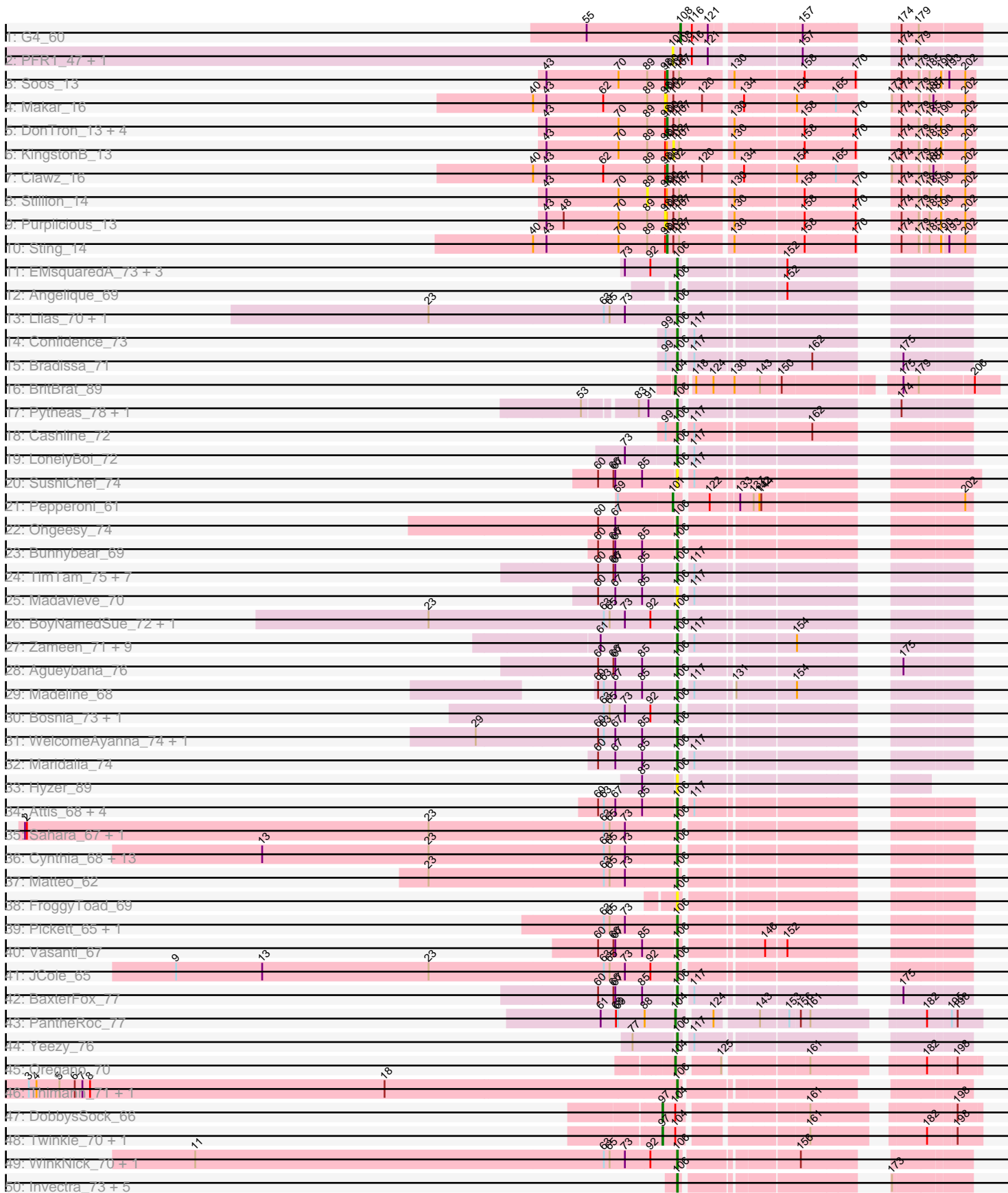
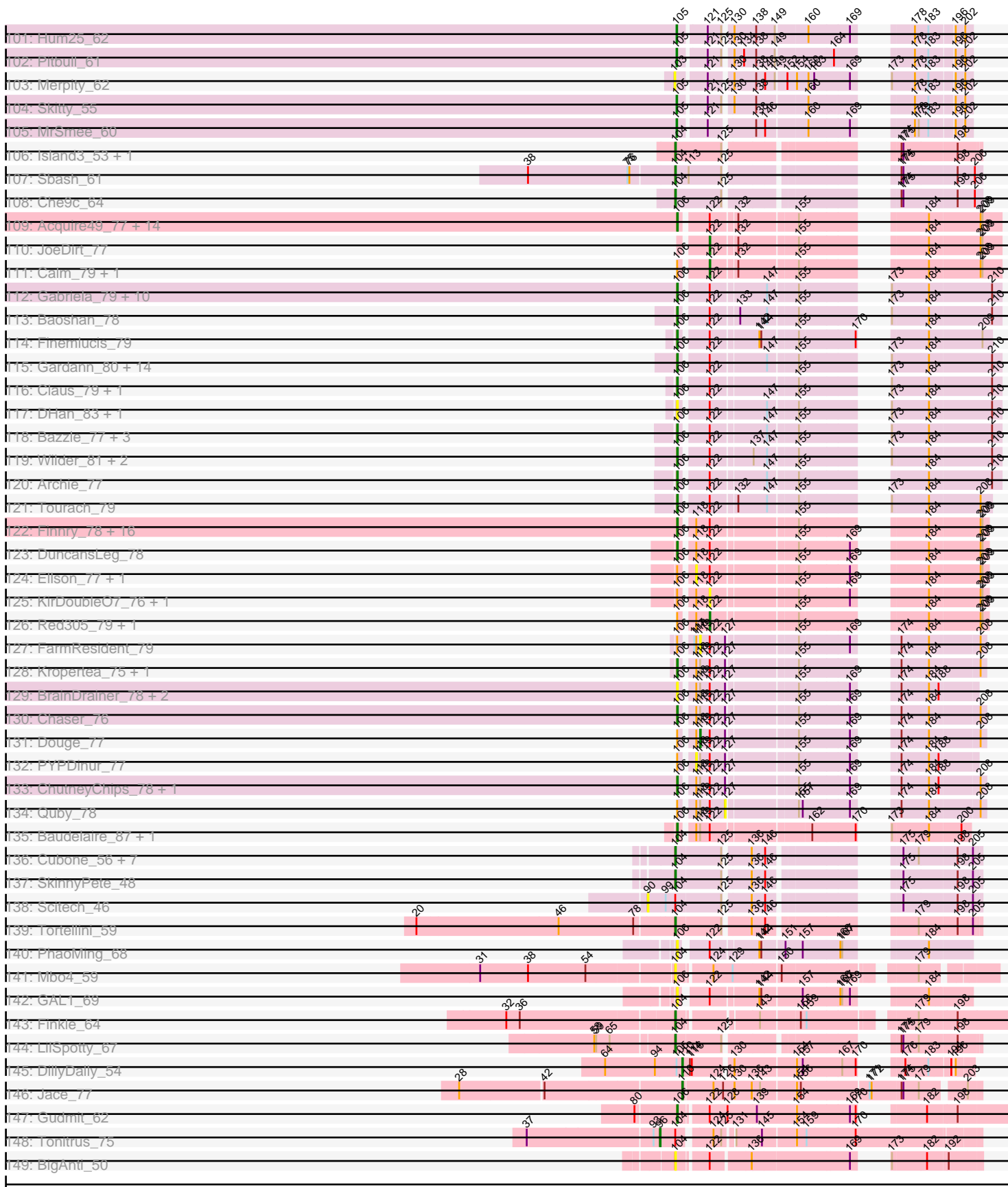


Pham 304658





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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 304658 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304658 has 306 members, 56 are drafts.

Phages represented in each track:

- Track 1 : G4\_60
- Track 2 : PFR1\_47, PFR2\_49
- Track 3 : Soos\_13
- Track 4 : Makar\_16
- Track 5 : DonTron\_13, ColdSoup\_15, Grumio\_14, Jollymon\_14, Amo99\_15
- Track 6 : KingstonB\_13
- Track 7 : Clawz\_16
- Track 8 : Stillion\_14
- Track 9 : Purplicious\_13
- Track 10 : Sting\_14
- Track 11 : EMSquaredA\_73, Floral\_74, Pollux\_76, Marteena\_72
- Track 12 : Angelique\_69
- Track 13 : Lilas\_70, EnalisNailo\_69
- Track 14 : Confidence\_73
- Track 15 : Bradissa\_71
- Track 16 : BritBrat\_89
- Track 17 : Pytheas\_78, Jablanski\_77
- Track 18 : Cashline\_72
- Track 19 : LonelyBoi\_72
- Track 20 : SushiChef\_74
- Track 21 : Pepperoni\_61
- Track 22 : Ohgeesy\_74
- Track 23 : Bunnybear\_69
- Track 24 : TimTam\_75, Bialota\_69, Herod\_75, Eviarto\_75, BatStarr\_74, Hugley\_73, Nymphadora\_75, Zirinka\_69
- Track 25 : Madavieve\_70
- Track 26 : BoyNamedSue\_72, AlumE\_72
- Track 27 : Zameen\_71, Eudoria\_71, Neobush\_73, Kita\_72, Polly\_68, Manasvini\_73, Suscepit\_71, Tayonia\_71, Antonio\_70, Trumpet\_71
- Track 28 : Agueybana\_76
- Track 29 : Madeline\_68
- Track 30 : Bosnia\_73, BeeGee\_76
- Track 31 : WelcomeAyanna\_74, ThankyouJordi\_74
- Track 32 : Maridalia\_74
- Track 33 : Hyzer\_89
- Track 34 : Attis\_68, Yeet412\_67, Nettuno\_66, SoilAssassin\_68, LordFarquaad\_71
- Track 35 : Sahara\_67, Jalleen\_72

- Track 36 : Cynthia\_68, Bjanes7\_65, Haley23\_68, Sproutie\_68, Whiteclaw\_68, Ebert\_71, Clap\_68, Mocha12\_68, TuertoX\_68, GemG\_68, Gizermo\_68, Savage\_68, Yinzer\_68, Lamberg\_64
- Track 37 : Matteo\_62
- Track 38 : FroggyToad\_69
- Track 39 : Pickett\_65, EdnaMode\_67
- Track 40 : Vasanti\_67
- Track 41 : JCole\_65
- Track 42 : BaxterFox\_77
- Track 43 : PantheRoc\_77
- Track 44 : Yeezy\_76
- Track 45 : Oregano\_70
- Track 46 : Thimann\_71, Easley\_68
- Track 47 : DobbysSock\_66
- Track 48 : Twinkle\_70, Shlim410\_69
- Track 49 : WinkNick\_70, Dolores\_70
- Track 50 : Invectra\_73, Beenie\_64, Tuti\_64, Clark\_69, Samman98\_71, MichaelScott\_71
- Track 51 : Suerte\_64
- Track 52 : Mcklovin\_70
- Track 53 : Annalisa\_68
- Track 54 : Hortense\_71, Howe\_71, Adora\_68
- Track 55 : Powerball\_68, PhriskyACE\_66
- Track 56 : Rizz\_71
- Track 57 : Sekhmet\_69
- Track 58 : Dorito\_64
- Track 59 : Denise\_65
- Track 60 : OneDirection\_62
- Track 61 : Moosehead\_69
- Track 62 : Sidious\_71
- Track 63 : RavenCo17\_69
- Track 64 : PhorbessPhlower\_66, InLimbo\_65, Kuwabara\_86, Lton\_65, Morkie\_68
- Track 65 : Lucky10\_65
- Track 66 : BotCity\_92, Lutum\_91, BENtherdunthat\_90, Phabuloso\_97, Getalong\_93
- Track 67 : Budski\_95
- Track 68 : MortyNRick\_82
- Track 69 : Malisha\_90, Faith5x5\_63
- Track 70 : ODay\_98
- Track 71 : Horus\_91, Leroy\_90, ShawBrad\_95, Frickyeah\_97, Periwinkle\_99
- Track 72 : Whitney\_89
- Track 73 : Holliday\_92
- Track 74 : Kamaru\_84
- Track 75 : Crater\_90, Ecliptus\_97, Apricot\_90, Phistory\_88
- Track 76 : ArchiDore\_72
- Track 77 : Ruthy\_70
- Track 78 : Sprinklemunch\_77
- Track 79 : MakCheese\_79
- Track 80 : Zodiariah\_66
- Track 81 : Malibo\_73
- Track 82 : DumpsterDude\_68
- Track 83 : Nicole72\_45
- Track 84 : Teamocil\_49, Gina\_49
- Track 85 : Jayden\_49

- Track 86 : SirFrank\_47, NoodlelyBoi\_48
- Track 87 : RobsFeet\_50, Fireman\_49, Tyrumbra\_47
- Track 88 : Megan\_45
- Track 89 : Shrubaron\_49
- Track 90 : ClearAsMud\_50
- Track 91 : Metamorphoo\_49
- Track 92 : Skugga\_46
- Track 93 : Bran\_49
- Track 94 : LordVader\_60
- Track 95 : Frankie\_73
- Track 96 : MulchSalad\_67
- Track 97 : Alatao\_64
- Track 98 : Gibbzilla\_72
- Track 99 : AirForce1\_53
- Track 100 : Orkz\_57
- Track 101 : Hum25\_62
- Track 102 : Pitbull\_61
- Track 103 : Merpity\_62
- Track 104 : Skitty\_55
- Track 105 : MrSmee\_60
- Track 106 : Island3\_53, Brujita\_53
- Track 107 : Sbash\_61
- Track 108 : Che9c\_64
- Track 109 : Acquire49\_77, UPIE\_76, Appletree2\_76, AvadaKedavra\_77, DirkDirk\_74, Tyson\_78, Rose5\_77, Enceladus\_74, LeBron\_76, Halena\_75, MAckerman\_75, Wamburgxpress\_77, Zaria\_78, Wyatt2\_78, CicholasNage\_74
- Track 110 : JoeDirt\_77
- Track 111 : Calm\_79, Silverleaf\_77
- Track 112 : Gabriela\_79, SoJulia\_82, BobsGarage\_80, Breezona\_80, Faith1\_80, DrSeegs\_80, BigCheese\_80, Itos\_79, Miley16\_80, Netyap\_81, Winky\_80
- Track 113 : Baoshan\_78
- Track 114 : Finemlucis\_79
- Track 115 : Gardann\_80, GuuelaD\_78, Loadrie\_79, OverPar\_82, Zakai\_81, Nicholasp3\_80, LilDestine\_79, Lewan\_81, MkaliMitinis3\_81, Rumpelstiltskin\_77, Sarshaun\_81, Soap141\_80, Vetrix\_79, Crossroads\_80, Underpass\_71
- Track 116 : Claus\_79, Hafay\_81
- Track 117 : DHan\_83, ZhongYanYuan\_77
- Track 118 : Bazzle\_77, DanBing\_80, Wigglewiggle\_79, Rossetti\_81
- Track 119 : Wilder\_81, Kahlid\_80, Lynnae\_82
- Track 120 : Archie\_77
- Track 121 : Tourach\_79
- Track 122 : Finnry\_78, Moostard\_76, Bellis\_78, Clautastrophe\_76, MiniMac\_82, Whirlwind\_79, Kingsolomon\_76, Krypton555\_79, MiniLon\_82, Jubie\_77, Nicholas\_76, TriFive\_79, Lolly9\_77, Lumos\_79, Samty\_77, Jobypre\_78, Snenia\_77
- Track 123 : DuncansLeg\_78
- Track 124 : Ellson\_77, BourbonZero\_79
- Track 125 : KirDoubleO7\_76, LiyuLake\_77
- Track 126 : Red305\_79, MsGreen\_78
- Track 127 : FarmResident\_79
- Track 128 : Kropertea\_75, DyoEdafos\_82
- Track 129 : BrainDrainer\_78, Sheng711\_79, Douzhi\_78
- Track 130 : Chaser\_76
- Track 131 : Douge\_77

