Supplementary figure 1. Alignments of Illumina HiSeq sequences of 38 cfr-positive staphylococci of human clinical origin with pLRSA417 plasmid.
Supplementary figure 2. Sequence alignments of extra sequences in pLRSA417-like plasmids pSN32 and pSN65 of porcine origin.
Supplementary table 1. Sampling information of *Staphylococcus* isolates from human clinical infections.

| Species                        | Total | cfr-positive (ratio) |
|--------------------------------|-------|----------------------|
| *S. aureus*                    | 1141  | 1 (0.09%)            |
| *S. haemolyticus*              | 558   | 4 (0.71%)            |
| *Staphylococcus hominis*       | 194   | 0                    |
| *S. capitis*                   | 113   | 26 (23.01%)          |
| *S. epidermidis*               | 77    | 0                    |
| *M. sciuri*                    | 53    | 0                    |
| *Staphylococcus warneri*       | 42    | 0                    |
| *S. saprophyticus*             | 17    | 0                    |
| *S. cohnii*                    | 14    | 3 (21.43%)           |
| *Staphylococcus caprae*        | 11    | 0                    |
| *Staphylococcus lugdunensis*   | 9     | 0                    |
| *Staphylococcus simulans*      | 8     | 0                    |
| *Staphylococcus gallinarum*    | 6     | 0                    |
| *Staphylococcus xylosus*       | 4     | 0                    |
| *Staphylococcus auricularis*   | 3     | 0                    |
| **Total**                      | **2250** | **34 (1.51%)**      |
Supplementary table 2. Information of cfr-positive *Staphylococcus* isolates from human clinical infections.

| Strain  | Year | Ward | Source | Species      |
|---------|------|------|--------|--------------|
| TZ360   | 2003 | BD   | Blood  | S. cohnii    |
| TZ361   | 2003 | BD   | Blood  | *S. haemolyticus* |
| TZ386   | 2004 | BD   | Blood  | S. capitis   |
| TZ390_1 | 2004 | BD   | Blood  | *S. haemolyticus* |
| TZ14    | 2011 | ICU  | Blood  | S. cohnii    |
| TZ24    | 2011 | ICU  | Blood  | S. capitis   |
| TZ59    | 2011 | ICU  | Blood  | S. capitis   |
| TZ67    | 2011 | ICU  | Blood  | S. capitis   |
| TZ41    | 2011 | IDD  | Sputum | *S. aureus*  |
| TZ99    | 2012 | ICU  | Blood  | *S. haemolyticus* |
| TZ84    | 2012 | RMD  | Blood  | S. capitis   |
| TZ100   | 2012 | ICU  | Blood  | S. capitis   |
| TZ103   | 2012 | ICU  | Blood  | S. capitis   |
| TZ124   | 2012 | ICU  | Blood  | S. capitis   |
| TZ127   | 2012 | EMD  | Blood  | S. capitis   |
| TZ135   | 2012 | ICU  | Blood  | S. capitis   |
| TZ146   | 2012 | EMD  | Blood  | S. capitis   |
| TZ161   | 2012 | ICU  | Blood  | S. capitis   |
| TZ170   | 2012 | ICU  | Blood  | S. capitis   |
| TZ215   | 2012 | US   | Urine  | S. capitis   |
| TZ241   | 2012 | ICU  | Blood  | S. capitis   |
| TZ257   | 2012 | ICU  | Blood  | S. capitis   |
| TZ266   | 2012 | ICU  | Blood  | S. capitis   |
| TZ283   | 2012 | EICU | Blood  | S. capitis   |
| TZ303   | 2012 | EICU | Blood  | S. capitis   |
| TZ322   | 2012 | BD   | Blood  | S. capitis   |
| TZ323   | 2012 | RMD  | Blood  | S. capitis   |
| TZ273   | 2012 | ICU  | Blood  | S. cohnii    |
| TZ477   | 2013 | ICU  | Blood  | *S. haemolyticus* |
| TZ371   | 2013 | ICU  | Blood  | S. capitis   |
| TZ390_2 | 2013 | ICU  | Blood  | S. capitis   |
| TZ447   | 2013 | ICU  | Blood  | S. capitis   |
| TZ474   | 2013 | ICU  | Blood  | S. capitis   |
| TZ931   | 2014 | ICU  | Blood  | S. capitis   |
| TZ10    | 2019 | BD   | Blood  | S. capitis   |
| TZ27    | 2020 | BD   | Blood  | S. capitis   |
| TZ44    | 2021 | BD   | Blood  | S. capitis   |
| TZ47    | 2021 | BD   | Blood  | S. capitis   |
a BD, burns department; ICU, intensive care unit; IDD, infectious diseases department; RMD, respiratory medicine department; EMD, emergency medicine department; US, urology surgery; EICU, emergency intensive care unit.
Supplementary table 3. Information of porcine isolates that carry pLRSA417-like plasmids.

| Plasmid | Species         | Year | Location         | Size (bp) |
|---------|----------------|------|------------------|-----------|
| pSN32   | *S. equorum*   | 2016 | Henan, China     | 47066     |
| pSN65   | *S. arlettae*  | 2016 | Henan, China     | 46169     |
| pSN134  | *S. saprophyticus* | 2015 | Shandong, China  | 46169     |
Supplementary table 4. Information of pLRSA417-like plasmids from the NCBI GenBank database.

| Plasmid   | Species   | Year | Source | Location | Accession Number |
|-----------|-----------|------|--------|----------|------------------|
| pH29-46   | *M. lentus* | 2016 | Chicken | China    | CP059680.1       |
| pcfr-XZ03 | *S. capitis* | 2019 | Human  | China    | CP077712.1       |
| pLRSA417  | *S. aureus* | 2013 | Human  | China    | KJ922127.1       |
| pXWZ      | *S. capitis* | unknown | Human  | China    | MT096435.1       |
| pSR01     | *S. aureus* | 2013 | Human  | China    | CP048644.1       |
| pSX01     | *S. xylosus* | unknown | Pig    | China    | KP890694.1       |
| pSP01     | *S. epidermidis* | unknown | Human  | Italy    | KR230047.1       |
| p12-00322 | *S. epidermidis* | 2012 | Human  | Germany  | KM521836.1       |
Supplementary table 5. Locations and sources of *cfr*-carrying staphylococcal sequences from the NCBI GenBank database.

| Source          | Human | Animal | Total |
|-----------------|-------|--------|-------|
| Chromosomal DNA | 5     | 8      | 13    |
| Plasmid         | 27    | 30     | 57    |
| Total           | 32    | 38     | 70    |