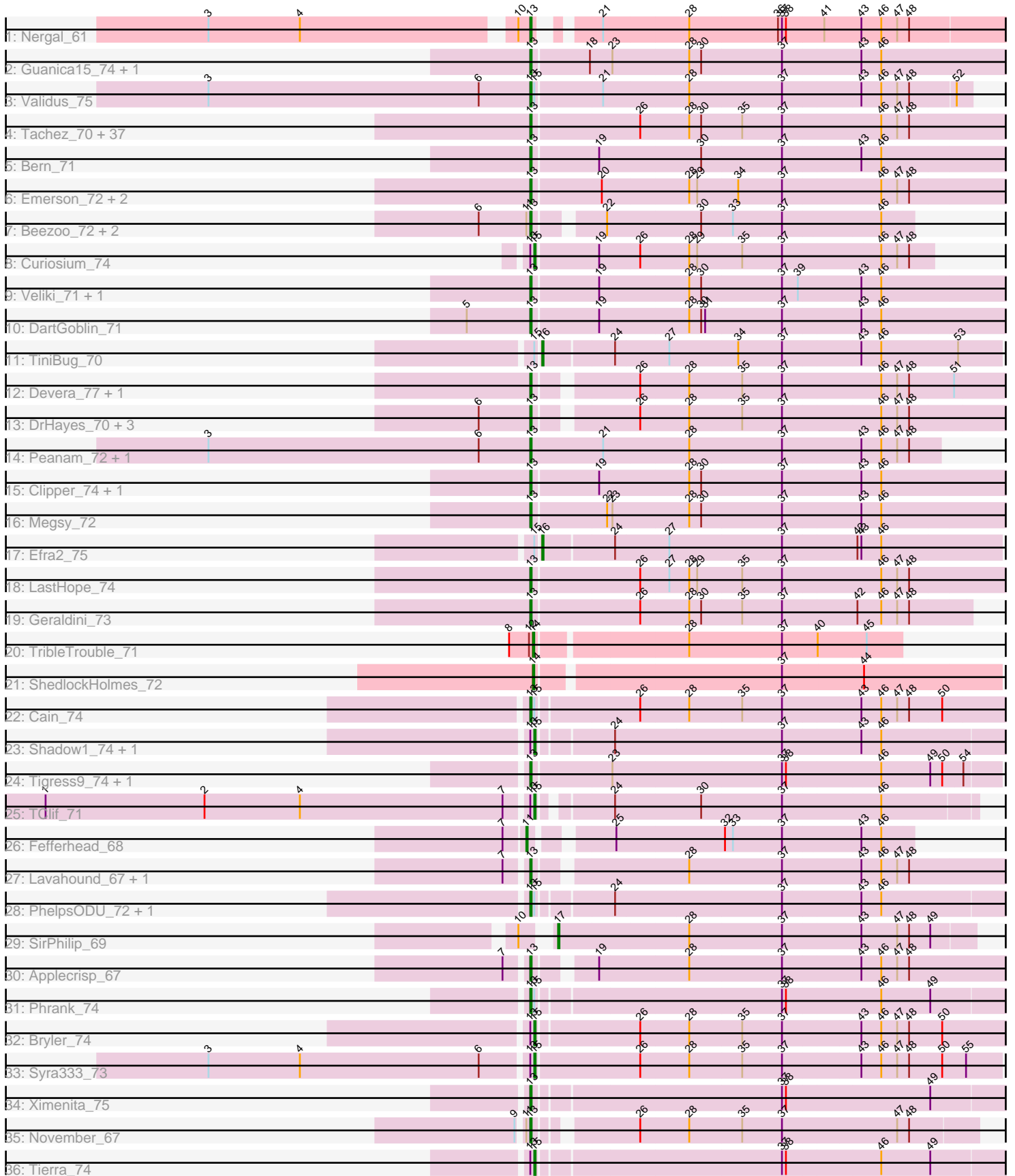


Pham 308428



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 308428 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308428 has 89 members, 0 are drafts.

Phages represented in each track:

- Track 1 : Nergal\_61
- Track 2 : Guanica15\_74, Yunkel11\_74
- Track 3 : Validus\_75
- Track 4 : Tachez\_70, MeaningOfLife\_71, BGIlluviae\_70, Atiba\_71, Twitch\_70, Jarvi\_70, Blizzard\_70, Rapunzel97\_72, CaseJules\_72, Zabiza\_65, Llorens\_70, TruffulaTree\_71, Spock\_70, Rosmarinus\_70, Lunahalos\_70, Apocalypse\_72, Durfee\_70, Boiiii\_70, BaghaKamala\_69, Joy99\_70, ShiaSurprise\_71, Zavala\_73, CheetoDust\_69, Tiri\_70, Jayhawk\_72, Peel\_70, Slimphazie\_71, Belladonna\_70, Padfoot\_70, ActinUp\_70, Topper\_70, Dalmuri\_70, Inky\_70, Asayake\_70, CallaLilly\_70, Capricorn\_70, Jeckyll\_70, BEEST\_70
- Track 5 : Bern\_71
- Track 6 : Emerson\_72, Padpat\_73, Ageofdapage\_73
- Track 7 : Beezoo\_72, Pokerus\_70, YoureAdopted\_69
- Track 8 : Curiosium\_74
- Track 9 : Veliki\_71, Ramen\_71
- Track 10 : DartGoblin\_71
- Track 11 : TiniBug\_70
- Track 12 : Devera\_77, Illumine\_75
- Track 13 : DrHayes\_70, Urkel\_70, Bella96\_70, SamuelLPlaqson\_70
- Track 14 : Peanam\_72, Niklas\_72
- Track 15 : Clipper\_74, MackKat\_66
- Track 16 : Megsy\_72
- Track 17 : Efra2\_75
- Track 18 : LastHope\_74
- Track 19 : Geraldini\_73
- Track 20 : TribbleTrouble\_71
- Track 21 : ShedlockHolmes\_72
- Track 22 : Cain\_74
- Track 23 : Shadow1\_74, Sunflower1121\_75
- Track 24 : Tigress9\_74, Krueger\_74
- Track 25 : TClif\_71
- Track 26 : Fefferhead\_68
- Track 27 : Lavahound\_67, Ellie\_66
- Track 28 : PhelpsODU\_72, Unicorn\_72
- Track 29 : SirPhilip\_69
- Track 30 : Applecrisp\_67
- Track 31 : Phrank\_74

- Track 32 : Bryler\_74
- Track 33 : Syra333\_73
- Track 34 : Ximenita\_75
- Track 35 : November\_67
- Track 36 : Tierra\_74

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

The start number called the most often in the published annotations is 13, it was called in 76 of the 89 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_70, Ageofdapage\_73, Apocalypse\_72, Applecrisp\_67, Asayake\_70, Atiba\_71, BEEST\_70, BGlluviae\_70, BaghaKamala\_69, Beezoo\_72, Bella96\_70, Belladonna\_70, Bern\_71, Blizzard\_70, Boiiii\_70, Cain\_74, CallaLilly\_70, Capricorn\_70, CaseJules\_72, CheetoDust\_69, Clipper\_74, Dalmuri\_70, DartGoblin\_71, Devera\_77, DrHayes\_70, Durfee\_70, Ellie\_66, Emerson\_72, Geraldini\_73, Guanica15\_74, Illumine\_75, Inky\_70, Jarvi\_70, Jayhawk\_72, Jeckyll\_70, Joy99\_70, Krueger\_74, LastHope\_74, Lavahound\_67, Llorens\_70, Lunahalos\_70, MacKat\_66, MeaningOfLife\_71, Megsy\_72, Nergal\_61, Niklas\_72, November\_67, Padfoot\_70, Padpat\_73, Peanam\_72, Peel\_70, PhelpsODU\_72, Phrank\_74, Pokerus\_70, Ramen\_71, Rapunzel97\_72, Rosmarinus\_70, SamuelLPlaqson\_70, ShiaSurprise\_71, Slimphazie\_71, Spock\_70, Tachez\_70, Tigress9\_74, Tiri\_70, Topper\_70, TruffulaTree\_71, Twitch\_70, Unicorn\_72, Urkel\_70, Validus\_75, Veliki\_71, Ximenita\_75, YoureAdopted\_69, Yunkel11\_74, Zabiza\_65, Zavala\_73,

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

- Bryler\_74, Curiosium\_74, Shadow1\_74, Sunflower1121\_75, Syra333\_73, TClif\_71, Tierra\_74,

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

- Efra2\_75, Fefferhead\_68, ShedlockHolmes\_72, SirPhilip\_69, TiniBug\_70, TribleTrouble\_71,

**Summary by start number:**

Start 11:

- Found in 5 of 89 ( 5.6% ) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Fefferhead\_68 (K6),

Start 13:

- Found in 83 of 89 ( 93.3% ) of genes in pham
- Manual Annotations of this start: 76 of 89
- Called 91.6% of time when present
- Phage (with cluster) where this start called: ActinUp\_70 (K1), Ageofdapage\_73 (K1), Apocalypse\_72 (K1), Applecrisp\_67 (K6), Asayake\_70 (K1), Atiba\_71 (K1), BEEST\_70 (K1), BGlluviae\_70 (K1), BaghaKamala\_69 (K1), Beezoo\_72 (K1),

