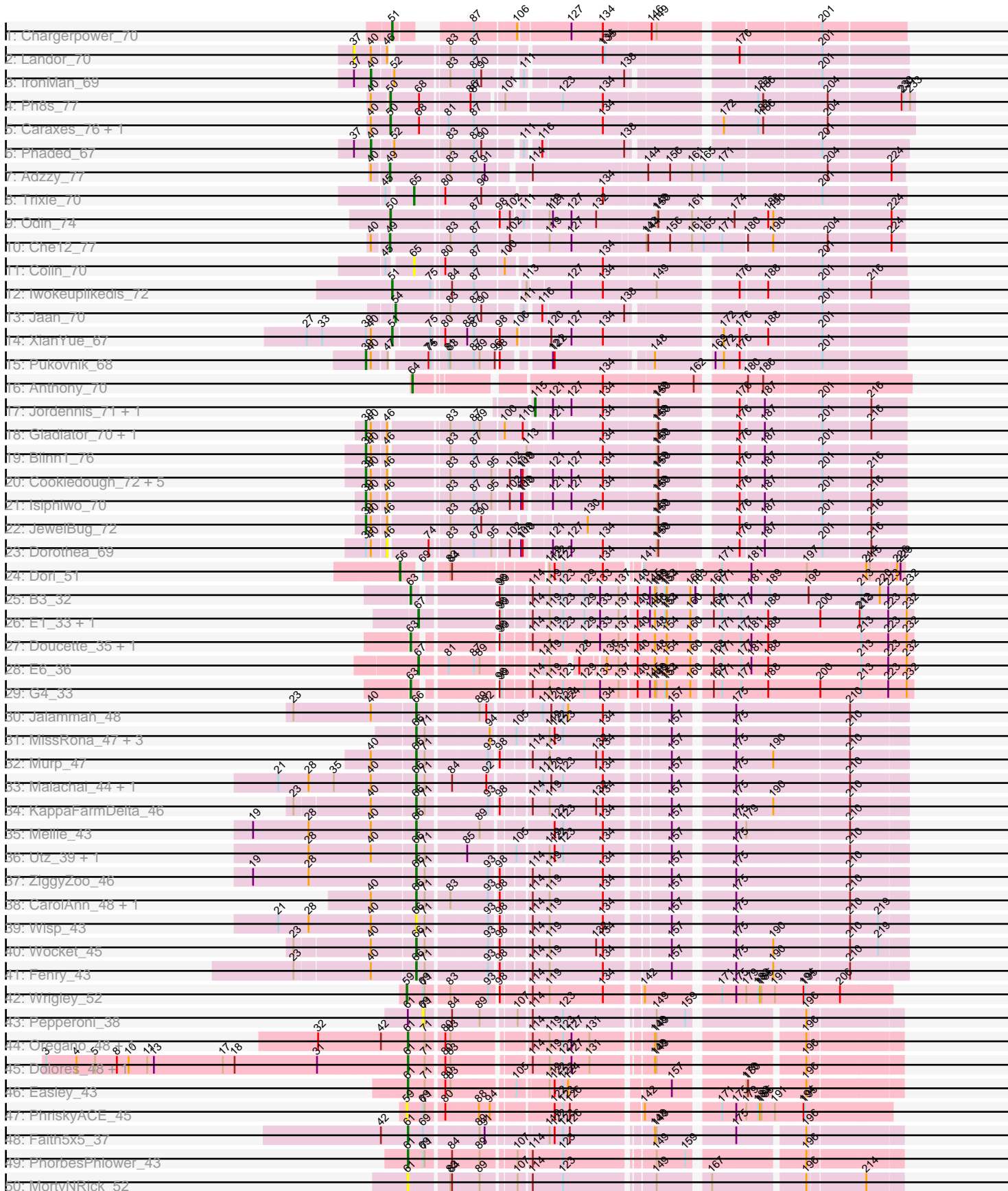
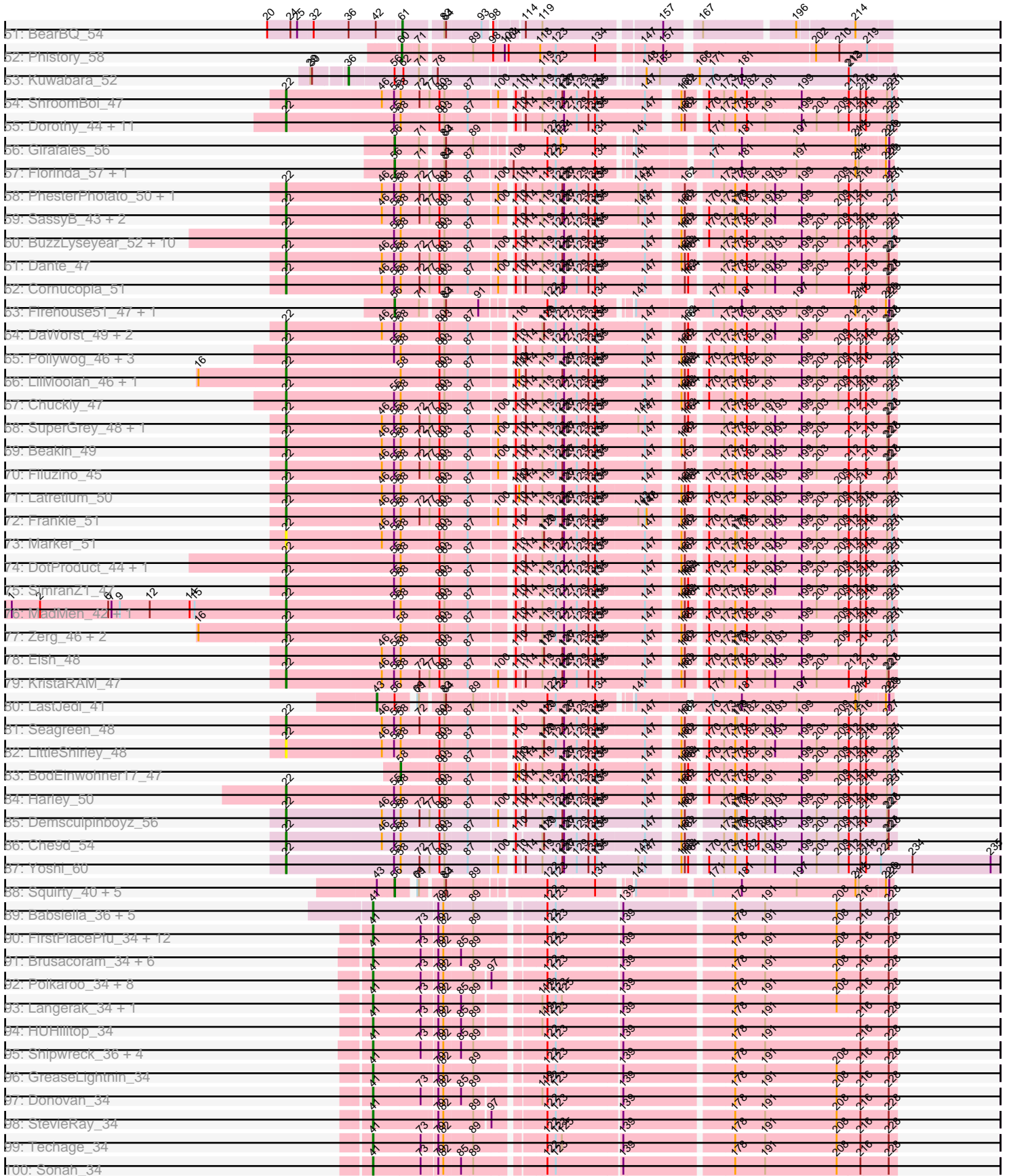


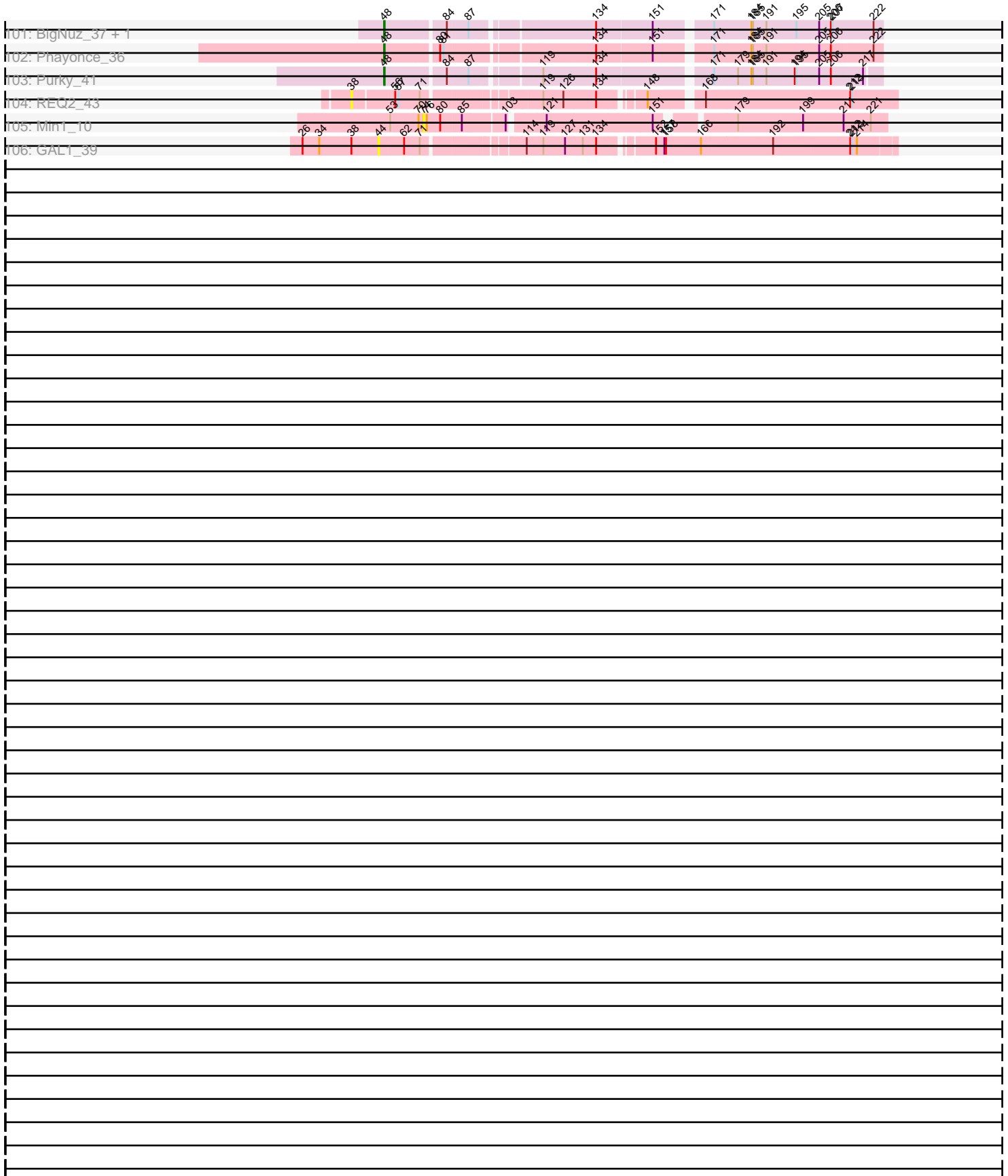
Pham 157598



Pham 157598



Pham 157598



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 157598 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157598 has 203 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_70
- Track 2 : Landor\_70
- Track 3 : IronMan\_69
- Track 4 : Ph8s\_77
- Track 5 : Caraxes\_76, Superchunk\_75
- Track 6 : Phaded\_67
- Track 7 : Adzzy\_77
- Track 8 : Trixie\_70
- Track 9 : Odin\_74
- Track 10 : Che12\_77
- Track 11 : Colin\_70
- Track 12 : Iwokeuplikedis\_72
- Track 13 : Jaan\_70
- Track 14 : XianYue\_67
- Track 15 : Pukovnik\_68
- Track 16 : Anthony\_70
- Track 17 : Jordennis\_71, Priamo\_74
- Track 18 : Gladiator\_70, Newrala\_72
- Track 19 : Blinn1\_76
- Track 20 : Cookiedough\_72, BABullseye\_65, SuperCallie99\_69, Neeharika16\_69, Pmask\_71, SuperAwesome\_72
- Track 21 : Isiphiwo\_70
- Track 22 : JewelBug\_72
- Track 23 : Dorothea\_69
- Track 24 : Dori\_51
- Track 25 : B3\_32
- Track 26 : E1\_33, Anatole\_33
- Track 27 : Doucette\_35, B22\_33
- Track 28 : E6\_36
- Track 29 : G4\_33
- Track 30 : Jalammah\_48
- Track 31 : MissRona\_47, Blueberry\_46, Gambino\_49, Azula\_47
- Track 32 : Murp\_47
- Track 33 : Malachai\_44, Begonia\_44
- Track 34 : KappaFarmDelta\_46
- Track 35 : Mellie\_43
- Track 36 : Utz\_39, Samba\_44

- Track 37 : ZiggyZoo\_46
- Track 38 : CarolAnn\_48, Blino\_49
- Track 39 : Wisp\_43
- Track 40 : Wocket\_45
- Track 41 : Fenry\_43
- Track 42 : Wrigley\_52
- Track 43 : Pepperoni\_38
- Track 44 : Oregano\_48, Annalisa\_46
- Track 45 : Dolores\_48, WinkNick\_49
- Track 46 : Easley\_43
- Track 47 : PhriskyACE\_45
- Track 48 : Faith5x5\_37
- Track 49 : PhorbesPhlower\_43
- Track 50 : MortyNRick\_52
- Track 51 : BearBQ\_54
- Track 52 : Phistory\_58
- Track 53 : Kuwabara\_52
- Track 54 : ShroomBoi\_47
- Track 55 : Dorothy\_44, Doomphist\_47, Girr\_48, Poenanya\_47, Job42\_48, Ruby\_46, Stap\_46, RedBird\_44, BlueCrab\_45, MisterCuddles\_47, Madiba\_43, Blexus\_45
- Track 56 : Girafales\_56
- Track 57 : Florinda\_57, Quico\_55
- Track 58 : PhesterPhotato\_50, Phalconet\_46
- Track 59 : SassyB\_43, Estave1\_48, PopTart\_43
- Track 60 : BuzzLyseyear\_52, Karhdo\_46, Tweety\_47, Veteran\_45, GUmbe\_45, Mantra\_44, GigiOuiOui\_44, Starceвич\_47, Wee\_50, SiSi\_47, Hamulus\_48
- Track 61 : Dante\_47
- Track 62 : Cornucopia\_51
- Track 63 : Firehouse51\_47, DosHalletts\_51
- Track 64 : DaWorst\_49, Ogopogo\_48, DillTech15\_46
- Track 65 : Pollywog\_46, PMC\_42, Boomer\_50, Rockne\_45
- Track 66 : LilMoolah\_46, Nivrat\_45
- Track 67 : Chuckly\_47
- Track 68 : SuperGrey\_48, Fruitloop\_46
- Track 69 : Beakin\_49
- Track 70 : Filuzino\_45
- Track 71 : Latretium\_50
- Track 72 : Frankie\_51
- Track 73 : Marker\_51
- Track 74 : DotProduct\_44, Totinger\_50
- Track 75 : SimranZ1\_47
- Track 76 : MadMen\_42, Krakatau\_45
- Track 77 : Zerg\_46, RockyHorror\_48, Phasih\_45
- Track 78 : Eish\_48
- Track 79 : KristaRAM\_47
- Track 80 : LastJedi\_41
- Track 81 : Seagreen\_48
- Track 82 : LittleShirley\_48
- Track 83 : BodEinwohner17\_47
- Track 84 : Harley\_50
- Track 85 : Demsculpinboyz\_56
- Track 86 : Che9d\_54
- Track 87 : Yoshi\_60

- Track 88 : Squirty\_40, Donkeykong\_46, Zizzle\_51, Brocalys\_43, Pippy\_45, Clifton\_42
- Track 89 : Babsiella\_36, Brujita\_36, HC\_34, Island3\_36, QueenHazel\_32, Xula\_31
- Track 90 : FirstPlacePfu\_34, Fishburne\_34, Bartholomew\_33, Venti\_34, Dynamo\_34, Mangethe\_34, Phineas\_34, Majeke\_34, Vidya\_34, Necropolis\_34, Kari\_34, Zilizebeth\_34, Phegasus\_34
- Track 91 : Brusacoram\_34, Atcoo\_34, Juniormint\_34, Jebeks\_35, Ksquared\_34, Bunnies\_34, Thespis\_34
- Track 92 : Polkaroo\_34, KilKor\_34, Willsammy\_33, Phalm\_34, Jung\_33, Megiddo\_34, Glaske\_34, CactusJack\_34, StressBall\_34
- Track 93 : Langerak\_34, Arib1\_34
- Track 94 : HUHilltop\_34
- Track 95 : Shipwreck\_36, Pygmy\_36, Camster\_34, Bogie\_36, Malithi\_34
- Track 96 : GreaseLightnin\_34
- Track 97 : Donovan\_34
- Track 98 : StevieRay\_34
- Track 99 : Techage\_34
- Track 100 : Sonah\_34
- Track 101 : BigNuz\_37, Nazo\_38
- Track 102 : Phayonce\_36
- Track 103 : Purky\_41
- Track 104 : REQ2\_43
- Track 105 : Min1\_10
- Track 106 : GAL1\_39

