

Appendix C

Chemical characterization of the enzymatic cocktail activity

In order to estimate the enzymatic activity of the enzymatic cocktail, dinitrosalicylic acid (DNSA) assays were performed to estimate the concentration of reducing sugar equivalent to xylose. Some native wheat straw samples of approximately one centimetre high were used. After washing and drying, they were subjected to enzymatic attack, as described in the Methods section. At regular time intervals, 100 μL of the suspending media were collected, mixed with 100 μL of DNSA and incubated for 10 minutes at 95°C. After cooling down on ice, 1 mL of deionised water was added and the absorbance at 540 nm was measured using a Sunrise microplate reader from TECAN. In order to relate the measured absorbance to xylose equivalent, a calibration curve obtained with increasing concentrations of xylose ranging from 0.2 g/l to 2 g/l was used. As shown on Figure C.1, there is an increase of the concentration of reducing sugar equivalent to xylose across time which reflects an activity of the enzymatic cocktail on the wheat straws.

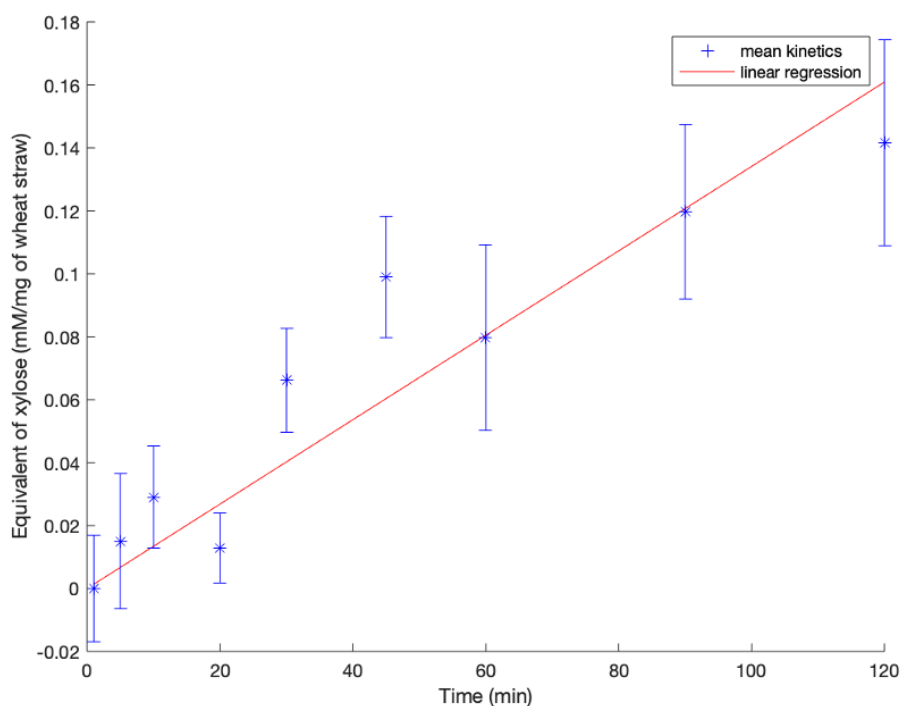


Figure C.1: Evolution of the concentration of reducing sugar equivalent to xylose over time measured by DNSA assays on wheat straw. Each data point is the average on several samples, the standard deviation being taken as the error bar.