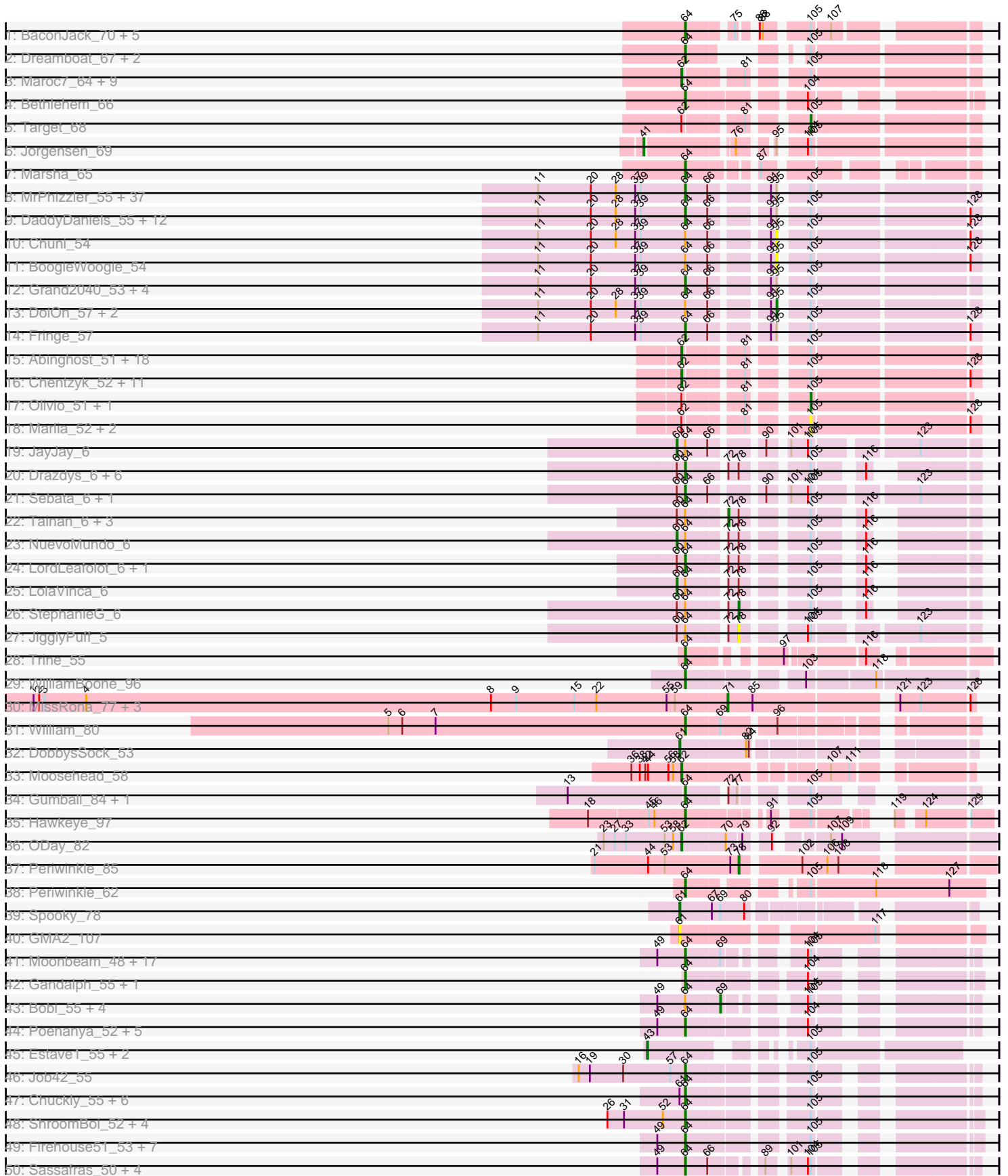
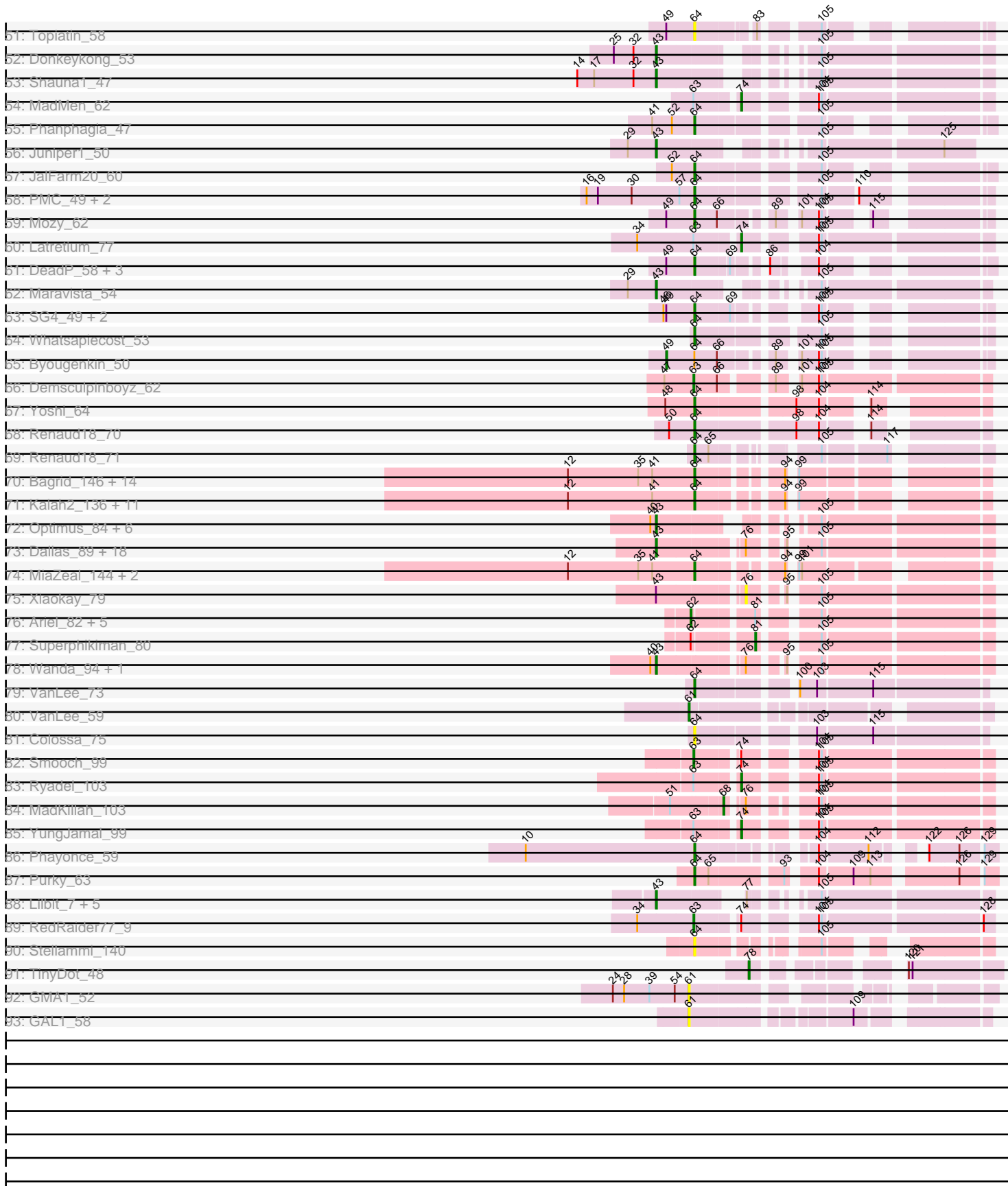