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

The start number called the most often in the published annotations is 22, it was called in 60 of the 181 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beakin\_49, Blexus\_45, BlueCrab\_45, Boomer\_50, BuzzLyseyear\_52, Che9d\_54, Chuckly\_47, Cornucopia\_51, DaWorst\_49, Dante\_47, Demsculpinboyz\_56, DillTech15\_46, Doomphist\_47, Dorothy\_44, DotProduct\_44, Eish\_48, Estave1\_48, Filuzino\_45, Frankie\_51, Fruitloop\_46, GUmbe\_45, GigiOuiOui\_44, Girr\_48, Hamulus\_48, Harley\_50, Job42\_48, Karhdo\_46, Krakatau\_45, KristaRAM\_47, Latretium\_50, LilMoolah\_46, LittleShirley\_48, MadMen\_42, Madiba\_43, Mantra\_44, Marker\_51, MisterCuddles\_47, Nivrat\_45, Ogoopogo\_48, PMC\_42, Phalconet\_46, Phasih\_45, PhesterPhotato\_50, Poenanya\_47, Pollywog\_46, PopTart\_43, RedBird\_44, Rockne\_45, RockyHorror\_48, Ruby\_46, SassyB\_43, Seagreen\_48, ShroomBoi\_47, SiSi\_47, SimranZ1\_47, Stap\_46, Starcevich\_47, SuperGrey\_48, Totinger\_50, Tweety\_47, Veteran\_45, Wee\_50, Yoshi\_60, Zerg\_46,

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

- 

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

- Adzzy\_77, Anatole\_33, Annalisa\_46, Anthony\_70, Arib1\_34, Atcoo\_34, Azula\_47, B22\_33, B3\_32, BABullseye\_65, Babsiella\_36, Bartholomew\_33, BearBQ\_54, Begonia\_44, BigNuz\_37, Blinn1\_76, Blino\_49, Blueberry\_46, BodEinwohner17\_47,

Bogie\_36, Brocalys\_43, Brujita\_36, Brusacoram\_34, Bunnies\_34, CactusJack\_34, Camster\_34, Caraxes\_76, CarolAnn\_48, Chargerpower\_70, Che12\_77, Clifton\_42, Colin\_70, Cookiedough\_72, Dolores\_48, Donkeykong\_46, Donovan\_34, Dori\_51, Dorothea\_69, DosHalletts\_51, Doucette\_35, Dynamo\_34, E1\_33, E6\_36, Easley\_43, Faith5x5\_37, Fenry\_43, Firehouse51\_47, FirstPlacePfu\_34, Fishburne\_34, Florinda\_57, G4\_33, GAL1\_39, Gambino\_49, Girafales\_56, Gladiator\_70, Glaske\_34, GreaseLightnin\_34, HC\_34, HUHilltop\_34, IronMan\_69, Isiphiwo\_70, Island3\_36, Iwokeuplikedis\_72, Jaan\_70, Jalammah\_48, Jebeks\_35, JewelBug\_72, Jordennis\_71, Jung\_33, Juniormint\_34, KappaFarmDelta\_46, Kari\_34, KilKor\_34, Ksquared\_34, Kuwabara\_52, Landor\_70, Langerak\_34, LastJedi\_41, Majeke\_34, Malachai\_44, Malithi\_34, Mangethe\_34, Megiddo\_34, Mellie\_43, Min1\_10, MissRona\_47, MortyNRick\_52, Murp\_47, Nazo\_38, Necropolis\_34, Neeharika16\_69, Newrala\_72, Odin\_74, Oregano\_48, Pepperoni\_38, Ph8s\_77, Phaded\_67, Phalm\_34, Phayonce\_36, Phegasus\_34, Phineas\_34, Phistory\_58, PhorbesPhlower\_43, PhriskyACE\_45, Pippy\_45, Pmask\_71, Polkaroo\_34, Priamo\_74, Pukovnik\_68, Purky\_41, Pygmy\_36, QueenHazel\_32, Quico\_55, REQ2\_43, Samba\_44, Shipwreck\_36, Sonah\_34, Squirty\_40, StevieRay\_34, StressBall\_34, SuperAwesome\_72, SuperCallie99\_69, Superchunk\_75, Techage\_34, Thespis\_34, Trixie\_70, Utz\_39, Venti\_34, Vidya\_34, Willsammy\_33, WinkNick\_49, Wisp\_43, Wocket\_45, Wrigley\_52, XianYue\_67, Xula\_31, ZiggyZoo\_46, Zilizabeth\_34, Zizzle\_51,

### Summary by start number:

#### Start 22:

- Found in 64 of 203 ( 31.5% ) of genes in pham
- Manual Annotations of this start: 60 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beakin\_49 (F1), Blexus\_45 (F1), BlueCrab\_45 (F1), Boomer\_50 (F1), BuzzLyseyear\_52 (F1), Che9d\_54 (F2), Chuckly\_47 (F1), Cornucopia\_51 (F1), DaWorst\_49 (F1), Dante\_47 (F1), Demsculpinboyz\_56 (F2), DillTech15\_46 (F1), Doomphist\_47 (F1), Dorothy\_44 (F1), DotProduct\_44 (F1), Eish\_48 (F1), Estave1\_48 (F1), Filuzino\_45 (F1), Frankie\_51 (F1), Fruitloop\_46 (F1), GUmble\_45 (F1), GigiOuiOui\_44 (F1), Girr\_48 (F1), Hamulus\_48 (F1), Harley\_50 (F1), Job42\_48 (F1), Karhdo\_46 (F1), Krakatau\_45 (F1), KristaRAM\_47 (F1), Latretium\_50 (F1), LilMoolah\_46 (F1), LittleShirley\_48 (F1), MadMen\_42 (F1), Madiba\_43 (F1), Mantra\_44 (F1), Marker\_51 (F1), MisterCuddles\_47 (F1), Nivrat\_45 (F1), Ogopogo\_48 (F1), PMC\_42 (F1), Phalconet\_46 (F1), Phasih\_45 (F1), PhesterPhotato\_50 (F1), Poenanya\_47 (F1), Pollywog\_46 (F1), PopTart\_43 (F1), RedBird\_44 (F1), Rockne\_45 (F1), RockyHorror\_48 (F1), Ruby\_46 (F1), SassyB\_43 (F1), Seagreen\_48 (F1), ShroomBoi\_47 (F1), SiSi\_47 (F1), SimranZ1\_47 (F1), Stap\_46 (F1), Starceвич\_47 (F1), SuperGrey\_48 (F1), Totinger\_50 (F1), Tweety\_47 (F1), Veteran\_45 (F1), Wee\_50 (F1), Yoshi\_60 (F2), Zerg\_46 (F1),

#### Start 36:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Kuwabara\_52 (DN4),

#### Start 37:

- Found in 3 of 203 ( 1.5% ) of genes in pham

- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Landor\_70 (A2),

#### Start 38:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: REQ2\_43 (singleton),

#### Start 39:

- Found in 14 of 203 ( 6.9% ) of genes in pham
- Manual Annotations of this start: 11 of 181
- Called 85.7% of time when present
- Phage (with cluster) where this start called: BABullseye\_65 (A6), Blinn1\_76 (A6), Cookiedough\_72 (A6), Gladiator\_70 (A6), Isiphiwo\_70 (A6), JewelBug\_72 (A6), Neeharika16\_69 (A6), Newrala\_72 (A6), Pmask\_71 (A6), Pukovnik\_68 (A2), SuperAwesome\_72 (A6), SuperCallie99\_69 (A6),

#### Start 40:

- Found in 35 of 203 ( 17.2% ) of genes in pham
- Manual Annotations of this start: 2 of 181
- Called 5.7% of time when present
- Phage (with cluster) where this start called: IronMan\_69 (A2), Phaded\_67 (A2),

#### Start 41:

- Found in 48 of 203 ( 23.6% ) of genes in pham
- Manual Annotations of this start: 44 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1\_34 (P1), Atcoo\_34 (P1), Babsiella\_36 (I1), Bartholomew\_33 (P1), Bogie\_36 (P1), Brujita\_36 (I1), Brusacoram\_34 (P1), Bunnies\_34 (P1), CactusJack\_34 (P1), Camster\_34 (P1), Donovan\_34 (P1), Dynamo\_34 (P1), FirstPlacePfu\_34 (P1), Fishburne\_34 (P1), Glaske\_34 (P1), GreaseLightnin\_34 (P1), HC\_34 (I1), HUHilltop\_34 (P1), Island3\_36 (I1), Jebeks\_35 (P1), Jung\_33 (P1), Juniormint\_34 (P1), Kari\_34 (P1), KilKor\_34 (P1), Ksquared\_34 (P1), Langerak\_34 (P1), Majeke\_34 (P1), Malithi\_34 (P1), Mangethe\_34 (P1), Megiddo\_34 (P1), Necropolis\_34 (P1), Phalm\_34 (P1), Phegasus\_34 (P1), Phineas\_34 (P1), Polkaroo\_34 (P1), Pygmy\_36 (P1), QueenHazel\_32 (I1), Shipwreck\_36 (P1), Sonah\_34 (P1), StevieRay\_34 (P1), StressBall\_34 (P1), Techage\_34 (P1), Thespis\_34 (P1), Venti\_34 (P1), Vidya\_34 (P1), Willsammy\_33 (P1), Xula\_31 (I1), Zilizebeth\_34 (P1),

#### Start 43:

- Found in 7 of 203 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 14.3% of time when present
- Phage (with cluster) where this start called: LastJedi\_41 (F1),

#### Start 44:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GAL1\_39 (singleton),



Start 46:

- Found in 37 of 203 ( 18.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.7% of time when present
- Phage (with cluster) where this start called: Dorothea\_69 (A6),

Start 48:

- Found in 4 of 203 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 4 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigNuz\_37 (P4), Nazo\_38 (P4), Phayonce\_36 (P5), Purky\_41 (P6),

Start 49:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adzzy\_77 (A2), Che12\_77 (A2),

Start 50:

- Found in 4 of 203 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 3 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caraxes\_76 (A2), Odin\_74 (A2), Ph8s\_77 (A2), Superchunk\_75 (A2),

Start 51:

- Found in 3 of 203 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 3 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chargerpower\_70 (A), Iwokeuplikedis\_72 (A2), XianYue\_67 (A2),

Start 54:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jaan\_70 (A2),

Start 56:

- Found in 15 of 203 ( 7.4% ) of genes in pham
- Manual Annotations of this start: 11 of 181
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Brocalys\_43 (F1), Clifton\_42 (F1), Donkeykong\_46 (F1), Dori\_51 (AD), DosHalletts\_51 (F1), Firehouse51\_47 (F1), Florinda\_57 (F1), Girafales\_56 (F1), Pippy\_45 (F1), Quico\_55 (F1), Squirty\_40 (F3), Zizzle\_51 (F1),

Start 58:

- Found in 65 of 203 ( 32.0% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 1.5% of time when present

- Phage (with cluster) where this start called: BodEinwohner17\_47 (F1),

Start 59:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PhriskyACE\_45 (CZ4), Wrigley\_52 (CY),

Start 60:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phistory\_58 (DN1),

Start 61:

- Found in 10 of 203 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 7 of 181
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Annalisa\_46 (CZ4), BearBQ\_54 (DN), Dolores\_48 (CZ4), Easley\_43 (CZ4), Faith5x5\_37 (CZ6), MortyNRick\_52 (DN), Oregano\_48 (CZ4), PhorbesPhlower\_43 (DH), WinkNick\_49 (CZ4),

Start 63:

- Found in 4 of 203 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 4 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B22\_33 (BW), B3\_32 (BV), Doucette\_35 (BW), G4\_33 (BW),

Start 64:

- Found in 1 of 203 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_70 (A20),

Start 65:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Colin\_70 (A2), Trixie\_70 (A2),

Start 66:

- Found in 18 of 203 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 17 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azula\_47 (CV), Begonia\_44 (CV), Blino\_49 (CV), Blueberry\_46 (CV), CarolAnn\_48 (CV), Fenry\_43 (CV), Gambino\_49 (CV), Jalammah\_48 (CV), KappaFarmDelta\_46 (CV), Malachai\_44 (CV), Mellie\_43 (CV), MissRona\_47 (CV), Murp\_47 (CV), Samba\_44 (CV), Utz\_39 (CV), Wisp\_43 (CV), Wocket\_45 (CV), ZiggyZoo\_46 (CV),

Start 67:

- Found in 3 of 203 ( 1.5% ) of genes in pham

- Manual Annotations of this start: 3 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anatole\_33 (BV), E1\_33 (BV), E6\_36 (BW),

Start 69:

- Found in 13 of 203 ( 6.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Pepperoni\_38 (CZ),

Start 74:

- Found in 3 of 203 ( 1.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Min1\_10 (singleton),

Start 115:

- Found in 2 of 203 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 181
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jordennis\_71 (A6), Priamo\_74 (A6),

### **Summary by clusters:**

There are 25 clusters represented in this pham: DN, singleton, DH, CZ6, CZ4, BV, BW, I1, DN4, A2, DN1, A6, A, P1, P6, AD, P4, P5, CZ, CY, CV, A20, F1, F2, F3,

Info for manual annotations of cluster A:

- Start number 51 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A2:

- Start number 39 was manually annotated 1 time for cluster A2.
- Start number 40 was manually annotated 2 times for cluster A2.
- Start number 49 was manually annotated 2 times for cluster A2.
- Start number 50 was manually annotated 3 times for cluster A2.
- Start number 51 was manually annotated 2 times for cluster A2.
- Start number 54 was manually annotated 1 time for cluster A2.
- Start number 65 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A20:

- Start number 64 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A6:

- Start number 39 was manually annotated 10 times for cluster A6.
- Start number 115 was manually annotated 2 times for cluster A6.

Info for manual annotations of cluster AD:

- Start number 56 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster BV:

- Start number 63 was manually annotated 1 time for cluster BV.
- Start number 67 was manually annotated 2 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 63 was manually annotated 3 times for cluster BW.
- Start number 67 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CV:

- Start number 66 was manually annotated 17 times for cluster CV.

Info for manual annotations of cluster CY:

- Start number 59 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CZ4:

- Start number 61 was manually annotated 4 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 61 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DH:

- Start number 61 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN:

- Start number 61 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 60 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN4:

- Start number 36 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F1:

- Start number 22 was manually annotated 57 times for cluster F1.
- Start number 43 was manually annotated 1 time for cluster F1.
- Start number 56 was manually annotated 9 times for cluster F1.
- Start number 58 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 22 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 56 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster I1:

- Start number 41 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster P1:

- Start number 41 was manually annotated 38 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 48 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 48 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 48 was manually annotated 1 time for cluster P6.

