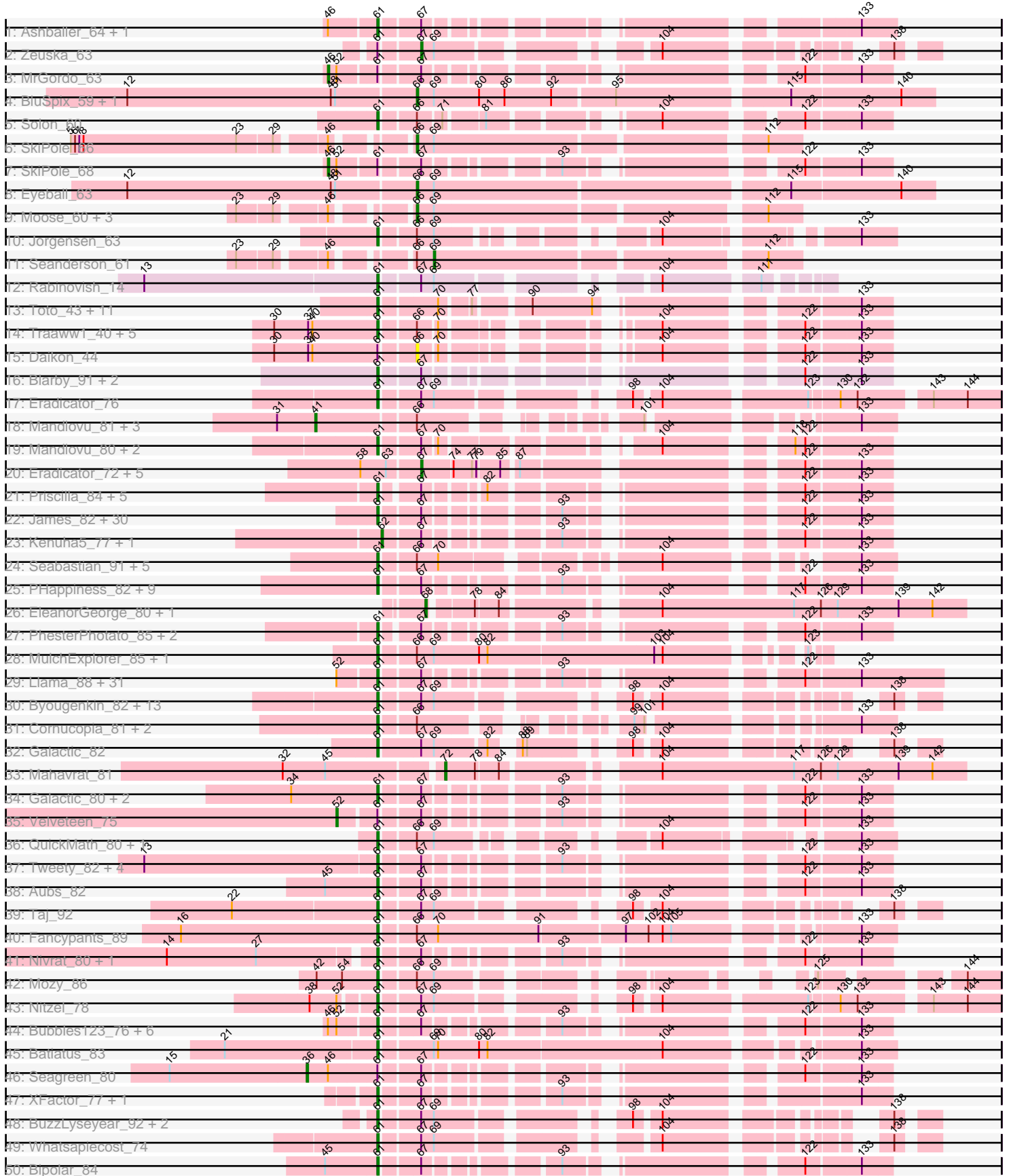
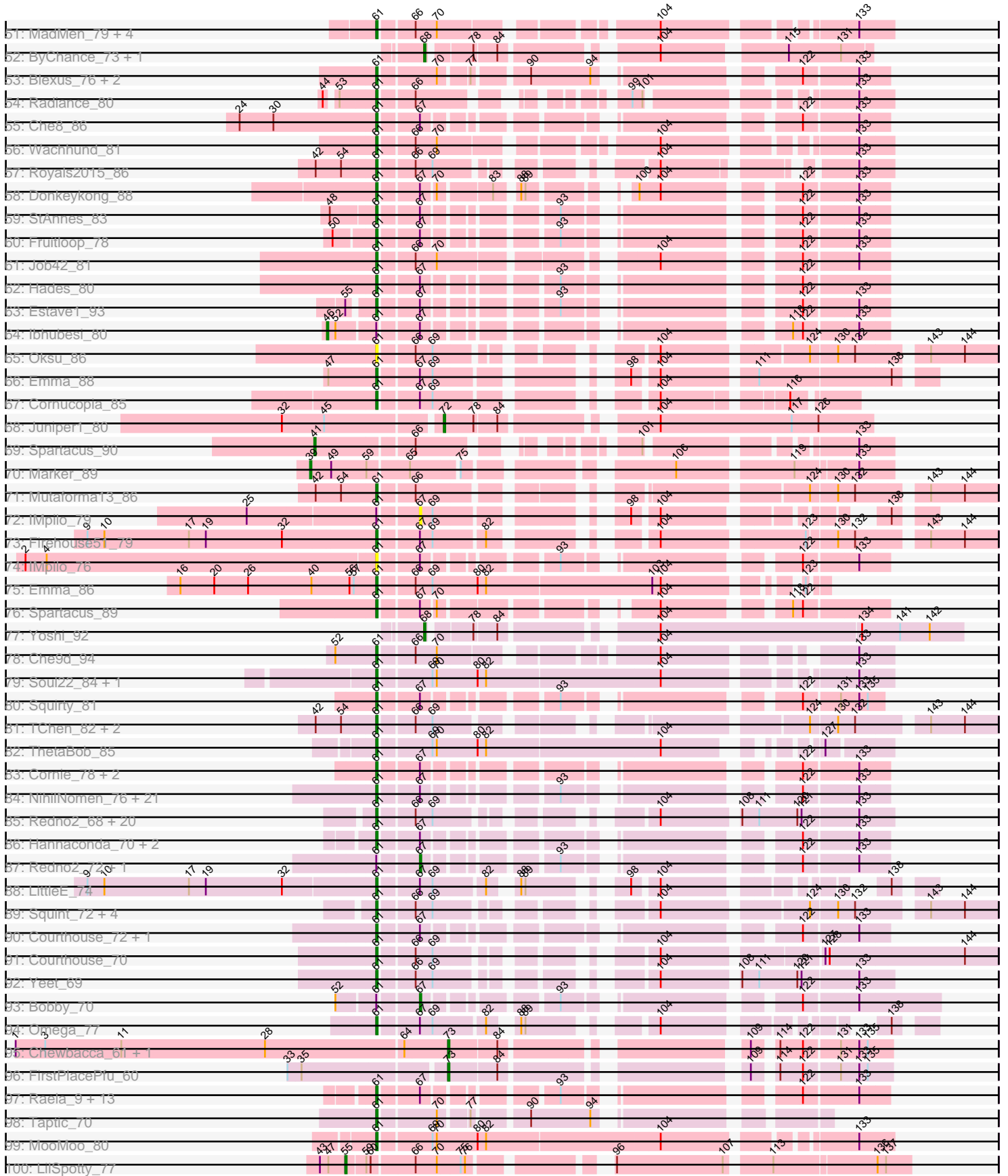


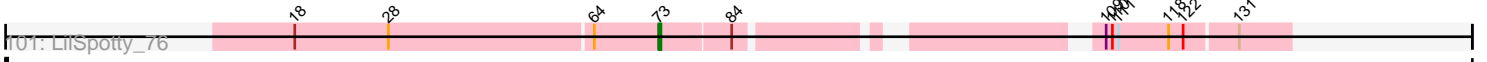
Pham 196227



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Gene Name	Start Coordinate	End Coordinate
	18	28
	28	64
	64	73
	73	84
	84	109
	109	118
	118	131

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 196227 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196227 has 326 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Ashballer\_64, JC27\_64
- Track 2 : Zeuska\_63
- Track 3 : MrGordo\_63
- Track 4 : BluSpix\_59, IgnatiusPatJac\_61
- Track 5 : Solon\_60
- Track 6 : SkiPole\_66
- Track 7 : SkiPole\_68
- Track 8 : Eyeball\_63
- Track 9 : Moose\_60, SwissCheese\_62, Bruns\_60, Forsytheast\_60
- Track 10 : Jorgensen\_63
- Track 11 : Seanderson\_61
- Track 12 : Rabinovish\_14
- Track 13 : Toto\_43, ABCat\_42, StellaBean\_42, Inca\_41, BilboSwaggins\_43, Tuco\_45, CrystalP\_44, Myrale\_44, IHOP\_42, Phaja\_42, Marshmallow\_43, ShamWow\_44
- Track 14 : Traaww1\_40, Flypotenuse\_38, Glexan\_41, Balomoji\_42, Gator\_41, Harella\_43
- Track 15 : Daikon\_44
- Track 16 : Blarby\_91, Jabbawokkie\_91, Zapner\_90
- Track 17 : Eradicator\_76
- Track 18 : Mandlovu\_81, Hlubikazi\_81, Hades\_81, Strokeseat\_81
- Track 19 : Mandlovu\_80, Hlubikazi\_80, Strokeseat\_80
- Track 20 : Eradicator\_72, Cali\_17, Sprinklers\_16, BadAgartude\_17, KashFlow\_68, SuperGrey\_82
- Track 21 : Priscilla\_84, NormanBulbieJr\_82, Koella\_76, Spartacus\_87, Wanda\_77, Klein\_73
- Track 22 : James\_82, Boomer\_85, Mozy\_88, LunaBlu\_84, DRBy19\_85, Ms6\_82, Flathead\_81, Latretium\_82, SG4\_81, Burwell21\_76, Llij\_77, Clifton\_74, Lorde\_81, OlympiaSaint\_81, Marker\_87, Enby\_82, Eish\_84, KristaRAM\_79, DirtMcgirt\_80, Harley\_80, UncleRicky\_80, Drago\_78, Philus\_84, Jarcob\_81, Rockne\_82, Ogotogo\_87, Rita\_88, Phatniss\_78, PMC\_78, Avani\_90, Mova\_80
- Track 23 : Kenuha5\_77, Gandalph\_79
- Track 24 : Seabastian\_91, Ochi17\_89, Jinglebell\_90, Modragons\_88, Llama\_90, OfUltron\_91
- Track 25 : PHappiness\_82, Deb65\_75, Nimbo\_74, RitaG\_82, Daenerys\_81, Geralt\_75, Leperchaun\_80, OldBen\_79, MilleniumForce\_82, JoeyJr\_82
- Track 26 : EleanorGeorge\_80, Zizzle\_86

- Track 27 : PhesterPotato\_85, Omega\_79, LittleE\_77
- Track 28 : MulchExplorer\_85, Kimberlium\_83
- Track 29 : Llama\_88, Mandlovu\_76, Beelzebub\_12, VRedHorse\_86, Lilbit\_10, Cerasum\_75, Marvin\_8, OfUltron\_89, Pringar\_9, BAKA\_82, Duke13\_80, FeliMaine\_9, Coco12\_78, LittleLaf\_9, Corazon\_9, Zerg\_82, Guppsters\_76, Jinglebell\_88, BigPhil\_74, Huphlepuuff\_10, Clarkson\_10, Minerva\_79, Sarma624\_80, SassyB\_73, Pound\_77, Seabastian\_89, Ochi17\_87, JoieB\_10, Hlubikazi\_76, Strokeseat\_76, PopTart\_73, Modragons\_86
- Track 30 : Byougenkin\_82, Royals2015\_90, PopTart\_77, PhesterPotato\_89, Wee\_91, Eish\_88, Girafales\_91, Tweety\_86, Blexus\_80, Quico\_91, SassyB\_77, Florinda\_94, DeadP\_86, Phalconet\_82
- Track 31 : Cornucopia\_81, VRedHorse\_80, Pacc40\_73
- Track 32 : Galactic\_82
- Track 33 : Mahavrat\_81
- Track 34 : Galactic\_80, MadMen\_87, Kumao\_59
- Track 35 : Velveteen\_75
- Track 36 : QuickMath\_80, Juice456\_78
- Track 37 : Tweety\_82, Donkeykong\_86, Taj\_88, Wee\_87, DeadP\_82
- Track 38 : Aubs\_82
- Track 39 : Taj\_92
- Track 40 : Fancypants\_89
- Track 41 : Nivrat\_80, LilMoolah\_82
- Track 42 : Mozy\_86
- Track 43 : Nitzel\_78
- Track 44 : Bubbles123\_76, Minnie\_77, Soul22\_82, IrishSherpFalk\_81, Pepe\_59, Sandalphon\_75, WillSterrel\_80
- Track 45 : Batiatus\_83
- Track 46 : Seagreen\_80
- Track 47 : XFactor\_77, DLane\_83
- Track 48 : BuzzLyseyear\_92, Krakatau\_77, Job42\_84
- Track 49 : Whatsapiecost\_74
- Track 50 : Bipolar\_84
- Track 51 : MadMen\_79, Renaud18\_93, Sabbb\_83, Karhdo\_80, Kersh\_83
- Track 52 : ByChance\_73, ShowerHandel\_82
- Track 53 : Blexus\_76, Leozinho\_79, Pippy\_76
- Track 54 : Radiance\_80
- Track 55 : Che8\_86
- Track 56 : Wachhund\_81
- Track 57 : Royals2015\_86
- Track 58 : Donkeykong\_88
- Track 59 : StAnnes\_83
- Track 60 : Fruitloop\_78
- Track 61 : Job42\_81
- Track 62 : Hades\_80
- Track 63 : Estave1\_93
- Track 64 : lbhubesi\_80
- Track 65 : Oksu\_86
- Track 66 : Emma\_88
- Track 67 : Cornucopia\_85
- Track 68 : Juniper1\_80
- Track 69 : Spartacus\_90
- Track 70 : Marker\_89
- Track 71 : Mutaforma13\_86

- Track 72 : IMpilo\_79
- Track 73 : Firehouse51\_79
- Track 74 : IMpilo\_76
- Track 75 : Emma\_86
- Track 76 : Spartacus\_89
- Track 77 : Yoshi\_92
- Track 78 : Che9d\_94
- Track 79 : Soul22\_84, Llij\_80
- Track 80 : Squirty\_81
- Track 81 : TChen\_82, ShroomBoi\_82, LunaStella\_80
- Track 82 : ThetaBob\_85
- Track 83 : Cornie\_78, CaptainTrips\_81, MinionDave\_77
- Track 84 : NihilNomen\_76, Zelink\_73, Bagrid\_74, Hughesyang\_74, Kalah2\_70, Superphikiman\_73, Ejimix\_75, DmpstrDiver\_75, Squint\_76, EricMillard\_74, Ariel\_75, Beem\_75, JuicyJay\_74, Phoebus\_78, Odette\_74, HokkenD\_68, Porcelain\_75, Dallas\_74, MiaZeal\_76, ThreeRngTarjay\_73, Halley\_77, Schatzie\_70
- Track 85 : Redno2\_68, Schatzie\_66, Kalah2\_66, Beem\_71, Klein\_71, Halley\_73, Ejimix\_71, DmpstrDiver\_71, Superphikiman\_69, JuicyJay\_70, Pound\_75, NihilNomen\_72, ThreeRngTarjay\_69, Dallas\_70, Odette\_70, Minerva\_77, Lucky2013\_69, Wanda\_75, Hughesyang\_70, HokkenD\_64, Zelink\_69
- Track 86 : Hannaconda\_70, Phalconet\_78, Kingsley\_85
- Track 87 : Redno2\_72, Lucky2013\_73
- Track 88 : LittleE\_74
- Track 89 : Squint\_72, Phoebus\_74, Porcelain\_71, Ariel\_71, MiaZeal\_72
- Track 90 : Courthouse\_72, Yeet\_71
- Track 91 : Courthouse\_70
- Track 92 : Yeet\_69
- Track 93 : Bobby\_70
- Track 94 : Omega\_77
- Track 95 : Chewbacca\_61, ZenTime222\_56
- Track 96 : FirstPlacePfu\_60
- Track 97 : Raela\_9, Blackbeetle\_9, Batiatus\_81, Poise\_9, DotProduct\_76, Tesla\_9, Ardmore\_67, Hamulus\_80, Phanphagia\_80, Filuzino\_82, Akhila\_78, MilanaBonita\_77, Manda\_43, Shauna1\_81
- Track 98 : Taptic\_70
- Track 99 : MooMoo\_80
- Track 100 : LilSpotty\_77
- Track 101 : LilSpotty\_76

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

The start number called the most often in the published annotations is 61, it was called in 268 of the 312 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABCat\_42, Akhila\_78, Ardmore\_67, Ariel\_71, Ariel\_75, Ashballer\_64, Aubs\_82, Avani\_90, BAKA\_82, Bagrid\_74, Balomoji\_42, Batiatus\_81, Batiatus\_83, Beelzebub\_12, Beem\_71, Beem\_75, BigPhil\_74, BilboSwaggins\_43, Bipolar\_84, Blackbeetle\_9, Blarby\_91, Blexus\_76, Blexus\_80, Boomer\_85, Bubbles123\_76, Burwell21\_76, BuzzLyseyear\_92, Byougenkin\_82, CaptainTrips\_81, Cerasum\_75,

