Invariant fibrillation of the major curli subunit CsgA under changing conditions implies robust design of aggregation

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Supplementary Information

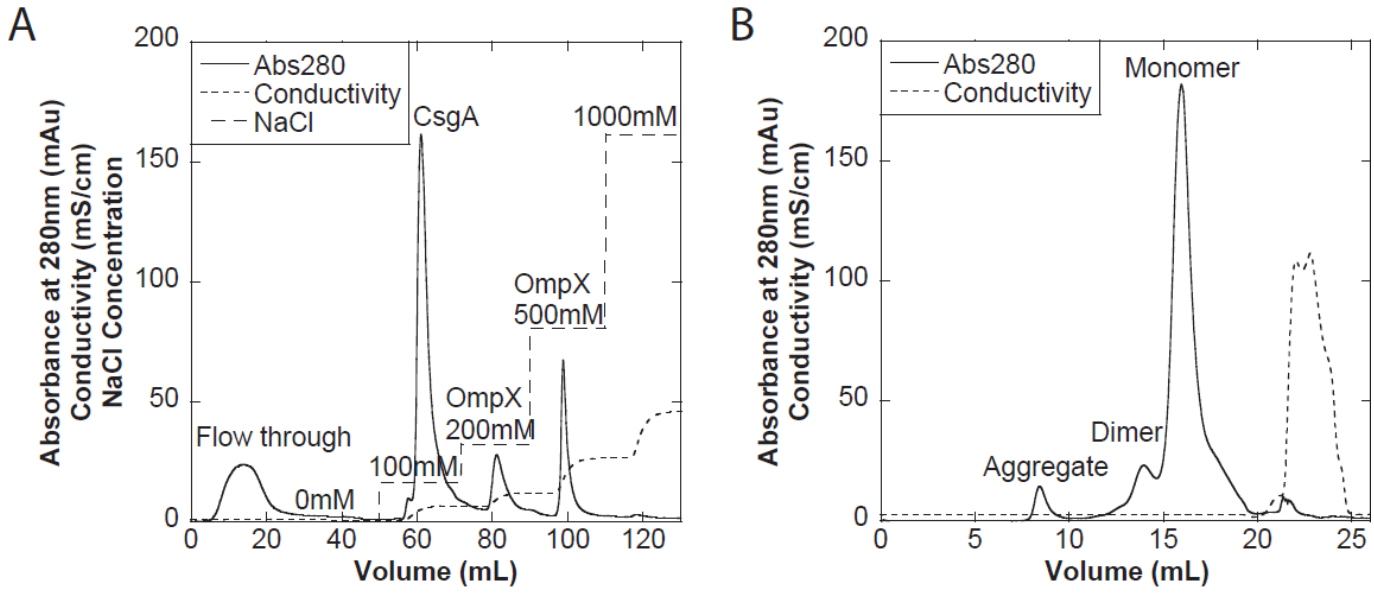

Figure S1.

Preparation of monomeric CsgA. (A) Anion exchange chromatography (AIEX) was performed on formic acid treated curli fimbriae. Each peak was analyzed by SDS-PAGE and proteins were identified by MS/MS. An outer membrane protein (OmpX) co-purified with curli was clearly separated from CsgA during the AIEX purification. (B) AIEX purified CsgA was precipitated, formic acid treated and separated by gel filtration in the presence of 6M GdmCl. This resulted in a pure and stable monomeric CsgA stock, which after desalting could be used directly for fibrillation studies.