- Track 132 : PYPDinur\_77
- Track 133 : ChutneyChips\_78, Bromden\_78
- Track 134 : Quby\_78
- Track 135 : Baudelaire\_87, Aegeus\_87
- Track 136 : Cubone\_56, Aloeri\_71, ChickenDinner\_70, Misha28\_68, DocMcStuffins\_70, Awesomesauce\_70, Piper2020\_71, TootsiePop\_68
- Track 137 : SkinnyPete\_48
- Track 138 : Scitech\_46
- Track 139 : Tortellini\_59
- Track 140 : PhaoMing\_68
- Track 141 : Mbo4\_59
- Track 142 : GAL1\_69
- Track 143 : Finkle\_64
- Track 144 : LilSpotty\_67
- Track 145 : DillyDally\_54
- Track 146 : Jace\_77
- Track 147 : Gudmit\_62
- Track 148 : Tonitrus\_75
- Track 149 : BigAnti\_50

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

The start number called the most often in the published annotations is 106, it was called in 173 of the 250 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49\_77, Aegeus\_87, Agueybana\_76, AlumE\_72, Angelique\_69, Annalisa\_68, Antonio\_70, Appletree2\_76, Archie\_77, Attis\_68, AvadaKedavra\_77, BENtherdunthat\_90, Baoshan\_78, BatStarr\_74, Baudelaire\_87, BaxterFox\_77, Bazzle\_77, BeeGee\_76, Beenie\_64, Bellis\_78, Bialota\_69, BigCheese\_80, Bjanes7\_65, BobsGarage\_80, Bosnia\_73, BotCity\_92, BoyNamedSue\_72, Bradissa\_71, BrainDrainer\_78, Breezona\_80, Bromden\_78, Budski\_95, Bunnybear\_69, Cashline\_72, Chaser\_76, ChutneyChips\_78, CicholasNage\_74, Clap\_68, Clark\_69, Claus\_79, Clautastrophe\_76, Confidence\_73, Crossroads\_80, Cynthia\_68, DHan\_83, DanBing\_80, DirkDirk\_74, Dolores\_70, Dorito\_64, Douzhi\_78, DrSeegs\_80, DumpsterDude\_68, DuncansLeg\_78, DyoEdafos\_82, EMSquaredA\_73, Easley\_68, Ebert\_71, EdnaMode\_67, EnalisNailo\_69, Enceladus\_74, Eudoria\_71, Eviarto\_75, Faith1\_80, Finemlucis\_79, Finnry\_78, Floral\_74, Frickyeah\_97, FroggyToad\_69, GAL1\_69, Gabriela\_79, Gardann\_80, GemG\_68, Getalong\_93, Gizermo\_68, Gudmit\_62, GuuelaD\_78, Hafay\_81, Halena\_75, Haley23\_68, Herod\_75, Horus\_91, Hugley\_73, Hyzer\_89, Invectra\_73, Itos\_79, JCole\_65, Jablanski\_77, Jalleen\_72, Jobypre\_78, Jubie\_77, Kahlid\_80, Kingsolomon\_76, Kita\_72, Kropertea\_75, Krypton555\_79, Lamberg\_64, LeBron\_76, Leroy\_90, Lewan\_81, LilDestine\_79, Lilas\_70, Loadrie\_79, Lolly9\_77, LonelyBoi\_72, LordFarquaad\_71, Lumos\_79, Lutum\_91, Lynnae\_82, MAckerman\_75, Madavieve\_70, Madeline\_68, MakCheese\_79, Malibo\_73, Manasvini\_73, Maridalia\_74, Marteena\_72, Matteo\_62, Mcklovin\_70, MichaelScott\_71, Miley16\_80, MiniLon\_82, MiniMac\_82, MkaliMitinis3\_81, Mocha12\_68, Moostard\_76, MulchSalad\_67, Neobush\_73, Nettuno\_66, Netyap\_81, Nicholas\_76, Nicholasp3\_80, Nymphadora\_75, ODay\_98, Ohgeesy\_74, OverPar\_82, Periwinkle\_99,

Phabuloso\_97, PhaoMing\_68, PhriskyACE\_66, Pickett\_65, Pollux\_76, Polly\_68, Powerball\_68, Pytheas\_78, RavenCo17\_69, Rizz\_71, Rose5\_77, Rossetti\_81, Rumpelstiltskin\_77, Ruthy\_70, Sahara\_67, Samman98\_71, Samty\_77, Sarshaun\_81, Savage\_68, Sekhmet\_69, ShawBrad\_95, Sheng711\_79, Sidious\_71, Snenia\_77, SoJulia\_82, Soap141\_80, SoilAssassin\_68, Sproutie\_68, Suerte\_64, Suscepit\_71, SushiChef\_74, Tayonia\_71, ThankyouJordi\_74, Thimann\_71, TimTam\_75, Tourach\_79, TriFive\_79, Trumpet\_71, TuertoX\_68, Tuti\_64, Tyson\_78, UPIE\_76, Underpass\_71, Vasanti\_67, Vetrix\_79, Wamburggrxpress\_77, WelcomeAyanna\_74, Whirlwind\_79, Whiteclaw\_68, Whitney\_89, Wigglewiggle\_79, Wilder\_81, WinkNick\_70, Winky\_80, Wyatt2\_78, Yeet412\_67, Yeezy\_76, Yinzer\_68, Zakai\_81, Zameen\_71, Zaria\_78, ZhongYanYuan\_77, Zirinka\_69, Zodiariah\_66,

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

- BourbonZero\_79, Calm\_79, Douge\_77, Ellson\_77, FarmResident\_79, KirDoubleO7\_76, LiyuLake\_77, MsGreen\_78, PYPDinur\_77, Quby\_78, Red305\_79, Silverleaf\_77,

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

- Adora\_68, AirForce1\_53, Alatato\_64, Aloeri\_71, Amo99\_15, Apricot\_90, ArchiDore\_72, Awesomesauce\_70, BigAnti\_50, Bran\_49, BritBrat\_89, Brujita\_53, Che9c\_64, ChickenDinner\_70, Clawz\_16, ClearAsMud\_50, ColdSoup\_15, Crater\_90, Cubone\_56, Denise\_65, DillyDally\_54, DobbysSock\_66, DocMcStuffins\_70, DonTron\_13, Ecliptus\_97, Faith5x5\_63, Finkle\_64, Fireman\_49, Frankie\_73, G4\_60, Gibbzilla\_72, Gina\_49, Grumio\_14, Holliday\_92, Hortense\_71, Howe\_71, Hum25\_62, InLimbo\_65, Island3\_53, Jace\_77, Jayden\_49, JoeDirt\_77, Jollymon\_14, Kamaru\_84, KingstonB\_13, Kuwabara\_86, LilSpotty\_67, LordVader\_60, Lton\_65, Lucky10\_65, Makar\_16, Malisha\_90, Mbo4\_59, Megan\_45, Merpity\_62, Metamorphoo\_49, Misha28\_68, Moosehead\_69, Morkie\_68, MortyNRick\_82, MrSmee\_60, Nicole72\_45, NoodlelyBoi\_48, OneDirection\_62, Oregano\_70, Orkz\_57, PFR1\_47, PFR2\_49, PantheRoc\_77, Pepperoni\_61, Phistory\_88, PhorbesPhlower\_66, Piper2020\_71, Pitbull\_61, Purplicious\_13, RobsFeet\_50, Sbash\_61, Scitech\_46, Shlim410\_69, Shrubaron\_49, SirFrank\_47, SkinnyPete\_48, Skitty\_55, Skugga\_46, Soos\_13, Sprinklemunch\_77, Stillion\_14, Sting\_14, Teamocil\_49, Tonitrus\_75, TootsiePop\_68, Tortellini\_59, Twinkle\_70, Tyumbra\_47,

### Summary by start number:

Start 84:

- Found in 1 of 306 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Orkz\_57 (FL),

Start 89:

- Found in 13 of 306 ( 4.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Stillion\_14 (CP),

Start 90:

- Found in 2 of 306 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present

- Phage (with cluster) where this start called: LordVader\_60 (F), Scitech\_46 (N),

Start 96:

- Found in 1 of 306 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonitrus\_75 (singleton),

Start 97:

- Found in 6 of 306 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 3 of 250
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DobbysSock\_66 (CZ4), Shlim410\_69 (CZ4), Twinkle\_70 (CZ4),

Start 98:

- Found in 12 of 306 ( 3.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Makar\_16 (CP), Purplicious\_13 (CP),

Start 100:

- Found in 13 of 306 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 5 of 250
- Called 61.5% of time when present
- Phage (with cluster) where this start called: Amo99\_15 (CP), Clawz\_16 (CP), ColdSoup\_15 (CP), DonTron\_13 (CP), Grumio\_14 (CP), Jollymon\_14 (CP), Soos\_13 (CP), Sting\_14 (CP),

Start 101:

- Found in 15 of 306 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 11 of 250
- Called 93.3% of time when present
- Phage (with cluster) where this start called: ArchiDore\_72 (DW), Denise\_65 (CZ5), Faith5x5\_63 (CZ6), InLimbo\_65 (DH), Kuwabara\_86 (DN4), Lton\_65 (CZ), Lucky10\_65 (DH), Malisha\_90 (DN), Morkie\_68 (DH), OneDirection\_62 (CZ6), PFR1\_47 (BX), PFR2\_49 (BX), Pepperoni\_61 (CZ), PhorbesPhlower\_66 (DH),

Start 102:

- Found in 12 of 306 ( 3.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: KingstonB\_13 (CP),

Start 103:

- Found in 1 of 306 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Merpity\_62 (FQ),

Start 104:

- Found in 40 of 306 ( 13.1% ) of genes in pham
- Manual Annotations of this start: 31 of 250

- Called 85.0% of time when present
- Phage (with cluster) where this start called: Adora\_68 (CZ4), Aloeri\_71 (F1), Apricot\_90 (DN3), Awesomesauce\_70 (F1), BigAnti\_50 (singleton), Bran\_49 (EP), BritBrat\_89 (CY2), Brujita\_53 (I1), Che9c\_64 (I2), ChickenDinner\_70 (F1), Crater\_90 (DN3), Cubone\_56 (N), DocMcStuffins\_70 (F1), Ecliptus\_97 (DN), Finkle\_64 (singleton), Frankie\_73 (F1), Holliday\_92 (DN1), Hortense\_71 (CZ4), Howe\_71 (CZ4), Island3\_53 (I1), Kamaru\_84 (DN1), LilSpotty\_67 (singleton), Mbo4\_59 (singleton), Misha28\_68 (F1), Moosehead\_69 (CZ6), MortyNRick\_82 (DN), Oregano\_70 (CZ4), PantheRoc\_77 (CZ3), Phistory\_88 (DN1), Piper2020\_71 (F1), Sbash\_61 (I2), SkinnyPete\_48 (N), TootsiePop\_68 (F1), Tortellini\_59 (P2),

#### Start 105:

- Found in 7 of 306 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 5 of 250
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Alatato\_64 (FB), Gibbzilla\_72 (FB), Hum25\_62 (FQ), MrSmee\_60 (FQ), Pitbull\_61 (FQ), Skitty\_55 (FQ),

#### Start 106:

- Found in 212 of 306 ( 69.3% ) of genes in pham
- Manual Annotations of this start: 173 of 250
- Called 94.3% of time when present
- Phage (with cluster) where this start called: Acquire49\_77 (L1), Aegeus\_87 (L5), Agueybana\_76 (CZ1), AlumE\_72 (CZ1), Angelique\_69 (CY1), Annalisa\_68 (CZ4), Antonio\_70 (CZ1), Appletree2\_76 (L1), Archie\_77 (L2), Attis\_68 (CZ2), AvadaKedavra\_77 (L1), BENtherdunthat\_90 (DN1), Baoshan\_78 (L2), BatStarr\_74 (CZ1), Baudelaire\_87 (L5), BaxterFox\_77 (CZ3), Bazzle\_77 (L2), BeeGee\_76 (CY5), Beenie\_64 (CZ4), Bellis\_78 (L3), Bialota\_69 (CZ1), BigCheese\_80 (L2), Bjaner7\_65 (CZ2), BobsGarage\_80 (L2), Bosnia\_73 (CZ1), BotCity\_92 (DN), BoyNamedSue\_72 (CZ1), Bradissa\_71 (CY1), BrainDrainer\_78 (L4), Breezona\_80 (L2), Bromden\_78 (L4), Budski\_95 (DN), Bunnybear\_69 (CZ), Cashline\_72 (CY6), Chaser\_76 (L4), ChutneyChips\_78 (L4), CicholasNage\_74 (L1), Clap\_68 (CZ2), Clark\_69 (CZ4), Claus\_79 (L2), Clautastrophe\_76 (L3), Confidence\_73 (CY1), Crossroads\_80 (L2), Cynthia\_68 (CZ2), DHan\_83 (L2), DanBing\_80 (L2), DirkDirk\_74 (L1), Dolores\_70 (CZ4), Dorito\_64 (CZ4), Douzhi\_78 (L4), DrSeegs\_80 (L2), DumpsterDude\_68 (DW), DuncansLeg\_78 (L3), DyoEdafos\_82 (L4), EMSquaredA\_73 (CY1), Easley\_68 (CZ4), Ebert\_71 (CZ2), EdnaMode\_67 (CZ2), EnalisNailo\_69 (CY1), Enceladus\_74 (L1), Eudoria\_71 (CZ1), Eviarto\_75 (CZ1), Faith1\_80 (L2), Finemlucis\_79 (L2), Finnry\_78 (L3), Floral\_74 (CY1), Frickyeah\_97 (DN1), FroggyToad\_69 (CZ2), GAL1\_69 (singleton), Gabriela\_79 (L2), Gardann\_80 (L2), GemG\_68 (CZ2), Getalong\_93 (DN1), Gizermo\_68 (CZ2), Gudmit\_62 (singleton), GuuelaD\_78 (L2), Hafay\_81 (L2), Halena\_75 (L1), Haley23\_68 (CZ2), Herod\_75 (CZ1), Horus\_91 (DN1), Hugley\_73 (CZ1), Hyzer\_89 (CZ1), Invecra\_73 (CZ4), Itos\_79 (L2), JCole\_65 (CZ2), Jablanski\_77 (CY3), Jalleen\_72 (CZ2), Jobypre\_78 (L3), Jubie\_77 (L3), Kahlid\_80 (L2), Kingsolomon\_76 (L3), Kita\_72 (CZ1), Kropertea\_75 (L4), Krypton555\_79 (L3), Lamberg\_64 (CZ2), LeBron\_76 (L1), Leroy\_90 (DN1), Lewan\_81 (L2), LilDestine\_79 (L2), Lilas\_70 (CY1), Loadrie\_79 (L2), Lolly9\_77 (L3), LonelyBoi\_72 (CY7), LordFarquaad\_71 (CZ2), Lumos\_79 (L3), Lutum\_91 (DN1), Lynnae\_82 (L2), MAckerman\_75 (L1), Madavieve\_70 (CZ1), Madeline\_68 (CZ1), MakCheese\_79 (DW), Malibo\_73 (DW), Manasvini\_73 (CZ1), Maridalia\_74 (CZ1), Marteena\_72 (CY1), Matteo\_62 (CZ2), Mcklovin\_70 (CZ4), MichaelScott\_71 (CZ4), Miley16\_80 (L2), MiniLon\_82 (L3), MiniMac\_82 (L3), MkaliMitinis3\_81 (L2), Mocha12\_68 (CZ2), Moostard\_76 (L3), MulchSalad\_67 (F7), Neobush\_73 (CZ1), Nettuno\_66 (CZ2),

