SUPPLEMENTARY MATERIAL

Supplementary Table 1: strains and plasmids used in this study.

Strain Name (*Species*)	**Genotype**	**Markers**	**Notes**
Mach1 (*E. coli*)	F– Φ80*lac*ZΔM15 Δ*lac*X74 *hsd*R(rK–, mK+) Δ*rec*A1398 *end*A1 *ton*A	$T1^R$	Cloning strain, purchased from Invitrogen.
DP10 (*E. coli*)	F-, *mcr*A, Δ(*mrr-hsd*RMS-*mcr*BC), Φ80*lac*ZΔM15, Δ*lac*X74, *rec*A1, *end*A1, *ara*D139, Δ (*ara*, *leu*)7697, *gal*U, galK, λ-, rpsL (Str^R), *nup*G D(*ara*FGH) ϕ(D*ara*Ep P_{cp8}-*ara*E)	Str^R	Derived from DH10B. See reference[25] for details.
CME03 (*E. coli*)	F-, *mcr*A, Δ(*mrr-hsd*RMS-*mcr*BC), Φ80*lac*ZΔM15, Δ*lac*X74, *rec*A1, *end*A1, *ara*D139, Δ (*ara*, *leu*)7697, *gal*U, galK, λ-, rpsL (Str^R), *nup*G D(*ara*FGH) ϕ(D*ara*Ep P_{cp8}-*ara*E) *tnaA::kan*	Str^R, Kan^R	Derived from DP10, contains *tnaA::kan*
Plasmid name	**Expression constructs**	**Markers**	**Notes**
pJS33[1]	*recA*	Amp^R	Used to enable P1 transduction of tnaA::kan into DP10.
pWW307	P_{ara} empty vector, P_{tet}-mRFP1	Amp^R	See reference[26].
pCDF-tet	*tetR*, P_{tet} empty vector	$Spec^R$	Derived from pCDF-duet
pCAM12	P_{ara}=>p12/*p9*-mCitrine	Amp^R	Derived from pWW307
pCAM15	P_{ara}=>p12/*p9*-mCerulean	Amp^R	Derived from pWW307
pCAM17	P_{ara}=>p12/*p9*	Amp^R	Derived from pWW307
pCAM33	P_{tet}=>*p9*-mCitrine	$Spec^R$	Derived from pCDF-tet
pCAM35	P_{tet}=>*p9*-6His	$Spec^R$	Derived from pCDF-tet
pCAM36	P_{tet}=>6His-*p9*	$Spec^R$	Derived from pCDF-tet
pCAM53	P_{ara}=>p12/mCitrine-*p9*	Amp^R	Derived from pWW307
pCAM66	P_{ara}=>*p9*-mCitrine	Amp^R	Derived from pWW307
pCAM105	P_{tet}=>*p9*-FLAG-*FMO*	$Spec^R$	Derived from pCAM35
pCAM106	P_{tet}=>*p9**-FLAG-*FMO*	$Spec^R$	Derived from pCAM105
pCAM108	P_{ara}=>*p9**-mCitrine	Amp^R	Derived from pCAM12
pCAM110	P_{ara}=>*p12*/*p9*-6His-*tnaA*	Amp^R	Derived from pCAM15
pCAM111	P_{ara}=>*p9*-6His-*tnaA*	Amp^R	Derived from pCAM66
pCAM112	P_{ara}=>*p12*/*p9**-6His-*tnaA*	Amp^R	Derived from pCAM110

