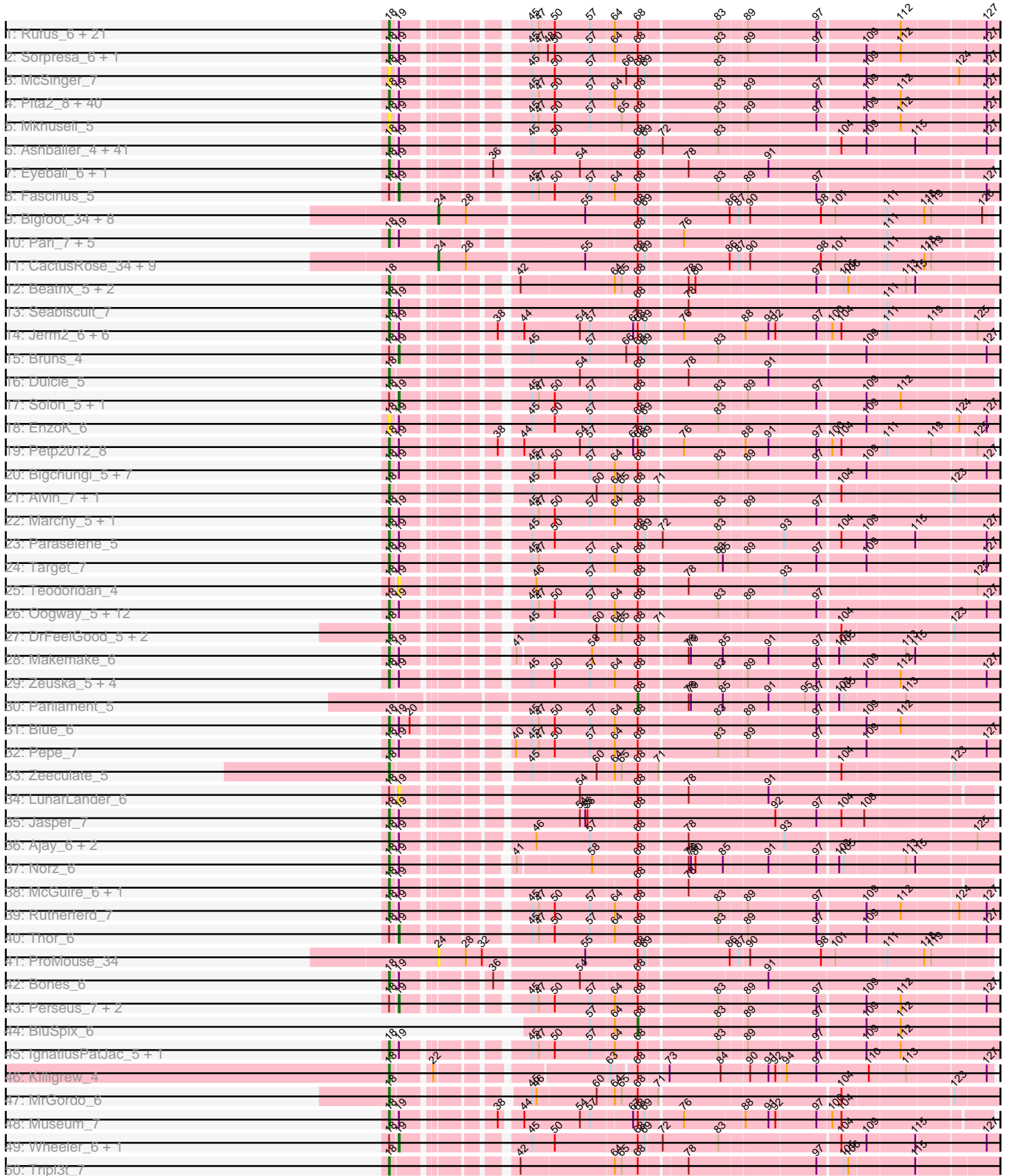
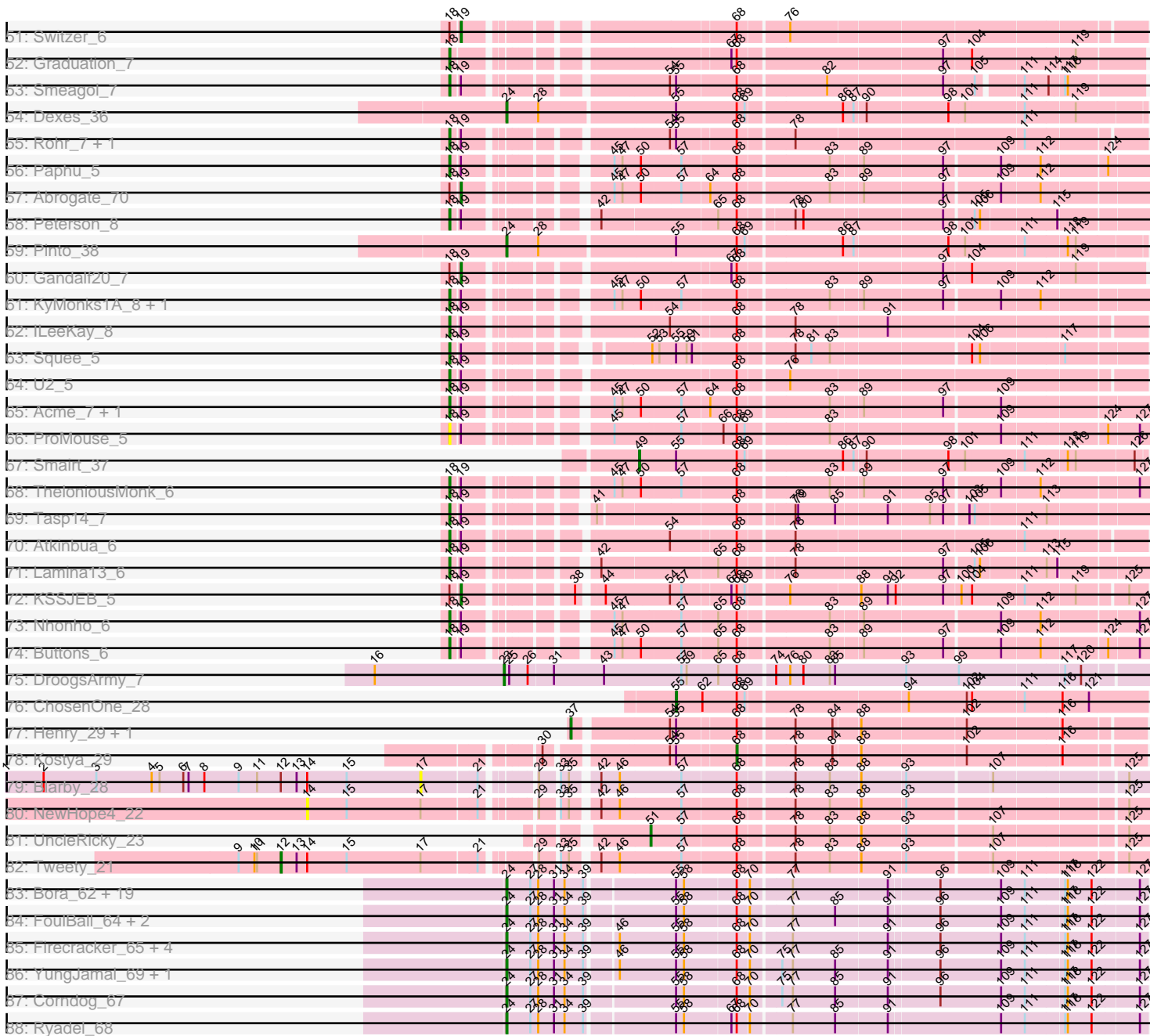


Pham 212248



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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 212248 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212248 has 287 members, 32 are drafts.

Phages represented in each track:

- Track 1 : Rufus\_6, Greg\_7, Molly\_7, NEHalo\_6, Niza\_7, Zephyr\_6, Agaliana\_6, Ciao\_6, BaconJack\_7, Corvo\_6, MPlant7149\_5, MetalQZJ\_6, Ohno789\_5, Espresso\_6, Arlo\_5, Rubeus\_6, Lopton\_7, Fajezeel\_7, JC27\_7, Ichabod\_6, MaryBeth\_6, Sibs6\_7
- Track 2 : Sorpresa\_6, Sandaddy\_5
- Track 3 : McSinger\_7
- Track 4 : Pita2\_8, Raid\_7, Euphoria\_6, TwoPeat\_7, GMonster\_5, Topgun\_6, KBG\_6, LilBib\_5, Smairt\_7, Applejack\_6, Swole\_8, JackSparrow\_6, Sumter\_5, StewieG\_5, SwissCheese\_6, PascalRango\_5, Trouble\_6, Dexes\_7, HanShotFirst\_6, Pelly\_7, Hami1\_6, BPBiels31\_7, ShortQueendom\_4, PhrostyMug\_5, Rhynn\_6, Tote\_8, Sanya\_5, Nerujay\_6, Mule\_5, Sagefire\_7, Inyanga\_5, Sunshine924\_5, PattyP\_7, JuliaChild\_8, Iqorha\_5, BigPaolini\_7, Aeneas\_7, PSullivan\_8, Wilkins\_6, Forsytheast\_5, Moose\_5
- Track 5 : Mkhuseleli\_5
- Track 6 : Ashballer\_4, Marge\_6, Bxb1\_5, BillKnuckles\_6, Slagathor\_6, PhineBark\_5, QTRLifeCrisis\_5, Froghopper\_7, Petruchio\_6, Hermia\_7, Kenmech\_7, Lockley\_6, Levia\_4, Watermelon\_8, Manatee\_6, Trafft412\_8, Homines\_6, Monet\_6, Carlyle\_8, Gyzlar\_7, GrecoEtereo\_7, Seanderson\_7, Kugel\_7, Dussy\_7, A6\_04, Lesedi\_5, DD5\_6, Abbysshoes\_7, Fushigi\_6, Scowl\_7, Magnito\_5, Anglerfish\_6, HarryOW\_7, Violet\_5, BK1\_04, Arcanine\_6, Gwendoluna\_6, Marcell\_6, Kykar\_4, Rajelicia\_5, Licorice\_8, Turj99\_5
- Track 7 : Eyeball\_6, Chanagan\_5
- Track 8 : Fascinus\_5
- Track 9 : Bigfoot\_34, Kykar\_35, A6\_33, Inyanga\_34, BK1\_33, JC27\_37, Iqorha\_34, Fascinus\_35, Phlippers\_34
- Track 10 : Pari\_7, Bircsak\_6, Briton15\_7, HermioneGrange\_7, DreamCatcher\_7, Hope4ever\_6
- Track 11 : CactusRose\_34, Pelly\_36, GageAP\_37, IgnatiusPatJac\_35, HanShotFirst\_35, Froghopper\_36, Wilkins\_35, Topgun\_35, HarryOW\_36, LilBib\_36
- Track 12 : Beatrix\_5, Bexan\_5, StrongArm\_5
- Track 13 : Seabiscuit\_7
- Track 14 : Jerm2\_6, Bob3\_5, Burton\_6, Fenn\_6, PinkPlastic\_4, Naira\_6, BigMau\_7
- Track 15 : Bruns\_4
- Track 16 : Dulcie\_5
- Track 17 : Solon\_5, Edtherson\_6
- Track 18 : EnzoK\_6
- Track 19 : Petp2012\_8

- Track 20 : Bigchungi\_5, Snazzy\_4, Ringer\_5, Bethlehem\_6, Marco3\_6, STLscum\_7, SarFire\_6, Ruotula\_5
- Track 21 : Alvin\_7, Crispicous1\_5
- Track 22 : Marchy\_5, Payneful\_6
- Track 23 : Paraselene\_5
- Track 24 : Target\_7
- Track 25 : Teodoridan\_4
- Track 26 : Oogway\_5, Phlippers\_5, Altman\_7, Francis47\_6, CactusRose\_5, GageAP\_7, Pinto\_8, ConceptII\_6, PacerPaul\_6, Kanely\_7, Maroc7\_5, Bigfoot\_5, Adahisdi\_7
- Track 27 : DrFeelGood\_5, Big3\_6, Michley\_6
- Track 28 : Makemake\_6
- Track 29 : Zeuska\_5, AFIS\_6, SpikeBT\_6, Barriga\_6, Papez\_6
- Track 30 : Parliament\_5
- Track 31 : Blue\_6
- Track 32 : Pepe\_7
- Track 33 : Zeeculate\_5
- Track 34 : LunarLander\_6
- Track 35 : Jasper\_7
- Track 36 : Ajay\_6, BarrowTuph\_5, Alsfro\_10
- Track 37 : Norz\_6
- Track 38 : McGuire\_6, Dynamix\_6
- Track 39 : Rutherford\_7
- Track 40 : Thor\_6
- Track 41 : ProMouse\_34
- Track 42 : Bones\_6
- Track 43 : Perseus\_7, Doom\_6, RidgeCB\_6
- Track 44 : BluSpix\_6
- Track 45 : IgnatiusPatJac\_5, Marsha\_6
- Track 46 : Killigrew\_4
- Track 47 : MrGordo\_6
- Track 48 : Museum\_7
- Track 49 : Wheeler\_6, Treddle\_6
- Track 50 : Tripl3t\_7
- Track 51 : Switzer\_6
- Track 52 : Graduation\_7
- Track 53 : Smeagol\_7
- Track 54 : Dexes\_36
- Track 55 : Rohr\_7, BeesKnees\_6
- Track 56 : Paphu\_5
- Track 57 : Abrogate\_70
- Track 58 : Peterson\_8
- Track 59 : Pinto\_38
- Track 60 : Gandalf20\_7
- Track 61 : KyMonks1A\_8, Magnar\_6
- Track 62 : ILeeKay\_8
- Track 63 : Squee\_5
- Track 64 : U2\_5
- Track 65 : Acme\_7, Pippin\_7
- Track 66 : ProMouse\_5
- Track 67 : Smairt\_37
- Track 68 : TheloniousMonk\_6
- Track 69 : Tasp14\_7

- Track 70 : Atkinbua\_6
- Track 71 : Lamina13\_6
- Track 72 : KSSJEB\_5
- Track 73 : Nhonho\_6
- Track 74 : Buttons\_6
- Track 75 : DroogsArmy\_7
- Track 76 : ChosenOne\_28
- Track 77 : Henry\_29, Daikon\_27
- Track 78 : Kostya\_29
- Track 79 : Blarby\_28
- Track 80 : NewHope4\_22
- Track 81 : UncleRicky\_23
- Track 82 : Tweety\_21
- Track 83 : Bora\_62, KingPhillip3\_63, Mori\_64, SchoolBus\_64, Idergollasper\_64, Schuy\_65, Wogge42\_63, Shida\_64, Blessica\_65, JangDynasty\_64, Alkhayr\_62, TelAviv\_61, Catdawg\_64, Vorrps\_64, Murai\_65, Winget\_65, Familton\_65, Vagabond\_64, MadKillah\_65, Zebo\_63
- Track 84 : FoulBall\_64, Krili\_63, NiebruSaylor\_63
- Track 85 : Firecracker\_65, Dylan\_64, Ashwin\_66, Wildflower\_64, Zakhe101\_64
- Track 86 : YungJamal\_69, Smooch\_67
- Track 87 : Corndog\_67
- Track 88 : Ryadel\_68

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

The start number called the most often in the published annotations is 18, it was called in 186 of the 255 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_04, AFIS\_6, Abbyshoes\_7, Acme\_7, Adahisdi\_7, Aeneas\_7, Agaliana\_6, Ajay\_6, Alsfro\_10, Altman\_7, Alvin\_7, Anglerfish\_6, Applejack\_6, Arcanine\_6, Arlo\_5, Ashballer\_4, Atkinbua\_6, BK1\_04, BPBiebs31\_7, BaconJack\_7, Barriga\_6, BarrowTuph\_5, Beatrix\_5, BeesKnees\_6, Bethlehem\_6, Bexan\_5, Big3\_6, BigMau\_7, BigPaolini\_7, Bigchungi\_5, Bigfoot\_5, BillKnuckles\_6, Bircsak\_6, Blue\_6, Bob3\_5, Bones\_6, Briton15\_7, Burton\_6, Buttons\_6, Bxb1\_5, CactusRose\_5, Carlyle\_8, Chanagan\_5, Ciao\_6, Conceptll\_6, Corvo\_6, Crispicous1\_5, DD5\_6, Dexes\_7, DrFeelGood\_5, DreamCatcher\_7, Dulcie\_5, Dussy\_7, Dynamix\_6, EnzoK\_6, Espresso\_6, Euphoria\_6, Eyeball\_6, Fajezeel\_7, Fenn\_6, Forsytheast\_5, Francis47\_6, Froghopper\_7, Fushigi\_6, GMonster\_5, GageAP\_7, Graduation\_7, GrecoEtereo\_7, Greg\_7, Gwendoluna\_6, Gyzlar\_7, Hami1\_6, HanShotFirst\_6, HarryOW\_7, Hermia\_7, HermioneGrange\_7, Homines\_6, Hope4ever\_6, ILeeKay\_8, Ichabod\_6, IgnatiusPatJac\_5, Inyanga\_5, Iqorha\_5, JC27\_7, JackSparrow\_6, Jasper\_7, Jerm2\_6, JuliaChild\_8, KBG\_6, Kanely\_7, Kenmech\_7, Killigrew\_4, Kugel\_7, KyMonks1A\_8, Kykar\_4, Lamina13\_6, Lesedi\_5, Levia\_4, Licorice\_8, LilBib\_5, Lockley\_6, Lopton\_7, MPlant7149\_5, Magnar\_6, Magnito\_5, Makemake\_6, Manatee\_6, Marcell\_6, Marchy\_5, Marco3\_6, Marge\_6, Maroc7\_5, Marsha\_6, MaryBeth\_6, McGuire\_6, McSinger\_7, MetalQZJ\_6, Michley\_6, Mkhuseleli\_5, Molly\_7, Monet\_6, Moose\_5, MrGordo\_6, Mule\_5, Museum\_7, NEHalo\_6, Naira\_6, Nerujay\_6, Nhonho\_6, Niza\_7, Norz\_6, Ohno789\_5, Oogway\_5, PSullivan\_8, PacerPaul\_6, Papez\_6, Paphu\_5, Paraselene\_5, Pari\_7, PascalRango\_5, PattyP\_7, Payneful\_6,

Pelly\_7, Pepe\_7, Peterson\_8, Petp2012\_8, Petruchio\_6, PhineBark\_5, Phlippers\_5, PhrostyMug\_5, PinkPlastic\_4, Pinto\_8, Pippin\_7, Pita2\_8, ProMouse\_5, QTRlifeCrisis\_5, Raid\_7, Rajelicia\_5, Rhynn\_6, Ringer\_5, Rohr\_7, Rubeus\_6, Rufus\_6, Ruotula\_5, Rutherford\_7, STLscum\_7, Sagefire\_7, Sandaddy\_5, Sanya\_5, SarFire\_6, Scowl\_7, Seabiscuit\_7, Seanderson\_7, ShortQueendom\_4, Sibs6\_7, Slagathor\_6, Smairt\_7, Smeagol\_7, Snazzy\_4, Sorpresa\_6, SpikeBT\_6, Squee\_5, StewieG\_5, StrongArm\_5, Sumter\_5, Sunshine924\_5, SwissCheese\_6, Swole\_8, Target\_7, Tasp14\_7, TheloniousMonk\_6, Topgun\_6, Tote\_8, Traft412\_8, Tripl3t\_7, Trouble\_6, Turj99\_5, TwoPeat\_7, U2\_5, Violet\_5, Watermelon\_8, Wilkins\_6, Zeeculate\_5, Zephyr\_6, Zeuska\_5,

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

- Abrogate\_70, Bruns\_4, Doom\_6, Edtherson\_6, Fascinus\_5, Gandalf20\_7, KSSJEB\_5, LunarLander\_6, Perseus\_7, RidgeCB\_6, Solon\_5, Switzer\_6, Teodoridan\_4, Thor\_6, Treddle\_6, Wheeler\_6,

