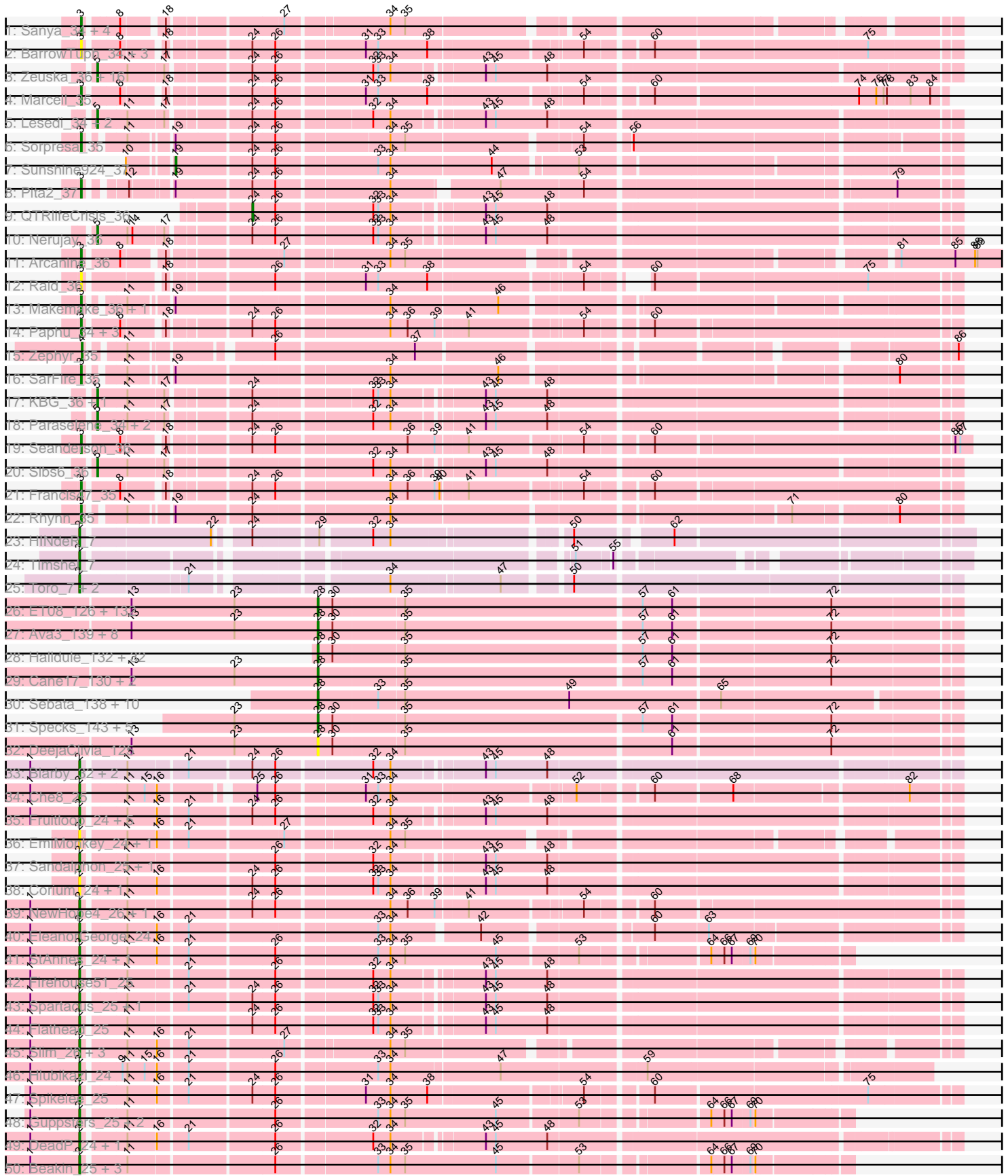
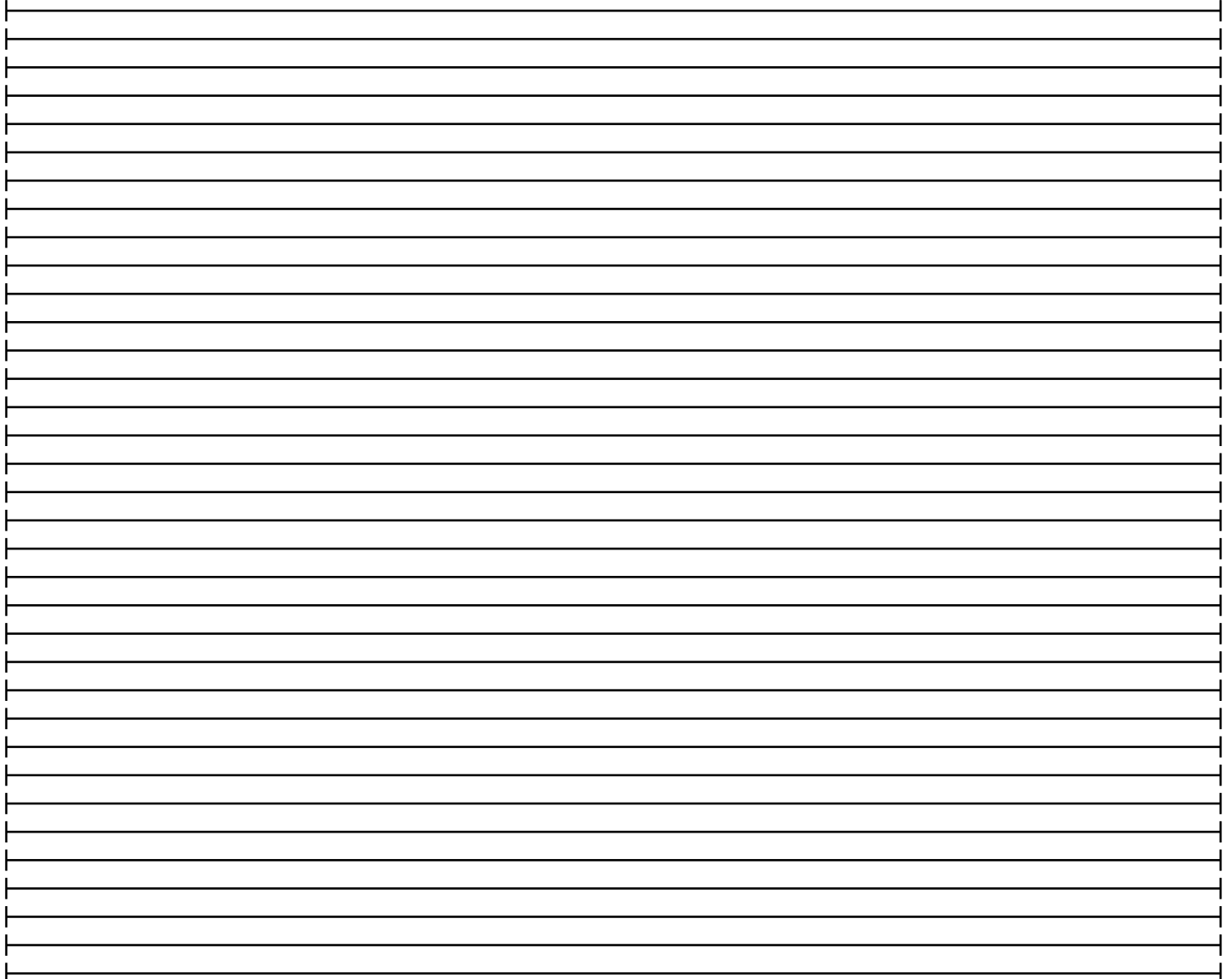
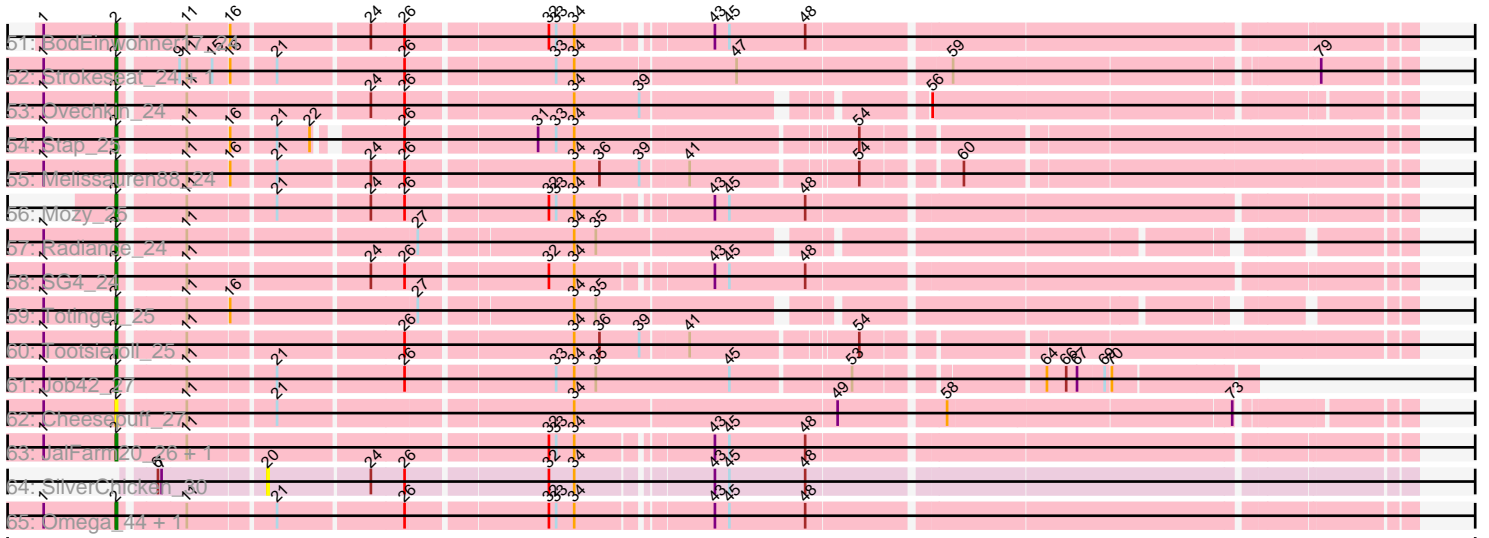


Pham 224218



Pham 224218



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 224218 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224218 has 313 members, 45 are drafts.

Phages represented in each track:

- Track 1 : Sanya\_34, Rajelicia\_34, Snazzy\_34, TwoPeat\_36, Slagathor\_36
- Track 2 : BarrowTuph\_34, PhineBark\_35, McSinger\_36, Teodoridan\_33
- Track 3 : Zeuska\_36, Edtherson\_36, Magnito\_34, Espresso\_35, AFIS\_35, Monet\_37, DD5\_36, Rutherford\_37, Traft412\_37, Perseus\_37, JackSparrow\_36, SkiPole\_38, NEHalo\_35, BillKnuckles\_36, Trouble\_36, SpikeBT\_37, Ohno789\_35
- Track 4 : Marcell\_35
- Track 5 : Lesedi\_34, Marge\_36, Abrogate\_360
- Track 6 : Sorpresa\_35
- Track 7 : Sunshine924\_37
- Track 8 : Pita2\_37
- Track 9 : QTRlifeCrisis\_36
- Track 10 : Nerujay\_36
- Track 11 : Arcanine\_36
- Track 12 : Raid\_36
- Track 13 : Makemake\_36, ConceptII\_37
- Track 14 : Paphu\_34, Adahisdi\_36, Kugel\_36, Ashballer\_37
- Track 15 : Zephyr\_35
- Track 16 : SarFire\_35
- Track 17 : KBG\_36, Treddle\_37
- Track 18 : Paraselene\_34, Magnar\_35, BPBiebs31\_36
- Track 19 : Seanderson\_36
- Track 20 : Sibs6\_36
- Track 21 : Francis47\_35
- Track 22 : Rhynn\_35
- Track 23 : HINdeR\_7
- Track 24 : Timshel\_7
- Track 25 : Toro\_7, Sheen\_7, FlyCatcher\_8
- Track 26 : ET08\_126, ArcherS7\_137, EasyJones\_141, NedWong\_139, Maby2021\_138, StubbySaigey\_142, Dandelion\_143, Cactojaque\_134, Iota\_133, EmToTheThree\_140, Bipolarisk\_137, Pleione\_141, Momo\_138, Domi\_131, Alice\_131, TinyTim\_138, Delilah\_138, EmmaElysia\_139, DirtMonster\_132, Mangeria\_138, Willis\_139, Tyke\_138, Gamgam\_139, BigCity\_146, Yucca\_137, FrayBell\_143, Bxz1\_135, Belieber\_134, Sprinklers\_134, JPickles\_135, Ablatia\_137, Fongie\_136, Wally\_137, Chargie21\_135, Demodog\_145, Erdmann\_138, Bangla1971\_139, Atlantean\_138, BackyardAgain\_135, Capablanca\_141, Grasshills\_145, Ading\_138, PurduePete\_138, SrishMeg2525\_137, Gabriel\_138, EggyFarm\_146, Jessibeth14\_137, ParkTD\_139, Tortoise16\_135, Lee7\_136,

McWolfish\_136, Latch\_139, IkeLoa\_132, Phlegm\_142, GlutenPhree\_138,  
 ValleyTerrace\_139, Drazdys\_136, Roots515\_137, Daffodil\_143, Kboogie\_142,  
 Matsumoto\_135, SilverDipper\_140, Caravan\_132, Bigswole\_141, Chomp\_138,  
 BeanWater\_130, Pivoine\_138, Stubby\_131, NuevoMundo\_143, Morizzled23\_139,  
 LordLeafolot\_142, Fludd\_139, Pio\_142, Amataga\_139, Gizmo\_143, NoodleTree\_145,  
 Loanshark\_137, Tainan\_141, Burrough\_138, Audrick\_141, Phox\_135, Norm\_139,  
 RoMag\_133, Yassified\_135, Littleton\_138, Breeniome\_137, MikeLiesIn\_139,  
 Megamind\_137, Patter\_139, Cali\_133, Naija\_138, Rahel\_137, Bread\_137,  
 Babyland\_140, Darko\_138, LolaVinca\_138, Khaleesi\_137, Ngannou\_135,  
 Issimir\_136, ChickenPhender\_134, I3\_143, Shrimp\_138, Janiyra\_141,  
 BadAgartude\_134, YemiJoy2021\_139, Naval22\_143, Turret\_134, JigglyPuff\_146,  
 Basquiat\_135, Ghost\_137, MoMoMixon\_138, Dietrick\_130, Rizal\_133, Phusco\_138,  
 Zalkecks\_139, Zeenon\_139, Concombres\_144, FudgeTart\_136, Shaqnato\_131,  
 Izajani\_138, InigoMontoya\_141, Rabinovich\_137, Pier\_142, McGee\_140,  
 Salacia\_142, Nappy\_140, StephanieG\_136, Asterius\_141, Catera\_134, Delylah\_141,  
 Mikro\_135, Shelob\_140, SVoro\_136

- Track 27 : Ava3\_139, DrPhinkDaddy\_137, ZygoTaiga\_136, FoxtrotP1\_138,  
 Ewok\_139, Kamryn\_138, Nidhogg\_140, Jezreel\_136, Lethe\_138
- Track 28 : Halldule\_132, Essence\_135, Derek\_137, Jemmno\_138, Jaygup\_138,  
 ScottMcG\_134, Spud\_137, Trinitium\_136, DTDevon\_138, YoungMoneyMata\_140,  
 Jedediah\_141, ChaylaJr\_134, Bonray\_139, CindyLou\_140, Adlitam\_139,  
 JulietS\_133, Guwapp\_137, ShiaLabeouf\_137, Ronan\_132, JustHall\_136,  
 Flabslab\_133, Shnickers\_138, Napoleon13\_134, SmallFry\_138, QBert\_132,  
 CharlieB\_135, Blackbrain\_134, Quasimodo\_140, ErnieJ\_132, LifeSavor\_136,  
 Melpomini\_132, JayJay\_143, Spec\_134
- Track 29 : Cane17\_130, Blubba\_130, Colt\_130
- Track 30 : Sebata\_138, Lukilu\_128, Grungle\_125, LRRHood\_131,  
 Blackdragon\_134, Koguma\_135, HyRo\_129, LinStu\_136, Sauce\_138, Shifa\_127,  
 Pinkcreek\_129
- Track 31 : Specks\_143, InterFolia\_144, Primadonna\_132, Astraea\_134,  
 Teardrop\_137, BananaFence\_137
- Track 32 : DeejaClivia\_125
- Track 33 : Blarby\_32, Tweety\_25, Wachhund\_24
- Track 34 : Che8\_25
- Track 35 : Fruitloop\_24, XFactor\_24, Brushbloom\_26, Seagreen\_25, Juice456\_26,  
 Hegedechwinu\_25
- Track 36 : EmiMonkey\_24, PhlipPhlop\_24
- Track 37 : Sandalphon\_25, Minnie\_25
- Track 38 : Corium\_24, KingJulian\_24
- Track 39 : NewHope4\_26, Whatsapiecost\_24
- Track 40 : EleanorGeorge\_24
- Track 41 : StAnnes\_24, IMpilo\_24
- Track 42 : Firehouse51\_25
- Track 43 : Spartacus\_25, KristaRAM\_25
- Track 44 : Flathead\_25
- Track 45 : Slim\_26, Rialto\_26, LittleShirley\_25, Emmaloid\_26
- Track 46 : Hlubikazi\_24
- Track 47 : Spikelee\_25
- Track 48 : Guppsters\_25, Sabbb\_25, Minerva\_45
- Track 49 : DeadP\_24, Taj\_24
- Track 50 : Beakin\_25, Phalconet\_24, VRedHorse\_24, Dante\_24
- Track 51 : BodEinwohner17\_24
- Track 52 : Strokeseat\_24, Mandlovu\_24

