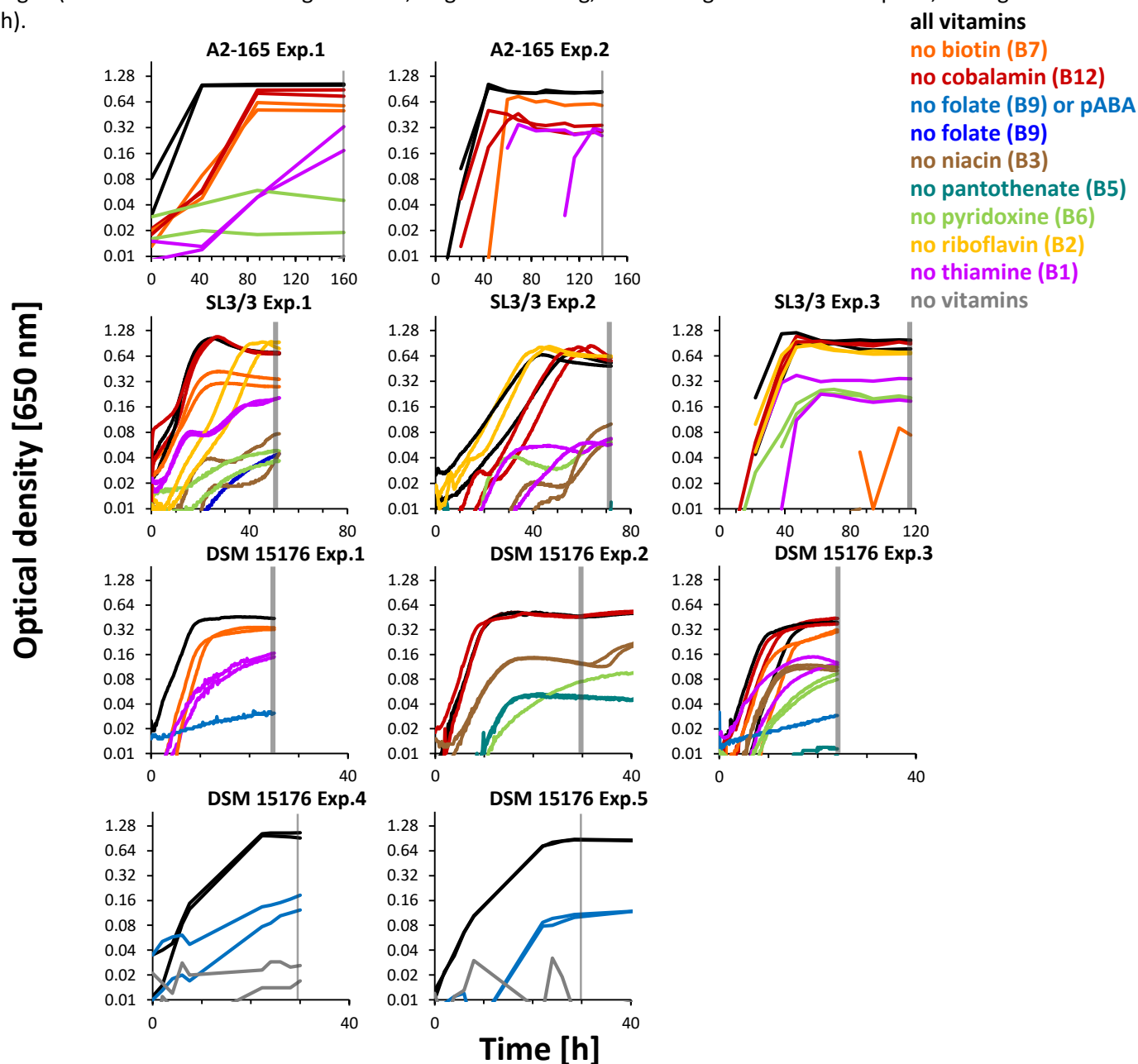


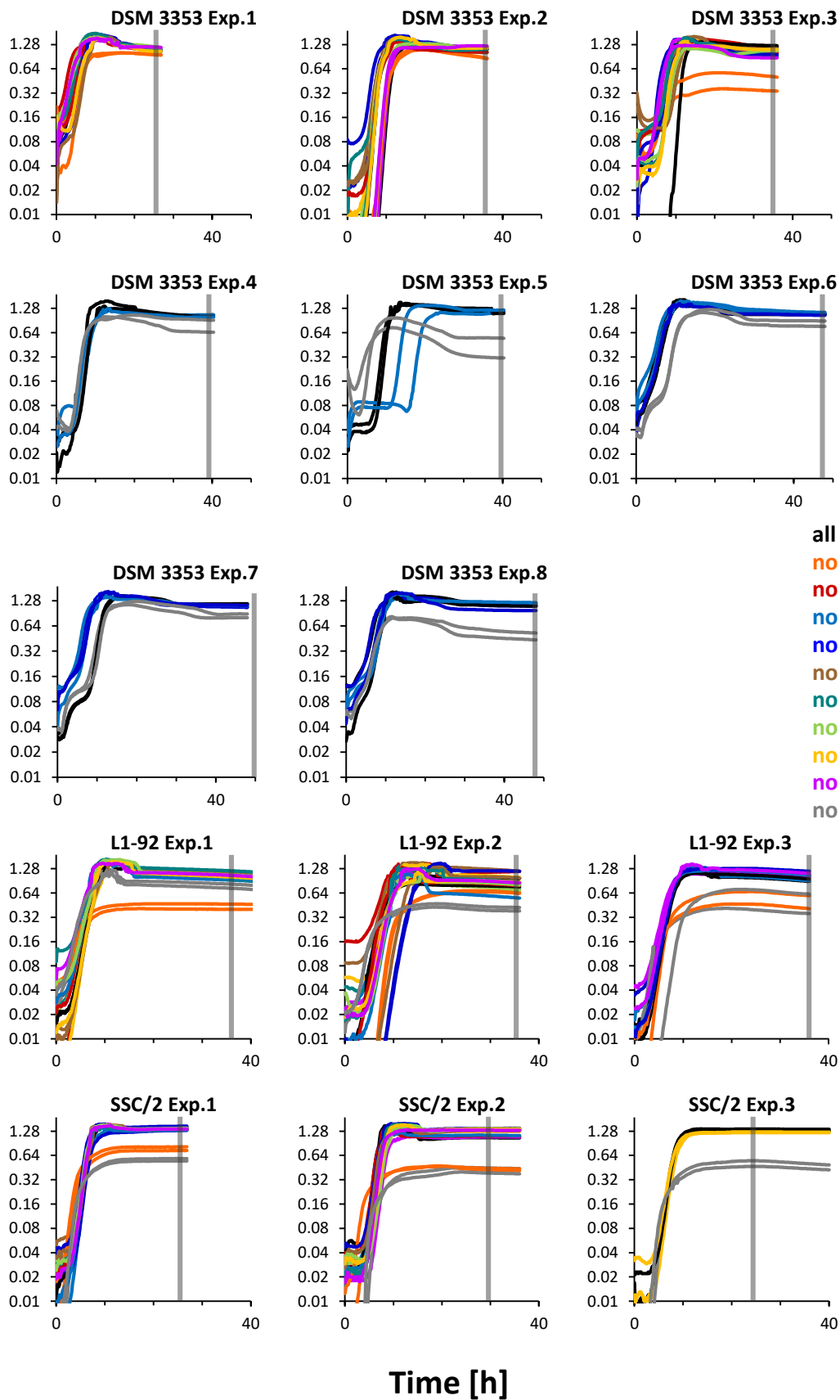
a Number of replicates for vitamin auxotrophy screen to establish growth relative to positive control in the presence of all vitamins. Vitamin concentrations are given in Table S5 apart from strains A2-165, SL3/3, DSM 15176, L1-92, A1-86, M104/1 & A2-194, which were grown at 50X higher levels.

