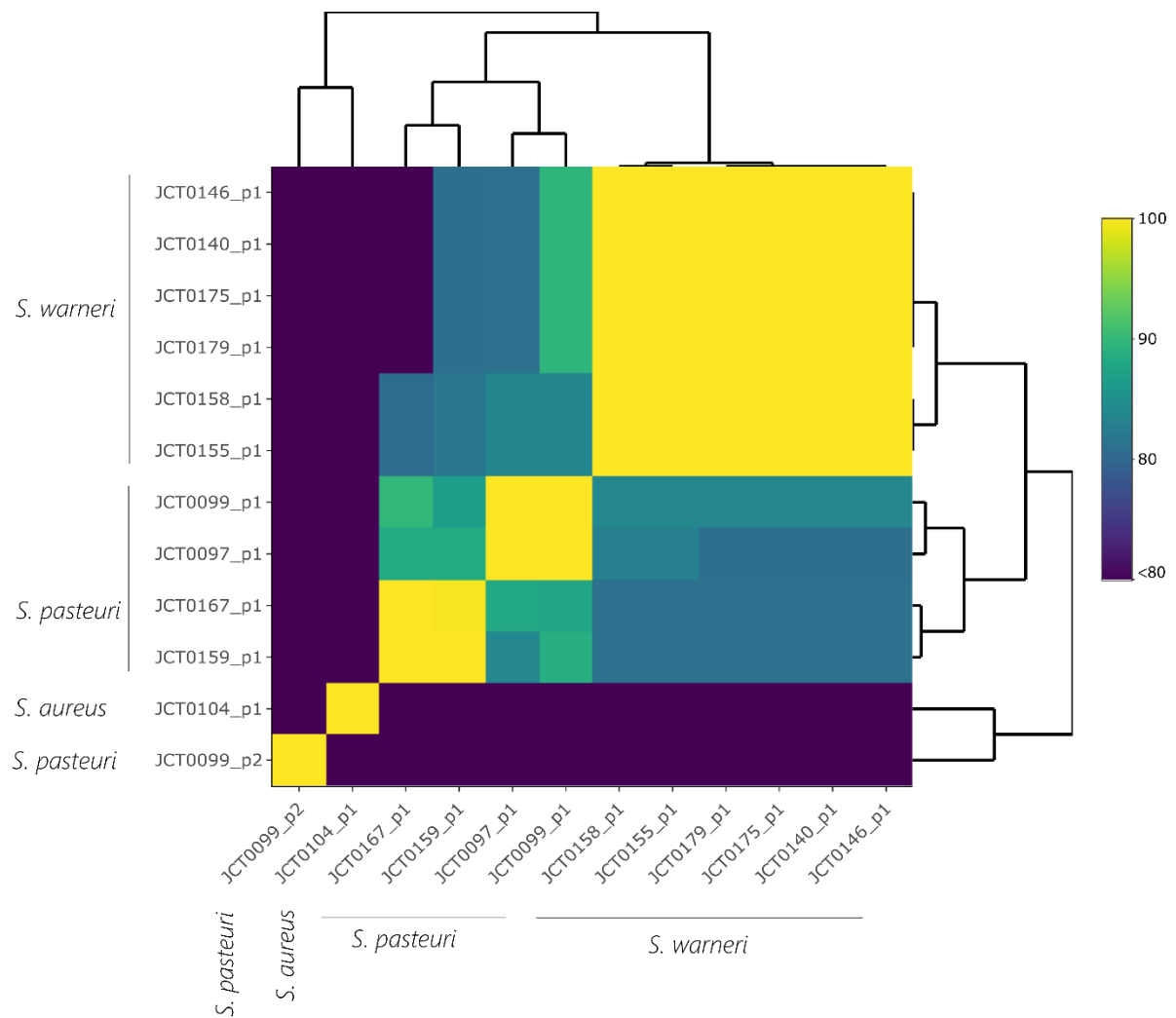


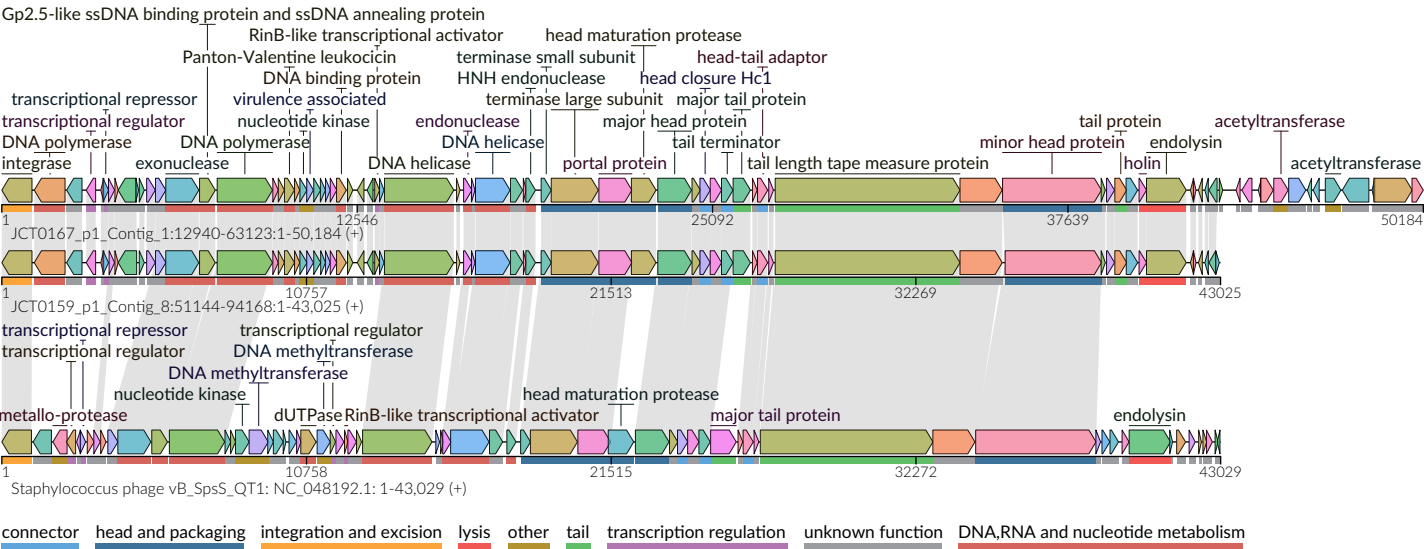
1

2 **Supplementary Figure 1:** Phylogenetic analysis of the *Staphylococcus* isolates. Maximum  
3 likelihood tree generated by concatenating the nucleotide sequences of 7 orthologous group  
4 genes (*mutS*, *recD2*, *pepA*, *yheS*, *pheT*, *pbp3* and *rpoC*) and aligning the concatenated  
5 sequences across the 14 strains, as proposed by Graña-Miraglia et al., 2018. Bootstraps are  
6 presented as a percentage of 1000 replicates, values over 80% are displayed as purple  
7 circles in the centre of branches. Scale bar refers to the nucleotide substitutions per site.

