Supplementary Information

Facile Formation of Polymer Supported Lipid Bilayers Using Deacetylated Chitin

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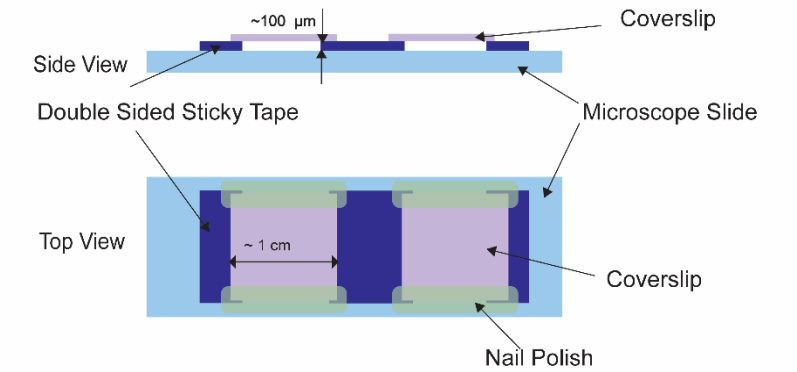
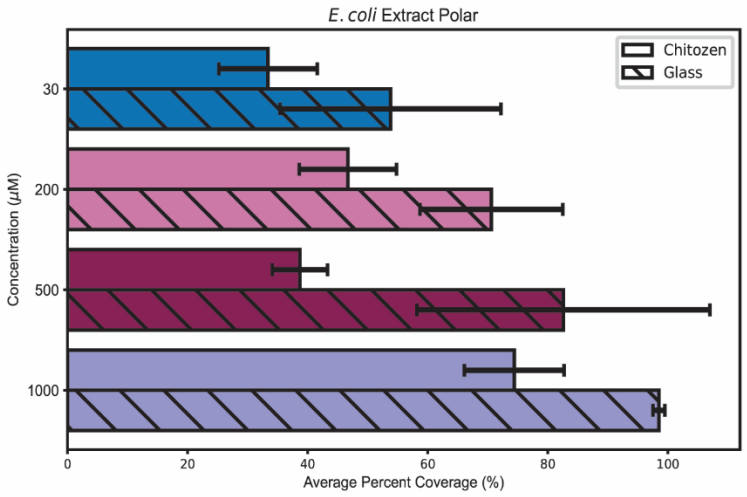


Figure S1. Overview of flow cell geometry. Microfluidic flow cell, side and top views. Cells were constructed for each experiment using the procedure described in the Experimental Section.

a



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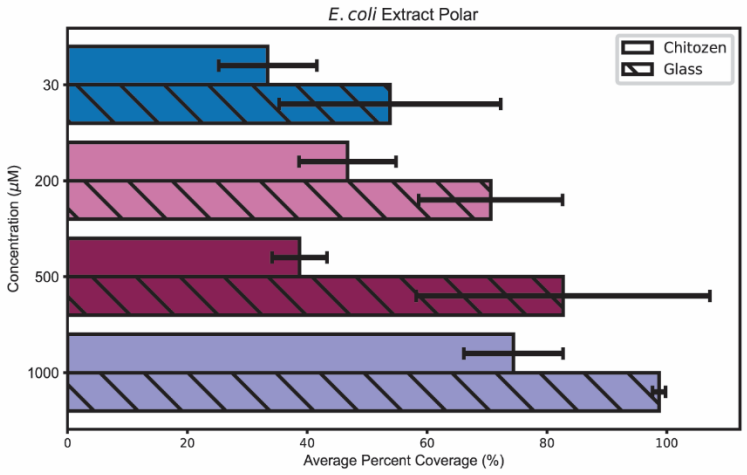

c

Raw vs CLAHE Enhanced Data on Chitozen

Concentration	Raw Data - Chitozen	CLAHE Enhanced Data - Chitozen
30 µM	33.4 ± 8.2%	33.4 ± 8.2%
200 µM	46.7 ± 8.1%	46.7 ± 8.1%
500 µM	38.7 ± 4.6%	38.7 ± 4.6%
1000 µM	74.4 ± 8.3%	74.7 ± 8.3%

d

Raw vs CLAHE Enhanced Data on Glass

Concentration	Raw Data - Glass	CLAHE Enhanced Data - Glass
30 µM	53.8 ± 18.4%	53.8 ± 18.5%
200 µM	70.6 ± 11.9%	70.6 ± 12.0%
500 µM	82.6 ± 24.4%	82.7 ± 24.5%
1000 µM	98.5 ± 1.0%	98.7 ± 1.1%

