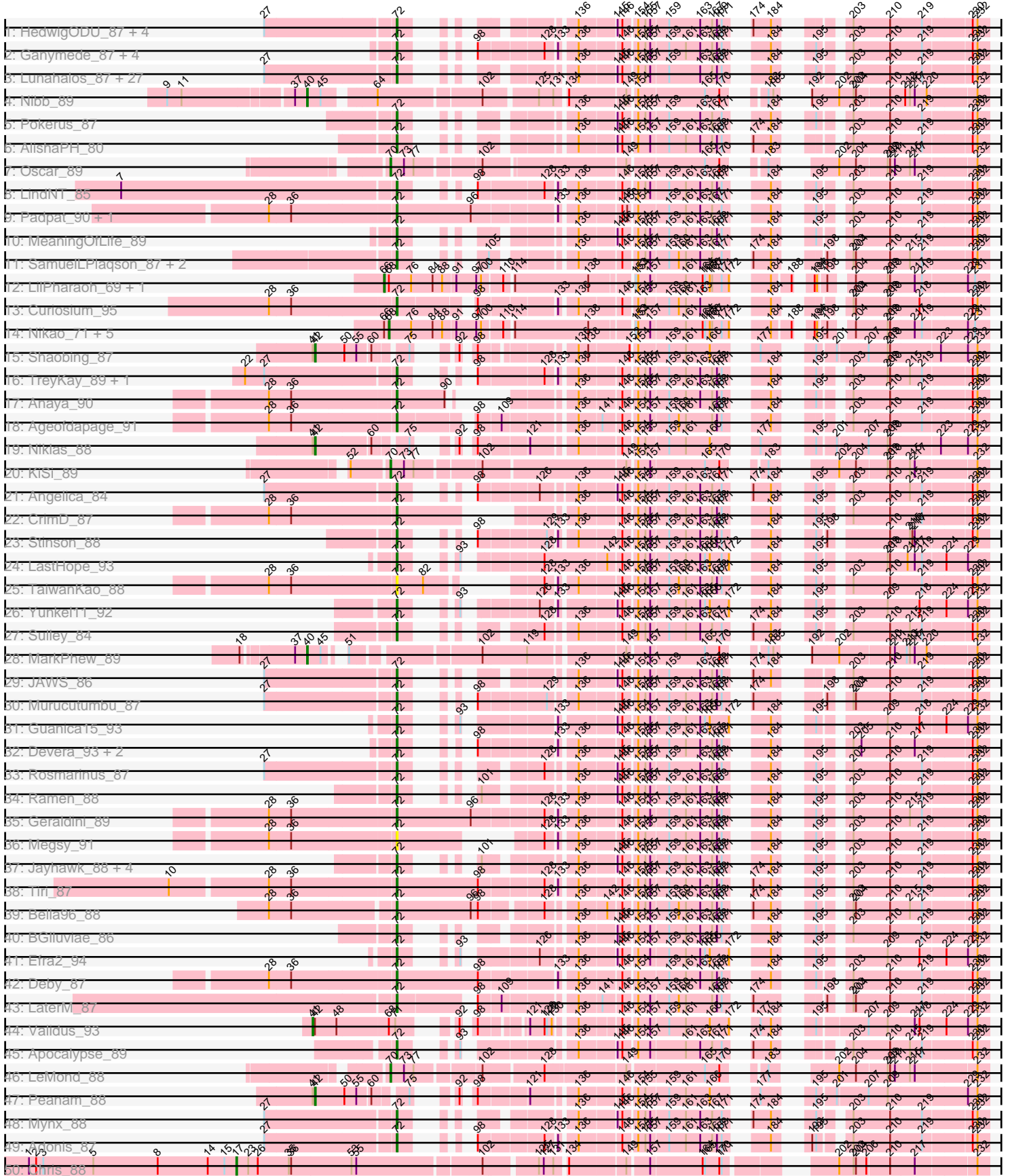
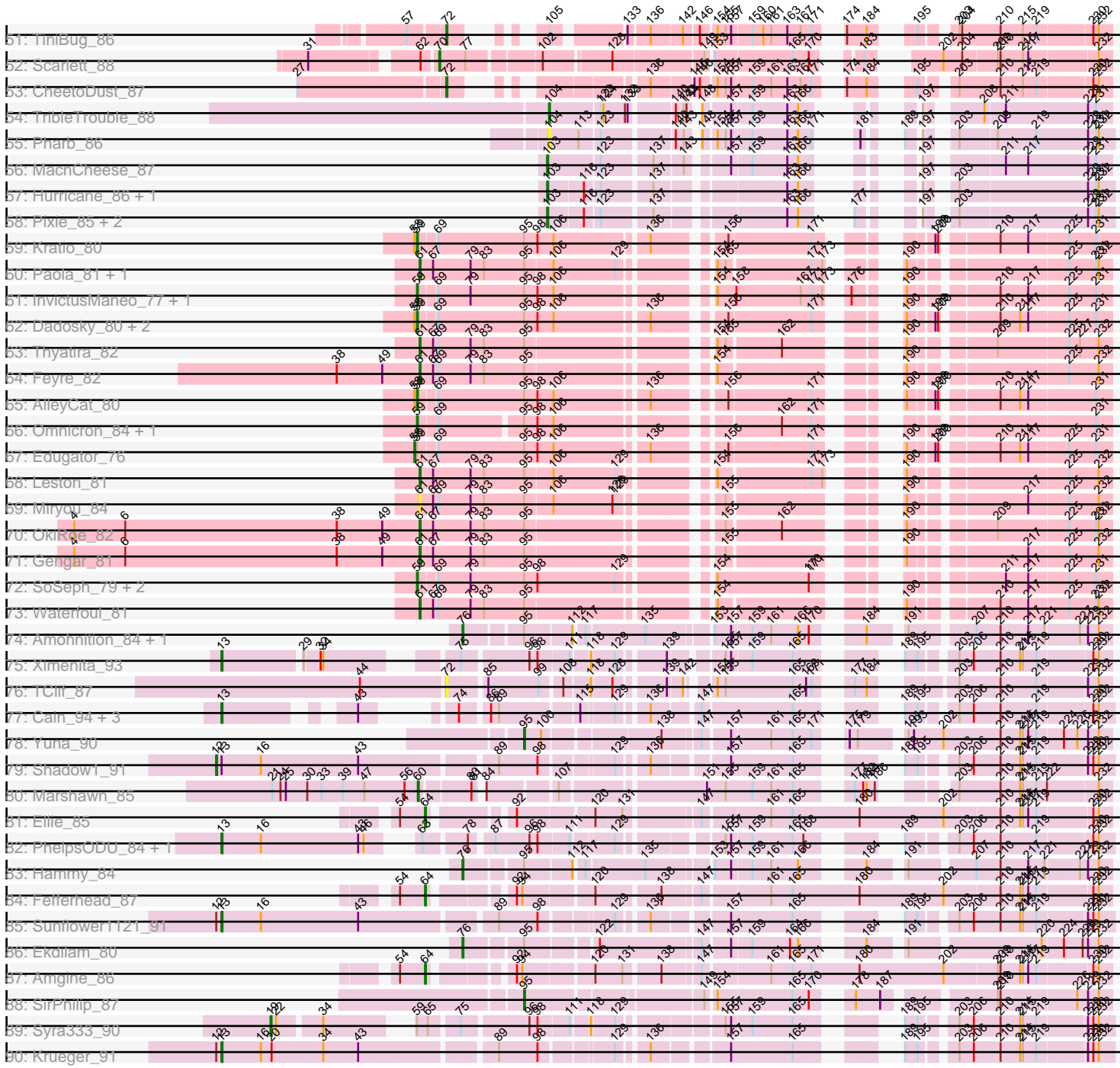


Pham 156177



Pham 156177



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 156177 Report

This analysis was run 04/12/24 on database version 558.

Pham number 156177 has 156 members, 9 are drafts.

Phages represented in each track:

- Track 1 : HedwigODU\_87, Adephagia\_86, ActinUp\_88, Zabiza\_83, Veliki\_88
- Track 2 : Ganymede\_87, Beezoo\_90, QuincyRose\_85, YoureAdopted\_86, Zavala\_89
- Track 3 : Lunahalos\_87, ShiaSurprise\_88, BEEST\_87, Homura\_86, Llorens\_86, Spock\_87, Capricorn\_87, Tachez\_87, Twitch\_87, Piatt\_86, Durfee\_87, Peel\_87, Dalmuri\_87, Topper\_87, Hyperbowlee\_86, CaseJules\_89, Jarvi\_87, Jeckyll\_87, Padfoot\_87, CREW\_86, BaghaKamala\_86, Joy99\_88, Boiiii\_87, Belladonna\_87, Atiba\_88, Blizzard\_87, Inky\_87, Asayake\_87
- Track 4 : Nibb\_89
- Track 5 : Pokerus\_87
- Track 6 : AlishaPH\_80
- Track 7 : Oscar\_89
- Track 8 : LindNT\_85
- Track 9 : Padpat\_90, Emerson\_89
- Track 10 : MeaningOfLife\_89
- Track 11 : SamuelLPlaqson\_87, DrHayes\_87, Urkel\_87
- Track 12 : LilPharaoh\_69, Binglebops\_68
- Track 13 : Curiosium\_95
- Track 14 : Nikao\_71, SgtBeansprout\_69, Nutello\_68, Enkosi\_70, Amelie\_68, Mdavu\_69
- Track 15 : Shaobing\_87
- Track 16 : TreyKay\_89, Prithvi\_89
- Track 17 : Anaya\_90
- Track 18 : Ageofdapage\_91
- Track 19 : Niklas\_88
- Track 20 : KiSi\_89
- Track 21 : Angelica\_84
- Track 22 : CrimD\_87
- Track 23 : Stinson\_88
- Track 24 : LastHope\_93
- Track 25 : TaiwanKao\_88
- Track 26 : Yunkel11\_92
- Track 27 : Sulley\_84
- Track 28 : MarkPhew\_89
- Track 29 : JAWS\_86
- Track 30 : Murucutumbu\_87
- Track 31 : Guanica15\_93

- Track 32 : Devera\_93, Illumine\_91, Dole\_90
- Track 33 : Rosmarinus\_87
- Track 34 : Ramen\_88
- Track 35 : Geraldini\_89
- Track 36 : Megsy\_91
- Track 37 : Jayhawk\_88, Rapunzel97\_89, BarrelRoll\_87, TruffulaTree\_89, Slimphazie\_89
- Track 38 : Tiri\_87
- Track 39 : Bella96\_88
- Track 40 : BGlluviae\_86
- Track 41 : Efra2\_94
- Track 42 : Deby\_87
- Track 43 : LaterM\_87
- Track 44 : Validus\_93
- Track 45 : Apocalypse\_89
- Track 46 : LeMond\_88
- Track 47 : Peanam\_88
- Track 48 : Mynx\_88
- Track 49 : Adonis\_87
- Track 50 : Chris\_88
- Track 51 : TiniBug\_86
- Track 52 : Scarlett\_88
- Track 53 : CheetoDust\_87
- Track 54 : TribbleTrouble\_88
- Track 55 : Pharb\_86
- Track 56 : MacnCheese\_87
- Track 57 : Hurricane\_86, Keshu\_88
- Track 58 : Pixie\_85, TBond007\_82, ShedlockHolmes\_88
- Track 59 : Kratio\_80
- Track 60 : Paola\_81, Guillsminger\_82
- Track 61 : InvictusManeo\_77, Agent47\_77
- Track 62 : Dadosky\_80, Psycho\_78, Larva\_79
- Track 63 : Thyatira\_82
- Track 64 : Feyre\_82
- Track 65 : AlleyCat\_80
- Track 66 : Omnicron\_84, Rando14\_81
- Track 67 : Edugator\_76
- Track 68 : Leston\_81
- Track 69 : Miryou\_84
- Track 70 : OkiRoe\_82
- Track 71 : Gengar\_81
- Track 72 : SoSeph\_79, Collard\_77, Heftyboy\_79
- Track 73 : Waterfoul\_81
- Track 74 : Amohnition\_84, DARTH\_P\_84
- Track 75 : Ximenita\_93
- Track 76 : TClif\_87
- Track 77 : Cain\_94, Bryler\_86, Phrank\_94, Tierra\_94
- Track 78 : Yuna\_90
- Track 79 : Shadow1\_91
- Track 80 : Marshawn\_85
- Track 81 : Ellie\_85
- Track 82 : PhelpsODU\_84, Unicorn\_94
- Track 83 : Hammy\_84