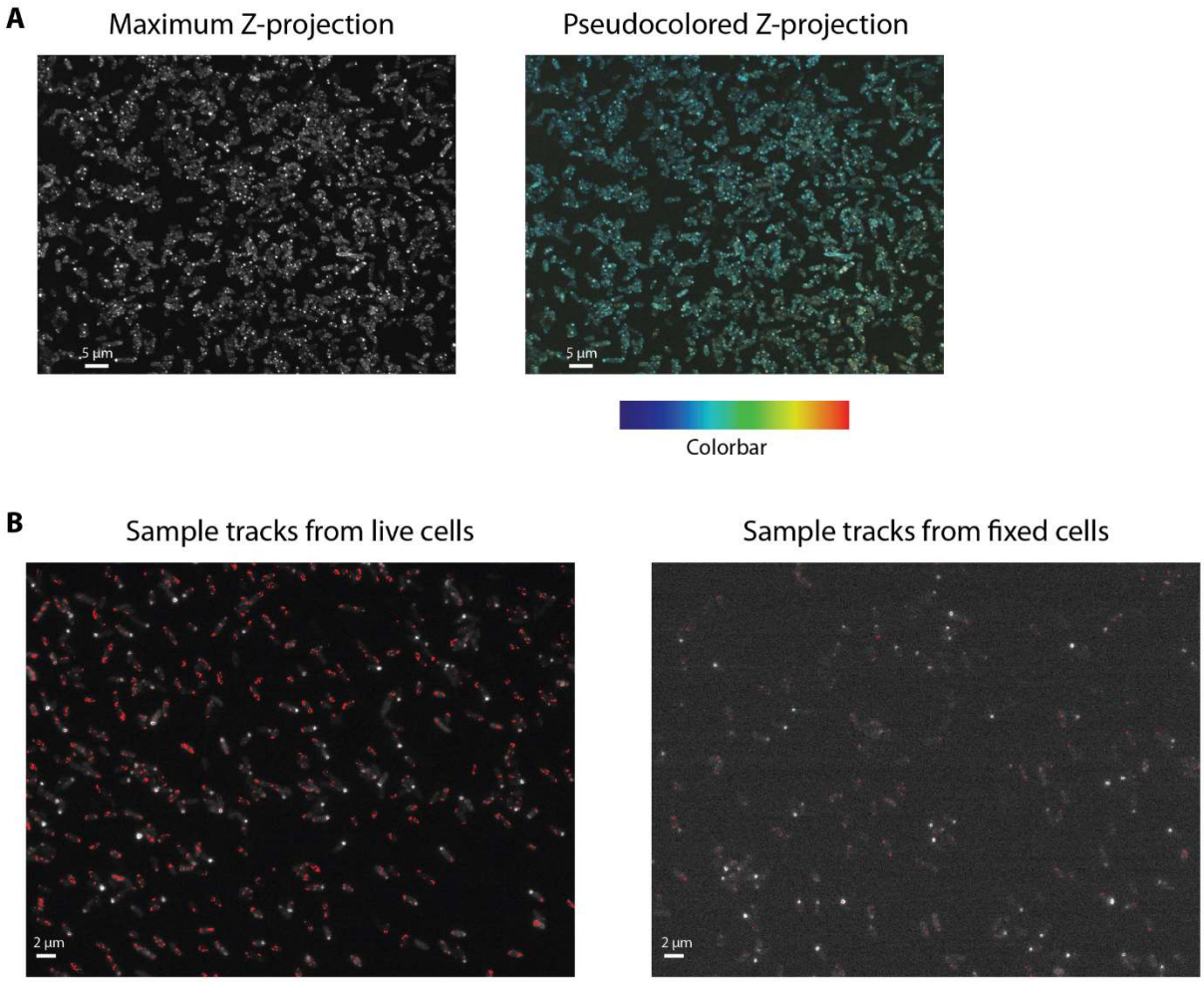
[1] pJS33 is described here[27].

