molecules

MDPI

Article

Lipase-catalyzed synthesis of sucrose monolaurate and its antibacterial property and mode of action against four pathogenic bacteria

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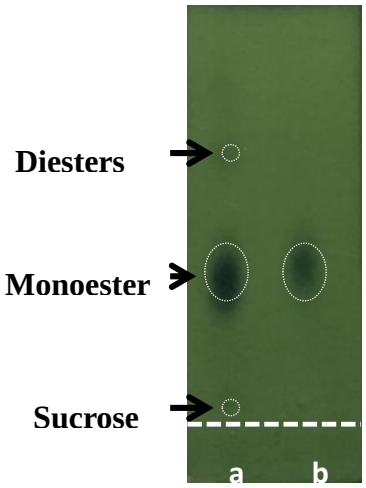
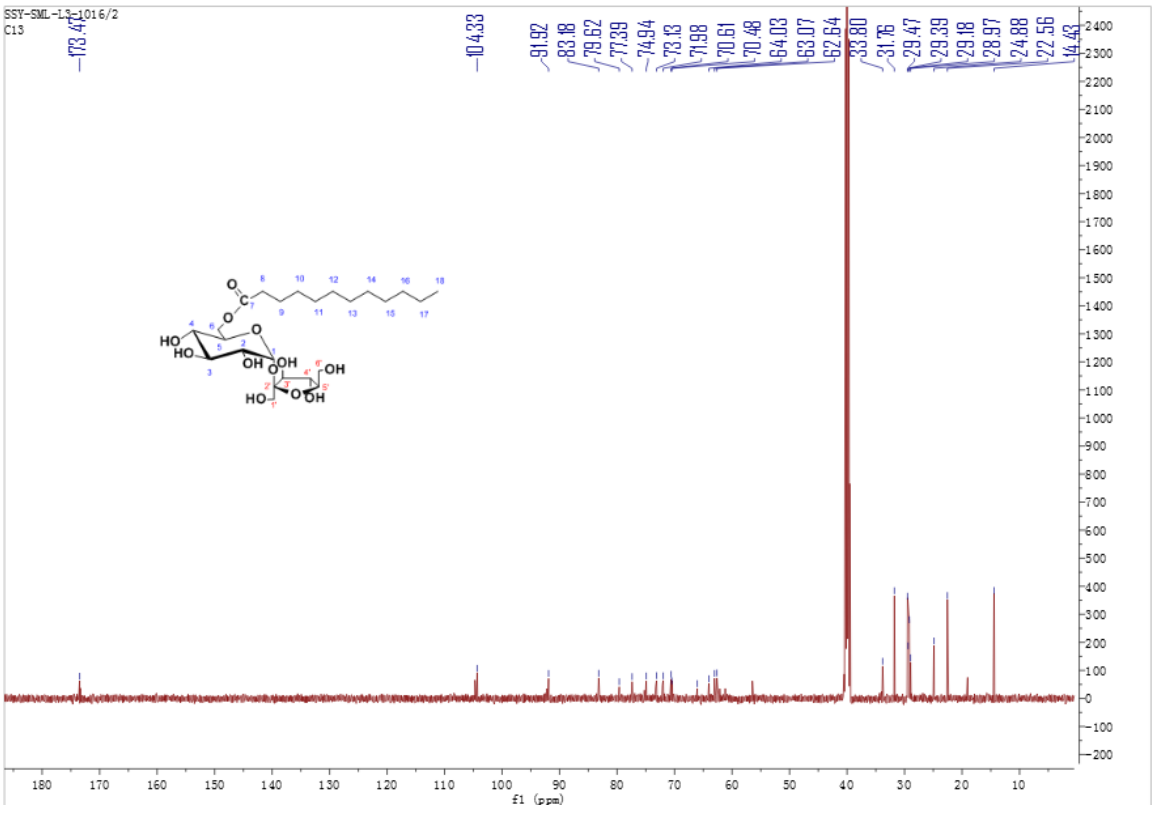
Supporting Information



(**a**)



(**b**)

Figure S1: (a) Enzymatic catalyzed sucrose ester synthesis in novel functionalized ionic liquid. TLC analysis of reactions: (line a) Before purification. (line b) After purification ; (b) The 13C NMR spectrum of the enzymatically synthesized SML.

