

Rapid and direct MALDI-MS identification of pathogenic bacteria from blood via ionic liquid-modified magnetic nanoparticles ($\text{Fe}_3\text{O}_4@ \text{SiO}_2$)

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Fig.S1

Abundance

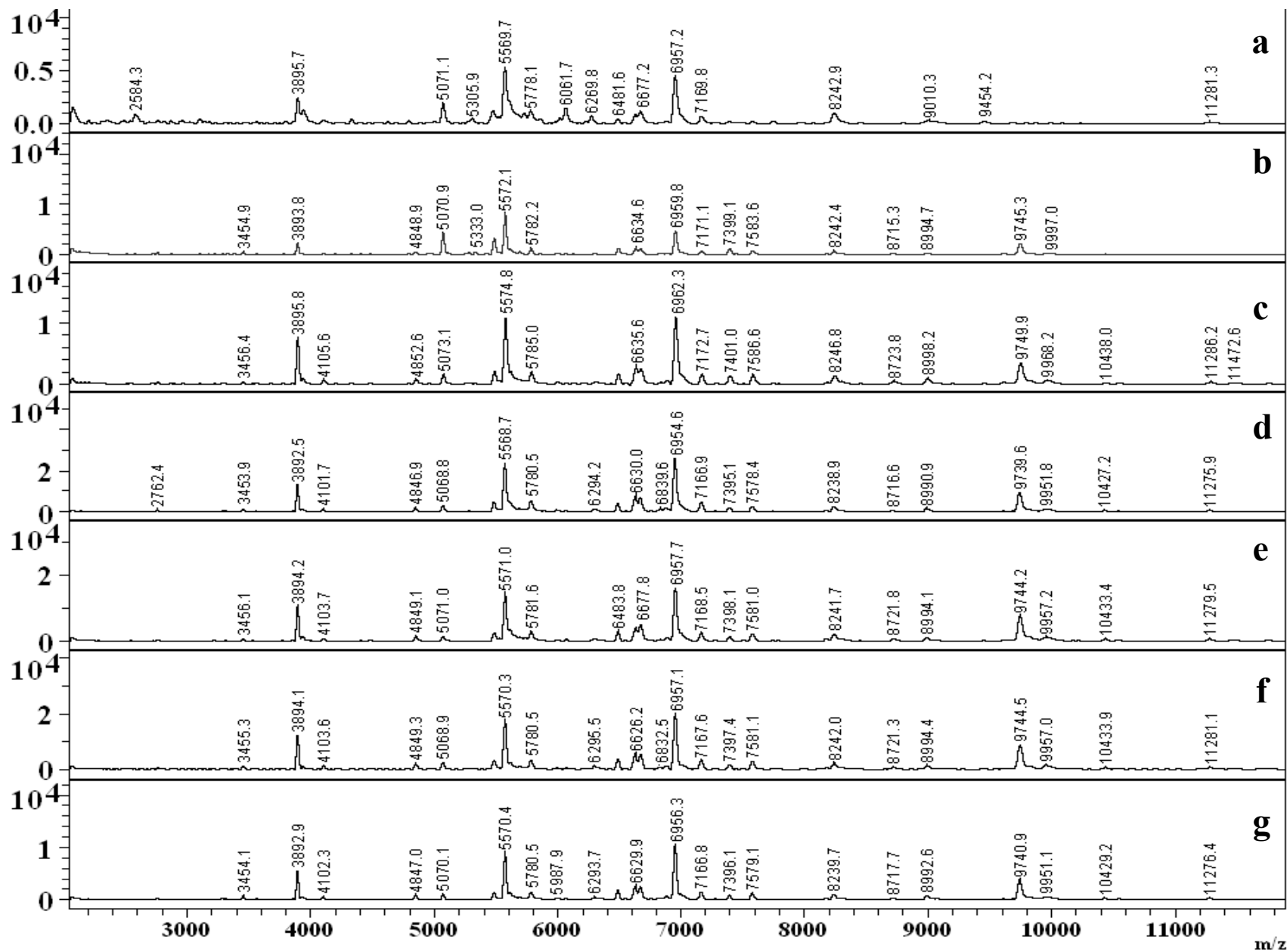


Fig. S1. Volume effects of CILMS on capture of *S. aureus* with (a) bacteria control, (b) 2.0, (c) 5.0, (d) 10, (e) 15, (f) 20, and (g) 25 μ L CILMS.

