



Amino acid based macromonomers for biodegradable polycondensates

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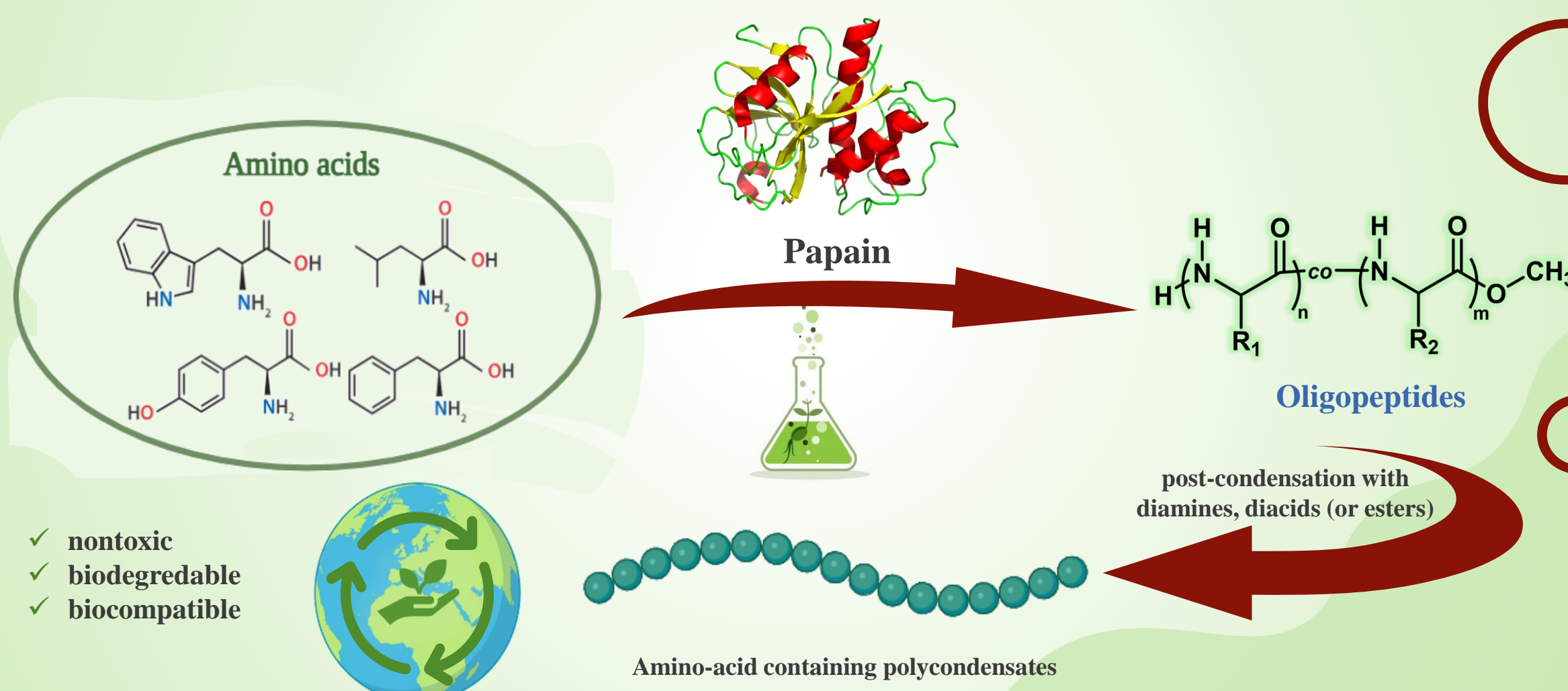


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Introduction

Amino-acid containing materials can be used in ;

