

Table S1: The clonal complex, *spa* type, MLST types, SCC*mec* types and virulence genes in six MRSA strains used in this study.

Strain ID	CC ^a	<i>spa</i> type	MLST (SCC <i>mec</i> type)	Virulence genes
CUHK_M20_01	CC30	t019	ST30 IV ^c	<i>cap8A, cap8C, cap8G, cap8K, cap8O, chp, esaA, essA, essB, esxA, hld, hlgA, icaA, icaB, icaR, isdE, isdF, isdG, lukF-PV, lukS-PV, sak, scn, sspC,</i>
CUHK_M20_02	NT ^b	t437	ST59 IV ^a	<i>aur, cap8C, cap8E, cap8G, cap8I, cap8P, chp, esaB, essA, essB, esxA, hld, hlgA, hlgB, hly/hla, icaA, icaB, icaC, icaD, icaR, isdE, srtB, lukF-PV, lukS-PV, sak, scn</i>
CUHK_M20_03	CC22	t3212	ST22 IV	<i>cap8C, cap8D, cap8E, cap8G, cap8L, cap8M, cap8P, essA, esxA, Hld, hlgA, icaA, icaB, icaD, icaR, isdC, isdE, isdG, sak, scn, srtB, sspB sspC</i>
CUHK_M20_04	CC45	t1081	ST45 V ^c	<i>cap8C, cap8G, cap8P, chp, esaB, essA, essB, esxA, esxB, hld, hlgA, icaA, icaB, icaD, isdE, sak, scn</i>
CUHK_M20_05	CC8	t037	ST239 III ^d	<i>cap8A, cap8C, cap8G cap8O, cap8K esaA, essA, essB, esxA, hld, hlgA, hlgB, hlgC, hly/hla, icaA, icaB, icaR, isdA, isdB, isdC, isdD, isdE, isdF, isdG map, sak, scn sea srtB, sspC, vWbp</i>

CUHK_M20_15	CC8	t008	ST8 (IVa)	<i>aur, cap8A, cap8C, cap8D, cap8E, cap8F, cap8G, cap8L, cap8M, cap8P, chp, esaA, esaB, essA, essB, esxA, esxB, geh, hld, hlgA hlgB, hlgC, hly/hla, , icaA, icaB, icaC, icaD, icaR, isdA, isdB, isdC, isdD, isdE, isdF, isdG, lip, lukF-PV, lukS-PV, map, sak, scn, srtB, sspB, sspC, vWbp</i>
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^aCC: Clonal Complex

^b NT: Not typeable.

V^c: This SCCmec_type_V does not carry a *ccrC1*, class-C2-*mec*, *ccrC1* .

III^d: This SCCmec_type_III carries an additional class 5 *ccr*