Supplemental materials

TABLE S1 Composition of the carbohydrate-free defined medium

Component	Concentration (mg/L)
K_2HPO_4	7000
$NaH_2PO_4\text{-}1H_2O$	2000
$(NH_4)_2SO_4$	1000
$FeCl_3\text{-}6H_2O$	128
$MgSO_4\text{-}7H_2O$	500
Thiamine	1
Nicotinic acid	1.2
Calcium pantothenate	0.25
Biotin	0.005
L-Alanine	60
L-Arginine	50
L-Aspartic acid	90
L-Cystine	20
L-Glutamic acid	100
Glycine	50
L-Histidine	20
L-Isoleucine	30
L-Leucine	90
L-Lysine	50
L-Methionine	10
L-Phenylalanine	40
L-Proline	10
L-Serine	30
L-Threonine	30
L-Tryptophan	10
L-Tyrosine	50
L-Valine	80

Defined *Staphylococcus aureus* media from (11).

TABLE S2 Regression parameters of growth models for *Staphylococcus* isolates grown in carbohydrate-free media

Treatment	Parameter	S. epidermidis Estimate	S. epidermidis Confidence interval	S. aureus Estimate	S. aureus Confidence interval
Media alone	*B*	-0.8	(-0.9, -0.7)	-1.3	(-1.6, -1.0)
	C	4.4	(4.2, 4.6)	4.6	(4.4, 4.8)
	I	9.3	(8.4, 10.3)	4.7	(4.1, 5.3)
	D			9.7	(9.1, 10.3)
Glucose	*B*	-1.5	(-1.6, -1.3)	-1.5	(-1.8, -1.1)
	C	4.6	(4.4, 4.8)	4.6	(4.4, 4.9)
	I	8.1	(7.5, 8.8)	4.9	(4.3, 5.4)
	D			10.1	(9.5, 10.7)
Lactose	*B*	-1.3	(-1.5, -1.2)	-1.6	(-2.0, -1.2)
	C	4.3	(4.1, 4.6)	4.6	(4.4, 4.8)
	I	7.0	(6.2, 7.7)	4.8	(4.3, 5.3)
	D			9.8	(9.3, 10.3)
HMO	*B*	-1.1	(-1.2, -1.0)	-1.6	(-1.9, -1.4)
	C	4.1	(3.9, 4.4)	4.5	(4.4, 4.6)
	I	4.3	(3.9, 4.8)	3.3	(3.2, 3.5)
	D			9.5	(9.3, 9.7)
HMO + Glucose	*B*	-1.5	(-1.6, -1.4)	-1.9	(-2.2, -1.6)
	C	4.5	(4.3, 4.7)	4.7	(4.5, 4.8)
	I	5.0	(4.7, 5.3)	3.4	(3.2, 3.6)
	D			9.5	(9.3, 9.7)
HMO + Lactose	*B*	-1.5	(-1.6, -1.4)	-1.9	(-2.2, -1.7)
	C	4.5	(4.3, 4.7)	4.6	(4.5, 4.8)
	I	4.9	(4.6, 5.2)	3.3	(3.2, 3.5)
	D			9.5	(9.3, 9.6)

*All parameter estimates were significantly different from zero ($P < 0.0001$)

TABLE S3 Regression parameters of growth models for *Staphylococcus* isolates grown in tryptic soy broth (TSB)

Treatment	Parameter	S. epidermidis		S. aureus	
		Estimate	Confidence interval	Estimate	Confidence interval
TSB alone	*B*	-1.7	(-2.1, -1.4)	-4.0	(-4.3, -3.7)
	C	4.4	(4.2, 4.6)	4.6	(4.5, 4.6)
	I	5.0	(4.7, 5.4)	4.3	(4.2, 4.3)
	D	10.0	(9.7, 10.3)	9.4	(9.3, 9.4)
Glucose + TSB	*B*	-1.7	(-2.1, -1.4)	-3.5	(-3.8, -3.2)
	C	4.4	(4.2, 4.7)	4.6	(4.5, 4.6)
	I	4.8	(4.7, 5.2)	4.2	(4.2, 4.3)
	D	9.9	(9.6, 10.3)	9.4	(9.4, 9.5)
HMO + TSB	*B*	-1.8	(-2.1, -1.5)	-4.4	(-5.2, -3.6)
	C	4.4	(4.3, 4.6)	4.6	(4.5, 4.7)
	I	4.7	(4.4, 4.9)	4.0	(3.9, 4.1)
	D	9.8	(9.6, 10.1)	9.4	(9.3, 9.4)
HMO + Glucose + TSB	*B*	-1.9	(-2.2, -1.6)	-4.3	(-5.0, -3.6)
	C	4.5	(4.3, 4.6)	4.5	(4.5, 4.6)
	I	4.5	(4.3, 4.7)	4.0	(3.9, 4.0)
	D	9.8	(9.5, 10.0)	9.4	(9.3, 9.4)