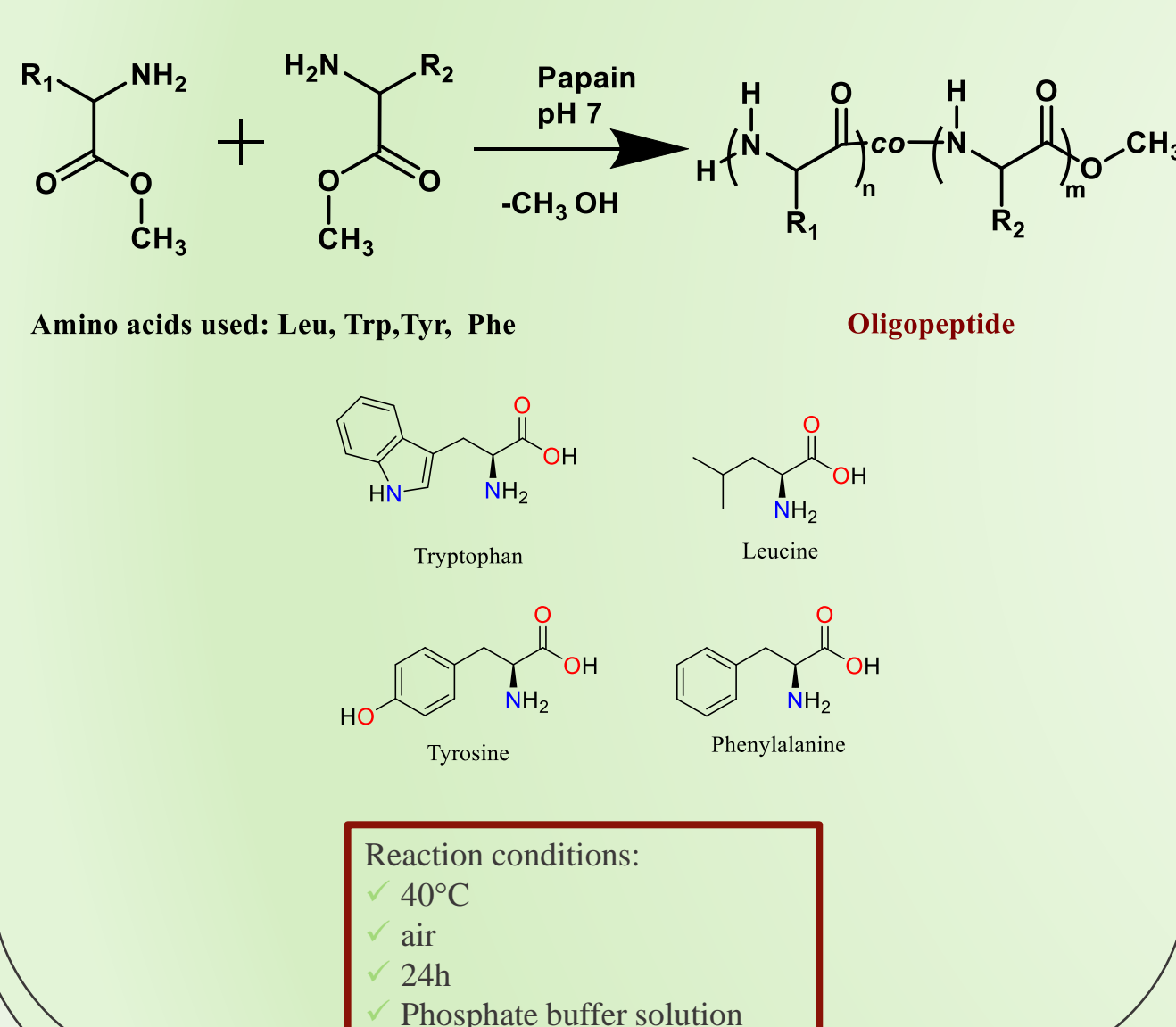
- drug delivery systems
- gene delivery
- tissue engineering



