

Supplementary Table 1. Information of *Escherichia coli* isolates used in the present study

Strain name	O serogroup	Year	Farm	Age of swine ^a	Reported case	Use of antimicrobial for swine ³⁾						
						Penicillins	Ceftiofur	Aminoglycoside	Tetracyclines	Phenicols	Fluoroquinolones	Sulfamethoxazole-trimethoprim
E2338	O139	1999	A1	70 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2339	O55	1999	A1	70 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2340	O139	1999	B1	25 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2341	O139	1999	B1	40 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2342	O8	1999	B1	40 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2344	O157	2000	A2	140 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2345	O139	2000	C1	30 days	Edema disease	Unused	Unused	Unused	Used	Unused	Unused	Unused
E2346	O139	2000	D1	54 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2348	O139	2000	D1	54 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2350	O139	2000	D1	54 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2351	O121	1999	C2	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2352	O139	1999	E1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2353	O139	1999	F1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2354	O139	1999	F1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2355	O139	1999	F1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2356	O139	1999	F1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2357	O139	1999	F1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2358	O139	1999	F1	ND	Others	ND	ND	ND	ND	ND	ND	ND
E2359	O2	1999	G1	90 days	Others	ND	ND	ND	ND	ND	ND	ND
E2360	O139	2000	A3	50 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2361	O139	2000	A3	50 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2362	O139	2000	A3	50 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2363	OSB9	2000	D1	60 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Used
E2364	OSB9	2000	D1	35 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Used
E2365	OSB9	2000	D1	ND	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Used
E2366	O149	2000	H1	10 days	Diarrhea	Used	Unused	Used	Used	Unused	Unused	Unused
E2367	O149	2000	H1	10 days	Diarrhea	Used	Unused	Used	Used	Unused	Unused	Unused
E2368	O138	2001	H2	ND	Others	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2369	O139	2001	A4	50 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2370	O149	2001	A3	40 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2371	O139	2001	A3	40 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2372	O149	2001	A3	40 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2373	OSB9	2001	A5	60 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2374	OSB9	2001	A5	60 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2375	OSB9	2001	A5	60 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2376	O139	2001	I1	30 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2377	O139	2001	I1	30 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2378	O139	2001	I1	30 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2379	O149	2001	I1	30 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2380	O149	2001	I1	90 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2381	O139	2001	I1	32 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2382	O149	2001	I1	12 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2383	O149	2001	I1	12 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2384	O149	2001	I1	12 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2385	O149	2001	I1	12 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2386	O149	2001	I1	12 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2387	O149	2001	I1	12 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND

E2445	OSB9	2003	A7	30 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Used
E2446	OSB9	2003	A7	30 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Used
E2447	OSB9	2003	A7	20 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Used
E2448	OSB9	2003	A7	20 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Used
E2449	O149	2003	D4	14 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2450	O149	2003	D4	14 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2451	O139	2003	H4	30 days	Others	Unused	Unused	Unused	Unused	Unused	Used	Used
E2452	O9	2003	H4	60 days	Others	Unused	Unused	Unused	Unused	Unused	Used	Used
E2453	O139	2003	H4	60 days	Others	Unused	Unused	Unused	Unused	Unused	Used	Used
E2454	O139	2003	C9	30 days	Edema disease	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2455	O139	2003	C9	30 days	Edema disease	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2456	O139	2003	H4	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2457	O139	2003	H4	30 days	Others	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2458	OUT	2003	H4	30 days	Others	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2459	O121	2003	G2	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2460	O121	2003	G2	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2461	OSB9	2003	D5	30 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2462	OSB9	2003	D5	30 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2463	OUT	2003	C8	32 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2464	OUT	2003	C8	32 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2465	OUT	2003	C8	32 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2466	O8	2003	D6	35 days	Others	ND	ND	ND	ND	ND	ND	ND
E2472	O139	2003	aa1	150 days	Others	ND	ND	ND	ND	ND	ND	ND
E2473	O139	2004	aa2	120 days	Others	ND	ND	ND	ND	ND	ND	ND
E2474	O2	2004	M1	40 days	Edema disease	Used	Unused	Used	Unused	Unused	Unused	Unused
E2475	O139	2004	aa2	50 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2476	O139	2004	aa2	60 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2477	OUT	2004	A8	60 days	Diarrhea	Unused	Unused	Used	Unused	Unused	Unused	Unused
E2478	OUT	2004	A8	60 days	Diarrhea	Unused	Unused	Used	Unused	Unused	Unused	Unused
E2479	O8	2004	A8	60 days	Diarrhea	Unused	Unused	Used	Unused	Unused	Unused	Unused
E2480	O139	2004	D7	60 days	Edema disease	Used	Unused	Unused	Unused	Used	Unused	Unused
E2481	O139	2004	D7	90 days	Edema disease	Used	Unused	Unused	Unused	Used	Unused	Unused
E2482	O139	2004	D7	60 days	Edema disease	Used	Unused	Unused	Unused	Used	Unused	Unused
E2483	O77	2004	D8	14 days	Diarrhea	Used	Unused	Used	Used	Unused	Unused	Unused
E2484	O8	2004	A9	30 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2485	O8	2004	A9	30 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2486	O139	2004	H4	40 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2487	O139	2004	H4	52 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2488	O139	2004	H4	47 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2489	OSB9	2004	A10	30 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2490	OSB9	2004	A10	30 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2491	OSB9	2004	A10	30 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2492	OSB9	2004	A10	30 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2493	O68	2004	D4	14 days	Others	ND	ND	ND	ND	ND	ND	ND
E2494	OUT	2004	D4	14 days	Others	ND	ND	ND	ND	ND	ND	ND
E2495	OUT	2004	D4	14 days	Others	ND	ND	ND	ND	ND	ND	ND
E2496	O139	2004	D9	80 days	Edema disease	Unused	Unused	Unused	Unused	Used	Unused	Unused
E2497	O139	2004	D9	80 days	Edema disease	Unused	Unused	Unused	Unused	Used	Unused	Unused
E2498	O139	2004	D9	80 days	Edema disease	Unused	Unused	Unused	Unused	Used	Unused	Unused
E2499	OUT	2005	D4	14 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2500	O162	2005	I2	15 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused

E2609	OSB9	2009	D17	36 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2610	OSB9	2009	D17	39 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2611	OSB9	2009	C17	30 days	Diarrhea	Unused	Unused	Unused	Used	Unused	Unused	Unused
E2612	OSB9	2009	R3	80 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2613	O149	2010	C14	90 days	Diarrhea	Unused	Unused	Unused	Unused	Used	Unused	Unused
E2614	O121	2010	Q2	60 days	Others	ND	ND	ND	ND	ND	ND	ND
E2615	O116	2010	R3	93 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2616	O116	2010	R3	93 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2617	O35	2010	C18	30 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2618	O89	2010	U1	30 days	Septicemia	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2619	O34	2010	U1	27 days	Septicemia	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2620	O116	2011	V1	52 days	Others	ND	ND	ND	ND	ND	ND	ND
E2621	O116	2011	V1	38 days	Others	ND	ND	ND	ND	ND	ND	ND
E2622	O139	2011	J1	47 days	Edema disease	Unused	Unused	Used	Unused	Unused	Unused	Unused
E2623	O139	2011	N2	55 days	Others	ND	ND	ND	ND	ND	ND	ND
E2624	O55	2012	D18	38 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2625	O86	2012	D18	34 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2626	O86	2012	D18	34 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2627	OUT	2012	V2	40 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2628	OUT	2012	A15	60 days	Others	ND	ND	ND	ND	ND	ND	ND
E2629	OSB9	2012	A10	40 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2630	O8	2011	B9	40 days	Others	Unused	Unused	Unused	Used	Unused	Unused	Unused
E2631	O2	2012	C17	10 days	Others	ND	ND	ND	ND	ND	ND	ND
E2632	OUT	2012	C17	10 days	Others	ND	ND	ND	ND	ND	ND	ND
E2633	O91	2012	D7	60 days	Others	Unused	Unused	Unused	Unused	Used	Unused	Unused
E2634	O86	2013	D18	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2635	O86	2013	D18	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2636	O35	2013	C18	21 days	Diarrhea	Unused	Used	Unused	Unused	Unused	Used	Unused
E2637	O35	2013	C18	21 days	Diarrhea	Unused	Used	Unused	Unused	Unused	Used	Unused
E2638	O35	2013	C18	21 days	Diarrhea	Unused	Used	Unused	Unused	Unused	Used	Unused
E2639	O139	2013	V3	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2640	O139	2013	V3	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2641	O139	2013	V3	30 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2642	O23	2013	D19	10 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2643	O25	2013	D20	70 days	Others	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2644	O149	2013	C18	35 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2645	O9	2013	A16	50 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2646	O8	2013	D21	90 days	Others	Unused	Used	Unused	Unused	Unused	Used	Unused
E2647	O139	2013	V2	50 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2648	O78	2013	D22	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2649	O7	2013	D22	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2650	O8	2013	D23	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2651	O8	2013	D23	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2652	OUT	2013	D11	6 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2653	OUT	2013	D11	6 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2654	O98	2013	D19	7 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2655	O45	2013	G5	50 days	Others	ND	ND	ND	ND	ND	ND	ND
E2656	OUT	2013	I3	21 days	Others	ND	ND	ND	ND	ND	ND	ND
E2657	OUT	2013	D17	9 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2658	O116	2013	D24	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2659	O116	2013	D24	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND

E2660	O20	2014	H1	6 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2661	OUT	2014	H10	7 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2662	OUT	2014	H11	11 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2663	O35	2014	G6	33 days	Others	ND	ND	ND	ND	ND	ND	ND
E2664	OUT	2014	D22	18 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2665	OUT	2014	U2	2 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2666	OUT	2014	U2	2 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2667	O76	2014	U2	7 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2668	OUT	2014	G7	4 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2669	O116	2014	D22	40 days	Others	ND	ND	ND	ND	ND	ND	ND
E2670	O8	2014	M4	ND	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2671	O142	2014	cc1	90 days	Others	ND	ND	ND	ND	ND	ND	ND
E2672	O139	2014	C16	40 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2673	O35	2014	C18	40 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2674	O114	2014	B10	80 days	Others	ND	ND	ND	ND	ND	ND	ND
E2675	O10	2014	D25	7 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2676	O116	2014	D25	30 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2678	OUT	2014	D18	1 days	Others	ND	ND	ND	ND	ND	ND	ND
E2679	OUT	2014	D18	1 days	Others	ND	ND	ND	ND	ND	ND	ND
E2680	O51	2014	H12	90 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2681	O139	2014	H12	90 days	Edema disease	ND	ND	ND	ND	ND	ND	ND
E2682	O149	2014	D26	20 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2683	O66	2014	N1	1 days	Others	ND	ND	ND	ND	ND	ND	ND
E2684	O128	2014	W1	5 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2685	O116	2015	D4	55 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2686	O8	2015	E4	4 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2687	O23	2015	X1	10 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2688	O146	2015	A17	2 years	Others	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2689	O7	2015	A17	1 years	Others	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2690	O118	2015	A17	30 days	Others	ND	ND	ND	ND	ND	ND	ND
E2691	O139	2015	C18	80 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2692	O51	2015	C18	80 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2693	O157	2015	A4	2 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2694	O8	2015	A4	2 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2695	O20	2015	A4	2 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2696	O139	2015	C18	50 days	Edema disease	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2697	O64	2015	I4	1 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2698	O64	2015	I4	1 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2699	OUT	2015	B11	24 days	Diarrhea	Used	Unused	Unused	Used	Used	Used	Unused
E2700	O139	2015	V4	39 days	Edema disease	Used	Unused	Unused	Unused	Used	Unused	Unused
E2701	O77	2015	V4	39 days	Edema disease	Used	Unused	Unused	Unused	Used	Unused	Unused
E2702	OSB17	2015	B11	1 days	Others	Unused	Unused	Unused	Used	Unused	Unused	Unused
E2703	OUT	2015	O2	5 days	Others	Unused	Unused	Unused	Used	Unused	Unused	Unused
E2704	O9	2015	Q3	120 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Used	Unused
E2705	O116	2015	D27	30 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2706	O9	2015	D27	30 days	Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2707	O157	2015	B10	50 days	Edema disease	Used	Used	Used	Unused	Unused	Unused	Unused
E2708	O9	2015	E4	7 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2709	O132	2015	X2	4 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2710	OUT	2015	B12	14 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND
E2711	OUT	2016	C19	25 days	Diarrhea	ND	ND	ND	ND	ND	ND	ND

