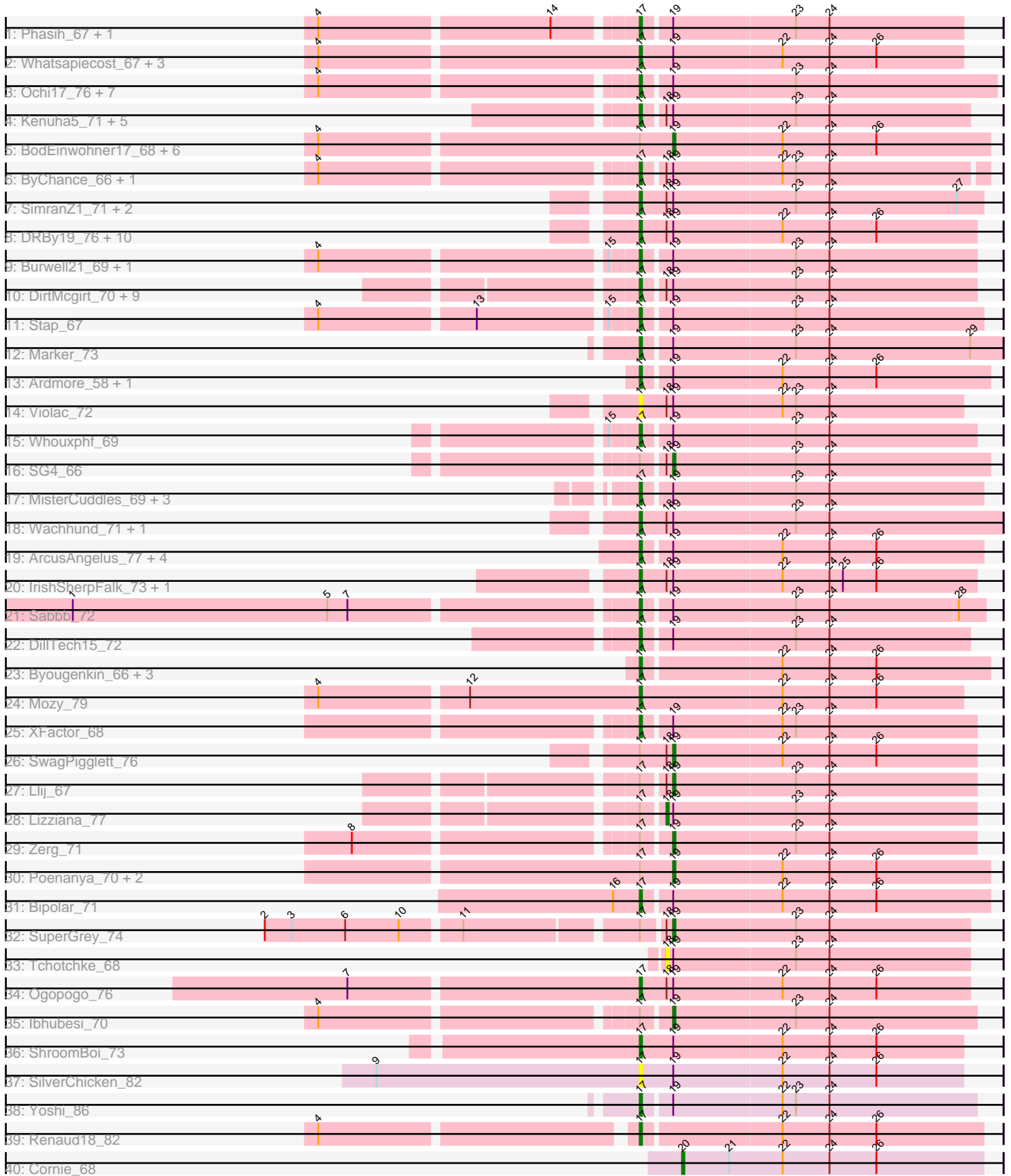


Pham 216036



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 216036 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216036 has 100 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Phasih\_67, Byougenkin\_71
- Track 2 : Whatsapiecost\_67, KingJulian\_65, Gandalph\_72, Corium\_65
- Track 3 : Ochi17\_76, Llama\_77, Jinglebell\_77, AlpineSix\_77, MadMen\_70, Bubbles123\_68, Seabastian\_78, OfUltron\_78
- Track 4 : Kenuha5\_71, Vivum\_76, Totinger\_70, GigiOuiOui\_68, Tweety\_73, Madiba\_76
- Track 5 : BodEinwohner17\_68, Florinda\_78, Girafales\_75, MilanaBonita\_57, OldBen\_65, Phanphagia\_63, DeadP\_74
- Track 6 : ByChance\_66, ShowerHandel\_76
- Track 7 : SimranZ1\_71, Radiance\_69, Karhdo\_69
- Track 8 : DRBy19\_76, Zizzle\_75, Jarcob\_72, Saal\_72, Clifton\_65, BobaPhett\_75, LastJedi\_64, Philus\_75, Gorge\_74, OlympiaSaint\_72, Mattes\_74
- Track 9 : Burwell21\_69, DoRead\_76
- Track 10 : DirtMcgirt\_70, UncleRicky\_70, Drago\_68, Demsculpinboyz\_83, Leozinho\_72, Martik\_74, Alexphander\_74, Enby\_72, Maravista\_74, Lorde\_71
- Track 11 : Stap\_67
- Track 12 : Marker\_73
- Track 13 : Ardmore\_58, Hamulus\_66
- Track 14 : Violac\_72
- Track 15 : Whouxphf\_69
- Track 16 : SG4\_66
- Track 17 : MisterCuddles\_69, Girr\_69, Krakatau\_67, Ruby\_67
- Track 18 : Wachhund\_71, Avani\_79
- Track 19 : ArcusAngelus\_77, Flathead\_70, Dante\_68, Chevrolet\_79, ThetaBob\_76
- Track 20 : IrishSherpFalk\_73, WillSterrel\_73
- Track 21 : Sabbb\_72
- Track 22 : DillTech15\_72
- Track 23 : Byougenkin\_66, Bobi\_70, Batiatus\_64, Brushbloom\_73
- Track 24 : Mozy\_79
- Track 25 : XFactor\_68
- Track 26 : SwagPiggett\_76
- Track 27 : Llij\_67
- Track 28 : Lizziana\_77
- Track 29 : Zerg\_71
- Track 30 : Poenanya\_70, Leperchaun\_65, Polka14\_71
- Track 31 : Bipolar\_71
- Track 32 : SuperGrey\_74