- Track 53 : Ovechkin\_24
- Track 54 : Stap\_25
- Track 55 : Melissauren88\_24
- Track 56 : Mozy\_25
- Track 57 : Radiance\_24
- Track 58 : SG4\_24
- Track 59 : Totinger\_25
- Track 60 : Tootsieroll\_25
- Track 61 : Job42\_27
- Track 62 : Cheesepuff\_27
- Track 63 : JalFarm20\_26, Bobi\_26
- Track 64 : SilverChicken\_30
- Track 65 : Omega\_44, Wee\_25

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

The start number called the most often in the published annotations is 28, it was called in 171 of the 268 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_137, Ading\_138, Adlitam\_139, Alice\_131, Amataga\_139, ArcherS7\_137, Asterius\_141, Astraea\_134, Atlantean\_138, Audrick\_141, Ava3\_139, Babyland\_140, BackyardAgain\_135, BadAgartude\_134, BananaFence\_137, Bangla1971\_139, Basquiat\_135, BeanWater\_130, Belieber\_134, BigCity\_146, Bigswole\_141, Bipolarisk\_137, Blackbrain\_134, Blackdragon\_134, Blubba\_130, Bonray\_139, Bread\_137, Breeniome\_137, Burrough\_138, Bxz1\_135, Cactojaque\_134, Cali\_133, Cane17\_130, Capablanca\_141, Caravan\_132, Catera\_134, Charge21\_135, CharlieB\_135, ChaylaJr\_134, ChickenPhender\_134, Chomp\_138, CindyLou\_140, Colt\_130, Concombre\_144, DTDevon\_138, Daffodil\_143, Dandelion\_143, Darko\_138, DeejaClivia\_125, Delilah\_138, Delylah\_141, Demodog\_145, Derek\_137, Dietrick\_130, DirtMonster\_132, Domi\_131, DrPhinkDaddy\_137, Drazdys\_136, ET08\_126, EasyJones\_141, EggyFarm\_146, EmToTheThree\_140, EmmaElysia\_139, Erdmann\_138, ErnieJ\_132, Essence\_135, Ewok\_139, Flabslab\_133, Fludd\_139, Fongie\_136, FoxtrotP1\_138, FrayBell\_143, FudgeTart\_136, Gabriel\_138, Gamgam\_139, Ghost\_137, Gizmo\_143, GlutenPhree\_138, Grasshills\_145, Grungle\_125, Guwapp\_137, Halldule\_132, HyRo\_129, I3\_143, IkeLoa\_132, InigoMontoya\_141, InterFolia\_144, Iota\_133, Issimir\_136, Izajani\_138, JPickles\_135, Janiyra\_141, JayJay\_143, Jaygup\_138, Jediah\_141, Jemmno\_138, Jessibeth14\_137, Jezreel\_136, JigglyPuff\_146, JulietS\_133, JustHall\_136, Kamryn\_138, Kboogie\_142, Khaleesi\_137, Koguma\_135, LRRHood\_131, Latch\_139, Lee7\_136, Lethe\_138, LifeSavor\_136, LinStu\_136, Littleton\_138, Loanshark\_137, LolaVinca\_138, LordLeafolot\_142, Lukilu\_128, Maby2021\_138, Mangeria\_138, Matsumoto\_135, McGee\_140, McWolfish\_136, Megamind\_137, Melpomini\_132, MikeLiesIn\_139, Mikro\_135, MoMoMixon\_138, Momo\_138, Morizzled23\_139, Naija\_138, Napoleon13\_134, Nappy\_140, Naval22\_143, NedWong\_139, Ngannou\_135, Nidhogg\_140, NoodleTree\_145, Norm\_139, NuevoMundo\_143, ParkTD\_139, Patter\_139, Phlegm\_142, Phox\_135, Phusco\_138, Pier\_142, Pinkcreek\_129, Pio\_142, Pivoine\_138, Pleione\_141, Primadonna\_132, PurduePete\_138, QBert\_132, Quasimodo\_140, Rabinovish\_137, Rahel\_137, Rizal\_133, RoMag\_133, Ronan\_132, Roots515\_137, SVoro\_136,

Salacia\_142, Sauce\_138, ScottMcG\_134, Sebata\_138, Shaqnato\_131, Shelob\_140, ShiaLabeouf\_137, Shifa\_127, Shnickers\_138, Shrimp\_138, SilverDipper\_140, SmallFry\_138, Spec\_134, Specks\_143, Sprinklers\_134, Spud\_137, SrishMeg2525\_137, StephanieG\_136, StubbySaigey\_142, Stubby\_131, Tainan\_141, Teardrop\_137, TinyTim\_138, Tortoise16\_135, Trinitium\_136, Turret\_134, Tyke\_138, ValleyTerrace\_139, Wally\_137, Willis\_139, Yassified\_135, YemiJoy2021\_139, YoungMoneyMata\_140, Yucca\_137, Zalkecks\_139, Zeenon\_139, ZygoTaiga\_136,

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

•

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

• AFIS\_35, Abrogate\_360, Adahisdi\_36, Arcanine\_36, Ashballer\_37, BPBiebs31\_36, BarrowTuph\_34, Beakin\_25, BillKnuckles\_36, Blarby\_32, Bobi\_26, BodEinwohner17\_24, Brushbloom\_26, Che8\_25, CheesePuff\_27, Conceptll\_37, Corium\_24, DD5\_36, Dante\_24, DeadP\_24, Edtherson\_36, EleanorGeorge\_24, EmiMonkey\_24, Emmaloid\_26, Espresso\_35, Firehouse51\_25, Flathead\_25, FlyCatcher\_8, Francis47\_35, Fruitloop\_24, Guppsters\_25, HINdeR\_7, Hegedechwinu\_25, Hlubikazi\_24, IMpilo\_24, JackSparrow\_36, JalFarm20\_26, Job42\_27, Juice456\_26, KBG\_36, KingJulian\_24, KristaRAM\_25, Kugel\_36, Lesedi\_34, LittleShirley\_25, Magnar\_35, Magnito\_34, Makemake\_36, Mandlovu\_24, Marcell\_35, Marge\_36, McSinger\_36, Melissauren88\_24, Minerva\_45, Minnie\_25, Monet\_37, Mozy\_25, NEHalo\_35, Nerujay\_36, NewHope4\_26, Ohno789\_35, Omega\_44, Ovechkin\_24, Paphu\_34, Paraselene\_34, Perseus\_37, Phalconet\_24, PhineBark\_35, PhlipPhlop\_24, Pita2\_37, QTRlifeCrisis\_36, Radiance\_24, Raid\_36, Rajelicia\_34, Rhynn\_35, Rialto\_26, Rutherferd\_37, SG4\_24, Sabbb\_25, Sandalphon\_25, Sanya\_34, SarFire\_35, Seagreen\_25, Seanderson\_36, Sheen\_7, Sibs6\_36, SilverChicken\_30, SkiPole\_38, Slagathor\_36, Slim\_26, Snazzy\_34, Sorpresa\_35, Spartacus\_25, SpikeBT\_37, Spikelee\_25, StAnnes\_24, Stap\_25, Strokeseat\_24, Sunshine924\_37, Taj\_24, Teodoridan\_33, Timshel\_7, Tootsieroll\_25, Toro\_7, Totinger\_25, Trافت412\_37, Treddle\_37, Trouble\_36, Tweety\_25, TwoPeat\_36, VRedHorse\_24, Wachhund\_24, Wee\_25, Whatsapiecost\_24, XFactor\_24, Zephyr\_35, Zeuska\_36,

### Summary by start number:

Start 2:

• Found in 62 of 313 ( 19.8% ) of genes in pham  
• Manual Annotations of this start: 49 of 268  
• Called 100.0% of time when present  
• Phage (with cluster) where this start called: Beakin\_25 (F1), Blarby\_32 (F), Bobi\_26 (F1), BodEinwohner17\_24 (F1), Brushbloom\_26 (F1), Che8\_25 (F1), CheesePuff\_27 (F1), Corium\_24 (F1), Dante\_24 (F1), DeadP\_24 (F1), EleanorGeorge\_24 (F1), EmiMonkey\_24 (F1), Emmaloid\_26 (F1), Firehouse51\_25 (F1), Flathead\_25 (F1), FlyCatcher\_8 (A7), Fruitloop\_24 (F1), Guppsters\_25 (F1), HINdeR\_7 (A7), Hegedechwinu\_25 (F1), Hlubikazi\_24 (F1), IMpilo\_24 (F1), JalFarm20\_26 (F1), Job42\_27 (F1), Juice456\_26 (F1), KingJulian\_24 (F1), KristaRAM\_25 (F1), LittleShirley\_25 (F1), Mandlovu\_24 (F1), Melissauren88\_24 (F1), Minerva\_45 (J), Minnie\_25 (F1), Mozy\_25 (F1), NewHope4\_26 (F1), Omega\_44 (J), Ovechkin\_24 (F1), Phalconet\_24 (F1), PhlipPhlop\_24 (F1), Radiance\_24 (F1), Rialto\_26 (F1), SG4\_24 (F1), Sabbb\_25 (F1), Sandalphon\_25 (F1), Seagreen\_25 (F1), Sheen\_7 (A7), Slim\_26 (F1), Spartacus\_25 (F1), Spikelee\_25 (F1), StAnnes\_24 (F1), Stap\_25 (F1), Strokeseat\_24 (F1), Taj\_24 (F1), Timshel\_7 (A7), Tootsieroll\_25 (F1), Toro\_7

(A7), Totinger\_25 (F1), Tweety\_25 (F1), VRedHorse\_24 (F1), Wachhund\_24 (F1), Wee\_25 (F1), Whatsapiecost\_24 (F1), XFactor\_24 (F1),

Start 3:

- Found in 24 of 313 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 18 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adahisdi\_36 (A1), Arcanine\_36 (A1), Ashballer\_37 (A1), BarrowTuph\_34 (A1), ConceptII\_37 (A1), Francis47\_35 (A1), Kugel\_36 (A1), Makemake\_36 (A1), Marcell\_35 (A1), McSinger\_36 (A1), Paphu\_34 (A1), PhineBark\_35 (A1), Pita2\_37 (A1), Raid\_36 (A1), Rajelicia\_34 (A1), Rhynn\_35 (A1), Sanya\_34 (A1), SarFire\_35 (A1), Seanderson\_36 (A1), Slagathor\_36 (A1), Snazzy\_34 (A1), Sorpresa\_35 (A1), Teodoridan\_33 (A1), TwoPeat\_36 (A1),

Start 4:

- Found in 1 of 313 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zephyr\_35 (A1),

Start 5:

- Found in 27 of 313 ( 8.6% ) of genes in pham
- Manual Annotations of this start: 27 of 268
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AFIS\_35 (A1), Abrogate\_360 (A1), BPBiels31\_36 (A1), BillKnuckles\_36 (A1), DD5\_36 (A1), Edtherson\_36 (A1), Espresso\_35 (A1), JackSparrow\_36 (A1), KBG\_36 (A1), Lesedi\_34 (A1), Magnar\_35 (A1), Magnito\_34 (A1), Marge\_36 (A1), Monet\_37 (A1), NEHalo\_35 (A1), Nerujay\_36 (A1), Ohno789\_35 (A1), Paraselene\_34 (A1), Perseus\_37 (A1), Rutherford\_37 (A1), Sibs6\_36 (A1), SkiPole\_38 (A1), SpikeBT\_37 (A1), Traft412\_37 (A1), Treddle\_37 (A1), Trouble\_36 (A1), Zeuska\_36 (A1),

Start 19:

- Found in 7 of 313 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Sunshine924\_37 (A1),

Start 20:

- Found in 1 of 313 ( 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: SilverChicken\_30 (F2),

Start 24:

- Found in 66 of 313 ( 21.1% ) of genes in pham
- Manual Annotations of this start: 1 of 268
- Called 1.5% of time when present
- Phage (with cluster) where this start called: QTRlifeCrisis\_36 (A1),

Start 28:

- Found in 196 of 313 ( 62.6% ) of genes in pham
- Manual Annotations of this start: 171 of 268

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ablatia\_137 (C1), Ading\_138 (C1), Adlitam\_139 (C1), Alice\_131 (C1), Amataga\_139 (C1), ArcherS7\_137 (C1), Asterius\_141 (C1), Astraea\_134 (C1), Atlantean\_138 (C1), Audrick\_141 (C1), Ava3\_139 (C1), Babyland\_140 (C1), BackyardAgain\_135 (C1), BadAgartude\_134 (C1), BananaFence\_137 (C1), Bangla1971\_139 (C1), Basquiat\_135 (C1), BeanWater\_130 (C1), Belieber\_134 (C1), BigCity\_146 (C1), Bigswole\_141 (C1), Bipolarisk\_137 (C1), Blackbrain\_134 (C1), Blackdragon\_134 (C1), Blubba\_130 (C1), Bonray\_139 (C1), Bread\_137 (C1), Breeniome\_137 (C1), Burrough\_138 (C1), Bxz1\_135 (C1), Cactojaque\_134 (C1), Cali\_133 (C1), Cane17\_130 (C1), Capablanca\_141 (C1), Caravan\_132 (C1), Catera\_134 (C1), Chargie21\_135 (C1), CharlieB\_135 (C1), ChaylaJr\_134 (C1), ChickenPhender\_134 (C1), Chomp\_138 (C1), CindyLou\_140 (C1), Colt\_130 (C1), Concombre\_144 (C1), DTDevon\_138 (C1), Daffodil\_143 (C1), Dandelion\_143 (C1), Darko\_138 (C1), DeejaClivia\_125 (C1), Delilah\_138 (C1), Delylah\_141 (C1), Demodog\_145 (C1), Derek\_137 (C1), Dietrick\_130 (C1), DirtMonster\_132 (C1), Domi\_131 (C1), DrPhinkDaddy\_137 (C1), Drazdys\_136 (C1), ET08\_126 (C1), EasyJones\_141 (C1), EggYFarm\_146 (C1), EmToTheThree\_140 (C1), EmmaElysia\_139 (C1), Erdmann\_138 (C1), ErnieJ\_132 (C1), Essence\_135 (C1), Ewok\_139 (C1), Flabslab\_133 (C1), Fludd\_139 (C1), Fongie\_136 (C1), FoxtrotP1\_138 (C1), FrayBell\_143 (C1), FudgeTart\_136 (C1), Gabriel\_138 (C1), Gamgam\_139 (C1), Ghost\_137 (C1), Gizmo\_143 (C1), GlutenPhree\_138 (C1), Grasshills\_145 (C1), Grungle\_125 (C1), Guwapp\_137 (C1), Halldule\_132 (C1), HyRo\_129 (C1), I3\_143 (C1), IkeLoa\_132 (C1), InigoMontoya\_141 (C1), InterFolia\_144 (C1), Iota\_133 (C1), Issimir\_136 (C1), Izajani\_138 (C1), JPickles\_135 (C1), Janiyra\_141 (C1), JayJay\_143 (C1), Jaygup\_138 (C1), Jedediah\_141 (C1), Jemmno\_138 (C1), Jessibeth14\_137 (C1), Jezreel\_136 (C1), JigglyPuff\_146 (C1), JulietS\_133 (C1), JustHall\_136 (C1), Kamryn\_138 (C1), Kboogie\_142 (C1), Khaleesi\_137 (C1), Koguma\_135 (C1), LRRHood\_131 (C1), Latch\_139 (C1), Lee7\_136 (C1), Lethe\_138 (C1), LifeSavor\_136 (C1), LinStu\_136 (C1), Littleton\_138 (C1), Loanshark\_137 (C1), LolaVinca\_138 (C1), LordLeafolot\_142 (C1), Lukilu\_128 (C1), Maby2021\_138 (C1), Mangeria\_138 (C1), Matsumoto\_135 (C1), McGee\_140 (C1), McWolfish\_136 (C1), Megamind\_137 (C1), Melpomini\_132 (C1), MikeLiesIn\_139 (C1), Mikro\_135 (C1), MoMoMixon\_138 (C1), Momo\_138 (C1), Morizzled23\_139 (C1), Naija\_138 (C1), Napoleon13\_134 (C1), Nappy\_140 (C1), Naval22\_143 (C1), NedWong\_139 (C1), Ngannou\_135 (C1), Nidhogg\_140 (C1), NoodleTree\_145 (C1), Norm\_139 (C1), NuevoMundo\_143 (C1), ParkTD\_139 (C1), Patter\_139 (C1), Phlegm\_142 (C1), Phox\_135 (C1), Phusco\_138 (C1), Pier\_142 (C1), Pinkcreek\_129 (C1), Pio\_142 (C1), Pivoine\_138 (C1), Pleione\_141 (C1), Primadonna\_132 (C1), PurduePete\_138 (C1), QBert\_132 (C1), Quasimodo\_140 (C1), Rabinovish\_137 (C1), Rahel\_137 (C1), Rizal\_133 (C1), RoMag\_133 (C1), Ronan\_132 (C1), Roots515\_137 (C1), SVoro\_136 (C1), Salacia\_142 (C1), Sauce\_138 (C1), ScottMcG\_134 (C1), Sebata\_138 (C1), Shaq nato\_131 (C1), Shelob\_140 (C1), ShiaLabeouf\_137 (C1), Shifa\_127 (C1), Shnickers\_138 (C1), Shrimp\_138 (C1), SilverDipper\_140 (C1), SmallFry\_138 (C1), Spec\_134 (C1), Specks\_143 (C1), Sprinklers\_134 (C1), Spud\_137 (C1), SrishMeg2525\_137 (C1), StephanieG\_136 (C1), StubbySaigey\_142 (C1), Stubby\_131 (C1), Tainan\_141 (C1), Teardrop\_137 (C1), TinyTim\_138 (C1), Tortoise16\_135 (C1), Trinitium\_136 (C1), Turret\_134 (C1), Tyke\_138 (C1), ValleyTerrace\_139 (C1), Wally\_137 (C1), Willis\_139 (C1), Yassified\_135 (C1), YemiJoy2021\_139 (C1), YoungMoneyMata\_140 (C1), Yucca\_137 (C1), Zalkecks\_139 (C1), Zeenon\_139 (C1), ZygoTaiga\_136 (C1),

