

Enzymes and non-conventional solvents for fractionating and bio-conversion of the main polymers from *Miscanthus*

María Catalina Quesada-Salas^{1*}, Catherine Sarazin¹, Rénato Froidevaux², Eric Husson¹

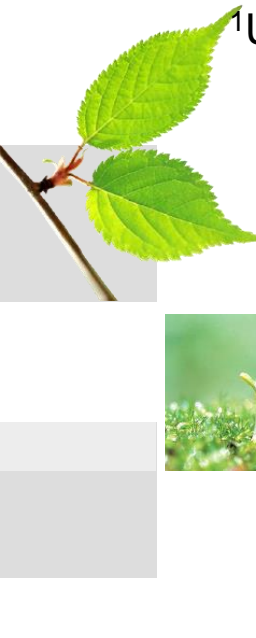
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²UMRT BioEcoAgro UMR1158, Institut Charles Viollette, INRAe - Université de Lille, France.

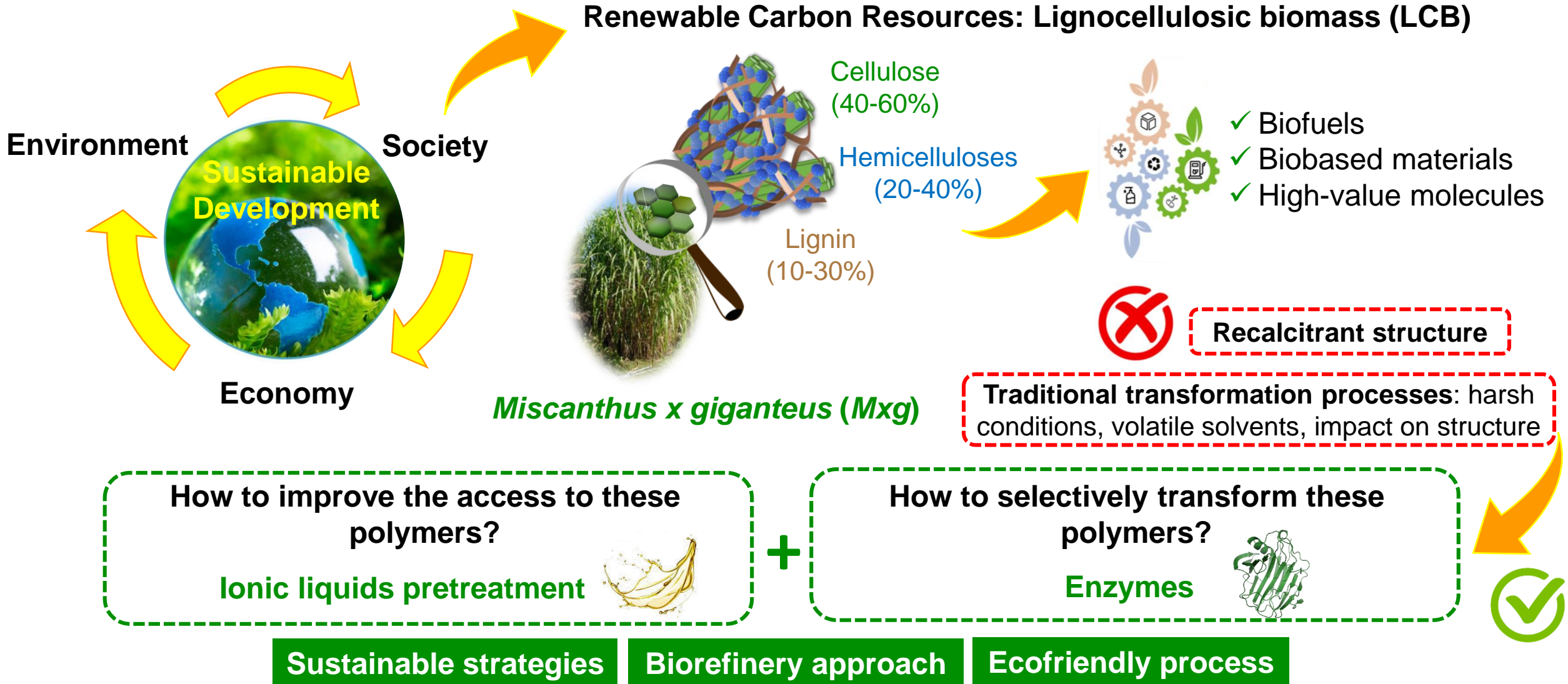
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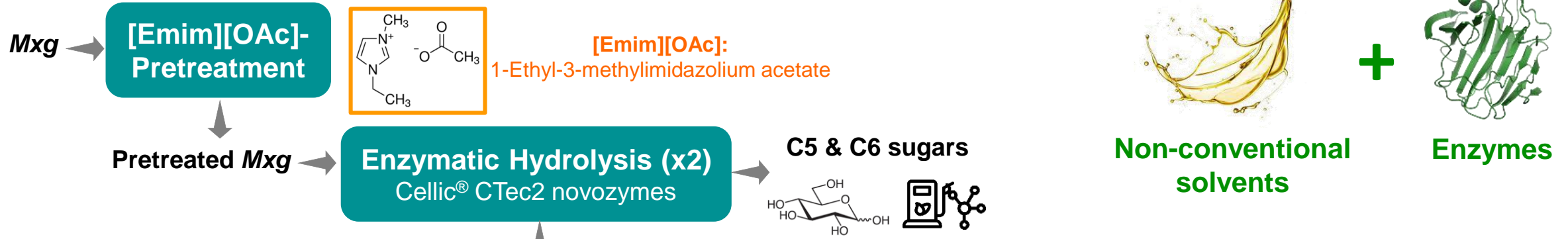
Context



