



MONDAY
BASICS:
TRAINING & COFFEE

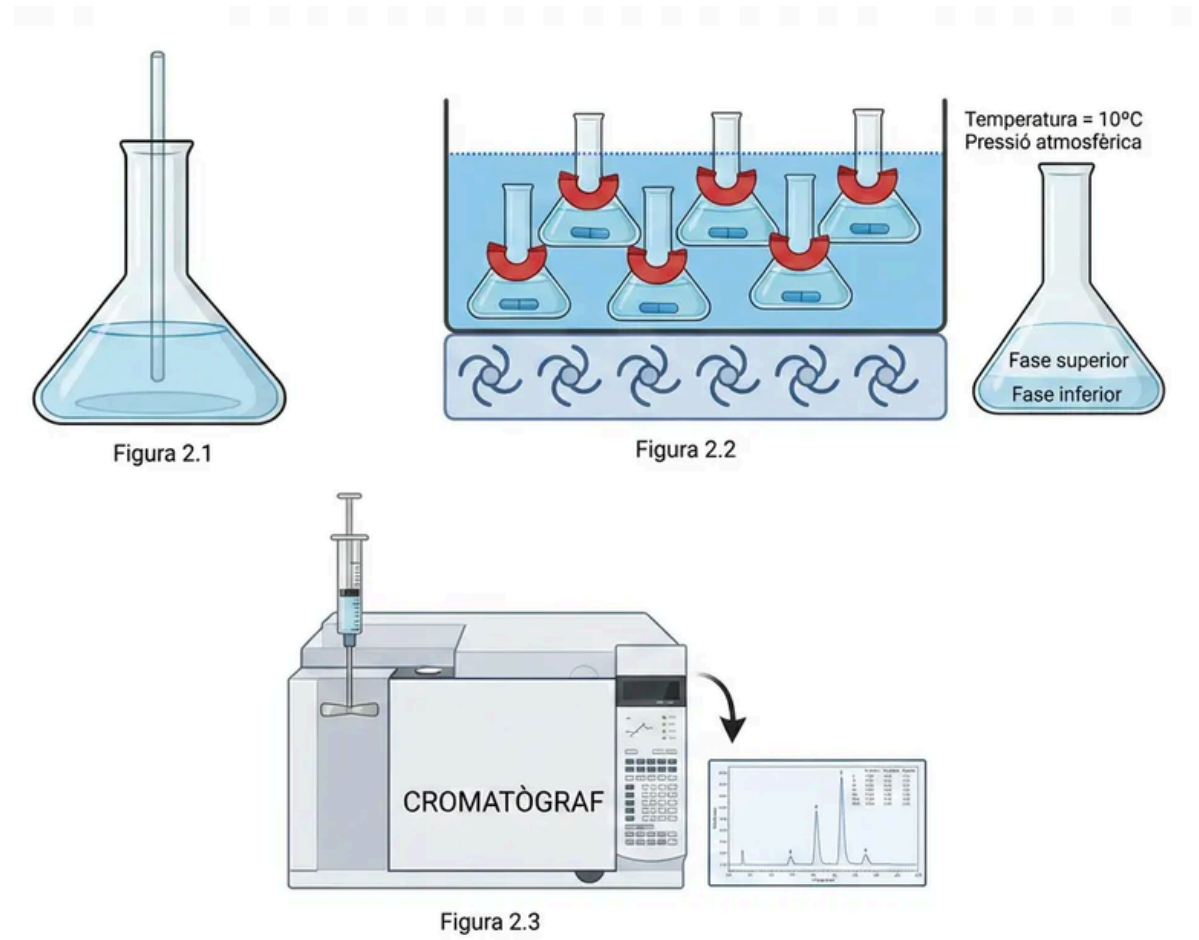
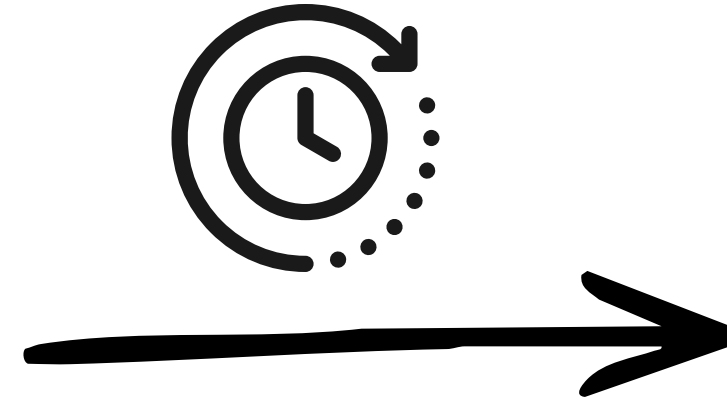
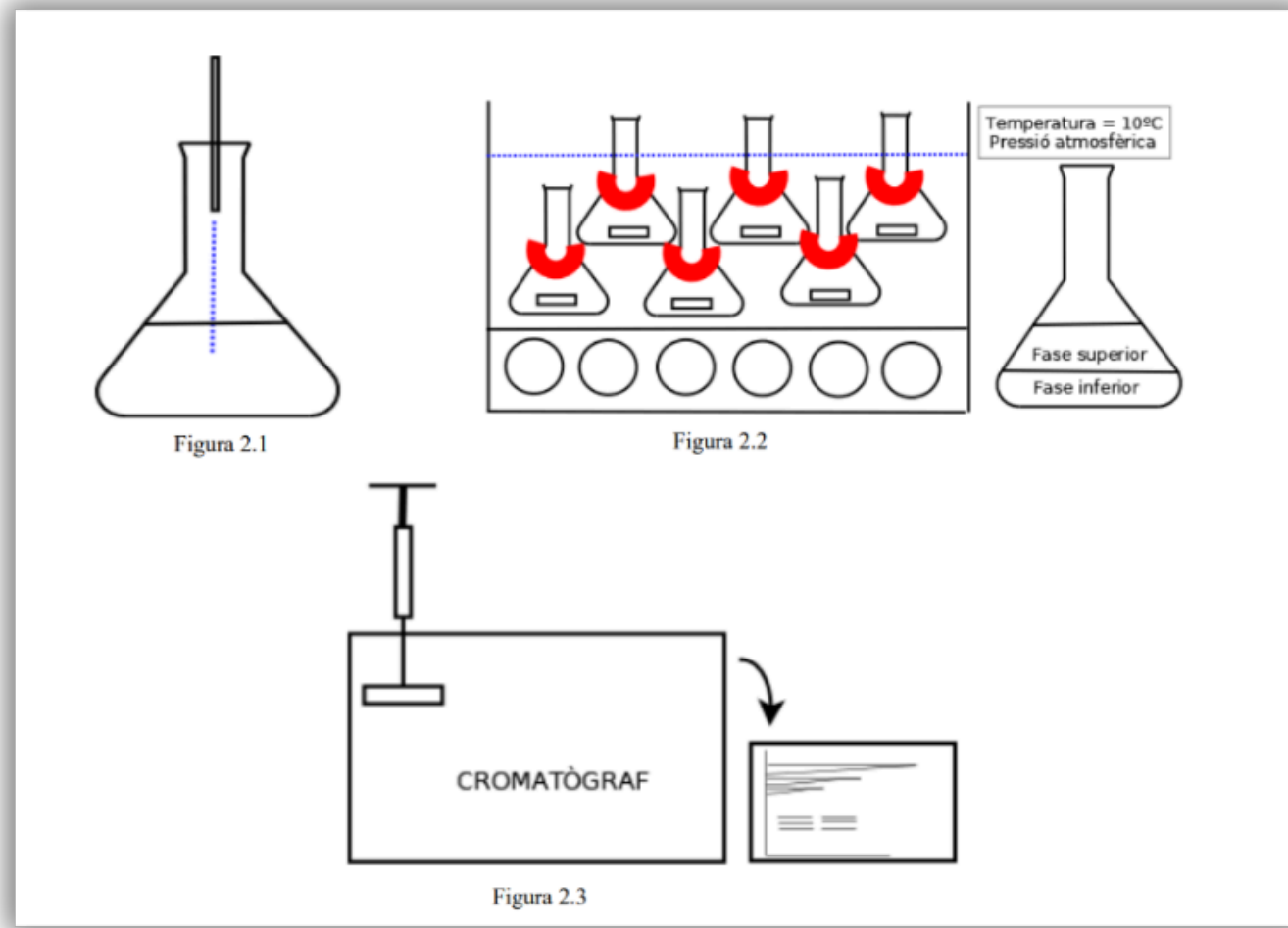
FIGURELABS: AI FOR SCIENTIFIC FIGURES

Marc Arenas



UNIVERSITAT ROVIRA i VIRGILI
Departament d'Enginyeria Química

More art!



