Supplementary Table S1

The summary of *S. aureus* data acquired by mini-MLST and spa-HRM. The MLST STs and MLST CCs highlighted in bold indicate the sequencing provided in our laboratory. The non-bold MLST STs and MLST CCs are marked with a symbol referring to the publication from which the data were obtained.

| MelT | spa-type | MRSA | MSSA | spa repeat | length (bp) | ST | CC |
|------|----------|------|------|------------|-------------|----|----|
| 224  | t689     | 1    | 0    | 11-19-12-22-25 | 255 | 8  | 8  |
|      | t190     | 0    | 1    | 11-17-34-24-34-22-25 | 303 | 8  | 8  |
|      | t648     | 0    | 1    | 11-21-17-34-24-34-22-25 | 327 | 8  | 8  |
|      | t024     | 3    | 254  | 11-12-21-17-34-24-34-22-25 | 351 | 8  | 8  |
|      | t18941   | 0    | 2    | 11-19-21-17-194-24-34-22-25 | 351 | 8  | 8  |
|      | t1576    | 1    | 1    | 11-12-21-17-34-24-34-22-25 | 375 | 8  | 8  |
|      | t1709    | 1    | 0    | 11-19-12-21-17-34-24-34-22-24 | 375 | 474 | 8  |
|      | t008     | 15   | 5    | 11-19-12-21-17-34-24-34-22-25 | 375 | 8  | 8  |
|      | t211     | 3    | 0    | 11-19-12-12-21-17-34-24-34-22-25 | 399 | 4750 | 8  |
|      | t1767    | 6    | 2    | 11-19-12-21-17-34-24-34-22-25 | 399 | 8  | 8  |
| 351  | t586     | 12   | 0    | 26-16      | 183 | 225 | 5  |
|      | t151     | 1    | 0    | 26-17-20-17-16 | 255 | 5(1) |     |
|      | t564     | 1    | 0    | 26-17-17-17-16 | 255 | 225 | 5  |
|      | t045     | 146  | 0    | 26-17-20-17-12-17-16 | 303 | 225 | 5  |
|      | t003     | 1    | 0    | 26-17-20-17-12-17-16 | 327 | 225 | 5  |
|      | t1623    | 1    | 1    | 07-17-20-17-12-17-16-17-17-16 | 328 | 225 | 5  |
|      | t014     | 17   | 0    | 26-17-20-17-12-17-17-16 | 315 | 225 | 5  |
|      | t481     | 1    | 0    | 26-17-20-17-12-17-17-16 | 351 | 225 | 5  |
|      | t626     | 1    | 0    | 26-17-20-17-12-17-17-16 | 351 | 225 | 5  |
|      | t1323    | 1    | 0    | 26-17-20-17-12-17-17-17-16 | 375 | 225 | 5  |
|      | t18037   | 2    | 0    | 26-17-20-17-12-17-12-17-17-17-17-16 | 447 | 225 | 5  |
| 474  | t3698    | 3    | 0    | 08-12-23-02-12-23 | 280 | 6695 | 15 |
|      | t335     | 0    | 1    | 07-23-12-34-34-12-23 | 303 | 5(2) | 15(2) |
|      | t18007   | 0    | 27   | 26-23-12-34-34-23-02-12-23 | 327 | 15 | 15 |
|      | t360     | 0    | 2    | 07-23-12-34-12-23-02-12-23 | 351 | 15(3) | 15(3) |
|      | t2216    | 0    | 2    | 07-23-34-12-12-23-02-12-23 | 351 | 15(4) | 15(4) |
|      | t346     | 0    | 3    | 07-23-12-34-12-12-23-02-12-23 | 375 | 15(3) | 15(3) |
|      | t368     | 0    | 1    | 26-23-12-34-34-12-23-02-12-23 | 375 | 15 | 15 |
|      | t085     | 0    | 2    | 07-23-12-34-34-12-23-02-12-23 | 375 | 15(3) | 15(3) |
|      | t084     | 5    | 19   | 07-23-12-34-34-12-12-23-02-12-23 | 399 | 15(3) | 15(3) |
|      | t4309    | 0    | 1    | 07-23-12-34-34-12-23-02-12-23 | 399 | 15 | 15 |
|      | t5721    | 0    | 1    | 07-34-12-34-12-02-12-23-02-12-23 | 399 | 15 | 15 |
|      | t120     | 0    | 1    | 07-23-12-34-34-12-12-23-02-12-23 | 422 | 15(6) | 15(6) |
|      | t774     | 0    | 3    | 07-23-12-34-34-12-12-23-02-12-23 | 423 | 15(2) | 15(2) |
|      | t1727    | 0    | 2    | 07-23-12-34-34-12-12-23-02-12-23 | 447 | 582 | 15 |
| 404B | t918     | 1    | 0    | 09-02      | 183 | 45  | 45 |
|      | t026     | 5    | 0    | 08-16-34   | 207 | 45  | 45 |
|      | t635     | 1    | 0    | 08-16-13   | 207 | 45  | 45 |
|      | t1040    | 0    | 3    | 08-16-34-34 | 231 | 45  | 45 |
|      | t728     | 0    | 1    | 08-16-34-16-34 | 255 | 45(3) | 45(3) |
|   |   |   |   |  |   |   |
|---|---|---|---|---|---|---|
| t18036 | 0 | 1 | 09-34-17-34-34 | 255 | 6289 | 45 |
| t3000 | 0 | 1 | 09-02-17-34-16-34 | 279 | 45 | 45 |
| t095 | 0 | 6 | 08-16-02-16-34-34 | 279 | 45 | 45 |
| t1081 | 0 | 3 | 08-16-02-43-34-17-34 | 303 | 5246 | 45 |
| t130 | 0 | 2 | 09-34-13-17-34-16-34 | 303 | 45 | 45 |
| t5032 | 0 | 1 | 08-16-02-16-13-17-34-34 | 327 | 278 | 45 |
| t665 | 0 | 5 | 09-02-16-34-13-17-34-16-34 | 351 | 45 | 45 |
| t1248 | 0 | 1 | 09-02-16-34-13-17-34-16-3 | 351 | 45 | 45 |
| t737 | 1 | 1 | 08-16-34-13-17-34-16-34 | 351 | 45 | 45 |
| t18010 | 0 | 2 | 09-02-16-34-34-34-16-34 | 351 | 45 | 45 |
| t330 | 0 | 2 | 09-02-16-34-34-17-34-16-34 | 351 | 45 | 45 |
| t2275 | 0 | 1 | 09-02-16-34-13-17-34-16-34 | 351 | 45 | 45 |
| t2623 | 0 | 1 | 08-16-02-16-13-17-34-16-34 | 351 | 45 | 45 |
| t1510 | 1 | 0 | 08-16-02-16-34-13-17-34-16-3 | 375 | 45 | 45 |
| t116 | 1 | 1 | 08-16-02-16-13-17-34-16-34 | 375 | 45 | 45 |
| t105 | 2 | 3 | 08-16-02-16-34-13-17-34-16-34 | 375 | 45 | 45 |
| t18694 | 0 | 2 | 08-16-34-13-17-34-16-34-13-13 | 375 | 45 | 45 |
| t589 | 0 | 1 | 08-16-02-16-34-34-34-13-17-34-16 | 399 | 508 | 45 (2) |
| t069 | 0 | 1 | 08-16-02-16-34-13-17-34-16-34 | 399 | 45 | 45 |
| t1231 | 0 | 2 | 08-16-02-16-34-13-17-34-16-34 | 423 | 45 | 45 |

