

TABLE 2. Fluoroquinolone MICs of 83 isolates and amino acid changes in their DNA topoisomerase genes^a

No. isolates	Amino acid substitution									MIC (µg/ml)		
	ParC			ParE			GyrA			CIP	LVX	MOX
	D78	S79	D83	K426	D435	E474	G79	S81	E85			
1	-	-	-	-	-	-	-	-	-	4	2	0.25
3	-	F	-	-	-	-	-	-	-	4-8	1-4	0.25-0.5
8	-	Y	-	-	-	-	-	-	-	4-8	1-2	0.12-8
3	-	-	N	-	-	-	-	-	-	4-8	1-4	0.25-0.5
1	N	-	-	_#	_#	_#	_#	_#	_#	8	2	0.5
1	-	-	-	-	-	K	-	-	-	8	2	1
1	N	-	-	-	-	-	-	F	-	32	8	4
1	-	F	-	-	-	-	A	-	-	32	16	8
1	-	F	-	-	-	-	-	A	-	64	32	8
31	-	F	-	-	-	-	-	F	-	32-64	16-32	2-8
1	-	F	-	-	-	-	-	Y	-	32	16	2
1	_#	Y	_#	_#	_#	_#	_#	F#	_#	32	16	4
5	-	Y	-	-	-	-	-	F	-	32-64	16-32	2-4
1	-	Y	-	-	-	-	-	V	-	32	16	4
2	-	Y	-	-	-	-	-	Y	-	32	16	4
2	-	F	-	-	-	-	-	-	K	32	16	4
2	-	-	Y	-	-	-	-	F	-	32	16	2-4
1	-	-	-	-	N	-	-	A	-	64	32	1
1	-	-	-	-	N	-	-	F	-	32	16	2
1	-	-	-	-	N	-	_#	F#	_#	32	16	8
2	-	F	N	-	-	-	-	F	-	64	32	8
1	-	F	Y	-	-	-	-	Y	-	64	32	8
1	-	Y	-	-	-	-	-	F	K	64	32	1
1	-	F	-	-	-	-	-	Y	K	64	32	4
4	-	F	-	-	-	-	-	F	K	64	32	4-8
1	-	Y	-	-	-	-	-	F	Q	64	32	16
2	-	F	-	-	N	-	-	F	-	128	64	8
1	-	Y	-	-	N	-	-	F	-	128	64	4
1	-	Y	-	N	-	-	-	F	-	64	32	64

1	-	-	N	-	-	K	-	Y	-	32	16	2
1	-	F	Y	N	-	-	-	V	-	128	64	8
1	-	F	-	-	N	-	-	F	K	128	64	64

^a Only changes involved in resistance are shown. -, no change; ‡ indicates that the residue is located in a recombinant gene. Additional amino acid changes, not involved in resistance, were: ParC N91D (the isolate with mosaic *parC* gene); ParE I460V (28 isolates); GyrA S114G (the three isolates with mosaic *gyrA* genes). CIP, ciprofloxacin; LVX, levofloxacin; MOX, moxifloxacin

TABLE 3. Summary of phenotypic characteristics and changes in the QRDRs among 21 isolates of the CC63 clone found in 2012^a.

Strain ID	Sero type	Amino acid changes in QRDR of						No. of mutations	MIC (µg/ml)		
		ParC		ParE		GyrA			CIP	LVX	MOX
		S79	D83	K426	I460	S81	E85				
14	8	F	—	—	V	A	—	2	64	32	8
3-6 19, 20, 96	8	F	—	—	V	F	—	2	64	32	4-8
47	8	Y	—	—	V	F	—	2	64	32	4
55	8	Y	—	—	—	F	—	2	64	32	2
24, 56	8	F	N	—	V	F	—	3	64	32	4
91	15A	—	Y	—	V	F	—	2	32	16	2
53	15A	Y	—	—	V	F	—	2	32	16	2
71	15A	F	—	—	V	F	—	2	64	32	4
58	15A	Y	—	—	V	F	Q	3	64	32	16
26	15A	F	Y	N	V	V	—	4	128	64	8
81	19A	Y	—	—	V	—	—	1	4	1	4
12	19A	F	—	—	V	F	—	2	64	32	4
9	19A	Y	—	—	—	F	K	3	64	32	8
51	19F	F	—	—	V	F	—	2	64	32	2

^a Changes involved in resistance are shown in bold type. —, no change. CIP, ciprofloxacin; LVX, levofloxacin; MOX, moxifloxacin.