

1 Table S1. β -lactamase content and results of the combination disc diffusion test of all the clinical strains used in this study

MBL-producers							Standard method														Modified method															
							MH agar plate							MH-cloxacillin plate							MH agar plate							MH-cloxacillin plate								
No.	Strain	Carbapenemas (s)	AmpC	ESBL	Other β-lactamase(s)	MulticTX-M	FOX/CLAXA	FOX	FOX/CLOXA-FOX	CTX/CLAXA	CTX	CTX/CLAXA-CTX	CAZ/CLAXA	CAZ	CAZ/CLAXA-CAZ	CTX/CLAXA	CTX	CTX/CLAXA-CTX	CAZ/CLAXA	CAZ	CAZ/CLAXA-CAZ	FOX/CLAXA	FOX	FOX/CLOXA-FOX	CTX/CLAXA	CTX	CTX/CLAXA-CTX	CAZ/CLAXA	CAZ	CAZ/CLAXA-CAZ	CTX/CLAXA	CTX	CTX/CLAXA-CTX	CAZ/CLAXA	CAZ	CAZ/CLAXA-CAZ
5	<i>E. coli</i>	IMP-1	-	-	TEM-1	-	6	6	0	14	1/2	2	12	6	6	13	1/3	0	12		12	21	2/1	0	25	2/7	-2	25	2/2	3	27	2/7	0	25	2/2	3
43	<i>E. coli</i>	IMP-1	-	-	TEM-1	-	6	6	0	8	9	-1	9	6	3	12	1/3	-1	12	6	6	19	2/0	-1	25	2/3	2	24	2/3	1	25	2/6	-1	26	2/2	4
94	<i>K. pneumoniae</i>	IMP-1	-	-	SHV-11/TEM-1	-	6	6	0	13	1/3	0	9	6	3	12	1/1	1	11	6	5	20	2/0	0	25	2/5	0	24	2/4	0	24	2/3	1	23	2/2	1
36	<i>C. freundii</i>	NDM-1	CMY	-	TEM-1	-	6	6	0	6	6	0	6	6	0	7	6	1	6	6	0	11	6	5	13	1/3	0	15	1/1	4	20	1/9	1	18	1/5	3
117	<i>C. freundii</i>	NDM-1	CMY	-	TEM-1/OXA-1	-	6	6	0	9	8	1	6	6	0	11	1/0	1	8	6	2	19	9	10	30	2/9	1	27	2/6	1	28	3/1	-3	30	2/6	4
147	<i>E. cloacae</i>	NDM-1	ACT-25/CMY-4	CTX-M-15	TEM-1/OXA-1	+	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	8	6	2	8	6	2	11	7	4	16	6	10	19	6	13
172	<i>E. cloacae</i>	NDM-1	-	CTX-M-15	OXA-9/OXA-140/OXA-299/TEM-1	+	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	17	6	11	14	6	8	26	6	20	24	1/2	12
67	<i>E. coli</i>	NDM-1	-	-	OXA-1/OXA-10/TEM-1	-	6	6	0	9	6	3	12	6	6	9	6	3	6	6	0	17	1/7	0	19	1/7	2	16	1/4	2	26	2/6	0	27	2/3	4
71	<i>E. coli</i>	NDM-1	-	-	OXA-1/TEM-1	-	6	6	0	14	1/3	1	13	6	7	14	1/4	0	10	6	4	20	2/2	-2	23	2/4	-1	20	1/8	2	32	3/3	-1	30	2/8	2
124	<i>E. coli</i>	NDM-1	CM	-	-	-	6	6	0	6	6	0	6	6	0	6	6	0	10	6	4	19	9	10	13	1/3	0	17	1/3	4	28	2/8	0	27	2/5	2

[illegible]

[illegible]