Che8\_86, Che9d\_94, Clarkson\_10, Clifton\_74, Coco12\_78, Corazon\_9, Cornie\_78, Cornucopia\_81, Cornucopia\_85, Courthouse\_70, Courthouse\_72, CrystalP\_44, DLane\_83, DRBy19\_85, Daenerys\_81, Dallas\_70, Dallas\_74, DeadP\_82, DeadP\_86, Deb65\_75, DirtMcgirt\_80, DmpstrDiver\_71, DmpstrDiver\_75, Donkeykong\_86, Donkeykong\_88, DotProduct\_76, Drago\_78, Duke13\_80, Eish\_84, Eish\_88, Ejimix\_71, Ejimix\_75, Emma\_86, Emma\_88, Enby\_82, Eradicator\_76, EricMillard\_74, Estave1\_93, Fancypants\_89, FeliMaine\_9, Filuzino\_82, Firehouse51\_79, Flathead\_81, Florinda\_94, Flypotenuse\_38, Fruitloop\_78, Galactic\_80, Galactic\_82, Gator\_41, Geralt\_75, Girafales\_91, Glexan\_41, Guppsters\_76, Hades\_80, Halley\_73, Halley\_77, Hamulus\_80, Hannaconda\_70, Harella\_43, Harley\_80, Hlubikazi\_76, Hlubikazi\_80, HokkenD\_64, HokkenD\_68, Hughesyang\_70, Hughesyang\_74, Huphlepuuff\_10, IHOP\_42, IMpilo\_76, Inca\_41, IrishSherpFalk\_81, JC27\_64, Jabbawokkie\_91, James\_82, Jarcob\_81, Jinglebell\_88, Jinglebell\_90, Job42\_81, Job42\_84, JoeyJr\_82, JoieB\_10, Jorgensen\_63, Juice456\_78, JuicyJay\_70, JuicyJay\_74, Kalah2\_66, Kalah2\_70, Karhdo\_80, Kersh\_83, Kimberlium\_83, Kingsley\_85, Klein\_71, Klein\_73, Koella\_76, Krakatau\_77, KristaRAM\_79, Kumao\_59, Latretium\_82, Leozinho\_79, Leperchaun\_80, LilMoolah\_82, Lilbit\_10, LittleE\_74, LittleE\_77, LittleLaf\_9, Llama\_88, Llama\_90, Llij\_77, Llij\_80, Lorde\_81, Lucky2013\_69, LunaBlu\_84, LunaStella\_80, MadMen\_79, MadMen\_87, Manda\_43, Mandlovu\_76, Mandlovu\_80, Marker\_87, Marshmallow\_43, Marvin\_8, MiaZeal\_72, MiaZeal\_76, MilanaBonita\_77, MilleniumForce\_82, Minerva\_77, Minerva\_79, MinionDave\_77, Minnie\_77, Modragons\_86, Modragons\_88, MooMoo\_80, Mova\_80, Mozy\_86, Mozy\_88, Ms6\_82, MulchExplorer\_85, Mutaforma13\_86, Myrale\_44, NihilNomen\_72, NihilNomen\_76, Nimbo\_74, Nitzel\_78, Nivrat\_80, NormanBulbieJr\_82, Ochi17\_87, Ochi17\_89, Odette\_70, Odette\_74, OfUltron\_89, OfUltron\_91, Ogopogo\_87, Oksu\_86, OldBen\_79, OlympiaSaint\_81, Omega\_77, Omega\_79, PHappiness\_82, PMC\_78, Pacc40\_73, Pepe\_59, Phaja\_42, Phalconet\_78, Phalconet\_82, Phanphagia\_80, Phatniss\_78, PhesterPhotato\_85, PhesterPhotato\_89, Philus\_84, Phoebus\_74, Phoebus\_78, Pippy\_76, Poise\_9, PopTart\_73, PopTart\_77, Porcelain\_71, Porcelain\_75, Pound\_75, Pound\_77, Pringar\_9, Priscilla\_84, QuickMath\_80, Quico\_91, Rabinovish\_14, Radiance\_80, Raela\_9, Redno2\_68, Renaud18\_93, RitaG\_82, Rita\_88, Rockne\_82, Royals2015\_86, Royals2015\_90, SG4\_81, Sabbb\_83, Sandalphon\_75, Sarma624\_80, SassyB\_73, SassyB\_77, Schatzie\_66, Schatzie\_70, Seabastian\_89, Seabastian\_91, ShamWow\_44, Shauna1\_81, ShroomBoi\_82, Solon\_60, Soul22\_82, Soul22\_84, Spartacus\_87, Spartacus\_89, Squint\_72, Squint\_76, Squirty\_81, StAnnes\_83, StellaBean\_42, Strokeseat\_76, Strokeseat\_80, Superphikiman\_69, Superphikiman\_73, TChen\_82, Taj\_88, Taj\_92, Taptic\_70, Tesla\_9, ThetaBob\_85, ThreeRngTarjay\_69, ThreeRngTarjay\_73, Toto\_43, Traaww1\_40, Tuco\_45, Tweety\_82, Tweety\_86, UncleRicky\_80, VRedHorse\_80, VRedHorse\_86, Wachhund\_81, Wanda\_75, Wanda\_77, Wee\_87, Wee\_91, Whatsapiecost\_74, WillSterrel\_80, XFactor\_77, Yeet\_69, Yeet\_71, Zapner\_90, Zelink\_69, Zelink\_73, Zerg\_82,

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

- Bobby\_70, Daikon\_44, IMpilo\_79, Ibhubesi\_80, Lucky2013\_73, MrGordo\_63, Redno2\_72, Seagreen\_80, SkiPole\_68, Velveteen\_75, Zeuska\_63,

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

- BadAgartude\_17, BluSpix\_59, Bruns\_60, ByChance\_73, Cali\_17, Chewbacca\_61, EleanorGeorge\_80, Eradicator\_72, Eyeball\_63, FirstPlacePfu\_60, Forsytheast\_60, Gandolph\_79, Hades\_81, Hlubikazi\_81, IgnatiusPatJac\_61, Juniper1\_80, KashFlow\_68, Kenuha5\_77, LilSpotty\_76, LilSpotty\_77, Mahavrat\_81, Mandlovu\_81,

Marker\_89, Moose\_60, Seanderson\_61, ShowerHandel\_82, SkiPole\_66, Spartacus\_90, Sprinklers\_16, Strokeseat\_81, SuperGrey\_82, SwissCheese\_62, Yoshi\_92, ZenTime222\_56, Zizzle\_86,

### Summary by start number:

#### Start 36:

- Found in 1 of 326 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Seagreen\_80 (F1),

#### Start 39:

- Found in 1 of 326 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Marker\_89 (F1),

#### Start 41:

- Found in 5 of 326 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 5 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hades\_81 (F1), Hlubikazi\_81 (F1), Mandlovu\_81 (F1), Spartacus\_90 (F1), Strokeseat\_81 (F1),

#### Start 46:

- Found in 19 of 326 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 3 of 312
- Called 15.8% of time when present
- Phage (with cluster) where this start called: Ibhubesi\_80 (F1), MrGordo\_63 (A1), SkiPole\_68 (A1),

#### Start 52:

- Found in 46 of 326 ( 14.1% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 2.2% of time when present
- Phage (with cluster) where this start called: Velveteen\_75 (F1),

#### Start 55:

- Found in 2 of 326 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 50.0% of time when present
- Phage (with cluster) where this start called: LilSpotty\_77 (singleton),

#### Start 61:

- Found in 291 of 326 ( 89.3% ) of genes in pham
- Manual Annotations of this start: 268 of 312
- Called 96.2% of time when present
- Phage (with cluster) where this start called: ABCat\_42 (E), Akhila\_78 (F1), Ardmore\_67 (F1), Ariel\_71 (J), Ariel\_75 (J), Ashballer\_64 (A1), Aubs\_82 (F1), Avani\_90 (F2), BAKA\_82 (J), Bagrid\_74 (J), Balomoji\_42 (E), Batiatus\_81 (F1), Batiatus\_83 (F1), Beelzebub\_12 (S), Beem\_71 (J), Beem\_75 (J), BigPhil\_74 (F1), BilboSwaggins\_43 (E), Bipolar\_84 (F1), Blackbeetle\_9 (S), Blarby\_91 (F), Blexus\_76



(F1), Blexus\_80 (F1), Boomer\_85 (F1), Bubbles123\_76 (F1), Burwell21\_76 (F1), BuzzLyseyear\_92 (F1), Byougenkin\_82 (F1), CaptainTrips\_81 (F1), Cerasum\_75 (F1), Che8\_86 (F1), Che9d\_94 (F2), Clarkson\_10 (S), Clifton\_74 (F1), Coco12\_78 (F1), Corazon\_9 (S), Cornie\_78 (F5), Cornucopia\_81 (F1), Cornucopia\_85 (F1), Courthouse\_70 (J), Courthouse\_72 (J), CrystalP\_44 (E), DLane\_83 (F1), DRBy19\_85 (F1), Daenerys\_81 (F1), Dallas\_70 (J), Dallas\_74 (J), DeadP\_82 (F1), DeadP\_86 (F1), Deb65\_75 (F1), DirtMcgirt\_80 (F1), DmpstrDiver\_71 (J), DmpstrDiver\_75 (J), Donkeykong\_86 (F1), Donkeykong\_88 (F1), DotProduct\_76 (F1), Drago\_78 (F1), Duke13\_80 (J), Eish\_84 (F1), Eish\_88 (F1), Ejimix\_71 (J), Ejimix\_75 (J), Emma\_86 (F1), Emma\_88 (F1), Enby\_82 (F1), Eradicator\_76 (F1), EricMillard\_74 (J), Estave1\_93 (F1), Fancypants\_89 (F1), FeliMaine\_9 (S), Filuzino\_82 (F1), Firehouse51\_79 (F1), Flathead\_81 (F1), Florinda\_94 (F1), Flypotenuse\_38 (E), Fruitloop\_78 (F1), Galactic\_80 (F1), Galactic\_82 (F1), Gator\_41 (E), Geralt\_75 (F1), Girafales\_91 (F1), Glexan\_41 (E), Guppsters\_76 (F1), Hades\_80 (F1), Halley\_73 (J), Halley\_77 (J), Hamulus\_80 (F1), Hannaconda\_70 (J), Harella\_43 (E), Harley\_80 (F1), Hlubikazi\_76 (F1), Hlubikazi\_80 (F1), HokkenD\_64 (J), HokkenD\_68 (J), Hughesyang\_70 (J), Hughesyang\_74 (J), Huphlepuuff\_10 (S), IHOP\_42 (E), IMPilo\_76 (F1), Inca\_41 (E), IrishSherpFalk\_81 (F1), JC27\_64 (A1), Jabbawokkie\_91 (F2), James\_82 (F1), Jarcob\_81 (F1), Jinglebell\_88 (F1), Jinglebell\_90 (F1), Job42\_81 (F1), Job42\_84 (F1), JoeyJr\_82 (F1), JoieB\_10 (S), Jorgensen\_63 (A1), Juice456\_78 (F1), JuicyJay\_70 (J), JuicyJay\_74 (J), Kalah2\_66 (J), Kalah2\_70 (J), Karhdo\_80 (F1), Kersh\_83 (F1), Kimberlium\_83 (F1), Kingsley\_85 (F1), Klein\_71 (J), Klein\_73 (J), Koella\_76 (F1), Krakatau\_77 (F1), KristaRAM\_79 (F1), Kumao\_59 (singleton), Latretium\_82 (F1), Leozinho\_79 (F1), Leperchaun\_80 (F1), LilMoolah\_82 (F1), Lilbit\_10 (S), LittleE\_74 (J), LittleE\_77 (J), LittleLaf\_9 (S), Llama\_88 (F1), Llama\_90 (F1), Llij\_77 (F1), Llij\_80 (F1), Lorde\_81 (F1), Lucky2013\_69 (J), LunaBlu\_84 (F1), LunaStella\_80 (F4), MadMen\_79 (F1), MadMen\_87 (F1), Manda\_43 (E), Mandlovu\_76 (F1), Mandlovu\_80 (F1), Marker\_87 (F1), Marshmallow\_43 (E), Marvin\_8 (S), MiaZeal\_72 (J), MiaZeal\_76 (J), MilanaBonita\_77 (F1), MilleniumForce\_82 (F1), Minerva\_77 (J), Minerva\_79 (J), MinionDave\_77 (F1), Minnie\_77 (F1), Modragons\_86 (F1), Modragons\_88 (F1), MooMoo\_80 (singleton), Mova\_80 (F1), Mozy\_86 (F1), Mozy\_88 (F1), Ms6\_82 (F1), MulchExplorer\_85 (F1), Mutaforma13\_86 (F1), Myrale\_44 (E), NihilNomen\_72 (J), NihilNomen\_76 (J), Nimbo\_74 (F1), Nitzel\_78 (F1), Nivrat\_80 (F1), NormanBulbieJr\_82 (F1), Ochi17\_87 (F1), Ochi17\_89 (F1), Odette\_70 (J), Odette\_74 (J), OfUltron\_89 (F1), OfUltron\_91 (F1), Ogotopogo\_87 (F1), Oksu\_86 (F1), OldBen\_79 (F1), OlympiaSaint\_81 (F1), Omega\_77 (J), Omega\_79 (J), PHappiness\_82 (F1), PMC\_78 (F1), Pacc40\_73 (F1), Pepe\_59 (A1), Phaja\_42 (E), Phalconet\_78 (F1), Phalconet\_82 (F1), Phanphagia\_80 (F1), Phatniss\_78 (F1), PhesterPhotato\_85 (F1), PhesterPhotato\_89 (F1), Philus\_84 (F1), Phoebus\_74 (J), Phoebus\_78 (J), Pippy\_76 (F1), Poise\_9 (S), PopTart\_73 (F1), PopTart\_77 (F1), Porcelain\_71 (J), Porcelain\_75 (J), Pound\_75 (J), Pound\_77 (J), Pringar\_9 (S), Priscilla\_84 (F1), QuickMath\_80 (F1), Quico\_91 (F1), Rabinovich\_14 (C1), Radiance\_80 (F1), Raela\_9 (S), Redno2\_68 (J), Renaud18\_93 (F4), RitaG\_82 (F1), Rita\_88 (F1), Rockne\_82 (F1), Royals2015\_86 (F1), Royals2015\_90 (F1), SG4\_81 (F1), Sabbb\_83 (F1), Sandalphon\_75 (F1), Sarma624\_80 (F1), SassyB\_73 (F1), SassyB\_77 (F1), Schatzie\_66 (J), Schatzie\_70 (J), Seabastian\_89 (F1), Seabastian\_91 (F1), ShamWow\_44 (E), Shauna1\_81 (F1), ShroomBoi\_82 (F1), Solon\_60 (A1), Soul22\_82 (F2), Soul22\_84 (F2), Spartacus\_87 (F1), Spartacus\_89 (F1), Squint\_72 (J), Squint\_76 (J), Squirty\_81 (F3), StAnnes\_83 (F1), StellaBean\_42 (E), Strokeseat\_76 (F1), Strokeseat\_80 (F1), Superphikiman\_69 (J), Superphikiman\_73 (J), TChen\_82 (F4), Taj\_88 (F1), Taj\_92 (F1), Taptic\_70 (W), Tesla\_9 (S), ThetaBob\_85 (F4), ThreeRngTarjay\_69 (J), ThreeRngTarjay\_73 (J), Toto\_43 (E), Traaww1\_40 (E), Tuco\_45 (E), Tweety\_82 (F1), Tweety\_86 (F1),

UncleRicky\_80 (F1), VRedHorse\_80 (F1), VRedHorse\_86 (F1), Wachhund\_81 (F1), Wanda\_75 (J), Wanda\_77 (J), Wee\_87 (F1), Wee\_91 (F1), Whatsapiecost\_74 (F1), WillSterrel\_80 (F1), XFactor\_77 (F1), Yeet\_69 (J), Yeet\_71 (J), Zapner\_90 (F2), Zelink\_69 (J), Zelink\_73 (J), Zerg\_82 (F1),

Start 62:

- Found in 2 of 326 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gandalph\_79 (F1), Kenuha5\_77 (F1),

Start 66:

- Found in 83 of 326 ( 25.5% ) of genes in pham
- Manual Annotations of this start: 8 of 312
- Called 10.8% of time when present
- Phage (with cluster) where this start called: BluSpix\_59 (A1), Bruns\_60 (A1), Daikon\_44 (E), Eyeball\_63 (A1), Forsytheast\_60 (A1), IgnatiusPatJac\_61 (A1), Moose\_60 (A1), SkiPole\_66 (A1), SwissCheese\_62 (A1),

Start 67:

- Found in 210 of 326 ( 64.4% ) of genes in pham
- Manual Annotations of this start: 10 of 312
- Called 5.2% of time when present
- Phage (with cluster) where this start called: BadAgartude\_17 (C1), Bobby\_70 (J), Cali\_17 (C1), Eradicator\_72 (F1), IMpilo\_79 (F1), KashFlow\_68 (J), Lucky2013\_73 (J), Redno2\_72 (J), Sprinklers\_16 (C1), SuperGrey\_82 (F1), Zeuska\_63 (A1),

Start 68:

- Found in 5 of 326 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 5 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ByChance\_73 (F1), EleanorGeorge\_80 (F1), ShowerHandel\_82 (F1), Yoshi\_92 (F2), Zizzle\_86 (F1),

Start 69:

- Found in 84 of 326 ( 25.8% ) of genes in pham
- Manual Annotations of this start: 1 of 312
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Seanderson\_61 (A1),

Start 72:

- Found in 2 of 326 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Juniper1\_80 (F1), Mahavrat\_81 (F1),

Start 73:

- Found in 4 of 326 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 4 of 312
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chewbacca\_61 (N), FirstPlacePfu\_60 (P1), LilSpotty\_76 (singleton), ZenTime222\_56 (T),

## Summary by clusters:

There are 16 clusters represented in this pham: F1, F2, P1, E, F5, F, J, singleton, N, A1, S, F3, T, W, F4, C1,

Info for manual annotations of cluster A1:

- Start number 46 was manually annotated 2 times for cluster A1.
- Start number 61 was manually annotated 5 times for cluster A1.
- Start number 66 was manually annotated 8 times for cluster A1.
- Start number 67 was manually annotated 1 time for cluster A1.
- Start number 69 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster C1:

- Start number 61 was manually annotated 1 time for cluster C1.
- Start number 67 was manually annotated 3 times for cluster C1.

