Arthrophage Courtney\_3 Gene Summary

Baylor University 2016

Total Gene Count: 26

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| --- | --- | --- | --- | --- |
| Insertions | Deletions | Elongations | NKF’s | Found Functions |
| 2 | 4 | 2 | 17 | 9 |

Insertions:

* Added reverse gene 21 to match Decurro and similar phages on Phamerator and because coding potential was present. Matched helix-turn-helix DNA binding protein
* Gene 26 was added to cover coding potential in +2 frame and hits HNH endonuclease

Deletions:

* Deleted original gene 16 which was a reverse gene and extended original gene 17 to 11607 to better fill the gap and cover coding potential
* Deleted original gene 22 so that reverse gene 21 could be added. There was coding potential for both genes - gene 21 matched function helix turn helix DNA binding domain, no putative function for original gene 22 (although Sandman\_21 was called)
* Deleted original reverse gene 25 because it overlapped with original gene 24 (gene 23), which has helix turn helix DNA binding function
* Deleted original gene 28.1 (reading frame 1) and added new gene to reading frame 2 (gene 26)

Elongations:

* Gene 3 was elongated in order to reduce the gap (though there was coding potential on frame 2 in the gap, the protein BLAST said no significant similarity, but nucleotide BLAST matched a small group of similar phages including Decurro.) The elongated gene matches Decurro-like phages q:1s:1
* Gene 9 changed from 5661 to 5652 to cover coding potential, reduce gap, and match Decurro\_9 q:1s:1