Bella96\_70 (K1), Belladonna\_70 (K1), Bern\_71 (K1), Blizzard\_70 (K1), Boiiii\_70 (K1), Cain\_74 (K6), CallaLilly\_70 (K1), Capricorn\_70 (K1), CaseJules\_72 (K1), CheetoDust\_69 (K1), Clipper\_74 (K1), Dalmuri\_70 (K1), DartGoblin\_71 (K1), Devera\_77 (K1), DrHayes\_70 (K1), Durfee\_70 (K1), Ellie\_66 (K6), Emerson\_72 (K1), Geraldini\_73 (K1), Guanica15\_74 (K1), Illumine\_75 (K1), Inky\_70 (K1), Jarvi\_70 (K1), Jayhawk\_72 (K1), Jeckyll\_70 (K1), Joy99\_70 (K1), Krueger\_74 (K6), LastHope\_74 (K1), Lavahound\_67 (K6), Llorens\_70 (K1), Lunahalos\_70 (K1), MacKat\_66 (K1), MeaningOfLife\_71 (K1), Megsy\_72 (K1), Nergal\_61 (AG), Niklas\_72 (K1), November\_67 (K6), Padfoot\_70 (K1), Padpat\_73 (K1), Peanam\_72 (K1), Peel\_70 (K1), PhelpsODU\_72 (K6), Phrank\_74 (K6), Pokerus\_70 (K1), Ramen\_71 (K1), Rapunzel97\_72 (K1), Rosmarinus\_70 (K1), SamuelLPlaqson\_70 (K1), ShiaSurprise\_71 (K1), Slimphazie\_71 (K1), Spock\_70 (K1), Tachez\_70 (K1), Tigress9\_74 (K6), Tiri\_70 (K1), Topper\_70 (K1), TruffulaTree\_71 (K1), Twitch\_70 (K1), Unicorn\_72 (K6), Urkel\_70 (K1), Validus\_75 (K1), Veliki\_71 (K1), Ximenita\_75 (K6), YoureAdopted\_69 (K1), Yunkel11\_74 (K1), Zabiza\_65 (K1), Zavala\_73 (K1),

Start 14:

- Found in 2 of 89 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 2 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ShedlockHolmes\_72 (K3), TripleTrouble\_71 (K3),

Start 15:

- Found in 14 of 89 ( 15.7% ) of genes in pham
- Manual Annotations of this start: 7 of 89
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bryler\_74 (K6), Curiosium\_74 (K1), Shadow1\_74 (K6), Sunflower1121\_75 (K6), Syra333\_73 (K6), TClif\_71 (K6), Tierra\_74 (K6),

Start 16:

- Found in 2 of 89 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 2 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Efra2\_75 (K1), TiniBug\_70 (K1),

Start 17:

- Found in 1 of 89 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SirPhilip\_69 (K6),

### Summary by clusters:

There are 4 clusters represented in this pham: K3, K1, K6, AG,

Info for manual annotations of cluster AG:

- Start number 13 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster K1:

- Start number 13 was manually annotated 64 times for cluster K1.
- Start number 15 was manually annotated 1 time for cluster K1.

- Start number 16 was manually annotated 2 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 14 was manually annotated 2 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 11 was manually annotated 1 time for cluster K6.
- Start number 13 was manually annotated 11 times for cluster K6.
- Start number 15 was manually annotated 6 times for cluster K6.
- Start number 17 was manually annotated 1 time for cluster K6.

### ***Gene Information:***

Gene: ActinUp\_70 Start: 46973, Stop: 47329, Start Num: 13

Candidate Starts for ActinUp\_70:

(Start: 13 @46973 has 76 MA's), (26, 47051), (28, 47087), (30, 47096), (35, 47126), (37, 47156), (46, 47228), (47, 47240), (48, 47249),

Gene: Ageofdapage\_73 Start: 48168, Stop: 48524, Start Num: 13

Candidate Starts for Ageofdapage\_73:

(Start: 13 @48168 has 76 MA's), (20, 48219), (28, 48282), (29, 48288), (34, 48318), (37, 48351), (46, 48423), (47, 48435), (48, 48444),

Gene: Apocalypse\_72 Start: 47693, Stop: 48049, Start Num: 13

Candidate Starts for Apocalypse\_72:

(Start: 13 @47693 has 76 MA's), (26, 47771), (28, 47807), (30, 47816), (35, 47846), (37, 47876), (46, 47948), (47, 47960), (48, 47969),

Gene: Applecrisp\_67 Start: 47124, Stop: 47468, Start Num: 13

Candidate Starts for Applecrisp\_67:

(7, 47109), (Start: 13 @47124 has 76 MA's), (19, 47160), (28, 47226), (37, 47295), (43, 47352), (46, 47367), (47, 47379), (48, 47388),