E2712	O149	2016	B13	2 days	Diarrhea	Used	Unused	Used	Unused	Unused	Unused	Unused
E2713	O115	2016	B13	60 days	Diarrhea	Unused	Unused	Unused	Unused	Unused	Unused	Unused
E2714	O108	2016	V2	45 days	Edema disease and Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2715	O116	2016	V2	45 days	Edema disease and Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2716	O108	2016	V2	46 days	Edema disease and Diarrhea	Used	Unused	Unused	Unused	Unused	Unused	Unused
E2717	O132	2016	M4	102 days	Others	ND	ND	ND	ND	ND	ND	ND
E2718	OUT	2017	A14	30 days	Septicemia	ND	ND	ND	ND	ND	ND	ND

a) ND: no data.

Supplementary Table 2. Association between the use of antimicrobials and antimicrobial resistance

Antimicrobials used	Resistance outcome ^{a)}	Exposed		Not exposed		Odds ratio ^{b)}	p-value ^{b)}
		Resistant	Susceptible	Resistant	Susceptible		
Penicillins	AMP	57	19	103	39	1.14 (0.60-2.15)	0.6947
	PIP	46	29	88	55	0.99 (0.56-1.76)	0.9748
	CFZ	40	35	59	84	1.63 (0.93-2.86)	0.0890
	CXM	2	73	6	137	0.63 (0.12-3.18)	0.7178 ^{c)}
	CTX	2	73	10	133	0.36 (0.08-1.71)	0.2262 ^{c)}
	FEP	1	74	0	143	5.78 (0.23-143.60)	0.3440 ^{c)}
	GEN*	31	44	37	106	2.02 (1.12-3.65)	0.0193
	KAN	30	45	45	98	1.45 (0.81-2.60)	0.2078
	STR	57	18	106	37	1.11 (0.58-2.11)	0.7616
	TET	68	7	125	18	1.40 (0.56-3.52)	0.4738
	CHL	38	37	85	58	0.70 (0.40-1.23)	0.2146
	NAL	47	28	83	60	1.21 (0.68-2.15)	0.5086
	CIP	31	44	52	91	1.23 (0.70-2.18)	0.4730
	LVX	28	47	48	95	1.18 (0.66-2.11)	0.5795
	GAT	27	48	39	104	1.50 (0.82-2.73)	0.1828
SXT	50	25	89	54	1.21 (0.67-2.18)	0.5179	
Ceftiofur	AMP*	11	0	149	58	9.00 (0.52-155.21)	0.0394 ^{c)}
	PIP	9	2	125	82	2.95 (0.62-14.01)	0.2102 ^{c)}
	CFZ**	10	1	89	118	13.26 (1.67-105.49)	0.0030 ^{c)}
	CXM	1	10	7	200	2.86 (0.32-25.52)	0.3437 ^{c)}
	CTX**	4	7	8	199	14.21 (3.45-58.65)	0.0014 ^{c)}
	FEP	0	11	1	206	-	-
	GEN	1	10	67	140	0.21 (0.03-1.67)	0.1791 ^{c)}
	KAN	6	5	69	138	2.40 (0.71-8.14)	0.1936 ^{c)}
	STR	8	3	155	52	0.89 (0.23-3.50)	1.0000 ^{c)}
	TET	8	3	185	22	0.32 (0.08- 1.28)	0.1183 ^{c)}
	CHL*	10	1	113	94	8.32 (1.05-66.17)	0.0253 ^{c)}
	NAL	5	6	125	82	0.55 (0.16-1.85)	0.3575 ^{c)}
	CIP	3	8	80	127	0.60 (0.15-2.31)	0.5388 ^{c)}
	LVX	3	8	73	134	0.69 (0.18-2.67)	0.7511 ^{c)}