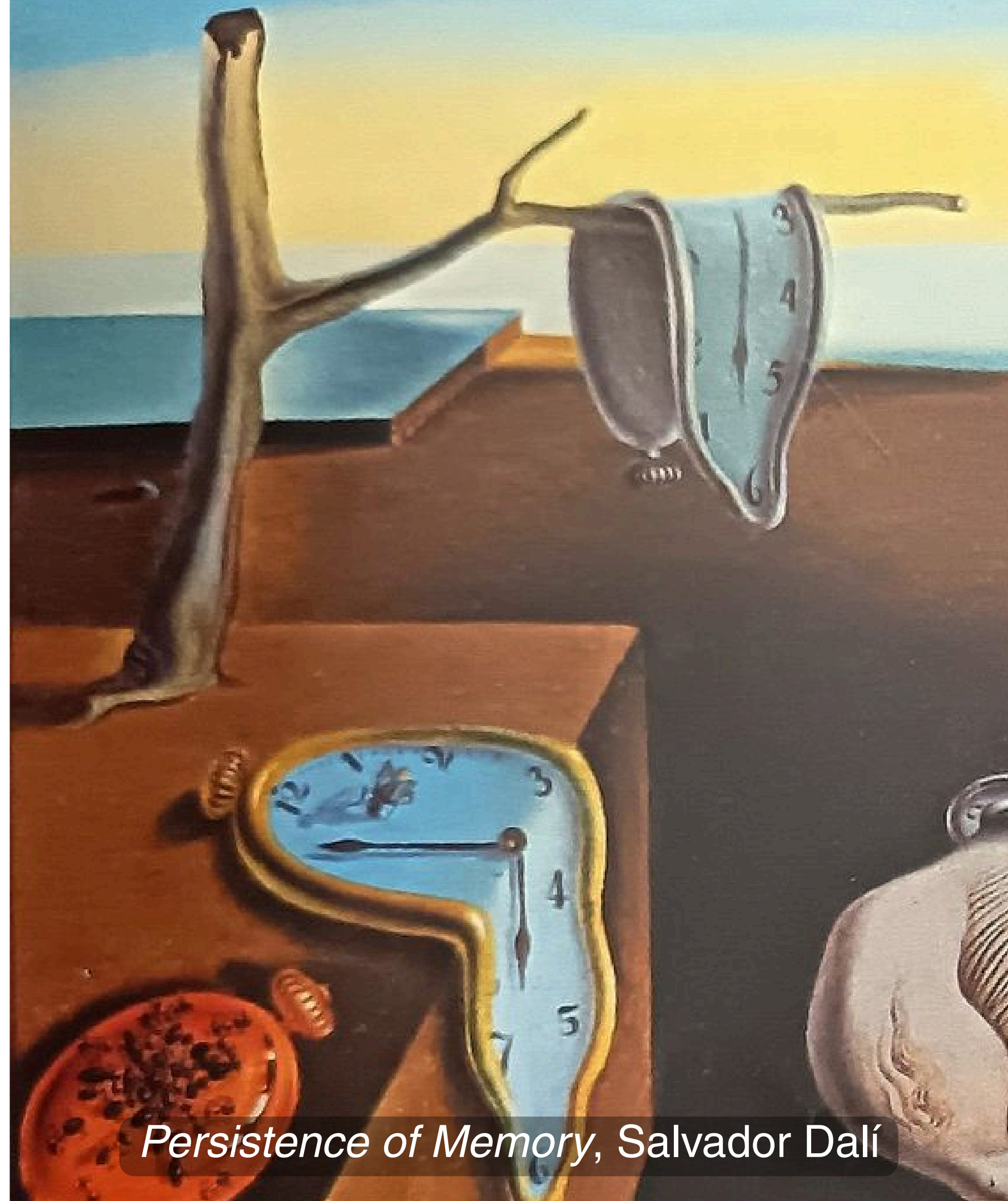
More art!



**olé!*

HOW LONG DOES IT TAKE YOU TO MAKE ONE DECENT FIGURE?

Minutes, hours, days...



Persistence of Memory, Salvador Dalí

Myth or reality?

Good figures require design skills

AI figures doesn't look professional...



AI figures can be published in papers

When in doubt...
We look at the evidence.

Sherlock Holmes



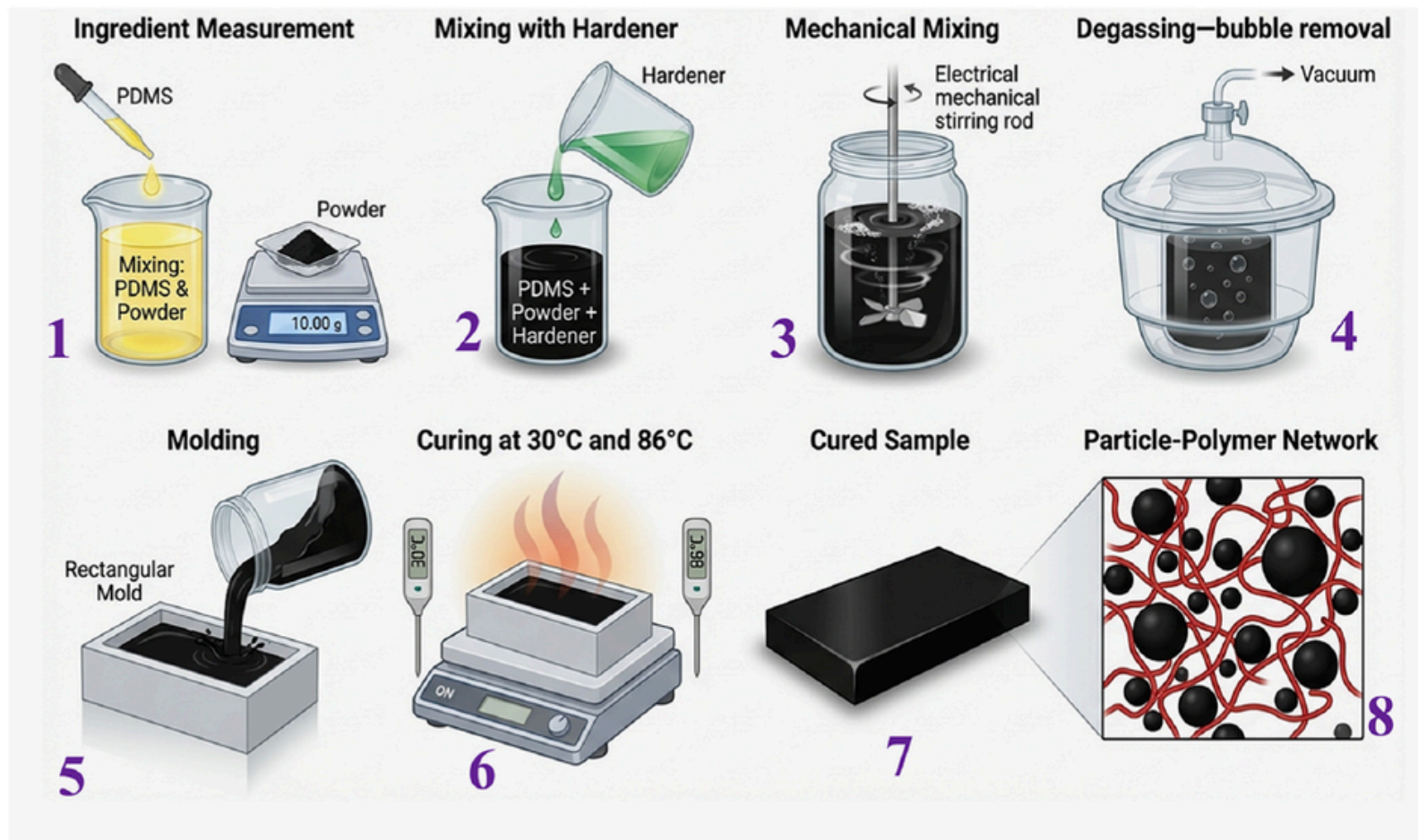
Tailoring viscoelastic damping and magnetic response in high-concentration PDMS–ferrite iron magnetorheological elastomer via irregular particle morphology

Vivek Dhand^{a,1}, Byeonghyeon Kim^{a,1}, Hyeonjun Jang^{a,1}, Jaehoon Bae^b, Hyunho Shin^{c,**} , Sanghoon Kim^{a,*} 

^a Department of Mechanical Design Engineering, Chonnam National University, 50 Daehak-ro, Yeosu, Jeonnam, 59626, Republic of Korea

^b Department of Architectural Design, Chonnam National University, 50 Daehak-ro, Yeosu, Jeonnam, 59626, Republic of Korea

^c Mechanics of Materials and Design Lab., Department of Materials Engineering, Gangneung-Wonju National University, Gangneung, 25457, Republic of Korea



Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used Google Gemini-1.5 and FigureLabs (Nano banana for artistic improvements) and ChatGPT3.5 to improve the English language usage. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for its integrity.