186	<i>E. coli</i>	NDM-5	-	CTX-M-15	OXA-1	+	6	6	0	10	6	4	10	6	4	10	6	4	13	6	7	6	6	0	13	6	7	13	6	7	20	6	14	21	10	11
165	<i>E. coli</i>	NDM-5	CMY-2	CTX-M-15	OXA-1/TEM-1	+	6	6	0	6	6	0	8	6	2	9	6	3	12	6	6	6	0	12	6	6	11	6	5	16	6	10	19	6	13	
112	<i>E. coli</i>	NDM-5	-	CTX-M-24	TEM-1	+	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	14	13	1	19	6	13	18	17	1	18	6	12	19	15	4
55	<i>K. pneumoniae</i>	NDM-5	-	-	SHV-1/TEM-1	-	6	6	0	9	6	3	8	6	2	6	6	0	6	6	0	17	18	-1	26	26	0	24	23	1	25	26	-1	23	22	1
156	<i>K. pneumoniae</i>	NDM-5	DHA-1	-	SHV-11	-	6	6	0	11	9	2	6	6	0	11	9	2	6	6	0	15	6	9	18	24	-6	19	21	-2	26	25	1	22	22	0
122	<i>E. coli</i>	NDM-7	-	-	-	-	6	6	0	6	6	0	8	6	2	6	6	0	6	6	0	12	10	2	19	21	-2	21	19	2	21	22	-1	23	20	3
207	<i>K. oxytoca</i>	OXA-48/VI-M-1		CTX-M-9	OXY-1-1	N.p.	8	9	1	10	10	0	6	6	0	12	12	0	6	6	0	16	15	1	20	16	4	24	23	1	21	17	4	23	23	0
166	<i>K. pneumoniae</i>	OXA-181/NDM-4	DHA-1	CTX-M-15	SHV-11/OXA-1/TEM-1	+	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	8	6	2	15	6	9	10	9	1	20	10	10	19	14	5
184	<i>E. coli</i>	OXA-244/NDM-5	-	-	-	-	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	10	-4	10	9	1	18	18	0	19	19	0
154	<i>E. cloacae</i>	OXA-48/NDM-1	ACT-32	-	TEM-1/OXA-1	-	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	25	27	-2	26	23	3	24	26	-2	23	24	-1
159	<i>K. pneumoniae</i>	OXA-48/NDM-1	-	CTX-M-15	SHV-11/OXA-9/TEM-1	+	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	12	11	1	12	6	6	15	6	9	15	6	9	19	9	10
202	<i>K. pneumoniae</i>	OXA-48/NDM-1	-	CTX-M-15	OXA-9/SHV-11	+	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	10	10	0	18	6	12	14	6	8	15	6	9	20	10	10

[illegible]