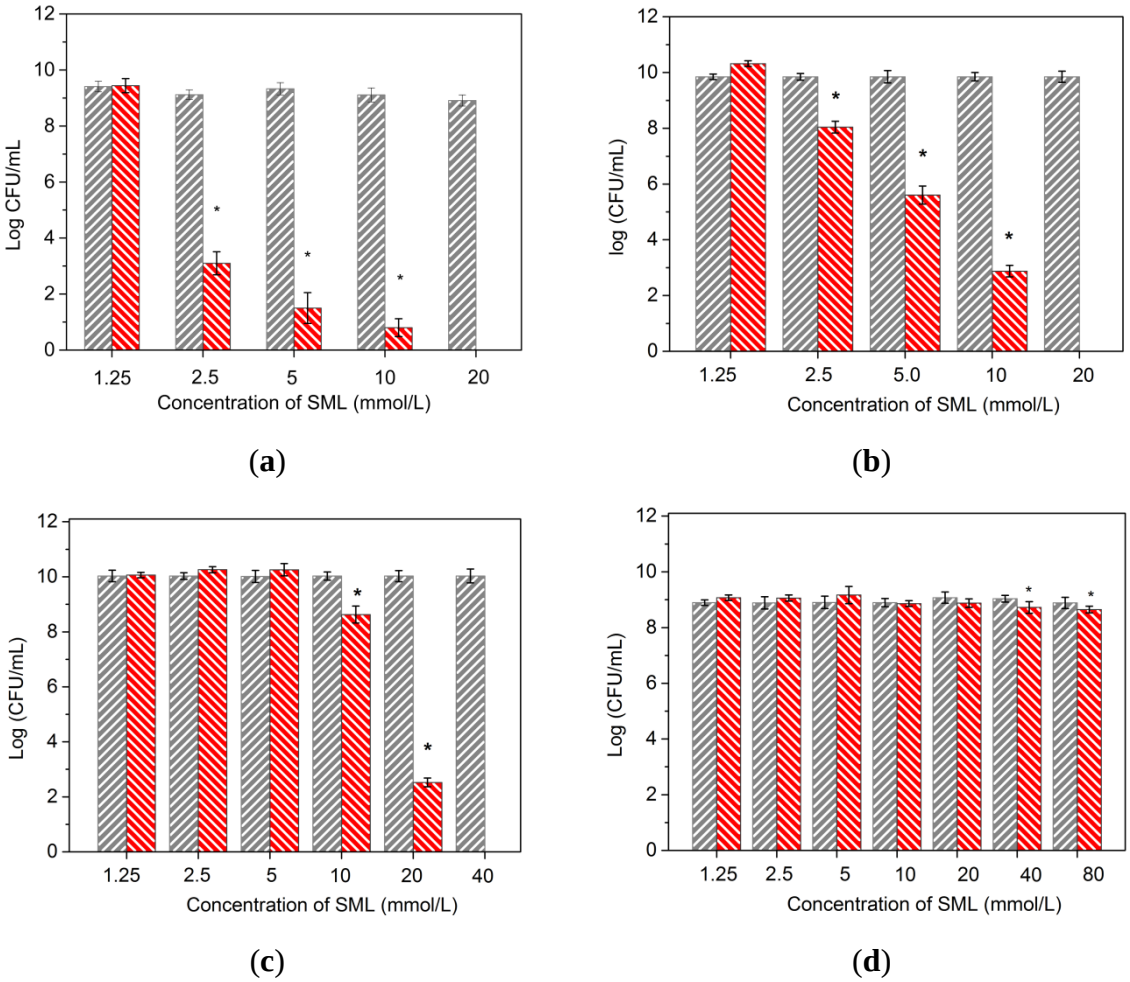


Figure S2: Average counts (log CFU mL^{-1}) of various microorganisms treated with 1.25, 2.5, 5.0, 10, 20, 40 and 80 SML. (a) *L. monocytogenes*; (b) *B. subtilis*; (c) *S. aureus*; (d) *E. coli*. The error bars represent the standard deviations, and the asterisks indicate significant difference between each other.

