

1 **Supplementary Information**

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3 **Application of psychrotolerant quorum quenching *Planococcus versutus* sp.**

4 **L10.15^T to membrane bioreactors for biofouling control at low temperatures**

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22 **Table S1** Operating conditions of MBRs

Parameter	Value
Solid retention time (SRT)	30 d
Hydraulic retention time (HRT)	6 h
Reactor temperature	10°C
pH	7.20 (±1.0)
Dissolved oxygen (DO)	5.75 (±0.75) mg/L

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24 **Table S2** Composition of synthetic wastewater

Component	Concentration [mg/L]
Glucose	160
Yeast extract	16
Bacteriological peptone	120
$(\text{NH}_4)_2\cdot\text{SO}_4$	104
KH_2PO_4	33
$\text{MgSO}_4\cdot 7\text{H}_2\text{O}$	32
$\text{MnSO}_4\cdot 4\text{H}_2\text{O}$	2.8
$\text{FeCl}_2\cdot 6\text{H}_2\text{O}$	0.1
$\text{CaCl}_2\cdot 2\text{H}_2\text{O}$	3.2
NaHCO_3	315

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27 **Table S3** C8-HSL degradation rates by L10.15^T- beads at 10, 17, and 25°C during the first 15
28 min

C8-HSL degradation rate (h⁻¹)	
10°C	2.410
17°C	0.410
25°C	0.258

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30 **Table S4** Live/dead cell ratios in L10.15^T- and BH4-beads (n=3)

	Live/dead cell ratio
L10.15 ^T	1.39 (±0.12)
BH4	1.52 (±0.19)

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32 **Table S5** Chemical oxygen demand (COD) and mixed liquor suspended solid (MLSS) in
33 MBRs

	L10.15^T-MBR	BH4-MBR
Feed COD [mg/L]	303 (± 17)	295 (± 24)
Broth COD [mg/L]	48 (± 8)	53 (± 14)
Permeate COD [mg/L]	28 (± 4)	29 (± 7)
MLSS [mg/L]	5,201 (± 204)	5,268 (± 180)

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