Fig. 1. Schematic diagram of the MRE composite fabrication using PDMS and water atomized ferrite particles.



Impact of long-term preservation techniques on microbiota, volatiles and proteolysis in tempeh produced via back-slopping

Anna Reale^{a,*}, Tiziana Di Renzo^a, Floriana Boscaino^a, Valentina Spada^a, Stefania Nazzaro^a,
 Pasquale Marena^a, Salvatore De Caro^a, Gianfranco Mamone^a, Ilario Ferrocino^b

^a Institute of Food Science, National Research Council, Via Roma 64, Avellino, Italy

^b Department of Agricultural, Forest and Food Science, University of Torino, Largo Paolo Braccini 2, Grugliasco, Torino, Italy

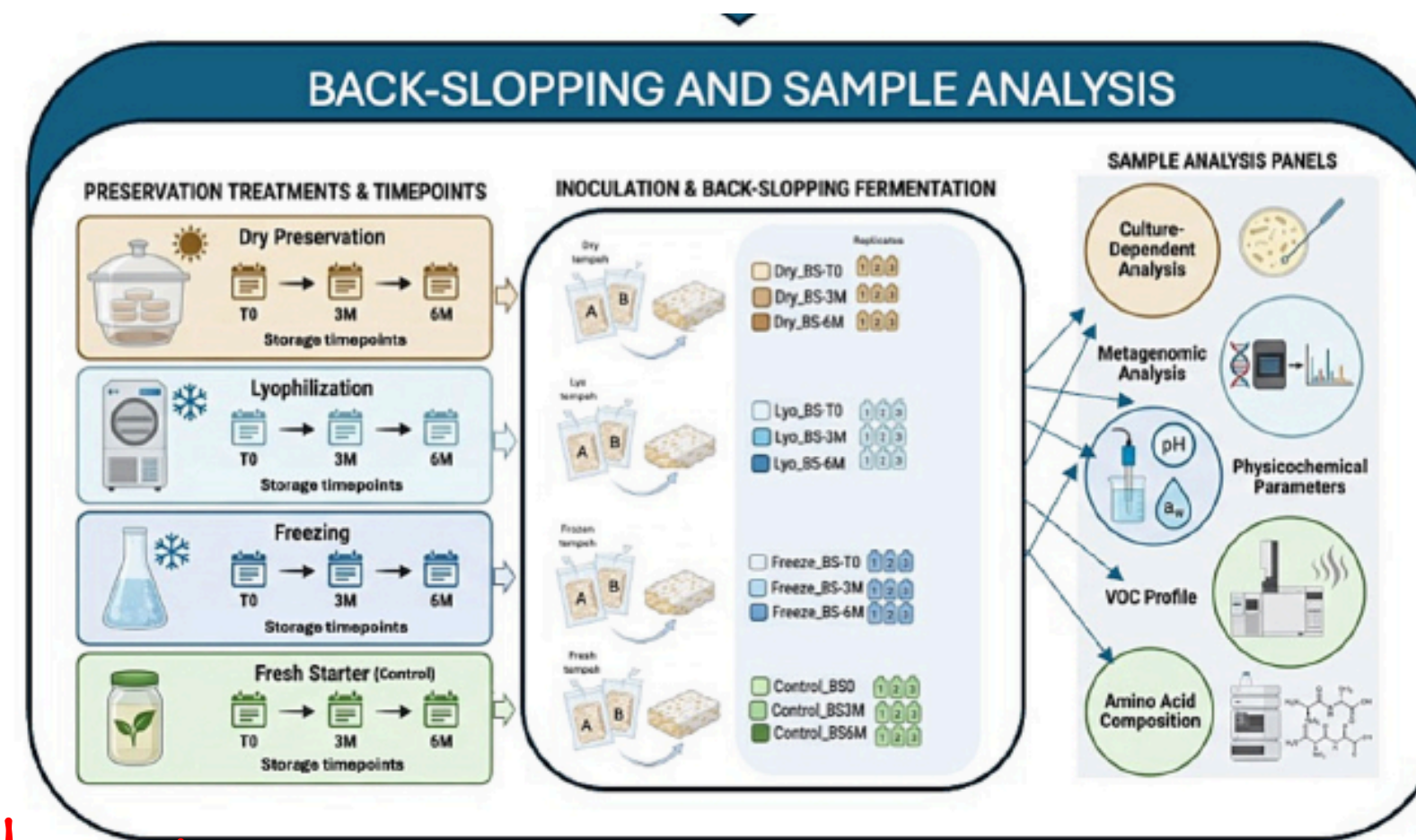
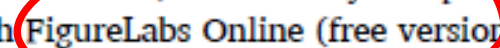

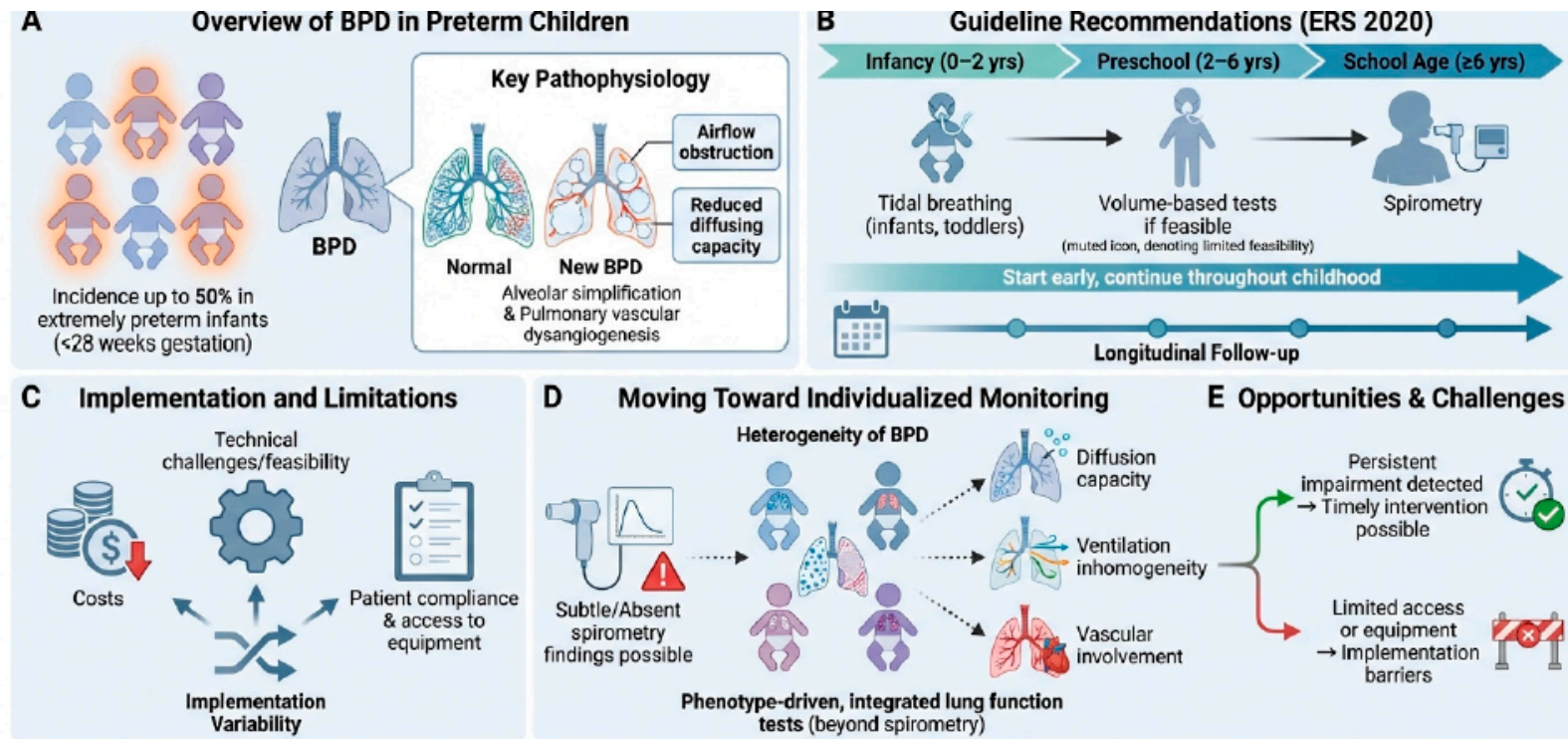


Fig. 1. Schematic representation of the experimental strategy adopted in this study. The workflow illustrates tempeh preparation, preservation treatments, an slopping fermentation, followed by sample collection and analytical procedures. The figure also summarizes the experimental batches and replicate su
 Created with  (free version).