- Track 33 : Tchotchke\_68
- Track 34 : Ogopogo\_76
- Track 35 : Ibhubesi\_70
- Track 36 : ShroomBoi\_73
- Track 37 : SilverChicken\_82
- Track 38 : Yoshi\_86
- Track 39 : Renaud18\_82
- Track 40 : Cornie\_68

**Summary of Final Annotations (See graph section above for start numbers):**

The start number called the most often in the published annotations is 17, it was called in 73 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_74, AlpineSix\_77, ArcusAngelus\_77, Ardmore\_58, Avani\_79, Batiatus\_64, Bipolar\_71, BobaPhett\_75, Bobi\_70, Brushbloom\_73, Bubbles123\_68, Burwell21\_69, ByChance\_66, Byougenkin\_66, Byougenkin\_71, Chevrolet\_79, Clifton\_65, Corium\_65, DRBy19\_76, Dante\_68, Demsculpinboyz\_83, DillTech15\_72, DirtMcgirt\_70, DoRead\_76, Drago\_68, Enby\_72, Flathead\_70, Gandalph\_72, GigiOuiOui\_68, Girr\_69, Gorge\_74, Hamulus\_66, IrishSherpFalk\_73, Jarcob\_72, Jinglebell\_77, Karhdo\_69, Kenuha5\_71, KingJulian\_65, Krakatau\_67, LastJedi\_64, Leozinho\_72, Llama\_77, Lorde\_71, MadMen\_70, Madiba\_76, Maravista\_74, Marker\_73, Martik\_74, Mattes\_74, MisterCuddles\_69, Mozy\_79, Ochi17\_76, OfUltron\_78, Ogopogo\_76, OlympiaSaint\_72, Phasih\_67, Philus\_75, Radiance\_69, Renaud18\_82, Ruby\_67, Saal\_72, Sabbb\_72, Sebastian\_78, ShowerHandel\_76, ShroomBoi\_73, SilverChicken\_82, SimranZ1\_71, Stap\_67, ThetaBob\_76, Totinger\_70, Tweety\_73, UncleRicky\_70, Violac\_72, Vivum\_76, Wachhund\_71, Whatsapiecost\_67, Whouxphf\_69, WillSterrel\_73, XFactor\_68, Yoshi\_86, Zizzle\_75,

Genes that have the "Most Annotated" start but do not call it:

- BodEinwohner17\_68, DeadP\_74, Florinda\_78, Girafales\_75, Ibhubesi\_70, Leperchaun\_65, Lizziana\_77, Llij\_67, MilanaBonita\_57, OldBen\_65, Phanphagia\_63, Poenanya\_70, Polka14\_71, SG4\_66, SuperGrey\_74, SwagPiggett\_76, Zerg\_71,

Genes that do not have the "Most Annotated" start:

- Cornie\_68, Tchotchke\_68,

**Summary by start number:**

Start 17:

- Found in 98 of 100 ( 98.0% ) of genes in pham
- Manual Annotations of this start: 73 of 91
- Called 82.7% of time when present
- Phage (with cluster) where this start called: Alexphander\_74 (F1), AlpineSix\_77 (F1), ArcusAngelus\_77 (F1), Ardmore\_58 (F1), Avani\_79 (F2), Batiatus\_64 (F1), Bipolar\_71 (F1), BobaPhett\_75 (F1), Bobi\_70 (F1), Brushbloom\_73 (F1), Bubbles123\_68 (F1), Burwell21\_69 (F1), ByChance\_66 (F1), Byougenkin\_66 (F1), Byougenkin\_71 (F1), Chevrolet\_79 (F1), Clifton\_65 (F1), Corium\_65 (F1), DRBy19\_76 (F1), Dante\_68 (F1), Demsculpinboyz\_83 (F2), DillTech15\_72 (F1),

