

SUPPLEMENTAL INFORMATION (SI)

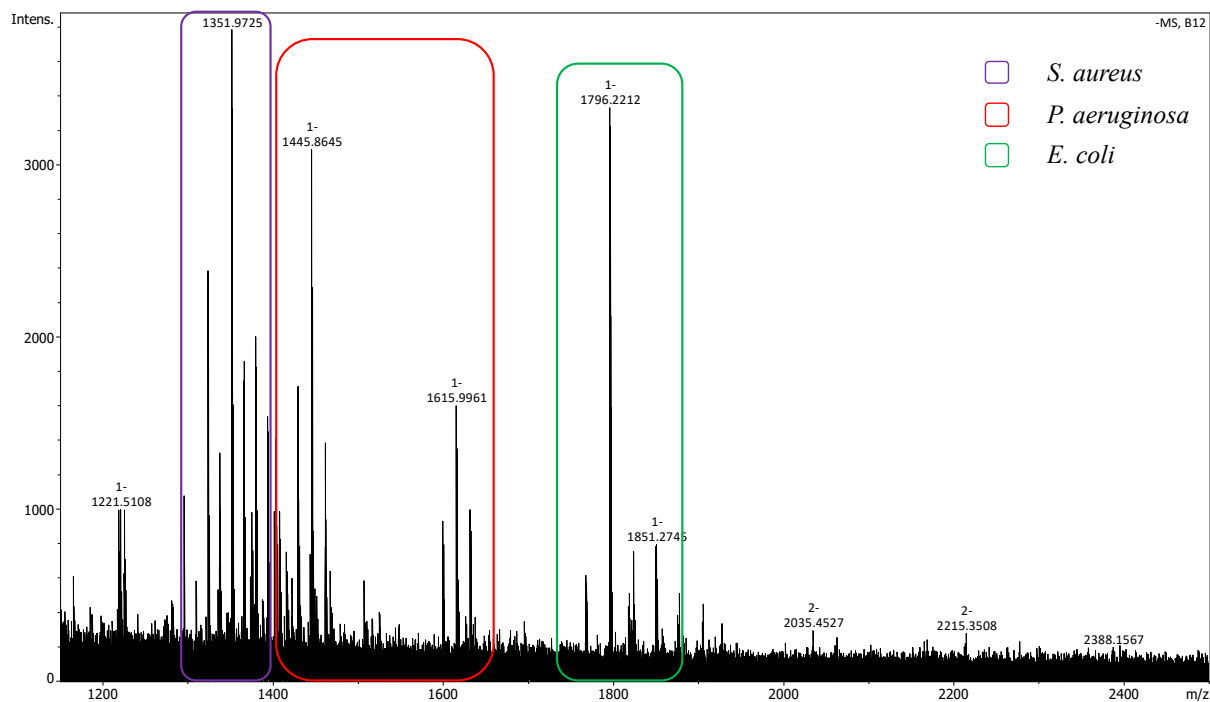
SI. Table 1: Clinical definitions and terminologies

Results	Report	
Growth	Reported colony count interpretation is based on number of colonies	
No Growth	No growth (<0.1-0.9 x 10 ⁵ CFU/mL)	
Light or mixed growth	<ul style="list-style-type: none"> ▪ If no AST performed and no organism name is being reported ▪ Reported colony count interpretation is based on number of colonies: 	
	If actual colony count is:	Then reported as:
	1-9 colonies	0.1-0.9 x 10 ⁵ CFU/mL
	10-99 colonies	1-9 x 10 ⁵ CFU/mL

SI. Table 2: Microbial library of common uropathogens from study cohort. These were isolates obtained from Vancouver Island Health Authority (VIHA).

Microbe	Signature Ion (m/z)	Satellite Ions (m/z)
<i>Acinetobacter baumannii</i>	1728	1700, 1883, 1911
<i>Citrobacter koseri</i>	1797/1825	1905, 1958, 2035, 2063
<i>Enterobacter aerogenes</i>	1797	1859, 1877, 1929, 2036
<i>Enterobacter cloacae</i>	1796	1852, 1877, 1905, 2045
<i>Escherichia coli</i>	1796	1876, 1964
<i>Enterococcus faecalis</i>	1430	1402,1416, 1456
<i>Hafnia alvei</i>	1797	1877, 1928, 2035, 2166
<i>Klebsiella pneumoniae</i>	1825	1797, 1888, 1905, 2063
<i>Klebsiella oxytoca</i> grp	1825	1767, 1888