Supplementary Table 2: primer sequences used in this study

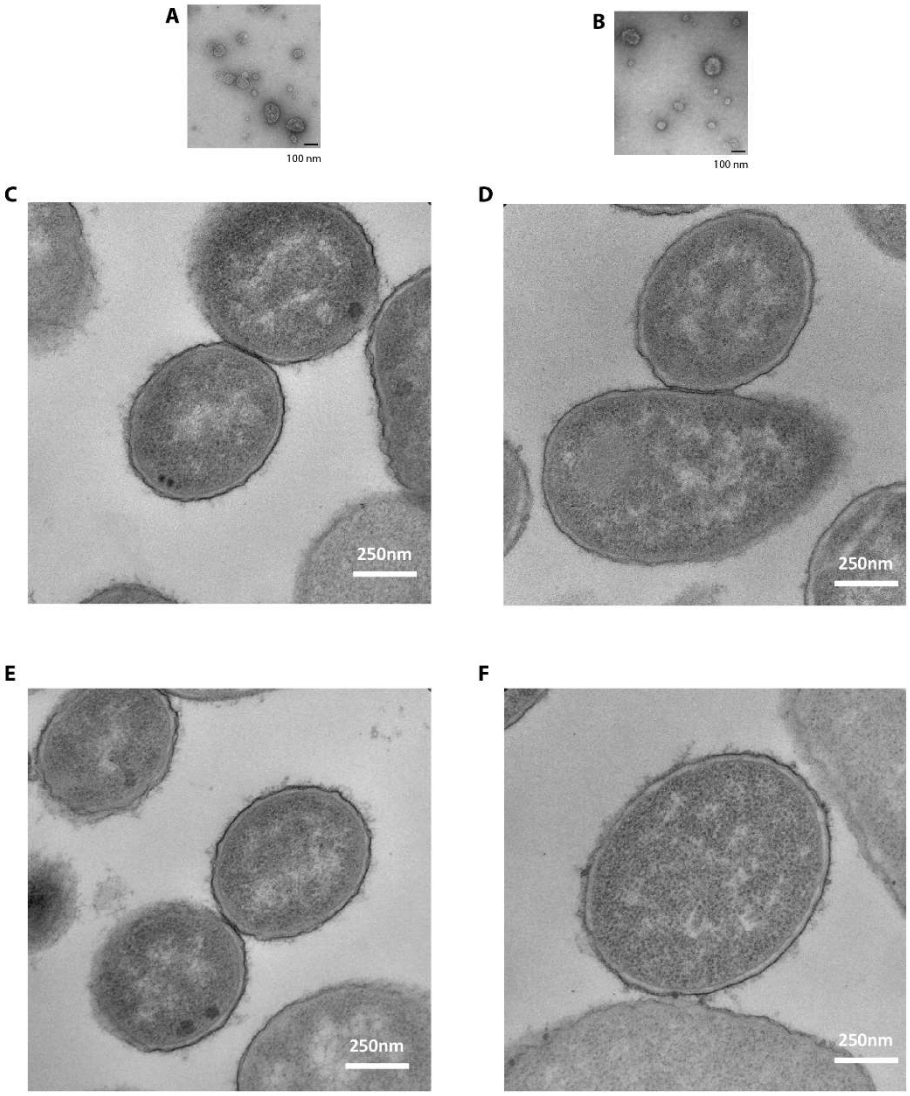
Name	Sequence	Used for
CP26	ACCCGCTAGCaaagaggagaaaAGAatggttatcggtctcctgaagtatctcac	pCAM17
CP27	gtgagatacttcaggagaccgataaccatTCTtttctcctctttGCTAGCGGGT	pCAM17
CP32	Gccaacatccctttcctggccgtgagcaagggcgaggagc	pCAM12
CP33	Gctcctcgcccttgctcacggccaggaaagggatgttggc	pCAM12
CP34	ggcatggacgagctgtacaagtagTCTtccctatcagtgatagagattgacatcc	pCAM12, 53, 66
CP35	ggatgtcaatctctatcactgatagggaAGActacttgtacagctcgtccatgcc	pCAM12, 53, 66
CP38	gccaacatccctttcctggccGTGAGCAAGGGCGAGGAGCT	pCAM15
CP39	AGCTCCTCGCCCTTGCTCACggccaggaaagggatgttggc	pCAM15
CP40	GGCATGGACGAGCTGTACAAGtagTCTtccctatcagtgatagagattgacatcc	pCAM15
CP41	ggatgtcaatctctatcactgatagggaAGActaCTTGTACAGCTCGTCCATGCC	pCAM15
CP56	ccaacatccctttcctggcctaaTCCtaaCTCGAGtaatgagaagcttgg	pCAM17
CP57	ccaagcttctcattaCTCGAGttaGGAttaggccaggaaagggatgttgg	pCAM17
CP68	TACTGTTTCTCCATACCCGCTAGCtaaggatgttccgtaatgccatttcct	pCAM66
CP69	aggaaatggcattacggaacatccttaGCTAGCGGGTATGGAGAAACAGTA	pCAM66
CP99	ccctctagaaataattttgtttaactttaagaaggagatataccatgccatttcctctggtaaagcaag	pCAM33, 35, 36
CP100	cttgctttaccagaggaaatggcatggtatatctccttcttaaagttaaacaaaattatttctagaggg	pCAM33, 35, 36
CP101	ggcatggacgagctgtacaagtagatgagtgagaattccatatgctgcaga	pCAM33
CP102	tctgcagcatatggaattctcactcatctacttgtacagctcgtccatgcc	pCAM33