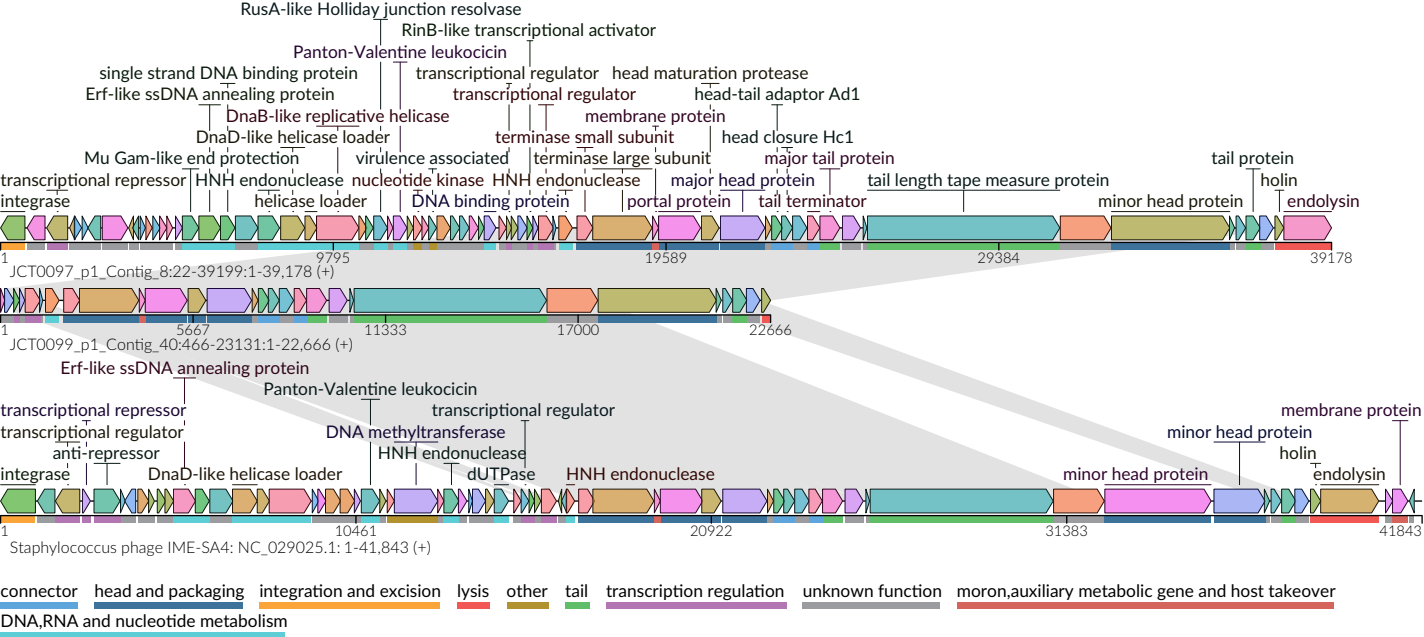


**Supplementary Figure 2:** Dendrogram and heatmap of hierarchical clustering of average nucleotide identity (ANI) between 12 *Staphylococcus* JCT prophages (query and references) using FastANI. Where FastANI could not calculate a score due to similarity falling below the threshold, a value <80 has been presented.

