Lehigh University would like to submit Streptomyces phage Birchlyn (BE) for QC. We have listed regions we would like to have the QC team analyze further.

We have added feature 116 tRNA (75663-75751), feature 183 tRNA (93275-93352). These were both called by Aragorn and tRNA scan with high infernal scores. We have also added feature 178 tRNA (92136-92207) which was called by tRNA scan with an infernal score higher than 20 but it was not called by Aragorn. We would like feature 173 tRNA (91322-91399) investigated, it was called by Aragorn and tRNA scan at 91323-91396. We have chosen not to trim this tRNA to the web based Aragorn calls because it has a 7bp acceptor stem with a discriminator base and ends in CCA.

We also deleted tRNA (96761-96833) because it has only a 2bp anticodon even though both Aragorn and tRNA scan call it.

We have chosen to add the following gene gp120 (76627-76770), gp130 (80377-80562), gp188 (93855-94013), and gp253 (113334-113444). These gene close large gaps and have moderate to strong coding potential.

We have chosen to deleted the following genes: gp12(5142-5300), gp20 (8095-8496), gp38 (14341-14559), gp40 (14593-14721R), gp79 (54009-54314), gp93 (63357-63605), gp106 (71340-71588), gp110(7443574566R), gp125 (80299-80514R), gp138 (85181-85372), gp234 (121233-121391), and gp242 (124186-124587). These genes had no evidence to call and had genes or tRNA in the same region.

A few gene products we would like investigated further are listed with what we would like investigated. Gp67(49849-50133) has strong homology to a HNH endonuclease, we have called this function even though it is not called in Jay2jay. gp77 (55394-56206) there is homology to a single stranded binding protein, we have not called this function. Gp87 (62570-63343) should be called an exonuclease, we did not call this function because it is not called in Jay2jay but less homologous mycobacteriophages do call this as an exonuclease.

Additionally, we feel that some functional calls should be updated. Gp43 (19417-20298) is called as a putative endolysin in Jay2jay but in other mycobacteriophages it is called as a lysin. Gp194 (95865-96269) has strong hhpred data for an acetyltransferase but this is not currently an approved function. We did not call a function.

We have one region that should be investigated once more for putative gene calls. There is a large gap present 115992-116998. We have looked for coding potential in this region and none exists. We have added all ORF that are longer than 75bp and there is no BLAST homology and the SD scores are lower. We have no called any genes in this region, however in Jay2jay there is no a large gap present. Large gap present 115992-116998. Added all longer ORF in this region and there is no BLAST hits, also very weak or no coding potential in this region. We have not called any genes in this region. Looking at Jay2jay there is no large gap.