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

- A6\_33, Alkhayr\_62, Ashwin\_66, BK1\_33, Bigfoot\_34, Blarby\_28, Blessica\_65, BluSpix\_6, Bora\_62, CactusRose\_34, Catdawg\_64, ChosenOne\_28, Corndog\_67, Daikon\_27, Dexes\_36, DroogsArmy\_7, Dylan\_64, Familton\_65, Fascinus\_35, Firecracker\_65, FoulBall\_64, Froghopper\_36, GageAP\_37, HanShotFirst\_35, HarryOW\_36, Henry\_29, Idergollasper\_64, IgnatiusPatJac\_35, Inyanga\_34, Iqorha\_34, JC27\_37, JangDynasty\_64, KingPhillip3\_63, Kostya\_29, Krili\_63, Kykar\_35, LilBib\_36, MadKillah\_65, Mori\_64, Murai\_65, NewHope4\_22, NiebruSaylor\_63, Parliament\_5, Pelly\_36, Phlippers\_34, Pinto\_38, ProMouse\_34, Ryadel\_68, SchoolBus\_64, Schuy\_65, Shida\_64, Smairt\_37, Smooch\_67, TelAviv\_61, Topgun\_35, Tweety\_21, UncleRicky\_23, Vagabond\_64, Vorrps\_64, Wildflower\_64, Wilkins\_35, Winget\_65, Wogge42\_63, YungJamal\_69, Zakhe101\_64, Zebo\_63,

### Summary by start number:

Start 12:

- Found in 2 of 287 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Tweety\_21 (F1),

Start 14:

- Found in 3 of 287 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: NewHope4\_22 (F1),

Start 17:

- Found in 3 of 287 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Blarby\_28 (F),

Start 18:

- Found in 221 of 287 ( 77.0% ) of genes in pham
- Manual Annotations of this start: 186 of 255

- Called 92.8% of time when present
- Phage (with cluster) where this start called: A6\_04 (A1), AFIS\_6 (A1), Abbysshoes\_7 (A1), Acme\_7 (A1), Adahisdi\_7 (A1), Aeneas\_7 (A1), Agaliana\_6 (A1), Ajay\_6 (A1), Alsfro\_10 (A1), Altman\_7 (A1), Alvin\_7 (A1), Anglerfish\_6 (A1), Applejack\_6 (A1), Arcanine\_6 (A1), Arlo\_5 (A1), Ashballer\_4 (A1), Atkinbua\_6 (A1), BK1\_04 (A1), BPBiebs31\_7 (A1), BaconJack\_7 (A1), Barriga\_6 (A1), BarrowTuph\_5 (A1), Beatrix\_5 (A1), BeesKnees\_6 (A1), Bethlehem\_6 (A1), Bexan\_5 (A1), Big3\_6 (A1), BigMau\_7 (A1), BigPaolini\_7 (A1), Bigchunggi\_5 (A1), Bigfoot\_5 (A1), BillKnuckles\_6 (A1), Bircsak\_6 (A1), Blue\_6 (A1), Bob3\_5 (A1), Bones\_6 (A1), Briton15\_7 (A1), Burton\_6 (A1), Buttons\_6 (A1), Bxb1\_5 (A1), CactusRose\_5 (A1), Carlyle\_8 (A1), Chanagan\_5 (A1), Ciao\_6 (A1), Conceptll\_6 (A1), Corvo\_6 (A1), Crispicous1\_5 (A1), DD5\_6 (A1), Dexes\_7 (A1), DrFeelGood\_5 (A1), DreamCatcher\_7 (A1), Dulcie\_5 (A1), Dussy\_7 (A1), Dynamix\_6 (A1), EnzoK\_6 (A1), Espresso\_6 (A1), Euphoria\_6 (A1), Eyeball\_6 (A1), Fajezeel\_7 (A1), Fenn\_6 (A1), Forsytheast\_5 (A1), Francis47\_6 (A1), Froghopper\_7 (A1), Fushigi\_6 (A1), GMonster\_5 (A1), GageAP\_7 (A1), Graduation\_7 (A1), GrecoEtereo\_7 (A1), Greg\_7 (A1), Gwendoluna\_6 (A1), Gyzlar\_7 (A1), Hami1\_6 (A1), HanShotFirst\_6 (A1), HarryOW\_7 (A1), Hermia\_7 (A1), HermioneGrange\_7 (A1), Homines\_6 (A1), Hope4ever\_6 (A1), ILeeKay\_8 (A1), Ichabod\_6 (A1), IgnatiusPatJac\_5 (A1), Inyanga\_5 (A1), Iqorha\_5 (A1), JC27\_7 (A1), JackSparrow\_6 (A1), Jasper\_7 (A1), Jerm2\_6 (A1), JuliaChild\_8 (A1), KBG\_6 (A1), Kanely\_7 (A1), Kenmech\_7 (A1), Killigrew\_4 (A1), Kugel\_7 (A1), KyMonks1A\_8 (A1), Kykar\_4 (A1), Lamina13\_6 (A1), Lesedi\_5 (A1), Levia\_4 (A1), Licorice\_8 (A1), LilBib\_5 (A1), Lockley\_6 (A1), Lopton\_7 (A1), MPlant7149\_5 (A1), Magnar\_6 (A1), Magnito\_5 (A1), Makemake\_6 (A1), Manatee\_6 (A1), Marcell\_6 (A1), Marchy\_5 (A1), Marco3\_6 (A1), Marge\_6 (A1), Maroc7\_5 (A1), Marsha\_6 (A1), MaryBeth\_6 (A1), McGuire\_6 (A1), McSinger\_7 (A1), MetalQZJ\_6 (A1), Michley\_6 (A1), Mkhuseleli\_5 (A1), Molly\_7 (A1), Monet\_6 (A1), Moose\_5 (A1), MrGordo\_6 (A1), Mule\_5 (A1), Museum\_7 (A1), NEHalo\_6 (A1), Naira\_6 (A1), Nerujay\_6 (A1), Nhonho\_6 (A1), Niza\_7 (A1), Norz\_6 (A1), Ohno789\_5 (A1), Oogway\_5 (A1), PSullivan\_8 (A1), PacerPaul\_6 (A1), Papez\_6 (A1), Paphu\_5 (A1), Paraselene\_5 (A1), Pari\_7 (A1), PascalRango\_5 (A1), PattyP\_7 (A1), Payneful\_6 (A1), Pelly\_7 (A1), Pepe\_7 (A1), Peterson\_8 (A1), Petp2012\_8 (A1), Petruccio\_6 (A1), PhineBark\_5 (A1), Phlipppers\_5 (A1), PhrostyMug\_5 (A1), PinkPlastic\_4 (A1), Pinto\_8 (A1), Pippin\_7 (A1), Pita2\_8 (A1), ProMouse\_5 (A1), QTRlifeCrisis\_5 (A1), Raid\_7 (A1), Rajelicia\_5 (A1), Rhynn\_6 (A1), Ringer\_5 (A1), Rohr\_7 (A1), Rubeus\_6 (A1), Rufus\_6 (A1), Ruotula\_5 (A1), Rutherferd\_7 (A1), STLscum\_7 (A1), Sagefire\_7 (A1), Sandaddy\_5 (A1), Sanya\_5 (A1), SarFire\_6 (A1), Scowl\_7 (A1), Seabiscuit\_7 (A1), Seanderson\_7 (A1), ShortQueendom\_4 (A1), Sibs6\_7 (A1), Slagathor\_6 (A1), Smairt\_7 (A1), Smeagol\_7 (A1), Snazzy\_4 (A1), Sorpresa\_6 (A1), SpikeBT\_6 (A1), Squee\_5 (A1), StewieG\_5 (A1), StrongArm\_5 (A1), Sumter\_5 (A1), Sunshine924\_5 (A1), SwissCheese\_6 (A1), Swole\_8 (A1), Target\_7 (A1), Tasp14\_7 (A1), TheloniousMonk\_6 (A1), Topgun\_6 (A1), Tote\_8 (A1), Traft412\_8 (A1), Tripl3t\_7 (A1), Trouble\_6 (A1), Turj99\_5 (A1), TwoPeat\_7 (A1), U2\_5 (A1), Violet\_5 (A1), Watermelon\_8 (A1), Wilkins\_6 (A1), Zeeculate\_5 (A1), Zephyr\_6 (A1), Zeuska\_5 (A1),

Start 19:

- Found in 207 of 287 ( 72.1% ) of genes in pham
- Manual Annotations of this start: 14 of 255
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Abrogate\_70 (A1), Bruns\_4 (A1), Doom\_6 (A1), Edtherson\_6 (A1), Fascinus\_5 (A1), Gandalf20\_7 (A1), KSSJEB\_5 (A1), LunarLander\_6 (A1), Perseus\_7 (A1), RidgeCB\_6 (A1), Solon\_5 (A1), Switzer\_6 (A1), Teodoridan\_4 (A1), Thor\_6 (A1), Treddle\_6 (A1), Wheeler\_6 (A1),

Start 23:

- Found in 1 of 287 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DroogsArmy\_7 (A7),

Start 24:

- Found in 54 of 287 ( 18.8% ) of genes in pham
- Manual Annotations of this start: 46 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A6\_33 (A1), Alkhayr\_62 (O), Ashwin\_66 (O), BK1\_33 (A1), Bigfoot\_34 (A1), Blessica\_65 (O), Bora\_62 (O), CactusRose\_34 (A1), Catdawg\_64 (O), Corndog\_67 (O), Dexes\_36 (A1), Dylan\_64 (O), Familton\_65 (O), Fascinus\_35 (A1), Firecracker\_65 (O), FoulBall\_64 (O), Froghopper\_36 (A1), GageAP\_37 (A1), HanShotFirst\_35 (A1), HarryOW\_36 (A1), Idergollasper\_64 (O), IgnatiusPatJac\_35 (A1), Inyanga\_34 (A1), Iqorha\_34 (A1), JC27\_37 (A1), JangDynasty\_64 (O), KingPhillip3\_63 (O), Krili\_63 (O), Kykar\_35 (A1), LiiBib\_36 (A1), MadKillah\_65 (O), Mori\_64 (O), Murai\_65 (O), NiebruSaylor\_63 (O), Pelly\_36 (A1), Phlippers\_34 (A1), Pinto\_38 (A1), ProMouse\_34 (A1), Ryadel\_68 (O), SchoolBus\_64 (O), Schuy\_65 (O), Shida\_64 (O), Smooch\_67 (O), TelAviv\_61 (O), Topgun\_35 (A1), Vagabond\_64 (O), Vorrps\_64 (O), Wildflower\_64 (O), Wilkins\_35 (A1), Winget\_65 (O), Wogge42\_63 (O), YungJamal\_69 (O), Zakhe101\_64 (O), Zebo\_63 (O),

Start 37:

- Found in 2 of 287 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daikon\_27 (E), Henry\_29 (E),

Start 49:

- Found in 1 of 287 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Smairt\_37 (A1),

Start 51:

- Found in 1 of 287 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: UncleRicky\_23 (F1),

Start 55:

- Found in 64 of 287 ( 22.3% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 1.6% of time when present
- Phage (with cluster) where this start called: ChosenOne\_28 (E),

Start 68:

- Found in 287 of 287 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 3 of 255
- Called 1.0% of time when present



- Phage (with cluster) where this start called: BluSpix\_6 (A1), Kostya\_29 (E), Parliament\_5 (A1),

### **Summary by clusters:**

There are 6 clusters represented in this pham: F1, E, F, O, A1, A7,

Info for manual annotations of cluster A1:

- Start number 18 was manually annotated 186 times for cluster A1.
- Start number 19 was manually annotated 14 times for cluster A1.
- Start number 24 was manually annotated 18 times for cluster A1.
- Start number 49 was manually annotated 1 time for cluster A1.
- Start number 68 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster A7:

- Start number 23 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster E:

- Start number 37 was manually annotated 1 time for cluster E.
- Start number 55 was manually annotated 1 time for cluster E.
- Start number 68 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:

- Start number 12 was manually annotated 1 time for cluster F1.
- Start number 51 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster O:

- Start number 24 was manually annotated 28 times for cluster O.

### **Gene Information:**

Gene: A6\_33 Start: 27619, Stop: 28305, Start Num: 24

Candidate Starts for A6\_33:

(Start: 24 @27619 has 46 MA's), (28, 27655), (Start: 55 @27802 has 1 MA's), (Start: 68 @27871 has 3 MA's), (69, 27880), (86, 27982), (87, 27994), (90, 28006), (98, 28096), (101, 28114), (111, 28177), (118, 28222), (119, 28231), (126, 28294),

Gene: A6\_04 Start: 2921, Stop: 3631, Start Num: 18

Candidate Starts for A6\_04:

(Start: 18 @2921 has 186 MA's), (Start: 19 @2930 has 14 MA's), (45, 3053), (50, 3083), (Start: 68 @3185 has 3 MA's), (69, 3194), (72, 3215), (83, 3287), (104, 3434), (109, 3467), (115, 3527), (127, 3614),

Gene: AFIS\_6 Start: 3288, Stop: 3989, Start Num: 18

Candidate Starts for AFIS\_6:

(Start: 18 @3288 has 186 MA's), (Start: 19 @3297 has 14 MA's), (45, 3420), (50, 3450), (57, 3492), (64, 3522), (Start: 68 @3552 has 3 MA's), (83, 3648), (89, 3681), (97, 3768), (109, 3828), (112, 3870), (127, 3972),

Gene: Abbyshoes\_7 Start: 3368, Stop: 4078, Start Num: 18

Candidate Starts for Abbyshoes\_7:

(Start: 18 @3368 has 186 MA's), (Start: 19 @3377 has 14 MA's), (45, 3500), (50, 3530), (Start: 68 @3632 has 3 MA's), (69, 3641), (72, 3662), (83, 3734), (104, 3881), (109, 3914), (115, 3974), (127, 4061),

Gene: Abrogate\_70 Start: 4028, Stop: 4720, Start Num: 19

Candidate Starts for Abrogate\_70:

(Start: 18 @4019 has 186 MA's), (Start: 19 @4028 has 14 MA's), (45, 4151), (47, 4160), (50, 4181), (57, 4223), (64, 4253), (Start: 68 @4283 has 3 MA's), (83, 4379), (89, 4412), (97, 4499), (109, 4559), (112, 4601),

Gene: Acme\_7 Start: 3201, Stop: 3902, Start Num: 18

Candidate Starts for Acme\_7:

(Start: 18 @3201 has 186 MA's), (Start: 19 @3210 has 14 MA's), (45, 3333), (47, 3342), (50, 3363), (57, 3405), (64, 3435), (Start: 68 @3465 has 3 MA's), (83, 3561), (89, 3594), (97, 3681), (109, 3741),

Gene: Adahisdi\_7 Start: 3595, Stop: 4296, Start Num: 18

Candidate Starts for Adahisdi\_7:

(Start: 18 @3595 has 186 MA's), (Start: 19 @3604 has 14 MA's), (45, 3727), (47, 3736), (50, 3757), (57, 3799), (64, 3829), (Start: 68 @3859 has 3 MA's), (83, 3955), (89, 3988), (97, 4075), (127, 4279),

Gene: Aeneas\_7 Start: 3480, Stop: 4181, Start Num: 18

Candidate Starts for Aeneas\_7:

(Start: 18 @3480 has 186 MA's), (Start: 19 @3489 has 14 MA's), (45, 3612), (47, 3621), (50, 3642), (57, 3684), (64, 3714), (Start: 68 @3744 has 3 MA's), (83, 3840), (89, 3873), (97, 3960), (109, 4020), (112, 4062), (127, 4164),

Gene: Agaliana\_6 Start: 3404, Stop: 4105, Start Num: 18

Candidate Starts for Agaliana\_6:

(Start: 18 @3404 has 186 MA's), (Start: 19 @3413 has 14 MA's), (45, 3536), (47, 3545), (50, 3566), (57, 3608), (64, 3638), (Start: 68 @3668 has 3 MA's), (83, 3764), (89, 3797), (97, 3884), (112, 3986), (127, 4088),

Gene: Ajay\_6 Start: 3432, Stop: 4136, Start Num: 18

Candidate Starts for Ajay\_6:

(Start: 18 @3432 has 186 MA's), (Start: 19 @3441 has 14 MA's), (46, 3570), (57, 3636), (Start: 68 @3696 has 3 MA's), (78, 3753), (93, 3873), (125, 4107),

Gene: Alkhayr\_62 Start: 41056, Stop: 41742, Start Num: 24

Candidate Starts for Alkhayr\_62:

(Start: 24 @41056 has 46 MA's), (27, 41083), (28, 41092), (31, 41110), (34, 41122), (39, 41143), (Start: 55 @41236 has 1 MA's), (58, 41245), (Start: 68 @41302 has 3 MA's), (70, 41314), (77, 41356), (91, 41461), (96, 41515), (109, 41584), (111, 41611), (117, 41653), (118, 41656), (122, 41683), (127, 41734),

Gene: Alsfro\_10 Start: 4116, Stop: 4820, Start Num: 18

Candidate Starts for Alsfro\_10:

(Start: 18 @4116 has 186 MA's), (Start: 19 @4125 has 14 MA's), (46, 4254), (57, 4320), (Start: 68 @4380 has 3 MA's), (78, 4437), (93, 4557), (125, 4791),

Gene: Altman\_7 Start: 3938, Stop: 4639, Start Num: 18

Candidate Starts for Altman\_7:

(Start: 18 @3938 has 186 MA's), (Start: 19 @3947 has 14 MA's), (45, 4070), (47, 4079), (50, 4100), (57, 4142), (64, 4172), (Start: 68 @4202 has 3 MA's), (83, 4298), (89, 4331), (97, 4418), (127, 4622),

Gene: Alvin\_7 Start: 3646, Stop: 4338, Start Num: 18

Candidate Starts for Alvin\_7:

(Start: 18 @3646 has 186 MA's), (45, 3775), (60, 3856), (64, 3877), (65, 3886), (Start: 68 @3907 has 3 MA's), (71, 3931), (104, 4150), (123, 4285),

Gene: Anglerfish\_6 Start: 2963, Stop: 3673, Start Num: 18

Candidate Starts for Anglerfish\_6:

(Start: 18 @2963 has 186 MA's), (Start: 19 @2972 has 14 MA's), (45, 3095), (50, 3125), (Start: 68 @3227 has 3 MA's), (69, 3236), (72, 3257), (83, 3329), (104, 3476), (109, 3509), (115, 3569), (127, 3656),

Gene: Applejack\_6 Start: 3338, Stop: 4039, Start Num: 18

Candidate Starts for Applejack\_6:

(Start: 18 @3338 has 186 MA's), (Start: 19 @3347 has 14 MA's), (45, 3470), (47, 3479), (50, 3500), (57, 3542), (64, 3572), (Start: 68 @3602 has 3 MA's), (83, 3698), (89, 3731), (97, 3818), (109, 3878), (112, 3920), (127, 4022),

Gene: Arcanine\_6 Start: 2929, Stop: 3639, Start Num: 18

Candidate Starts for Arcanine\_6:

(Start: 18 @2929 has 186 MA's), (Start: 19 @2938 has 14 MA's), (45, 3061), (50, 3091), (Start: 68 @3193 has 3 MA's), (69, 3202), (72, 3223), (83, 3295), (104, 3442), (109, 3475), (115, 3535), (127, 3622),

Gene: Arlo\_5 Start: 2963, Stop: 3664, Start Num: 18

Candidate Starts for Arlo\_5:

(Start: 18 @2963 has 186 MA's), (Start: 19 @2972 has 14 MA's), (45, 3095), (47, 3104), (50, 3125), (57, 3167), (64, 3197), (Start: 68 @3227 has 3 MA's), (83, 3323), (89, 3356), (97, 3443), (112, 3545), (127, 3647),