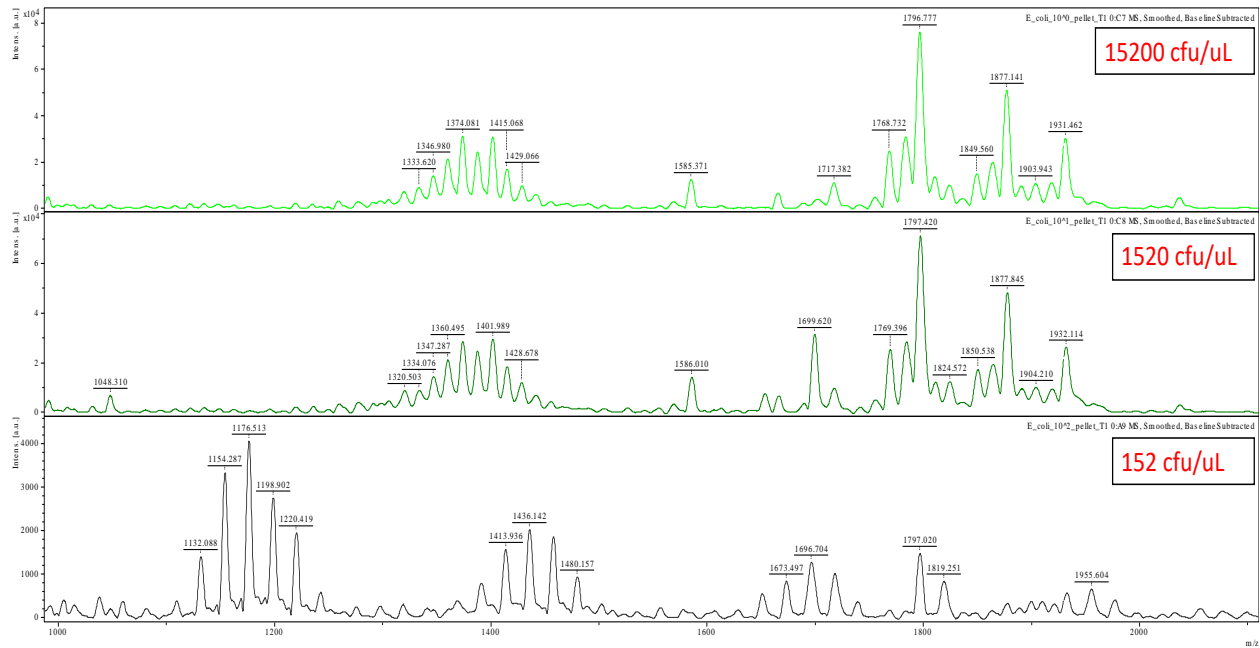
<i>Klebsiella variicola</i>	1825	1614, 1887, 1905, 2079
<i>Pseudomonas aeruginosa</i>	1446	1616
<i>Pantoea agglomerans</i>	1797	1877, 1931, 2045, 2099
<i>Providencia rettgeri</i>	1956	1825, 2063, 2124, 2194
<i>Staphylococcus aureus</i>	1351	1295, 1323, 1379, 1407
<i>Serratia marcescens</i>	1857	1797,1825,1905,1929, 2063
<i>Proteus vulgaris</i>	1826	1729, 1957, 2062, 2195
<i>Proteus mirabilis</i>	1826	1729, 1956, 2063, 2194
<i>Aerococcus urinae</i>	1430	1327, 1403
<i>Morganella morganii</i>	1376/1797	1928, 2035
<i>Enterococcus faecium</i>	1327	1313, 1375, 1403
<i>Staphylococcus saprophyticus</i>	1323	1295, 1351,1387, 1414
<i>Candida albicans</i>	1356	1328, 1335, 1349,1692
<i>Enterococcus avium</i>	1389	1347, 1418
<i>Streptococcus agalactiae</i>	1403	1375, 1431