Info for manual annotations of cluster E:

- Start number 61 was manually annotated 18 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 36 was manually annotated 1 time for cluster F1.
- Start number 39 was manually annotated 1 time for cluster F1.
- Start number 41 was manually annotated 5 times for cluster F1.
- Start number 46 was manually annotated 1 time for cluster F1.
- Start number 52 was manually annotated 1 time for cluster F1.
- Start number 61 was manually annotated 157 times for cluster F1.
- Start number 62 was manually annotated 2 times for cluster F1.
- Start number 67 was manually annotated 2 times for cluster F1.
- Start number 68 was manually annotated 4 times for cluster F1.
- Start number 72 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 61 was manually annotated 6 times for cluster F2.
- Start number 68 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F3:

- Start number 61 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 61 was manually annotated 4 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 61 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 61 was manually annotated 60 times for cluster J.
- Start number 67 was manually annotated 4 times for cluster J.

Info for manual annotations of cluster N:

- Start number 73 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P1:

- Start number 73 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster S:

- Start number 61 was manually annotated 12 times for cluster S.

Info for manual annotations of cluster T:

- Start number 73 was manually annotated 1 time for cluster T.

Info for manual annotations of cluster W:

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

### **Gene Information:**

Gene: ABCat\_42 Start: 36113, Stop: 35817, Start Num: 61

Candidate Starts for ABCat\_42:

(Start: 61 @36113 has 268 MA's), (70, 36077), (77, 36059), (90, 36026), (94, 35984), (133, 35837),

Gene: Akhila\_78 Start: 48008, Stop: 48292, Start Num: 61

Candidate Starts for Akhila\_78:

(Start: 61 @48008 has 268 MA's), (Start: 67 @48032 has 10 MA's), (93, 48107), (122, 48236), (133, 48272),

Gene: Ardmore\_67 Start: 43684, Stop: 43968, Start Num: 61

Candidate Starts for Ardmore\_67:

(Start: 61 @43684 has 268 MA's), (Start: 67 @43708 has 10 MA's), (93, 43783), (122, 43912), (133, 43948),

Gene: Ariel\_75 Start: 47349, Stop: 47065, Start Num: 61

Candidate Starts for Ariel\_75:

(Start: 61 @47349 has 268 MA's), (Start: 67 @47325 has 10 MA's), (93, 47250), (122, 47121), (133, 47085),

Gene: Ariel\_71 Start: 45936, Stop: 45583, Start Num: 61

Candidate Starts for Ariel\_71:

(Start: 61 @45936 has 268 MA's), (Start: 66 @45915 has 8 MA's), (Start: 69 @45903 has 1 MA's), (104, 45795), (124, 45702), (130, 45684), (132, 45672), (143, 45630), (144, 45606),

Gene: Ashballer\_64 Start: 41640, Stop: 41353, Start Num: 61

Candidate Starts for Ashballer\_64:

(Start: 46 @41670 has 3 MA's), (Start: 61 @41640 has 268 MA's), (Start: 67 @41616 has 10 MA's), (133, 41376),

Gene: Aubs\_82 Start: 49731, Stop: 50015, Start Num: 61

Candidate Starts for Aubs\_82:

(45, 49695), (Start: 61 @49731 has 268 MA's), (Start: 67 @49755 has 10 MA's), (122, 49959), (133, 49995),

Gene: Avani\_90 Start: 47333, Stop: 47617, Start Num: 61

Candidate Starts for Avani\_90:

(Start: 61 @47333 has 268 MA's), (Start: 67 @47357 has 10 MA's), (93, 47432), (122, 47561), (133, 47597),

Gene: BAKA\_82 Start: 52624, Stop: 52340, Start Num: 61

Candidate Starts for BAKA\_82:

(Start: 52 @52648 has 1 MA's), (Start: 61 @52624 has 268 MA's), (Start: 67 @52600 has 10 MA's), (93, 52525), (122, 52396), (133, 52360),

Gene: BadAgartude\_17 Start: 5514, Stop: 5792, Start Num: 67

Candidate Starts for BadAgartude\_17:

(58, 5475), (63, 5493), (Start: 67 @5514 has 10 MA's), (74, 5535), (77, 5547), (79, 5550), (85, 5565), (87, 5574), (122, 5736), (133, 5772),

Gene: Bagrid\_74 Start: 50766, Stop: 50482, Start Num: 61

Candidate Starts for Bagrid\_74:

(Start: 61 @50766 has 268 MA's), (Start: 67 @50742 has 10 MA's), (93, 50667), (122, 50538), (133, 50502),

Gene: Balomoji\_42 Start: 35703, Stop: 35428, Start Num: 61

Candidate Starts for Balomoji\_42:

(30, 35775), (37, 35751), (40, 35748), (Start: 61 @35703 has 268 MA's), (Start: 66 @35682 has 8 MA's), (70, 35670), (104, 35562), (122, 35484), (133, 35448),

Gene: Batiatus\_81 Start: 49093, Stop: 49377, Start Num: 61

Candidate Starts for Batiatus\_81:

(Start: 61 @49093 has 268 MA's), (Start: 67 @49117 has 10 MA's), (93, 49192), (122, 49321), (133, 49357),

Gene: Batiatus\_83 Start: 49708, Stop: 50034, Start Num: 61

Candidate Starts for Batiatus\_83:

(21, 49603), (Start: 61 @49708 has 268 MA's), (Start: 69 @49741 has 1 MA's), (70, 49744), (80, 49771), (82, 49777), (104, 49897), (133, 50011),

Gene: Beelzebub\_12 Start: 3476, Stop: 3760, Start Num: 61

Candidate Starts for Beelzebub\_12:

(Start: 52 @3452 has 1 MA's), (Start: 61 @3476 has 268 MA's), (Start: 67 @3500 has 10 MA's), (93, 3575), (122, 3704), (133, 3740),

Gene: Beem\_71 Start: 50213, Stop: 49920, Start Num: 61

Candidate Starts for Beem\_71:

(Start: 61 @50213 has 268 MA's), (Start: 66 @50192 has 8 MA's), (Start: 69 @50180 has 1 MA's), (104, 50072), (108, 50024), (111, 50012), (120, 49985), (121, 49982), (133, 49943),

Gene: Beem\_75 Start: 51626, Stop: 51342, Start Num: 61

Candidate Starts for Beem\_75:

(Start: 61 @51626 has 268 MA's), (Start: 67 @51602 has 10 MA's), (93, 51527), (122, 51398), (133, 51362),

Gene: BigPhil\_74 Start: 44927, Stop: 45211, Start Num: 61

Candidate Starts for BigPhil\_74:

(Start: 52 @44903 has 1 MA's), (Start: 61 @44927 has 268 MA's), (Start: 67 @44951 has 10 MA's), (93, 45026), (122, 45155), (133, 45191),

Gene: BilboSwaggins\_43 Start: 36121, Stop: 35825, Start Num: 61

Candidate Starts for BilboSwaggins\_43:

(Start: 61 @36121 has 268 MA's), (70, 36085), (77, 36067), (90, 36034), (94, 35992), (133, 35845),

Gene: Bipolar\_84 Start: 50621, Stop: 50905, Start Num: 61

Candidate Starts for Bipolar\_84:

(45, 50585), (Start: 61 @50621 has 268 MA's), (Start: 67 @50645 has 10 MA's), (93, 50720), (122, 50849), (133, 50885),

Gene: Blackbeetle\_9 Start: 2787, Stop: 3071, Start Num: 61

Candidate Starts for Blackbeetle\_9:

(Start: 61 @2787 has 268 MA's), (Start: 67 @2811 has 10 MA's), (93, 2886), (122, 3015), (133, 3051),

Gene: Blarby\_91 Start: 47885, Stop: 48169, Start Num: 61

Candidate Starts for Blarby\_91:

(Start: 61 @47885 has 268 MA's), (Start: 67 @47909 has 10 MA's), (122, 48113), (133, 48149),

Gene: Blexus\_76 Start: 48851, Stop: 49147, Start Num: 61

Candidate Starts for Blexus\_76:

(Start: 61 @48851 has 268 MA's), (70, 48887), (77, 48905), (90, 48938), (94, 48980), (122, 49091), (133, 49127),

Gene: Blexus\_80 Start: 49926, Stop: 50210, Start Num: 61

Candidate Starts for Blexus\_80:

(Start: 61 @49926 has 268 MA's), (Start: 67 @49950 has 10 MA's), (Start: 69 @49959 has 1 MA's), (98, 50058), (104, 50073), (138, 50187),

Gene: BluSpix\_59 Start: 36720, Stop: 36373, Start Num: 66

Candidate Starts for BluSpix\_59:

(12, 36921), (48, 36777), (51, 36774), (Start: 66 @36720 has 8 MA's), (Start: 69 @36708 has 1 MA's), (80, 36678), (86, 36660), (92, 36627), (95, 36585), (115, 36471), (140, 36396),

Gene: Bobby\_70 Start: 49641, Stop: 49345, Start Num: 67

Candidate Starts for Bobby\_70:

(Start: 52 @49689 has 1 MA's), (Start: 61 @49665 has 268 MA's), (Start: 67 @49641 has 10 MA's), (93, 49566), (122, 49437), (133, 49401),

Gene: Boomer\_85 Start: 49678, Stop: 49962, Start Num: 61

Candidate Starts for Boomer\_85:

(Start: 61 @49678 has 268 MA's), (Start: 67 @49702 has 10 MA's), (93, 49777), (122, 49906), (133, 49942),

Gene: Bruns\_60 Start: 39755, Stop: 39507, Start Num: 66

Candidate Starts for Bruns\_60:

(23, 39851), (29, 39827), (Start: 46 @39797 has 3 MA's), (Start: 66 @39755 has 8 MA's), (Start: 69 @39743 has 1 MA's), (112, 39530),

Gene: Bubbles123\_76 Start: 48608, Stop: 48892, Start Num: 61

Candidate Starts for Bubbles123\_76:

(Start: 46 @48578 has 3 MA's), (Start: 52 @48584 has 1 MA's), (Start: 61 @48608 has 268 MA's), (Start: 67 @48632 has 10 MA's), (93, 48707), (122, 48836), (133, 48872),

Gene: Burwell21\_76 Start: 48586, Stop: 48870, Start Num: 61

Candidate Starts for Burwell21\_76:

(Start: 61 @48586 has 268 MA's), (Start: 67 @48610 has 10 MA's), (93, 48685), (122, 48814), (133, 48850),

Gene: BuzzLyseyear\_92 Start: 52666, Stop: 52950, Start Num: 61

Candidate Starts for BuzzLyseyear\_92:

(Start: 61 @52666 has 268 MA's), (Start: 67 @52690 has 10 MA's), (Start: 69 @52699 has 1 MA's), (98, 52798), (104, 52813), (138, 52927),

Gene: ByChance\_73 Start: 44779, Stop: 45045, Start Num: 68

Candidate Starts for ByChance\_73:

(Start: 68 @44779 has 5 MA's), (78, 44806), (84, 44821), (104, 44911), (115, 44989), (131, 45025),

Gene: Byougenkin\_82 Start: 47350, Stop: 47634, Start Num: 61

Candidate Starts for Byougenkin\_82:

(Start: 61 @47350 has 268 MA's), (Start: 67 @47374 has 10 MA's), (Start: 69 @47383 has 1 MA's), (98, 47482), (104, 47497), (138, 47611),

Gene: Cali\_17 Start: 6490, Stop: 6768, Start Num: 67

Candidate Starts for Cali\_17:

(58, 6451), (63, 6469), (Start: 67 @6490 has 10 MA's), (74, 6511), (77, 6523), (79, 6526), (85, 6541), (87, 6550), (122, 6712), (133, 6748),

Gene: CaptainTrips\_81 Start: 48491, Stop: 48775, Start Num: 61

Candidate Starts for CaptainTrips\_81:

(Start: 61 @48491 has 268 MA's), (Start: 67 @48515 has 10 MA's), (122, 48719), (133, 48755),

Gene: Cerasum\_75 Start: 44945, Stop: 45229, Start Num: 61

Candidate Starts for Cerasum\_75:

(Start: 52 @44921 has 1 MA's), (Start: 61 @44945 has 268 MA's), (Start: 67 @44969 has 10 MA's), (93, 45044), (122, 45173), (133, 45209),

Gene: Che8\_86 Start: 49874, Stop: 50158, Start Num: 61

Candidate Starts for Che8\_86:

(24, 49778), (30, 49802), (Start: 61 @49874 has 268 MA's), (Start: 67 @49898 has 10 MA's), (122, 50102), (133, 50138),

Gene: Che9d\_94 Start: 49583, Stop: 49876, Start Num: 61

Candidate Starts for Che9d\_94:

(Start: 52 @49556 has 1 MA's), (Start: 61 @49583 has 268 MA's), (Start: 66 @49604 has 8 MA's), (70, 49619), (104, 49745), (133, 49853),

Gene: Chewbacca\_61 Start: 37859, Stop: 38119, Start Num: 73

Candidate Starts for Chewbacca\_61:

(1, 37556), (3, 37577), (11, 37631), (28, 37733), (64, 37829), (Start: 73 @37859 has 4 MA's), (84, 37892), (109, 38033), (114, 38045), (122, 38060), (131, 38084), (133, 38096), (135, 38102),

Gene: Clarkson\_10 Start: 3252, Stop: 3536, Start Num: 61

Candidate Starts for Clarkson\_10:

(Start: 52 @3228 has 1 MA's), (Start: 61 @3252 has 268 MA's), (Start: 67 @3276 has 10 MA's), (93, 3351), (122, 3480), (133, 3516),

Gene: Clifton\_74 Start: 47402, Stop: 47686, Start Num: 61

Candidate Starts for Clifton\_74:

(Start: 61 @47402 has 268 MA's), (Start: 67 @47426 has 10 MA's), (93, 47501), (122, 47630), (133, 47666),

Gene: Coco12\_78 Start: 49002, Stop: 49286, Start Num: 61

Candidate Starts for Coco12\_78:

(Start: 52 @48978 has 1 MA's), (Start: 61 @49002 has 268 MA's), (Start: 67 @49026 has 10 MA's), (93, 49101), (122, 49230), (133, 49266),

Gene: Corazon\_9 Start: 3205, Stop: 3489, Start Num: 61

Candidate Starts for Corazon\_9:

(Start: 52 @3181 has 1 MA's), (Start: 61 @3205 has 268 MA's), (Start: 67 @3229 has 10 MA's), (93, 3304), (122, 3433), (133, 3469),

Gene: Cornie\_78 Start: 47540, Stop: 47824, Start Num: 61

Candidate Starts for Cornie\_78:

(Start: 61 @47540 has 268 MA's), (Start: 67 @47564 has 10 MA's), (122, 47768), (133, 47804),

Gene: Cornucopia\_81 Start: 47550, Stop: 47819, Start Num: 61

Candidate Starts for Cornucopia\_81:

(Start: 61 @47550 has 268 MA's), (Start: 66 @47571 has 8 MA's), (99, 47670), (101, 47676), (133, 47796),

Gene: Cornucopia\_85 Start: 48642, Stop: 48905, Start Num: 61

Candidate Starts for Cornucopia\_85:

(Start: 61 @48642 has 268 MA's), (Start: 67 @48666 has 10 MA's), (Start: 69 @48675 has 1 MA's), (104, 48789), (116, 48864),

Gene: Courthouse\_72 Start: 46987, Stop: 46703, Start Num: 61

Candidate Starts for Courthouse\_72:

(Start: 61 @46987 has 268 MA's), (Start: 67 @46963 has 10 MA's), (122, 46759), (133, 46723),

Gene: Courthouse\_70 Start: 46345, Stop: 45986, Start Num: 61

Candidate Starts for Courthouse\_70:

(Start: 61 @46345 has 268 MA's), (Start: 66 @46324 has 8 MA's), (Start: 69 @46312 has 1 MA's), (104, 46204), (127, 46105), (128, 46102), (144, 46009),

Gene: CrystalP\_44 Start: 36121, Stop: 35825, Start Num: 61

Candidate Starts for CrystalP\_44:

(Start: 61 @36121 has 268 MA's), (70, 36085), (77, 36067), (90, 36034), (94, 35992), (133, 35845),