Figure S2. Comparison of raw image data with CLAHE enhanced data. (**a**) Average percent coverage of *E. coli* Extract Polar lipid on Chitozen and Glass as calculated from non-enhanced (raw) data. (**b**) Analogous analysis for CLAHE-enhanced data. (**c & d**) Tables comparing average percent coverage of raw and CLAHE-enhanced data for *E. coli* polar lipid on Chitozen and on glass, respectively.

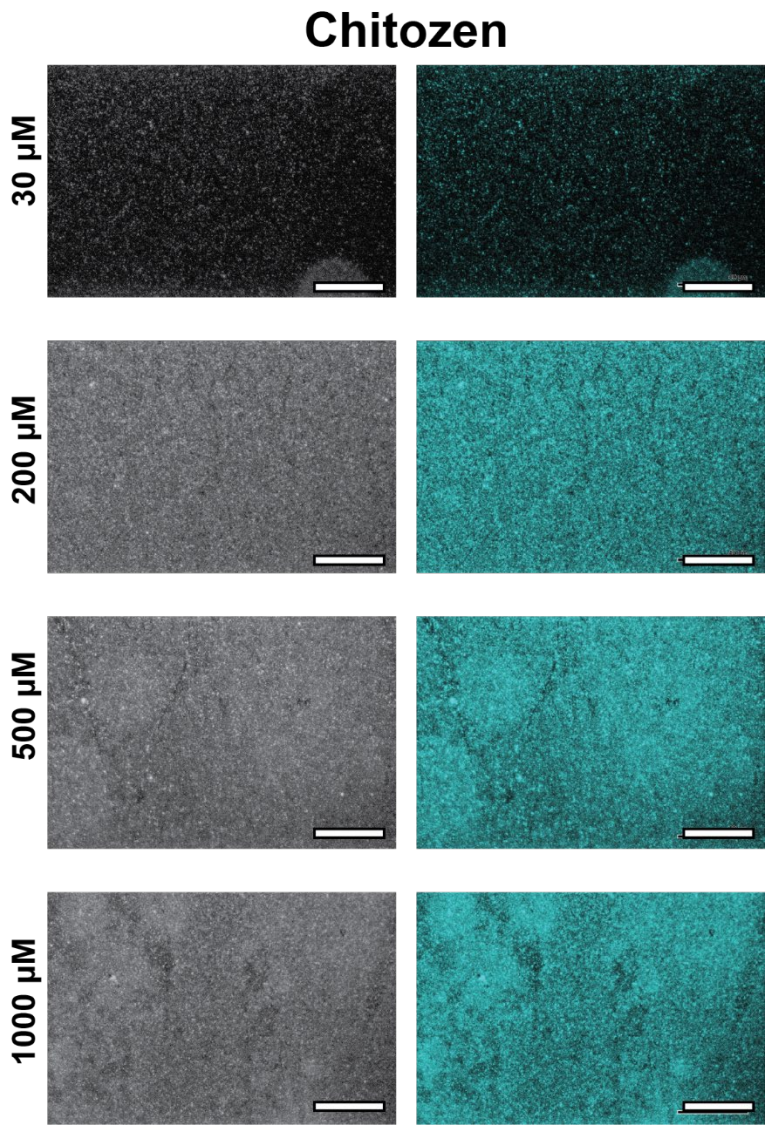

Figure S3. POPC spreads on Chitozen over a range of lipid concentrations. POPC coverage on Chitozen over a range of concentrations. Lefthand column is the raw greyscale data. Righthand column is the same data with a cyan overlay. All scalebars represent 40 µm. Percent coverages for each concentration are as follows: 30 µM: 57%, 200 µM: 99.7%, 500 µM: 99.6%, 1000 µM: 99.7%.

