

## Supplementary Information

for

Manuscript entitled “Characterization of a novel GH5 endoxylanase from *Penicillium funiculosum* and its synergism with GH16 endo-1,3(4)-glucanase in saccharification of sugarcane bagasse”

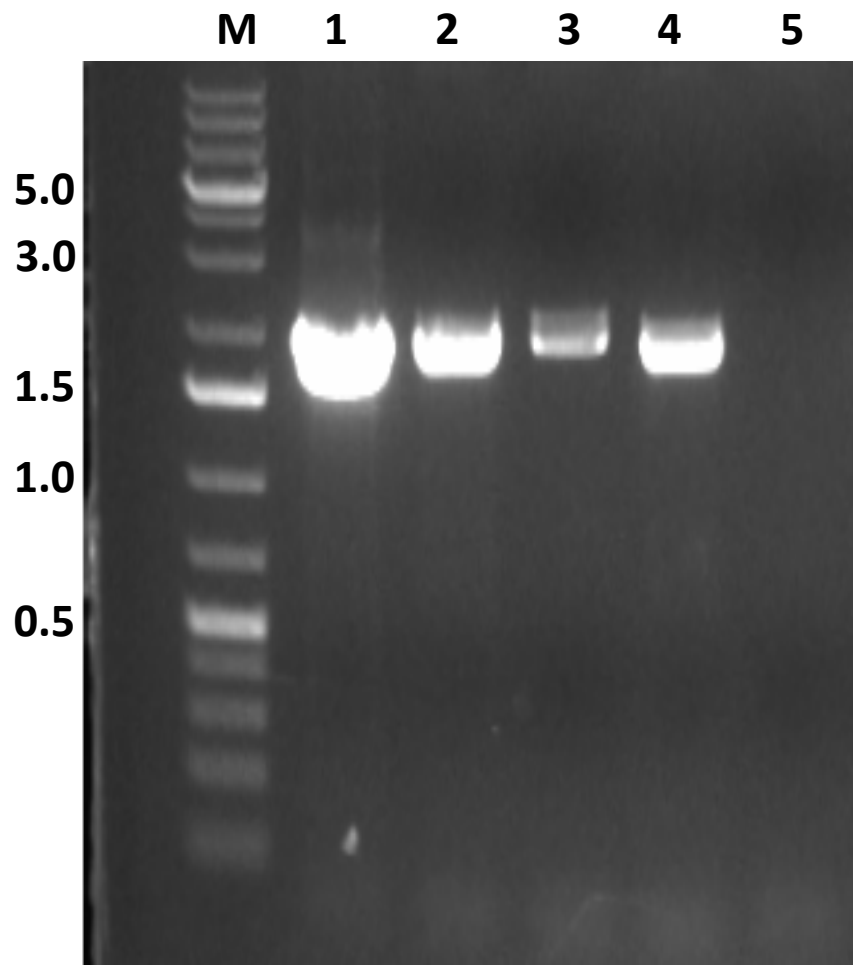
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### List of Items:

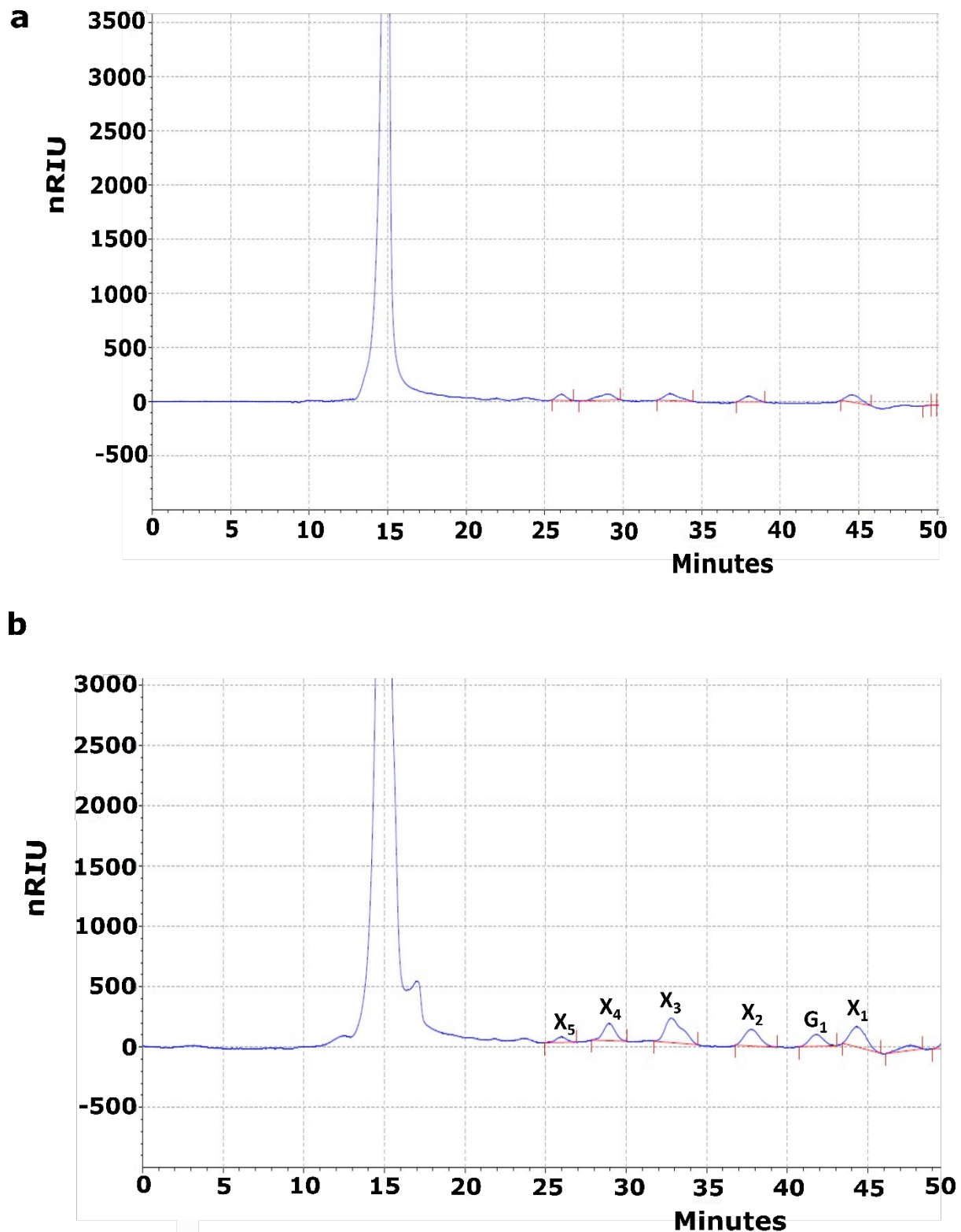
**Figure S1: Molecular screening of GH5 transformants after transformation in *Pichia pastoris* X-33**