Netyap\_81 (L2), Nicholas\_76 (L3), Nicholasp3\_80 (L2), Nymphadora\_75 (CZ1), ODay\_98 (DN), Ohgeesy\_74 (CZ), OverPar\_82 (L2), Periwinkle\_99 (DN1), Phabuloso\_97 (DN1), PhaoMing\_68 (UNK), PhriskyACE\_66 (CZ4), Pickett\_65 (CZ2), Pollux\_76 (CY1), Polly\_68 (CZ1), Powerball\_68 (CZ4), Pytheas\_78 (CY3), RavenCo17\_69 (CZ8), Rizz\_71 (CZ4), Rose5\_77 (L1), Rossetti\_81 (L2), Rumpelstiltskin\_77 (L2), Ruthy\_70 (DW), Sahara\_67 (CZ2), Samman98\_71 (CZ4), Samty\_77 (L3), Sarshaun\_81 (L2), Savage\_68 (CZ2), Sekhmet\_69 (CZ4), ShawBrad\_95 (DN1), Sheng711\_79 (L4), Sidious\_71 (CZ7), Snenia\_77 (L3), SoJulia\_82 (L2), Soap141\_80 (L2), SoilAssassin\_68 (CZ2), Sproutie\_68 (CZ2), Suerte\_64 (CZ4), Suscepit\_71 (CZ1), SushiChef\_74 (CZ), Tayonia\_71 (CZ1), ThankyouJordi\_74 (CZ1), Thimann\_71 (CZ4), TimTam\_75 (CZ1), Tourach\_79 (L2), TriFive\_79 (L3), Trumpet\_71 (CZ1), TuerToX\_68 (CZ2), Tuti\_64 (CZ4), Tyson\_78 (L1), UPIE\_76 (L1), Underpass\_71 (L2), Vasanti\_67 (CZ2), Vatrix\_79 (L2), Wamburgxpress\_77 (L1), WelcomeAyanna\_74 (CZ1), Whirlwind\_79 (L3), Whiteclaw\_68 (CZ2), Whitney\_89 (DN1), Wigglewiggles\_79 (L2), Wilder\_81 (L2), WinkNick\_70 (CZ4), Winky\_80 (L2), Wyatt2\_78 (L1), Yeet412\_67 (CZ2), Yeezy\_76 (CZ3), Yinzer\_68 (CZ2), Zakai\_81 (L2), Zameen\_71 (CZ1), Zaria\_78 (L1), ZhongYanYuan\_77 (L2), Zirinka\_69 (CZ1), Zodiariah\_66 (DW),

#### Start 107:

- Found in 11 of 306 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Megan\_45 (EC),

#### Start 108:

- Found in 3 of 306 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 33.3% of time when present
- Phage (with cluster) where this start called: G4\_60 (BW),

#### Start 109:

- Found in 12 of 306 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 11 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ClearAsMud\_50 (EC), Fireman\_49 (EC), Gina\_49 (EC), Jayden\_49 (EC), Metamorphoo\_49 (EC), NoodlelyBoi\_48 (EC), RobsFeet\_50 (EC), Shrubaron\_49 (EC), SirFrank\_47 (EC), Skugga\_46 (EC), Teamocil\_49 (EC), Tyumbra\_47 (EC),

#### Start 110:

- Found in 2 of 306 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DillyDally\_54 (singleton), Jace\_77 (singleton),

#### Start 111:

- Found in 1 of 306 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Nicole72\_45 (EC),

Start 112:

- Found in 2 of 306 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AirForce1\_53 (FL),

Start 118:

- Found in 41 of 306 ( 13.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.3% of time when present
- Phage (with cluster) where this start called: BourbonZero\_79 (L3), Ellson\_77 (L3), PYPDinur\_77 (L4),

Start 119:

- Found in 14 of 306 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 1 of 250
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Douge\_77 (L4), FarmResident\_79 (L4),

Start 121:

- Found in 10 of 306 ( 3.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Sprinklemunch\_77 (DW),

Start 122:

- Found in 124 of 306 ( 40.5% ) of genes in pham
- Manual Annotations of this start: 4 of 250
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Calm\_79 (L1), JoeDirt\_77 (L1), KirDoubleO7\_76 (L3), LiyuLake\_77 (L3), MsGreen\_78 (L3), Red305\_79 (L3), Silverleaf\_77 (L1),

Start 127:

- Found in 12 of 306 ( 3.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Quby\_78 (L4),

**Summary by clusters:**

There are 43 clusters represented in this pham: DN, FQ, singleton, DH, CZ2, CZ3, CZ1, CZ6, CZ7, CZ4, CZ5, FB, BW, CZ8, DW, FL, UNK, I1, BX, I2, DN4, DN1, DN3, CY3, CY2, CY1, CY7, CY6, CY5, F, EC, N, CZ, L4, L5, L2, L3, L1, CP, EP, F1, F7, P2,

Info for manual annotations of cluster BW:

- Start number 108 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CP:

- Start number 100 was manually annotated 5 times for cluster CP.

Info for manual annotations of cluster CY1:

- Start number 106 was manually annotated 9 times for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 104 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CY3:

- Start number 106 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY5:

- Start number 106 was manually annotated 1 time for cluster CY5.

Info for manual annotations of cluster CY6:

- Start number 106 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 106 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster CZ:

- Start number 101 was manually annotated 2 times for cluster CZ.
- Start number 106 was manually annotated 2 times for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 106 was manually annotated 25 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 106 was manually annotated 24 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 104 was manually annotated 1 time for cluster CZ3.
- Start number 106 was manually annotated 2 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 97 was manually annotated 3 times for cluster CZ4.
- Start number 104 was manually annotated 4 times for cluster CZ4.
- Start number 106 was manually annotated 17 times for cluster CZ4.

Info for manual annotations of cluster CZ5:

- Start number 101 was manually annotated 1 time for cluster CZ5.

Info for manual annotations of cluster CZ6:

- Start number 101 was manually annotated 2 times for cluster CZ6.
- Start number 104 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster CZ7:

- Start number 106 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster CZ8:

- Start number 106 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DH:

- Start number 101 was manually annotated 3 times for cluster DH.

Info for manual annotations of cluster DN:

- Start number 101 was manually annotated 1 time for cluster DN.
- Start number 104 was manually annotated 2 times for cluster DN.
- Start number 106 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 104 was manually annotated 3 times for cluster DN1.
- Start number 106 was manually annotated 8 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 104 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 101 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DW:

- Start number 101 was manually annotated 1 time for cluster DW.
- Start number 106 was manually annotated 4 times for cluster DW.

Info for manual annotations of cluster EC:

- Start number 107 was manually annotated 1 time for cluster EC.
- Start number 109 was manually annotated 11 times for cluster EC.
- Start number 111 was manually annotated 1 time for cluster EC.

Info for manual annotations of cluster EP:

- Start number 104 was manually annotated 1 time for cluster EP.

Info for manual annotations of cluster F1:

- Start number 104 was manually annotated 8 times for cluster F1.

Info for manual annotations of cluster FB:

- Start number 105 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FQ:

- Start number 105 was manually annotated 4 times for cluster FQ.

Info for manual annotations of cluster I1:

- Start number 104 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 104 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster L1:

- Start number 106 was manually annotated 15 times for cluster L1.
- Start number 122 was manually annotated 3 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 106 was manually annotated 31 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 106 was manually annotated 18 times for cluster L3.
- Start number 122 was manually annotated 1 time for cluster L3.

Info for manual annotations of cluster L4:

- Start number 106 was manually annotated 5 times for cluster L4.
- Start number 119 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:

- Start number 106 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster N:

- Start number 104 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P2:

- Start number 104 was manually annotated 1 time for cluster P2.

### **Gene Information:**

Gene: Acquire49\_77 Start: 51648, Stop: 52061, Start Num: 106

Candidate Starts for Acquire49\_77:

(Start: 106 @51648 has 173 MA's), (Start: 122 @51687 has 4 MA's), (132, 51723), (155, 51810), (184, 51951), (208, 52029), (209, 52032),

Gene: Adora\_68 Start: 47407, Stop: 47808, Start Num: 104

Candidate Starts for Adora\_68:

(Start: 97 @47389 has 3 MA's), (Start: 104 @47407 has 31 MA's), (161, 47584), (182, 47728), (198, 47770),

Gene: Aegeus\_87 Start: 54478, Stop: 54843, Start Num: 106

Candidate Starts for Aegeus\_87:

(Start: 106 @54478 has 173 MA's), (118, 54496), (Start: 119 @54502 has 1 MA's), (Start: 122 @54517 has 4 MA's), (162, 54658), (170, 54724), (173, 54727), (184, 54781), (200, 54829),

Gene: Agueybana\_76 Start: 49121, Stop: 49486, Start Num: 106

Candidate Starts for Agueybana\_76:

(60, 49004), (66, 49028), (67, 49031), (85, 49073), (Start: 106 @49121 has 173 MA's), (175, 49385),

Gene: AirForce1\_53 Start: 36526, Stop: 36900, Start Num: 112

Candidate Starts for AirForce1\_53:

(17, 35989), (24, 36145), (39, 36283), (49, 36343), (56, 36376), (112, 36526), (135, 36607), (141, 36625), (160, 36694), (169, 36757), (170, 36766), (183, 36823), (199, 36865),

Gene: Alatato\_64 Start: 36072, Stop: 36431, Start Num: 105

Candidate Starts for Alatato\_64:

(82, 36012), (Start: 100 @36057 has 5 MA's), (Start: 105 @36072 has 5 MA's), (114, 36087), (130, 36144), (173, 36318), (183, 36372),

Gene: Aloeri\_71 Start: 43637, Stop: 44014, Start Num: 104

Candidate Starts for Aloeri\_71:

(Start: 104 @43637 has 31 MA's), (125, 43706), (136, 43742), (146, 43760), (175, 43901), (179, 43925), (198, 43982), (205, 44006),

Gene: AlumE\_72 Start: 48795, Stop: 49160, Start Num: 106

Candidate Starts for AlumE\_72:

(23, 48408), (63, 48681), (65, 48690), (73, 48714), (92, 48753), (Start: 106 @48795 has 173 MA's),

Gene: Amo99\_15 Start: 7379, Stop: 7768, Start Num: 100

Candidate Starts for Amo99\_15:

(43, 7193), (70, 7304), (89, 7349), (98, 7376), (Start: 100 @7379 has 5 MA's), (102, 7388), (Start: 107 @7397 has 1 MA's), (130, 7472), (158, 7571), (170, 7649), (174, 7664), (179, 7691), (185, 7703), (190, 7721), (202, 7754),

Gene: Angelique\_69 Start: 48080, Stop: 48445, Start Num: 106

Candidate Starts for Angelique\_69:

(Start: 106 @48080 has 173 MA's), (152, 48221),

Gene: Annalisa\_68 Start: 43981, Stop: 44349, Start Num: 106

Candidate Starts for Annalisa\_68:

(63, 43867), (65, 43876), (73, 43900), (92, 43939), (Start: 106 @43981 has 173 MA's),

Gene: Antonio\_70 Start: 46557, Stop: 46922, Start Num: 106

Candidate Starts for Antonio\_70:

(61, 46443), (Start: 106 @46557 has 173 MA's), (117, 46572), (154, 46713),

Gene: Appletree2\_76 Start: 51259, Stop: 51672, Start Num: 106

Candidate Starts for Appletree2\_76:

(Start: 106 @51259 has 173 MA's), (Start: 122 @51298 has 4 MA's), (132, 51334), (155, 51421), (184, 51562), (208, 51640), (209, 51643),

Gene: Apricot\_90 Start: 48459, Stop: 48836, Start Num: 104

Candidate Starts for Apricot\_90:

(Start: 104 @48459 has 31 MA's), (124, 48507), (136, 48555), (156, 48621), (168, 48693), (182, 48759), (189, 48780), (198, 48801),

Gene: ArchiDore\_72 Start: 49542, Stop: 49913, Start Num: 101

Candidate Starts for ArchiDore\_72:

(57, 49416), (60, 49425), (Start: 101 @49542 has 11 MA's), (Start: 122 @49584 has 4 MA's), (137, 49644), (144, 49656), (155, 49710),

Gene: Archie\_77 Start: 53141, Stop: 53554, Start Num: 106

Candidate Starts for Archie\_77:

(Start: 106 @53141 has 173 MA's), (Start: 122 @53180 has 4 MA's), (147, 53261), (155, 53303), (184, 53444), (210, 53540),

Gene: Attis\_68 Start: 45280, Stop: 45648, Start Num: 106

Candidate Starts for Attis\_68:

(60, 45163), (63, 45172), (67, 45190), (85, 45232), (Start: 106 @45280 has 173 MA's), (117, 45295),

Gene: AvadaKedavra\_77 Start: 51727, Stop: 52140, Start Num: 106

Candidate Starts for AvadaKedavra\_77:

(Start: 106 @51727 has 173 MA's), (Start: 122 @51766 has 4 MA's), (132, 51802), (155, 51889), (184, 52030), (208, 52108), (209, 52111),

Gene: Awesomesauce\_70 Start: 42720, Stop: 43097, Start Num: 104

Candidate Starts for Awesomesauce\_70:

(Start: 104 @42720 has 31 MA's), (125, 42789), (136, 42825), (146, 42843), (175, 42984), (179, 43008), (198, 43065), (205, 43089),

Gene: BENtherdunthat\_90 Start: 49249, Stop: 49614, Start Num: 106

Candidate Starts for BENtherdunthat\_90:

(12, 48544), (16, 48700), (25, 48880), (33, 48991), (47, 49075), (Start: 106 @49249 has 173 MA's), (Start: 122 @49285 has 4 MA's), (142, 49354), (144, 49357), (151, 49390), (157, 49417), (166, 49471), (167, 49474), (184, 49552),

Gene: Baoshan\_78 Start: 53427, Stop: 53840, Start Num: 106

Candidate Starts for Baoshan\_78:

(Start: 106 @53427 has 173 MA's), (Start: 122 @53466 has 4 MA's), (133, 53505), (147, 53547), (155, 53589), (173, 53676), (184, 53730), (210, 53826),

Gene: BatStarr\_74 Start: 49525, Stop: 49890, Start Num: 106

Candidate Starts for BatStarr\_74:

(60, 49408), (66, 49432), (67, 49435), (85, 49477), (Start: 106 @49525 has 173 MA's), (117, 49540),

Gene: Baudelaire\_87 Start: 54478, Stop: 54843, Start Num: 106

Candidate Starts for Baudelaire\_87:

(Start: 106 @54478 has 173 MA's), (118, 54496), (Start: 119 @54502 has 1 MA's), (Start: 122 @54517 has 4 MA's), (162, 54658), (170, 54724), (173, 54727), (184, 54781), (200, 54829),

Gene: BaxterFox\_77 Start: 50109, Stop: 50474, Start Num: 106

Candidate Starts for BaxterFox\_77:

(60, 49992), (66, 50016), (67, 50019), (85, 50061), (Start: 106 @50109 has 173 MA's), (117, 50124), (175, 50373),

Gene: Bazzle\_77 Start: 53330, Stop: 53743, Start Num: 106

Candidate Starts for Bazzle\_77:

(Start: 106 @53330 has 173 MA's), (Start: 122 @53369 has 4 MA's), (147, 53450), (155, 53492), (173, 53579), (184, 53633), (210, 53729),

Gene: BeeGee\_76 Start: 48379, Stop: 48744, Start Num: 106

Candidate Starts for BeeGee\_76:

(63, 48265), (65, 48274), (73, 48298), (92, 48337), (Start: 106 @48379 has 173 MA's),

Gene: Beenie\_64 Start: 44525, Stop: 44890, Start Num: 106

Candidate Starts for Beenie\_64:

(Start: 106 @44525 has 173 MA's), (173, 44774),

Gene: Bellis\_78 Start: 53435, Stop: 53827, Start Num: 106

Candidate Starts for Bellis\_78:

(Start: 106 @53435 has 173 MA's), (118, 53453), (Start: 122 @53474 has 4 MA's), (155, 53597), (184, 53738), (208, 53816), (209, 53819),

Gene: Bialota\_69 Start: 48237, Stop: 48602, Start Num: 106

Candidate Starts for Bialota\_69:

(60, 48120), (66, 48144), (67, 48147), (85, 48189), (Start: 106 @48237 has 173 MA's), (117, 48252),

Gene: BigAnti\_50 Start: 44697, Stop: 45083, Start Num: 104

Candidate Starts for BigAnti\_50:

(Start: 104 @44697 has 31 MA's), (Start: 122 @44739 has 4 MA's), (136, 44796), (169, 44943), (173, 44955), (182, 45006), (192, 45036),

Gene: BigCheese\_80 Start: 53557, Stop: 53970, Start Num: 106

Candidate Starts for BigCheese\_80:

(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: Bjaner7\_65 Start: 42654, Stop: 43019, Start Num: 106

Candidate Starts for Bjaner7\_65:

(13, 42006), (23, 42267), (63, 42540), (65, 42549), (73, 42573), (Start: 106 @42654 has 173 MA's),

Gene: BobsGarage\_80 Start: 53557, Stop: 53970, Start Num: 106

Candidate Starts for BobsGarage\_80:

(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: Bosnia\_73 Start: 50639, Stop: 51004, Start Num: 106

Candidate Starts for Bosnia\_73:

(63, 50525), (65, 50534), (73, 50558), (92, 50597), (Start: 106 @50639 has 173 MA's),

Gene: BotCity\_92 Start: 50778, Stop: 51143, Start Num: 106

Candidate Starts for BotCity\_92:

(12, 50073), (16, 50229), (25, 50409), (33, 50520), (47, 50604), (Start: 106 @50778 has 173 MA's), (Start: 122 @50814 has 4 MA's), (142, 50883), (144, 50886), (151, 50919), (157, 50946), (166, 51000), (167, 51003), (184, 51081),

Gene: BourbonZero\_79 Start: 53449, Stop: 53823, Start Num: 118

Candidate Starts for BourbonZero\_79:

(Start: 106 @53431 has 173 MA's), (118, 53449), (Start: 122 @53470 has 4 MA's), (155, 53593), (169, 53668), (184, 53734), (208, 53812), (209, 53815),

Gene: BoyNamedSue\_72 Start: 48795, Stop: 49160, Start Num: 106

Candidate Starts for BoyNamedSue\_72:

(23, 48408), (63, 48681), (65, 48690), (73, 48714), (92, 48753), (Start: 106 @48795 has 173 MA's),

Gene: Bradissa\_71 Start: 49627, Stop: 49992, Start Num: 106

Candidate Starts for Bradissa\_71:

(99, 49609), (Start: 106 @49627 has 173 MA's), (117, 49642), (162, 49807), (175, 49891),

Gene: BrainDrainer\_78 Start: 52369, Stop: 52743, Start Num: 106

Candidate Starts for BrainDrainer\_78:

(Start: 106 @52369 has 173 MA's), (118, 52387), (Start: 119 @52393 has 1 MA's), (Start: 122 @52408 has 4 MA's), (127, 52432), (155, 52531), (169, 52606), (174, 52630), (184, 52672), (188, 52687),

Gene: Bran\_49 Start: 35390, Stop: 35785, Start Num: 104

Candidate Starts for Bran\_49:

(Start: 104 @35390 has 31 MA's), (125, 35450), (165, 35606),

Gene: Breezona\_80 Start: 53557, Stop: 53970, Start Num: 106

Candidate Starts for Breezona\_80:

(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: BritBrat\_89 Start: 51800, Stop: 52234, Start Num: 104

Candidate Starts for BritBrat\_89:

(Start: 104 @51800 has 31 MA's), (118, 51821), (124, 51848), (130, 51881), (143, 51920), (150, 51947), (175, 52097), (179, 52121), (206, 52199),

Gene: Bromden\_78 Start: 53002, Stop: 53388, Start Num: 106

Candidate Starts for Bromden\_78:

(Start: 106 @53002 has 173 MA's), (118, 53020), (Start: 119 @53026 has 1 MA's), (Start: 122 @53041 has 4 MA's), (127, 53065), (155, 53164), (169, 53239), (174, 53263), (184, 53305), (188, 53320), (208, 53380),

Gene: Brujita\_53 Start: 36853, Stop: 37233, Start Num: 104

Candidate Starts for Brujita\_53:

(Start: 104 @36853 has 31 MA's), (125, 36925), (174, 37117), (175, 37120), (198, 37201),

Gene: Budski\_95 Start: 51613, Stop: 51987, Start Num: 106

Candidate Starts for Budski\_95:

(45, 51436), (81, 51556), (Start: 106 @51613 has 173 MA's), (118, 51631), (125, 51670), (134, 51694), (135, 51697), (136, 51706), (143, 51718), (150, 51745), (154, 51766), (167, 51835), (170, 51856), (173, 51859), (179, 51898), (182, 51910),

Gene: Bunnybear\_69 Start: 47790, Stop: 48155, Start Num: 106

Candidate Starts for Bunnybear\_69:

(60, 47673), (66, 47697), (67, 47700), (85, 47742), (Start: 106 @47790 has 173 MA's),

Gene: Calm\_79 Start: 52009, Stop: 52383, Start Num: 122

Candidate Starts for Calm\_79:

(Start: 106 @51970 has 173 MA's), (Start: 122 @52009 has 4 MA's), (132, 52045), (155, 52132), (184, 52273), (208, 52351), (209, 52354),

Gene: Cashline\_72 Start: 50322, Stop: 50687, Start Num: 106

Candidate Starts for Cashline\_72:

(99, 50304), (Start: 106 @50322 has 173 MA's), (117, 50337), (162, 50502),

Gene: Chaser\_76 Start: 52001, Stop: 52387, Start Num: 106

Candidate Starts for Chaser\_76:

(Start: 106 @52001 has 173 MA's), (118, 52019), (Start: 119 @52025 has 1 MA's), (Start: 122 @52040 has 4 MA's), (127, 52064), (155, 52163), (169, 52238), (174, 52262), (184, 52304), (208, 52379),

Gene: Che9c\_64 Start: 45395, Stop: 45778, Start Num: 104

Candidate Starts for Che9c\_64:

(Start: 104 @45395 has 31 MA's), (125, 45467), (174, 45659), (175, 45662), (198, 45743), (206, 45770),

Gene: ChickenDinner\_70 Start: 43637, Stop: 44014, Start Num: 104

Candidate Starts for ChickenDinner\_70:

(Start: 104 @43637 has 31 MA's), (125, 43706), (136, 43742), (146, 43760), (175, 43901), (179, 43925), (198, 43982), (205, 44006),

Gene: ChutneyChips\_78 Start: 52346, Stop: 52732, Start Num: 106

Candidate Starts for ChutneyChips\_78:

(Start: 106 @52346 has 173 MA's), (118, 52364), (Start: 119 @52370 has 1 MA's), (Start: 122 @52385 has 4 MA's), (127, 52409), (155, 52508), (169, 52583), (174, 52607), (184, 52649), (188, 52664), (208, 52724),

Gene: CicholasNage\_74 Start: 51312, Stop: 51725, Start Num: 106

Candidate Starts for CicholasNage\_74:

(Start: 106 @51312 has 173 MA's), (Start: 122 @51351 has 4 MA's), (132, 51387), (155, 51474), (184, 51615), (208, 51693), (209, 51696),

Gene: Clap\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Clap\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Clark\_69 Start: 44288, Stop: 44653, Start Num: 106

Candidate Starts for Clark\_69:

(Start: 106 @44288 has 173 MA's), (173, 44537),

Gene: Claus\_79 Start: 53492, Stop: 53905, Start Num: 106

Candidate Starts for Claus\_79:

(Start: 106 @53492 has 173 MA's), (Start: 122 @53531 has 4 MA's), (155, 53654), (173, 53741), (184, 53795), (210, 53891),

Gene: Clautastrophe\_76 Start: 53433, Stop: 53825, Start Num: 106

Candidate Starts for Clautastrophe\_76:

(Start: 106 @53433 has 173 MA's), (118, 53451), (Start: 122 @53472 has 4 MA's), (155, 53595), (184, 53736), (208, 53814), (209, 53817),

Gene: Clawz\_16 Start: 7752, Stop: 8141, Start Num: 100

Candidate Starts for Clawz\_16:

(40, 7545), (43, 7566), (62, 7653), (89, 7722), (98, 7749), (Start: 100 @7752 has 5 MA's), (102, 7761), (120, 7806), (134, 7860), (154, 7932), (165, 7992), (173, 8025), (174, 8037), (179, 8064), (185, 8076), (187, 8082), (202, 8127),

Gene: ClearAsMud\_50 Start: 32507, Stop: 32881, Start Num: 109

Candidate Starts for ClearAsMud\_50:

(Start: 109 @32507 has 11 MA's), (125, 32567), (135, 32594), (156, 32663), (159, 32672), (162, 32681), (164, 32714), (175, 32765), (179, 32789), (185, 32801), (194, 32831), (202, 32852), (204, 32858),

Gene: ColdSoup\_15 Start: 7379, Stop: 7768, Start Num: 100

Candidate Starts for ColdSoup\_15:

(43, 7193), (70, 7304), (89, 7349), (98, 7376), (Start: 100 @7379 has 5 MA's), (102, 7388), (Start: 107 @7397 has 1 MA's), (130, 7472), (158, 7571), (170, 7649), (174, 7664), (179, 7691), (185, 7703), (190, 7721), (202, 7754),

Gene: Confidence\_73 Start: 47600, Stop: 47965, Start Num: 106

Candidate Starts for Confidence\_73:

(99, 47582), (Start: 106 @47600 has 173 MA's), (117, 47615),

Gene: Crater\_90 Start: 48803, Stop: 49180, Start Num: 104

Candidate Starts for Crater\_90:

(Start: 104 @48803 has 31 MA's), (124, 48851), (136, 48899), (156, 48965), (168, 49037), (182, 49103), (189, 49124), (198, 49145),

Gene: Crossroads\_80 Start: 53632, Stop: 54045, Start Num: 106

Candidate Starts for Crossroads\_80:

(Start: 106 @53632 has 173 MA's), (Start: 122 @53671 has 4 MA's), (147, 53752), (155, 53794), (173, 53881), (184, 53935), (210, 54031),

Gene: Cubone\_56 Start: 34210, Stop: 34587, Start Num: 104

Candidate Starts for Cubone\_56:

(Start: 104 @34210 has 31 MA's), (125, 34279), (136, 34315), (146, 34333), (175, 34474), (179, 34498), (198, 34555), (205, 34579),

Gene: Cynthia\_68 Start: 42831, Stop: 43196, Start Num: 106

Candidate Starts for Cynthia\_68:

(13, 42183), (23, 42444), (63, 42717), (65, 42726), (73, 42750), (Start: 106 @42831 has 173 MA's),

Gene: DHan\_83 Start: 53710, Stop: 54123, Start Num: 106

Candidate Starts for DHan\_83:

(Start: 106 @53710 has 173 MA's), (Start: 122 @53749 has 4 MA's), (147, 53830), (155, 53872), (173, 53959), (184, 54013), (210, 54109),

Gene: DanBing\_80 Start: 53362, Stop: 53775, Start Num: 106

Candidate Starts for DanBing\_80:

(Start: 106 @53362 has 173 MA's), (Start: 122 @53401 has 4 MA's), (147, 53482), (155, 53524), (173, 53611), (184, 53665), (210, 53761),

Gene: Denise\_65 Start: 39624, Stop: 39992, Start Num: 101

Candidate Starts for Denise\_65:

(69, 39543), (Start: 101 @39624 has 11 MA's), (Start: 122 @39666 has 4 MA's), (137, 39726), (142, 39735), (144, 39738), (152, 39774),

Gene: DillyDally\_54 Start: 35605, Stop: 35967, Start Num: 110

Candidate Starts for DillyDally\_54:

(64, 35485), (94, 35563), (Start: 105 @35596 has 5 MA's), (Start: 110 @35605 has 2 MA's), (114, 35617), (116, 35620), (130, 35674), (154, 35761), (157, 35770), (167, 35830), (170, 35851), (176, 35872), (183, 35908), (194, 35938), (196, 35941),

Gene: DirkDirk\_74 Start: 50839, Stop: 51252, Start Num: 106

Candidate Starts for DirkDirk\_74:

(Start: 106 @50839 has 173 MA's), (Start: 122 @50878 has 4 MA's), (132, 50914), (155, 51001), (184, 51142), (208, 51220), (209, 51223),

Gene: DobbysSock\_66 Start: 44836, Stop: 45252, Start Num: 97

Candidate Starts for DobbysSock\_66:

(Start: 97 @44836 has 3 MA's), (Start: 104 @44854 has 31 MA's), (161, 45031), (198, 45217),

Gene: DocMcStuffins\_70 Start: 43637, Stop: 44014, Start Num: 104

Candidate Starts for DocMcStuffins\_70:

(Start: 104 @43637 has 31 MA's), (125, 43706), (136, 43742), (146, 43760), (175, 43901), (179, 43925), (198, 43982), (205, 44006),

Gene: Dolores\_70 Start: 43516, Stop: 43884, Start Num: 106

Candidate Starts for Dolores\_70:

(11, 42763), (63, 43402), (65, 43411), (73, 43435), (92, 43474), (Start: 106 @43516 has 173 MA's), (156, 43681),

Gene: DonTron\_13 Start: 6968, Stop: 7357, Start Num: 100

Candidate Starts for DonTron\_13:

(43, 6782), (70, 6893), (89, 6938), (98, 6965), (Start: 100 @6968 has 5 MA's), (102, 6977), (Start: 107 @6986 has 1 MA's), (130, 7061), (158, 7160), (170, 7238), (174, 7253), (179, 7280), (185, 7292), (190, 7310), (202, 7343),

Gene: Dorito\_64 Start: 42718, Stop: 43086, Start Num: 106

Candidate Starts for Dorito\_64:

(Start: 106 @42718 has 173 MA's),

Gene: Douge\_77 Start: 51948, Stop: 52310, Start Num: 119

Candidate Starts for Douge\_77:

(Start: 106 @51924 has 173 MA's), (118, 51942), (Start: 119 @51948 has 1 MA's), (Start: 122 @51963 has 4 MA's), (127, 51987), (155, 52086), (169, 52161), (174, 52185), (184, 52227), (208, 52302),

Gene: Douzhi\_78 Start: 52186, Stop: 52560, Start Num: 106

Candidate Starts for Douzhi\_78:

(Start: 106 @52186 has 173 MA's), (118, 52204), (Start: 119 @52210 has 1 MA's), (Start: 122 @52225 has 4 MA's), (127, 52249), (155, 52348), (169, 52423), (174, 52447), (184, 52489), (188, 52504),

Gene: DrSeegs\_80 Start: 53557, Stop: 53970, Start Num: 106

Candidate Starts for DrSeegs\_80:

(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: DumpsterDude\_68 Start: 50011, Stop: 50379, Start Num: 106

Candidate Starts for DumpsterDude\_68:

(60, 49891), (Start: 106 @50011 has 173 MA's), (Start: 122 @50050 has 4 MA's), (133, 50089), (137, 50110), (144, 50122), (155, 50176),

Gene: DuncansLeg\_78 Start: 53419, Stop: 53811, Start Num: 106

Candidate Starts for DuncansLeg\_78:

(Start: 106 @53419 has 173 MA's), (118, 53437), (Start: 122 @53458 has 4 MA's), (155, 53581), (169, 53656), (184, 53722), (208, 53800), (209, 53803),

Gene: DyoEdafos\_82 Start: 52834, Stop: 53220, Start Num: 106

Candidate Starts for DyoEdafos\_82:

(Start: 106 @52834 has 173 MA's), (118, 52852), (Start: 119 @52858 has 1 MA's), (Start: 122 @52873 has 4 MA's), (127, 52897), (155, 52996), (174, 53095), (184, 53137), (208, 53212),

Gene: EMSquaredA\_73 Start: 47755, Stop: 48120, Start Num: 106

Candidate Starts for EMSquaredA\_73:

(73, 47674), (92, 47713), (Start: 106 @47755 has 173 MA's), (152, 47896),

Gene: Easley\_68 Start: 43289, Stop: 43654, Start Num: 106

Candidate Starts for Easley\_68:

(3, 42284), (4, 42296), (5, 42332), (6, 42356), (7, 42368), (8, 42380), (18, 42842), (Start: 106 @43289 has 173 MA's),

Gene: Ebert\_71 Start: 43265, Stop: 43630, Start Num: 106  
Candidate Starts for Ebert\_71:  
(13, 42617), (23, 42878), (63, 43151), (65, 43160), (73, 43184), (Start: 106 @43265 has 173 MA's),

Gene: Ecliptus\_97 Start: 52002, Stop: 52379, Start Num: 104  
Candidate Starts for Ecliptus\_97:  
(Start: 104 @52002 has 31 MA's), (124, 52050), (136, 52098), (156, 52164), (168, 52236), (182, 52302), (189, 52323), (198, 52344),

Gene: EdnaMode\_67 Start: 42941, Stop: 43306, Start Num: 106  
Candidate Starts for EdnaMode\_67:  
(63, 42827), (65, 42836), (73, 42860), (Start: 106 @42941 has 173 MA's),

Gene: Ellson\_77 Start: 53752, Stop: 54126, Start Num: 118  
Candidate Starts for Ellson\_77:  
(Start: 106 @53734 has 173 MA's), (118, 53752), (Start: 122 @53773 has 4 MA's), (155, 53896), (169, 53971), (184, 54037), (208, 54115), (209, 54118),