69	<i>K. pneumoniae</i>	KPC-2	-	-	SHV-11	-	9	8	1	24	$\frac{2}{4}$	0	24	$\frac{2}{4}$	0	24	$\frac{2}{5}$	-1	26	$\frac{2}{4}$	2	9	7	2	27	$\frac{2}{6}$	1	27	$\frac{2}{5}$	2	28	$\frac{2}{8}$	0	28	$\frac{2}{6}$	2
70	<i>K. pneumoniae</i>	KPC-2	-	-	SHV-11	-	19	$\frac{1}{9}$	0	26	$\frac{2}{8}$	-2	25	$\frac{2}{5}$	0	26	$\frac{2}{8}$	-2	26	$\frac{2}{5}$	1	15	$\frac{1}{5}$	0	25	$\frac{2}{4}$	1	25	$\frac{2}{2}$	3	26	$\frac{2}{5}$	1	25	$\frac{2}{2}$	3
74	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-11/OXA-1	+	17	$\frac{1}{6}$	1	25	$\frac{1}{0}$	15	26	$\frac{1}{2}$	14	25	6	19	25	$\frac{1}{0}$	15	13	$\frac{1}{5}$	-2	24	6	18	22	9	13	25	6	19	23	$\frac{1}{0}$	13
79	<i>K. pneumoniae</i>	KPC-2	-	-	SHV-11	-	16	$\frac{1}{6}$	0	25	$\frac{2}{6}$	-1	23	$\frac{2}{3}$	0	27	$\frac{2}{8}$	-1	26	$\frac{2}{6}$	0	15	$\frac{1}{7}$	-2	27	$\frac{2}{7}$	0	24	$\frac{2}{2}$	2	26	$\frac{2}{7}$	-1	25	$\frac{2}{3}$	2
81	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-11/OXA-1	+	16	$\frac{1}{5}$	1	22	9	13	20	$\frac{1}{1}$	9	23	9	14	22	$\frac{1}{0}$	12	15	$\frac{1}{4}$	1	24	6	18	23	9	14	25	6	19	23	$\frac{1}{0}$	13
97	<i>K. pneumoniae</i>	KPC-2	C M Y-16	CTX-M-15/SHV-66	OXA-9/OXA-10/TEM-1	+	6	6	0	16	6	10	16	6	10	16	6	10	16	6	10	6	6	0	17	6	11	17	6	11	17	6	11	17	6	11
99	<i>K. pneumoniae</i>	KPC-2	-	SHV-66	OXA-9/TEM-1	-	12	$\frac{1}{1}$	1	21	$\frac{1}{3}$	8	19	8	11	19	$\frac{1}{2}$	7	19	6	13	9	8	1	20	$\frac{1}{3}$	7	20	6	14	21	6	15	21	6	15
104	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-11/OXA-1	+	16	$\frac{1}{6}$	0	23	6	17	21	$\frac{1}{0}$	11	22	6	16	23	9	14	16	$\frac{1}{6}$	0	23	6	17	21	$\frac{1}{1}$	10	24	6	18	20	6	14
135	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-1	+	6	6	0	17	$\frac{1}{0}$	7	18	$\frac{1}{4}$	4	14	8	6	18	$\frac{1}{7}$	1	6	6	0	15	6	9	17	$\frac{1}{4}$	3	15	6	9	17	$\frac{1}{3}$	4
137	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-1	+	6	6	0	17	9	8	18	$\frac{1}{6}$	2	18	9	9	20	$\frac{1}{5}$	5	6	6	0	16	6	10	21	$\frac{1}{4}$	7	17	6	11	20	$\frac{1}{4}$	6
153	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/OXA-1	+	20	$\frac{1}{8}$	2	23	$\frac{1}{3}$	10	23	$\frac{1}{8}$	5	24	$\frac{1}{4}$	10	22	$\frac{1}{6}$	6	19	$\frac{1}{9}$	0	23	$\frac{1}{1}$	12	22	$\frac{1}{4}$	8	23	6	17	22	$\frac{1}{6}$	6
161	<i>K. pneumoniae</i>	KPC-2		CTX-M-15	SHV-1/TEM-192	+	6	6	0	19	8	11	19	$\frac{1}{5}$	4	16	9	7	21	$\frac{1}{6}$	5	6	6	0	16	6	10	21	$\frac{1}{5}$	6	17	7	10	22	$\frac{1}{5}$	7

162	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-166/TEM-192	+	6	6	0	19	9	10	18	14	4	19	8	11	21	16	5	6	6	0	16	6	10	19	14	5	16	6	10	19	14	5
164	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-166/TEM-192	+	6	6	0	18	10	8	19	15	4	18	8	10	19	15	4	6	6	0	15	6	9	19	15	4	17	6	11	20	15	5
170	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-166/TEM-192	+	6	6	0	18	8	10	20	13	7	17	8	9	19	15	4	6	6	0	17	6	11	21	15	6	18	6	12	20	15	5
181	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-166/TEM-192	+	6	6	0	18	6	12	19	16	3	17	8	9	21	17	4	6	6	0	17	6	11	20	15	5	17	6	11	21	15	6
189	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM-1	+	10	10	0	20	12	8	20	17	3	15	6	9	17	14	3	6	6	0	16	7	9	18	14	4	17	9	8	18	14	4
196	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM?	+	6	6	0	18	8	10	20	16	4	16	8	8	21	14	7	6	6	0	17	6	11	19	14	5	17	6	11	20	14	6
197	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-15	SHV-1/TEM?	+	6	6	0	18	8	10	21	16	5	15	8	7	20	15	5	6	6	0	18	6	12	21	16	5	19	6	13	22	15	7
204	<i>K. pneumoniae</i>	KPC-2	-	CTX-M-55/SHV-66	-	+	6	6	0	10	6	4	10	6	4	9	6	3	11	6	5	6	6	0	15	6	9	17	6	11	14	6	8	17	6	11
87	<i>E. coli</i>	KPC-3	-	-	OXA-1/TEM-9	-	24	24	0	27	28	-1	24	23	1	26	28	-2	24	22	2	22	21	1	27	27	0	23	21	2	28	27	1	23	24	-1
209	<i>E. coli</i>	KPC-3		CTX-M-15/CTX-M-65	TEM-135/SHV-11	+	18	18	0	18	9	9	17	11	6	20	11	9	16	10	6	23	23	0	26	13	13	24	19	5	26	15	11	25	19	6
6	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-?/TEM-1	-	18	18	0	21	22	-1	15	15	0	20	21	-1	17	15	2	19	19	0	22	22	0	16	6	10	22	22	0	17	15	2
11	<i>K. pneumoniae</i>	KPC-3	-	CTX-M-15	SHV-28/OXA-9/OXA-1/TEM-1	+	12	12	0	22	12	10	18	15	3	22	13	9	17	14	3	13	12	1	22	11	11	18	12	6	23	13	10	18	13	5

