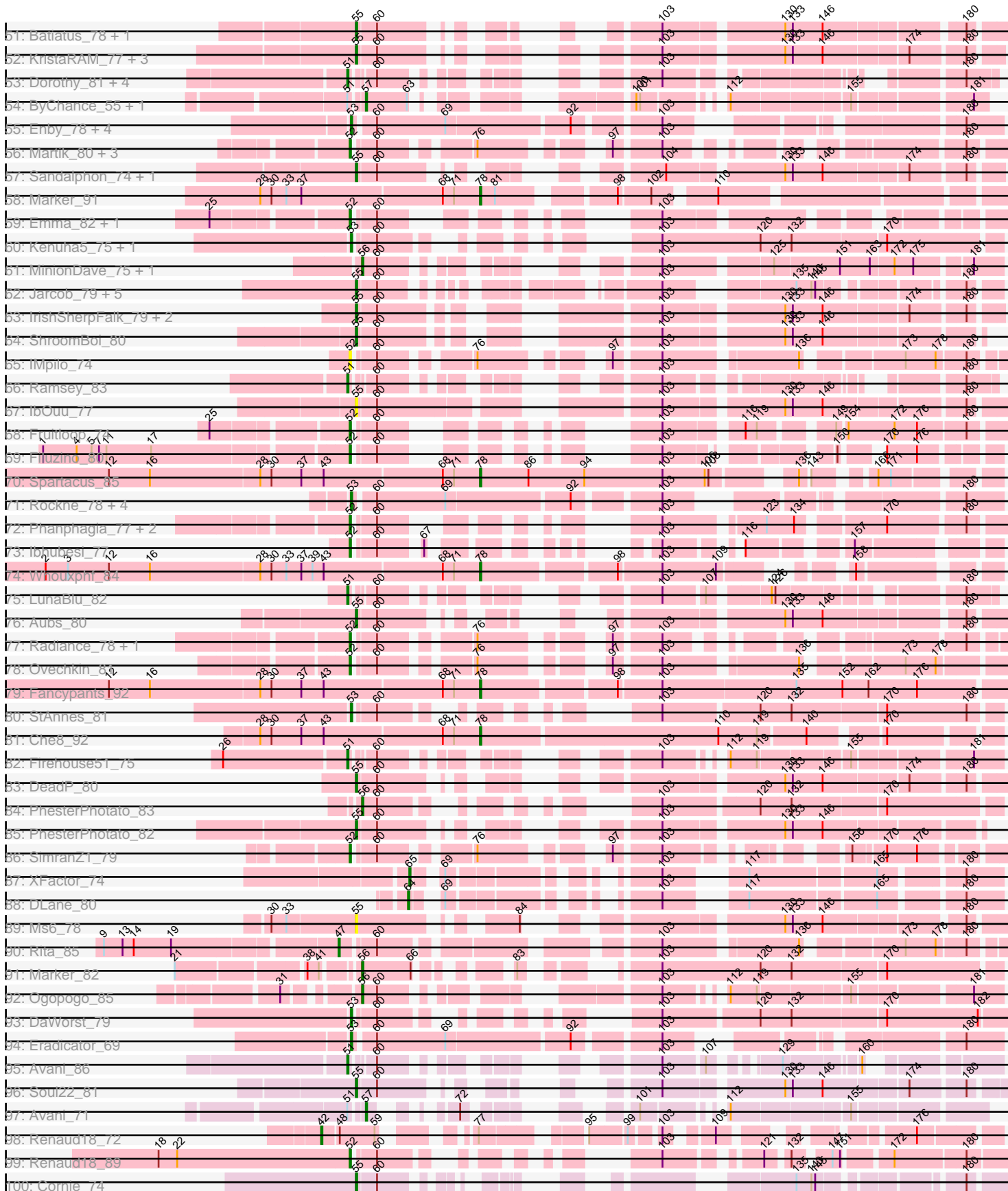
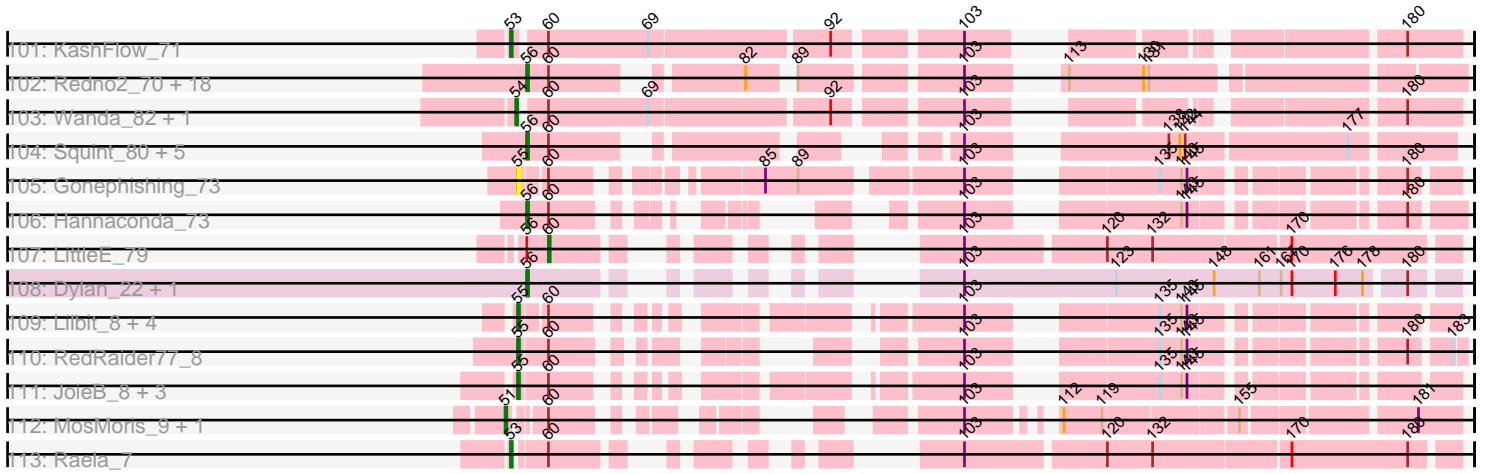




Pham 193658



Pham 193658



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 193658 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193658 has 352 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Homines\_53
- Track 2 : Dreamboat\_79, Jasper\_78, PherrisBueller\_78
- Track 3 : MaryBeth\_59, Corvo\_62, MetalQZJ\_58
- Track 4 : Kenmech\_82, Abbysshoes\_80, Dussy\_79
- Track 5 : SkiPole\_69
- Track 6 : Target\_63
- Track 7 : SarFire\_60, Thor\_60
- Track 8 : Teodoridan\_77, Ajay\_76
- Track 9 : Tripl3t\_83
- Track 10 : Peterson\_79
- Track 11 : Eyeball\_79, KSSJEB\_78
- Track 12 : Ringer\_61
- Track 13 : STLscum\_69
- Track 14 : Alsfro\_67
- Track 15 : Gyzlar\_56
- Track 16 : Kugel\_63
- Track 17 : Target\_79
- Track 18 : Inyanga\_56
- Track 19 : Sunshine924\_66
- Track 20 : Fushigi\_75
- Track 21 : KBG\_62
- Track 22 : BigCity\_8, InterFolia\_8, EggyFarm\_8, Grasshills\_8, LolaVinca\_8, DTDevon\_8, Tyke\_8, Dandelion\_7, FrayBell\_8, Drazdys\_8, Specks\_8
- Track 23 : Loanshark\_14, Pinkcreek\_9, Teardrop\_13, StubbySaigey\_13, BananaFence\_14, YemiJoy2021\_14, Rahel\_13, Essence\_13, LifeSavor\_14, Ewok\_14, Kboogie\_13, EmmaElysia\_13, Bonray\_14, Dietrick\_12, Jessibeth14\_14, NedWong\_14, Trinitium\_13, Phlegm\_14, ZygoTaiga\_15, Delilah\_14, Janiyra\_13, Gizmo\_15, Gamgam\_13, Pivoine\_13, McWolfish\_14, Capablanca\_14, ChickenPhender\_13, Adlitam\_13, ErnieJ\_17, PurduePete\_14, Rizal\_13, Naija\_13, Audrick\_14, Derek\_14, Caravan\_16, ValleyTerrace\_13, Shifa\_10, Shelob\_17, Bipolarisk\_14, Morizzled23\_13, Amataga\_13, InigoMontoya\_14, DrPhinkDaddy\_14, Sprinklers\_13, Turret\_13, Darko\_13, Zalkecks\_15, Wally\_13, Bread\_14, Ava3\_15, Jaygup\_13, Alice\_12, Latch\_13, Tortoise16\_12, Basquiat\_13, Matsumoto\_12, McGee\_13, Shrimp\_14, CindyLou\_13, SilverDipper\_13, Shnickers\_13, ArcherS7\_13, JPickles\_13, BackyardAgain\_12, CharlieB\_15, TinyTim\_14, Megamind\_14, Atlantean\_13, Napoleon13\_13, ET08\_12, ChaylaJr\_13, EmToTheThree\_17, Rabinovish\_12, Jedediah\_13, Erdmann\_14, Guwapp\_13, LRRHood\_14, Pleione\_15,

HyRo\_11, Quasimodo\_13, SrishMeg2525\_14, Ghost\_14, Norm\_14, Chomp\_13, Littleton\_14, Zeenon\_16, Maby2021\_14, Daffodil\_15, FudgeTart\_14, Breeniome\_14, EasyJones\_13, FoxtrotP1\_15, Ngannou\_13, Babyland\_13, Roots515\_14, Chargie21\_13, Delylah\_16, ParkTD\_14, Catera\_13, MikeLiesIn\_15, Khaleesi\_14, Blackbrain\_13, JustHall\_13, Melpomini\_13, Willis\_14, Stubby\_14, Jemmno\_12, BadAgartude\_14, SmallFry\_13, Phusco\_13, Izajani\_14, Burrough\_14, Yucca\_13, Issimir\_14, Momo\_13, YoungMoneyMata\_13, Salacia\_15, Gabriel\_14, ShiaLabeouf\_13, Bangla1971\_13, Fludd\_13, Flabslab\_13, Cactojaque\_12, Ading\_13

- Track 24 : Sebata\_7, JayJay\_6, LinStu\_7
- Track 25 : Cali\_14
- Track 26 : MoMoMixon\_5, ScottMcG\_5, Nidhogg\_5, Pio\_6, Mikro\_6, Astraea\_6, Bxz1\_6, Sauce\_5, NoodleTree\_6, Spud\_6, QBert\_6, DirtMonster\_6
- Track 27 : Patter\_13
- Track 28 : ScottMcG\_15
- Track 29 : Pier\_7, NuevoMundo\_7, StephanieG\_7
- Track 30 : Blackdragon\_12
- Track 31 : Tonenili\_20
- Track 32 : Nappy\_6
- Track 33 : Yassified\_13
- Track 34 : Flabslab\_16
- Track 35 : Elite2014\_45, Lilpickle\_45, ChosenOne\_46
- Track 36 : Balomoji\_45
- Track 37 : Eureka\_44
- Track 38 : Simpliphy\_43, Petruchio\_60
- Track 39 : Amao\_43
- Track 40 : Holt\_45
- Track 41 : Manda\_46
- Track 42 : Goku\_44
- Track 43 : Ukulele\_42
- Track 44 : Blarby\_87, Zapner\_87, Jabbawokkie\_88
- Track 45 : Priscilla\_82, Koella\_74, NormanBulbieJr\_80
- Track 46 : Velveteen\_73, BigPhil\_72, Sarma624\_77, Cerasum\_72, Coco12\_75
- Track 47 : SiSi\_75, Girr\_75, Ruby\_73, MisterCuddles\_76, Veteran\_71
- Track 48 : Chuckly\_76
- Track 49 : Ardmore\_64
- Track 50 : Phalconet\_76
- Track 51 : Batiatus\_78, Tweety\_79
- Track 52 : KristaRAM\_77, Nitze\_73, Bobi\_85, Krakatau\_74
- Track 53 : Dorothy\_81, Sassafras\_81, RedBird\_81, Inventum\_78, SuperGrey\_79
- Track 54 : ByChance\_55, BlueCrab\_63
- Track 55 : Enby\_78, DirtMcGirt\_76, Lorde\_77, UncleRicky\_76, Drago\_74
- Track 56 : Martik\_80, Pippy\_75, Blexus\_75, Leozinho\_78
- Track 57 : Sandalphon\_74, Minnie\_76
- Track 58 : Marker\_91
- Track 59 : Emma\_82, Mantra\_76
- Track 60 : Kenuha5\_75, Gandalph\_77
- Track 61 : MinionDave\_75, CaptainTrips\_79
- Track 62 : Jarcob\_79, Clifton\_72, Philus\_82, James\_80, DRBy19\_83, OlympiaSaint\_79
- Track 63 : IrishSherpFalk\_79, WillSterrel\_78, Bubbles123\_74
- Track 64 : ShroomBoi\_80
- Track 65 : IMpilo\_74
- Track 66 : Ramsey\_83

- Track 67 : IbOuu\_77
- Track 68 : Fruitloop\_74
- Track 69 : Filuzino\_80
- Track 70 : Spartacus\_85
- Track 71 : Rockne\_78, Phatniss\_74, Boomer\_81, Llij\_73, PMC\_74
- Track 72 : Phanphagia\_77, Shauna1\_78, Kingsley\_82
- Track 73 : lbhubesi\_77
- Track 74 : Whouxphf\_84
- Track 75 : LunaBlu\_82
- Track 76 : Aubs\_80
- Track 77 : Radiance\_78, Dante\_78
- Track 78 : Ovechkin\_81
- Track 79 : Fancypants\_92
- Track 80 : StAnnes\_81
- Track 81 : Che8\_92
- Track 82 : Firehouse51\_75
- Track 83 : DeadP\_80
- Track 84 : PhesterPhotato\_83
- Track 85 : PhesterPhotato\_82
- Track 86 : SimranZ1\_79
- Track 87 : XFactor\_74
- Track 88 : DLane\_80
- Track 89 : Ms6\_78
- Track 90 : Rita\_85
- Track 91 : Marker\_82
- Track 92 : Ogopogo\_85
- Track 93 : DaWorst\_79
- Track 94 : Eradicator\_69
- Track 95 : Avani\_86
- Track 96 : Soul22\_81
- Track 97 : Avani\_71
- Track 98 : Renaud18\_72
- Track 99 : Renaud18\_89
- Track 100 : Cornie\_74
- Track 101 : KashFlow\_71
- Track 102 : Redno2\_70, DmpstrDiver\_73, Zelink\_71, Schatzie\_68, Phoebus\_76, Dallas\_72, Odette\_72, Halley\_75, Kalah2\_68, Ejimix\_73, Squint\_74, JuicyJay\_72, HokkenD\_66, Porcelain\_73, Superphikiman\_71, MiaZeal\_74, Beem\_73, NihilNomen\_74, Ariel\_73
- Track 103 : Wanda\_82, Klein\_78
- Track 104 : Squint\_80, Porcelain\_79, MiaZeal\_80, Lucky2013\_77, Superphikiman\_77, Ariel\_79
- Track 105 : Gonephishing\_73
- Track 106 : Hannaconda\_73
- Track 107 : LittleE\_79
- Track 108 : Dylan\_22, Zakhe101\_23
- Track 109 : Lilbit\_8, Pringar\_7, Beelzebub\_9, FeliMaine\_7, Clarkson\_8
- Track 110 : RedRaider77\_8
- Track 111 : JoieB\_8, Huphlepuuff\_7, LittleLaf\_7, Corazon\_7
- Track 112 : MosMoris\_9, Gattaca\_9
- Track 113 : Raela\_7

