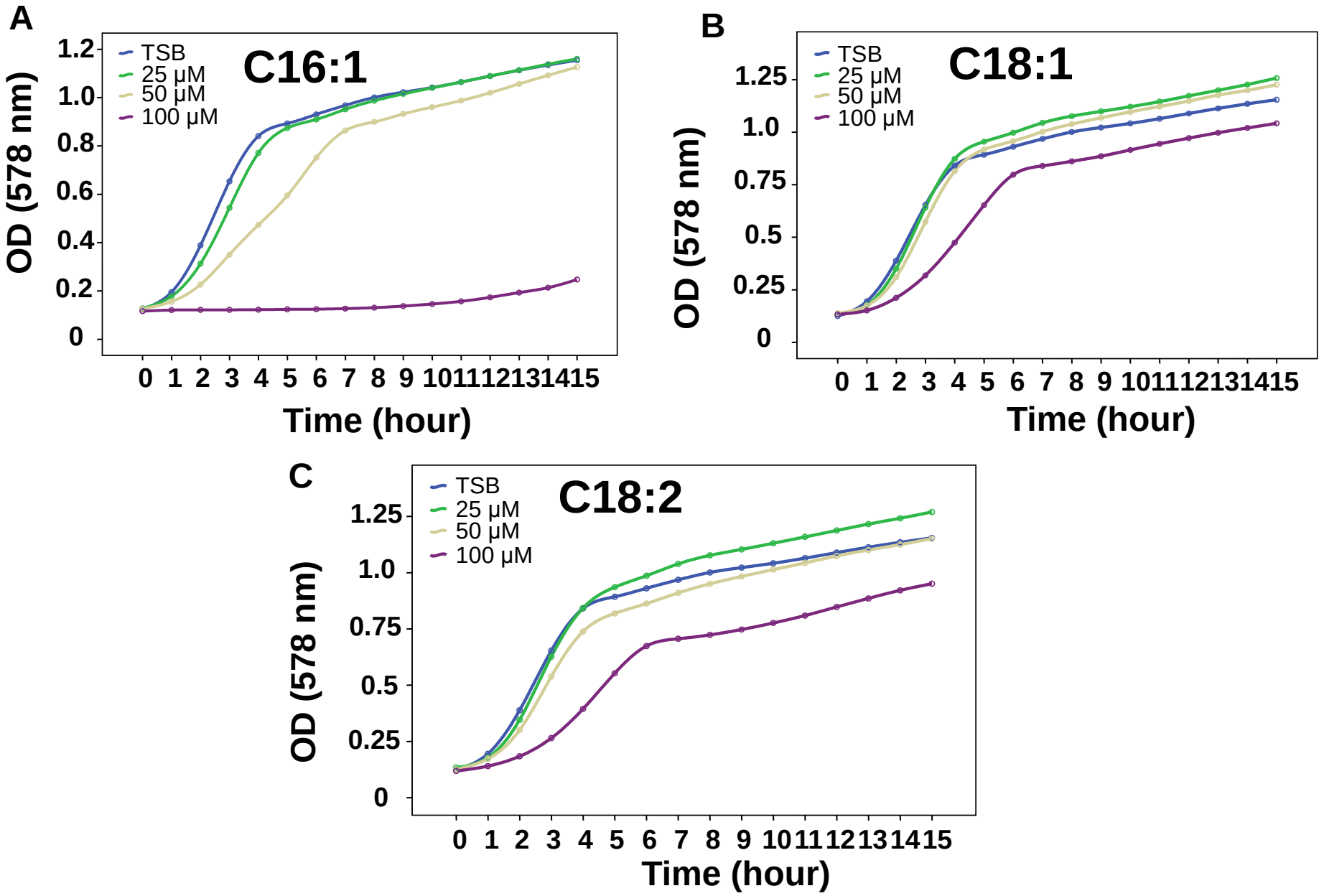

Figure S1. Growth curves of *S. aureus* USA300 JE2 in TSB medium with different amount (0, 25, 50 and 100 µM) of UFFAs. The strains were cultivated for 15 hours in 96 well plate using Tecan reader to measurement the OD578nm. (A) C16:1, (B) C18:1, (C) C18:2.