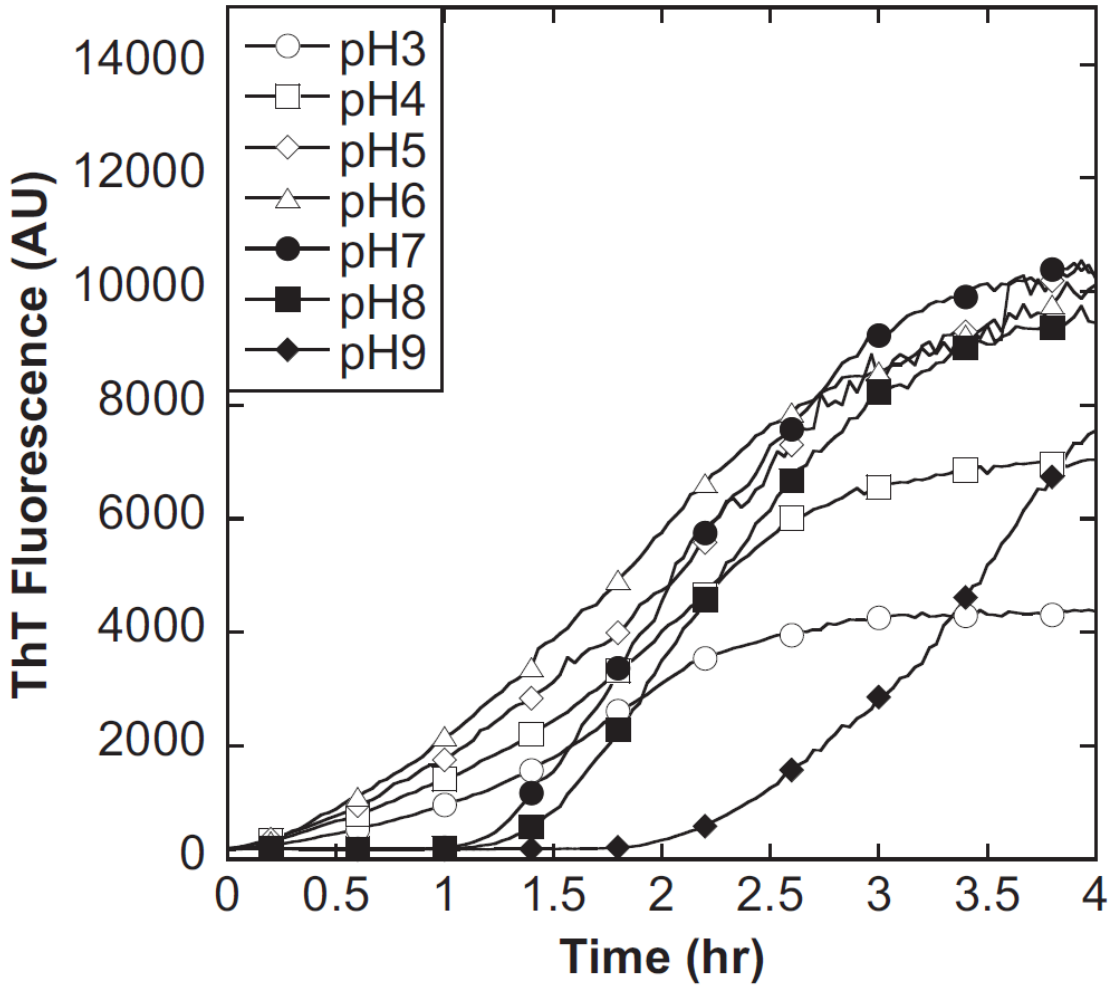

Figure S2.

Early fibrillation of CsgA at various pH. Fibrillation of 20μM CsgA at pH 3-9 in various buffer systems followed by ThT fluorescence. pH 3-5: 20mM citric acid/NaOH, pH 6: 20mM histidine/HCl, pH 7: 20mM phosphoric acid/NaOH, pH 8: 20mM Tris/HCl, pH 9: 20mM Glycine/HCl. In all cases, ionic strength was adjusted to 50mM by the addition of NaCl.

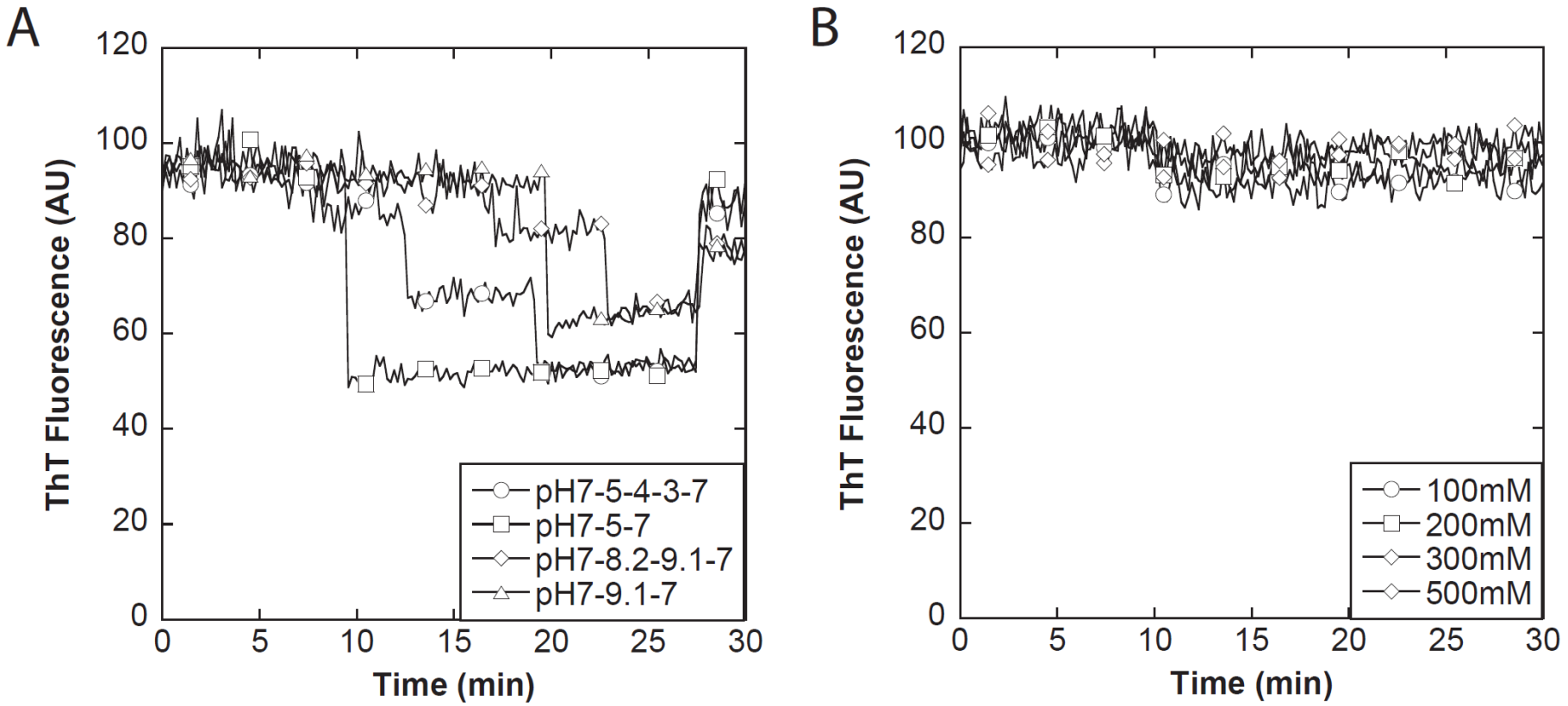

Figure S3.

Effect of pH and NaCl on ThT fluorescence. The effect of pH (A) and NaCl (B) on the fluorescence of ThT bound to CsgA fibrils was determined by measuring the ThT fluorescence change in samples of preformed fibrils upon addition of HCl/NaOH and NaCl, respectively.