Review

Lung Function Trajectories After Preterm Birth: A Life-Course Approach to Age-Specific Monitoring

Dorina Hoxha, Iliara Bucci, Sabrina Di Pillo, Francesco Chiarelli, Marina Attanasi  and Paola Di Filippo *



Routine monitoring for lung function in children with BPD should be initiated in infancy and tailored to individual phenotypes, integrating advanced tests beyond spirometry as per 2020 ERS guidelines. Real-world implementation varies due to feasibility, resource, and compliance barriers.

Pediatric Allergy and Pulmonology Unit, Department of Pediatrics, University of Chieti-Pescara, Via dei Vestini n°5, 66100 Chieti, Italy; dorina.hoxha@studenti.unich.it (D.H.); ilaria.bucci@studenti.unich.it (I.B.); sabrina.dipillo@asl2bruzzo.it (S.D.P.); chiarelli@unich.it (F.C.); marina.attanasi@unich.it (M.A.)

* Correspondence: paola.difilippo@asl2abruzzo.it; Tel.: +39-0871-358690

Figure 2. Routine lung function monitoring in children with bronchopulmonary dysplasia. Schematic overview of structured pulmonary follow-up in children with BPD. (A) Epidemiology and key pathophysiological features, including alveolar simplification, pulmonary vascular dysanapsis, airflow obstruction, and reduced diffusing capacity. (B) European Respiratory Society (ERS) 2020 guideline recommendations for age-specific monitoring, emphasizing early initiation in infancy, longitudinal follow-up, and transition from tidal breathing techniques in early life to spirometry from school age. (C) Practical implementation challenges, including technical feasibility, costs, and patient adherence. (D) The need for phenotype-driven assessment integrating advanced tests beyond spirometry to capture ventilation inhomogeneity, diffusion impairment, and vascular involvement. (E) Clinical implications, highlighting opportunities for early detection and timely intervention, alongside real-world barriers to implementation. (Created with Figure-Labs, https://www.figurelabs.ai/?utm_source=google&utm_medium=cpc&utm_campaign=pmax_xhs&gad_source=1&gad_campaignid=23643798701&gclid=CjwKCAjwhLPOBhBiEiwA8_wJHDdu06tov0Su7Zui-ItbuNjPV0twwPw8xLM6GqIVMU30JPr-BbivRoCVOMQAvD_BwE, accessed on 2 February 2026).

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Scientific figures, made effortless.

Turn text, sketches, and reference images into editable, publication-ready figures.

A CRISPR-Cas9 gene editing mechanism di



16:9



Recent Projects

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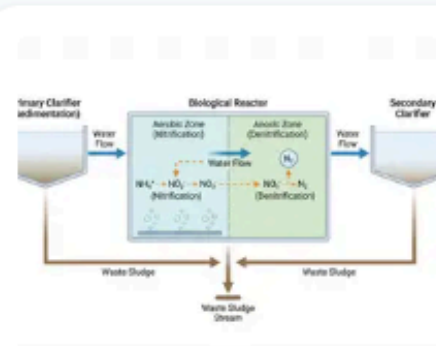
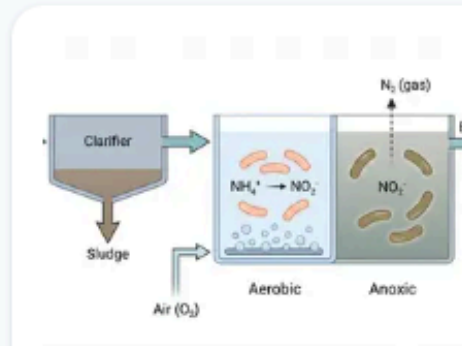
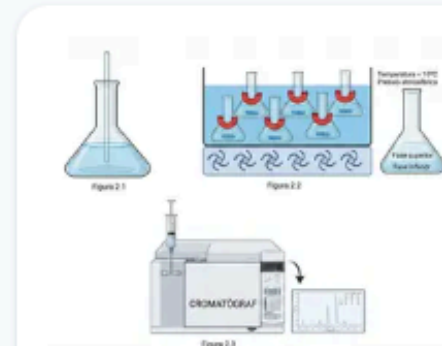


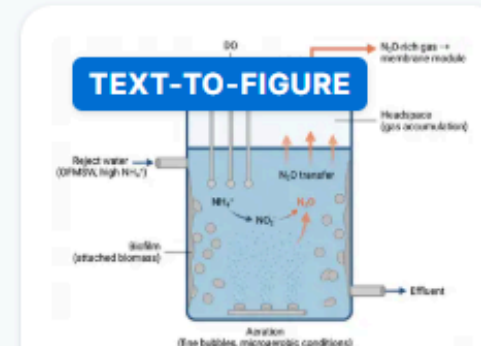
Image elements:...



Convert this ske...



Content object li...



Create a clean, p...

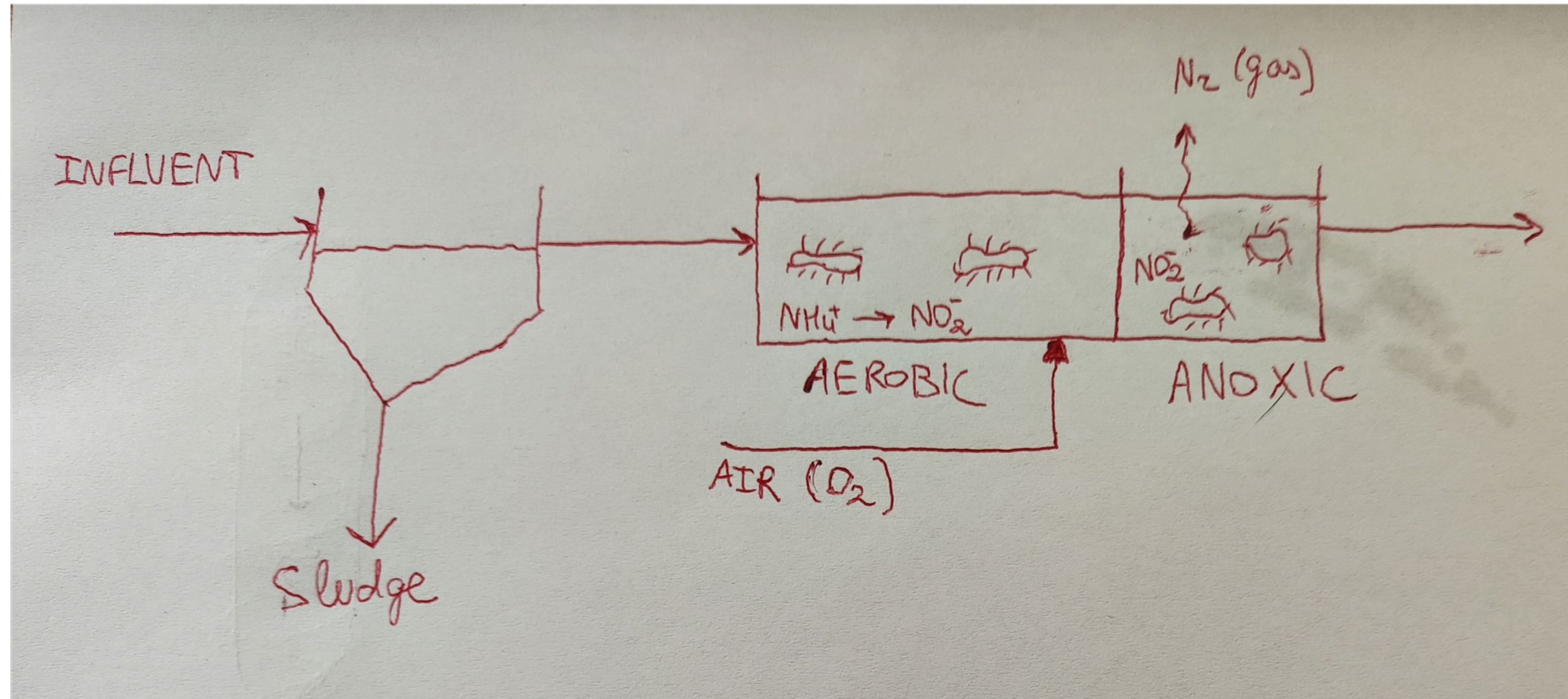


Let's talk about the elephant in the room...