Gene: DLane\_83 Start: 50315, Stop: 50599, Start Num: 61

Candidate Starts for DLane\_83:

(Start: 61 @50315 has 268 MA's), (Start: 67 @50339 has 10 MA's), (93, 50414), (133, 50579),

Gene: DRBy19\_85 Start: 51131, Stop: 51415, Start Num: 61

Candidate Starts for DRBy19\_85:

(Start: 61 @51131 has 268 MA's), (Start: 67 @51155 has 10 MA's), (93, 51230), (122, 51359), (133, 51395),

Gene: Daenerys\_81 Start: 50626, Stop: 50910, Start Num: 61

Candidate Starts for Daenerys\_81:

(Start: 61 @50626 has 268 MA's), (Start: 67 @50650 has 10 MA's), (93, 50725), (122, 50854), (133, 50890),



Gene: Daikon\_44 Start: 35703, Stop: 35449, Start Num: 66

Candidate Starts for Daikon\_44:

(30, 35796), (37, 35772), (40, 35769), (Start: 61 @35724 has 268 MA's), (Start: 66 @35703 has 8 MA's), (70, 35691), (104, 35583), (122, 35505), (133, 35469),

Gene: Dallas\_70 Start: 49134, Stop: 48841, Start Num: 61

Candidate Starts for Dallas\_70:

(Start: 61 @49134 has 268 MA's), (Start: 66 @49113 has 8 MA's), (Start: 69 @49101 has 1 MA's), (104, 48993), (108, 48945), (111, 48933), (120, 48906), (121, 48903), (133, 48864),

Gene: Dallas\_74 Start: 50547, Stop: 50263, Start Num: 61

Candidate Starts for Dallas\_74:

(Start: 61 @50547 has 268 MA's), (Start: 67 @50523 has 10 MA's), (93, 50448), (122, 50319), (133, 50283),

Gene: DeadP\_82 Start: 48110, Stop: 48394, Start Num: 61

Candidate Starts for DeadP\_82:

(13, 47948), (Start: 61 @48110 has 268 MA's), (Start: 67 @48134 has 10 MA's), (93, 48209), (122, 48338), (133, 48374),

Gene: DeadP\_86 Start: 49174, Stop: 49458, Start Num: 61

Candidate Starts for DeadP\_86:

(Start: 61 @49174 has 268 MA's), (Start: 67 @49198 has 10 MA's), (Start: 69 @49207 has 1 MA's), (98, 49306), (104, 49321), (138, 49435),

Gene: Deb65\_75 Start: 48348, Stop: 48632, Start Num: 61

Candidate Starts for Deb65\_75:

(Start: 61 @48348 has 268 MA's), (Start: 67 @48372 has 10 MA's), (93, 48447), (122, 48576), (133, 48612),

Gene: DirtMcgirt\_80 Start: 46288, Stop: 46572, Start Num: 61

Candidate Starts for DirtMcgirt\_80:

(Start: 61 @46288 has 268 MA's), (Start: 67 @46312 has 10 MA's), (93, 46387), (122, 46516), (133, 46552),

Gene: DmpstrDiver\_75 Start: 50974, Stop: 50690, Start Num: 61

Candidate Starts for DmpstrDiver\_75:

(Start: 61 @50974 has 268 MA's), (Start: 67 @50950 has 10 MA's), (93, 50875), (122, 50746), (133, 50710),

Gene: DmpstrDiver\_71 Start: 49561, Stop: 49268, Start Num: 61

Candidate Starts for DmpstrDiver\_71:

(Start: 61 @49561 has 268 MA's), (Start: 66 @49540 has 8 MA's), (Start: 69 @49528 has 1 MA's), (104, 49420), (108, 49372), (111, 49360), (120, 49333), (121, 49330), (133, 49291),

Gene: Donkeykong\_86 Start: 50724, Stop: 51008, Start Num: 61

Candidate Starts for Donkeykong\_86:

(13, 50562), (Start: 61 @50724 has 268 MA's), (Start: 67 @50748 has 10 MA's), (93, 50823), (122, 50952), (133, 50988),

Gene: Donkeykong\_88 Start: 51342, Stop: 51620, Start Num: 61

Candidate Starts for Donkeykong\_88:

(Start: 61 @51342 has 268 MA's), (Start: 67 @51366 has 10 MA's), (70, 51375), (83, 51408), (88, 51420), (89, 51423), (100, 51471), (104, 51486), (122, 51564), (133, 51600),

Gene: DotProduct\_76 Start: 47105, Stop: 47389, Start Num: 61

Candidate Starts for DotProduct\_76:

(Start: 61 @47105 has 268 MA's), (Start: 67 @47129 has 10 MA's), (93, 47204), (122, 47333), (133, 47369),

Gene: Drago\_78 Start: 46291, Stop: 46575, Start Num: 61

Candidate Starts for Drago\_78:

(Start: 61 @46291 has 268 MA's), (Start: 67 @46315 has 10 MA's), (93, 46390), (122, 46519), (133, 46555),

Gene: Duke13\_80 Start: 51836, Stop: 51552, Start Num: 61

Candidate Starts for Duke13\_80:

(Start: 52 @51860 has 1 MA's), (Start: 61 @51836 has 268 MA's), (Start: 67 @51812 has 10 MA's), (93, 51737), (122, 51608), (133, 51572),

Gene: Eish\_88 Start: 51057, Stop: 51341, Start Num: 61

Candidate Starts for Eish\_88:

(Start: 61 @51057 has 268 MA's), (Start: 67 @51081 has 10 MA's), (Start: 69 @51090 has 1 MA's), (98, 51189), (104, 51204), (138, 51318),

Gene: Eish\_84 Start: 49994, Stop: 50278, Start Num: 61

Candidate Starts for Eish\_84:

(Start: 61 @49994 has 268 MA's), (Start: 67 @50018 has 10 MA's), (93, 50093), (122, 50222), (133, 50258),

Gene: Ejimix\_71 Start: 50999, Stop: 50706, Start Num: 61

Candidate Starts for Ejimix\_71:

(Start: 61 @50999 has 268 MA's), (Start: 66 @50978 has 8 MA's), (Start: 69 @50966 has 1 MA's), (104, 50858), (108, 50810), (111, 50798), (120, 50771), (121, 50768), (133, 50729),

Gene: Ejimix\_75 Start: 52415, Stop: 52131, Start Num: 61

Candidate Starts for Ejimix\_75:

(Start: 61 @52415 has 268 MA's), (Start: 67 @52391 has 10 MA's), (93, 52316), (122, 52187), (133, 52151),

Gene: EleanorGeorge\_80 Start: 48792, Stop: 49136, Start Num: 68

Candidate Starts for EleanorGeorge\_80:

(Start: 68 @48792 has 5 MA's), (78, 48819), (84, 48834), (104, 48924), (117, 49017), (126, 49035), (129, 49047), (139, 49089), (142, 49113),

Gene: Emma\_88 Start: 49160, Stop: 49480, Start Num: 61

Candidate Starts for Emma\_88:

(47, 49127), (Start: 61 @49160 has 268 MA's), (Start: 67 @49184 has 10 MA's), (Start: 69 @49193 has 1 MA's), (98, 49292), (104, 49307), (111, 49367), (138, 49457),

Gene: Emma\_86 Start: 48537, Stop: 48812, Start Num: 61

Candidate Starts for Emma\_86:

(16, 48399), (20, 48423), (26, 48447), (40, 48492), (56, 48519), (57, 48522), (Start: 61 @48537 has 268 MA's), (Start: 66 @48558 has 8 MA's), (Start: 69 @48570 has 1 MA's), (80, 48600), (82, 48606), (103, 48720), (104, 48726), (123, 48801),

Gene: Enby\_82 Start: 46567, Stop: 46851, Start Num: 61

Candidate Starts for Enby\_82:

(Start: 61 @46567 has 268 MA's), (Start: 67 @46591 has 10 MA's), (93, 46666), (122, 46795), (133, 46831),

Gene: Eradicator\_76 Start: 47953, Stop: 48312, Start Num: 61

Candidate Starts for Eradicator\_76:

(Start: 61 @47953 has 268 MA's), (Start: 67 @47977 has 10 MA's), (Start: 69 @47986 has 1 MA's), (98, 48085), (104, 48100), (123, 48193), (130, 48211), (132, 48223), (143, 48265), (144, 48289),

Gene: Eradicator\_72 Start: 46896, Stop: 47174, Start Num: 67

Candidate Starts for Eradicator\_72:

(58, 46857), (63, 46875), (Start: 67 @46896 has 10 MA's), (74, 46917), (77, 46929), (79, 46932), (85, 46947), (87, 46956), (122, 47118), (133, 47154),

Gene: EricMillard\_74 Start: 51619, Stop: 51335, Start Num: 61

Candidate Starts for EricMillard\_74:

(Start: 61 @51619 has 268 MA's), (Start: 67 @51595 has 10 MA's), (93, 51520), (122, 51391), (133, 51355),

Gene: Estave1\_93 Start: 53691, Stop: 53975, Start Num: 61

Candidate Starts for Estave1\_93:

(Start: 55 @53676 has 1 MA's), (Start: 61 @53691 has 268 MA's), (Start: 67 @53715 has 10 MA's), (93, 53790), (122, 53919), (133, 53955),

Gene: Eyeball\_63 Start: 41903, Stop: 41556, Start Num: 66

Candidate Starts for Eyeball\_63:

(12, 42104), (48, 41960), (51, 41957), (Start: 66 @41903 has 8 MA's), (Start: 69 @41891 has 1 MA's), (115, 41654), (140, 41579),

Gene: Fancypants\_89 Start: 51307, Stop: 51630, Start Num: 61

Candidate Starts for Fancypants\_89:

(16, 51169), (Start: 61 @51307 has 268 MA's), (Start: 66 @51328 has 8 MA's), (70, 51343), (91, 51412), (97, 51469), (102, 51484), (104, 51493), (105, 51499), (133, 51607),

Gene: FeliMaine\_9 Start: 3253, Stop: 3537, Start Num: 61

Candidate Starts for FeliMaine\_9:

(Start: 52 @3229 has 1 MA's), (Start: 61 @3253 has 268 MA's), (Start: 67 @3277 has 10 MA's), (93, 3352), (122, 3481), (133, 3517),

Gene: Filuzino\_82 Start: 50908, Stop: 51192, Start Num: 61

Candidate Starts for Filuzino\_82:

(Start: 61 @50908 has 268 MA's), (Start: 67 @50932 has 10 MA's), (93, 51007), (122, 51136), (133, 51172),

Gene: Firehouse51\_79 Start: 50692, Stop: 51051, Start Num: 61

Candidate Starts for Firehouse51\_79:

(9, 50491), (10, 50503), (17, 50563), (19, 50575), (32, 50629), (Start: 61 @50692 has 268 MA's), (Start: 67 @50716 has 10 MA's), (Start: 69 @50725 has 1 MA's), (82, 50758), (104, 50839), (123, 50932), (130, 50950), (132, 50962), (143, 51004), (144, 51028),

Gene: FirstPlacePfu\_60 Start: 37764, Stop: 38024, Start Num: 73

Candidate Starts for FirstPlacePfu\_60:

(33, 37662), (35, 37671), (Start: 73 @37764 has 4 MA's), (84, 37797), (109, 37938), (114, 37950), (122, 37965), (131, 37989), (133, 38001), (135, 38007),

Gene: Flathead\_81 Start: 48740, Stop: 49024, Start Num: 61

Candidate Starts for Flathead\_81:

(Start: 61 @48740 has 268 MA's), (Start: 67 @48764 has 10 MA's), (93, 48839), (122, 48968), (133, 49004),

Gene: Florinda\_94 Start: 51591, Stop: 51875, Start Num: 61

Candidate Starts for Florinda\_94:

(Start: 61 @51591 has 268 MA's), (Start: 67 @51615 has 10 MA's), (Start: 69 @51624 has 1 MA's), (98, 51723), (104, 51738), (138, 51852),

Gene: Flypotenuse\_38 Start: 34455, Stop: 34180, Start Num: 61

Candidate Starts for Flypotenuse\_38:

(30, 34527), (37, 34503), (40, 34500), (Start: 61 @34455 has 268 MA's), (Start: 66 @34434 has 8 MA's), (70, 34422), (104, 34314), (122, 34236), (133, 34200),

Gene: Forsytheast\_60 Start: 39923, Stop: 39675, Start Num: 66

Candidate Starts for Forsytheast\_60:

(23, 40019), (29, 39995), (Start: 46 @39965 has 3 MA's), (Start: 66 @39923 has 8 MA's), (Start: 69 @39911 has 1 MA's), (112, 39698),

Gene: Fruitloop\_78 Start: 48745, Stop: 49029, Start Num: 61

Candidate Starts for Fruitloop\_78:

(50, 48718), (Start: 61 @48745 has 268 MA's), (Start: 67 @48769 has 10 MA's), (93, 48844), (122, 48973), (133, 49009),

Gene: Galactic\_82 Start: 48872, Stop: 49156, Start Num: 61

Candidate Starts for Galactic\_82:

(Start: 61 @48872 has 268 MA's), (Start: 67 @48899 has 10 MA's), (Start: 69 @48908 has 1 MA's), (82, 48941), (88, 48953), (89, 48956), (98, 49004), (104, 49019), (138, 49133),

Gene: Galactic\_80 Start: 48440, Stop: 48724, Start Num: 61

Candidate Starts for Galactic\_80:

(34, 48380), (Start: 61 @48440 has 268 MA's), (Start: 67 @48464 has 10 MA's), (93, 48539), (122, 48668), (133, 48704),

Gene: Gandalph\_79 Start: 46011, Stop: 46295, Start Num: 62

Candidate Starts for Gandalph\_79:

(Start: 62 @46011 has 2 MA's), (Start: 67 @46035 has 10 MA's), (93, 46110), (122, 46239), (133, 46275),

Gene: Gator\_41 Start: 35594, Stop: 35319, Start Num: 61

Candidate Starts for Gator\_41:

(30, 35666), (37, 35642), (40, 35639), (Start: 61 @35594 has 268 MA's), (Start: 66 @35573 has 8 MA's), (70, 35561), (104, 35453), (122, 35375), (133, 35339),

Gene: Geralt\_75 Start: 48346, Stop: 48630, Start Num: 61

Candidate Starts for Geralt\_75:

(Start: 61 @48346 has 268 MA's), (Start: 67 @48370 has 10 MA's), (93, 48445), (122, 48574), (133, 48610),

Gene: Girafales\_91 Start: 51196, Stop: 51480, Start Num: 61

Candidate Starts for Girafales\_91:

(Start: 61 @51196 has 268 MA's), (Start: 67 @51220 has 10 MA's), (Start: 69 @51229 has 1 MA's), (98, 51328), (104, 51343), (138, 51457),

Gene: Glexan\_41 Start: 35582, Stop: 35307, Start Num: 61

Candidate Starts for Glexan\_41:

(30, 35654), (37, 35630), (40, 35627), (Start: 61 @35582 has 268 MA's), (Start: 66 @35561 has 8 MA's), (70, 35549), (104, 35441), (122, 35363), (133, 35327),

Gene: Guppsters\_76 Start: 46731, Stop: 47015, Start Num: 61

Candidate Starts for Guppsters\_76:

(Start: 52 @46707 has 1 MA's), (Start: 61 @46731 has 268 MA's), (Start: 67 @46755 has 10 MA's), (93, 46830), (122, 46959), (133, 46995),

Gene: Hades\_81 Start: 47173, Stop: 47484, Start Num: 41

Candidate Starts for Hades\_81:

(31, 47146), (Start: 41 @47173 has 5 MA's), (Start: 66 @47236 has 8 MA's), (101, 47341), (133, 47461),

Gene: Hades\_80 Start: 46896, Stop: 47180, Start Num: 61

Candidate Starts for Hades\_80:

(Start: 61 @46896 has 268 MA's), (Start: 67 @46920 has 10 MA's), (93, 46995), (122, 47124),

Gene: Halley\_73 Start: 50213, Stop: 49920, Start Num: 61

Candidate Starts for Halley\_73:

(Start: 61 @50213 has 268 MA's), (Start: 66 @50192 has 8 MA's), (Start: 69 @50180 has 1 MA's), (104, 50072), (108, 50024), (111, 50012), (120, 49985), (121, 49982), (133, 49943),

Gene: Halley\_77 Start: 51626, Stop: 51342, Start Num: 61

Candidate Starts for Halley\_77:

(Start: 61 @51626 has 268 MA's), (Start: 67 @51602 has 10 MA's), (93, 51527), (122, 51398), (133, 51362),

Gene: Hamulus\_80 Start: 48587, Stop: 48871, Start Num: 61

Candidate Starts for Hamulus\_80:

(Start: 61 @48587 has 268 MA's), (Start: 67 @48611 has 10 MA's), (93, 48686), (122, 48815), (133, 48851),

Gene: Hannaconda\_70 Start: 46036, Stop: 45752, Start Num: 61

Candidate Starts for Hannaconda\_70:

(Start: 61 @46036 has 268 MA's), (Start: 67 @46012 has 10 MA's), (122, 45808), (133, 45772),

Gene: Harella\_43 Start: 36098, Stop: 35823, Start Num: 61

Candidate Starts for Harella\_43:

(30, 36170), (37, 36146), (40, 36143), (Start: 61 @36098 has 268 MA's), (Start: 66 @36077 has 8 MA's), (70, 36065), (104, 35957), (122, 35879), (133, 35843),

Gene: Harley\_80 Start: 48340, Stop: 48624, Start Num: 61

Candidate Starts for Harley\_80:

(Start: 61 @48340 has 268 MA's), (Start: 67 @48364 has 10 MA's), (93, 48439), (122, 48568), (133, 48604),

Gene: Hlubikazi\_81 Start: 47588, Stop: 47899, Start Num: 41

Candidate Starts for Hlubikazi\_81:

(31, 47561), (Start: 41 @47588 has 5 MA's), (Start: 66 @47651 has 8 MA's), (101, 47756), (133, 47876),

Gene: Hlubikazi\_80 Start: 47314, Stop: 47595, Start Num: 61

Candidate Starts for Hlubikazi\_80:

(Start: 61 @47314 has 268 MA's), (Start: 67 @47338 has 10 MA's), (70, 47347), (104, 47461), (118, 47533), (122, 47539),

Gene: Hlubikazi\_76 Start: 46227, Stop: 46511, Start Num: 61

Candidate Starts for Hlubikazi\_76:

(Start: 52 @46203 has 1 MA's), (Start: 61 @46227 has 268 MA's), (Start: 67 @46251 has 10 MA's), (93, 46326), (122, 46455), (133, 46491),

Gene: HokkenD\_68 Start: 49895, Stop: 49611, Start Num: 61

Candidate Starts for HokkenD\_68:

(Start: 61 @49895 has 268 MA's), (Start: 67 @49871 has 10 MA's), (93, 49796), (122, 49667), (133, 49631),

Gene: HokkenD\_64 Start: 48482, Stop: 48189, Start Num: 61

Candidate Starts for HokkenD\_64:

(Start: 61 @48482 has 268 MA's), (Start: 66 @48461 has 8 MA's), (Start: 69 @48449 has 1 MA's), (104, 48341), (108, 48293), (111, 48281), (120, 48254), (121, 48251), (133, 48212),

Gene: Hughesyang\_74 Start: 51585, Stop: 51301, Start Num: 61

Candidate Starts for Hughesyang\_74:

(Start: 61 @51585 has 268 MA's), (Start: 67 @51561 has 10 MA's), (93, 51486), (122, 51357), (133, 51321),

Gene: Hughesyang\_70 Start: 50142, Stop: 49849, Start Num: 61

Candidate Starts for Hughesyang\_70:

(Start: 61 @50142 has 268 MA's), (Start: 66 @50121 has 8 MA's), (Start: 69 @50109 has 1 MA's), (104, 50001), (108, 49953), (111, 49941), (120, 49914), (121, 49911), (133, 49872),

Gene: Huphlebuff\_10 Start: 2982, Stop: 3266, Start Num: 61

Candidate Starts for Huphlebuff\_10:

(Start: 52 @2958 has 1 MA's), (Start: 61 @2982 has 268 MA's), (Start: 67 @3006 has 10 MA's), (93, 3081), (122, 3210), (133, 3246),

Gene: IHOP\_42 Start: 35685, Stop: 35389, Start Num: 61

Candidate Starts for IHOP\_42:

(Start: 61 @35685 has 268 MA's), (70, 35649), (77, 35631), (90, 35598), (94, 35556), (133, 35409),

Gene: IMpilo\_79 Start: 47727, Stop: 47987, Start Num: 67

Candidate Starts for IMpilo\_79:

(25, 47616), (Start: 61 @47703 has 268 MA's), (Start: 67 @47727 has 10 MA's), (Start: 69 @47736 has 1 MA's), (98, 47835), (104, 47850), (138, 47964),

Gene: IMpilo\_76 Start: 46638, Stop: 46922, Start Num: 61

Candidate Starts for IMpilo\_76:

(2, 46392), (4, 46407), (Start: 61 @46638 has 268 MA's), (Start: 67 @46662 has 10 MA's), (93, 46737), (122, 46866), (133, 46902),

Gene: Ibhubesi\_80 Start: 47022, Stop: 47336, Start Num: 46

Candidate Starts for Ibhubesi\_80:

(Start: 46 @47022 has 3 MA's), (Start: 52 @47028 has 1 MA's), (Start: 61 @47052 has 268 MA's), (Start: 67 @47076 has 10 MA's), (118, 47274), (122, 47280), (133, 47316),

Gene: IgnatiusPatJac\_61 Start: 40665, Stop: 40318, Start Num: 66

Candidate Starts for IgnatiusPatJac\_61:

(12, 40866), (48, 40722), (51, 40719), (Start: 66 @40665 has 8 MA's), (Start: 69 @40653 has 1 MA's), (80, 40623), (86, 40605), (92, 40572), (95, 40530), (115, 40416), (140, 40341),

Gene: Inca\_41 Start: 34210, Stop: 33914, Start Num: 61

Candidate Starts for Inca\_41:

(Start: 61 @34210 has 268 MA's), (70, 34174), (77, 34156), (90, 34123), (94, 34081), (133, 33934),

Gene: IrishSherpFalk\_81 Start: 49331, Stop: 49615, Start Num: 61

Candidate Starts for IrishSherpFalk\_81:

(Start: 46 @49301 has 3 MA's), (Start: 52 @49307 has 1 MA's), (Start: 61 @49331 has 268 MA's), (Start: 67 @49355 has 10 MA's), (93, 49430), (122, 49559), (133, 49595),

Gene: JC27\_64 Start: 41329, Stop: 41042, Start Num: 61

Candidate Starts for JC27\_64:

(Start: 46 @41359 has 3 MA's), (Start: 61 @41329 has 268 MA's), (Start: 67 @41305 has 10 MA's), (133, 41065),

Gene: Jabbawokkie\_91 Start: 47805, Stop: 48089, Start Num: 61

Candidate Starts for Jabbawokkie\_91:

(Start: 61 @47805 has 268 MA's), (Start: 67 @47829 has 10 MA's), (122, 48033), (133, 48069),

Gene: James\_82 Start: 50466, Stop: 50750, Start Num: 61

Candidate Starts for James\_82:

(Start: 61 @50466 has 268 MA's), (Start: 67 @50490 has 10 MA's), (93, 50565), (122, 50694), (133, 50730),

Gene: Jarcob\_81 Start: 50063, Stop: 50347, Start Num: 61

Candidate Starts for Jarcob\_81:

(Start: 61 @50063 has 268 MA's), (Start: 67 @50087 has 10 MA's), (93, 50162), (122, 50291), (133, 50327),

Gene: Jinglebell\_88 Start: 49768, Stop: 50088, Start Num: 61

Candidate Starts for Jinglebell\_88:

(Start: 52 @49744 has 1 MA's), (Start: 61 @49768 has 268 MA's), (Start: 67 @49792 has 10 MA's), (93, 49867), (122, 49996), (133, 50032),

Gene: Jinglebell\_90 Start: 50298, Stop: 50591, Start Num: 61

Candidate Starts for Jinglebell\_90:

(Start: 61 @50298 has 268 MA's), (Start: 66 @50319 has 8 MA's), (70, 50334), (104, 50460), (133, 50568),

Gene: Job42\_84 Start: 52418, Stop: 52702, Start Num: 61

Candidate Starts for Job42\_84:

(Start: 61 @52418 has 268 MA's), (Start: 67 @52442 has 10 MA's), (Start: 69 @52451 has 1 MA's), (98, 52550), (104, 52565), (138, 52679),

Gene: Job42\_81 Start: 51522, Stop: 51818, Start Num: 61

Candidate Starts for Job42\_81:

(Start: 61 @51522 has 268 MA's), (Start: 66 @51543 has 8 MA's), (70, 51558), (104, 51684), (122, 51762), (133, 51798),

Gene: JoeyJr\_82 Start: 50251, Stop: 50535, Start Num: 61

Candidate Starts for JoeyJr\_82:

(Start: 61 @50251 has 268 MA's), (Start: 67 @50275 has 10 MA's), (93, 50350), (122, 50479), (133, 50515),

Gene: JoieB\_10 Start: 3201, Stop: 3485, Start Num: 61

Candidate Starts for JoieB\_10:

(Start: 52 @3177 has 1 MA's), (Start: 61 @3201 has 268 MA's), (Start: 67 @3225 has 10 MA's), (93, 3300), (122, 3429), (133, 3465),

Gene: Jorgensen\_63 Start: 40720, Stop: 40448, Start Num: 61

Candidate Starts for Jorgensen\_63:

(Start: 61 @40720 has 268 MA's), (Start: 66 @40699 has 8 MA's), (Start: 69 @40687 has 1 MA's), (104, 40579), (133, 40471),

Gene: Juice456\_78 Start: 48213, Stop: 48485, Start Num: 61

Candidate Starts for Juice456\_78:

(Start: 61 @48213 has 268 MA's), (Start: 66 @48234 has 8 MA's), (Start: 69 @48246 has 1 MA's), (104, 48354), (133, 48462),

Gene: JuicyJay\_70 Start: 51347, Stop: 51054, Start Num: 61

Candidate Starts for JuicyJay\_70:

(Start: 61 @51347 has 268 MA's), (Start: 66 @51326 has 8 MA's), (Start: 69 @51314 has 1 MA's), (104, 51206), (108, 51158), (111, 51146), (120, 51119), (121, 51116), (133, 51077),

Gene: JuicyJay\_74 Start: 52760, Stop: 52476, Start Num: 61

Candidate Starts for JuicyJay\_74:

(Start: 61 @52760 has 268 MA's), (Start: 67 @52736 has 10 MA's), (93, 52661), (122, 52532), (133, 52496),

Gene: Juniper1\_80 Start: 48708, Stop: 48983, Start Num: 72

Candidate Starts for Juniper1\_80:

(32, 48603), (45, 48633), (Start: 72 @48708 has 2 MA's), (78, 48729), (84, 48744), (104, 48834), (117, 48927), (126, 48945),

Gene: Kalah2\_70 Start: 50919, Stop: 50635, Start Num: 61

Candidate Starts for Kalah2\_70:

(Start: 61 @50919 has 268 MA's), (Start: 67 @50895 has 10 MA's), (93, 50820), (122, 50691), (133, 50655),

Gene: Kalah2\_66 Start: 49506, Stop: 49213, Start Num: 61

Candidate Starts for Kalah2\_66:

(Start: 61 @49506 has 268 MA's), (Start: 66 @49485 has 8 MA's), (Start: 69 @49473 has 1 MA's), (104, 49365), (108, 49317), (111, 49305), (120, 49278), (121, 49275), (133, 49236),



Gene: Karhdo\_80 Start: 47607, Stop: 47906, Start Num: 61  
Candidate Starts for Karhdo\_80:  
(Start: 61 @47607 has 268 MA's), (Start: 66 @47628 has 8 MA's), (70, 47643), (104, 47769), (133, 47883),

Gene: KashFlow\_68 Start: 45901, Stop: 45623, Start Num: 67  
Candidate Starts for KashFlow\_68:  
(58, 45940), (63, 45922), (Start: 67 @45901 has 10 MA's), (74, 45880), (77, 45868), (79, 45865), (85, 45850), (87, 45841), (122, 45679), (133, 45643),

Gene: Kenuha5\_77 Start: 49369, Stop: 49653, Start Num: 62  
Candidate Starts for Kenuha5\_77:  
(Start: 62 @49369 has 2 MA's), (Start: 67 @49393 has 10 MA's), (93, 49468), (122, 49597), (133, 49633),

Gene: Kersh\_83 Start: 50793, Stop: 51092, Start Num: 61  
Candidate Starts for Kersh\_83:  
(Start: 61 @50793 has 268 MA's), (Start: 66 @50814 has 8 MA's), (70, 50829), (104, 50955), (133, 51069),

Gene: Kimberlium\_83 Start: 48559, Stop: 48834, Start Num: 61  
Candidate Starts for Kimberlium\_83:  
(Start: 61 @48559 has 268 MA's), (Start: 66 @48580 has 8 MA's), (Start: 69 @48592 has 1 MA's), (80, 48622), (82, 48628), (103, 48742), (104, 48748), (123, 48823),

Gene: Kingsley\_85 Start: 51609, Stop: 51893, Start Num: 61  
Candidate Starts for Kingsley\_85:  
(Start: 61 @51609 has 268 MA's), (Start: 67 @51633 has 10 MA's), (122, 51837), (133, 51873),

Gene: Klein\_71 Start: 49529, Stop: 49236, Start Num: 61  
Candidate Starts for Klein\_71:  
(Start: 61 @49529 has 268 MA's), (Start: 66 @49508 has 8 MA's), (Start: 69 @49496 has 1 MA's), (104, 49388), (108, 49340), (111, 49328), (120, 49301), (121, 49298), (133, 49259),

Gene: Klein\_73 Start: 50165, Stop: 49884, Start Num: 61  
Candidate Starts for Klein\_73:  
(Start: 61 @50165 has 268 MA's), (Start: 67 @50144 has 10 MA's), (82, 50111), (122, 49940), (133, 49904),

Gene: Koella\_76 Start: 46177, Stop: 46458, Start Num: 61  
Candidate Starts for Koella\_76:  
(Start: 61 @46177 has 268 MA's), (Start: 67 @46198 has 10 MA's), (82, 46231), (122, 46402), (133, 46438),

Gene: Krakatau\_77 Start: 45727, Stop: 46011, Start Num: 61  
Candidate Starts for Krakatau\_77:  
(Start: 61 @45727 has 268 MA's), (Start: 67 @45751 has 10 MA's), (Start: 69 @45760 has 1 MA's), (98, 45859), (104, 45874), (138, 45988),

Gene: KristaRAM\_79 Start: 47927, Stop: 48211, Start Num: 61  
Candidate Starts for KristaRAM\_79:  
(Start: 61 @47927 has 268 MA's), (Start: 67 @47951 has 10 MA's), (93, 48026), (122, 48155), (133, 48191),

Gene: Kumao\_59 Start: 43007, Stop: 43291, Start Num: 61

Candidate Starts for Kumao\_59:

(34, 42947), (Start: 61 @43007 has 268 MA's), (Start: 67 @43031 has 10 MA's), (93, 43106), (122, 43235), (133, 43271),

Gene: Latretium\_82 Start: 48306, Stop: 48590, Start Num: 61

Candidate Starts for Latretium\_82:

(Start: 61 @48306 has 268 MA's), (Start: 67 @48330 has 10 MA's), (93, 48405), (122, 48534), (133, 48570),

Gene: Leozinho\_79 Start: 46485, Stop: 46781, Start Num: 61

Candidate Starts for Leozinho\_79:

(Start: 61 @46485 has 268 MA's), (70, 46521), (77, 46539), (90, 46572), (94, 46614), (122, 46725), (133, 46761),

Gene: Leperchaun\_80 Start: 49485, Stop: 49769, Start Num: 61

Candidate Starts for Leperchaun\_80:

(Start: 61 @49485 has 268 MA's), (Start: 67 @49509 has 10 MA's), (93, 49584), (122, 49713), (133, 49749),

Gene: LilMoolah\_82 Start: 49634, Stop: 49918, Start Num: 61

Candidate Starts for LilMoolah\_82:

(14, 49496), (27, 49559), (Start: 61 @49634 has 268 MA's), (Start: 67 @49658 has 10 MA's), (93, 49733), (122, 49862), (133, 49898),

Gene: LilSpotty\_77 Start: 45059, Stop: 45403, Start Num: 55

Candidate Starts for LilSpotty\_77:

(43, 45041), (47, 45047), (Start: 55 @45059 has 1 MA's), (59, 45071), (60, 45074), (Start: 66 @45101 has 8 MA's), (70, 45116), (75, 45131), (76, 45134), (96, 45209), (107, 45284), (113, 45311), (136, 45380), (137, 45386),

Gene: LilSpotty\_76 Start: 44396, Stop: 44653, Start Num: 73

Candidate Starts for LilSpotty\_76:

(18, 44225), (28, 44270), (64, 44366), (Start: 73 @44396 has 4 MA's), (84, 44429), (109, 44570), (110, 44573), (111, 44576), (118, 44600), (122, 44606), (131, 44630),

Gene: Lilbit\_10 Start: 3253, Stop: 3537, Start Num: 61

Candidate Starts for Lilbit\_10:

(Start: 52 @3229 has 1 MA's), (Start: 61 @3253 has 268 MA's), (Start: 67 @3277 has 10 MA's), (93, 3352), (122, 3481), (133, 3517),

Gene: LittleE\_74 Start: 49484, Stop: 49203, Start Num: 61

Candidate Starts for LittleE\_74:

(9, 49685), (10, 49673), (17, 49613), (19, 49601), (32, 49547), (Start: 61 @49484 has 268 MA's), (Start: 67 @49460 has 10 MA's), (Start: 69 @49451 has 1 MA's), (82, 49418), (88, 49406), (89, 49403), (98, 49355), (104, 49340), (138, 49226),

Gene: LittleE\_77 Start: 50428, Stop: 50147, Start Num: 61

Candidate Starts for LittleE\_77:

(Start: 61 @50428 has 268 MA's), (Start: 67 @50407 has 10 MA's), (93, 50332), (122, 50203), (133, 50167),

Gene: LittleLaf\_9 Start: 2982, Stop: 3266, Start Num: 61

Candidate Starts for LittleLaf\_9:

(Start: 52 @2958 has 1 MA's), (Start: 61 @2982 has 268 MA's), (Start: 67 @3006 has 10 MA's), (93, 3081), (122, 3210), (133, 3246),