### **Gene Information:**

Gene: Adzzy\_77 Start: 43239, Stop: 42412, Start Num: 49

Candidate Starts for Adzzy\_77:

(Start: 40 @43266 has 2 MA's), (Start: 49 @43239 has 2 MA's), (83, 43146), (87, 43107), (91, 43089), (114, 43032), (144, 42843), (156, 42804), (161, 42768), (165, 42747), (171, 42714), (204, 42543), (224, 42435),

Gene: Anatole\_33 Start: 24569, Stop: 25372, Start Num: 67

Candidate Starts for Anatole\_33:

(Start: 67 @24569 has 3 MA's), (98, 24692), (99, 24695), (114, 24734), (119, 24761), (123, 24785), (129, 24821), (133, 24848), (137, 24881), (140, 24908), (145, 24929), (148, 24938), (153, 24956), (154, 24959), (160, 25001), (168, 25031), (171, 25043), (177, 25076), (188, 25121), (200, 25211), (212, 25277), (213, 25280), (223, 25328), (232, 25361),

Gene: Annalisa\_46 Start: 33306, Stop: 34055, Start Num: 61

Candidate Starts for Annalisa\_46:

(32, 33153), (42, 33261), (Start: 61 @33306 has 7 MA's), (71, 33336), (80, 33363), (83, 33372), (114, 33489), (119, 33516), (123, 33540), (127, 33555), (131, 33585), (148, 33675), (149, 33678), (196, 33900),

Gene: Anthony\_70 Start: 42960, Stop: 42178, Start Num: 64

Candidate Starts for Anthony\_70:

(Start: 64 @42960 has 1 MA's), (134, 42675), (162, 42528), (180, 42453), (186, 42426),

Gene: Arib1\_34 Start: 27945, Stop: 28808, Start Num: 41

Candidate Starts for Arib1\_34:

(Start: 41 @27945 has 44 MA's), (73, 28026), (79, 28050), (82, 28059), (85, 28086), (89, 28107), (119, 28203), (122, 28212), (123, 28227), (125, 28236), (139, 28338), (178, 28521), (191, 28575), (208, 28704), (216, 28746), (228, 28794),

Gene: Atcoo\_34 Start: 28426, Stop: 29292, Start Num: 41

Candidate Starts for Atcoo\_34:

(Start: 41 @28426 has 44 MA's), (73, 28507), (79, 28531), (82, 28540), (85, 28567), (89, 28588), (122, 28696), (123, 28711), (139, 28822), (178, 29005), (191, 29059), (208, 29188), (216, 29230), (228, 29278),

Gene: Azula\_47 Start: 35195, Stop: 35956, Start Num: 66

Candidate Starts for Azula\_47:

(Start: 66 @35195 has 17 MA's), (71, 35210), (94, 35312), (105, 35345), (119, 35390), (122, 35399), (123, 35414), (134, 35483), (157, 35579), (175, 35669), (210, 35861),

Gene: B22\_33 Start: 23699, Stop: 24502, Start Num: 63

Candidate Starts for B22\_33:

(Start: 63 @23699 has 4 MA's), (98, 23822), (99, 23825), (114, 23864), (119, 23891), (123, 23915), (129, 23951), (133, 23978), (137, 24011), (140, 24038), (148, 24068), (154, 24089), (160, 24131), (171, 24173), (177, 24206), (181, 24224), (188, 24251), (213, 24410), (223, 24458), (232, 24491),

Gene: B3\_32 Start: 23829, Stop: 24632, Start Num: 63

Candidate Starts for B3\_32:

(Start: 63 @23829 has 4 MA's), (98, 23952), (99, 23955), (114, 23994), (119, 24021), (123, 24045), (129, 24081), (133, 24108), (137, 24141), (140, 24168), (145, 24189), (148, 24198), (149, 24201), (153, 24216), (154, 24219), (160, 24261), (163, 24270), (168, 24291), (171, 24303), (181, 24354), (189, 24384), (198, 24453), (213, 24540), (220, 24573), (223, 24588), (232, 24621),

Gene: BABullseye\_65 Start: 39826, Stop: 38978, Start Num: 39

Candidate Starts for BABullseye\_65:

(Start: 39 @39826 has 11 MA's), (Start: 40 @39817 has 2 MA's), (46, 39793), (83, 39703), (87, 39664), (95, 39634), (102, 39610), (109, 39592), (110, 39589), (121, 39550), (127, 39517), (134, 39463), (149, 39376), (150, 39373), (176, 39253), (187, 39214), (201, 39121), (216, 39040),

Gene: Babsiella\_36 Start: 28877, Stop: 29746, Start Num: 41

Candidate Starts for Babsiella\_36:

(Start: 41 @28877 has 44 MA's), (79, 28985), (82, 28994), (89, 29042), (122, 29150), (123, 29165), (139, 29276), (178, 29459), (191, 29513), (208, 29642), (216, 29684), (228, 29732),

Gene: Bartholomew\_33 Start: 27939, Stop: 28805, Start Num: 41

Candidate Starts for Bartholomew\_33:

(Start: 41 @27939 has 44 MA's), (73, 28020), (79, 28044), (82, 28053), (89, 28101), (122, 28209), (123, 28224), (139, 28335), (178, 28518), (191, 28572), (208, 28701), (216, 28743), (228, 28791),

Gene: Beakin\_49 Start: 35134, Stop: 36138, Start Num: 22

Candidate Starts for Beakin\_49:

(Start: 22 @35134 has 60 MA's), (46, 35302), (55, 35323), (Start: 58 @35335 has 1 MA's), (72, 35368), (77, 35383), (80, 35401), (83, 35410), (87, 35446), (100, 35494), (110, 35512), (114, 35524), (119, 35551), (123, 35575), (126, 35587), (127, 35590), (129, 35611), (132, 35632), (134, 35644), (135, 35647), (147, 35731), (160, 35776), (162, 35782), (173, 35839), (178, 35857), (182, 35878), (191, 35911), (193, 35929), (199, 35971), (203, 35998), (212, 36055), (218, 36085), (227, 36121), (228, 36124),

Gene: BearBQ\_54 Start: 38297, Stop: 39052, Start Num: 61

Candidate Starts for BearBQ\_54:

(20, 38063), (24, 38105), (25, 38117), (32, 38144), (Start: 36 @38207 has 1 MA's), (42, 38255), (Start: 61 @38297 has 7 MA's), (83, 38363), (84, 38366), (93, 38426), (98, 38438), (114, 38480), (119, 38507), (157, 38702), (167, 38753), (196, 38897), (214, 38990),

Gene: Begonia\_44 Start: 35305, Stop: 36069, Start Num: 66

Candidate Starts for Begonia\_44:

(21, 35065), (28, 35119), (35, 35164), (Start: 40 @35230 has 2 MA's), (Start: 66 @35305 has 17 MA's), (71, 35320), (84, 35359), (92, 35416), (117, 35494), (120, 35506), (123, 35527), (134, 35596), (157, 35692), (175, 35782), (210, 35974),

Gene: BigNuz\_37 Start: 30064, Stop: 30867, Start Num: 48

Candidate Starts for BigNuz\_37:

(Start: 48 @30064 has 4 MA's), (84, 30166), (87, 30202), (134, 30394), (151, 30490), (171, 30574), (184, 30640), (185, 30643), (191, 30667), (195, 30721), (205, 30760), (206, 30781), (207, 30784), (222, 30853),

Gene: Blexus\_45 Start: 35131, Stop: 36135, Start Num: 22

Candidate Starts for Blexus\_45:

(Start: 22 @35131 has 60 MA's), (55, 35320), (Start: 58 @35332 has 1 MA's), (80, 35398), (83, 35407), (87, 35443), (110, 35509), (114, 35521), (119, 35548), (123, 35572), (127, 35587), (129, 35608), (132, 35629), (134, 35641), (135, 35644), (147, 35728), (160, 35773), (162, 35779), (170, 35809), (173, 35836), (178, 35854), (182, 35875), (191, 35908), (199, 35968), (203, 35995), (209, 36034), (212, 36052), (216, 36073), (218, 36082), (227, 36118), (231, 36127),

Gene: Blinn1\_76 Start: 42445, Stop: 41582, Start Num: 39

Candidate Starts for Blinn1\_76:

(Start: 39 @42445 has 11 MA's), (Start: 40 @42436 has 2 MA's), (46, 42412), (83, 42322), (87, 42283), (113, 42196), (134, 42067), (149, 41980), (150, 41977), (176, 41857), (187, 41818), (201, 41725),

Gene: Blino\_49 Start: 38491, Stop: 39252, Start Num: 66

Candidate Starts for Blino\_49:

(Start: 40 @38416 has 2 MA's), (Start: 66 @38491 has 17 MA's), (71, 38506), (83, 38542), (93, 38605), (98, 38617), (114, 38659), (119, 38686), (134, 38779), (157, 38875), (175, 38965), (210, 39157),

Gene: BlueCrab\_45 Start: 34857, Stop: 35861, Start Num: 22

Candidate Starts for BlueCrab\_45:

(Start: 22 @34857 has 60 MA's), (55, 35046), (Start: 58 @35058 has 1 MA's), (80, 35124), (83, 35133), (87, 35169), (110, 35235), (114, 35247), (119, 35274), (123, 35298), (127, 35313), (129, 35334), (132, 35355), (134, 35367), (135, 35370), (147, 35454), (160, 35499), (162, 35505), (170, 35535), (173, 35562), (178, 35580), (182, 35601), (191, 35634), (199, 35694), (203, 35721), (209, 35760), (212, 35778), (216, 35799), (218, 35808), (227, 35844), (231, 35853),

Gene: Blueberry\_46 Start: 35195, Stop: 35956, Start Num: 66

Candidate Starts for Blueberry\_46:

(Start: 66 @35195 has 17 MA's), (71, 35210), (94, 35312), (105, 35345), (119, 35390), (122, 35399), (123, 35414), (134, 35483), (157, 35579), (175, 35669), (210, 35861),

Gene: BodEinwohner17\_47 Start: 35274, Stop: 36077, Start Num: 58

Candidate Starts for BodEinwohner17\_47:

(Start: 58 @35274 has 1 MA's), (80, 35340), (83, 35349), (87, 35385), (110, 35451), (112, 35457), (114, 35463), (119, 35490), (126, 35526), (127, 35529), (129, 35550), (132, 35571), (134, 35583), (135, 35586), (147, 35670), (160, 35715), (162, 35721), (164, 35727), (170, 35751), (173, 35778), (178, 35796), (182, 35817), (191, 35850), (199, 35910), (203, 35937), (209, 35976), (212, 35994), (216, 36015), (218, 36024), (227, 36060), (231, 36069),

Gene: Bogie\_36 Start: 29722, Stop: 30588, Start Num: 41

Candidate Starts for Bogie\_36:

(Start: 41 @29722 has 44 MA's), (73, 29803), (79, 29827), (82, 29836), (85, 29863), (89, 29884), (122, 29992), (123, 30007), (139, 30118), (178, 30301), (191, 30355), (216, 30526), (228, 30574),

Gene: Boomer\_50 Start: 36306, Stop: 37310, Start Num: 22

Candidate Starts for Boomer\_50:

(Start: 22 @36306 has 60 MA's), (55, 36495), (Start: 58 @36507 has 1 MA's), (80, 36573), (83, 36582), (87, 36618), (110, 36684), (114, 36696), (119, 36723), (123, 36747), (127, 36762), (129, 36783), (132, 36804), (134, 36816), (135, 36819), (147, 36903), (160, 36948), (162, 36954), (170, 36984), (173, 37011), (178, 37029), (182, 37050), (191, 37083), (199, 37143), (209, 37209), (212, 37227), (216, 37248), (218, 37257), (227, 37293), (231, 37302),

Gene: Brocalys\_43 Start: 31207, Stop: 31986, Start Num: 56

Candidate Starts for Brocalys\_43:

(Start: 43 @31177 has 1 MA's), (Start: 56 @31207 has 11 MA's), (69, 31231), (71, 31234), (83, 31270), (84, 31273), (89, 31318), (122, 31426), (123, 31441), (134, 31510), (141, 31558), (171, 31675), (181, 31726), (197, 31822), (214, 31927), (215, 31933), (226, 31975), (229, 31981),

Gene: Brujita\_36 Start: 29775, Stop: 30644, Start Num: 41

Candidate Starts for Brujita\_36:

(Start: 41 @29775 has 44 MA's), (79, 29883), (82, 29892), (89, 29940), (122, 30048), (123, 30063), (139, 30174), (178, 30357), (191, 30411), (208, 30540), (216, 30582), (228, 30630),

Gene: Brusacoram\_34 Start: 27932, Stop: 28798, Start Num: 41

Candidate Starts for Brusacoram\_34:

(Start: 41 @27932 has 44 MA's), (73, 28013), (79, 28037), (82, 28046), (85, 28073), (89, 28094), (122, 28202), (123, 28217), (139, 28328), (178, 28511), (191, 28565), (208, 28694), (216, 28736), (228, 28784),

Gene: Bunnies\_34 Start: 27953, Stop: 28819, Start Num: 41

Candidate Starts for Bunnies\_34:

(Start: 41 @27953 has 44 MA's), (73, 28034), (79, 28058), (82, 28067), (85, 28094), (89, 28115), (122, 28223), (123, 28238), (139, 28349), (178, 28532), (191, 28586), (208, 28715), (216, 28757), (228, 28805),

Gene: BuzzLyseyear\_52 Start: 36683, Stop: 37687, Start Num: 22

Candidate Starts for BuzzLyseyear\_52:

(Start: 22 @36683 has 60 MA's), (55, 36872), (Start: 58 @36884 has 1 MA's), (80, 36950), (83, 36959), (87, 36995), (110, 37061), (114, 37073), (119, 37100), (123, 37124), (127, 37139), (129, 37160), (132, 37181), (134, 37193), (135, 37196), (147, 37280), (160, 37325), (162, 37331), (170, 37361), (173, 37388), (178, 37406), (182, 37427), (191, 37460), (199, 37520), (203, 37547), (209, 37586), (212, 37604), (216, 37625), (218, 37634), (227, 37670), (231, 37679),

Gene: CactusJack\_34 Start: 28196, Stop: 29059, Start Num: 41

Candidate Starts for CactusJack\_34:

(Start: 41 @28196 has 44 MA's), (73, 28277), (79, 28301), (82, 28310), (89, 28358), (97, 28382), (122, 28463), (123, 28478), (139, 28589), (178, 28772), (191, 28826), (208, 28955), (216, 28997), (228, 29045),

Gene: Camster\_34 Start: 27969, Stop: 28835, Start Num: 41

Candidate Starts for Camster\_34:

(Start: 41 @27969 has 44 MA's), (73, 28050), (79, 28074), (82, 28083), (85, 28110), (89, 28131), (122, 28239), (123, 28254), (139, 28365), (178, 28548), (191, 28602), (216, 28773), (228, 28821),

Gene: Caraxes\_76 Start: 43021, Stop: 42170, Start Num: 50

Candidate Starts for Caraxes\_76:

(Start: 40 @43054 has 2 MA's), (Start: 50 @43021 has 3 MA's), (68, 42970), (81, 42931), (87, 42889), (134, 42673), (172, 42493), (183, 42433), (186, 42424), (204, 42319),

Gene: CarolAnn\_48 Start: 38490, Stop: 39251, Start Num: 66

Candidate Starts for CarolAnn\_48:

(Start: 40 @38415 has 2 MA's), (Start: 66 @38490 has 17 MA's), (71, 38505), (83, 38541), (93, 38604), (98, 38616), (114, 38658), (119, 38685), (134, 38778), (157, 38874), (175, 38964), (210, 39156),

Gene: Chargerpower\_70 Start: 41985, Stop: 41206, Start Num: 51



Candidate Starts for Chargerpower\_70:

(Start: 51 @41985 has 3 MA's), (87, 41895), (106, 41829), (127, 41745), (134, 41691), (146, 41613), (149, 41604), (201, 41349),

Gene: Che12\_77 Start: 43138, Stop: 42296, Start Num: 49

Candidate Starts for Che12\_77:

(Start: 40 @43165 has 2 MA's), (Start: 49 @43138 has 2 MA's), (83, 43045), (87, 43006), (102, 42952), (119, 42889), (127, 42850), (143, 42730), (144, 42727), (156, 42688), (161, 42652), (165, 42631), (171, 42598), (180, 42559), (190, 42514), (204, 42427), (224, 42319),

Gene: Che9d\_54 Start: 34668, Stop: 35669, Start Num: 22

Candidate Starts for Che9d\_54:

(Start: 22 @34668 has 60 MA's), (46, 34836), (55, 34857), (Start: 58 @34869 has 1 MA's), (80, 34935), (83, 34944), (87, 34980), (110, 35046), (119, 35085), (120, 35088), (126, 35121), (127, 35124), (129, 35145), (132, 35166), (134, 35178), (135, 35181), (147, 35262), (160, 35307), (162, 35313), (173, 35370), (178, 35388), (179, 35391), (182, 35409), (188, 35430), (191, 35442), (193, 35460), (199, 35502), (203, 35529), (209, 35568), (212, 35586), (216, 35607), (227, 35652), (228, 35655),

Gene: Chuckly\_47 Start: 35101, Stop: 36108, Start Num: 22

Candidate Starts for Chuckly\_47:

(Start: 22 @35101 has 60 MA's), (55, 35293), (Start: 58 @35305 has 1 MA's), (80, 35371), (83, 35380), (87, 35416), (110, 35482), (114, 35494), (119, 35521), (123, 35545), (127, 35560), (129, 35581), (132, 35602), (134, 35614), (135, 35617), (147, 35701), (160, 35746), (162, 35752), (164, 35758), (170, 35782), (173, 35809), (178, 35827), (182, 35848), (191, 35881), (199, 35941), (203, 35968), (209, 36007), (212, 36025), (216, 36046), (218, 36055), (227, 36091), (231, 36100),

Gene: Clifton\_42 Start: 31558, Stop: 32337, Start Num: 56

Candidate Starts for Clifton\_42:

(Start: 43 @31528 has 1 MA's), (Start: 56 @31558 has 11 MA's), (69, 31582), (71, 31585), (83, 31621), (84, 31624), (89, 31669), (122, 31777), (123, 31792), (134, 31861), (141, 31909), (171, 32026), (181, 32077), (197, 32173), (214, 32278), (215, 32284), (226, 32326), (229, 32332),

Gene: Colin\_70 Start: 43999, Stop: 43229, Start Num: 65

Candidate Starts for Colin\_70:

(45, 44038), (Start: 65 @43999 has 1 MA's), (80, 43957), (87, 43909), (100, 43861), (134, 43711), (201, 43372),

Gene: Cookiedough\_72 Start: 42134, Stop: 41286, Start Num: 39

Candidate Starts for Cookiedough\_72:

(Start: 39 @42134 has 11 MA's), (Start: 40 @42125 has 2 MA's), (46, 42101), (83, 42011), (87, 41972), (95, 41942), (102, 41918), (109, 41900), (110, 41897), (121, 41858), (127, 41825), (134, 41771), (149, 41684), (150, 41681), (176, 41561), (187, 41522), (201, 41429), (216, 41348),

Gene: Cornucopia\_51 Start: 36403, Stop: 37407, Start Num: 22

Candidate Starts for Cornucopia\_51:

(Start: 22 @36403 has 60 MA's), (46, 36571), (55, 36592), (Start: 58 @36604 has 1 MA's), (72, 36637), (77, 36652), (80, 36670), (83, 36679), (87, 36715), (100, 36763), (110, 36781), (114, 36793), (119, 36820), (123, 36844), (126, 36856), (127, 36859), (129, 36880), (132, 36901), (134, 36913), (135, 36916), (147, 37000), (162, 37051), (164, 37057), (173, 37108), (178, 37126), (182, 37147), (191, 37180), (193, 37198), (199, 37240), (203, 37267), (212, 37324), (218, 37354), (227, 37390), (228, 37393),

