Frosty24

Thank you with the QC checking of this genome. It was pretty straightforward and we had 2 different class sections work on the annotations that were compared for the final file. The genome was very similar to several other G phages and they could be used as a guide.

ORFs that could use a second look:

* I added a gene between what is now gene 44 and gene 46. This was similar to the comparable genomes, but it created a 37bp overlap with gene 46 to 45. It is a later start than the one auto-annotated, there is not a later start that makes sense, and it does give a 1:1 aa match to other genomes so it seems right.
* ORF 46 will not save the blast results on the DNA master file. It says it does, but it won’t show up when I then look at the blast results tab. I can’t figure out why.
* Gene 47 was also added. Seemed straightforward and have a good match in blast to Halo. The function of several of the genes listed in the Blast tab was transposase, but they were not very similar and not from phages so I did not add this function.
* Gene 59 was added. It is a mobile element and disrupts the gene that it jumped into. I don’t know if it is a MPME1 or 2.
* There was a gene before gene 52. I removed this gene, which was only 135 nucleotides long, and used an earlier start for gene 52. It had a 58 bp overlap with the prior ORF. It only had one blast match, to Leo, which is not a phage Frosty normally matches to.
* Removing the prior gene allows gene 52 to have an earlier start. The earlier start lines up BPs’ start. Additionally, the earlier start gives a single base pair gap with the prior ORF, which seems ideal. But the later start matched Liefie and Halo and the earlier start does not increase the coding potential captured, so I am somewhat uncertain of the better start.
* At the end of the genome there was a reverse gene that completely overlapped with two forward genes. I removed the reverse gene, as it was not seen in other G phages and the two forward genes matched extremely well to the other phages.

I am pretty conservative with the function calls, but I put any additional suggested functions below the notes and my reason for calling/not calling the function. Hopefully this will help follow my reasoning as to why I added it or not.

Thanks for the help,

Alex