13	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-11	-	16	15	1	22	21	1	16	15	1	22	23	-1	17	16	1	17	16	1	24	24	0	18	16	2	25	25	0	20	16	4
14	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-11/OXA-9/TEM-1	-	12	10	2	20	20	0	17	17	0	20	20	0	17	17	0	7	6	1	18	19	-1	17	15	2	19	20	-1	18	16	2
30	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-11	-	8	6	2	19	19	0	15	15	0	19	20	-1	16	15	1	6	6	0	18	19	-1	17	14	3	20	21	-1	18	17	1
42	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-11/TEM-?	-	6	6	0	20	20	0	16	15	1	20	21	-1	16	16	0	6	6	0	19	20	-1	16	15	1	19	21	-2	16	16	0
62	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-1/OXA-9/TEM-1	-	6	6	0	20	20	0	16	17	-1	18	19	-1	16	15	1	6	6	0	19	19	0	15	18	-3	19	19	0	16	16	0
75	<i>K. pneumoniae</i>	KPC-3	-	-	SHV-11/OXA-9/TEM-1	-	6	6	0	17	17	0	14	13	1	17	17	0	12	14	-2	6	6	0	17	18	-1	14	13	1	19	18	1	15	14	1
109	<i>K. pneumoniae</i>	KPC-3	-	CTX-M-15	SHV-28/OXA-1/OXA-9/TEM-1	+	22	19	3	28	13	15	25	14	11	31	14	17	29	13	16	19	20	-1	25	6	19	21	13	8	26	13	13	23	12	11
118	<i>K. pneumoniae</i>	KPC-3	-	-	OKP-B-6	-	20	20	0	24	25	-1	20	19	1	25	27	-2	21	20	1	22	21	1	24	24	0	20	20	0	24	27	-3	21	20	1
149	<i>K. pneumoniae</i>	KPC-3	-	CTX-M-15	SHV-28/OXA-1/TEM-1	+	22	22	0	22	14	8	20	18	2	23	15	8	19	14	5	20	22	-2	22	6	16	19	13	6	22	14	8	20	14	6
163	<i>K. pneumoniae</i>	KPC-3	-	-	SVH-11	-	10	8	2	19	20	-1	16	14	2	18	19	-1	13	14	-1	8	6	2	18	19	-1	16	15	1	18	20	-2	16	15	1
132	<i>K. pneumoniae</i>	KPC-50	-	-	SHV-85/TEM-1a	-	13	13	0	19	19	0	9	6	3	21	22	-1	11	6	5	13	11	2	18	18	0	10	6	4	21	20	1	13	6	7
201	<i>K. pneumoniae</i>	OXA-48/KPC-2	-	CTX-M-55	OXA-1/SHV-11	+	6	6	0	8	6	2	10	6	4	6	6	0	11	6	5	6	6	0	15	6	9	17	6	11	16	6	10	19	6	13

206	<i>K. pneumoniae</i>	OXA-48/KPC-3	-	-	SHV-1	-	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	18	18	0	15	15	0	18	18	0	14	15	-1
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MBL + KPC producers

203	<i>P. rettgeri</i>	KPC-2/VI-M-19	C M Y-4	PER-4	OXA-9	-	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	16	13	3	18	6	12	21	6	15	27	8	19	29	6	23
205	<i>K. pneumoniae</i>	KPC-3/ND M-1	-	-	SHV-11	-	6	6	0	6	6	0	6	6	0	6	6	0	6	6	0	9	9	0	18	19	-1	14	13	1	19	20	-1	15	14	1
208	<i>K. pneumoniae</i>	KPC-3/ND M-1	-	-	SHV-11	-	6	6	0	8	6	2	6	6	0	8	6	2	6	6	0	6	6	0	20	20	0	18	17	1	20	21	-1	20	18	2

2 N.p., not performed.