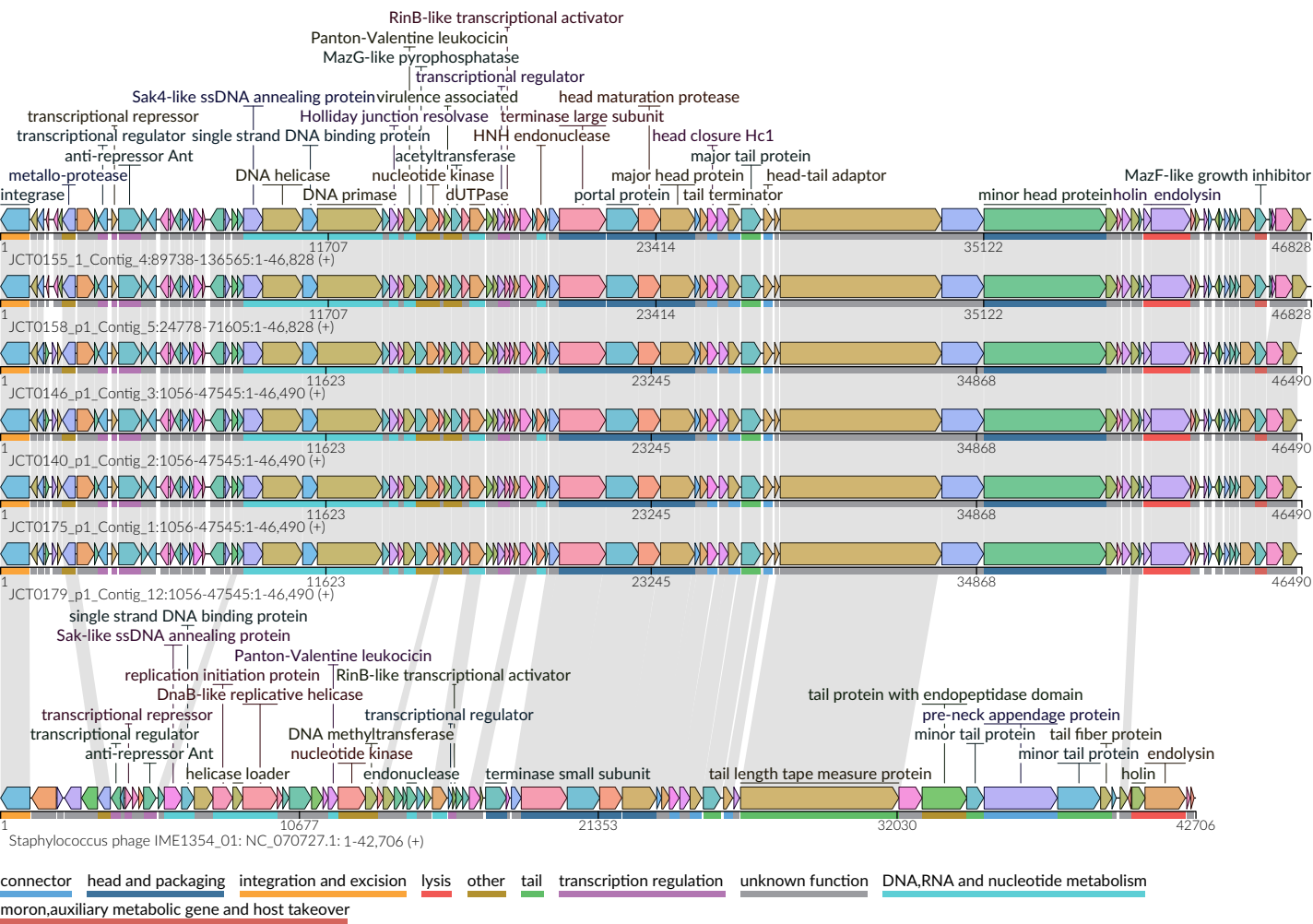
(a)



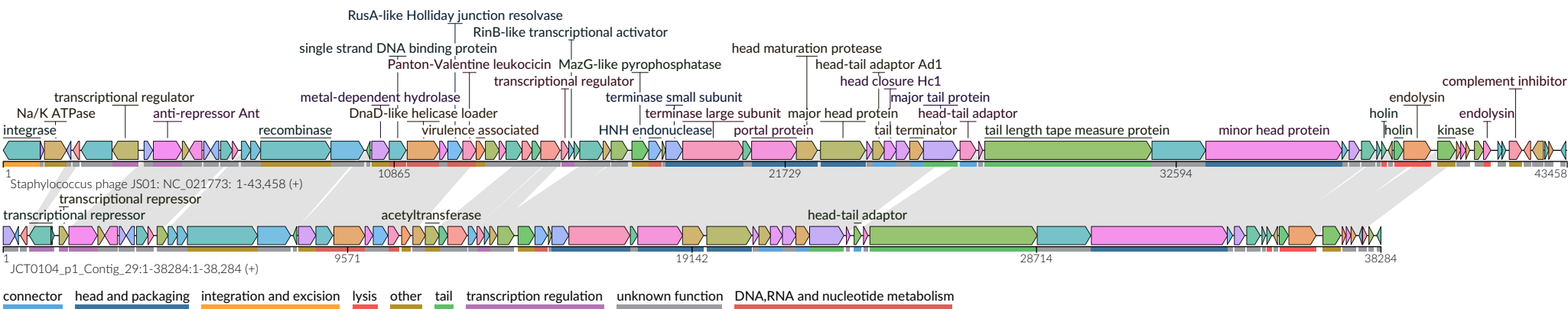
(b)