Gene: Ashballer\_4 Start: 2832, Stop: 3542, Start Num: 18

Candidate Starts for Ashballer\_4:

(Start: 18 @2832 has 186 MA's), (Start: 19 @2841 has 14 MA's), (45, 2964), (50, 2994), (Start: 68 @3096 has 3 MA's), (69, 3105), (72, 3126), (83, 3198), (104, 3345), (109, 3378), (115, 3438), (127, 3525),

Gene: Ashwin\_66 Start: 41826, Stop: 42512, Start Num: 24

Candidate Starts for Ashwin\_66:

(Start: 24 @41826 has 46 MA's), (27, 41853), (28, 41862), (31, 41880), (34, 41892), (39, 41913), (46, 41943), (Start: 55 @42006 has 1 MA's), (58, 42015), (Start: 68 @42072 has 3 MA's), (70, 42084), (77, 42126), (91, 42231), (96, 42285), (109, 42354), (111, 42381), (117, 42423), (118, 42426), (122, 42453), (127, 42504),

Gene: Atkinbua\_6 Start: 3001, Stop: 3690, Start Num: 18

Candidate Starts for Atkinbua\_6:

(Start: 18 @3001 has 186 MA's), (Start: 19 @3010 has 14 MA's), (54, 3193), (Start: 68 @3262 has 3 MA's), (78, 3319), (111, 3565),

Gene: BK1\_33 Start: 27619, Stop: 28305, Start Num: 24

Candidate Starts for BK1\_33:

(Start: 24 @27619 has 46 MA's), (28, 27655), (Start: 55 @27802 has 1 MA's), (Start: 68 @27871 has 3 MA's), (69, 27880), (86, 27982), (87, 27994), (90, 28006), (98, 28096), (101, 28114), (111, 28177), (118, 28222), (119, 28231), (126, 28294),

Gene: BK1\_04 Start: 2921, Stop: 3631, Start Num: 18

Candidate Starts for BK1\_04:

(Start: 18 @2921 has 186 MA's), (Start: 19 @2930 has 14 MA's), (45, 3053), (50, 3083), (Start: 68 @3185 has 3 MA's), (69, 3194), (72, 3215), (83, 3287), (104, 3434), (109, 3467), (115, 3527), (127, 3614),

Gene: BPBiabs31\_7 Start: 3602, Stop: 4303, Start Num: 18

Candidate Starts for BPBiabs31\_7:

(Start: 18 @3602 has 186 MA's), (Start: 19 @3611 has 14 MA's), (45, 3734), (47, 3743), (50, 3764), (57, 3806), (64, 3836), (Start: 68 @3866 has 3 MA's), (83, 3962), (89, 3995), (97, 4082), (109, 4142), (112, 4184), (127, 4286),

Gene: BaconJack\_7 Start: 3186, Stop: 3887, Start Num: 18

Candidate Starts for BaconJack\_7:

(Start: 18 @3186 has 186 MA's), (Start: 19 @3195 has 14 MA's), (45, 3318), (47, 3327), (50, 3348), (57, 3390), (64, 3420), (Start: 68 @3450 has 3 MA's), (83, 3546), (89, 3579), (97, 3666), (112, 3768), (127, 3870),

Gene: Barriga\_6 Start: 3218, Stop: 3919, Start Num: 18

Candidate Starts for Barriga\_6:

(Start: 18 @3218 has 186 MA's), (Start: 19 @3227 has 14 MA's), (45, 3350), (50, 3380), (57, 3422), (64, 3452), (Start: 68 @3482 has 3 MA's), (83, 3578), (89, 3611), (97, 3698), (109, 3758), (112, 3800), (127, 3902),

Gene: BarrowTuph\_5 Start: 3285, Stop: 3989, Start Num: 18

Candidate Starts for BarrowTuph\_5:

(Start: 18 @3285 has 186 MA's), (Start: 19 @3294 has 14 MA's), (46, 3423), (57, 3489), (Start: 68 @3549 has 3 MA's), (78, 3606), (93, 3726), (125, 3960),

Gene: Beatrix\_5 Start: 3035, Stop: 3730, Start Num: 18

Candidate Starts for Beatrix\_5:

(Start: 18 @3035 has 186 MA's), (42, 3152), (64, 3269), (65, 3278), (Start: 68 @3299 has 3 MA's), (78, 3353), (80, 3362), (97, 3512), (105, 3542), (106, 3548), (113, 3617), (115, 3629),

Gene: BeesKnees\_6 Start: 3082, Stop: 3771, Start Num: 18

Candidate Starts for BeesKnees\_6:

(Start: 18 @3082 has 186 MA's), (Start: 19 @3091 has 14 MA's), (54, 3274), (Start: 55 @3280 has 1 MA's), (Start: 68 @3343 has 3 MA's), (78, 3400), (111, 3646),

Gene: Bethlehem\_6 Start: 3609, Stop: 4310, Start Num: 18

Candidate Starts for Bethlehem\_6:

(Start: 18 @3609 has 186 MA's), (Start: 19 @3618 has 14 MA's), (45, 3741), (47, 3750), (50, 3771), (57, 3813), (64, 3843), (Start: 68 @3873 has 3 MA's), (83, 3969), (89, 4002), (97, 4089), (109, 4149), (127, 4293),

Gene: Bexan\_5 Start: 3035, Stop: 3730, Start Num: 18

Candidate Starts for Bexan\_5:

(Start: 18 @3035 has 186 MA's), (42, 3152), (64, 3269), (65, 3278), (Start: 68 @3299 has 3 MA's), (78, 3353), (80, 3362), (97, 3512), (105, 3542), (106, 3548), (113, 3617), (115, 3629),

Gene: Big3\_6 Start: 2980, Stop: 3672, Start Num: 18

Candidate Starts for Big3\_6:

(Start: 18 @2980 has 186 MA's), (45, 3109), (60, 3190), (64, 3211), (65, 3220), (Start: 68 @3241 has 3 MA's), (71, 3265), (104, 3484), (123, 3619),

Gene: BigMau\_7 Start: 3086, Stop: 3775, Start Num: 18

Candidate Starts for BigMau\_7:

(Start: 18 @3086 has 186 MA's), (Start: 19 @3095 has 14 MA's), (38, 3188), (44, 3209), (54, 3278), (57, 3290), (67, 3341), (Start: 68 @3347 has 3 MA's), (69, 3356), (76, 3398), (88, 3473), (91, 3503), (92, 3512), (97, 3563), (100, 3581), (104, 3593), (111, 3650), (119, 3704), (125, 3755),

Gene: BigPaolini\_7 Start: 3995, Stop: 4696, Start Num: 18

Candidate Starts for BigPaolini\_7:

(Start: 18 @3995 has 186 MA's), (Start: 19 @4004 has 14 MA's), (45, 4127), (47, 4136), (50, 4157), (57, 4199), (64, 4229), (Start: 68 @4259 has 3 MA's), (83, 4355), (89, 4388), (97, 4475), (109, 4535), (112, 4577), (127, 4679),

Gene: Bigchungi\_5 Start: 2863, Stop: 3564, Start Num: 18

Candidate Starts for Bigchungi\_5:

(Start: 18 @2863 has 186 MA's), (Start: 19 @2872 has 14 MA's), (45, 2995), (47, 3004), (50, 3025), (57, 3067), (64, 3097), (Start: 68 @3127 has 3 MA's), (83, 3223), (89, 3256), (97, 3343), (109, 3403), (127, 3547),

Gene: Bigfoot\_34 Start: 27850, Stop: 28536, Start Num: 24

Candidate Starts for Bigfoot\_34:

(Start: 24 @27850 has 46 MA's), (28, 27886), (Start: 55 @28033 has 1 MA's), (Start: 68 @28102 has 3 MA's), (69, 28111), (86, 28213), (87, 28225), (90, 28237), (98, 28327), (101, 28345), (111, 28408), (118, 28453), (119, 28462), (126, 28525),

Gene: Bigfoot\_5 Start: 3094, Stop: 3795, Start Num: 18

Candidate Starts for Bigfoot\_5:

(Start: 18 @3094 has 186 MA's), (Start: 19 @3103 has 14 MA's), (45, 3226), (47, 3235), (50, 3256), (57, 3298), (64, 3328), (Start: 68 @3358 has 3 MA's), (83, 3454), (89, 3487), (97, 3574), (127, 3778),

Gene: BillKnuckles\_6 Start: 3460, Stop: 4170, Start Num: 18

Candidate Starts for BillKnuckles\_6:

(Start: 18 @3460 has 186 MA's), (Start: 19 @3469 has 14 MA's), (45, 3592), (50, 3622), (Start: 68 @3724 has 3 MA's), (69, 3733), (72, 3754), (83, 3826), (104, 3973), (109, 4006), (115, 4066), (127, 4153),

Gene: Bircsak\_6 Start: 3571, Stop: 4260, Start Num: 18

Candidate Starts for Bircsak\_6:

(Start: 18 @3571 has 186 MA's), (Start: 19 @3580 has 14 MA's), (Start: 68 @3832 has 3 MA's), (76, 3883), (111, 4135),

Gene: Blarby\_28 Start: 22525, Stop: 23256, Start Num: 17

Candidate Starts for Blarby\_28:

(1, 22054), (2, 22096), (3, 22156), (4, 22219), (5, 22228), (6, 22255), (7, 22261), (8, 22279), (9, 22318), (11, 22339), (Start: 12 @22366 has 1 MA's), (13, 22384), (14, 22396), (15, 22441), (17, 22525), (21, 22585), (29, 22627), (33, 22645), (35, 22654), (42, 22678), (46, 22699), (57, 22765), (Start: 68 @22825 has 3 MA's), (78, 22882), (83, 22921), (88, 22954), (93, 23002), (107, 23092), (125, 23230),

Gene: Blessica\_65 Start: 41655, Stop: 42341, Start Num: 24

Candidate Starts for Blessica\_65:

(Start: 24 @41655 has 46 MA's), (27, 41682), (28, 41691), (31, 41709), (34, 41721), (39, 41742), (Start: 55 @41835 has 1 MA's), (58, 41844), (Start: 68 @41901 has 3 MA's), (70, 41913), (77, 41955), (91, 42060), (96, 42114), (109, 42183), (111, 42210), (117, 42252), (118, 42255), (122, 42282), (127, 42333),

Gene: BluSpix\_6 Start: 3625, Stop: 4062, Start Num: 68

Candidate Starts for BluSpix\_6:

(57, 3565), (64, 3595), (Start: 68 @3625 has 3 MA's), (83, 3721), (89, 3754), (97, 3841), (109, 3901), (112, 3943),

Gene: Blue\_6 Start: 3463, Stop: 4164, Start Num: 18

Candidate Starts for Blue\_6:

(Start: 18 @3463 has 186 MA's), (Start: 19 @3472 has 14 MA's), (20, 3484), (45, 3595), (47, 3604), (50, 3625), (57, 3667), (64, 3697), (Start: 68 @3727 has 3 MA's), (83, 3823), (89, 3856), (97, 3943), (109, 4003), (112, 4045),

Gene: Bob3\_5 Start: 2926, Stop: 3615, Start Num: 18

Candidate Starts for Bob3\_5:

(Start: 18 @2926 has 186 MA's), (Start: 19 @2935 has 14 MA's), (38, 3028), (44, 3049), (54, 3118), (57, 3130), (67, 3181), (Start: 68 @3187 has 3 MA's), (69, 3196), (76, 3238), (88, 3313), (91, 3343), (92, 3352), (97, 3403), (100, 3421), (104, 3433), (111, 3490), (119, 3544), (125, 3595),

Gene: Bones\_6 Start: 3119, Stop: 3808, Start Num: 18

Candidate Starts for Bones\_6:

(Start: 18 @3119 has 186 MA's), (Start: 19 @3128 has 14 MA's), (36, 3215), (54, 3311), (Start: 68 @3380 has 3 MA's), (91, 3536),

Gene: Bora\_62 Start: 41012, Stop: 41698, Start Num: 24

Candidate Starts for Bora\_62:

(Start: 24 @41012 has 46 MA's), (27, 41039), (28, 41048), (31, 41066), (34, 41078), (39, 41099), (Start: 55 @41192 has 1 MA's), (58, 41201), (Start: 68 @41258 has 3 MA's), (70, 41270), (77, 41312), (91, 41417), (96, 41471), (109, 41540), (111, 41567), (117, 41609), (118, 41612), (122, 41639), (127, 41690),

Gene: Briton15\_7 Start: 3137, Stop: 3826, Start Num: 18

Candidate Starts for Briton15\_7:

(Start: 18 @3137 has 186 MA's), (Start: 19 @3146 has 14 MA's), (Start: 68 @3398 has 3 MA's), (76, 3449), (111, 3701),

Gene: Bruns\_4 Start: 2779, Stop: 3474, Start Num: 19

Candidate Starts for Bruns\_4:

(Start: 18 @2770 has 186 MA's), (Start: 19 @2779 has 14 MA's), (45, 2902), (57, 2974), (66, 3019), (Start: 68 @3034 has 3 MA's), (69, 3043), (83, 3133), (109, 3313), (127, 3457),

Gene: Burton\_6 Start: 2987, Stop: 3676, Start Num: 18

Candidate Starts for Burton\_6:

(Start: 18 @2987 has 186 MA's), (Start: 19 @2996 has 14 MA's), (38, 3089), (44, 3110), (54, 3179), (57, 3191), (67, 3242), (Start: 68 @3248 has 3 MA's), (69, 3257), (76, 3299), (88, 3374), (91, 3404), (92, 3413), (97, 3464), (100, 3482), (104, 3494), (111, 3551), (119, 3605), (125, 3656),

Gene: Buttons\_6 Start: 2980, Stop: 3681, Start Num: 18

Candidate Starts for Buttons\_6:

(Start: 18 @2980 has 186 MA's), (Start: 19 @2989 has 14 MA's), (45, 3112), (47, 3121), (50, 3142), (57, 3184), (65, 3223), (Start: 68 @3244 has 3 MA's), (83, 3340), (89, 3373), (97, 3460), (109, 3520), (112, 3562), (124, 3631), (127, 3664),

Gene: Bxb1\_5 Start: 3371, Stop: 4081, Start Num: 18

Candidate Starts for Bxb1\_5:

(Start: 18 @3371 has 186 MA's), (Start: 19 @3380 has 14 MA's), (45, 3503), (50, 3533), (Start: 68 @3635 has 3 MA's), (69, 3644), (72, 3665), (83, 3737), (104, 3884), (109, 3917), (115, 3977), (127, 4064),

Gene: CactusRose\_34 Start: 27944, Stop: 28630, Start Num: 24

Candidate Starts for CactusRose\_34:

(Start: 24 @27944 has 46 MA's), (28, 27980), (Start: 55 @28127 has 1 MA's), (Start: 68 @28196 has 3 MA's), (69, 28205), (86, 28307), (87, 28319), (90, 28331), (98, 28421), (101, 28439), (111, 28502), (118, 28547), (119, 28556),

Gene: CactusRose\_5 Start: 3093, Stop: 3794, Start Num: 18

Candidate Starts for CactusRose\_5:

(Start: 18 @3093 has 186 MA's), (Start: 19 @3102 has 14 MA's), (45, 3225), (47, 3234), (50, 3255), (57, 3297), (64, 3327), (Start: 68 @3357 has 3 MA's), (83, 3453), (89, 3486), (97, 3573), (127, 3777),

Gene: Carlyle\_8 Start: 3934, Stop: 4644, Start Num: 18

Candidate Starts for Carlyle\_8:

(Start: 18 @3934 has 186 MA's), (Start: 19 @3943 has 14 MA's), (45, 4066), (50, 4096), (Start: 68 @4198 has 3 MA's), (69, 4207), (72, 4228), (83, 4300), (104, 4447), (109, 4480), (115, 4540), (127, 4627),

Gene: Catdawg\_64 Start: 41391, Stop: 42077, Start Num: 24

Candidate Starts for Catdawg\_64:

(Start: 24 @41391 has 46 MA's), (27, 41418), (28, 41427), (31, 41445), (34, 41457), (39, 41478), (Start: 55 @41571 has 1 MA's), (58, 41580), (Start: 68 @41637 has 3 MA's), (70, 41649), (77, 41691), (91, 41796), (96, 41850), (109, 41919), (111, 41946), (117, 41988), (118, 41991), (122, 42018), (127, 42069),

Gene: Chanagan\_5 Start: 2952, Stop: 3641, Start Num: 18

Candidate Starts for Chanagan\_5:

(Start: 18 @2952 has 186 MA's), (Start: 19 @2961 has 14 MA's), (36, 3048), (54, 3144), (Start: 68 @3213 has 3 MA's), (78, 3270), (91, 3369),

Gene: ChosenOne\_28 Start: 27173, Stop: 27688, Start Num: 55

Candidate Starts for ChosenOne\_28:

(Start: 55 @27173 has 1 MA's), (62, 27203), (Start: 68 @27242 has 3 MA's), (69, 27251), (94, 27422), (102, 27488), (104, 27494), (111, 27551), (116, 27593), (121, 27623),

Gene: Ciao\_6 Start: 3325, Stop: 4026, Start Num: 18

Candidate Starts for Ciao\_6:

(Start: 18 @3325 has 186 MA's), (Start: 19 @3334 has 14 MA's), (45, 3457), (47, 3466), (50, 3487), (57, 3529), (64, 3559), (Start: 68 @3589 has 3 MA's), (83, 3685), (89, 3718), (97, 3805), (112, 3907), (127, 4009),

Gene: ConceptII\_6 Start: 3574, Stop: 4275, Start Num: 18

Candidate Starts for ConceptII\_6:

(Start: 18 @3574 has 186 MA's), (Start: 19 @3583 has 14 MA's), (45, 3706), (47, 3715), (50, 3736), (57, 3778), (64, 3808), (Start: 68 @3838 has 3 MA's), (83, 3934), (89, 3967), (97, 4054), (127, 4258),

Gene: Corndog\_67 Start: 42385, Stop: 43071, Start Num: 24

Candidate Starts for Corndog\_67:

(Start: 24 @42385 has 46 MA's), (27, 42412), (28, 42421), (31, 42439), (34, 42451), (39, 42472), (Start: 55 @42565 has 1 MA's), (58, 42574), (Start: 68 @42631 has 3 MA's), (70, 42643), (75, 42673), (77, 42685), (85, 42733), (91, 42790), (96, 42844), (109, 42913), (111, 42940), (117, 42982), (118, 42985), (122, 43012), (127, 43063),

Gene: Corvo\_6 Start: 3520, Stop: 4221, Start Num: 18

Candidate Starts for Corvo\_6:

(Start: 18 @3520 has 186 MA's), (Start: 19 @3529 has 14 MA's), (45, 3652), (47, 3661), (50, 3682), (57, 3724), (64, 3754), (Start: 68 @3784 has 3 MA's), (83, 3880), (89, 3913), (97, 4000), (112, 4102), (127, 4204),

Gene: Crispicious1\_5 Start: 2816, Stop: 3508, Start Num: 18

Candidate Starts for Crispicious1\_5:

(Start: 18 @2816 has 186 MA's), (45, 2945), (60, 3026), (64, 3047), (65, 3056), (Start: 68 @3077 has 3 MA's), (71, 3101), (104, 3320), (123, 3455),

Gene: DD5\_6 Start: 3502, Stop: 4212, Start Num: 18

Candidate Starts for DD5\_6:

(Start: 18 @3502 has 186 MA's), (Start: 19 @3511 has 14 MA's), (45, 3634), (50, 3664), (Start: 68 @3766 has 3 MA's), (69, 3775), (72, 3796), (83, 3868), (104, 4015), (109, 4048), (115, 4108), (127, 4195),

Gene: Daikon\_27 Start: 27616, Stop: 28206, Start Num: 37

Candidate Starts for Daikon\_27:

(Start: 37 @27616 has 1 MA's), (54, 27712), (Start: 55 @27718 has 1 MA's), (Start: 68 @27781 has 3 MA's), (78, 27838), (84, 27880), (88, 27907), (102, 28021), (116, 28123),