| MelT |   |   |   |  |   |   |
|---|---|---|---|---|---|---|
| t2302 | 0 | 1 | 26-23-17-34 | 231 | 5 | 5 |
| t688 | 1 | 0 | 26-23-17-34-17-16 | 279 | 5 | 5 |
| t18022 | 0 | 1 | 07-23-17-34-17-20-16 | 303 | 5 | 5 |
| t18046 | 2 | 0 | 26-23-22-17-12-17-16 | 303 | 5 | 5 |
| t212 | 0 | 1 | 26-17-20-17-12-16 | 303 | 5 | 5 |
| t101 | 1 | 1 | 26-17-34-17-20-17-12-17-16 | 351 | 5 | 5 |
| t1105 | 0 | 1 | 08-23-17-34-17-17-16 | 351 | 5 | 5 |
| t1303 | 0 | 2 | 08-16-34-17-20-17-12-12-16 | 351 | 5 | 5 |
| t179 | 2 | 13 | 26-23-17-34-17-20-17-12-11-16 | 375 | 5 | 5 |
| t18041 | 0 | 1 | 08-16-02-17-13-17-34-16-34-16-16 | 375 | 45 | 45 |
| t002 | 4 | 8 | 26-17-13-34-17-20-17-12-12-16 | 375 | 5 | 5 |

| MelT |   |   |   |  |   |   |
|---|---|---|---|---|---|---|
| t10060 | 0 | 5 | 07-02-25-34-25 | 255 | 398 | 398 |
| t11729 | 0 | 3 | 08-16-34-24-24-25 | 279 | 398 | 398 |
| t1451 | 0 | 2 | 08-16-02-25-34-25 | 279 | 398 | 398 |
| t011 | 5 | 0 | 08-16-02-25-34-24-25 | 303 | 398 | 398 |
| t18045 | 0 | 1 | 08-12-16-02-25-34-25 | 303 | 398 | 398 |
| t571 | 0 | 6 | 08-16-02-25-02-25-34-25 | 327 | 398 | 398 |
| t034 | 22 | 0 | 08-16-02-25-02-25-34-24-25 | 351 | 398 | 398 |
| t17741 | 1 | 0 | 08-16-02-25-02-25-34-24-24-25 | 399 | 398 | 398 |