Gene: Llama\_88 Start: 49624, Stop: 49944, Start Num: 61

Candidate Starts for Llama\_88:

(Start: 52 @49600 has 1 MA's), (Start: 61 @49624 has 268 MA's), (Start: 67 @49648 has 10 MA's), (93, 49723), (122, 49852), (133, 49888),

Gene: Llama\_90 Start: 50154, Stop: 50447, Start Num: 61

Candidate Starts for Llama\_90:

(Start: 61 @50154 has 268 MA's), (Start: 66 @50175 has 8 MA's), (70, 50190), (104, 50316), (133, 50424),

Gene: Llij\_77 Start: 46445, Stop: 46729, Start Num: 61

Candidate Starts for Llij\_77:

(Start: 61 @46445 has 268 MA's), (Start: 67 @46469 has 10 MA's), (93, 46544), (122, 46673), (133, 46709),

Gene: Llij\_80 Start: 47508, Stop: 47834, Start Num: 61

Candidate Starts for Llij\_80:

(Start: 61 @47508 has 268 MA's), (Start: 69 @47541 has 1 MA's), (70, 47544), (80, 47571), (82, 47577), (104, 47697), (133, 47811),

Gene: Lorde\_81 Start: 45732, Stop: 46016, Start Num: 61

Candidate Starts for Lorde\_81:

(Start: 61 @45732 has 268 MA's), (Start: 67 @45756 has 10 MA's), (93, 45831), (122, 45960), (133, 45996),

Gene: Lucky2013\_69 Start: 45952, Stop: 45659, Start Num: 61

Candidate Starts for Lucky2013\_69:

(Start: 61 @45952 has 268 MA's), (Start: 66 @45931 has 8 MA's), (Start: 69 @45919 has 1 MA's), (104, 45811), (108, 45763), (111, 45751), (120, 45724), (121, 45721), (133, 45682),

Gene: Lucky2013\_73 Start: 47341, Stop: 47081, Start Num: 67

Candidate Starts for Lucky2013\_73:

(Start: 61 @47365 has 268 MA's), (Start: 67 @47341 has 10 MA's), (93, 47266), (122, 47137), (133, 47101),

Gene: LunaBlu\_84 Start: 49474, Stop: 49758, Start Num: 61

Candidate Starts for LunaBlu\_84:

(Start: 61 @49474 has 268 MA's), (Start: 67 @49498 has 10 MA's), (93, 49573), (122, 49702), (133, 49738),

Gene: LunaStella\_80 Start: 48469, Stop: 48825, Start Num: 61

Candidate Starts for LunaStella\_80:

(42, 48427), (54, 48445), (Start: 61 @48469 has 268 MA's), (Start: 66 @48490 has 8 MA's), (Start: 69 @48502 has 1 MA's), (124, 48706), (130, 48724), (132, 48736), (143, 48778), (144, 48802),

Gene: MadMen\_87 Start: 49600, Stop: 49884, Start Num: 61

Candidate Starts for MadMen\_87:

(34, 49540), (Start: 61 @49600 has 268 MA's), (Start: 67 @49624 has 10 MA's), (93, 49699), (122, 49828), (133, 49864),

Gene: MadMen\_79 Start: 47451, Stop: 47750, Start Num: 61

Candidate Starts for MadMen\_79:

(Start: 61 @47451 has 268 MA's), (Start: 66 @47472 has 8 MA's), (70, 47487), (104, 47613), (133, 47727),

Gene: Mahavrat\_81 Start: 47831, Stop: 48169, Start Num: 72

Candidate Starts for Mahavrat\_81:

(32, 47726), (45, 47756), (Start: 72 @47831 has 2 MA's), (78, 47852), (84, 47867), (104, 47957), (117, 48050), (126, 48068), (129, 48080), (139, 48122), (142, 48146),

Gene: Manda\_43 Start: 35798, Stop: 35514, Start Num: 61

Candidate Starts for Manda\_43:

(Start: 61 @35798 has 268 MA's), (Start: 67 @35774 has 10 MA's), (93, 35699), (122, 35570), (133, 35534),

Gene: Mandlovu\_81 Start: 47530, Stop: 47841, Start Num: 41

Candidate Starts for Mandlovu\_81:

(31, 47503), (Start: 41 @47530 has 5 MA's), (Start: 66 @47593 has 8 MA's), (101, 47698), (133, 47818),

Gene: Mandlovu\_80 Start: 47256, Stop: 47537, Start Num: 61

Candidate Starts for Mandlovu\_80:

(Start: 61 @47256 has 268 MA's), (Start: 67 @47280 has 10 MA's), (70, 47289), (104, 47403), (118, 47475), (122, 47481),

Gene: Mandlovu\_76 Start: 46169, Stop: 46453, Start Num: 61

Candidate Starts for Mandlovu\_76:

(Start: 52 @46145 has 1 MA's), (Start: 61 @46169 has 268 MA's), (Start: 67 @46193 has 10 MA's), (93, 46268), (122, 46397), (133, 46433),

Gene: Marker\_87 Start: 49400, Stop: 49684, Start Num: 61

Candidate Starts for Marker\_87:

(Start: 61 @49400 has 268 MA's), (Start: 67 @49424 has 10 MA's), (93, 49499), (122, 49628), (133, 49664),

Gene: Marker\_89 Start: 50064, Stop: 50420, Start Num: 39

Candidate Starts for Marker\_89:

(Start: 39 @50064 has 1 MA's), (49, 50079), (59, 50103), (65, 50130), (75, 50160), (106, 50280), (119, 50355), (133, 50397),

Gene: Marshmallow\_43 Start: 36119, Stop: 35823, Start Num: 61

Candidate Starts for Marshmallow\_43:

(Start: 61 @36119 has 268 MA's), (70, 36083), (77, 36065), (90, 36032), (94, 35990), (133, 35843),

Gene: Marvin\_8 Start: 2964, Stop: 3248, Start Num: 61

Candidate Starts for Marvin\_8:

(Start: 52 @2940 has 1 MA's), (Start: 61 @2964 has 268 MA's), (Start: 67 @2988 has 10 MA's), (93, 3063), (122, 3192), (133, 3228),

Gene: MiaZeal\_76 Start: 48021, Stop: 47737, Start Num: 61

Candidate Starts for MiaZeal\_76:

(Start: 61 @48021 has 268 MA's), (Start: 67 @47997 has 10 MA's), (93, 47922), (122, 47793), (133, 47757),

Gene: MiaZeal\_72 Start: 46608, Stop: 46255, Start Num: 61

Candidate Starts for MiaZeal\_72:

(Start: 61 @46608 has 268 MA's), (Start: 66 @46587 has 8 MA's), (Start: 69 @46575 has 1 MA's), (104, 46467), (124, 46374), (130, 46356), (132, 46344), (143, 46302), (144, 46278),

Gene: MilanaBonita\_77 Start: 48008, Stop: 48292, Start Num: 61

Candidate Starts for MilanaBonita\_77:

(Start: 61 @48008 has 268 MA's), (Start: 67 @48032 has 10 MA's), (93, 48107), (122, 48236), (133, 48272),

Gene: MilleniumForce\_82 Start: 49757, Stop: 50041, Start Num: 61

Candidate Starts for MilleniumForce\_82:

(Start: 61 @49757 has 268 MA's), (Start: 67 @49781 has 10 MA's), (93, 49856), (122, 49985), (133, 50021),

Gene: Minerva\_79 Start: 52268, Stop: 51984, Start Num: 61

Candidate Starts for Minerva\_79:

(Start: 52 @52292 has 1 MA's), (Start: 61 @52268 has 268 MA's), (Start: 67 @52244 has 10 MA's), (93, 52169), (122, 52040), (133, 52004),

Gene: Minerva\_77 Start: 51629, Stop: 51336, Start Num: 61

Candidate Starts for Minerva\_77:

(Start: 61 @51629 has 268 MA's), (Start: 66 @51608 has 8 MA's), (Start: 69 @51596 has 1 MA's), (104, 51488), (108, 51440), (111, 51428), (120, 51401), (121, 51398), (133, 51359),

Gene: MinionDave\_77 Start: 48491, Stop: 48775, Start Num: 61

Candidate Starts for MinionDave\_77:

(Start: 61 @48491 has 268 MA's), (Start: 67 @48515 has 10 MA's), (122, 48719), (133, 48755),

Gene: Minnie\_77 Start: 50537, Stop: 50821, Start Num: 61

Candidate Starts for Minnie\_77:

(Start: 46 @50507 has 3 MA's), (Start: 52 @50513 has 1 MA's), (Start: 61 @50537 has 268 MA's), (Start: 67 @50561 has 10 MA's), (93, 50636), (122, 50765), (133, 50801),

Gene: Modragons\_88 Start: 50142, Stop: 50435, Start Num: 61

Candidate Starts for Modragons\_88:

(Start: 61 @50142 has 268 MA's), (Start: 66 @50163 has 8 MA's), (70, 50178), (104, 50304), (133, 50412),

Gene: Modragons\_86 Start: 49612, Stop: 49932, Start Num: 61

Candidate Starts for Modragons\_86:

(Start: 52 @49588 has 1 MA's), (Start: 61 @49612 has 268 MA's), (Start: 67 @49636 has 10 MA's), (93, 49711), (122, 49840), (133, 49876),

Gene: MooMoo\_80 Start: 48107, Stop: 48433, Start Num: 61

Candidate Starts for MooMoo\_80:

(Start: 61 @48107 has 268 MA's), (Start: 69 @48140 has 1 MA's), (70, 48143), (80, 48170), (82, 48176), (104, 48296), (133, 48410),

Gene: Moose\_60 Start: 39923, Stop: 39675, Start Num: 66

Candidate Starts for Moose\_60:

(23, 40019), (29, 39995), (Start: 46 @39965 has 3 MA's), (Start: 66 @39923 has 8 MA's), (Start: 69 @39911 has 1 MA's), (112, 39698),

Gene: Mova\_80 Start: 47852, Stop: 48136, Start Num: 61

Candidate Starts for Mova\_80:

(Start: 61 @47852 has 268 MA's), (Start: 67 @47876 has 10 MA's), (93, 47951), (122, 48080), (133, 48116),

Gene: Mozy\_88 Start: 48337, Stop: 48621, Start Num: 61

Candidate Starts for Mozy\_88:

(Start: 61 @48337 has 268 MA's), (Start: 67 @48361 has 10 MA's), (93, 48436), (122, 48565), (133, 48601),

Gene: Mozy\_86 Start: 47832, Stop: 48131, Start Num: 61

Candidate Starts for Mozy\_86:

(42, 47790), (54, 47808), (Start: 61 @47832 has 268 MA's), (Start: 66 @47853 has 8 MA's), (Start: 69 @47865 has 1 MA's), (125, 48033), (144, 48108),

Gene: MrGordo\_63 Start: 41253, Stop: 40939, Start Num: 46

Candidate Starts for MrGordo\_63:

(Start: 46 @41253 has 3 MA's), (Start: 52 @41247 has 1 MA's), (Start: 61 @41223 has 268 MA's), (Start: 67 @41199 has 10 MA's), (122, 40995), (133, 40959),

Gene: Ms6\_82 Start: 45701, Stop: 45985, Start Num: 61

Candidate Starts for Ms6\_82:

(Start: 61 @45701 has 268 MA's), (Start: 67 @45725 has 10 MA's), (93, 45800), (122, 45929), (133, 45965),

Gene: MulchExplorer\_85 Start: 48230, Stop: 48505, Start Num: 61

Candidate Starts for MulchExplorer\_85:

(Start: 61 @48230 has 268 MA's), (Start: 66 @48251 has 8 MA's), (Start: 69 @48263 has 1 MA's), (80, 48293), (82, 48299), (103, 48413), (104, 48419), (123, 48494),

Gene: Mutaforma13\_86 Start: 49538, Stop: 49894, Start Num: 61

Candidate Starts for Mutaforma13\_86:

(42, 49496), (54, 49514), (Start: 61 @49538 has 268 MA's), (Start: 66 @49559 has 8 MA's), (124, 49775), (130, 49793), (132, 49805), (143, 49847), (144, 49871),

Gene: Myrale\_44 Start: 35984, Stop: 35688, Start Num: 61

Candidate Starts for Myrale\_44:

(Start: 61 @35984 has 268 MA's), (70, 35948), (77, 35930), (90, 35897), (94, 35855), (133, 35708),

Gene: NihilNomen\_76 Start: 51713, Stop: 51429, Start Num: 61

Candidate Starts for NihilNomen\_76:

(Start: 61 @51713 has 268 MA's), (Start: 67 @51689 has 10 MA's), (93, 51614), (122, 51485), (133, 51449),

Gene: NihilNomen\_72 Start: 50300, Stop: 50007, Start Num: 61

Candidate Starts for NihilNomen\_72:

(Start: 61 @50300 has 268 MA's), (Start: 66 @50279 has 8 MA's), (Start: 69 @50267 has 1 MA's), (104, 50159), (108, 50111), (111, 50099), (120, 50072), (121, 50069), (133, 50030),

Gene: Nimbo\_74 Start: 48349, Stop: 48633, Start Num: 61

Candidate Starts for Nimbo\_74:

(Start: 61 @48349 has 268 MA's), (Start: 67 @48373 has 10 MA's), (93, 48448), (122, 48577), (133, 48613),

Gene: Nitzel\_78 Start: 46831, Stop: 47190, Start Num: 61

Candidate Starts for Nitzel\_78:

(38, 46792), (Start: 52 @46810 has 1 MA's), (Start: 61 @46831 has 268 MA's), (Start: 67 @46855 has 10 MA's), (Start: 69 @46864 has 1 MA's), (98, 46963), (104, 46978), (123, 47071), (130, 47089), (132, 47101), (143, 47143), (144, 47167),

Gene: Nivrat\_80 Start: 49507, Stop: 49791, Start Num: 61

Candidate Starts for Nivrat\_80:

(14, 49369), (27, 49432), (Start: 61 @49507 has 268 MA's), (Start: 67 @49531 has 10 MA's), (93, 49606), (122, 49735), (133, 49771),

Gene: NormanBulbieJr\_82 Start: 50191, Stop: 50472, Start Num: 61

Candidate Starts for NormanBulbieJr\_82:

(Start: 61 @50191 has 268 MA's), (Start: 67 @50212 has 10 MA's), (82, 50245), (122, 50416), (133, 50452),

Gene: Ochi17\_89 Start: 49749, Stop: 50042, Start Num: 61

Candidate Starts for Ochi17\_89:

(Start: 61 @49749 has 268 MA's), (Start: 66 @49770 has 8 MA's), (70, 49785), (104, 49911), (133, 50019),

Gene: Ochi17\_87 Start: 49219, Stop: 49539, Start Num: 61

Candidate Starts for Ochi17\_87:

(Start: 52 @49195 has 1 MA's), (Start: 61 @49219 has 268 MA's), (Start: 67 @49243 has 10 MA's), (93, 49318), (122, 49447), (133, 49483),

Gene: Odette\_70 Start: 49343, Stop: 49050, Start Num: 61

Candidate Starts for Odette\_70:

(Start: 61 @49343 has 268 MA's), (Start: 66 @49322 has 8 MA's), (Start: 69 @49310 has 1 MA's), (104, 49202), (108, 49154), (111, 49142), (120, 49115), (121, 49112), (133, 49073),

Gene: Odette\_74 Start: 50756, Stop: 50472, Start Num: 61

Candidate Starts for Odette\_74:

(Start: 61 @50756 has 268 MA's), (Start: 67 @50732 has 10 MA's), (93, 50657), (122, 50528), (133, 50492),

Gene: OfUltron\_89 Start: 49768, Stop: 50088, Start Num: 61

Candidate Starts for OfUltron\_89:

(Start: 52 @49744 has 1 MA's), (Start: 61 @49768 has 268 MA's), (Start: 67 @49792 has 10 MA's), (93, 49867), (122, 49996), (133, 50032),

Gene: OfUltron\_91 Start: 50298, Stop: 50591, Start Num: 61

Candidate Starts for OfUltron\_91:

(Start: 61 @50298 has 268 MA's), (Start: 66 @50319 has 8 MA's), (70, 50334), (104, 50460), (133, 50568),

Gene: Ogopogo\_87 Start: 48817, Stop: 49101, Start Num: 61

Candidate Starts for Ogopogo\_87:

(Start: 61 @48817 has 268 MA's), (Start: 67 @48841 has 10 MA's), (93, 48916), (122, 49045), (133, 49081),

Gene: Oksu\_86 Start: 50903, Stop: 51256, Start Num: 61

Candidate Starts for Oksu\_86:

(Start: 61 @50903 has 268 MA's), (Start: 66 @50924 has 8 MA's), (Start: 69 @50936 has 1 MA's), (104, 51044), (124, 51137), (130, 51155), (132, 51167), (143, 51209), (144, 51233),

Gene: OldBen\_79 Start: 49741, Stop: 50025, Start Num: 61

Candidate Starts for OldBen\_79:

(Start: 61 @49741 has 268 MA's), (Start: 67 @49765 has 10 MA's), (93, 49840), (122, 49969), (133, 50005),

Gene: OlympiaSaint\_81 Start: 49408, Stop: 49692, Start Num: 61

Candidate Starts for OlympiaSaint\_81:

(Start: 61 @49408 has 268 MA's), (Start: 67 @49432 has 10 MA's), (93, 49507), (122, 49636), (133, 49672),