Gene: EnalisNailo\_69 Start: 48247, Stop: 48612, Start Num: 106  
Candidate Starts for EnalisNailo\_69:  
(23, 47860), (63, 48133), (65, 48142), (73, 48166), (Start: 106 @48247 has 173 MA's),

Gene: Enceladus\_74 Start: 51616, Stop: 52029, Start Num: 106  
Candidate Starts for Enceladus\_74:  
(Start: 106 @51616 has 173 MA's), (Start: 122 @51655 has 4 MA's), (132, 51691), (155, 51778), (184, 51919), (208, 51997), (209, 52000),

Gene: Eudoria\_71 Start: 46557, Stop: 46922, Start Num: 106  
Candidate Starts for Eudoria\_71:  
(61, 46443), (Start: 106 @46557 has 173 MA's), (117, 46572), (154, 46713),

Gene: Eviarto\_75 Start: 49500, Stop: 49865, Start Num: 106  
Candidate Starts for Eviarto\_75:  
(60, 49383), (66, 49407), (67, 49410), (85, 49452), (Start: 106 @49500 has 173 MA's), (117, 49515),

Gene: Faith1\_80 Start: 53557, Stop: 53970, Start Num: 106  
Candidate Starts for Faith1\_80:  
(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: Faith5x5\_63 Start: 38073, Stop: 38444, Start Num: 101  
Candidate Starts for Faith5x5\_63:  
(69, 37992), (87, 38031), (Start: 101 @38073 has 11 MA's), (Start: 122 @38115 has 4 MA's), (133, 38154), (137, 38175), (144, 38187),

Gene: FarmResident\_79 Start: 51952, Stop: 52314, Start Num: 119  
Candidate Starts for FarmResident\_79:  
(Start: 106 @51928 has 173 MA's), (117, 51943), (118, 51946), (Start: 119 @51952 has 1 MA's), (Start: 122 @51967 has 4 MA's), (127, 51991), (155, 52090), (169, 52165), (174, 52189), (184, 52231), (208, 52306),

Gene: Finemlucis\_79 Start: 54025, Stop: 54423, Start Num: 106  
Candidate Starts for Finemlucis\_79:

(Start: 106 @54025 has 173 MA's), (Start: 122 @54064 has 4 MA's), (142, 54133), (144, 54136), (155, 54187), (170, 54271), (184, 54328), (209, 54409),

Gene: Finkle\_64 Start: 40296, Stop: 40754, Start Num: 104

Candidate Starts for Finkle\_64:

(32, 40047), (36, 40068), (Start: 104 @40296 has 31 MA's), (143, 40404), (156, 40458), (159, 40467), (179, 40605), (198, 40659),

Gene: Finnry\_78 Start: 53684, Stop: 54076, Start Num: 106

Candidate Starts for Finnry\_78:

(Start: 106 @53684 has 173 MA's), (118, 53702), (Start: 122 @53723 has 4 MA's), (155, 53846), (184, 53987), (208, 54065), (209, 54068),

Gene: Fireman\_49 Start: 33919, Stop: 34293, Start Num: 109

Candidate Starts for Fireman\_49:

(Start: 109 @33919 has 11 MA's), (164, 34126), (175, 34177), (179, 34201), (185, 34213), (201, 34261), (204, 34270),

Gene: Floral\_74 Start: 49712, Stop: 50077, Start Num: 106

Candidate Starts for Floral\_74:

(73, 49631), (92, 49670), (Start: 106 @49712 has 173 MA's), (152, 49853),

Gene: Frankie\_73 Start: 45043, Stop: 45420, Start Num: 104

Candidate Starts for Frankie\_73:

(26, 44707), (30, 44749), (78, 44986), (Start: 104 @45043 has 31 MA's), (125, 45112), (174, 45304), (175, 45307), (179, 45331), (198, 45388),

Gene: Frickyeah\_97 Start: 50758, Stop: 51126, Start Num: 106

Candidate Starts for Frickyeah\_97:

(Start: 106 @50758 has 173 MA's), (125, 50815), (147, 50872), (155, 50914), (156, 50917), (158, 50923), (173, 51004), (179, 51043), (182, 51055), (186, 51061), (198, 51091),

Gene: FroggyToad\_69 Start: 44360, Stop: 44728, Start Num: 106

Candidate Starts for FroggyToad\_69:

(Start: 106 @44360 has 173 MA's),

Gene: G4\_60 Start: 34029, Stop: 34412, Start Num: 108

Candidate Starts for G4\_60:

(55, 33882), (Start: 108 @34029 has 1 MA's), (116, 34047), (121, 34071), (157, 34194), (174, 34290), (179, 34317),

Gene: GAL1\_69 Start: 43840, Stop: 44205, Start Num: 106

Candidate Starts for GAL1\_69:

(Start: 106 @43840 has 173 MA's), (Start: 122 @43876 has 4 MA's), (142, 43945), (144, 43948), (157, 44008), (166, 44062), (167, 44065), (169, 44077), (184, 44143),

Gene: Gabriela\_79 Start: 52903, Stop: 53316, Start Num: 106

Candidate Starts for Gabriela\_79:

(Start: 106 @52903 has 173 MA's), (Start: 122 @52942 has 4 MA's), (147, 53023), (155, 53065), (173, 53152), (184, 53206), (210, 53302),

Gene: Gardann\_80 Start: 53392, Stop: 53805, Start Num: 106

Candidate Starts for Gardann\_80:

(Start: 106 @53392 has 173 MA's), (Start: 122 @53431 has 4 MA's), (147, 53512), (155, 53554), (173, 53641), (184, 53695), (210, 53791),

Gene: GemG\_68 Start: 42837, Stop: 43202, Start Num: 106

Candidate Starts for GemG\_68:

(13, 42189), (23, 42450), (63, 42723), (65, 42732), (73, 42756), (Start: 106 @42837 has 173 MA's),

Gene: Getalong\_93 Start: 51704, Stop: 52069, Start Num: 106

Candidate Starts for Getalong\_93:

(12, 50999), (16, 51155), (25, 51335), (33, 51446), (47, 51530), (Start: 106 @51704 has 173 MA's), (Start: 122 @51740 has 4 MA's), (142, 51809), (144, 51812), (151, 51845), (157, 51872), (166, 51926), (167, 51929), (184, 52007),

Gene: Gibbzilla\_72 Start: 36470, Stop: 36829, Start Num: 105

Candidate Starts for Gibbzilla\_72:

(79, 36416), (Start: 105 @36470 has 5 MA's), (114, 36485), (130, 36542), (173, 36716), (183, 36770),

Gene: Gina\_49 Start: 32061, Stop: 32435, Start Num: 109

Candidate Starts for Gina\_49:

(Start: 109 @32061 has 11 MA's), (141, 32166), (156, 32217), (164, 32268), (175, 32319), (179, 32343), (185, 32355), (187, 32361), (191, 32376), (202, 32406), (204, 32412),

Gene: Gizermo\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Gizermo\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Grumio\_14 Start: 6968, Stop: 7357, Start Num: 100

Candidate Starts for Grumio\_14:

(43, 6782), (70, 6893), (89, 6938), (98, 6965), (Start: 100 @6968 has 5 MA's), (102, 6977), (Start: 107 @6986 has 1 MA's), (130, 7061), (158, 7160), (170, 7238), (174, 7253), (179, 7280), (185, 7292), (190, 7310), (202, 7343),

Gene: Gudmit\_62 Start: 37386, Stop: 37871, Start Num: 106

Candidate Starts for Gudmit\_62:

(80, 37326), (Start: 106 @37386 has 173 MA's), (Start: 122 @37425 has 4 MA's), (128, 37452), (139, 37497), (154, 37557), (169, 37638), (170, 37647), (182, 37701), (198, 37743),

Gene: GuuelaD\_78 Start: 53672, Stop: 54085, Start Num: 106

Candidate Starts for GuuelaD\_78:

(Start: 106 @53672 has 173 MA's), (Start: 122 @53711 has 4 MA's), (147, 53792), (155, 53834), (173, 53921), (184, 53975), (210, 54071),

Gene: Hafay\_81 Start: 53487, Stop: 53900, Start Num: 106

Candidate Starts for Hafay\_81:

(Start: 106 @53487 has 173 MA's), (Start: 122 @53526 has 4 MA's), (155, 53649), (173, 53736), (184, 53790), (210, 53886),

Gene: Halena\_75 Start: 50886, Stop: 51299, Start Num: 106

Candidate Starts for Halena\_75:

(Start: 106 @50886 has 173 MA's), (Start: 122 @50925 has 4 MA's), (132, 50961), (155, 51048), (184, 51189), (208, 51267), (209, 51270),

Gene: Haley23\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Haley23\_68:  
(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Herod\_75 Start: 49919, Stop: 50284, Start Num: 106  
Candidate Starts for Herod\_75:  
(60, 49802), (66, 49826), (67, 49829), (85, 49871), (Start: 106 @49919 has 173 MA's), (117, 49934),

Gene: Holliday\_92 Start: 52368, Stop: 52745, Start Num: 104  
Candidate Starts for Holliday\_92:  
(Start: 104 @52368 has 31 MA's), (124, 52416), (136, 52464), (168, 52602), (182, 52668), (198, 52710),

Gene: Hortense\_71 Start: 48762, Stop: 49163, Start Num: 104  
Candidate Starts for Hortense\_71:  
(Start: 97 @48744 has 3 MA's), (Start: 104 @48762 has 31 MA's), (161, 48939), (182, 49083), (198, 49125),

Gene: Horus\_91 Start: 51033, Stop: 51401, Start Num: 106  
Candidate Starts for Horus\_91:  
(Start: 106 @51033 has 173 MA's), (125, 51090), (147, 51147), (155, 51189), (156, 51192), (158, 51198), (173, 51279), (179, 51318), (182, 51330), (186, 51336), (198, 51366),

Gene: Howe\_71 Start: 48762, Stop: 49163, Start Num: 104  
Candidate Starts for Howe\_71:  
(Start: 97 @48744 has 3 MA's), (Start: 104 @48762 has 31 MA's), (161, 48939), (182, 49083), (198, 49125),

Gene: Hugley\_73 Start: 49899, Stop: 50264, Start Num: 106  
Candidate Starts for Hugley\_73:  
(60, 49782), (66, 49806), (67, 49809), (85, 49851), (Start: 106 @49899 has 173 MA's), (117, 49914),

Gene: Hum25\_62 Start: 35736, Stop: 36095, Start Num: 105  
Candidate Starts for Hum25\_62:  
(Start: 105 @35736 has 5 MA's), (121, 35775), (125, 35796), (130, 35805), (138, 35838), (149, 35865), (160, 35910), (169, 35973), (178, 36018), (183, 36039), (196, 36072), (202, 36084),

Gene: Hyzer\_89 Start: 56367, Stop: 56672, Start Num: 106  
Candidate Starts for Hyzer\_89:  
(85, 56319), (Start: 106 @56367 has 173 MA's),

Gene: InLimbo\_65 Start: 39068, Stop: 39436, Start Num: 101  
Candidate Starts for InLimbo\_65:  
(Start: 101 @39068 has 11 MA's), (Start: 122 @39110 has 4 MA's), (133, 39149), (137, 39170), (142, 39179), (144, 39182), (202, 39428),

Gene: Invectra\_73 Start: 45861, Stop: 46226, Start Num: 106  
Candidate Starts for Invectra\_73:  
(Start: 106 @45861 has 173 MA's), (173, 46110),

Gene: Island3\_53 Start: 36853, Stop: 37233, Start Num: 104  
Candidate Starts for Island3\_53:  
(Start: 104 @36853 has 31 MA's), (125, 36925), (174, 37117), (175, 37120), (198, 37201),

Gene: Itos\_79 Start: 52463, Stop: 52876, Start Num: 106

Candidate Starts for Itos\_79:

(Start: 106 @52463 has 173 MA's), (Start: 122 @52502 has 4 MA's), (147, 52583), (155, 52625), (173, 52712), (184, 52766), (210, 52862),

Gene: JCole\_65 Start: 41503, Stop: 41868, Start Num: 106

Candidate Starts for JCole\_65:

(9, 40720), (13, 40855), (23, 41116), (63, 41389), (65, 41398), (73, 41422), (92, 41461), (Start: 106 @41503 has 173 MA's),

Gene: Jablanski\_77 Start: 51014, Stop: 51379, Start Num: 106

Candidate Starts for Jablanski\_77:

(53, 50894), (83, 50963), (91, 50978), (Start: 106 @51014 has 173 MA's), (174, 51275),

Gene: Jace\_77 Start: 44043, Stop: 44462, Start Num: 110

Candidate Starts for Jace\_77:

(28, 43710), (42, 43836), (Start: 110 @44043 has 2 MA's), (124, 44088), (126, 44103), (130, 44121), (136, 44148), (143, 44160), (154, 44208), (156, 44214), (171, 44313), (172, 44316), (174, 44358), (175, 44361), (179, 44385), (203, 44445),

Gene: Jalleen\_72 Start: 43560, Stop: 43928, Start Num: 106

Candidate Starts for Jalleen\_72:

(1, 42540), (2, 42543), (23, 43173), (63, 43446), (65, 43455), (73, 43479), (Start: 106 @43560 has 173 MA's),

Gene: Jayden\_49 Start: 32758, Stop: 33132, Start Num: 109

Candidate Starts for Jayden\_49:

(72, 32671), (Start: 109 @32758 has 11 MA's), (134, 32842), (156, 32914), (164, 32965), (179, 33040), (185, 33052), (187, 33058), (202, 33103), (204, 33109),

Gene: Jobypre\_78 Start: 53433, Stop: 53825, Start Num: 106

Candidate Starts for Jobypre\_78:

(Start: 106 @53433 has 173 MA's), (118, 53451), (Start: 122 @53472 has 4 MA's), (155, 53595), (184, 53736), (208, 53814), (209, 53817),

Gene: JoeDirt\_77 Start: 52253, Stop: 52627, Start Num: 122

Candidate Starts for JoeDirt\_77:

(Start: 122 @52253 has 4 MA's), (132, 52289), (155, 52376), (184, 52517), (208, 52595), (209, 52598),

Gene: Jollymon\_14 Start: 7379, Stop: 7768, Start Num: 100

Candidate Starts for Jollymon\_14:

(43, 7193), (70, 7304), (89, 7349), (98, 7376), (Start: 100 @7379 has 5 MA's), (102, 7388), (Start: 107 @7397 has 1 MA's), (130, 7472), (158, 7571), (170, 7649), (174, 7664), (179, 7691), (185, 7703), (190, 7721), (202, 7754),

Gene: Jubie\_77 Start: 53568, Stop: 53960, Start Num: 106

Candidate Starts for Jubie\_77:

(Start: 106 @53568 has 173 MA's), (118, 53586), (Start: 122 @53607 has 4 MA's), (155, 53730), (184, 53871), (208, 53949), (209, 53952),

Gene: Kahlid\_80 Start: 53563, Stop: 53976, Start Num: 106

Candidate Starts for Kahlid\_80:

(Start: 106 @53563 has 173 MA's), (Start: 122 @53602 has 4 MA's), (137, 53662), (147, 53683), (155, 53725), (173, 53812), (184, 53866), (210, 53962),

Gene: Kamaru\_84 Start: 48067, Stop: 48444, Start Num: 104

Candidate Starts for Kamaru\_84:

(45, 47893), (Start: 104 @48067 has 31 MA's), (118, 48088), (124, 48115), (150, 48202), (168, 48301), (170, 48313), (181, 48364), (182, 48367), (198, 48409),

Gene: Kingsolomon\_76 Start: 53440, Stop: 53832, Start Num: 106

Candidate Starts for Kingsolomon\_76:

(Start: 106 @53440 has 173 MA's), (118, 53458), (Start: 122 @53479 has 4 MA's), (155, 53602), (184, 53743), (208, 53821), (209, 53824),

Gene: KingstonB\_13 Start: 6977, Stop: 7357, Start Num: 102

Candidate Starts for KingstonB\_13:

(43, 6782), (70, 6893), (89, 6938), (98, 6965), (Start: 100 @6968 has 5 MA's), (102, 6977), (Start: 107 @6986 has 1 MA's), (130, 7061), (158, 7160), (170, 7238), (174, 7253), (179, 7280), (185, 7292), (190, 7310), (202, 7343),