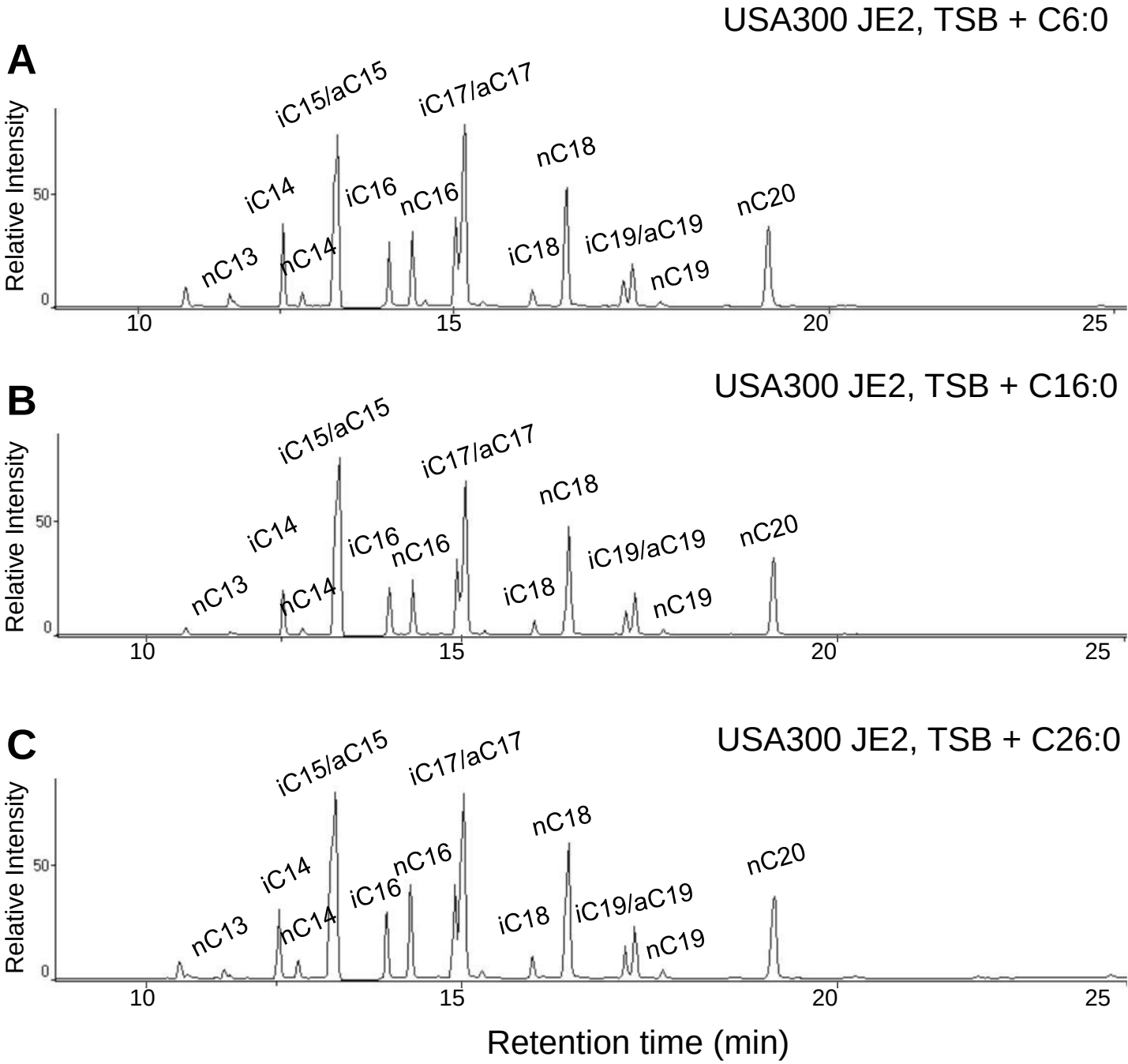

Figure S2. GC analysis of the fatty acids isolated from total lipid extraction of *S. aureus* USA300 JE2. (**A**) in TSB medium with 50µM C6:0, (**B**) TSB medium with 50 µM C16:0, (**C**) TSB medium with 50 µM C26:0.

