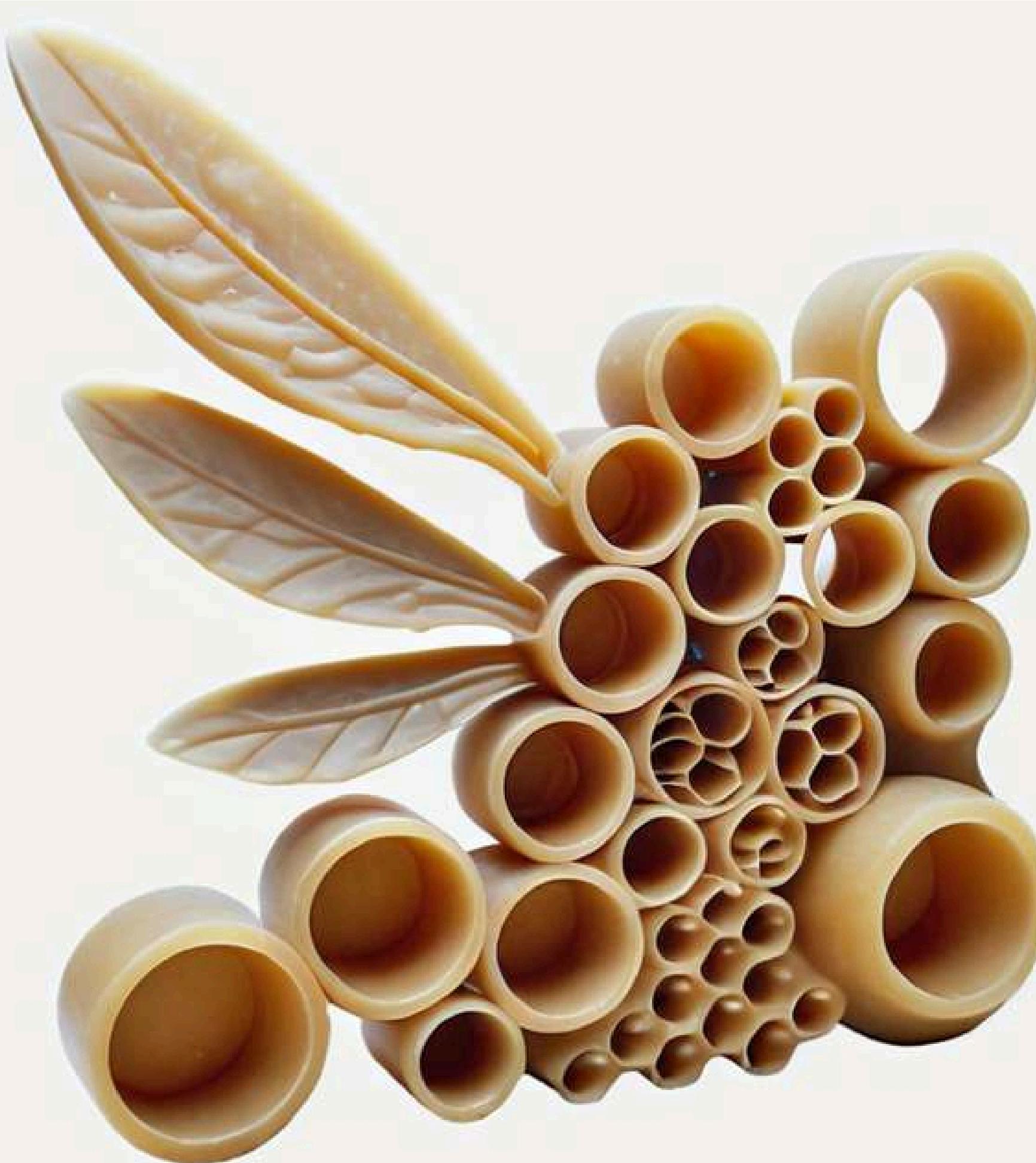
Carbon Nanolattice



Amethyst



Beeswax



## BEES WAX

Beeswax is produced by bees as a **natural byproduct** of pollination - it is a **natural** and **renewal** resource.

Its also fully **biodegradable** and doesn't contribute to long-term waste or pollution.

# PROTOTYPE



THANK YOU



# REFLECTION | NICOLE

Our group initially chose the Corona chair as our product. We were drawn to the modularity and design process behind the chair. We researched and then developed initial sketches following the chair and its principles but found that our narrative needed to be improved in the design. This highlighted the issue of how our narrative wasn't strong enough and left holes in the link between our design and the Corona chair. However, through the sketching and ideation process, we decided that the designs for the Corona chair needed to be stronger to fit our narrative. So, we explored different objects that we could use instead, and the final object we decided to use was the Cloud bookcase.