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

The start number called the most often in the published annotations is 55, it was called in 191 of the 334 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_13, Adlitam\_13, Ajay\_76, Alice\_12, Alsfro\_67, Amataga\_13, ArcherS7\_13, Ardmore\_64, Astraea\_6, Atlantean\_13, Aubs\_80, Audrick\_14, Ava3\_15, Babyland\_13, BackyardAgain\_12, BadAgartude\_14, BananaFence\_14, Bangla1971\_13, Basquiat\_13, Batiatus\_78, Beelzebub\_9, BigCity\_8, Bipolarisk\_14, Blackbrain\_13, Bobi\_85, Bonray\_14, Bread\_14, Breeniome\_14, Bubbles123\_74, Burrough\_14, Bxz1\_6, Cactojaque\_12, Cali\_14, Capablanca\_14, Caravan\_16, Catera\_13, Chargie21\_13, CharlieB\_15, ChaylaJr\_13, ChickenPhender\_13, Chomp\_13, CindyLou\_13, Clarkson\_8, Clifton\_72, Corazon\_7, Cornie\_74, DRBy19\_83, DTDevon\_8, Daffodil\_15, Dandelion\_7, Darko\_13, DeadP\_80, Delilah\_14, Delylah\_16, Derek\_14, Dietrick\_12, DirtMonster\_6, DrPhinkDaddy\_14, Drazdys\_8, Dreamboat\_79, ET08\_12, EasyJones\_13, EggyFarm\_8, EmToTheThree\_17, EmmaElysia\_13, Erdmann\_14, ErnieJ\_17, Essence\_13, Ewok\_14, Eyeball\_79, FeliMaine\_7, Flabslab\_13, Fludd\_13, FoxtrotP1\_15, FrayBell\_8, FudgeTart\_14, Gabriel\_14, Gangam\_13, Ghost\_14, Gizmo\_15, Gonephishing\_73, Grasshills\_8, Guwapp\_13, Homines\_53, Huphlepuuff\_7, HyRo\_11, IbOuu\_77, InigoMontoya\_14, InterFolia\_8, Inyanga\_56, IrishSherpFalk\_79, Issimir\_14, Izajani\_14, JPickles\_13, James\_80, Janiyra\_13, Jarcob\_79, Jasper\_78, JayJay\_6, Jaygup\_13, Jedediah\_13, Jemmno\_12, Jessibeth14\_14, JoieB\_8, JustHall\_13, KSSJEB\_78, Kboogie\_13, Khaleesi\_14, Krakatau\_74, KristaRAM\_77, LRRHood\_14, Latch\_13, LifeSavor\_14, Lilbit\_8, LinStu\_7, LittleLaf\_7, Littleton\_14, Loanshark\_14, LolaVinca\_8, Maby2021\_14, Matsumoto\_12, McGee\_13, McWolfish\_14, Megamind\_14, Melpomini\_13, MikeLiesIn\_15, Mikro\_6, Minnie\_76, MoMoMixon\_5, Momo\_13, Morizzled23\_13, Ms6\_78, Naija\_13, Napoleon13\_13, Nappy\_6, NedWong\_14, Ngannou\_13, Nidhogg\_5, Nitzel\_73, NoodleTree\_6, Norm\_14, NuevoMundo\_7, OlympiaSaint\_79, ParkTD\_14, Phalconet\_76, PherrisBueller\_78, PhesterPotato\_82, Philus\_82, Phlegm\_14, Phusco\_13, Pier\_7, Pinkcreek\_9, Pio\_6, Pivoine\_13, Pleione\_15, Pringar\_7, PurduePete\_14, QBert\_6, Quasimodo\_13, Rabinovish\_12, Rahel\_13, RedRaider77\_8, Ringer\_61, Rizal\_13, Roots515\_14, Salacia\_15, Sandalphon\_74, Sauce\_5, ScottMcG\_5, Sebata\_7, Shelob\_17, ShiaLabeouf\_13, Shifa\_10, Shnickers\_13, Shrimp\_14, ShroomBoi\_80, SilverDipper\_13, SmallFry\_13, Soul22\_81, Specks\_8, Sprinklers\_13, Spud\_6, SrishMeg2525\_14, StephanieG\_7, StubbySaigey\_13, Stubby\_14, Teardrop\_13, Teodoridan\_77, TinyTim\_14, Tortoise16\_12, Trinitium\_13, Turret\_13, Tweety\_79, Tyke\_8, ValleyTerrace\_13, Wally\_13, WillSterrel\_78, Willis\_14, YemiJoy2021\_14, YoungMoneyMata\_13, Yucca\_13, Zalkecks\_15, Zeenon\_16, ZygoTaiga\_15,

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

- Chuckly\_76, Patter\_13,

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

- Abbyshoes\_80, Amao\_43, Ariel\_73, Ariel\_79, Avani\_71, Avani\_86, Balomoji\_45, Beem\_73, BigPhil\_72, Blackdragon\_12, Blarby\_87, Blexus\_75, BlueCrab\_63, Boomer\_81, ByChance\_55, CaptainTrips\_79, Cerasum\_72, Che8\_92, ChosenOne\_46, Coco12\_75, Corvo\_62, DLane\_80, DaWorst\_79, Dallas\_72, Dante\_78, DirtMcgirt\_76, DmpstrDiver\_73, Dorothy\_81, Drago\_74, Dussy\_79, Dylan\_22, Ejimix\_73, Elite2014\_45, Emma\_82, Enby\_78, Eradicator\_69, Eureka\_44,

Fancypants\_92, Filuzino\_80, Firehouse51\_75, Flabslab\_16, Fruitloop\_74, Fushigi\_75, Gandolph\_77, Gattaca\_9, Girr\_75, Goku\_44, Gyzlar\_56, Halley\_75, Hannaconda\_73, HokkenD\_66, Holt\_45, IMpilo\_74, Ibhubesi\_77, Inventum\_78, JabbaWokkie\_88, JuicyJay\_72, KBG\_62, Kalah2\_68, KashFlow\_71, Kenmech\_82, Kenuha5\_75, Kingsley\_82, Klein\_78, Koella\_74, Kugel\_63, Leozinho\_78, Lilpickle\_45, LittleE\_79, Llij\_73, Lorde\_77, Lucky2013\_77, LunaBlu\_82, Manda\_46, Mantra\_76, Marker\_82, Marker\_91, Martik\_80, MaryBeth\_59, MetalQZJ\_58, MiaZeal\_74, MiaZeal\_80, MinionDave\_75, MisterCuddles\_76, MosMoris\_9, NihilNomen\_74, NormanBulbieJr\_80, Odette\_72, OgoPogo\_85, Ovechkin\_81, PMC\_74, Peterson\_79, Petruchio\_60, Phanphagia\_77, Phatniss\_74, PhesterPhotato\_83, Phoebus\_76, Pippy\_75, Porcelain\_73, Porcelain\_79, Priscilla\_82, Radiance\_78, Raela\_7, Ramsey\_83, RedBird\_81, Redno2\_70, Renaud18\_72, Renaud18\_89, Rita\_85, Rockne\_78, Ruby\_73, STLscum\_69, SarFire\_60, Sarma624\_77, Sassafras\_81, Schatzie\_68, ScottMcG\_15, Shauna1\_78, SiSi\_75, Simpliphy\_43, SimranZ1\_79, SkiPole\_69, Spartacus\_85, Squint\_74, Squint\_80, StAnnes\_81, Sunshine924\_66, SuperGrey\_79, Superphikiman\_71, Superphikiman\_77, Target\_63, Target\_79, Thor\_60, Tonenili\_20, Trip13t\_83, Ukulele\_42, UncleRicky\_76, Velveteen\_73, Veteran\_71, Wanda\_82, Whouxphf\_84, XFactor\_74, Yassified\_13, Zakhe101\_23, Zapner\_87, Zelink\_71,

### Summary by start number:

#### Start 29:

- Found in 1 of 352 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chuckly\_76 (F1),

#### Start 40:

- Found in 1 of 352 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amao\_43 (E),

#### Start 42:

- Found in 1 of 352 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Renaud18\_72 (F4),

#### Start 44:

- Found in 2 of 352 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Ukulele\_42 (E),

#### Start 47:

- Found in 1 of 352 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rita\_85 (F1),

#### Start 51:



- Found in 14 of 352 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 11 of 334
- Called 78.6% of time when present
- Phage (with cluster) where this start called: Avani\_86 (F2), Dorothy\_81 (F1), Firehouse51\_75 (F1), Gattaca\_9 (S), Inventum\_78 (F1), LunaBlu\_82 (F1), MosMoris\_9 (S), Ramsey\_83 (F1), RedBird\_81 (F1), Sassafras\_81 (F1), SuperGrey\_79 (F1),

#### Start 52:

- Found in 32 of 352 ( 9.1% ) of genes in pham
- Manual Annotations of this start: 30 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigPhil\_72 (F1), Blarby\_87 (F), Blexus\_75 (F1), Cerasum\_72 (F1), Coco12\_75 (F1), Dante\_78 (F1), Emma\_82 (F1), Filuzino\_80 (F1), Fruitloop\_74 (F1), Girr\_75 (F1), IMpilo\_74 (F1), Ibhubesi\_77 (F1), Jabbawokkie\_88 (F2), Kingsley\_82 (F1), Leozinho\_78 (F1), Mantra\_76 (F1), Martik\_80 (F1), MisterCuddles\_76 (F1), Ovechkin\_81 (F1), Phanphagia\_77 (F1), Pippy\_75 (F1), Radiance\_78 (F1), Renaud18\_89 (F4), Ruby\_73 (F1), Sarma624\_77 (F1), ScottMcG\_15 (C1), Shauna1\_78 (F1), SiSi\_75 (F1), SimranZ1\_79 (F1), Velveteen\_73 (F1), Veteran\_71 (F1), Zapner\_87 (F2),

#### Start 53:

- Found in 19 of 352 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 18 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blackdragon\_12 (C1), Boomer\_81 (F1), DaWorst\_79 (F1), DirtMcgirt\_76 (F1), Drago\_74 (F1), Enby\_78 (F1), Eradicator\_69 (F1), Gandolph\_77 (F1), KashFlow\_71 (J), Kenuha5\_75 (F1), Llij\_73 (F1), Lorde\_77 (F1), PMC\_74 (F1), Phatniss\_74 (F1), Raela\_7 (S), Rockne\_78 (F1), StAnnes\_81 (F1), UncleRicky\_76 (F1), Yassified\_13 (C1),

#### Start 54:

- Found in 7 of 352 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 7 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Balomoji\_45 (E), Flabslab\_16 (C1), Holt\_45 (E), Klein\_78 (J), Manda\_46 (E), Sunshine924\_66 (A1), Wanda\_82 (J),

#### Start 55:

- Found in 206 of 352 ( 58.5% ) of genes in pham
- Manual Annotations of this start: 191 of 334
- Called 99.0% of time when present
- Phage (with cluster) where this start called: Ading\_13 (C1), Adlitam\_13 (C1), Ajay\_76 (A1), Alice\_12 (C1), Alsfro\_67 (A1), Amataga\_13 (C1), ArcherS7\_13 (C1), Ardmore\_64 (F1), Astraea\_6 (C1), Atlantean\_13 (C1), Aubs\_80 (F1), Audrick\_14 (C1), Ava3\_15 (C1), Babyland\_13 (C1), BackyardAgain\_12 (C1), BadAgartude\_14 (C1), BananaFence\_14 (C1), Bangla1971\_13 (C1), Basquiat\_13 (C1), Batiatus\_78 (F1), Beelzebub\_9 (S), BigCity\_8 (C1), Bipolarisk\_14 (C1), Blackbrain\_13 (C1), Bobi\_85 (F1), Bonray\_14 (C1), Bread\_14 (C1), Breeniome\_14 (C1), Bubbles123\_74 (F1), Burrough\_14 (C1), Bxz1\_6 (C1), Cactojaque\_12 (C1), Cali\_14 (C1), Capablanca\_14 (C1), Caravan\_16 (C1), Catera\_13 (C1), Chargie21\_13 (C1), CharlieB\_15 (C1), ChaylaJr\_13 (C1), ChickenPhender\_13 (C1), Chomp\_13 (C1), CindyLou\_13 (C1), Clarkson\_8 (S), Clifton\_72 (F1), Corazon\_7 (S), Cornie\_74 (F5),

DRBy19\_83 (F1), DTDevon\_8 (C1), Daffodil\_15 (C1), Dandelion\_7 (C1), Darko\_13 (C1), DeadP\_80 (F1), Delilah\_14 (C1), Delylah\_16 (C1), Derek\_14 (C1), Dietrick\_12 (C1), DirtMonster\_6 (C1), DrPhinkDaddy\_14 (C1), Drazdys\_8 (C1), Dreamboat\_79 (A1), ET08\_12 (C1), EasyJones\_13 (C1), EggyFarm\_8 (C1), EmToTheThree\_17 (C1), EmmaElysia\_13 (C1), Erdmann\_14 (C1), ErnieJ\_17 (C1), Essence\_13 (C1), Ewok\_14 (C1), Eyeball\_79 (A1), FeliMaine\_7 (S), Flabslab\_13 (C1), Fludd\_13 (C1), FoxtrotP1\_15 (C1), FrayBell\_8 (C1), FudgeTart\_14 (C1), Gabriel\_14 (C1), Gamgam\_13 (C1), Ghost\_14 (C1), Gizmo\_15 (C1), Gonephishing\_73 (J), Grasshills\_8 (C1), Guwapp\_13 (C1), Homines\_53 (A1), Huphlepuuff\_7 (S), HyRo\_11 (C1), IbOuu\_77 (F1), InigoMontoya\_14 (C1), InterFolia\_8 (C1), Inyanga\_56 (A1), IrishSherpFalk\_79 (F1), Issimir\_14 (C1), Izajani\_14 (C1), JPickles\_13 (C1), James\_80 (F1), Janiyra\_13 (C1), Jacob\_79 (F1), Jasper\_78 (A1), JayJay\_6 (C1), Jaygup\_13 (C1), Jedediah\_13 (C1), Jemmno\_12 (C1), Jessibeth14\_14 (C1), JoieB\_8 (S), JustHall\_13 (C1), KSSJEB\_78 (A1), Kboogie\_13 (C1), Khaleesi\_14 (C1), Krakatau\_74 (F1), KristaRAM\_77 (F1), LRRHood\_14 (C1), Latch\_13 (C1), LifeSavor\_14 (C1), Lilbit\_8 (S), LinStu\_7 (C1), LittleLaf\_7 (S), Littleton\_14 (C1), Loanshark\_14 (C1), LolaVinca\_8 (C1), Maby2021\_14 (C1), Matsumoto\_12 (C1), McGee\_13 (C1), McWolfish\_14 (C1), Megamind\_14 (C1), Melpomini\_13 (C1), MikeLiesIn\_15 (C1), Mikro\_6 (C1), Minnie\_76 (F1), MoMoMixon\_5 (C1), Momo\_13 (C1), Morizzled23\_13 (C1), Ms6\_78 (F1), Naija\_13 (C1), Napoleon13\_13 (C1), Nappy\_6 (C1), NedWong\_14 (C1), Ngannou\_13 (C1), Nidhogg\_5 (C1), Nitzel\_73 (F1), NoodleTree\_6 (C1), Norm\_14 (C1), NuevoMundo\_7 (C1), OlympiaSaint\_79 (F1), ParkTD\_14 (C1), Phalconet\_76 (F1), PherrisBueller\_78 (A1), PhesterPhotato\_82 (F1), Philus\_82 (F1), Phlegm\_14 (C1), Phusco\_13 (C1), Pier\_7 (C1), Pinkcreek\_9 (C1), Pio\_6 (C1), Pivoine\_13 (C1), Pleione\_15 (C1), Pringar\_7 (S), PurduePete\_14 (C1), QBert\_6 (C1), Quasimodo\_13 (C1), Rabinovich\_12 (C1), Rahel\_13 (C1), RedRaider77\_8 (S), Ringer\_61 (A1), Rizal\_13 (C1), Roots515\_14 (C1), Salacia\_15 (C1), Sandalphon\_74 (F1), Sauce\_5 (C1), ScottMcG\_5 (C1), Sebata\_7 (C1), Shelob\_17 (C1), ShiaLabeouf\_13 (C1), Shifa\_10 (C1), Shnickers\_13 (C1), Shrimp\_14 (C1), ShroomBoi\_80 (F1), SilverDipper\_13 (C1), SmallFry\_13 (C1), Soul22\_81 (F2), Specks\_8 (C1), Sprinklers\_13 (C1), Spud\_6 (C1), SrishMeg2525\_14 (C1), StephanieG\_7 (C1), StubbySaigey\_13 (C1), Stubby\_14 (C1), Teardrop\_13 (C1), Teodoridan\_77 (A1), TinyTim\_14 (C1), Tortoise16\_12 (C1), Trinitium\_13 (C1), Turret\_13 (C1), Tweety\_79 (F1), Tyke\_8 (C1), ValleyTerrace\_13 (C1), Wally\_13 (C1), WillSterrel\_78 (F1), Willis\_14 (C1), YemiJoy2021\_14 (C1), YoungMoneyMata\_13 (C1), Yucca\_13 (C1), Zalkecks\_15 (C1), Zeenon\_16 (C1), ZygoTaiga\_15 (C1),