Pham 296165



Pham 296165



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 296165 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296165 has 330 members, 29 are drafts.

Phages represented in each track:

- Track 1 : BaconJack\_70, Smairt\_67, Aeneas\_68, PhrostyMug\_65, Sunshine924\_70, Mule\_62
- Track 2 : Dreamboat\_67, PherrisBueller\_66, Jasper\_66
- Track 3 : Maroc7\_64, Fascinus\_60, Blue\_65, Graduation\_70, Paraselene\_66, Bigfoot\_58, Raid\_64, Makemake\_71, CactusRose\_66, Carlyle\_66
- Track 4 : Bethlehem\_66
- Track 5 : Target\_68
- Track 6 : Jorgensen\_69
- Track 7 : Marsha\_65
- Track 8 : MrPhizzler\_55, Thora\_53, Chorkpop\_53, Daffy\_53, Haleema\_52, CamL\_53, Morgushi\_53, Puhltonio\_53, Mosaic\_52, Kwadwo\_52, Lasso\_53, Samaymay\_53, Squid\_53, QueenBeane\_53, Mana\_52, Timmi\_52, LeeLot\_53, Sophia\_52, Maru\_53, Serendipity\_53, Xavier\_52, Rimu\_54, Banjo\_52, Potter\_52, Cosmolli16\_54, Fozzie\_52, SassyCat97\_52, TallGrassMM\_53, Solosis\_52, Held\_53, Vortex\_53, Hertubise\_53, Surely\_53, MitKao\_53, Cannibal\_53, Oosterbaan\_53, Zelda\_53, TomBombadil\_53
- Track 9 : DaddyDaniels\_55, HighStump\_55, Childish\_53, Soile\_54, Brilliant\_55, Iridessa\_54, Kahve\_53, Longacauda\_54, HenryJackson\_53, Craff\_56, Legolas\_55, Nicole21\_54, Orwigg\_53
- Track 10 : Chuni\_54
- Track 11 : BoogieWoogie\_54
- Track 12 : Grand2040\_53, LeiMonet\_55, Mesh1\_54, Giraffe\_54, Lumine\_54
- Track 13 : DolOn\_57, Khan1\_54, Gwilliam\_54
- Track 14 : Fringe\_57
- Track 15 : Abinghost\_51, Audrey\_51, Glubnar\_52, Halfpint\_50, Nozo\_51, Baloo\_51, Athena\_52, Kamiyu\_51, Neos5\_51, OrangeOswald\_51, Akoma\_51, Philly\_50, Phlyer\_51, Daisy\_51, SynergyX\_51, Corofin\_51, GlenHope\_52, Chandler\_51, ChaChing\_51
- Track 16 : Chentzyk\_52, MmasiCarm\_52, Obutu\_52, Phayeta\_53, Ben11\_51, Mortcellus\_51, SwainyDoc\_52, Casbah\_51, Rita1961\_52, Gervas\_52, Kronus\_51, TinyTerror\_52
- Track 17 : Olivio\_51, Heathcliff\_51
- Track 18 : Marlia\_52, SlippinJimmy\_53, Mulaychimus\_52
- Track 19 : JayJay\_6
- Track 20 : Drazdys\_6, Dandelion\_5, Tyke\_6, DTDevon\_6, Pier\_6, Specks\_6, Nappy\_5
- Track 21 : Sebata\_6, LinStu\_6

