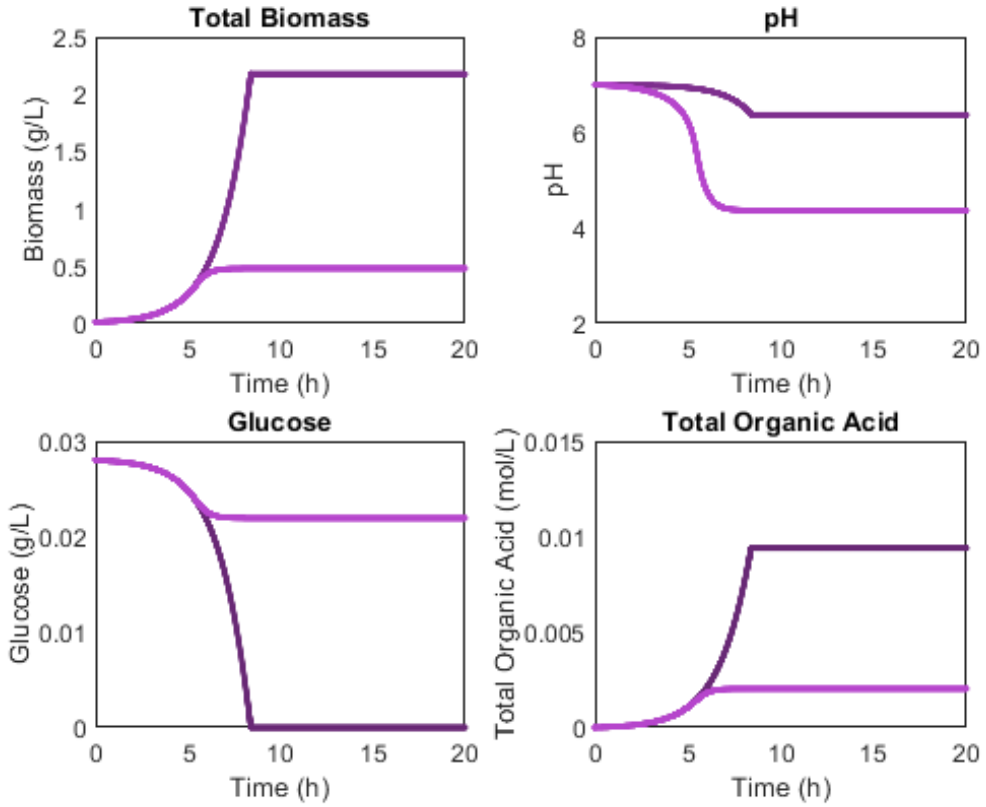


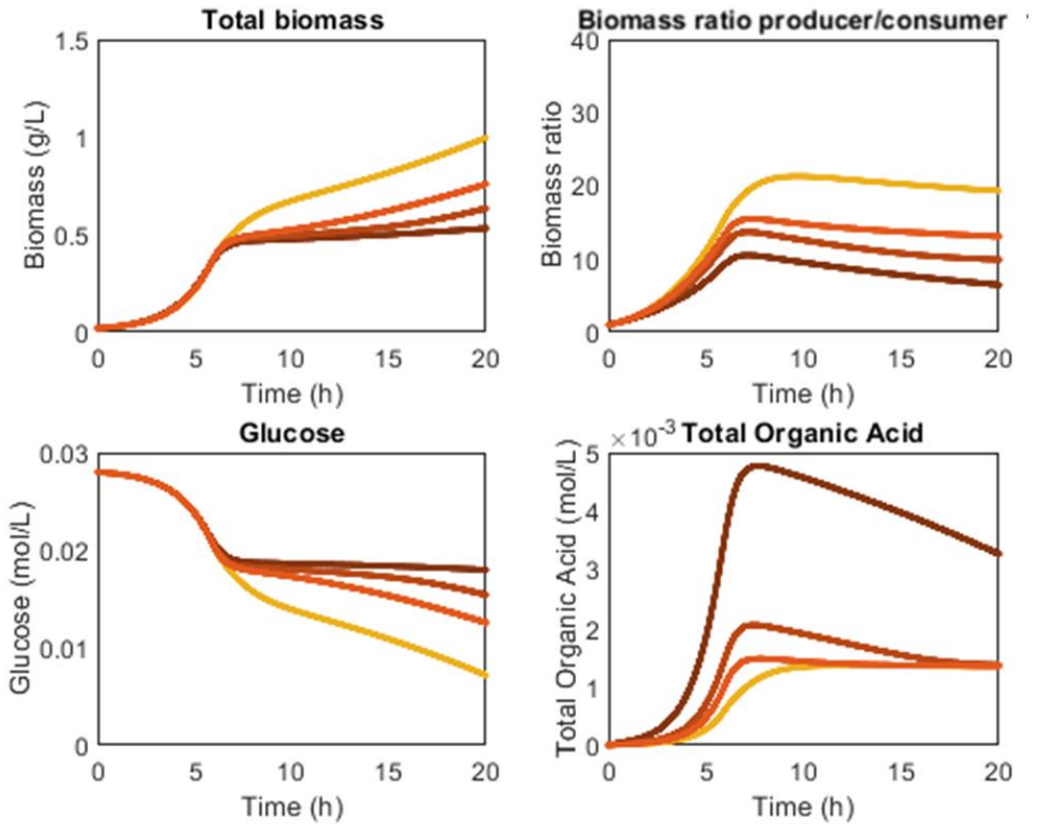
Wildtype E. coli monoculture simulations examining the role of different strength phosphate buffers.