- Track 84 : Fefferhead\_87
- Track 85 : Sunflower1121\_91
- Track 86 : Ekdilam\_80
- Track 87 : Amgine\_86
- Track 88 : SirPhilip\_87
- Track 89 : Syra333\_90
- Track 90 : Krueger\_91

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

The start number called the most often in the published annotations is 72, it was called in 80 of the 147 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_88, Adephagia\_86, Adonis\_87, Ageofdapage\_91, AlishaPH\_80, Anaya\_90, Angelica\_84, Apocalypse\_89, Asayake\_87, Atiba\_88, BEEST\_87, BGlluviae\_86, BaghaKamala\_86, BarrelRoll\_87, Beezoo\_90, Bella96\_88, Belladonna\_87, Blizzard\_87, Boiiii\_87, CREW\_86, Capricorn\_87, CaseJules\_89, CheetoDust\_87, CrimD\_87, Curiosium\_95, Dalmuri\_87, Deby\_87, Devera\_93, Dole\_90, DrHayes\_87, Durfee\_87, Efra2\_94, Emerson\_89, Ganymede\_87, Geraldini\_89, Guanica15\_93, HedwigODU\_87, Homura\_86, Hyperbowlee\_86, Illumine\_91, Inky\_87, JAWS\_86, Jarvi\_87, Jayhawk\_88, Jeckyll\_87, Joy99\_88, LastHope\_93, LaterM\_87, LindNT\_85, Llorens\_86, Lunahalos\_87, MeaningOfLife\_89, Megsy\_91, Murucutumbu\_87, Mynx\_88, Padfoot\_87, Padpat\_90, Peel\_87, Piatt\_86, Pokerus\_87, Prithvi\_89, QuincyRose\_85, Ramen\_88, Rapunzel97\_89, Rosmarinus\_87, SamuelLPlaqson\_87, ShiaSurprise\_88, Slimphazie\_89, Spock\_87, Stinson\_88, Sulley\_84, TClif\_87, Tachez\_87, TaiwanKao\_88, TiniBug\_86, Tiri\_87, Topper\_87, TreyKay\_89, TruffulaTree\_89, Twitch\_87, Urkel\_87, Veliki\_88, YoureAdopted\_86, Yunkel11\_92, Zabiza\_83, Zavala\_89,

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

- 

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

- Agent47\_77, AlleyCat\_80, Amelie\_68, Amgine\_86, Amohnition\_84, Biglebops\_68, Bryler\_86, Cain\_94, Chris\_88, Collard\_77, Dadosky\_80, DARTH\_P\_84, Edugator\_76, Ekdilam\_80, Ellie\_85, Enkosi\_70, Fefferhead\_87, Feyre\_82, Gengar\_81, Guillsminger\_82, Hammy\_84, Heftyboy\_79, Hurricane\_86, InvictusManeo\_77, Keshu\_88, KiSi\_89, Kratio\_80, Krueger\_91, Larva\_79, LeMond\_88, Leston\_81, LilPharaoh\_69, MacnCheese\_87, MarkPhew\_89, Marshawn\_85, Mdavu\_69, Miryou\_84, Nibb\_89, Nikao\_71, Niklas\_88, Nutello\_68, OkiRoe\_82, Omnicron\_84, Oscar\_89, Paola\_81, Peanam\_88, Pharb\_86, PhelpsODU\_84, Phrank\_94, Pixie\_85, Psycho\_78, Rando14\_81, Scarlett\_88, SgtBeansprout\_69, Shadow1\_91, Shaobing\_87, ShedlockHolmes\_88, SirPhilip\_87, SoSeph\_79, Sunflower1121\_91, Syra333\_90, TBond007\_82, Thyatira\_82, Tierra\_94, TripleTrouble\_88, Unicorn\_94, Validus\_93, Waterfoul\_81, Ximenita\_93, Yuna\_90,

**Summary by start number:**

Start 12:

- Found in 3 of 156 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Shadow1\_91 (K6),

#### Start 13:

- Found in 10 of 156 ( 6.4% ) of genes in pham
- Manual Annotations of this start: 9 of 147
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Bryler\_86 (K6), Cain\_94 (K6), Krueger\_91 (K6), PhelpsODU\_84 (K6), Phrank\_94 (K6), Sunflower1121\_91 (K6), Tierra\_94 (K6), Unicorn\_94 (K6), Ximenita\_93 (K6),

#### Start 17:

- Found in 1 of 156 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chris\_88 (K1),

#### Start 19:

- Found in 1 of 156 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Syra333\_90 (K6),

#### Start 40:

- Found in 2 of 156 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MarkPhew\_89 (K1), Nibb\_89 (K1),

#### Start 41:

- Found in 4 of 156 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Validus\_93 (K1),

#### Start 42:

- Found in 4 of 156 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 3 of 147
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Niklas\_88 (K1), Peanam\_88 (K1), Shaobing\_87 (K1),

#### Start 58:

- Found in 6 of 156 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Edugator\_76 (K5),

#### Start 59:

- Found in 14 of 156 ( 9.0% ) of genes in pham
- Manual Annotations of this start: 11 of 147

- Called 85.7% of time when present
- Phage (with cluster) where this start called: Agent47\_77 (K5), AlleyCat\_80 (K5), Collard\_77 (K5), Dadosky\_80 (K5), Heftyboy\_79 (K5), InvictusManeo\_77 (K5), Kratio\_80 (K5), Larva\_79 (K5), Omnicron\_84 (K5), Psycho\_78 (K5), Rando14\_81 (K5), SoSeph\_79 (K5),

#### Start 60:

- Found in 4 of 156 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Marshawn\_85 (K6),

#### Start 61:

- Found in 9 of 156 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 8 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Feyre\_82 (K5), Gengar\_81 (K5), Guillsminger\_82 (K5), Leston\_81 (K5), Miryou\_84 (K5), OkiRoe\_82 (K5), Paola\_81 (K5), Thyatira\_82 (K5), Waterfoul\_81 (K5),

#### Start 64:

- Found in 4 of 156 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 3 of 147
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Amgine\_86 (K6), Ellie\_85 (K6), Fefferhead\_87 (K6),

#### Start 66:

- Found in 8 of 156 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 2 of 147
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Biglebops\_68 (K1), LilPharaoh\_69 (K1),

#### Start 68:

- Found in 9 of 156 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 6 of 147
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Amelie\_68 (K1), Enkosi\_70 (K1), Mdavu\_69 (K1), Nikao\_71 (K1), Nutello\_68 (K1), SgtBeansprout\_69 (K1),

#### Start 70:

- Found in 4 of 156 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 4 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KiSi\_89 (K1), LeMond\_88 (K1), Oscar\_89 (K1), Scarlett\_88 (K1),

#### Start 72:

- Found in 86 of 156 ( 55.1% ) of genes in pham
- Manual Annotations of this start: 80 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_88 (K1), Adephegia\_86 (K1), Adonis\_87 (K1), Ageofdapage\_91 (K1), AlishaPH\_80 (K1), Anaya\_90 (K1),

Angelica\_84 (K1), Apocalypse\_89 (K1), Asayake\_87 (K1), Atiba\_88 (K1), BEEST\_87 (K1), BGIluviae\_86 (K1), BaghaKamala\_86 (K1), BarrelRoll\_87 (K1), Beezoo\_90 (K1), Bella96\_88 (K1), Belladonna\_87 (K1), Blizzard\_87 (K1), Boiiii\_87 (K1), CREW\_86 (K1), Capricorn\_87 (K1), CaseJules\_89 (K1), CheetoDust\_87 (K1), CrimD\_87 (K1), Curiosium\_95 (K1), Dalmuri\_87 (K1), Deby\_87 (K1), Devera\_93 (K1), Dole\_90 (K1), DrHayes\_87 (K1), Durfee\_87 (K1), Efra2\_94 (K1), Emerson\_89 (K1), Ganymede\_87 (K1), Geraldini\_89 (K1), Guanica15\_93 (K1), HedwigODU\_87 (K1), Homura\_86 (K1), Hyperbowlee\_86 (K1), Illumine\_91 (K1), Inky\_87 (K1), JAWS\_86 (K1), Jarvi\_87 (K1), Jayhawk\_88 (K1), Jeckyll\_87 (K1), Joy99\_88 (K1), LastHope\_93 (K1), LaterM\_87 (K1), LindNT\_85 (K1), Llorens\_86 (K1), Lunahalos\_87 (K1), MeaningOfLife\_89 (K1), Megsy\_91 (K1), Murucutumbu\_87 (K1), Mynx\_88 (K1), Padfoot\_87 (K1), Padpat\_90 (K1), Peel\_87 (K1), Piatt\_86 (K1), Pokerus\_87 (K1), Prithvi\_89 (K1), QuincyRose\_85 (K1), Ramen\_88 (K1), Rapunzel97\_89 (K1), Rosmarinus\_87 (K1), SamuelLPlaqson\_87 (K1), ShiaSurprise\_88 (K1), Slimphazie\_89 (K1), Spock\_87 (K1), Stinson\_88 (K1), Sulley\_84 (K1), TClif\_87 (K6), Tachez\_87 (K1), TaiwanKao\_88 (K1), TiniBug\_86 (K1), Tiri\_87 (K1), Topper\_87 (K1), TreyKay\_89 (K1), TruffulaTree\_89 (K1), Twitch\_87 (K1), Urkel\_87 (K1), Veliki\_88 (K1), YoureAdopted\_86 (K1), Yunkel11\_92 (K1), Zabiza\_83 (K1), Zavala\_89 (K1),

Start 76:

- Found in 12 of 156 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 4 of 147
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Amohnition\_84 (K6), DARTH\_P\_84 (K6), Ekdilam\_80 (K6), Hammy\_84 (K6),

Start 95:

- Found in 28 of 156 ( 17.9% ) of genes in pham
- Manual Annotations of this start: 2 of 147
- Called 7.1% of time when present
- Phage (with cluster) where this start called: SirPhilip\_87 (K6), Yuna\_90 (K6),

Start 103:

- Found in 6 of 156 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 6 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hurricane\_86 (K3), Keshu\_88 (K3), MacnCheese\_87 (K3), Pixie\_85 (K3), ShedlockHolmes\_88 (K3), TBond007\_82 (K3),

Start 104:

- Found in 2 of 156 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 147
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pharb\_86 (K3), TripleTrouble\_88 (K3),

### Summary by clusters:

There are 4 clusters represented in this pham: K3, K1, K6, K5,

Info for manual annotations of cluster K1:

- Start number 17 was manually annotated 1 time for cluster K1.
- Start number 40 was manually annotated 2 times for cluster K1.
- Start number 41 was manually annotated 1 time for cluster K1.



- Start number 42 was manually annotated 3 times for cluster K1.
- Start number 66 was manually annotated 2 times for cluster K1.
- Start number 68 was manually annotated 6 times for cluster K1.
- Start number 70 was manually annotated 4 times for cluster K1.
- Start number 72 was manually annotated 80 times for cluster K1.

Info for manual annotations of cluster K3:

- Start number 103 was manually annotated 6 times for cluster K3.
- Start number 104 was manually annotated 1 time for cluster K3.

Info for manual annotations of cluster K5:

- Start number 58 was manually annotated 1 time for cluster K5.
- Start number 59 was manually annotated 11 times for cluster K5.
- Start number 61 was manually annotated 8 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 12 was manually annotated 1 time for cluster K6.
- Start number 13 was manually annotated 9 times for cluster K6.
- Start number 19 was manually annotated 1 time for cluster K6.
- Start number 60 was manually annotated 1 time for cluster K6.
- Start number 64 was manually annotated 3 times for cluster K6.
- Start number 76 was manually annotated 4 times for cluster K6.
- Start number 95 was manually annotated 2 times for cluster K6.

