Genome Annotation Submission Cover Sheet

Pre-QC Phage Genome Annotation Checklist

Phage Name:	Phergie
Your Name:	Susan Gurney
Your Institution:	Drexel University
Your email:	smg366@drexel.edu
Additional emails: (For correspondence)	rrd62@drexel.edu

Please check each box indicating completion of each task. Annotation Guide section #'s indicated

- ☑ 1. Does the genome sequence in your final contain the same number of bases and is it the same as the posted sequence on phagesdb.org?
- ☑ 2. Are all the genes "valid" when you click the "validate" button? *Section 9.3.2*
- ☑ 3. Have the genes been renumbered such that they go sequentially from 1 to the highest number? *Section 9.3.3*
- ☑ 4. Have all old BLAST hits been cleared, and all gene features reBLASTed? *Section 9.3.4*
- ☑ 5. Are the locus tags the phage name? *Section 9.3.3*
- ☑ 6. Has the Documentation been recreated to match the information in the feature table? *Section 1.4*
- ☑ 7. Have tRNA ends been adjusted with web-based Aragorn and/or tRNAscan SE? *Section 9.5.3-4*

8. For the items below, generate a genome profile, and review the following. *Section 11.3*

For the YourPhageName_CompleteNotes.dnam5 file:

- ☑ a. Have any duplicate genes (or any with the same stop coordinate?) been removed?
- ☑ b. Does every gene have **one and only one** complete set of Notes (see fig 12.2 in the Annotation Guide)?
- ☑ c. Do the functions in the Notes match the official function list?
- ☑ d. Is the function field EMPTY for all features?
- ☑ e. Do the notes contain the initial Glimmer/GeneMark data from the autoannotation?

For the YourPhageName .dnam5 file:

- ☑ a. Have any duplicate genes (or any with the same stop coordinate?) been removed?
- ☑ b. Is the Notes field empty for all the features with no known function?
- ☑ c. Do the function names in the Notes match the official function list, when applicable?
- ☑ d. Is the function field EMPTY for all features?

9. Describe any issues or specific genes that you were unable to satisfactorily resolve, and warrant further inspection in the Quality Control review.

- The following genes have functions not listed on the official function list:
Gene 6 - RuVC, Gene 9 - Capsid morphogenesis protein, Gene 19- Queuine tRNA ribosyltransferase, Gene 59 - FNA Primase/Helicase, Gene 62- DNA Polymerase I, gene 70 - RNase E, Gene 73 - PLA2 protein
- Gene 47 and 48 are both listed as Lysin A, are they the same gene? Phage Oline has them as a single gene (Gene 47 in Oline)
- Start sites have good evidence to support them, but there are large gaps between genes 5-6, 10-11, 11-12, 20-21, 26-27, 59-60, (every large gap, but no evidence to add a gene) 66-67, 78-79, 91-92 and 96-97.
- There is a large overlap between gene 47 and 48