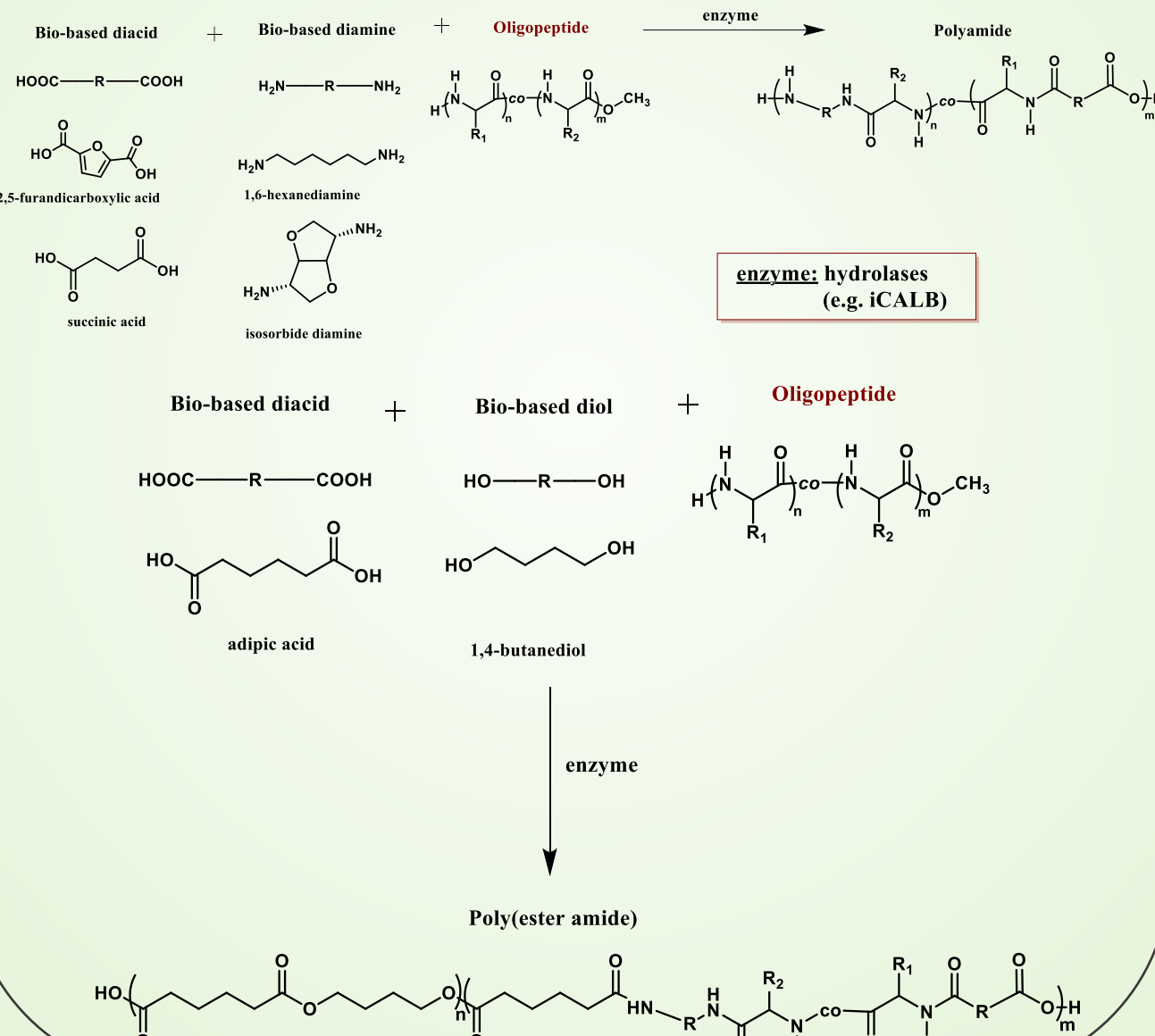
Aim: synthesis of high-molecular-weight, biodegradable polymers using amino acids to introduce biodegradable recognition units for commodity plastics