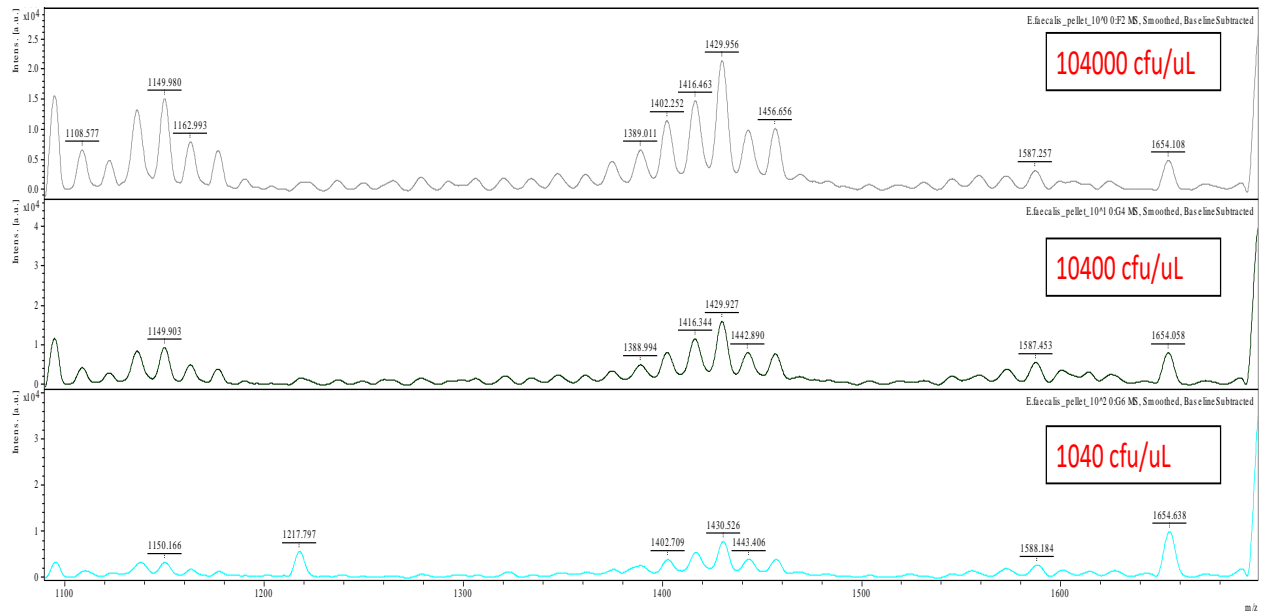
SI. Fig 1: Polymicrobial urine sample. UTI positive sample containing *E.coli*, *P. aeruginosa* and *S. aureus*.

Limit of Detection study

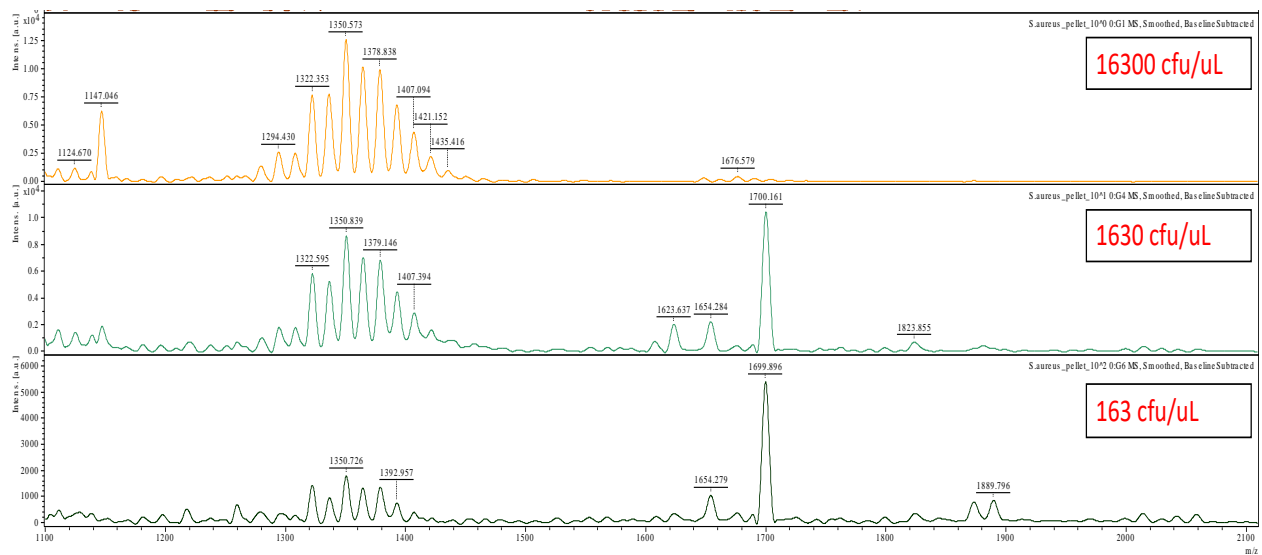
This study involves systematically diluting known concentrations of bacterial cultures to assess the lowest concentration at which FLAT can reliably detect and identify pathogens. Samples were analyzed in triplicate.