Gene: Asayake\_70 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for Asayake\_70:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: Atiba\_71 Start: 46973, Stop: 47329, Start Num: 13

Candidate Starts for Atiba\_71:

(Start: 13 @46973 has 76 MA's), (26, 47051), (28, 47087), (30, 47096), (35, 47126), (37, 47156), (46, 47228), (47, 47240), (48, 47249),

Gene: BEEST\_70 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for BEEST\_70:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: BGIlluviae\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for BGIlluviae\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: BaghaKamala\_69 Start: 46559, Stop: 46915, Start Num: 13

Candidate Starts for BaghaKamala\_69:

(Start: 13 @46559 has 76 MA's), (26, 46637), (28, 46673), (30, 46682), (35, 46712), (37, 46742), (46, 46814), (47, 46826), (48, 46835),

Gene: Beezoo\_72 Start: 47929, Stop: 48195, Start Num: 13

Candidate Starts for Beezoo\_72:

(6, 47890), (Start: 11 @47926 has 1 MA's), (Start: 13 @47929 has 76 MA's), (22, 47971), (30, 48040), (33, 48064), (37, 48100), (46, 48172),

Gene: Bella96\_70 Start: 47481, Stop: 47825, Start Num: 13

Candidate Starts for Bella96\_70:

(6, 47442), (Start: 13 @47481 has 76 MA's), (26, 47547), (28, 47583), (35, 47622), (37, 47652), (46, 47724), (47, 47736), (48, 47745),

Gene: Belladonna\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Belladonna\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: Bern\_71 Start: 46152, Stop: 46508, Start Num: 13

Candidate Starts for Bern\_71:

(Start: 13 @46152 has 76 MA's), (19, 46200), (30, 46275), (37, 46335), (43, 46392), (46, 46407),

Gene: Blizzard\_70 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for Blizzard\_70:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: Boiiii\_70 Start: 47327, Stop: 47683, Start Num: 13

Candidate Starts for Boiiii\_70:

(Start: 13 @47327 has 76 MA's), (26, 47405), (28, 47441), (30, 47450), (35, 47480), (37, 47510), (46, 47582), (47, 47594), (48, 47603),

Gene: Bryler\_74 Start: 46880, Stop: 47230, Start Num: 15

Candidate Starts for Bryler\_74:

(Start: 13 @46877 has 76 MA's), (Start: 15 @46880 has 7 MA's), (26, 46952), (28, 46988), (35, 47027), (37, 47057), (43, 47114), (46, 47129), (47, 47141), (48, 47150), (50, 47174),

Gene: Cain\_74 Start: 46865, Stop: 47218, Start Num: 13

Candidate Starts for Cain\_74:

(Start: 13 @46865 has 76 MA's), (Start: 15 @46868 has 7 MA's), (26, 46940), (28, 46976), (35, 47015), (37, 47045), (43, 47102), (46, 47117), (47, 47129), (48, 47138), (50, 47162),

Gene: CallaLilly\_70 Start: 47051, Stop: 47407, Start Num: 13

Candidate Starts for CallaLilly\_70:

(Start: 13 @47051 has 76 MA's), (26, 47129), (28, 47165), (30, 47174), (35, 47204), (37, 47234), (46, 47306), (47, 47318), (48, 47327),

Gene: Capricorn\_70 Start: 47128, Stop: 47460, Start Num: 13

Candidate Starts for Capricorn\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: CaseJules\_72 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for CaseJules\_72:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: CheetoDust\_69 Start: 46606, Stop: 46962, Start Num: 13

Candidate Starts for CheetoDust\_69:

(Start: 13 @46606 has 76 MA's), (26, 46684), (28, 46720), (30, 46729), (35, 46759), (37, 46789), (46, 46861), (47, 46873), (48, 46882),

Gene: Clipper\_74 Start: 48027, Stop: 48383, Start Num: 13

Candidate Starts for Clipper\_74:

(Start: 13 @48027 has 76 MA's), (19, 48075), (28, 48141), (30, 48150), (37, 48210), (43, 48267), (46, 48282),

Gene: Curiosium\_74 Start: 46635, Stop: 46925, Start Num: 15

Candidate Starts for Curiosium\_74:

(Start: 13 @46632 has 76 MA's), (Start: 15 @46635 has 7 MA's), (19, 46680), (26, 46710), (28, 46746), (29, 46752), (35, 46785), (37, 46815), (46, 46887), (47, 46899), (48, 46908),

Gene: Dalmuri\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Dalmuri\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: DartGoblin\_71 Start: 47453, Stop: 47809, Start Num: 13

Candidate Starts for DartGoblin\_71:

(5, 47405), (Start: 13 @47453 has 76 MA's), (19, 47501), (28, 47567), (30, 47576), (31, 47579), (37, 47636), (43, 47693), (46, 47708),

Gene: Devera\_77 Start: 48731, Stop: 49075, Start Num: 13

Candidate Starts for Devera\_77:

(Start: 13 @48731 has 76 MA's), (26, 48797), (28, 48833), (35, 48872), (37, 48902), (46, 48974), (47, 48986), (48, 48995), (51, 49028),

Gene: DrHayes\_70 Start: 47635, Stop: 47979, Start Num: 13

Candidate Starts for DrHayes\_70:

(6, 47596), (Start: 13 @47635 has 76 MA's), (26, 47701), (28, 47737), (35, 47776), (37, 47806), (46, 47878), (47, 47890), (48, 47899),

Gene: Durfee\_70 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for Durfee\_70:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: Efra2\_75 Start: 47471, Stop: 47806, Start Num: 16

Candidate Starts for Efra2\_75:

(Start: 15 @47468 has 7 MA's), (Start: 16 @47471 has 2 MA's), (24, 47522), (27, 47561), (37, 47645), (42, 47699), (43, 47702), (46, 47717),

Gene: Ellie\_66 Start: 46854, Stop: 47198, Start Num: 13

Candidate Starts for Ellie\_66:

(7, 46839), (Start: 13 @46854 has 76 MA's), (28, 46956), (37, 47025), (43, 47082), (46, 47097), (47, 47109), (48, 47118),

Gene: Emerson\_72 Start: 47445, Stop: 47801, Start Num: 13

Candidate Starts for Emerson\_72:

(Start: 13 @47445 has 76 MA's), (20, 47496), (28, 47559), (29, 47565), (34, 47595), (37, 47628), (46, 47700), (47, 47712), (48, 47721),

Gene: Fefferhead\_68 Start: 46763, Stop: 47029, Start Num: 11

Candidate Starts for Fefferhead\_68:

(7, 46748), (Start: 11 @46763 has 1 MA's), (25, 46811), (32, 46892), (33, 46898), (37, 46934), (43, 46991), (46, 47006),

Gene: Geraldini\_73 Start: 48007, Stop: 48327, Start Num: 13

Candidate Starts for Geraldini\_73:

(Start: 13 @48007 has 76 MA's), (26, 48085), (28, 48121), (30, 48130), (35, 48160), (37, 48190), (42, 48244), (46, 48262), (47, 48274), (48, 48283),

Gene: Guanica15\_74 Start: 47209, Stop: 47565, Start Num: 13

Candidate Starts for Guanica15\_74:

(Start: 13 @47209 has 76 MA's), (18, 47251), (23, 47266), (28, 47323), (30, 47332), (37, 47392), (43, 47449), (46, 47464),

Gene: Illumine\_75 Start: 48733, Stop: 49077, Start Num: 13

Candidate Starts for Illumine\_75:

(Start: 13 @48733 has 76 MA's), (26, 48799), (28, 48835), (35, 48874), (37, 48904), (46, 48976), (47, 48988), (48, 48997), (51, 49030),

Gene: Inky\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Inky\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: Jarvi\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Jarvi\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: Jayhawk\_72 Start: 47471, Stop: 47827, Start Num: 13

Candidate Starts for Jayhawk\_72:

(Start: 13 @47471 has 76 MA's), (26, 47549), (28, 47585), (30, 47594), (35, 47624), (37, 47654), (46, 47726), (47, 47738), (48, 47747),

Gene: Jeckyll\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Jeckyll\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: Joy99\_70 Start: 47057, Stop: 47413, Start Num: 13

Candidate Starts for Joy99\_70:

(Start: 13 @47057 has 76 MA's), (26, 47135), (28, 47171), (30, 47180), (35, 47210), (37, 47240), (46, 47312), (47, 47324), (48, 47333),

Gene: Krueger\_74 Start: 47000, Stop: 47341, Start Num: 13

Candidate Starts for Krueger\_74:

(Start: 13 @47000 has 76 MA's), (23, 47057), (37, 47183), (38, 47186), (46, 47255), (49, 47291), (50, 47300), (54, 47315),

Gene: LastHope\_74 Start: 46319, Stop: 46675, Start Num: 13

Candidate Starts for LastHope\_74:

(Start: 13 @46319 has 76 MA's), (26, 46397), (27, 46418), (28, 46433), (29, 46439), (35, 46472), (37, 46502), (46, 46574), (47, 46586), (48, 46595),

Gene: Lavahound\_67 Start: 47965, Stop: 48309, Start Num: 13

Candidate Starts for Lavahound\_67:

(7, 47950), (Start: 13 @47965 has 76 MA's), (28, 48067), (37, 48136), (43, 48193), (46, 48208), (47, 48220), (48, 48229),