Start 56:

- Found in 58 of 352 ( 16.5% ) of genes in pham
- Manual Annotations of this start: 55 of 334
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Abbyshoes\_80 (A1), Ariel\_73 (J), Ariel\_79 (J), Beem\_73 (J), CaptainTrips\_79 (F1), ChosenOne\_46 (E), Corvo\_62 (A1), Dallas\_72 (J), DmpstrDiver\_73 (J), Dussy\_79 (A1), Dylan\_22 (O), Ejimix\_73 (J), Elite2014\_45 (E), Fushigi\_75 (A1), Gyzlar\_56 (A1), Halley\_75 (J), Hannaconda\_73 (J), HokkenD\_66 (J), JuicyJay\_72 (J), KBG\_62 (A1), Kalah2\_68 (J), Kenmech\_82 (A1), Kugel\_63 (A1), Lilpickle\_45 (E), Lucky2013\_77 (J), Marker\_82 (F1), MaryBeth\_59 (A1), MetalQZJ\_58 (A1), MiaZeal\_74 (J), MiaZeal\_80 (J), MinionDave\_75 (F1), NihilNomen\_74 (J), Odette\_72 (J), Ogopogo\_85 (F1), Peterson\_79 (A1), Petruchio\_60 (A1), PhesterPhotato\_83 (F1), Phoebus\_76 (J), Porcelain\_73 (J), Porcelain\_79 (J), Redno2\_70 (J), STLscum\_69 (A1), SarFire\_60 (A1), Schatzie\_68 (J), Simpliphy\_43 (E), SkiPole\_69 (A1), Squint\_74 (J), Squint\_80 (J), Superphikiman\_71 (J), Superphikiman\_77 (J), Target\_63 (A1), Target\_79 (A1),

Thor\_60 (A1), Tripl3t\_83 (A1), Zakhe101\_23 (O), Zelink\_71 (J),

Start 57:

- Found in 3 of 352 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 3 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Avani\_71 (F2), BlueCrab\_63 (F1), ByChance\_55 (F1),

Start 60:

- Found in 319 of 352 ( 90.6% ) of genes in pham
- Manual Annotations of this start: 2 of 334
- Called 0.6% of time when present
- Phage (with cluster) where this start called: LittleE\_79 (J), Patter\_13 (C1),

Start 62:

- Found in 2 of 352 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Eureka\_44 (E),

Start 64:

- Found in 3 of 352 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 334
- Called 66.7% of time when present
- Phage (with cluster) where this start called: DLane\_80 (F1), Goku\_44 (E),

Start 65:

- Found in 1 of 352 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: XFactor\_74 (F1),

Start 75:

- Found in 1 of 352 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 334
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonenili\_20 (C1),

Start 78:

- Found in 9 of 352 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 8 of 334
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Che8\_92 (F1), Fancypants\_92 (F1), Koella\_74 (F1), Marker\_91 (F1), NormanBulbieJr\_80 (F1), Priscilla\_82 (F1), Spartacus\_85 (F1), Whouxphf\_84 (F1),

### **Summary by clusters:**

There are 11 clusters represented in this pham: F1, F2, E, F5, F, J, O, A1, S, F4, C1,

Info for manual annotations of cluster A1:

- Start number 54 was manually annotated 1 time for cluster A1.

- Start number 55 was manually annotated 9 times for cluster A1.
- Start number 56 was manually annotated 19 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 52 was manually annotated 1 time for cluster C1.
- Start number 53 was manually annotated 1 time for cluster C1.
- Start number 54 was manually annotated 1 time for cluster C1.
- Start number 55 was manually annotated 150 times for cluster C1.
- Start number 60 was manually annotated 1 time for cluster C1.
- Start number 75 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster E:

- Start number 44 was manually annotated 1 time for cluster E.
- Start number 54 was manually annotated 3 times for cluster E.
- Start number 56 was manually annotated 4 times for cluster E.
- Start number 62 was manually annotated 1 time for cluster E.
- Start number 64 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:

- Start number 29 was manually annotated 1 time for cluster F1.
- Start number 47 was manually annotated 1 time for cluster F1.
- Start number 51 was manually annotated 8 times for cluster F1.
- Start number 52 was manually annotated 26 times for cluster F1.
- Start number 53 was manually annotated 15 times for cluster F1.
- Start number 55 was manually annotated 22 times for cluster F1.
- Start number 56 was manually annotated 5 times for cluster F1.
- Start number 57 was manually annotated 2 times for cluster F1.
- Start number 64 was manually annotated 1 time for cluster F1.
- Start number 65 was manually annotated 1 time for cluster F1.
- Start number 78 was manually annotated 8 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 51 was manually annotated 1 time for cluster F2.
- Start number 52 was manually annotated 2 times for cluster F2.
- Start number 55 was manually annotated 1 time for cluster F2.
- Start number 57 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F4:

- Start number 42 was manually annotated 1 time for cluster F4.
- Start number 52 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 55 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 53 was manually annotated 1 time for cluster J.
- Start number 54 was manually annotated 2 times for cluster J.
- Start number 56 was manually annotated 25 times for cluster J.
- Start number 60 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster O:

- Start number 56 was manually annotated 2 times for cluster O.

Info for manual annotations of cluster S:

- Start number 51 was manually annotated 2 times for cluster S.
- Start number 53 was manually annotated 1 time for cluster S.
- Start number 55 was manually annotated 8 times for cluster S.

**Gene Information:**

Gene: Abbysshoes\_80 Start: 47965, Stop: 47543, Start Num: 56

Candidate Starts for Abbysshoes\_80:

(Start: 56 @47965 has 55 MA's), (Start: 60 @47953 has 2 MA's), (96, 47797), (114, 47725), (127, 47701), (165, 47629), (180, 47566),

Gene: Ading\_13 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Ading\_13:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: Adlitam\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Adlitam\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Ajay\_76 Start: 46873, Stop: 46502, Start Num: 55

Candidate Starts for Ajay\_76:

(Start: 55 @46873 has 191 MA's), (Start: 60 @46861 has 2 MA's), (70, 46825), (87, 46783), (93, 46759), (103, 46717), (143, 46627), (145, 46624), (176, 46561), (181, 46525),

Gene: Alice\_12 Start: 4384, Stop: 4734, Start Num: 55

Candidate Starts for Alice\_12:

(Start: 55 @4384 has 191 MA's), (Start: 60 @4399 has 2 MA's), (103, 4519), (135, 4597), (143, 4609), (145, 4612), (180, 4705),

Gene: Alsfro\_67 Start: 41490, Stop: 41089, Start Num: 55

Candidate Starts for Alsfro\_67:

(6, 41700), (10, 41691), (32, 41547), (34, 41544), (Start: 55 @41490 has 191 MA's), (Start: 60 @41478 has 2 MA's), (73, 41433), (82, 41394), (103, 41298), (112, 41271), (115, 41265), (122, 41244), (153, 41196),

Gene: Amao\_43 Start: 35234, Stop: 34809, Start Num: 40

Candidate Starts for Amao\_43:

(36, 35246), (40, 35234), (Start: 44 @35225 has 1 MA's), (48, 35213), (95, 35039), (136, 34937), (164, 34895),

Gene: Amataga\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Amataga\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: ArcherS7\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for ArcherS7\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Ardmore\_64 Start: 42842, Stop: 43237, Start Num: 55

Candidate Starts for Ardmore\_64:

(Start: 55 @42842 has 191 MA's), (Start: 60 @42857 has 2 MA's), (130, 43079), (133, 43085), (146, 43109), (180, 43208),

Gene: Ariel\_79 Start: 48566, Stop: 48168, Start Num: 56

Candidate Starts for Ariel\_79:

(Start: 56 @48566 has 55 MA's), (Start: 60 @48554 has 2 MA's), (103, 48398), (138, 48314), (142, 48308), (144, 48305), (177, 48221),

Gene: Ariel\_73 Start: 46707, Stop: 46291, Start Num: 56

Candidate Starts for Ariel\_73:

(Start: 56 @46707 has 55 MA's), (Start: 60 @46695 has 2 MA's), (82, 46611), (89, 46593), (103, 46515), (113, 46485), (130, 46446), (131, 46443),

Gene: Astraea\_6 Start: 1759, Stop: 2151, Start Num: 55

Candidate Starts for Astraea\_6:

(Start: 55 @1759 has 191 MA's), (Start: 60 @1771 has 2 MA's), (74, 1819), (79, 1825), (93, 1888), (103, 1942), (135, 2020), (143, 2032), (145, 2035),

Gene: Atlantean\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Atlantean\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Aubs\_80 Start: 49176, Stop: 49556, Start Num: 55

Candidate Starts for Aubs\_80:

(Start: 55 @49176 has 191 MA's), (Start: 60 @49191 has 2 MA's), (130, 49398), (133, 49404), (146, 49428), (180, 49527),

Gene: Audrick\_14 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Audrick\_14:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: Ava3\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Ava3\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Avani\_86 Start: 46087, Stop: 46437, Start Num: 51

Candidate Starts for Avani\_86:

(Start: 51 @46087 has 11 MA's), (Start: 60 @46102 has 2 MA's), (103, 46237), (107, 46267), (129, 46303), (160, 46354),

Gene: Avani\_71 Start: 41759, Stop: 42094, Start Num: 57

Candidate Starts for Avani\_71:

(Start: 51 @41750 has 11 MA's), (Start: 57 @41759 has 3 MA's), (72, 41792), (101, 41864), (112, 41912), (155, 41999),

Gene: Babyland\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Babyland\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: BackyardAgain\_12 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for BackyardAgain\_12:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: BadAgartude\_14 Start: 4738, Stop: 5088, Start Num: 55

Candidate Starts for BadAgartude\_14:

(Start: 55 @4738 has 191 MA's), (Start: 60 @4753 has 2 MA's), (103, 4873), (135, 4951), (143, 4963), (145, 4966), (180, 5059),

Gene: Balomoji\_45 Start: 36485, Stop: 36057, Start Num: 54

Candidate Starts for Balomoji\_45:

(45, 36506), (49, 36494), (Start: 54 @36485 has 7 MA's), (Start: 60 @36473 has 2 MA's), (90, 36335), (92, 36323), (103, 36263), (180, 36086),

Gene: BananaFence\_14 Start: 4971, Stop: 5336, Start Num: 55

Candidate Starts for BananaFence\_14:

(Start: 55 @4971 has 191 MA's), (Start: 60 @4986 has 2 MA's), (103, 5121), (135, 5199), (143, 5211), (145, 5214), (180, 5307),

Gene: Bangla1971\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Bangla1971\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Basquiat\_13 Start: 3951, Stop: 4316, Start Num: 55

Candidate Starts for Basquiat\_13:

(Start: 55 @3951 has 191 MA's), (Start: 60 @3966 has 2 MA's), (103, 4101), (135, 4179), (143, 4191), (145, 4194), (180, 4287),

Gene: Batiatus\_78 Start: 48266, Stop: 48646, Start Num: 55

Candidate Starts for Batiatus\_78:

(Start: 55 @48266 has 191 MA's), (Start: 60 @48281 has 2 MA's), (103, 48401), (130, 48488), (133, 48494), (146, 48518), (180, 48617),

Gene: Beelzebub\_9 Start: 2804, Stop: 3181, Start Num: 55

Candidate Starts for Beelzebub\_9:

(Start: 55 @2804 has 191 MA's), (Start: 60 @2816 has 2 MA's), (103, 2972), (135, 3050), (143, 3062), (145, 3065),

Gene: Beem\_73 Start: 50984, Stop: 50568, Start Num: 56

Candidate Starts for Beem\_73:

(Start: 56 @50984 has 55 MA's), (Start: 60 @50972 has 2 MA's), (82, 50888), (89, 50870), (103, 50792), (113, 50762), (130, 50723), (131, 50720),

Gene: BigCity\_8 Start: 2903, Stop: 3259, Start Num: 55

Candidate Starts for BigCity\_8:

(Start: 55 @2903 has 191 MA's), (Start: 60 @2915 has 2 MA's), (67, 2942), (88, 2987), (103, 3050), (135, 3128), (143, 3140), (145, 3143),

Gene: BigPhil\_72 Start: 44249, Stop: 44626, Start Num: 52

Candidate Starts for BigPhil\_72:

(Start: 52 @44249 has 30 MA's), (Start: 60 @44264 has 2 MA's), (103, 44420), (116, 44462), (157, 44528), (159, 44531), (180, 44600),

Gene: Bipolarisk\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Bipolarisk\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Blackbrain\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Blackbrain\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Blackdragon\_12 Start: 4007, Stop: 4381, Start Num: 53

Candidate Starts for Blackdragon\_12:

(Start: 53 @4007 has 18 MA's), (Start: 60 @4022 has 2 MA's), (70, 4058), (87, 4100), (93, 4124), (103, 4166), (143, 4256), (145, 4259), (180, 4352),

Gene: Blarby\_87 Start: 46989, Stop: 47345, Start Num: 52

Candidate Starts for Blarby\_87:

(Start: 52 @46989 has 30 MA's), (Start: 60 @47004 has 2 MA's), (103, 47124), (178, 47295), (180, 47316),

Gene: Blexus\_75 Start: 48431, Stop: 48811, Start Num: 52

Candidate Starts for Blexus\_75:

(Start: 52 @48431 has 30 MA's), (Start: 60 @48446 has 2 MA's), (76, 48506), (97, 48578), (103, 48611), (180, 48788),

Gene: BlueCrab\_63 Start: 41722, Stop: 42096, Start Num: 57

Candidate Starts for BlueCrab\_63:

(Start: 51 @41713 has 11 MA's), (Start: 57 @41722 has 3 MA's), (63, 41755), (100, 41863), (101, 41866), (112, 41914), (155, 42001), (181, 42085),

Gene: Bobi\_85 Start: 50553, Stop: 50930, Start Num: 55

Candidate Starts for Bobi\_85:

(Start: 55 @50553 has 191 MA's), (Start: 60 @50568 has 2 MA's), (103, 50688), (130, 50775), (133, 50781), (146, 50805), (174, 50868), (180, 50907),

Gene: Bonray\_14 Start: 5044, Stop: 5394, Start Num: 55

Candidate Starts for Bonray\_14:

(Start: 55 @5044 has 191 MA's), (Start: 60 @5059 has 2 MA's), (103, 5179), (135, 5257), (143, 5269), (145, 5272), (180, 5365),

Gene: Boomer\_81 Start: 48708, Stop: 49136, Start Num: 53

Candidate Starts for Boomer\_81:

(Start: 53 @48708 has 18 MA's), (Start: 60 @48723 has 2 MA's), (69, 48777), (92, 48870), (103, 48930), (180, 49107),



