- 1 Applied Microbiology and Biotechnology
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- Evolutionary engineered Candida intermedia exhibits 3 improved xylose utilization and robustness to lignocellulose-4 derived inhibitors and ethanol 5 6 7 Antonio D. Moreno<sup>1,2</sup>, Antonella Carbone<sup>1</sup>, Rosita Pavone<sup>1</sup>, Lisbeth Olsson<sup>1\*</sup> and Cecilia Geijer<sup>1</sup> 8 <sup>1</sup>Chalmers University of Technology, Department of Biology and Biological Engineering, Division of 9 Industrial Biotechnology, Gothenburg, Sweden 10 <sup>2</sup>CIEMAT, Department of Energy, Biofuels Unit, Madrid, Spain 11 12 13 14 \*Correspondence to: Lisbeth Olsson, Chalmers University of Technology, Department of Biology and 15 Biological Engineering, Division of Industrial Biotechnology, SE-41296, Gothenburg, Sweden 16 E-mail: lisbeth.olsson@chalmers.se 17 Phone: + 46 31 772 38 05 18

**19** Supplementary Information

## 20 Figure S1



Figure S1. Effect of the furan derivatives furfural and 5-hydroxymethylfurfural (5HMF) on *C. intermedia* strain CBS 141442 growing in mineral media with (A) glucose
(MMD) and (B) xylose (MMX) as a sole carbon source.

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## 26 <u>Methodology</u>

27 The ability of *C. intermedia* to tolerate and convert furfural and 5-

28 hydroxymethylfurfural (5-HMF) was evaluated in MMD or MMX supplemented with

29 10 mM furfural (1.0 g/L) and 10 mM 5-HMF (1.3 g/L). Cells growing in the

30 exponential phase in MMD or MMX were transfer to 50 mL of the corresponding test

31 medium to a final  $OD_{600nm}$  of 0.1. Cultures were then incubated in an orbital shaker at

- 32 30 °C and 150 rpm for 48 h. Samples were withdrawn periodically to monitor the
- 33 concentrations of sugars, furfural and 5-HMF.

## 34 Figure S2



Figure S2. Fermentation of 50% (v/v) hydrolysate by the intermediate evolved
population *C. intermedia* EVO 1.

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