DirtMcgirt\_70 (F1), DoRead\_76 (F1), Drago\_68 (F1), Enby\_72 (F1), Flathead\_70 (F1), Gandolph\_72 (F1), GigiOuiOui\_68 (F1), Girr\_69 (F1), Gorge\_74 (F1), Hamulus\_66 (F1), IrishSherpFalk\_73 (F1), Jarcob\_72 (F1), Jinglebell\_77 (F1), Karhdo\_69 (F1), Kenuha5\_71 (F1), KingJulian\_65 (F1), Krakatau\_67 (F1), LastJedi\_64 (F1), Leozinho\_72 (F1), Llama\_77 (F1), Lorde\_71 (F1), MadMen\_70 (F1), Madiba\_76 (F1), Maravista\_74 (F1), Marker\_73 (F1), Martik\_74 (F1), Mattes\_74 (F1), MisterCuddles\_69 (F1), Mozy\_79 (F1), Ochi17\_76 (F1), OfUltron\_78 (F1), Ogotogo\_76 (F1), OlympiaSaint\_72 (F1), Phasih\_67 (F1), Philus\_75 (F1), Radiance\_69 (F1), Renaud18\_82 (F4), Ruby\_67 (F1), Saal\_72 (F1), Sabbb\_72 (F1), Sebastian\_78 (F1), ShowerHandel\_76 (F1), ShroomBoi\_73 (F1), SilverChicken\_82 (F2), SimranZ1\_71 (F1), Stap\_67 (F1), ThetaBob\_76 (F4), Totinger\_70 (F1), Tweety\_73 (F1), UncleRicky\_70 (F1), Violac\_72 (F1), Vivum\_76 (F1), Wachhund\_71 (F1), Whatsapiecost\_67 (F1), Whouxphf\_69 (F1), WillSterrel\_73 (F1), XFactor\_68 (F1), Yoshi\_86 (F2), Zizzle\_75 (F1),

Start 18:

- Found in 44 of 100 ( 44.0% ) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Lizziana\_77 (F1), Tchotchke\_68 (F1),

Start 19:

- Found in 93 of 100 ( 93.0% ) of genes in pham
- Manual Annotations of this start: 16 of 91
- Called 17.2% of time when present
- Phage (with cluster) where this start called: BodEinwohner17\_68 (F1), DeadP\_74 (F1), Florinda\_78 (F1), Girafales\_75 (F1), Ibhubesi\_70 (F1), Leperchaun\_65 (F1), Llij\_67 (F1), MilanaBonita\_57 (F1), OldBen\_65 (F1), Phanphagia\_63 (F1), Poenanya\_70 (F1), Polka14\_71 (F1), SG4\_66 (F1), SuperGrey\_74 (F1), SwagPigglett\_76 (F1), Zerg\_71 (F1),

Start 20:

- Found in 1 of 100 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie\_68 (F5),

### Summary by clusters:

There are 4 clusters represented in this pham: F1, F2, F4, F5,

Info for manual annotations of cluster F1:

- Start number 17 was manually annotated 68 times for cluster F1.
- Start number 18 was manually annotated 1 time for cluster F1.
- Start number 19 was manually annotated 16 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 17 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 17 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 20 was manually annotated 1 time for cluster F5.

**Gene Information:**

Gene: Alexphander\_74 Start: 46512, Stop: 46661, Start Num: 17

Candidate Starts for Alexphander\_74:

(Start: 17 @46512 has 73 MA's), (Start: 18 @46521 has 1 MA's), (Start: 19 @46524 has 16 MA's), (23, 46578), (24, 46593),

Gene: AlpineSix\_77 Start: 47155, Stop: 47310, Start Num: 17

Candidate Starts for AlpineSix\_77:

(4, 47023), (Start: 17 @47155 has 73 MA's), (Start: 19 @47167 has 16 MA's), (23, 47221), (24, 47236),

Gene: ArcusAngelus\_77 Start: 47419, Stop: 47568, Start Num: 17

Candidate Starts for ArcusAngelus\_77:

(Start: 17 @47419 has 73 MA's), (Start: 19 @47431 has 16 MA's), (22, 47479), (24, 47500), (26, 47521),

Gene: Ardmore\_58 Start: 40412, Stop: 40564, Start Num: 17

Candidate Starts for Ardmore\_58:

(Start: 17 @40412 has 73 MA's), (Start: 19 @40424 has 16 MA's), (22, 40472), (24, 40493), (26, 40514),

Gene: Avani\_79 Start: 44144, Stop: 44293, Start Num: 17

Candidate Starts for Avani\_79:

(Start: 17 @44144 has 73 MA's), (Start: 18 @44156 has 1 MA's), (Start: 19 @44159 has 16 MA's), (23, 44213), (24, 44228),

Gene: Batiatus\_64 Start: 42288, Stop: 42440, Start Num: 17

Candidate Starts for Batiatus\_64:

(Start: 17 @42288 has 73 MA's), (22, 42348), (24, 42369), (26, 42390),

Gene: Bipolar\_71 Start: 44507, Stop: 44659, Start Num: 17

Candidate Starts for Bipolar\_71:

(16, 44495), (Start: 17 @44507 has 73 MA's), (Start: 19 @44519 has 16 MA's), (22, 44567), (24, 44588), (26, 44609),

Gene: BobaPhett\_75 Start: 48236, Stop: 48385, Start Num: 17

Candidate Starts for BobaPhett\_75:

(Start: 17 @48236 has 73 MA's), (Start: 18 @48248 has 1 MA's), (Start: 19 @48251 has 16 MA's), (22, 48299), (24, 48320), (26, 48341),

Gene: Bobi\_70 Start: 43891, Stop: 44043, Start Num: 17

Candidate Starts for Bobi\_70:

(Start: 17 @43891 has 73 MA's), (22, 43951), (24, 43972), (26, 43993),

Gene: BodEinwohner17\_68 Start: 43061, Stop: 43201, Start Num: 19

Candidate Starts for BodEinwohner17\_68:

(4, 42908), (Start: 17 @43046 has 73 MA's), (Start: 19 @43061 has 16 MA's), (22, 43109), (24, 43130), (26, 43151),