Gene: Bread\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Bread\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Breeniome\_14 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Breeniome\_14:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Bubbles123\_74 Start: 48058, Stop: 48471, Start Num: 55

Candidate Starts for Bubbles123\_74:

(Start: 55 @48058 has 191 MA's), (Start: 60 @48073 has 2 MA's), (103, 48229), (130, 48316), (133, 48322), (146, 48346), (174, 48409), (180, 48448),

Gene: Burrough\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Burrough\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Bxz1\_6 Start: 1759, Stop: 2151, Start Num: 55

Candidate Starts for Bxz1\_6:

(Start: 55 @1759 has 191 MA's), (Start: 60 @1771 has 2 MA's), (74, 1819), (79, 1825), (93, 1888), (103, 1942), (135, 2020), (143, 2032), (145, 2035),

Gene: ByChance\_55 Start: 36650, Stop: 37024, Start Num: 57

Candidate Starts for ByChance\_55:

(Start: 51 @36641 has 11 MA's), (Start: 57 @36650 has 3 MA's), (63, 36683), (100, 36791), (101, 36794), (112, 36842), (155, 36929), (181, 37013),

Gene: Cactojaque\_12 Start: 3900, Stop: 4265, Start Num: 55

Candidate Starts for Cactojaque\_12:

(Start: 55 @3900 has 191 MA's), (Start: 60 @3915 has 2 MA's), (103, 4050), (135, 4128), (143, 4140), (145, 4143), (180, 4236),

Gene: Cali\_14 Start: 5699, Stop: 6064, Start Num: 55

Candidate Starts for Cali\_14:

(Start: 55 @5699 has 191 MA's), (Start: 60 @5714 has 2 MA's), (61, 5723), (103, 5849), (135, 5927), (143, 5939), (145, 5942), (180, 6035),

Gene: Capablanca\_14 Start: 5050, Stop: 5415, Start Num: 55

Candidate Starts for Capablanca\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5200), (135, 5278), (143, 5290), (145, 5293), (180, 5386),

Gene: CaptainTrips\_79 Start: 47890, Stop: 48285, Start Num: 56

Candidate Starts for CaptainTrips\_79:

(Start: 56 @47890 has 55 MA's), (Start: 60 @47902 has 2 MA's), (103, 48037), (125, 48115), (151, 48166), (163, 48190), (172, 48208), (175, 48223), (181, 48262),

Gene: Caravan\_16 Start: 5077, Stop: 5427, Start Num: 55

Candidate Starts for Caravan\_16:

(Start: 55 @5077 has 191 MA's), (Start: 60 @5092 has 2 MA's), (103, 5212), (135, 5290), (143, 5302), (145, 5305), (180, 5398),

Gene: Catera\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Catera\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Cerasum\_72 Start: 44267, Stop: 44644, Start Num: 52

Candidate Starts for Cerasum\_72:

(Start: 52 @44267 has 30 MA's), (Start: 60 @44282 has 2 MA's), (103, 44438), (116, 44480), (157, 44546), (159, 44549), (180, 44618),

Gene: Chargie21\_13 Start: 3951, Stop: 4316, Start Num: 55

Candidate Starts for Chargie21\_13:

(Start: 55 @3951 has 191 MA's), (Start: 60 @3966 has 2 MA's), (103, 4101), (135, 4179), (143, 4191), (145, 4194), (180, 4287),

Gene: CharlieB\_15 Start: 4563, Stop: 4913, Start Num: 55

Candidate Starts for CharlieB\_15:

(Start: 55 @4563 has 191 MA's), (Start: 60 @4578 has 2 MA's), (103, 4698), (135, 4776), (143, 4788), (145, 4791), (180, 4884),

Gene: ChaylaJr\_13 Start: 3993, Stop: 4358, Start Num: 55

Candidate Starts for ChaylaJr\_13:

(Start: 55 @3993 has 191 MA's), (Start: 60 @4008 has 2 MA's), (103, 4143), (135, 4221), (143, 4233), (145, 4236), (180, 4329),

Gene: Che8\_92 Start: 51445, Stop: 51828, Start Num: 78

Candidate Starts for Che8\_92:

(28, 51271), (30, 51280), (37, 51304), (43, 51322), (68, 51415), (71, 51424), (Start: 78 @51445 has 8 MA's), (110, 51631), (119, 51661), (140, 51697), (170, 51748),

Gene: ChickenPhender\_13 Start: 3951, Stop: 4316, Start Num: 55

Candidate Starts for ChickenPhender\_13:

(Start: 55 @3951 has 191 MA's), (Start: 60 @3966 has 2 MA's), (103, 4101), (135, 4179), (143, 4191), (145, 4194), (180, 4287),

Gene: Chomp\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Chomp\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: ChosenOne\_46 Start: 35277, Stop: 34882, Start Num: 56

Candidate Starts for ChosenOne\_46:

(23, 35379), (24, 35373), (28, 35343), (Start: 56 @35277 has 55 MA's), (Start: 60 @35265 has 2 MA's), (103, 35109), (112, 35076), (119, 35055), (155, 34989), (181, 34905),

Gene: Chuckly\_76 Start: 45511, Stop: 45978, Start Num: 29

Candidate Starts for Chuckly\_76:

(Start: 29 @45511 has 1 MA's), (33, 45526), (Start: 55 @45580 has 191 MA's), (84, 45673), (130, 45820), (133, 45826), (146, 45850), (174, 45913), (180, 45949),

Gene: CindyLou\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for CindyLou\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Clarkson\_8 Start: 2580, Stop: 2957, Start Num: 55

Candidate Starts for Clarkson\_8:

(Start: 55 @2580 has 191 MA's), (Start: 60 @2592 has 2 MA's), (103, 2748), (135, 2826), (143, 2838), (145, 2841),

Gene: Clifton\_72 Start: 46816, Stop: 47196, Start Num: 55

Candidate Starts for Clifton\_72:

(Start: 55 @46816 has 191 MA's), (Start: 60 @46831 has 2 MA's), (103, 46987), (135, 47065), (143, 47077), (145, 47080), (180, 47173),

Gene: Coco12\_75 Start: 48324, Stop: 48701, Start Num: 52

Candidate Starts for Coco12\_75:

(Start: 52 @48324 has 30 MA's), (Start: 60 @48339 has 2 MA's), (103, 48495), (116, 48537), (157, 48603), (159, 48606), (180, 48675),

Gene: Corazon\_7 Start: 2530, Stop: 2910, Start Num: 55

Candidate Starts for Corazon\_7:

(Start: 55 @2530 has 191 MA's), (Start: 60 @2545 has 2 MA's), (103, 2701), (135, 2779), (143, 2791), (145, 2794),

Gene: Cornie\_74 Start: 46648, Stop: 46998, Start Num: 55

Candidate Starts for Cornie\_74:

(Start: 55 @46648 has 191 MA's), (Start: 60 @46663 has 2 MA's), (135, 46861), (143, 46873), (145, 46876), (180, 46969),

Gene: Corvo\_62 Start: 41848, Stop: 41459, Start Num: 56

Candidate Starts for Corvo\_62:

(10, 42049), (32, 41905), (34, 41902), (Start: 56 @41848 has 55 MA's), (Start: 60 @41836 has 2 MA's), (93, 41749), (103, 41716), (120, 41638), (132, 41614), (170, 41542),

Gene: DLane\_80 Start: 49512, Stop: 49868, Start Num: 64

Candidate Starts for DLane\_80:

(Start: 64 @49512 has 2 MA's), (69, 49524), (103, 49644), (117, 49686), (165, 49782), (180, 49839),

Gene: DRBy19\_83 Start: 50545, Stop: 50925, Start Num: 55

Candidate Starts for DRBy19\_83:

(Start: 55 @50545 has 191 MA's), (Start: 60 @50560 has 2 MA's), (103, 50716), (135, 50794), (143, 50806), (145, 50809), (180, 50902),

Gene: DTDevon\_8 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for DTDevon\_8:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: DaWorst\_79 Start: 47793, Stop: 48188, Start Num: 53

Candidate Starts for DaWorst\_79:

(Start: 53 @47793 has 18 MA's), (Start: 60 @47808 has 2 MA's), (103, 47928), (120, 48000), (132, 48024), (170, 48096), (182, 48168),

Gene: Daffodil\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Daffodil\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Dallas\_72 Start: 49905, Stop: 49489, Start Num: 56

Candidate Starts for Dallas\_72:

(Start: 56 @49905 has 55 MA's), (Start: 60 @49893 has 2 MA's), (82, 49809), (89, 49791), (103, 49713), (113, 49683), (130, 49644), (131, 49641),

Gene: Dandelion\_7 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for Dandelion\_7:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: Dante\_78 Start: 50103, Stop: 50483, Start Num: 52

Candidate Starts for Dante\_78:

(Start: 52 @50103 has 30 MA's), (Start: 60 @50118 has 2 MA's), (76, 50178), (97, 50250), (103, 50283), (180, 50460),

Gene: Darko\_13 Start: 4940, Stop: 5305, Start Num: 55

Candidate Starts for Darko\_13:

(Start: 55 @4940 has 191 MA's), (Start: 60 @4955 has 2 MA's), (103, 5090), (135, 5168), (143, 5180), (145, 5183), (180, 5276),

Gene: DeadP\_80 Start: 47212, Stop: 47607, Start Num: 55

Candidate Starts for DeadP\_80:

(Start: 55 @47212 has 191 MA's), (Start: 60 @47227 has 2 MA's), (130, 47449), (133, 47455), (146, 47479), (174, 47542), (180, 47581),

Gene: Delilah\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Delilah\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Delylah\_16 Start: 5077, Stop: 5427, Start Num: 55

Candidate Starts for Delylah\_16:

(Start: 55 @5077 has 191 MA's), (Start: 60 @5092 has 2 MA's), (103, 5212), (135, 5290), (143, 5302), (145, 5305), (180, 5398),

Gene: Derek\_14 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Derek\_14:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Dietrick\_12 Start: 3968, Stop: 4333, Start Num: 55

Candidate Starts for Dietrick\_12:

(Start: 55 @3968 has 191 MA's), (Start: 60 @3983 has 2 MA's), (103, 4118), (135, 4196), (143, 4208), (145, 4211), (180, 4304),

Gene: DirtMcgirt\_76 Start: 45318, Stop: 45746, Start Num: 53

Candidate Starts for DirtMcgirt\_76:

(Start: 53 @45318 has 18 MA's), (Start: 60 @45333 has 2 MA's), (69, 45387), (92, 45480), (103, 45540), (180, 45717),

Gene: DirtMonster\_6 Start: 2758, Stop: 3150, Start Num: 55

Candidate Starts for DirtMonster\_6:

(Start: 55 @2758 has 191 MA's), (Start: 60 @2770 has 2 MA's), (74, 2818), (79, 2824), (93, 2887), (103, 2941), (135, 3019), (143, 3031), (145, 3034),

Gene: DmpstrDiver\_73 Start: 50332, Stop: 49916, Start Num: 56

Candidate Starts for DmpstrDiver\_73:

(Start: 56 @50332 has 55 MA's), (Start: 60 @50320 has 2 MA's), (82, 50236), (89, 50218), (103, 50140), (113, 50110), (130, 50071), (131, 50068),

Gene: Dorothy\_81 Start: 50224, Stop: 50574, Start Num: 51

Candidate Starts for Dorothy\_81:

(Start: 51 @50224 has 11 MA's), (Start: 60 @50239 has 2 MA's), (103, 50374), (180, 50551),

Gene: DrPhinkDaddy\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for DrPhinkDaddy\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Drago\_74 Start: 45321, Stop: 45749, Start Num: 53

Candidate Starts for Drago\_74:

(Start: 53 @45321 has 18 MA's), (Start: 60 @45336 has 2 MA's), (69, 45390), (92, 45483), (103, 45543), (180, 45720),

Gene: Drazdys\_8 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for Drazdys\_8:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: Dreamboat\_79 Start: 46273, Stop: 45872, Start Num: 55

Candidate Starts for Dreamboat\_79:

(Start: 55 @46273 has 191 MA's), (103, 46081), (135, 46003), (143, 45991), (145, 45988), (180, 45895),

Gene: Dussy\_79 Start: 47985, Stop: 47563, Start Num: 56

Candidate Starts for Dussy\_79:

(Start: 56 @47985 has 55 MA's), (Start: 60 @47973 has 2 MA's), (96, 47817), (114, 47745), (127, 47721), (165, 47649), (180, 47586),

Gene: Dylan\_22 Start: 10677, Stop: 11069, Start Num: 56

Candidate Starts for Dylan\_22:

(Start: 56 @10677 has 55 MA's), (103, 10809), (123, 10893), (148, 10947), (161, 10971), (167, 10983), (170, 10989), (176, 11013), (178, 11028), (180, 11046),

Gene: ET08\_12 Start: 4991, Stop: 5341, Start Num: 55

Candidate Starts for ET08\_12:

(Start: 55 @4991 has 191 MA's), (Start: 60 @5006 has 2 MA's), (103, 5126), (135, 5204), (143, 5216), (145, 5219), (180, 5312),

Gene: EasyJones\_13 Start: 3951, Stop: 4316, Start Num: 55

Candidate Starts for EasyJones\_13:

(Start: 55 @3951 has 191 MA's), (Start: 60 @3966 has 2 MA's), (103, 4101), (135, 4179), (143, 4191), (145, 4194), (180, 4287),

Gene: EggyFarm\_8 Start: 2903, Stop: 3259, Start Num: 55

Candidate Starts for EggyFarm\_8:

(Start: 55 @2903 has 191 MA's), (Start: 60 @2915 has 2 MA's), (67, 2942), (88, 2987), (103, 3050), (135, 3128), (143, 3140), (145, 3143),

Gene: Ejimix\_73 Start: 51773, Stop: 51354, Start Num: 56

Candidate Starts for Ejimix\_73:

(Start: 56 @51773 has 55 MA's), (Start: 60 @51761 has 2 MA's), (82, 51677), (89, 51659), (103, 51581), (113, 51551), (130, 51512), (131, 51509),

Gene: Elite2014\_45 Start: 35276, Stop: 34881, Start Num: 56

Candidate Starts for Elite2014\_45:

(23, 35378), (24, 35372), (28, 35342), (Start: 56 @35276 has 55 MA's), (Start: 60 @35264 has 2 MA's), (103, 35108), (112, 35075), (119, 35054), (155, 34988), (181, 34904),

Gene: EmToTheThree\_17 Start: 6464, Stop: 6814, Start Num: 55

Candidate Starts for EmToTheThree\_17:

(Start: 55 @6464 has 191 MA's), (Start: 60 @6479 has 2 MA's), (103, 6599), (135, 6677), (143, 6689), (145, 6692), (180, 6785),

Gene: Emma\_82 Start: 47609, Stop: 47959, Start Num: 52

Candidate Starts for Emma\_82:

(25, 47513), (Start: 52 @47609 has 30 MA's), (Start: 60 @47624 has 2 MA's), (103, 47744),

Gene: EmmaElysia\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for EmmaElysia\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Enby\_78 Start: 45597, Stop: 46025, Start Num: 53

Candidate Starts for Enby\_78:

(Start: 53 @45597 has 18 MA's), (Start: 60 @45612 has 2 MA's), (69, 45666), (92, 45759), (103, 45819), (180, 45996),

Gene: Eradicator\_69 Start: 46041, Stop: 46469, Start Num: 53

Candidate Starts for Eradicator\_69:

(Start: 53 @46041 has 18 MA's), (Start: 60 @46056 has 2 MA's), (69, 46110), (92, 46203), (103, 46263), (180, 46440),

Gene: Erdmann\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Erdmann\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: ErnieJ\_17 Start: 5141, Stop: 5506, Start Num: 55

Candidate Starts for ErnieJ\_17:

(Start: 55 @5141 has 191 MA's), (Start: 60 @5156 has 2 MA's), (103, 5291), (135, 5369), (143, 5381), (145, 5384), (180, 5477),