	GAT	3	8	63	144	0.86 (0.22-3.34)	1.0000 ^{c)}
SXT	6	5	133	74	0.67 (0.20-2.26)	0.5325 ^{c)}	
Aminoglycosides	AMP	24	7	136	51	1.29 (0.52-3.17)	0.5839
	PIP	18	13	116	71	0.85 (0.39-1.83)	0.6740
	CFZ	11	20	88	99	0.62 (0.28-1.36)	0.2306
	CXM	0	31	8	179	-	-
	CTX	0	31	12	175	-	-
	FEP	0	31	1	186	-	-
	GEN	14	17	54	133	2.03 (0.93-4.40)	0.0699
	KAN	14	17	61	126	1.70 (0.79-3.68)	0.1734
	STR*	28	3	135	52	3.60 (1.05-12.34)	0.0314
	TET	30	1	163	24	4.42 (0.58-33.90)	0.2179 ^{c)}
	CHL	13	18	110	77	0.51 (0.23-1.09)	0.0790
	NAL	18	13	112	75	0.93 (0.43-2.00)	0.8475
	CIP	16	15	67	120	1.91 (0.89-4.11)	0.0937
	LVX	14	17	62	125	1.66 (0.77-3.59)	0.1939
	GAT	14	17	52	135	2.14 (0.98-4.65)	0.0514
SXT	17	14	122	65	0.65 (0.30-1.40)	0.2645	
Tetracyclines	AMP	13	4	147	54	1.19 (0.37-3.82)	1.0000 ^{c)}
	PIP	12	5	122	79	1.55 (0.53-4.58)	0.4208
	CFZ	10	7	89	112	1.80 (0.66-4.91)	0.2474
	CXM	0	17	8	193	-	-
	CTX	0	17	12	189	-	-
	FEP	0	17	1	200	-	-
	GEN	2	15	66	135	0.27 (0.06-1.23)	0.0718
	KAN*	2	15	73	128	0.23 (0.05-1.05)	0.0407
	STR	14	3	149	52	1.63 (0.45-5.89)	0.5707 ^{c)}
	TET	16	1	177	24	2.17 (0.28-17.10)	0.7001 ^{c)}
	CHL	8	9	115	86	0.66 (0.25-1.79)	0.4176
	NAL	7	10	123	78	0.44 (0.16-1.21)	0.1063
	CIP	5	12	78	123	0.66 (0.22-1.94)	0.4436
	LVX	5	12	71	130	0.76 (0.26-2.25)	0.6235
	GAT	5	12	61	140	0.96 (0.32-2.83)	0.9333
SXT	8	9	131	70	0.47 (0.18-1.29)	0.1357	
Phenicols	AMP	11	3	149	55	1.35 (0.36-5.03)	0.7647 ^{c)}
	PIP	10	4	124	80	1.61 (0.49-5.32)	0.4285
	CFZ*	10	4	89	115	3.23 (0.98-10.64)	0.0433
	CXM	0	14	8	196	-	-
	CTX	0	14	12	192	-	-
	FEP	0	14	1	203	-	-
	GEN	2	12	66	138	0.35 (0.08-1.60)	0.2346 ^{c)}
	KAN	3	11	72	132	0.50 (0.14-1.85)	0.3895 ^{c)}
	STR	12	2	151	53	2.11 (0.46-9.72)	0.5260 ^{c)}
	TET	13	1	180	24	1.73 (0.22-13.85)	1.0000 ^{c)}
	CHL*	12	2	111	93	5.03 (1.10-23.03)	0.0223
	NAL	6	8	124	80	0.48 (0.16-1.45)	0.1860
	CIP	2	12	81	123	0.25 (0.06-1.16)	0.0581
	LVX	2	12	74	130	0.29 (0.06-1.34)	0.1457 ^{c)}
	GAT	2	12	64	140	0.36 (0.08-1.68)	0.2370 ^{c)}
SXT	10	4	129	75	1.45 (0.44-4.80)	0.5371	
Fluoroquinolones	AMP	31	6	129	52	2.08 (0.82-5.29)	0.1166
	PIP	23	14	111	70	1.04 (0.50-2.15)	0.9244
	CFZ	20	17	79	102	1.52 (0.75-3.09)	0.2467
	CXM	1	36	7	174	0.69 (0.08-5.79)	1.0000 ^{c)}