Dark purple: regular strength phosphate buffer 0.064 M

Light purple: reduced strenth phosphate buffer 0.0063 M

Mumax	0.6/h	maximum growth rate
YXGp	0.43 g/g	biomass yield on glucose
YXGp	0.25 g/g	producer biomass yield on glucose
YAX	0.26 g/g	acetic acid produced per gram of biomass
YH	0.009 mol/g	protons produced per g biomass, protons released during growth from ammonium metabolism

Producer inhibition equation: Holzberg and coworkers



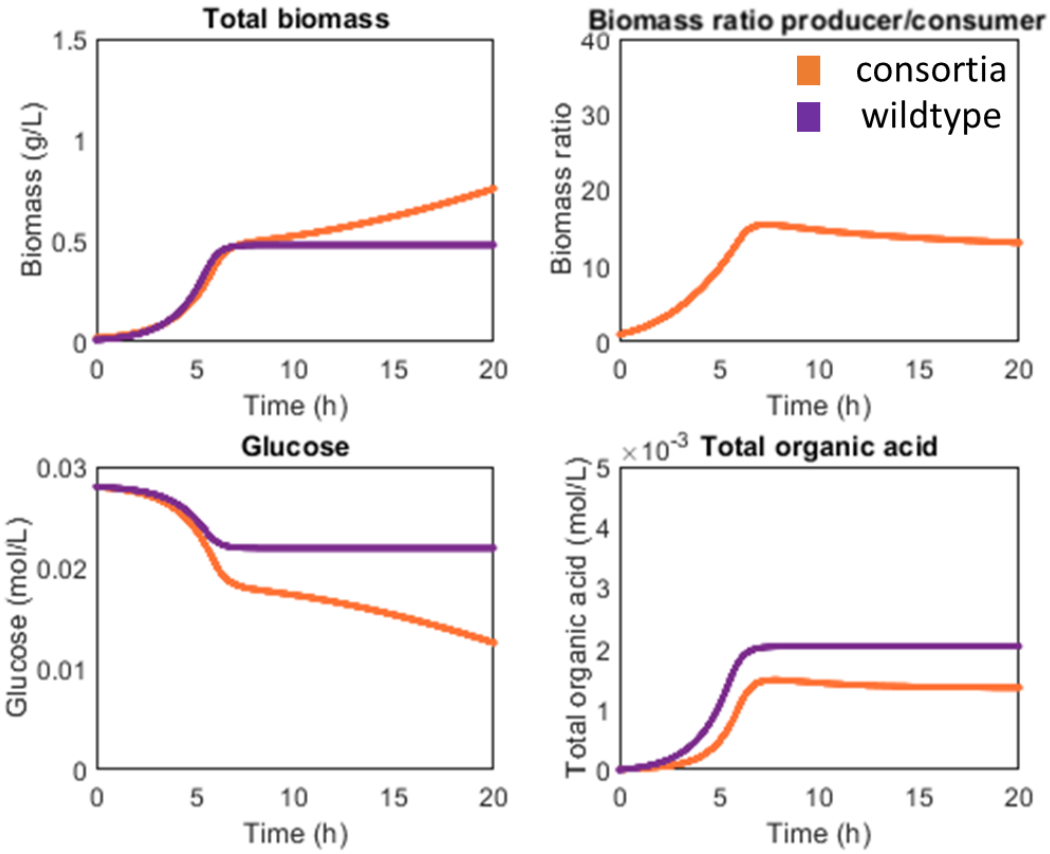
Acetate consortia simulations examining the effect of different acetic acid secretion rates.
Lines correspond with different producer acetic acid secretion rates.