### Summary by clusters:



There are 7 clusters represented in this pham: F1, F2, F, J, A1, A7, C1,

Info for manual annotations of cluster A1:

- Start number 3 was manually annotated 18 times for cluster A1.
- Start number 4 was manually annotated 1 time for cluster A1.
- Start number 5 was manually annotated 27 times for cluster A1.
- Start number 19 was manually annotated 1 time for cluster A1.
- Start number 24 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster A7:

- Start number 2 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster C1:

- Start number 28 was manually annotated 171 times for cluster C1.

Info for manual annotations of cluster F1:

- Start number 2 was manually annotated 44 times for cluster F1.

Info for manual annotations of cluster J:

- Start number 2 was manually annotated 2 times for cluster J.

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

Gene: AFIS\_35 Start: 28138, Stop: 29097, Start Num: 5

Candidate Starts for AFIS\_35:

(Start: 5 @28138 has 27 MA's), (11, 28174), (17, 28216), (Start: 24 @28303 has 1 MA's), (26, 28330), (32, 28438), (33, 28444), (34, 28459), (43, 28558), (45, 28570), (48, 28633),

Gene: Ablatia\_137 Start: 79628, Stop: 80383, Start Num: 28

Candidate Starts for Ablatia\_137:

(13, 79400), (23, 79526), (Start: 28 @79628 has 171 MA's), (30, 79646), (35, 79730), (57, 80012), (61, 80048), (72, 80234),

Gene: Abrogate\_360 Start: 28813, Stop: 29772, Start Num: 5

Candidate Starts for Abrogate\_360:

(Start: 5 @28813 has 27 MA's), (11, 28849), (17, 28891), (Start: 24 @28978 has 1 MA's), (26, 29005), (32, 29113), (34, 29134), (43, 29233), (45, 29245), (48, 29308),

Gene: Adahisdi\_36 Start: 28227, Stop: 29183, Start Num: 3

Candidate Starts for Adahisdi\_36:

(Start: 3 @28227 has 18 MA's), (8, 28263), (18, 28305), (Start: 24 @28392 has 1 MA's), (26, 28419), (34, 28548), (36, 28569), (39, 28602), (41, 28638), (54, 28764), (60, 28833),

Gene: Ading\_138 Start: 79597, Stop: 80352, Start Num: 28

Candidate Starts for Ading\_138:

(13, 79369), (23, 79495), (Start: 28 @79597 has 171 MA's), (30, 79615), (35, 79699), (57, 79981), (61, 80017), (72, 80203),

Gene: Adlitam\_139 Start: 80093, Stop: 80848, Start Num: 28  
Candidate Starts for Adlitam\_139:  
(Start: 28 @80093 has 171 MA's), (30, 80111), (35, 80195), (57, 80477), (61, 80513), (72, 80699),

Gene: Alice\_131 Start: 79318, Stop: 80073, Start Num: 28  
Candidate Starts for Alice\_131:  
(13, 79090), (23, 79216), (Start: 28 @79318 has 171 MA's), (30, 79336), (35, 79420), (57, 79702), (61, 79738), (72, 79924),

Gene: Amataga\_139 Start: 79338, Stop: 80093, Start Num: 28  
Candidate Starts for Amataga\_139:  
(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Arcanine\_36 Start: 27784, Stop: 28773, Start Num: 3  
Candidate Starts for Arcanine\_36:  
(Start: 3 @27784 has 18 MA's), (8, 27820), (18, 27862), (27, 27985), (34, 28102), (35, 28120), (81, 28639), (85, 28705), (88, 28729), (89, 28732),

Gene: ArcherS7\_137 Start: 79177, Stop: 79932, Start Num: 28  
Candidate Starts for ArcherS7\_137:  
(13, 78949), (23, 79075), (Start: 28 @79177 has 171 MA's), (30, 79195), (35, 79279), (57, 79561), (61, 79597), (72, 79783),

Gene: Ashballer\_37 Start: 28784, Stop: 29740, Start Num: 3  
Candidate Starts for Ashballer\_37:  
(Start: 3 @28784 has 18 MA's), (8, 28820), (18, 28862), (Start: 24 @28949 has 1 MA's), (26, 28976), (34, 29105), (36, 29126), (39, 29159), (41, 29195), (54, 29321), (60, 29390),

Gene: Asterius\_141 Start: 79853, Stop: 80608, Start Num: 28  
Candidate Starts for Asterius\_141:  
(13, 79625), (23, 79751), (Start: 28 @79853 has 171 MA's), (30, 79871), (35, 79955), (57, 80237), (61, 80273), (72, 80459),

Gene: Astraea\_134 Start: 78618, Stop: 79373, Start Num: 28  
Candidate Starts for Astraea\_134:  
(23, 78516), (Start: 28 @78618 has 171 MA's), (30, 78636), (35, 78720), (57, 79002), (61, 79038), (72, 79224),

Gene: Atlantean\_138 Start: 79338, Stop: 80093, Start Num: 28  
Candidate Starts for Atlantean\_138:  
(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Audrick\_141 Start: 79317, Stop: 80072, Start Num: 28  
Candidate Starts for Audrick\_141:  
(13, 79089), (23, 79215), (Start: 28 @79317 has 171 MA's), (30, 79335), (35, 79419), (57, 79701), (61, 79737), (72, 79923),

Gene: Ava3\_139 Start: 79762, Stop: 80517, Start Num: 28  
Candidate Starts for Ava3\_139:  
(13, 79534), (23, 79660), (Start: 28 @79762 has 171 MA's), (30, 79780), (35, 79864), (57, 80146), (61, 80182), (72, 80368),

Gene: BPBiibs31\_36 Start: 28355, Stop: 29314, Start Num: 5

Candidate Starts for BPBiibs31\_36:

(Start: 5 @28355 has 27 MA's), (11, 28391), (17, 28433), (Start: 24 @28520 has 1 MA's), (32, 28655), (34, 28676), (43, 28775), (45, 28787), (48, 28850),

Gene: Babyland\_140 Start: 79416, Stop: 80171, Start Num: 28

Candidate Starts for Babyland\_140:

(13, 79188), (23, 79314), (Start: 28 @79416 has 171 MA's), (30, 79434), (35, 79518), (57, 79800), (61, 79836), (72, 80022),

Gene: BackyardAgain\_135 Start: 78765, Stop: 79520, Start Num: 28

Candidate Starts for BackyardAgain\_135:

(13, 78537), (23, 78663), (Start: 28 @78765 has 171 MA's), (30, 78783), (35, 78867), (57, 79149), (61, 79185), (72, 79371),

Gene: BadAgartude\_134 Start: 80064, Stop: 80819, Start Num: 28

Candidate Starts for BadAgartude\_134:

(13, 79836), (23, 79962), (Start: 28 @80064 has 171 MA's), (30, 80082), (35, 80166), (57, 80448), (61, 80484), (72, 80670),

Gene: BananaFence\_137 Start: 80018, Stop: 80773, Start Num: 28

Candidate Starts for BananaFence\_137:

(23, 79916), (Start: 28 @80018 has 171 MA's), (30, 80036), (35, 80120), (57, 80402), (61, 80438), (72, 80624),

Gene: Bangla1971\_139 Start: 79307, Stop: 80062, Start Num: 28

Candidate Starts for Bangla1971\_139:

(13, 79079), (23, 79205), (Start: 28 @79307 has 171 MA's), (30, 79325), (35, 79409), (57, 79691), (61, 79727), (72, 79913),

Gene: BarrowTuph\_34 Start: 27895, Stop: 28854, Start Num: 3

Candidate Starts for BarrowTuph\_34:

(Start: 3 @27895 has 18 MA's), (8, 27931), (18, 27973), (Start: 24 @28060 has 1 MA's), (26, 28087), (31, 28186), (33, 28201), (38, 28261), (54, 28432), (60, 28501), (75, 28750),

Gene: Basquiat\_135 Start: 78916, Stop: 79671, Start Num: 28

Candidate Starts for Basquiat\_135:

(13, 78688), (23, 78814), (Start: 28 @78916 has 171 MA's), (30, 78934), (35, 79018), (57, 79300), (61, 79336), (72, 79522),

Gene: Beakin\_25 Start: 24117, Stop: 24971, Start Num: 2

Candidate Starts for Beakin\_25:

(1, 24057), (Start: 2 @24117 has 49 MA's), (11, 24165), (26, 24330), (33, 24444), (34, 24459), (35, 24477), (45, 24588), (53, 24681), (64, 24816), (66, 24831), (67, 24840), (69, 24861), (70, 24864),

Gene: BeanWater\_130 Start: 79616, Stop: 80371, Start Num: 28

Candidate Starts for BeanWater\_130:

(13, 79388), (23, 79514), (Start: 28 @79616 has 171 MA's), (30, 79634), (35, 79718), (57, 80000), (61, 80036), (72, 80222),

Gene: Belieber\_134 Start: 79091, Stop: 79846, Start Num: 28

Candidate Starts for Belieber\_134:

(13, 78863), (23, 78989), (Start: 28 @79091 has 171 MA's), (30, 79109), (35, 79193), (57, 79475), (61, 79511), (72, 79697),

Gene: BigCity\_146 Start: 82288, Stop: 83043, Start Num: 28

Candidate Starts for BigCity\_146:

(13, 82060), (23, 82186), (Start: 28 @82288 has 171 MA's), (30, 82306), (35, 82390), (57, 82672), (61, 82708), (72, 82894),

Gene: Bigswole\_141 Start: 81573, Stop: 82328, Start Num: 28

Candidate Starts for Bigswole\_141:

(13, 81345), (23, 81471), (Start: 28 @81573 has 171 MA's), (30, 81591), (35, 81675), (57, 81957), (61, 81993), (72, 82179),

Gene: BillKnuckles\_36 Start: 28751, Stop: 29710, Start Num: 5

Candidate Starts for BillKnuckles\_36:

(Start: 5 @28751 has 27 MA's), (11, 28787), (17, 28829), (Start: 24 @28916 has 1 MA's), (26, 28943), (32, 29051), (33, 29057), (34, 29072), (43, 29171), (45, 29183), (48, 29246),

Gene: Bipolarisk\_137 Start: 80030, Stop: 80785, Start Num: 28

Candidate Starts for Bipolarisk\_137:

(13, 79802), (23, 79928), (Start: 28 @80030 has 171 MA's), (30, 80048), (35, 80132), (57, 80414), (61, 80450), (72, 80636),

Gene: Blackbrain\_134 Start: 78801, Stop: 79556, Start Num: 28

Candidate Starts for Blackbrain\_134:

(Start: 28 @78801 has 171 MA's), (30, 78819), (35, 78903), (57, 79185), (61, 79221), (72, 79407),

Gene: Blackdragon\_134 Start: 79445, Stop: 80200, Start Num: 28

Candidate Starts for Blackdragon\_134:

(Start: 28 @79445 has 171 MA's), (33, 79517), (35, 79547), (49, 79748), (65, 79928),

Gene: Blarby\_32 Start: 24541, Stop: 25521, Start Num: 2

Candidate Starts for Blarby\_32:

(1, 24481), (Start: 2 @24541 has 49 MA's), (11, 24589), (21, 24655), (Start: 24 @24727 has 1 MA's), (26, 24754), (32, 24862), (34, 24883), (43, 24982), (45, 24994), (48, 25057),

Gene: Blubba\_130 Start: 81163, Stop: 81918, Start Num: 28

Candidate Starts for Blubba\_130:

(13, 80935), (23, 81061), (Start: 28 @81163 has 171 MA's), (35, 81265), (57, 81547), (61, 81583), (72, 81769),

Gene: Bobi\_26 Start: 24854, Stop: 25834, Start Num: 2

Candidate Starts for Bobi\_26:

(1, 24794), (Start: 2 @24854 has 49 MA's), (11, 24902), (32, 25175), (33, 25181), (34, 25196), (43, 25295), (45, 25307), (48, 25370),

Gene: BodEinwohner17\_24 Start: 24438, Stop: 25418, Start Num: 2

Candidate Starts for BodEinwohner17\_24:

(1, 24378), (Start: 2 @24438 has 49 MA's), (11, 24486), (16, 24519), (Start: 24 @24624 has 1 MA's), (26, 24651), (32, 24759), (33, 24765), (34, 24780), (43, 24879), (45, 24891), (48, 24954),

Gene: Bonray\_139 Start: 80672, Stop: 81427, Start Num: 28

Candidate Starts for Bonray\_139:

(Start: 28 @80672 has 171 MA's), (30, 80690), (35, 80774), (57, 81056), (61, 81092), (72, 81278),

Gene: Bread\_137 Start: 79848, Stop: 80603, Start Num: 28

Candidate Starts for Bread\_137:

(13, 79620), (23, 79746), (Start: 28 @79848 has 171 MA's), (30, 79866), (35, 79950), (57, 80232), (61, 80268), (72, 80454),

Gene: Breeniome\_137 Start: 78206, Stop: 78961, Start Num: 28

Candidate Starts for Breeniome\_137:

(13, 77978), (23, 78104), (Start: 28 @78206 has 171 MA's), (30, 78224), (35, 78308), (57, 78590), (61, 78626), (72, 78812),

Gene: Brushbloom\_26 Start: 24149, Stop: 25129, Start Num: 2

Candidate Starts for Brushbloom\_26:

(1, 24089), (Start: 2 @24149 has 49 MA's), (11, 24197), (16, 24230), (21, 24263), (Start: 24 @24335 has 1 MA's), (26, 24362), (32, 24470), (34, 24491), (43, 24590), (45, 24602), (48, 24665),

Gene: Burrough\_138 Start: 80357, Stop: 81112, Start Num: 28

Candidate Starts for Burrough\_138:

(13, 80129), (23, 80255), (Start: 28 @80357 has 171 MA's), (30, 80375), (35, 80459), (57, 80741), (61, 80777), (72, 80963),

Gene: Bxz1\_135 Start: 81560, Stop: 82315, Start Num: 28

Candidate Starts for Bxz1\_135:

(13, 81332), (23, 81458), (Start: 28 @81560 has 171 MA's), (30, 81578), (35, 81662), (57, 81944), (61, 81980), (72, 82166),

Gene: Cactojaque\_134 Start: 78908, Stop: 79663, Start Num: 28

Candidate Starts for Cactojaque\_134:

(13, 78680), (23, 78806), (Start: 28 @78908 has 171 MA's), (30, 78926), (35, 79010), (57, 79292), (61, 79328), (72, 79514),

Gene: Cali\_133 Start: 80359, Stop: 81114, Start Num: 28

Candidate Starts for Cali\_133:

(13, 80131), (23, 80257), (Start: 28 @80359 has 171 MA's), (30, 80377), (35, 80461), (57, 80743), (61, 80779), (72, 80965),

Gene: Cane17\_130 Start: 81221, Stop: 81976, Start Num: 28

Candidate Starts for Cane17\_130:

(13, 80993), (23, 81119), (Start: 28 @81221 has 171 MA's), (35, 81323), (57, 81605), (61, 81641), (72, 81827),

Gene: Capablanca\_141 Start: 81088, Stop: 81843, Start Num: 28

Candidate Starts for Capablanca\_141:

(13, 80860), (23, 80986), (Start: 28 @81088 has 171 MA's), (30, 81106), (35, 81190), (57, 81472), (61, 81508), (72, 81694),

Gene: Caravan\_132 Start: 79716, Stop: 80471, Start Num: 28

Candidate Starts for Caravan\_132:

(13, 79488), (23, 79614), (Start: 28 @79716 has 171 MA's), (30, 79734), (35, 79818), (57, 80100), (61, 80136), (72, 80322),

Gene: Catera\_134 Start: 78623, Stop: 79378, Start Num: 28

Candidate Starts for Catera\_134:

(13, 78395), (23, 78521), (Start: 28 @78623 has 171 MA's), (30, 78641), (35, 78725), (57, 79007), (61, 79043), (72, 79229),

Gene: Chargie21\_135 Start: 78916, Stop: 79671, Start Num: 28

Candidate Starts for Chargie21\_135:

(13, 78688), (23, 78814), (Start: 28 @78916 has 171 MA's), (30, 78934), (35, 79018), (57, 79300), (61, 79336), (72, 79522),

Gene: CharlieB\_135 Start: 79242, Stop: 79997, Start Num: 28

Candidate Starts for CharlieB\_135:

(Start: 28 @79242 has 171 MA's), (30, 79260), (35, 79344), (57, 79626), (61, 79662), (72, 79848),

Gene: ChaylaJr\_134 Start: 78724, Stop: 79479, Start Num: 28

Candidate Starts for ChaylaJr\_134:

(Start: 28 @78724 has 171 MA's), (30, 78742), (35, 78826), (57, 79108), (61, 79144), (72, 79330),

Gene: Che8\_25 Start: 24293, Stop: 25249, Start Num: 2

Candidate Starts for Che8\_25:

(1, 24233), (Start: 2 @24293 has 49 MA's), (11, 24341), (15, 24362), (16, 24374), (25, 24470), (26, 24491), (31, 24590), (33, 24605), (34, 24620), (52, 24827), (60, 24905), (68, 24995), (82, 25193),

Gene: Cheesepuff\_27 Start: 25116, Stop: 26096, Start Num: 2

Candidate Starts for Cheesepuff\_27:

(1, 25056), (Start: 2 @25116 has 49 MA's), (11, 25164), (21, 25230), (34, 25458), (49, 25668), (58, 25749), (73, 25974),

Gene: ChickenPhender\_134 Start: 78548, Stop: 79303, Start Num: 28

Candidate Starts for ChickenPhender\_134:

(13, 78320), (23, 78446), (Start: 28 @78548 has 171 MA's), (30, 78566), (35, 78650), (57, 78932), (61, 78968), (72, 79154),

Gene: Chomp\_138 Start: 80627, Stop: 81382, Start Num: 28

Candidate Starts for Chomp\_138:

(13, 80399), (23, 80525), (Start: 28 @80627 has 171 MA's), (30, 80645), (35, 80729), (57, 81011), (61, 81047), (72, 81233),

Gene: CindyLou\_140 Start: 80667, Stop: 81422, Start Num: 28

Candidate Starts for CindyLou\_140:

(Start: 28 @80667 has 171 MA's), (30, 80685), (35, 80769), (57, 81051), (61, 81087), (72, 81273),

Gene: Colt\_130 Start: 81338, Stop: 82093, Start Num: 28

Candidate Starts for Colt\_130:

(13, 81110), (23, 81236), (Start: 28 @81338 has 171 MA's), (35, 81440), (57, 81722), (61, 81758), (72, 81944),

Gene: ConceptII\_37 Start: 28990, Stop: 29907, Start Num: 3

Candidate Starts for ConceptII\_37:

(Start: 3 @28990 has 18 MA's), (11, 29026), (Start: 19 @29068 has 1 MA's), (34, 29311), (46, 29437),

Gene: Concombre\_144 Start: 82521, Stop: 83276, Start Num: 28

Candidate Starts for Concombre\_144:

(13, 82293), (23, 82419), (Start: 28 @82521 has 171 MA's), (30, 82539), (35, 82623), (57, 82905), (61, 82941), (72, 83127),

Gene: Corium\_24 Start: 24305, Stop: 25285, Start Num: 2

Candidate Starts for Corium\_24:

(Start: 2 @24305 has 49 MA's), (11, 24353), (16, 24386), (Start: 24 @24491 has 1 MA's), (26, 24518), (32, 24626), (33, 24632), (34, 24647), (43, 24746), (45, 24758), (48, 24821),

Gene: DD5\_36 Start: 28752, Stop: 29711, Start Num: 5

Candidate Starts for DD5\_36:

(Start: 5 @28752 has 27 MA's), (11, 28788), (17, 28830), (Start: 24 @28917 has 1 MA's), (26, 28944), (32, 29052), (33, 29058), (34, 29073), (43, 29172), (45, 29184), (48, 29247),

Gene: DTDevon\_138 Start: 80389, Stop: 81144, Start Num: 28

Candidate Starts for DTDevon\_138:

(Start: 28 @80389 has 171 MA's), (30, 80407), (35, 80491), (57, 80773), (61, 80809), (72, 80995),

Gene: Daffodil\_143 Start: 80330, Stop: 81085, Start Num: 28

Candidate Starts for Daffodil\_143:

(13, 80102), (23, 80228), (Start: 28 @80330 has 171 MA's), (30, 80348), (35, 80432), (57, 80714), (61, 80750), (72, 80936),

Gene: Dandelion\_143 Start: 82522, Stop: 83277, Start Num: 28

Candidate Starts for Dandelion\_143:

(13, 82294), (23, 82420), (Start: 28 @82522 has 171 MA's), (30, 82540), (35, 82624), (57, 82906), (61, 82942), (72, 83128),

Gene: Dante\_24 Start: 24282, Stop: 25136, Start Num: 2

Candidate Starts for Dante\_24:

(1, 24222), (Start: 2 @24282 has 49 MA's), (11, 24330), (26, 24495), (33, 24609), (34, 24624), (35, 24642), (45, 24753), (53, 24846), (64, 24981), (66, 24996), (67, 25005), (69, 25026), (70, 25029),

Gene: Darko\_138 Start: 80022, Stop: 80777, Start Num: 28

Candidate Starts for Darko\_138:

(13, 79794), (23, 79920), (Start: 28 @80022 has 171 MA's), (30, 80040), (35, 80124), (57, 80406), (61, 80442), (72, 80628),

Gene: DeadP\_24 Start: 24297, Stop: 25277, Start Num: 2

Candidate Starts for DeadP\_24:

(1, 24237), (Start: 2 @24297 has 49 MA's), (11, 24345), (16, 24378), (21, 24411), (26, 24510), (32, 24618), (34, 24639), (43, 24738), (45, 24750), (48, 24813),

Gene: DeejaClivia\_125 Start: 76688, Stop: 77443, Start Num: 28

Candidate Starts for DeejaClivia\_125:

(13, 76460), (23, 76586), (Start: 28 @76688 has 171 MA's), (30, 76706), (35, 76790), (61, 77108), (72, 77294),

Gene: Delilah\_138 Start: 80484, Stop: 81239, Start Num: 28

Candidate Starts for Delilah\_138:

(13, 80256), (23, 80382), (Start: 28 @80484 has 171 MA's), (30, 80502), (35, 80586), (57, 80868), (61, 80904), (72, 81090),

Gene: Delylah\_141 Start: 80023, Stop: 80778, Start Num: 28

Candidate Starts for Delylah\_141:

(13, 79795), (23, 79921), (Start: 28 @80023 has 171 MA's), (30, 80041), (35, 80125), (57, 80407), (61, 80443), (72, 80629),

Gene: Demodog\_145 Start: 82530, Stop: 83285, Start Num: 28

Candidate Starts for Demodog\_145:

(13, 82302), (23, 82428), (Start: 28 @82530 has 171 MA's), (30, 82548), (35, 82632), (57, 82914), (61, 82950), (72, 83136),

Gene: Derek\_137 Start: 79949, Stop: 80704, Start Num: 28

Candidate Starts for Derek\_137:

(Start: 28 @79949 has 171 MA's), (30, 79967), (35, 80051), (57, 80333), (61, 80369), (72, 80555),

Gene: Dietrick\_130 Start: 78025, Stop: 78780, Start Num: 28

Candidate Starts for Dietrick\_130:

(13, 77797), (23, 77923), (Start: 28 @78025 has 171 MA's), (30, 78043), (35, 78127), (57, 78409), (61, 78445), (72, 78631),

Gene: DirtMonster\_132 Start: 79283, Stop: 80038, Start Num: 28

Candidate Starts for DirtMonster\_132:

(13, 79055), (23, 79181), (Start: 28 @79283 has 171 MA's), (30, 79301), (35, 79385), (57, 79667), (61, 79703), (72, 79889),

Gene: Domi\_131 Start: 79362, Stop: 80117, Start Num: 28

Candidate Starts for Domi\_131:

(13, 79134), (23, 79260), (Start: 28 @79362 has 171 MA's), (30, 79380), (35, 79464), (57, 79746), (61, 79782), (72, 79968),

Gene: DrPhinkDaddy\_137 Start: 80542, Stop: 81297, Start Num: 28

Candidate Starts for DrPhinkDaddy\_137:

(13, 80314), (23, 80440), (Start: 28 @80542 has 171 MA's), (30, 80560), (35, 80644), (57, 80926), (61, 80962), (72, 81148),

Gene: Drazdys\_136 Start: 79013, Stop: 79768, Start Num: 28

Candidate Starts for Drazdys\_136:

(13, 78785), (23, 78911), (Start: 28 @79013 has 171 MA's), (30, 79031), (35, 79115), (57, 79397), (61, 79433), (72, 79619),

Gene: ET08\_126 Start: 79003, Stop: 79758, Start Num: 28

Candidate Starts for ET08\_126:

(13, 78775), (23, 78901), (Start: 28 @79003 has 171 MA's), (30, 79021), (35, 79105), (57, 79387), (61, 79423), (72, 79609),

Gene: EasyJones\_141 Start: 79570, Stop: 80325, Start Num: 28

Candidate Starts for EasyJones\_141:

(13, 79342), (23, 79468), (Start: 28 @79570 has 171 MA's), (30, 79588), (35, 79672), (57, 79954), (61, 79990), (72, 80176),

Gene: Edtherson\_36 Start: 28770, Stop: 29729, Start Num: 5

Candidate Starts for Edtherson\_36:

(Start: 5 @28770 has 27 MA's), (11, 28806), (17, 28848), (Start: 24 @28935 has 1 MA's), (26, 28962), (32, 29070), (33, 29076), (34, 29091), (43, 29190), (45, 29202), (48, 29265),



Gene: EggyFarm\_146 Start: 82288, Stop: 83043, Start Num: 28

Candidate Starts for EggyFarm\_146:

(13, 82060), (23, 82186), (Start: 28 @82288 has 171 MA's), (30, 82306), (35, 82390), (57, 82672), (61, 82708), (72, 82894),

Gene: EleanorGeorge\_24 Start: 24437, Stop: 25399, Start Num: 2

Candidate Starts for EleanorGeorge\_24:

(1, 24377), (Start: 2 @24437 has 49 MA's), (11, 24485), (16, 24518), (21, 24551), (33, 24764), (34, 24779), (42, 24875), (60, 25058), (63, 25121),

Gene: EmToTheThree\_140 Start: 81282, Stop: 82037, Start Num: 28

Candidate Starts for EmToTheThree\_140:

(13, 81054), (23, 81180), (Start: 28 @81282 has 171 MA's), (30, 81300), (35, 81384), (57, 81666), (61, 81702), (72, 81888),

Gene: EmiMonkey\_24 Start: 24219, Stop: 25160, Start Num: 2

Candidate Starts for EmiMonkey\_24:

(Start: 2 @24219 has 49 MA's), (11, 24267), (16, 24300), (21, 24333), (27, 24441), (34, 24558), (35, 24576),

Gene: EmmaElysia\_139 Start: 79557, Stop: 80312, Start Num: 28

Candidate Starts for EmmaElysia\_139:

(13, 79329), (23, 79455), (Start: 28 @79557 has 171 MA's), (30, 79575), (35, 79659), (57, 79941), (61, 79977), (72, 80163),

Gene: Emmaloid\_26 Start: 24066, Stop: 25007, Start Num: 2

Candidate Starts for Emmaloid\_26:

(1, 24006), (Start: 2 @24066 has 49 MA's), (11, 24114), (16, 24147), (21, 24180), (27, 24288), (34, 24405), (35, 24423),

Gene: Erdmann\_138 Start: 80331, Stop: 81086, Start Num: 28

Candidate Starts for Erdmann\_138:

(13, 80103), (23, 80229), (Start: 28 @80331 has 171 MA's), (30, 80349), (35, 80433), (57, 80715), (61, 80751), (72, 80937),

Gene: ErnieJ\_132 Start: 78300, Stop: 79055, Start Num: 28

Candidate Starts for ErnieJ\_132:

(Start: 28 @78300 has 171 MA's), (30, 78318), (35, 78402), (57, 78684), (61, 78720), (72, 78906),

Gene: Espresso\_35 Start: 28134, Stop: 29081, Start Num: 5

Candidate Starts for Espresso\_35:

(Start: 5 @28134 has 27 MA's), (11, 28170), (17, 28212), (Start: 24 @28299 has 1 MA's), (26, 28326), (32, 28434), (33, 28440), (34, 28455), (43, 28554), (45, 28566), (48, 28629),

Gene: Essence\_135 Start: 79179, Stop: 79934, Start Num: 28

Candidate Starts for Essence\_135:

(Start: 28 @79179 has 171 MA's), (30, 79197), (35, 79281), (57, 79563), (61, 79599), (72, 79785),

Gene: Ewok\_139 Start: 79708, Stop: 80463, Start Num: 28

Candidate Starts for Ewok\_139:

(13, 79480), (23, 79606), (Start: 28 @79708 has 171 MA's), (30, 79726), (35, 79810), (57, 80092), (61, 80128), (72, 80314),

Gene: Firehouse51\_25 Start: 24825, Stop: 25805, Start Num: 2

Candidate Starts for Firehouse51\_25:

(1, 24765), (Start: 2 @24825 has 49 MA's), (11, 24873), (21, 24939), (26, 25038), (32, 25146), (34, 25167), (43, 25266), (45, 25278), (48, 25341),

Gene: Flabslab\_133 Start: 77890, Stop: 78645, Start Num: 28

Candidate Starts for Flabslab\_133:

(Start: 28 @77890 has 171 MA's), (30, 77908), (35, 77992), (57, 78274), (61, 78310), (72, 78496),

Gene: Flathead\_25 Start: 24133, Stop: 25113, Start Num: 2

Candidate Starts for Flathead\_25:

(1, 24073), (Start: 2 @24133 has 49 MA's), (11, 24181), (Start: 24 @24319 has 1 MA's), (26, 24346), (32, 24454), (33, 24460), (34, 24475), (43, 24574), (45, 24586), (48, 24649),

Gene: Fludd\_139 Start: 79356, Stop: 80111, Start Num: 28

Candidate Starts for Fludd\_139:

(13, 79128), (23, 79254), (Start: 28 @79356 has 171 MA's), (30, 79374), (35, 79458), (57, 79740), (61, 79776), (72, 79962),

Gene: FlyCatcher\_8 Start: 4427, Stop: 5395, Start Num: 2

Candidate Starts for FlyCatcher\_8:

(Start: 2 @4427 has 49 MA's), (21, 4550), (34, 4754), (47, 4880), (50, 4949),

Gene: Fongie\_136 Start: 79921, Stop: 80676, Start Num: 28

Candidate Starts for Fongie\_136:

(13, 79693), (23, 79819), (Start: 28 @79921 has 171 MA's), (30, 79939), (35, 80023), (57, 80305), (61, 80341), (72, 80527),