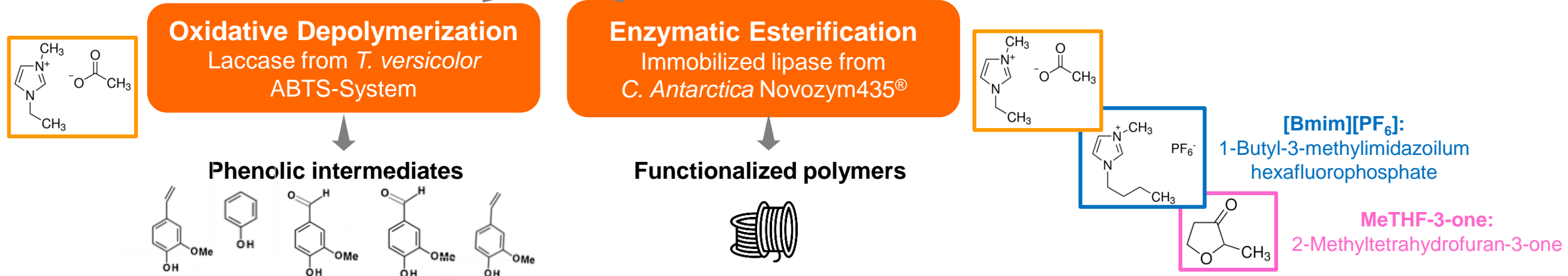
Proposed integrated approaches



1. Enzymatic production of sugars and isolation of hydrolysis lignin¹



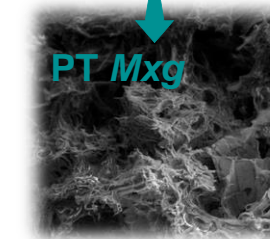
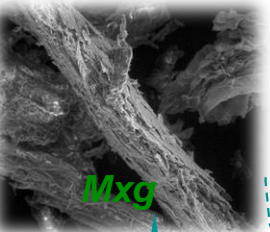
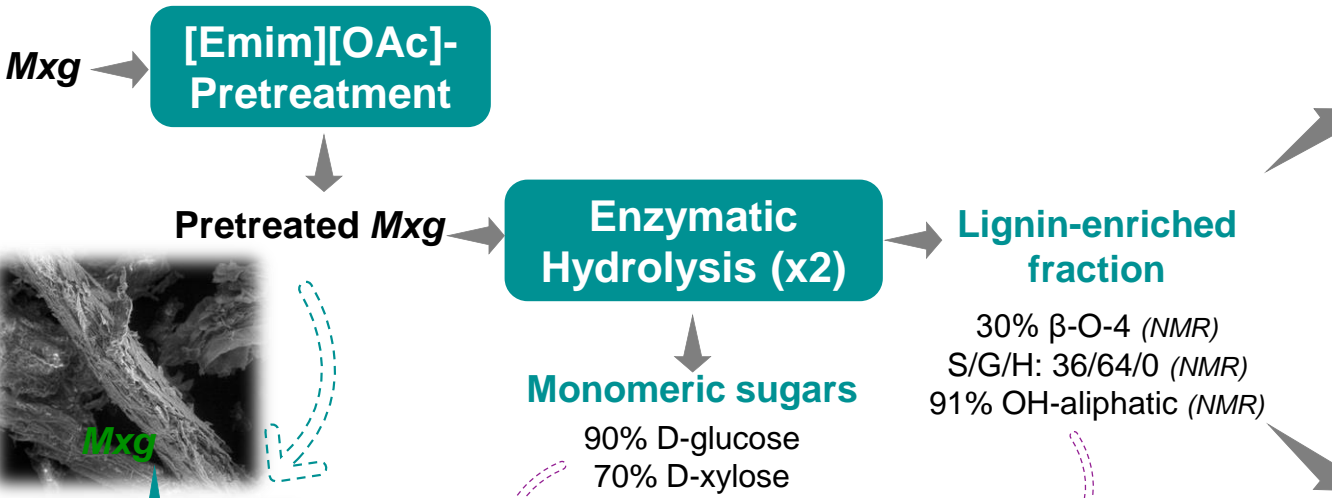
2. Bio-conversion of hydrolysis lignin¹