*All parameter estimates were significantly different from zero ($P < 0.0001$)

TABLE S4 Regression parameters of growth models for *Staphylococcus* isolates grown in HMO-free infant formula

Treatment	Parameter	*S. epidermidis*		*S. aureus*	
		Estimate	Confidence interval	Estimate	Confidence interval
Formula alone	*M*	7.77	(7.68, 7.85)	7.59	(7.53, 7.65)
	B	0.27	(0.26, 0.29)	0.36	(0.34, 0.38)
	C	4.47	(4.33, 4.62)	4.66	(4.55, 4.77)
	L	3.14	(2.93, 3.35)	2.65	(2.49, 2.80)
HMO + Formula	*M*	8.51**	(8.42, 8.60)	8.43**	(8.37, 8.49)
	B	0.24**	(0.23, 0.26)	0.29**	(0.28, 0.30)
	C	4.51	(4.37, 4.66)	4.61	(4.51, 4.72)
	L	3.09	(2.90, 3.28)	2.73	(2.59, 2.86)

*All parameter estimates were significantly different from zero ($P < 0.0001$).

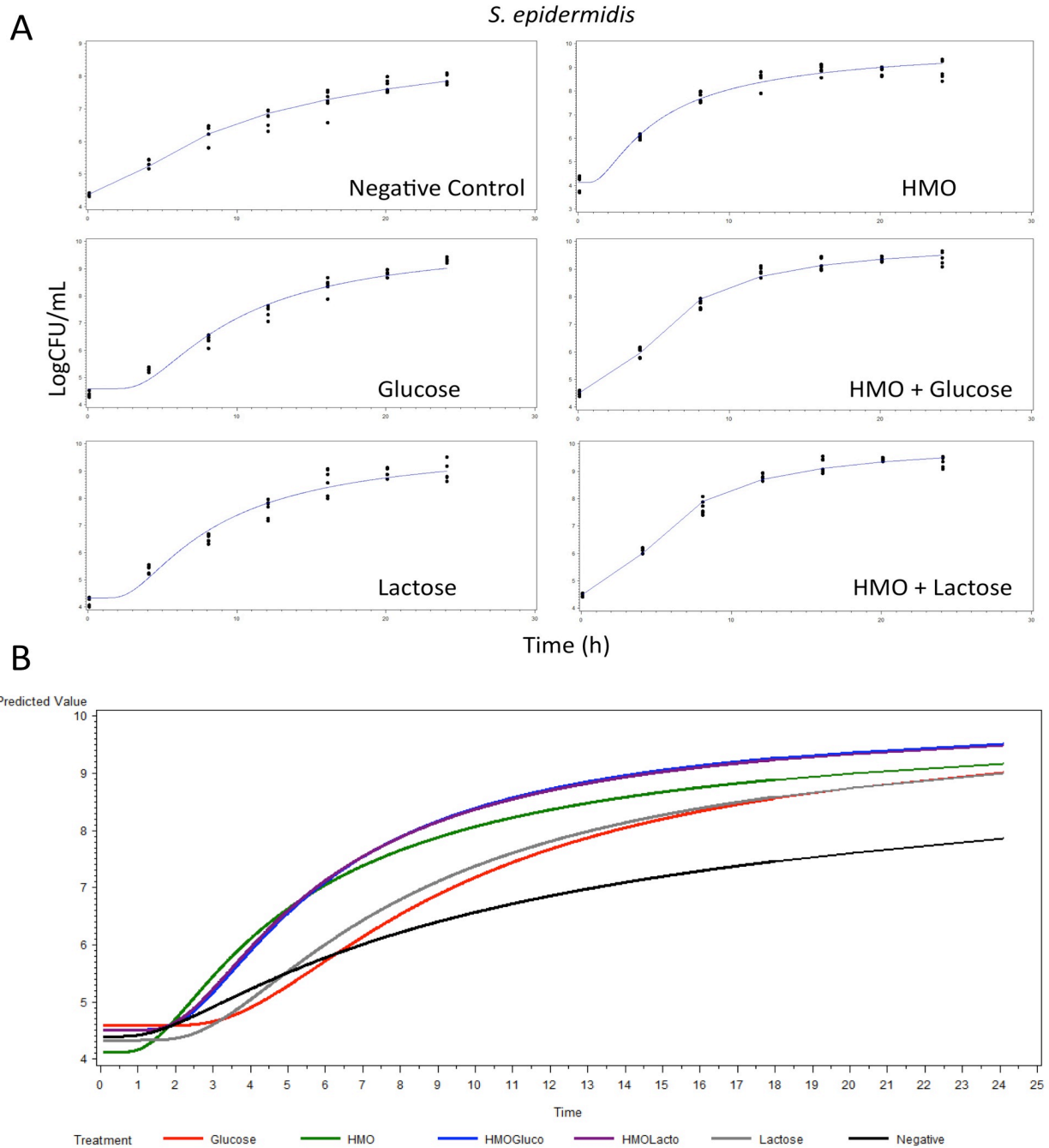** Parameter estimate differed significantly from the negative control ($P < 0.0001$).