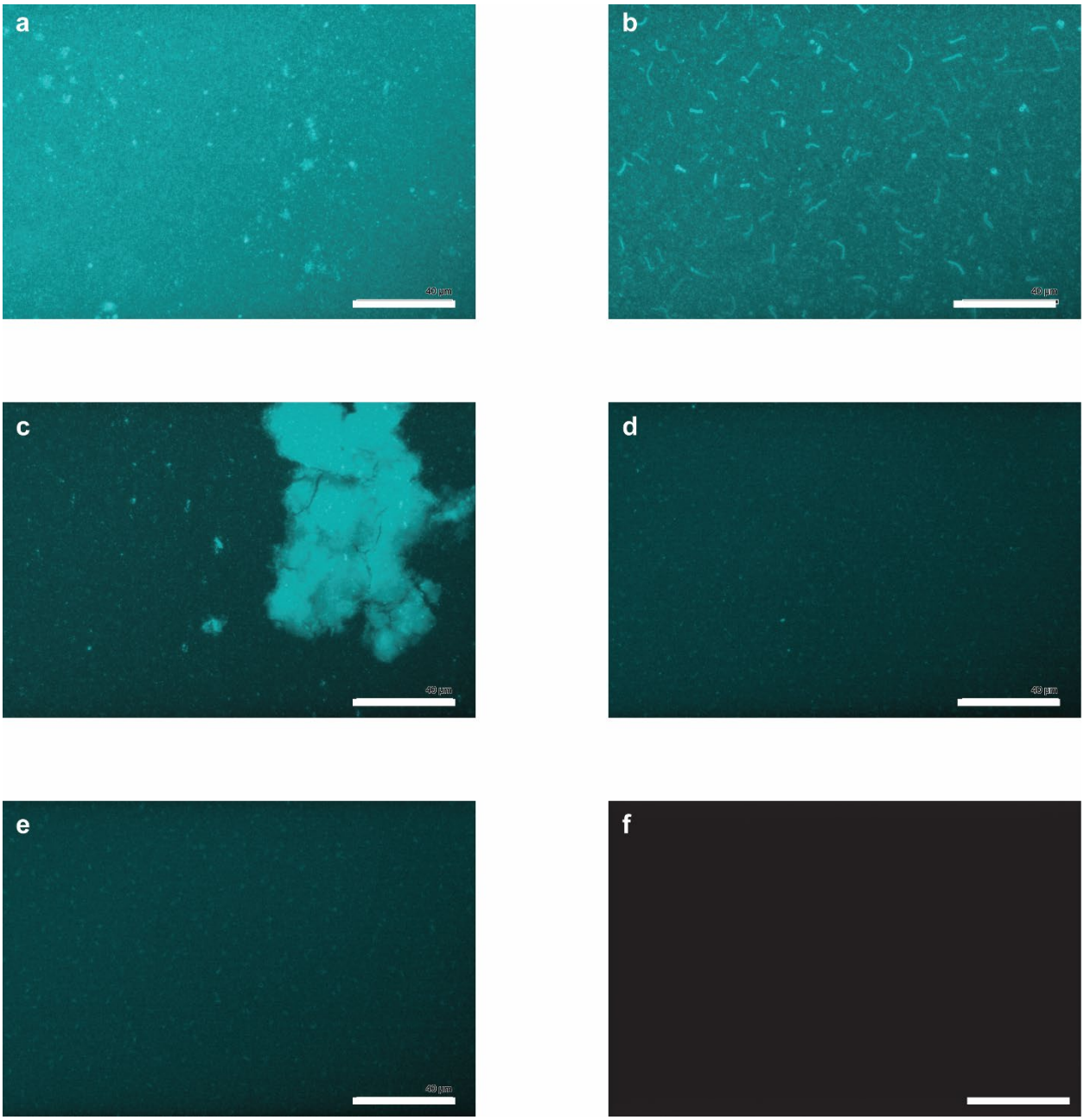

Figure S4. Detergent rinsing study and comparison with standard background image. (**a**) Image of POPC on glass at 1 mM after rinsing 5-6x with imaging buffer. (**b**) The same sample after rinsing 1 time, (**c**) 3 times, (**d**) 7 times, and (**e**) 9 times with 20 mM ocyl-glucoside. (**f**) A standard background image collected in the absence of lipid is shown. Scale bars are 40 µm.