Gene: Essence\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Essence\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Eureka\_44 Start: 36100, Stop: 35735, Start Num: 62

Candidate Starts for Eureka\_44:

(58, 36112), (Start: 62 @36100 has 1 MA's), (Start: 64 @36091 has 2 MA's), (69, 36079), (103, 35959), (117, 35917), (165, 35821), (180, 35764),

Gene: Ewok\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Ewok\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Eyeball\_79 Start: 47899, Stop: 47528, Start Num: 55

Candidate Starts for Eyeball\_79:

(Start: 55 @47899 has 191 MA's), (Start: 60 @47887 has 2 MA's), (70, 47851), (87, 47809), (93, 47785), (103, 47743), (143, 47653), (145, 47650), (176, 47587), (181, 47551),

Gene: Fancypants\_92 Start: 52024, Stop: 52425, Start Num: 78

Candidate Starts for Fancypants\_92:

(12, 51730), (16, 51763), (28, 51850), (30, 51859), (37, 51883), (43, 51901), (68, 51994), (71, 52003), (Start: 78 @52024 has 8 MA's), (98, 52123), (103, 52156), (135, 52261), (152, 52297), (162, 52318), (176, 52357),

Gene: FeliMaine\_7 Start: 2581, Stop: 2958, Start Num: 55

Candidate Starts for FeliMaine\_7:

(Start: 55 @2581 has 191 MA's), (Start: 60 @2593 has 2 MA's), (103, 2749), (135, 2827), (143, 2839), (145, 2842),

Gene: Filuzino\_80 Start: 50124, Stop: 50459, Start Num: 52

Candidate Starts for Filuzino\_80:

(1, 49893), (4, 49920), (5, 49932), (7, 49938), (11, 49944), (17, 49980), (Start: 52 @50124 has 30 MA's), (Start: 60 @50139 has 2 MA's), (103, 50259), (150, 50361), (170, 50382), (176, 50406),

Gene: Firehouse51\_75 Start: 49196, Stop: 49573, Start Num: 51

Candidate Starts for Firehouse51\_75:

(26, 49100), (Start: 51 @49196 has 11 MA's), (Start: 60 @49211 has 2 MA's), (103, 49346), (112, 49379), (119, 49400), (155, 49466), (181, 49550),

Gene: Flabslab\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Flabslab\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Flabslab\_16 Start: 5015, Stop: 5452, Start Num: 54

Candidate Starts for Flabslab\_16:

(15, 4853), (Start: 54 @5015 has 7 MA's), (Start: 60 @5027 has 2 MA's), (92, 5177), (103, 5237), (179, 5408),

Gene: Fludd\_13 Start: 3952, Stop: 4317, Start Num: 55

Candidate Starts for Fludd\_13:

(Start: 55 @3952 has 191 MA's), (Start: 60 @3967 has 2 MA's), (103, 4102), (135, 4180), (143, 4192), (145, 4195), (180, 4288),

Gene: FoxtrotP1\_15 Start: 5609, Stop: 5959, Start Num: 55

Candidate Starts for FoxtrotP1\_15:

(Start: 55 @5609 has 191 MA's), (Start: 60 @5624 has 2 MA's), (103, 5744), (135, 5822), (143, 5834), (145, 5837), (180, 5930),

Gene: FrayBell\_8 Start: 2465, Stop: 2821, Start Num: 55

Candidate Starts for FrayBell\_8:

(Start: 55 @2465 has 191 MA's), (Start: 60 @2477 has 2 MA's), (67, 2504), (88, 2549), (103, 2612), (135, 2690), (143, 2702), (145, 2705),

Gene: Fruitloop\_74 Start: 47706, Stop: 48077, Start Num: 52

Candidate Starts for Fruitloop\_74:

(25, 47610), (Start: 52 @47706 has 30 MA's), (Start: 60 @47721 has 2 MA's), (103, 47841), (116, 47895), (119, 47904), (149, 47952), (154, 47958), (172, 47994), (176, 48012), (180, 48048),

Gene: FudgeTart\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for FudgeTart\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Fushigi\_75 Start: 45357, Stop: 44953, Start Num: 56

Candidate Starts for Fushigi\_75:

(Start: 56 @45357 has 55 MA's), (103, 45159), (128, 45108), (143, 45084), (157, 45057), (180, 44976),

Gene: Gabriel\_14 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Gabriel\_14:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Gamgam\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Gamgam\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Gandalph\_77 Start: 45404, Stop: 45799, Start Num: 53

Candidate Starts for Gandalph\_77:

(Start: 53 @45404 has 18 MA's), (Start: 60 @45419 has 2 MA's), (103, 45539), (120, 45617), (132, 45641), (170, 45713),

Gene: Gattaca\_9 Start: 2524, Stop: 2901, Start Num: 51

Candidate Starts for Gattaca\_9:

(Start: 51 @2524 has 11 MA's), (Start: 60 @2539 has 2 MA's), (103, 2674), (112, 2707), (119, 2728), (155, 2794), (181, 2878),

Gene: Ghost\_14 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Ghost\_14:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),



Gene: Girr\_75 Start: 48247, Stop: 48597, Start Num: 52

Candidate Starts for Girr\_75:

(Start: 52 @48247 has 30 MA's), (Start: 60 @48262 has 2 MA's), (103, 48382),

Gene: Gizmo\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Gizmo\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Goku\_44 Start: 35820, Stop: 35464, Start Num: 64

Candidate Starts for Goku\_44:

(58, 35841), (Start: 62 @35829 has 1 MA's), (Start: 64 @35820 has 2 MA's), (69, 35808), (103, 35688), (117, 35646), (165, 35550), (180, 35493),

Gene: Gonephishing\_73 Start: 48084, Stop: 47683, Start Num: 55

Candidate Starts for Gonephishing\_73:

(Start: 55 @48084 has 191 MA's), (Start: 60 @48072 has 2 MA's), (85, 47988), (89, 47970), (103, 47892), (135, 47814), (143, 47802), (145, 47799), (180, 47706),

Gene: Grasshills\_8 Start: 2903, Stop: 3259, Start Num: 55

Candidate Starts for Grasshills\_8:

(Start: 55 @2903 has 191 MA's), (Start: 60 @2915 has 2 MA's), (67, 2942), (88, 2987), (103, 3050), (135, 3128), (143, 3140), (145, 3143),

Gene: Guwapp\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Guwapp\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Gyzlar\_56 Start: 38713, Stop: 38327, Start Num: 56

Candidate Starts for Gyzlar\_56:

(Start: 56 @38713 has 55 MA's), (Start: 60 @38701 has 2 MA's), (103, 38581), (120, 38509), (132, 38485), (170, 38413), (180, 38350),

Gene: Halley\_75 Start: 50984, Stop: 50568, Start Num: 56

Candidate Starts for Halley\_75:

(Start: 56 @50984 has 55 MA's), (Start: 60 @50972 has 2 MA's), (82, 50888), (89, 50870), (103, 50792), (113, 50762), (130, 50723), (131, 50720),

Gene: Hannaconda\_73 Start: 46951, Stop: 46607, Start Num: 56

Candidate Starts for Hannaconda\_73:

(Start: 56 @46951 has 55 MA's), (Start: 60 @46939 has 2 MA's), (103, 46819), (143, 46729), (145, 46726), (180, 46633),

Gene: HokkenD\_66 Start: 49253, Stop: 48837, Start Num: 56

Candidate Starts for HokkenD\_66:

(Start: 56 @49253 has 55 MA's), (Start: 60 @49241 has 2 MA's), (82, 49157), (89, 49139), (103, 49061), (113, 49031), (130, 48992), (131, 48989),

Gene: Holt\_45 Start: 35325, Stop: 34888, Start Num: 54

Candidate Starts for Holt\_45:

(27, 35397), (Start: 54 @35325 has 7 MA's), (Start: 60 @35313 has 2 MA's), (92, 35163), (103, 35103), (179, 34932),

Gene: Homines\_53 Start: 37028, Stop: 36645, Start Num: 55

Candidate Starts for Homines\_53:

(6, 37238), (10, 37229), (32, 37085), (34, 37082), (Start: 55 @37028 has 191 MA's), (Start: 60 @37016 has 2 MA's), (74, 36968), (79, 36962), (93, 36899), (103, 36845), (150, 36743), (168, 36722), (176, 36698),

Gene: Huphlepuuff\_7 Start: 2307, Stop: 2687, Start Num: 55

Candidate Starts for Huphlepuuff\_7:

(Start: 55 @2307 has 191 MA's), (Start: 60 @2322 has 2 MA's), (103, 2478), (135, 2556), (143, 2568), (145, 2571),

Gene: HyRo\_11 Start: 4892, Stop: 5257, Start Num: 55

Candidate Starts for HyRo\_11:

(Start: 55 @4892 has 191 MA's), (Start: 60 @4907 has 2 MA's), (103, 5042), (135, 5120), (143, 5132), (145, 5135), (180, 5228),

Gene: IMpilo\_74 Start: 45725, Stop: 46135, Start Num: 52

Candidate Starts for IMpilo\_74:

(Start: 52 @45725 has 30 MA's), (Start: 60 @45740 has 2 MA's), (76, 45800), (97, 45872), (103, 45905), (136, 46001), (173, 46067), (178, 46091), (180, 46112),

Gene: lbOuu\_77 Start: 46622, Stop: 47065, Start Num: 55

Candidate Starts for lbOuu\_77:

(Start: 55 @46622 has 191 MA's), (Start: 60 @46637 has 2 MA's), (103, 46817), (130, 46904), (133, 46910), (146, 46934), (180, 47036),

Gene: lbhubesi\_77 Start: 46004, Stop: 46342, Start Num: 52

Candidate Starts for lbhubesi\_77:

(Start: 52 @46004 has 30 MA's), (Start: 60 @46019 has 2 MA's), (67, 46046), (103, 46139), (116, 46181), (157, 46247),

Gene: InigoMontoya\_14 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for InigoMontoya\_14:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: InterFolia\_8 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for InterFolia\_8:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: Inventum\_78 Start: 48409, Stop: 48759, Start Num: 51

Candidate Starts for Inventum\_78:

(Start: 51 @48409 has 11 MA's), (Start: 60 @48424 has 2 MA's), (103, 48559), (180, 48736),

Gene: Inyanga\_56 Start: 40763, Stop: 40362, Start Num: 55

Candidate Starts for Inyanga\_56:

(Start: 55 @40763 has 191 MA's), (Start: 60 @40751 has 2 MA's), (73, 40706), (82, 40667), (103, 40571),

Gene: IrishSherpFalk\_79 Start: 48781, Stop: 49194, Start Num: 55

Candidate Starts for IrishSherpFalk\_79:

(Start: 55 @48781 has 191 MA's), (Start: 60 @48796 has 2 MA's), (103, 48952), (130, 49039), (133, 49045), (146, 49069), (174, 49132), (180, 49171),

Gene: Issimir\_14 Start: 5044, Stop: 5394, Start Num: 55

Candidate Starts for Issimir\_14:

(Start: 55 @5044 has 191 MA's), (Start: 60 @5059 has 2 MA's), (103, 5179), (135, 5257), (143, 5269), (145, 5272), (180, 5365),

Gene: Izajani\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Izajani\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: JPickles\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for JPickles\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Jabbawokkie\_88 Start: 46909, Stop: 47265, Start Num: 52

Candidate Starts for Jabbawokkie\_88:

(Start: 52 @46909 has 30 MA's), (Start: 60 @46924 has 2 MA's), (103, 47044), (178, 47215), (180, 47236),

Gene: James\_80 Start: 49880, Stop: 50260, Start Num: 55

Candidate Starts for James\_80:

(Start: 55 @49880 has 191 MA's), (Start: 60 @49895 has 2 MA's), (103, 50051), (135, 50129), (143, 50141), (145, 50144), (180, 50237),

Gene: Janiyra\_13 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Janiyra\_13:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: Jarcob\_79 Start: 49477, Stop: 49857, Start Num: 55

Candidate Starts for Jarcob\_79:

(Start: 55 @49477 has 191 MA's), (Start: 60 @49492 has 2 MA's), (103, 49648), (135, 49726), (143, 49738), (145, 49741), (180, 49834),

Gene: Jasper\_78 Start: 46159, Stop: 45758, Start Num: 55

Candidate Starts for Jasper\_78:

(Start: 55 @46159 has 191 MA's), (103, 45967), (135, 45889), (143, 45877), (145, 45874), (180, 45781),

Gene: JayJay\_6 Start: 1993, Stop: 2349, Start Num: 55

Candidate Starts for JayJay\_6:

(35, 1942), (Start: 55 @1993 has 191 MA's), (Start: 60 @2005 has 2 MA's), (67, 2032), (88, 2077), (103, 2140), (135, 2218), (143, 2230), (145, 2233),

Gene: Jaygup\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Jaygup\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Jedediah\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Jedediah\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Jemmno\_12 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Jemmno\_12:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Jessibeth14\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Jessibeth14\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: JoieB\_8 Start: 2529, Stop: 2909, Start Num: 55

Candidate Starts for JoieB\_8:

(Start: 55 @2529 has 191 MA's), (Start: 60 @2544 has 2 MA's), (103, 2700), (135, 2778), (143, 2790), (145, 2793),

Gene: JuicyJay\_72 Start: 52118, Stop: 51702, Start Num: 56

Candidate Starts for JuicyJay\_72:

(Start: 56 @52118 has 55 MA's), (Start: 60 @52106 has 2 MA's), (82, 52022), (89, 52004), (103, 51926), (113, 51896), (130, 51857), (131, 51854),

Gene: JustHall\_13 Start: 4965, Stop: 5330, Start Num: 55

Candidate Starts for JustHall\_13:

(Start: 55 @4965 has 191 MA's), (Start: 60 @4980 has 2 MA's), (103, 5115), (135, 5193), (143, 5205), (145, 5208), (180, 5301),

Gene: KBG\_62 Start: 42879, Stop: 42511, Start Num: 56

Candidate Starts for KBG\_62:

(32, 42936), (34, 42933), (Start: 56 @42879 has 55 MA's), (Start: 60 @42867 has 2 MA's), (103, 42732), (118, 42672), (141, 42636), (167, 42588), (169, 42585), (181, 42522),

Gene: KSSJEB\_78 Start: 46842, Stop: 46471, Start Num: 55

Candidate Starts for KSSJEB\_78:

(Start: 55 @46842 has 191 MA's), (Start: 60 @46830 has 2 MA's), (70, 46794), (87, 46752), (93, 46728), (103, 46686), (143, 46596), (145, 46593), (176, 46530), (181, 46494),

Gene: Kalah2\_68 Start: 50277, Stop: 49861, Start Num: 56

Candidate Starts for Kalah2\_68:

(Start: 56 @50277 has 55 MA's), (Start: 60 @50265 has 2 MA's), (82, 50181), (89, 50163), (103, 50085), (113, 50055), (130, 50016), (131, 50013),

Gene: KashFlow\_71 Start: 46755, Stop: 46327, Start Num: 53

Candidate Starts for KashFlow\_71:

(Start: 53 @46755 has 18 MA's), (Start: 60 @46740 has 2 MA's), (69, 46686), (92, 46593), (103, 46533), (180, 46356),

Gene: Kboogie\_13 Start: 3968, Stop: 4333, Start Num: 55

Candidate Starts for Kboogie\_13:

(Start: 55 @3968 has 191 MA's), (Start: 60 @3983 has 2 MA's), (103, 4118), (135, 4196), (143, 4208), (145, 4211), (180, 4304),

Gene: Kenmech\_82 Start: 49111, Stop: 48689, Start Num: 56

Candidate Starts for Kenmech\_82:

(Start: 56 @49111 has 55 MA's), (Start: 60 @49099 has 2 MA's), (96, 48943), (114, 48871), (127, 48847), (165, 48775), (180, 48712),

Gene: Kenuha5\_75 Start: 48762, Stop: 49157, Start Num: 53

Candidate Starts for Kenuha5\_75:

(Start: 53 @48762 has 18 MA's), (Start: 60 @48777 has 2 MA's), (103, 48897), (120, 48975), (132, 48999), (170, 49071),

Gene: Khaleesi\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Khaleesi\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Kingsley\_82 Start: 50469, Stop: 50837, Start Num: 52

Candidate Starts for Kingsley\_82:

(Start: 52 @50469 has 30 MA's), (Start: 60 @50484 has 2 MA's), (103, 50604), (123, 50673), (134, 50694), (170, 50754), (180, 50811),

Gene: Klein\_78 Start: 51350, Stop: 50925, Start Num: 54

Candidate Starts for Klein\_78:

(Start: 54 @51350 has 7 MA's), (Start: 60 @51338 has 2 MA's), (69, 51284), (92, 51191), (103, 51131), (180, 50954),

Gene: Koella\_74 Start: 45585, Stop: 45968, Start Num: 78

Candidate Starts for Koella\_74:

(28, 45411), (30, 45420), (37, 45444), (43, 45462), (68, 45555), (71, 45564), (Start: 78 @45585 has 8 MA's), (110, 45771), (119, 45801), (140, 45837), (170, 45888),

Gene: Krakatau\_74 Start: 44687, Stop: 45067, Start Num: 55

Candidate Starts for Krakatau\_74:

(Start: 55 @44687 has 191 MA's), (Start: 60 @44702 has 2 MA's), (103, 44822), (130, 44909), (133, 44915), (146, 44939), (174, 45002), (180, 45038),

Gene: KristaRAM\_77 Start: 47329, Stop: 47721, Start Num: 55

Candidate Starts for KristaRAM\_77:

(Start: 55 @47329 has 191 MA's), (Start: 60 @47344 has 2 MA's), (103, 47479), (130, 47566), (133, 47572), (146, 47596), (174, 47659), (180, 47698),

Gene: Kugel\_63 Start: 41957, Stop: 41598, Start Num: 56

Candidate Starts for Kugel\_63:

(10, 42158), (32, 42014), (34, 42011), (Start: 56 @41957 has 55 MA's), (103, 41825), (112, 41792), (119, 41771), (155, 41705), (181, 41621),

Gene: LRRHood\_14 Start: 5702, Stop: 6052, Start Num: 55

Candidate Starts for LRRHood\_14:

(Start: 55 @5702 has 191 MA's), (Start: 60 @5717 has 2 MA's), (103, 5837), (135, 5915), (143, 5927), (145, 5930), (180, 6023),

Gene: Latch\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Latch\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Leozinho\_78 Start: 46065, Stop: 46445, Start Num: 52

Candidate Starts for Leozinho\_78:

(Start: 52 @46065 has 30 MA's), (Start: 60 @46080 has 2 MA's), (76, 46140), (97, 46212), (103, 46245), (180, 46422),

Gene: LifeSavor\_14 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for LifeSavor\_14:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Lilbit\_8 Start: 2581, Stop: 2958, Start Num: 55

Candidate Starts for Lilbit\_8:

(Start: 55 @2581 has 191 MA's), (Start: 60 @2593 has 2 MA's), (103, 2749), (135, 2827), (143, 2839), (145, 2842),

Gene: Lilpickle\_45 Start: 35276, Stop: 34881, Start Num: 56

Candidate Starts for Lilpickle\_45:

(23, 35378), (24, 35372), (28, 35342), (Start: 56 @35276 has 55 MA's), (Start: 60 @35264 has 2 MA's), (103, 35108), (112, 35075), (119, 35054), (155, 34988), (181, 34904),

Gene: LinStu\_7 Start: 2992, Stop: 3348, Start Num: 55

Candidate Starts for LinStu\_7:

(35, 2941), (Start: 55 @2992 has 191 MA's), (Start: 60 @3004 has 2 MA's), (67, 3031), (88, 3076), (103, 3139), (135, 3217), (143, 3229), (145, 3232),

Gene: LittleE\_79 Start: 51011, Stop: 50637, Start Num: 60

Candidate Starts for LittleE\_79:

(Start: 56 @51023 has 55 MA's), (Start: 60 @51011 has 2 MA's), (103, 50891), (120, 50819), (132, 50795), (170, 50723),

Gene: LittleLaf\_7 Start: 2307, Stop: 2687, Start Num: 55

Candidate Starts for LittleLaf\_7:

(Start: 55 @2307 has 191 MA's), (Start: 60 @2322 has 2 MA's), (103, 2478), (135, 2556), (143, 2568), (145, 2571),

Gene: Littleton\_14 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Littleton\_14:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Llij\_73 Start: 45475, Stop: 45903, Start Num: 53

Candidate Starts for Llij\_73:

(Start: 53 @45475 has 18 MA's), (Start: 60 @45490 has 2 MA's), (69, 45544), (92, 45637), (103, 45697), (180, 45874),

Gene: Loanshark\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Loanshark\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: LolaVinca\_8 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for LolaVinca\_8:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: Lorde\_77 Start: 44762, Stop: 45190, Start Num: 53

Candidate Starts for Lorde\_77:

(Start: 53 @44762 has 18 MA's), (Start: 60 @44777 has 2 MA's), (69, 44831), (92, 44924), (103, 44984), (180, 45161),

Gene: Lucky2013\_77 Start: 48582, Stop: 48184, Start Num: 56

Candidate Starts for Lucky2013\_77:

(Start: 56 @48582 has 55 MA's), (Start: 60 @48570 has 2 MA's), (103, 48414), (138, 48330), (142, 48324), (144, 48321), (177, 48237),

Gene: LunaBlu\_82 Start: 48900, Stop: 49268, Start Num: 51

Candidate Starts for LunaBlu\_82:

(Start: 51 @48900 has 11 MA's), (Start: 60 @48915 has 2 MA's), (103, 49050), (107, 49080), (124, 49119), (126, 49122), (180, 49245),

Gene: Maby2021\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Maby2021\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Manda\_46 Start: 36625, Stop: 36245, Start Num: 54

Candidate Starts for Manda\_46:

(46, 36646), (50, 36634), (Start: 54 @36625 has 7 MA's), (Start: 60 @36613 has 2 MA's), (103, 36493), (130, 36406), (133, 36400), (174, 36313), (180, 36274),

Gene: Mantra\_76 Start: 47820, Stop: 48170, Start Num: 52

Candidate Starts for Mantra\_76:

(25, 47724), (Start: 52 @47820 has 30 MA's), (Start: 60 @47835 has 2 MA's), (103, 47955),

Gene: Marker\_91 Start: 50605, Stop: 50967, Start Num: 78

Candidate Starts for Marker\_91:

(28, 50431), (30, 50440), (33, 50452), (37, 50464), (68, 50575), (71, 50584), (Start: 78 @50605 has 8 MA's), (81, 50617), (98, 50695), (102, 50719), (110, 50761),

Gene: Marker\_82 Start: 48016, Stop: 48423, Start Num: 56

Candidate Starts for Marker\_82:

(21, 47893), (38, 47986), (41, 47995), (Start: 56 @48016 has 55 MA's), (66, 48055), (83, 48100), (103, 48163), (120, 48241), (132, 48265), (170, 48337),

Gene: Martik\_80 Start: 50276, Stop: 50662, Start Num: 52

Candidate Starts for Martik\_80:

(Start: 52 @50276 has 30 MA's), (Start: 60 @50291 has 2 MA's), (76, 50351), (97, 50423), (103, 50456), (180, 50633),

Gene: MaryBeth\_59 Start: 41225, Stop: 40836, Start Num: 56

Candidate Starts for MaryBeth\_59:

(10, 41426), (32, 41282), (34, 41279), (Start: 56 @41225 has 55 MA's), (Start: 60 @41213 has 2 MA's), (93, 41126), (103, 41093), (120, 41015), (132, 40991), (170, 40919),

Gene: Matsumoto\_12 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Matsumoto\_12:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: McGee\_13 Start: 3968, Stop: 4333, Start Num: 55

Candidate Starts for McGee\_13:

(Start: 55 @3968 has 191 MA's), (Start: 60 @3983 has 2 MA's), (103, 4118), (135, 4196), (143, 4208), (145, 4211), (180, 4304),

Gene: McWolfish\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for McWolfish\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Megamind\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Megamind\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Melpomini\_13 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Melpomini\_13:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: MetalQZJ\_58 Start: 41225, Stop: 40836, Start Num: 56

Candidate Starts for MetalQZJ\_58:

(10, 41426), (32, 41282), (34, 41279), (Start: 56 @41225 has 55 MA's), (Start: 60 @41213 has 2 MA's), (93, 41126), (103, 41093), (120, 41015), (132, 40991), (170, 40919),

Gene: MiaZeal\_80 Start: 49238, Stop: 48840, Start Num: 56

Candidate Starts for MiaZeal\_80:

(Start: 56 @49238 has 55 MA's), (Start: 60 @49226 has 2 MA's), (103, 49070), (138, 48986), (142, 48980), (144, 48977), (177, 48893),

Gene: MiaZeal\_74 Start: 47379, Stop: 46963, Start Num: 56

Candidate Starts for MiaZeal\_74:

(Start: 56 @47379 has 55 MA's), (Start: 60 @47367 has 2 MA's), (82, 47283), (89, 47265), (103, 47187), (113, 47157), (130, 47118), (131, 47115),

Gene: MikeLiesIn\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for MikeLiesIn\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Mikro\_6 Start: 2758, Stop: 3150, Start Num: 55

Candidate Starts for Mikro\_6:

(Start: 55 @2758 has 191 MA's), (Start: 60 @2770 has 2 MA's), (74, 2818), (79, 2824), (93, 2887), (103, 2941), (135, 3019), (143, 3031), (145, 3034),



Gene: MinionDave\_75 Start: 47890, Stop: 48285, Start Num: 56

Candidate Starts for MinionDave\_75:

(Start: 56 @47890 has 55 MA's), (Start: 60 @47902 has 2 MA's), (103, 48037), (125, 48115), (151, 48166), (163, 48190), (172, 48208), (175, 48223), (181, 48262),

Gene: Minnie\_76 Start: 50008, Stop: 50400, Start Num: 55

Candidate Starts for Minnie\_76:

(Start: 55 @50008 has 191 MA's), (Start: 60 @50023 has 2 MA's), (104, 50161), (130, 50245), (133, 50251), (146, 50275), (174, 50338), (180, 50377),

Gene: MisterCuddles\_76 Start: 48247, Stop: 48597, Start Num: 52

Candidate Starts for MisterCuddles\_76:

(Start: 52 @48247 has 30 MA's), (Start: 60 @48262 has 2 MA's), (103, 48382),

Gene: MoMoMixon\_5 Start: 1605, Stop: 1997, Start Num: 55

Candidate Starts for MoMoMixon\_5:

(Start: 55 @1605 has 191 MA's), (Start: 60 @1617 has 2 MA's), (74, 1665), (79, 1671), (93, 1734), (103, 1788), (135, 1866), (143, 1878), (145, 1881),

Gene: Momo\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Momo\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Morizzled23\_13 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Morizzled23\_13:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: MosMoris\_9 Start: 2524, Stop: 2901, Start Num: 51

Candidate Starts for MosMoris\_9:

(Start: 51 @2524 has 11 MA's), (Start: 60 @2539 has 2 MA's), (103, 2674), (112, 2707), (119, 2728), (155, 2794), (181, 2878),

Gene: Ms6\_78 Start: 44647, Stop: 45045, Start Num: 55

Candidate Starts for Ms6\_78:

(30, 44581), (33, 44593), (Start: 55 @44647 has 191 MA's), (84, 44740), (130, 44887), (133, 44893), (146, 44917), (180, 45016),

Gene: Naija\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Naija\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Napoleon13\_13 Start: 3968, Stop: 4333, Start Num: 55

Candidate Starts for Napoleon13\_13:

(Start: 55 @3968 has 191 MA's), (Start: 60 @3983 has 2 MA's), (103, 4118), (135, 4196), (143, 4208), (145, 4211), (180, 4304),

Gene: Nappy\_6 Start: 1987, Stop: 2343, Start Num: 55

Candidate Starts for Nappy\_6:

(Start: 55 @1987 has 191 MA's), (67, 2026), (88, 2071), (103, 2134), (135, 2212), (143, 2224), (145, 2227),

Gene: NedWong\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for NedWong\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Ngannou\_13 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Ngannou\_13:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: Nidhogg\_5 Start: 1605, Stop: 1997, Start Num: 55

Candidate Starts for Nidhogg\_5:

(Start: 55 @1605 has 191 MA's), (Start: 60 @1617 has 2 MA's), (74, 1665), (79, 1671), (93, 1734), (103, 1788), (135, 1866), (143, 1878), (145, 1881),

Gene: NihilNomen\_74 Start: 51071, Stop: 50655, Start Num: 56

Candidate Starts for NihilNomen\_74:

(Start: 56 @51071 has 55 MA's), (Start: 60 @51059 has 2 MA's), (82, 50975), (89, 50957), (103, 50879), (113, 50849), (130, 50810), (131, 50807),

Gene: Nitzel\_73 Start: 45555, Stop: 45947, Start Num: 55

Candidate Starts for Nitzel\_73:

(Start: 55 @45555 has 191 MA's), (Start: 60 @45570 has 2 MA's), (103, 45705), (130, 45792), (133, 45798), (146, 45822), (174, 45885), (180, 45924),

Gene: NoodleTree\_6 Start: 1759, Stop: 2151, Start Num: 55

Candidate Starts for NoodleTree\_6:

(Start: 55 @1759 has 191 MA's), (Start: 60 @1771 has 2 MA's), (74, 1819), (79, 1825), (93, 1888), (103, 1942), (135, 2020), (143, 2032), (145, 2035),

Gene: Norm\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Norm\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: NormanBulbieJr\_80 Start: 49599, Stop: 49982, Start Num: 78

Candidate Starts for NormanBulbieJr\_80:

(28, 49425), (30, 49434), (37, 49458), (43, 49476), (68, 49569), (71, 49578), (Start: 78 @49599 has 8 MA's), (110, 49785), (119, 49815), (140, 49851), (170, 49902),

Gene: NuevoMundo\_7 Start: 2137, Stop: 2493, Start Num: 55

Candidate Starts for NuevoMundo\_7:

(Start: 55 @2137 has 191 MA's), (Start: 60 @2149 has 2 MA's), (67, 2176), (88, 2221), (103, 2284), (135, 2362), (143, 2374), (145, 2377),

Gene: Odette\_72 Start: 50114, Stop: 49698, Start Num: 56

Candidate Starts for Odette\_72:

(Start: 56 @50114 has 55 MA's), (Start: 60 @50102 has 2 MA's), (82, 50018), (89, 50000), (103, 49922), (113, 49892), (130, 49853), (131, 49850),

Gene: Ogotogo\_85 Start: 48076, Stop: 48471, Start Num: 56

Candidate Starts for Ogotogo\_85:

(31, 48034), (Start: 56 @48076 has 55 MA's), (Start: 60 @48088 has 2 MA's), (103, 48244), (112, 48277), (119, 48298), (155, 48364), (181, 48448),

Gene: OlympiaSaint\_79 Start: 48822, Stop: 49202, Start Num: 55

Candidate Starts for OlympiaSaint\_79:

(Start: 55 @48822 has 191 MA's), (Start: 60 @48837 has 2 MA's), (103, 48993), (135, 49071), (143, 49083), (145, 49086), (180, 49179),

Gene: Ovechkin\_81 Start: 48812, Stop: 49225, Start Num: 52

Candidate Starts for Ovechkin\_81:

(Start: 52 @48812 has 30 MA's), (Start: 60 @48827 has 2 MA's), (76, 48887), (97, 48959), (103, 48992), (136, 49088), (173, 49154), (178, 49178),

Gene: PMC\_74 Start: 46932, Stop: 47360, Start Num: 53

Candidate Starts for PMC\_74:

(Start: 53 @46932 has 18 MA's), (Start: 60 @46947 has 2 MA's), (69, 47001), (92, 47094), (103, 47154), (180, 47331),

Gene: ParkTD\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for ParkTD\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Patter\_13 Start: 4002, Stop: 4352, Start Num: 60

Candidate Starts for Patter\_13:

(Start: 55 @3987 has 191 MA's), (Start: 60 @4002 has 2 MA's), (103, 4137), (135, 4215), (143, 4227), (145, 4230), (180, 4323),

Gene: Peterson\_79 Start: 49024, Stop: 48623, Start Num: 56

Candidate Starts for Peterson\_79:

(Start: 56 @49024 has 55 MA's), (Start: 60 @49012 has 2 MA's), (77, 48949), (80, 48940), (103, 48847), (117, 48805), (165, 48709), (180, 48652),

Gene: Petruccio\_60 Start: 40166, Stop: 39780, Start Num: 56

Candidate Starts for Petruccio\_60:

(Start: 56 @40166 has 55 MA's), (Start: 60 @40154 has 2 MA's), (103, 40034), (120, 39962), (132, 39938), (170, 39866), (180, 39803),

Gene: Phalconet\_76 Start: 47337, Stop: 47762, Start Num: 55

Candidate Starts for Phalconet\_76:

(Start: 55 @47337 has 191 MA's), (Start: 60 @47352 has 2 MA's), (82, 47436), (89, 47454), (103, 47532), (138, 47616), (142, 47622), (144, 47625), (177, 47709),

Gene: Phanphagia\_77 Start: 48265, Stop: 48633, Start Num: 52

Candidate Starts for Phanphagia\_77:

(Start: 52 @48265 has 30 MA's), (Start: 60 @48280 has 2 MA's), (103, 48400), (123, 48469), (134, 48490), (170, 48550), (180, 48607),

Gene: Phatniss\_74 Start: 46570, Stop: 46998, Start Num: 53

Candidate Starts for Phatniss\_74:

(Start: 53 @46570 has 18 MA's), (Start: 60 @46585 has 2 MA's), (69, 46639), (92, 46732), (103, 46792), (180, 46969),

Gene: PherrisBueller\_78 Start: 45810, Stop: 45409, Start Num: 55

Candidate Starts for PherrisBueller\_78:

(Start: 55 @45810 has 191 MA's), (103, 45618), (135, 45540), (143, 45528), (145, 45525), (180, 45432),

Gene: PhesterPhotato\_83 Start: 48607, Stop: 48993, Start Num: 56

Candidate Starts for PhesterPhotato\_83:

(Start: 56 @48607 has 55 MA's), (Start: 60 @48619 has 2 MA's), (103, 48739), (120, 48811), (132, 48835), (170, 48907),

Gene: PhesterPhotato\_82 Start: 48233, Stop: 48610, Start Num: 55

Candidate Starts for PhesterPhotato\_82:

(Start: 55 @48233 has 191 MA's), (Start: 60 @48248 has 2 MA's), (103, 48383), (130, 48470), (133, 48476), (146, 48500),

Gene: Philus\_82 Start: 50521, Stop: 50901, Start Num: 55

Candidate Starts for Philus\_82:

(Start: 55 @50521 has 191 MA's), (Start: 60 @50536 has 2 MA's), (103, 50692), (135, 50770), (143, 50782), (145, 50785), (180, 50878),

Gene: Phlegm\_14 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Phlegm\_14:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Phoebus\_76 Start: 52253, Stop: 51837, Start Num: 56

Candidate Starts for Phoebus\_76:

(Start: 56 @52253 has 55 MA's), (Start: 60 @52241 has 2 MA's), (82, 52157), (89, 52139), (103, 52061), (113, 52031), (130, 51992), (131, 51989),

Gene: Phusco\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Phusco\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Pier\_7 Start: 2140, Stop: 2496, Start Num: 55

Candidate Starts for Pier\_7:

(Start: 55 @2140 has 191 MA's), (Start: 60 @2152 has 2 MA's), (67, 2179), (88, 2224), (103, 2287), (135, 2365), (143, 2377), (145, 2380),

Gene: Pinkcreek\_9 Start: 4088, Stop: 4453, Start Num: 55

Candidate Starts for Pinkcreek\_9:

(Start: 55 @4088 has 191 MA's), (Start: 60 @4103 has 2 MA's), (103, 4238), (135, 4316), (143, 4328), (145, 4331), (180, 4424),

Gene: Pio\_6 Start: 1759, Stop: 2151, Start Num: 55

Candidate Starts for Pio\_6:

(Start: 55 @1759 has 191 MA's), (Start: 60 @1771 has 2 MA's), (74, 1819), (79, 1825), (93, 1888), (103, 1942), (135, 2020), (143, 2032), (145, 2035),

Gene: Pippy\_75 Start: 47171, Stop: 47551, Start Num: 52

Candidate Starts for Pippy\_75:

(Start: 52 @47171 has 30 MA's), (Start: 60 @47186 has 2 MA's), (76, 47246), (97, 47318), (103, 47351), (180, 47528),

Gene: Pivoine\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Pivoine\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Pleione\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Pleione\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Porcelain\_73 Start: 47379, Stop: 46963, Start Num: 56

Candidate Starts for Porcelain\_73:

(Start: 56 @47379 has 55 MA's), (Start: 60 @47367 has 2 MA's), (82, 47283), (89, 47265), (103, 47187), (113, 47157), (130, 47118), (131, 47115),

Gene: Porcelain\_79 Start: 49238, Stop: 48840, Start Num: 56

Candidate Starts for Porcelain\_79:

(Start: 56 @49238 has 55 MA's), (Start: 60 @49226 has 2 MA's), (103, 49070), (138, 48986), (142, 48980), (144, 48977), (177, 48893),

Gene: Pringar\_7 Start: 2135, Stop: 2512, Start Num: 55

Candidate Starts for Pringar\_7:

(Start: 55 @2135 has 191 MA's), (Start: 60 @2147 has 2 MA's), (103, 2303), (135, 2381), (143, 2393), (145, 2396),

Gene: Priscilla\_82 Start: 49697, Stop: 50080, Start Num: 78

Candidate Starts for Priscilla\_82:

(28, 49523), (30, 49532), (37, 49556), (43, 49574), (68, 49667), (71, 49676), (Start: 78 @49697 has 8 MA's), (110, 49883), (119, 49913), (140, 49949), (170, 50000),

Gene: PurduePete\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for PurduePete\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: QBert\_6 Start: 2762, Stop: 3154, Start Num: 55

Candidate Starts for QBert\_6:

(Start: 55 @2762 has 191 MA's), (Start: 60 @2774 has 2 MA's), (74, 2822), (79, 2828), (93, 2891), (103, 2945), (135, 3023), (143, 3035), (145, 3038),

Gene: Quasimodo\_13 Start: 4969, Stop: 5334, Start Num: 55

Candidate Starts for Quasimodo\_13:

(Start: 55 @4969 has 191 MA's), (Start: 60 @4984 has 2 MA's), (103, 5119), (135, 5197), (143, 5209), (145, 5212), (180, 5305),

Gene: Rabinovish\_12 Start: 4755, Stop: 5105, Start Num: 55

Candidate Starts for Rabinovish\_12:

(Start: 55 @4755 has 191 MA's), (Start: 60 @4770 has 2 MA's), (103, 4890), (135, 4968), (143, 4980), (145, 4983), (180, 5076),

Gene: Radiance\_78 Start: 48851, Stop: 49231, Start Num: 52

Candidate Starts for Radiance\_78:

(Start: 52 @48851 has 30 MA's), (Start: 60 @48866 has 2 MA's), (76, 48926), (97, 48998), (103, 49031), (180, 49208),

Gene: Raela\_7 Start: 2533, Stop: 2922, Start Num: 53

Candidate Starts for Raela\_7:

(Start: 53 @2533 has 18 MA's), (Start: 60 @2548 has 2 MA's), (103, 2668), (120, 2740), (132, 2764), (170, 2836), (180, 2899),

Gene: Rahel\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Rahel\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Ramsey\_83 Start: 50333, Stop: 50683, Start Num: 51

Candidate Starts for Ramsey\_83:

(Start: 51 @50333 has 11 MA's), (Start: 60 @50348 has 2 MA's), (103, 50483), (180, 50660),

Gene: RedBird\_81 Start: 50091, Stop: 50441, Start Num: 51

Candidate Starts for RedBird\_81:

(Start: 51 @50091 has 11 MA's), (Start: 60 @50106 has 2 MA's), (103, 50241), (180, 50418),

Gene: RedRaider77\_8 Start: 2530, Stop: 2889, Start Num: 55

Candidate Starts for RedRaider77\_8:

(Start: 55 @2530 has 191 MA's), (Start: 60 @2545 has 2 MA's), (103, 2680), (135, 2758), (143, 2770), (145, 2773), (180, 2866), (183, 2884),

Gene: Redno2\_70 Start: 47867, Stop: 47451, Start Num: 56

Candidate Starts for Redno2\_70:

(Start: 56 @47867 has 55 MA's), (Start: 60 @47855 has 2 MA's), (82, 47771), (89, 47753), (103, 47675), (113, 47645), (130, 47606), (131, 47603),

Gene: Renaud18\_72 Start: 42500, Stop: 42886, Start Num: 42

Candidate Starts for Renaud18\_72:

(Start: 42 @42500 has 1 MA's), (48, 42512), (59, 42539), (77, 42584), (95, 42647), (99, 42674), (103, 42692), (109, 42719), (176, 42827),

Gene: Renaud18\_89 Start: 49475, Stop: 49831, Start Num: 52

Candidate Starts for Renaud18\_89:

(18, 49322), (22, 49337), (Start: 52 @49475 has 30 MA's), (Start: 60 @49490 has 2 MA's), (103, 49610), (121, 49670), (132, 49685), (147, 49709), (151, 49715), (172, 49748), (180, 49802),

Gene: Ringer\_61 Start: 42004, Stop: 41573, Start Num: 55

Candidate Starts for Ringer\_61:

(10, 42205), (32, 42061), (34, 42058), (Start: 55 @42004 has 191 MA's), (Start: 60 @41992 has 2 MA's), (92, 41842), (93, 41839), (103, 41782), (135, 41704), (143, 41692), (145, 41689),

Gene: Rita\_85 Start: 50514, Stop: 50948, Start Num: 47

Candidate Starts for Rita\_85:

(9, 50340), (13, 50355), (14, 50364), (19, 50394), (Start: 47 @50514 has 1 MA's), (Start: 60 @50538 has 2 MA's), (103, 50718), (136, 50814), (173, 50880), (178, 50904), (180, 50925),

Gene: Rizal\_13 Start: 3965, Stop: 4330, Start Num: 55

Candidate Starts for Rizal\_13:

(Start: 55 @3965 has 191 MA's), (Start: 60 @3980 has 2 MA's), (103, 4115), (135, 4193), (143, 4205), (145, 4208), (180, 4301),

Gene: Rockne\_78 Start: 46944, Stop: 47372, Start Num: 53

Candidate Starts for Rockne\_78:

(Start: 53 @46944 has 18 MA's), (Start: 60 @46959 has 2 MA's), (69, 47013), (92, 47106), (103, 47166), (180, 47343),

Gene: Roots515\_14 Start: 5049, Stop: 5399, Start Num: 55

Candidate Starts for Roots515\_14:

(Start: 55 @5049 has 191 MA's), (Start: 60 @5064 has 2 MA's), (103, 5184), (135, 5262), (143, 5274), (145, 5277), (180, 5370),

Gene: Ruby\_73 Start: 48248, Stop: 48598, Start Num: 52

Candidate Starts for Ruby\_73:

(Start: 52 @48248 has 30 MA's), (Start: 60 @48263 has 2 MA's), (103, 48383),

Gene: STLscum\_69 Start: 42972, Stop: 42544, Start Num: 56

Candidate Starts for STLscum\_69:

(10, 43173), (32, 43029), (34, 43026), (Start: 56 @42972 has 55 MA's), (Start: 60 @42960 has 2 MA's), (103, 42804), (120, 42726), (132, 42702), (170, 42630),

Gene: Salacia\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Salacia\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Sandalphon\_74 Start: 47993, Stop: 48385, Start Num: 55

Candidate Starts for Sandalphon\_74:

(Start: 55 @47993 has 191 MA's), (Start: 60 @48008 has 2 MA's), (104, 48146), (130, 48230), (133, 48236), (146, 48260), (174, 48323), (180, 48362),

Gene: SarFire\_60 Start: 40901, Stop: 40488, Start Num: 56

Candidate Starts for SarFire\_60:

(10, 41102), (32, 40958), (34, 40955), (Start: 56 @40901 has 55 MA's), (66, 40862), (83, 40817), (103, 40754), (120, 40676), (132, 40652), (170, 40580),

Gene: Sarma624\_77 Start: 44943, Stop: 45320, Start Num: 52

Candidate Starts for Sarma624\_77:

(Start: 52 @44943 has 30 MA's), (Start: 60 @44958 has 2 MA's), (103, 45114), (116, 45156), (157, 45222), (159, 45225), (180, 45294),

Gene: Sassafras\_81 Start: 48408, Stop: 48758, Start Num: 51

Candidate Starts for Sassafras\_81:

(Start: 51 @48408 has 11 MA's), (Start: 60 @48423 has 2 MA's), (103, 48558), (180, 48735),

Gene: Sauce\_5 Start: 1609, Stop: 2001, Start Num: 55

Candidate Starts for Sauce\_5:

(Start: 55 @1609 has 191 MA's), (Start: 60 @1621 has 2 MA's), (74, 1669), (79, 1675), (93, 1738), (103, 1792), (135, 1870), (143, 1882), (145, 1885),

Gene: Schatzie\_68 Start: 49861, Stop: 49445, Start Num: 56

Candidate Starts for Schatzie\_68:

(Start: 56 @49861 has 55 MA's), (Start: 60 @49849 has 2 MA's), (82, 49765), (89, 49747), (103, 49669), (113, 49639), (130, 49600), (131, 49597),

Gene: ScottMcG\_15 Start: 5206, Stop: 5562, Start Num: 52

Candidate Starts for ScottMcG\_15:

(Start: 52 @5206 has 30 MA's), (Start: 60 @5221 has 2 MA's), (103, 5341), (178, 5512), (180, 5533),

Gene: ScottMcG\_5 Start: 1605, Stop: 1997, Start Num: 55

Candidate Starts for ScottMcG\_5:

(Start: 55 @1605 has 191 MA's), (Start: 60 @1617 has 2 MA's), (74, 1665), (79, 1671), (93, 1734), (103, 1788), (135, 1866), (143, 1878), (145, 1881),

Gene: Sebata\_7 Start: 2992, Stop: 3348, Start Num: 55

Candidate Starts for Sebata\_7:

(35, 2941), (Start: 55 @2992 has 191 MA's), (Start: 60 @3004 has 2 MA's), (67, 3031), (88, 3076), (103, 3139), (135, 3217), (143, 3229), (145, 3232),

Gene: Shauna1\_78 Start: 48515, Stop: 48883, Start Num: 52

Candidate Starts for Shauna1\_78:

(Start: 52 @48515 has 30 MA's), (Start: 60 @48530 has 2 MA's), (103, 48650), (123, 48719), (134, 48740), (170, 48800), (180, 48857),

Gene: Shelob\_17 Start: 6224, Stop: 6574, Start Num: 55

Candidate Starts for Shelob\_17:

(Start: 55 @6224 has 191 MA's), (Start: 60 @6239 has 2 MA's), (103, 6359), (135, 6437), (143, 6449), (145, 6452), (180, 6545),

Gene: ShiaLabeouf\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for ShiaLabeouf\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Shifa\_10 Start: 4323, Stop: 4688, Start Num: 55

Candidate Starts for Shifa\_10:

(Start: 55 @4323 has 191 MA's), (Start: 60 @4338 has 2 MA's), (103, 4473), (135, 4551), (143, 4563), (145, 4566), (180, 4659),