**Figure S2: Analysis of the degradation products of pretreated sugarcane bagasse with recombinant PfXyn5**

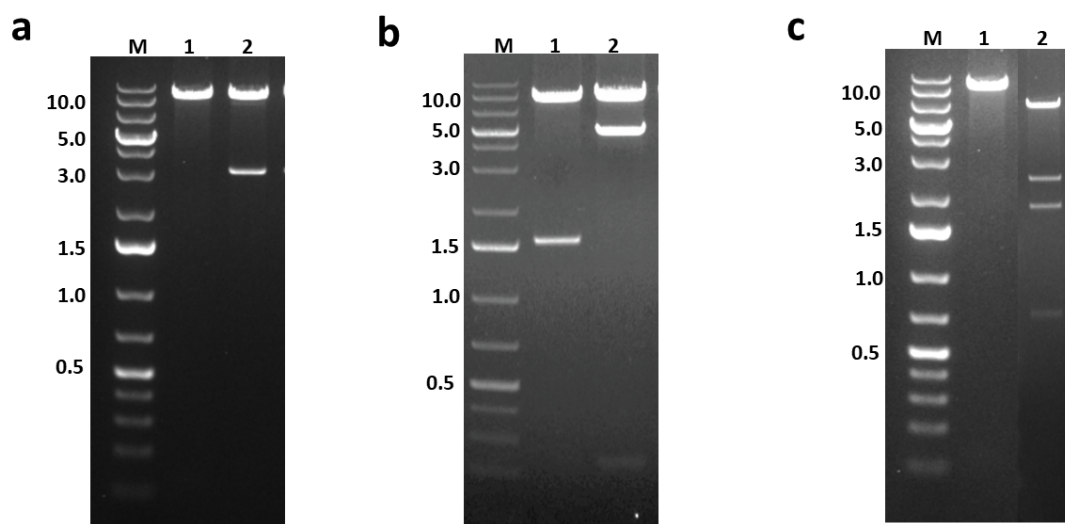
**Figure S3: Molecular confirmation of recombinant vectors for fungal transformation**



**Figure S1: Molecular screening of GH5 transformants after transformation in *Pichia pastoris* X-33.** Colonies were selected on 1000  $\mu\text{g/ml}$  zeocin after 48 h. Lane 1 is the pOAO6 vector (positive control), Lanes 2 – 4 refers to the GH5 transformants while Lanes 5 is the wild type strain of *P. pastoris* X-33.



**Figure S2: Analysis of the degradation products of pretreated sugarcane bagasse with recombinant *PfXyn5*** (a) HPLC profile for the hydrolysis reaction without *PfXyn5* (control) (b) HPLC profile of hydrolyzed products of sugarcane bagasse with *PfXyn5*.  $X_1$ ,  $X_2$ ,  $X_3$ ,  $X_4$ ,  $X_5$  and  $X_6$  refers to xylose, xylobiose, xylotriose, xylotetrose, xylopentaose and xylohexaose, respectively while  $G_1$  refers to glucose.



**Figure S3: Molecular confirmation of recombinant vectors for fungal transformation.** (a) restriction digestion analysis of pBIF (1) and pOAO7 (2) by *PstI* and *ApaI*. (b) restriction digestion analysis of pBIF (1) and pOAO9 (2) by *MunI* and *MluI*. (c) restriction digestion analysis of pBIF (1) and pOAO10 (2) by *PstI* and *ApaI*.