It's not free and AI is not perfect



From sketch to image



From sketch to image

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A CRISPR-Cas9 g|

Write: "Convert this sketch into a Biorender-style image"

Select size and AI model

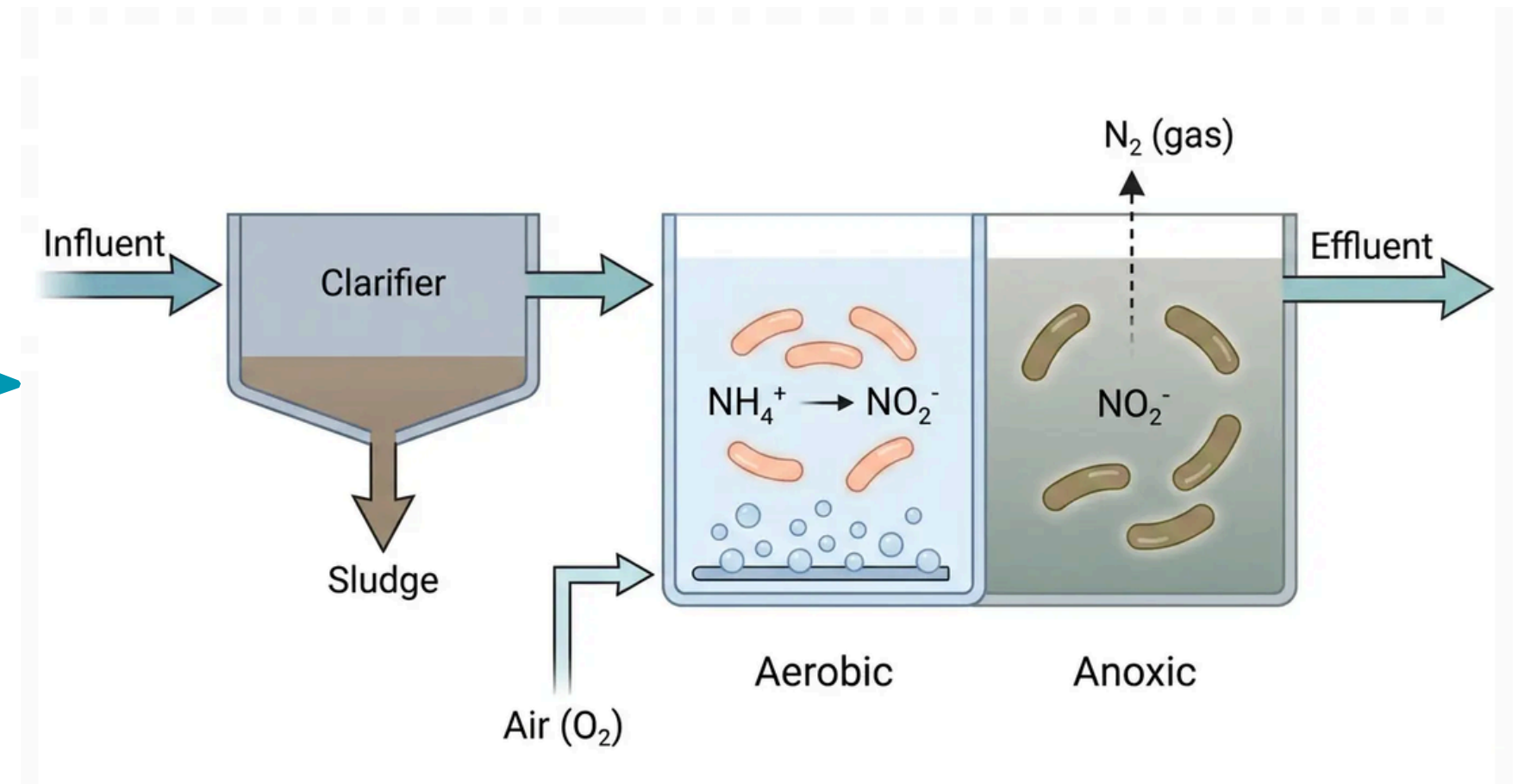
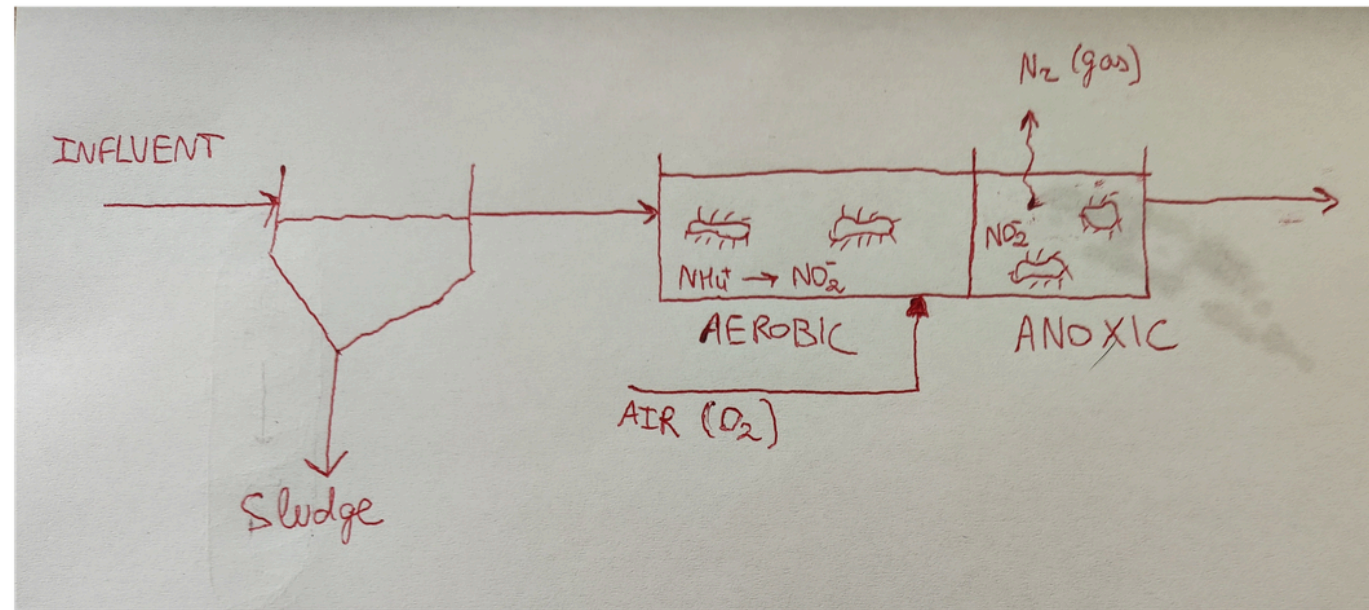


16:9




Attach the sketch

From sketch to image



From text to image

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Scientific figures, made effortless.

Turn text, sketches, and reference images into editable, publication-ready figures.