Gene: DaWorst\_49 Start: 35931, Stop: 36935, Start Num: 22

Candidate Starts for DaWorst\_49:

(Start: 22 @35931 has 60 MA's), (46, 36099), (55, 36120), (Start: 58 @36132 has 1 MA's), (80, 36198), (83, 36207), (87, 36243), (110, 36309), (119, 36348), (120, 36351), (123, 36372), (127, 36387), (129, 36408), (132, 36429), (134, 36441), (135, 36444), (147, 36528), (162, 36579), (164, 36585), (173, 36636), (178, 36654), (182, 36675), (191, 36708), (193, 36726), (199, 36768), (203, 36795), (212, 36852), (218, 36882), (227, 36918), (228, 36921),

Gene: Dante\_47 Start: 34836, Stop: 35840, Start Num: 22

Candidate Starts for Dante\_47:

(Start: 22 @34836 has 60 MA's), (46, 35004), (55, 35025), (Start: 58 @35037 has 1 MA's), (72, 35070), (77, 35085), (80, 35103), (83, 35112), (87, 35148), (100, 35196), (110, 35214), (114, 35226), (119, 35253), (123, 35277), (126, 35289), (127, 35292), (129, 35313), (132, 35334), (134, 35346), (135, 35349), (147, 35433), (160, 35478), (162, 35484), (164, 35490), (173, 35541), (178, 35559), (182, 35580), (191, 35613), (193, 35631), (199, 35673), (203, 35700), (212, 35757), (218, 35787), (227, 35823), (228, 35826),

Gene: Demsculpinboyz\_56 Start: 34780, Stop: 35781, Start Num: 22

Candidate Starts for Demsculpinboyz\_56:

(Start: 22 @34780 has 60 MA's), (46, 34948), (55, 34969), (Start: 58 @34981 has 1 MA's), (72, 35014), (77, 35029), (80, 35047), (83, 35056), (87, 35092), (100, 35140), (110, 35158), (114, 35170), (119, 35197), (123, 35221), (126, 35233), (127, 35236), (129, 35257), (132, 35278), (134, 35290), (135, 35293), (147, 35374), (160, 35419), (162, 35425), (173, 35482), (178, 35500), (179, 35503), (182, 35521), (191, 35554), (193, 35572), (199, 35614), (203, 35641), (209, 35680), (212, 35698), (216, 35719), (218, 35728), (227, 35764), (228, 35767),

Gene: DillTech15\_46 Start: 34346, Stop: 35350, Start Num: 22

Candidate Starts for DillTech15\_46:

(Start: 22 @34346 has 60 MA's), (46, 34514), (55, 34535), (Start: 58 @34547 has 1 MA's), (80, 34613), (83, 34622), (87, 34658), (110, 34724), (119, 34763), (120, 34766), (123, 34787), (127, 34802), (129, 34823), (132, 34844), (134, 34856), (135, 34859), (147, 34943), (162, 34994), (164, 35000), (173, 35051), (178, 35069), (182, 35090), (191, 35123), (193, 35141), (199, 35183), (203, 35210), (212, 35267), (218, 35297), (227, 35333), (228, 35336),

Gene: Dolores\_48 Start: 34386, Stop: 35135, Start Num: 61

Candidate Starts for Dolores\_48:

(3, 33747), (4, 33801), (5, 33834), (8, 33873), (10, 33894), (11, 33927), (13, 33939), (17, 34062), (18, 34083), (31, 34230), (Start: 61 @34386 has 7 MA's), (71, 34416), (80, 34443), (83, 34452), (114, 34569), (119, 34596), (123, 34620), (127, 34635), (131, 34665), (148, 34755), (149, 34758), (196, 34980),

Gene: Donkeykong\_46 Start: 35576, Stop: 36355, Start Num: 56

Candidate Starts for Donkeykong\_46:

(Start: 43 @35546 has 1 MA's), (Start: 56 @35576 has 11 MA's), (69, 35600), (71, 35603), (83, 35639), (84, 35642), (89, 35687), (122, 35795), (123, 35810), (134, 35879), (141, 35927), (171, 36044), (181, 36095), (197, 36191), (214, 36296), (215, 36302), (226, 36344), (229, 36350),

Gene: Donovan\_34 Start: 27961, Stop: 28824, Start Num: 41

Candidate Starts for Donovan\_34:

(Start: 41 @27961 has 44 MA's), (73, 28042), (79, 28066), (82, 28075), (85, 28102), (89, 28123), (119, 28219), (122, 28228), (123, 28243), (139, 28354), (178, 28537), (191, 28591), (208, 28720), (216, 28762), (228, 28810),

Gene: Doomphist\_47 Start: 36071, Stop: 37075, Start Num: 22

Candidate Starts for Doomphist\_47:

(Start: 22 @36071 has 60 MA's), (55, 36260), (Start: 58 @36272 has 1 MA's), (80, 36338), (83, 36347), (87, 36383), (110, 36449), (114, 36461), (119, 36488), (123, 36512), (127, 36527), (129, 36548), (132, 36569), (134, 36581), (135, 36584), (147, 36668), (160, 36713), (162, 36719), (170, 36749), (173, 36776), (178, 36794), (182, 36815), (191, 36848), (199, 36908), (203, 36935), (209, 36974), (212, 36992), (216, 37013), (218, 37022), (227, 37058), (231, 37067),

Gene: Dori\_51 Start: 44920, Stop: 45693, Start Num: 56

Candidate Starts for Dori\_51:

(Start: 56 @44920 has 11 MA's), (69, 44941), (83, 44980), (84, 44983), (119, 45124), (122, 45133), (123, 45148), (134, 45217), (141, 45265), (171, 45382), (181, 45433), (197, 45529), (214, 45634), (215, 45640), (226, 45682), (229, 45688),

Gene: Dorothea\_69 Start: 42099, Stop: 41284, Start Num: 46

Candidate Starts for Dorothea\_69:

(Start: 39 @42132 has 11 MA's), (Start: 40 @42123 has 2 MA's), (46, 42099), (74, 42036), (83, 42009), (87, 41970), (95, 41940), (102, 41916), (109, 41898), (110, 41895), (121, 41856), (127, 41823), (134, 41769), (149, 41682), (150, 41679), (176, 41559), (187, 41520), (201, 41427), (216, 41346),

Gene: Dorothy\_44 Start: 34870, Stop: 35874, Start Num: 22

Candidate Starts for Dorothy\_44:

(Start: 22 @34870 has 60 MA's), (55, 35059), (Start: 58 @35071 has 1 MA's), (80, 35137), (83, 35146), (87, 35182), (110, 35248), (114, 35260), (119, 35287), (123, 35311), (127, 35326), (129, 35347), (132, 35368), (134, 35380), (135, 35383), (147, 35467), (160, 35512), (162, 35518), (170, 35548), (173, 35575), (178, 35593), (182, 35614), (191, 35647), (199, 35707), (203, 35734), (209, 35773), (212, 35791), (216, 35812), (218, 35821), (227, 35857), (231, 35866),

Gene: DosHalletts\_51 Start: 34853, Stop: 35650, Start Num: 56

Candidate Starts for DosHalletts\_51:

(Start: 56 @34853 has 11 MA's), (71, 34895), (83, 34931), (84, 34934), (91, 34988), (122, 35090), (123, 35105), (134, 35174), (141, 35222), (171, 35339), (181, 35390), (197, 35486), (214, 35591), (215, 35597), (226, 35639), (229, 35645),

Gene: DotProduct\_44 Start: 34531, Stop: 35535, Start Num: 22

Candidate Starts for DotProduct\_44:

(Start: 22 @34531 has 60 MA's), (55, 34720), (Start: 58 @34732 has 1 MA's), (80, 34798), (83, 34807), (87, 34843), (110, 34909), (114, 34921), (119, 34948), (123, 34972), (127, 34987), (129, 35008), (132, 35029), (134, 35041), (135, 35044), (147, 35128), (160, 35173), (162, 35179), (170, 35209), (173, 35236), (178, 35254), (182, 35275), (191, 35308), (193, 35326), (199, 35368), (203, 35395), (209, 35434), (212, 35452), (216, 35473), (218, 35482), (227, 35518), (231, 35527),

Gene: Doucette\_35 Start: 25113, Stop: 25916, Start Num: 63

Candidate Starts for Doucette\_35:

(Start: 63 @25113 has 4 MA's), (98, 25236), (99, 25239), (114, 25278), (119, 25305), (123, 25329), (129, 25365), (133, 25392), (137, 25425), (140, 25452), (148, 25482), (154, 25503), (160, 25545), (171, 25587), (177, 25620), (181, 25638), (188, 25665), (213, 25824), (223, 25872), (232, 25905),

Gene: Dynamo\_34 Start: 28347, Stop: 29213, Start Num: 41

Candidate Starts for Dynamo\_34:

(Start: 41 @28347 has 44 MA's), (73, 28428), (79, 28452), (82, 28461), (89, 28509), (122, 28617), (123, 28632), (139, 28743), (178, 28926), (191, 28980), (208, 29109), (216, 29151), (228, 29199),

Gene: E1\_33 Start: 24569, Stop: 25372, Start Num: 67

Candidate Starts for E1\_33:

(Start: 67 @24569 has 3 MA's), (98, 24692), (99, 24695), (114, 24734), (119, 24761), (123, 24785), (129, 24821), (133, 24848), (137, 24881), (140, 24908), (145, 24929), (148, 24938), (153, 24956), (154, 24959), (160, 25001), (168, 25031), (171, 25043), (177, 25076), (188, 25121), (200, 25211), (212, 25277), (213, 25280), (223, 25328), (232, 25361),

Gene: E6\_36 Start: 26500, Stop: 27273, Start Num: 67

Candidate Starts for E6\_36:

(Start: 67 @26500 has 3 MA's), (81, 26542), (87, 26584), (89, 26593), (117, 26680), (119, 26689), (128, 26728), (136, 26761), (137, 26782), (140, 26809), (148, 26839), (154, 26860), (160, 26902), (168, 26932), (171, 26944), (177, 26977), (181, 26995), (188, 27022), (213, 27181), (223, 27229), (232, 27262),

Gene: Easley\_43 Start: 32655, Stop: 33410, Start Num: 61

Candidate Starts for Easley\_43:

(Start: 61 @32655 has 7 MA's), (71, 32685), (80, 32712), (83, 32721), (105, 32820), (119, 32865), (122, 32874), (123, 32889), (124, 32898), (157, 33060), (179, 33171), (180, 33174), (196, 33255),

Gene: Eish\_48 Start: 35416, Stop: 36417, Start Num: 22

Candidate Starts for Eish\_48:

(Start: 22 @35416 has 60 MA's), (46, 35584), (55, 35605), (Start: 58 @35617 has 1 MA's), (80, 35683), (83, 35692), (87, 35728), (110, 35794), (119, 35833), (120, 35836), (126, 35869), (127, 35872), (129, 35893), (132, 35914), (134, 35926), (135, 35929), (147, 36010), (160, 36055), (162, 36061), (170, 36091), (173, 36118), (178, 36136), (179, 36139), (182, 36157), (191, 36190), (193, 36208), (199, 36250), (209, 36316), (216, 36355), (227, 36400),

Gene: Estave1\_48 Start: 34820, Stop: 35824, Start Num: 22

Candidate Starts for Estave1\_48:

(Start: 22 @34820 has 60 MA's), (46, 34988), (55, 35009), (Start: 58 @35021 has 1 MA's), (72, 35054), (77, 35069), (80, 35087), (83, 35096), (87, 35132), (100, 35180), (110, 35198), (114, 35210), (119, 35237), (123, 35261), (126, 35273), (127, 35276), (129, 35297), (132, 35318), (134, 35330), (135, 35333), (143, 35405), (147, 35417), (160, 35462), (162, 35468), (170, 35498), (173, 35525), (178, 35543), (179, 35546), (182, 35564), (191, 35597), (193, 35615), (199, 35657), (209, 35723), (212, 35741), (216, 35762), (227, 35807),

Gene: Faith5x5\_37 Start: 28702, Stop: 29454, Start Num: 61

Candidate Starts for Faith5x5\_37:

(42, 28657), (Start: 61 @28702 has 7 MA's), (69, 28729), (89, 28816), (91, 28825), (119, 28915), (122, 28924), (123, 28939), (126, 28951), (148, 29074), (149, 29077), (175, 29197), (196, 29299),

Gene: Fenry\_43 Start: 34202, Stop: 34963, Start Num: 66

Candidate Starts for Fenry\_43:

(23, 33998), (Start: 40 @34127 has 2 MA's), (Start: 66 @34202 has 17 MA's), (71, 34217), (93, 34316), (98, 34328), (114, 34370), (119, 34397), (134, 34490), (157, 34586), (175, 34676), (190, 34742), (210, 34868),

Gene: Filuzino\_45 Start: 34250, Stop: 35254, Start Num: 22

Candidate Starts for Filuzino\_45:

(Start: 22 @34250 has 60 MA's), (46, 34418), (55, 34439), (Start: 58 @34451 has 1 MA's), (72, 34484), (77, 34499), (80, 34517), (83, 34526), (87, 34562), (100, 34610), (110, 34628), (114, 34640), (119, 34667), (123, 34691), (126, 34703), (127, 34706), (129, 34727), (132, 34748), (134, 34760),

(135, 34763), (147, 34847), (162, 34898), (173, 34955), (178, 34973), (182, 34994), (191, 35027), (193, 35045), (199, 35087), (203, 35114), (212, 35171), (218, 35201), (227, 35237), (228, 35240),

Gene: Firehouse51\_47 Start: 36491, Stop: 37288, Start Num: 56

Candidate Starts for Firehouse51\_47:

(Start: 56 @36491 has 11 MA's), (71, 36533), (83, 36569), (84, 36572), (91, 36626), (122, 36728), (123, 36743), (134, 36812), (141, 36860), (171, 36977), (181, 37028), (197, 37124), (214, 37229), (215, 37235), (226, 37277), (229, 37283),

Gene: FirstPlacePfu\_34 Start: 27971, Stop: 28837, Start Num: 41

Candidate Starts for FirstPlacePfu\_34:

(Start: 41 @27971 has 44 MA's), (73, 28052), (79, 28076), (82, 28085), (89, 28133), (122, 28241), (123, 28256), (139, 28367), (178, 28550), (191, 28604), (208, 28733), (216, 28775), (228, 28823),

Gene: Fishburne\_34 Start: 27939, Stop: 28805, Start Num: 41

Candidate Starts for Fishburne\_34:

(Start: 41 @27939 has 44 MA's), (73, 28020), (79, 28044), (82, 28053), (89, 28101), (122, 28209), (123, 28224), (139, 28335), (178, 28518), (191, 28572), (208, 28701), (216, 28743), (228, 28791),

Gene: Florinda\_57 Start: 36157, Stop: 36951, Start Num: 56

Candidate Starts for Florinda\_57:

(Start: 56 @36157 has 11 MA's), (71, 36199), (83, 36235), (84, 36238), (87, 36274), (108, 36334), (122, 36391), (123, 36406), (134, 36475), (141, 36523), (171, 36640), (181, 36691), (197, 36787), (214, 36892), (215, 36898), (226, 36940), (229, 36946),

Gene: Frankie\_51 Start: 36473, Stop: 37477, Start Num: 22

Candidate Starts for Frankie\_51:

(Start: 22 @36473 has 60 MA's), (46, 36641), (55, 36662), (Start: 58 @36674 has 1 MA's), (72, 36707), (77, 36722), (80, 36740), (83, 36749), (87, 36785), (100, 36833), (110, 36851), (114, 36863), (119, 36890), (123, 36914), (126, 36926), (127, 36929), (129, 36950), (132, 36971), (134, 36983), (135, 36986), (143, 37058), (147, 37070), (148, 37073), (160, 37115), (162, 37121), (170, 37151), (173, 37178), (182, 37217), (191, 37250), (193, 37268), (199, 37310), (203, 37337), (209, 37376), (212, 37394), (216, 37415), (218, 37424), (227, 37460), (231, 37469),

Gene: Fruitloop\_46 Start: 36116, Stop: 37120, Start Num: 22

Candidate Starts for Fruitloop\_46:

(Start: 22 @36116 has 60 MA's), (46, 36284), (55, 36305), (Start: 58 @36317 has 1 MA's), (72, 36350), (77, 36365), (80, 36383), (83, 36392), (87, 36428), (100, 36476), (110, 36494), (114, 36506), (119, 36533), (123, 36557), (126, 36569), (127, 36572), (129, 36593), (132, 36614), (134, 36626), (135, 36629), (143, 36701), (147, 36713), (162, 36764), (164, 36770), (173, 36821), (178, 36839), (182, 36860), (191, 36893), (193, 36911), (199, 36953), (203, 36980), (212, 37037), (218, 37067), (227, 37103), (228, 37106),

Gene: G4\_33 Start: 24732, Stop: 25535, Start Num: 63

Candidate Starts for G4\_33:

(Start: 63 @24732 has 4 MA's), (98, 24855), (99, 24858), (114, 24897), (119, 24924), (123, 24948), (129, 24984), (133, 25011), (137, 25044), (140, 25071), (145, 25092), (148, 25101), (149, 25104), (153, 25119), (154, 25122), (160, 25164), (168, 25194), (171, 25206), (177, 25239), (188, 25284), (200, 25374), (213, 25443), (223, 25491), (232, 25524),

Gene: GAL1\_39 Start: 32334, Stop: 33173, Start Num: 44

Candidate Starts for GAL1\_39:

(26, 32199), (34, 32229), (38, 32286), (44, 32334), (62, 32376), (71, 32403), (114, 32556), (119, 32583), (127, 32622), (131, 32652), (134, 32676), (152, 32757), (157, 32772), (158, 32775), (166, 32838), (192, 32961), (212, 33096), (213, 33099), (214, 33108),

Gene: GUmbie\_45 Start: 34760, Stop: 35764, Start Num: 22

Candidate Starts for GUmbie\_45:

(Start: 22 @34760 has 60 MA's), (55, 34949), (Start: 58 @34961 has 1 MA's), (80, 35027), (83, 35036), (87, 35072), (110, 35138), (114, 35150), (119, 35177), (123, 35201), (127, 35216), (129, 35237), (132, 35258), (134, 35270), (135, 35273), (147, 35357), (160, 35402), (162, 35408), (170, 35438), (173, 35465), (178, 35483), (182, 35504), (191, 35537), (199, 35597), (203, 35624), (209, 35663), (212, 35681), (216, 35702), (218, 35711), (227, 35747), (231, 35756),

Gene: Gambino\_49 Start: 35195, Stop: 35956, Start Num: 66

Candidate Starts for Gambino\_49:

(Start: 66 @35195 has 17 MA's), (71, 35210), (94, 35312), (105, 35345), (119, 35390), (122, 35399), (123, 35414), (134, 35483), (157, 35579), (175, 35669), (210, 35861),

Gene: GigiOuiOui\_44 Start: 34673, Stop: 35677, Start Num: 22

Candidate Starts for GigiOuiOui\_44:

(Start: 22 @34673 has 60 MA's), (55, 34862), (Start: 58 @34874 has 1 MA's), (80, 34940), (83, 34949), (87, 34985), (110, 35051), (114, 35063), (119, 35090), (123, 35114), (127, 35129), (129, 35150), (132, 35171), (134, 35183), (135, 35186), (147, 35270), (160, 35315), (162, 35321), (170, 35351), (173, 35378), (178, 35396), (182, 35417), (191, 35450), (199, 35510), (203, 35537), (209, 35576), (212, 35594), (216, 35615), (218, 35624), (227, 35660), (231, 35669),

Gene: Girafales\_56 Start: 35966, Stop: 36760, Start Num: 56

Candidate Starts for Girafales\_56:

(Start: 56 @35966 has 11 MA's), (71, 36008), (83, 36044), (84, 36047), (89, 36092), (122, 36200), (123, 36215), (124, 36224), (134, 36284), (141, 36332), (171, 36449), (181, 36500), (197, 36596), (214, 36701), (215, 36707), (226, 36749), (229, 36755),

Gene: Girr\_48 Start: 35732, Stop: 36736, Start Num: 22

Candidate Starts for Girr\_48:

(Start: 22 @35732 has 60 MA's), (55, 35921), (Start: 58 @35933 has 1 MA's), (80, 35999), (83, 36008), (87, 36044), (110, 36110), (114, 36122), (119, 36149), (123, 36173), (127, 36188), (129, 36209), (132, 36230), (134, 36242), (135, 36245), (147, 36329), (160, 36374), (162, 36380), (170, 36410), (173, 36437), (178, 36455), (182, 36476), (191, 36509), (199, 36569), (203, 36596), (209, 36635), (212, 36653), (216, 36674), (218, 36683), (227, 36719), (231, 36728),

Gene: Gladiator\_70 Start: 41751, Stop: 40912, Start Num: 39

Candidate Starts for Gladiator\_70:

(Start: 39 @41751 has 11 MA's), (Start: 40 @41742 has 2 MA's), (46, 41718), (83, 41628), (87, 41589), (89, 41580), (100, 41547), (110, 41517), (121, 41484), (134, 41397), (149, 41310), (150, 41307), (176, 41187), (187, 41148), (201, 41055), (216, 40974),

Gene: Glaske\_34 Start: 28196, Stop: 29059, Start Num: 41

Candidate Starts for Glaske\_34:

(Start: 41 @28196 has 44 MA's), (73, 28277), (79, 28301), (82, 28310), (89, 28358), (97, 28382), (122, 28463), (123, 28478), (139, 28589), (178, 28772), (191, 28826), (208, 28955), (216, 28997), (228, 29045),

Gene: GreaseLightnin\_34 Start: 28179, Stop: 29045, Start Num: 41

Candidate Starts for GreaseLightnin\_34:

(Start: 41 @28179 has 44 MA's), (79, 28284), (82, 28293), (89, 28341), (122, 28449), (123, 28464), (139, 28575), (178, 28758), (191, 28812), (208, 28941), (216, 28983), (228, 29031),

Gene: HC\_34 Start: 27658, Stop: 28527, Start Num: 41

Candidate Starts for HC\_34:

(Start: 41 @27658 has 44 MA's), (79, 27766), (82, 27775), (89, 27823), (122, 27931), (123, 27946), (139, 28057), (178, 28240), (191, 28294), (208, 28423), (216, 28465), (228, 28513),

Gene: HUHilltop\_34 Start: 27972, Stop: 28835, Start Num: 41

Candidate Starts for HUHilltop\_34:

(Start: 41 @27972 has 44 MA's), (73, 28053), (79, 28077), (82, 28086), (85, 28113), (89, 28134), (119, 28230), (122, 28239), (123, 28254), (139, 28365), (178, 28548), (191, 28602), (216, 28773), (228, 28821),

Gene: Hamulus\_48 Start: 36115, Stop: 37119, Start Num: 22

Candidate Starts for Hamulus\_48:

(Start: 22 @36115 has 60 MA's), (55, 36304), (Start: 58 @36316 has 1 MA's), (80, 36382), (83, 36391), (87, 36427), (110, 36493), (114, 36505), (119, 36532), (123, 36556), (127, 36571), (129, 36592), (132, 36613), (134, 36625), (135, 36628), (147, 36712), (160, 36757), (162, 36763), (170, 36793), (173, 36820), (178, 36838), (182, 36859), (191, 36892), (199, 36952), (203, 36979), (209, 37018), (212, 37036), (216, 37057), (218, 37066), (227, 37102), (231, 37111),

Gene: Harley\_50 Start: 35468, Stop: 36472, Start Num: 22

Candidate Starts for Harley\_50:

(Start: 22 @35468 has 60 MA's), (55, 35657), (Start: 58 @35669 has 1 MA's), (80, 35735), (83, 35744), (87, 35780), (110, 35846), (114, 35858), (119, 35885), (123, 35909), (127, 35924), (129, 35945), (132, 35966), (134, 35978), (135, 35981), (147, 36065), (160, 36110), (162, 36116), (170, 36146), (173, 36173), (178, 36191), (182, 36212), (191, 36245), (199, 36305), (209, 36371), (212, 36389), (216, 36410), (218, 36419), (227, 36455), (231, 36464),

Gene: IronMan\_69 Start: 44419, Stop: 43604, Start Num: 40

Candidate Starts for IronMan\_69:

(37, 44446), (Start: 40 @44419 has 2 MA's), (52, 44386), (83, 44302), (87, 44263), (90, 44251), (111, 44194), (138, 44041), (201, 43750),

Gene: Isiphiwo\_70 Start: 41692, Stop: 40844, Start Num: 39

Candidate Starts for Isiphiwo\_70:

(Start: 39 @41692 has 11 MA's), (Start: 40 @41683 has 2 MA's), (46, 41659), (83, 41569), (87, 41530), (95, 41500), (102, 41476), (109, 41458), (110, 41455), (121, 41416), (127, 41383), (134, 41329), (149, 41242), (150, 41239), (176, 41119), (187, 41080), (201, 40987), (216, 40906),

Gene: Island3\_36 Start: 29775, Stop: 30644, Start Num: 41

Candidate Starts for Island3\_36:

(Start: 41 @29775 has 44 MA's), (79, 29883), (82, 29892), (89, 29940), (122, 30048), (123, 30063), (139, 30174), (178, 30357), (191, 30411), (208, 30540), (216, 30582), (228, 30630),

Gene: Iwokeuplikedis\_72 Start: 43407, Stop: 42592, Start Num: 51

Candidate Starts for Iwokeuplikedis\_72:

(Start: 51 @43407 has 3 MA's), (75, 43341), (84, 43314), (87, 43278), (113, 43203), (127, 43134), (134, 43080), (149, 42993), (176, 42870), (188, 42825), (201, 42738), (216, 42657),

Gene: Jaan\_70 Start: 44554, Stop: 43772, Start Num: 54

Candidate Starts for Jaan\_70:

(Start: 54 @44554 has 1 MA's), (83, 44470), (87, 44431), (90, 44419), (111, 44362), (116, 44341), (138, 44209), (201, 43918),

Gene: Jalammah\_48 Start: 35515, Stop: 36279, Start Num: 66

Candidate Starts for Jalammah\_48:

(23, 35311), (Start: 40 @35440 has 2 MA's), (Start: 66 @35515 has 17 MA's), (89, 35614), (92, 35626), (117, 35704), (120, 35716), (123, 35737), (124, 35746), (134, 35806), (157, 35902), (175, 35992), (210, 36184),

Gene: Jebeks\_35 Start: 27924, Stop: 28790, Start Num: 41

Candidate Starts for Jebeks\_35:

(Start: 41 @27924 has 44 MA's), (73, 28005), (79, 28029), (82, 28038), (85, 28065), (89, 28086), (122, 28194), (123, 28209), (139, 28320), (178, 28503), (191, 28557), (208, 28686), (216, 28728), (228, 28776),

Gene: JewelBug\_72 Start: 42414, Stop: 41578, Start Num: 39

Candidate Starts for JewelBug\_72:

(Start: 39 @42414 has 11 MA's), (Start: 40 @42405 has 2 MA's), (46, 42381), (83, 42291), (87, 42252), (90, 42240), (130, 42090), (149, 41976), (150, 41973), (176, 41853), (187, 41814), (201, 41721), (216, 41640),

Gene: Job42\_48 Start: 36721, Stop: 37725, Start Num: 22

Candidate Starts for Job42\_48:

(Start: 22 @36721 has 60 MA's), (55, 36910), (Start: 58 @36922 has 1 MA's), (80, 36988), (83, 36997), (87, 37033), (110, 37099), (114, 37111), (119, 37138), (123, 37162), (127, 37177), (129, 37198), (132, 37219), (134, 37231), (135, 37234), (147, 37318), (160, 37363), (162, 37369), (170, 37399), (173, 37426), (178, 37444), (182, 37465), (191, 37498), (199, 37558), (203, 37585), (209, 37624), (212, 37642), (216, 37663), (218, 37672), (227, 37708), (231, 37717),

Gene: Jordennis\_71 Start: 41658, Stop: 41059, Start Num: 115

Candidate Starts for Jordennis\_71:

(Start: 115 @41658 has 2 MA's), (121, 41631), (127, 41598), (134, 41544), (149, 41457), (150, 41454), (176, 41334), (187, 41295), (201, 41202), (216, 41121),

Gene: Jung\_33 Start: 27903, Stop: 28766, Start Num: 41

Candidate Starts for Jung\_33:

(Start: 41 @27903 has 44 MA's), (73, 27984), (79, 28008), (82, 28017), (89, 28065), (97, 28089), (122, 28170), (123, 28185), (139, 28296), (178, 28479), (191, 28533), (208, 28662), (216, 28704), (228, 28752),

Gene: Juniormint\_34 Start: 27975, Stop: 28841, Start Num: 41

Candidate Starts for Juniormint\_34:

(Start: 41 @27975 has 44 MA's), (73, 28056), (79, 28080), (82, 28089), (85, 28116), (89, 28137), (122, 28245), (123, 28260), (139, 28371), (178, 28554), (191, 28608), (208, 28737), (216, 28779), (228, 28827),

Gene: KappaFarmDelta\_46 Start: 33140, Stop: 33901, Start Num: 66

Candidate Starts for KappaFarmDelta\_46:

(23, 32939), (Start: 40 @33065 has 2 MA's), (Start: 66 @33140 has 17 MA's), (71, 33155), (93, 33254), (98, 33266), (114, 33308), (119, 33335), (132, 33416), (134, 33428), (157, 33524), (175, 33614), (190, 33680), (210, 33806),

Gene: Karhdo\_46 Start: 35555, Stop: 36559, Start Num: 22



Candidate Starts for Karhdo\_46:

(Start: 22 @35555 has 60 MA's), (55, 35744), (Start: 58 @35756 has 1 MA's), (80, 35822), (83, 35831), (87, 35867), (110, 35933), (114, 35945), (119, 35972), (123, 35996), (127, 36011), (129, 36032), (132, 36053), (134, 36065), (135, 36068), (147, 36152), (160, 36197), (162, 36203), (170, 36233), (173, 36260), (178, 36278), (182, 36299), (191, 36332), (199, 36392), (203, 36419), (209, 36458), (212, 36476), (216, 36497), (218, 36506), (227, 36542), (231, 36551),

Gene: Kari\_34 Start: 27936, Stop: 28802, Start Num: 41

Candidate Starts for Kari\_34:

(Start: 41 @27936 has 44 MA's), (73, 28017), (79, 28041), (82, 28050), (89, 28098), (122, 28206), (123, 28221), (139, 28332), (178, 28515), (191, 28569), (208, 28698), (216, 28740), (228, 28788),

Gene: KilKor\_34 Start: 28196, Stop: 29059, Start Num: 41

Candidate Starts for KilKor\_34:

(Start: 41 @28196 has 44 MA's), (73, 28277), (79, 28301), (82, 28310), (89, 28358), (97, 28382), (122, 28463), (123, 28478), (139, 28589), (178, 28772), (191, 28826), (208, 28955), (216, 28997), (228, 29045),

Gene: Krakatau\_45 Start: 35226, Stop: 36230, Start Num: 22

Candidate Starts for Krakatau\_45:

(1, 34731), (2, 34782), (6, 34905), (7, 34911), (9, 34926), (12, 34980), (14, 35052), (15, 35061), (Start: 22 @35226 has 60 MA's), (55, 35415), (Start: 58 @35427 has 1 MA's), (80, 35493), (83, 35502), (87, 35538), (110, 35604), (114, 35616), (119, 35643), (123, 35667), (127, 35682), (129, 35703), (132, 35724), (134, 35736), (135, 35739), (147, 35823), (160, 35868), (162, 35874), (164, 35880), (170, 35904), (173, 35931), (178, 35949), (182, 35970), (191, 36003), (199, 36063), (203, 36090), (209, 36129), (212, 36147), (216, 36168), (218, 36177), (227, 36213), (231, 36222),

Gene: KristaRAM\_47 Start: 36438, Stop: 37442, Start Num: 22

Candidate Starts for KristaRAM\_47:

(Start: 22 @36438 has 60 MA's), (46, 36606), (55, 36627), (Start: 58 @36639 has 1 MA's), (72, 36672), (77, 36687), (80, 36705), (83, 36714), (87, 36750), (100, 36798), (110, 36816), (114, 36828), (119, 36855), (123, 36879), (126, 36891), (127, 36894), (129, 36915), (132, 36936), (134, 36948), (135, 36951), (147, 37035), (160, 37080), (162, 37086), (170, 37116), (173, 37143), (178, 37161), (182, 37182), (191, 37215), (193, 37233), (199, 37275), (203, 37302), (212, 37359), (218, 37389), (227, 37425), (228, 37428),

Gene: Ksquared\_34 Start: 27953, Stop: 28819, Start Num: 41

Candidate Starts for Ksquared\_34:

(Start: 41 @27953 has 44 MA's), (73, 28034), (79, 28058), (82, 28067), (85, 28094), (89, 28115), (122, 28223), (123, 28238), (139, 28349), (178, 28532), (191, 28586), (208, 28715), (216, 28757), (228, 28805),

Gene: Kuwabara\_52 Start: 36557, Stop: 37444, Start Num: 36

Candidate Starts for Kuwabara\_52:

(29, 36500), (30, 36503), (Start: 36 @36557 has 1 MA's), (Start: 56 @36629 has 11 MA's), (62, 36644), (71, 36671), (78, 36695), (119, 36854), (123, 36878), (148, 37013), (155, 37037), (166, 37109), (171, 37130), (181, 37181), (212, 37367), (213, 37370),

Gene: Landor\_70 Start: 44539, Stop: 43679, Start Num: 37

Candidate Starts for Landor\_70:

(37, 44539), (Start: 40 @44512 has 2 MA's), (46, 44488), (83, 44404), (87, 44365), (134, 44164), (135, 44161), (176, 43957), (201, 43825),

Gene: Langerak\_34 Start: 27955, Stop: 28818, Start Num: 41

Candidate Starts for Langerak\_34:

(Start: 41 @27955 has 44 MA's), (73, 28036), (79, 28060), (82, 28069), (85, 28096), (89, 28117), (119, 28213), (122, 28222), (123, 28237), (125, 28246), (139, 28348), (178, 28531), (191, 28585), (208, 28714), (216, 28756), (228, 28804),