- Track 22 : Tainan\_6, InterFolia\_6, Pupusa\_6, PharkleMinkus\_6
- Track 23 : NuevoMundo\_6
- Track 24 : LordLeafolot\_6, FrayBell\_6
- Track 25 : LolaVinca\_6
- Track 26 : StephanieG\_6
- Track 27 : JigglyPuff\_5
- Track 28 : Trine\_55
- Track 29 : WilliamBoone\_96
- Track 30 : MissRona\_77, Azula\_77, Blueberry\_76, Gambino\_79
- Track 31 : William\_80
- Track 32 : DobbysSock\_53
- Track 33 : Moosehead\_58
- Track 34 : Gumball\_84, SirHarley\_86
- Track 35 : Hawkeye\_97
- Track 36 : ODay\_82
- Track 37 : Periwinkle\_85
- Track 38 : Periwinkle\_62
- Track 39 : Spooky\_78
- Track 40 : GMA2\_107
- Track 41 : Moonbeam\_48, DLane\_48, XFactor\_50, Ardmore\_44, Emma\_52, Mova\_53, Melissauren88\_50, Royals2015\_55, MinionDave\_51, Phalconet\_51, Tweety\_52, Batiatus\_50, Madiba\_50, CaptainTrips\_49, VRedHorse\_52, PhesterPhotato\_54, Hamulus\_53, MilleniumForce\_52
- Track 42 : Gandalph\_55, Polka14\_51
- Track 43 : Bobi\_55, Krakatau\_50, Jant\_56, Okabe\_47, Harley\_54
- Track 44 : Poenanya\_52, Cornucopia\_55, GigiOuiOui\_49, DotProduct\_48, OwlsT2W\_53, Doomphist\_52
- Track 45 : Estave1\_55, Eish\_57, DoRead\_54
- Track 46 : Job42\_55
- Track 47 : Chuckly\_55, Phasih\_51, Clank\_57, Ogopogo\_57, Aubs\_53, TDanisky\_60, Sparkdehlily\_60
- Track 48 : ShroomBoi\_52, Kenuha5\_50, Bipolar\_49, SuperGrey\_52, KristaRAM\_51
- Track 49 : Firehouse51\_53, Chevrolet\_59, RockyHorror\_53, ArcusAngelus\_56, Zerg\_52, Doug\_55, Che8\_55, Mwanjiwa\_58
- Track 50 : Sassafras\_50, Dante\_53, DaWorst\_54, DaddyRickover\_52, Inventum\_47
- Track 51 : Topiatin\_58
- Track 52 : Donkeykong\_53
- Track 53 : Shauna1\_47
- Track 54 : MadMen\_62
- Track 55 : Phanphagia\_47
- Track 56 : Juniper1\_50
- Track 57 : JalFarm20\_60
- Track 58 : PMC\_49, Boomer\_57, Rockne\_53
- Track 59 : Mozy\_62
- Track 60 : Latretium\_77
- Track 61 : DeadP\_58, Renaud18\_58, Taj\_56, Wee\_55
- Track 62 : Maravista\_54
- Track 63 : SG4\_49, Enby\_53, Lorde\_53
- Track 64 : Whatsapiecost\_53
- Track 65 : Byougenkin\_50
- Track 66 : Demsculpinboyz\_62
- Track 67 : Yoshi\_64
- Track 68 : Renaud18\_70

- Track 69 : Renaud18\_71
- Track 70 : Bagrid\_146, Ejimix\_138, ThreeRngTarjay\_140, Schatzie\_141, Duke13\_141, Halley\_147, Optimus\_136, BAKA\_145, EricMillard\_137, Hughesyang\_144, DmpstrDiver\_146, Dallas\_146, Pound\_137, Constella\_139, Phoebus\_145
- Track 71 : Kalah2\_136, Dove\_131, NihilNomen\_147, JuicyJay\_141, HokkenD\_138, Klein\_143, Redno2\_140, Beem\_147, Odette\_149, KashFlow\_144, Yeet\_139, Bombitas\_133
- Track 72 : Optimus\_84, Madiba\_63, BAKA\_91, Mova\_66, EricMillard\_83, Minerva\_89, MadMen\_50
- Track 73 : Dallas\_89, Hughesyang\_90, JuicyJay\_87, Bombitas\_78, Beem\_90, Yeet\_83, Bagrid\_89, Dove\_75, Phoebus\_92, Zelink\_87, DmpstrDiver\_90, Odette\_88, Constella\_75, ThreeRngTarjay\_87, HokkenD\_79, Halley\_91, Kalah2\_84, NihilNomen\_91, Schatzie\_85
- Track 74 : MiaZeal\_144, Porcelain\_141, Lucky2013\_137
- Track 75 : Xiaokay\_79
- Track 76 : Ariel\_82, Porcelain\_82, Squint\_83, Lucky2013\_80, Courthouse\_78, MiaZeal\_83
- Track 77 : Superphikiman\_80
- Track 78 : Wanda\_94, Klein\_90
- Track 79 : VanLee\_73
- Track 80 : VanLee\_59
- Track 81 : Colossa\_75
- Track 82 : Smooch\_99
- Track 83 : Ryadel\_103
- Track 84 : MadKillah\_103
- Track 85 : YungJamal\_99
- Track 86 : Phayonce\_59
- Track 87 : Purky\_63
- Track 88 : Lilbit\_7, VasuNzinga\_8, Pringar\_6, Clarkson\_7, FeliMaine\_7, Beelzebub\_8
- Track 89 : RedRaider77\_9
- Track 90 : Stellammi\_140
- Track 91 : TinyDot\_48
- Track 92 : GMA1\_52
- Track 93 : GAL1\_58

