The raw reads of the 30 ST22 S. aureus genomes sequenced in this study were deposited in GenBank under BioProject accession no. PRJNA929648.

The *Kibdelosporangium philippinense* ATCC 49844Twhole genome shotgun sequence (WGS) project has been deposited at DDBJ/ENA/GenBank under accession [JAJVCN000000000](https://www.ncbi.nlm.nih.gov/nuccore/JAJVCN000000000). The raw data from BioProject [PRJNA790681](https://www.ncbi.nlm.nih.gov/bioproject/PRJNA790681) were submitted to the NCBI Sequence Read Archive (SRA) under three experiment accession numbers: [SRX13551729](https://www.ncbi.nlm.nih.gov/sra/SRX13551729%5baccn%5d) (Illumina fastq files), [SRX13555714](https://www.ncbi.nlm.nih.gov/sra/SRX13555714%5baccn%5d) (Nanopore reads in fastq format), and [SRX13556647](https://www.ncbi.nlm.nih.gov/sra/SRX13556647%5baccn%5d) (Nanopore reads in fast5 format).

The complete genome sequences were deposited in National Center for Biotechnology Information (NCBI) under the accession number CP110363 (<https://www.ncbi.nlm.nih.gov/nuccore/CP110363>). The raw sequences obtained from Nanopore PromethION sequencer were deposited in the Sequence Read Archive under the BioProject PRJNA895949 (<https://www.ncbi.nlm.nih.gov/bioproject/PRJNA895949>). The raw sequences obtained from DNBSEQ-T7RS platform were deposited in the Sequence Read Archive under the BioProject PRJNA898672 (<https://www.ncbi.nlm.nih.gov/bioproject/PRJNA898672>).