Gene: FoxtrotP1\_138 Start: 81491, Stop: 82246, Start Num: 28

Candidate Starts for FoxtrotP1\_138:

(13, 81263), (23, 81389), (Start: 28 @81491 has 171 MA's), (30, 81509), (35, 81593), (57, 81875), (61, 81911), (72, 82097),

Gene: Francis47\_35 Start: 28529, Stop: 29485, Start Num: 3

Candidate Starts for Francis47\_35:

(Start: 3 @28529 has 18 MA's), (8, 28565), (18, 28607), (Start: 24 @28694 has 1 MA's), (26, 28721), (34, 28850), (36, 28871), (39, 28904), (40, 28910), (41, 28940), (54, 29066), (60, 29135),

Gene: FrayBell\_143 Start: 80655, Stop: 81410, Start Num: 28

Candidate Starts for FrayBell\_143:

(13, 80427), (23, 80553), (Start: 28 @80655 has 171 MA's), (30, 80673), (35, 80757), (57, 81039), (61, 81075), (72, 81261),

Gene: Fruitloop\_24 Start: 24297, Stop: 25277, Start Num: 2

Candidate Starts for Fruitloop\_24:

(1, 24237), (Start: 2 @24297 has 49 MA's), (11, 24345), (16, 24378), (21, 24411), (Start: 24 @24483 has 1 MA's), (26, 24510), (32, 24618), (34, 24639), (43, 24738), (45, 24750), (48, 24813),

Gene: FudgeTart\_136 Start: 79361, Stop: 80116, Start Num: 28

Candidate Starts for FudgeTart\_136:

(13, 79133), (23, 79259), (Start: 28 @79361 has 171 MA's), (30, 79379), (35, 79463), (57, 79745), (61, 79781), (72, 79967),

Gene: Gabriel\_138 Start: 78585, Stop: 79340, Start Num: 28  
Candidate Starts for Gabriel\_138:  
(13, 78357), (23, 78483), (Start: 28 @78585 has 171 MA's), (30, 78603), (35, 78687), (57, 78969), (61, 79005), (72, 79191),

Gene: Gamgam\_139 Start: 79328, Stop: 80083, Start Num: 28  
Candidate Starts for Gamgam\_139:  
(13, 79100), (23, 79226), (Start: 28 @79328 has 171 MA's), (30, 79346), (35, 79430), (57, 79712), (61, 79748), (72, 79934),

Gene: Ghost\_137 Start: 79338, Stop: 80093, Start Num: 28  
Candidate Starts for Ghost\_137:  
(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Gizmo\_143 Start: 81960, Stop: 82715, Start Num: 28  
Candidate Starts for Gizmo\_143:  
(13, 81732), (23, 81858), (Start: 28 @81960 has 171 MA's), (30, 81978), (35, 82062), (57, 82344), (61, 82380), (72, 82566),

Gene: GlutenPhree\_138 Start: 79338, Stop: 80093, Start Num: 28  
Candidate Starts for GlutenPhree\_138:  
(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Grasshills\_145 Start: 82288, Stop: 83043, Start Num: 28  
Candidate Starts for Grasshills\_145:  
(13, 82060), (23, 82186), (Start: 28 @82288 has 171 MA's), (30, 82306), (35, 82390), (57, 82672), (61, 82708), (72, 82894),

Gene: Grungle\_125 Start: 76603, Stop: 77358, Start Num: 28  
Candidate Starts for Grungle\_125:  
(Start: 28 @76603 has 171 MA's), (33, 76675), (35, 76705), (49, 76906), (65, 77086),

Gene: Guppsters\_25 Start: 24505, Stop: 25359, Start Num: 2  
Candidate Starts for Guppsters\_25:  
(1, 24445), (Start: 2 @24505 has 49 MA's), (11, 24553), (26, 24718), (33, 24832), (34, 24847), (35, 24865), (45, 24976), (53, 25069), (64, 25204), (66, 25219), (67, 25228), (69, 25249), (70, 25252),

Gene: Guwapp\_137 Start: 78750, Stop: 79505, Start Num: 28  
Candidate Starts for Guwapp\_137:  
(Start: 28 @78750 has 171 MA's), (30, 78768), (35, 78852), (57, 79134), (61, 79170), (72, 79356),

Gene: HINdeR\_7 Start: 4364, Stop: 5329, Start Num: 2  
Candidate Starts for HINdeR\_7:  
(Start: 2 @4364 has 49 MA's), (22, 4511), (Start: 24 @4541 has 1 MA's), (29, 4613), (32, 4670), (34, 4691), (50, 4883), (62, 4982),

Gene: Halldule\_132 Start: 77629, Stop: 78384, Start Num: 28  
Candidate Starts for Halldule\_132:  
(Start: 28 @77629 has 171 MA's), (30, 77647), (35, 77731), (57, 78013), (61, 78049), (72, 78235),

Gene: Hegedechwinu\_25 Start: 24114, Stop: 25094, Start Num: 2

Candidate Starts for Hegedechwinu\_25:

(1, 24054), (Start: 2 @24114 has 49 MA's), (11, 24162), (16, 24195), (21, 24228), (Start: 24 @24300 has 1 MA's), (26, 24327), (32, 24435), (34, 24456), (43, 24555), (45, 24567), (48, 24630),

Gene: Hlubikazi\_24 Start: 24362, Stop: 25318, Start Num: 2

Candidate Starts for Hlubikazi\_24:

(1, 24302), (Start: 2 @24362 has 49 MA's), (9, 24404), (11, 24410), (15, 24431), (16, 24443), (21, 24476), (26, 24575), (33, 24689), (34, 24704), (47, 24830), (59, 24995),

Gene: HyRo\_129 Start: 79281, Stop: 80036, Start Num: 28

Candidate Starts for HyRo\_129:

(Start: 28 @79281 has 171 MA's), (33, 79353), (35, 79383), (49, 79584), (65, 79764),

Gene: I3\_143 Start: 80816, Stop: 81571, Start Num: 28

Candidate Starts for I3\_143:

(13, 80588), (23, 80714), (Start: 28 @80816 has 171 MA's), (30, 80834), (35, 80918), (57, 81200), (61, 81236), (72, 81422),

Gene: IMPilo\_24 Start: 24298, Stop: 25152, Start Num: 2

Candidate Starts for IMPilo\_24:

(1, 24238), (Start: 2 @24298 has 49 MA's), (11, 24346), (16, 24379), (21, 24412), (26, 24511), (33, 24625), (34, 24640), (35, 24658), (45, 24769), (53, 24862), (64, 24997), (66, 25012), (67, 25021), (69, 25042), (70, 25045),

Gene: IkeLoa\_132 Start: 79236, Stop: 79991, Start Num: 28

Candidate Starts for IkeLoa\_132:

(13, 79008), (23, 79134), (Start: 28 @79236 has 171 MA's), (30, 79254), (35, 79338), (57, 79620), (61, 79656), (72, 79842),

Gene: InigoMontoya\_141 Start: 79299, Stop: 80054, Start Num: 28

Candidate Starts for InigoMontoya\_141:

(13, 79071), (23, 79197), (Start: 28 @79299 has 171 MA's), (30, 79317), (35, 79401), (57, 79683), (61, 79719), (72, 79905),

Gene: InterFolia\_144 Start: 81590, Stop: 82345, Start Num: 28

Candidate Starts for InterFolia\_144:

(23, 81488), (Start: 28 @81590 has 171 MA's), (30, 81608), (35, 81692), (57, 81974), (61, 82010), (72, 82196),

Gene: Iota\_133 Start: 79287, Stop: 80042, Start Num: 28

Candidate Starts for Iota\_133:

(13, 79059), (23, 79185), (Start: 28 @79287 has 171 MA's), (30, 79305), (35, 79389), (57, 79671), (61, 79707), (72, 79893),

Gene: Issimir\_136 Start: 80295, Stop: 81050, Start Num: 28

Candidate Starts for Issimir\_136:

(13, 80067), (23, 80193), (Start: 28 @80295 has 171 MA's), (30, 80313), (35, 80397), (57, 80679), (61, 80715), (72, 80901),

Gene: Izajani\_138 Start: 80501, Stop: 81256, Start Num: 28

Candidate Starts for Izajani\_138:

(13, 80273), (23, 80399), (Start: 28 @80501 has 171 MA's), (30, 80519), (35, 80603), (57, 80885), (61, 80921), (72, 81107),

Gene: JPickles\_135 Start: 78090, Stop: 78845, Start Num: 28  
Candidate Starts for JPickles\_135:  
(13, 77862), (23, 77988), (Start: 28 @78090 has 171 MA's), (30, 78108), (35, 78192), (57, 78474), (61, 78510), (72, 78696),

Gene: JackSparrow\_36 Start: 28398, Stop: 29357, Start Num: 5  
Candidate Starts for JackSparrow\_36:  
(Start: 5 @28398 has 27 MA's), (11, 28434), (17, 28476), (Start: 24 @28563 has 1 MA's), (26, 28590), (32, 28698), (33, 28704), (34, 28719), (43, 28818), (45, 28830), (48, 28893),

Gene: JalFarm20\_26 Start: 24635, Stop: 25615, Start Num: 2  
Candidate Starts for JalFarm20\_26:  
(1, 24575), (Start: 2 @24635 has 49 MA's), (11, 24683), (32, 24956), (33, 24962), (34, 24977), (43, 25076), (45, 25088), (48, 25151),

Gene: Janiyra\_141 Start: 80265, Stop: 81020, Start Num: 28  
Candidate Starts for Janiyra\_141:  
(13, 80037), (23, 80163), (Start: 28 @80265 has 171 MA's), (30, 80283), (35, 80367), (57, 80649), (61, 80685), (72, 80871),

Gene: JayJay\_143 Start: 81296, Stop: 82051, Start Num: 28  
Candidate Starts for JayJay\_143:  
(Start: 28 @81296 has 171 MA's), (30, 81314), (35, 81398), (57, 81680), (61, 81716), (72, 81902),

Gene: Jaygup\_138 Start: 79615, Stop: 80370, Start Num: 28  
Candidate Starts for Jaygup\_138:  
(Start: 28 @79615 has 171 MA's), (30, 79633), (35, 79717), (57, 79999), (61, 80035), (72, 80221),

Gene: Jedediah\_141 Start: 80148, Stop: 80903, Start Num: 28  
Candidate Starts for Jedediah\_141:  
(Start: 28 @80148 has 171 MA's), (30, 80166), (35, 80250), (57, 80532), (61, 80568), (72, 80754),

Gene: Jemmno\_138 Start: 79595, Stop: 80350, Start Num: 28  
Candidate Starts for Jemmno\_138:  
(Start: 28 @79595 has 171 MA's), (30, 79613), (35, 79697), (57, 79979), (61, 80015), (72, 80201),

Gene: Jessibeth14\_137 Start: 80127, Stop: 80882, Start Num: 28  
Candidate Starts for Jessibeth14\_137:  
(13, 79899), (23, 80025), (Start: 28 @80127 has 171 MA's), (30, 80145), (35, 80229), (57, 80511), (61, 80547), (72, 80733),

Gene: Jezreel\_136 Start: 80281, Stop: 81036, Start Num: 28  
Candidate Starts for Jezreel\_136:  
(13, 80053), (23, 80179), (Start: 28 @80281 has 171 MA's), (30, 80299), (35, 80383), (57, 80665), (61, 80701), (72, 80887),

Gene: JigglyPuff\_146 Start: 82445, Stop: 83200, Start Num: 28  
Candidate Starts for JigglyPuff\_146:  
(13, 82217), (23, 82343), (Start: 28 @82445 has 171 MA's), (30, 82463), (35, 82547), (57, 82829), (61, 82865), (72, 83051),

Gene: Job42\_27 Start: 25950, Stop: 26804, Start Num: 2

Candidate Starts for Job42\_27:

(1, 25890), (Start: 2 @25950 has 49 MA's), (11, 25998), (21, 26064), (26, 26163), (33, 26277), (34, 26292), (35, 26310), (45, 26421), (53, 26514), (64, 26649), (66, 26664), (67, 26673), (69, 26694), (70, 26697),

Gene: Juice456\_26 Start: 25385, Stop: 26365, Start Num: 2

Candidate Starts for Juice456\_26:

(1, 25325), (Start: 2 @25385 has 49 MA's), (11, 25433), (16, 25466), (21, 25499), (Start: 24 @25571 has 1 MA's), (26, 25598), (32, 25706), (34, 25727), (43, 25826), (45, 25838), (48, 25901),

Gene: JulietS\_133 Start: 77482, Stop: 78237, Start Num: 28

Candidate Starts for JulietS\_133:

(Start: 28 @77482 has 171 MA's), (30, 77500), (35, 77584), (57, 77866), (61, 77902), (72, 78088),

Gene: JustHall\_136 Start: 80123, Stop: 80878, Start Num: 28

Candidate Starts for JustHall\_136:

(Start: 28 @80123 has 171 MA's), (30, 80141), (35, 80225), (57, 80507), (61, 80543), (72, 80729),

Gene: KBG\_36 Start: 28930, Stop: 29886, Start Num: 5

Candidate Starts for KBG\_36:

(Start: 5 @28930 has 27 MA's), (11, 28966), (17, 29008), (Start: 24 @29095 has 1 MA's), (32, 29227), (33, 29233), (34, 29248), (43, 29347), (45, 29359), (48, 29422),

Gene: Kamryn\_138 Start: 80933, Stop: 81688, Start Num: 28

Candidate Starts for Kamryn\_138:

(13, 80705), (23, 80831), (Start: 28 @80933 has 171 MA's), (30, 80951), (35, 81035), (57, 81317), (61, 81353), (72, 81539),

Gene: Kboogie\_142 Start: 79288, Stop: 80043, Start Num: 28

Candidate Starts for Kboogie\_142:

(13, 79060), (23, 79186), (Start: 28 @79288 has 171 MA's), (30, 79306), (35, 79390), (57, 79672), (61, 79708), (72, 79894),

Gene: Khaleesi\_137 Start: 80230, Stop: 80985, Start Num: 28

Candidate Starts for Khaleesi\_137:

(13, 80002), (23, 80128), (Start: 28 @80230 has 171 MA's), (30, 80248), (35, 80332), (57, 80614), (61, 80650), (72, 80836),

Gene: KingJulian\_24 Start: 24305, Stop: 25285, Start Num: 2

Candidate Starts for KingJulian\_24:

(Start: 2 @24305 has 49 MA's), (11, 24353), (16, 24386), (Start: 24 @24491 has 1 MA's), (26, 24518), (32, 24626), (33, 24632), (34, 24647), (43, 24746), (45, 24758), (48, 24821),

Gene: Koguma\_135 Start: 77765, Stop: 78520, Start Num: 28

Candidate Starts for Koguma\_135:

(Start: 28 @77765 has 171 MA's), (33, 77837), (35, 77867), (49, 78068), (65, 78248),

Gene: KristaRAM\_25 Start: 24939, Stop: 25919, Start Num: 2

Candidate Starts for KristaRAM\_25:

(1, 24879), (Start: 2 @24939 has 49 MA's), (11, 24987), (21, 25053), (Start: 24 @25125 has 1 MA's), (26, 25152), (32, 25260), (33, 25266), (34, 25281), (43, 25380), (45, 25392), (48, 25455),

Gene: Kugel\_36 Start: 28207, Stop: 29163, Start Num: 3

Candidate Starts for Kugel\_36:

(Start: 3 @28207 has 18 MA's), (8, 28243), (18, 28285), (Start: 24 @28372 has 1 MA's), (26, 28399), (34, 28528), (36, 28549), (39, 28582), (41, 28618), (54, 28744), (60, 28813),

Gene: LRRHood\_131 Start: 79573, Stop: 80328, Start Num: 28

Candidate Starts for LRRHood\_131:

(Start: 28 @79573 has 171 MA's), (33, 79645), (35, 79675), (49, 79876), (65, 80056),

Gene: Latch\_139 Start: 79338, Stop: 80093, Start Num: 28

Candidate Starts for Latch\_139:

(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Lee7\_136 Start: 80854, Stop: 81609, Start Num: 28

Candidate Starts for Lee7\_136:

(13, 80626), (23, 80752), (Start: 28 @80854 has 171 MA's), (30, 80872), (35, 80956), (57, 81238), (61, 81274), (72, 81460),

Gene: Lesedi\_34 Start: 27802, Stop: 28758, Start Num: 5

Candidate Starts for Lesedi\_34:

(Start: 5 @27802 has 27 MA's), (11, 27838), (17, 27880), (Start: 24 @27967 has 1 MA's), (26, 27994), (32, 28099), (34, 28120), (43, 28219), (45, 28231), (48, 28294),