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

The start number called the most often in the published annotations is 64, it was called in 182 of the 301 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aeneas\_68, ArcusAngelus\_56, Ardmore\_44, Aubs\_53, BAKA\_145, BaconJack\_70, Bagrid\_146, Banjo\_52, Batiatus\_50, Beem\_147, Bethlehem\_66, Bipolar\_49, Bombitas\_133, Boomer\_57, Brilliant\_55, CamL\_53, Cannibal\_53, CaptainTrips\_49, Che8\_55, Chevrolet\_59, Childish\_53, Chorkpop\_53, Chuckly\_55, Clank\_57, Colossa\_75, Constella\_139, Cornucopia\_55, Cosmolli16\_54, Craff\_56, DLane\_48, DTDevon\_6, DaWorst\_54, DaddyDaniels\_55, DaddyRickover\_52, Daffy\_53, Dallas\_146, Dandelion\_5, Dante\_53, DeadP\_58, DmpstrDiver\_146, Doomphist\_52,

DotProduct\_48, Doug\_55, Dove\_131, Drazdys\_6, Dreamboat\_67, Duke13\_141, Ejimix\_138, Emma\_52, Enby\_53, EricMillard\_137, Firehouse51\_53, Fozzie\_52, FrayBell\_6, Fringe\_57, Gandolph\_55, GigiOuiOui\_49, Giraffe\_54, Grand2040\_53, Gumball\_84, Haleema\_52, Halley\_147, Hamulus\_53, Hawkeye\_97, Held\_53, HenryJackson\_53, Hertubise\_53, HighStump\_55, HokkenD\_138, Hughesyang\_144, Inventum\_47, Iridessa\_54, JalFarm20\_60, Jasper\_66, Job42\_55, JuicyJay\_141, Kahve\_53, Kalah2\_136, KashFlow\_144, Kenuha5\_50, Klein\_143, KristaRAM\_51, Kwadwo\_52, Lasso\_53, LeeLot\_53, Legolas\_55, LeiMonet\_55, LinStu\_6, Longacauda\_54, LordLeafolot\_6, Lorde\_53, Lucky2013\_137, Lumine\_54, Madiba\_50, Mana\_52, Marsha\_65, Maru\_53, Melissauren88\_50, Mesh1\_54, MiaZeal\_144, MilleniumForce\_52, MinionDave\_51, MitKao\_53, Moonbeam\_48, Morgushi\_53, Mosaic\_52, Mova\_53, Mozy\_62, MrPhizzler\_55, Mule\_62, Mwanjiwa\_58, Nappy\_5, Nicole21\_54, NihilNomen\_147, Odette\_149, Ogopogo\_57, Oosterbaan\_53, Optimus\_136, Orwigg\_53, OwlsT2W\_53, PMC\_49, Periwinkle\_62, Phalconet\_51, Phanphagia\_47, Phasih\_51, Phayonce\_59, PherrisBueller\_66, PhesterPhotato\_54, Phoebus\_145, PhrostyMug\_65, Pier\_6, Poenanya\_52, Polka14\_51, Porcelain\_141, Potter\_52, Pound\_137, Puhltonio\_53, Purky\_63, QueenBeane\_53, Redno2\_140, Renaud18\_58, Renaud18\_70, Renaud18\_71, Rimu\_54, Rockne\_53, RockyHorror\_53, Royals2015\_55, SG4\_49, Samaymay\_53, Sassafras\_50, SassyCat97\_52, Schatzie\_141, Sebata\_6, Serendipity\_53, ShroomBoi\_52, SirHarley\_86, Smairt\_67, Soile\_54, Solosis\_52, Sophia\_52, Sparkdehlily\_60, Specks\_6, Squid\_53, Stellammi\_140, Sunshine924\_70, SuperGrey\_52, Surely\_53, TDanisky\_60, Taj\_56, TallGrassMM\_53, Thora\_53, ThreeRngTarjay\_140, Timmi\_52, TomBombadil\_53, Topiatin\_58, Trine\_55, Tweety\_52, Tyke\_6, VRedHorse\_52, VanLee\_73, Vortex\_53, Wee\_55, Whatsapiecost\_53, WilliamBoone\_96, William\_80, XFactor\_50, Xavier\_52, Yeet\_139, Yoshi\_64, Zelda\_53, Zerg\_52,