Work Flow

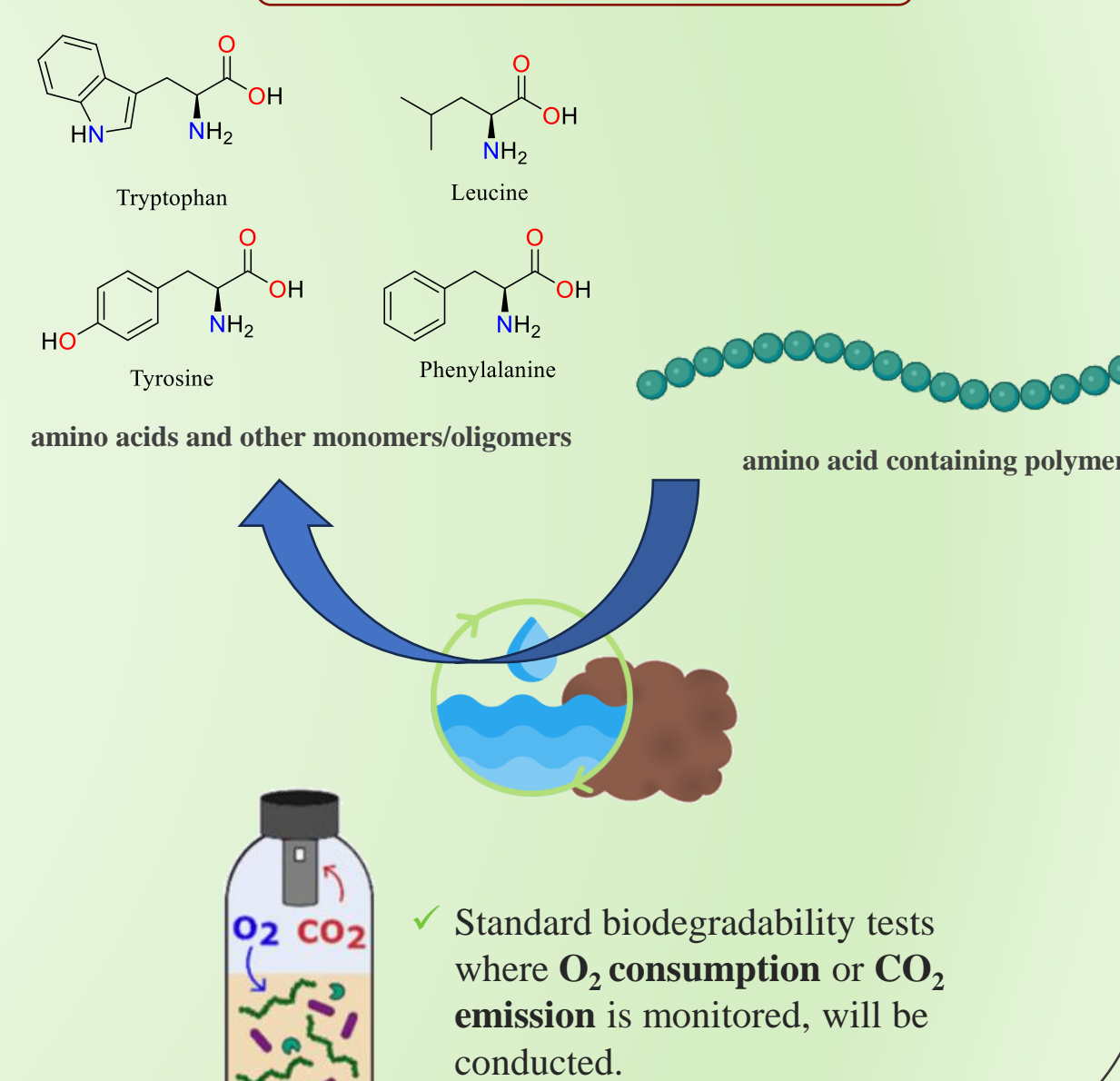
Phase 1: Oligopeptide synthesis



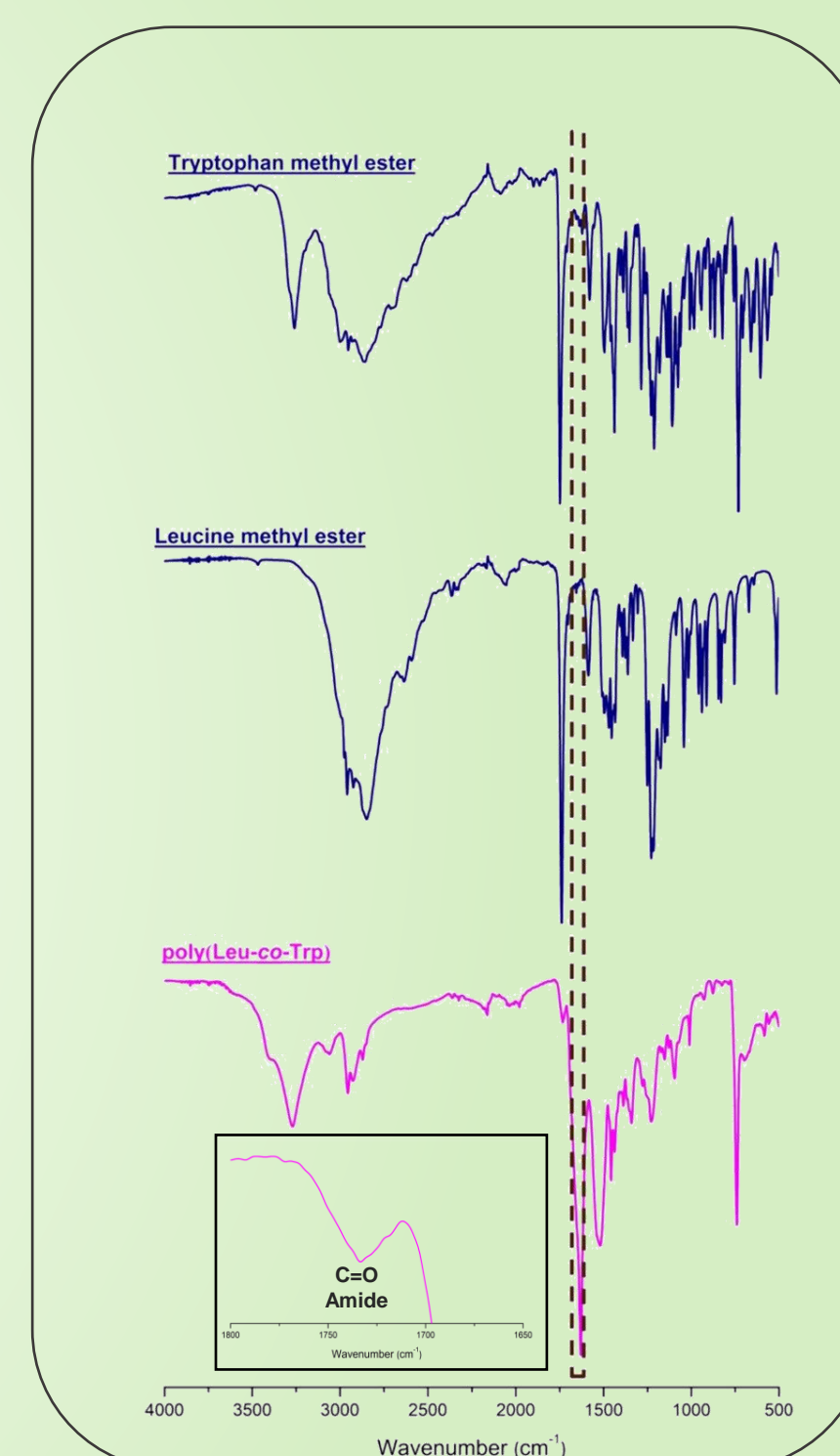
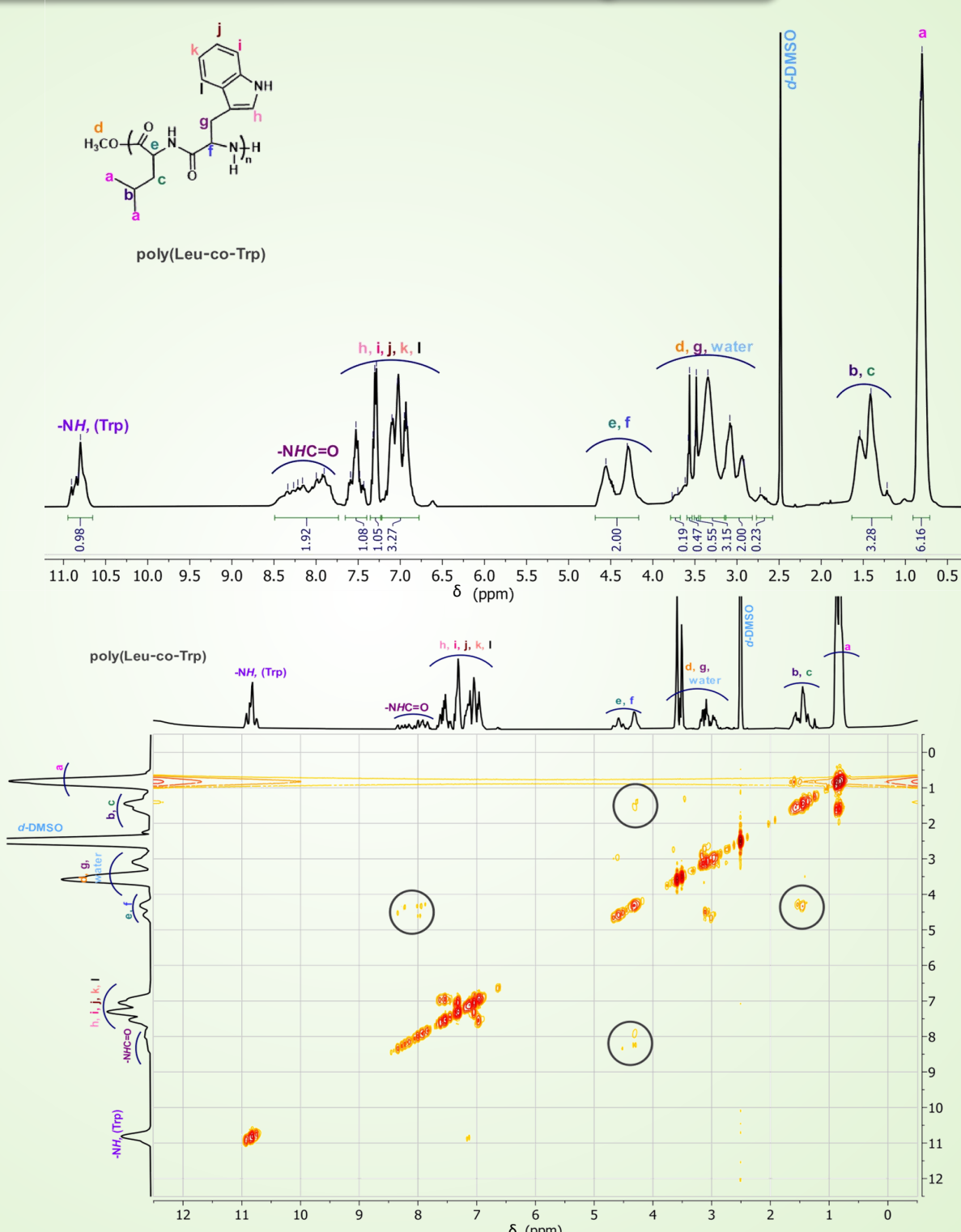
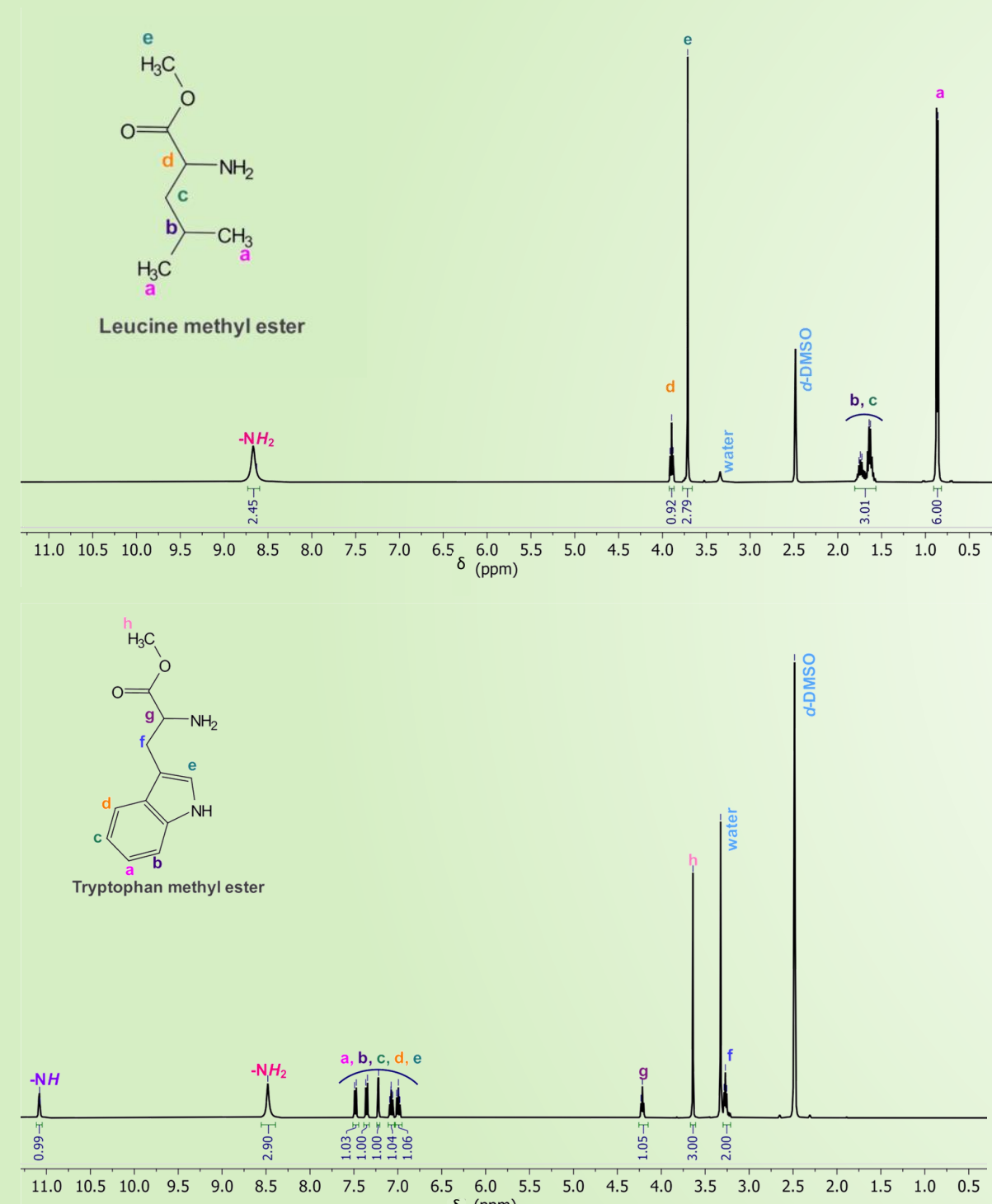
Phase 2: Post-condensation



Phase 3: Biodegradability tests



Structural Analysis



Conclusions & Outlook

- Enzymatic polymerization of **oligopeptides** using **different amino acid esters** performed.
- The synthesis of **polycondensates** will be carried out through **post-polymerization** reactions using diamines, diacids (or esters).
- Structural and thermal analysis (e.g. MALDI-TOF, TGA, DSC) of the obtained polymers will be conducted.
- **Biodegradability** of the synthesized polycondensates will be evaluated through **standardized tests**.
- The obtained products can be incorporated into commodity plastics to serve as **biodegradable markers**.

References

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Acknowledgments

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