Gene: Shnickers\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Shnickers\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Shrimp\_14 Start: 5054, Stop: 5404, Start Num: 55

Candidate Starts for Shrimp\_14:

(Start: 55 @5054 has 191 MA's), (Start: 60 @5069 has 2 MA's), (103, 5189), (135, 5267), (143, 5279), (145, 5282), (180, 5375),

Gene: ShroomBoi\_80 Start: 48740, Stop: 49138, Start Num: 55



Candidate Starts for ShroomBoi\_80:

(Start: 55 @48740 has 191 MA's), (Start: 60 @48755 has 2 MA's), (103, 48911), (130, 48998), (133, 49004), (146, 49028),

Gene: SiSi\_75 Start: 47345, Stop: 47695, Start Num: 52

Candidate Starts for SiSi\_75:

(Start: 52 @47345 has 30 MA's), (Start: 60 @47360 has 2 MA's), (103, 47480),

Gene: SilverDipper\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for SilverDipper\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Simpliphy\_43 Start: 34882, Stop: 34496, Start Num: 56

Candidate Starts for Simpliphy\_43:

(Start: 56 @34882 has 55 MA's), (Start: 60 @34870 has 2 MA's), (103, 34750), (120, 34678), (132, 34654), (170, 34582), (180, 34519),

Gene: SimranZ1\_79 Start: 47570, Stop: 47956, Start Num: 52

Candidate Starts for SimranZ1\_79:

(Start: 52 @47570 has 30 MA's), (Start: 60 @47585 has 2 MA's), (76, 47645), (97, 47717), (103, 47750), (156, 47852), (170, 47873), (176, 47897),

Gene: SkiPole\_69 Start: 42424, Stop: 42029, Start Num: 56

Candidate Starts for SkiPole\_69:

(6, 42634), (10, 42625), (32, 42481), (34, 42478), (Start: 56 @42424 has 55 MA's), (103, 42256), (112, 42223), (119, 42202), (155, 42136), (181, 42052),

Gene: SmallFry\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for SmallFry\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Soul22\_81 Start: 46673, Stop: 47050, Start Num: 55

Candidate Starts for Soul22\_81:

(Start: 55 @46673 has 191 MA's), (Start: 60 @46688 has 2 MA's), (103, 46808), (130, 46895), (133, 46901), (146, 46925), (174, 46988), (180, 47027),

Gene: Spartacus\_85 Start: 51000, Stop: 51356, Start Num: 78

Candidate Starts for Spartacus\_85:

(12, 50706), (16, 50739), (28, 50826), (30, 50835), (37, 50859), (43, 50877), (68, 50970), (71, 50979), (Start: 78 @51000 has 8 MA's), (86, 51039), (94, 51084), (103, 51147), (106, 51180), (108, 51183), (136, 51234), (143, 51240), (166, 51276), (171, 51285),

Gene: Specks\_8 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for Specks\_8:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: Sprinklers\_13 Start: 4140, Stop: 4490, Start Num: 55

Candidate Starts for Sprinklers\_13:

(Start: 55 @4140 has 191 MA's), (Start: 60 @4155 has 2 MA's), (103, 4275), (135, 4353), (143, 4365), (145, 4368), (180, 4461),

Gene: Spud\_6 Start: 1759, Stop: 2151, Start Num: 55

Candidate Starts for Spud\_6:

(Start: 55 @1759 has 191 MA's), (Start: 60 @1771 has 2 MA's), (74, 1819), (79, 1825), (93, 1888), (103, 1942), (135, 2020), (143, 2032), (145, 2035),

Gene: Squint\_74 Start: 47498, Stop: 47082, Start Num: 56

Candidate Starts for Squint\_74:

(Start: 56 @47498 has 55 MA's), (Start: 60 @47486 has 2 MA's), (82, 47402), (89, 47384), (103, 47306), (113, 47276), (130, 47237), (131, 47234),

Gene: Squint\_80 Start: 49357, Stop: 48959, Start Num: 56

Candidate Starts for Squint\_80:

(Start: 56 @49357 has 55 MA's), (Start: 60 @49345 has 2 MA's), (103, 49189), (138, 49105), (142, 49099), (144, 49096), (177, 49012),

Gene: SrishMeg2525\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for SrishMeg2525\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: StAnnes\_81 Start: 49578, Stop: 49967, Start Num: 53

Candidate Starts for StAnnes\_81:

(Start: 53 @49578 has 18 MA's), (Start: 60 @49593 has 2 MA's), (103, 49713), (120, 49785), (132, 49809), (170, 49881), (180, 49944),

Gene: StephanieG\_7 Start: 2140, Stop: 2496, Start Num: 55

Candidate Starts for StephanieG\_7:

(Start: 55 @2140 has 191 MA's), (Start: 60 @2152 has 2 MA's), (67, 2179), (88, 2224), (103, 2287), (135, 2365), (143, 2377), (145, 2380),

Gene: Stubby\_14 Start: 5456, Stop: 5821, Start Num: 55

Candidate Starts for Stubby\_14:

(Start: 55 @5456 has 191 MA's), (Start: 60 @5471 has 2 MA's), (103, 5606), (135, 5684), (143, 5696), (145, 5699), (180, 5792),

Gene: StubbySaigey\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for StubbySaigey\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Sunshine924\_66 Start: 41648, Stop: 41211, Start Num: 54

Candidate Starts for Sunshine924\_66:

(8, 41849), (32, 41705), (34, 41702), (Start: 54 @41648 has 7 MA's), (Start: 60 @41636 has 2 MA's), (92, 41486), (103, 41426), (179, 41255),

Gene: SuperGrey\_79 Start: 50245, Stop: 50601, Start Num: 51

Candidate Starts for SuperGrey\_79:

(Start: 51 @50245 has 11 MA's), (Start: 60 @50260 has 2 MA's), (103, 50395), (180, 50572),

Gene: Superphikiman\_77 Start: 48448, Stop: 48050, Start Num: 56

Candidate Starts for Superphikiman\_77:

(Start: 56 @48448 has 55 MA's), (Start: 60 @48436 has 2 MA's), (103, 48280), (138, 48196), (142, 48190), (144, 48187), (177, 48103),

Gene: Superphikiman\_71 Start: 46589, Stop: 46173, Start Num: 56

Candidate Starts for Superphikiman\_71:

(Start: 56 @46589 has 55 MA's), (Start: 60 @46577 has 2 MA's), (82, 46493), (89, 46475), (103, 46397), (113, 46367), (130, 46328), (131, 46325),

Gene: Target\_63 Start: 40851, Stop: 40456, Start Num: 56

Candidate Starts for Target\_63:

(10, 41052), (32, 40908), (34, 40905), (Start: 56 @40851 has 55 MA's), (Start: 60 @40839 has 2 MA's), (103, 40683), (112, 40650), (119, 40629), (155, 40563), (181, 40479),

Gene: Target\_79 Start: 46689, Stop: 46291, Start Num: 56

Candidate Starts for Target\_79:

(Start: 56 @46689 has 55 MA's), (Start: 60 @46677 has 2 MA's), (96, 46521), (105, 46467), (111, 46458), (139, 46410), (143, 46404), (165, 46368), (173, 46350), (180, 46314),

Gene: Teardrop\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Teardrop\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Teodoridan\_77 Start: 45969, Stop: 45598, Start Num: 55

Candidate Starts for Teodoridan\_77:

(Start: 55 @45969 has 191 MA's), (Start: 60 @45957 has 2 MA's), (70, 45921), (87, 45879), (93, 45855), (103, 45813), (143, 45723), (145, 45720), (176, 45657), (181, 45621),

Gene: Thor\_60 Start: 40259, Stop: 39846, Start Num: 56

Candidate Starts for Thor\_60:

(10, 40460), (32, 40316), (34, 40313), (Start: 56 @40259 has 55 MA's), (66, 40220), (83, 40175), (103, 40112), (120, 40034), (132, 40010), (170, 39938),

Gene: TinyTim\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for TinyTim\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Tonenili\_20 Start: 6077, Stop: 6418, Start Num: 75

Candidate Starts for Tonenili\_20:

(Start: 75 @6077 has 1 MA's), (Start: 78 @6080 has 8 MA's), (81, 6092), (86, 6119), (91, 6128), (98, 6170), (102, 6194), (110, 6236), (137, 6287), (162, 6329),

Gene: Tortoise16\_12 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Tortoise16\_12:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Trinitium\_13 Start: 3966, Stop: 4331, Start Num: 55

Candidate Starts for Trinitium\_13:

(Start: 55 @3966 has 191 MA's), (Start: 60 @3981 has 2 MA's), (103, 4116), (135, 4194), (143, 4206), (145, 4209), (180, 4302),

Gene: Tripl3t\_83 Start: 50856, Stop: 50458, Start Num: 56

Candidate Starts for Tripl3t\_83:

(Start: 56 @50856 has 55 MA's), (103, 50664), (128, 50613), (143, 50589), (157, 50562), (180, 50481),

Gene: Turret\_13 Start: 3949, Stop: 4314, Start Num: 55

Candidate Starts for Turret\_13:

(Start: 55 @3949 has 191 MA's), (Start: 60 @3964 has 2 MA's), (103, 4099), (135, 4177), (143, 4189), (145, 4192), (180, 4285),

Gene: Tweety\_79 Start: 48958, Stop: 49341, Start Num: 55

Candidate Starts for Tweety\_79:

(Start: 55 @48958 has 191 MA's), (Start: 60 @48973 has 2 MA's), (103, 49093), (130, 49180), (133, 49186), (146, 49210), (180, 49312),

Gene: Tyke\_8 Start: 2464, Stop: 2820, Start Num: 55

Candidate Starts for Tyke\_8:

(Start: 55 @2464 has 191 MA's), (Start: 60 @2476 has 2 MA's), (67, 2503), (88, 2548), (103, 2611), (135, 2689), (143, 2701), (145, 2704),

Gene: Ukulele\_42 Start: 35251, Stop: 34865, Start Num: 44

Candidate Starts for Ukulele\_42:

(3, 35455), (20, 35371), (Start: 44 @35251 has 1 MA's), (Start: 56 @35227 has 55 MA's), (Start: 60 @35215 has 2 MA's), (103, 35095), (116, 35041), (119, 35032), (149, 34984), (154, 34978), (172, 34942), (176, 34924), (180, 34888),

Gene: UncleRicky\_76 Start: 46818, Stop: 47246, Start Num: 53

Candidate Starts for UncleRicky\_76:

(Start: 53 @46818 has 18 MA's), (Start: 60 @46833 has 2 MA's), (69, 46887), (92, 46980), (103, 47040), (180, 47217),

Gene: ValleyTerrace\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for ValleyTerrace\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Velveteen\_73 Start: 44943, Stop: 45320, Start Num: 52

Candidate Starts for Velveteen\_73:

(Start: 52 @44943 has 30 MA's), (Start: 60 @44958 has 2 MA's), (103, 45114), (116, 45156), (157, 45222), (159, 45225), (180, 45294),

Gene: Veteran\_71 Start: 47213, Stop: 47563, Start Num: 52

Candidate Starts for Veteran\_71:

(Start: 52 @47213 has 30 MA's), (Start: 60 @47228 has 2 MA's), (103, 47348),

Gene: Wally\_13 Start: 3970, Stop: 4335, Start Num: 55

Candidate Starts for Wally\_13:

(Start: 55 @3970 has 191 MA's), (Start: 60 @3985 has 2 MA's), (103, 4120), (135, 4198), (143, 4210), (145, 4213), (180, 4306),

Gene: Wanda\_82 Start: 51659, Stop: 51234, Start Num: 54

Candidate Starts for Wanda\_82:

(Start: 54 @51659 has 7 MA's), (Start: 60 @51647 has 2 MA's), (69, 51593), (92, 51500), (103, 51440), (180, 51263),

Gene: Whouxphf\_84 Start: 50087, Stop: 50422, Start Num: 78

Candidate Starts for Whouxphf\_84:

(2, 49742), (3, 49760), (12, 49793), (16, 49826), (28, 49913), (30, 49922), (33, 49934), (37, 49946), (39, 49955), (43, 49964), (68, 50057), (71, 50066), (Start: 78 @50087 has 8 MA's), (98, 50186), (103, 50219), (109, 50261), (158, 50327),

Gene: WillSterrel\_78 Start: 48814, Stop: 49227, Start Num: 55

Candidate Starts for WillSterrel\_78:

(Start: 55 @48814 has 191 MA's), (Start: 60 @48829 has 2 MA's), (103, 48985), (130, 49072), (133, 49078), (146, 49102), (174, 49165), (180, 49204),

Gene: Willis\_14 Start: 4975, Stop: 5340, Start Num: 55

Candidate Starts for Willis\_14:

(Start: 55 @4975 has 191 MA's), (Start: 60 @4990 has 2 MA's), (103, 5125), (135, 5203), (143, 5215), (145, 5218), (180, 5311),

Gene: XFactor\_74 Start: 47423, Stop: 47782, Start Num: 65

Candidate Starts for XFactor\_74:

(Start: 65 @47423 has 1 MA's), (69, 47438), (103, 47558), (117, 47600), (165, 47696), (180, 47753),

Gene: Yassified\_13 Start: 4163, Stop: 4537, Start Num: 53

Candidate Starts for Yassified\_13:

(Start: 53 @4163 has 18 MA's), (Start: 60 @4178 has 2 MA's), (61, 4187), (70, 4214), (87, 4256), (93, 4280), (103, 4322), (143, 4412), (145, 4415), (180, 4508),

Gene: YemiJoy2021\_14 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for YemiJoy2021\_14:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: YoungMoneyMata\_13 Start: 3968, Stop: 4333, Start Num: 55

Candidate Starts for YoungMoneyMata\_13:

(Start: 55 @3968 has 191 MA's), (Start: 60 @3983 has 2 MA's), (103, 4118), (135, 4196), (143, 4208), (145, 4211), (180, 4304),

Gene: Yucca\_13 Start: 4972, Stop: 5322, Start Num: 55

Candidate Starts for Yucca\_13:

(Start: 55 @4972 has 191 MA's), (Start: 60 @4987 has 2 MA's), (103, 5107), (135, 5185), (143, 5197), (145, 5200), (180, 5293),

Gene: Zakhe101\_23 Start: 10681, Stop: 11073, Start Num: 56

Candidate Starts for Zakhe101\_23:

(Start: 56 @10681 has 55 MA's), (103, 10813), (123, 10897), (148, 10951), (161, 10975), (167, 10987), (170, 10993), (176, 11017), (178, 11032), (180, 11050),

Gene: Zalkecks\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for Zalkecks\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),

Gene: Zapner\_87 Start: 47003, Stop: 47359, Start Num: 52

Candidate Starts for Zapner\_87:

(Start: 52 @47003 has 30 MA's), (Start: 60 @47018 has 2 MA's), (103, 47138), (178, 47309), (180, 47330),

Gene: Zeenon\_16 Start: 5051, Stop: 5401, Start Num: 55

Candidate Starts for Zeenon\_16:

(Start: 55 @5051 has 191 MA's), (Start: 60 @5066 has 2 MA's), (103, 5186), (135, 5264), (143, 5276), (145, 5279), (180, 5372),

Gene: Zelink\_71 Start: 51457, Stop: 51044, Start Num: 56

Candidate Starts for Zelink\_71:

(Start: 56 @51457 has 55 MA's), (Start: 60 @51445 has 2 MA's), (82, 51361), (89, 51343), (103, 51265), (113, 51235), (130, 51196), (131, 51193),

Gene: ZygoTaiga\_15 Start: 5050, Stop: 5400, Start Num: 55

Candidate Starts for ZygoTaiga\_15:

(Start: 55 @5050 has 191 MA's), (Start: 60 @5065 has 2 MA's), (103, 5185), (135, 5263), (143, 5275), (145, 5278), (180, 5371),