Gene: Dexes\_7 Start: 3958, Stop: 4659, Start Num: 18

Candidate Starts for Dexes\_7:

(Start: 18 @3958 has 186 MA's), (Start: 19 @3967 has 14 MA's), (45, 4090), (47, 4099), (50, 4120), (57, 4162), (64, 4192), (Start: 68 @4222 has 3 MA's), (83, 4318), (89, 4351), (97, 4438), (109, 4498), (112, 4540), (127, 4642),

Gene: Dexes\_36 Start: 28737, Stop: 29423, Start Num: 24

Candidate Starts for Dexes\_36:

(Start: 24 @28737 has 46 MA's), (28, 28773), (Start: 55 @28920 has 1 MA's), (Start: 68 @28989 has 3 MA's), (69, 28998), (86, 29100), (87, 29112), (90, 29124), (98, 29214), (101, 29232), (111, 29295), (119, 29349),

Gene: Doom\_6 Start: 3605, Stop: 4297, Start Num: 19

Candidate Starts for Doom\_6:

(Start: 18 @3596 has 186 MA's), (Start: 19 @3605 has 14 MA's), (45, 3728), (47, 3737), (50, 3758), (57, 3800), (64, 3830), (Start: 68 @3860 has 3 MA's), (83, 3956), (89, 3989), (97, 4076), (109, 4136), (112, 4178), (127, 4280),

Gene: DrFeelGood\_5 Start: 3134, Stop: 3826, Start Num: 18

Candidate Starts for DrFeelGood\_5:



(Start: 18 @3134 has 186 MA's), (45, 3263), (60, 3344), (64, 3365), (65, 3374), (Start: 68 @3395 has 3 MA's), (71, 3419), (104, 3638), (123, 3773),

Gene: DreamCatcher\_7 Start: 3730, Stop: 4419, Start Num: 18

Candidate Starts for DreamCatcher\_7:

(Start: 18 @3730 has 186 MA's), (Start: 19 @3739 has 14 MA's), (Start: 68 @3991 has 3 MA's), (76, 4042), (111, 4294),

Gene: DroogsArmy\_7 Start: 4452, Stop: 5159, Start Num: 23

Candidate Starts for DroogsArmy\_7:

(16, 4305), (Start: 23 @4452 has 1 MA's), (25, 4458), (26, 4479), (31, 4506), (43, 4563), (57, 4650), (59, 4656), (65, 4692), (Start: 68 @4713 has 3 MA's), (74, 4749), (76, 4764), (80, 4779), (83, 4809), (85, 4815), (93, 4896), (99, 4956), (117, 5070), (120, 5088),

Gene: Dulcie\_5 Start: 3031, Stop: 3720, Start Num: 18

Candidate Starts for Dulcie\_5:

(Start: 18 @3031 has 186 MA's), (54, 3223), (Start: 68 @3292 has 3 MA's), (78, 3349), (91, 3448),

Gene: Dussy\_7 Start: 3368, Stop: 4078, Start Num: 18

Candidate Starts for Dussy\_7:

(Start: 18 @3368 has 186 MA's), (Start: 19 @3377 has 14 MA's), (45, 3500), (50, 3530), (Start: 68 @3632 has 3 MA's), (69, 3641), (72, 3662), (83, 3734), (104, 3881), (109, 3914), (115, 3974), (127, 4061),

Gene: Dylan\_64 Start: 41438, Stop: 42124, Start Num: 24

Candidate Starts for Dylan\_64:

(Start: 24 @41438 has 46 MA's), (27, 41465), (28, 41474), (31, 41492), (34, 41504), (39, 41525), (46, 41555), (Start: 55 @41618 has 1 MA's), (58, 41627), (Start: 68 @41684 has 3 MA's), (70, 41696), (77, 41738), (91, 41843), (96, 41897), (109, 41966), (111, 41993), (117, 42035), (118, 42038), (122, 42065), (127, 42116),

Gene: Dynamix\_6 Start: 3084, Stop: 3773, Start Num: 18

Candidate Starts for Dynamix\_6:

(Start: 18 @3084 has 186 MA's), (Start: 19 @3093 has 14 MA's), (Start: 68 @3345 has 3 MA's), (78, 3402),

Gene: Edtherson\_6 Start: 3299, Stop: 3991, Start Num: 19

Candidate Starts for Edtherson\_6:

(Start: 18 @3290 has 186 MA's), (Start: 19 @3299 has 14 MA's), (45, 3422), (47, 3431), (50, 3452), (57, 3494), (Start: 68 @3554 has 3 MA's), (83, 3650), (89, 3683), (97, 3770), (109, 3830), (112, 3872),

Gene: EnzoK\_6 Start: 3584, Stop: 4288, Start Num: 18

Candidate Starts for EnzoK\_6:

(Start: 18 @3584 has 186 MA's), (Start: 19 @3593 has 14 MA's), (45, 3716), (50, 3746), (57, 3788), (Start: 68 @3848 has 3 MA's), (69, 3857), (83, 3947), (109, 4127), (124, 4238), (127, 4271),

Gene: Espresso\_6 Start: 3449, Stop: 4150, Start Num: 18

Candidate Starts for Espresso\_6:

(Start: 18 @3449 has 186 MA's), (Start: 19 @3458 has 14 MA's), (45, 3581), (47, 3590), (50, 3611), (57, 3653), (64, 3683), (Start: 68 @3713 has 3 MA's), (83, 3809), (89, 3842), (97, 3929), (112, 4031), (127, 4133),

Gene: Euphoria\_6 Start: 3347, Stop: 4048, Start Num: 18

Candidate Starts for Euphoria\_6:

(Start: 18 @3347 has 186 MA's), (Start: 19 @3356 has 14 MA's), (45, 3479), (47, 3488), (50, 3509), (57, 3551), (64, 3581), (Start: 68 @3611 has 3 MA's), (83, 3707), (89, 3740), (97, 3827), (109, 3887), (112, 3929), (127, 4031),

Gene: Eyeball\_6 Start: 3127, Stop: 3816, Start Num: 18

Candidate Starts for Eyeball\_6:

(Start: 18 @3127 has 186 MA's), (Start: 19 @3136 has 14 MA's), (36, 3223), (54, 3319), (Start: 68 @3388 has 3 MA's), (78, 3445), (91, 3544),

Gene: Fajezeel\_7 Start: 3169, Stop: 3870, Start Num: 18

Candidate Starts for Fajezeel\_7:

(Start: 18 @3169 has 186 MA's), (Start: 19 @3178 has 14 MA's), (45, 3301), (47, 3310), (50, 3331), (57, 3373), (64, 3403), (Start: 68 @3433 has 3 MA's), (83, 3529), (89, 3562), (97, 3649), (112, 3751), (127, 3853),

Gene: Familton\_65 Start: 41348, Stop: 42034, Start Num: 24

Candidate Starts for Familton\_65:

(Start: 24 @41348 has 46 MA's), (27, 41375), (28, 41384), (31, 41402), (34, 41414), (39, 41435), (Start: 55 @41528 has 1 MA's), (58, 41537), (Start: 68 @41594 has 3 MA's), (70, 41606), (77, 41648), (91, 41753), (96, 41807), (109, 41876), (111, 41903), (117, 41945), (118, 41948), (122, 41975), (127, 42026),

Gene: Fascinus\_5 Start: 3104, Stop: 3796, Start Num: 19

Candidate Starts for Fascinus\_5:

(Start: 18 @3095 has 186 MA's), (Start: 19 @3104 has 14 MA's), (45, 3227), (47, 3236), (50, 3257), (57, 3299), (64, 3329), (Start: 68 @3359 has 3 MA's), (83, 3455), (89, 3488), (97, 3575), (127, 3779),

Gene: Fascinus\_35 Start: 28001, Stop: 28687, Start Num: 24

Candidate Starts for Fascinus\_35:

(Start: 24 @28001 has 46 MA's), (28, 28037), (Start: 55 @28184 has 1 MA's), (Start: 68 @28253 has 3 MA's), (69, 28262), (86, 28364), (87, 28376), (90, 28388), (98, 28478), (101, 28496), (111, 28559), (118, 28604), (119, 28613), (126, 28676),

Gene: Fenn\_6 Start: 3315, Stop: 4004, Start Num: 18

Candidate Starts for Fenn\_6:

(Start: 18 @3315 has 186 MA's), (Start: 19 @3324 has 14 MA's), (38, 3417), (44, 3438), (54, 3507), (57, 3519), (67, 3570), (Start: 68 @3576 has 3 MA's), (69, 3585), (76, 3627), (88, 3702), (91, 3732), (92, 3741), (97, 3792), (100, 3810), (104, 3822), (111, 3879), (119, 3933), (125, 3984),

Gene: Firecracker\_65 Start: 41538, Stop: 42224, Start Num: 24

Candidate Starts for Firecracker\_65:

(Start: 24 @41538 has 46 MA's), (27, 41565), (28, 41574), (31, 41592), (34, 41604), (39, 41625), (46, 41655), (Start: 55 @41718 has 1 MA's), (58, 41727), (Start: 68 @41784 has 3 MA's), (70, 41796), (77, 41838), (91, 41943), (96, 41997), (109, 42066), (111, 42093), (117, 42135), (118, 42138), (122, 42165), (127, 42216),

Gene: Forsytheast\_5 Start: 3359, Stop: 4060, Start Num: 18

Candidate Starts for Forsytheast\_5:

(Start: 18 @3359 has 186 MA's), (Start: 19 @3368 has 14 MA's), (45, 3491), (47, 3500), (50, 3521), (57, 3563), (64, 3593), (Start: 68 @3623 has 3 MA's), (83, 3719), (89, 3752), (97, 3839), (109, 3899), (112, 3941), (127, 4043),

Gene: FoulBall\_64 Start: 41342, Stop: 42028, Start Num: 24

Candidate Starts for FoulBall\_64:

(Start: 24 @41342 has 46 MA's), (27, 41369), (28, 41378), (31, 41396), (34, 41408), (39, 41429), (Start: 55 @41522 has 1 MA's), (58, 41531), (Start: 68 @41588 has 3 MA's), (70, 41600), (77, 41642), (85, 41690), (91, 41747), (96, 41801), (109, 41870), (111, 41897), (117, 41939), (118, 41942), (122, 41969), (127, 42020),

Gene: Francis47\_6 Start: 3617, Stop: 4318, Start Num: 18

Candidate Starts for Francis47\_6:

(Start: 18 @3617 has 186 MA's), (Start: 19 @3626 has 14 MA's), (45, 3749), (47, 3758), (50, 3779), (57, 3821), (64, 3851), (Start: 68 @3881 has 3 MA's), (83, 3977), (89, 4010), (97, 4097), (127, 4301),

Gene: Froghopper\_7 Start: 3029, Stop: 3739, Start Num: 18

Candidate Starts for Froghopper\_7:

(Start: 18 @3029 has 186 MA's), (Start: 19 @3038 has 14 MA's), (45, 3161), (50, 3191), (Start: 68 @3293 has 3 MA's), (69, 3302), (72, 3323), (83, 3395), (104, 3542), (109, 3575), (115, 3635), (127, 3722),

Gene: Froghopper\_36 Start: 28015, Stop: 28701, Start Num: 24

Candidate Starts for Froghopper\_36:

(Start: 24 @28015 has 46 MA's), (28, 28051), (Start: 55 @28198 has 1 MA's), (Start: 68 @28267 has 3 MA's), (69, 28276), (86, 28378), (87, 28390), (90, 28402), (98, 28492), (101, 28510), (111, 28573), (118, 28618), (119, 28627),

Gene: Fushigi\_6 Start: 3249, Stop: 3959, Start Num: 18

Candidate Starts for Fushigi\_6:

(Start: 18 @3249 has 186 MA's), (Start: 19 @3258 has 14 MA's), (45, 3381), (50, 3411), (Start: 68 @3513 has 3 MA's), (69, 3522), (72, 3543), (83, 3615), (104, 3762), (109, 3795), (115, 3855), (127, 3942),

Gene: GMonster\_5 Start: 2964, Stop: 3665, Start Num: 18

Candidate Starts for GMonster\_5:

(Start: 18 @2964 has 186 MA's), (Start: 19 @2973 has 14 MA's), (45, 3096), (47, 3105), (50, 3126), (57, 3168), (64, 3198), (Start: 68 @3228 has 3 MA's), (83, 3324), (89, 3357), (97, 3444), (109, 3504), (112, 3546), (127, 3648),

Gene: GageAP\_37 Start: 28786, Stop: 29472, Start Num: 24

Candidate Starts for GageAP\_37:

(Start: 24 @28786 has 46 MA's), (28, 28822), (Start: 55 @28969 has 1 MA's), (Start: 68 @29038 has 3 MA's), (69, 29047), (86, 29149), (87, 29161), (90, 29173), (98, 29263), (101, 29281), (111, 29344), (118, 29389), (119, 29398),

Gene: GageAP\_7 Start: 3583, Stop: 4284, Start Num: 18

Candidate Starts for GageAP\_7:

(Start: 18 @3583 has 186 MA's), (Start: 19 @3592 has 14 MA's), (45, 3715), (47, 3724), (50, 3745), (57, 3787), (64, 3817), (Start: 68 @3847 has 3 MA's), (83, 3943), (89, 3976), (97, 4063), (127, 4267),

Gene: Gandalf20\_7 Start: 3468, Stop: 4154, Start Num: 19

Candidate Starts for Gandalf20\_7:

(Start: 18 @3459 has 186 MA's), (Start: 19 @3468 has 14 MA's), (67, 3714), (Start: 68 @3720 has 3 MA's), (97, 3939), (104, 3969), (119, 4080),

Gene: Graduation\_7 Start: 3446, Stop: 4141, Start Num: 18

Candidate Starts for Graduation\_7:

(Start: 18 @3446 has 186 MA's), (67, 3701), (Start: 68 @3707 has 3 MA's), (97, 3926), (104, 3956), (119, 4067),

Gene: GrecoEtereo\_7 Start: 3653, Stop: 4363, Start Num: 18

Candidate Starts for GrecoEtereo\_7:

(Start: 18 @3653 has 186 MA's), (Start: 19 @3662 has 14 MA's), (45, 3785), (50, 3815), (Start: 68 @3917 has 3 MA's), (69, 3926), (72, 3947), (83, 4019), (104, 4166), (109, 4199), (115, 4259), (127, 4346),

Gene: Greg\_7 Start: 3169, Stop: 3870, Start Num: 18

Candidate Starts for Greg\_7:

(Start: 18 @3169 has 186 MA's), (Start: 19 @3178 has 14 MA's), (45, 3301), (47, 3310), (50, 3331), (57, 3373), (64, 3403), (Start: 68 @3433 has 3 MA's), (83, 3529), (89, 3562), (97, 3649), (112, 3751), (127, 3853),

Gene: Gwendoluna\_6 Start: 3451, Stop: 4161, Start Num: 18

Candidate Starts for Gwendoluna\_6:

(Start: 18 @3451 has 186 MA's), (Start: 19 @3460 has 14 MA's), (45, 3583), (50, 3613), (Start: 68 @3715 has 3 MA's), (69, 3724), (72, 3745), (83, 3817), (104, 3964), (109, 3997), (115, 4057), (127, 4144),

Gene: Gyzlar\_7 Start: 3788, Stop: 4498, Start Num: 18

Candidate Starts for Gyzlar\_7:

(Start: 18 @3788 has 186 MA's), (Start: 19 @3797 has 14 MA's), (45, 3920), (50, 3950), (Start: 68 @4052 has 3 MA's), (69, 4061), (72, 4082), (83, 4154), (104, 4301), (109, 4334), (115, 4394), (127, 4481),

Gene: Hami1\_6 Start: 3357, Stop: 4058, Start Num: 18

Candidate Starts for Hami1\_6:

(Start: 18 @3357 has 186 MA's), (Start: 19 @3366 has 14 MA's), (45, 3489), (47, 3498), (50, 3519), (57, 3561), (64, 3591), (Start: 68 @3621 has 3 MA's), (83, 3717), (89, 3750), (97, 3837), (109, 3897), (112, 3939), (127, 4041),

Gene: HanShotFirst\_35 Start: 27990, Stop: 28676, Start Num: 24

Candidate Starts for HanShotFirst\_35:

(Start: 24 @27990 has 46 MA's), (28, 28026), (Start: 55 @28173 has 1 MA's), (Start: 68 @28242 has 3 MA's), (69, 28251), (86, 28353), (87, 28365), (90, 28377), (98, 28467), (101, 28485), (111, 28548), (118, 28593), (119, 28602),

Gene: HanShotFirst\_6 Start: 2962, Stop: 3663, Start Num: 18

Candidate Starts for HanShotFirst\_6:

(Start: 18 @2962 has 186 MA's), (Start: 19 @2971 has 14 MA's), (45, 3094), (47, 3103), (50, 3124), (57, 3166), (64, 3196), (Start: 68 @3226 has 3 MA's), (83, 3322), (89, 3355), (97, 3442), (109, 3502), (112, 3544), (127, 3646),

Gene: HarryOW\_36 Start: 28444, Stop: 29130, Start Num: 24

Candidate Starts for HarryOW\_36:

(Start: 24 @28444 has 46 MA's), (28, 28480), (Start: 55 @28627 has 1 MA's), (Start: 68 @28696 has 3 MA's), (69, 28705), (86, 28807), (87, 28819), (90, 28831), (98, 28921), (101, 28939), (111, 29002), (118, 29047), (119, 29056),

Gene: HarryOW\_7 Start: 3653, Stop: 4363, Start Num: 18

Candidate Starts for HarryOW\_7:

(Start: 18 @3653 has 186 MA's), (Start: 19 @3662 has 14 MA's), (45, 3785), (50, 3815), (Start: 68 @3917 has 3 MA's), (69, 3926), (72, 3947), (83, 4019), (104, 4166), (109, 4199), (115, 4259), (127, 4346),

Gene: Henry\_29 Start: 27878, Stop: 28468, Start Num: 37

Candidate Starts for Henry\_29:

(Start: 37 @27878 has 1 MA's), (54, 27974), (Start: 55 @27980 has 1 MA's), (Start: 68 @28043 has 3 MA's), (78, 28100), (84, 28142), (88, 28169), (102, 28283), (116, 28385),

Gene: Hermia\_7 Start: 3534, Stop: 4244, Start Num: 18

Candidate Starts for Hermia\_7:

(Start: 18 @3534 has 186 MA's), (Start: 19 @3543 has 14 MA's), (45, 3666), (50, 3696), (Start: 68 @3798 has 3 MA's), (69, 3807), (72, 3828), (83, 3900), (104, 4047), (109, 4080), (115, 4140), (127, 4227),

Gene: HermioneGrange\_7 Start: 3087, Stop: 3776, Start Num: 18

Candidate Starts for HermioneGrange\_7:

(Start: 18 @3087 has 186 MA's), (Start: 19 @3096 has 14 MA's), (Start: 68 @3348 has 3 MA's), (76, 3399), (111, 3651),

Gene: Homines\_6 Start: 3366, Stop: 4076, Start Num: 18

Candidate Starts for Homines\_6:

(Start: 18 @3366 has 186 MA's), (Start: 19 @3375 has 14 MA's), (45, 3498), (50, 3528), (Start: 68 @3630 has 3 MA's), (69, 3639), (72, 3660), (83, 3732), (104, 3879), (109, 3912), (115, 3972), (127, 4059),

Gene: Hope4ever\_6 Start: 3493, Stop: 4182, Start Num: 18

Candidate Starts for Hope4ever\_6:

(Start: 18 @3493 has 186 MA's), (Start: 19 @3502 has 14 MA's), (Start: 68 @3754 has 3 MA's), (76, 3805), (111, 4057),

Gene: ILeeKay\_8 Start: 3564, Stop: 4253, Start Num: 18

Candidate Starts for ILeeKay\_8:

(Start: 18 @3564 has 186 MA's), (Start: 19 @3573 has 14 MA's), (54, 3756), (Start: 68 @3825 has 3 MA's), (78, 3882), (91, 3981),

Gene: Ichabod\_6 Start: 3086, Stop: 3787, Start Num: 18

Candidate Starts for Ichabod\_6:

(Start: 18 @3086 has 186 MA's), (Start: 19 @3095 has 14 MA's), (45, 3218), (47, 3227), (50, 3248), (57, 3290), (64, 3320), (Start: 68 @3350 has 3 MA's), (83, 3446), (89, 3479), (97, 3566), (112, 3668), (127, 3770),

Gene: Idergollasper\_64 Start: 41342, Stop: 42028, Start Num: 24

Candidate Starts for Idergollasper\_64:

(Start: 24 @41342 has 46 MA's), (27, 41369), (28, 41378), (31, 41396), (34, 41408), (39, 41429), (Start: 55 @41522 has 1 MA's), (58, 41531), (Start: 68 @41588 has 3 MA's), (70, 41600), (77, 41642), (91, 41747), (96, 41801), (109, 41870), (111, 41897), (117, 41939), (118, 41942), (122, 41969), (127, 42020),

Gene: IgnatiusPatJac\_35 Start: 28305, Stop: 28991, Start Num: 24

Candidate Starts for IgnatiusPatJac\_35:

(Start: 24 @28305 has 46 MA's), (28, 28341), (Start: 55 @28488 has 1 MA's), (Start: 68 @28557 has 3 MA's), (69, 28566), (86, 28668), (87, 28680), (90, 28692), (98, 28782), (101, 28800), (111, 28863), (118, 28908), (119, 28917),

Gene: IgnatiusPatJac\_5 Start: 3362, Stop: 4063, Start Num: 18

Candidate Starts for IgnatiusPatJac\_5:

(Start: 18 @3362 has 186 MA's), (Start: 19 @3371 has 14 MA's), (45, 3494), (47, 3503), (50, 3524), (57, 3566), (64, 3596), (Start: 68 @3626 has 3 MA's), (83, 3722), (89, 3755), (97, 3842), (109, 3902), (112, 3944),

Gene: Inyanga\_34 Start: 27827, Stop: 28513, Start Num: 24

Candidate Starts for Inyanga\_34:

(Start: 24 @27827 has 46 MA's), (28, 27863), (Start: 55 @28010 has 1 MA's), (Start: 68 @28079 has 3 MA's), (69, 28088), (86, 28190), (87, 28202), (90, 28214), (98, 28304), (101, 28322), (111, 28385), (118, 28430), (119, 28439), (126, 28502),

Gene: Inyanga\_5 Start: 3144, Stop: 3845, Start Num: 18

Candidate Starts for Inyanga\_5:

(Start: 18 @3144 has 186 MA's), (Start: 19 @3153 has 14 MA's), (45, 3276), (47, 3285), (50, 3306), (57, 3348), (64, 3378), (Start: 68 @3408 has 3 MA's), (83, 3504), (89, 3537), (97, 3624), (109, 3684), (112, 3726), (127, 3828),

Gene: Iqorha\_34 Start: 27826, Stop: 28512, Start Num: 24

Candidate Starts for Iqorha\_34:

(Start: 24 @27826 has 46 MA's), (28, 27862), (Start: 55 @28009 has 1 MA's), (Start: 68 @28078 has 3 MA's), (69, 28087), (86, 28189), (87, 28201), (90, 28213), (98, 28303), (101, 28321), (111, 28384), (118, 28429), (119, 28438), (126, 28501),

Gene: Iqorha\_5 Start: 3144, Stop: 3845, Start Num: 18

Candidate Starts for Iqorha\_5:

(Start: 18 @3144 has 186 MA's), (Start: 19 @3153 has 14 MA's), (45, 3276), (47, 3285), (50, 3306), (57, 3348), (64, 3378), (Start: 68 @3408 has 3 MA's), (83, 3504), (89, 3537), (97, 3624), (109, 3684), (112, 3726), (127, 3828),

Gene: JC27\_37 Start: 28962, Stop: 29648, Start Num: 24

Candidate Starts for JC27\_37:

(Start: 24 @28962 has 46 MA's), (28, 28998), (Start: 55 @29145 has 1 MA's), (Start: 68 @29214 has 3 MA's), (69, 29223), (86, 29325), (87, 29337), (90, 29349), (98, 29439), (101, 29457), (111, 29520), (118, 29565), (119, 29574), (126, 29637),

Gene: JC27\_7 Start: 3784, Stop: 4485, Start Num: 18

Candidate Starts for JC27\_7:

(Start: 18 @3784 has 186 MA's), (Start: 19 @3793 has 14 MA's), (45, 3916), (47, 3925), (50, 3946), (57, 3988), (64, 4018), (Start: 68 @4048 has 3 MA's), (83, 4144), (89, 4177), (97, 4264), (112, 4366), (127, 4468),

Gene: JackSparrow\_6 Start: 3351, Stop: 4052, Start Num: 18

Candidate Starts for JackSparrow\_6:

(Start: 18 @3351 has 186 MA's), (Start: 19 @3360 has 14 MA's), (45, 3483), (47, 3492), (50, 3513), (57, 3555), (64, 3585), (Start: 68 @3615 has 3 MA's), (83, 3711), (89, 3744), (97, 3831), (109, 3891), (112, 3933), (127, 4035),

Gene: JangDynasty\_64 Start: 41428, Stop: 42114, Start Num: 24

Candidate Starts for JangDynasty\_64:

(Start: 24 @41428 has 46 MA's), (27, 41455), (28, 41464), (31, 41482), (34, 41494), (39, 41515),  
(Start: 55 @41608 has 1 MA's), (58, 41617), (Start: 68 @41674 has 3 MA's), (70, 41686), (77, 41728),  
(91, 41833), (96, 41887), (109, 41956), (111, 41983), (117, 42025), (118, 42028), (122, 42055), (127,  
42106),

Gene: Jasper\_7 Start: 3199, Stop: 3897, Start Num: 18

Candidate Starts for Jasper\_7:

(Start: 18 @3199 has 186 MA's), (Start: 19 @3208 has 14 MA's), (54, 3391), (Start: 55 @3397 has 1  
MA's), (56, 3400), (Start: 68 @3460 has 3 MA's), (92, 3628), (97, 3679), (104, 3709), (108, 3739),

Gene: Jerm2\_6 Start: 3086, Stop: 3775, Start Num: 18

Candidate Starts for Jerm2\_6:

(Start: 18 @3086 has 186 MA's), (Start: 19 @3095 has 14 MA's), (38, 3188), (44, 3209), (54, 3278),  
(57, 3290), (67, 3341), (Start: 68 @3347 has 3 MA's), (69, 3356), (76, 3398), (88, 3473), (91, 3503),  
(92, 3512), (97, 3563), (100, 3581), (104, 3593), (111, 3650), (119, 3704), (125, 3755),

Gene: JuliaChild\_8 Start: 3828, Stop: 4529, Start Num: 18

Candidate Starts for JuliaChild\_8:

(Start: 18 @3828 has 186 MA's), (Start: 19 @3837 has 14 MA's), (45, 3960), (47, 3969), (50, 3990),  
(57, 4032), (64, 4062), (Start: 68 @4092 has 3 MA's), (83, 4188), (89, 4221), (97, 4308), (109, 4368),  
(112, 4410), (127, 4512),

Gene: KBG\_6 Start: 3719, Stop: 4420, Start Num: 18

Candidate Starts for KBG\_6:

(Start: 18 @3719 has 186 MA's), (Start: 19 @3728 has 14 MA's), (45, 3851), (47, 3860), (50, 3881),  
(57, 3923), (64, 3953), (Start: 68 @3983 has 3 MA's), (83, 4079), (89, 4112), (97, 4199), (109, 4259),  
(112, 4301), (127, 4403),

Gene: KSSJEB\_5 Start: 2853, Stop: 3533, Start Num: 19

Candidate Starts for KSSJEB\_5:

(Start: 18 @2844 has 186 MA's), (Start: 19 @2853 has 14 MA's), (38, 2946), (44, 2967), (54, 3036),  
(57, 3048), (67, 3099), (Start: 68 @3105 has 3 MA's), (69, 3114), (76, 3156), (88, 3231), (91, 3261),  
(92, 3270), (97, 3321), (100, 3339), (104, 3351), (111, 3408), (119, 3462), (125, 3513),

Gene: Kanely\_7 Start: 3938, Stop: 4639, Start Num: 18

Candidate Starts for Kanely\_7:

(Start: 18 @3938 has 186 MA's), (Start: 19 @3947 has 14 MA's), (45, 4070), (47, 4079), (50, 4100),  
(57, 4142), (64, 4172), (Start: 68 @4202 has 3 MA's), (83, 4298), (89, 4331), (97, 4418), (127, 4622),

Gene: Kenmech\_7 Start: 3368, Stop: 4078, Start Num: 18

Candidate Starts for Kenmech\_7:

(Start: 18 @3368 has 186 MA's), (Start: 19 @3377 has 14 MA's), (45, 3500), (50, 3530), (Start: 68  
@3632 has 3 MA's), (69, 3641), (72, 3662), (83, 3734), (104, 3881), (109, 3914), (115, 3974), (127,  
4061),

Gene: Killigrew\_4 Start: 2819, Stop: 3508, Start Num: 18

Candidate Starts for Killigrew\_4:

(Start: 18 @2819 has 186 MA's), (22, 2858), (63, 3044), (Start: 68 @3071 has 3 MA's), (73, 3104), (84,  
3170), (90, 3206), (91, 3230), (92, 3239), (94, 3248), (97, 3287), (110, 3356), (113, 3401), (127, 3500),

Gene: KingPhillip3\_63 Start: 41357, Stop: 42043, Start Num: 24

Candidate Starts for KingPhillip3\_63:

(Start: 24 @41357 has 46 MA's), (27, 41384), (28, 41393), (31, 41411), (34, 41423), (39, 41444), (Start: 55 @41537 has 1 MA's), (58, 41546), (Start: 68 @41603 has 3 MA's), (70, 41615), (77, 41657), (91, 41762), (96, 41816), (109, 41885), (111, 41912), (117, 41954), (118, 41957), (122, 41984), (127, 42035),

Gene: Kostya\_29 Start: 28044, Stop: 28469, Start Num: 68

Candidate Starts for Kostya\_29:

(30, 27855), (54, 27975), (Start: 55 @27981 has 1 MA's), (Start: 68 @28044 has 3 MA's), (78, 28101), (84, 28143), (88, 28170), (102, 28284), (116, 28386),

Gene: Krili\_63 Start: 40852, Stop: 41538, Start Num: 24

Candidate Starts for Krili\_63:

(Start: 24 @40852 has 46 MA's), (27, 40879), (28, 40888), (31, 40906), (34, 40918), (39, 40939), (Start: 55 @41032 has 1 MA's), (58, 41041), (Start: 68 @41098 has 3 MA's), (70, 41110), (77, 41152), (85, 41200), (91, 41257), (96, 41311), (109, 41380), (111, 41407), (117, 41449), (118, 41452), (122, 41479), (127, 41530),

Gene: Kugel\_7 Start: 3406, Stop: 4116, Start Num: 18

Candidate Starts for Kugel\_7:

(Start: 18 @3406 has 186 MA's), (Start: 19 @3415 has 14 MA's), (45, 3538), (50, 3568), (Start: 68 @3670 has 3 MA's), (69, 3679), (72, 3700), (83, 3772), (104, 3919), (109, 3952), (115, 4012), (127, 4099),

Gene: KyMonks1A\_8 Start: 3672, Stop: 4373, Start Num: 18

Candidate Starts for KyMonks1A\_8:

(Start: 18 @3672 has 186 MA's), (Start: 19 @3681 has 14 MA's), (45, 3804), (47, 3813), (50, 3834), (57, 3876), (Start: 68 @3936 has 3 MA's), (83, 4032), (89, 4065), (97, 4152), (109, 4212), (112, 4254),

Gene: Kykar\_35 Start: 28019, Stop: 28705, Start Num: 24

Candidate Starts for Kykar\_35:

(Start: 24 @28019 has 46 MA's), (28, 28055), (Start: 55 @28202 has 1 MA's), (Start: 68 @28271 has 3 MA's), (69, 28280), (86, 28382), (87, 28394), (90, 28406), (98, 28496), (101, 28514), (111, 28577), (118, 28622), (119, 28631), (126, 28694),

Gene: Kykar\_4 Start: 2883, Stop: 3593, Start Num: 18

Candidate Starts for Kykar\_4:

(Start: 18 @2883 has 186 MA's), (Start: 19 @2892 has 14 MA's), (45, 3015), (50, 3045), (Start: 68 @3147 has 3 MA's), (69, 3156), (72, 3177), (83, 3249), (104, 3396), (109, 3429), (115, 3489), (127, 3576),

Gene: Lamina13\_6 Start: 2960, Stop: 3655, Start Num: 18

Candidate Starts for Lamina13\_6:

(Start: 18 @2960 has 186 MA's), (Start: 19 @2969 has 14 MA's), (42, 3077), (65, 3203), (Start: 68 @3224 has 3 MA's), (78, 3278), (97, 3437), (105, 3467), (106, 3473), (113, 3542), (115, 3554),

Gene: Lesedi\_5 Start: 3098, Stop: 3808, Start Num: 18

Candidate Starts for Lesedi\_5:

(Start: 18 @3098 has 186 MA's), (Start: 19 @3107 has 14 MA's), (45, 3230), (50, 3260), (Start: 68 @3362 has 3 MA's), (69, 3371), (72, 3392), (83, 3464), (104, 3611), (109, 3644), (115, 3704), (127, 3791),

Gene: Levia\_4 Start: 2818, Stop: 3528, Start Num: 18

Candidate Starts for Levia\_4:



(Start: 18 @2818 has 186 MA's), (Start: 19 @2827 has 14 MA's), (45, 2950), (50, 2980), (Start: 68 @3082 has 3 MA's), (69, 3091), (72, 3112), (83, 3184), (104, 3331), (109, 3364), (115, 3424), (127, 3511),

Gene: Licorice\_8 Start: 3957, Stop: 4667, Start Num: 18

Candidate Starts for Licorice\_8:

(Start: 18 @3957 has 186 MA's), (Start: 19 @3966 has 14 MA's), (45, 4089), (50, 4119), (Start: 68 @4221 has 3 MA's), (69, 4230), (72, 4251), (83, 4323), (104, 4470), (109, 4503), (115, 4563), (127, 4650),

Gene: LilBib\_5 Start: 3141, Stop: 3842, Start Num: 18

Candidate Starts for LilBib\_5:

(Start: 18 @3141 has 186 MA's), (Start: 19 @3150 has 14 MA's), (45, 3273), (47, 3282), (50, 3303), (57, 3345), (64, 3375), (Start: 68 @3405 has 3 MA's), (83, 3501), (89, 3534), (97, 3621), (109, 3681), (112, 3723), (127, 3825),

Gene: LilBib\_36 Start: 29268, Stop: 29954, Start Num: 24

Candidate Starts for LilBib\_36:

(Start: 24 @29268 has 46 MA's), (28, 29304), (Start: 55 @29451 has 1 MA's), (Start: 68 @29520 has 3 MA's), (69, 29529), (86, 29631), (87, 29643), (90, 29655), (98, 29745), (101, 29763), (111, 29826), (118, 29871), (119, 29880),

Gene: Lockley\_6 Start: 3279, Stop: 3989, Start Num: 18

Candidate Starts for Lockley\_6:

(Start: 18 @3279 has 186 MA's), (Start: 19 @3288 has 14 MA's), (45, 3411), (50, 3441), (Start: 68 @3543 has 3 MA's), (69, 3552), (72, 3573), (83, 3645), (104, 3792), (109, 3825), (115, 3885), (127, 3972),

Gene: Lopton\_7 Start: 3693, Stop: 4394, Start Num: 18

Candidate Starts for Lopton\_7:

(Start: 18 @3693 has 186 MA's), (Start: 19 @3702 has 14 MA's), (45, 3825), (47, 3834), (50, 3855), (57, 3897), (64, 3927), (Start: 68 @3957 has 3 MA's), (83, 4053), (89, 4086), (97, 4173), (112, 4275), (127, 4377),

Gene: LunarLander\_6 Start: 3118, Stop: 3798, Start Num: 19

Candidate Starts for LunarLander\_6:

(Start: 18 @3109 has 186 MA's), (Start: 19 @3118 has 14 MA's), (54, 3301), (Start: 68 @3370 has 3 MA's), (78, 3427), (91, 3526),

Gene: MPlant7149\_5 Start: 2926, Stop: 3627, Start Num: 18

Candidate Starts for MPlant7149\_5:

(Start: 18 @2926 has 186 MA's), (Start: 19 @2935 has 14 MA's), (45, 3058), (47, 3067), (50, 3088), (57, 3130), (64, 3160), (Start: 68 @3190 has 3 MA's), (83, 3286), (89, 3319), (97, 3406), (112, 3508), (127, 3610),

Gene: MadKillah\_65 Start: 41121, Stop: 41807, Start Num: 24

Candidate Starts for MadKillah\_65:

(Start: 24 @41121 has 46 MA's), (27, 41148), (28, 41157), (31, 41175), (34, 41187), (39, 41208), (Start: 55 @41301 has 1 MA's), (58, 41310), (Start: 68 @41367 has 3 MA's), (70, 41379), (77, 41421), (91, 41526), (96, 41580), (109, 41649), (111, 41676), (117, 41718), (118, 41721), (122, 41748), (127, 41799),

Gene: Magnar\_6 Start: 3078, Stop: 3779, Start Num: 18

Candidate Starts for Magnar\_6:

(Start: 18 @3078 has 186 MA's), (Start: 19 @3087 has 14 MA's), (45, 3210), (47, 3219), (50, 3240), (57, 3282), (Start: 68 @3342 has 3 MA's), (83, 3438), (89, 3471), (97, 3558), (109, 3618), (112, 3660),

Gene: Magnito\_5 Start: 2814, Stop: 3524, Start Num: 18

Candidate Starts for Magnito\_5:

(Start: 18 @2814 has 186 MA's), (Start: 19 @2823 has 14 MA's), (45, 2946), (50, 2976), (Start: 68 @3078 has 3 MA's), (69, 3087), (72, 3108), (83, 3180), (104, 3327), (109, 3360), (115, 3420), (127, 3507),

Gene: Makemake\_6 Start: 3551, Stop: 4240, Start Num: 18

Candidate Starts for Makemake\_6:

(Start: 18 @3551 has 186 MA's), (Start: 19 @3560 has 14 MA's), (41, 3662), (58, 3752), (Start: 68 @3809 has 3 MA's), (78, 3863), (79, 3866), (85, 3908), (91, 3962), (97, 4022), (103, 4046), (105, 4052), (113, 4127), (115, 4139),

Gene: Manatee\_6 Start: 3013, Stop: 3723, Start Num: 18

Candidate Starts for Manatee\_6:

(Start: 18 @3013 has 186 MA's), (Start: 19 @3022 has 14 MA's), (45, 3145), (50, 3175), (Start: 68 @3277 has 3 MA's), (69, 3286), (72, 3307), (83, 3379), (104, 3526), (109, 3559), (115, 3619), (127, 3706),

Gene: Marcell\_6 Start: 3274, Stop: 3984, Start Num: 18

Candidate Starts for Marcell\_6:

(Start: 18 @3274 has 186 MA's), (Start: 19 @3283 has 14 MA's), (45, 3406), (50, 3436), (Start: 68 @3538 has 3 MA's), (69, 3547), (72, 3568), (83, 3640), (104, 3787), (109, 3820), (115, 3880), (127, 3967),

Gene: Marchy\_5 Start: 2910, Stop: 3611, Start Num: 18

Candidate Starts for Marchy\_5:

(Start: 18 @2910 has 186 MA's), (Start: 19 @2919 has 14 MA's), (45, 3042), (47, 3051), (50, 3072), (57, 3114), (64, 3144), (Start: 68 @3174 has 3 MA's), (83, 3270), (89, 3303), (97, 3390),

Gene: Marco3\_6 Start: 3576, Stop: 4277, Start Num: 18

Candidate Starts for Marco3\_6:

(Start: 18 @3576 has 186 MA's), (Start: 19 @3585 has 14 MA's), (45, 3708), (47, 3717), (50, 3738), (57, 3780), (64, 3810), (Start: 68 @3840 has 3 MA's), (83, 3936), (89, 3969), (97, 4056), (109, 4116), (127, 4260),

Gene: Marge\_6 Start: 3295, Stop: 4005, Start Num: 18

Candidate Starts for Marge\_6:

(Start: 18 @3295 has 186 MA's), (Start: 19 @3304 has 14 MA's), (45, 3427), (50, 3457), (Start: 68 @3559 has 3 MA's), (69, 3568), (72, 3589), (83, 3661), (104, 3808), (109, 3841), (115, 3901), (127, 3988),

Gene: Maroc7\_5 Start: 3096, Stop: 3797, Start Num: 18

Candidate Starts for Maroc7\_5:

(Start: 18 @3096 has 186 MA's), (Start: 19 @3105 has 14 MA's), (45, 3228), (47, 3237), (50, 3258), (57, 3300), (64, 3330), (Start: 68 @3360 has 3 MA's), (83, 3456), (89, 3489), (97, 3576), (127, 3780),

Gene: Marsha\_6 Start: 3549, Stop: 4250, Start Num: 18

Candidate Starts for Marsha\_6:

(Start: 18 @3549 has 186 MA's), (Start: 19 @3558 has 14 MA's), (45, 3681), (47, 3690), (50, 3711), (57, 3753), (64, 3783), (Start: 68 @3813 has 3 MA's), (83, 3909), (89, 3942), (97, 4029), (109, 4089), (112, 4131),

Gene: MaryBeth\_6 Start: 3520, Stop: 4221, Start Num: 18

Candidate Starts for MaryBeth\_6:

(Start: 18 @3520 has 186 MA's), (Start: 19 @3529 has 14 MA's), (45, 3652), (47, 3661), (50, 3682), (57, 3724), (64, 3754), (Start: 68 @3784 has 3 MA's), (83, 3880), (89, 3913), (97, 4000), (112, 4102), (127, 4204),

Gene: McGuire\_6 Start: 3080, Stop: 3769, Start Num: 18

Candidate Starts for McGuire\_6:

(Start: 18 @3080 has 186 MA's), (Start: 19 @3089 has 14 MA's), (Start: 68 @3341 has 3 MA's), (78, 3398),

Gene: McSinger\_7 Start: 3478, Stop: 4182, Start Num: 18

Candidate Starts for McSinger\_7:

(Start: 18 @3478 has 186 MA's), (Start: 19 @3487 has 14 MA's), (45, 3610), (50, 3640), (57, 3682), (66, 3727), (Start: 68 @3742 has 3 MA's), (69, 3751), (83, 3841), (109, 4021), (124, 4132), (127, 4165),

Gene: MetalQZJ\_6 Start: 3520, Stop: 4221, Start Num: 18

Candidate Starts for MetalQZJ\_6:

(Start: 18 @3520 has 186 MA's), (Start: 19 @3529 has 14 MA's), (45, 3652), (47, 3661), (50, 3682), (57, 3724), (64, 3754), (Start: 68 @3784 has 3 MA's), (83, 3880), (89, 3913), (97, 4000), (112, 4102), (127, 4204),

Gene: Michley\_6 Start: 3280, Stop: 3972, Start Num: 18

Candidate Starts for Michley\_6:

(Start: 18 @3280 has 186 MA's), (45, 3409), (60, 3490), (64, 3511), (65, 3520), (Start: 68 @3541 has 3 MA's), (71, 3565), (104, 3784), (123, 3919),

Gene: Mkhuseli\_5 Start: 2925, Stop: 3626, Start Num: 18

Candidate Starts for Mkhuseli\_5:

(Start: 18 @2925 has 186 MA's), (Start: 19 @2934 has 14 MA's), (45, 3057), (47, 3066), (50, 3087), (57, 3129), (65, 3168), (Start: 68 @3189 has 3 MA's), (83, 3285), (89, 3318), (97, 3405), (109, 3465), (112, 3507), (127, 3609),

Gene: Molly\_7 Start: 3126, Stop: 3827, Start Num: 18

Candidate Starts for Molly\_7:

(Start: 18 @3126 has 186 MA's), (Start: 19 @3135 has 14 MA's), (45, 3258), (47, 3267), (50, 3288), (57, 3330), (64, 3360), (Start: 68 @3390 has 3 MA's), (83, 3486), (89, 3519), (97, 3606), (112, 3708), (127, 3810),

Gene: Monet\_6 Start: 3249, Stop: 3959, Start Num: 18

Candidate Starts for Monet\_6:

(Start: 18 @3249 has 186 MA's), (Start: 19 @3258 has 14 MA's), (45, 3381), (50, 3411), (Start: 68 @3513 has 3 MA's), (69, 3522), (72, 3543), (83, 3615), (104, 3762), (109, 3795), (115, 3855), (127, 3942),

Gene: Moose\_5 Start: 3359, Stop: 4060, Start Num: 18

Candidate Starts for Moose\_5:

(Start: 18 @3359 has 186 MA's), (Start: 19 @3368 has 14 MA's), (45, 3491), (47, 3500), (50, 3521), (57, 3563), (64, 3593), (Start: 68 @3623 has 3 MA's), (83, 3719), (89, 3752), (97, 3839), (109, 3899),

(112, 3941), (127, 4043),

Gene: Mori\_64 Start: 41383, Stop: 42069, Start Num: 24

Candidate Starts for Mori\_64:

(Start: 24 @41383 has 46 MA's), (27, 41410), (28, 41419), (31, 41437), (34, 41449), (39, 41470),  
(Start: 55 @41563 has 1 MA's), (58, 41572), (Start: 68 @41629 has 3 MA's), (70, 41641), (77, 41683),  
(91, 41788), (96, 41842), (109, 41911), (111, 41938), (117, 41980), (118, 41983), (122, 42010), (127,  
42061),

Gene: MrGordo\_6 Start: 3113, Stop: 3805, Start Num: 18

Candidate Starts for MrGordo\_6:

(Start: 18 @3113 has 186 MA's), (45, 3242), (46, 3248), (60, 3323), (64, 3344), (65, 3353), (Start: 68  
@3374 has 3 MA's), (71, 3398), (104, 3617), (123, 3752),

Gene: Mule\_5 Start: 3184, Stop: 3885, Start Num: 18

Candidate Starts for Mule\_5:

(Start: 18 @3184 has 186 MA's), (Start: 19 @3193 has 14 MA's), (45, 3316), (47, 3325), (50, 3346),  
(57, 3388), (64, 3418), (Start: 68 @3448 has 3 MA's), (83, 3544), (89, 3577), (97, 3664), (109, 3724),  
(112, 3766), (127, 3868),

Gene: Murai\_65 Start: 41564, Stop: 42250, Start Num: 24

Candidate Starts for Murai\_65:

(Start: 24 @41564 has 46 MA's), (27, 41591), (28, 41600), (31, 41618), (34, 41630), (39, 41651),  
(Start: 55 @41744 has 1 MA's), (58, 41753), (Start: 68 @41810 has 3 MA's), (70, 41822), (77, 41864),  
(91, 41969), (96, 42023), (109, 42092), (111, 42119), (117, 42161), (118, 42164), (122, 42191), (127,  
42242),

Gene: Museum\_7 Start: 2926, Stop: 3615, Start Num: 18

Candidate Starts for Museum\_7:

(Start: 18 @2926 has 186 MA's), (Start: 19 @2935 has 14 MA's), (38, 3028), (44, 3049), (54, 3118),  
(57, 3130), (67, 3181), (Start: 68 @3187 has 3 MA's), (69, 3196), (76, 3238), (88, 3313), (91, 3343),  
(92, 3352), (97, 3403), (100, 3421), (104, 3433),

Gene: NEHalo\_6 Start: 2920, Stop: 3621, Start Num: 18

Candidate Starts for NEHalo\_6:

(Start: 18 @2920 has 186 MA's), (Start: 19 @2929 has 14 MA's), (45, 3052), (47, 3061), (50, 3082),  
(57, 3124), (64, 3154), (Start: 68 @3184 has 3 MA's), (83, 3280), (89, 3313), (97, 3400), (112, 3502),  
(127, 3604),

Gene: Naira\_6 Start: 3315, Stop: 4004, Start Num: 18

Candidate Starts for Naira\_6:

(Start: 18 @3315 has 186 MA's), (Start: 19 @3324 has 14 MA's), (38, 3417), (44, 3438), (54, 3507),  
(57, 3519), (67, 3570), (Start: 68 @3576 has 3 MA's), (69, 3585), (76, 3627), (88, 3702), (91, 3732),  
(92, 3741), (97, 3792), (100, 3810), (104, 3822), (111, 3879), (119, 3933), (125, 3984),

Gene: Nerujay\_6 Start: 3213, Stop: 3914, Start Num: 18

Candidate Starts for Nerujay\_6:

(Start: 18 @3213 has 186 MA's), (Start: 19 @3222 has 14 MA's), (45, 3345), (47, 3354), (50, 3375),  
(57, 3417), (64, 3447), (Start: 68 @3477 has 3 MA's), (83, 3573), (89, 3606), (97, 3693), (109, 3753),  
(112, 3795), (127, 3897),

Gene: NewHope4\_22 Start: 22169, Stop: 23029, Start Num: 14

Candidate Starts for NewHope4\_22:

(14, 22169), (15, 22214), (17, 22298), (21, 22358), (29, 22400), (33, 22418), (35, 22427), (42, 22451), (46, 22472), (57, 22538), (Start: 68 @22598 has 3 MA's), (78, 22655), (83, 22694), (88, 22727), (93, 22775), (125, 23003),

Gene: Nhonho\_6 Start: 3216, Stop: 3917, Start Num: 18

Candidate Starts for Nhonho\_6:

(Start: 18 @3216 has 186 MA's), (Start: 19 @3225 has 14 MA's), (45, 3348), (47, 3357), (57, 3420), (65, 3459), (Start: 68 @3480 has 3 MA's), (83, 3576), (89, 3609), (109, 3756), (112, 3798), (127, 3900),

Gene: NiebruSaylor\_63 Start: 40771, Stop: 41457, Start Num: 24

Candidate Starts for NiebruSaylor\_63:

(Start: 24 @40771 has 46 MA's), (27, 40798), (28, 40807), (31, 40825), (34, 40837), (39, 40858), (Start: 55 @40951 has 1 MA's), (58, 40960), (Start: 68 @41017 has 3 MA's), (70, 41029), (77, 41071), (85, 41119), (91, 41176), (96, 41230), (109, 41299), (111, 41326), (117, 41368), (118, 41371), (122, 41398), (127, 41449),

Gene: Niza\_7 Start: 3932, Stop: 4633, Start Num: 18

Candidate Starts for Niza\_7:

(Start: 18 @3932 has 186 MA's), (Start: 19 @3941 has 14 MA's), (45, 4064), (47, 4073), (50, 4094), (57, 4136), (64, 4166), (Start: 68 @4196 has 3 MA's), (83, 4292), (89, 4325), (97, 4412), (112, 4514), (127, 4616),

Gene: Norz\_6 Start: 3312, Stop: 4001, Start Num: 18

Candidate Starts for Norz\_6:

(Start: 18 @3312 has 186 MA's), (Start: 19 @3321 has 14 MA's), (41, 3423), (58, 3513), (Start: 68 @3570 has 3 MA's), (78, 3624), (79, 3627), (80, 3633), (85, 3669), (91, 3723), (97, 3783), (103, 3807), (105, 3813), (113, 3888), (115, 3900),

Gene: Ohno789\_5 Start: 2769, Stop: 3470, Start Num: 18

Candidate Starts for Ohno789\_5:

(Start: 18 @2769 has 186 MA's), (Start: 19 @2778 has 14 MA's), (45, 2901), (47, 2910), (50, 2931), (57, 2973), (64, 3003), (Start: 68 @3033 has 3 MA's), (83, 3129), (89, 3162), (97, 3249), (112, 3351), (127, 3453),

Gene: Oogway\_5 Start: 3340, Stop: 4041, Start Num: 18

Candidate Starts for Oogway\_5:

(Start: 18 @3340 has 186 MA's), (Start: 19 @3349 has 14 MA's), (45, 3472), (47, 3481), (50, 3502), (57, 3544), (64, 3574), (Start: 68 @3604 has 3 MA's), (83, 3700), (89, 3733), (97, 3820), (127, 4024),

Gene: PSullivan\_8 Start: 3828, Stop: 4529, Start Num: 18

Candidate Starts for PSullivan\_8:

(Start: 18 @3828 has 186 MA's), (Start: 19 @3837 has 14 MA's), (45, 3960), (47, 3969), (50, 3990), (57, 4032), (64, 4062), (Start: 68 @4092 has 3 MA's), (83, 4188), (89, 4221), (97, 4308), (109, 4368), (112, 4410), (127, 4512),

Gene: PacerPaul\_6 Start: 3617, Stop: 4318, Start Num: 18

Candidate Starts for PacerPaul\_6:

(Start: 18 @3617 has 186 MA's), (Start: 19 @3626 has 14 MA's), (45, 3749), (47, 3758), (50, 3779), (57, 3821), (64, 3851), (Start: 68 @3881 has 3 MA's), (83, 3977), (89, 4010), (97, 4097), (127, 4301),

Gene: Papez\_6 Start: 3435, Stop: 4136, Start Num: 18

Candidate Starts for Papez\_6:

(Start: 18 @3435 has 186 MA's), (Start: 19 @3444 has 14 MA's), (45, 3567), (50, 3597), (57, 3639), (64, 3669), (Start: 68 @3699 has 3 MA's), (83, 3795), (89, 3828), (97, 3915), (109, 3975), (112, 4017), (127, 4119),

Gene: Paphu\_5 Start: 2806, Stop: 3507, Start Num: 18

Candidate Starts for Paphu\_5:

(Start: 18 @2806 has 186 MA's), (Start: 19 @2815 has 14 MA's), (45, 2938), (47, 2947), (50, 2968), (57, 3010), (Start: 68 @3070 has 3 MA's), (83, 3166), (89, 3199), (97, 3286), (109, 3346), (112, 3388), (124, 3457),

Gene: Paraselene\_5 Start: 3090, Stop: 3800, Start Num: 18

Candidate Starts for Paraselene\_5:

(Start: 18 @3090 has 186 MA's), (Start: 19 @3099 has 14 MA's), (45, 3222), (50, 3252), (Start: 68 @3354 has 3 MA's), (69, 3363), (72, 3384), (83, 3456), (93, 3534), (104, 3603), (109, 3636), (115, 3696), (127, 3783),

Gene: Pari\_7 Start: 3580, Stop: 4269, Start Num: 18

Candidate Starts for Pari\_7:

(Start: 18 @3580 has 186 MA's), (Start: 19 @3589 has 14 MA's), (Start: 68 @3841 has 3 MA's), (76, 3892), (111, 4144),

Gene: Parliament\_5 Start: 3442, Stop: 3873, Start Num: 68

Candidate Starts for Parliament\_5:

(Start: 68 @3442 has 3 MA's), (78, 3496), (79, 3499), (85, 3541), (91, 3595), (95, 3640), (97, 3655), (103, 3679), (105, 3685), (113, 3760),

Gene: PascalRango\_5 Start: 2963, Stop: 3664, Start Num: 18

Candidate Starts for PascalRango\_5:

(Start: 18 @2963 has 186 MA's), (Start: 19 @2972 has 14 MA's), (45, 3095), (47, 3104), (50, 3125), (57, 3167), (64, 3197), (Start: 68 @3227 has 3 MA's), (83, 3323), (89, 3356), (97, 3443), (109, 3503), (112, 3545), (127, 3647),

Gene: PattyP\_7 Start: 3121, Stop: 3822, Start Num: 18

Candidate Starts for PattyP\_7:

(Start: 18 @3121 has 186 MA's), (Start: 19 @3130 has 14 MA's), (45, 3253), (47, 3262), (50, 3283), (57, 3325), (64, 3355), (Start: 68 @3385 has 3 MA's), (83, 3481), (89, 3514), (97, 3601), (109, 3661), (112, 3703), (127, 3805),

Gene: Payneful\_6 Start: 2910, Stop: 3611, Start Num: 18

Candidate Starts for Payneful\_6:

(Start: 18 @2910 has 186 MA's), (Start: 19 @2919 has 14 MA's), (45, 3042), (47, 3051), (50, 3072), (57, 3114), (64, 3144), (Start: 68 @3174 has 3 MA's), (83, 3270), (89, 3303), (97, 3390),

Gene: Pelly\_36 Start: 28758, Stop: 29444, Start Num: 24

Candidate Starts for Pelly\_36:

(Start: 24 @28758 has 46 MA's), (28, 28794), (Start: 55 @28941 has 1 MA's), (Start: 68 @29010 has 3 MA's), (69, 29019), (86, 29121), (87, 29133), (90, 29145), (98, 29235), (101, 29253), (111, 29316), (118, 29361), (119, 29370),

Gene: Pelly\_7 Start: 3760, Stop: 4461, Start Num: 18

Candidate Starts for Pelly\_7:

(Start: 18 @3760 has 186 MA's), (Start: 19 @3769 has 14 MA's), (45, 3892), (47, 3901), (50, 3922), (57, 3964), (64, 3994), (Start: 68 @4024 has 3 MA's), (83, 4120), (89, 4153), (97, 4240), (109, 4300),

(112, 4342), (127, 4444),

Gene: Pepe\_7 Start: 3783, Stop: 4484, Start Num: 18

Candidate Starts for Pepe\_7:

(Start: 18 @3783 has 186 MA's), (Start: 19 @3792 has 14 MA's), (40, 3894), (45, 3915), (47, 3924), (50, 3945), (57, 3987), (64, 4017), (Start: 68 @4047 has 3 MA's), (83, 4143), (89, 4176), (97, 4263), (109, 4323), (127, 4467),

Gene: Perseus\_7 Start: 3489, Stop: 4181, Start Num: 19

Candidate Starts for Perseus\_7:

(Start: 18 @3480 has 186 MA's), (Start: 19 @3489 has 14 MA's), (45, 3612), (47, 3621), (50, 3642), (57, 3684), (64, 3714), (Start: 68 @3744 has 3 MA's), (83, 3840), (89, 3873), (97, 3960), (109, 4020), (112, 4062), (127, 4164),

Gene: Peterson\_8 Start: 4615, Stop: 5310, Start Num: 18

Candidate Starts for Peterson\_8:

(Start: 18 @4615 has 186 MA's), (Start: 19 @4624 has 14 MA's), (42, 4732), (65, 4858), (Start: 68 @4879 has 3 MA's), (78, 4933), (80, 4942), (97, 5092), (105, 5122), (106, 5128), (115, 5209),

Gene: Petp2012\_8 Start: 3288, Stop: 3977, Start Num: 18

Candidate Starts for Petp2012\_8:

(Start: 18 @3288 has 186 MA's), (Start: 19 @3297 has 14 MA's), (38, 3390), (44, 3411), (54, 3480), (57, 3492), (67, 3543), (Start: 68 @3549 has 3 MA's), (69, 3558), (76, 3600), (88, 3675), (91, 3705), (97, 3765), (100, 3783), (104, 3795), (111, 3852), (119, 3906), (125, 3957),

Gene: Petruchio\_6 Start: 3029, Stop: 3739, Start Num: 18

Candidate Starts for Petruchio\_6:

(Start: 18 @3029 has 186 MA's), (Start: 19 @3038 has 14 MA's), (45, 3161), (50, 3191), (Start: 68 @3293 has 3 MA's), (69, 3302), (72, 3323), (83, 3395), (104, 3542), (109, 3575), (115, 3635), (127, 3722),