	CTX	1	36	11	170	0.43 (0.05-3.43)	0.6957 ^{c)}
	FEP	0	37	1	180	-	-
	GEN	13	24	55	126	1.24 (0.59-2.62)	0.5698
	KAN	17	20	58	123	1.80 (0.88-3.70)	0.1048
	STR	30	7	133	48	1.55 (0.64-3.75)	0.3320
	TET	30	7	163	18	0.47 (0.18-1.23)	0.1528 ^{c)}
	CHL	16	21	107	74	0.53 (0.26-1.08)	0.0760
	NAL	25	12	105	76	1.51 (0.71-3.19)	0.2804
	CIP	18	19	65	116	1.69 (0.83-3.45)	0.1460
	LVX	15	22	61	120	1.34 (0.65-2.77)	0.4263
	GAT	14	23	52	129	1.51 (0.72-3.16)	0.2719
	SXT	20	17	119	62	0.61 (0.30-1.25)	0.1777
Sulfamethoxazole-trimethoprim	AMP	11	4	149	54	0.00 (0.30-3.26)	1.0000 ^{c)}
	PIP	8	7	126	77	0.70 (0.24-2.00)	0.5023
	CFZ	6	9	93	110	0.79 (0.27-2.30)	0.6629
	CXM	1	14	7	196	2.00 (0.23-17.42)	0.4401 ^{c)}
	CTX	0	15	12	191	-	-
	FEP	0	15	1	202	-	-
	GEN***	12	3	56	147	10.50 (2.86-38.61)	0.0001 ^{c)}
	KAN	5	10	70	133	0.95 (0.31-2.89)	0.9287
	STR	14	1	149	54	5.07 (0.65-39.51)	0.1229 ^{c)}
	TET	13	2	180	23	0.83 (0.18-3.92)	0.6843 ^{c)}
	CHL	7	8	116	87	0.66 (0.23-1.88)	0.4299
	NAL*	13	2	117	86	4.78 (1.05-21.73)	0.0270
	CIP	9	6	74	129	2.61 (0.90-7.64)	0.0699
	LVX	6	9	70	133	1.27 (0.43-3.70)	0.6654
	GAT	6	9	60	143	1.59 (0.54-4.66)	0.3946 ^{c)}
SXT	11	4	128	75	1.61 (0.50-5.24)	0.4241	

a) *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

b) -: No resistant isolate exposed with antimicrobial agent.

c) The p -value is based on Fisher's exact test.