CP107	cCACCACCACCACCACCATtaaatgagtgagaattccatatgctgcagag	pCAM35
CP108	ctctgcagcatatggaattctcactcatttaATGGTGGTGGTGGTGGTGg	pCAM35
CP109	ccctctagaaataattttgtttaactttaagaaggagatataccATGCGTGGTTCTCACCACCAC	pCAM36
CP110	GTGGTGGTGAGAACCACGCATggtatatctccttcttaaagttaaacaaaattatttctagaggg	pCAM36
CP161	gtccaccgtaaggatgttccgtaactttaagaaggagatataccgtgagcaagg	pCAM53
CP162	ccttgctcacggtatatctccttcttaaagttacggaacatccttacggtggac	pCAM53
CP239	tccctttcctggccCACCACCACCACCACCATGAAAACTTTAAACATCTCCCTGAACCGT	pCAM110, 111, 112
CP240	CAGGGAGATGTTTAAAGTTTTCATGGTGGTGGTGGTGGTGggccaggaaagggatgttgg	pCAM110, 111, 112
CP241	CACTTCACCGCAAAACTTAAAGAAGTTtaaTCTtccctatcagtgatagagattgacatc	pCAM110, 111, 112
CP242	gatgtcaatctctatcactgatagggaAGAttaAACTTCTTTAAGTTTTGCGGTGAAGTG	pCAM110, 111, 112
CP243	cCACCACCACCACCACCATatggccactaggattgctatcttagg	pCAM105, 106
CP244	cctaagatagcaatcctagtggccatATGGTGGTGGTGGTGGTGg	pCAM105, 106
CP245	ccaaggaggctggatcctgaatgagtgagaattccatatgctgcag	pCAM105, 106
CP246	ctgcagcatatggaattctcactcattcaggatccagcctccttgg	pCAM105, 106
CP280	CGTGGTGCGCGTTCGGGT	pCAM106, 108, 112
CP281	TTGTTCCTGACGGGTCACGAAC	pCAM106, 108, 112
CP282	GATGATGATAAAATGGCCACTAGGATTGCTATC	pCAM105
CP283	ATCTTTATAATCGGCCAGAAAAGGGATGTTG	pCAM105
CP286	GGATCTCCAGGCATCAAATAAAAC	pCAM110, 111, 112
CP288	AGATTAAACTTCTTTAAGTTTTGCG	pCAM110, 111, 112