Gene: Brushbloom\_73 Start: 43220, Stop: 43372, Start Num: 17  
Candidate Starts for Brushbloom\_73:  
(Start: 17 @43220 has 73 MA's), (22, 43280), (24, 43301), (26, 43322),

Gene: Bubbles123\_68 Start: 45742, Stop: 45888, Start Num: 17  
Candidate Starts for Bubbles123\_68:  
(4, 45610), (Start: 17 @45742 has 73 MA's), (Start: 19 @45754 has 16 MA's), (23, 45808), (24, 45823),

Gene: Burwell21\_69 Start: 45551, Stop: 45697, Start Num: 17  
Candidate Starts for Burwell21\_69:  
(4, 45419), (15, 45539), (Start: 17 @45551 has 73 MA's), (Start: 19 @45563 has 16 MA's), (23, 45617),  
(24, 45632),

Gene: ByChance\_66 Start: 42651, Stop: 42800, Start Num: 17  
Candidate Starts for ByChance\_66:  
(4, 42519), (Start: 17 @42651 has 73 MA's), (Start: 18 @42660 has 1 MA's), (Start: 19 @42663 has 16 MA's), (22, 42711), (23, 42717), (24, 42732),

Gene: Byougenkin\_71 Start: 43611, Stop: 43757, Start Num: 17  
Candidate Starts for Byougenkin\_71:  
(4, 43479), (14, 43578), (Start: 17 @43611 has 73 MA's), (Start: 19 @43623 has 16 MA's), (23, 43677),  
(24, 43692),

Gene: Byougenkin\_66 Start: 42551, Stop: 42703, Start Num: 17  
Candidate Starts for Byougenkin\_66:  
(Start: 17 @42551 has 73 MA's), (22, 42611), (24, 42632), (26, 42653),

Gene: Chevrolet\_79 Start: 47420, Stop: 47569, Start Num: 17  
Candidate Starts for Chevrolet\_79:  
(Start: 17 @47420 has 73 MA's), (Start: 19 @47432 has 16 MA's), (22, 47480), (24, 47501), (26, 47522),

Gene: Clifton\_65 Start: 44067, Stop: 44216, Start Num: 17  
Candidate Starts for Clifton\_65:  
(Start: 17 @44067 has 73 MA's), (Start: 18 @44079 has 1 MA's), (Start: 19 @44082 has 16 MA's), (22, 44130), (24, 44151), (26, 44172),

Gene: Corium\_65 Start: 44016, Stop: 44159, Start Num: 17  
Candidate Starts for Corium\_65:  
(4, 43878), (Start: 17 @44016 has 73 MA's), (Start: 19 @44031 has 16 MA's), (22, 44079), (24, 44100),  
(26, 44121),

Gene: Cornie\_68 Start: 44347, Stop: 44481, Start Num: 20  
Candidate Starts for Cornie\_68:  
(Start: 20 @44347 has 1 MA's), (21, 44368), (22, 44392), (24, 44413), (26, 44434),

Gene: DRBy19\_76 Start: 47796, Stop: 47945, Start Num: 17  
Candidate Starts for DRBy19\_76:  
(Start: 17 @47796 has 73 MA's), (Start: 18 @47808 has 1 MA's), (Start: 19 @47811 has 16 MA's), (22, 47859), (24, 47880), (26, 47901),

Gene: Dante\_68 Start: 43688, Stop: 43840, Start Num: 17  
Candidate Starts for Dante\_68:

(Start: 17 @43688 has 73 MA's), (Start: 19 @43700 has 16 MA's), (22, 43748), (24, 43769), (26, 43790),

Gene: DeadP\_74 Start: 45444, Stop: 45578, Start Num: 19

Candidate Starts for DeadP\_74:

(4, 45291), (Start: 17 @45429 has 73 MA's), (Start: 19 @45444 has 16 MA's), (22, 45492), (24, 45513), (26, 45534),

Gene: Demsculpinboyz\_83 Start: 44211, Stop: 44369, Start Num: 17

Candidate Starts for Demsculpinboyz\_83:

(Start: 17 @44211 has 73 MA's), (Start: 18 @44223 has 1 MA's), (Start: 19 @44226 has 16 MA's), (23, 44280), (24, 44295),

Gene: DillTech15\_72 Start: 44035, Stop: 44178, Start Num: 17

Candidate Starts for DillTech15\_72:

(Start: 17 @44035 has 73 MA's), (Start: 19 @44047 has 16 MA's), (23, 44101), (24, 44116),

Gene: DirtMcgirt\_70 Start: 42990, Stop: 43136, Start Num: 17

Candidate Starts for DirtMcgirt\_70:

(Start: 17 @42990 has 73 MA's), (Start: 18 @42999 has 1 MA's), (Start: 19 @43002 has 16 MA's), (23, 43056), (24, 43071),

Gene: DoRead\_76 Start: 44318, Stop: 44464, Start Num: 17

Candidate Starts for DoRead\_76:

(4, 44186), (15, 44306), (Start: 17 @44318 has 73 MA's), (Start: 19 @44330 has 16 MA's), (23, 44384), (24, 44399),

Gene: Drago\_68 Start: 42993, Stop: 43139, Start Num: 17

Candidate Starts for Drago\_68:

(Start: 17 @42993 has 73 MA's), (Start: 18 @43002 has 1 MA's), (Start: 19 @43005 has 16 MA's), (23, 43059), (24, 43074),

Gene: Enby\_72 Start: 43269, Stop: 43415, Start Num: 17

Candidate Starts for Enby\_72:

(Start: 17 @43269 has 73 MA's), (Start: 18 @43278 has 1 MA's), (Start: 19 @43281 has 16 MA's), (23, 43335), (24, 43350),

Gene: Flathead\_70 Start: 44683, Stop: 44823, Start Num: 17

Candidate Starts for Flathead\_70:

(Start: 17 @44683 has 73 MA's), (Start: 19 @44695 has 16 MA's), (22, 44743), (24, 44764), (26, 44785),

Gene: Florinda\_78 Start: 44511, Stop: 44651, Start Num: 19

Candidate Starts for Florinda\_78:

(4, 44358), (Start: 17 @44496 has 73 MA's), (Start: 19 @44511 has 16 MA's), (22, 44559), (24, 44580), (26, 44601),

Gene: Gandalph\_72 Start: 43639, Stop: 43785, Start Num: 17

Candidate Starts for Gandalph\_72:

(4, 43501), (Start: 17 @43639 has 73 MA's), (Start: 19 @43654 has 16 MA's), (22, 43702), (24, 43723), (26, 43744),

Gene: GigiOuiOui\_68 Start: 45285, Stop: 45428, Start Num: 17

Candidate Starts for GigiOuiOui\_68:

(Start: 17 @45285 has 73 MA's), (Start: 18 @45294 has 1 MA's), (Start: 19 @45297 has 16 MA's), (23, 45351), (24, 45366),

Gene: Girafales\_75 Start: 44302, Stop: 44442, Start Num: 19

Candidate Starts for Girafales\_75:

(4, 44149), (Start: 17 @44287 has 73 MA's), (Start: 19 @44302 has 16 MA's), (22, 44350), (24, 44371), (26, 44392),

Gene: Girr\_69 Start: 45990, Stop: 46139, Start Num: 17

Candidate Starts for Girr\_69:

(Start: 17 @45990 has 73 MA's), (Start: 19 @46002 has 16 MA's), (23, 46056), (24, 46071),

Gene: Gorge\_74 Start: 47006, Stop: 47155, Start Num: 17

Candidate Starts for Gorge\_74:

(Start: 17 @47006 has 73 MA's), (Start: 18 @47018 has 1 MA's), (Start: 19 @47021 has 16 MA's), (22, 47069), (24, 47090), (26, 47111),

Gene: Hamulus\_66 Start: 42697, Stop: 42849, Start Num: 17

Candidate Starts for Hamulus\_66:

(Start: 17 @42697 has 73 MA's), (Start: 19 @42709 has 16 MA's), (22, 42757), (24, 42778), (26, 42799),

Gene: Ibhubesi\_70 Start: 43411, Stop: 43545, Start Num: 19

Candidate Starts for Ibhubesi\_70:

(4, 43267), (Start: 17 @43399 has 73 MA's), (Start: 19 @43411 has 16 MA's), (23, 43465), (24, 43480),

Gene: IrishSherpFalk\_73 Start: 46468, Stop: 46617, Start Num: 17

Candidate Starts for IrishSherpFalk\_73:

(Start: 17 @46468 has 73 MA's), (Start: 18 @46480 has 1 MA's), (Start: 19 @46483 has 16 MA's), (22, 46531), (24, 46552), (25, 46558), (26, 46573),

Gene: Jarcob\_72 Start: 46728, Stop: 46877, Start Num: 17

Candidate Starts for Jarcob\_72:

(Start: 17 @46728 has 73 MA's), (Start: 18 @46740 has 1 MA's), (Start: 19 @46743 has 16 MA's), (22, 46791), (24, 46812), (26, 46833),

Gene: Jinglebell\_77 Start: 47154, Stop: 47309, Start Num: 17

Candidate Starts for Jinglebell\_77:

(4, 47022), (Start: 17 @47154 has 73 MA's), (Start: 19 @47166 has 16 MA's), (23, 47220), (24, 47235),

Gene: Karhdo\_69 Start: 44419, Stop: 44571, Start Num: 17

Candidate Starts for Karhdo\_69:

(Start: 17 @44419 has 73 MA's), (Start: 18 @44431 has 1 MA's), (Start: 19 @44434 has 16 MA's), (23, 44488), (24, 44503), (27, 44560),

Gene: Kenuha5\_71 Start: 47003, Stop: 47146, Start Num: 17

Candidate Starts for Kenuha5\_71:

(Start: 17 @47003 has 73 MA's), (Start: 18 @47012 has 1 MA's), (Start: 19 @47015 has 16 MA's), (23, 47069), (24, 47084),

Gene: KingJulian\_65 Start: 44016, Stop: 44159, Start Num: 17

Candidate Starts for KingJulian\_65:



(4, 43878), (Start: 17 @44016 has 73 MA's), (Start: 19 @44031 has 16 MA's), (22, 44079), (24, 44100), (26, 44121),

Gene: Krakatau\_67 Start: 42370, Stop: 42519, Start Num: 17

Candidate Starts for Krakatau\_67:

(Start: 17 @42370 has 73 MA's), (Start: 19 @42382 has 16 MA's), (23, 42436), (24, 42451),

Gene: LastJedi\_64 Start: 44110, Stop: 44259, Start Num: 17

Candidate Starts for LastJedi\_64:

(Start: 17 @44110 has 73 MA's), (Start: 18 @44122 has 1 MA's), (Start: 19 @44125 has 16 MA's), (22, 44173), (24, 44194), (26, 44215),

Gene: Leozinho\_72 Start: 43788, Stop: 43934, Start Num: 17

Candidate Starts for Leozinho\_72:

(Start: 17 @43788 has 73 MA's), (Start: 18 @43797 has 1 MA's), (Start: 19 @43800 has 16 MA's), (23, 43854), (24, 43869),

Gene: Leperchaun\_65 Start: 43514, Stop: 43654, Start Num: 19

Candidate Starts for Leperchaun\_65:

(Start: 17 @43499 has 73 MA's), (Start: 19 @43514 has 16 MA's), (22, 43562), (24, 43583), (26, 43604),

Gene: Lizziana\_77 Start: 47466, Stop: 47603, Start Num: 18

Candidate Starts for Lizziana\_77:

(Start: 17 @47457 has 73 MA's), (Start: 18 @47466 has 1 MA's), (Start: 19 @47469 has 16 MA's), (23, 47523), (24, 47538),

Gene: Llama\_77 Start: 47009, Stop: 47164, Start Num: 17

Candidate Starts for Llama\_77:

(4, 46877), (Start: 17 @47009 has 73 MA's), (Start: 19 @47021 has 16 MA's), (23, 47075), (24, 47090),

Gene: Llij\_67 Start: 43159, Stop: 43293, Start Num: 19

Candidate Starts for Llij\_67:

(Start: 17 @43147 has 73 MA's), (Start: 18 @43156 has 1 MA's), (Start: 19 @43159 has 16 MA's), (23, 43213), (24, 43228),

Gene: Lorde\_71 Start: 42434, Stop: 42580, Start Num: 17

Candidate Starts for Lorde\_71:

(Start: 17 @42434 has 73 MA's), (Start: 18 @42443 has 1 MA's), (Start: 19 @42446 has 16 MA's), (23, 42500), (24, 42515),

Gene: MadMen\_70 Start: 44751, Stop: 44891, Start Num: 17

Candidate Starts for MadMen\_70:

(4, 44619), (Start: 17 @44751 has 73 MA's), (Start: 19 @44763 has 16 MA's), (23, 44817), (24, 44832),

Gene: Madiba\_76 Start: 47567, Stop: 47716, Start Num: 17

Candidate Starts for Madiba\_76:

(Start: 17 @47567 has 73 MA's), (Start: 18 @47576 has 1 MA's), (Start: 19 @47579 has 16 MA's), (23, 47633), (24, 47648),

Gene: Maravista\_74 Start: 48467, Stop: 48613, Start Num: 17

Candidate Starts for Maravista\_74:

(Start: 17 @48467 has 73 MA's), (Start: 18 @48476 has 1 MA's), (Start: 19 @48479 has 16 MA's), (23, 48533), (24, 48548),

Gene: Marker\_73 Start: 45397, Stop: 45555, Start Num: 17

Candidate Starts for Marker\_73:

(Start: 17 @45397 has 73 MA's), (Start: 19 @45409 has 16 MA's), (23, 45463), (24, 45478), (29, 45541),

Gene: Martik\_74 Start: 47948, Stop: 48094, Start Num: 17

Candidate Starts for Martik\_74:

(Start: 17 @47948 has 73 MA's), (Start: 18 @47957 has 1 MA's), (Start: 19 @47960 has 16 MA's), (23, 48014), (24, 48029),

Gene: Mattes\_74 Start: 47131, Stop: 47280, Start Num: 17

Candidate Starts for Mattes\_74:

(Start: 17 @47131 has 73 MA's), (Start: 18 @47143 has 1 MA's), (Start: 19 @47146 has 16 MA's), (22, 47194), (24, 47215), (26, 47236),

Gene: MilanaBonita\_57 Start: 38486, Stop: 38626, Start Num: 19

Candidate Starts for MilanaBonita\_57:

(4, 38333), (Start: 17 @38471 has 73 MA's), (Start: 19 @38486 has 16 MA's), (22, 38534), (24, 38555), (26, 38576),

Gene: MisterCuddles\_69 Start: 45990, Stop: 46139, Start Num: 17

Candidate Starts for MisterCuddles\_69:

(Start: 17 @45990 has 73 MA's), (Start: 19 @46002 has 16 MA's), (23, 46056), (24, 46071),

Gene: Mozy\_79 Start: 45595, Stop: 45738, Start Num: 17

Candidate Starts for Mozy\_79:

(4, 45457), (12, 45520), (Start: 17 @45595 has 73 MA's), (22, 45658), (24, 45679), (26, 45700),

Gene: Ochi17\_76 Start: 46605, Stop: 46760, Start Num: 17

Candidate Starts for Ochi17\_76:

(4, 46473), (Start: 17 @46605 has 73 MA's), (Start: 19 @46617 has 16 MA's), (23, 46671), (24, 46686),

Gene: OfUltron\_78 Start: 47154, Stop: 47309, Start Num: 17

Candidate Starts for OfUltron\_78:

(4, 47022), (Start: 17 @47154 has 73 MA's), (Start: 19 @47166 has 16 MA's), (23, 47220), (24, 47235),

Gene: Ogopogo\_76 Start: 44956, Stop: 45102, Start Num: 17

Candidate Starts for Ogopogo\_76:

(7, 44830), (Start: 17 @44956 has 73 MA's), (Start: 18 @44968 has 1 MA's), (Start: 19 @44971 has 16 MA's), (22, 45019), (24, 45040), (26, 45061),

Gene: OldBen\_65 Start: 43231, Stop: 43371, Start Num: 19

Candidate Starts for OldBen\_65:

(4, 43078), (Start: 17 @43216 has 73 MA's), (Start: 19 @43231 has 16 MA's), (22, 43279), (24, 43300), (26, 43321),