Gene: KirDoubleO7\_76 Start: 53460, Stop: 53813, Start Num: 122

Candidate Starts for KirDoubleO7\_76:

(Start: 106 @53421 has 173 MA's), (118, 53439), (Start: 122 @53460 has 4 MA's), (155, 53583), (169, 53658), (184, 53724), (208, 53802), (209, 53805),

Gene: Kita\_72 Start: 46566, Stop: 46931, Start Num: 106

Candidate Starts for Kita\_72:

(61, 46452), (Start: 106 @46566 has 173 MA's), (117, 46581), (154, 46722),

Gene: Kropertea\_75 Start: 52116, Stop: 52502, Start Num: 106

Candidate Starts for Kropertea\_75:

(Start: 106 @52116 has 173 MA's), (118, 52134), (Start: 119 @52140 has 1 MA's), (Start: 122 @52155 has 4 MA's), (127, 52179), (155, 52278), (174, 52377), (184, 52419), (208, 52494),

Gene: Krypton555\_79 Start: 53667, Stop: 54059, Start Num: 106

Candidate Starts for Krypton555\_79:

(Start: 106 @53667 has 173 MA's), (118, 53685), (Start: 122 @53706 has 4 MA's), (155, 53829), (184, 53970), (208, 54048), (209, 54051),

Gene: Kuwabara\_86 Start: 51241, Stop: 51609, Start Num: 101

Candidate Starts for Kuwabara\_86:

(Start: 101 @51241 has 11 MA's), (Start: 122 @51283 has 4 MA's), (133, 51322), (137, 51343), (142, 51352), (144, 51355), (202, 51601),

Gene: Lamberg\_64 Start: 41342, Stop: 41707, Start Num: 106

Candidate Starts for Lamberg\_64:

(13, 40694), (23, 40955), (63, 41228), (65, 41237), (73, 41261), (Start: 106 @41342 has 173 MA's),

Gene: LeBron\_76 Start: 50885, Stop: 51298, Start Num: 106

Candidate Starts for LeBron\_76:

(Start: 106 @50885 has 173 MA's), (Start: 122 @50924 has 4 MA's), (132, 50960), (155, 51047), (184, 51188), (208, 51266), (209, 51269),

Gene: Leroy\_90 Start: 49228, Stop: 49596, Start Num: 106

Candidate Starts for Leroy\_90:

(Start: 106 @49228 has 173 MA's), (125, 49285), (147, 49342), (155, 49384), (156, 49387), (158, 49393), (173, 49474), (179, 49513), (182, 49525), (186, 49531), (198, 49561),

Gene: Lewan\_81 Start: 53615, Stop: 54049, Start Num: 106

Candidate Starts for Lewan\_81:

(Start: 106 @53615 has 173 MA's), (Start: 122 @53654 has 4 MA's), (147, 53735), (155, 53777), (173, 53864), (184, 53918), (210, 54014),

Gene: LilDestine\_79 Start: 53467, Stop: 53880, Start Num: 106

Candidate Starts for LilDestine\_79:

(Start: 106 @53467 has 173 MA's), (Start: 122 @53506 has 4 MA's), (147, 53587), (155, 53629), (173, 53716), (184, 53770), (210, 53866),

Gene: LilSpotty\_67 Start: 41443, Stop: 41820, Start Num: 104

Candidate Starts for LilSpotty\_67:

(58, 41326), (59, 41329), (65, 41350), (Start: 104 @41443 has 31 MA's), (125, 41512), (174, 41704), (175, 41707), (179, 41731), (198, 41788),

Gene: Lilas\_70 Start: 49785, Stop: 50150, Start Num: 106

Candidate Starts for Lilas\_70:

(23, 49398), (63, 49671), (65, 49680), (73, 49704), (Start: 106 @49785 has 173 MA's),

Gene: LiyuLake\_77 Start: 53533, Stop: 53886, Start Num: 122

Candidate Starts for LiyuLake\_77:

(Start: 106 @53494 has 173 MA's), (118, 53512), (Start: 122 @53533 has 4 MA's), (155, 53656), (169, 53731), (184, 53797), (208, 53875), (209, 53878),

Gene: Loadrie\_79 Start: 53642, Stop: 54055, Start Num: 106

Candidate Starts for Loadrie\_79:

(Start: 106 @53642 has 173 MA's), (Start: 122 @53681 has 4 MA's), (147, 53762), (155, 53804), (173, 53891), (184, 53945), (210, 54041),

Gene: Lolly9\_77 Start: 53537, Stop: 53929, Start Num: 106

Candidate Starts for Lolly9\_77:

(Start: 106 @53537 has 173 MA's), (118, 53555), (Start: 122 @53576 has 4 MA's), (155, 53699), (184, 53840), (208, 53918), (209, 53921),

Gene: LonelyBoi\_72 Start: 50747, Stop: 51112, Start Num: 106

Candidate Starts for LonelyBoi\_72:

(73, 50669), (Start: 106 @50747 has 173 MA's), (117, 50762),

Gene: LordFarquaad\_71 Start: 45261, Stop: 45629, Start Num: 106

Candidate Starts for LordFarquaad\_71:

(60, 45144), (63, 45153), (67, 45171), (85, 45213), (Start: 106 @45261 has 173 MA's), (117, 45276),

Gene: LordVader\_60 Start: 37776, Stop: 38195, Start Num: 90

Candidate Starts for LordVader\_60:

(52, 37668), (90, 37776), (99, 37803), (Start: 104 @37818 has 31 MA's), (125, 37887), (136, 37923), (146, 37941), (175, 38082), (198, 38163), (205, 38187),

Gene: Lton\_65 Start: 38394, Stop: 38762, Start Num: 101

Candidate Starts for Lton\_65:

(Start: 101 @38394 has 11 MA's), (Start: 122 @38436 has 4 MA's), (133, 38475), (137, 38496), (142, 38505), (144, 38508), (202, 38754),

Gene: Lucky10\_65 Start: 40814, Stop: 41182, Start Num: 101

Candidate Starts for Lucky10\_65:

(50, 40652), (Start: 101 @40814 has 11 MA's), (121, 40853), (Start: 122 @40856 has 4 MA's), (133, 40895), (137, 40916), (142, 40925), (144, 40928),

Gene: Lumos\_79 Start: 53430, Stop: 53822, Start Num: 106

Candidate Starts for Lumos\_79:

(Start: 106 @53430 has 173 MA's), (118, 53448), (Start: 122 @53469 has 4 MA's), (155, 53592), (184, 53733), (208, 53811), (209, 53814),

Gene: Lutum\_91 Start: 49684, Stop: 50049, Start Num: 106

Candidate Starts for Lutum\_91:

(12, 48979), (16, 49135), (25, 49315), (33, 49426), (47, 49510), (Start: 106 @49684 has 173 MA's), (Start: 122 @49720 has 4 MA's), (142, 49789), (144, 49792), (151, 49825), (157, 49852), (166, 49906), (167, 49909), (184, 49987),

Gene: Lynnae\_82 Start: 53575, Stop: 53988, Start Num: 106

Candidate Starts for Lynnae\_82:

(Start: 106 @53575 has 173 MA's), (Start: 122 @53614 has 4 MA's), (137, 53674), (147, 53695), (155, 53737), (173, 53824), (184, 53878), (210, 53974),

Gene: MAckerman\_75 Start: 50879, Stop: 51292, Start Num: 106

Candidate Starts for MAckerman\_75:

(Start: 106 @50879 has 173 MA's), (Start: 122 @50918 has 4 MA's), (132, 50954), (155, 51041), (184, 51182), (208, 51260), (209, 51263),

Gene: Madavieve\_70 Start: 47922, Stop: 48287, Start Num: 106

Candidate Starts for Madavieve\_70:

(60, 47805), (67, 47832), (85, 47874), (Start: 106 @47922 has 173 MA's), (117, 47937),

Gene: Madeline\_68 Start: 48371, Stop: 48736, Start Num: 106

Candidate Starts for Madeline\_68:

(60, 48254), (63, 48263), (67, 48281), (85, 48323), (Start: 106 @48371 has 173 MA's), (117, 48386), (131, 48440), (154, 48527),

Gene: MakCheese\_79 Start: 49464, Stop: 49835, Start Num: 106

Candidate Starts for MakCheese\_79:

(73, 49383), (92, 49422), (Start: 106 @49464 has 173 MA's),

Gene: Makar\_16 Start: 7749, Stop: 8141, Start Num: 98

Candidate Starts for Makar\_16:

(40, 7545), (43, 7566), (62, 7653), (89, 7722), (98, 7749), (Start: 100 @7752 has 5 MA's), (102, 7761), (120, 7806), (134, 7860), (154, 7932), (165, 7992), (173, 8025), (174, 8037), (179, 8064), (185, 8076), (187, 8082), (202, 8127),

Gene: Malibo\_73 Start: 47674, Stop: 48039, Start Num: 106

Candidate Starts for Malibo\_73:

(19, 47248), (60, 47557), (66, 47581), (67, 47584), (85, 47626), (Start: 106 @47674 has 173 MA's),

Gene: Malisha\_90 Start: 52796, Stop: 53167, Start Num: 101

Candidate Starts for Malisha\_90:

(69, 52715), (87, 52754), (Start: 101 @52796 has 11 MA's), (Start: 122 @52838 has 4 MA's), (133, 52877), (137, 52898), (144, 52910),

Gene: Manasvini\_73 Start: 46581, Stop: 46946, Start Num: 106

Candidate Starts for Manasvini\_73:

(61, 46467), (Start: 106 @46581 has 173 MA's), (117, 46596), (154, 46737),

Gene: Maridalia\_74 Start: 47802, Stop: 48167, Start Num: 106

Candidate Starts for Maridalia\_74:

(60, 47685), (67, 47712), (85, 47754), (Start: 106 @47802 has 173 MA's), (117, 47817),

Gene: Marteena\_72 Start: 47755, Stop: 48120, Start Num: 106

Candidate Starts for Marteena\_72:

(73, 47674), (92, 47713), (Start: 106 @47755 has 173 MA's), (152, 47896),

Gene: Matteo\_62 Start: 41374, Stop: 41742, Start Num: 106

Candidate Starts for Matteo\_62:

(23, 40987), (63, 41260), (65, 41269), (73, 41293), (Start: 106 @41374 has 173 MA's),

Gene: Mbo4\_59 Start: 42474, Stop: 42896, Start Num: 104

Candidate Starts for Mbo4\_59:

(31, 42183), (38, 42258), (54, 42348), (Start: 104 @42474 has 31 MA's), (124, 42522), (129, 42552), (150, 42621), (179, 42795),

Gene: Mcklovin\_70 Start: 50090, Stop: 50455, Start Num: 106

Candidate Starts for Mcklovin\_70:

(63, 49976), (65, 49985), (73, 50009), (92, 50048), (Start: 106 @50090 has 173 MA's), (170, 50336),

Gene: Megan\_45 Start: 35422, Stop: 35853, Start Num: 107

Candidate Starts for Megan\_45:

(86, 35371), (Start: 107 @35422 has 1 MA's), (136, 35521), (161, 35593), (164, 35629), (167, 35641), (173, 35665), (174, 35677), (175, 35680), (179, 35704), (180, 35707), (185, 35716), (197, 35755), (202, 35767), (204, 35773), (207, 35782), (211, 35809),

Gene: Merpity\_62 Start: 35478, Stop: 35843, Start Num: 103

Candidate Starts for Merpity\_62:

(103, 35478), (121, 35520), (130, 35550), (138, 35583), (146, 35595), (149, 35610), (152, 35625), (154, 35637), (160, 35655), (163, 35664), (169, 35718), (173, 35730), (178, 35766), (183, 35787), (196, 35820), (202, 35832),

Gene: Metamorphoo\_49 Start: 33181, Stop: 33555, Start Num: 109

Candidate Starts for Metamorphoo\_49:

(Start: 109 @33181 has 11 MA's), (164, 33388), (175, 33439), (179, 33463), (185, 33475), (201, 33523), (204, 33532),

Gene: MichaelScott\_71 Start: 44969, Stop: 45334, Start Num: 106

Candidate Starts for MichaelScott\_71:

(Start: 106 @44969 has 173 MA's), (173, 45218),

Gene: Miley16\_80 Start: 53557, Stop: 53970, Start Num: 106

Candidate Starts for Miley16\_80:

(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: MiniLon\_82 Start: 53538, Stop: 53930, Start Num: 106

Candidate Starts for MiniLon\_82:

(Start: 106 @53538 has 173 MA's), (118, 53556), (Start: 122 @53577 has 4 MA's), (155, 53700), (184, 53841), (208, 53919), (209, 53922),

Gene: MiniMac\_82 Start: 53533, Stop: 53925, Start Num: 106

Candidate Starts for MiniMac\_82:

(Start: 106 @53533 has 173 MA's), (118, 53551), (Start: 122 @53572 has 4 MA's), (155, 53695), (184, 53836), (208, 53914), (209, 53917),

Gene: Misha28\_68 Start: 42725, Stop: 43102, Start Num: 104

Candidate Starts for Misha28\_68:

(Start: 104 @42725 has 31 MA's), (125, 42794), (136, 42830), (146, 42848), (175, 42989), (179, 43013), (198, 43070), (205, 43094),

Gene: MkaliMitinis3\_81 Start: 53626, Stop: 54039, Start Num: 106

Candidate Starts for MkaliMitinis3\_81:

(Start: 106 @53626 has 173 MA's), (Start: 122 @53665 has 4 MA's), (147, 53746), (155, 53788), (173, 53875), (184, 53929), (210, 54025),

Gene: Mocha12\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Mocha12\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Moosehead\_69 Start: 39233, Stop: 39610, Start Num: 104

Candidate Starts for Moosehead\_69:

(44, 39047), (70, 39152), (74, 39164), (95, 39209), (Start: 104 @39233 has 31 MA's), (124, 39281), (136, 39329), (182, 39533),

Gene: Moostard\_76 Start: 53435, Stop: 53827, Start Num: 106

Candidate Starts for Moostard\_76:

(Start: 106 @53435 has 173 MA's), (118, 53453), (Start: 122 @53474 has 4 MA's), (155, 53597), (184, 53738), (208, 53816), (209, 53819),

Gene: Morkie\_68 Start: 39542, Stop: 39910, Start Num: 101

Candidate Starts for Morkie\_68:

(Start: 101 @39542 has 11 MA's), (Start: 122 @39584 has 4 MA's), (133, 39623), (137, 39644), (142, 39653), (144, 39656), (202, 39902),

Gene: MortyNRick\_82 Start: 48781, Stop: 49158, Start Num: 104

Candidate Starts for MortyNRick\_82:

(Start: 104 @48781 has 31 MA's), (124, 48829), (136, 48877), (168, 49015), (174, 49042), (182, 49081), (189, 49102), (198, 49123),

Gene: MrSmee\_60 Start: 35393, Stop: 35752, Start Num: 105

Candidate Starts for MrSmee\_60:

(Start: 105 @35393 has 5 MA's), (121, 35432), (138, 35495), (146, 35507), (160, 35567), (169, 35630), (178, 35675), (179, 35681), (183, 35696), (196, 35729), (202, 35741),

Gene: MsGreen\_78 Start: 53471, Stop: 53824, Start Num: 122

Candidate Starts for MsGreen\_78:

(Start: 106 @53432 has 173 MA's), (118, 53450), (Start: 122 @53471 has 4 MA's), (155, 53594), (184, 53735), (208, 53813), (209, 53816),

Gene: MulchSalad\_67 Start: 40786, Stop: 41157, Start Num: 106

Candidate Starts for MulchSalad\_67:

(Start: 106 @40786 has 173 MA's), (115, 40795), (117, 40801), (Start: 122 @40825 has 4 MA's), (140, 40891), (144, 40897), (155, 40951), (157, 40957), (173, 41038),

Gene: Neobush\_73 Start: 47125, Stop: 47490, Start Num: 106

Candidate Starts for Neobush\_73:

(61, 47011), (Start: 106 @47125 has 173 MA's), (117, 47140), (154, 47281),

Gene: Nettuno\_66 Start: 42038, Stop: 42406, Start Num: 106

Candidate Starts for Nettuno\_66:

(60, 41921), (63, 41930), (67, 41948), (85, 41990), (Start: 106 @42038 has 173 MA's), (117, 42053),