Supplementary Table 3. Absolute indigo concentrations measured in Fig. 5. Units are mg indigo per 10^9 cells.

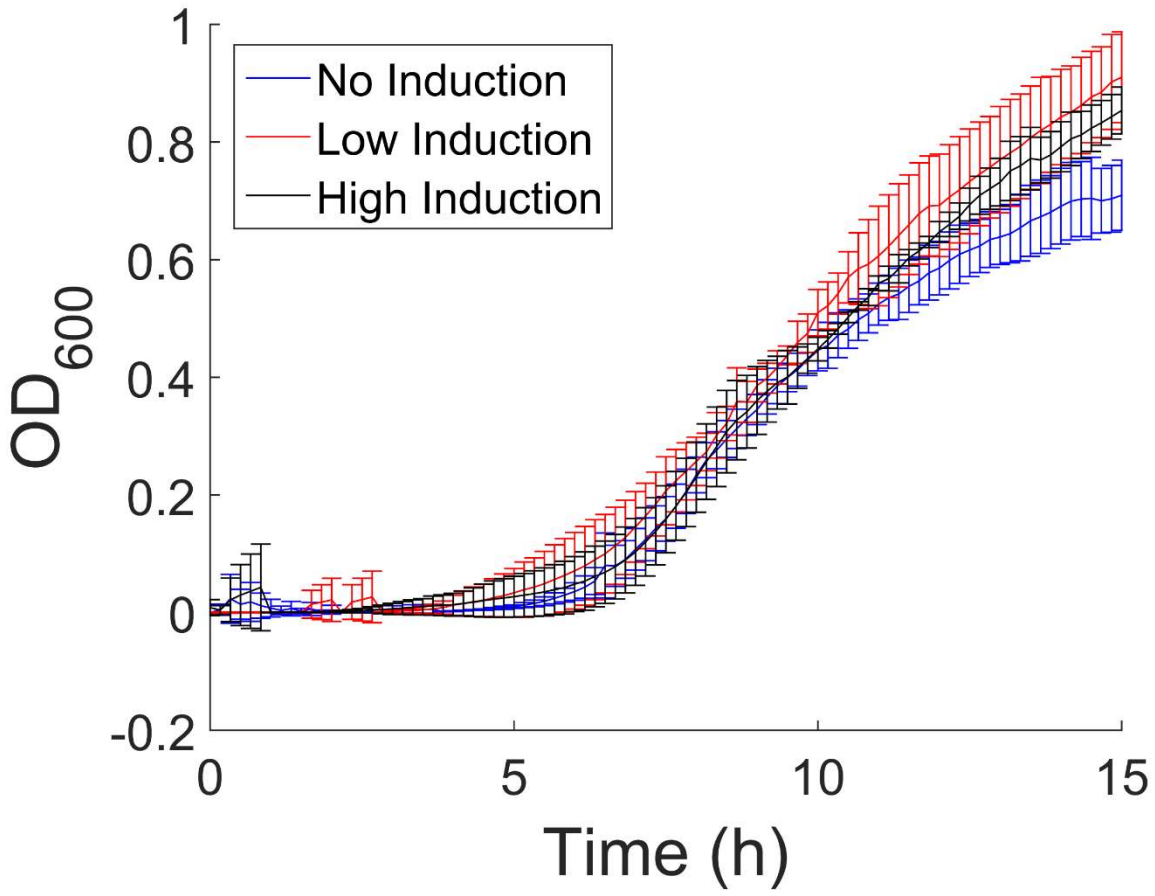
	P12 P9-TnaA P9-FMO	**P9-TnaA P9-FMO only**
Experiment 1	1.430801007	0.845100907
Experiment 2	0.725027449	0.268031054
Experiment 3	1.510661742	0.811617822
Experiment 4	0.831111025	0.178511727