	A2-165	SL3/3	DSM 15176	DSM 3353	L1-92	SSC/2	GD/7	ART55/1	L2-50	A1-86	M104/1	M72/1	L1-82	M50/1	A2-194
no biotin (B7)	4	6	4	6	6	4	4	4	4	6	6	4	4	6	4
no cobalamin (B12)	4	6	4	6	4	4	4	4	3	4	6	4	4	6	4
no folate (B9)	4	6	4	10	6	4	4	4	8	6	6	4	4	6	4
no folate (B9) or pABA	4	5	4	12	4	4	4	4	11	4	5	4	4	6	4
no niacin (B3)	4	6	4	6	4	4	4	4	4	4	6	4	4	6	4
no pantothenate (B5)	4	6	4	6	4	4	4	4	4	4	6	4	4	6	4
no pyridoxine (B6)	4	6	3	6	4	4	4	4	4	4	6	4	4	6	4
no riboflavin (B2)	4	6	3	5	4	4	4	4	4	4	6	4	4	6	4
no thiamine (B1)	4	6	4	6	6	4	4	4	4	4	6	4	3	6	4
no vitamins	4	6	10	10	6	6	4	4	10	6	6	4	4	6	4

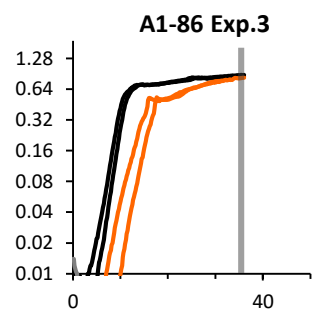
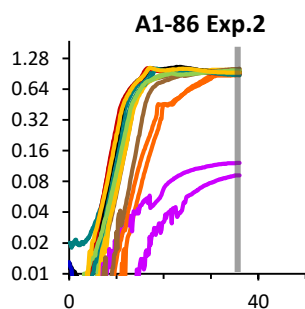
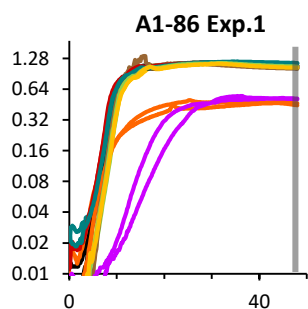
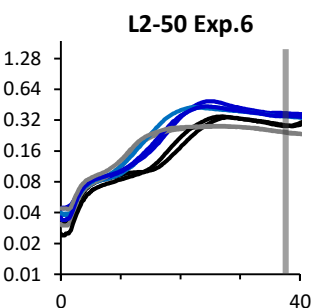
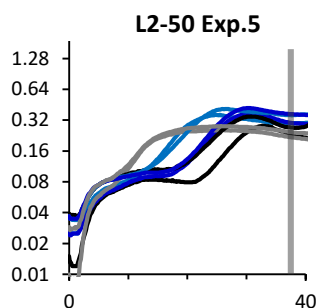
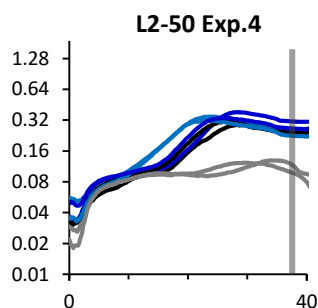
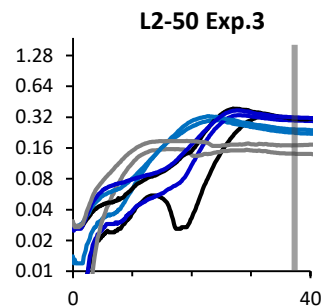
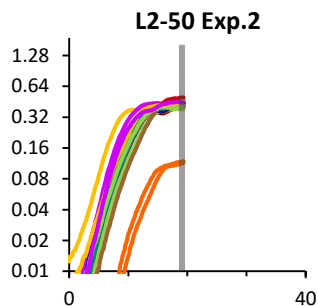
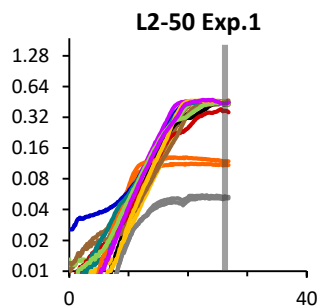
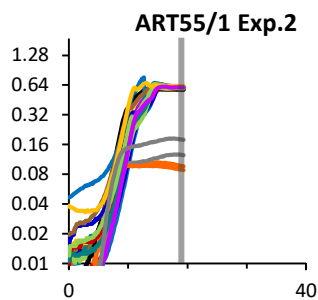
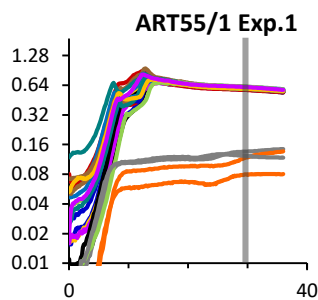
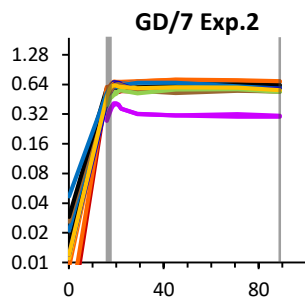
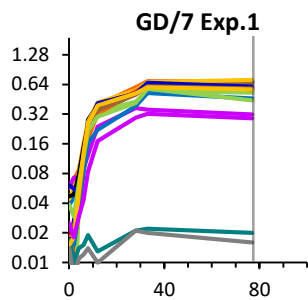
b Growth curves for vitamin auxotrophy screen at a single vitamin concentration. Gray lines indicate data used for Fig. 3 (thin line: Growth in Hungate tubes, single OD reading; thick line: growth in 96-well plate, average data over 1 h).