Gene: Netyap\_81 Start: 53558, Stop: 53971, Start Num: 106

Candidate Starts for Netyap\_81:

(Start: 106 @53558 has 173 MA's), (Start: 122 @53597 has 4 MA's), (147, 53678), (155, 53720), (173, 53807), (184, 53861), (210, 53957),

Gene: Nicholas\_76 Start: 53440, Stop: 53832, Start Num: 106

Candidate Starts for Nicholas\_76:

(Start: 106 @53440 has 173 MA's), (118, 53458), (Start: 122 @53479 has 4 MA's), (155, 53602), (184, 53743), (208, 53821), (209, 53824),

Gene: Nicholasp3\_80 Start: 53392, Stop: 53805, Start Num: 106

Candidate Starts for Nicholasp3\_80:

(Start: 106 @53392 has 173 MA's), (Start: 122 @53431 has 4 MA's), (147, 53512), (155, 53554), (173, 53641), (184, 53695), (210, 53791),

Gene: Nicole72\_45 Start: 35846, Stop: 36274, Start Num: 111

Candidate Starts for Nicole72\_45:

(53, 35690), (Start: 111 @35846 has 1 MA's), (114, 35855), (164, 36047), (165, 36050), (174, 36095), (175, 36098), (179, 36122), (185, 36134), (193, 36161), (197, 36173), (200, 36179), (202, 36185), (204, 36191), (207, 36203), (211, 36230),

Gene: NoodlelyBoi\_48 Start: 32719, Stop: 33093, Start Num: 109

Candidate Starts for NoodlelyBoi\_48:

(Start: 109 @32719 has 11 MA's), (125, 32779), (135, 32806), (156, 32875), (159, 32884), (162, 32893), (164, 32926), (173, 32962), (175, 32977), (179, 33001), (185, 33013), (202, 33064), (204, 33070),

Gene: Nymphadora\_75 Start: 49524, Stop: 49889, Start Num: 106

Candidate Starts for Nymphadora\_75:

(60, 49407), (66, 49431), (67, 49434), (85, 49476), (Start: 106 @49524 has 173 MA's), (117, 49539),

Gene: ODay\_98 Start: 52337, Stop: 52702, Start Num: 106

Candidate Starts for ODay\_98:

(Start: 106 @52337 has 173 MA's), (Start: 122 @52373 has 4 MA's), (142, 52442), (144, 52445), (148, 52463), (151, 52478), (157, 52505), (164, 52550), (166, 52559), (167, 52562), (179, 52625), (184, 52640),

Gene: Ohgeesy\_74 Start: 49004, Stop: 49369, Start Num: 106

Candidate Starts for Ohgeesy\_74:

(60, 48887), (67, 48914), (Start: 106 @49004 has 173 MA's),

Gene: OneDirection\_62 Start: 36956, Stop: 37324, Start Num: 101

Candidate Starts for OneDirection\_62:

(Start: 101 @36956 has 11 MA's), (Start: 122 @36998 has 4 MA's), (133, 37037), (137, 37058), (142, 37067), (144, 37070),

Gene: Oregano\_70 Start: 43852, Stop: 44250, Start Num: 104

Candidate Starts for Oregano\_70:

(Start: 104 @43852 has 31 MA's), (125, 43912), (161, 44029), (182, 44173), (198, 44215),

Gene: Orkz\_57 Start: 36268, Stop: 36717, Start Num: 84

Candidate Starts for Orkz\_57:

(14, 35722), (21, 35932), (22, 35935), (27, 35983), (39, 36097), (49, 36157), (56, 36190), (84, 36268), (89, 36280), (112, 36340), (130, 36403), (135, 36421), (146, 36448), (160, 36508), (177, 36616), (183, 36640), (205, 36703),

Gene: OverPar\_82 Start: 53642, Stop: 54055, Start Num: 106

Candidate Starts for OverPar\_82:

(Start: 106 @53642 has 173 MA's), (Start: 122 @53681 has 4 MA's), (147, 53762), (155, 53804), (173, 53891), (184, 53945), (210, 54041),

Gene: PFR1\_47 Start: 32984, Stop: 33379, Start Num: 101

Candidate Starts for PFR1\_47:

(Start: 101 @32984 has 11 MA's), (Start: 108 @32996 has 1 MA's), (116, 33014), (121, 33038), (157, 33161), (174, 33257), (179, 33284),

Gene: PFR2\_49 Start: 34553, Stop: 34948, Start Num: 101

Candidate Starts for PFR2\_49:

(Start: 101 @34553 has 11 MA's), (Start: 108 @34565 has 1 MA's), (116, 34583), (121, 34607), (157, 34730), (174, 34826), (179, 34853),

Gene: PYPDinur\_77 Start: 52639, Stop: 52995, Start Num: 118

Candidate Starts for PYPDinur\_77:

(Start: 106 @52621 has 173 MA's), (118, 52639), (Start: 119 @52645 has 1 MA's), (Start: 122 @52660 has 4 MA's), (127, 52684), (155, 52783), (169, 52858), (174, 52882), (184, 52924), (188, 52939),

Gene: PantheRoc\_77 Start: 49218, Stop: 49622, Start Num: 104

Candidate Starts for PantheRoc\_77:

(61, 49101), (68, 49125), (69, 49128), (88, 49170), (Start: 104 @49218 has 31 MA's), (124, 49266), (143, 49326), (153, 49365), (156, 49380), (161, 49395), (182, 49539), (195, 49575), (198, 49584),

Gene: Pepperoni\_61 Start: 38082, Stop: 38450, Start Num: 101

Candidate Starts for Pepperoni\_61:

(69, 38001), (Start: 101 @38082 has 11 MA's), (Start: 122 @38124 has 4 MA's), (133, 38163), (137, 38184), (142, 38193), (144, 38196), (202, 38442),

Gene: Periwinkle\_99 Start: 52035, Stop: 52403, Start Num: 106

Candidate Starts for Periwinkle\_99:

(Start: 106 @52035 has 173 MA's), (125, 52092), (147, 52149), (155, 52191), (156, 52194), (158, 52200), (173, 52281), (179, 52320), (182, 52332), (186, 52338), (198, 52368),

Gene: Phabuloso\_97 Start: 51176, Stop: 51541, Start Num: 106

Candidate Starts for Phabuloso\_97:

(12, 50471), (16, 50627), (25, 50807), (33, 50918), (47, 51002), (Start: 106 @51176 has 173 MA's), (Start: 122 @51212 has 4 MA's), (142, 51281), (144, 51284), (151, 51317), (157, 51344), (166, 51398), (167, 51401), (184, 51479),

Gene: PhaoMing\_68 Start: 43324, Stop: 43689, Start Num: 106

Candidate Starts for PhaoMing\_68:

(Start: 106 @43324 has 173 MA's), (Start: 122 @43360 has 4 MA's), (142, 43429), (144, 43432), (151, 43465), (157, 43492), (166, 43546), (167, 43549), (184, 43627),

Gene: Phistory\_88 Start: 48067, Stop: 48444, Start Num: 104

Candidate Starts for Phistory\_88:

(Start: 104 @48067 has 31 MA's), (124, 48115), (136, 48163), (156, 48229), (168, 48301), (182, 48367), (189, 48388), (198, 48409),

Gene: PhorbesPhlower\_66 Start: 38937, Stop: 39305, Start Num: 101

Candidate Starts for PhorbesPhlower\_66:

(Start: 101 @38937 has 11 MA's), (Start: 122 @38979 has 4 MA's), (133, 39018), (137, 39039), (142, 39048), (144, 39051), (202, 39297),

Gene: PhriskyACE\_66 Start: 44129, Stop: 44497, Start Num: 106

Candidate Starts for PhriskyACE\_66:

(73, 44048), (92, 44087), (Start: 106 @44129 has 173 MA's), (134, 44213),

Gene: Pickett\_65 Start: 41546, Stop: 41911, Start Num: 106

Candidate Starts for Pickett\_65:

(63, 41432), (65, 41441), (73, 41465), (Start: 106 @41546 has 173 MA's),

Gene: Piper2020\_71 Start: 43620, Stop: 43997, Start Num: 104

Candidate Starts for Piper2020\_71:

(Start: 104 @43620 has 31 MA's), (125, 43689), (136, 43725), (146, 43743), (175, 43884), (179, 43908), (198, 43965), (205, 43989),

Gene: Pitbull\_61 Start: 34580, Stop: 34939, Start Num: 105

Candidate Starts for Pitbull\_61:

(Start: 105 @34580 has 5 MA's), (121, 34619), (125, 34640), (130, 34649), (134, 34664), (138, 34682), (149, 34709), (164, 34793), (178, 34862), (183, 34883), (196, 34916), (202, 34928),

Gene: Pollux\_76 Start: 49712, Stop: 50077, Start Num: 106

Candidate Starts for Pollux\_76:

(73, 49631), (92, 49670), (Start: 106 @49712 has 173 MA's), (152, 49853),

Gene: Polly\_68 Start: 46000, Stop: 46365, Start Num: 106

Candidate Starts for Polly\_68:

(61, 45886), (Start: 106 @46000 has 173 MA's), (117, 46015), (154, 46156),

Gene: Powerball\_68 Start: 44232, Stop: 44600, Start Num: 106

Candidate Starts for Powerball\_68:

(73, 44151), (92, 44190), (Start: 106 @44232 has 173 MA's), (134, 44316),

Gene: Purplicious\_13 Start: 6966, Stop: 7358, Start Num: 98

Candidate Starts for Purplicious\_13:

(43, 6783), (48, 6810), (70, 6894), (89, 6939), (98, 6966), (Start: 100 @6969 has 5 MA's), (102, 6978), (Start: 107 @6987 has 1 MA's), (130, 7062), (158, 7161), (170, 7239), (174, 7254), (179, 7281), (185, 7293), (190, 7311), (202, 7344),

Gene: Pytheas\_78 Start: 51013, Stop: 51378, Start Num: 106

Candidate Starts for Pytheas\_78:

(53, 50893), (83, 50962), (91, 50977), (Start: 106 @51013 has 173 MA's), (174, 51274),

Gene: Quby\_78 Start: 52015, Stop: 52338, Start Num: 127

Candidate Starts for Quby\_78:

(Start: 106 @51952 has 173 MA's), (118, 51970), (Start: 119 @51976 has 1 MA's), (Start: 122 @51991 has 4 MA's), (127, 52015), (155, 52114), (157, 52120), (169, 52189), (174, 52213), (184, 52255), (208, 52330),

Gene: RavenCo17\_69 Start: 47361, Stop: 47729, Start Num: 106

Candidate Starts for RavenCo17\_69:

(10, 46593), (Start: 106 @47361 has 173 MA's), (117, 47376), (175, 47625),

Gene: Red305\_79 Start: 53472, Stop: 53825, Start Num: 122

Candidate Starts for Red305\_79:

(Start: 106 @53433 has 173 MA's), (118, 53451), (Start: 122 @53472 has 4 MA's), (155, 53595), (184, 53736), (208, 53814), (209, 53817),

Gene: Rizz\_71 Start: 45086, Stop: 45454, Start Num: 106

Candidate Starts for Rizz\_71:

(3, 44081), (4, 44093), (5, 44129), (6, 44153), (7, 44165), (8, 44177), (Start: 106 @45086 has 173 MA's),

Gene: RobsFeet\_50 Start: 33462, Stop: 33836, Start Num: 109

Candidate Starts for RobsFeet\_50:

(Start: 109 @33462 has 11 MA's), (164, 33669), (175, 33720), (179, 33744), (185, 33756), (201, 33804), (204, 33813),

Gene: Rose5\_77 Start: 52059, Stop: 52472, Start Num: 106

Candidate Starts for Rose5\_77:

(Start: 106 @52059 has 173 MA's), (Start: 122 @52098 has 4 MA's), (132, 52134), (155, 52221), (184, 52362), (208, 52440), (209, 52443),

Gene: Rossetti\_81 Start: 53966, Stop: 54379, Start Num: 106

Candidate Starts for Rossetti\_81:

(Start: 106 @53966 has 173 MA's), (Start: 122 @54005 has 4 MA's), (147, 54086), (155, 54128), (173, 54215), (184, 54269), (210, 54365),

Gene: Rumpelstiltskin\_77 Start: 53185, Stop: 53598, Start Num: 106

Candidate Starts for Rumpelstiltskin\_77:

(Start: 106 @53185 has 173 MA's), (Start: 122 @53224 has 4 MA's), (147, 53305), (155, 53347), (173, 53434), (184, 53488), (210, 53584),

Gene: Ruthy\_70 Start: 49109, Stop: 49477, Start Num: 106

Candidate Starts for Ruthy\_70:

(34, 48851), (35, 48860), (60, 48989), (Start: 106 @49109 has 173 MA's), (Start: 122 @49148 has 4 MA's), (133, 49187), (137, 49208), (144, 49220), (155, 49274),

Gene: Sahara\_67 Start: 42654, Stop: 43022, Start Num: 106

Candidate Starts for Sahara\_67:

(1, 41634), (2, 41637), (23, 42267), (63, 42540), (65, 42549), (73, 42573), (Start: 106 @42654 has 173 MA's),

Gene: Samman98\_71 Start: 44391, Stop: 44756, Start Num: 106

Candidate Starts for Samman98\_71:

(Start: 106 @44391 has 173 MA's), (173, 44640),

Gene: Samty\_77 Start: 53428, Stop: 53820, Start Num: 106

Candidate Starts for Samty\_77:

(Start: 106 @53428 has 173 MA's), (118, 53446), (Start: 122 @53467 has 4 MA's), (155, 53590), (184, 53731), (208, 53809), (209, 53812),

Gene: Sarshaun\_81 Start: 53650, Stop: 54063, Start Num: 106

Candidate Starts for Sarshaun\_81:

(Start: 106 @53650 has 173 MA's), (Start: 122 @53689 has 4 MA's), (147, 53770), (155, 53812), (173, 53899), (184, 53953), (210, 54049),

Gene: Savage\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Savage\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Sbash\_61 Start: 42805, Stop: 43188, Start Num: 104

Candidate Starts for Sbash\_61:

(38, 42580), (75, 42736), (76, 42739), (Start: 104 @42805 has 31 MA's), (113, 42826), (125, 42877), (174, 43069), (175, 43072), (198, 43153), (206, 43180),

Gene: Scitech\_46 Start: 32555, Stop: 32974, Start Num: 90

Candidate Starts for Scitech\_46:

(90, 32555), (99, 32582), (Start: 104 @32597 has 31 MA's), (125, 32666), (136, 32702), (146, 32720), (175, 32861), (198, 32942), (205, 32966),

Gene: Sekhmet\_69 Start: 43915, Stop: 44283, Start Num: 106

Candidate Starts for Sekhmet\_69:

(11, 43162), (63, 43801), (65, 43810), (73, 43834), (92, 43873), (Start: 106 @43915 has 173 MA's),

Gene: ShawBrad\_95 Start: 49284, Stop: 49652, Start Num: 106

Candidate Starts for ShawBrad\_95:

(Start: 106 @49284 has 173 MA's), (125, 49341), (147, 49398), (155, 49440), (156, 49443), (158, 49449), (173, 49530), (179, 49569), (182, 49581), (186, 49587), (198, 49617),

Gene: Sheng711\_79 Start: 52255, Stop: 52629, Start Num: 106

Candidate Starts for Sheng711\_79:

(Start: 106 @52255 has 173 MA's), (118, 52273), (Start: 119 @52279 has 1 MA's), (Start: 122 @52294 has 4 MA's), (127, 52318), (155, 52417), (169, 52492), (174, 52516), (184, 52558), (188, 52573),

Gene: Shlim410\_69 Start: 48744, Stop: 49163, Start Num: 97

Candidate Starts for Shlim410\_69:

(Start: 97 @48744 has 3 MA's), (Start: 104 @48762 has 31 MA's), (161, 48939), (182, 49083), (198, 49125),

Gene: Shrubaron\_49 Start: 33096, Stop: 33470, Start Num: 109

Candidate Starts for Shrubaron\_49:

(Start: 109 @33096 has 11 MA's), (164, 33303), (175, 33354), (179, 33378), (185, 33390), (201, 33438), (204, 33447),

Gene: Sidious\_71 Start: 48554, Stop: 48919, Start Num: 106

Candidate Starts for Sidious\_71:

(73, 48473), (92, 48512), (Start: 106 @48554 has 173 MA's),

Gene: Silverleaf\_77 Start: 51554, Stop: 51928, Start Num: 122

Candidate Starts for Silverleaf\_77:

(Start: 106 @51515 has 173 MA's), (Start: 122 @51554 has 4 MA's), (132, 51590), (155, 51677), (184, 51818), (208, 51896), (209, 51899),

Gene: SirFrank\_47 Start: 32289, Stop: 32663, Start Num: 109

Candidate Starts for SirFrank\_47:

(Start: 109 @32289 has 11 MA's), (125, 32349), (135, 32376), (156, 32445), (159, 32454), (162, 32463), (164, 32496), (173, 32532), (175, 32547), (179, 32571), (185, 32583), (202, 32634), (204, 32640),

Gene: SkinnyPete\_48 Start: 33096, Stop: 33473, Start Num: 104

Candidate Starts for SkinnyPete\_48:

(Start: 104 @33096 has 31 MA's), (125, 33165), (136, 33201), (146, 33219), (175, 33360), (198, 33441), (205, 33465),

Gene: Skitty\_55 Start: 33627, Stop: 33986, Start Num: 105

Candidate Starts for Skitty\_55:

(Start: 105 @33627 has 5 MA's), (121, 33666), (125, 33687), (130, 33696), (138, 33729), (160, 33801), (178, 33909), (183, 33930), (196, 33963), (202, 33975),

Gene: Skugga\_46 Start: 32083, Stop: 32457, Start Num: 109

Candidate Starts for Skugga\_46:

(Start: 109 @32083 has 11 MA's), (156, 32239), (179, 32365), (185, 32377), (202, 32428), (204, 32434),

Gene: Snenia\_77 Start: 53434, Stop: 53826, Start Num: 106

Candidate Starts for Snenia\_77:

(Start: 106 @53434 has 173 MA's), (118, 53452), (Start: 122 @53473 has 4 MA's), (155, 53596), (184, 53737), (208, 53815), (209, 53818),

Gene: SoJulia\_82 Start: 54718, Stop: 55131, Start Num: 106

Candidate Starts for SoJulia\_82:

(Start: 106 @54718 has 173 MA's), (Start: 122 @54757 has 4 MA's), (147, 54838), (155, 54880), (173, 54967), (184, 55021), (210, 55117),

Gene: Soap141\_80 Start: 53650, Stop: 54063, Start Num: 106

Candidate Starts for Soap141\_80:

(Start: 106 @53650 has 173 MA's), (Start: 122 @53689 has 4 MA's), (147, 53770), (155, 53812), (173, 53899), (184, 53953), (210, 54049),

Gene: SoilAssassin\_68 Start: 45279, Stop: 45647, Start Num: 106

Candidate Starts for SoilAssassin\_68:

(60, 45162), (63, 45171), (67, 45189), (85, 45231), (Start: 106 @45279 has 173 MA's), (117, 45294),

Gene: Soos\_13 Start: 6967, Stop: 7356, Start Num: 100

Candidate Starts for Soos\_13:

(43, 6781), (70, 6892), (89, 6937), (98, 6964), (Start: 100 @6967 has 5 MA's), (102, 6976), (Start: 107 @6985 has 1 MA's), (130, 7060), (158, 7159), (170, 7237), (174, 7252), (179, 7279), (185, 7291), (190, 7309), (193, 7318), (202, 7342),

Gene: Sprinklemunch\_77 Start: 49362, Stop: 49694, Start Num: 121

Candidate Starts for Sprinklemunch\_77:

(60, 49206), (71, 49239), (Start: 101 @49323 has 11 MA's), (121, 49362), (Start: 122 @49365 has 4 MA's), (137, 49425), (144, 49437),

Gene: Sproutie\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Sproutie\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Stillion\_14 Start: 7417, Stop: 7836, Start Num: 89

Candidate Starts for Stillion\_14:

(43, 7261), (70, 7372), (89, 7417), (98, 7444), (Start: 100 @7447 has 5 MA's), (102, 7456), (Start: 107 @7465 has 1 MA's), (130, 7540), (158, 7639), (170, 7717), (174, 7732), (179, 7759), (185, 7771), (190, 7789), (202, 7822),

Gene: Sting\_14 Start: 7379, Stop: 7768, Start Num: 100

Candidate Starts for Sting\_14:

(40, 7172), (43, 7193), (70, 7304), (89, 7349), (98, 7376), (Start: 100 @7379 has 5 MA's), (102, 7388), (Start: 107 @7397 has 1 MA's), (130, 7472), (158, 7571), (170, 7649), (174, 7664), (179, 7691), (185, 7703), (190, 7721), (193, 7730), (202, 7754),

Gene: Suerte\_64 Start: 43530, Stop: 43898, Start Num: 106

Candidate Starts for Suerte\_64:

(63, 43416), (65, 43425), (73, 43449), (Start: 106 @43530 has 173 MA's),

Gene: Suscepit\_71 Start: 46558, Stop: 46923, Start Num: 106

Candidate Starts for Suscepit\_71:

(61, 46444), (Start: 106 @46558 has 173 MA's), (117, 46573), (154, 46714),

Gene: SushiChef\_74 Start: 49689, Stop: 50066, Start Num: 106

Candidate Starts for SushiChef\_74:

(60, 49572), (66, 49596), (67, 49599), (85, 49641), (Start: 106 @49689 has 173 MA's), (117, 49704),

Gene: Tayonia\_71 Start: 46557, Stop: 46922, Start Num: 106

Candidate Starts for Tayonia\_71:

(61, 46443), (Start: 106 @46557 has 173 MA's), (117, 46572), (154, 46713),

Gene: Teamocil\_49 Start: 32160, Stop: 32534, Start Num: 109

Candidate Starts for Teamocil\_49:

(Start: 109 @32160 has 11 MA's), (141, 32265), (156, 32316), (164, 32367), (175, 32418), (179, 32442), (185, 32454), (187, 32460), (191, 32475), (202, 32505), (204, 32511),

Gene: ThankyouJordi\_74 Start: 49930, Stop: 50295, Start Num: 106

Candidate Starts for ThankyouJordi\_74:

(29, 49627), (60, 49813), (63, 49822), (67, 49840), (85, 49882), (Start: 106 @49930 has 173 MA's),

Gene: Thimann\_71 Start: 44657, Stop: 45025, Start Num: 106

Candidate Starts for Thimann\_71:

(3, 43652), (4, 43664), (5, 43700), (6, 43724), (7, 43736), (8, 43748), (18, 44210), (Start: 106 @44657 has 173 MA's),

Gene: TimTam\_75 Start: 49524, Stop: 49889, Start Num: 106

Candidate Starts for TimTam\_75:

(60, 49407), (66, 49431), (67, 49434), (85, 49476), (Start: 106 @49524 has 173 MA's), (117, 49539),

Gene: Tonitrus\_75 Start: 53537, Stop: 53983, Start Num: 96

Candidate Starts for Tonitrus\_75:

(37, 53345), (93, 53534), (Start: 96 @53537 has 1 MA's), (Start: 104 @53561 has 31 MA's), (124, 53606), (125, 53618), (131, 53630), (145, 53669), (154, 53714), (159, 53729), (170, 53804),

Gene: TootsiePop\_68 Start: 42725, Stop: 43102, Start Num: 104

Candidate Starts for TootsiePop\_68:

(Start: 104 @42725 has 31 MA's), (125, 42794), (136, 42830), (146, 42848), (175, 42989), (179, 43013), (198, 43070), (205, 43094),

Gene: Tortellini\_59 Start: 41926, Stop: 42303, Start Num: 104

Candidate Starts for Tortellini\_59:

(20, 41533), (46, 41752), (78, 41869), (Start: 104 @41926 has 31 MA's), (125, 41995), (136, 42031), (146, 42049), (179, 42214), (198, 42271), (205, 42295),

Gene: Tourach\_79 Start: 53675, Stop: 54073, Start Num: 106

Candidate Starts for Tourach\_79:

(Start: 106 @53675 has 173 MA's), (Start: 122 @53714 has 4 MA's), (132, 53750), (147, 53795), (155, 53837), (173, 53924), (184, 53978), (208, 54056),

Gene: TriFive\_79 Start: 53433, Stop: 53825, Start Num: 106

Candidate Starts for TriFive\_79:

(Start: 106 @53433 has 173 MA's), (118, 53451), (Start: 122 @53472 has 4 MA's), (155, 53595), (184, 53736), (208, 53814), (209, 53817),

Gene: Trumpet\_71 Start: 46558, Stop: 46923, Start Num: 106

Candidate Starts for Trumpet\_71:

(61, 46444), (Start: 106 @46558 has 173 MA's), (117, 46573), (154, 46714),

Gene: TuertoX\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for TuertoX\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Tuti\_64 Start: 44827, Stop: 45192, Start Num: 106

Candidate Starts for Tuti\_64:

(Start: 106 @44827 has 173 MA's), (173, 45076),

Gene: Twinkle\_70 Start: 49803, Stop: 50222, Start Num: 97

Candidate Starts for Twinkle\_70:

(Start: 97 @49803 has 3 MA's), (Start: 104 @49821 has 31 MA's), (161, 49998), (182, 50142), (198, 50184),

Gene: Tyrumbra\_47 Start: 33262, Stop: 33636, Start Num: 109

Candidate Starts for Tyrumbra\_47:

(Start: 109 @33262 has 11 MA's), (164, 33469), (175, 33520), (179, 33544), (185, 33556), (201, 33604), (204, 33613),

Gene: Tyson\_78 Start: 51985, Stop: 52398, Start Num: 106

Candidate Starts for Tyson\_78:

(Start: 106 @51985 has 173 MA's), (Start: 122 @52024 has 4 MA's), (132, 52060), (155, 52147), (184, 52288), (208, 52366), (209, 52369),

Gene: UPIE\_76 Start: 51581, Stop: 51994, Start Num: 106

Candidate Starts for UPIE\_76:

(Start: 106 @51581 has 173 MA's), (Start: 122 @51620 has 4 MA's), (132, 51656), (155, 51743), (184, 51884), (208, 51962), (209, 51965),

Gene: Underpass\_71 Start: 48428, Stop: 48841, Start Num: 106

Candidate Starts for Underpass\_71:

(Start: 106 @48428 has 173 MA's), (Start: 122 @48467 has 4 MA's), (147, 48548), (155, 48590), (173, 48677), (184, 48731), (210, 48827),

Gene: Vasanti\_67 Start: 44256, Stop: 44621, Start Num: 106

Candidate Starts for Vasanti\_67:

(60, 44139), (66, 44163), (67, 44166), (85, 44208), (Start: 106 @44256 has 173 MA's), (146, 44367), (152, 44397),

Gene: Vetrrix\_79 Start: 53474, Stop: 53887, Start Num: 106

Candidate Starts for Vetrrix\_79:

(Start: 106 @53474 has 173 MA's), (Start: 122 @53513 has 4 MA's), (147, 53594), (155, 53636), (173, 53723), (184, 53777), (210, 53873),

Gene: Wamburgexpress\_77 Start: 52020, Stop: 52433, Start Num: 106

Candidate Starts for Wamburgexpress\_77:

(Start: 106 @52020 has 173 MA's), (Start: 122 @52059 has 4 MA's), (132, 52095), (155, 52182), (184, 52323), (208, 52401), (209, 52404),

Gene: WelcomeAyanna\_74 Start: 50077, Stop: 50442, Start Num: 106

Candidate Starts for WelcomeAyanna\_74:

(29, 49774), (60, 49960), (63, 49969), (67, 49987), (85, 50029), (Start: 106 @50077 has 173 MA's),

Gene: Whirlwind\_79 Start: 53633, Stop: 54025, Start Num: 106

Candidate Starts for Whirlwind\_79:

(Start: 106 @53633 has 173 MA's), (118, 53651), (Start: 122 @53672 has 4 MA's), (155, 53795), (184, 53936), (208, 54014), (209, 54017),

Gene: Whiteclaw\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Whiteclaw\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Whitney\_89 Start: 51269, Stop: 51634, Start Num: 106

Candidate Starts for Whitney\_89:

(Start: 106 @51269 has 173 MA's), (Start: 122 @51305 has 4 MA's), (142, 51374), (144, 51377), (151, 51410), (157, 51437), (166, 51491), (167, 51494), (184, 51572),

Gene: Wigglewiggles\_79 Start: 53419, Stop: 53832, Start Num: 106

Candidate Starts for Wigglewiggles\_79:

(Start: 106 @53419 has 173 MA's), (Start: 122 @53458 has 4 MA's), (147, 53539), (155, 53581), (173, 53668), (184, 53722), (210, 53818),

Gene: Wilder\_81 Start: 53563, Stop: 53976, Start Num: 106

Candidate Starts for Wilder\_81:

(Start: 106 @53563 has 173 MA's), (Start: 122 @53602 has 4 MA's), (137, 53662), (147, 53683), (155, 53725), (173, 53812), (184, 53866), (210, 53962),

Gene: WinkNick\_70 Start: 43439, Stop: 43807, Start Num: 106

Candidate Starts for WinkNick\_70:

(11, 42686), (63, 43325), (65, 43334), (73, 43358), (92, 43397), (Start: 106 @43439 has 173 MA's), (156, 43604),

Gene: Winky\_80 Start: 53557, Stop: 53970, Start Num: 106

Candidate Starts for Winky\_80:

(Start: 106 @53557 has 173 MA's), (Start: 122 @53596 has 4 MA's), (147, 53677), (155, 53719), (173, 53806), (184, 53860), (210, 53956),

Gene: Wyatt2\_78 Start: 51983, Stop: 52396, Start Num: 106

Candidate Starts for Wyatt2\_78:

(Start: 106 @51983 has 173 MA's), (Start: 122 @52022 has 4 MA's), (132, 52058), (155, 52145), (184, 52286), (208, 52364), (209, 52367),

Gene: Yeet412\_67 Start: 44083, Stop: 44451, Start Num: 106

Candidate Starts for Yeet412\_67:

(60, 43966), (63, 43975), (67, 43993), (85, 44035), (Start: 106 @44083 has 173 MA's), (117, 44098),

Gene: Yeezy\_76 Start: 47471, Stop: 47836, Start Num: 106

Candidate Starts for Yeezy\_76:

(77, 47405), (Start: 106 @47471 has 173 MA's), (117, 47486),

Gene: Yinzer\_68 Start: 42833, Stop: 43198, Start Num: 106

Candidate Starts for Yinzer\_68:

(13, 42185), (23, 42446), (63, 42719), (65, 42728), (73, 42752), (Start: 106 @42833 has 173 MA's),

Gene: Zakai\_81 Start: 53883, Stop: 54296, Start Num: 106

Candidate Starts for Zakai\_81:

(Start: 106 @53883 has 173 MA's), (Start: 122 @53922 has 4 MA's), (147, 54003), (155, 54045), (173, 54132), (184, 54186), (210, 54282),

Gene: Zameen\_71 Start: 46557, Stop: 46922, Start Num: 106

Candidate Starts for Zameen\_71:

(61, 46443), (Start: 106 @46557 has 173 MA's), (117, 46572), (154, 46713),

Gene: Zaria\_78 Start: 51435, Stop: 51848, Start Num: 106

Candidate Starts for Zaria\_78:

(Start: 106 @51435 has 173 MA's), (Start: 122 @51474 has 4 MA's), (132, 51510), (155, 51597), (184, 51738), (208, 51816), (209, 51819),

Gene: ZhongYanYuan\_77 Start: 53010, Stop: 53423, Start Num: 106

Candidate Starts for ZhongYanYuan\_77:

(Start: 106 @53010 has 173 MA's), (Start: 122 @53049 has 4 MA's), (147, 53130), (155, 53172), (173, 53259), (184, 53313), (210, 53409),

Gene: Zirinka\_69 Start: 48225, Stop: 48590, Start Num: 106

Candidate Starts for Zirinka\_69:

(60, 48108), (66, 48132), (67, 48135), (85, 48177), (Start: 106 @48225 has 173 MA's), (117, 48240),

Gene: Zodiariah\_66 Start: 48840, Stop: 49217, Start Num: 106

Candidate Starts for Zodiariah\_66:

(15, 48246), (41, 48618), (51, 48675), (Start: 106 @48840 has 173 MA's), (123, 48894),