A CRISPR-Cas9 g|

Paste your prompt

Select size and AI model

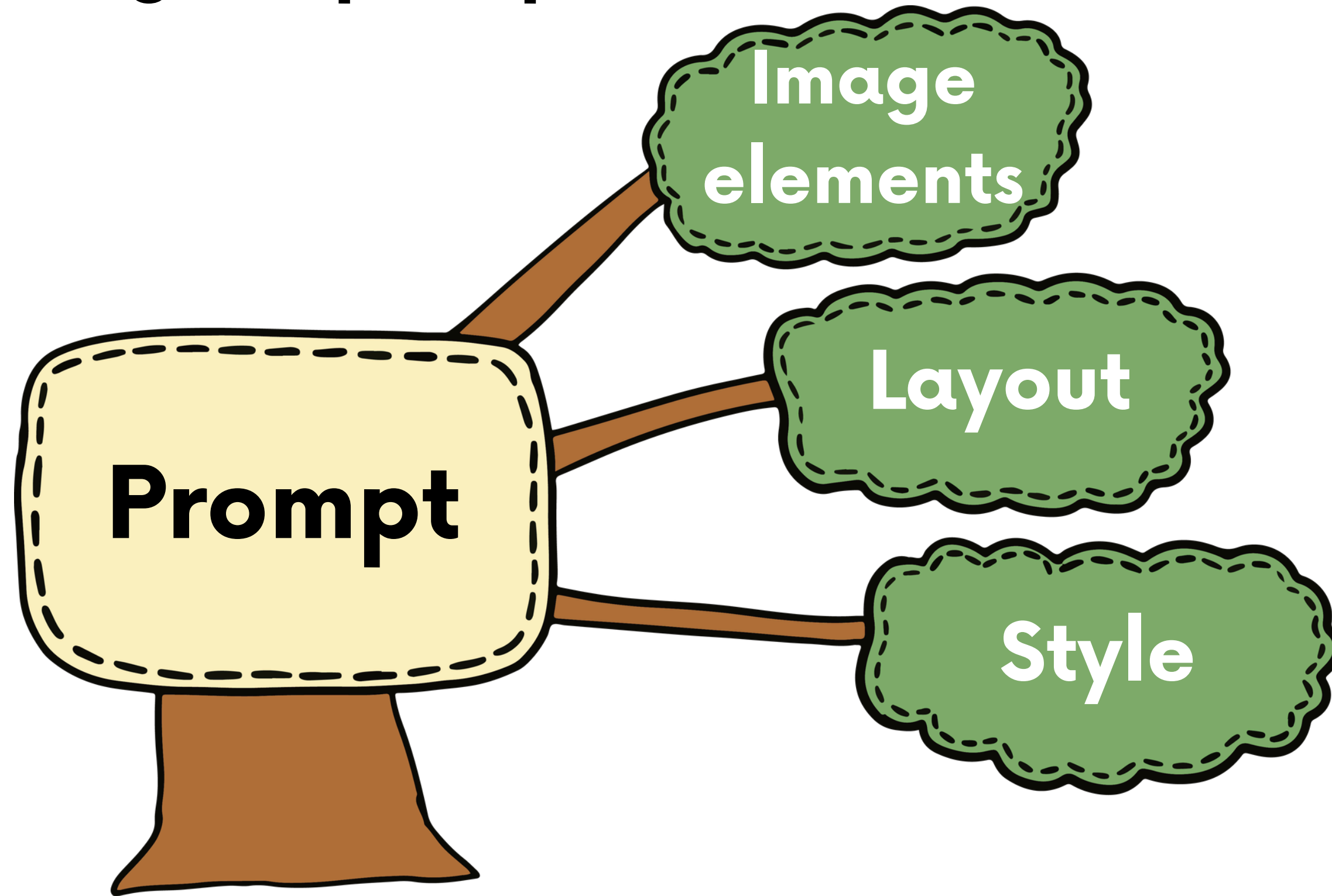


16:9



From text to image

How to write a good prompt?



From text to image

Image elements:

Biological nitrogen removal process in a wastewater treatment plant (WWTP).

Include:

- Influent flow entering the system
- Primary clarifier (sedimentation tank)
- Biological reactor divided into two zones:
 - Aerobic zone (nitrification)
 - Anoxic zone (denitrification)
- Secondary clarifier
- Effluent (treated water output)
- Waste sludge stream

Also include nitrogen transformations:

- $\text{NH}_4^+ \rightarrow \text{NO}_2^- \rightarrow \text{NO}_3^-$ (nitrification, aerobic zone)
- $\text{NO}_3^- \rightarrow \text{N}_2$ (denitrification, anoxic zone)

Use arrows to indicate:

- Water flow direction
- Internal nitrogen pathways

From text to image

LAYOUT

Arrange the diagram in a left-to-right process flow.

Influent → primary clarifier → biological reactor → secondary clarifier → effluent

Clearly separate the aerobic and anoxic zones within the biological reactor (use color or visual separation)

Place arrows to show flow direction between units

Keep the layout clean and easy to follow, avoiding overlapping elements

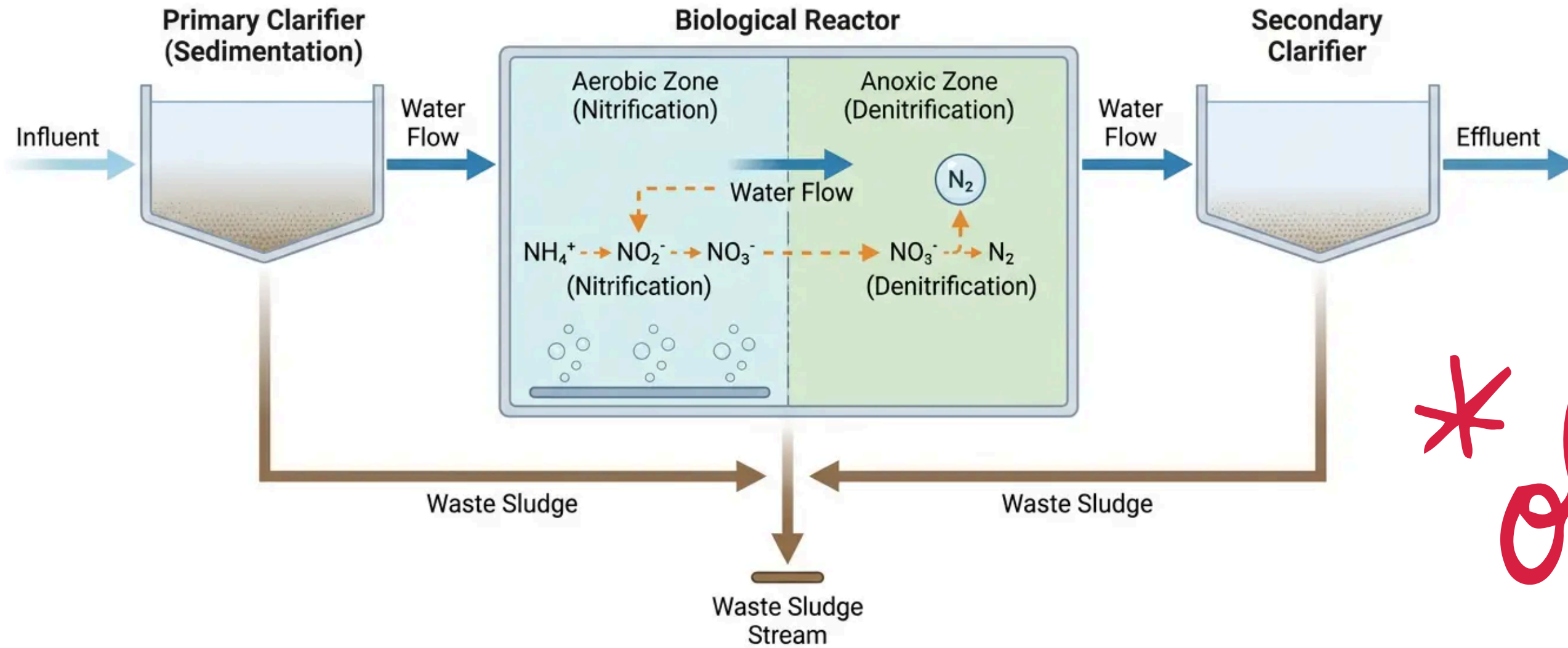
From text to image

Style

Clean, minimalist scientific diagram

- Vector-style illustration
- White background
- Soft, limited color palette (e.g., blue for water, light tones for zones)
- Clear and readable labels
- Simple icons or schematic tanks (not realistic rendering)
- Professional style similar to graphical abstracts or BioRender-like figures

From text to image



*olé!

