

Supplementary Material

Manganese deficiency is required for high itaconic acid production from D-xylose in *Aspergillus terreus*

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Supplementary Table 1. Specific respiration rates ($\mu\text{M min}^{-1} \text{g}_{\text{DCW}}^{-1}$) of *Aspergillus terreus* NRRL 1960 cultures grown in 500-mL shake-flasks and 2-L bioreactors (fermentors) in IA-producing minimal medium with 1, 5 and 11% (w/v) initial D-xylose as the sole carbon source. Samples for assays were taken at the rapid growth and the stationary phase. Mn^{2+} concentrations were below $3 \mu\text{g/L}^{-1}$ in all cases.

Initial D-xylose (g L ⁻¹)	Shake-flask cultures		Bioreactor cultures	
	rapid growth phase	stationary phase	rapid growth phase	stationary phase
9.9 ± 0.8	28.6 ± 1.0	10.2 ± 0.8	29.1 ± 1.1	9.6 ± 1.1
51.1 ± 1.4	28.1 ± 1.3	9.3 ± 0.7	27.4 ± 1.2	10.2 ± 1.0
110.1 ± 0.9	29.6 ± 1.5	9.9 ± 1.0	30.4 ± 1.6	10.6 ± 1.3