When deciding on the Cloud bookcase, there was a lot of back and forth on how to design the bookcase to fit our narrative. To deal with this, we started AI generating some ideas from which we could draw inspiration from the shapes and structure. After highlighting the parts we liked, we moved on to the sketching process, where we sketched up different designs. Using these sketches as a base, we used AI to improve the designs - through AI, the bookcase was re-imagined into a relevant and thoughtful design.

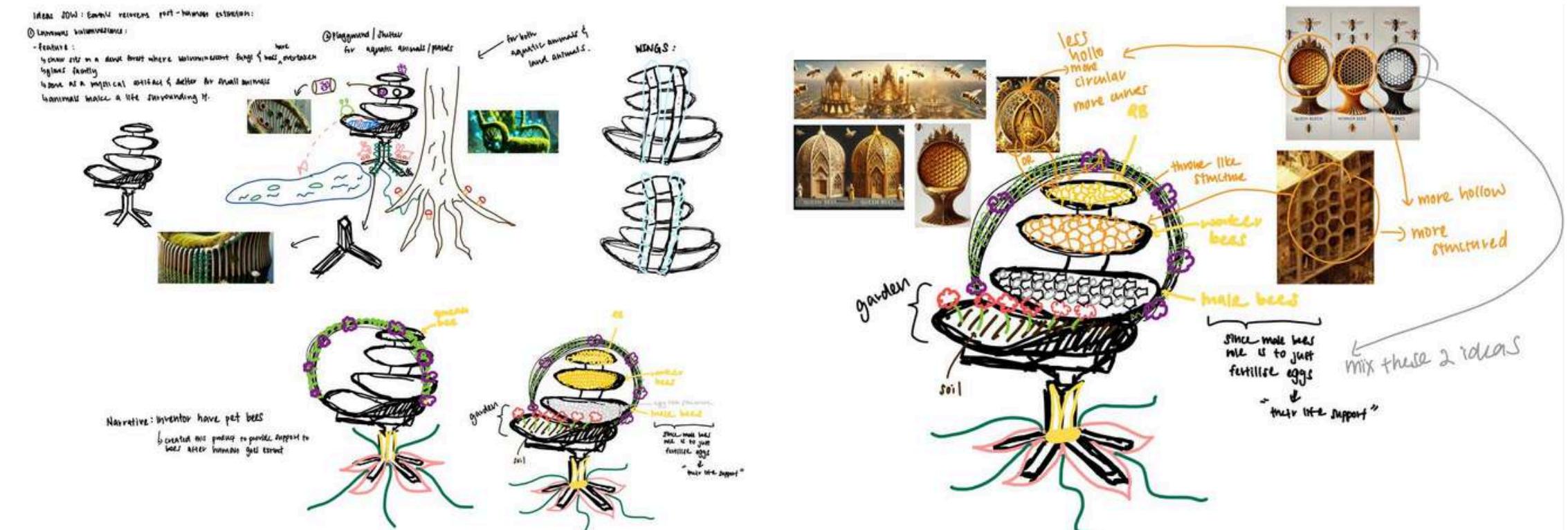
I found it challenging at times to find the motivation to work on the project. There was a lot of back-and-forth between what we designed and what would work with the prompt and design brief we were given. We were also quite uncertain with how "nice" our redesign would look but I think we pulled through at the end.

# REFLECTION | ALICIA

As Nicole mentioned, our group initially selected the Corona Chair as our iconic object. However, differing opinions and unclear decision-making made it difficult to align on a direction, leading to wasted time and effort. For instance, we spent hours creating sketches and iterations that, while creative, ultimately didn't contribute to the final outcome.

Reflecting on this experience, I realize the importance of clear goals and structured decision-making in group projects. Taking time to agree on priorities and using tools like voting or role assignments could have helped us work more efficiently. Time management is another area for improvement, as setting deadlines and check-ins would have kept us on track.

Despite the challenges, this experience taught me the value of communication, collaboration, and adaptability. I hope to apply these lessons to improve future teamwork and project outcomes.



# REFLECTION | XIANG QI

Initially, we chose the Corona Chair as our redesign project because its modularity aligned well with our concept of integrating a whole biosystem into the design. However, after generating a design with AI, we found that the output did not align with our intended context or functionality. The process of using AI presented its own challenges, as the tool didn't always produce the results we envisioned. We had to refine and iterate our prompts multiple times, adjusting the inputs to better fit the context—a time-consuming and unpredictable process.

Next, we explored the Blobwall, an installation known for its large scale, rounded forms, and smooth edges—features that inspired us due to their organic and seamless aesthetic. However, since our design caters to bees, we decided to focus on hexagonal tile shapes that better represent the natural structure of a beehive. This change, however, made the Blobwall incompatible with our narrative.