### **Gene Information:**

Gene: ActinUp\_88 Start: 55559, Stop: 56098, Start Num: 72

Candidate Starts for ActinUp\_88:

(27, 55403), (Start: 72 @55559 has 80 MA's), (136, 55688), (145, 55730), (146, 55736), (154, 55751), (155, 55760), (157, 55766), (159, 55787), (163, 55826), (167, 55841), (169, 55847), (171, 55853), (174, 55865), (184, 55886), (203, 55937), (210, 55982), (219, 56021), (230, 56078), (232, 56084),

Gene: Adephagia\_86 Start: 55402, Stop: 55941, Start Num: 72

Candidate Starts for Adephagia\_86:

(27, 55246), (Start: 72 @55402 has 80 MA's), (136, 55531), (145, 55573), (146, 55579), (154, 55594), (155, 55603), (157, 55609), (159, 55630), (163, 55669), (167, 55684), (169, 55690), (171, 55696), (174, 55708), (184, 55729), (203, 55780), (210, 55825), (219, 55864), (230, 55921), (232, 55927),

Gene: Adonis\_87 Start: 55591, Stop: 56139, Start Num: 72

Candidate Starts for Adonis\_87:

(27, 55435), (Start: 72 @55591 has 80 MA's), (98, 55624), (128, 55699), (133, 55711), (136, 55729), (146, 55777), (154, 55792), (155, 55801), (157, 55807), (159, 55828), (161, 55849), (163, 55867), (167, 55882), (169, 55888), (171, 55894), (184, 55927), (192, 55948), (195, 55951), (203, 55978), (210, 56023), (219, 56062), (230, 56119), (232, 56125),

Gene: Agent47\_77 Start: 51751, Stop: 52398, Start Num: 59

Candidate Starts for Agent47\_77:

(Start: 59 @51751 has 11 MA's), (69, 51769), (79, 51805), (Start: 95 @51865 has 2 MA's), (98, 51880), (106, 51898), (154, 52045), (158, 52066), (167, 52138), (171, 52150), (173, 52162), (176, 52171), (190, 52198), (210, 52279), (217, 52309), (225, 52351), (231, 52381),

Gene: Ageofdapage\_91 Start: 56356, Stop: 56949, Start Num: 72

Candidate Starts for Ageofdapage\_91:

(28, 56203), (36, 56230), (Start: 72 @56356 has 80 MA's), (98, 56434), (109, 56461), (136, 56539), (141, 56566), (146, 56587), (154, 56602), (157, 56617), (159, 56638), (160, 56650), (161, 56659), (167, 56692), (169, 56698), (171, 56704), (184, 56737), (203, 56788), (210, 56833), (219, 56872), (230, 56929), (232, 56935),

Gene: AlishaPH\_80 Start: 52788, Stop: 53327, Start Num: 72

Candidate Starts for AlishaPH\_80:

(Start: 72 @52788 has 80 MA's), (136, 52917), (145, 52959), (146, 52965), (154, 52980), (157, 52995), (159, 53016), (161, 53037), (163, 53055), (167, 53070), (169, 53076), (171, 53082), (174, 53094), (184, 53115), (203, 53166), (210, 53211), (219, 53250), (230, 53307), (232, 53313),

Gene: AlleyCat\_80 Start: 52608, Stop: 53252, Start Num: 59

Candidate Starts for AlleyCat\_80:

(Start: 58 @52605 has 1 MA's), (Start: 59 @52608 has 11 MA's), (69, 52626), (Start: 95 @52722 has 2 MA's), (98, 52737), (106, 52755), (136, 52851), (156, 52914), (171, 53004), (190, 53052), (199, 53076), (200, 53079), (210, 53133), (214, 53154), (217, 53163), (231, 53235),

Gene: Amelie\_68 Start: 51228, Stop: 51872, Start Num: 68

Candidate Starts for Amelie\_68:

(Start: 66 @51222 has 2 MA's), (Start: 68 @51228 has 6 MA's), (Start: 76 @51255 has 4 MA's), (84, 51282), (88, 51294), (91, 51309), (97, 51333), (100, 51339), (110, 51363), (114, 51372), (138, 51462), (153, 51507), (154, 51510), (157, 51525), (161, 51567), (164, 51588), (165, 51591), (166, 51597), (167, 51600), (171, 51612), (172, 51621), (184, 51645), (188, 51666), (194, 51678), (196, 51681), (198, 51690), (204, 51711), (209, 51750), (210, 51753), (217, 51783), (219, 51792), (229, 51846), (231, 51855),

Gene: Amgine\_86 Start: 56691, Stop: 57377, Start Num: 64

Candidate Starts for Amgine\_86:

(54, 56667), (Start: 64 @56691 has 3 MA's), (92, 56763), (94, 56769), (120, 56838), (131, 56868), (138, 56904), (147, 56940), (161, 57009), (165, 57033), (171, 57054), (180, 57108), (202, 57201), (209, 57258), (210, 57261), (214, 57282), (215, 57285), (217, 57291), (219, 57300), (230, 57357), (232, 57363),

Gene: Amohnition\_84 Start: 55743, Stop: 56357, Start Num: 76

Candidate Starts for Amohnition\_84:

(Start: 76 @55743 has 4 MA's), (Start: 95 @55800 has 2 MA's), (112, 55848), (117, 55857), (135, 55917), (153, 55980), (157, 55998), (159, 56019), (161, 56040), (166, 56070), (170, 56082), (184, 56118), (191, 56148), (207, 56211), (210, 56238), (217, 56268), (221, 56286), (227, 56322), (229, 56331), (232, 56343),

Gene: Anaya\_90 Start: 56620, Stop: 57162, Start Num: 72

Candidate Starts for Anaya\_90:

(28, 56467), (36, 56494), (Start: 72 @56620 has 80 MA's), (90, 56680), (136, 56752), (146, 56800), (154, 56815), (155, 56824), (157, 56830), (159, 56851), (161, 56872), (163, 56890), (167, 56905), (169, 56911), (171, 56917), (184, 56950), (195, 56974), (203, 57001), (210, 57046), (219, 57085), (230, 57142), (232, 57148),

Gene: Angelica\_84 Start: 54828, Stop: 55379, Start Num: 72

Candidate Starts for Angelica\_84:

(27, 54672), (Start: 72 @54828 has 80 MA's), (98, 54861), (126, 54930), (136, 54969), (145, 55011), (146, 55017), (154, 55032), (155, 55041), (159, 55068), (161, 55089), (163, 55107), (167, 55122),

(171, 55134), (174, 55146), (184, 55167), (195, 55191), (203, 55218), (210, 55263), (215, 55287), (219, 55302), (230, 55359), (232, 55365),

Gene: Apocalypse\_89 Start: 55750, Stop: 56301, Start Num: 72

Candidate Starts for Apocalypse\_89:

(Start: 72 @55750 has 80 MA's), (93, 55783), (136, 55891), (145, 55933), (146, 55939), (154, 55954), (157, 55969), (161, 56011), (163, 56029), (167, 56044), (171, 56056), (174, 56068), (184, 56089), (203, 56140), (210, 56185), (215, 56209), (219, 56224), (230, 56281), (232, 56287),

Gene: Asayake\_87 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for Asayake\_87:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: Atiba\_88 Start: 55365, Stop: 55904, Start Num: 72

Candidate Starts for Atiba\_88:

(27, 55209), (Start: 72 @55365 has 80 MA's), (136, 55494), (145, 55536), (146, 55542), (154, 55557), (155, 55566), (157, 55572), (159, 55593), (163, 55632), (167, 55647), (169, 55653), (171, 55659), (184, 55692), (195, 55716), (203, 55743), (210, 55788), (219, 55827), (230, 55884), (232, 55890),

Gene: BEEST\_87 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for BEEST\_87:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: BGlluviae\_86 Start: 55097, Stop: 55636, Start Num: 72

Candidate Starts for BGlluviae\_86:

(Start: 72 @55097 has 80 MA's), (136, 55226), (145, 55268), (146, 55274), (154, 55289), (157, 55304), (159, 55325), (161, 55346), (163, 55364), (167, 55379), (169, 55385), (171, 55391), (184, 55424), (195, 55448), (203, 55475), (210, 55520), (219, 55559), (230, 55616), (232, 55622),

Gene: BaghaKamala\_86 Start: 54945, Stop: 55484, Start Num: 72

Candidate Starts for BaghaKamala\_86:

(27, 54789), (Start: 72 @54945 has 80 MA's), (136, 55074), (145, 55116), (146, 55122), (154, 55137), (155, 55146), (157, 55152), (159, 55173), (163, 55212), (167, 55227), (169, 55233), (171, 55239), (184, 55272), (195, 55296), (203, 55323), (210, 55368), (219, 55407), (230, 55464), (232, 55470),

Gene: BarrelRoll\_87 Start: 55476, Stop: 56015, Start Num: 72

Candidate Starts for BarrelRoll\_87:

(Start: 72 @55476 has 80 MA's), (101, 55515), (136, 55605), (145, 55647), (146, 55653), (154, 55668), (155, 55677), (157, 55683), (159, 55704), (161, 55725), (163, 55743), (167, 55758), (169, 55764), (171, 55770), (184, 55803), (195, 55827), (203, 55854), (210, 55899), (219, 55938), (230, 55995), (232, 56001),

Gene: Beezoo\_90 Start: 56297, Stop: 56845, Start Num: 72

Candidate Starts for Beezoo\_90:

(Start: 72 @56297 has 80 MA's), (98, 56330), (128, 56405), (133, 56417), (136, 56435), (146, 56483), (154, 56498), (155, 56507), (157, 56513), (159, 56534), (161, 56555), (163, 56573), (167, 56588), (169, 56594), (171, 56600), (184, 56633), (195, 56657), (203, 56684), (210, 56729), (219, 56768), (230, 56825), (232, 56831),

Gene: Bella96\_88 Start: 55904, Stop: 56509, Start Num: 72

Candidate Starts for Bella96\_88:

(28, 55757), (36, 55784), (Start: 72 @55904 has 80 MA's), (96, 55991), (98, 56000), (128, 56069), (136, 56099), (142, 56132), (146, 56147), (154, 56162), (155, 56171), (157, 56177), (159, 56198), (160, 56210), (161, 56219), (163, 56237), (167, 56252), (169, 56258), (171, 56264), (174, 56276), (184, 56297), (195, 56321), (203, 56348), (204, 56351), (210, 56393), (215, 56417), (219, 56432), (230, 56489), (232, 56495),

Gene: Belladonna\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Belladonna\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: Biglebops\_68 Start: 51237, Stop: 51887, Start Num: 66

Candidate Starts for Biglebops\_68:

(Start: 66 @51237 has 2 MA's), (Start: 68 @51243 has 6 MA's), (Start: 76 @51270 has 4 MA's), (84, 51297), (88, 51309), (91, 51324), (97, 51348), (100, 51354), (110, 51378), (114, 51387), (138, 51477), (153, 51522), (154, 51525), (157, 51540), (161, 51582), (164, 51603), (165, 51606), (166, 51612), (167, 51615), (171, 51627), (172, 51636), (184, 51660), (188, 51681), (194, 51693), (196, 51696), (198, 51705), (204, 51726), (209, 51765), (210, 51768), (217, 51798), (219, 51807), (229, 51861), (231, 51870),

Gene: Blizzard\_87 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for Blizzard\_87:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: Boiiii\_87 Start: 55719, Stop: 56258, Start Num: 72

Candidate Starts for Boiiii\_87:

(27, 55563), (Start: 72 @55719 has 80 MA's), (136, 55848), (145, 55890), (146, 55896), (154, 55911), (155, 55920), (157, 55926), (159, 55947), (163, 55986), (167, 56001), (169, 56007), (171, 56013), (184, 56046), (195, 56070), (203, 56097), (210, 56142), (219, 56181), (230, 56238), (232, 56244),

Gene: Bryler\_86 Start: 53452, Stop: 54183, Start Num: 13

Candidate Starts for Bryler\_86:

(Start: 13 @53452 has 9 MA's), (43, 53560), (74, 53599), (86, 53626), (89, 53635), (115, 53713), (129, 53746), (136, 53773), (147, 53818), (165, 53914), (189, 53977), (195, 53989), (203, 54019), (206, 54034), (210, 54064), (219, 54103), (230, 54160), (232, 54166),

Gene: CREW\_86 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for CREW\_86:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: Cain\_94 Start: 56599, Stop: 57330, Start Num: 13

Candidate Starts for Cain\_94:

(Start: 13 @56599 has 9 MA's), (43, 56707), (74, 56746), (86, 56773), (89, 56782), (115, 56860), (129, 56893), (136, 56920), (147, 56965), (165, 57061), (189, 57124), (195, 57136), (203, 57166), (206, 57181), (210, 57211), (219, 57250), (230, 57307), (232, 57313),

Gene: Capricorn\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Capricorn\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: CaseJules\_89 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for CaseJules\_89:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: CheetoDust\_87 Start: 54906, Stop: 55457, Start Num: 72

Candidate Starts for CheetoDust\_87:

(27, 54750), (Start: 72 @54906 has 80 MA's), (136, 55047), (145, 55089), (146, 55095), (154, 55110), (155, 55119), (157, 55125), (159, 55146), (161, 55167), (163, 55185), (167, 55200), (171, 55212), (174, 55224), (184, 55245), (195, 55269), (203, 55296), (210, 55341), (215, 55365), (219, 55380), (230, 55437), (232, 55443),

Gene: Chris\_88 Start: 55802, Stop: 56641, Start Num: 17

Candidate Starts for Chris\_88:

(1, 55541), (2, 55550), (3, 55559), (5, 55622), (8, 55703), (14, 55766), (15, 55787), (Start: 17 @55802 has 1 MA's), (23, 55817), (26, 55829), (35, 55868), (36, 55871), (53, 55946), (55, 55952), (102, 56099), (125, 56159), (127, 56165), (131, 56177), (134, 56189), (149, 56255), (157, 56279), (164, 56342), (165, 56345), (170, 56363), (171, 56366), (202, 56465), (203, 56483), (204, 56486), (206, 56498), (210, 56525), (217, 56555), (232, 56627),

Gene: Collard\_77 Start: 51715, Stop: 52362, Start Num: 59

Candidate Starts for Collard\_77:

(Start: 59 @51715 has 11 MA's), (69, 51733), (79, 51769), (Start: 95 @51829 has 2 MA's), (98, 51844), (129, 51931), (154, 52009), (170, 52111), (171, 52114), (211, 52249), (217, 52273), (225, 52315), (231, 52345),

Gene: CrimD\_87 Start: 55556, Stop: 56107, Start Num: 72

Candidate Starts for CrimD\_87:

(28, 55403), (36, 55430), (Start: 72 @55556 has 80 MA's), (136, 55697), (146, 55745), (154, 55760), (155, 55769), (157, 55775), (159, 55796), (161, 55817), (163, 55835), (167, 55850), (169, 55856), (171, 55862), (184, 55895), (195, 55919), (203, 55946), (210, 55991), (219, 56030), (230, 56087), (232, 56093),

Gene: Curiosium\_95 Start: 56915, Stop: 57508, Start Num: 72

Candidate Starts for Curiosium\_95:

(28, 56762), (36, 56789), (Start: 72 @56915 has 80 MA's), (98, 56993), (133, 57080), (136, 57098), (146, 57146), (154, 57161), (155, 57170), (159, 57197), (160, 57209), (161, 57218), (163, 57236), (184, 57296), (203, 57347), (204, 57350), (209, 57389), (210, 57392), (218, 57428), (230, 57488), (232, 57494),

Gene: Dadosky\_80 Start: 52609, Stop: 53253, Start Num: 59

Candidate Starts for Dadosky\_80:

(Start: 58 @52606 has 1 MA's), (Start: 59 @52609 has 11 MA's), (69, 52627), (Start: 95 @52723 has 2 MA's), (98, 52738), (106, 52756), (136, 52852), (156, 52915), (171, 53005), (190, 53053), (199, 53077), (200, 53080), (210, 53134), (214, 53155), (217, 53164), (225, 53206), (231, 53236),

Gene: Dalmuri\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Dalmuri\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: DarthP\_84 Start: 55596, Stop: 56210, Start Num: 76

Candidate Starts for DarthP\_84:

(Start: 76 @55596 has 4 MA's), (Start: 95 @55653 has 2 MA's), (112, 55701), (117, 55710), (135, 55770), (153, 55833), (157, 55851), (159, 55872), (161, 55893), (166, 55923), (170, 55935), (184, 55971), (191, 56001), (207, 56064), (210, 56091), (217, 56121), (221, 56139), (227, 56175), (229, 56184), (232, 56196),

Gene: Deby\_87 Start: 56043, Stop: 56654, Start Num: 72

Candidate Starts for Deby\_87:

(28, 55890), (36, 55917), (Start: 72 @56043 has 80 MA's), (98, 56139), (133, 56226), (136, 56244), (146, 56292), (154, 56307), (159, 56343), (161, 56364), (163, 56382), (167, 56397), (169, 56403), (171, 56409), (184, 56442), (195, 56466), (203, 56493), (210, 56538), (219, 56577), (230, 56634), (232, 56640),

Gene: Devera\_93 Start: 56388, Stop: 56936, Start Num: 72

Candidate Starts for Devera\_93:

(Start: 72 @56388 has 80 MA's), (98, 56421), (133, 56508), (136, 56526), (146, 56574), (154, 56589), (155, 56598), (157, 56604), (159, 56625), (161, 56646), (163, 56664), (167, 56679), (169, 56685), (171, 56691), (184, 56724), (203, 56775), (205, 56784), (210, 56820), (217, 56850), (230, 56916), (232, 56922),

Gene: Dole\_90 Start: 56391, Stop: 56939, Start Num: 72

Candidate Starts for Dole\_90:

(Start: 72 @56391 has 80 MA's), (98, 56424), (133, 56511), (136, 56529), (146, 56577), (154, 56592), (155, 56601), (157, 56607), (159, 56628), (161, 56649), (163, 56667), (167, 56682), (169, 56688), (171, 56694), (184, 56727), (203, 56778), (205, 56787), (210, 56823), (217, 56853), (230, 56919), (232, 56925),

Gene: DrHayes\_87 Start: 55782, Stop: 56321, Start Num: 72

Candidate Starts for DrHayes\_87:

(Start: 72 @55782 has 80 MA's), (105, 55830), (136, 55911), (146, 55959), (154, 55974), (155, 55983), (157, 55989), (159, 56010), (160, 56022), (161, 56031), (163, 56049), (167, 56064), (171, 56076), (174, 56088), (184, 56109), (198, 56142), (203, 56160), (204, 56163), (210, 56205), (215, 56229), (219, 56244), (230, 56301), (232, 56307),

Gene: Durfee\_87 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for Durfee\_87:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: Edugator\_76 Start: 53777, Stop: 54424, Start Num: 58

Candidate Starts for Edugator\_76:

(Start: 58 @53777 has 1 MA's), (Start: 59 @53780 has 11 MA's), (69, 53798), (Start: 95 @53894 has 2 MA's), (98, 53909), (106, 53927), (136, 54023), (156, 54086), (171, 54176), (190, 54224), (199, 54248), (200, 54251), (210, 54305), (214, 54326), (217, 54335), (225, 54377), (231, 54407),

Gene: Efra2\_94 Start: 56866, Stop: 57423, Start Num: 72

Candidate Starts for Efra2\_94:

(Start: 72 @56866 has 80 MA's), (93, 56899), (126, 56971), (136, 57010), (145, 57052), (146, 57058), (154, 57073), (157, 57088), (159, 57109), (161, 57130), (163, 57148), (165, 57154), (166, 57160), (172, 57184), (184, 57208), (195, 57232), (209, 57301), (218, 57340), (224, 57370), (229, 57397), (232, 57409),

Gene: Ekdilam\_80 Start: 55444, Stop: 56052, Start Num: 76

Candidate Starts for Ekdilam\_80:

(Start: 76 @55444 has 4 MA's), (Start: 95 @55501 has 2 MA's), (122, 55567), (147, 55666), (157, 55693), (159, 55714), (164, 55756), (166, 55765), (184, 55813), (191, 55843), (220, 55978), (224, 55999), (228, 56020), (229, 56026), (232, 56038),

Gene: Ellie\_85 Start: 55858, Stop: 56547, Start Num: 64

Candidate Starts for Ellie\_85:

(54, 55834), (Start: 64 @55858 has 3 MA's), (92, 55933), (120, 56008), (131, 56038), (147, 56110), (161, 56179), (165, 56203), (180, 56278), (202, 56371), (210, 56431), (214, 56452), (215, 56455), (217, 56461), (219, 56470), (230, 56527), (232, 56533),

Gene: Emerson\_89 Start: 55720, Stop: 56331, Start Num: 72

Candidate Starts for Emerson\_89:

(28, 55567), (36, 55594), (Start: 72 @55720 has 80 MA's), (96, 55807), (133, 55903), (136, 55921), (146, 55969), (150, 55975), (154, 55984), (159, 56020), (161, 56041), (163, 56059), (167, 56074), (171, 56086), (184, 56119), (195, 56143), (203, 56170), (210, 56215), (219, 56254), (230, 56311), (232, 56317),

Gene: Enkosi\_70 Start: 53841, Stop: 54485, Start Num: 68

Candidate Starts for Enkosi\_70:

(Start: 66 @53835 has 2 MA's), (Start: 68 @53841 has 6 MA's), (Start: 76 @53868 has 4 MA's), (84, 53895), (88, 53907), (91, 53922), (97, 53946), (100, 53952), (110, 53976), (114, 53985), (138, 54075), (153, 54120), (154, 54123), (157, 54138), (161, 54180), (164, 54201), (165, 54204), (166, 54210), (167, 54213), (171, 54225), (172, 54234), (184, 54258), (188, 54279), (194, 54291), (196, 54294), (198, 54303), (204, 54324), (209, 54363), (210, 54366), (217, 54396), (219, 54405), (229, 54459), (231, 54468),

Gene: Fefferhead\_87 Start: 55655, Stop: 56341, Start Num: 64

Candidate Starts for Fefferhead\_87:

(54, 55631), (Start: 64 @55655 has 3 MA's), (92, 55727), (94, 55733), (120, 55802), (138, 55868), (147, 55904), (161, 55973), (165, 55997), (180, 56072), (202, 56165), (210, 56225), (214, 56246), (215, 56249), (217, 56255), (219, 56264), (230, 56321), (232, 56327),

Gene: Feyre\_82 Start: 55415, Stop: 56056, Start Num: 61

Candidate Starts for Feyre\_82:

(38, 55322), (49, 55373), (Start: 61 @55415 has 8 MA's), (67, 55430), (69, 55436), (79, 55472), (83, 55487), (Start: 95 @55532 has 2 MA's), (154, 55709), (190, 55856), (225, 56009), (232, 56042),

Gene: Ganymede\_87 Start: 55523, Stop: 56071, Start Num: 72

Candidate Starts for Ganymede\_87:

(Start: 72 @55523 has 80 MA's), (98, 55556), (128, 55631), (133, 55643), (136, 55661), (146, 55709), (154, 55724), (155, 55733), (157, 55739), (159, 55760), (161, 55781), (163, 55799), (167, 55814), (169, 55820), (171, 55826), (184, 55859), (195, 55883), (203, 55910), (210, 55955), (219, 55994), (230, 56051), (232, 56057),

Gene: Gengar\_81 Start: 54230, Stop: 54871, Start Num: 61

Candidate Starts for Gengar\_81:

(4, 53843), (6, 53900), (38, 54137), (49, 54188), (Start: 61 @54230 has 8 MA's), (67, 54245), (79, 54287), (83, 54302), (Start: 95 @54347 has 2 MA's), (155, 54533), (190, 54671), (217, 54782), (225, 54824), (232, 54857),

Gene: Geraldini\_89 Start: 55561, Stop: 56172, Start Num: 72

Candidate Starts for Geraldini\_89:

(28, 55408), (36, 55435), (Start: 72 @55561 has 80 MA's), (96, 55648), (128, 55732), (133, 55744), (136, 55762), (146, 55810), (154, 55825), (157, 55840), (159, 55861), (161, 55882), (163, 55900), (167, 55915), (169, 55921), (171, 55927), (184, 55960), (195, 55984), (203, 56011), (210, 56056), (215, 56080), (219, 56095), (230, 56152), (232, 56158),

Gene: Guanica15\_93 Start: 56558, Stop: 57112, Start Num: 72

Candidate Starts for Guanica15\_93:

(Start: 72 @56558 has 80 MA's), (93, 56591), (133, 56681), (145, 56741), (146, 56747), (154, 56762), (157, 56777), (159, 56798), (161, 56819), (163, 56837), (165, 56843), (166, 56849), (172, 56873), (184, 56897), (195, 56921), (209, 56990), (218, 57029), (224, 57059), (229, 57086), (232, 57098),

Gene: Guillsminger\_82 Start: 54078, Stop: 54719, Start Num: 61

Candidate Starts for Guillsminger\_82:

(Start: 61 @54078 has 8 MA's), (67, 54093), (79, 54135), (83, 54150), (Start: 95 @54195 has 2 MA's), (106, 54225), (129, 54294), (154, 54372), (155, 54381), (171, 54471), (173, 54483), (190, 54519), (225, 54672), (231, 54702), (232, 54705),

Gene: Hammy\_84 Start: 55586, Stop: 56200, Start Num: 76

Candidate Starts for Hammy\_84:

(Start: 76 @55586 has 4 MA's), (Start: 95 @55643 has 2 MA's), (112, 55691), (117, 55700), (135, 55760), (153, 55823), (157, 55841), (159, 55862), (161, 55883), (166, 55913), (184, 55961), (191, 55991), (207, 56054), (210, 56081), (217, 56111), (221, 56129), (227, 56165), (229, 56174), (232, 56186),

Gene: HedwigODU\_87 Start: 55559, Stop: 56098, Start Num: 72

Candidate Starts for HedwigODU\_87:

(27, 55403), (Start: 72 @55559 has 80 MA's), (136, 55688), (145, 55730), (146, 55736), (154, 55751), (155, 55760), (157, 55766), (159, 55787), (163, 55826), (167, 55841), (169, 55847), (171, 55853), (174, 55865), (184, 55886), (203, 55937), (210, 55982), (219, 56021), (230, 56078), (232, 56084),

Gene: Heftyboy\_79 Start: 53442, Stop: 54089, Start Num: 59

Candidate Starts for Heftyboy\_79:

(Start: 59 @53442 has 11 MA's), (69, 53460), (79, 53496), (Start: 95 @53556 has 2 MA's), (98, 53571), (129, 53658), (154, 53736), (170, 53838), (171, 53841), (211, 53976), (217, 54000), (225, 54042), (231, 54072),

Gene: Homura\_86 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Homura\_86:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: Hurricane\_86 Start: 54730, Stop: 55197, Start Num: 103

Candidate Starts for Hurricane\_86:



(Start: 103 @54730 has 6 MA's), (116, 54763), (123, 54778), (137, 54826), (163, 54952), (166, 54964), (197, 55012), (203, 55030), (229, 55168), (231, 55177), (232, 55180),

Gene: Hyperbowlee\_86 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for Hyperbowlee\_86:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: Illumine\_91 Start: 56390, Stop: 56938, Start Num: 72

Candidate Starts for Illumine\_91:

(Start: 72 @56390 has 80 MA's), (98, 56423), (133, 56510), (136, 56528), (146, 56576), (154, 56591), (155, 56600), (157, 56606), (159, 56627), (161, 56648), (163, 56666), (167, 56681), (169, 56687), (171, 56693), (184, 56726), (203, 56777), (205, 56786), (210, 56822), (217, 56852), (230, 56918), (232, 56924),

Gene: Inky\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Inky\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: InvictusManeo\_77 Start: 51755, Stop: 52402, Start Num: 59

Candidate Starts for InvictusManeo\_77:

(Start: 59 @51755 has 11 MA's), (69, 51773), (79, 51809), (Start: 95 @51869 has 2 MA's), (98, 51884), (106, 51902), (154, 52049), (158, 52070), (167, 52142), (171, 52154), (173, 52166), (176, 52175), (190, 52202), (210, 52283), (217, 52313), (225, 52355), (231, 52385),

Gene: JAWS\_86 Start: 55506, Stop: 56045, Start Num: 72

Candidate Starts for JAWS\_86:

(27, 55350), (Start: 72 @55506 has 80 MA's), (136, 55635), (145, 55677), (146, 55683), (154, 55698), (157, 55713), (159, 55734), (163, 55773), (167, 55788), (169, 55794), (171, 55800), (174, 55812), (184, 55833), (203, 55884), (210, 55929), (219, 55968), (230, 56025), (232, 56031),

Gene: Jarvi\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Jarvi\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: Jayhawk\_88 Start: 55536, Stop: 56075, Start Num: 72

Candidate Starts for Jayhawk\_88:

(Start: 72 @55536 has 80 MA's), (101, 55575), (136, 55665), (145, 55707), (146, 55713), (154, 55728), (155, 55737), (157, 55743), (159, 55764), (161, 55785), (163, 55803), (167, 55818), (169, 55824), (171, 55830), (184, 55863), (195, 55887), (203, 55914), (210, 55959), (219, 55998), (230, 56055), (232, 56061),

Gene: Jeckyll\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Jeckyll\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: Joy99\_88 Start: 55649, Stop: 56188, Start Num: 72

Candidate Starts for Joy99\_88:

(27, 55493), (Start: 72 @55649 has 80 MA's), (136, 55778), (145, 55820), (146, 55826), (154, 55841), (155, 55850), (157, 55856), (159, 55877), (163, 55916), (167, 55931), (169, 55937), (171, 55943), (184, 55976), (195, 56000), (203, 56027), (210, 56072), (219, 56111), (230, 56168), (232, 56174),

Gene: Keshu\_88 Start: 55022, Stop: 55489, Start Num: 103

Candidate Starts for Keshu\_88:

(Start: 103 @55022 has 6 MA's), (116, 55055), (123, 55070), (137, 55118), (163, 55244), (166, 55256), (197, 55304), (203, 55322), (229, 55460), (231, 55469), (232, 55472),

Gene: KiSi\_89 Start: 55752, Stop: 56375, Start Num: 70

Candidate Starts for KiSi\_89:

(52, 55710), (Start: 70 @55752 has 4 MA's), (73, 55767), (77, 55779), (102, 55851), (149, 56016), (154, 56025), (157, 56040), (165, 56106), (170, 56124), (183, 56151), (202, 56199), (204, 56220), (209, 56256), (210, 56259), (215, 56283), (217, 56289), (232, 56361),

Gene: Kratio\_80 Start: 52503, Stop: 53210, Start Num: 59

Candidate Starts for Kratio\_80:

(Start: 58 @52500 has 1 MA's), (Start: 59 @52503 has 11 MA's), (69, 52521), (Start: 95 @52617 has 2 MA's), (98, 52632), (106, 52650), (136, 52746), (156, 52809), (171, 52899), (199, 52971), (200, 52974), (210, 53028), (217, 53058), (225, 53100), (231, 53130),

Gene: Krueger\_91 Start: 55693, Stop: 56526, Start Num: 13

Candidate Starts for Krueger\_91:

(Start: 12 @55687 has 1 MA's), (Start: 13 @55693 has 9 MA's), (16, 55735), (20, 55747), (34, 55804), (43, 55843), (89, 55978), (98, 56020), (129, 56089), (136, 56116), (157, 56188), (165, 56257), (189, 56320), (195, 56332), (203, 56362), (206, 56377), (210, 56407), (214, 56428), (215, 56431), (219, 56446), (229, 56497), (230, 56503), (232, 56509),

Gene: Larva\_79 Start: 53481, Stop: 54125, Start Num: 59

Candidate Starts for Larva\_79:

(Start: 58 @53478 has 1 MA's), (Start: 59 @53481 has 11 MA's), (69, 53499), (Start: 95 @53595 has 2 MA's), (98, 53610), (106, 53628), (136, 53724), (156, 53787), (171, 53877), (190, 53925), (199, 53949), (200, 53952), (210, 54006), (214, 54027), (217, 54036), (225, 54078), (231, 54108),

Gene: LastHope\_93 Start: 56273, Stop: 56836, Start Num: 72

Candidate Starts for LastHope\_93:

(Start: 72 @56273 has 80 MA's), (93, 56306), (128, 56381), (142, 56456), (146, 56471), (154, 56486), (155, 56495), (157, 56501), (159, 56522), (161, 56543), (163, 56561), (165, 56567), (166, 56573), (171, 56588), (172, 56597), (184, 56621), (195, 56645), (209, 56714), (210, 56717), (214, 56738), (217, 56747), (219, 56756), (224, 56783), (229, 56810),

Gene: LaterM\_87 Start: 55885, Stop: 56478, Start Num: 72

Candidate Starts for LaterM\_87:

(Start: 72 @55885 has 80 MA's), (98, 55963), (109, 55990), (136, 56068), (141, 56095), (146, 56116), (154, 56131), (157, 56146), (159, 56167), (160, 56179), (161, 56188), (167, 56221), (169, 56227), (171, 56233), (174, 56245), (198, 56299), (203, 56317), (204, 56320), (210, 56362), (219, 56401), (230, 56458), (232, 56464),

Gene: LeMond\_88 Start: 55714, Stop: 56331, Start Num: 70

Candidate Starts for LeMond\_88:

(Start: 70 @55714 has 4 MA's), (73, 55729), (77, 55741), (102, 55813), (128, 55882), (149, 55972), (165, 56062), (170, 56080), (183, 56107), (202, 56155), (204, 56176), (209, 56212), (210, 56215), (211, 56221), (215, 56239), (217, 56245), (232, 56317),

Gene: Leston\_81 Start: 54195, Stop: 54836, Start Num: 61

Candidate Starts for Leston\_81:

(Start: 61 @54195 has 8 MA's), (67, 54210), (79, 54252), (83, 54267), (Start: 95 @54312 has 2 MA's), (106, 54342), (129, 54411), (154, 54489), (171, 54588), (173, 54600), (190, 54636), (225, 54789), (232, 54822),

Gene: LilPharaoh\_69 Start: 50950, Stop: 51600, Start Num: 66

Candidate Starts for LilPharaoh\_69:

(Start: 66 @50950 has 2 MA's), (Start: 68 @50956 has 6 MA's), (Start: 76 @50983 has 4 MA's), (84, 51010), (88, 51022), (91, 51037), (97, 51061), (100, 51067), (110, 51091), (114, 51100), (138, 51190), (153, 51235), (154, 51238), (157, 51253), (161, 51295), (164, 51316), (165, 51319), (166, 51325), (167, 51328), (171, 51340), (172, 51349), (184, 51373), (188, 51394), (194, 51406), (196, 51409), (198, 51418), (204, 51439), (209, 51478), (210, 51481), (217, 51511), (219, 51520), (229, 51574), (231, 51583),

Gene: LindNT\_85 Start: 55622, Stop: 56173, Start Num: 72

Candidate Starts for LindNT\_85:

(7, 55286), (Start: 72 @55622 has 80 MA's), (98, 55655), (128, 55733), (133, 55745), (136, 55763), (146, 55811), (154, 55826), (155, 55835), (157, 55841), (159, 55862), (161, 55883), (163, 55901), (167, 55916), (169, 55922), (171, 55928), (184, 55961), (195, 55985), (203, 56012), (210, 56057), (219, 56096), (230, 56153), (232, 56159),

Gene: Llorens\_86 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Llorens\_86:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: Lunahalos\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Lunahalos\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: MacnCheese\_87 Start: 55279, Stop: 55746, Start Num: 103

Candidate Starts for MacnCheese\_87:

(Start: 103 @55279 has 6 MA's), (123, 55330), (137, 55378), (143, 55408), (157, 55444), (159, 55465), (163, 55504), (166, 55516), (197, 55564), (211, 55630), (217, 55654), (229, 55720), (231, 55729),

Gene: MarkPhew\_89 Start: 55775, Stop: 56458, Start Num: 40

Candidate Starts for MarkPhew\_89:

(18, 55703), (37, 55760), (Start: 40 @55775 has 2 MA's), (45, 55790), (51, 55802), (102, 55940), (119, 55994), (149, 56099), (157, 56123), (165, 56189), (170, 56207), (183, 56234), (185, 56240), (192, 56249), (202, 56282), (210, 56342), (211, 56348), (213, 56363), (215, 56366), (217, 56372), (220, 56387), (232, 56444),

Gene: Marshawn\_85 Start: 55928, Stop: 56566, Start Num: 60

Candidate Starts for Marshawn\_85:

(21, 55766), (24, 55775), (25, 55781), (30, 55805), (33, 55820), (39, 55844), (47, 55868), (56, 55913), (Start: 60 @55928 has 1 MA's), (80, 55979), (81, 55982), (84, 55985), (107, 56054), (151, 56201), (155, 56222), (159, 56252), (161, 56273), (165, 56297), (177, 56339), (182, 56348), (184, 56351), (186, 56360), (203, 56402), (210, 56447), (214, 56468), (215, 56471), (219, 56486), (222, 56498), (232, 56552),

Gene: Mdavu\_69 Start: 51232, Stop: 51876, Start Num: 68

Candidate Starts for Mdavu\_69:

(Start: 66 @51226 has 2 MA's), (Start: 68 @51232 has 6 MA's), (Start: 76 @51259 has 4 MA's), (84, 51286), (88, 51298), (91, 51313), (97, 51337), (100, 51343), (110, 51367), (114, 51376), (138, 51466), (153, 51511), (154, 51514), (157, 51529), (161, 51571), (164, 51592), (165, 51595), (166, 51601), (167, 51604), (171, 51616), (172, 51625), (184, 51649), (188, 51670), (194, 51682), (196, 51685), (198, 51694), (204, 51715), (209, 51754), (210, 51757), (217, 51787), (219, 51796), (229, 51850), (231, 51859),

Gene: MeaningOfLife\_89 Start: 56205, Stop: 56744, Start Num: 72

Candidate Starts for MeaningOfLife\_89:

(Start: 72 @56205 has 80 MA's), (136, 56334), (145, 56376), (146, 56382), (154, 56397), (155, 56406), (157, 56412), (159, 56433), (161, 56454), (163, 56472), (167, 56487), (169, 56493), (171, 56499), (184, 56532), (195, 56556), (203, 56583), (210, 56628), (219, 56667), (230, 56724), (232, 56730),

Gene: Megsy\_91 Start: 55851, Stop: 56402, Start Num: 72

Candidate Starts for Megsy\_91:

(28, 55698), (36, 55725), (Start: 72 @55851 has 80 MA's), (128, 55962), (133, 55974), (136, 55992), (146, 56040), (154, 56055), (155, 56064), (159, 56091), (161, 56112), (163, 56130), (167, 56145), (169, 56151), (171, 56157), (184, 56190), (195, 56214), (203, 56241), (210, 56286), (219, 56325), (230, 56382), (232, 56388),

Gene: Miryou\_84 Start: 56053, Stop: 56694, Start Num: 61

Candidate Starts for Miryou\_84:

(Start: 61 @56053 has 8 MA's), (67, 56068), (69, 56074), (79, 56110), (83, 56125), (Start: 95 @56170 has 2 MA's), (106, 56200), (128, 56266), (129, 56269), (155, 56356), (190, 56494), (217, 56605), (225, 56647), (232, 56680),

Gene: Murucutumbu\_87 Start: 56412, Stop: 56960, Start Num: 72

Candidate Starts for Murucutumbu\_87:

(27, 56256), (Start: 72 @56412 has 80 MA's), (98, 56445), (129, 56523), (136, 56550), (146, 56598), (154, 56613), (155, 56622), (157, 56628), (159, 56649), (161, 56670), (163, 56688), (167, 56703), (169, 56709), (171, 56715), (174, 56727), (198, 56781), (203, 56799), (204, 56802), (210, 56844), (219, 56883), (230, 56940), (232, 56946),

Gene: Mynx\_88 Start: 55828, Stop: 56367, Start Num: 72

Candidate Starts for Mynx\_88:

(27, 55672), (Start: 72 @55828 has 80 MA's), (136, 55957), (145, 55999), (146, 56005), (154, 56020), (155, 56029), (157, 56035), (159, 56056), (161, 56077), (163, 56095), (167, 56110), (171, 56122), (174, 56134), (184, 56155), (195, 56179), (203, 56206), (210, 56251), (219, 56290), (230, 56347), (232, 56353),

Gene: Nibb\_89 Start: 55433, Stop: 56137, Start Num: 40

Candidate Starts for Nibb\_89:

(9, 55271), (11, 55289), (37, 55418), (Start: 40 @55433 has 2 MA's), (45, 55448), (Start: 64 @55502 has 3 MA's), (102, 55622), (125, 55682), (131, 55700), (134, 55712), (149, 55778), (154, 55787), (165,

55868), (170, 55886), (183, 55913), (185, 55919), (192, 55928), (202, 55961), (203, 55979), (204, 55982), (210, 56021), (212, 56039), (215, 56045), (217, 56051), (220, 56066), (232, 56123),

Gene: Nikao\_71 Start: 53841, Stop: 54485, Start Num: 68

Candidate Starts for Nikao\_71:

(Start: 66 @53835 has 2 MA's), (Start: 68 @53841 has 6 MA's), (Start: 76 @53868 has 4 MA's), (84, 53895), (88, 53907), (91, 53922), (97, 53946), (100, 53952), (110, 53976), (114, 53985), (138, 54075), (153, 54120), (154, 54123), (157, 54138), (161, 54180), (164, 54201), (165, 54204), (166, 54210), (167, 54213), (171, 54225), (172, 54234), (184, 54258), (188, 54279), (194, 54291), (196, 54294), (198, 54303), (204, 54324), (209, 54363), (210, 54366), (217, 54396), (219, 54405), (229, 54459), (231, 54468),

Gene: Niklas\_88 Start: 56449, Stop: 57108, Start Num: 42

Candidate Starts for Niklas\_88:

(Start: 41 @56446 has 1 MA's), (Start: 42 @56449 has 3 MA's), (Start: 60 @56515 has 1 MA's), (75, 56548), (92, 56569), (98, 56578), (121, 56635), (136, 56683), (146, 56731), (154, 56746), (155, 56755), (159, 56782), (161, 56803), (166, 56833), (177, 56869), (195, 56905), (201, 56926), (207, 56962), (209, 56986), (210, 56989), (223, 57049), (229, 57082), (232, 57094),

Gene: Nutello\_68 Start: 51228, Stop: 51872, Start Num: 68

Candidate Starts for Nutello\_68:

(Start: 66 @51222 has 2 MA's), (Start: 68 @51228 has 6 MA's), (Start: 76 @51255 has 4 MA's), (84, 51282), (88, 51294), (91, 51309), (97, 51333), (100, 51339), (110, 51363), (114, 51372), (138, 51462), (153, 51507), (154, 51510), (157, 51525), (161, 51567), (164, 51588), (165, 51591), (166, 51597), (167, 51600), (171, 51612), (172, 51621), (184, 51645), (188, 51666), (194, 51678), (196, 51681), (198, 51690), (204, 51711), (209, 51750), (210, 51753), (217, 51783), (219, 51792), (229, 51846), (231, 51855),

Gene: OkiRoe\_82 Start: 55193, Stop: 55834, Start Num: 61

Candidate Starts for OkiRoe\_82:

(4, 54806), (6, 54863), (38, 55100), (49, 55151), (Start: 61 @55193 has 8 MA's), (67, 55208), (79, 55250), (83, 55265), (Start: 95 @55310 has 2 MA's), (155, 55496), (162, 55553), (190, 55634), (209, 55712), (225, 55787), (231, 55817), (232, 55820),

Gene: Omnicron\_84 Start: 56077, Stop: 56712, Start Num: 59

Candidate Starts for Omnicron\_84:

(Start: 59 @56077 has 11 MA's), (69, 56098), (Start: 95 @56185 has 2 MA's), (98, 56200), (106, 56218), (162, 56431), (171, 56464), (231, 56695),

Gene: Oscar\_89 Start: 55635, Stop: 56255, Start Num: 70

Candidate Starts for Oscar\_89:

(Start: 70 @55635 has 4 MA's), (73, 55650), (77, 55662), (102, 55734), (149, 55896), (165, 55986), (170, 56004), (183, 56031), (202, 56079), (204, 56100), (209, 56136), (210, 56139), (211, 56145), (215, 56163), (217, 56169), (232, 56241),

Gene: Padfoot\_87 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for Padfoot\_87:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: Padpat\_90 Start: 55720, Stop: 56331, Start Num: 72

Candidate Starts for Padpat\_90:

(28, 55567), (36, 55594), (Start: 72 @55720 has 80 MA's), (96, 55807), (133, 55903), (136, 55921), (146, 55969), (150, 55975), (154, 55984), (159, 56020), (161, 56041), (163, 56059), (167, 56074), (171, 56086), (184, 56119), (195, 56143), (203, 56170), (210, 56215), (219, 56254), (230, 56311), (232, 56317),

Gene: Paola\_81 Start: 54078, Stop: 54719, Start Num: 61

Candidate Starts for Paola\_81:

(Start: 61 @54078 has 8 MA's), (67, 54093), (79, 54135), (83, 54150), (Start: 95 @54195 has 2 MA's), (106, 54225), (129, 54294), (154, 54372), (155, 54381), (171, 54471), (173, 54483), (190, 54519), (225, 54672), (231, 54702), (232, 54705),

Gene: Peanam\_88 Start: 56428, Stop: 57087, Start Num: 42

Candidate Starts for Peanam\_88:

(Start: 41 @56425 has 1 MA's), (Start: 42 @56428 has 3 MA's), (50, 56464), (55, 56479), (Start: 60 @56494 has 1 MA's), (75, 56527), (92, 56548), (98, 56557), (121, 56614), (136, 56662), (146, 56710), (154, 56725), (155, 56734), (159, 56761), (161, 56782), (166, 56812), (177, 56848), (195, 56884), (201, 56905), (207, 56941), (209, 56965), (229, 57061), (232, 57073),

Gene: Peel\_87 Start: 55522, Stop: 56061, Start Num: 72

Candidate Starts for Peel\_87:

(27, 55366), (Start: 72 @55522 has 80 MA's), (136, 55651), (145, 55693), (146, 55699), (154, 55714), (155, 55723), (157, 55729), (159, 55750), (163, 55789), (167, 55804), (169, 55810), (171, 55816), (184, 55849), (195, 55873), (203, 55900), (210, 55945), (219, 55984), (230, 56041), (232, 56047),

Gene: Pharb\_86 Start: 54652, Stop: 55125, Start Num: 104

Candidate Starts for Pharb\_86:

(Start: 104 @54652 has 1 MA's), (113, 54682), (123, 54703), (140, 54775), (143, 54784), (148, 54793), (154, 54805), (155, 54814), (157, 54820), (159, 54841), (163, 54880), (166, 54892), (171, 54907), (181, 54916), (189, 54928), (197, 54940), (203, 54958), (209, 54997), (219, 55039), (229, 55096), (231, 55105), (232, 55108),

Gene: PhelpsODU\_84 Start: 52304, Stop: 53098, Start Num: 13

Candidate Starts for PhelpsODU\_84:

(Start: 13 @52304 has 9 MA's), (16, 52346), (43, 52454), (46, 52457), (63, 52484), (78, 52526), (87, 52547), (96, 52583), (98, 52592), (111, 52625), (129, 52664), (155, 52757), (157, 52763), (159, 52784), (165, 52829), (168, 52841), (189, 52892), (203, 52934), (206, 52949), (210, 52979), (219, 53018), (230, 53075), (232, 53081),

Gene: Phrank\_94 Start: 56586, Stop: 57317, Start Num: 13

Candidate Starts for Phrank\_94:

(Start: 13 @56586 has 9 MA's), (43, 56694), (74, 56733), (86, 56760), (89, 56769), (115, 56847), (129, 56880), (136, 56907), (147, 56952), (165, 57048), (189, 57111), (195, 57123), (203, 57153), (206, 57168), (210, 57198), (219, 57237), (230, 57294), (232, 57300),

Gene: Piatt\_86 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for Piatt\_86:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: Pixie\_85 Start: 54434, Stop: 54901, Start Num: 103

Candidate Starts for Pixie\_85:

(Start: 103 @54434 has 6 MA's), (116, 54467), (123, 54482), (137, 54530), (163, 54656), (166, 54668), (177, 54686), (197, 54716), (203, 54734), (229, 54872), (231, 54881), (232, 54884),

Gene: Pokerus\_87 Start: 55526, Stop: 56065, Start Num: 72

Candidate Starts for Pokerus\_87:

(Start: 72 @55526 has 80 MA's), (136, 55655), (145, 55697), (146, 55703), (154, 55718), (155, 55727), (157, 55733), (159, 55754), (163, 55793), (167, 55808), (171, 55820), (184, 55853), (195, 55877), (203, 55904), (210, 55949), (219, 55988), (230, 56045), (232, 56051),

