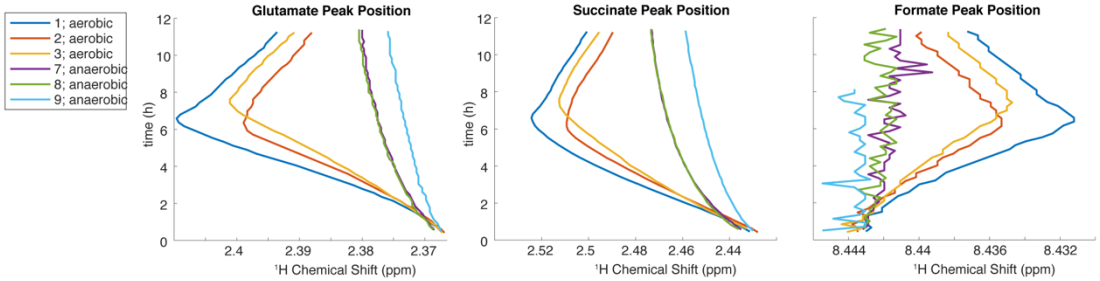
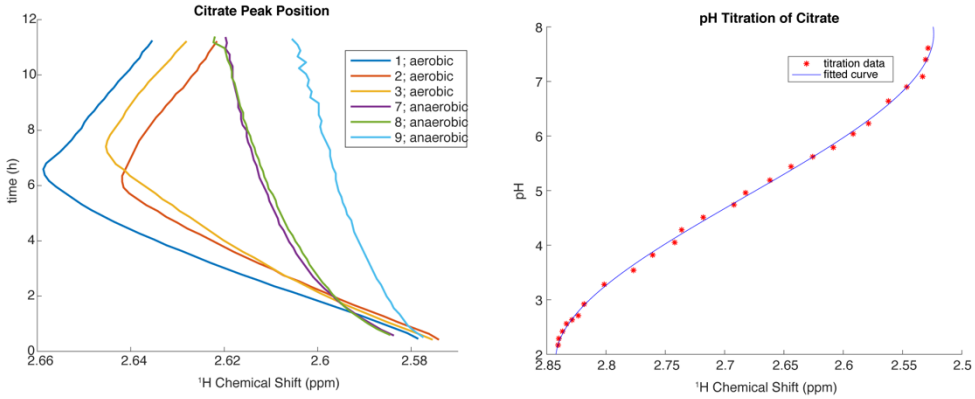
Supplementary Material

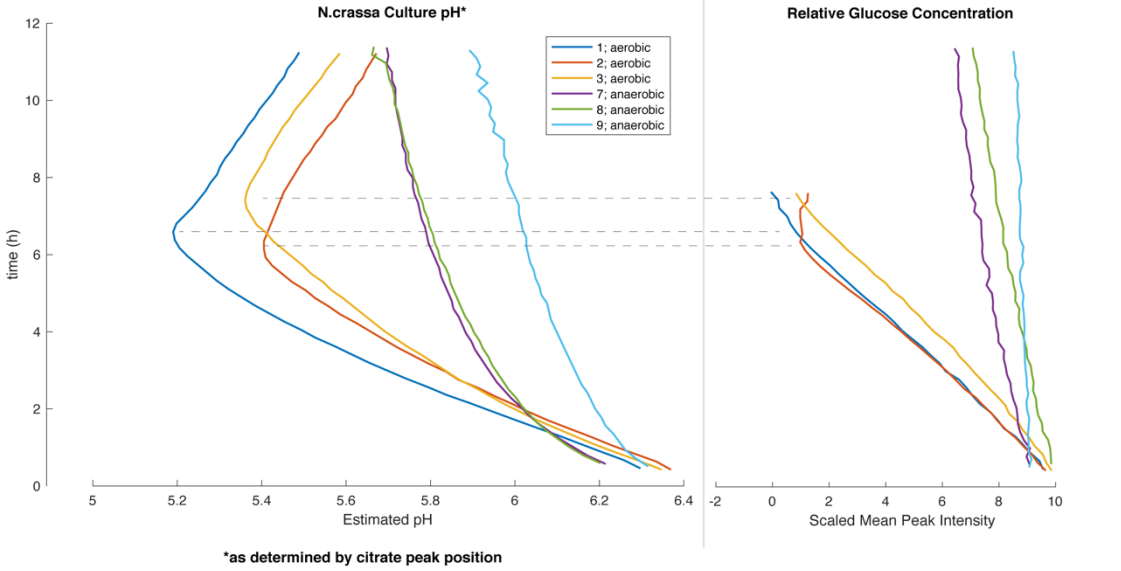
(A) **Chemical Shift Changes for Organic Acids in *N. crassa* cultures**



(B) **Citrate Chemical Shift as a Metric for pH of active *N. crassa* cultures**



(C) **Modeled pH Changes Correspond with Glucose Consumption and Depletion in *N. crassa* cultures**



*as determined by citrate peak position

Supplementary Figure 5. Organic acid peak positions reflect glucose-dependent changes in pH over time. **(A)** Representative *in-vivo* peak position changes for glutamate, succinate, and formate for all samples. The formate peak position in the anaerobic samples is noisy because the peak was very low intensity. **(B)** Position of a representative citrate peak over time and in-house pH titration data for citrate. A 3rd-order polynomial was fit to the titration data in order to interpolate pH values at each timepoint for each sample **(C)**. Dashed horizontal lines are used to show that glucose depletion coincided with reversal of acidification around 6-7 h in the aerobic samples.