Gene: LastJedi\_41 Start: 31571, Stop: 32380, Start Num: 43

Candidate Starts for LastJedi\_41:

(Start: 43 @31571 has 1 MA's), (Start: 56 @31601 has 11 MA's), (69, 31625), (71, 31628), (83, 31664), (84, 31667), (89, 31712), (122, 31820), (123, 31835), (134, 31904), (141, 31952), (171, 32069), (181, 32120), (197, 32216), (214, 32321), (215, 32327), (226, 32369), (229, 32375),

Gene: Latretium\_50 Start: 36344, Stop: 37345, Start Num: 22

Candidate Starts for Latretium\_50:

(Start: 22 @36344 has 60 MA's), (46, 36512), (55, 36533), (Start: 58 @36545 has 1 MA's), (80, 36611), (83, 36620), (87, 36656), (110, 36722), (112, 36728), (114, 36734), (119, 36761), (126, 36797), (127, 36800), (129, 36821), (132, 36842), (134, 36854), (135, 36857), (147, 36938), (160, 36983), (162, 36989), (164, 36995), (170, 37019), (173, 37046), (178, 37064), (182, 37085), (191, 37118), (193, 37136), (199, 37178), (209, 37244), (212, 37262), (216, 37283), (227, 37328),

Gene: LilMoolah\_46 Start: 35122, Stop: 36126, Start Num: 22

Candidate Starts for LilMoolah\_46:

(16, 34966), (Start: 22 @35122 has 60 MA's), (Start: 58 @35323 has 1 MA's), (80, 35389), (83, 35398), (87, 35434), (110, 35500), (112, 35506), (114, 35512), (119, 35539), (126, 35575), (127, 35578), (129, 35599), (132, 35620), (134, 35632), (135, 35635), (147, 35719), (160, 35764), (162, 35770), (164, 35776), (170, 35800), (173, 35827), (178, 35845), (182, 35866), (191, 35899), (199, 35959), (203, 35986), (209, 36025), (212, 36043), (216, 36064), (227, 36109), (231, 36118),

Gene: LittleShirley\_48 Start: 36153, Stop: 37157, Start Num: 22

Candidate Starts for LittleShirley\_48:

(Start: 22 @36153 has 60 MA's), (46, 36321), (55, 36342), (Start: 58 @36354 has 1 MA's), (80, 36420), (83, 36429), (87, 36465), (110, 36531), (119, 36570), (120, 36573), (123, 36594), (127, 36609), (129, 36630), (132, 36651), (134, 36663), (135, 36666), (147, 36750), (160, 36795), (162, 36801), (170, 36831), (173, 36858), (178, 36876), (182, 36897), (191, 36930), (193, 36948), (199, 36990), (203, 37017), (209, 37056), (212, 37074), (216, 37095), (218, 37104), (227, 37140), (231, 37149),

Gene: MadMen\_42 Start: 34172, Stop: 35179, Start Num: 22

Candidate Starts for MadMen\_42:

(1, 33677), (2, 33728), (6, 33851), (7, 33857), (9, 33872), (12, 33926), (14, 33998), (15, 34007), (Start: 22 @34172 has 60 MA's), (55, 34364), (Start: 58 @34376 has 1 MA's), (80, 34442), (83, 34451), (87, 34487), (110, 34553), (114, 34565), (119, 34592), (123, 34616), (127, 34631), (129, 34652), (132, 34673), (134, 34685), (135, 34688), (147, 34772), (160, 34817), (162, 34823), (164, 34829), (170, 34853), (173, 34880), (178, 34898), (182, 34919), (191, 34952), (199, 35012), (203, 35039), (209, 35078), (212, 35096), (216, 35117), (218, 35126), (227, 35162), (231, 35171),

Gene: Madiba\_43 Start: 33464, Stop: 34468, Start Num: 22

Candidate Starts for Madiba\_43:

(Start: 22 @33464 has 60 MA's), (55, 33653), (Start: 58 @33665 has 1 MA's), (80, 33731), (83, 33740), (87, 33776), (110, 33842), (114, 33854), (119, 33881), (123, 33905), (127, 33920), (129, 33941), (132, 33962), (134, 33974), (135, 33977), (147, 34061), (160, 34106), (162, 34112), (170, 34142), (173, 34169), (178, 34187), (182, 34208), (191, 34241), (199, 34301), (203, 34328), (209, 34367), (212, 34385), (216, 34406), (218, 34415), (227, 34451), (231, 34460),

Gene: Majeke\_34 Start: 27977, Stop: 28843, Start Num: 41

Candidate Starts for Majeke\_34:

(Start: 41 @27977 has 44 MA's), (73, 28058), (79, 28082), (82, 28091), (89, 28139), (122, 28247), (123, 28262), (139, 28373), (178, 28556), (191, 28610), (208, 28739), (216, 28781), (228, 28829),

Gene: Malachai\_44 Start: 35305, Stop: 36069, Start Num: 66

Candidate Starts for Malachai\_44:

(21, 35065), (28, 35119), (35, 35164), (Start: 40 @35230 has 2 MA's), (Start: 66 @35305 has 17 MA's), (71, 35320), (84, 35359), (92, 35416), (117, 35494), (120, 35506), (123, 35527), (134, 35596), (157, 35692), (175, 35782), (210, 35974),

Gene: Malithi\_34 Start: 27862, Stop: 28728, Start Num: 41

Candidate Starts for Malithi\_34:

(Start: 41 @27862 has 44 MA's), (73, 27943), (79, 27967), (82, 27976), (85, 28003), (89, 28024), (122, 28132), (123, 28147), (139, 28258), (178, 28441), (191, 28495), (216, 28666), (228, 28714),

Gene: Mangethe\_34 Start: 27977, Stop: 28843, Start Num: 41

Candidate Starts for Mangethe\_34:

(Start: 41 @27977 has 44 MA's), (73, 28058), (79, 28082), (82, 28091), (89, 28139), (122, 28247), (123, 28262), (139, 28373), (178, 28556), (191, 28610), (208, 28739), (216, 28781), (228, 28829),

Gene: Mantra\_44 Start: 34639, Stop: 35643, Start Num: 22

Candidate Starts for Mantra\_44:

(Start: 22 @34639 has 60 MA's), (55, 34828), (Start: 58 @34840 has 1 MA's), (80, 34906), (83, 34915), (87, 34951), (110, 35017), (114, 35029), (119, 35056), (123, 35080), (127, 35095), (129, 35116), (132, 35137), (134, 35149), (135, 35152), (147, 35236), (160, 35281), (162, 35287), (170, 35317), (173, 35344), (178, 35362), (182, 35383), (191, 35416), (199, 35476), (203, 35503), (209, 35542), (212, 35560), (216, 35581), (218, 35590), (227, 35626), (231, 35635),

Gene: Marker\_51 Start: 35024, Stop: 36025, Start Num: 22

Candidate Starts for Marker\_51:

(Start: 22 @35024 has 60 MA's), (46, 35192), (55, 35213), (Start: 58 @35225 has 1 MA's), (80, 35291), (83, 35300), (87, 35336), (110, 35402), (119, 35441), (120, 35444), (126, 35477), (127, 35480), (129, 35501), (132, 35522), (134, 35534), (135, 35537), (147, 35618), (160, 35663), (162, 35669), (170, 35699), (173, 35726), (178, 35744), (179, 35747), (182, 35765), (191, 35798), (193, 35816), (199, 35858), (203, 35885), (209, 35924), (212, 35942), (216, 35963), (218, 35972), (227, 36008), (231, 36017),

Gene: Megiddo\_34 Start: 28196, Stop: 29059, Start Num: 41

Candidate Starts for Megiddo\_34:

(Start: 41 @28196 has 44 MA's), (73, 28277), (79, 28301), (82, 28310), (89, 28358), (97, 28382), (122, 28463), (123, 28478), (139, 28589), (178, 28772), (191, 28826), (208, 28955), (216, 28997), (228, 29045),

Gene: Mellie\_43 Start: 33024, Stop: 33788, Start Num: 66

Candidate Starts for Mellie\_43:

(19, 32739), (28, 32838), (Start: 40 @32949 has 2 MA's), (Start: 66 @33024 has 17 MA's), (89, 33123), (122, 33231), (123, 33246), (134, 33315), (157, 33411), (175, 33501), (179, 33519), (210, 33693),

Gene: Min1\_10 Start: 3743, Stop: 4495, Start Num: 74

Candidate Starts for Min1\_10:

(53, 3686), (70, 3734), (74, 3743), (76, 3749), (80, 3773), (85, 3809), (103, 3881), (121, 3935), (151, 4118), (179, 4235), (199, 4346), (211, 4418), (221, 4466),

Gene: MissRona\_47 Start: 35196, Stop: 35957, Start Num: 66

Candidate Starts for MissRona\_47:

(Start: 66 @35196 has 17 MA's), (71, 35211), (94, 35313), (105, 35346), (119, 35391), (122, 35400), (123, 35415), (134, 35484), (157, 35580), (175, 35670), (210, 35862),

Gene: MisterCuddles\_47 Start: 35732, Stop: 36736, Start Num: 22

Candidate Starts for MisterCuddles\_47:

(Start: 22 @35732 has 60 MA's), (55, 35921), (Start: 58 @35933 has 1 MA's), (80, 35999), (83, 36008), (87, 36044), (110, 36110), (114, 36122), (119, 36149), (123, 36173), (127, 36188), (129, 36209), (132, 36230), (134, 36242), (135, 36245), (147, 36329), (160, 36374), (162, 36380), (170, 36410), (173, 36437), (178, 36455), (182, 36476), (191, 36509), (199, 36569), (203, 36596), (209, 36635), (212, 36653), (216, 36674), (218, 36683), (227, 36719), (231, 36728),

Gene: MortyNRick\_52 Start: 37859, Stop: 38608, Start Num: 61

Candidate Starts for MortyNRick\_52:

(Start: 61 @37859 has 7 MA's), (83, 37925), (84, 37928), (89, 37973), (107, 38024), (114, 38042), (123, 38093), (149, 38231), (167, 38309), (196, 38453), (214, 38546),

Gene: Murp\_47 Start: 36766, Stop: 37527, Start Num: 66

Candidate Starts for Murp\_47:

(Start: 40 @36691 has 2 MA's), (Start: 66 @36766 has 17 MA's), (71, 36781), (93, 36880), (98, 36892), (114, 36934), (119, 36961), (132, 37042), (134, 37054), (157, 37150), (175, 37240), (190, 37306), (210, 37432),

Gene: Nazo\_38 Start: 30066, Stop: 30869, Start Num: 48

Candidate Starts for Nazo\_38:

(Start: 48 @30066 has 4 MA's), (84, 30168), (87, 30204), (134, 30396), (151, 30492), (171, 30576), (184, 30642), (185, 30645), (191, 30669), (195, 30723), (205, 30762), (206, 30783), (207, 30786), (222, 30855),

Gene: Necropolis\_34 Start: 27936, Stop: 28802, Start Num: 41

Candidate Starts for Necropolis\_34:

(Start: 41 @27936 has 44 MA's), (73, 28017), (79, 28041), (82, 28050), (89, 28098), (122, 28206), (123, 28221), (139, 28332), (178, 28515), (191, 28569), (208, 28698), (216, 28740), (228, 28788),

Gene: Neeharika16\_69 Start: 41586, Stop: 40738, Start Num: 39

Candidate Starts for Neeharika16\_69:

(Start: 39 @41586 has 11 MA's), (Start: 40 @41577 has 2 MA's), (46, 41553), (83, 41463), (87, 41424), (95, 41394), (102, 41370), (109, 41352), (110, 41349), (121, 41310), (127, 41277), (134, 41223), (149, 41136), (150, 41133), (176, 41013), (187, 40974), (201, 40881), (216, 40800),

Gene: Newrala\_72 Start: 42117, Stop: 41278, Start Num: 39

Candidate Starts for Newrala\_72:

(Start: 39 @42117 has 11 MA's), (Start: 40 @42108 has 2 MA's), (46, 42084), (83, 41994), (87, 41955), (89, 41946), (100, 41913), (110, 41883), (121, 41850), (134, 41763), (149, 41676), (150, 41673), (176, 41553), (187, 41514), (201, 41421), (216, 41340),

Gene: Nivrat\_45 Start: 34995, Stop: 35999, Start Num: 22

Candidate Starts for Nivrat\_45:

(16, 34839), (Start: 22 @34995 has 60 MA's), (Start: 58 @35196 has 1 MA's), (80, 35262), (83, 35271), (87, 35307), (110, 35373), (112, 35379), (114, 35385), (119, 35412), (126, 35448), (127, 35451), (129, 35472), (132, 35493), (134, 35505), (135, 35508), (147, 35592), (160, 35637), (162, 35643), (164, 35649), (170, 35673), (173, 35700), (178, 35718), (182, 35739), (191, 35772), (199, 35832), (203, 35859), (209, 35898), (212, 35916), (216, 35937), (227, 35982), (231, 35991),

Gene: Odin\_74 Start: 43407, Stop: 42565, Start Num: 50

Candidate Starts for Odin\_74:

(Start: 50 @43407 has 3 MA's), (87, 43275), (98, 43236), (102, 43221), (111, 43203), (119, 43167), (121, 43161), (127, 43128), (132, 43086), (149, 42987), (150, 42984), (161, 42927), (174, 42852), (188, 42792), (190, 42783), (224, 42588),

Gene: Ogotogo\_48 Start: 34646, Stop: 35650, Start Num: 22

Candidate Starts for Ogotogo\_48:

(Start: 22 @34646 has 60 MA's), (46, 34814), (55, 34835), (Start: 58 @34847 has 1 MA's), (80, 34913), (83, 34922), (87, 34958), (110, 35024), (119, 35063), (120, 35066), (123, 35087), (127, 35102), (129, 35123), (132, 35144), (134, 35156), (135, 35159), (147, 35243), (162, 35294), (164, 35300), (173, 35351), (178, 35369), (182, 35390), (191, 35423), (193, 35441), (199, 35483), (203, 35510), (212, 35567), (218, 35597), (227, 35633), (228, 35636),

Gene: Oregano\_48 Start: 33939, Stop: 34688, Start Num: 61

Candidate Starts for Oregano\_48:

(32, 33786), (42, 33894), (Start: 61 @33939 has 7 MA's), (71, 33969), (80, 33996), (83, 34005), (114, 34122), (119, 34149), (123, 34173), (127, 34188), (131, 34218), (148, 34308), (149, 34311), (196, 34533),

Gene: PMC\_42 Start: 34542, Stop: 35546, Start Num: 22

Candidate Starts for PMC\_42:

(Start: 22 @34542 has 60 MA's), (55, 34731), (Start: 58 @34743 has 1 MA's), (80, 34809), (83, 34818), (87, 34854), (110, 34920), (114, 34932), (119, 34959), (123, 34983), (127, 34998), (129, 35019), (132, 35040), (134, 35052), (135, 35055), (147, 35139), (160, 35184), (162, 35190), (170, 35220), (173, 35247), (178, 35265), (182, 35286), (191, 35319), (199, 35379), (209, 35445), (212, 35463), (216, 35484), (218, 35493), (227, 35529), (231, 35538),

Gene: Pepperoni\_38 Start: 29786, Stop: 30508, Start Num: 69

Candidate Starts for Pepperoni\_38:

(Start: 61 @29759 has 7 MA's), (69, 29786), (71, 29789), (84, 29828), (89, 29873), (107, 29924), (114, 29942), (123, 29993), (149, 30131), (159, 30182), (196, 30353),

Gene: Ph8s\_77 Start: 43456, Stop: 42623, Start Num: 50

Candidate Starts for Ph8s\_77:

(Start: 40 @43483 has 2 MA's), (Start: 50 @43456 has 3 MA's), (68, 43405), (86, 43330), (87, 43324), (101, 43285), (123, 43195), (134, 43126), (183, 42886), (186, 42877), (204, 42772), (230, 42646), (231, 42643), (233, 42631),

Gene: Phaded\_67 Start: 44471, Stop: 43656, Start Num: 40

Candidate Starts for Phaded\_67:

(37, 44498), (Start: 40 @44471 has 2 MA's), (52, 44438), (83, 44354), (87, 44315), (90, 44303), (111, 44246), (116, 44225), (138, 44093), (201, 43802),

Gene: Phalconet\_46 Start: 34873, Stop: 35877, Start Num: 22

Candidate Starts for Phalconet\_46:

(Start: 22 @34873 has 60 MA's), (46, 35041), (55, 35062), (Start: 58 @35074 has 1 MA's), (72, 35107), (77, 35122), (80, 35140), (83, 35149), (87, 35185), (100, 35233), (110, 35251), (114, 35263), (119, 35290), (123, 35314), (126, 35326), (127, 35329), (129, 35350), (132, 35371), (134, 35383), (135, 35386), (143, 35458), (147, 35470), (162, 35521), (173, 35578), (178, 35596), (182, 35617), (191, 35650), (193, 35668), (199, 35710), (209, 35776), (212, 35794), (216, 35815), (227, 35860), (231, 35869),

Gene: Phalm\_34 Start: 28196, Stop: 29059, Start Num: 41

Candidate Starts for Phalm\_34:

(Start: 41 @28196 has 44 MA's), (73, 28277), (79, 28301), (82, 28310), (89, 28358), (97, 28382), (122, 28463), (123, 28478), (139, 28589), (178, 28772), (191, 28826), (208, 28955), (216, 28997), (228, 29045),

Gene: Phasih\_45 Start: 35085, Stop: 36089, Start Num: 22

Candidate Starts for Phasih\_45:

(16, 34929), (Start: 22 @35085 has 60 MA's), (Start: 58 @35286 has 1 MA's), (80, 35352), (83, 35361), (87, 35397), (110, 35463), (114, 35475), (119, 35502), (123, 35526), (127, 35541), (129, 35562), (132, 35583), (134, 35595), (135, 35598), (147, 35682), (160, 35727), (162, 35733), (170, 35763), (173, 35790), (178, 35808), (182, 35829), (191, 35862), (199, 35922), (209, 35988), (212, 36006), (216, 36027), (218, 36036), (227, 36072), (231, 36081),

Gene: Phayonce\_36 Start: 29962, Stop: 30771, Start Num: 48

Candidate Starts for Phayonce\_36:

(Start: 48 @29962 has 4 MA's), (80, 30052), (81, 30058), (134, 30298), (151, 30394), (171, 30478), (184, 30544), (185, 30547), (191, 30571), (205, 30664), (206, 30685), (222, 30757),

Gene: Phegasus\_34 Start: 27944, Stop: 28810, Start Num: 41

Candidate Starts for Phegasus\_34:

(Start: 41 @27944 has 44 MA's), (73, 28025), (79, 28049), (82, 28058), (89, 28106), (122, 28214), (123, 28229), (139, 28340), (178, 28523), (191, 28577), (208, 28706), (216, 28748), (228, 28796),

Gene: PhesterPhotato\_50 Start: 35828, Stop: 36832, Start Num: 22

Candidate Starts for PhesterPhotato\_50:

(Start: 22 @35828 has 60 MA's), (46, 35996), (55, 36017), (Start: 58 @36029 has 1 MA's), (72, 36062), (77, 36077), (80, 36095), (83, 36104), (87, 36140), (100, 36188), (110, 36206), (114, 36218), (119, 36245), (123, 36269), (126, 36281), (127, 36284), (129, 36305), (132, 36326), (134, 36338), (135, 36341), (143, 36413), (147, 36425), (162, 36476), (173, 36533), (178, 36551), (182, 36572), (191, 36605), (193, 36623), (199, 36665), (209, 36731), (212, 36749), (216, 36770), (227, 36815), (231, 36824),

Gene: Phineas\_34 Start: 28307, Stop: 29173, Start Num: 41

Candidate Starts for Phineas\_34:

(Start: 41 @28307 has 44 MA's), (73, 28388), (79, 28412), (82, 28421), (89, 28469), (122, 28577), (123, 28592), (139, 28703), (178, 28886), (191, 28940), (208, 29069), (216, 29111), (228, 29159),

Gene: Phistory\_58 Start: 36964, Stop: 37761, Start Num: 60

Candidate Starts for Phistory\_58:

(Start: 60 @36964 has 1 MA's), (71, 36991), (89, 37075), (98, 37111), (103, 37132), (104, 37138), (118, 37192), (123, 37219), (134, 37288), (147, 37357), (157, 37390), (202, 37633), (210, 37675), (219, 37720),

Gene: PhorbesPhlower\_43 Start: 29950, Stop: 30699, Start Num: 61

Candidate Starts for PhorbesPhlower\_43:

(Start: 61 @29950 has 7 MA's), (69, 29977), (71, 29980), (84, 30019), (89, 30064), (107, 30115), (114, 30133), (123, 30184), (149, 30322), (159, 30373), (196, 30544),

Gene: PhriskyACE\_45 Start: 34290, Stop: 35057, Start Num: 59

Candidate Starts for PhriskyACE\_45:

(Start: 59 @34290 has 1 MA's), (69, 34317), (71, 34320), (80, 34347), (88, 34404), (94, 34422), (122, 34512), (123, 34527), (126, 34539), (142, 34650), (171, 34764), (175, 34788), (179, 34806), (183, 34827), (184, 34830), (185, 34833), (191, 34857), (194, 34908), (195, 34911),

Gene: Pippy\_45 Start: 33164, Stop: 33943, Start Num: 56

Candidate Starts for Pippy\_45:

(Start: 43 @33134 has 1 MA's), (Start: 56 @33164 has 11 MA's), (69, 33188), (71, 33191), (83, 33227), (84, 33230), (89, 33275), (122, 33383), (123, 33398), (134, 33467), (141, 33515), (171, 33632), (181, 33683), (197, 33779), (214, 33884), (215, 33890), (226, 33932), (229, 33938),

Gene: Pmask\_71 Start: 42122, Stop: 41274, Start Num: 39

Candidate Starts for Pmask\_71:

(Start: 39 @42122 has 11 MA's), (Start: 40 @42113 has 2 MA's), (46, 42089), (83, 41999), (87, 41960), (95, 41930), (102, 41906), (109, 41888), (110, 41885), (121, 41846), (127, 41813), (134, 41759), (149, 41672), (150, 41669), (176, 41549), (187, 41510), (201, 41417), (216, 41336),

Gene: Poenanya\_47 Start: 36071, Stop: 37075, Start Num: 22

Candidate Starts for Poenanya\_47:

(Start: 22 @36071 has 60 MA's), (55, 36260), (Start: 58 @36272 has 1 MA's), (80, 36338), (83, 36347), (87, 36383), (110, 36449), (114, 36461), (119, 36488), (123, 36512), (127, 36527), (129, 36548), (132, 36569), (134, 36581), (135, 36584), (147, 36668), (160, 36713), (162, 36719), (170, 36749), (173, 36776), (178, 36794), (182, 36815), (191, 36848), (199, 36908), (203, 36935), (209, 36974), (212, 36992), (216, 37013), (218, 37022), (227, 37058), (231, 37067),

Gene: Polkaroo\_34 Start: 27953, Stop: 28816, Start Num: 41

Candidate Starts for Polkaroo\_34:

(Start: 41 @27953 has 44 MA's), (73, 28034), (79, 28058), (82, 28067), (89, 28115), (97, 28139), (122, 28220), (123, 28235), (139, 28346), (178, 28529), (191, 28583), (208, 28712), (216, 28754), (228, 28802),

Gene: Pollywog\_46 Start: 35249, Stop: 36253, Start Num: 22

Candidate Starts for Pollywog\_46:

(Start: 22 @35249 has 60 MA's), (55, 35438), (Start: 58 @35450 has 1 MA's), (80, 35516), (83, 35525), (87, 35561), (110, 35627), (114, 35639), (119, 35666), (123, 35690), (127, 35705), (129, 35726), (132, 35747), (134, 35759), (135, 35762), (147, 35846), (160, 35891), (162, 35897), (170, 35927), (173, 35954), (178, 35972), (182, 35993), (191, 36026), (199, 36086), (209, 36152), (212, 36170), (216, 36191), (218, 36200), (227, 36236), (231, 36245),

Gene: PopTart\_43 Start: 34554, Stop: 35558, Start Num: 22

Candidate Starts for PopTart\_43:

(Start: 22 @34554 has 60 MA's), (46, 34722), (55, 34743), (Start: 58 @34755 has 1 MA's), (72, 34788), (77, 34803), (80, 34821), (83, 34830), (87, 34866), (100, 34914), (110, 34932), (114, 34944), (119, 34971), (123, 34995), (126, 35007), (127, 35010), (129, 35031), (132, 35052), (134, 35064), (135, 35067), (143, 35139), (147, 35151), (160, 35196), (162, 35202), (170, 35232), (173, 35259), (178, 35277), (179, 35280), (182, 35298), (191, 35331), (193, 35349), (199, 35391), (209, 35457), (212, 35475), (216, 35496), (227, 35541),

Gene: Priamo\_74 Start: 41728, Stop: 41129, Start Num: 115

Candidate Starts for Priamo\_74:

(Start: 115 @41728 has 2 MA's), (121, 41701), (127, 41668), (134, 41614), (149, 41527), (150, 41524), (176, 41404), (187, 41365), (201, 41272), (216, 41191),

Gene: Pukovnik\_68 Start: 44139, Stop: 43324, Start Num: 39

Candidate Starts for Pukovnik\_68:

(Start: 39 @44139 has 11 MA's), (Start: 40 @44130 has 2 MA's), (47, 44106), (74, 44049), (75, 44046), (81, 44025), (83, 44022), (87, 43983), (89, 43974), (96, 43947), (98, 43944), (121, 43878), (122, 43875), (148, 43725), (169, 43641), (172, 43626), (176, 43599), (201, 43467),

Gene: Purky\_41 Start: 30689, Stop: 31480, Start Num: 48

Candidate Starts for Purky\_41:

(Start: 48 @30689 has 4 MA's), (84, 30788), (87, 30824), (119, 30923), (134, 31016), (171, 31196), (179, 31238), (184, 31262), (185, 31265), (191, 31289), (194, 31340), (195, 31343), (205, 31382), (206, 31403), (217, 31454),

Gene: Pygmy\_36 Start: 29778, Stop: 30644, Start Num: 41

Candidate Starts for Pygmy\_36:

(Start: 41 @29778 has 44 MA's), (73, 29859), (79, 29883), (82, 29892), (85, 29919), (89, 29940), (122, 30048), (123, 30063), (139, 30174), (178, 30357), (191, 30411), (216, 30582), (228, 30630),

Gene: QueenHazel\_32 Start: 27811, Stop: 28680, Start Num: 41

Candidate Starts for QueenHazel\_32:

(Start: 41 @27811 has 44 MA's), (79, 27919), (82, 27928), (89, 27976), (122, 28084), (123, 28099), (139, 28210), (178, 28393), (191, 28447), (208, 28576), (216, 28618), (228, 28666),

Gene: Quico\_55 Start: 35977, Stop: 36771, Start Num: 56

Candidate Starts for Quico\_55:

(Start: 56 @35977 has 11 MA's), (71, 36019), (83, 36055), (84, 36058), (87, 36094), (108, 36154), (122, 36211), (123, 36226), (134, 36295), (141, 36343), (171, 36460), (181, 36511), (197, 36607), (214, 36712), (215, 36718), (226, 36760), (229, 36766),

Gene: REQ2\_43 Start: 33255, Stop: 34112, Start Num: 38

Candidate Starts for REQ2\_43:

(38, 33255), (Start: 56 @33318 has 11 MA's), (57, 33324), (71, 33360), (119, 33540), (126, 33576), (134, 33633), (148, 33699), (168, 33783), (212, 34029), (213, 34032),

Gene: RedBird\_44 Start: 34882, Stop: 35886, Start Num: 22

Candidate Starts for RedBird\_44:

(Start: 22 @34882 has 60 MA's), (55, 35071), (Start: 58 @35083 has 1 MA's), (80, 35149), (83, 35158), (87, 35194), (110, 35260), (114, 35272), (119, 35299), (123, 35323), (127, 35338), (129, 35359), (132, 35380), (134, 35392), (135, 35395), (147, 35479), (160, 35524), (162, 35530), (170, 35560), (173, 35587), (178, 35605), (182, 35626), (191, 35659), (199, 35719), (203, 35746), (209, 35785), (212, 35803), (216, 35824), (218, 35833), (227, 35869), (231, 35878),

Gene: Rockne\_45 Start: 34542, Stop: 35546, Start Num: 22

Candidate Starts for Rockne\_45:

(Start: 22 @34542 has 60 MA's), (55, 34731), (Start: 58 @34743 has 1 MA's), (80, 34809), (83, 34818), (87, 34854), (110, 34920), (114, 34932), (119, 34959), (123, 34983), (127, 34998), (129, 35019), (132, 35040), (134, 35052), (135, 35055), (147, 35139), (160, 35184), (162, 35190), (170, 35220), (173, 35247), (178, 35265), (182, 35286), (191, 35319), (199, 35379), (209, 35445), (212, 35463), (216, 35484), (218, 35493), (227, 35529), (231, 35538),



Gene: RockyHorror\_48 Start: 34943, Stop: 35947, Start Num: 22

Candidate Starts for RockyHorror\_48:

(16, 34787), (Start: 22 @34943 has 60 MA's), (Start: 58 @35144 has 1 MA's), (80, 35210), (83, 35219), (87, 35255), (110, 35321), (114, 35333), (119, 35360), (123, 35384), (127, 35399), (129, 35420), (132, 35441), (134, 35453), (135, 35456), (147, 35540), (160, 35585), (162, 35591), (170, 35621), (173, 35648), (178, 35666), (182, 35687), (191, 35720), (199, 35780), (209, 35846), (212, 35864), (216, 35885), (218, 35894), (227, 35930), (231, 35939),

Gene: Ruby\_46 Start: 35733, Stop: 36737, Start Num: 22

Candidate Starts for Ruby\_46:

(Start: 22 @35733 has 60 MA's), (55, 35922), (Start: 58 @35934 has 1 MA's), (80, 36000), (83, 36009), (87, 36045), (110, 36111), (114, 36123), (119, 36150), (123, 36174), (127, 36189), (129, 36210), (132, 36231), (134, 36243), (135, 36246), (147, 36330), (160, 36375), (162, 36381), (170, 36411), (173, 36438), (178, 36456), (182, 36477), (191, 36510), (199, 36570), (203, 36597), (209, 36636), (212, 36654), (216, 36675), (218, 36684), (227, 36720), (231, 36729),

Gene: Samba\_44 Start: 35414, Stop: 36175, Start Num: 66

Candidate Starts for Samba\_44:

(28, 35228), (Start: 40 @35339 has 2 MA's), (Start: 66 @35414 has 17 MA's), (71, 35429), (85, 35492), (105, 35564), (119, 35609), (122, 35618), (123, 35633), (134, 35702), (157, 35798), (175, 35888), (210, 36080),

Gene: SassyB\_43 Start: 34554, Stop: 35558, Start Num: 22

Candidate Starts for SassyB\_43:

(Start: 22 @34554 has 60 MA's), (46, 34722), (55, 34743), (Start: 58 @34755 has 1 MA's), (72, 34788), (77, 34803), (80, 34821), (83, 34830), (87, 34866), (100, 34914), (110, 34932), (114, 34944), (119, 34971), (123, 34995), (126, 35007), (127, 35010), (129, 35031), (132, 35052), (134, 35064), (135, 35067), (143, 35139), (147, 35151), (160, 35196), (162, 35202), (170, 35232), (173, 35259), (178, 35277), (179, 35280), (182, 35298), (191, 35331), (193, 35349), (199, 35391), (209, 35457), (212, 35475), (216, 35496), (227, 35541),

Gene: Seagreen\_48 Start: 35285, Stop: 36286, Start Num: 22

Candidate Starts for Seagreen\_48:

(Start: 22 @35285 has 60 MA's), (46, 35453), (55, 35474), (Start: 58 @35486 has 1 MA's), (72, 35519), (80, 35552), (83, 35561), (87, 35597), (110, 35663), (119, 35702), (120, 35705), (126, 35738), (127, 35741), (129, 35762), (132, 35783), (134, 35795), (135, 35798), (147, 35879), (160, 35924), (162, 35930), (170, 35960), (173, 35987), (178, 36005), (179, 36008), (182, 36026), (191, 36059), (193, 36077), (199, 36119), (209, 36185), (212, 36203), (216, 36224), (227, 36269),

Gene: Shipwreck\_36 Start: 29753, Stop: 30619, Start Num: 41

Candidate Starts for Shipwreck\_36:

(Start: 41 @29753 has 44 MA's), (73, 29834), (79, 29858), (82, 29867), (85, 29894), (89, 29915), (122, 30023), (123, 30038), (139, 30149), (178, 30332), (191, 30386), (216, 30557), (228, 30605),

Gene: ShroomBoi\_47 Start: 35208, Stop: 36212, Start Num: 22

Candidate Starts for ShroomBoi\_47:

(Start: 22 @35208 has 60 MA's), (46, 35376), (55, 35397), (Start: 58 @35409 has 1 MA's), (72, 35442), (77, 35457), (80, 35475), (83, 35484), (87, 35520), (100, 35568), (110, 35586), (114, 35598), (119, 35625), (123, 35649), (126, 35661), (127, 35664), (129, 35685), (132, 35706), (134, 35718), (135, 35721), (147, 35805), (160, 35850), (162, 35856), (170, 35886), (173, 35913), (178, 35931), (182, 35952), (191, 35985), (199, 36045), (212, 36129), (216, 36150), (218, 36159), (227, 36195), (231, 36204),

Gene: SiSi\_47 Start: 35103, Stop: 36107, Start Num: 22

Candidate Starts for SiSi\_47:

(Start: 22 @35103 has 60 MA's), (55, 35292), (Start: 58 @35304 has 1 MA's), (80, 35370), (83, 35379), (87, 35415), (110, 35481), (114, 35493), (119, 35520), (123, 35544), (127, 35559), (129, 35580), (132, 35601), (134, 35613), (135, 35616), (147, 35700), (160, 35745), (162, 35751), (170, 35781), (173, 35808), (178, 35826), (182, 35847), (191, 35880), (199, 35940), (203, 35967), (209, 36006), (212, 36024), (216, 36045), (218, 36054), (227, 36090), (231, 36099),