Gene: Prithvi\_89 Start: 55920, Stop: 56471, Start Num: 72

Candidate Starts for Prithvi\_89:

(22, 55740), (27, 55764), (Start: 72 @55920 has 80 MA's), (98, 55953), (128, 56031), (133, 56043), (136, 56061), (146, 56109), (154, 56124), (155, 56133), (157, 56139), (159, 56160), (161, 56181), (163, 56199), (167, 56214), (169, 56220), (171, 56226), (184, 56259), (195, 56283), (203, 56310), (209, 56352), (210, 56355), (215, 56379), (219, 56394), (230, 56451), (232, 56457),

Gene: Psycho\_78 Start: 52606, Stop: 53250, Start Num: 59

Candidate Starts for Psycho\_78:

(Start: 58 @52603 has 1 MA's), (Start: 59 @52606 has 11 MA's), (69, 52624), (Start: 95 @52720 has 2 MA's), (98, 52735), (106, 52753), (136, 52849), (156, 52912), (171, 53002), (190, 53050), (199, 53074), (200, 53077), (210, 53131), (214, 53152), (217, 53161), (225, 53203), (231, 53233),

Gene: QuincyRose\_85 Start: 55523, Stop: 56071, Start Num: 72

Candidate Starts for QuincyRose\_85:

(Start: 72 @55523 has 80 MA's), (98, 55556), (128, 55631), (133, 55643), (136, 55661), (146, 55709), (154, 55724), (155, 55733), (157, 55739), (159, 55760), (161, 55781), (163, 55799), (167, 55814), (169, 55820), (171, 55826), (184, 55859), (195, 55883), (203, 55910), (210, 55955), (219, 55994), (230, 56051), (232, 56057),

Gene: Ramen\_88 Start: 55275, Stop: 55814, Start Num: 72

Candidate Starts for Ramen\_88:

(Start: 72 @55275 has 80 MA's), (101, 55314), (136, 55404), (145, 55446), (146, 55452), (154, 55467), (155, 55476), (157, 55482), (159, 55503), (161, 55524), (163, 55542), (167, 55557), (169, 55563), (184, 55602), (195, 55626), (203, 55653), (210, 55698), (219, 55737), (230, 55794), (232, 55800),

Gene: Rando14\_81 Start: 54488, Stop: 55123, Start Num: 59

Candidate Starts for Rando14\_81:

(Start: 59 @54488 has 11 MA's), (69, 54509), (Start: 95 @54596 has 2 MA's), (98, 54611), (106, 54629), (162, 54842), (171, 54875), (231, 55106),

Gene: Rapunzel97\_89 Start: 55491, Stop: 56030, Start Num: 72

Candidate Starts for Rapunzel97\_89:

(Start: 72 @55491 has 80 MA's), (101, 55530), (136, 55620), (145, 55662), (146, 55668), (154, 55683), (155, 55692), (157, 55698), (159, 55719), (161, 55740), (163, 55758), (167, 55773), (169, 55779), (171, 55785), (184, 55818), (195, 55842), (203, 55869), (210, 55914), (219, 55953), (230, 56010), (232, 56016),

Gene: Rosmarinus\_87 Start: 55508, Stop: 56047, Start Num: 72

Candidate Starts for Rosmarinus\_87:

(27, 55352), (Start: 72 @55508 has 80 MA's), (128, 55607), (136, 55637), (145, 55679), (146, 55685), (154, 55700), (155, 55709), (157, 55715), (159, 55736), (163, 55775), (167, 55790), (169, 55796), (171, 55802), (184, 55835), (195, 55859), (203, 55886), (210, 55931), (219, 55970), (230, 56027),

(232, 56033),

Gene: SamuelLPlaqson\_87 Start: 55782, Stop: 56321, Start Num: 72

Candidate Starts for SamuelLPlaqson\_87:

(Start: 72 @55782 has 80 MA's), (105, 55830), (136, 55911), (146, 55959), (154, 55974), (155, 55983), (157, 55989), (159, 56010), (160, 56022), (161, 56031), (163, 56049), (167, 56064), (171, 56076), (174, 56088), (184, 56109), (198, 56142), (203, 56160), (204, 56163), (210, 56205), (215, 56229), (219, 56244), (230, 56301), (232, 56307),

Gene: Scarlett\_88 Start: 55509, Stop: 56123, Start Num: 70

Candidate Starts for Scarlett\_88:

(31, 55389), (62, 55494), (Start: 70 @55509 has 4 MA's), (77, 55536), (102, 55608), (128, 55674), (149, 55764), (153, 55770), (165, 55854), (170, 55872), (183, 55899), (202, 55947), (204, 55968), (209, 56004), (210, 56007), (215, 56031), (217, 56037), (232, 56109),

Gene: SgtBeansprout\_69 Start: 51228, Stop: 51872, Start Num: 68

Candidate Starts for SgtBeansprout\_69:

(Start: 66 @51222 has 2 MA's), (Start: 68 @51228 has 6 MA's), (Start: 76 @51255 has 4 MA's), (84, 51282), (88, 51294), (91, 51309), (97, 51333), (100, 51339), (110, 51363), (114, 51372), (138, 51462), (153, 51507), (154, 51510), (157, 51525), (161, 51567), (164, 51588), (165, 51591), (166, 51597), (167, 51600), (171, 51612), (172, 51621), (184, 51645), (188, 51666), (194, 51678), (196, 51681), (198, 51690), (204, 51711), (209, 51750), (210, 51753), (217, 51783), (219, 51792), (229, 51846), (231, 51855),

Gene: Shadow1\_91 Start: 55827, Stop: 56666, Start Num: 12

Candidate Starts for Shadow1\_91:

(Start: 12 @55827 has 1 MA's), (Start: 13 @55833 has 9 MA's), (16, 55875), (43, 55983), (89, 56118), (98, 56160), (129, 56229), (136, 56256), (157, 56328), (165, 56397), (189, 56460), (195, 56472), (203, 56502), (206, 56517), (210, 56547), (214, 56568), (215, 56571), (219, 56586), (229, 56637), (230, 56643), (232, 56649),

Gene: Shaobing\_87 Start: 56496, Stop: 57149, Start Num: 42

Candidate Starts for Shaobing\_87:

(Start: 41 @56493 has 1 MA's), (Start: 42 @56496 has 3 MA's), (50, 56532), (55, 56547), (Start: 60 @56562 has 1 MA's), (75, 56595), (92, 56616), (98, 56625), (136, 56721), (138, 56733), (152, 56781), (154, 56787), (159, 56823), (161, 56844), (166, 56874), (177, 56910), (195, 56946), (201, 56967), (207, 57003), (209, 57027), (210, 57030), (223, 57090), (229, 57123), (232, 57135),

Gene: ShedlockHolmes\_88 Start: 54857, Stop: 55324, Start Num: 103

Candidate Starts for ShedlockHolmes\_88:

(Start: 103 @54857 has 6 MA's), (116, 54890), (123, 54905), (137, 54953), (163, 55079), (166, 55091), (177, 55109), (197, 55139), (203, 55157), (229, 55295), (231, 55304), (232, 55307),

Gene: ShiaSurprise\_88 Start: 55717, Stop: 56256, Start Num: 72

Candidate Starts for ShiaSurprise\_88:

(27, 55561), (Start: 72 @55717 has 80 MA's), (136, 55846), (145, 55888), (146, 55894), (154, 55909), (155, 55918), (157, 55924), (159, 55945), (163, 55984), (167, 55999), (169, 56005), (171, 56011), (184, 56044), (195, 56068), (203, 56095), (210, 56140), (219, 56179), (230, 56236), (232, 56242),

Gene: SirPhilip\_87 Start: 55717, Stop: 56277, Start Num: 95

Candidate Starts for SirPhilip\_87:

(Start: 95 @55717 has 2 MA's), (149, 55894), (154, 55903), (165, 55984), (170, 56002), (178, 56026), (187, 56053), (209, 56155), (210, 56158), (226, 56239), (229, 56251), (232, 56263),



Gene: Slimphazie\_89 Start: 55947, Stop: 56486, Start Num: 72

Candidate Starts for Slimphazie\_89:

(Start: 72 @55947 has 80 MA's), (101, 55986), (136, 56076), (145, 56118), (146, 56124), (154, 56139), (155, 56148), (157, 56154), (159, 56175), (161, 56196), (163, 56214), (167, 56229), (169, 56235), (171, 56241), (184, 56274), (195, 56298), (203, 56325), (210, 56370), (219, 56409), (230, 56466), (232, 56472),

Gene: SoSeph\_79 Start: 53442, Stop: 54089, Start Num: 59

Candidate Starts for SoSeph\_79:

(Start: 59 @53442 has 11 MA's), (69, 53460), (79, 53496), (Start: 95 @53556 has 2 MA's), (98, 53571), (129, 53658), (154, 53736), (170, 53838), (171, 53841), (211, 53976), (217, 54000), (225, 54042), (231, 54072),

Gene: Spock\_87 Start: 55521, Stop: 56060, Start Num: 72

Candidate Starts for Spock\_87:

(27, 55365), (Start: 72 @55521 has 80 MA's), (136, 55650), (145, 55692), (146, 55698), (154, 55713), (155, 55722), (157, 55728), (159, 55749), (163, 55788), (167, 55803), (169, 55809), (171, 55815), (184, 55848), (195, 55872), (203, 55899), (210, 55944), (219, 55983), (230, 56040), (232, 56046),

Gene: Stinson\_88 Start: 55691, Stop: 56239, Start Num: 72

Candidate Starts for Stinson\_88:

(Start: 72 @55691 has 80 MA's), (98, 55724), (129, 55802), (133, 55811), (136, 55829), (146, 55877), (154, 55892), (155, 55901), (157, 55907), (159, 55928), (161, 55949), (163, 55967), (167, 55982), (169, 55988), (171, 55994), (184, 56027), (195, 56051), (198, 56060), (210, 56123), (215, 56147), (216, 56150), (217, 56153), (230, 56219), (232, 56225),

Gene: Sulley\_84 Start: 55116, Stop: 55655, Start Num: 72

Candidate Starts for Sulley\_84:

(Start: 72 @55116 has 80 MA's), (128, 55215), (136, 55245), (146, 55293), (154, 55308), (155, 55317), (157, 55323), (159, 55344), (161, 55365), (163, 55383), (167, 55398), (171, 55410), (174, 55422), (184, 55443), (195, 55467), (203, 55494), (210, 55539), (215, 55563), (219, 55578), (230, 55635), (232, 55641),

Gene: Sunflower1121\_91 Start: 55592, Stop: 56425, Start Num: 13

Candidate Starts for Sunflower1121\_91:

(Start: 12 @55586 has 1 MA's), (Start: 13 @55592 has 9 MA's), (16, 55634), (43, 55742), (89, 55877), (98, 55919), (129, 55988), (136, 56015), (157, 56087), (165, 56156), (189, 56219), (195, 56231), (203, 56261), (206, 56276), (210, 56306), (214, 56327), (215, 56330), (219, 56345), (229, 56396), (230, 56402), (232, 56408),

Gene: Syra333\_90 Start: 55739, Stop: 56482, Start Num: 19

Candidate Starts for Syra333\_90:

(Start: 19 @55739 has 1 MA's), (22, 55745), (34, 55787), (Start: 59 @55856 has 11 MA's), (65, 55868), (75, 55895), (96, 55961), (98, 55970), (111, 56003), (118, 56018), (129, 56042), (155, 56141), (157, 56147), (159, 56168), (165, 56213), (189, 56276), (195, 56288), (203, 56318), (206, 56333), (210, 56363), (214, 56384), (215, 56387), (219, 56402), (229, 56453), (230, 56459), (232, 56465),

Gene: TBond007\_82 Start: 54432, Stop: 54899, Start Num: 103

Candidate Starts for TBond007\_82:

(Start: 103 @54432 has 6 MA's), (116, 54465), (123, 54480), (137, 54528), (163, 54654), (166, 54666), (177, 54684), (197, 54714), (203, 54732), (229, 54870), (231, 54879), (232, 54882),

Gene: TClif\_87 Start: 55031, Stop: 55636, Start Num: 72

Candidate Starts for TClif\_87:

(44, 54941), (Start: 72 @55031 has 80 MA's), (85, 55070), (99, 55124), (108, 55145), (118, 55172), (128, 55193), (139, 55241), (142, 55256), (154, 55274), (155, 55283), (165, 55358), (169, 55373), (171, 55379), (177, 55400), (184, 55412), (203, 55475), (210, 55520), (219, 55559), (229, 55610), (232, 55622),

Gene: Tachez\_87 Start: 55365, Stop: 55904, Start Num: 72

Candidate Starts for Tachez\_87:

(27, 55209), (Start: 72 @55365 has 80 MA's), (136, 55494), (145, 55536), (146, 55542), (154, 55557), (155, 55566), (157, 55572), (159, 55593), (163, 55632), (167, 55647), (169, 55653), (171, 55659), (184, 55692), (195, 55716), (203, 55743), (210, 55788), (219, 55827), (230, 55884), (232, 55890),

Gene: TaiwanKao\_88 Start: 55563, Stop: 56111, Start Num: 72

Candidate Starts for TaiwanKao\_88:

(28, 55410), (36, 55437), (Start: 72 @55563 has 80 MA's), (82, 55596), (128, 55671), (133, 55683), (136, 55701), (146, 55749), (154, 55764), (155, 55773), (157, 55779), (159, 55800), (160, 55812), (161, 55821), (163, 55839), (167, 55854), (169, 55860), (171, 55866), (184, 55899), (195, 55923), (203, 55950), (210, 55995), (219, 56034), (230, 56091), (232, 56097),

Gene: Thyatira\_82 Start: 55790, Stop: 56431, Start Num: 61

Candidate Starts for Thyatira\_82:

(Start: 61 @55790 has 8 MA's), (67, 55805), (69, 55811), (79, 55847), (83, 55862), (Start: 95 @55907 has 2 MA's), (154, 56084), (155, 56093), (162, 56150), (190, 56231), (209, 56309), (225, 56384), (227, 56396), (232, 56417),

Gene: Tierra\_94 Start: 57212, Stop: 57943, Start Num: 13

Candidate Starts for Tierra\_94:

(Start: 13 @57212 has 9 MA's), (43, 57320), (74, 57359), (86, 57386), (89, 57395), (115, 57473), (129, 57506), (136, 57533), (147, 57578), (165, 57674), (189, 57737), (195, 57749), (203, 57779), (206, 57794), (210, 57824), (219, 57863), (230, 57920), (232, 57926),

Gene: TiniBug\_86 Start: 55892, Stop: 56437, Start Num: 72

Candidate Starts for TiniBug\_86:

(57, 55856), (Start: 72 @55892 has 80 MA's), (105, 55940), (133, 56006), (136, 56027), (142, 56060), (146, 56075), (154, 56090), (155, 56099), (157, 56105), (159, 56126), (160, 56138), (161, 56147), (163, 56165), (167, 56180), (171, 56192), (174, 56204), (184, 56225), (195, 56249), (203, 56276), (204, 56279), (210, 56321), (215, 56345), (219, 56360), (230, 56417), (232, 56423),

Gene: Tiri\_87 Start: 55187, Stop: 55798, Start Num: 72

Candidate Starts for Tiri\_87:

(10, 54917), (28, 55034), (36, 55061), (Start: 72 @55187 has 80 MA's), (98, 55283), (128, 55358), (133, 55370), (136, 55388), (146, 55436), (154, 55451), (155, 55460), (157, 55466), (159, 55487), (161, 55508), (163, 55526), (167, 55541), (169, 55547), (171, 55553), (174, 55565), (184, 55586), (195, 55610), (203, 55637), (210, 55682), (219, 55721), (230, 55778), (232, 55784),

Gene: Topper\_87 Start: 55520, Stop: 56059, Start Num: 72

Candidate Starts for Topper\_87:

(27, 55364), (Start: 72 @55520 has 80 MA's), (136, 55649), (145, 55691), (146, 55697), (154, 55712), (155, 55721), (157, 55727), (159, 55748), (163, 55787), (167, 55802), (169, 55808), (171, 55814), (184, 55847), (195, 55871), (203, 55898), (210, 55943), (219, 55982), (230, 56039), (232, 56045),

Gene: TreyKay\_89 Start: 55920, Stop: 56471, Start Num: 72

Candidate Starts for TreyKay\_89:

(22, 55740), (27, 55764), (Start: 72 @55920 has 80 MA's), (98, 55953), (128, 56031), (133, 56043), (136, 56061), (146, 56109), (154, 56124), (155, 56133), (157, 56139), (159, 56160), (161, 56181), (163, 56199), (167, 56214), (169, 56220), (171, 56226), (184, 56259), (195, 56283), (203, 56310), (209, 56352), (210, 56355), (215, 56379), (219, 56394), (230, 56451), (232, 56457),

Gene: TribelTrouble\_88 Start: 56688, Stop: 57158, Start Num: 104

Candidate Starts for TribelTrouble\_88:

(Start: 104 @56688 has 1 MA's), (123, 56739), (124, 56742), (132, 56766), (133, 56769), (140, 56811), (143, 56820), (144, 56823), (148, 56829), (157, 56856), (159, 56877), (163, 56916), (166, 56928), (197, 56976), (208, 57021), (211, 57042), (229, 57132), (231, 57141),

Gene: TruffulaTree\_89 Start: 55913, Stop: 56452, Start Num: 72

Candidate Starts for TruffulaTree\_89:

(Start: 72 @55913 has 80 MA's), (101, 55952), (136, 56042), (145, 56084), (146, 56090), (154, 56105), (155, 56114), (157, 56120), (159, 56141), (161, 56162), (163, 56180), (167, 56195), (169, 56201), (171, 56207), (184, 56240), (195, 56264), (203, 56291), (210, 56336), (219, 56375), (230, 56432), (232, 56438),

Gene: Twitch\_87 Start: 55522, Stop: 56061, Start Num: 72

Candidate Starts for Twitch\_87:

(27, 55366), (Start: 72 @55522 has 80 MA's), (136, 55651), (145, 55693), (146, 55699), (154, 55714), (155, 55723), (157, 55729), (159, 55750), (163, 55789), (167, 55804), (169, 55810), (171, 55816), (184, 55849), (195, 55873), (203, 55900), (210, 55945), (219, 55984), (230, 56041), (232, 56047),

Gene: Unicorn\_94 Start: 56932, Stop: 57726, Start Num: 13

Candidate Starts for Unicorn\_94:

(Start: 13 @56932 has 9 MA's), (16, 56974), (43, 57082), (46, 57085), (63, 57112), (78, 57154), (87, 57175), (96, 57211), (98, 57220), (111, 57253), (129, 57292), (155, 57385), (157, 57391), (159, 57412), (165, 57457), (168, 57469), (189, 57520), (203, 57562), (206, 57577), (210, 57607), (219, 57646), (230, 57703), (232, 57709),

Gene: Urkel\_87 Start: 55782, Stop: 56321, Start Num: 72

Candidate Starts for Urkel\_87:

(Start: 72 @55782 has 80 MA's), (105, 55830), (136, 55911), (146, 55959), (154, 55974), (155, 55983), (157, 55989), (159, 56010), (160, 56022), (161, 56031), (163, 56049), (167, 56064), (171, 56076), (174, 56088), (184, 56109), (198, 56142), (203, 56160), (204, 56163), (210, 56205), (215, 56229), (219, 56244), (230, 56301), (232, 56307),

Gene: Validus\_93 Start: 57272, Stop: 57934, Start Num: 41

Candidate Starts for Validus\_93:

(Start: 41 @57272 has 1 MA's), (Start: 42 @57275 has 3 MA's), (48, 57302), (Start: 68 @57365 has 6 MA's), (71, 57371), (92, 57410), (98, 57419), (121, 57464), (128, 57482), (129, 57485), (130, 57491), (136, 57512), (146, 57557), (154, 57572), (157, 57587), (159, 57608), (161, 57629), (166, 57659), (172, 57683), (177, 57695), (184, 57707), (195, 57731), (207, 57788), (209, 57812), (217, 57845), (218, 57851), (224, 57881), (229, 57908), (232, 57920),

Gene: Veliki\_88 Start: 55491, Stop: 56030, Start Num: 72

Candidate Starts for Veliki\_88:

(27, 55335), (Start: 72 @55491 has 80 MA's), (136, 55620), (145, 55662), (146, 55668), (154, 55683), (155, 55692), (157, 55698), (159, 55719), (163, 55758), (167, 55773), (169, 55779), (171, 55785), (174, 55797), (184, 55818), (203, 55869), (210, 55914), (219, 55953), (230, 56010), (232, 56016),

Gene: Waterfoul\_81 Start: 53860, Stop: 54501, Start Num: 61

Candidate Starts for Waterfoul\_81:

(Start: 61 @53860 has 8 MA's), (67, 53875), (69, 53881), (79, 53917), (83, 53932), (Start: 95 @53977 has 2 MA's), (154, 54154), (190, 54301), (210, 54382), (217, 54412), (225, 54454), (231, 54484), (232, 54487),

Gene: Ximenita\_93 Start: 56440, Stop: 57225, Start Num: 13

Candidate Starts for Ximenita\_93:

(Start: 13 @56440 has 9 MA's), (29, 56521), (32, 56536), (34, 56539), (75, 56647), (96, 56713), (98, 56722), (111, 56755), (118, 56770), (129, 56794), (139, 56839), (155, 56887), (157, 56893), (159, 56914), (165, 56959), (189, 57022), (195, 57034), (203, 57064), (206, 57079), (210, 57109), (214, 57130), (215, 57133), (219, 57148), (230, 57205), (232, 57211),

Gene: YoureAdopted\_86 Start: 55308, Stop: 55856, Start Num: 72

Candidate Starts for YoureAdopted\_86:

(Start: 72 @55308 has 80 MA's), (98, 55341), (128, 55416), (133, 55428), (136, 55446), (146, 55494), (154, 55509), (155, 55518), (157, 55524), (159, 55545), (161, 55566), (163, 55584), (167, 55599), (169, 55605), (171, 55611), (184, 55644), (195, 55668), (203, 55695), (210, 55740), (219, 55779), (230, 55836), (232, 55842),

Gene: Yuna\_90 Start: 57455, Stop: 58021, Start Num: 95

Candidate Starts for Yuna\_90:

(Start: 95 @57455 has 2 MA's), (100, 57473), (138, 57587), (147, 57623), (157, 57650), (161, 57692), (165, 57716), (171, 57737), (175, 57752), (179, 57761), (191, 57800), (193, 57806), (202, 57839), (210, 57902), (214, 57923), (215, 57926), (217, 57932), (219, 57941), (224, 57968), (226, 57983), (229, 57995), (232, 58007),

Gene: Yunkel11\_92 Start: 56143, Stop: 56694, Start Num: 72

Candidate Starts for Yunkel11\_92:

(Start: 72 @56143 has 80 MA's), (93, 56176), (126, 56245), (133, 56263), (145, 56323), (146, 56329), (154, 56344), (157, 56359), (159, 56380), (161, 56401), (163, 56419), (165, 56425), (166, 56431), (172, 56455), (184, 56479), (195, 56503), (209, 56572), (218, 56611), (224, 56641), (229, 56668), (232, 56680),

Gene: Zabiza\_83 Start: 51864, Stop: 52403, Start Num: 72

Candidate Starts for Zabiza\_83:

(27, 51708), (Start: 72 @51864 has 80 MA's), (136, 51993), (145, 52035), (146, 52041), (154, 52056), (155, 52065), (157, 52071), (159, 52092), (163, 52131), (167, 52146), (169, 52152), (171, 52158), (174, 52170), (184, 52191), (203, 52242), (210, 52287), (219, 52326), (230, 52383), (232, 52389),

Gene: Zavala\_89 Start: 55773, Stop: 56321, Start Num: 72

Candidate Starts for Zavala\_89:

(Start: 72 @55773 has 80 MA's), (98, 55806), (128, 55881), (133, 55893), (136, 55911), (146, 55959), (154, 55974), (155, 55983), (157, 55989), (159, 56010), (161, 56031), (163, 56049), (167, 56064), (169, 56070), (171, 56076), (184, 56109), (195, 56133), (203, 56160), (210, 56205), (219, 56244), (230, 56301), (232, 56307),