Mumaxp	0.6/h	maximum growth rate producer
Mumaxc	0.3/h	maximum growth rate consumer
YXGp	0.25 g/g	producer biomass yield on glucose
YXAc	0.24 g/g	consumer biomass yield on acetate
YH	0.009 mol/g	protons produced per g biomass, protons released during growth from ammonium metabolism

Acetic acid rates were varied by varying the acetic acid per producer biomass yield

YAXp	0.26 g/g	(light orange) acetic acid produced per gram of producer biomass
	0.38 g/g	acetic acid produced per gram of producer biomass
	0.5 g/g	acetic acid produced per gram of producer biomass
	1 g/g	(dark orange) acetic acid produced per gram of producer biomass

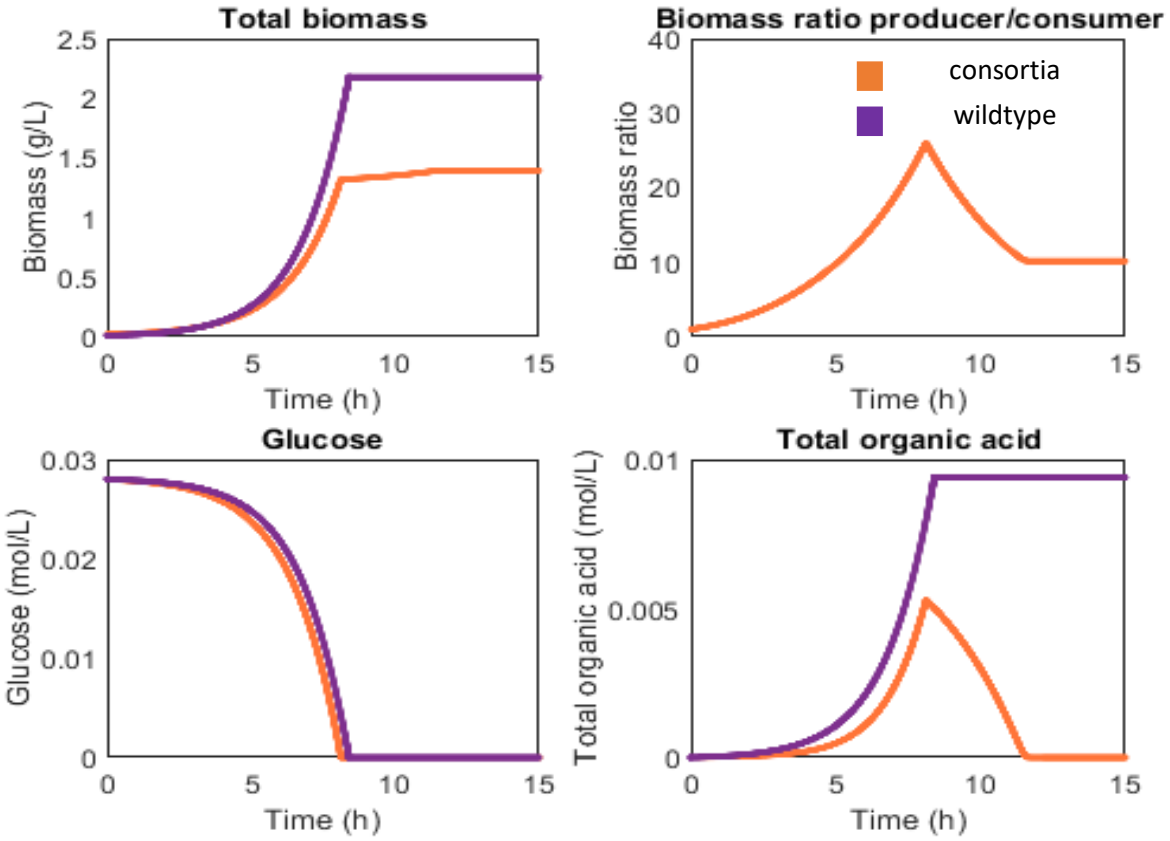
Producer inhibition equation: Holzberg and coworkers
Consumer growth and inhibition equation: Aiba and coworkers



Wildtype vs. acetate consortia simulations at low phosphate buffer.
low phosphate 6.3 mM

Mumaxp	0.6/h	maximum growth rate producer
Mumaxc	0.3/h	maximum growth rate consumer
YXGp	0.25 g/g	producer biomass yield on glucose
YXAc	0.24 g/g	consumer biomass yield on acetate
YH	0.009 mol/g	protons produced per g biomass, protons released during growth from ammonium metabolism
YAXp	0.38 g/g	

Producer/wildtype inhibition equation: Holzberg and coworkers
Consumer growth and inhibition equation: Aiba and coworkers



Wildtype vs. acetate consortia simulations at high phosphate buffer.
low phosphate 64 mM

Mumaxp	0.6/h	maximum growth rate producer
Mumaxc	0.3/h	maximum growth rate consumer
YXGp	0.25 g/g	producer biomass yield on glucose
YXAc	0.24 g/g	consumer biomass yield on acetate
YH	0.009 mol/g	protons produced per g biomass, protons released during growth from ammonium metabolism
YAXp	0.38 g/g	

Producer/wildtype inhibition equation: Holzberg and coworkers
Consumer growth and inhibition equation: Aiba and coworkers