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

- Bobi\_55, BoogieWoogie\_54, Byougenkin\_50, Chuni\_54, DoOn\_57, Gwilliam\_54, Harley\_54, InterFolia\_6, Jant\_56, JayJay\_6, JigglyPuff\_5, Khan1\_54, Krakatau\_50, LolaVinca\_6, NuevoMundo\_6, Okabe\_47, PharkieMinkus\_6, Pupusa\_6, StephanieG\_6, Tainan\_6,

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

- Abinghost\_51, Akoma\_51, Ariel\_82, Athena\_52, Audrey\_51, Azula\_77, BAKA\_91, Bagrid\_89, Baloo\_51, Beelzebub\_8, Beem\_90, Ben11\_51, Bigfoot\_58, Blue\_65, Blueberry\_76, Bombitas\_78, CactusRose\_66, Carlyle\_66, Casbah\_51, ChaChing\_51, Chandler\_51, Chentzyk\_52, Clarkson\_7, Constella\_75, Corofin\_51, Courthouse\_78, Daisy\_51, Dallas\_89, Demsculpinboyz\_62, DmpstrDiver\_90, DoRead\_54, DobbysSock\_53, Donkeykong\_53, Dove\_75, Eish\_57, EricMillard\_83, Estave1\_55, Fascinus\_60, FeliMaine\_7, GAL1\_58, GMA1\_52, GMA2\_107, Gambino\_79, Gervas\_52, GlenHope\_52, Glubnar\_52, Graduation\_70, Halfpint\_50, Halley\_91, Heathcliff\_51, HokkenD\_79, Hughesyang\_90, Jorgensen\_69, JuicyJay\_87, Juniper1\_50, Kalah2\_84, Kamiyu\_51, Klein\_90, Kronus\_51, Latretium\_77, Lilbit\_7, Lucky2013\_80, MadKillah\_103, MadMen\_50, MadMen\_62, Madiba\_63, Makemake\_71, Maravista\_54, Marlia\_52, Maroc7\_64, MiaZeal\_83, Minerva\_89, MissRona\_77, MmasiCarm\_52, Moosehead\_58, Mortcellus\_51, Mova\_66, Mulaychimus\_52, Neos5\_51, NihilNomen\_91, Nozo\_51, ODay\_82, Obutu\_52, Odette\_88, Olivio\_51, Optimus\_84, OrangeOswald\_51, Paraselene\_66, Periwinkle\_85, Phayeta\_53, Philly\_50, Phlyer\_51, Phoebus\_92, Porcelain\_82, Pringar\_6, Raid\_64, RedRaider77\_9, Rita1961\_52, Ryadel\_103, Schatzie\_85, Shauna1\_47, SlippinJimmy\_53, Smooch\_99, Spooky\_78, Squint\_83,

Superphikiman\_80, SwainyDoc\_52, SynergyX\_51, Target\_68, ThreeRngTarjay\_87, TinyDot\_48, TinyTerror\_52, VanLee\_59, VasuNzinga\_8, Wanda\_94, Xiaokay\_79, Yeet\_83, YungJamal\_99, Zelink\_87,

### Summary by start number:

#### Start 41:

- Found in 32 of 330 ( 9.7% ) of genes in pham
- Manual Annotations of this start: 1 of 301
- Called 3.1% of time when present
- Phage (with cluster) where this start called: Jorgensen\_69 (A1),

#### Start 43:

- Found in 42 of 330 ( 12.7% ) of genes in pham
- Manual Annotations of this start: 39 of 301
- Called 97.6% of time when present
- Phage (with cluster) where this start called: BAKA\_91 (J), Bagrid\_89 (J), Beelzebub\_8 (S), Beem\_90 (J), Bombitas\_78 (J), Clarkson\_7 (S), Constella\_75 (J), Dallas\_89 (J), DmpstrDiver\_90 (J), DoRead\_54 (F1), Donkeykong\_53 (F1), Dove\_75 (J), Eish\_57 (F1), EricMillard\_83 (J), Estave1\_55 (F1), FeliMaine\_7 (S), Halley\_91 (J), HokkenD\_79 (J), Hughesyang\_90 (J), JuicyJay\_87 (J), Juniper1\_50 (F1), Kalah2\_84 (J), Klein\_90 (J), Lilbit\_7 (S), MadMen\_50 (F1), Madiba\_63 (F1), Maravista\_54 (F1), Minerva\_89 (J), Mova\_66 (F1), NihilNomen\_91 (J), Odette\_88 (J), Optimus\_84 (J), Phoebus\_92 (J), Pringar\_6 (S), Schatzie\_85 (J), Shauna1\_47 (F1), ThreeRngTarjay\_87 (J), VasuNzinga\_8 (S), Wanda\_94 (J), Yeet\_83 (J), Zelink\_87 (J),

#### Start 49:

- Found in 52 of 330 ( 15.8% ) of genes in pham
- Manual Annotations of this start: 1 of 301
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Byougenkin\_50 (F1),

#### Start 60:

- Found in 20 of 330 ( 6.1% ) of genes in pham
- Manual Annotations of this start: 3 of 301
- Called 15.0% of time when present
- Phage (with cluster) where this start called: JayJay\_6 (C1), LolaVinca\_6 (C1), NuevoMundo\_6 (C1),