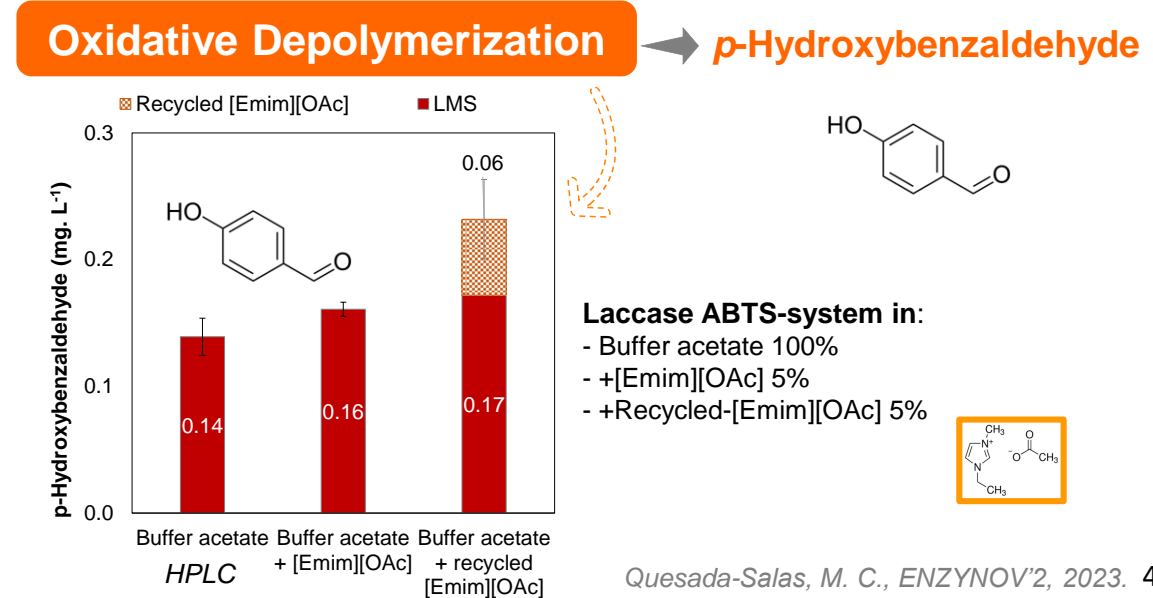
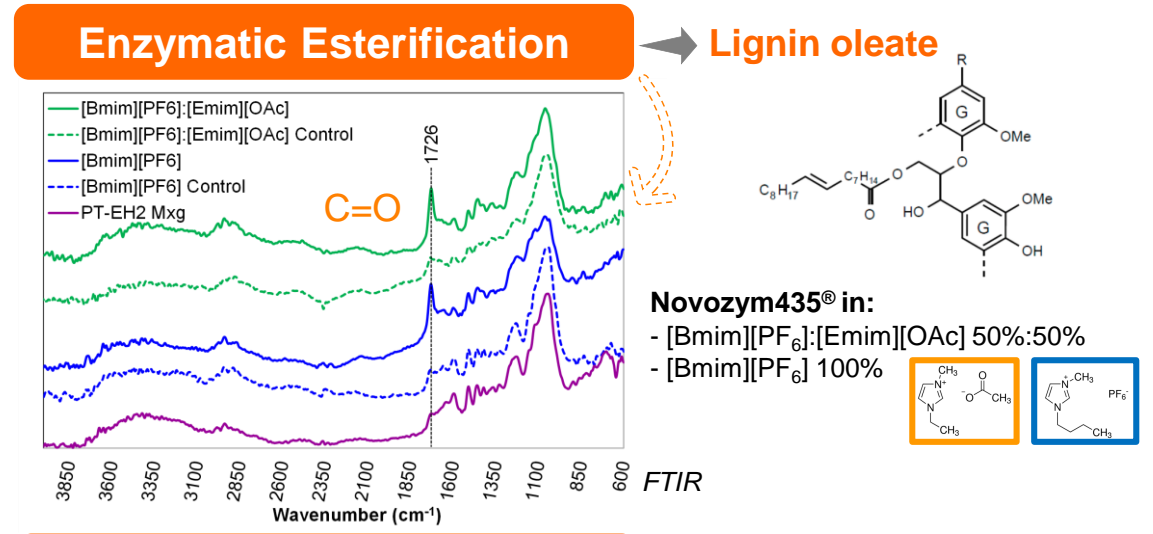
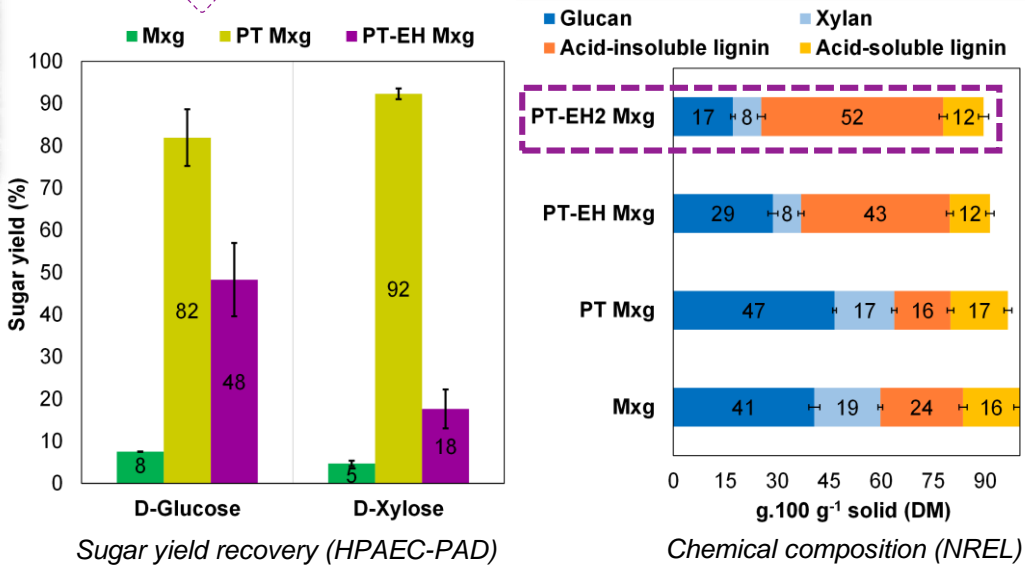
ABTS: 2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid).

¹M.C. Quesada-Salas *et al.*, Ind. Crop. Prod. (2023) 197, 116627.

Key findings



SEM analysis



Conclusions

Successful development of **biorefinery** strategies using **enzymes** and **non-conventional solvents** for the **co-valorization** of polysaccharides and lignin from *Mxg*.

From *Mxg* to diverse fields of applications:

- Platform molecules
- High-value chemicals
- Biomaterials



Poster # 10



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Ionic liquids for biomass biotransformation

CHAPTER
10

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Biocatalysis in Green Solvents, Lozano, P (Ed).



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1-ethyl-3-methyl imidazolium acetate, hemicellulolytic enzymes and laccase-mediator system: Toward an integrated co-valorization of polysaccharides and lignin from *Miscanthus*

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Revisiting organosolv strategies for sustainable extraction of valuable lignin: the CoffeeCat process†

Marie E. Vuillemin,^a María Catalina Quesada-Salas,^a Caroline Hadad,^{bd} Jordane Jasniowski,^c Eric Husson^{a,*} and Catherine Sarazin^{a,*}

Thank you for your attention

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