Fig.S2

Abundance

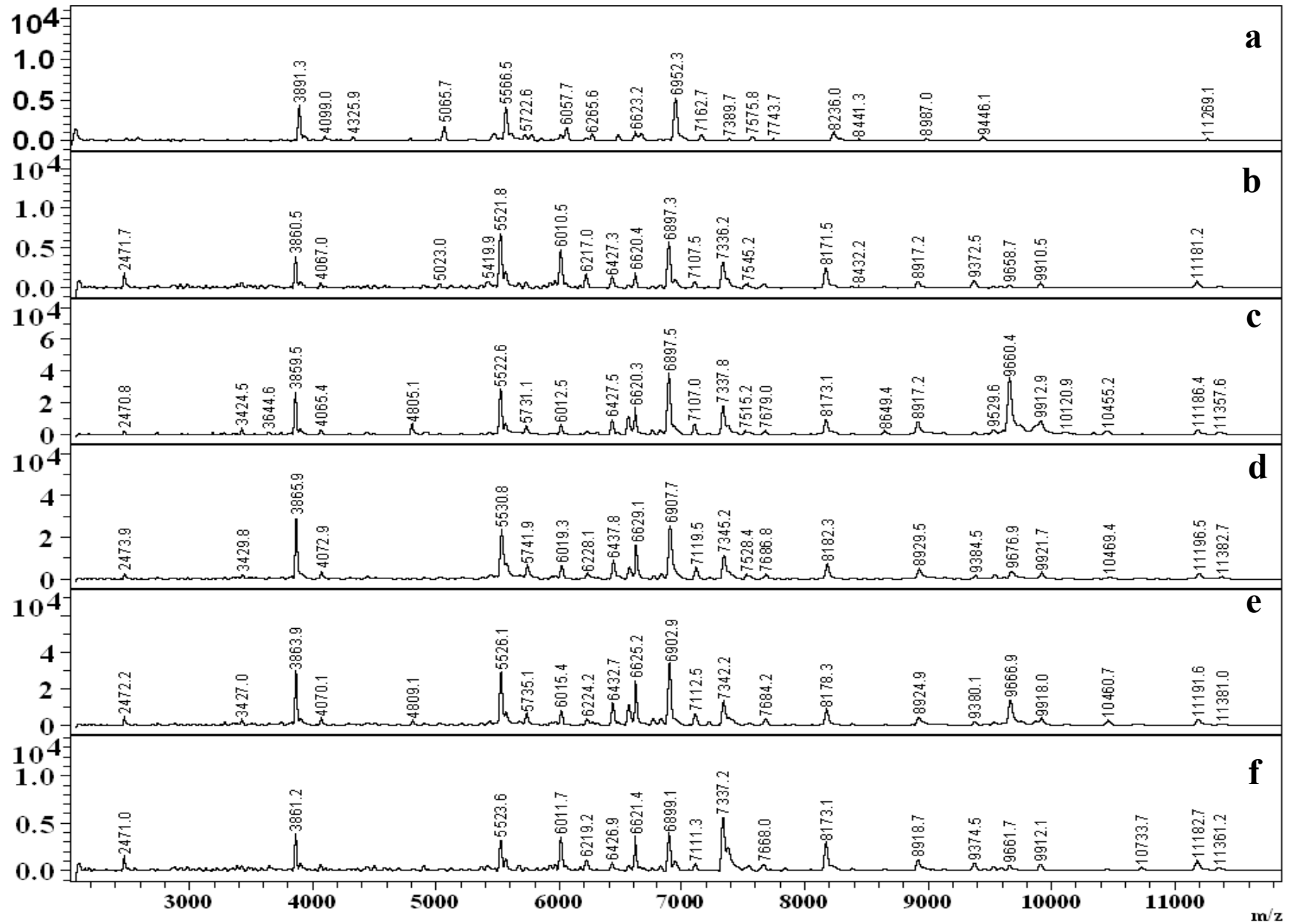


Fig. S2. Incubation time effect on the capture of *S. aureus* (2.9 × 10¹¹ cfu mL⁻¹) with 10 μL CILMS and (a) bacteria control, (b) 2, (c) 5, (d) 10, (e) 15, and (f) 20 min.