#### Start 61:

- Found in 13 of 330 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 3 of 301
- Called 46.2% of time when present
- Phage (with cluster) where this start called: DobbysSock\_53 (CZ4), GAL1\_58 (singleton), GMA1\_52 (singleton), GMA2\_107 (DS), Spooky\_78 (DN2), VanLee\_59 (KA),

#### Start 62:

- Found in 56 of 330 ( 17.0% ) of genes in pham
- Manual Annotations of this start: 49 of 301
- Called 87.5% of time when present

- Phage (with cluster) where this start called: Abinghost\_51 (B3), Akoma\_51 (B3), Ariel\_82 (J), Athena\_52 (B3), Audrey\_51 (B3), Baloo\_51 (B3), Ben11\_51 (B3), Bigfoot\_58 (A1), Blue\_65 (A1), CactusRose\_66 (A1), Carlyle\_66 (A1), Casbah\_51 (B3), ChaChing\_51 (B3), Chandler\_51 (B3), Chentzyk\_52 (B3), Corofin\_51 (B3), Courthouse\_78 (J), Daisy\_51 (B3), Fascinus\_60 (A1), Gervas\_52 (B3), GlenHope\_52 (B3), Glubnar\_52 (B3), Graduation\_70 (A1), Halfpint\_50 (B3), Kamiyu\_51 (B3), Kronus\_51 (B3), Lucky2013\_80 (J), Makemake\_71 (A1), Maroc7\_64 (A1), MiaZeal\_83 (J), MmasiCarm\_52 (B3), Moosehead\_58 (CZ6), Mortcellus\_51 (B3), Neos5\_51 (B3), Nozo\_51 (B3), ODay\_82 (DN), Obutu\_52 (B3), OrangeOswald\_51 (B3), Paraselene\_66 (A1), Phayeta\_53 (B3), Philly\_50 (B3), Phlyer\_51 (B3), Porcelain\_82 (J), Raid\_64 (A1), Rita1961\_52 (B3), Squint\_83 (J), SwainyDoc\_52 (B3), SynergyX\_51 (B3), TinyTerror\_52 (B3),

#### Start 63:

- Found in 7 of 330 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 3 of 301
- Called 42.9% of time when present
- Phage (with cluster) where this start called: Demsculpinboyz\_62 (F2), RedRaider77\_9 (S), Smooch\_99 (O),

#### Start 64:

- Found in 211 of 330 ( 63.9% ) of genes in pham
- Manual Annotations of this start: 182 of 301
- Called 90.5% of time when present
- Phage (with cluster) where this start called: Aeneas\_68 (A1), ArcusAngelus\_56 (F1), Ardmore\_44 (F1), Aubs\_53 (F1), BAKA\_145 (J), BaconJack\_70 (A1), Bagrid\_146 (J), Banjo\_52 (B1), Batiatus\_50 (F1), Beem\_147 (J), Bethlehem\_66 (A1), Bipolar\_49 (F1), Bombitas\_133 (J), Boomer\_57 (F1), Brilliant\_55 (B1), CamL\_53 (B1), Cannibal\_53 (B1), CaptainTrips\_49 (F1), Che8\_55 (F1), Chevrolet\_59 (F1), Childish\_53 (B1), Chorkpop\_53 (B1), Chuckly\_55 (F1), Clank\_57 (F), Colossa\_75 (KA), Constella\_139 (J), Cornucopia\_55 (F1), Cosmolli16\_54 (B1), Craff\_56 (B1), DLane\_48 (F1), DTDevon\_6 (C1), DaWorst\_54 (F1), DaddyDaniels\_55 (B1), DaddyRickover\_52 (F1), Daffy\_53 (B1), Dallas\_146 (J), Dandelion\_5 (C1), Dante\_53 (F1), DeadP\_58 (F1), DmpstrDiver\_146 (J), Doomphist\_52 (F1), DotProduct\_48 (F1), Doug\_55 (F1), Dove\_131 (J), Drazdys\_6 (C1), Dreamboat\_67 (A1), Duke13\_141 (J), Ejimix\_138 (J), Emma\_52 (F1), Enby\_53 (F1), EricMillard\_137 (J), Firehouse51\_53 (F1), Fozzie\_52 (B1), FrayBell\_6 (C1), Fringe\_57 (B1), Gandolph\_55 (F1), GigiOuiOui\_49 (F1), Giraffe\_54 (B1), Grand2040\_53 (B1), Gumball\_84 (D1), Haleema\_52 (B1), Halley\_147 (J), Hamulus\_53 (F1), Hawkeye\_97 (D2), Held\_53 (B1), HenryJackson\_53 (B1), Hertubise\_53 (B1), HighStump\_55 (B1), HokkenD\_138 (J), Hughesyang\_144 (J), Inventum\_47 (F1), Iridessa\_54 (B1), JalFarm20\_60 (F1), Jasper\_66 (A1), Job42\_55 (F1), JuicyJay\_141 (J), Kahve\_53 (B1), Kalah2\_136 (J), KashFlow\_144 (J), Kenuha5\_50 (F1), Klein\_143 (J), KristaRAM\_51 (F1), Kwadwo\_52 (B1), Lasso\_53 (B1), LeeLot\_53 (B1), Legolas\_55 (B1), LeiMonet\_55 (B1), LinStu\_6 (C1), Longacauda\_54 (B1), LordLeafolot\_6 (C1), Lorde\_53 (F1), Lucky2013\_137 (J), Lumine\_54 (B1), Madiba\_50 (F1), Mana\_52 (B1), Marsha\_65 (A1), Maru\_53 (B1), Melissauren88\_50 (F1), Mesh1\_54 (B1), MiaZeal\_144 (J), MilleniumForce\_52 (F1), MinionDave\_51 (F1), MitKao\_53 (B1), Moonbeam\_48 (F1), Morgushi\_53 (B1), Mosaic\_52 (B1), Mova\_53 (F1), Mozy\_62 (F1), MrPhizzler\_55 (B1), Mule\_62 (A1), Mwanjiwa\_58 (F1), Nappy\_5 (C1), Nicole21\_54 (B1), NihilNomen\_147 (J), Odette\_149 (J), Ogotogo\_57 (F1), Oosterbaan\_53 (B1), Optimus\_136 (J), Orwigg\_53 (B1), OwlsT2W\_53 (F1), PMC\_49 (F1), Periwinkle\_62 (DN1), Phalconet\_51 (F1), Phanphagia\_47 (F1), Phasih\_51 (F1), Phayonce\_59 (P5), PherrisBueller\_66 (A1),