FIG S1 For the growth of the *S. epidermidis* isolate in carbohydrate-free media: *A*) estimated regression lines and observed data points for each carbohydrate treatment, and B) full model comparison of regression lines for all treatments. Carbohydrate treatments were added to the media at a concentration of 10 g/L (*n* = 6).
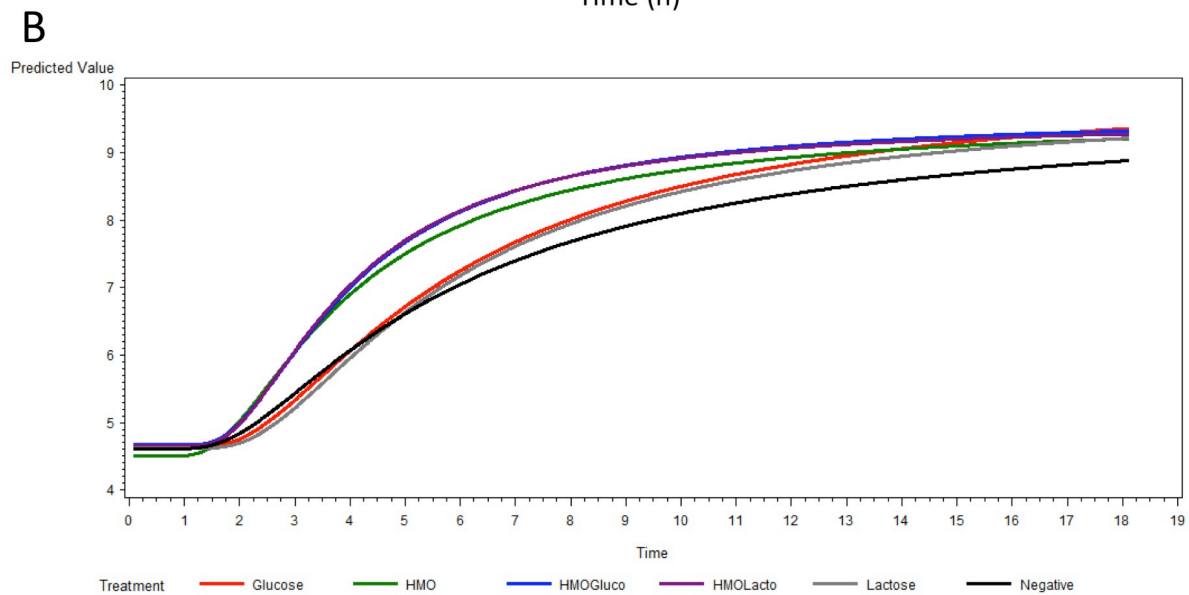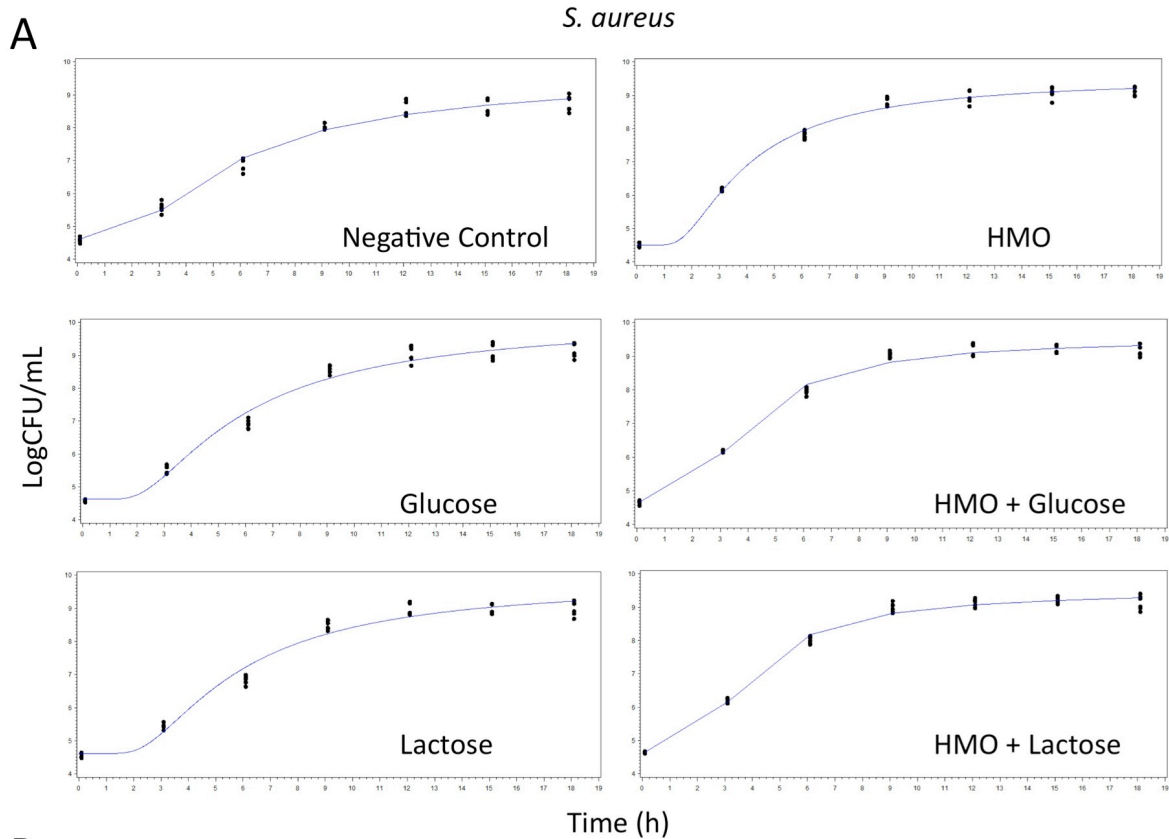