Fig.S3

Abundance

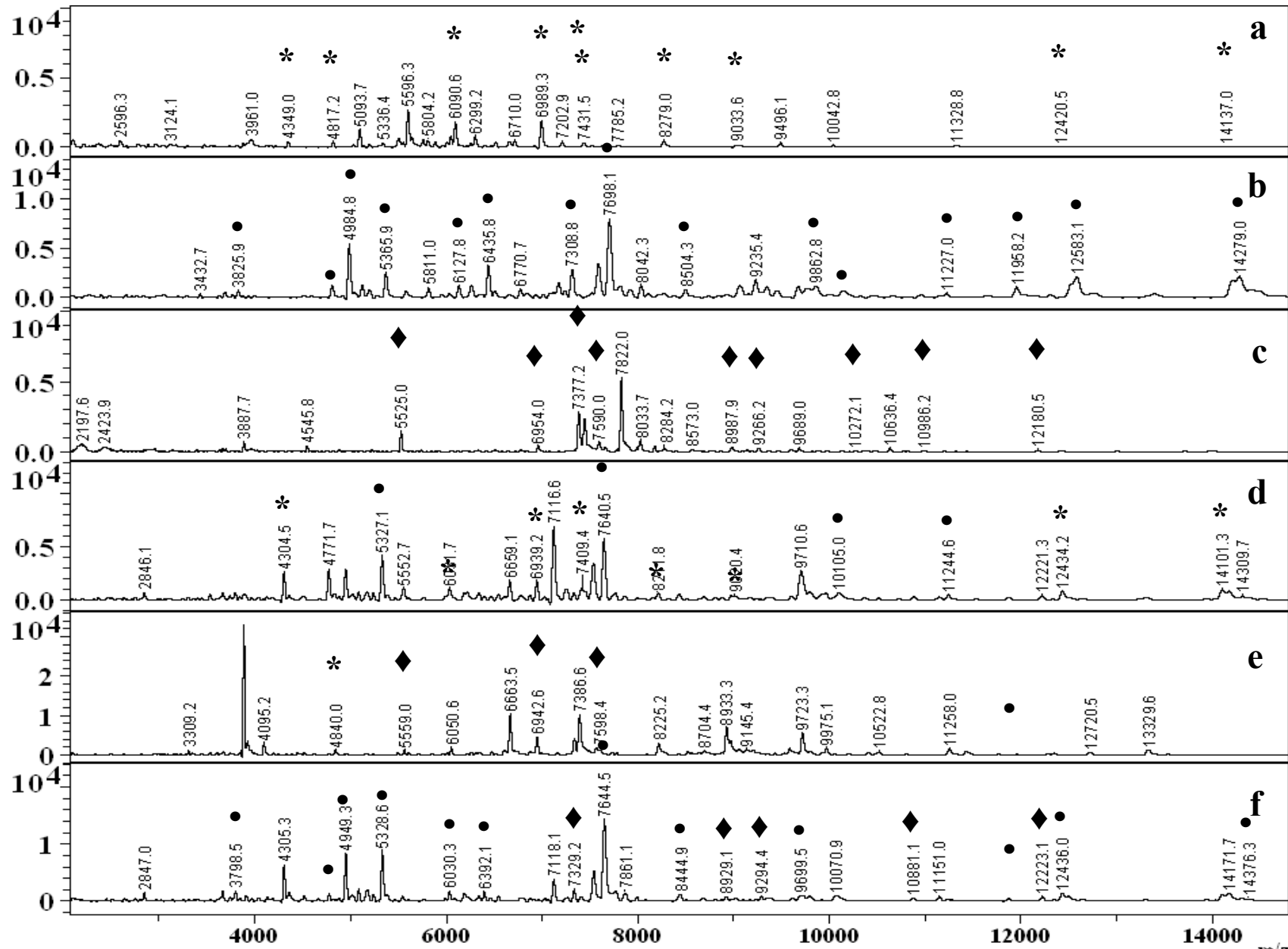


Fig. S3. The evaluation of bacterial selectivity of CILMS with (a) *S. aureus* control (1.7×10^{13} cfu mL⁻¹), (b) *P. aeruginosa* control (3.6×10^{13} cfu mL⁻¹), (c) *E. coli* control (4.1×10^{13} cfu mL⁻¹), (d) *P. aeruginosa* and *S. aureus*, (e) *E. coli* and *S. aureus*, and (f) *E. coli* and *P. aeruginosa*.