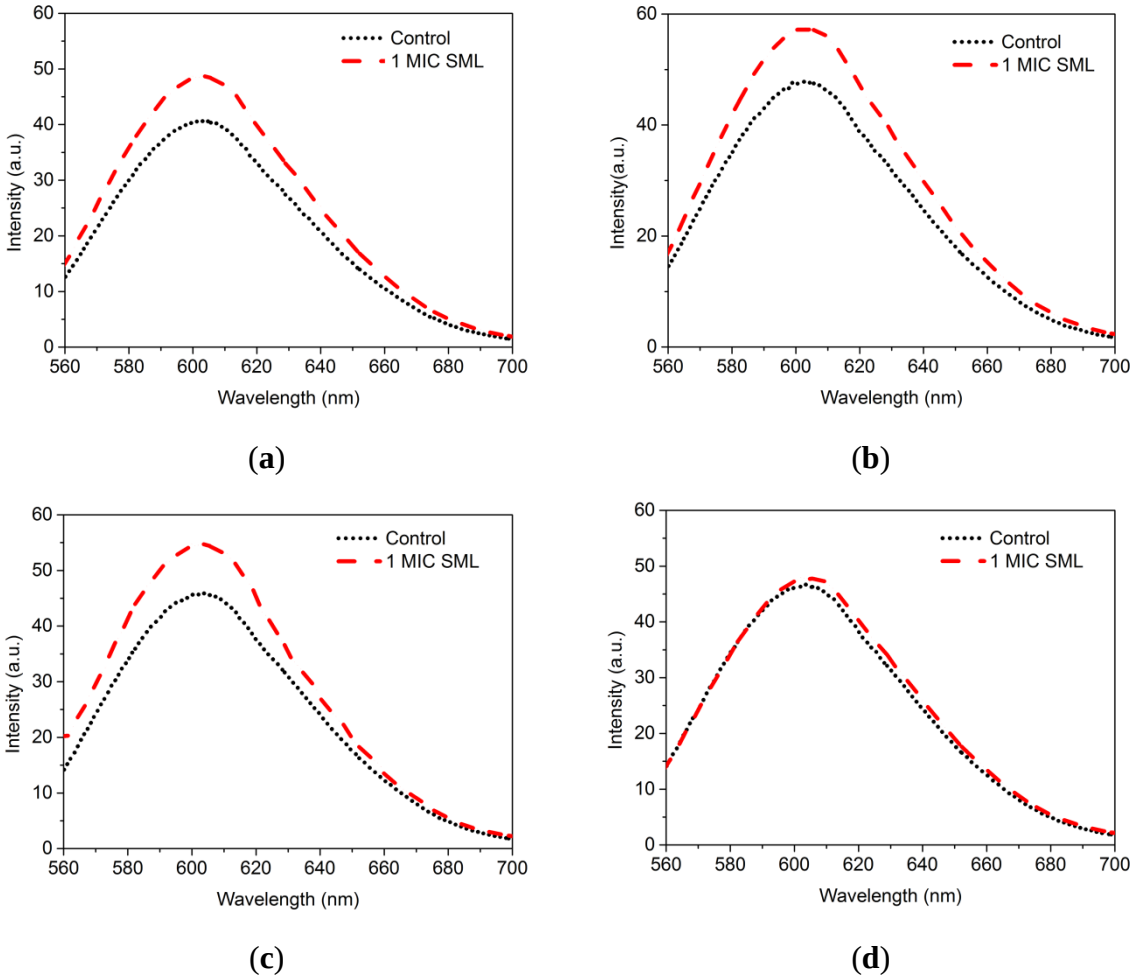


Figure S3: The fluorescence spectra of PI in cells treated with 1× MIC SML for 6 h. (a) *L. monocytogenes*; (b) *B. subtilis*; (c) *S. aureus*; (d) *E. coli*.