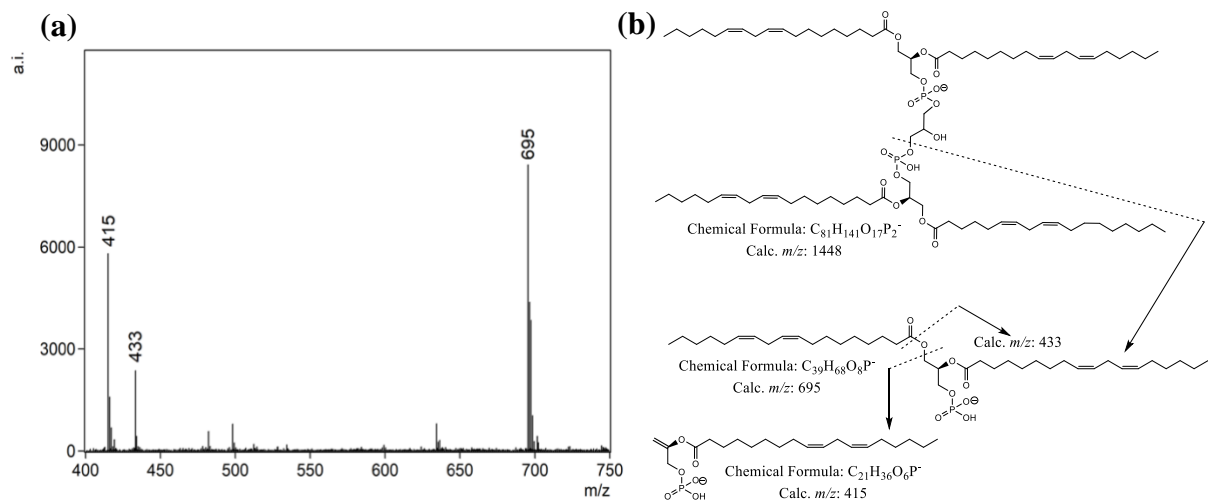
SI. Fig 2: Limit of detection of *E. coli*



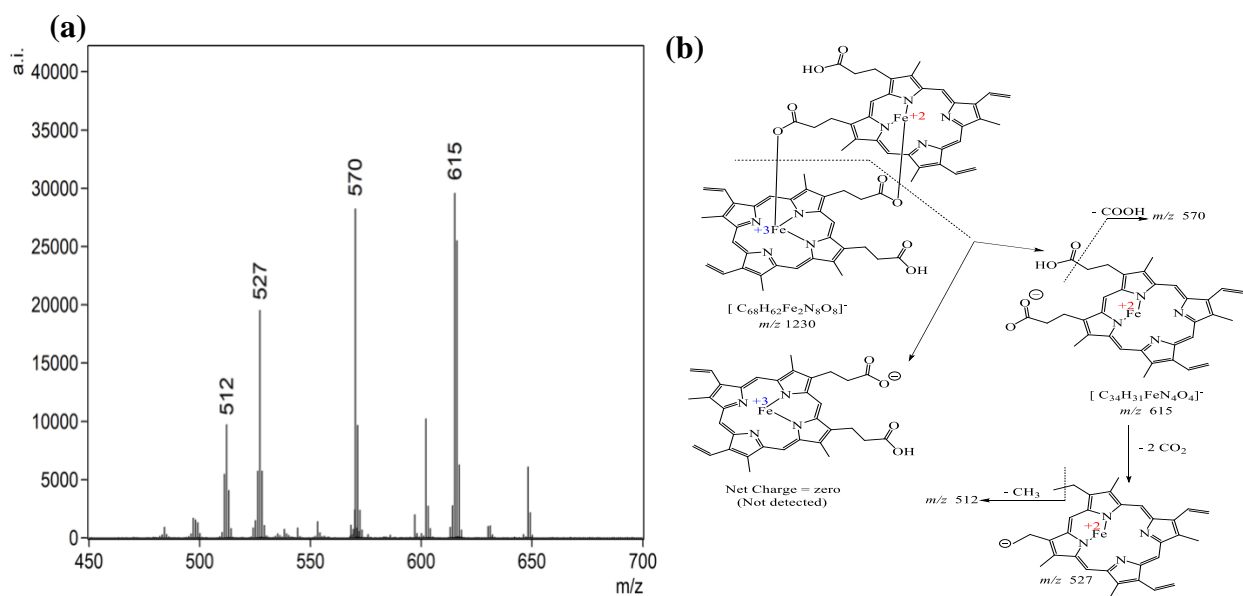
SI. Fig 3: Limit of detection of *E. faecalis*



SI. Fig 4: Limit of detection of *S. aureus*



SI. Fig 5: FLAT mass spectrum of 1448 interferences (a) A mass spectrum of m/z 1448 ion selected for tandem MS (b) Predicted structure of 1448 ion. All data from MALDI-timsTOF-MS.



SI. Fig 6: FLAT mass spectrum of heme with the FLAT analysis of urine samples with blood: (a) Tandem MS spectra of 1230 ion (b) Predicted structure of 1230 ion. All data from MALDI-timsTOF-MS.