Gene: OlympiaSaint\_72 Start: 46073, Stop: 46222, Start Num: 17

Candidate Starts for OlympiaSaint\_72:

(Start: 17 @46073 has 73 MA's), (Start: 18 @46085 has 1 MA's), (Start: 19 @46088 has 16 MA's), (22, 46136), (24, 46157), (26, 46178),

Gene: Phanphagia\_63 Start: 42771, Stop: 42911, Start Num: 19

Candidate Starts for Phanphagia\_63:

(4, 42618), (Start: 17 @42756 has 73 MA's), (Start: 19 @42771 has 16 MA's), (22, 42819), (24, 42840), (26, 42861),

Gene: Phasih\_67 Start: 44273, Stop: 44413, Start Num: 17

Candidate Starts for Phasih\_67:

(4, 44141), (14, 44240), (Start: 17 @44273 has 73 MA's), (Start: 19 @44285 has 16 MA's), (23, 44339), (24, 44354),

Gene: Philus\_75 Start: 47772, Stop: 47921, Start Num: 17

Candidate Starts for Philus\_75:

(Start: 17 @47772 has 73 MA's), (Start: 18 @47784 has 1 MA's), (Start: 19 @47787 has 16 MA's), (22, 47835), (24, 47856), (26, 47877),

Gene: Poenanya\_70 Start: 44545, Stop: 44685, Start Num: 19

Candidate Starts for Poenanya\_70:

(Start: 17 @44530 has 73 MA's), (Start: 19 @44545 has 16 MA's), (22, 44593), (24, 44614), (26, 44635),

Gene: Polka14\_71 Start: 45261, Stop: 45401, Start Num: 19

Candidate Starts for Polka14\_71:

(Start: 17 @45246 has 73 MA's), (Start: 19 @45261 has 16 MA's), (22, 45309), (24, 45330), (26, 45351),

Gene: Radiance\_69 Start: 46419, Stop: 46571, Start Num: 17

Candidate Starts for Radiance\_69:

(Start: 17 @46419 has 73 MA's), (Start: 18 @46431 has 1 MA's), (Start: 19 @46434 has 16 MA's), (23, 46488), (24, 46503), (27, 46560),

Gene: Renaud18\_82 Start: 46991, Stop: 47140, Start Num: 17

Candidate Starts for Renaud18\_82:

(4, 46859), (Start: 17 @46991 has 73 MA's), (22, 47051), (24, 47072), (26, 47093),

Gene: Ruby\_67 Start: 45991, Stop: 46140, Start Num: 17

Candidate Starts for Ruby\_67:

(Start: 17 @45991 has 73 MA's), (Start: 19 @46003 has 16 MA's), (23, 46057), (24, 46072),

Gene: SG4\_66 Start: 42817, Stop: 42957, Start Num: 19

Candidate Starts for SG4\_66:

(Start: 17 @42805 has 73 MA's), (Start: 18 @42814 has 1 MA's), (Start: 19 @42817 has 16 MA's), (23, 42871), (24, 42886),

Gene: Saal\_72 Start: 46825, Stop: 46974, Start Num: 17

Candidate Starts for Saal\_72:

(Start: 17 @46825 has 73 MA's), (Start: 18 @46837 has 1 MA's), (Start: 19 @46840 has 16 MA's), (22, 46888), (24, 46909), (26, 46930),

Gene: Sabbb\_72 Start: 43583, Stop: 43732, Start Num: 17

Candidate Starts for Sabbb\_72:

(1, 43340), (5, 43454), (7, 43463), (Start: 17 @43583 has 73 MA's), (Start: 19 @43595 has 16 MA's), (23, 43649), (24, 43664), (28, 43721),

Gene: Seabastian\_78 Start: 47155, Stop: 47310, Start Num: 17  
Candidate Starts for Seabastian\_78:  
(4, 47023), (Start: 17 @47155 has 73 MA's), (Start: 19 @47167 has 16 MA's), (23, 47221), (24, 47236),

Gene: ShowerHandel\_76 Start: 46591, Stop: 46740, Start Num: 17  
Candidate Starts for ShowerHandel\_76:  
(4, 46459), (Start: 17 @46591 has 73 MA's), (Start: 18 @46600 has 1 MA's), (Start: 19 @46603 has 16 MA's), (22, 46651), (23, 46657), (24, 46672),

Gene: ShroomBoi\_73 Start: 46320, Stop: 46463, Start Num: 17  
Candidate Starts for ShroomBoi\_73:  
(Start: 17 @46320 has 73 MA's), (Start: 19 @46335 has 16 MA's), (22, 46383), (24, 46404), (26, 46425),

Gene: SilverChicken\_82 Start: 46256, Stop: 46399, Start Num: 17  
Candidate Starts for SilverChicken\_82:  
(9, 46139), (Start: 17 @46256 has 73 MA's), (Start: 19 @46271 has 16 MA's), (22, 46319), (24, 46340), (26, 46361),

Gene: SimranZ1\_71 Start: 45018, Stop: 45170, Start Num: 17  
Candidate Starts for SimranZ1\_71:  
(Start: 17 @45018 has 73 MA's), (Start: 18 @45030 has 1 MA's), (Start: 19 @45033 has 16 MA's), (23, 45087), (24, 45102), (27, 45159),

Gene: Stap\_67 Start: 43236, Stop: 43385, Start Num: 17  
Candidate Starts for Stap\_67:  
(4, 43104), (13, 43170), (15, 43224), (Start: 17 @43236 has 73 MA's), (Start: 19 @43248 has 16 MA's), (23, 43302), (24, 43317),