PhesterPhotato\_54 (F1), Phoebus\_145 (J), PhrostyMug\_65 (A1), Pier\_6 (C1), Poenanya\_52 (F1), Polka14\_51 (F1), Porcelain\_141 (J), Potter\_52 (B1), Pound\_137 (J), Puhltonio\_53 (B1), Purky\_63 (P6), QueenBeane\_53 (B1), Redno2\_140 (J), Renaud18\_58 (F4), Renaud18\_70 (F4), Renaud18\_71 (F4), Rimu\_54 (B1), Rockne\_53 (F1), RockyHorror\_53 (F1), Royals2015\_55 (F1), SG4\_49 (F1), Samaymay\_53 (B1), Sassafras\_50 (F1), SassyCat97\_52 (B1), Schatzie\_141 (J), Sebata\_6 (C1), Serendipity\_53 (B1), ShroomBoi\_52 (F1), SirHarley\_86 (D1), Smairt\_67 (A1), Soile\_54 (B1), Solosis\_52 (B1), Sophia\_52 (B1), Sparkdehlily\_60 (F1), Specks\_6 (C1), Squid\_53 (B1), Stellammi\_140 (UNK), Sunshine924\_70 (A1), SuperGrey\_52 (F1), Surely\_53 (B1), TDanisky\_60 (F1), Taj\_56 (F1), TallGrassMM\_53 (B1), Thora\_53 (B1), ThreeRngTarjay\_140 (J), Timmi\_52 (B1), TomBombadil\_53 (B1), Topiatin\_58 (F1), Trine\_55 (CD), Tweety\_52 (F1), Tyke\_6 (C1), VRedHorse\_52 (F1), VanLee\_73 (KA), Vortex\_53 (B1), Wee\_55 (F1), Whatsapiecost\_53 (F1), WilliamBoone\_96 (CQ1), William\_80 (CV), XFactor\_50 (F1), Xavier\_52 (B1), Yeet\_139 (J), Yoshi\_64 (F2), Zelda\_53 (B1), Zerg\_52 (F1),

#### Start 68:

- Found in 1 of 330 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 301
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MadKillah\_103 (O),

#### Start 69:

- Found in 32 of 330 ( 9.7% ) of genes in pham
- Manual Annotations of this start: 3 of 301
- Called 15.6% of time when present
- Phage (with cluster) where this start called: Bobi\_55 (F1), Harley\_54 (F1), Jant\_56 (F1), Krakatau\_50 (F1), Okabe\_47 (F8),

#### Start 71:

- Found in 4 of 330 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 4 of 301
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azula\_77 (CV), Blueberry\_76 (CV), Gambino\_79 (CV), MissRona\_77 (CV),

#### Start 72:

- Found in 19 of 330 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 1 of 301
- Called 21.1% of time when present
- Phage (with cluster) where this start called: InterFolia\_6 (C1), PharkleMinkus\_6 (C1), Pupusa\_6 (C1), Tainan\_6 (C1),

#### Start 74:

- Found in 6 of 330 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 4 of 301
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Latretium\_77 (F1), MadMen\_62 (F1), Ryadel\_103 (O), YungJamal\_99 (O),

#### Start 76:

- Found in 24 of 330 ( 7.3% ) of genes in pham
- No Manual Annotations of this start.

- Called 4.2% of time when present
- Phage (with cluster) where this start called: Xiaokay\_79 (J),

Start 78:

- Found in 19 of 330 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 3 of 301
- Called 21.1% of time when present
- Phage (with cluster) where this start called: JigglyPuff\_5 (C1), Periwinkle\_85 (DN1), StephanieG\_6 (C1), TinyDot\_48 (singleton),

Start 81:

- Found in 54 of 330 ( 16.4% ) of genes in pham
- Manual Annotations of this start: 1 of 301
- Called 1.9% of time when present
- Phage (with cluster) where this start called: Superphikiman\_80 (J),

Start 95:

- Found in 85 of 330 ( 25.8% ) of genes in pham
- Manual Annotations of this start: 1 of 301
- Called 5.9% of time when present
- Phage (with cluster) where this start called: BoogieWoogie\_54 (B1), Chuni\_54 (B1), DoIon\_57 (B1), Gwilliam\_54 (B1), Khan1\_54 (B1),