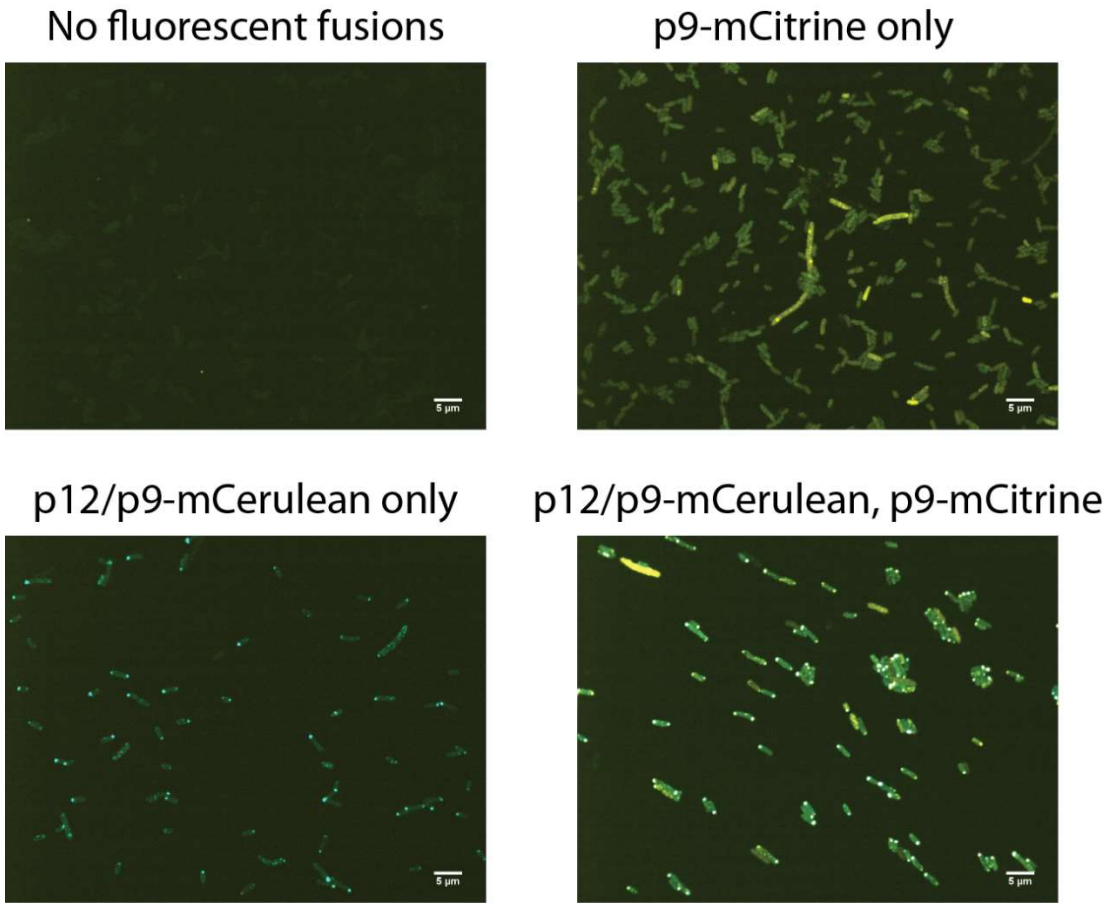
Supplementary Figure 1. Microscopy images relevant to Figure 1. Large-view images of confocal microscopy (A), and particle tracking (B) are shown. The image on the right in (A) is pseudocolored from low (blue) to high (red), as indicated by the color bar.



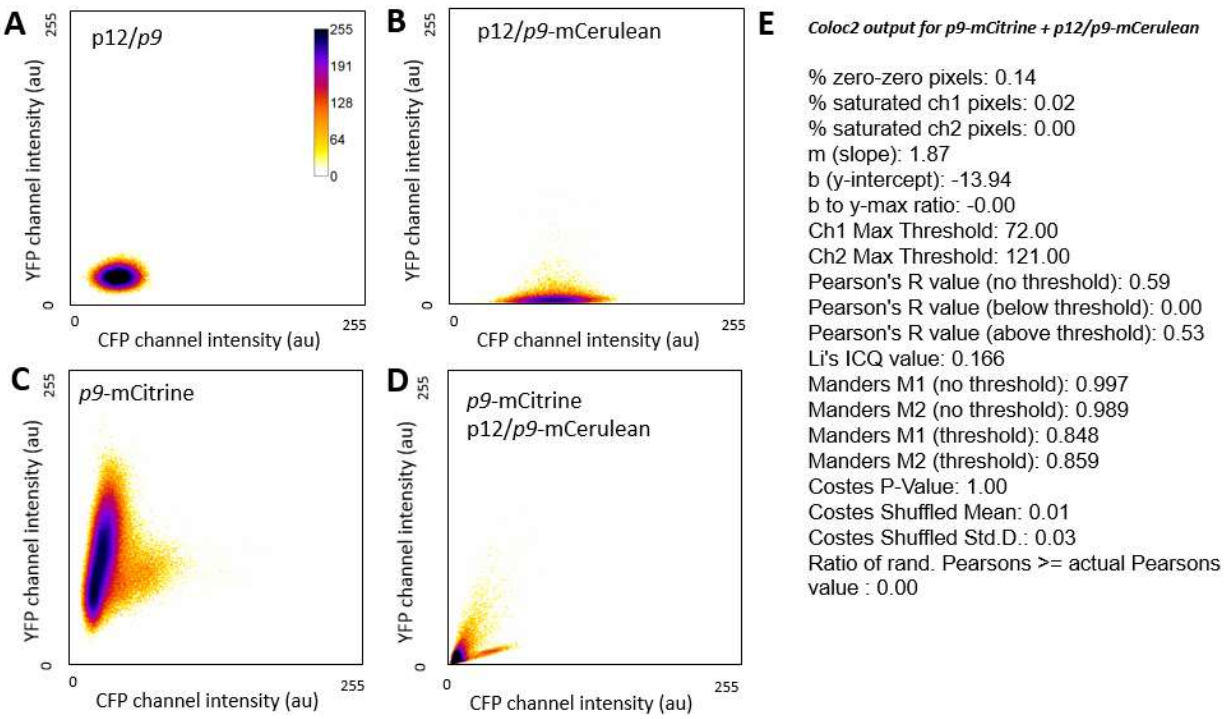
Supplementary Figure 2. Electron microscopy images relevant to Figure 3. Negative-stained TEM images from the red fractions in Figure 2B (A) and Figure 2D (B) are shown. High pressure freeze-substituted, Epon-embedded cells stained with uranyl formate and lead citrate. There is no detectable ultrastructural difference between cells not expressing SLSs (no plasmid, C and D) and cells expressing SLSs (pCAM12, E and F). Scale bars are indicated in each image.