Gene: SuperGrey\_74 Start: 48498, Stop: 48629, Start Num: 19  
Candidate Starts for SuperGrey\_74:  
(2, 48330), (3, 48342), (6, 48366), (10, 48390), (11, 48414), (Start: 17 @48486 has 73 MA's), (Start: 18 @48495 has 1 MA's), (Start: 19 @48498 has 16 MA's), (23, 48552), (24, 48567),

Gene: SwagPigglett\_76 Start: 47881, Stop: 48015, Start Num: 19  
Candidate Starts for SwagPigglett\_76:  
(Start: 17 @47866 has 73 MA's), (Start: 18 @47878 has 1 MA's), (Start: 19 @47881 has 16 MA's), (22, 47929), (24, 47950), (26, 47971),

Gene: Tchotchke\_68 Start: 45102, Stop: 45236, Start Num: 18  
Candidate Starts for Tchotchke\_68:  
(Start: 18 @45102 has 1 MA's), (Start: 19 @45105 has 16 MA's), (23, 45159), (24, 45174),

Gene: ThetaBob\_76 Start: 46222, Stop: 46368, Start Num: 17  
Candidate Starts for ThetaBob\_76:  
(Start: 17 @46222 has 73 MA's), (Start: 19 @46234 has 16 MA's), (22, 46282), (24, 46303), (26, 46324),

Gene: Totinger\_70 Start: 44700, Stop: 44843, Start Num: 17  
Candidate Starts for Totinger\_70:  
(Start: 17 @44700 has 73 MA's), (Start: 18 @44709 has 1 MA's), (Start: 19 @44712 has 16 MA's), (23, 44766), (24, 44781),

Gene: Tweety\_73 Start: 47076, Stop: 47234, Start Num: 17

Candidate Starts for Tweety\_73:

(Start: 17 @47076 has 73 MA's), (Start: 18 @47085 has 1 MA's), (Start: 19 @47088 has 16 MA's), (23, 47142), (24, 47157),

Gene: UncleRicky\_70 Start: 44490, Stop: 44636, Start Num: 17

Candidate Starts for UncleRicky\_70:

(Start: 17 @44490 has 73 MA's), (Start: 18 @44499 has 1 MA's), (Start: 19 @44502 has 16 MA's), (23, 44556), (24, 44571),

Gene: Violac\_72 Start: 46315, Stop: 46458, Start Num: 17

Candidate Starts for Violac\_72:

(Start: 17 @46315 has 73 MA's), (Start: 18 @46327 has 1 MA's), (Start: 19 @46330 has 16 MA's), (22, 46378), (23, 46384), (24, 46399),

Gene: Vivum\_76 Start: 48329, Stop: 48472, Start Num: 17

Candidate Starts for Vivum\_76:

(Start: 17 @48329 has 73 MA's), (Start: 18 @48338 has 1 MA's), (Start: 19 @48341 has 16 MA's), (23, 48395), (24, 48410),

Gene: Wachhund\_71 Start: 44201, Stop: 44362, Start Num: 17

Candidate Starts for Wachhund\_71:

(Start: 17 @44201 has 73 MA's), (Start: 18 @44213 has 1 MA's), (Start: 19 @44216 has 16 MA's), (23, 44270), (24, 44285),

Gene: Whatsapiecost\_67 Start: 41846, Stop: 41989, Start Num: 17

Candidate Starts for Whatsapiecost\_67:

(4, 41708), (Start: 17 @41846 has 73 MA's), (Start: 19 @41861 has 16 MA's), (22, 41909), (24, 41930), (26, 41951),

Gene: Whouxphf\_69 Start: 45627, Stop: 45773, Start Num: 17

Candidate Starts for Whouxphf\_69:

(15, 45615), (Start: 17 @45627 has 73 MA's), (Start: 19 @45639 has 16 MA's), (23, 45693), (24, 45708),

Gene: WillSterrel\_73 Start: 46501, Stop: 46650, Start Num: 17

Candidate Starts for WillSterrel\_73:

(Start: 17 @46501 has 73 MA's), (Start: 18 @46513 has 1 MA's), (Start: 19 @46516 has 16 MA's), (22, 46564), (24, 46585), (25, 46591), (26, 46606),

Gene: XFactor\_68 Start: 44921, Stop: 45067, Start Num: 17

Candidate Starts for XFactor\_68:

(Start: 17 @44921 has 73 MA's), (Start: 19 @44933 has 16 MA's), (22, 44981), (23, 44987), (24, 45002),

Gene: Yoshi\_86 Start: 46688, Stop: 46834, Start Num: 17

Candidate Starts for Yoshi\_86:

(Start: 17 @46688 has 73 MA's), (Start: 19 @46700 has 16 MA's), (22, 46748), (23, 46754), (24, 46769),

Gene: Zerg\_71 Start: 45778, Stop: 45912, Start Num: 19

Candidate Starts for Zerg\_71:

(8, 45649), (Start: 17 @45766 has 73 MA's), (Start: 19 @45778 has 16 MA's), (23, 45832), (24, 45847),

Gene: Zizzle\_75 Start: 47154, Stop: 47303, Start Num: 17

Candidate Starts for Zizzle\_75:

(Start: 17 @47154 has 73 MA's), (Start: 18 @47166 has 1 MA's), (Start: 19 @47169 has 16 MA's), (22, 47217), (24, 47238), (26, 47259),