Fig.S4

Abundance

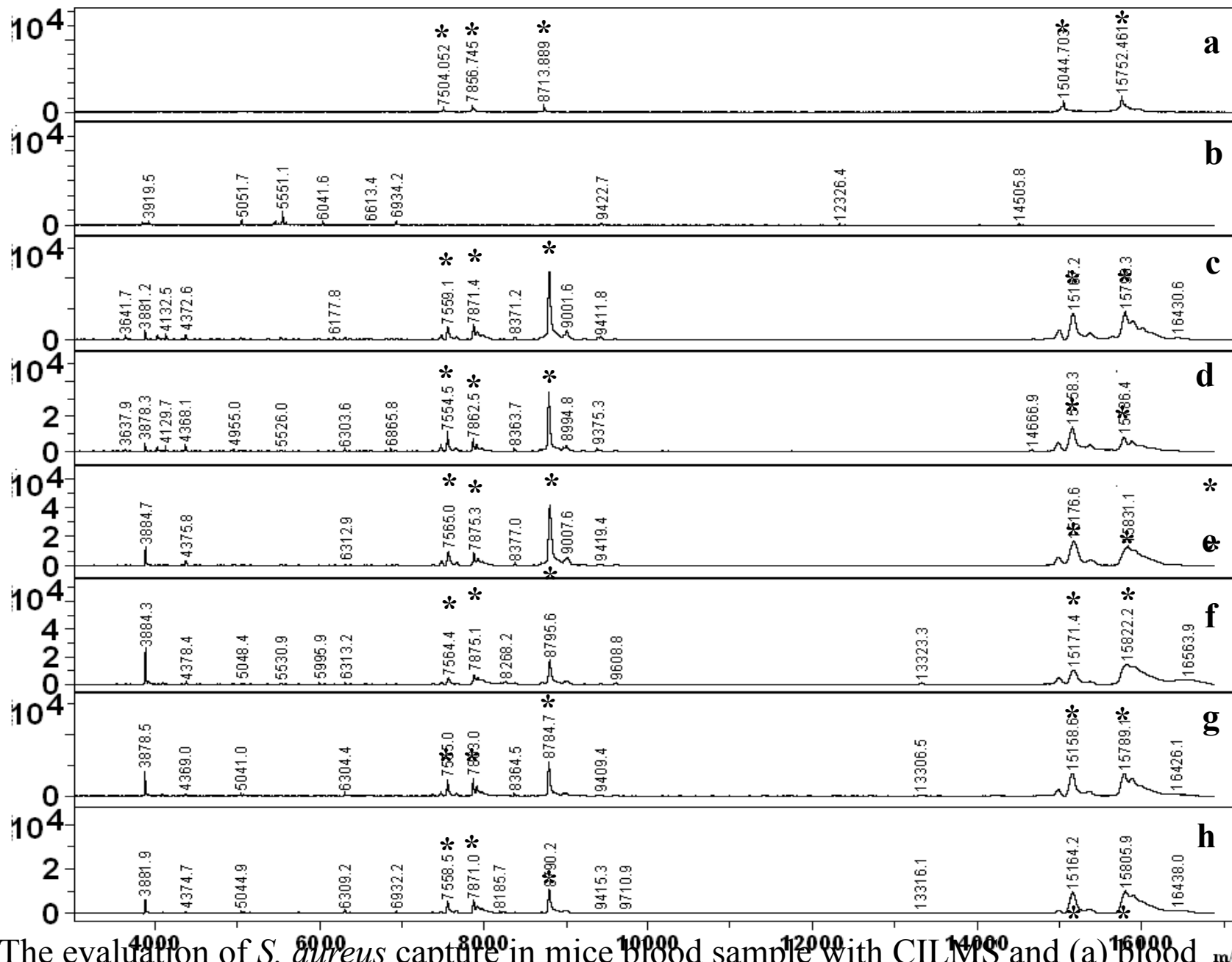


Fig. S4. The evaluation of *S. aureus* capture in mice blood sample with CILMS and (a) blood control, (b) bacteria control, (c) 0.5, (d) 1.0, (e) 3.0, (f) 10, (g) 20, and (h) 30 μL *S. aureus* (7.8×10^{13} cfu mL^{-1}).