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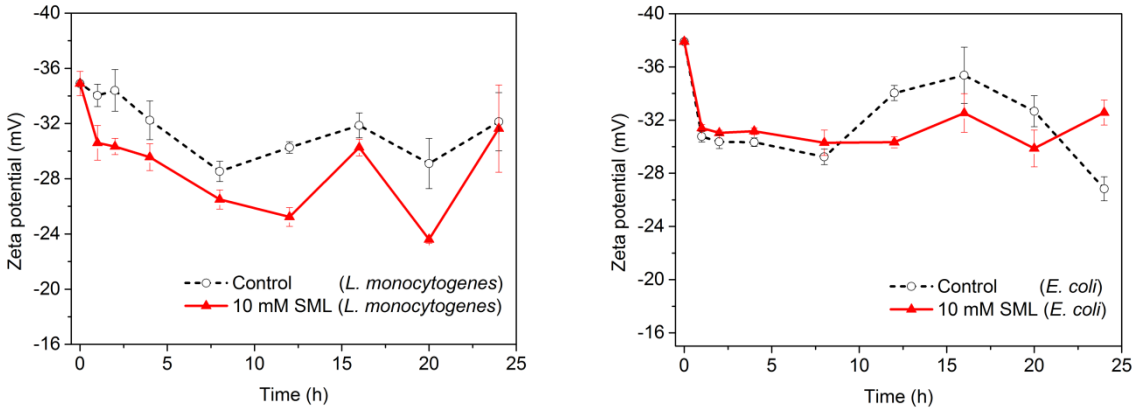

(a) **(b)**

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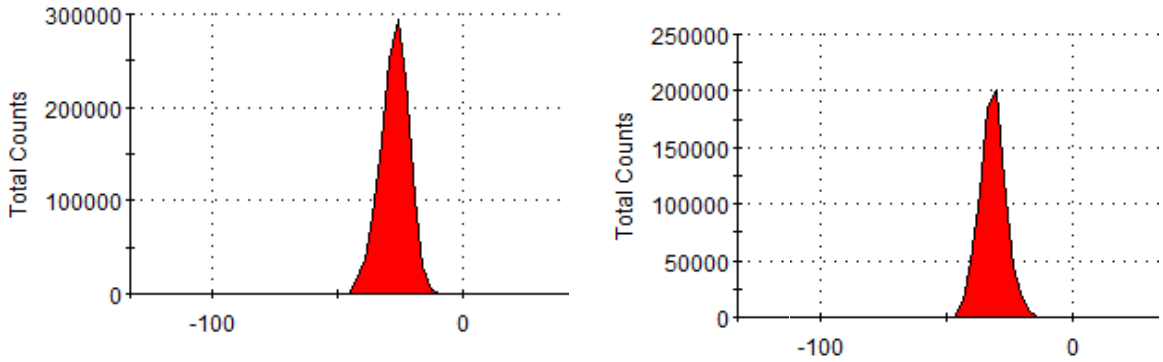

(c) **(d)**

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41 **Figure S4:** The effect to SML on zeta potential of *L. monocytogenes* (a) and *E. coli* (b).The effect of SML on zeta

42 potential distribution of *E. coli*; (c) *E. coli*, without exposure to SML for 24 h. (d) *E. coli*, with exposure to SML for

43 24 h.

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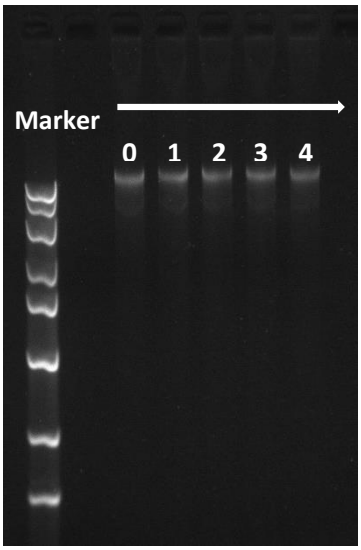

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47 **Figure S5:** Electrophoresis map of DNA extracted from *L. monocytogents* treated with different concentrations of

48 SML. Lane 0: control; Lane 1: negative control; and Lines 2-4: 5 mM, 10 mM and 20 mM of SML.