FIG S2 For the growth of the *S. aureus* isolate in carbohydrate-free media: A) estimated regression lines and observed data points for each carbohydrate treatment, and B) full model comparison of regression lines for all treatments. Carbohydrate treatments were added to the media at a concentration of 10 g/L (*n* = 6).
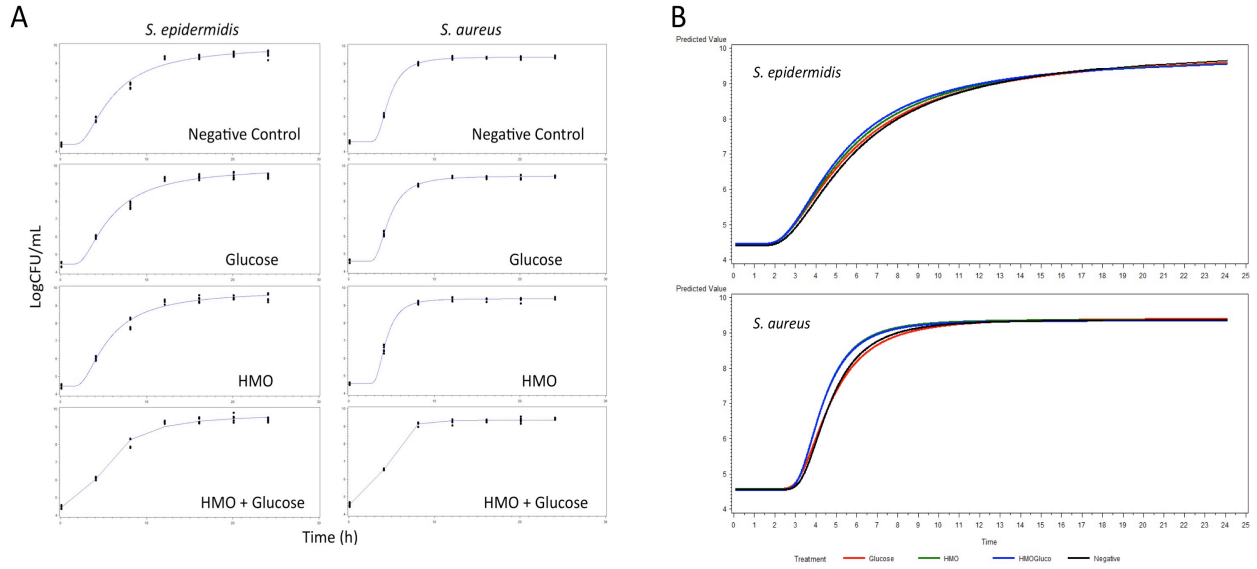
FIG S3 For *Staphylococcus* isolates grown in tryptic soy broth (TSB): A) estimated regression lines and observed data points for each carbohydrate treatment, and