Gene: Llorens\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Llorens\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: Lunahalos\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Lunahalos\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: MacKat\_66 Start: 42911, Stop: 43267, Start Num: 13

Candidate Starts for MacKat\_66:

(Start: 13 @42911 has 76 MA's), (19, 42959), (28, 43025), (30, 43034), (37, 43094), (43, 43151), (46, 43166),

Gene: MeaningOfLife\_71 Start: 47880, Stop: 48236, Start Num: 13

Candidate Starts for MeaningOfLife\_71:

(Start: 13 @47880 has 76 MA's), (26, 47958), (28, 47994), (30, 48003), (35, 48033), (37, 48063), (46, 48135), (47, 48147), (48, 48156),

Gene: Megsy\_72 Start: 47305, Stop: 47661, Start Num: 13

Candidate Starts for Megsy\_72:

(Start: 13 @47305 has 76 MA's), (22, 47359), (23, 47362), (28, 47419), (30, 47428), (37, 47488), (43, 47545), (46, 47560),

Gene: Nergal\_61 Start: 43426, Stop: 43770, Start Num: 13

Candidate Starts for Nergal\_61:

(3, 43198), (4, 43267), (10, 43417), (Start: 13 @43426 has 76 MA's), (21, 43456), (28, 43519), (36, 43585), (37, 43588), (38, 43591), (41, 43618), (43, 43645), (46, 43660), (47, 43672), (48, 43681),

Gene: Niklas\_72 Start: 47424, Stop: 47780, Start Num: 13

Candidate Starts for Niklas\_72:

(3, 47181), (6, 47385), (Start: 13 @47424 has 76 MA's), (21, 47478), (28, 47541), (37, 47610), (43, 47667), (46, 47682), (47, 47694), (48, 47703),

Gene: November\_67 Start: 47087, Stop: 47395, Start Num: 13

Candidate Starts for November\_67:

(9, 47081), (Start: 11 @47084 has 1 MA's), (Start: 13 @47087 has 76 MA's), (26, 47150), (28, 47186), (35, 47225), (37, 47255), (47, 47339), (48, 47348),

Gene: Padfoot\_70 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for Padfoot\_70:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: Padpat\_73 Start: 47445, Stop: 47801, Start Num: 13

Candidate Starts for Padpat\_73:

(Start: 13 @47445 has 76 MA's), (20, 47496), (28, 47559), (29, 47565), (34, 47595), (37, 47628), (46, 47700), (47, 47712), (48, 47721),

Gene: Peanam\_72 Start: 47381, Stop: 47683, Start Num: 13

Candidate Starts for Peanam\_72:

(3, 47138), (6, 47342), (Start: 13 @47381 has 76 MA's), (21, 47435), (28, 47498), (37, 47567), (43, 47624), (46, 47639), (47, 47651), (48, 47660),

Gene: Peel\_70 Start: 47130, Stop: 47486, Start Num: 13

Candidate Starts for Peel\_70:

(Start: 13 @47130 has 76 MA's), (26, 47208), (28, 47244), (30, 47253), (35, 47283), (37, 47313), (46, 47385), (47, 47397), (48, 47406),

Gene: PhelpsODU\_72 Start: 46792, Stop: 47142, Start Num: 13

Candidate Starts for PhelpsODU\_72:

(Start: 13 @46792 has 76 MA's), (Start: 15 @46795 has 7 MA's), (24, 46846), (37, 46969), (43, 47026), (46, 47041),

Gene: Phrank\_74 Start: 46855, Stop: 47205, Start Num: 13

Candidate Starts for Phrank\_74:

(Start: 13 @46855 has 76 MA's), (Start: 15 @46858 has 7 MA's), (37, 47032), (38, 47035), (46, 47104), (49, 47140),

Gene: Pokerus\_70 Start: 47476, Stop: 47742, Start Num: 13

Candidate Starts for Pokerus\_70:

(6, 47437), (Start: 11 @47473 has 1 MA's), (Start: 13 @47476 has 76 MA's), (22, 47518), (30, 47587), (33, 47611), (37, 47647), (46, 47719),

Gene: Ramen\_71 Start: 46975, Stop: 47331, Start Num: 13

Candidate Starts for Ramen\_71:

(Start: 13 @46975 has 76 MA's), (19, 47023), (28, 47089), (30, 47098), (37, 47158), (39, 47170), (43, 47215), (46, 47230),

Gene: Rapunzel97\_72 Start: 47426, Stop: 47782, Start Num: 13

Candidate Starts for Rapunzel97\_72:

(Start: 13 @47426 has 76 MA's), (26, 47504), (28, 47540), (30, 47549), (35, 47579), (37, 47609), (46, 47681), (47, 47693), (48, 47702),