Ultimately, we settled on the Cloud Bookcase design. Its modularity, functionality, and material suitability made it the perfect choice to bring our vision to life.

Despite this progress, we face significant challenges. Balancing aesthetic appeal with the technical requirements of a functional beehive, ensuring user safety around bees, and sourcing sustainable yet durable materials will require careful planning. The integration of modularity while maintaining stability for both books and bees adds complexity to the design process. Furthermore, educating users on safely interacting with bees, addressing potential urban constraints, and ensuring the design's accessibility will test our adaptability and problem-solving skills. This project is as much about innovation as it is about navigating these challenges to create a harmonious blend of functionality and conservation.

# REFLECTION | RONALD

When using AI tools to support our design process, we encountered a unique set of challenges that underscored both the potential and limitations of these technologies. Initially, we were optimistic about the AI's ability to generate innovative ideas for our redesign, especially when exploring new forms and structures. However, this optimism quickly turned into frustration as the outputs often diverged significantly from our intended vision.

One of the main difficulties was learning how to effectively communicate with the AI tool. Crafting prompts that would yield relevant results required numerous iterations, and even then, the generated designs often lacked the functional or aesthetic qualities we needed. For example, while the AI could produce visually appealing forms, many of these lacked practicality or coherence within the context of our narrative. This trial-and-error process consumed a considerable amount of time, leaving us feeling stuck and uncertain about how to move forward.

Additionally, the AI's interpretations sometimes felt overly abstract or disconnected from the core concept of designing for bees. While it was useful for exploring unconventional ideas, integrating these outputs into a thoughtful and functional design required significant reinterpretation and manual refinement. This added an extra layer of complexity, as we needed to bridge the gap between AI-generated possibilities and real-world constraints.

Reflecting on this experience, I realized that while AI is a powerful tool, it is not a substitute for the human-centered creativity and problem-solving required in design. It taught me the importance of maintaining a critical perspective when working with technology—evaluating its outputs carefully and iterating with purpose. This process also emphasized the value of resilience and adaptability, as we needed to push through setbacks and continuously refine our approach to achieve a meaningful outcome. Despite the hurdles, these challenges ultimately deepened my understanding of how to use AI effectively in the design process.

# REFLECTION | RYAN

When we first chose to redesign the Corona Chair, we were drawn to its unique combination of organic form and modular aesthetics. It felt like an exciting design challenge to balance these contrasting characteristics—modularity, which often results in repetition, and organic design, defined by unpredictable and unstructured forms. In hindsight, however, I realize we underestimated how difficult it would be to translate these principles into a coherent design. Despite the chair's inspiring form, we struggled to define a clear direction for our project.

This uncertainty led us to reconsider our starting point. Reflecting on the challenges we faced with the Corona Chair, I felt that part of the problem was its modularity being more visual than functional, which limited our ability to explore creative adaptations. This prompted us to pivot to a different iconic object—the Cloud Bookcase. Unlike the Corona Chair, the Cloud Bookcase offered true modularity, with physical adaptability that encouraged freer experimentation. This shift gave us the flexibility and clarity we needed to move forward. As we worked with the Cloud Bookcase, I realized the importance of grounding our design in a specific context. Though we initially envisioned serving "nature" broadly, we quickly learned that this broadness made it difficult to develop meaningful ideas. This realization pushed us to focus on bees—an incredibly significant yet endangered species. Choosing bees gave our project a clear purpose: to create a design that not only supports ecological systems but also raises awareness about conservation. This focus brought new challenges. Designing for non-human users required stepping outside our comfort zones and learning about the functional needs of bees, such as nesting and sheltering spaces. At the same time, I wanted the design to stay true to the Cloud Bookcase's modular and organic aesthetic. This balance—between functionality and aesthetics—was a constant push-and-pull throughout the design process. However, reflecting on the journey, I realize that this tension is what made the process so engaging and rewarding.

One of the most valuable lessons I've taken from this project is the importance of adaptability. The shift from the Corona Chair to the Cloud Bookcase taught me that clinging to an initial idea can sometimes stifle creativity, and being open to change can lead to more innovative outcomes. Similarly, focusing on bees helped me understand the power of specificity in design—it's easier to create meaningful solutions when the problem is well-defined. Another key takeaway is the role of materiality in ecological design. Exploring sustainable and biodegradable materials like bamboo composites and mycelium expanded my understanding of how material choices influence both the functionality and message of a design. This was a critical insight for a project centered on sustainability. Looking back, this project wasn't just about redesigning an iconic object—it was about rethinking how design can bridge the gap between human and ecological needs. While the process was at times frustrating and uncertain, it ultimately helped me grow as a designer by challenging me to think critically, embrace change, and approach problems with a broader perspective.