Gene: Lethe\_138 Start: 80292, Stop: 81047, Start Num: 28

Candidate Starts for Lethe\_138:

(13, 80064), (23, 80190), (Start: 28 @80292 has 171 MA's), (30, 80310), (35, 80394), (57, 80676), (61, 80712), (72, 80898),

Gene: LifeSavor\_136 Start: 79547, Stop: 80302, Start Num: 28

Candidate Starts for LifeSavor\_136:

(Start: 28 @79547 has 171 MA's), (30, 79565), (35, 79649), (57, 79931), (61, 79967), (72, 80153),

Gene: LinStu\_136 Start: 80182, Stop: 80937, Start Num: 28

Candidate Starts for LinStu\_136:

(Start: 28 @80182 has 171 MA's), (33, 80254), (35, 80284), (49, 80485), (65, 80665),

Gene: LittleShirley\_25 Start: 24086, Stop: 25027, Start Num: 2

Candidate Starts for LittleShirley\_25:

(1, 24026), (Start: 2 @24086 has 49 MA's), (11, 24134), (16, 24167), (21, 24200), (27, 24308), (34, 24425), (35, 24443),

Gene: Littleton\_138 Start: 79667, Stop: 80422, Start Num: 28

Candidate Starts for Littleton\_138:

(13, 79439), (23, 79565), (Start: 28 @79667 has 171 MA's), (30, 79685), (35, 79769), (57, 80051), (61, 80087), (72, 80273),

Gene: Loanshark\_137 Start: 80198, Stop: 80953, Start Num: 28

Candidate Starts for Loanshark\_137:

(13, 79970), (23, 80096), (Start: 28 @80198 has 171 MA's), (30, 80216), (35, 80300), (57, 80582), (61, 80618), (72, 80804),

Gene: LolaVinca\_138 Start: 80541, Stop: 81296, Start Num: 28

Candidate Starts for LolaVinca\_138:

(13, 80313), (23, 80439), (Start: 28 @80541 has 171 MA's), (30, 80559), (35, 80643), (57, 80925), (61, 80961), (72, 81147),

Gene: LordLeafolot\_142 Start: 81507, Stop: 82262, Start Num: 28

Candidate Starts for LordLeafolot\_142:

(13, 81279), (23, 81405), (Start: 28 @81507 has 171 MA's), (30, 81525), (35, 81609), (57, 81891), (61, 81927), (72, 82113),

Gene: Lukilu\_128 Start: 80583, Stop: 81338, Start Num: 28

Candidate Starts for Lukilu\_128:

(Start: 28 @80583 has 171 MA's), (33, 80655), (35, 80685), (49, 80886), (65, 81066),

Gene: Maby2021\_138 Start: 80314, Stop: 81069, Start Num: 28

Candidate Starts for Maby2021\_138:

(13, 80086), (23, 80212), (Start: 28 @80314 has 171 MA's), (30, 80332), (35, 80416), (57, 80698), (61, 80734), (72, 80920),

Gene: Magnar\_35 Start: 27771, Stop: 28730, Start Num: 5

Candidate Starts for Magnar\_35:

(Start: 5 @27771 has 27 MA's), (11, 27807), (17, 27849), (Start: 24 @27936 has 1 MA's), (32, 28071), (34, 28092), (43, 28191), (45, 28203), (48, 28266),

Gene: Magnito\_34 Start: 27523, Stop: 28482, Start Num: 5

Candidate Starts for Magnito\_34:

(Start: 5 @27523 has 27 MA's), (11, 27559), (17, 27601), (Start: 24 @27688 has 1 MA's), (26, 27715), (32, 27823), (33, 27829), (34, 27844), (43, 27943), (45, 27955), (48, 28018),

Gene: Makemake\_36 Start: 29239, Stop: 30183, Start Num: 3

Candidate Starts for Makemake\_36:

(Start: 3 @29239 has 18 MA's), (11, 29275), (Start: 19 @29317 has 1 MA's), (34, 29560), (46, 29686),

Gene: Mandlovu\_24 Start: 24305, Stop: 25288, Start Num: 2

Candidate Starts for Mandlovu\_24:

(1, 24245), (Start: 2 @24305 has 49 MA's), (9, 24347), (11, 24353), (15, 24374), (16, 24386), (21, 24419), (26, 24518), (33, 24632), (34, 24647), (47, 24773), (59, 24938), (79, 25217),

Gene: Mangeria\_138 Start: 80384, Stop: 81139, Start Num: 28

Candidate Starts for Mangeria\_138:

(13, 80156), (23, 80282), (Start: 28 @80384 has 171 MA's), (30, 80402), (35, 80486), (57, 80768), (61, 80804), (72, 80990),

Gene: Marcell\_35 Start: 28259, Stop: 29206, Start Num: 3

Candidate Starts for Marcell\_35:

(Start: 3 @28259 has 18 MA's), (8, 28295), (18, 28337), (Start: 24 @28424 has 1 MA's), (26, 28451), (31, 28550), (33, 28565), (38, 28625), (54, 28796), (60, 28865), (74, 29105), (76, 29126), (77, 29135), (78, 29138), (83, 29165), (84, 29189),

Gene: Marge\_36 Start: 28659, Stop: 29618, Start Num: 5

Candidate Starts for Marge\_36:

(Start: 5 @28659 has 27 MA's), (11, 28695), (17, 28737), (Start: 24 @28824 has 1 MA's), (26, 28851), (32, 28959), (34, 28980), (43, 29079), (45, 29091), (48, 29154),

Gene: Matsumoto\_135 Start: 79175, Stop: 79930, Start Num: 28



Candidate Starts for Matsumoto\_135:

(13, 78947), (23, 79073), (Start: 28 @79175 has 171 MA's), (30, 79193), (35, 79277), (57, 79559), (61, 79595), (72, 79781),

Gene: McGee\_140 Start: 78929, Stop: 79684, Start Num: 28

Candidate Starts for McGee\_140:

(13, 78701), (23, 78827), (Start: 28 @78929 has 171 MA's), (30, 78947), (35, 79031), (57, 79313), (61, 79349), (72, 79535),

Gene: McSinger\_36 Start: 28453, Stop: 29412, Start Num: 3

Candidate Starts for McSinger\_36:

(Start: 3 @28453 has 18 MA's), (8, 28489), (18, 28531), (Start: 24 @28618 has 1 MA's), (26, 28645), (31, 28744), (33, 28759), (38, 28819), (54, 28990), (60, 29059), (75, 29308),

Gene: McWolfish\_136 Start: 80103, Stop: 80858, Start Num: 28

Candidate Starts for McWolfish\_136:

(13, 79875), (23, 80001), (Start: 28 @80103 has 171 MA's), (30, 80121), (35, 80205), (57, 80487), (61, 80523), (72, 80709),

Gene: Megamind\_137 Start: 79987, Stop: 80742, Start Num: 28

Candidate Starts for Megamind\_137:

(13, 79759), (23, 79885), (Start: 28 @79987 has 171 MA's), (30, 80005), (35, 80089), (57, 80371), (61, 80407), (72, 80593),

Gene: Melissauren88\_24 Start: 24296, Stop: 25273, Start Num: 2

Candidate Starts for Melissauren88\_24:

(1, 24236), (Start: 2 @24296 has 49 MA's), (11, 24344), (16, 24377), (21, 24410), (Start: 24 @24482 has 1 MA's), (26, 24509), (34, 24638), (36, 24659), (39, 24692), (41, 24728), (54, 24854), (60, 24923),

Gene: Melpomini\_132 Start: 77453, Stop: 78208, Start Num: 28

Candidate Starts for Melpomini\_132:

(Start: 28 @77453 has 171 MA's), (30, 77471), (35, 77555), (57, 77837), (61, 77873), (72, 78059),

Gene: MikeLiesIn\_139 Start: 80344, Stop: 81099, Start Num: 28

Candidate Starts for MikeLiesIn\_139:

(13, 80116), (23, 80242), (Start: 28 @80344 has 171 MA's), (30, 80362), (35, 80446), (57, 80728), (61, 80764), (72, 80950),

Gene: Mikro\_135 Start: 81557, Stop: 82312, Start Num: 28

Candidate Starts for Mikro\_135:

(13, 81329), (23, 81455), (Start: 28 @81557 has 171 MA's), (30, 81575), (35, 81659), (57, 81941), (61, 81977), (72, 82163),

Gene: Minerva\_45 Start: 38161, Stop: 39015, Start Num: 2

Candidate Starts for Minerva\_45:

(1, 38101), (Start: 2 @38161 has 49 MA's), (11, 38209), (26, 38374), (33, 38488), (34, 38503), (35, 38521), (45, 38632), (53, 38725), (64, 38860), (66, 38875), (67, 38884), (69, 38905), (70, 38908),

Gene: Minnie\_25 Start: 24808, Stop: 25788, Start Num: 2

Candidate Starts for Minnie\_25:

(Start: 2 @24808 has 49 MA's), (11, 24856), (26, 25021), (32, 25129), (34, 25150), (43, 25249), (45, 25261), (48, 25324),

Gene: MoMoMixon\_138 Start: 79820, Stop: 80575, Start Num: 28  
Candidate Starts for MoMoMixon\_138:  
(13, 79592), (23, 79718), (Start: 28 @79820 has 171 MA's), (30, 79838), (35, 79922), (57, 80204), (61, 80240), (72, 80426),

Gene: Momo\_138 Start: 79338, Stop: 80093, Start Num: 28  
Candidate Starts for Momo\_138:  
(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Monet\_37 Start: 29287, Stop: 30246, Start Num: 5  
Candidate Starts for Monet\_37:  
(Start: 5 @29287 has 27 MA's), (11, 29323), (17, 29365), (Start: 24 @29452 has 1 MA's), (26, 29479), (32, 29587), (33, 29593), (34, 29608), (43, 29707), (45, 29719), (48, 29782),

Gene: Morizzled23\_139 Start: 79693, Stop: 80448, Start Num: 28  
Candidate Starts for Morizzled23\_139:  
(13, 79465), (23, 79591), (Start: 28 @79693 has 171 MA's), (30, 79711), (35, 79795), (57, 80077), (61, 80113), (72, 80299),

Gene: Mozy\_25 Start: 24170, Stop: 25150, Start Num: 2  
Candidate Starts for Mozy\_25:  
(Start: 2 @24170 has 49 MA's), (11, 24218), (21, 24284), (Start: 24 @24356 has 1 MA's), (26, 24383), (32, 24491), (33, 24497), (34, 24512), (43, 24611), (45, 24623), (48, 24686),

Gene: NEHalo\_35 Start: 27845, Stop: 28804, Start Num: 5  
Candidate Starts for NEHalo\_35:  
(Start: 5 @27845 has 27 MA's), (11, 27881), (17, 27923), (Start: 24 @28010 has 1 MA's), (26, 28037), (32, 28145), (33, 28151), (34, 28166), (43, 28265), (45, 28277), (48, 28340),

Gene: Naija\_138 Start: 79338, Stop: 80093, Start Num: 28  
Candidate Starts for Naija\_138:  
(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Napoleon13\_134 Start: 77891, Stop: 78646, Start Num: 28  
Candidate Starts for Napoleon13\_134:  
(Start: 28 @77891 has 171 MA's), (30, 77909), (35, 77993), (57, 78275), (61, 78311), (72, 78497),

Gene: Nappy\_140 Start: 81254, Stop: 82009, Start Num: 28  
Candidate Starts for Nappy\_140:  
(13, 81026), (23, 81152), (Start: 28 @81254 has 171 MA's), (30, 81272), (35, 81356), (57, 81638), (61, 81674), (72, 81860),

Gene: Naval22\_143 Start: 81787, Stop: 82542, Start Num: 28  
Candidate Starts for Naval22\_143:  
(13, 81559), (23, 81685), (Start: 28 @81787 has 171 MA's), (30, 81805), (35, 81889), (57, 82171), (61, 82207), (72, 82393),

Gene: NedWong\_139 Start: 80321, Stop: 81076, Start Num: 28  
Candidate Starts for NedWong\_139:  
(13, 80093), (23, 80219), (Start: 28 @80321 has 171 MA's), (30, 80339), (35, 80423), (57, 80705), (61, 80741), (72, 80927),

Gene: Nerujay\_36 Start: 28513, Stop: 29472, Start Num: 5

Candidate Starts for Nerujay\_36:

(Start: 5 @28513 has 27 MA's), (11, 28549), (14, 28555), (17, 28591), (Start: 24 @28678 has 1 MA's), (26, 28705), (32, 28813), (33, 28819), (34, 28834), (43, 28933), (45, 28945), (48, 29008),

Gene: NewHope4\_26 Start: 24314, Stop: 25291, Start Num: 2

Candidate Starts for NewHope4\_26:

(1, 24254), (Start: 2 @24314 has 49 MA's), (11, 24362), (Start: 24 @24500 has 1 MA's), (26, 24527), (34, 24656), (36, 24677), (39, 24710), (41, 24746), (54, 24872), (60, 24941),

Gene: Ngannou\_135 Start: 78320, Stop: 79075, Start Num: 28

Candidate Starts for Ngannou\_135:

(13, 78092), (23, 78218), (Start: 28 @78320 has 171 MA's), (30, 78338), (35, 78422), (57, 78704), (61, 78740), (72, 78926),

Gene: Nidhogg\_140 Start: 80544, Stop: 81299, Start Num: 28

Candidate Starts for Nidhogg\_140:

(13, 80316), (23, 80442), (Start: 28 @80544 has 171 MA's), (30, 80562), (35, 80646), (57, 80928), (61, 80964), (72, 81150),

Gene: NoodleTree\_145 Start: 80414, Stop: 81169, Start Num: 28

Candidate Starts for NoodleTree\_145:

(13, 80186), (23, 80312), (Start: 28 @80414 has 171 MA's), (30, 80432), (35, 80516), (57, 80798), (61, 80834), (72, 81020),

Gene: Norm\_139 Start: 81016, Stop: 81771, Start Num: 28

Candidate Starts for Norm\_139:

(13, 80788), (23, 80914), (Start: 28 @81016 has 171 MA's), (30, 81034), (35, 81118), (57, 81400), (61, 81436), (72, 81622),

Gene: NuevoMundo\_143 Start: 82596, Stop: 83351, Start Num: 28

Candidate Starts for NuevoMundo\_143:

(13, 82368), (23, 82494), (Start: 28 @82596 has 171 MA's), (30, 82614), (35, 82698), (57, 82980), (61, 83016), (72, 83202),

Gene: Ohno789\_35 Start: 27906, Stop: 28865, Start Num: 5

Candidate Starts for Ohno789\_35:

(Start: 5 @27906 has 27 MA's), (11, 27942), (17, 27984), (Start: 24 @28071 has 1 MA's), (26, 28098), (32, 28206), (33, 28212), (34, 28227), (43, 28326), (45, 28338), (48, 28401),

Gene: Omega\_44 Start: 38316, Stop: 39296, Start Num: 2

Candidate Starts for Omega\_44:

(1, 38256), (Start: 2 @38316 has 49 MA's), (11, 38364), (21, 38430), (26, 38529), (32, 38637), (33, 38643), (34, 38658), (43, 38757), (45, 38769), (48, 38832),

Gene: Ovechkin\_24 Start: 24295, Stop: 25245, Start Num: 2

Candidate Starts for Ovechkin\_24:

(1, 24235), (Start: 2 @24295 has 49 MA's), (11, 24343), (Start: 24 @24481 has 1 MA's), (26, 24508), (34, 24637), (39, 24691), (56, 24886),

Gene: Paphu\_34 Start: 27776, Stop: 28732, Start Num: 3

Candidate Starts for Paphu\_34:

(Start: 3 @27776 has 18 MA's), (8, 27812), (18, 27854), (Start: 24 @27941 has 1 MA's), (26, 27968), (34, 28097), (36, 28118), (39, 28151), (41, 28187), (54, 28313), (60, 28382),

Gene: Paraselene\_34 Start: 28248, Stop: 29207, Start Num: 5

Candidate Starts for Paraselene\_34:

(Start: 5 @28248 has 27 MA's), (11, 28284), (17, 28326), (Start: 24 @28413 has 1 MA's), (32, 28548), (34, 28569), (43, 28668), (45, 28680), (48, 28743),

Gene: ParkTD\_139 Start: 80327, Stop: 81082, Start Num: 28

Candidate Starts for ParkTD\_139:

(13, 80099), (23, 80225), (Start: 28 @80327 has 171 MA's), (30, 80345), (35, 80429), (57, 80711), (61, 80747), (72, 80933),

Gene: Patter\_139 Start: 79355, Stop: 80110, Start Num: 28

Candidate Starts for Patter\_139:

(13, 79127), (23, 79253), (Start: 28 @79355 has 171 MA's), (30, 79373), (35, 79457), (57, 79739), (61, 79775), (72, 79961),

