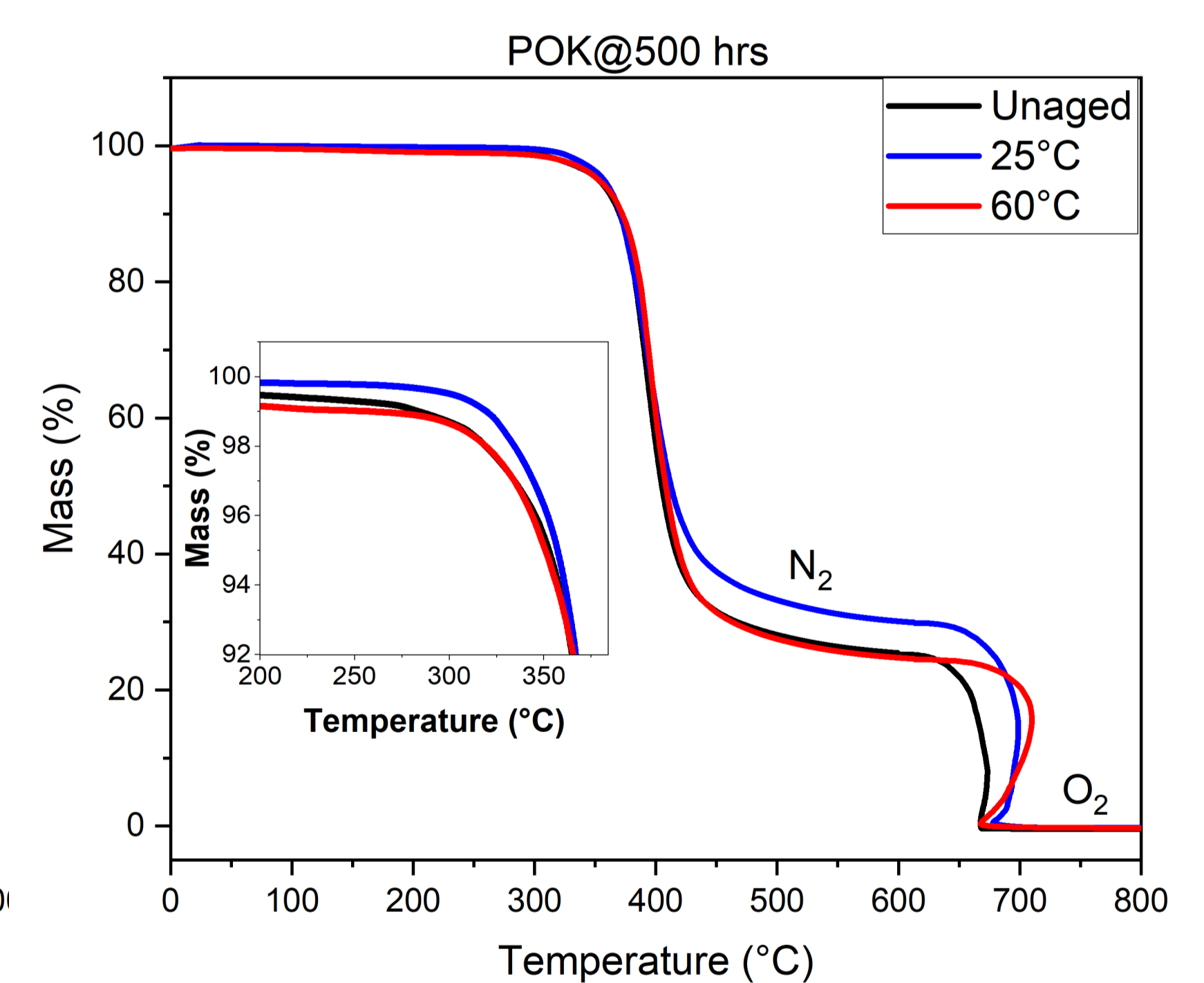
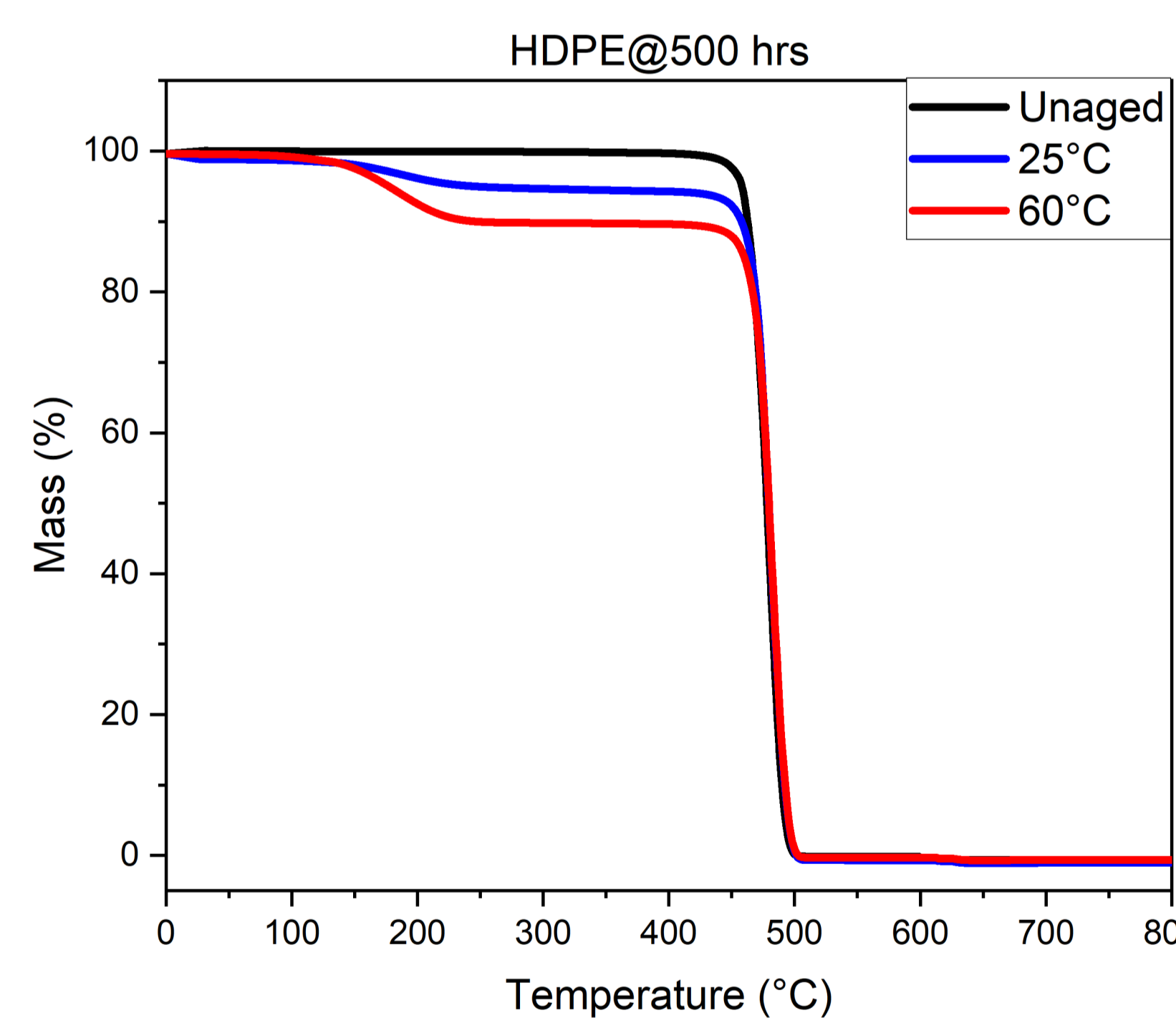
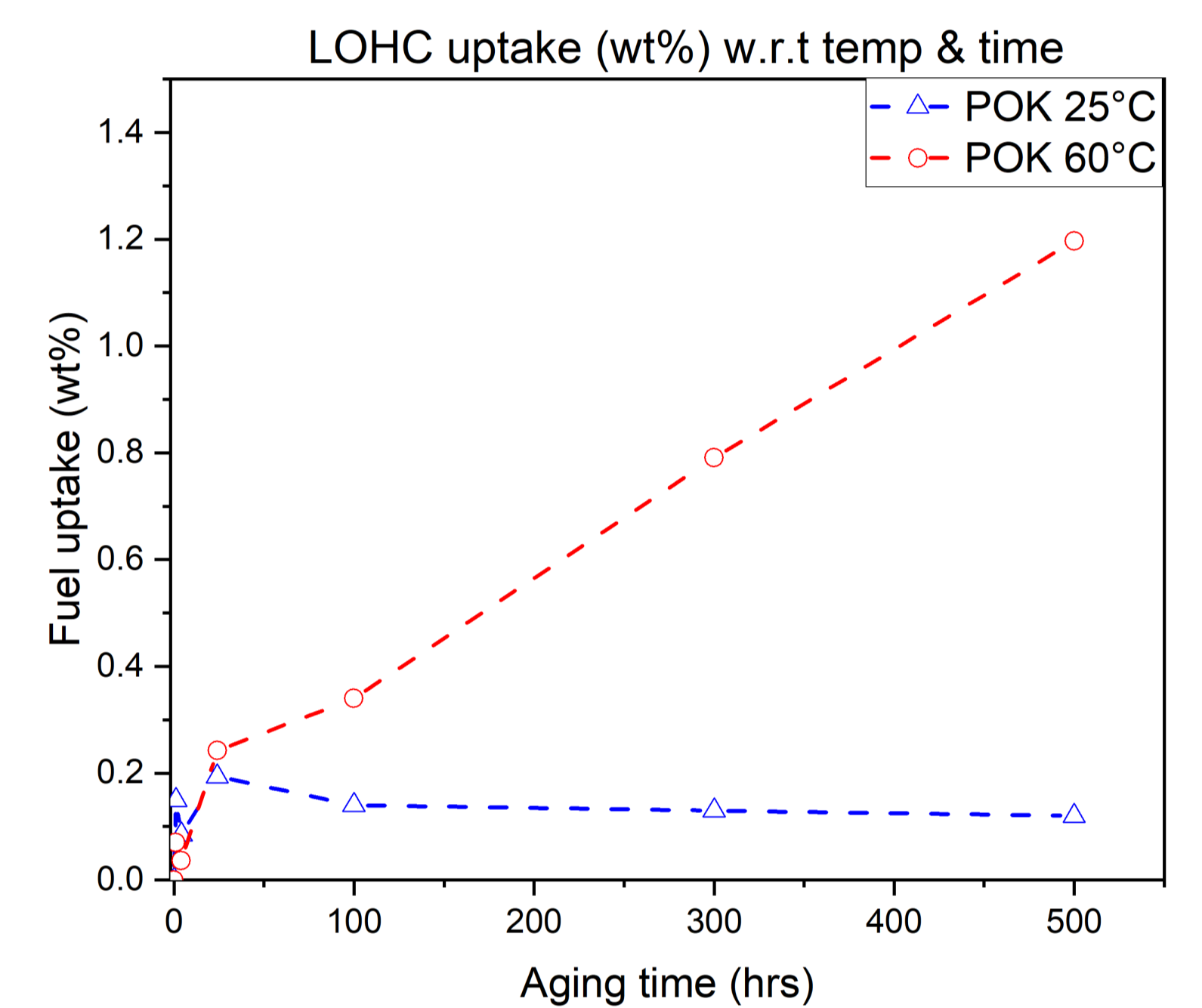
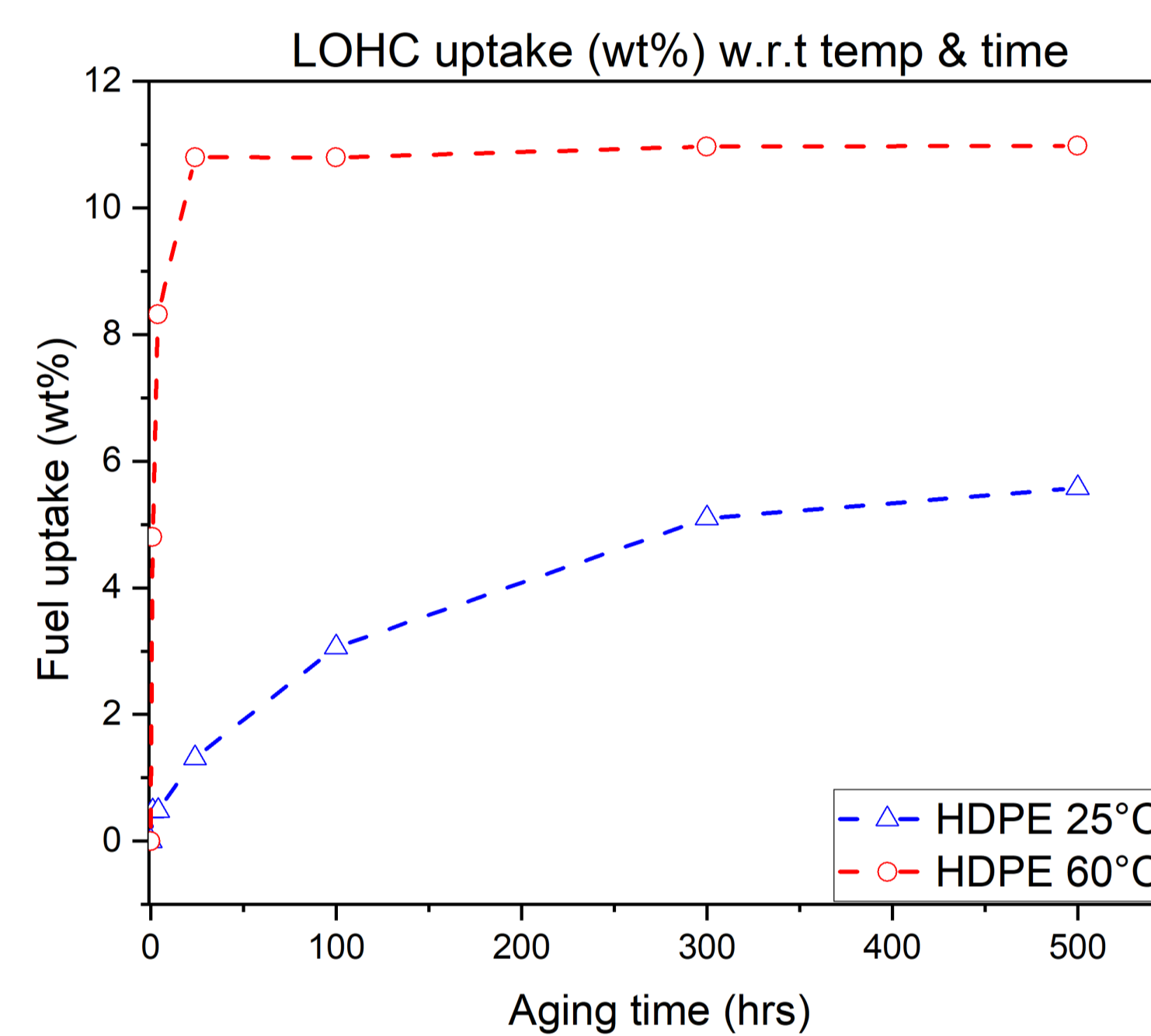
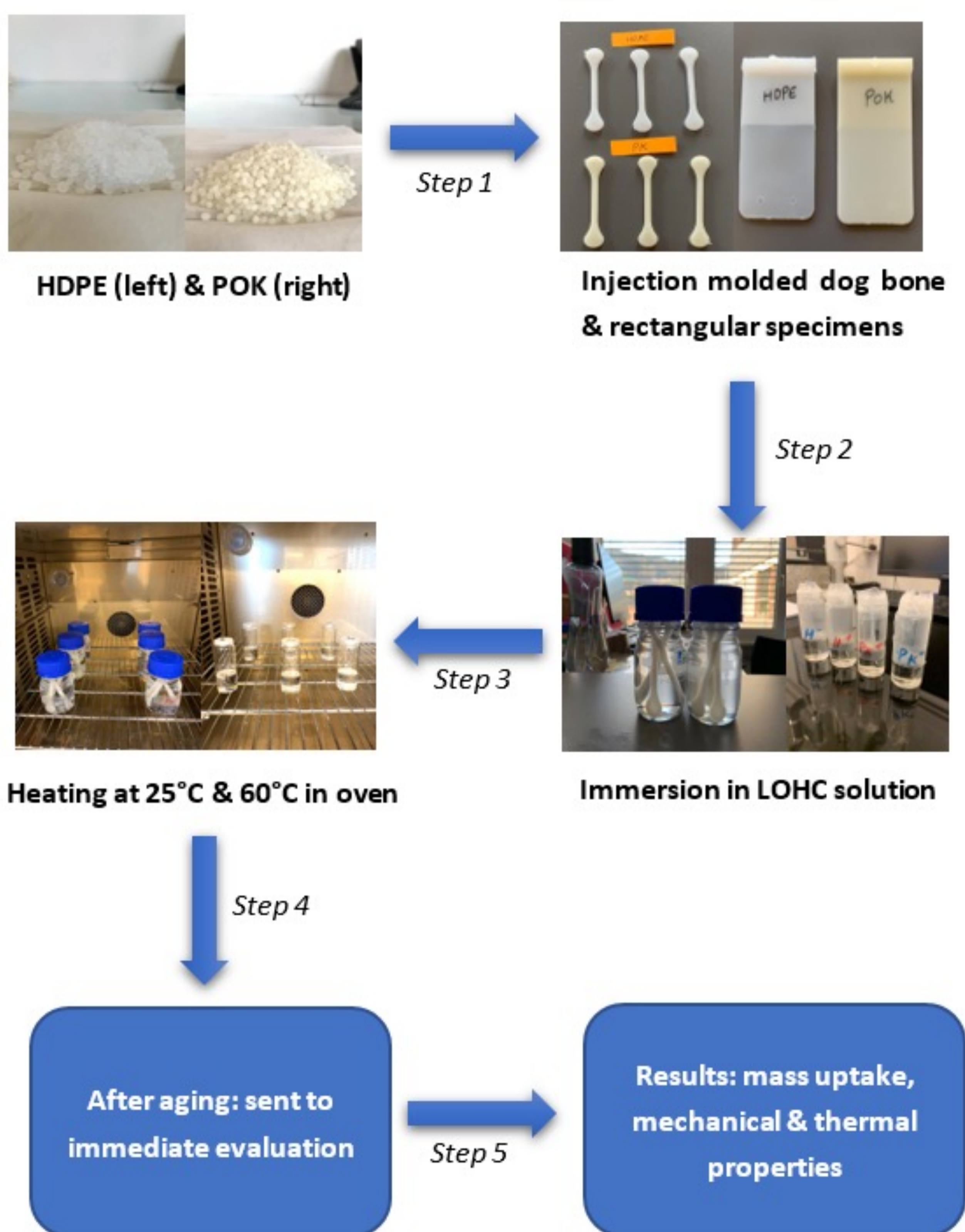


## Introduction

Perhydro-benzyl toluene (H12-BT) is recognized as a good LOHC system which is available in the form of heat transfer oil. In recent times it is a promising novel solution for safe and efficient hydrogen storage under ambient conditions and is possible to store in regular polymer tanks. But storing hydrogen in liquid form for a longer time in polymer tanks affects the physical and chemical properties of the linear & resulting loss of mechanical properties. Therefore, alternative material is searched for hydrogen storage applications.

## Materials & Methods



## Results

HDPE & POK samples were aged and measured frequently from time to time. Fuel uptake in HDPE is higher than in POK due to polar and non-polar groups

## Conclusion

The aging behavior of HDPE & POK that are exposed to LOHC showed a greater fuel uptake in HDPE than POK. The thermal stability of POK is less than HDPE but did not influence the tensile properties.