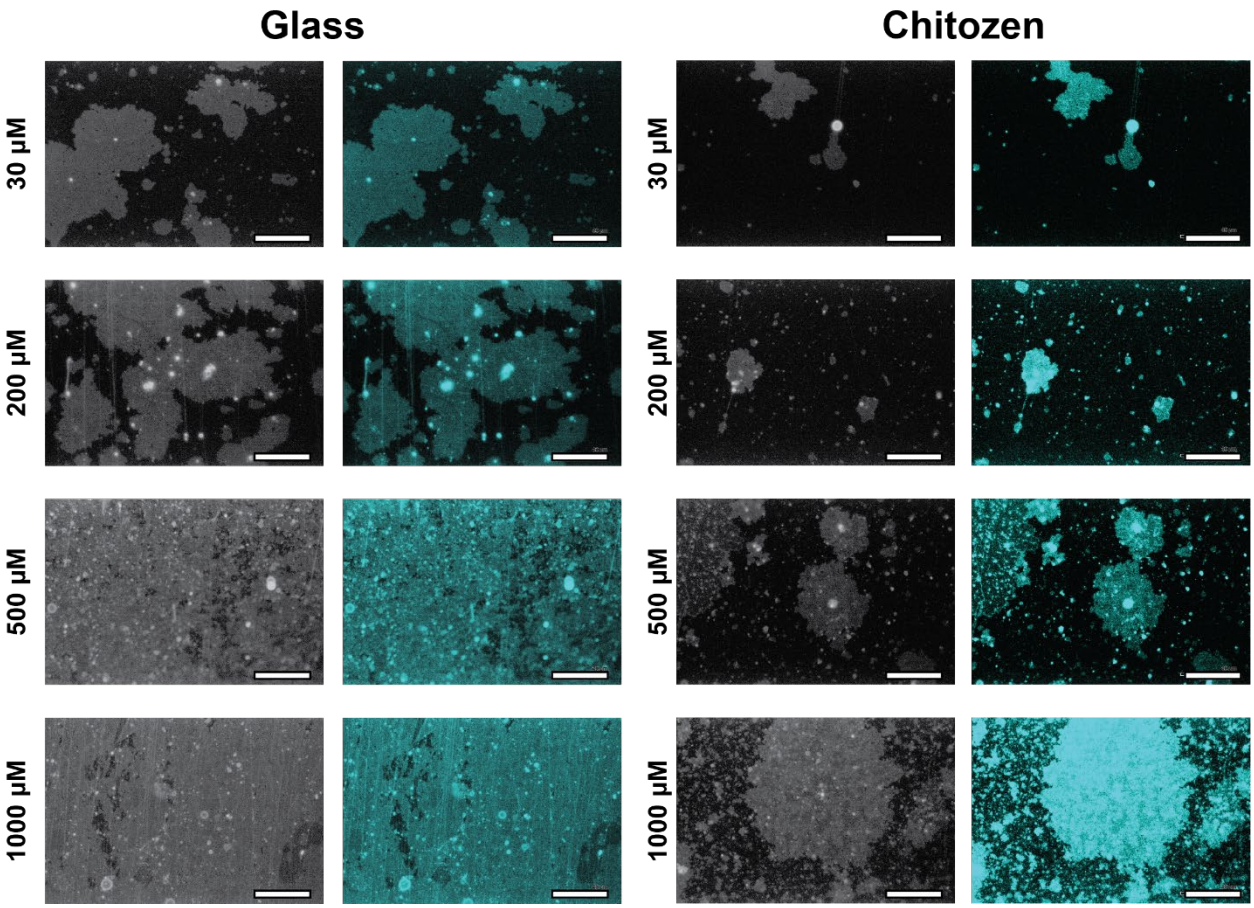

Figure S5. *E. coli* Extract Polar lipid spreads on glass and Chitozen over a range of concentrations. Representative images showing *E. coli* Extract Polar on glass (left) and Chitozen (right). The lefthand column for both substrates is the raw data, the righthand column is the cyan overlay. All scalebars represent 40 µm. Percent coverages on glass for each concentration are as follows: 30 µM: 65%, 200 µM: 72%, 500 µM: 97.6%, 1000 µM: 98.8%. Percent coverages on Chitozen for each concentration are: 30 µM: 28%, 200 µM: 42%, 500 µM: 46%, 1000 µM: 81%.