Tip: Exporting an image as a vector allows for flexible and precise editing

From text to image

Region Redraw

Text Edit

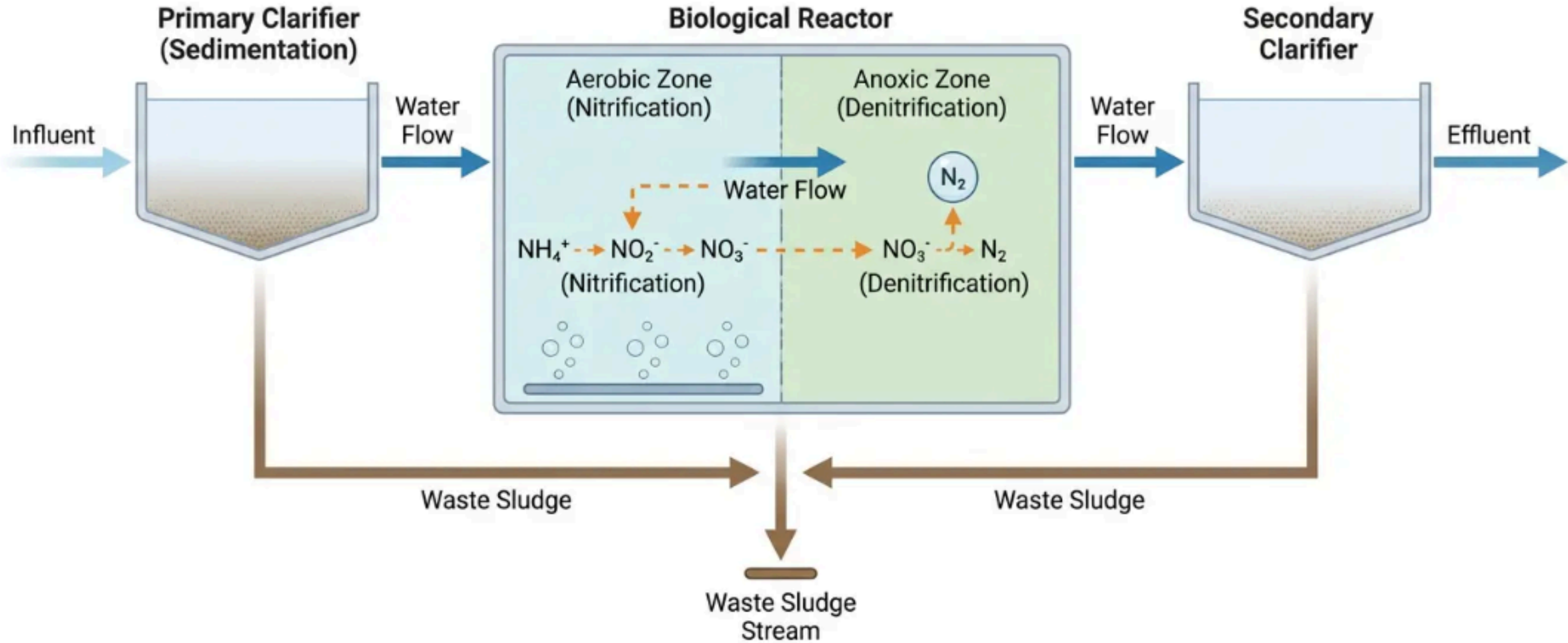
Upscale

White BG +50

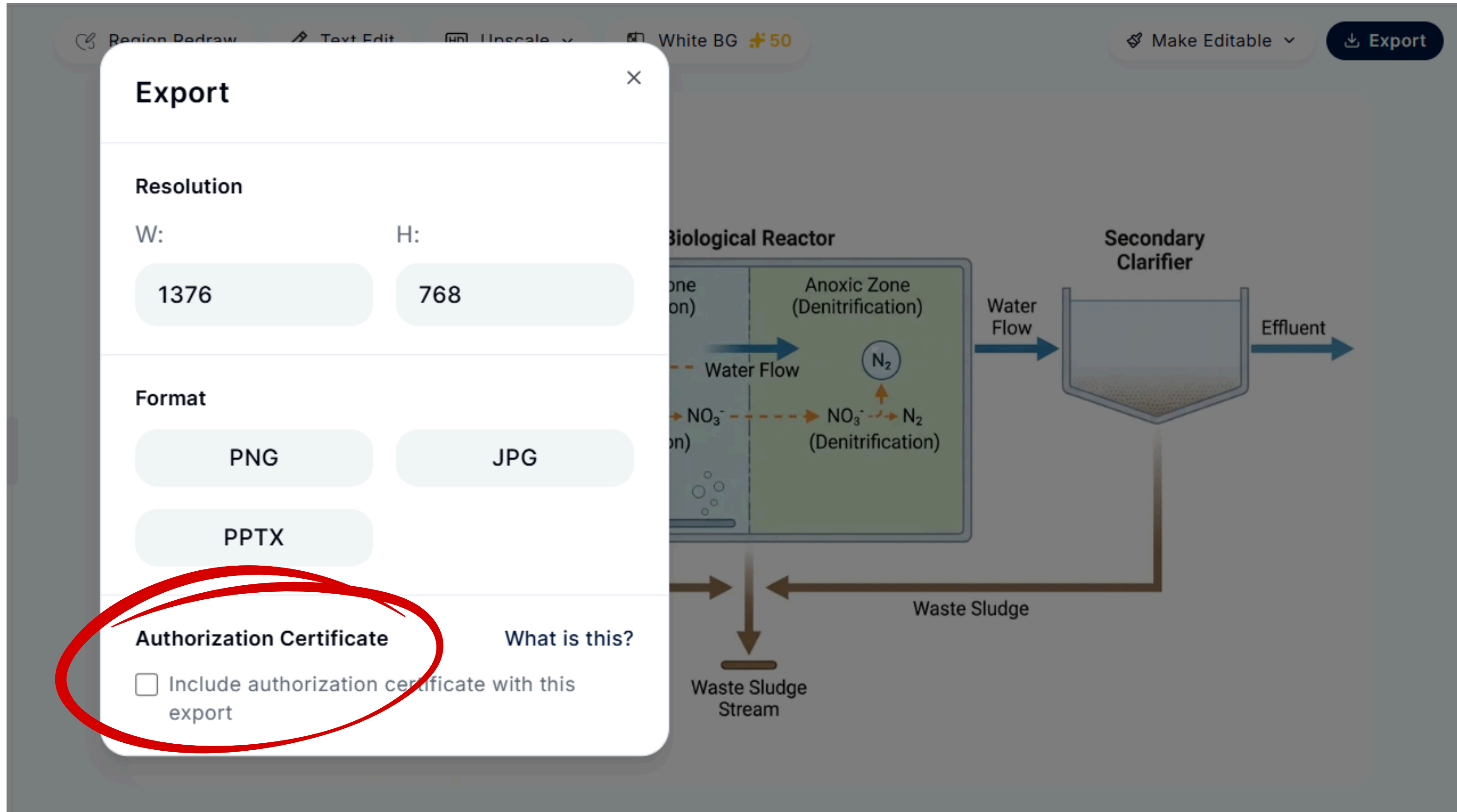
Make Editable

Export

Export as vector image for further editing



From text to image



Export [Close]

Resolution

W: 1376 H: 768

Format

PNG JPG PPTX

Authorization Certificate [What is this?](#)

Include authorization certificate with this export

Biological Reactor

Anoxic Zone (Denitrification)

Water Flow

NO₃⁻ → NO₃⁻ → N₂ (Denitrification)

Secondary Clarifier

Effluent

Waste Sludge

Waste Sludge Stream

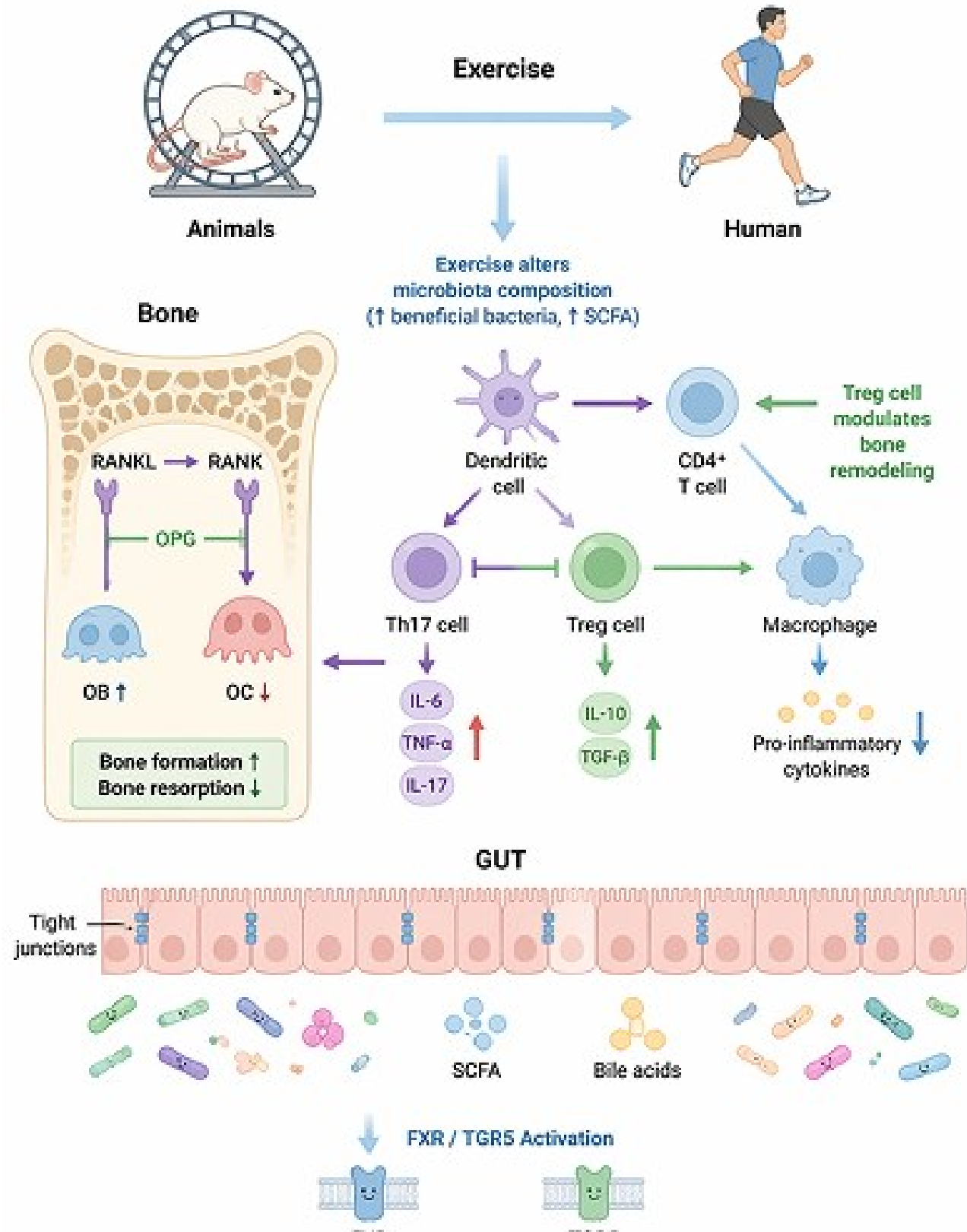
From text to image

Authorization Certificate:

- It is a platform-issued confirmation tied to a specific asset and export version.
- It shows that the figure was generated and/or edited in FigureLabs under an eligible subscription plan.
- It is intended as supporting documentation for external review.