Optical density [650 nm]



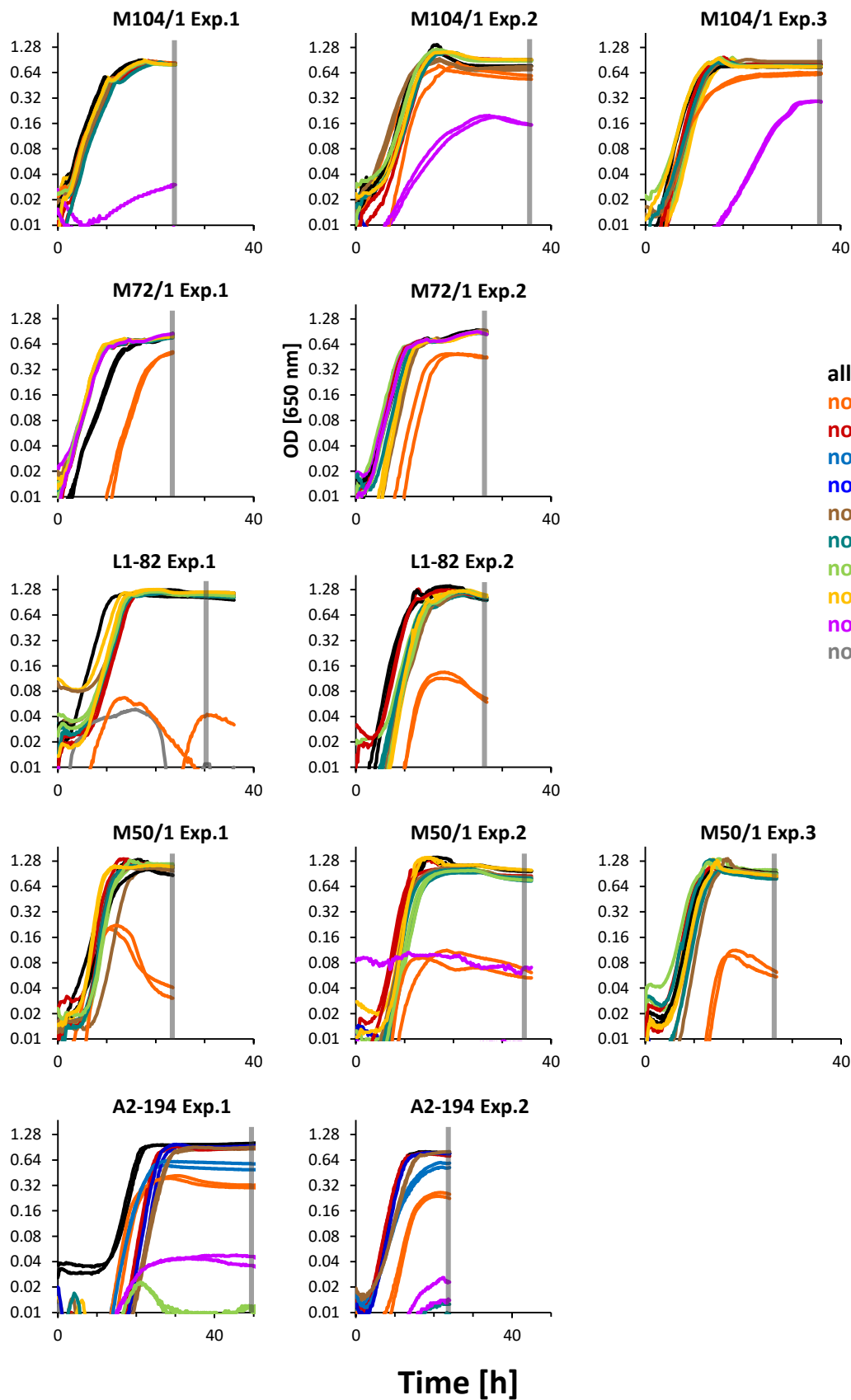
Optical density [650 nm]



