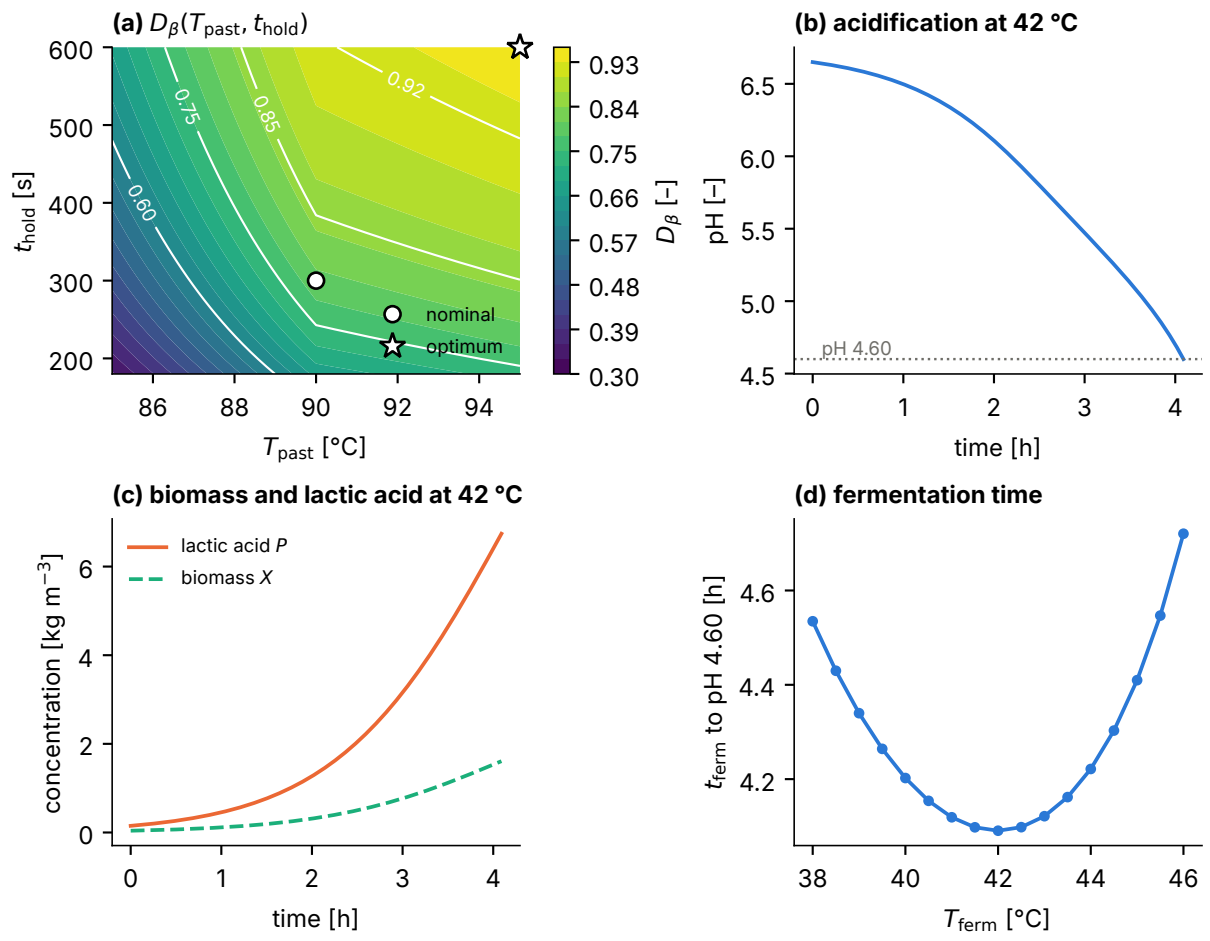

(a) $D_\beta(T_{past}, t_{hold})$
600
500
400
300
200
t_{hold} [s]
86
88
90
92
94
T_{past} [°C]
0.60
0.75
0.85
0.92
nominal
optimum
0.93
0.84
0.75
0.66
0.57
0.48
0.39
0.30
D_β [–]
(b) acidification at 42 °C
6.5
6.0
5.5
5.0
4.5
pH [–]
pH 4.60
0
1
2
3
4
time [h]
(c) biomass and lactic acid at 42 °C
lactic acid P
biomass X
concentration [kg m^{-3}]
6
4
2
0
0
1
2
3
4
time [h]
(d) fermentation time
4.6
4.4
4.2
t_{ferm} to pH 4.60 [h]
38
40
42
44
46
T_{ferm} [°C]