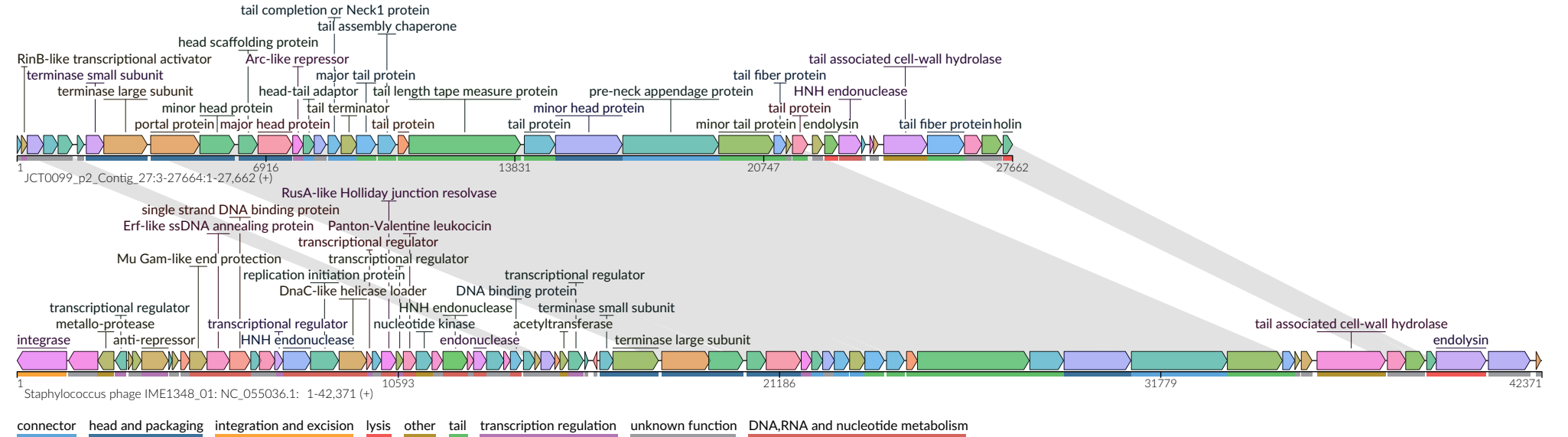
(c)



(d)



(e)



**Supplementary Figure 3:** Gene cluster comparisons between *Staphylococcus* JCT prophages and ViPTree-predicted closest phage relatives visualised using LoVis4u. Genomes have been reorientated to start with the integrase gene when present. The colour of arrows indicates homologous genes with connecting lines in grey further indicating regions of homology. Predicted phage modules are indicated by solid-coloured lines under corresponding regions of each genome.

(a) Comparison of JCT0159\_p1 and JCT0167\_p1 with the closest relative *Staphylococcus* phage vBSpsSQT1. (b) Comparison of JCT0099\_p1 and JCT0097\_p1 with the closest relative *Staphylococcus* phage IME-SA4. (c) Comparison of JCT0158\_p1, JCT0155\_p1, JCT0140\_p1, JCT0179\_p1, JCT0175\_p1, and JCT0146\_p1 with the closest relative *Staphylococcus* virus IME1354\_01. (d) Comparison of JCT0104\_p1 with the closest relative *Staphylococcus* phage JS01. (e) Comparison of JCT0099\_p2 with the closest relative *Staphylococcus* phage IME-1348.