Fig.S5

Abundance

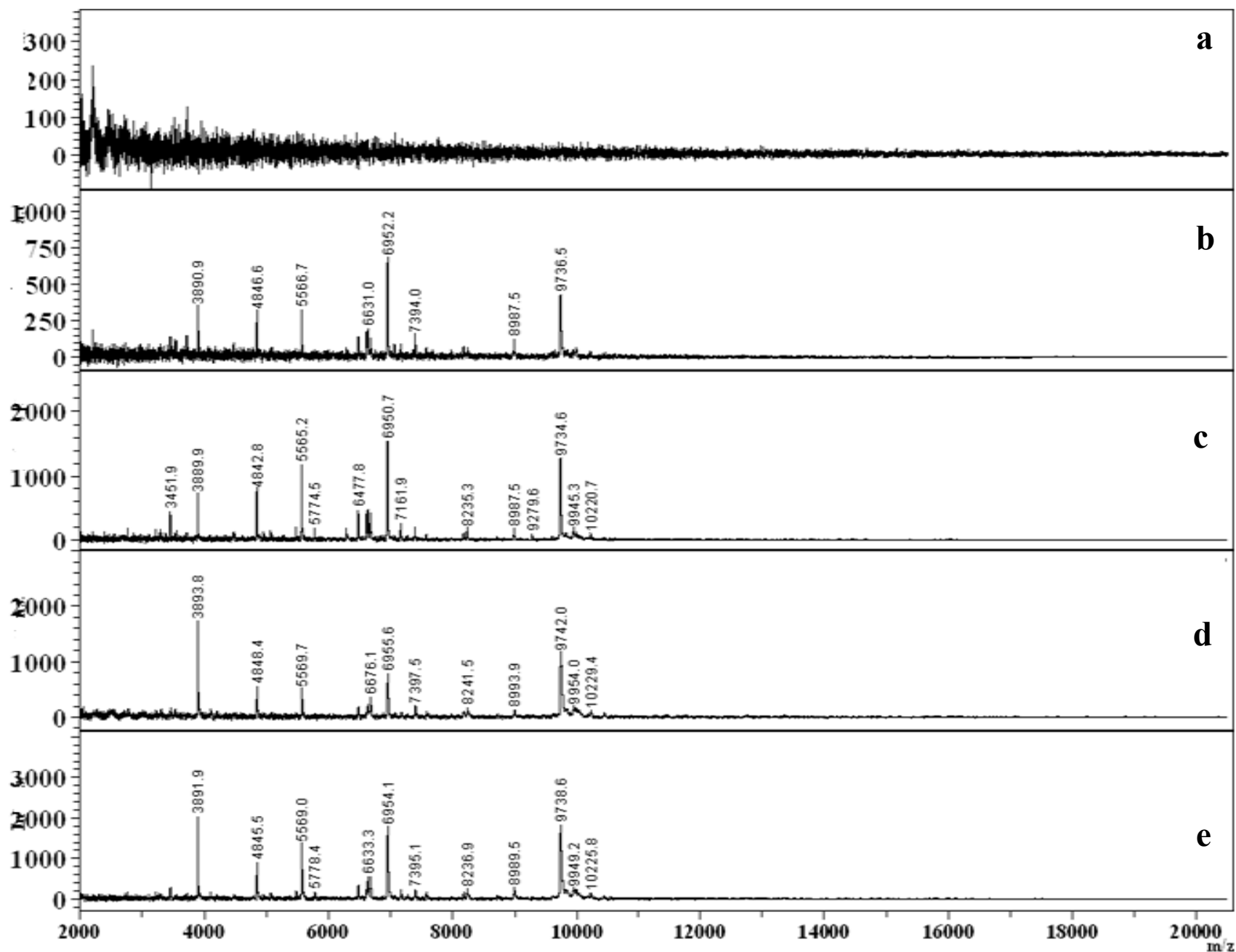


Fig. S5. LOD determination of *S. aureus* from (a) 3.1×10^2 , (b) 4.2×10^3 , (c) 5.8×10^4 , (d) 7.2×10^5 , and (e) 8.9×10^6 cfu mL⁻¹ *S. aureus* with CILMS.