Gene: PhineBark\_5 Start: 2818, Stop: 3528, Start Num: 18

Candidate Starts for PhineBark\_5:

(Start: 18 @2818 has 186 MA's), (Start: 19 @2827 has 14 MA's), (45, 2950), (50, 2980), (Start: 68 @3082 has 3 MA's), (69, 3091), (72, 3112), (83, 3184), (104, 3331), (109, 3364), (115, 3424), (127, 3511),

Gene: Phlippers\_5 Start: 3297, Stop: 3998, Start Num: 18

Candidate Starts for Phlippers\_5:

(Start: 18 @3297 has 186 MA's), (Start: 19 @3306 has 14 MA's), (45, 3429), (47, 3438), (50, 3459), (57, 3501), (64, 3531), (Start: 68 @3561 has 3 MA's), (83, 3657), (89, 3690), (97, 3777), (127, 3981),

Gene: Phlippers\_34 Start: 29139, Stop: 29825, Start Num: 24

Candidate Starts for Phlippers\_34:

(Start: 24 @29139 has 46 MA's), (28, 29175), (Start: 55 @29322 has 1 MA's), (Start: 68 @29391 has 3 MA's), (69, 29400), (86, 29502), (87, 29514), (90, 29526), (98, 29616), (101, 29634), (111, 29697), (118, 29742), (119, 29751), (126, 29814),

Gene: PhrostyMug\_5 Start: 3184, Stop: 3885, Start Num: 18

Candidate Starts for PhrostyMug\_5:

(Start: 18 @3184 has 186 MA's), (Start: 19 @3193 has 14 MA's), (45, 3316), (47, 3325), (50, 3346), (57, 3388), (64, 3418), (Start: 68 @3448 has 3 MA's), (83, 3544), (89, 3577), (97, 3664), (109, 3724), (112, 3766), (127, 3868),

Gene: PinkPlastic\_4 Start: 2843, Stop: 3532, Start Num: 18

Candidate Starts for PinkPlastic\_4:

(Start: 18 @2843 has 186 MA's), (Start: 19 @2852 has 14 MA's), (38, 2945), (44, 2966), (54, 3035), (57, 3047), (67, 3098), (Start: 68 @3104 has 3 MA's), (69, 3113), (76, 3155), (88, 3230), (91, 3260), (92, 3269), (97, 3320), (100, 3338), (104, 3350), (111, 3407), (119, 3461), (125, 3512),

Gene: Pinto\_8 Start: 3470, Stop: 4171, Start Num: 18

Candidate Starts for Pinto\_8:

(Start: 18 @3470 has 186 MA's), (Start: 19 @3479 has 14 MA's), (45, 3602), (47, 3611), (50, 3632), (57, 3674), (64, 3704), (Start: 68 @3734 has 3 MA's), (83, 3830), (89, 3863), (97, 3950), (127, 4154),

Gene: Pinto\_38 Start: 28671, Stop: 29357, Start Num: 24

Candidate Starts for Pinto\_38:

(Start: 24 @28671 has 46 MA's), (28, 28707), (Start: 55 @28854 has 1 MA's), (Start: 68 @28923 has 3 MA's), (69, 28932), (86, 29034), (87, 29046), (98, 29148), (101, 29166), (111, 29229), (118, 29274), (119, 29283),

Gene: Pippin\_7 Start: 3169, Stop: 3870, Start Num: 18

Candidate Starts for Pippin\_7:

(Start: 18 @3169 has 186 MA's), (Start: 19 @3178 has 14 MA's), (45, 3301), (47, 3310), (50, 3331), (57, 3373), (64, 3403), (Start: 68 @3433 has 3 MA's), (83, 3529), (89, 3562), (97, 3649), (109, 3709),

Gene: Pita2\_8 Start: 3828, Stop: 4529, Start Num: 18

Candidate Starts for Pita2\_8:

(Start: 18 @3828 has 186 MA's), (Start: 19 @3837 has 14 MA's), (45, 3960), (47, 3969), (50, 3990), (57, 4032), (64, 4062), (Start: 68 @4092 has 3 MA's), (83, 4188), (89, 4221), (97, 4308), (109, 4368), (112, 4410), (127, 4512),

Gene: ProMouse\_34 Start: 28562, Stop: 29248, Start Num: 24

Candidate Starts for ProMouse\_34:

(Start: 24 @28562 has 46 MA's), (28, 28598), (32, 28619), (Start: 55 @28745 has 1 MA's), (Start: 68 @28814 has 3 MA's), (69, 28823), (86, 28925), (87, 28937), (90, 28949), (98, 29039), (101, 29057), (111, 29120), (118, 29165), (119, 29174),

Gene: ProMouse\_5 Start: 3154, Stop: 3858, Start Num: 18

Candidate Starts for ProMouse\_5:

(Start: 18 @3154 has 186 MA's), (Start: 19 @3163 has 14 MA's), (45, 3286), (57, 3358), (66, 3403), (Start: 68 @3418 has 3 MA's), (69, 3427), (83, 3517), (109, 3697), (124, 3808), (127, 3841),

Gene: QTRlifeCrisis\_5 Start: 3245, Stop: 3955, Start Num: 18

Candidate Starts for QTRlifeCrisis\_5:

(Start: 18 @3245 has 186 MA's), (Start: 19 @3254 has 14 MA's), (45, 3377), (50, 3407), (Start: 68 @3509 has 3 MA's), (69, 3518), (72, 3539), (83, 3611), (104, 3758), (109, 3791), (115, 3851), (127, 3938),

Gene: Raid\_7 Start: 3099, Stop: 3800, Start Num: 18

Candidate Starts for Raid\_7:

(Start: 18 @3099 has 186 MA's), (Start: 19 @3108 has 14 MA's), (45, 3231), (47, 3240), (50, 3261), (57, 3303), (64, 3333), (Start: 68 @3363 has 3 MA's), (83, 3459), (89, 3492), (97, 3579), (109, 3639), (112, 3681), (127, 3783),

Gene: Rajelicia\_5 Start: 2958, Stop: 3668, Start Num: 18



Candidate Starts for Rajelicia\_5:

(Start: 18 @2958 has 186 MA's), (Start: 19 @2967 has 14 MA's), (45, 3090), (50, 3120), (Start: 68 @3222 has 3 MA's), (69, 3231), (72, 3252), (83, 3324), (104, 3471), (109, 3504), (115, 3564), (127, 3651),

Gene: Rhynn\_6 Start: 3404, Stop: 4105, Start Num: 18

Candidate Starts for Rhynn\_6:

(Start: 18 @3404 has 186 MA's), (Start: 19 @3413 has 14 MA's), (45, 3536), (47, 3545), (50, 3566), (57, 3608), (64, 3638), (Start: 68 @3668 has 3 MA's), (83, 3764), (89, 3797), (97, 3884), (109, 3944), (112, 3986), (127, 4088),

Gene: RidgeCB\_6 Start: 2935, Stop: 3627, Start Num: 19

Candidate Starts for RidgeCB\_6:

(Start: 18 @2926 has 186 MA's), (Start: 19 @2935 has 14 MA's), (45, 3058), (47, 3067), (50, 3088), (57, 3130), (64, 3160), (Start: 68 @3190 has 3 MA's), (83, 3286), (89, 3319), (97, 3406), (109, 3466), (112, 3508), (127, 3610),

Gene: Ringer\_5 Start: 3413, Stop: 4114, Start Num: 18

Candidate Starts for Ringer\_5:

(Start: 18 @3413 has 186 MA's), (Start: 19 @3422 has 14 MA's), (45, 3545), (47, 3554), (50, 3575), (57, 3617), (64, 3647), (Start: 68 @3677 has 3 MA's), (83, 3773), (89, 3806), (97, 3893), (109, 3953), (127, 4097),

Gene: Rohr\_7 Start: 3620, Stop: 4309, Start Num: 18

Candidate Starts for Rohr\_7:

(Start: 18 @3620 has 186 MA's), (Start: 19 @3629 has 14 MA's), (54, 3812), (Start: 55 @3818 has 1 MA's), (Start: 68 @3881 has 3 MA's), (78, 3938), (111, 4184),

Gene: Rubeus\_6 Start: 2927, Stop: 3628, Start Num: 18

Candidate Starts for Rubeus\_6:

(Start: 18 @2927 has 186 MA's), (Start: 19 @2936 has 14 MA's), (45, 3059), (47, 3068), (50, 3089), (57, 3131), (64, 3161), (Start: 68 @3191 has 3 MA's), (83, 3287), (89, 3320), (97, 3407), (112, 3509), (127, 3611),

Gene: Rufus\_6 Start: 2984, Stop: 3685, Start Num: 18

Candidate Starts for Rufus\_6:

(Start: 18 @2984 has 186 MA's), (Start: 19 @2993 has 14 MA's), (45, 3116), (47, 3125), (50, 3146), (57, 3188), (64, 3218), (Start: 68 @3248 has 3 MA's), (83, 3344), (89, 3377), (97, 3464), (112, 3566), (127, 3668),

Gene: Ruotula\_5 Start: 3545, Stop: 4246, Start Num: 18

Candidate Starts for Ruotula\_5:

(Start: 18 @3545 has 186 MA's), (Start: 19 @3554 has 14 MA's), (45, 3677), (47, 3686), (50, 3707), (57, 3749), (64, 3779), (Start: 68 @3809 has 3 MA's), (83, 3905), (89, 3938), (97, 4025), (109, 4085), (127, 4229),

Gene: Rutherferd\_7 Start: 3445, Stop: 4146, Start Num: 18

Candidate Starts for Rutherferd\_7:

(Start: 18 @3445 has 186 MA's), (Start: 19 @3454 has 14 MA's), (45, 3577), (47, 3586), (50, 3607), (57, 3649), (64, 3679), (Start: 68 @3709 has 3 MA's), (83, 3805), (89, 3838), (97, 3925), (109, 3985), (112, 4027), (124, 4096), (127, 4129),

Gene: Ryadel\_68 Start: 42152, Stop: 42838, Start Num: 24

Candidate Starts for Ryadel\_68:

(Start: 24 @42152 has 46 MA's), (27, 42179), (28, 42188), (31, 42206), (34, 42218), (39, 42239),  
(Start: 55 @42332 has 1 MA's), (58, 42341), (67, 42392), (Start: 68 @42398 has 3 MA's), (70, 42410),  
(77, 42452), (85, 42500), (91, 42557), (109, 42680), (111, 42707), (117, 42749), (118, 42752), (122,  
42779), (127, 42830),

Gene: STLscum\_7 Start: 3537, Stop: 4238, Start Num: 18

Candidate Starts for STLscum\_7:

(Start: 18 @3537 has 186 MA's), (Start: 19 @3546 has 14 MA's), (45, 3669), (47, 3678), (50, 3699),  
(57, 3741), (64, 3771), (Start: 68 @3801 has 3 MA's), (83, 3897), (89, 3930), (97, 4017), (109, 4077),  
(127, 4221),

Gene: Sagefire\_7 Start: 3600, Stop: 4301, Start Num: 18

Candidate Starts for Sagefire\_7:

(Start: 18 @3600 has 186 MA's), (Start: 19 @3609 has 14 MA's), (45, 3732), (47, 3741), (50, 3762),  
(57, 3804), (64, 3834), (Start: 68 @3864 has 3 MA's), (83, 3960), (89, 3993), (97, 4080), (109, 4140),  
(112, 4182), (127, 4284),

Gene: Sandaddy\_5 Start: 3321, Stop: 4022, Start Num: 18

Candidate Starts for Sandaddy\_5:

(Start: 18 @3321 has 186 MA's), (Start: 19 @3330 has 14 MA's), (45, 3453), (47, 3462), (48, 3474),  
(50, 3483), (57, 3525), (64, 3555), (Start: 68 @3585 has 3 MA's), (83, 3681), (89, 3714), (97, 3801),  
(109, 3861), (112, 3903), (127, 4005),

Gene: Sanya\_5 Start: 3983, Stop: 4684, Start Num: 18

Candidate Starts for Sanya\_5:

(Start: 18 @3983 has 186 MA's), (Start: 19 @3992 has 14 MA's), (45, 4115), (47, 4124), (50, 4145),  
(57, 4187), (64, 4217), (Start: 68 @4247 has 3 MA's), (83, 4343), (89, 4376), (97, 4463), (109, 4523),  
(112, 4565), (127, 4667),

Gene: SarFire\_6 Start: 3182, Stop: 3883, Start Num: 18

Candidate Starts for SarFire\_6:

(Start: 18 @3182 has 186 MA's), (Start: 19 @3191 has 14 MA's), (45, 3314), (47, 3323), (50, 3344),  
(57, 3386), (64, 3416), (Start: 68 @3446 has 3 MA's), (83, 3542), (89, 3575), (97, 3662), (109, 3722),  
(127, 3866),

Gene: SchoolBus\_64 Start: 41336, Stop: 42022, Start Num: 24

Candidate Starts for SchoolBus\_64:

(Start: 24 @41336 has 46 MA's), (27, 41363), (28, 41372), (31, 41390), (34, 41402), (39, 41423),  
(Start: 55 @41516 has 1 MA's), (58, 41525), (Start: 68 @41582 has 3 MA's), (70, 41594), (77, 41636),  
(91, 41741), (96, 41795), (109, 41864), (111, 41891), (117, 41933), (118, 41936), (122, 41963), (127,  
42014),

Gene: Schuy\_65 Start: 41127, Stop: 41813, Start Num: 24

Candidate Starts for Schuy\_65:

(Start: 24 @41127 has 46 MA's), (27, 41154), (28, 41163), (31, 41181), (34, 41193), (39, 41214),  
(Start: 55 @41307 has 1 MA's), (58, 41316), (Start: 68 @41373 has 3 MA's), (70, 41385), (77, 41427),  
(91, 41532), (96, 41586), (109, 41655), (111, 41682), (117, 41724), (118, 41727), (122, 41754), (127,  
41805),

Gene: Scowl\_7 Start: 3865, Stop: 4575, Start Num: 18

Candidate Starts for Scowl\_7:

(Start: 18 @3865 has 186 MA's), (Start: 19 @3874 has 14 MA's), (45, 3997), (50, 4027), (Start: 68 @4129 has 3 MA's), (69, 4138), (72, 4159), (83, 4231), (104, 4378), (109, 4411), (115, 4471), (127, 4558),

Gene: Seabiscuit\_7 Start: 3080, Stop: 3769, Start Num: 18

Candidate Starts for Seabiscuit\_7:

(Start: 18 @3080 has 186 MA's), (Start: 19 @3089 has 14 MA's), (Start: 68 @3341 has 3 MA's), (78, 3398), (111, 3644),

Gene: Seanderson\_7 Start: 3844, Stop: 4554, Start Num: 18

Candidate Starts for Seanderson\_7:

(Start: 18 @3844 has 186 MA's), (Start: 19 @3853 has 14 MA's), (45, 3976), (50, 4006), (Start: 68 @4108 has 3 MA's), (69, 4117), (72, 4138), (83, 4210), (104, 4357), (109, 4390), (115, 4450), (127, 4537),

Gene: Shida\_64 Start: 41034, Stop: 41720, Start Num: 24

Candidate Starts for Shida\_64:

(Start: 24 @41034 has 46 MA's), (27, 41061), (28, 41070), (31, 41088), (34, 41100), (39, 41121), (Start: 55 @41214 has 1 MA's), (58, 41223), (Start: 68 @41280 has 3 MA's), (70, 41292), (77, 41334), (91, 41439), (96, 41493), (109, 41562), (111, 41589), (117, 41631), (118, 41634), (122, 41661), (127, 41712),

Gene: ShortQueendom\_4 Start: 2779, Stop: 3480, Start Num: 18

Candidate Starts for ShortQueendom\_4:

(Start: 18 @2779 has 186 MA's), (Start: 19 @2788 has 14 MA's), (45, 2911), (47, 2920), (50, 2941), (57, 2983), (64, 3013), (Start: 68 @3043 has 3 MA's), (83, 3139), (89, 3172), (97, 3259), (109, 3319), (112, 3361), (127, 3463),

Gene: Sibs6\_7 Start: 3120, Stop: 3821, Start Num: 18

Candidate Starts for Sibs6\_7:

(Start: 18 @3120 has 186 MA's), (Start: 19 @3129 has 14 MA's), (45, 3252), (47, 3261), (50, 3282), (57, 3324), (64, 3354), (Start: 68 @3384 has 3 MA's), (83, 3480), (89, 3513), (97, 3600), (112, 3702), (127, 3804),

Gene: Slagathor\_6 Start: 2929, Stop: 3639, Start Num: 18

Candidate Starts for Slagathor\_6:

(Start: 18 @2929 has 186 MA's), (Start: 19 @2938 has 14 MA's), (45, 3061), (50, 3091), (Start: 68 @3193 has 3 MA's), (69, 3202), (72, 3223), (83, 3295), (104, 3442), (109, 3475), (115, 3535), (127, 3622),

Gene: Smairt\_7 Start: 3793, Stop: 4494, Start Num: 18

Candidate Starts for Smairt\_7:

(Start: 18 @3793 has 186 MA's), (Start: 19 @3802 has 14 MA's), (45, 3925), (47, 3934), (50, 3955), (57, 3997), (64, 4027), (Start: 68 @4057 has 3 MA's), (83, 4153), (89, 4186), (97, 4273), (109, 4333), (112, 4375), (127, 4477),

Gene: Smairt\_37 Start: 28913, Stop: 29458, Start Num: 49

Candidate Starts for Smairt\_37:

(Start: 49 @28913 has 1 MA's), (Start: 55 @28955 has 1 MA's), (Start: 68 @29024 has 3 MA's), (69, 29033), (86, 29135), (87, 29147), (90, 29159), (98, 29249), (101, 29267), (111, 29330), (118, 29375), (119, 29384), (126, 29447),

Gene: Smeagol\_7 Start: 4108, Stop: 4797, Start Num: 18

Candidate Starts for Smeagol\_7:

(Start: 18 @4108 has 186 MA's), (Start: 19 @4117 has 14 MA's), (54, 4300), (Start: 55 @4306 has 1 MA's), (Start: 68 @4372 has 3 MA's), (82, 4465), (97, 4591), (105, 4624), (111, 4669), (114, 4696), (117, 4711), (118, 4714),

Gene: Smooch\_67 Start: 43056, Stop: 43742, Start Num: 24

Candidate Starts for Smooch\_67:

(Start: 24 @43056 has 46 MA's), (27, 43083), (28, 43092), (31, 43110), (34, 43122), (39, 43143), (46, 43173), (Start: 55 @43236 has 1 MA's), (58, 43245), (Start: 68 @43302 has 3 MA's), (70, 43314), (75, 43344), (77, 43356), (85, 43404), (91, 43461), (96, 43515), (109, 43584), (111, 43611), (117, 43653), (118, 43656), (122, 43683), (127, 43734),

Gene: Snazzy\_4 Start: 2824, Stop: 3525, Start Num: 18

Candidate Starts for Snazzy\_4:

(Start: 18 @2824 has 186 MA's), (Start: 19 @2833 has 14 MA's), (45, 2956), (47, 2965), (50, 2986), (57, 3028), (64, 3058), (Start: 68 @3088 has 3 MA's), (83, 3184), (89, 3217), (97, 3304), (109, 3364), (127, 3508),

Gene: Solon\_5 Start: 2826, Stop: 3518, Start Num: 19

Candidate Starts for Solon\_5:

(Start: 18 @2817 has 186 MA's), (Start: 19 @2826 has 14 MA's), (45, 2949), (47, 2958), (50, 2979), (57, 3021), (Start: 68 @3081 has 3 MA's), (83, 3177), (89, 3210), (97, 3297), (109, 3357), (112, 3399),

Gene: Sorpresa\_6 Start: 3321, Stop: 4022, Start Num: 18

Candidate Starts for Sorpresa\_6:

(Start: 18 @3321 has 186 MA's), (Start: 19 @3330 has 14 MA's), (45, 3453), (47, 3462), (48, 3474), (50, 3483), (57, 3525), (64, 3555), (Start: 68 @3585 has 3 MA's), (83, 3681), (89, 3714), (97, 3801), (109, 3861), (112, 3903), (127, 4005),

Gene: SpikeBT\_6 Start: 3193, Stop: 3894, Start Num: 18

Candidate Starts for SpikeBT\_6:

(Start: 18 @3193 has 186 MA's), (Start: 19 @3202 has 14 MA's), (45, 3325), (50, 3355), (57, 3397), (64, 3427), (Start: 68 @3457 has 3 MA's), (83, 3553), (89, 3586), (97, 3673), (109, 3733), (112, 3775), (127, 3877),

Gene: Squee\_5 Start: 2943, Stop: 3623, Start Num: 18

Candidate Starts for Squee\_5:

(Start: 18 @2943 has 186 MA's), (Start: 19 @2952 has 14 MA's), (52, 3108), (53, 3114), (Start: 55 @3132 has 1 MA's), (59, 3144), (61, 3150), (Start: 68 @3198 has 3 MA's), (78, 3255), (81, 3273), (83, 3294), (104, 3441), (106, 3450), (117, 3537),

Gene: StewieG\_5 Start: 3192, Stop: 3893, Start Num: 18

Candidate Starts for StewieG\_5:

(Start: 18 @3192 has 186 MA's), (Start: 19 @3201 has 14 MA's), (45, 3324), (47, 3333), (50, 3354), (57, 3396), (64, 3426), (Start: 68 @3456 has 3 MA's), (83, 3552), (89, 3585), (97, 3672), (109, 3732), (112, 3774), (127, 3876),

Gene: StrongArm\_5 Start: 3035, Stop: 3730, Start Num: 18

Candidate Starts for StrongArm\_5:

(Start: 18 @3035 has 186 MA's), (42, 3152), (64, 3269), (65, 3278), (Start: 68 @3299 has 3 MA's), (78, 3353), (80, 3362), (97, 3512), (105, 3542), (106, 3548), (113, 3617), (115, 3629),

Gene: Sumter\_5 Start: 2916, Stop: 3617, Start Num: 18

Candidate Starts for Sumter\_5:

(Start: 18 @2916 has 186 MA's), (Start: 19 @2925 has 14 MA's), (45, 3048), (47, 3057), (50, 3078), (57, 3120), (64, 3150), (Start: 68 @3180 has 3 MA's), (83, 3276), (89, 3309), (97, 3396), (109, 3456), (112, 3498), (127, 3600),

Gene: Sunshine924\_5 Start: 2897, Stop: 3598, Start Num: 18

Candidate Starts for Sunshine924\_5:

(Start: 18 @2897 has 186 MA's), (Start: 19 @2906 has 14 MA's), (45, 3029), (47, 3038), (50, 3059), (57, 3101), (64, 3131), (Start: 68 @3161 has 3 MA's), (83, 3257), (89, 3290), (97, 3377), (109, 3437), (112, 3479), (127, 3581),

Gene: SwissCheese\_6 Start: 3359, Stop: 4060, Start Num: 18

Candidate Starts for SwissCheese\_6:

(Start: 18 @3359 has 186 MA's), (Start: 19 @3368 has 14 MA's), (45, 3491), (47, 3500), (50, 3521), (57, 3563), (64, 3593), (Start: 68 @3623 has 3 MA's), (83, 3719), (89, 3752), (97, 3839), (109, 3899), (112, 3941), (127, 4043),

Gene: Switzer\_6 Start: 2969, Stop: 3649, Start Num: 19

Candidate Starts for Switzer\_6:

(Start: 18 @2960 has 186 MA's), (Start: 19 @2969 has 14 MA's), (Start: 68 @3221 has 3 MA's), (76, 3272),

Gene: Swole\_8 Start: 3828, Stop: 4529, Start Num: 18

Candidate Starts for Swole\_8:

(Start: 18 @3828 has 186 MA's), (Start: 19 @3837 has 14 MA's), (45, 3960), (47, 3969), (50, 3990), (57, 4032), (64, 4062), (Start: 68 @4092 has 3 MA's), (83, 4188), (89, 4221), (97, 4308), (109, 4368), (112, 4410), (127, 4512),

Gene: Target\_7 Start: 3616, Stop: 4317, Start Num: 18

Candidate Starts for Target\_7:

(Start: 18 @3616 has 186 MA's), (Start: 19 @3625 has 14 MA's), (45, 3748), (47, 3757), (57, 3820), (64, 3850), (Start: 68 @3880 has 3 MA's), (83, 3976), (85, 3982), (89, 4009), (97, 4096), (109, 4156), (127, 4300),

Gene: Tasp14\_7 Start: 3616, Stop: 4305, Start Num: 18

Candidate Starts for Tasp14\_7:

(Start: 18 @3616 has 186 MA's), (Start: 19 @3625 has 14 MA's), (41, 3727), (Start: 68 @3874 has 3 MA's), (78, 3928), (79, 3931), (85, 3973), (91, 4027), (95, 4072), (97, 4087), (103, 4111), (105, 4117), (113, 4192),

Gene: TelAviv\_61 Start: 41309, Stop: 41995, Start Num: 24

Candidate Starts for TelAviv\_61:

(Start: 24 @41309 has 46 MA's), (27, 41336), (28, 41345), (31, 41363), (34, 41375), (39, 41396), (Start: 55 @41489 has 1 MA's), (58, 41498), (Start: 68 @41555 has 3 MA's), (70, 41567), (77, 41609), (91, 41714), (96, 41768), (109, 41837), (111, 41864), (117, 41906), (118, 41909), (122, 41936), (127, 41987),

Gene: Teodoridan\_4 Start: 2771, Stop: 3466, Start Num: 19

Candidate Starts for Teodoridan\_4:

(Start: 18 @2762 has 186 MA's), (Start: 19 @2771 has 14 MA's), (46, 2900), (57, 2966), (Start: 68 @3026 has 3 MA's), (78, 3083), (93, 3203), (125, 3437),

Gene: TheloniousMonk\_6 Start: 3244, Stop: 3945, Start Num: 18

Candidate Starts for TheloniousMonk\_6:

(Start: 18 @3244 has 186 MA's), (Start: 19 @3253 has 14 MA's), (45, 3376), (47, 3385), (50, 3406), (57, 3448), (Start: 68 @3508 has 3 MA's), (83, 3604), (89, 3637), (97, 3724), (109, 3784), (112, 3826), (127, 3928),

Gene: Thor\_6 Start: 3191, Stop: 3883, Start Num: 19

Candidate Starts for Thor\_6:

(Start: 18 @3182 has 186 MA's), (Start: 19 @3191 has 14 MA's), (45, 3314), (47, 3323), (50, 3344), (57, 3386), (64, 3416), (Start: 68 @3446 has 3 MA's), (83, 3542), (89, 3575), (97, 3662), (109, 3722), (127, 3866),

Gene: Topgun\_6 Start: 3108, Stop: 3809, Start Num: 18

Candidate Starts for Topgun\_6:

(Start: 18 @3108 has 186 MA's), (Start: 19 @3117 has 14 MA's), (45, 3240), (47, 3249), (50, 3270), (57, 3312), (64, 3342), (Start: 68 @3372 has 3 MA's), (83, 3468), (89, 3501), (97, 3588), (109, 3648), (112, 3690), (127, 3792),

Gene: Topgun\_35 Start: 27931, Stop: 28617, Start Num: 24

Candidate Starts for Topgun\_35:

(Start: 24 @27931 has 46 MA's), (28, 27967), (Start: 55 @28114 has 1 MA's), (Start: 68 @28183 has 3 MA's), (69, 28192), (86, 28294), (87, 28306), (90, 28318), (98, 28408), (101, 28426), (111, 28489), (118, 28534), (119, 28543),

Gene: Tote\_8 Start: 3828, Stop: 4529, Start Num: 18

Candidate Starts for Tote\_8:

(Start: 18 @3828 has 186 MA's), (Start: 19 @3837 has 14 MA's), (45, 3960), (47, 3969), (50, 3990), (57, 4032), (64, 4062), (Start: 68 @4092 has 3 MA's), (83, 4188), (89, 4221), (97, 4308), (109, 4368), (112, 4410), (127, 4512),

Gene: Traft412\_8 Start: 4006, Stop: 4716, Start Num: 18

Candidate Starts for Traft412\_8:

(Start: 18 @4006 has 186 MA's), (Start: 19 @4015 has 14 MA's), (45, 4138), (50, 4168), (Start: 68 @4270 has 3 MA's), (69, 4279), (72, 4300), (83, 4372), (104, 4519), (109, 4552), (115, 4612), (127, 4699),

Gene: Treddle\_6 Start: 3259, Stop: 3960, Start Num: 19

Candidate Starts for Treddle\_6:

(Start: 18 @3250 has 186 MA's), (Start: 19 @3259 has 14 MA's), (45, 3382), (50, 3412), (Start: 68 @3514 has 3 MA's), (69, 3523), (72, 3544), (83, 3616), (104, 3763), (109, 3796), (115, 3856), (127, 3943),

Gene: Tripl3t\_7 Start: 4022, Stop: 4717, Start Num: 18

Candidate Starts for Tripl3t\_7:

(Start: 18 @4022 has 186 MA's), (42, 4139), (64, 4256), (65, 4265), (Start: 68 @4286 has 3 MA's), (78, 4340), (97, 4499), (105, 4529), (106, 4535), (115, 4616),

Gene: Trouble\_6 Start: 3659, Stop: 4360, Start Num: 18

Candidate Starts for Trouble\_6:

(Start: 18 @3659 has 186 MA's), (Start: 19 @3668 has 14 MA's), (45, 3791), (47, 3800), (50, 3821), (57, 3863), (64, 3893), (Start: 68 @3923 has 3 MA's), (83, 4019), (89, 4052), (97, 4139), (109, 4199), (112, 4241), (127, 4343),

Gene: Turj99\_5 Start: 3094, Stop: 3804, Start Num: 18

Candidate Starts for Turj99\_5:

(Start: 18 @3094 has 186 MA's), (Start: 19 @3103 has 14 MA's), (45, 3226), (50, 3256), (Start: 68 @3358 has 3 MA's), (69, 3367), (72, 3388), (83, 3460), (104, 3607), (109, 3640), (115, 3700), (127, 3787),

Gene: Tweety\_21 Start: 22143, Stop: 23033, Start Num: 12

Candidate Starts for Tweety\_21:

(9, 22095), (10, 22113), (11, 22116), (Start: 12 @22143 has 1 MA's), (13, 22161), (14, 22173), (15, 22218), (17, 22302), (21, 22362), (29, 22404), (33, 22422), (35, 22431), (42, 22455), (46, 22476), (57, 22542), (Start: 68 @22602 has 3 MA's), (78, 22659), (83, 22698), (88, 22731), (93, 22779), (107, 22869), (125, 23007),

Gene: TwoPeat\_7 Start: 3621, Stop: 4322, Start Num: 18

Candidate Starts for TwoPeat\_7:

(Start: 18 @3621 has 186 MA's), (Start: 19 @3630 has 14 MA's), (45, 3753), (47, 3762), (50, 3783), (57, 3825), (64, 3855), (Start: 68 @3885 has 3 MA's), (83, 3981), (89, 4014), (97, 4101), (109, 4161), (112, 4203), (127, 4305),

Gene: U2\_5 Start: 2962, Stop: 3651, Start Num: 18

Candidate Starts for U2\_5:

(Start: 18 @2962 has 186 MA's), (Start: 19 @2971 has 14 MA's), (Start: 68 @3223 has 3 MA's), (76, 3274),

Gene: UncleRicky\_23 Start: 23775, Stop: 24299, Start Num: 51

Candidate Starts for UncleRicky\_23:

(Start: 51 @23775 has 1 MA's), (57, 23808), (Start: 68 @23868 has 3 MA's), (78, 23925), (83, 23964), (88, 23997), (93, 24045), (107, 24135), (125, 24273),

Gene: Vagabond\_64 Start: 41172, Stop: 41858, Start Num: 24

Candidate Starts for Vagabond\_64:

(Start: 24 @41172 has 46 MA's), (27, 41199), (28, 41208), (31, 41226), (34, 41238), (39, 41259), (Start: 55 @41352 has 1 MA's), (58, 41361), (Start: 68 @41418 has 3 MA's), (70, 41430), (77, 41472), (91, 41577), (96, 41631), (109, 41700), (111, 41727), (117, 41769), (118, 41772), (122, 41799), (127, 41850),

Gene: Violet\_5 Start: 2907, Stop: 3617, Start Num: 18

Candidate Starts for Violet\_5:

(Start: 18 @2907 has 186 MA's), (Start: 19 @2916 has 14 MA's), (45, 3039), (50, 3069), (Start: 68 @3171 has 3 MA's), (69, 3180), (72, 3201), (83, 3273), (104, 3420), (109, 3453), (115, 3513), (127, 3600),

Gene: Vorrps\_64 Start: 41384, Stop: 42070, Start Num: 24

Candidate Starts for Vorrps\_64:

(Start: 24 @41384 has 46 MA's), (27, 41411), (28, 41420), (31, 41438), (34, 41450), (39, 41471), (Start: 55 @41564 has 1 MA's), (58, 41573), (Start: 68 @41630 has 3 MA's), (70, 41642), (77, 41684), (91, 41789), (96, 41843), (109, 41912), (111, 41939), (117, 41981), (118, 41984), (122, 42011), (127, 42062),

Gene: Watermelon\_8 Start: 4201, Stop: 4911, Start Num: 18

Candidate Starts for Watermelon\_8:

(Start: 18 @4201 has 186 MA's), (Start: 19 @4210 has 14 MA's), (45, 4333), (50, 4363), (Start: 68 @4465 has 3 MA's), (69, 4474), (72, 4495), (83, 4567), (104, 4714), (109, 4747), (115, 4807), (127, 4894),

Gene: Wheeler\_6 Start: 3376, Stop: 4077, Start Num: 19

Candidate Starts for Wheeler\_6:

(Start: 18 @3367 has 186 MA's), (Start: 19 @3376 has 14 MA's), (45, 3499), (50, 3529), (Start: 68 @3631 has 3 MA's), (69, 3640), (72, 3661), (83, 3733), (104, 3880), (109, 3913), (115, 3973), (127, 4060),

Gene: Wildflower\_64 Start: 40896, Stop: 41582, Start Num: 24

Candidate Starts for Wildflower\_64:

(Start: 24 @40896 has 46 MA's), (27, 40923), (28, 40932), (31, 40950), (34, 40962), (39, 40983), (46, 41013), (Start: 55 @41076 has 1 MA's), (58, 41085), (Start: 68 @41142 has 3 MA's), (70, 41154), (77, 41196), (91, 41301), (96, 41355), (109, 41424), (111, 41451), (117, 41493), (118, 41496), (122, 41523), (127, 41574),

Gene: Wilkins\_35 Start: 27862, Stop: 28548, Start Num: 24

Candidate Starts for Wilkins\_35:

(Start: 24 @27862 has 46 MA's), (28, 27898), (Start: 55 @28045 has 1 MA's), (Start: 68 @28114 has 3 MA's), (69, 28123), (86, 28225), (87, 28237), (90, 28249), (98, 28339), (101, 28357), (111, 28420), (118, 28465), (119, 28474),

Gene: Wilkins\_6 Start: 3108, Stop: 3809, Start Num: 18

Candidate Starts for Wilkins\_6:

(Start: 18 @3108 has 186 MA's), (Start: 19 @3117 has 14 MA's), (45, 3240), (47, 3249), (50, 3270), (57, 3312), (64, 3342), (Start: 68 @3372 has 3 MA's), (83, 3468), (89, 3501), (97, 3588), (109, 3648), (112, 3690), (127, 3792),

Gene: Winget\_65 Start: 41602, Stop: 42288, Start Num: 24

Candidate Starts for Winget\_65:

(Start: 24 @41602 has 46 MA's), (27, 41629), (28, 41638), (31, 41656), (34, 41668), (39, 41689), (Start: 55 @41782 has 1 MA's), (58, 41791), (Start: 68 @41848 has 3 MA's), (70, 41860), (77, 41902), (91, 42007), (96, 42061), (109, 42130), (111, 42157), (117, 42199), (118, 42202), (122, 42229), (127, 42280),

Gene: Wogge42\_63 Start: 41043, Stop: 41729, Start Num: 24

Candidate Starts for Wogge42\_63:

(Start: 24 @41043 has 46 MA's), (27, 41070), (28, 41079), (31, 41097), (34, 41109), (39, 41130), (Start: 55 @41223 has 1 MA's), (58, 41232), (Start: 68 @41289 has 3 MA's), (70, 41301), (77, 41343), (91, 41448), (96, 41502), (109, 41571), (111, 41598), (117, 41640), (118, 41643), (122, 41670), (127, 41721),

Gene: YungJamal\_69 Start: 42794, Stop: 43480, Start Num: 24

Candidate Starts for YungJamal\_69:

(Start: 24 @42794 has 46 MA's), (27, 42821), (28, 42830), (31, 42848), (34, 42860), (39, 42881), (46, 42911), (Start: 55 @42974 has 1 MA's), (58, 42983), (Start: 68 @43040 has 3 MA's), (70, 43052), (75, 43082), (77, 43094), (85, 43142), (91, 43199), (96, 43253), (109, 43322), (111, 43349), (117, 43391), (118, 43394), (122, 43421), (127, 43472),

Gene: Zakhe101\_64 Start: 41442, Stop: 42128, Start Num: 24

Candidate Starts for Zakhe101\_64:

(Start: 24 @41442 has 46 MA's), (27, 41469), (28, 41478), (31, 41496), (34, 41508), (39, 41529), (46, 41559), (Start: 55 @41622 has 1 MA's), (58, 41631), (Start: 68 @41688 has 3 MA's), (70, 41700), (77, 41742), (91, 41847), (96, 41901), (109, 41970), (111, 41997), (117, 42039), (118, 42042), (122, 42069), (127, 42120),



Gene: Zebo\_63 Start: 41345, Stop: 42031, Start Num: 24

Candidate Starts for Zebo\_63:

(Start: 24 @41345 has 46 MA's), (27, 41372), (28, 41381), (31, 41399), (34, 41411), (39, 41432),  
(Start: 55 @41525 has 1 MA's), (58, 41534), (Start: 68 @41591 has 3 MA's), (70, 41603), (77, 41645),  
(91, 41750), (96, 41804), (109, 41873), (111, 41900), (117, 41942), (118, 41945), (122, 41972), (127,  
42023),

Gene: Zeeculate\_5 Start: 3085, Stop: 3777, Start Num: 18

Candidate Starts for Zeeculate\_5:

(Start: 18 @3085 has 186 MA's), (45, 3214), (60, 3295), (64, 3316), (65, 3325), (Start: 68 @3346 has 3  
MA's), (71, 3370), (104, 3589), (123, 3724),

Gene: Zephyr\_6 Start: 3214, Stop: 3915, Start Num: 18

Candidate Starts for Zephyr\_6:

(Start: 18 @3214 has 186 MA's), (Start: 19 @3223 has 14 MA's), (45, 3346), (47, 3355), (50, 3376),  
(57, 3418), (64, 3448), (Start: 68 @3478 has 3 MA's), (83, 3574), (89, 3607), (97, 3694), (112, 3796),  
(127, 3898),

Gene: Zeuska\_5 Start: 3138, Stop: 3839, Start Num: 18

Candidate Starts for Zeuska\_5:

(Start: 18 @3138 has 186 MA's), (Start: 19 @3147 has 14 MA's), (45, 3270), (50, 3300), (57, 3342),  
(64, 3372), (Start: 68 @3402 has 3 MA's), (83, 3498), (89, 3531), (97, 3618), (109, 3678), (112, 3720),  
(127, 3822),