all vitamins  
 no biotin (B7)  
 no cobalamin (B12)  
 no folate (B9) or pABA  
 no folate (B9)  
 no niacin (B3)  
 no pantothenate (B5)  
 no pyridoxine (B6)  
 no riboflavin (B2)  
 no thiamine (B1)  
 no vitamins

Time [h]

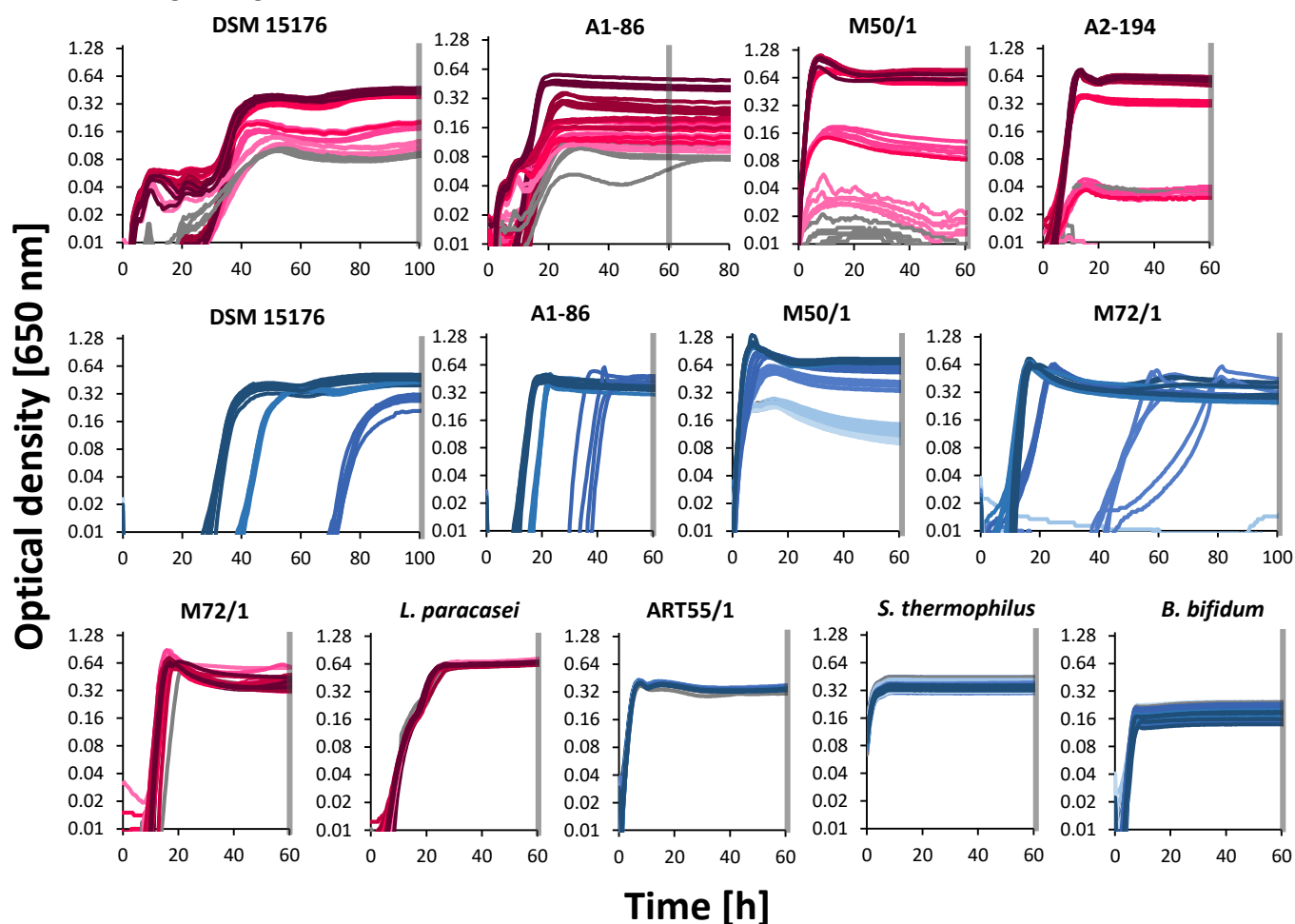
Optical density [650 nm]