Gene: Rosmarinus\_70 Start: 47116, Stop: 47472, Start Num: 13

Candidate Starts for Rosmarinus\_70:

(Start: 13 @47116 has 76 MA's), (26, 47194), (28, 47230), (30, 47239), (35, 47269), (37, 47299), (46, 47371), (47, 47383), (48, 47392),

Gene: SamuelLPlaqson\_70 Start: 47635, Stop: 47979, Start Num: 13

Candidate Starts for SamuelLPlaqson\_70:

(6, 47596), (Start: 13 @47635 has 76 MA's), (26, 47701), (28, 47737), (35, 47776), (37, 47806), (46, 47878), (47, 47890), (48, 47899),

Gene: Shadow1\_74 Start: 47155, Stop: 47502, Start Num: 15

Candidate Starts for Shadow1\_74:

(Start: 13 @47152 has 76 MA's), (Start: 15 @47155 has 7 MA's), (24, 47206), (37, 47329), (43, 47386), (46, 47401),

Gene: ShedlockHolmes\_72 Start: 47403, Stop: 47735, Start Num: 14

Candidate Starts for ShedlockHolmes\_72:

(Start: 14 @47403 has 2 MA's), (37, 47574), (44, 47634),

Gene: ShiaSurprise\_71 Start: 47325, Stop: 47681, Start Num: 13

Candidate Starts for ShiaSurprise\_71:

(Start: 13 @47325 has 76 MA's), (26, 47403), (28, 47439), (30, 47448), (35, 47478), (37, 47508), (46, 47580), (47, 47592), (48, 47601),

Gene: SirPhilip\_69 Start: 47533, Stop: 47838, Start Num: 17

Candidate Starts for SirPhilip\_69:

(10, 47518), (Start: 17 @47533 has 1 MA's), (28, 47629), (37, 47698), (43, 47755), (47, 47782), (48, 47791), (49, 47806),

Gene: Slimphazie\_71 Start: 47426, Stop: 47782, Start Num: 13

Candidate Starts for Slimphazie\_71:

(Start: 13 @47426 has 76 MA's), (26, 47504), (28, 47540), (30, 47549), (35, 47579), (37, 47609), (46, 47681), (47, 47693), (48, 47702),

Gene: Spock\_70 Start: 47129, Stop: 47485, Start Num: 13

Candidate Starts for Spock\_70:

(Start: 13 @47129 has 76 MA's), (26, 47207), (28, 47243), (30, 47252), (35, 47282), (37, 47312), (46, 47384), (47, 47396), (48, 47405),

Gene: Sunflower1121\_75 Start: 47301, Stop: 47648, Start Num: 15

Candidate Starts for Sunflower1121\_75:

(Start: 13 @47298 has 76 MA's), (Start: 15 @47301 has 7 MA's), (24, 47352), (37, 47475), (43, 47532), (46, 47547),

Gene: Syra333\_73 Start: 47015, Stop: 47353, Start Num: 15

Candidate Starts for Syra333\_73:

(3, 46775), (4, 46844), (6, 46979), (Start: 13 @47012 has 76 MA's), (Start: 15 @47015 has 7 MA's), (26, 47090), (28, 47126), (35, 47165), (37, 47195), (43, 47252), (46, 47267), (47, 47279), (48, 47288), (50, 47312), (55, 47327),

Gene: TClif\_71 Start: 46972, Stop: 47280, Start Num: 15

Candidate Starts for TClif\_71:

(1, 46609), (2, 46729), (4, 46801), (7, 46954), (Start: 13 @46969 has 76 MA's), (Start: 15 @46972 has 7 MA's), (24, 47017), (30, 47080), (37, 47140), (46, 47212),

Gene: Tachez\_70 Start: 46973, Stop: 47329, Start Num: 13

Candidate Starts for Tachez\_70:

(Start: 13 @46973 has 76 MA's), (26, 47051), (28, 47087), (30, 47096), (35, 47126), (37, 47156), (46, 47228), (47, 47240), (48, 47249),

Gene: Tierra\_74 Start: 47669, Stop: 48016, Start Num: 15

Candidate Starts for Tierra\_74:

(Start: 13 @47666 has 76 MA's), (Start: 15 @47669 has 7 MA's), (37, 47843), (38, 47846), (46, 47915), (49, 47951),

Gene: Tigress9\_74 Start: 47329, Stop: 47670, Start Num: 13

Candidate Starts for Tigress9\_74:

(Start: 13 @47329 has 76 MA's), (23, 47386), (37, 47512), (38, 47515), (46, 47584), (49, 47620), (50, 47629), (54, 47644),

Gene: TiniBug\_70 Start: 47631, Stop: 47966, Start Num: 16

Candidate Starts for TiniBug\_70:

(Start: 15 @47628 has 7 MA's), (Start: 16 @47631 has 2 MA's), (24, 47682), (27, 47721), (34, 47772), (37, 47805), (43, 47862), (46, 47877), (53, 47934),

Gene: Tiri\_70 Start: 47029, Stop: 47385, Start Num: 13

Candidate Starts for Tiri\_70:

(Start: 13 @47029 has 76 MA's), (26, 47107), (28, 47143), (30, 47152), (35, 47182), (37, 47212), (46, 47284), (47, 47296), (48, 47305),

Gene: Topper\_70 Start: 47128, Stop: 47484, Start Num: 13

Candidate Starts for Topper\_70:

(Start: 13 @47128 has 76 MA's), (26, 47206), (28, 47242), (30, 47251), (35, 47281), (37, 47311), (46, 47383), (47, 47395), (48, 47404),

Gene: TribbleTrouble\_71 Start: 47859, Stop: 48122, Start Num: 14

Candidate Starts for TribbleTrouble\_71:

(8, 47841), (12, 47856), (Start: 14 @47859 has 2 MA's), (28, 47964), (37, 48033), (40, 48060), (45, 48096),

Gene: TruffulaTree\_71 Start: 47422, Stop: 47778, Start Num: 13

Candidate Starts for TruffulaTree\_71:

(Start: 13 @47422 has 76 MA's), (26, 47500), (28, 47536), (30, 47545), (35, 47575), (37, 47605), (46, 47677), (47, 47689), (48, 47698),

Gene: Twitch\_70 Start: 47130, Stop: 47486, Start Num: 13

Candidate Starts for Twitch\_70:

(Start: 13 @47130 has 76 MA's), (26, 47208), (28, 47244), (30, 47253), (35, 47283), (37, 47313), (46, 47385), (47, 47397), (48, 47406),

Gene: Unicorn\_72 Start: 46792, Stop: 47142, Start Num: 13

Candidate Starts for Unicorn\_72:

(Start: 13 @46792 has 76 MA's), (Start: 15 @46795 has 7 MA's), (24, 46846), (37, 46969), (43, 47026), (46, 47041),

Gene: Urkel\_70 Start: 47635, Stop: 47979, Start Num: 13

Candidate Starts for Urkel\_70:

(6, 47596), (Start: 13 @47635 has 76 MA's), (26, 47701), (28, 47737), (35, 47776), (37, 47806), (46, 47878), (47, 47890), (48, 47899),

Gene: Validus\_75 Start: 47975, Stop: 48295, Start Num: 13

Candidate Starts for Validus\_75:

(3, 47732), (6, 47936), (Start: 13 @47975 has 76 MA's), (Start: 15 @47978 has 7 MA's), (21, 48026), (28, 48089), (37, 48158), (43, 48215), (46, 48230), (47, 48242), (48, 48251), (52, 48284),

Gene: Veliki\_71 Start: 47162, Stop: 47518, Start Num: 13

Candidate Starts for Veliki\_71:

(Start: 13 @47162 has 76 MA's), (19, 47210), (28, 47276), (30, 47285), (37, 47345), (39, 47357), (43, 47402), (46, 47417),

Gene: Ximenita\_75 Start: 47341, Stop: 47691, Start Num: 13

Candidate Starts for Ximenita\_75:

(Start: 13 @47341 has 76 MA's), (37, 47518), (38, 47521), (49, 47626),

Gene: YoureAdopted\_69 Start: 47314, Stop: 47580, Start Num: 13

Candidate Starts for YoureAdopted\_69:

(6, 47275), (Start: 11 @47311 has 1 MA's), (Start: 13 @47314 has 76 MA's), (22, 47356), (30, 47425), (33, 47449), (37, 47485), (46, 47557),

Gene: Yunkel11\_74 Start: 47214, Stop: 47570, Start Num: 13

Candidate Starts for Yunkel11\_74:

(Start: 13 @47214 has 76 MA's), (18, 47256), (23, 47271), (28, 47328), (30, 47337), (37, 47397), (43, 47454), (46, 47469),

Gene: Zabiza\_65 Start: 43278, Stop: 43634, Start Num: 13

Candidate Starts for Zabiza\_65:

(Start: 13 @43278 has 76 MA's), (26, 43356), (28, 43392), (30, 43401), (35, 43431), (37, 43461), (46, 43533), (47, 43545), (48, 43554),

Gene: Zavala\_73 Start: 47700, Stop: 48056, Start Num: 13

Candidate Starts for Zavala\_73:

(Start: 13 @47700 has 76 MA's), (26, 47778), (28, 47814), (30, 47823), (35, 47853), (37, 47883), (46, 47955), (47, 47967), (48, 47976),