Gene: Perseus\_37 Start: 28932, Stop: 29891, Start Num: 5

Candidate Starts for Perseus\_37:

(Start: 5 @28932 has 27 MA's), (11, 28968), (17, 29010), (Start: 24 @29097 has 1 MA's), (26, 29124), (32, 29232), (33, 29238), (34, 29253), (43, 29352), (45, 29364), (48, 29427),

Gene: Phalconet\_24 Start: 24310, Stop: 25164, Start Num: 2

Candidate Starts for Phalconet\_24:

(1, 24250), (Start: 2 @24310 has 49 MA's), (11, 24358), (26, 24523), (33, 24637), (34, 24652), (35, 24670), (45, 24781), (53, 24874), (64, 25009), (66, 25024), (67, 25033), (69, 25054), (70, 25057),

Gene: PhineBark\_35 Start: 28791, Stop: 29750, Start Num: 3

Candidate Starts for PhineBark\_35:

(Start: 3 @28791 has 18 MA's), (8, 28827), (18, 28869), (Start: 24 @28956 has 1 MA's), (26, 28983), (31, 29082), (33, 29097), (38, 29157), (54, 29328), (60, 29397), (75, 29646),

Gene: Phlegm\_142 Start: 79338, Stop: 80093, Start Num: 28

Candidate Starts for Phlegm\_142:

(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: PhlipPhlop\_24 Start: 24219, Stop: 25160, Start Num: 2

Candidate Starts for PhlipPhlop\_24:

(Start: 2 @24219 has 49 MA's), (11, 24267), (16, 24300), (21, 24333), (27, 24441), (34, 24558), (35, 24576),

Gene: Phox\_135 Start: 80607, Stop: 81362, Start Num: 28

Candidate Starts for Phox\_135:

(13, 80379), (23, 80505), (Start: 28 @80607 has 171 MA's), (30, 80625), (35, 80709), (57, 80991), (61, 81027), (72, 81213),

Gene: Phusco\_138 Start: 79614, Stop: 80369, Start Num: 28

Candidate Starts for Phusco\_138:

(13, 79386), (23, 79512), (Start: 28 @79614 has 171 MA's), (30, 79632), (35, 79716), (57, 79998), (61, 80034), (72, 80220),

Gene: Pier\_142 Start: 82604, Stop: 83359, Start Num: 28

Candidate Starts for Pier\_142:

(13, 82376), (23, 82502), (Start: 28 @82604 has 171 MA's), (30, 82622), (35, 82706), (57, 82988), (61, 83024), (72, 83210),

Gene: Pinkcreek\_129 Start: 77948, Stop: 78703, Start Num: 28

Candidate Starts for Pinkcreek\_129:

(Start: 28 @77948 has 171 MA's), (33, 78020), (35, 78050), (49, 78251), (65, 78431),

Gene: Pio\_142 Start: 82216, Stop: 82971, Start Num: 28

Candidate Starts for Pio\_142:

(13, 81988), (23, 82114), (Start: 28 @82216 has 171 MA's), (30, 82234), (35, 82318), (57, 82600), (61, 82636), (72, 82822),

Gene: Pita2\_37 Start: 28576, Stop: 29523, Start Num: 3

Candidate Starts for Pita2\_37:

(Start: 3 @28576 has 18 MA's), (12, 28612), (Start: 19 @28654 has 1 MA's), (Start: 24 @28741 has 1 MA's), (26, 28768), (34, 28897), (47, 29008), (54, 29107), (79, 29452),

Gene: Pivoine\_138 Start: 79338, Stop: 80093, Start Num: 28

Candidate Starts for Pivoine\_138:

(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Pleione\_141 Start: 80494, Stop: 81249, Start Num: 28

Candidate Starts for Pleione\_141:

(13, 80266), (23, 80392), (Start: 28 @80494 has 171 MA's), (30, 80512), (35, 80596), (57, 80878), (61, 80914), (72, 81100),

Gene: Primadonna\_132 Start: 78979, Stop: 79734, Start Num: 28

Candidate Starts for Primadonna\_132:

(23, 78877), (Start: 28 @78979 has 171 MA's), (30, 78997), (35, 79081), (57, 79363), (61, 79399), (72, 79585),

Gene: PurduePete\_138 Start: 80741, Stop: 81496, Start Num: 28

Candidate Starts for PurduePete\_138:

(13, 80513), (23, 80639), (Start: 28 @80741 has 171 MA's), (30, 80759), (35, 80843), (57, 81125), (61, 81161), (72, 81347),

Gene: QBert\_132 Start: 79331, Stop: 80086, Start Num: 28

Candidate Starts for QBert\_132:

(Start: 28 @79331 has 171 MA's), (30, 79349), (35, 79433), (57, 79715), (61, 79751), (72, 79937),

Gene: QTRlifeCrisis\_36 Start: 28819, Stop: 29613, Start Num: 24

Candidate Starts for QTRlifeCrisis\_36:

(Start: 24 @28819 has 1 MA's), (26, 28846), (32, 28954), (33, 28960), (34, 28975), (43, 29074), (45, 29086), (48, 29149),

Gene: Quasimodo\_140 Start: 80755, Stop: 81510, Start Num: 28

Candidate Starts for Quasimodo\_140:

(Start: 28 @80755 has 171 MA's), (30, 80773), (35, 80857), (57, 81139), (61, 81175), (72, 81361),

Gene: Rabinovish\_137 Start: 80939, Stop: 81694, Start Num: 28

Candidate Starts for Rabinovish\_137:

(13, 80711), (23, 80837), (Start: 28 @80939 has 171 MA's), (30, 80957), (35, 81041), (57, 81323), (61, 81359), (72, 81545),

Gene: Radiance\_24 Start: 24248, Stop: 25189, Start Num: 2

Candidate Starts for Radiance\_24:

(1, 24188), (Start: 2 @24248 has 49 MA's), (11, 24296), (27, 24470), (34, 24587), (35, 24605),

Gene: Rahel\_137 Start: 79216, Stop: 79971, Start Num: 28

Candidate Starts for Rahel\_137:

(13, 78988), (23, 79114), (Start: 28 @79216 has 171 MA's), (30, 79234), (35, 79318), (57, 79600), (61, 79636), (72, 79822),

Gene: Raid\_36 Start: 28103, Stop: 29035, Start Num: 3

Candidate Starts for Raid\_36:

(Start: 3 @28103 has 18 MA's), (18, 28181), (26, 28295), (31, 28394), (33, 28409), (38, 28469), (54, 28640), (60, 28682), (75, 28931),

Gene: Rajelicia\_34 Start: 27812, Stop: 28732, Start Num: 3

Candidate Starts for Rajelicia\_34:

(Start: 3 @27812 has 18 MA's), (8, 27848), (18, 27890), (27, 28013), (34, 28130), (35, 28148),

Gene: Rhynn\_35 Start: 28103, Stop: 29047, Start Num: 3

Candidate Starts for Rhynn\_35:

(Start: 3 @28103 has 18 MA's), (11, 28139), (Start: 19 @28181 has 1 MA's), (Start: 24 @28268 has 1 MA's), (34, 28424), (71, 28868), (80, 28979),

Gene: Rialto\_26 Start: 24777, Stop: 25718, Start Num: 2

Candidate Starts for Rialto\_26:

(1, 24717), (Start: 2 @24777 has 49 MA's), (11, 24825), (16, 24858), (21, 24891), (27, 24999), (34, 25116), (35, 25134),

Gene: Rizal\_133 Start: 78364, Stop: 79119, Start Num: 28

Candidate Starts for Rizal\_133:

(13, 78136), (23, 78262), (Start: 28 @78364 has 171 MA's), (30, 78382), (35, 78466), (57, 78748), (61, 78784), (72, 78970),

Gene: RoMag\_133 Start: 79528, Stop: 80283, Start Num: 28

Candidate Starts for RoMag\_133:

(13, 79300), (23, 79426), (Start: 28 @79528 has 171 MA's), (30, 79546), (35, 79630), (57, 79912), (61, 79948), (72, 80134),

Gene: Ronan\_132 Start: 77477, Stop: 78232, Start Num: 28

Candidate Starts for Ronan\_132:

(Start: 28 @77477 has 171 MA's), (30, 77495), (35, 77579), (57, 77861), (61, 77897), (72, 78083),

Gene: Roots515\_137 Start: 80993, Stop: 81748, Start Num: 28

Candidate Starts for Roots515\_137:

(13, 80765), (23, 80891), (Start: 28 @80993 has 171 MA's), (30, 81011), (35, 81095), (57, 81377), (61, 81413), (72, 81599),

Gene: Rutherferd\_37 Start: 28709, Stop: 29668, Start Num: 5

Candidate Starts for Rutherferd\_37:

(Start: 5 @28709 has 27 MA's), (11, 28745), (17, 28787), (Start: 24 @28874 has 1 MA's), (26, 28901), (32, 29009), (33, 29015), (34, 29030), (43, 29129), (45, 29141), (48, 29204),

Gene: SG4\_24 Start: 24415, Stop: 25395, Start Num: 2

Candidate Starts for SG4\_24:

(1, 24355), (Start: 2 @24415 has 49 MA's), (11, 24463), (Start: 24 @24601 has 1 MA's), (26, 24628), (32, 24736), (34, 24757), (43, 24856), (45, 24868), (48, 24931),

Gene: SVoro\_136 Start: 80701, Stop: 81456, Start Num: 28

Candidate Starts for SVoro\_136:

(13, 80473), (23, 80599), (Start: 28 @80701 has 171 MA's), (30, 80719), (35, 80803), (57, 81085), (61, 81121), (72, 81307),

Gene: Sabbb\_25 Start: 24561, Stop: 25415, Start Num: 2

Candidate Starts for Sabbb\_25:

(1, 24501), (Start: 2 @24561 has 49 MA's), (11, 24609), (26, 24774), (33, 24888), (34, 24903), (35, 24921), (45, 25032), (53, 25125), (64, 25260), (66, 25275), (67, 25284), (69, 25305), (70, 25308),

Gene: Salacia\_142 Start: 80655, Stop: 81410, Start Num: 28

Candidate Starts for Salacia\_142:

(13, 80427), (23, 80553), (Start: 28 @80655 has 171 MA's), (30, 80673), (35, 80757), (57, 81039), (61, 81075), (72, 81261),

Gene: Sandalphon\_25 Start: 24822, Stop: 25802, Start Num: 2

Candidate Starts for Sandalphon\_25:

(Start: 2 @24822 has 49 MA's), (11, 24870), (26, 25035), (32, 25143), (34, 25164), (43, 25263), (45, 25275), (48, 25338),

Gene: Sanya\_34 Start: 28677, Stop: 29597, Start Num: 3

Candidate Starts for Sanya\_34:

(Start: 3 @28677 has 18 MA's), (8, 28713), (18, 28755), (27, 28878), (34, 28995), (35, 29013),

Gene: SarFire\_35 Start: 28155, Stop: 29099, Start Num: 3

Candidate Starts for SarFire\_35:

(Start: 3 @28155 has 18 MA's), (11, 28191), (Start: 19 @28233 has 1 MA's), (34, 28476), (46, 28602), (80, 29031),

Gene: Sauce\_138 Start: 79271, Stop: 80026, Start Num: 28

Candidate Starts for Sauce\_138:

(Start: 28 @79271 has 171 MA's), (33, 79343), (35, 79373), (49, 79574), (65, 79754),

Gene: ScottMcG\_134 Start: 79277, Stop: 80032, Start Num: 28

Candidate Starts for ScottMcG\_134:

(Start: 28 @79277 has 171 MA's), (30, 79295), (35, 79379), (57, 79661), (61, 79697), (72, 79883),

Gene: Seagreen\_25 Start: 24109, Stop: 25089, Start Num: 2

Candidate Starts for Seagreen\_25:

(1, 24049), (Start: 2 @24109 has 49 MA's), (11, 24157), (16, 24190), (21, 24223), (Start: 24 @24295 has 1 MA's), (26, 24322), (32, 24430), (34, 24451), (43, 24550), (45, 24562), (48, 24625),

Gene: Seanderson\_36 Start: 28535, Stop: 29503, Start Num: 3

Candidate Starts for Seanderson\_36:

(Start: 3 @28535 has 18 MA's), (8, 28571), (18, 28613), (Start: 24 @28700 has 1 MA's), (26, 28727), (36, 28877), (39, 28910), (41, 28946), (54, 29072), (60, 29141), (85, 29483), (87, 29489),

Gene: Sebata\_138 Start: 80740, Stop: 81495, Start Num: 28

Candidate Starts for Sebata\_138:

(Start: 28 @80740 has 171 MA's), (33, 80812), (35, 80842), (49, 81043), (65, 81223),

Gene: Shaqnato\_131 Start: 78321, Stop: 79076, Start Num: 28

Candidate Starts for Shaqnato\_131:

(13, 78093), (23, 78219), (Start: 28 @78321 has 171 MA's), (30, 78339), (35, 78423), (57, 78705), (61, 78741), (72, 78927),

Gene: Sheen\_7 Start: 4509, Stop: 5477, Start Num: 2

Candidate Starts for Sheen\_7:

(Start: 2 @4509 has 49 MA's), (21, 4632), (34, 4836), (47, 4962), (50, 5031),

Gene: Shelob\_140 Start: 81123, Stop: 81878, Start Num: 28

Candidate Starts for Shelob\_140:

(13, 80895), (23, 81021), (Start: 28 @81123 has 171 MA's), (30, 81141), (35, 81225), (57, 81507), (61, 81543), (72, 81729),

Gene: ShiaLabeouf\_137 Start: 79651, Stop: 80406, Start Num: 28

Candidate Starts for ShiaLabeouf\_137:

(Start: 28 @79651 has 171 MA's), (30, 79669), (35, 79753), (57, 80035), (61, 80071), (72, 80257),

Gene: Shifa\_127 Start: 78547, Stop: 79302, Start Num: 28

Candidate Starts for Shifa\_127:

(Start: 28 @78547 has 171 MA's), (33, 78619), (35, 78649), (49, 78850), (65, 79030),

Gene: Shnickers\_138 Start: 79615, Stop: 80370, Start Num: 28

Candidate Starts for Shnickers\_138:

(Start: 28 @79615 has 171 MA's), (30, 79633), (35, 79717), (57, 79999), (61, 80035), (72, 80221),

Gene: Shrimp\_138 Start: 80334, Stop: 81089, Start Num: 28

Candidate Starts for Shrimp\_138:

(13, 80106), (23, 80232), (Start: 28 @80334 has 171 MA's), (30, 80352), (35, 80436), (57, 80718), (61, 80754), (72, 80940),

Gene: Sibs6\_36 Start: 27022, Stop: 27981, Start Num: 5

Candidate Starts for Sibs6\_36:

(Start: 5 @27022 has 27 MA's), (11, 27058), (17, 27100), (32, 27322), (34, 27343), (43, 27442), (45, 27454), (48, 27517),

Gene: SilverChicken\_30 Start: 24074, Stop: 24949, Start Num: 20

Candidate Starts for SilverChicken\_30:

(6, 23993), (7, 23996), (20, 24074), (Start: 24 @24155 has 1 MA's), (26, 24182), (32, 24290), (34, 24311), (43, 24410), (45, 24422), (48, 24485),

Gene: SilverDipper\_140 Start: 79338, Stop: 80093, Start Num: 28

Candidate Starts for SilverDipper\_140:

(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),



Gene: SkiPole\_38 Start: 28360, Stop: 29319, Start Num: 5

Candidate Starts for SkiPole\_38:

(Start: 5 @28360 has 27 MA's), (11, 28396), (17, 28438), (Start: 24 @28525 has 1 MA's), (26, 28552), (32, 28660), (33, 28666), (34, 28681), (43, 28780), (45, 28792), (48, 28855),

Gene: Slagathor\_36 Start: 28020, Stop: 28940, Start Num: 3

Candidate Starts for Slagathor\_36:

(Start: 3 @28020 has 18 MA's), (8, 28056), (18, 28098), (27, 28221), (34, 28338), (35, 28356),

Gene: Slim\_26 Start: 24057, Stop: 24998, Start Num: 2

Candidate Starts for Slim\_26:

(1, 23997), (Start: 2 @24057 has 49 MA's), (11, 24105), (16, 24138), (21, 24171), (27, 24279), (34, 24396), (35, 24414),

Gene: SmallFry\_138 Start: 78840, Stop: 79595, Start Num: 28

Candidate Starts for SmallFry\_138:

(Start: 28 @78840 has 171 MA's), (30, 78858), (35, 78942), (57, 79224), (61, 79260), (72, 79446),

Gene: Snazzy\_34 Start: 27934, Stop: 28851, Start Num: 3

Candidate Starts for Snazzy\_34:

(Start: 3 @27934 has 18 MA's), (8, 27970), (18, 28012), (27, 28135), (34, 28252), (35, 28270),

Gene: Sorpresa\_35 Start: 27993, Stop: 28931, Start Num: 3

Candidate Starts for Sorpresa\_35:

(Start: 3 @27993 has 18 MA's), (11, 28029), (Start: 19 @28071 has 1 MA's), (Start: 24 @28158 has 1 MA's), (26, 28185), (34, 28311), (35, 28329), (54, 28524), (56, 28572),

Gene: Spartacus\_25 Start: 24348, Stop: 25328, Start Num: 2

Candidate Starts for Spartacus\_25:

(1, 24288), (Start: 2 @24348 has 49 MA's), (11, 24396), (21, 24462), (Start: 24 @24534 has 1 MA's), (26, 24561), (32, 24669), (33, 24675), (34, 24690), (43, 24789), (45, 24801), (48, 24864),

Gene: Spec\_134 Start: 79380, Stop: 80135, Start Num: 28

Candidate Starts for Spec\_134:

(Start: 28 @79380 has 171 MA's), (30, 79398), (35, 79482), (57, 79764), (61, 79800), (72, 79986),

Gene: Specks\_143 Start: 81505, Stop: 82260, Start Num: 28

Candidate Starts for Specks\_143:

(23, 81403), (Start: 28 @81505 has 171 MA's), (30, 81523), (35, 81607), (57, 81889), (61, 81925), (72, 82111),

Gene: SpikeBT\_37 Start: 28951, Stop: 29910, Start Num: 5

Candidate Starts for SpikeBT\_37:

(Start: 5 @28951 has 27 MA's), (11, 28987), (17, 29029), (Start: 24 @29116 has 1 MA's), (26, 29143), (32, 29251), (33, 29257), (34, 29272), (43, 29371), (45, 29383), (48, 29446),

Gene: Spikelee\_25 Start: 24092, Stop: 25072, Start Num: 2

Candidate Starts for Spikelee\_25:

(1, 24032), (Start: 2 @24092 has 49 MA's), (11, 24140), (16, 24173), (21, 24206), (Start: 24 @24278 has 1 MA's), (26, 24305), (31, 24404), (34, 24434), (38, 24479), (54, 24650), (60, 24719), (75, 24968),

Gene: Sprinklers\_134 Start: 78896, Stop: 79651, Start Num: 28

Candidate Starts for Sprinklers\_134:

(13, 78668), (23, 78794), (Start: 28 @78896 has 171 MA's), (30, 78914), (35, 78998), (57, 79280), (61, 79316), (72, 79502),

Gene: Spud\_137 Start: 80401, Stop: 81156, Start Num: 28

Candidate Starts for Spud\_137:

(Start: 28 @80401 has 171 MA's), (30, 80419), (35, 80503), (57, 80785), (61, 80821), (72, 81007),

Gene: SrishMeg2525\_137 Start: 80423, Stop: 81178, Start Num: 28

Candidate Starts for SrishMeg2525\_137:

(13, 80195), (23, 80321), (Start: 28 @80423 has 171 MA's), (30, 80441), (35, 80525), (57, 80807), (61, 80843), (72, 81029),

Gene: StAnnes\_24 Start: 24309, Stop: 25163, Start Num: 2

Candidate Starts for StAnnes\_24:

(1, 24249), (Start: 2 @24309 has 49 MA's), (11, 24357), (16, 24390), (21, 24423), (26, 24522), (33, 24636), (34, 24651), (35, 24669), (45, 24780), (53, 24873), (64, 25008), (66, 25023), (67, 25032), (69, 25053), (70, 25056),

Gene: Stap\_25 Start: 24298, Stop: 25260, Start Num: 2

Candidate Starts for Stap\_25:

(1, 24238), (Start: 2 @24298 has 49 MA's), (11, 24346), (16, 24379), (21, 24412), (22, 24439), (26, 24496), (31, 24595), (33, 24610), (34, 24625), (54, 24841),

Gene: StephanieG\_136 Start: 81233, Stop: 81988, Start Num: 28

Candidate Starts for StephanieG\_136:

(13, 81005), (23, 81131), (Start: 28 @81233 has 171 MA's), (30, 81251), (35, 81335), (57, 81617), (61, 81653), (72, 81839),

Gene: Strokeseat\_24 Start: 24362, Stop: 25345, Start Num: 2

Candidate Starts for Strokeseat\_24:

(1, 24302), (Start: 2 @24362 has 49 MA's), (9, 24404), (11, 24410), (15, 24431), (16, 24443), (21, 24476), (26, 24575), (33, 24689), (34, 24704), (47, 24830), (59, 24995), (79, 25274),

Gene: Stubby\_131 Start: 78863, Stop: 79618, Start Num: 28

Candidate Starts for Stubby\_131:

(13, 78635), (23, 78761), (Start: 28 @78863 has 171 MA's), (30, 78881), (35, 78965), (57, 79247), (61, 79283), (72, 79469),

Gene: StubbySaigey\_142 Start: 79498, Stop: 80253, Start Num: 28

Candidate Starts for StubbySaigey\_142:

(13, 79270), (23, 79396), (Start: 28 @79498 has 171 MA's), (30, 79516), (35, 79600), (57, 79882), (61, 79918), (72, 80104),

Gene: Sunshine924\_37 Start: 27945, Stop: 28811, Start Num: 19

Candidate Starts for Sunshine924\_37:

(10, 27900), (Start: 19 @27945 has 1 MA's), (Start: 24 @28032 has 1 MA's), (26, 28059), (33, 28173), (34, 28188), (44, 28308), (53, 28398),

Gene: Tainan\_141 Start: 80828, Stop: 81583, Start Num: 28

Candidate Starts for Tainan\_141:

(13, 80600), (23, 80726), (Start: 28 @80828 has 171 MA's), (30, 80846), (35, 80930), (57, 81212), (61, 81248), (72, 81434),

Gene: Taj\_24 Start: 24299, Stop: 25279, Start Num: 2

Candidate Starts for Taj\_24:

(1, 24239), (Start: 2 @24299 has 49 MA's), (11, 24347), (16, 24380), (21, 24413), (26, 24512), (32, 24620), (34, 24641), (43, 24740), (45, 24752), (48, 24815),

Gene: Teardrop\_137 Start: 78829, Stop: 79584, Start Num: 28

Candidate Starts for Teardrop\_137:

(23, 78727), (Start: 28 @78829 has 171 MA's), (30, 78847), (35, 78931), (57, 79213), (61, 79249), (72, 79435),

Gene: Teodoridan\_33 Start: 27398, Stop: 28357, Start Num: 3

Candidate Starts for Teodoridan\_33:

(Start: 3 @27398 has 18 MA's), (8, 27434), (18, 27476), (Start: 24 @27563 has 1 MA's), (26, 27590), (31, 27689), (33, 27704), (38, 27764), (54, 27935), (60, 28004), (75, 28253),

Gene: Timshel\_7 Start: 4377, Stop: 5294, Start Num: 2

Candidate Starts for Timshel\_7:

(Start: 2 @4377 has 49 MA's), (51, 4893), (55, 4932),

Gene: TinyTim\_138 Start: 80081, Stop: 80836, Start Num: 28

Candidate Starts for TinyTim\_138:

(13, 79853), (23, 79979), (Start: 28 @80081 has 171 MA's), (30, 80099), (35, 80183), (57, 80465), (61, 80501), (72, 80687),

Gene: Tootsieroll\_25 Start: 24107, Stop: 25084, Start Num: 2

Candidate Starts for Tootsieroll\_25:

(1, 24047), (Start: 2 @24107 has 49 MA's), (11, 24155), (26, 24320), (34, 24449), (36, 24470), (39, 24503), (41, 24539), (54, 24665),

Gene: Toro\_7 Start: 4427, Stop: 5395, Start Num: 2

Candidate Starts for Toro\_7:

(Start: 2 @4427 has 49 MA's), (21, 4550), (34, 4754), (47, 4880), (50, 4949),

Gene: Tortoise16\_135 Start: 79440, Stop: 80195, Start Num: 28

Candidate Starts for Tortoise16\_135:

(13, 79212), (23, 79338), (Start: 28 @79440 has 171 MA's), (30, 79458), (35, 79542), (57, 79824), (61, 79860), (72, 80046),

Gene: Totinger\_25 Start: 24056, Stop: 24997, Start Num: 2

Candidate Starts for Totinger\_25:

(1, 23996), (Start: 2 @24056 has 49 MA's), (11, 24104), (16, 24137), (27, 24278), (34, 24395), (35, 24413),

Gene: Traft412\_37 Start: 28951, Stop: 29910, Start Num: 5

Candidate Starts for Traft412\_37:

(Start: 5 @28951 has 27 MA's), (11, 28987), (17, 29029), (Start: 24 @29116 has 1 MA's), (26, 29143), (32, 29251), (33, 29257), (34, 29272), (43, 29371), (45, 29383), (48, 29446),

Gene: Treddle\_37 Start: 29241, Stop: 30200, Start Num: 5

Candidate Starts for Treddle\_37:

(Start: 5 @29241 has 27 MA's), (11, 29277), (17, 29319), (Start: 24 @29406 has 1 MA's), (32, 29541), (33, 29547), (34, 29562), (43, 29661), (45, 29673), (48, 29736),

Gene: Trinitium\_136 Start: 79264, Stop: 80019, Start Num: 28

Candidate Starts for Trinitium\_136:

(Start: 28 @79264 has 171 MA's), (30, 79282), (35, 79366), (57, 79648), (61, 79684), (72, 79870),

Gene: Trouble\_36 Start: 28854, Stop: 29813, Start Num: 5

Candidate Starts for Trouble\_36:

(Start: 5 @28854 has 27 MA's), (11, 28890), (17, 28932), (Start: 24 @29019 has 1 MA's), (26, 29046), (32, 29154), (33, 29160), (34, 29175), (43, 29274), (45, 29286), (48, 29349),

Gene: Turret\_134 Start: 78709, Stop: 79464, Start Num: 28

Candidate Starts for Turret\_134:

(13, 78481), (23, 78607), (Start: 28 @78709 has 171 MA's), (30, 78727), (35, 78811), (57, 79093), (61, 79129), (72, 79315),

Gene: Tweety\_25 Start: 24317, Stop: 25297, Start Num: 2

Candidate Starts for Tweety\_25:

(1, 24257), (Start: 2 @24317 has 49 MA's), (11, 24365), (21, 24431), (Start: 24 @24503 has 1 MA's), (26, 24530), (32, 24638), (34, 24659), (43, 24758), (45, 24770), (48, 24833),

Gene: TwoPeat\_36 Start: 28375, Stop: 29295, Start Num: 3

Candidate Starts for TwoPeat\_36:

(Start: 3 @28375 has 18 MA's), (8, 28411), (18, 28453), (27, 28576), (34, 28693), (35, 28711),

Gene: Tyke\_138 Start: 80736, Stop: 81491, Start Num: 28

Candidate Starts for Tyke\_138:

(13, 80508), (23, 80634), (Start: 28 @80736 has 171 MA's), (30, 80754), (35, 80838), (57, 81120), (61, 81156), (72, 81342),

Gene: VRedHorse\_24 Start: 24432, Stop: 25286, Start Num: 2

Candidate Starts for VRedHorse\_24:

(1, 24372), (Start: 2 @24432 has 49 MA's), (11, 24480), (26, 24645), (33, 24759), (34, 24774), (35, 24792), (45, 24903), (53, 24996), (64, 25131), (66, 25146), (67, 25155), (69, 25176), (70, 25179),

Gene: ValleyTerrace\_139 Start: 79338, Stop: 80093, Start Num: 28

Candidate Starts for ValleyTerrace\_139:

(13, 79110), (23, 79236), (Start: 28 @79338 has 171 MA's), (30, 79356), (35, 79440), (57, 79722), (61, 79758), (72, 79944),

Gene: Wachhund\_24 Start: 24290, Stop: 25270, Start Num: 2

Candidate Starts for Wachhund\_24:

(1, 24230), (Start: 2 @24290 has 49 MA's), (11, 24338), (21, 24404), (Start: 24 @24476 has 1 MA's), (26, 24503), (32, 24611), (34, 24632), (43, 24731), (45, 24743), (48, 24806),

Gene: Wally\_137 Start: 78859, Stop: 79614, Start Num: 28

Candidate Starts for Wally\_137:

(13, 78631), (23, 78757), (Start: 28 @78859 has 171 MA's), (30, 78877), (35, 78961), (57, 79243), (61, 79279), (72, 79465),

Gene: Wee\_25 Start: 24838, Stop: 25818, Start Num: 2

Candidate Starts for Wee\_25:

(1, 24778), (Start: 2 @24838 has 49 MA's), (11, 24886), (21, 24952), (26, 25051), (32, 25159), (33, 25165), (34, 25180), (43, 25279), (45, 25291), (48, 25354),

Gene: Whatsapiecost\_24 Start: 24315, Stop: 25292, Start Num: 2

Candidate Starts for Whatsapiecost\_24:

(1, 24255), (Start: 2 @24315 has 49 MA's), (11, 24363), (Start: 24 @24501 has 1 MA's), (26, 24528), (34, 24657), (36, 24678), (39, 24711), (41, 24747), (54, 24873), (60, 24942),

Gene: Willis\_139 Start: 80226, Stop: 80981, Start Num: 28

Candidate Starts for Willis\_139:

(13, 79998), (23, 80124), (Start: 28 @80226 has 171 MA's), (30, 80244), (35, 80328), (57, 80610), (61, 80646), (72, 80832),

Gene: XFactor\_24 Start: 24271, Stop: 25251, Start Num: 2

Candidate Starts for XFactor\_24:

(1, 24211), (Start: 2 @24271 has 49 MA's), (11, 24319), (16, 24352), (21, 24385), (Start: 24 @24457 has 1 MA's), (26, 24484), (32, 24592), (34, 24613), (43, 24712), (45, 24724), (48, 24787),

Gene: Yassified\_135 Start: 78936, Stop: 79691, Start Num: 28

Candidate Starts for Yassified\_135:

(13, 78708), (23, 78834), (Start: 28 @78936 has 171 MA's), (30, 78954), (35, 79038), (57, 79320), (61, 79356), (72, 79542),

Gene: YemiJoy2021\_139 Start: 80318, Stop: 81073, Start Num: 28

Candidate Starts for YemiJoy2021\_139:

(13, 80090), (23, 80216), (Start: 28 @80318 has 171 MA's), (30, 80336), (35, 80420), (57, 80702), (61, 80738), (72, 80924),

Gene: YoungMoneyMata\_140 Start: 79964, Stop: 80719, Start Num: 28

Candidate Starts for YoungMoneyMata\_140:

(Start: 28 @79964 has 171 MA's), (30, 79982), (35, 80066), (57, 80348), (61, 80384), (72, 80570),

Gene: Yucca\_137 Start: 80000, Stop: 80755, Start Num: 28

Candidate Starts for Yucca\_137:

(13, 79772), (23, 79898), (Start: 28 @80000 has 171 MA's), (30, 80018), (35, 80102), (57, 80384), (61, 80420), (72, 80606),

Gene: Zalkecks\_139 Start: 80001, Stop: 80756, Start Num: 28

Candidate Starts for Zalkecks\_139:

(13, 79773), (23, 79899), (Start: 28 @80001 has 171 MA's), (30, 80019), (35, 80103), (57, 80385), (61, 80421), (72, 80607),

Gene: Zeenon\_139 Start: 80086, Stop: 80841, Start Num: 28

Candidate Starts for Zeenon\_139:

(13, 79858), (23, 79984), (Start: 28 @80086 has 171 MA's), (30, 80104), (35, 80188), (57, 80470), (61, 80506), (72, 80692),

Gene: Zephyr\_35 Start: 28152, Stop: 29057, Start Num: 4

Candidate Starts for Zephyr\_35:

(Start: 4 @28152 has 1 MA's), (11, 28188), (26, 28332), (37, 28494), (86, 29052),

Gene: Zeuska\_36 Start: 28583, Stop: 29542, Start Num: 5

Candidate Starts for Zeuska\_36:

(Start: 5 @28583 has 27 MA's), (11, 28619), (17, 28661), (Start: 24 @28748 has 1 MA's), (26, 28775), (32, 28883), (33, 28889), (34, 28904), (43, 29003), (45, 29015), (48, 29078),

Gene: ZygoTaiga\_136 Start: 81246, Stop: 82001, Start Num: 28

Candidate Starts for ZygoTaiga\_136:

(13, 81018), (23, 81144), (Start: 28 @81246 has 171 MA's), (30, 81264), (35, 81348), (57, 81630), (61, 81666), (72, 81852),