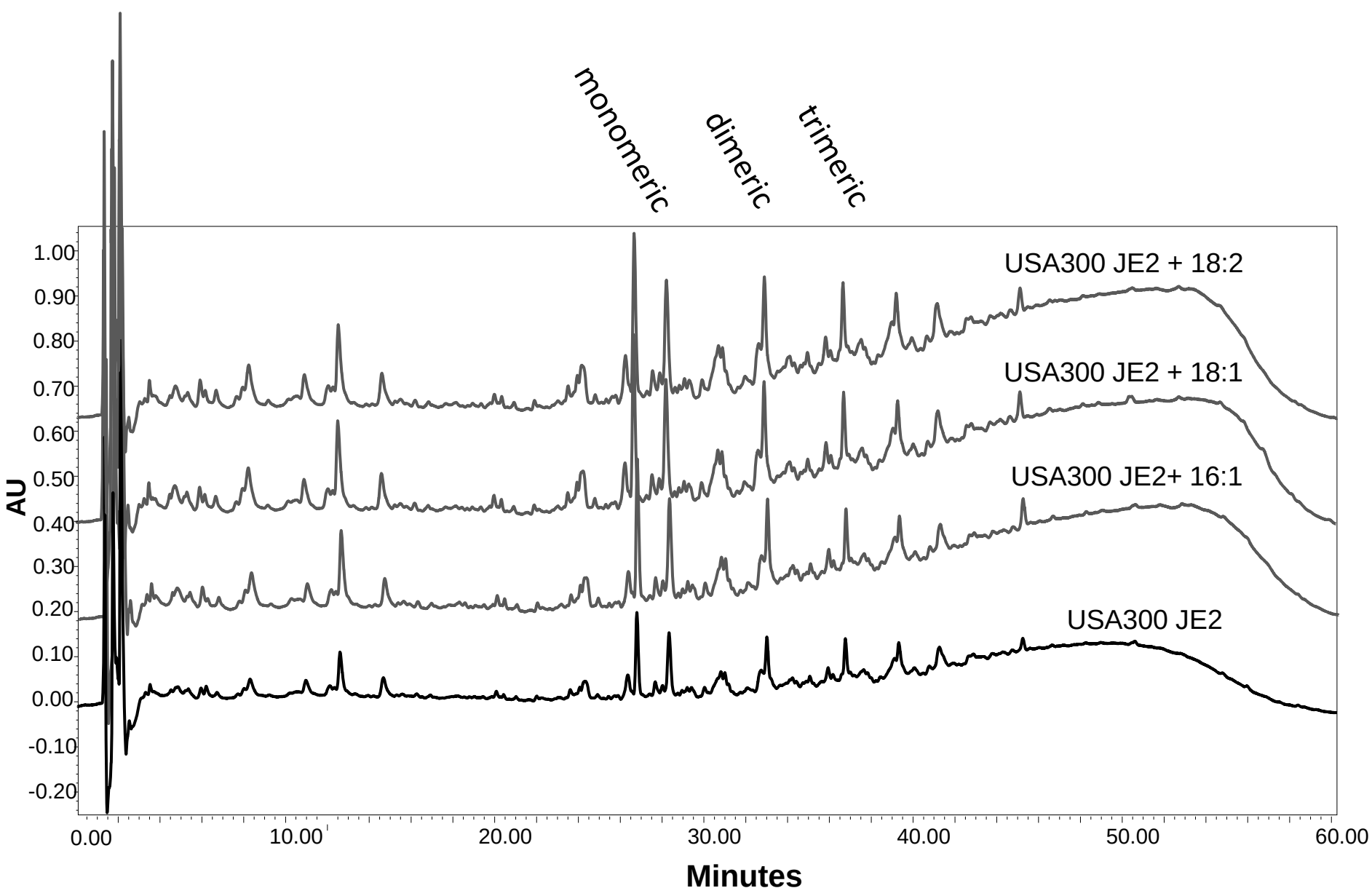

Figure S3. Analysis of polymeric peptidoglycan by HPLC. Shown is the pattern for muramidase-digested peptidoglycan from USA300 JE2 overnight culture in TSB and TSB with each 50 µM C16:1, C18:1, and C18:2.