B) full model comparison of regression lines for all treatments. Carbohydrate treatments were added to the media at a concentration of 10 g/L. (*n* = 3).
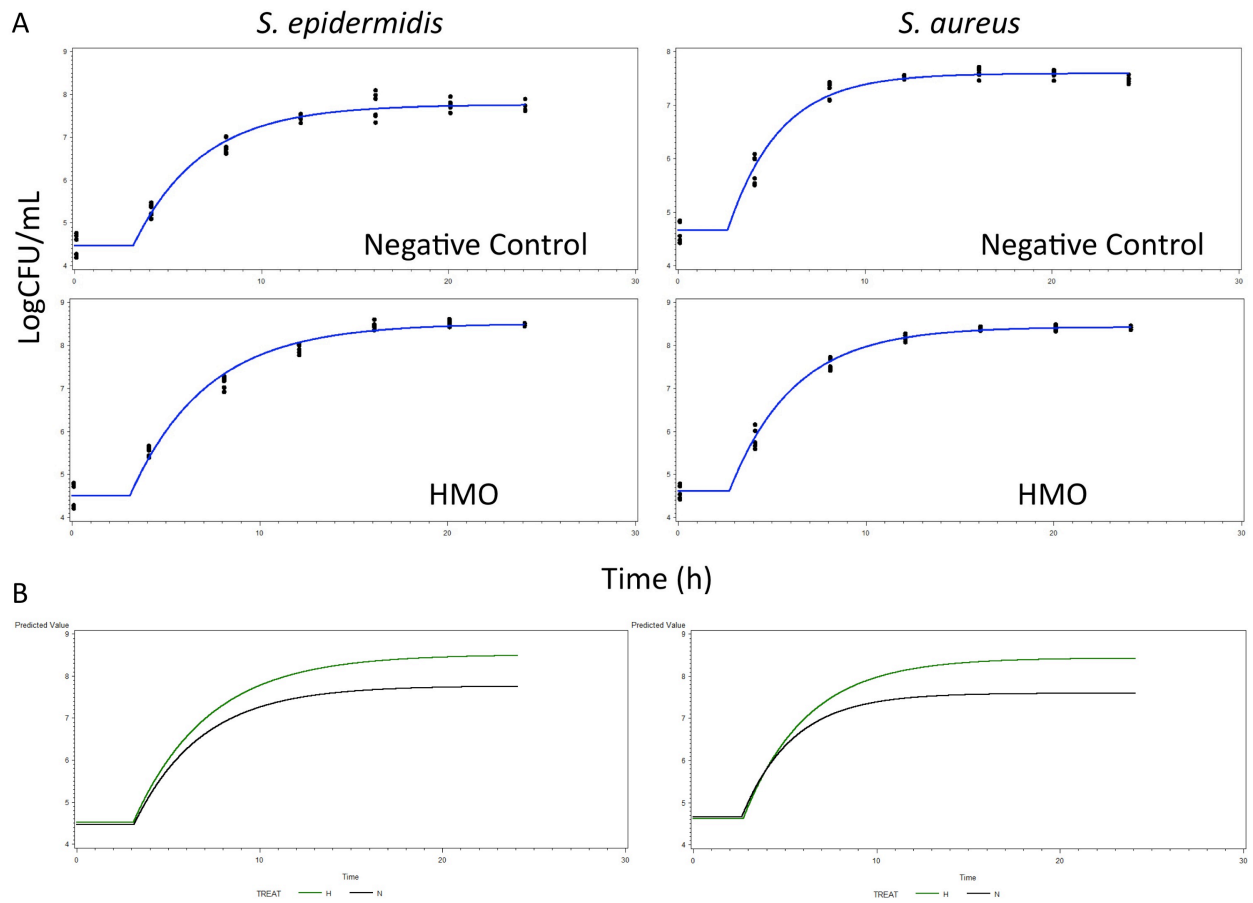
FIG S4 For *Staphylococcus* isolates grown in HMO-free infant formula without or with added HMO (10 g/L): A) estimated regression lines and observed data points for both treatments, and B) full model comparison of regression lines for both treatments. (*n* = 6).