Fig.S6

Abundance

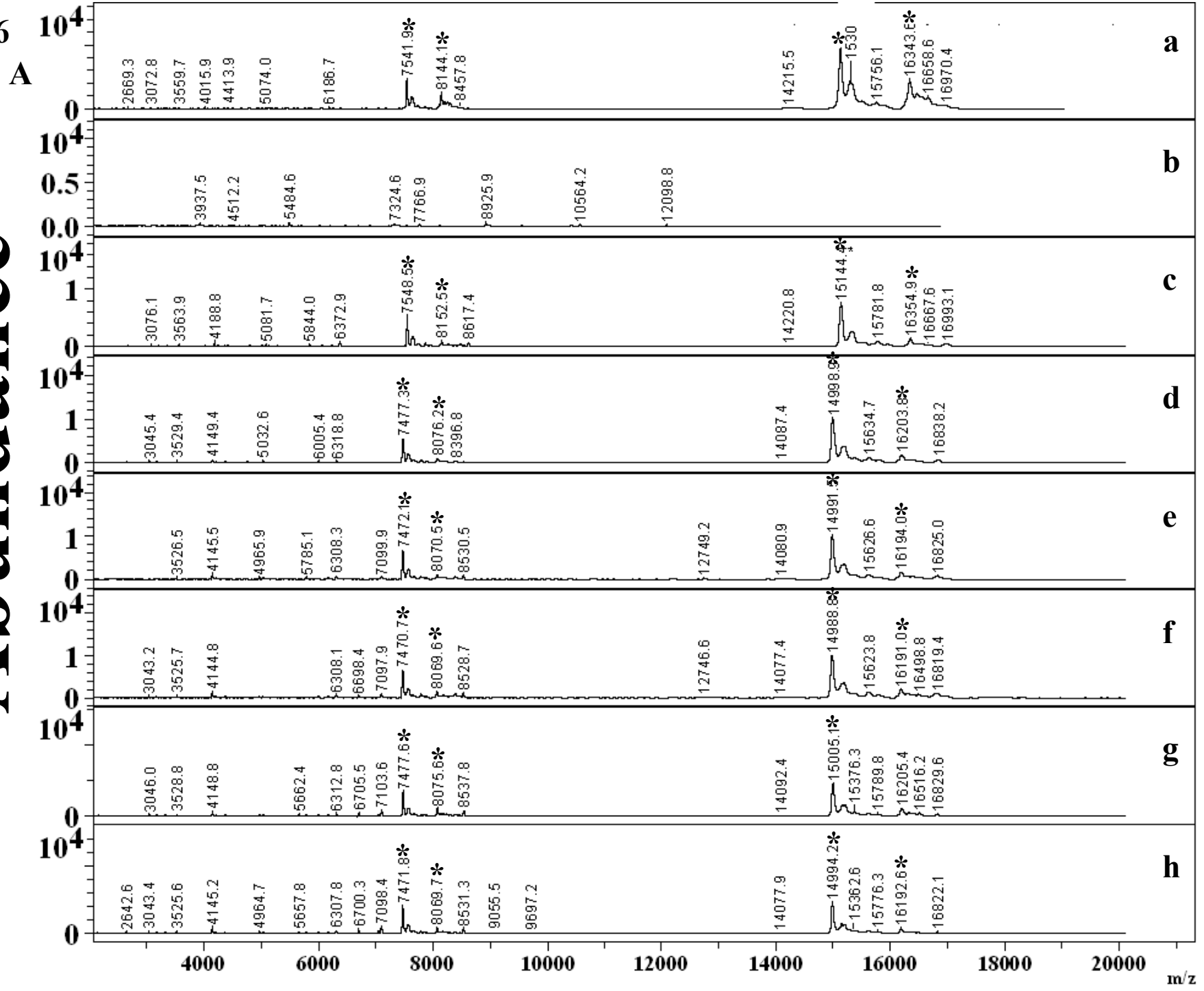


Fig.S6

Abundance

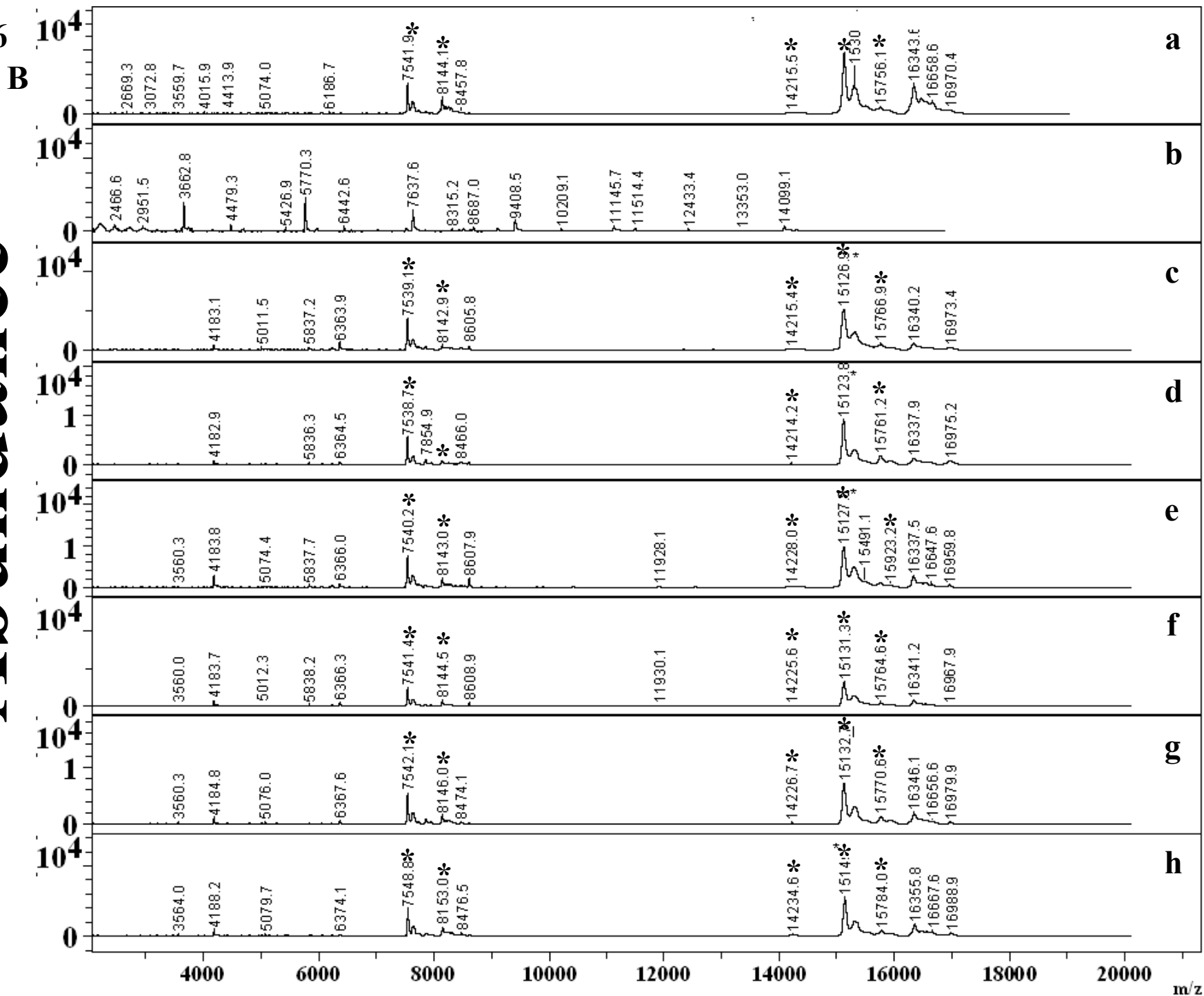


Fig.S6

Abundance

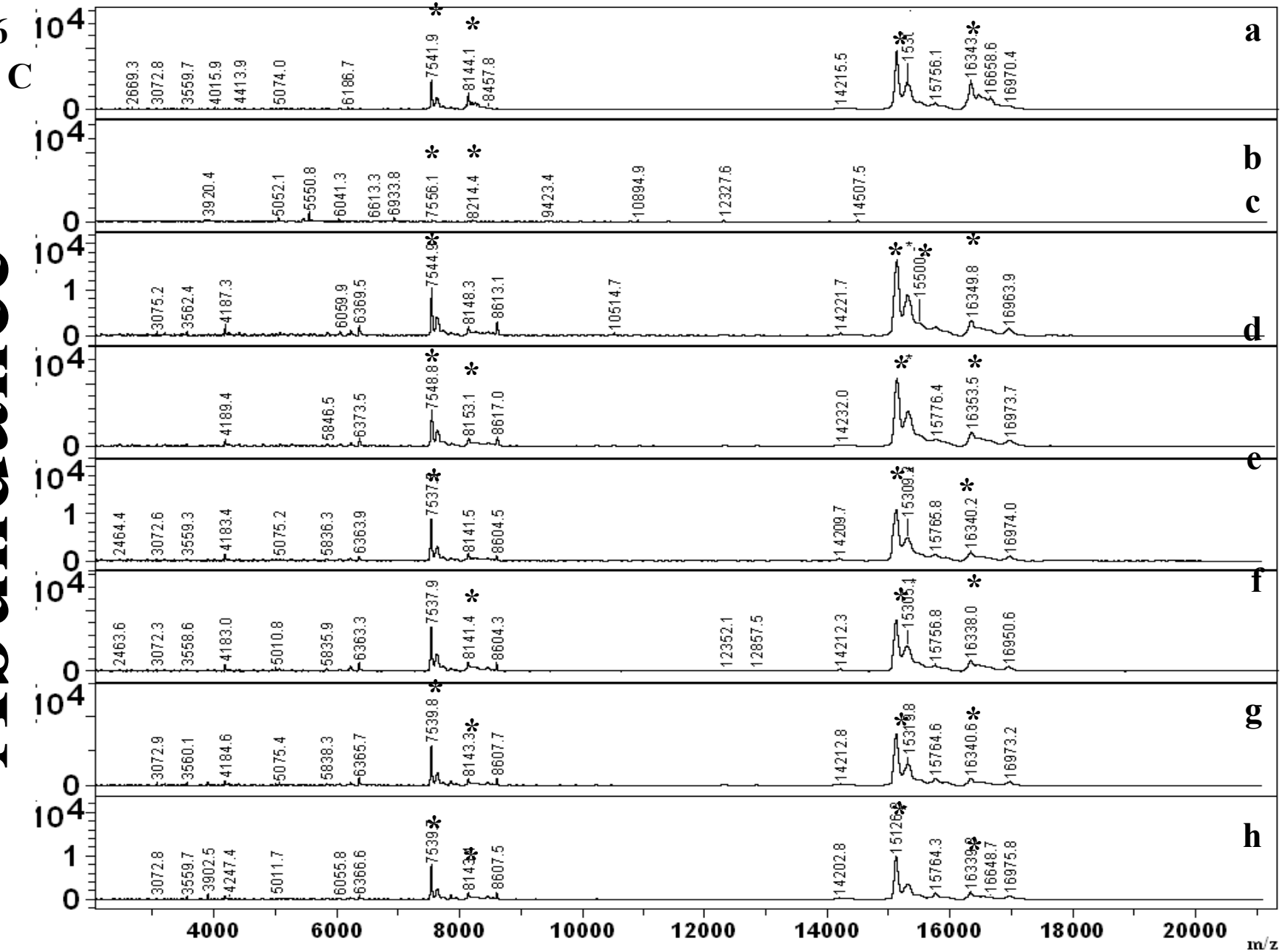


Fig. S6. (A) The evaluation of *E. coli* capture in sheep blood sample with CILMS and (a) blood control, (b) bacteria control, (c) 0.5, (d) 1.0, (e) 3.0, (f) 10, (g) 20, and (h) 30 μL *E. coli* (8.5×10^{12} cfu mL^{-1}), and the same conditions with (B) *P. aeruginosa* (1.7×10^{13} cfu mL^{-1}) and (C) *S. aureus* (7.5×10^{13} cfu mL^{-1}).