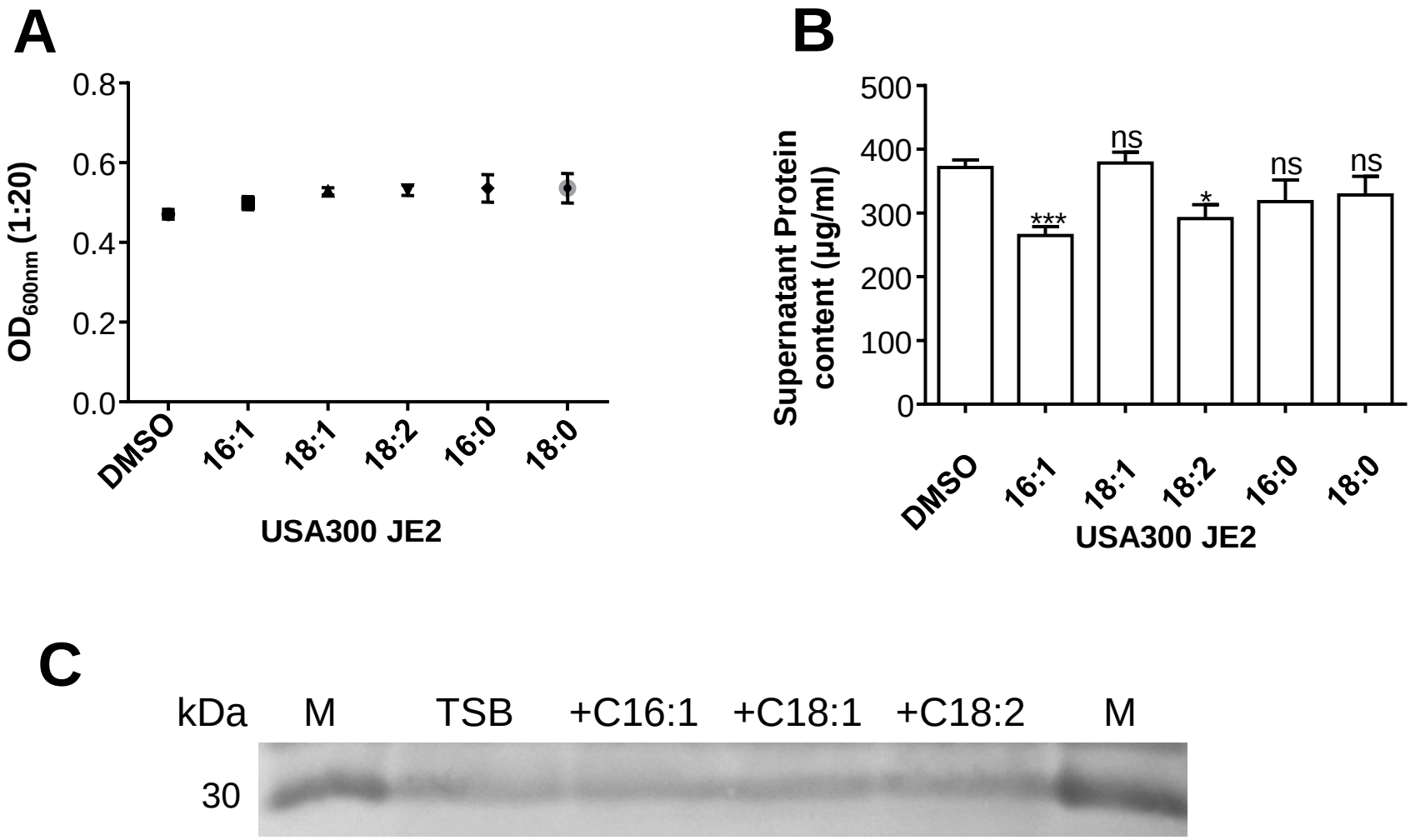

Figure S4. Saturated and unsaturated FAs did not significantly influence growth, protein excretion and expression of lipoprotein Lpl1 in USA300 JE2. (**A**) OD_{600} values (1:20 diluted) of 17 h cultures cultivated in TSB supplemented with DMSO (negative control) or various FAs (50µM). (**B**) Comparison of the protein content (Bradford assay) in the supernatant of USA300 JE2 cultivated in TSB supplemented with DMSO (negative control) or various FAs (50µM). (**C**) Western blots with antiLpl1-his present in total protein extract of an overnight culture of USA300 JE2 fed without and with 50 µM C16:1, C18:1 and C18:2. The experiments of A and B were performed at least 3 times. Data represent Mean+/-SEM. Statistical significances were calculated by using unpaired Student's t-tests: not significant (ns) $P>0.05$, * $P<0.05$, *** $P<0.001$.