

# OLIVE TREE PRUNING MATERIAL AS A SOURCE OF LIGNIN WITH ANTIOXIDANT CAPACITY: OPTIMIZATION OF LIGNIN EXTRACTION THROUGH EXPERIMENTAL DESIGN

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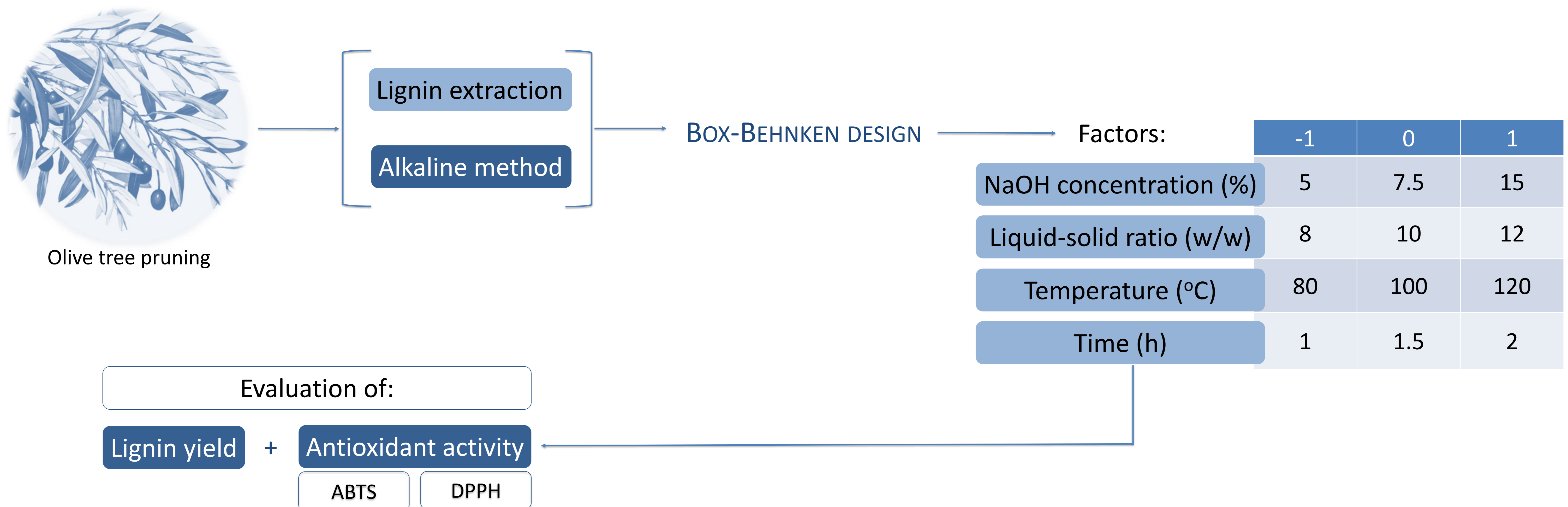
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## INTRODUCTION

Lignin, present in the lignocellulosic biomass, is an underrated biopolymer that is commonly burned as fuel in heat and power industrial plants (1). However, there is a growing interest and scientific progress towards lignin valorization through the development of new products, solutions and materials (2,3).

Hence, this work aimed at valorizing lignin from olive tree pruning material as a natural antioxidant agent.

## METHODS



## RESULTS

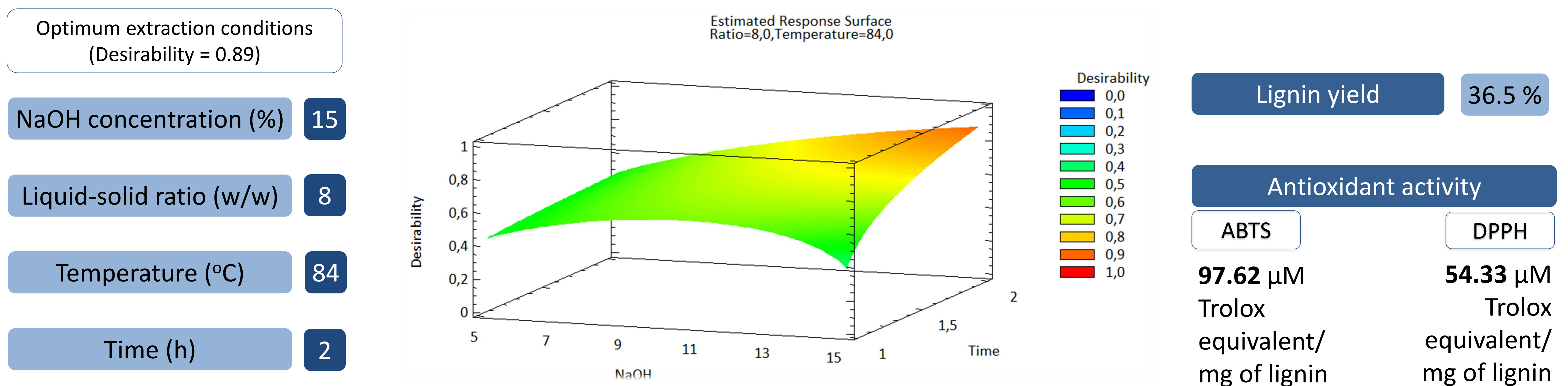


Figure 1 – Estimated Response Surface of the extraction of lignin from olive tree pruning.

## CONCLUSIONS

Through this work, it was possible to define adequate conditions for the extraction of lignin from olive tree pruning material targeting antioxidant properties. Because lignin yield was not very high, there is still a potential to test harsher extraction conditions that could further increase yield. Nonetheless, the lignin-rich extracts presented a good capability to reduce both ABTS and DPPH, showing that olive tree pruning material is a potential source of lignin with high antioxidant capacity.

## Bibliography

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