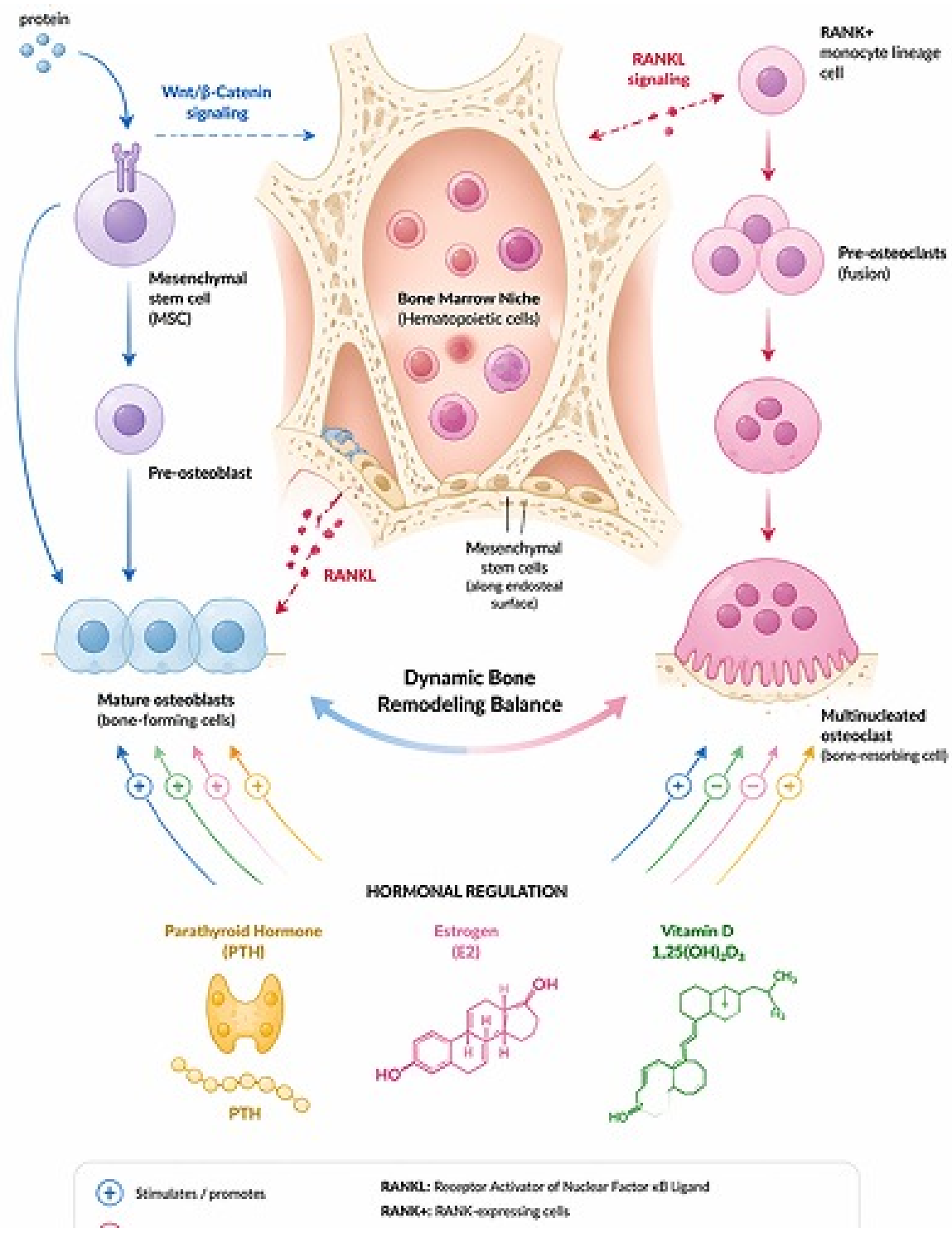
Source: <https://chat.figurelabs.ai/publication-authorization>

From text to image: other examples



A detailed scientific graphical abstract of the Gut-Bone axis and exercise intervention. Top left: a cross-section of a "Bone". Top right: "Animals" (mouse in a wheel) and "Human" (man running) icons representing "Exercise intervention". Bottom: a long row of intestinal epithelial cells (GUT) with various bacteria and molecules. Arrows show pathways: Exercise increases beneficial bacteria, decreases intestinal permeability, and leads to increased "OB" (Osteoblasts) and decreased "OC" (Osteoclasts) in the bone via Treg cells and RANKL/RANK/OPG pathway. Many labels and small icons for cytokines and bacteria. Professional biological diagram, clean white background.

From text to image: other examples



A scientific graphical abstract in the style of high-impact biomedical journals, clean vector medical illustration.

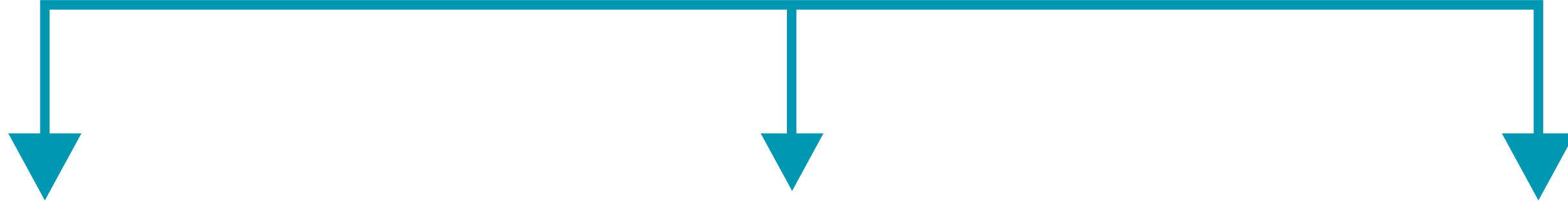
Center panel: bone microstructure with trabecular architecture and bone marrow niche.

Left pathway: osteoblast differentiation from mesenchymal stem cells regulated by Wnt/ β -catenin signaling.

Right pathway: osteoclast formation from monocyte lineage cells via RANKL signaling.

Bottom layer: hormonal regulation including parathyroid hormone, estrogen and vitamin D...

Practical tips



WHEN to use AI

- Conceptual figures
- Presentations & posters
- For publishing: read journals' policies!

PROMPTING

- Be specific
- Define structure
- Add key elements
- Set visual style

EDIT & EXPORT

- Always review
- Rebuild in vector
- Keep full control

Frequently Asked Questions

How does FigureLabs ensure scientific accuracy?

FigureLabs is trained on over 1 million peer-reviewed scientific papers and uses advanced AI models specifically designed for scientific content. Every generated figure maintains the scientific integrity of your original data while enhancing visual presentation.

Is my research data secure?

Yes, data security is our top priority. All uploaded content remains private and is never shared with third parties. We use enterprise-grade encryption and comply with international data protection standards.

What are the usage restrictions of FigureLabs?

FigureLabs offers three service levels, each with different usage restrictions. The restrictions of all Free, Plus and Pro packages will be adjusted according to system requirements. Your available points will be reset according to the plan of your package.

Complementary material

- Chen, D. (2026). AI-Generated Figures in Academic Publishing: Policies, Tools, and Practical Guidelines. arXiv preprint arXiv:2603.16159.
- Elsevier. (n.d.). Generative AI policies for journals.
<https://www.elsevier.com/about/policies-and-standards/generative-ai-policies-for-journals>
- [Nature Portfolio. \(n.d.\). Editorial policies: Artificial intelligence \(AI\).](https://www.nature.com/nature-portfolio/editorial-policies/ai)
<https://www.nature.com/nature-portfolio/editorial-policies/ai>

“Any fool can know. The point is to understand.”
— Albert Einstein

*AI can generate images... but understanding
and responsibility remain ours.*

