

Table S1. Chromatographic conditions

Drug	Column	Mobile phase A	Mobile phase B	Gradient	Flow rate (μL/min)	Injection volume (μL)	Total run time (min)
Avibactam	Kinetex F5 100 Å (2.6 μm, 150 x 2.1 mm)	2 mM AmF and 0.1% FA in MQ	0.1% FA in ACN	0-0.2 min: 4% B 0.2-3.5 min: gradual increase until 70% B 3.5-4.5 min: 70% B 4.50-4.51 min: descenso directo a 4% B 4.51-7.5 min: 4% B	300	10	7.5
Aztreonam	Kinetex F5 100 Å (2.6 μm, 150 x 2.1 mm)	2,5 mM AmF and 0.5% FA in MQ	0.1% FA in ACN	Isocratic elution: 85% mobile phase A and 15% mobile phase B	300	20	3
Cefepime	Phenomenex Luna C18 (5 μm, 150 x 2.0 mm)	2 mM AmF and 0.1% FA in MQ	0.1% FA in ACN	0-0.5 min: 0% B 0.5-1.5 min: gradual increase until 50% B 1.51-3.5 min: 95% B 3.51-6.0 min: 0% B	500	10	6
Cefiderocol	Kinetex F5 100 Å (2.6 μm, 150 x 2.1 mm)	2,5 mM AmF and 0.5% FA in MQ	0.1% FA in ACN	Isocratic elution: 74% mobile phase A and 26% mobile phase B	300	20	3
Ceftazidime	Kinetex F5 100 Å (2.6 μm, 150 x 2.1 mm)	5 mM AmF and 0.2% FA in MQ	0.5% FA in ACN	0-0.2 min: 4% B 0.2-3.5 min: gradual increase until 70% B 3.5-4.5 min: 70% B 4.50-4.51 min: descenso directo a 4% B 4.51-7.5 min: 4% B	300	10	7.5
Ceftolozane	Phenomenex Luna C18 (5 μm, 150 x 2.0 mm)	2 mM AmF and 0.1% FA in MQ	0.1% FA in ACN	0-0.5 min: 0% B 0.5-1.5 min: gradual increase until 50% B 1.51-3.5 min: 95% B 3.51-6.0 min: 0% B	500	10	6
Meropenem	Phenomenex Luna C18 (5 μm, 150 x 2.0 mm)	2 mM AmF and 0.1% FA in MQ	0.1% FA in ACN	0-0.5 min: 0% B 0.5-1.5 min: gradual increase until 50% B 1.51-3.5 min: 95% B	500	10	6

	μm, 150 x 2.0 mm)			3.51-6.0 min: 0% B			
Piperacillin	Phenomenex Luna C18 (5 μm, 150 x 2.0 mm)	2 mM AmF and 0.1% FA in MQ	0.1% FA in ACN	0-0.5 min: 0% B 0.5-1.5 min: gradual increase until 50% B 1.51-3.5 min: 95% B 3.51-6.0 min: 0% B	500	10	6
Tazobactam	Phenomenex Luna C18 (5 μm, 150 x 2.0 mm)	2 mM AmF and 0.1% FA in MQ	0.1% FA in ACN	0-0.5 min: 0% B 0.5-1.5 min: gradual increase until 50% B 1.51-3.5 min: 95% B 3.51-6.0 min: 0% B	500	10	6
Vaborbactam	Pursult XRs C18 (2.8 μm, 100 x 2.0 mm)	5 mM AmF and 0.2% FA in MQ	0.1% FA in ACN	0-0.5 min: 0% B 0.5-1.5 min: gradual increase until 50% B 1.51-3.5 min: 95% B 3.51-6.0 min: 0% B	400	10	6

Abbreviations: ACN, acetonitrile; MQ, milli-Q water; AmF, ammonium formate; FA, formic acid.

Table S2. Mass spectrometry conditions

Drug	Monitored transitions (m/z)	Ionization mode	Declustering potential (V)	Entrance potential (V)	Collision energy (V)	Cell exit potential (V)
Avibactam	264.001 → 95.900	Negative	-80	-10	-30	-6
Aztreonam	433.984 → 121.800	Negative	-80	-10	-42	-5
Cefepime	481.047 → 396.000	Positive	56	10	18	10
Cefiderocol	752.138 → 285.200	Positive	101	10	23	8
Ceftazidime	547.100 → 467.900	Positive	66	10	17	10
Ceftolozane	667.040 → 199.100	Positive	23	10	16	10
Meropenem	384.066 → 141.000	Positive	80	10	30	12
Piperacillin	518.199 → 143.200	Positive	101	10	21	12
Tazobactam	168.100 → 100.000	Positive	40	10	20	12
Vaborbactam	295.984 → 234.000	Negative	-80	-10	-30	-10
Ampicillin (IS)	348.123 → 207.000	Negative	-70	-10	-16	-9
Cefixime (IS)	454.083 → 285.000	Positive	101	10	21	8

Abbreviations: IS: internal standard.