Gene: SimranZ1\_47 Start: 34553, Stop: 35554, Start Num: 22

Candidate Starts for SimranZ1\_47:

(Start: 22 @34553 has 60 MA's), (55, 34742), (Start: 58 @34754 has 1 MA's), (80, 34820), (83, 34829), (87, 34865), (110, 34931), (114, 34943), (119, 34970), (123, 34994), (127, 35009), (129, 35030), (132, 35051), (134, 35063), (135, 35066), (147, 35147), (160, 35192), (162, 35198), (164, 35204), (170, 35228), (173, 35255), (182, 35294), (191, 35327), (193, 35345), (199, 35387), (203, 35414), (209, 35453), (212, 35471), (216, 35492), (218, 35501), (227, 35537), (231, 35546),

Gene: Sonah\_34 Start: 27925, Stop: 28791, Start Num: 41

Candidate Starts for Sonah\_34:

(Start: 41 @27925 has 44 MA's), (73, 28006), (79, 28030), (82, 28039), (85, 28066), (89, 28087), (122, 28195), (123, 28210), (139, 28321), (178, 28504), (191, 28558), (208, 28687), (216, 28729), (228, 28777),

Gene: Squirty\_40 Start: 32337, Stop: 33116, Start Num: 56

Candidate Starts for Squirty\_40:

(Start: 43 @32307 has 1 MA's), (Start: 56 @32337 has 11 MA's), (69, 32361), (71, 32364), (83, 32400), (84, 32403), (89, 32448), (122, 32556), (123, 32571), (134, 32640), (141, 32688), (171, 32805), (181, 32856), (197, 32952), (214, 33057), (215, 33063), (226, 33105), (229, 33111),

Gene: Stap\_46 Start: 34844, Stop: 35848, Start Num: 22

Candidate Starts for Stap\_46:

(Start: 22 @34844 has 60 MA's), (55, 35033), (Start: 58 @35045 has 1 MA's), (80, 35111), (83, 35120), (87, 35156), (110, 35222), (114, 35234), (119, 35261), (123, 35285), (127, 35300), (129, 35321), (132, 35342), (134, 35354), (135, 35357), (147, 35441), (160, 35486), (162, 35492), (170, 35522), (173, 35549), (178, 35567), (182, 35588), (191, 35621), (199, 35681), (203, 35708), (209, 35747), (212, 35765), (216, 35786), (218, 35795), (227, 35831), (231, 35840),

Gene: Starcevich\_47 Start: 35737, Stop: 36741, Start Num: 22

Candidate Starts for Starcevich\_47:

(Start: 22 @35737 has 60 MA's), (55, 35926), (Start: 58 @35938 has 1 MA's), (80, 36004), (83, 36013), (87, 36049), (110, 36115), (114, 36127), (119, 36154), (123, 36178), (127, 36193), (129, 36214), (132, 36235), (134, 36247), (135, 36250), (147, 36334), (160, 36379), (162, 36385), (170, 36415), (173, 36442), (178, 36460), (182, 36481), (191, 36514), (199, 36574), (203, 36601), (209, 36640), (212, 36658), (216, 36679), (218, 36688), (227, 36724), (231, 36733),

Gene: StevieRay\_34 Start: 27895, Stop: 28758, Start Num: 41

Candidate Starts for StevieRay\_34:

(Start: 41 @27895 has 44 MA's), (79, 28000), (82, 28009), (89, 28057), (97, 28081), (122, 28162), (123, 28177), (139, 28288), (178, 28471), (191, 28525), (208, 28654), (216, 28696), (228, 28744),

Gene: StressBall\_34 Start: 28196, Stop: 29059, Start Num: 41

Candidate Starts for StressBall\_34:

(Start: 41 @28196 has 44 MA's), (73, 28277), (79, 28301), (82, 28310), (89, 28358), (97, 28382), (122, 28463), (123, 28478), (139, 28589), (178, 28772), (191, 28826), (208, 28955), (216, 28997), (228,

29045),

Gene: SuperAwesome\_72 Start: 42164, Stop: 41316, Start Num: 39

Candidate Starts for SuperAwesome\_72:

(Start: 39 @42164 has 11 MA's), (Start: 40 @42155 has 2 MA's), (46, 42131), (83, 42041), (87, 42002), (95, 41972), (102, 41948), (109, 41930), (110, 41927), (121, 41888), (127, 41855), (134, 41801), (149, 41714), (150, 41711), (176, 41591), (187, 41552), (201, 41459), (216, 41378),

Gene: SuperCallie99\_69 Start: 42006, Stop: 41158, Start Num: 39

Candidate Starts for SuperCallie99\_69:

(Start: 39 @42006 has 11 MA's), (Start: 40 @41997 has 2 MA's), (46, 41973), (83, 41883), (87, 41844), (95, 41814), (102, 41790), (109, 41772), (110, 41769), (121, 41730), (127, 41697), (134, 41643), (149, 41556), (150, 41553), (176, 41433), (187, 41394), (201, 41301), (216, 41220),

Gene: SuperGrey\_48 Start: 36177, Stop: 37181, Start Num: 22

Candidate Starts for SuperGrey\_48:

(Start: 22 @36177 has 60 MA's), (46, 36345), (55, 36366), (Start: 58 @36378 has 1 MA's), (72, 36411), (77, 36426), (80, 36444), (83, 36453), (87, 36489), (100, 36537), (110, 36555), (114, 36567), (119, 36594), (123, 36618), (126, 36630), (127, 36633), (129, 36654), (132, 36675), (134, 36687), (135, 36690), (143, 36762), (147, 36774), (162, 36825), (164, 36831), (173, 36882), (178, 36900), (182, 36921), (191, 36954), (193, 36972), (199, 37014), (203, 37041), (212, 37098), (218, 37128), (227, 37164), (228, 37167),

Gene: Superchunk\_75 Start: 43021, Stop: 42170, Start Num: 50

Candidate Starts for Superchunk\_75:

(Start: 40 @43054 has 2 MA's), (Start: 50 @43021 has 3 MA's), (68, 42970), (81, 42931), (87, 42889), (134, 42673), (172, 42493), (183, 42433), (186, 42424), (204, 42319),

Gene: Techage\_34 Start: 27962, Stop: 28828, Start Num: 41

Candidate Starts for Techage\_34:

(Start: 41 @27962 has 44 MA's), (73, 28043), (79, 28067), (82, 28076), (89, 28124), (122, 28232), (123, 28247), (125, 28256), (139, 28358), (178, 28541), (191, 28595), (208, 28724), (216, 28766), (228, 28814),

Gene: Thespis\_34 Start: 27932, Stop: 28798, Start Num: 41

Candidate Starts for Thespis\_34:

(Start: 41 @27932 has 44 MA's), (73, 28013), (79, 28037), (82, 28046), (85, 28073), (89, 28094), (122, 28202), (123, 28217), (139, 28328), (178, 28511), (191, 28565), (208, 28694), (216, 28736), (228, 28784),

Gene: Totinger\_50 Start: 34879, Stop: 35883, Start Num: 22

Candidate Starts for Totinger\_50:

(Start: 22 @34879 has 60 MA's), (55, 35068), (Start: 58 @35080 has 1 MA's), (80, 35146), (83, 35155), (87, 35191), (110, 35257), (114, 35269), (119, 35296), (123, 35320), (127, 35335), (129, 35356), (132, 35377), (134, 35389), (135, 35392), (147, 35476), (160, 35521), (162, 35527), (170, 35557), (173, 35584), (178, 35602), (182, 35623), (191, 35656), (193, 35674), (199, 35716), (203, 35743), (209, 35782), (212, 35800), (216, 35821), (218, 35830), (227, 35866), (231, 35875),

Gene: Trixie\_70 Start: 43815, Stop: 43045, Start Num: 65

Candidate Starts for Trixie\_70:

(45, 43854), (Start: 65 @43815 has 1 MA's), (80, 43773), (90, 43713), (134, 43527), (201, 43188),

Gene: Tweety\_47 Start: 35615, Stop: 36619, Start Num: 22

Candidate Starts for Tweety\_47:

(Start: 22 @35615 has 60 MA's), (55, 35804), (Start: 58 @35816 has 1 MA's), (80, 35882), (83, 35891), (87, 35927), (110, 35993), (114, 36005), (119, 36032), (123, 36056), (127, 36071), (129, 36092), (132, 36113), (134, 36125), (135, 36128), (147, 36212), (160, 36257), (162, 36263), (170, 36293), (173, 36320), (178, 36338), (182, 36359), (191, 36392), (199, 36452), (203, 36479), (209, 36518), (212, 36536), (216, 36557), (218, 36566), (227, 36602), (231, 36611),

Gene: Utz\_39 Start: 34104, Stop: 34865, Start Num: 66

Candidate Starts for Utz\_39:

(28, 33918), (Start: 40 @34029 has 2 MA's), (Start: 66 @34104 has 17 MA's), (71, 34119), (85, 34182), (105, 34254), (119, 34299), (122, 34308), (123, 34323), (134, 34392), (157, 34488), (175, 34578), (210, 34770),

Gene: Venti\_34 Start: 27939, Stop: 28805, Start Num: 41

Candidate Starts for Venti\_34:

(Start: 41 @27939 has 44 MA's), (73, 28020), (79, 28044), (82, 28053), (89, 28101), (122, 28209), (123, 28224), (139, 28335), (178, 28518), (191, 28572), (208, 28701), (216, 28743), (228, 28791),

Gene: Veteran\_45 Start: 34747, Stop: 35751, Start Num: 22

Candidate Starts for Veteran\_45:

(Start: 22 @34747 has 60 MA's), (55, 34936), (Start: 58 @34948 has 1 MA's), (80, 35014), (83, 35023), (87, 35059), (110, 35125), (114, 35137), (119, 35164), (123, 35188), (127, 35203), (129, 35224), (132, 35245), (134, 35257), (135, 35260), (147, 35344), (160, 35389), (162, 35395), (170, 35425), (173, 35452), (178, 35470), (182, 35491), (191, 35524), (199, 35584), (203, 35611), (209, 35650), (212, 35668), (216, 35689), (218, 35698), (227, 35734), (231, 35743),

Gene: Vidya\_34 Start: 27972, Stop: 28838, Start Num: 41

Candidate Starts for Vidya\_34:

(Start: 41 @27972 has 44 MA's), (73, 28053), (79, 28077), (82, 28086), (89, 28134), (122, 28242), (123, 28257), (139, 28368), (178, 28551), (191, 28605), (208, 28734), (216, 28776), (228, 28824),

Gene: Wee\_50 Start: 36114, Stop: 37118, Start Num: 22

Candidate Starts for Wee\_50:

(Start: 22 @36114 has 60 MA's), (55, 36303), (Start: 58 @36315 has 1 MA's), (80, 36381), (83, 36390), (87, 36426), (110, 36492), (114, 36504), (119, 36531), (123, 36555), (127, 36570), (129, 36591), (132, 36612), (134, 36624), (135, 36627), (147, 36711), (160, 36756), (162, 36762), (170, 36792), (173, 36819), (178, 36837), (182, 36858), (191, 36891), (199, 36951), (203, 36978), (209, 37017), (212, 37035), (216, 37056), (218, 37065), (227, 37101), (231, 37110),

Gene: Willsammy\_33 Start: 27679, Stop: 28542, Start Num: 41

Candidate Starts for Willsammy\_33:

(Start: 41 @27679 has 44 MA's), (73, 27760), (79, 27784), (82, 27793), (89, 27841), (97, 27865), (122, 27946), (123, 27961), (139, 28072), (178, 28255), (191, 28309), (208, 28438), (216, 28480), (228, 28528),

Gene: WinkNick\_49 Start: 34309, Stop: 35058, Start Num: 61

Candidate Starts for WinkNick\_49:

(3, 33670), (4, 33724), (5, 33757), (8, 33796), (10, 33817), (11, 33850), (13, 33862), (17, 33985), (18, 34006), (31, 34153), (Start: 61 @34309 has 7 MA's), (71, 34339), (80, 34366), (83, 34375), (114, 34492), (119, 34519), (123, 34543), (127, 34558), (131, 34588), (148, 34678), (149, 34681), (196, 34903),

Gene: Wisp\_43 Start: 34155, Stop: 34916, Start Num: 66

Candidate Starts for Wisp\_43:

(21, 33915), (28, 33969), (Start: 40 @34080 has 2 MA's), (Start: 66 @34155 has 17 MA's), (71, 34170), (93, 34269), (98, 34281), (114, 34323), (119, 34350), (134, 34443), (157, 34539), (175, 34629), (210, 34821), (219, 34866),

Gene: Wocket\_45 Start: 33305, Stop: 34066, Start Num: 66

Candidate Starts for Wocket\_45:

(23, 33104), (Start: 40 @33230 has 2 MA's), (Start: 66 @33305 has 17 MA's), (71, 33320), (93, 33419), (98, 33431), (114, 33473), (119, 33500), (132, 33581), (134, 33593), (157, 33689), (175, 33779), (190, 33845), (210, 33971), (219, 34016),

Gene: Wrigley\_52 Start: 36935, Stop: 37699, Start Num: 59

Candidate Starts for Wrigley\_52:

(Start: 59 @36935 has 1 MA's), (69, 36962), (71, 36965), (83, 37001), (93, 37064), (98, 37076), (114, 37118), (119, 37145), (134, 37238), (142, 37292), (171, 37406), (175, 37430), (179, 37448), (183, 37469), (184, 37472), (185, 37475), (191, 37499), (194, 37550), (195, 37553), (206, 37613),

Gene: XianYue\_67 Start: 43032, Stop: 42220, Start Num: 51

Candidate Starts for XianYue\_67:

(27, 43182), (33, 43155), (Start: 39 @43077 has 11 MA's), (Start: 40 @43068 has 2 MA's), (Start: 51 @43032 has 3 MA's), (75, 42972), (80, 42957), (85, 42921), (87, 42909), (98, 42870), (106, 42843), (120, 42795), (127, 42759), (134, 42705), (172, 42522), (176, 42495), (188, 42450), (201, 42363),

Gene: Xula\_31 Start: 27335, Stop: 28204, Start Num: 41

Candidate Starts for Xula\_31:

(Start: 41 @27335 has 44 MA's), (79, 27443), (82, 27452), (89, 27500), (122, 27608), (123, 27623), (139, 27734), (178, 27917), (191, 27971), (208, 28100), (216, 28142), (228, 28190),

Gene: Yoshi\_60 Start: 36844, Stop: 38034, Start Num: 22

Candidate Starts for Yoshi\_60:

(Start: 22 @36844 has 60 MA's), (55, 37033), (Start: 58 @37045 has 1 MA's), (72, 37078), (77, 37093), (80, 37111), (83, 37120), (87, 37156), (100, 37204), (110, 37222), (114, 37234), (119, 37261), (123, 37285), (126, 37297), (127, 37300), (129, 37321), (132, 37342), (134, 37354), (135, 37357), (143, 37426), (147, 37438), (160, 37483), (162, 37489), (164, 37495), (170, 37519), (173, 37546), (178, 37564), (182, 37585), (191, 37618), (193, 37636), (199, 37678), (203, 37705), (209, 37744), (212, 37762), (216, 37783), (218, 37792), (225, 37819), (234, 37876), (235, 38017),

Gene: Zerg\_46 Start: 35052, Stop: 36056, Start Num: 22

Candidate Starts for Zerg\_46:

(16, 34896), (Start: 22 @35052 has 60 MA's), (Start: 58 @35253 has 1 MA's), (80, 35319), (83, 35328), (87, 35364), (110, 35430), (114, 35442), (119, 35469), (123, 35493), (127, 35508), (129, 35529), (132, 35550), (134, 35562), (135, 35565), (147, 35649), (160, 35694), (162, 35700), (170, 35730), (173, 35757), (178, 35775), (182, 35796), (191, 35829), (199, 35889), (209, 35955), (212, 35973), (216, 35994), (218, 36003), (227, 36039), (231, 36048),

Gene: ZiggyZoo\_46 Start: 35375, Stop: 36136, Start Num: 66

Candidate Starts for ZiggyZoo\_46:

(19, 35090), (28, 35189), (Start: 66 @35375 has 17 MA's), (71, 35390), (93, 35489), (98, 35501), (114, 35543), (119, 35570), (134, 35663), (157, 35759), (175, 35849), (210, 36041),

Gene: Zilizebeth\_34 Start: 27971, Stop: 28837, Start Num: 41

Candidate Starts for Zilizebeth\_34:

(Start: 41 @27971 has 44 MA's), (73, 28052), (79, 28076), (82, 28085), (89, 28133), (122, 28241), (123, 28256), (139, 28367), (178, 28550), (191, 28604), (208, 28733), (216, 28775), (228, 28823),

Gene: Zizzle\_51 Start: 36006, Stop: 36785, Start Num: 56

Candidate Starts for Zizzle\_51:

(Start: 43 @35976 has 1 MA's), (Start: 56 @36006 has 11 MA's), (69, 36030), (71, 36033), (83, 36069), (84, 36072), (89, 36117), (122, 36225), (123, 36240), (134, 36309), (141, 36357), (171, 36474), (181, 36525), (197, 36621), (214, 36726), (215, 36732), (226, 36774), (229, 36780),