| MelT |   |   |   |  |   |   |
|---|---|---|---|---|---|---|
| t1509 | 0 | 1 | 07-23-12-23 | 231 | 6 alleles | 7 |
| t803 | 0 | 7 | 07-23-02-12-23 | 255 | 6 alleles | 7 |
| t867 | 0 | 2 | 07-23-17-34-12-23-02-12-23 | 351 | 7 | 7 |
| t2932 | 0 | 1 | 07-23-21-17-34-12-23-12-23 | 351 | 7 | 7 |
| t091 | 0 | 22 | 07-23-21-17-34-12-23-02-12-23 | 375 | 7 | 7 |

| MelT |   |   |   |  |   |   |
|---|---|---|---|---|---|---|
| t338 | 0 | 2 | 15-21-16-02-25-17-24 | 303 | 30 (8) |
| t347 | 0 | 1 | 08-02-16-02-25-17-24 | 303 | 30 (9) | 30 (9) |
| t019 | 0 | 2 | 08-16-02-16-02-25-17-24 | 327 | 30 (4) | 30 (4) |
| t665 | 2 | 1 | 15-12-16-16-02-16-02-25 | 327 | 30 (10) | 30 (10) |
| t122 | 1 | 3 | 08-16-02-16-02-25-17-24 | 351 | 30 (11) | 30 (11) |
| t18351 | 0 | 2 | 08-16-784-16-02-25-17-24-24 | 351 | 30 | 30 |
|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| t1641 | 0 | 1 | 15-12-16-02-16-02-25-16-17-24 | 375 | 30(12) | 30(12) |
| t318  | 1 | 0 | 15-12-16-02-16-02-25-16-17-24 | 375 | 30(4)  | 30(4)  |
| t3508 | 0 | 1 | 15-12-16-02-16-02-31-25-17-24-24 | 399 | 30    | 30     |
| **MelT** | **t127** | 13 | 2 | 07-23-21-16-34-33-13 | 303 | 1 | 1 |
| 423   | **t901** | 0 | 1 | 07-23-12-17-20-17-12-12-17 | 351 | 72 | 72 |
| 357   | **t3092** | 1 | 0 | 07-23-12-21-12-17-20-17-12-12-17 | 375 | 72(2) | 72(2) |
|       | **t148** | 0 | 10 | 07-23-12-21-12-17-20-17-12-12-17 | 399 | 72 | 72 |
|       | **t16914** | 0 | 1 | 07-23-12-21-12-17-20-17-12-12-20-17 | 423 | 72 | 72 |
|       | **t1346** | 0 | 1 | 07-23-12-21-12-17-20-17-12-12-12-17 | 423 | 72(2) | 72(2) |

Number of isolates tested by MLST within a spa type (in case >1 isolates detected within a spa-type): t024 (n = 57), t18941 (n = 1), t1576 (n = 1), t008 (n = 1), t211 (n = 1), t1767 (n = 1), t586 (n = 1), t045 (n = 1), t003 (n = 2), t014 (n = 2), t18037 (n = 1), t18007 (n = 2), t1727 (n = 1), t026 (n = 1), t1040 (n = 1), t095 (n = 1), t1081 (n = 2), t130 (n = 1), t065 (n = 1), t737 (n = 1), t18010 (n = 1), t330 (n = 1), t116 (n = 1), t015 (n = 1), t18694 (n = 1), t1231 (n = 1), t18046 (n = 1), t010 (n = 2), t1303 (n = 1), t179 (n = 2), t242, t002 (n = 1), t10060 (n = 1), t11729 (n = 1), t1451 (n = 1), t011 (n = 1), t571 (n = 1), t034 (n = 1), t18351 (n = 1), t127 (n = 1), t148 (n = 2).
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Supplementary Figure S1

Representative melting curves of mini-MLST typing for *S. aureus*.
Supplementary Figure S2

Mini-MLST demonstration of 38 samples for gmk286 locus by both normalised melting curves (A) and difference curves (B).
Supplementary Figure S3

Representative melting curves of spa-HRM typing performed for the prevalent MelTs observed in our study (except MelT404B).
Supplementary Figure S4

Representative melting curves of spa-HRM typing performed for the MelT404B.

Pre-segregation was done based on the length of the PCR product.