c Number of replicates for pure culture growth (stationary OD/growth rate) in the presence of increasing concentrations of folate or thiamine.

	thiamine							folate						
	0	0.05 ng	0.5 ng	5 ng	0.05 μg	0.5 μg	5 μg	0	0.05 ng	0.5 ng	5 ng	0.05 μg	0.5 μg	5 μg
<i>S. variable</i> DSM 15176	6/3	6/3	6/3	6/3	6/3	6/3	6/3	6/6	6/6	6/6	6/6	6/6	6/6	6/6
<i>E. rectale</i> A1-86	6/6	6/3	6/3	6/3	5/2	6/3	6/3	6/6	6/6	6/6	6/6	4/4	5/5	6/6
<i>R. intestinalis</i> M50/1	6/6	6/6	6/6	6/6	6/6	6/6	6/6	6/5	6/5	6/5	6/6	6/6	6/6	6/6
<i>R. inulinivorans</i> A2-194	6/6	6/6	6/6	6/6	6/6	6/6	6/6							
<i>R. faecis</i> M72/1	6/6	6/5	6/5	6/6	6/6	6/6	6/6	5/6	6/6	5/6	6/6	5/5	6/6	6/5
<i>L. paracasei</i>	4/3	5/5	6/6	6/6	6/6	6/6	6/6							
<i>Coprococcus</i> sp. ART55/1								6/6	6/6	6/6	6/6	6/6	6/6	6/6
<i>S. thermophilus</i>								6/3	6/6	6/6	6/6	6/6	6/6	6/6
<i>B. bifidum</i>								6/6	6/6	6/6	6/6	6/6	6/6	6/6

d Growth curves for all vitamin conditions and strains tested. Gray lines indicate data used for Fig. 4c and d. For colour coding see Fig. 4.



**Fig. S3** Growth data of vitamin experiments in pure and mixed culture. (a) Number of replicates for vitamin auxotrophy screen to establish growth relative to positive control in the presence of all vitamins. Vitamin concentrations are given in Table S5 apart from strains A2-165, SL3/3, DSM 15176, L1-92, A1-86, M104/1 & A2-194, which were grown at 50X higher levels. (b) Growth curves for vitamin auxotrophy screen at a single vitamin concentration. Gray lines indicate data used for Fig. 3 (thin line: Growth in Hungate tubes, single OD reading; thick line: growth in 96-well plate, average data over 1 h). (c) Number of replicates for pure culture growth (stationary OD/growth rate) in the presence of increasing concentrations of folate or thiamine. (d) Growth curves for all vitamin conditions and strains tested. Gray lines indicate data used for Fig. 4c and d. For colour coding see Fig. 4.