Gene: Omega\_77 Start: 51219, Stop: 50938, Start Num: 61

Candidate Starts for Omega\_77:

(Start: 61 @51219 has 268 MA's), (Start: 67 @51195 has 10 MA's), (Start: 69 @51186 has 1 MA's), (82, 51153), (88, 51141), (89, 51138), (104, 51075), (138, 50961),

Gene: Omega\_79 Start: 51648, Stop: 51367, Start Num: 61

Candidate Starts for Omega\_79:

(Start: 61 @51648 has 268 MA's), (Start: 67 @51627 has 10 MA's), (93, 51552), (122, 51423), (133, 51387),

Gene: PHappiness\_82 Start: 50570, Stop: 50854, Start Num: 61

Candidate Starts for PHappiness\_82:

(Start: 61 @50570 has 268 MA's), (Start: 67 @50594 has 10 MA's), (93, 50669), (122, 50798), (133, 50834),

Gene: PMC\_78 Start: 47902, Stop: 48186, Start Num: 61

Candidate Starts for PMC\_78:

(Start: 61 @47902 has 268 MA's), (Start: 67 @47926 has 10 MA's), (93, 48001), (122, 48130), (133, 48166),

Gene: Pacc40\_73 Start: 48569, Stop: 48838, Start Num: 61

Candidate Starts for Pacc40\_73:

(Start: 61 @48569 has 268 MA's), (Start: 66 @48590 has 8 MA's), (99, 48689), (101, 48695), (133, 48815),

Gene: Pepe\_59 Start: 39848, Stop: 39564, Start Num: 61

Candidate Starts for Pepe\_59:

(Start: 46 @39878 has 3 MA's), (Start: 52 @39872 has 1 MA's), (Start: 61 @39848 has 268 MA's), (Start: 67 @39824 has 10 MA's), (93, 39749), (122, 39620), (133, 39584),

Gene: Phaja\_42 Start: 35684, Stop: 35388, Start Num: 61

Candidate Starts for Phaja\_42:

(Start: 61 @35684 has 268 MA's), (70, 35648), (77, 35630), (90, 35597), (94, 35555), (133, 35408),



Gene: Phalconet\_78 Start: 48031, Stop: 48315, Start Num: 61  
Candidate Starts for Phalconet\_78:  
(Start: 61 @48031 has 268 MA's), (Start: 67 @48055 has 10 MA's), (122, 48259), (133, 48295),

Gene: Phalconet\_82 Start: 49094, Stop: 49378, Start Num: 61  
Candidate Starts for Phalconet\_82:  
(Start: 61 @49094 has 268 MA's), (Start: 67 @49118 has 10 MA's), (Start: 69 @49127 has 1 MA's),  
(98, 49226), (104, 49241), (138, 49355),

Gene: Phanphagia\_80 Start: 49405, Stop: 49689, Start Num: 61  
Candidate Starts for Phanphagia\_80:  
(Start: 61 @49405 has 268 MA's), (Start: 67 @49429 has 10 MA's), (93, 49504), (122, 49633), (133,  
49669),

Gene: Phatniss\_78 Start: 47540, Stop: 47824, Start Num: 61  
Candidate Starts for Phatniss\_78:  
(Start: 61 @47540 has 268 MA's), (Start: 67 @47564 has 10 MA's), (93, 47639), (122, 47768), (133,  
47804),

Gene: PhesterPhotato\_85 Start: 49202, Stop: 49483, Start Num: 61  
Candidate Starts for PhesterPhotato\_85:  
(Start: 61 @49202 has 268 MA's), (Start: 67 @49223 has 10 MA's), (93, 49298), (122, 49427), (133,  
49463),

Gene: PhesterPhotato\_89 Start: 50262, Stop: 50546, Start Num: 61  
Candidate Starts for PhesterPhotato\_89:  
(Start: 61 @50262 has 268 MA's), (Start: 67 @50286 has 10 MA's), (Start: 69 @50295 has 1 MA's),  
(98, 50394), (104, 50409), (138, 50523),

Gene: Philus\_84 Start: 51107, Stop: 51391, Start Num: 61  
Candidate Starts for Philus\_84:  
(Start: 61 @51107 has 268 MA's), (Start: 67 @51131 has 10 MA's), (93, 51206), (122, 51335), (133,  
51371),

Gene: Phoebus\_78 Start: 52895, Stop: 52611, Start Num: 61  
Candidate Starts for Phoebus\_78:  
(Start: 61 @52895 has 268 MA's), (Start: 67 @52871 has 10 MA's), (93, 52796), (122, 52667), (133,  
52631),

Gene: Phoebus\_74 Start: 51482, Stop: 51129, Start Num: 61  
Candidate Starts for Phoebus\_74:  
(Start: 61 @51482 has 268 MA's), (Start: 66 @51461 has 8 MA's), (Start: 69 @51449 has 1 MA's),  
(104, 51341), (124, 51248), (130, 51230), (132, 51218), (143, 51176), (144, 51152),

Gene: Pippy\_76 Start: 47591, Stop: 47887, Start Num: 61  
Candidate Starts for Pippy\_76:  
(Start: 61 @47591 has 268 MA's), (70, 47627), (77, 47645), (90, 47678), (94, 47720), (122, 47831),  
(133, 47867),

Gene: Poise\_9 Start: 2787, Stop: 3071, Start Num: 61  
Candidate Starts for Poise\_9:  
(Start: 61 @2787 has 268 MA's), (Start: 67 @2811 has 10 MA's), (93, 2886), (122, 3015), (133, 3051),

Gene: PopTart\_77 Start: 47157, Stop: 47441, Start Num: 61  
Candidate Starts for PopTart\_77:  
(Start: 61 @47157 has 268 MA's), (Start: 67 @47181 has 10 MA's), (Start: 69 @47190 has 1 MA's),  
(98, 47289), (104, 47304), (138, 47418),

Gene: PopTart\_73 Start: 46094, Stop: 46378, Start Num: 61  
Candidate Starts for PopTart\_73:  
(Start: 52 @46070 has 1 MA's), (Start: 61 @46094 has 268 MA's), (Start: 67 @46118 has 10 MA's),  
(93, 46193), (122, 46322), (133, 46358),

Gene: Porcelain\_71 Start: 46608, Stop: 46255, Start Num: 61  
Candidate Starts for Porcelain\_71:  
(Start: 61 @46608 has 268 MA's), (Start: 66 @46587 has 8 MA's), (Start: 69 @46575 has 1 MA's),  
(104, 46467), (124, 46374), (130, 46356), (132, 46344), (143, 46302), (144, 46278),

Gene: Porcelain\_75 Start: 48021, Stop: 47737, Start Num: 61  
Candidate Starts for Porcelain\_75:  
(Start: 61 @48021 has 268 MA's), (Start: 67 @47997 has 10 MA's), (93, 47922), (122, 47793), (133,  
47757),

Gene: Pound\_75 Start: 52901, Stop: 52608, Start Num: 61  
Candidate Starts for Pound\_75:  
(Start: 61 @52901 has 268 MA's), (Start: 66 @52880 has 8 MA's), (Start: 69 @52868 has 1 MA's),  
(104, 52760), (108, 52712), (111, 52700), (120, 52673), (121, 52670), (133, 52631),

Gene: Pound\_77 Start: 53540, Stop: 53256, Start Num: 61  
Candidate Starts for Pound\_77:  
(Start: 52 @53564 has 1 MA's), (Start: 61 @53540 has 268 MA's), (Start: 67 @53516 has 10 MA's),  
(93, 53441), (122, 53312), (133, 53276),

Gene: Pringar\_9 Start: 2807, Stop: 3091, Start Num: 61  
Candidate Starts for Pringar\_9:  
(Start: 52 @2783 has 1 MA's), (Start: 61 @2807 has 268 MA's), (Start: 67 @2831 has 10 MA's), (93,  
2906), (122, 3035), (133, 3071),

Gene: Priscilla\_84 Start: 50289, Stop: 50570, Start Num: 61  
Candidate Starts for Priscilla\_84:  
(Start: 61 @50289 has 268 MA's), (Start: 67 @50310 has 10 MA's), (82, 50343), (122, 50514), (133,  
50550),

Gene: QuickMath\_80 Start: 48565, Stop: 48837, Start Num: 61  
Candidate Starts for QuickMath\_80:  
(Start: 61 @48565 has 268 MA's), (Start: 66 @48586 has 8 MA's), (Start: 69 @48598 has 1 MA's),  
(104, 48706), (133, 48814),

Gene: Quico\_91 Start: 51411, Stop: 51695, Start Num: 61  
Candidate Starts for Quico\_91:  
(Start: 61 @51411 has 268 MA's), (Start: 67 @51435 has 10 MA's), (Start: 69 @51444 has 1 MA's),  
(98, 51543), (104, 51558), (138, 51672),

Gene: Rabinovish\_14 Start: 5789, Stop: 6034, Start Num: 61  
Candidate Starts for Rabinovish\_14:

(13, 5627), (Start: 61 @5789 has 268 MA's), (Start: 67 @5813 has 10 MA's), (Start: 69 @5822 has 1 MA's), (104, 5936), (111, 5996),

Gene: Radiance\_80 Start: 49352, Stop: 49621, Start Num: 61

Candidate Starts for Radiance\_80:

(44, 49322), (53, 49328), (Start: 61 @49352 has 268 MA's), (Start: 66 @49373 has 8 MA's), (99, 49472), (101, 49478), (133, 49598),

Gene: Raela\_9 Start: 3191, Stop: 3475, Start Num: 61

Candidate Starts for Raela\_9:

(Start: 61 @3191 has 268 MA's), (Start: 67 @3215 has 10 MA's), (93, 3290), (122, 3419), (133, 3455),

Gene: Redno2\_68 Start: 47096, Stop: 46803, Start Num: 61

Candidate Starts for Redno2\_68:

(Start: 61 @47096 has 268 MA's), (Start: 66 @47075 has 8 MA's), (Start: 69 @47063 has 1 MA's), (104, 46955), (108, 46907), (111, 46895), (120, 46868), (121, 46865), (133, 46826),

Gene: Redno2\_72 Start: 48485, Stop: 48225, Start Num: 67

Candidate Starts for Redno2\_72:

(Start: 61 @48509 has 268 MA's), (Start: 67 @48485 has 10 MA's), (93, 48410), (122, 48281), (133, 48245),

Gene: Renaud18\_93 Start: 50655, Stop: 50924, Start Num: 61

Candidate Starts for Renaud18\_93:

(Start: 61 @50655 has 268 MA's), (Start: 66 @50676 has 8 MA's), (70, 50691), (104, 50787), (133, 50901),

Gene: Rita\_88 Start: 51756, Stop: 52040, Start Num: 61

Candidate Starts for Rita\_88:

(Start: 61 @51756 has 268 MA's), (Start: 67 @51780 has 10 MA's), (93, 51855), (122, 51984), (133, 52020),

Gene: RitaG\_82 Start: 50372, Stop: 50656, Start Num: 61

Candidate Starts for RitaG\_82:

(Start: 61 @50372 has 268 MA's), (Start: 67 @50396 has 10 MA's), (93, 50471), (122, 50600), (133, 50636),

Gene: Rockne\_82 Start: 47914, Stop: 48198, Start Num: 61

Candidate Starts for Rockne\_82:

(Start: 61 @47914 has 268 MA's), (Start: 67 @47938 has 10 MA's), (93, 48013), (122, 48142), (133, 48178),

Gene: Royals2015\_90 Start: 49759, Stop: 50043, Start Num: 61

Candidate Starts for Royals2015\_90:

(Start: 61 @49759 has 268 MA's), (Start: 67 @49783 has 10 MA's), (Start: 69 @49792 has 1 MA's), (98, 49891), (104, 49906), (138, 50020),

Gene: Royals2015\_86 Start: 48664, Stop: 48936, Start Num: 61

Candidate Starts for Royals2015\_86:

(42, 48622), (54, 48640), (Start: 61 @48664 has 268 MA's), (Start: 66 @48685 has 8 MA's), (Start: 69 @48697 has 1 MA's), (104, 48805), (133, 48913),

Gene: SG4\_81 Start: 49453, Stop: 49737, Start Num: 61

Candidate Starts for SG4\_81:

(Start: 61 @49453 has 268 MA's), (Start: 67 @49477 has 10 MA's), (93, 49552), (122, 49681), (133, 49717),

Gene: Sabbb\_83 Start: 46768, Stop: 47067, Start Num: 61

Candidate Starts for Sabbb\_83:

(Start: 61 @46768 has 268 MA's), (Start: 66 @46789 has 8 MA's), (70, 46804), (104, 46930), (133, 47044),

Gene: Sandalphon\_75 Start: 48522, Stop: 48806, Start Num: 61

Candidate Starts for Sandalphon\_75:

(Start: 46 @48492 has 3 MA's), (Start: 52 @48498 has 1 MA's), (Start: 61 @48522 has 268 MA's), (Start: 67 @48546 has 10 MA's), (93, 48621), (122, 48750), (133, 48786),

Gene: Sarma624\_80 Start: 45621, Stop: 45905, Start Num: 61

Candidate Starts for Sarma624\_80:

(Start: 52 @45597 has 1 MA's), (Start: 61 @45621 has 268 MA's), (Start: 67 @45645 has 10 MA's), (93, 45720), (122, 45849), (133, 45885),

Gene: SassyB\_73 Start: 46094, Stop: 46378, Start Num: 61

Candidate Starts for SassyB\_73:

(Start: 52 @46070 has 1 MA's), (Start: 61 @46094 has 268 MA's), (Start: 67 @46118 has 10 MA's), (93, 46193), (122, 46322), (133, 46358),

Gene: SassyB\_77 Start: 47157, Stop: 47441, Start Num: 61

Candidate Starts for SassyB\_77:

(Start: 61 @47157 has 268 MA's), (Start: 67 @47181 has 10 MA's), (Start: 69 @47190 has 1 MA's), (98, 47289), (104, 47304), (138, 47418),

Gene: Schatzie\_66 Start: 49090, Stop: 48797, Start Num: 61

Candidate Starts for Schatzie\_66:

(Start: 61 @49090 has 268 MA's), (Start: 66 @49069 has 8 MA's), (Start: 69 @49057 has 1 MA's), (104, 48949), (108, 48901), (111, 48889), (120, 48862), (121, 48859), (133, 48820),

Gene: Schatzie\_70 Start: 50503, Stop: 50219, Start Num: 61

Candidate Starts for Schatzie\_70:

(Start: 61 @50503 has 268 MA's), (Start: 67 @50479 has 10 MA's), (93, 50404), (122, 50275), (133, 50239),

Gene: Seabastian\_91 Start: 50299, Stop: 50592, Start Num: 61

Candidate Starts for Seabastian\_91:

(Start: 61 @50299 has 268 MA's), (Start: 66 @50320 has 8 MA's), (70, 50335), (104, 50461), (133, 50569),

Gene: Seabastian\_89 Start: 49769, Stop: 50089, Start Num: 61

Candidate Starts for Seabastian\_89:

(Start: 52 @49745 has 1 MA's), (Start: 61 @49769 has 268 MA's), (Start: 67 @49793 has 10 MA's), (93, 49868), (122, 49997), (133, 50033),

Gene: Seagreen\_80 Start: 49149, Stop: 49481, Start Num: 36

Candidate Starts for Seagreen\_80:

(15, 49053), (Start: 36 @49149 has 1 MA's), (Start: 46 @49164 has 3 MA's), (Start: 61 @49197 has 268 MA's), (Start: 67 @49221 has 10 MA's), (122, 49425), (133, 49461),

Gene: Seanderson\_61 Start: 42123, Stop: 41887, Start Num: 69

Candidate Starts for Seanderson\_61:

(23, 42231), (29, 42207), (Start: 46 @42177 has 3 MA's), (Start: 66 @42135 has 8 MA's), (Start: 69 @42123 has 1 MA's), (112, 41910),

Gene: ShamWow\_44 Start: 36121, Stop: 35825, Start Num: 61

Candidate Starts for ShamWow\_44:

(Start: 61 @36121 has 268 MA's), (70, 36085), (77, 36067), (90, 36034), (94, 35992), (133, 35845),

Gene: Shauna1\_81 Start: 49655, Stop: 49939, Start Num: 61

Candidate Starts for Shauna1\_81:

(Start: 61 @49655 has 268 MA's), (Start: 67 @49679 has 10 MA's), (93, 49754), (122, 49883), (133, 49919),

Gene: ShowerHandel\_82 Start: 48717, Stop: 48983, Start Num: 68

Candidate Starts for ShowerHandel\_82:

(Start: 68 @48717 has 5 MA's), (78, 48744), (84, 48759), (104, 48849), (115, 48927), (131, 48963),

Gene: ShroomBoi\_82 Start: 49425, Stop: 49781, Start Num: 61

Candidate Starts for ShroomBoi\_82:

(42, 49383), (54, 49401), (Start: 61 @49425 has 268 MA's), (Start: 66 @49446 has 8 MA's), (Start: 69 @49458 has 1 MA's), (124, 49662), (130, 49680), (132, 49692), (143, 49734), (144, 49758),

Gene: SkiPole\_66 Start: 41398, Stop: 41150, Start Num: 66

Candidate Starts for SkiPole\_66:

(5, 41611), (6, 41608), (7, 41605), (8, 41602), (23, 41494), (29, 41470), (Start: 46 @41440 has 3 MA's), (Start: 66 @41398 has 8 MA's), (Start: 69 @41386 has 1 MA's), (112, 41173),

Gene: SkiPole\_68 Start: 41922, Stop: 41608, Start Num: 46

Candidate Starts for SkiPole\_68:

(Start: 46 @41922 has 3 MA's), (Start: 52 @41916 has 1 MA's), (Start: 61 @41892 has 268 MA's), (Start: 67 @41868 has 10 MA's), (93, 41793), (122, 41664), (133, 41628),

Gene: Solon\_60 Start: 40387, Stop: 40100, Start Num: 61

Candidate Starts for Solon\_60:

(Start: 61 @40387 has 268 MA's), (Start: 66 @40366 has 8 MA's), (71, 40351), (81, 40327), (104, 40234), (122, 40156), (133, 40120),

Gene: Soul22\_82 Start: 47187, Stop: 47471, Start Num: 61

Candidate Starts for Soul22\_82:

(Start: 46 @47157 has 3 MA's), (Start: 52 @47163 has 1 MA's), (Start: 61 @47187 has 268 MA's), (Start: 67 @47211 has 10 MA's), (93, 47286), (122, 47415), (133, 47451),

Gene: Soul22\_84 Start: 47805, Stop: 48131, Start Num: 61

Candidate Starts for Soul22\_84:

(Start: 61 @47805 has 268 MA's), (Start: 69 @47838 has 1 MA's), (70, 47841), (80, 47868), (82, 47874), (104, 47994), (133, 48108),

Gene: Spartacus\_90 Start: 52535, Stop: 52846, Start Num: 41

Candidate Starts for Spartacus\_90:

(Start: 41 @52535 has 5 MA's), (Start: 66 @52598 has 8 MA's), (101, 52703), (133, 52823),

Gene: Spartacus\_87 Start: 51565, Stop: 51846, Start Num: 61

Candidate Starts for Spartacus\_87:

(Start: 61 @51565 has 268 MA's), (Start: 67 @51586 has 10 MA's), (82, 51619), (122, 51790), (133, 51826),

Gene: Spartacus\_89 Start: 52261, Stop: 52542, Start Num: 61

Candidate Starts for Spartacus\_89:

(Start: 61 @52261 has 268 MA's), (Start: 67 @52285 has 10 MA's), (70, 52294), (104, 52408), (118, 52480), (122, 52486),

Gene: Sprinklers\_16 Start: 4916, Stop: 5194, Start Num: 67

Candidate Starts for Sprinklers\_16:

(58, 4877), (63, 4895), (Start: 67 @4916 has 10 MA's), (74, 4937), (77, 4949), (79, 4952), (85, 4967), (87, 4976), (122, 5138), (133, 5174),

Gene: Squint\_76 Start: 48140, Stop: 47856, Start Num: 61

Candidate Starts for Squint\_76:

(Start: 61 @48140 has 268 MA's), (Start: 67 @48116 has 10 MA's), (93, 48041), (122, 47912), (133, 47876),

Gene: Squint\_72 Start: 46727, Stop: 46374, Start Num: 61

Candidate Starts for Squint\_72:

(Start: 61 @46727 has 268 MA's), (Start: 66 @46706 has 8 MA's), (Start: 69 @46694 has 1 MA's), (104, 46586), (124, 46493), (130, 46475), (132, 46463), (143, 46421), (144, 46397),

Gene: Squirty\_81 Start: 52224, Stop: 52505, Start Num: 61

Candidate Starts for Squirty\_81:

(Start: 61 @52224 has 268 MA's), (Start: 67 @52248 has 10 MA's), (93, 52323), (122, 52452), (131, 52476), (133, 52488), (135, 52494),

Gene: StAnnes\_83 Start: 50113, Stop: 50397, Start Num: 61

Candidate Starts for StAnnes\_83:

(48, 50083), (Start: 61 @50113 has 268 MA's), (Start: 67 @50137 has 10 MA's), (93, 50212), (122, 50341), (133, 50377),

Gene: StellaBean\_42 Start: 35445, Stop: 35149, Start Num: 61

Candidate Starts for StellaBean\_42:

(Start: 61 @35445 has 268 MA's), (70, 35409), (77, 35391), (90, 35358), (94, 35316), (133, 35169),

Gene: Strokeseat\_80 Start: 47313, Stop: 47594, Start Num: 61

Candidate Starts for Strokeseat\_80:

(Start: 61 @47313 has 268 MA's), (Start: 67 @47337 has 10 MA's), (70, 47346), (104, 47460), (118, 47532), (122, 47538),

Gene: Strokeseat\_81 Start: 47587, Stop: 47898, Start Num: 41

Candidate Starts for Strokeseat\_81:

(31, 47560), (Start: 41 @47587 has 5 MA's), (Start: 66 @47650 has 8 MA's), (101, 47755), (133, 47875),

Gene: Strokeseat\_76 Start: 46226, Stop: 46510, Start Num: 61

Candidate Starts for Strokeseat\_76:

(Start: 52 @46202 has 1 MA's), (Start: 61 @46226 has 268 MA's), (Start: 67 @46250 has 10 MA's), (93, 46325), (122, 46454), (133, 46490),

Gene: SuperGrey\_82 Start: 51027, Stop: 51305, Start Num: 67  
Candidate Starts for SuperGrey\_82:  
(58, 50988), (63, 51006), (Start: 67 @51027 has 10 MA's), (74, 51048), (77, 51060), (79, 51063), (85, 51078), (87, 51087), (122, 51249), (133, 51285),

Gene: Superphikiman\_73 Start: 47231, Stop: 46947, Start Num: 61  
Candidate Starts for Superphikiman\_73:  
(Start: 61 @47231 has 268 MA's), (Start: 67 @47207 has 10 MA's), (93, 47132), (122, 47003), (133, 46967),

Gene: Superphikiman\_69 Start: 45818, Stop: 45525, Start Num: 61  
Candidate Starts for Superphikiman\_69:  
(Start: 61 @45818 has 268 MA's), (Start: 66 @45797 has 8 MA's), (Start: 69 @45785 has 1 MA's), (104, 45677), (108, 45629), (111, 45617), (120, 45590), (121, 45587), (133, 45548),

Gene: SwissCheese\_62 Start: 40423, Stop: 40175, Start Num: 66  
Candidate Starts for SwissCheese\_62:  
(23, 40519), (29, 40495), (Start: 46 @40465 has 3 MA's), (Start: 66 @40423 has 8 MA's), (Start: 69 @40411 has 1 MA's), (112, 40198),

Gene: TChen\_82 Start: 50420, Stop: 50776, Start Num: 61  
Candidate Starts for TChen\_82:  
(42, 50378), (54, 50396), (Start: 61 @50420 has 268 MA's), (Start: 66 @50441 has 8 MA's), (Start: 69 @50453 has 1 MA's), (124, 50657), (130, 50675), (132, 50687), (143, 50729), (144, 50753),

Gene: Taj\_92 Start: 52011, Stop: 52295, Start Num: 61  
Candidate Starts for Taj\_92:  
(22, 51912), (Start: 61 @52011 has 268 MA's), (Start: 67 @52035 has 10 MA's), (Start: 69 @52044 has 1 MA's), (98, 52143), (104, 52158), (138, 52272),

Gene: Taj\_88 Start: 50947, Stop: 51231, Start Num: 61  
Candidate Starts for Taj\_88:  
(13, 50785), (Start: 61 @50947 has 268 MA's), (Start: 67 @50971 has 10 MA's), (93, 51046), (122, 51175), (133, 51211),

Gene: Taptic\_70 Start: 50486, Stop: 50746, Start Num: 61  
Candidate Starts for Taptic\_70:  
(Start: 61 @50486 has 268 MA's), (70, 50522), (77, 50540), (90, 50573), (94, 50615),

Gene: Tesla\_9 Start: 2778, Stop: 3062, Start Num: 61  
Candidate Starts for Tesla\_9:  
(Start: 61 @2778 has 268 MA's), (Start: 67 @2802 has 10 MA's), (93, 2877), (122, 3006), (133, 3042),

Gene: ThetaBob\_85 Start: 48938, Stop: 49243, Start Num: 61  
Candidate Starts for ThetaBob\_85:  
(Start: 61 @48938 has 268 MA's), (Start: 69 @48971 has 1 MA's), (70, 48974), (80, 49001), (82, 49007), (104, 49127), (127, 49202),

Gene: ThreeRngTarjay\_69 Start: 50376, Stop: 50083, Start Num: 61  
Candidate Starts for ThreeRngTarjay\_69:  
(Start: 61 @50376 has 268 MA's), (Start: 66 @50355 has 8 MA's), (Start: 69 @50343 has 1 MA's), (104, 50235), (108, 50187), (111, 50175), (120, 50148), (121, 50145), (133, 50106),

Gene: ThreeRngTarjay\_73 Start: 51787, Stop: 51503, Start Num: 61  
Candidate Starts for ThreeRngTarjay\_73:  
(Start: 61 @51787 has 268 MA's), (Start: 67 @51763 has 10 MA's), (93, 51688), (122, 51559), (133, 51523),

Gene: Toto\_43 Start: 36121, Stop: 35825, Start Num: 61  
Candidate Starts for Toto\_43:  
(Start: 61 @36121 has 268 MA's), (70, 36085), (77, 36067), (90, 36034), (94, 35992), (133, 35845),

Gene: Traaww1\_40 Start: 34923, Stop: 34648, Start Num: 61  
Candidate Starts for Traaww1\_40:  
(30, 34995), (37, 34971), (40, 34968), (Start: 61 @34923 has 268 MA's), (Start: 66 @34902 has 8 MA's), (70, 34890), (104, 34782), (122, 34704), (133, 34668),

Gene: Tuco\_45 Start: 36629, Stop: 36333, Start Num: 61  
Candidate Starts for Tuco\_45:  
(Start: 61 @36629 has 268 MA's), (70, 36593), (77, 36575), (90, 36542), (94, 36500), (133, 36353),

Gene: Tweety\_82 Start: 50025, Stop: 50309, Start Num: 61  
Candidate Starts for Tweety\_82:  
(13, 49863), (Start: 61 @50025 has 268 MA's), (Start: 67 @50049 has 10 MA's), (93, 50124), (122, 50253), (133, 50289),

Gene: Tweety\_86 Start: 51088, Stop: 51372, Start Num: 61  
Candidate Starts for Tweety\_86:  
(Start: 61 @51088 has 268 MA's), (Start: 67 @51112 has 10 MA's), (Start: 69 @51121 has 1 MA's), (98, 51220), (104, 51235), (138, 51349),

Gene: UncleRicky\_80 Start: 47788, Stop: 48072, Start Num: 61  
Candidate Starts for UncleRicky\_80:  
(Start: 61 @47788 has 268 MA's), (Start: 67 @47812 has 10 MA's), (93, 47887), (122, 48016), (133, 48052),

Gene: VRedHorse\_86 Start: 47830, Stop: 48114, Start Num: 61  
Candidate Starts for VRedHorse\_86:  
(Start: 52 @47806 has 1 MA's), (Start: 61 @47830 has 268 MA's), (Start: 67 @47854 has 10 MA's), (93, 47929), (122, 48058), (133, 48094),

Gene: VRedHorse\_80 Start: 46368, Stop: 46637, Start Num: 61  
Candidate Starts for VRedHorse\_80:  
(Start: 61 @46368 has 268 MA's), (Start: 66 @46389 has 8 MA's), (99, 46488), (101, 46494), (133, 46614),

Gene: Velveteen\_75 Start: 45597, Stop: 45905, Start Num: 52  
Candidate Starts for Velveteen\_75:  
(Start: 52 @45597 has 1 MA's), (Start: 61 @45621 has 268 MA's), (Start: 67 @45645 has 10 MA's), (93, 45720), (122, 45849), (133, 45885),

Gene: Wachhund\_81 Start: 46941, Stop: 47240, Start Num: 61  
Candidate Starts for Wachhund\_81:  
(Start: 61 @46941 has 268 MA's), (Start: 66 @46962 has 8 MA's), (70, 46977), (104, 47103), (133, 47217),



Gene: Wanda\_75 Start: 49838, Stop: 49545, Start Num: 61

Candidate Starts for Wanda\_75:

(Start: 61 @49838 has 268 MA's), (Start: 66 @49817 has 8 MA's), (Start: 69 @49805 has 1 MA's), (104, 49697), (108, 49649), (111, 49637), (120, 49610), (121, 49607), (133, 49568),

Gene: Wanda\_77 Start: 50474, Stop: 50193, Start Num: 61

Candidate Starts for Wanda\_77:

(Start: 61 @50474 has 268 MA's), (Start: 67 @50453 has 10 MA's), (82, 50420), (122, 50249), (133, 50213),

Gene: Wee\_91 Start: 52087, Stop: 52371, Start Num: 61

Candidate Starts for Wee\_91:

(Start: 61 @52087 has 268 MA's), (Start: 67 @52111 has 10 MA's), (Start: 69 @52120 has 1 MA's), (98, 52219), (104, 52234), (138, 52348),

Gene: Wee\_87 Start: 51023, Stop: 51307, Start Num: 61

Candidate Starts for Wee\_87:

(13, 50861), (Start: 61 @51023 has 268 MA's), (Start: 67 @51047 has 10 MA's), (93, 51122), (122, 51251), (133, 51287),

Gene: Whatsapiecost\_74 Start: 44329, Stop: 44613, Start Num: 61

Candidate Starts for Whatsapiecost\_74:

(Start: 61 @44329 has 268 MA's), (Start: 67 @44353 has 10 MA's), (Start: 69 @44362 has 1 MA's), (104, 44476), (138, 44590),

Gene: WillSterrel\_80 Start: 49364, Stop: 49648, Start Num: 61

Candidate Starts for WillSterrel\_80:

(Start: 46 @49334 has 3 MA's), (Start: 52 @49340 has 1 MA's), (Start: 61 @49364 has 268 MA's), (Start: 67 @49388 has 10 MA's), (93, 49463), (122, 49592), (133, 49628),

Gene: XFactor\_77 Start: 48229, Stop: 48513, Start Num: 61

Candidate Starts for XFactor\_77:

(Start: 61 @48229 has 268 MA's), (Start: 67 @48253 has 10 MA's), (93, 48328), (133, 48493),

Gene: Yeet\_71 Start: 50004, Stop: 49720, Start Num: 61

Candidate Starts for Yeet\_71:

(Start: 61 @50004 has 268 MA's), (Start: 67 @49980 has 10 MA's), (122, 49776), (133, 49740),

Gene: Yeet\_69 Start: 49362, Stop: 49069, Start Num: 61

Candidate Starts for Yeet\_69:

(Start: 61 @49362 has 268 MA's), (Start: 66 @49341 has 8 MA's), (Start: 69 @49329 has 1 MA's), (104, 49221), (108, 49173), (111, 49161), (120, 49134), (121, 49131), (133, 49092),

Gene: Yoshi\_92 Start: 49392, Stop: 49736, Start Num: 68

Candidate Starts for Yoshi\_92:

(Start: 68 @49392 has 5 MA's), (78, 49419), (84, 49434), (104, 49524), (134, 49665), (141, 49692), (142, 49713),

Gene: Zapner\_90 Start: 47899, Stop: 48183, Start Num: 61

Candidate Starts for Zapner\_90:

(Start: 61 @47899 has 268 MA's), (Start: 67 @47923 has 10 MA's), (122, 48127), (133, 48163),

Gene: Zelink\_73 Start: 52099, Stop: 51815, Start Num: 61

Candidate Starts for Zelink\_73:

(Start: 61 @52099 has 268 MA's), (Start: 67 @52075 has 10 MA's), (93, 52000), (122, 51871), (133, 51835),

Gene: Zelink\_69 Start: 50689, Stop: 50396, Start Num: 61

Candidate Starts for Zelink\_69:

(Start: 61 @50689 has 268 MA's), (Start: 66 @50668 has 8 MA's), (Start: 69 @50656 has 1 MA's), (104, 50548), (108, 50500), (111, 50488), (120, 50461), (121, 50458), (133, 50419),

Gene: ZenTime222\_56 Start: 39238, Stop: 39498, Start Num: 73

Candidate Starts for ZenTime222\_56:

(1, 38935), (3, 38956), (11, 39010), (28, 39112), (64, 39208), (Start: 73 @39238 has 4 MA's), (84, 39271), (109, 39412), (114, 39424), (122, 39439), (131, 39463), (133, 39475), (135, 39481),

Gene: Zerg\_82 Start: 49172, Stop: 49456, Start Num: 61

Candidate Starts for Zerg\_82:

(Start: 52 @49148 has 1 MA's), (Start: 61 @49172 has 268 MA's), (Start: 67 @49196 has 10 MA's), (93, 49271), (122, 49400), (133, 49436),

Gene: Zeuska\_63 Start: 42656, Stop: 42396, Start Num: 67

Candidate Starts for Zeuska\_63:

(Start: 61 @42680 has 268 MA's), (Start: 67 @42656 has 10 MA's), (Start: 69 @42647 has 1 MA's), (104, 42533), (138, 42419),

Gene: Zizzle\_86 Start: 51134, Stop: 51478, Start Num: 68

Candidate Starts for Zizzle\_86:

(Start: 68 @51134 has 5 MA's), (78, 51161), (84, 51176), (104, 51266), (117, 51359), (126, 51377), (129, 51389), (139, 51431), (142, 51455),