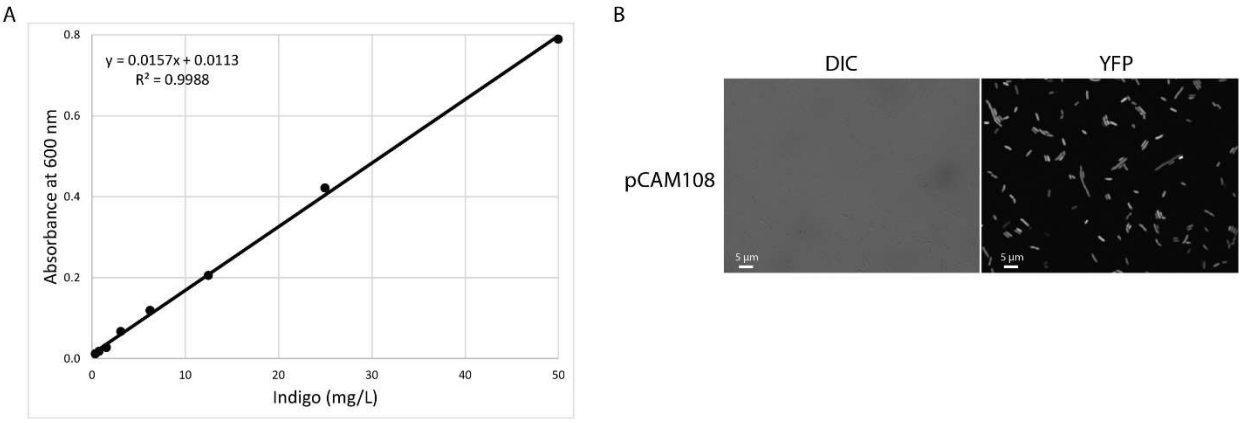
Supplementary Figure 3. SLS production does not impede growth. We compare the growth of DP10/pCAM15 cells experiencing no induction (blue), low induction (100 µM arabinose, red), and high induction (1000 µM arabinose, black) by monitoring the OD_{600} over time. Error bars indicate one standard deviation based on 3 biological replicates.



Supplementary Figure 4. Large-scale view of co-localization of mCerulean and mCitrine to SLSs. We show large images for each of the conditions shown in Fig. 4A-D. Each image is a merge of the CFP channel (blue) and the YFP channel (yellow).



Supplementary Figure 5. Co-localization analysis of mCerulean and mCitrine to SLSs. (A-D) 2D histograms of intensities in both CFP and YFP channels for each of the four strains depicted in Supplemental Figure 4. (E) Full list of outputs provided by the Coloc2 FIJI plugin for the condition in (D).



Supplementary Figure 6. A sample standard curve for indigo quantification is shown (A). We used a linear fit (line) to the data (dots) to determine indigo concentrations. The equation of the fit and the R^2 value of the fit are shown. Fluorescence microscopy images of a strain expressing P12/P9*-mCitrine (pCAM108) is shown (B).