Start 105:

- Found in 263 of 330 ( 79.7% ) of genes in pham
- Manual Annotations of this start: 2 of 301
- Called 2.3% of time when present
- Phage (with cluster) where this start called: Heathcliff\_51 (B3), Marlia\_52 (B3), Mulaychimus\_52 (B3), Olivio\_51 (B3), SlippinJimmy\_53 (B3), Target\_68 (A1),

### **Summary by clusters:**

There are 28 clusters represented in this pham: DN, singleton, CQ1, CZ6, CZ4, DS, F, A1, DN1, DN2, C1, P6, P5, J, F2, O, CD, S, UNK, CV, F1, KA, F4, F8, B1, B3, D2, D1,

Info for manual annotations of cluster A1:

- Start number 41 was manually annotated 1 time for cluster A1.
- Start number 62 was manually annotated 10 times for cluster A1.
- Start number 64 was manually annotated 11 times for cluster A1.
- Start number 105 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster B1:

- Start number 64 was manually annotated 57 times for cluster B1.
- Start number 95 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B3:

- Start number 62 was manually annotated 31 times for cluster B3.
- Start number 105 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster C1:

- Start number 60 was manually annotated 3 times for cluster C1.
- Start number 64 was manually annotated 11 times for cluster C1.
- Start number 72 was manually annotated 1 time for cluster C1.

- Start number 78 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster CD:

- Start number 64 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CQ1:

- Start number 64 was manually annotated 1 time for cluster CQ1.

Info for manual annotations of cluster CV:

- Start number 64 was manually annotated 1 time for cluster CV.
- Start number 71 was manually annotated 4 times for cluster CV.

Info for manual annotations of cluster CZ4:

- Start number 61 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 62 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster D1:

- Start number 64 was manually annotated 2 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 64 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DN:

- Start number 62 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 64 was manually annotated 1 time for cluster DN1.
- Start number 78 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 61 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster F1:

- Start number 43 was manually annotated 10 times for cluster F1.
- Start number 49 was manually annotated 1 time for cluster F1.
- Start number 64 was manually annotated 61 times for cluster F1.
- Start number 69 was manually annotated 3 times for cluster F1.
- Start number 74 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 63 was manually annotated 1 time for cluster F2.
- Start number 64 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F4:

- Start number 64 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster J:

- Start number 43 was manually annotated 23 times for cluster J.

- Start number 62 was manually annotated 6 times for cluster J.
- Start number 64 was manually annotated 28 times for cluster J.
- Start number 81 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster KA:

- Start number 61 was manually annotated 1 time for cluster KA.
- Start number 64 was manually annotated 1 time for cluster KA.

Info for manual annotations of cluster O:

- Start number 63 was manually annotated 1 time for cluster O.
- Start number 68 was manually annotated 1 time for cluster O.
- Start number 74 was manually annotated 2 times for cluster O.

Info for manual annotations of cluster P5:

- Start number 64 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 64 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster S:

- Start number 43 was manually annotated 6 times for cluster S.
- Start number 63 was manually annotated 1 time for cluster S.

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

Gene: Abinghost\_51 Start: 45404, Stop: 45135, Start Num: 62

Candidate Starts for Abinghost\_51:

(Start: 62 @45404 has 49 MA's), (Start: 81 @45350 has 1 MA's), (Start: 105 @45302 has 2 MA's),

Gene: Aeneas\_68 Start: 44278, Stop: 44033, Start Num: 64

Candidate Starts for Aeneas\_68:

(Start: 64 @44278 has 182 MA's), (75, 44236), (86, 44224), (88, 44221), (Start: 105 @44182 has 2 MA's), (107, 44164),

Gene: Akoma\_51 Start: 45415, Stop: 45146, Start Num: 62

Candidate Starts for Akoma\_51:

(Start: 62 @45415 has 49 MA's), (Start: 81 @45361 has 1 MA's), (Start: 105 @45313 has 2 MA's),

Gene: ArcusAngelus\_56 Start: 38441, Stop: 38683, Start Num: 64

Candidate Starts for ArcusAngelus\_56:

(Start: 49 @38411 has 1 MA's), (Start: 64 @38441 has 182 MA's), (Start: 105 @38552 has 2 MA's),

Gene: Ardmore\_44 Start: 35217, Stop: 35447, Start Num: 64

Candidate Starts for Ardmore\_44:

(Start: 49 @35187 has 1 MA's), (Start: 64 @35217 has 182 MA's), (Start: 69 @35253 has 3 MA's), (104, 35313), (Start: 105 @35316 has 2 MA's),

Gene: Ariel\_82 Start: 49253, Stop: 48984, Start Num: 62

Candidate Starts for Ariel\_82:

(Start: 62 @49253 has 49 MA's), (Start: 81 @49199 has 1 MA's), (Start: 105 @49151 has 2 MA's),

Gene: Athena\_52 Start: 46162, Stop: 45893, Start Num: 62  
Candidate Starts for Athena\_52:  
(Start: 62 @46162 has 49 MA's), (Start: 81 @46108 has 1 MA's), (Start: 105 @46060 has 2 MA's),

Gene: Aubs\_53 Start: 37222, Stop: 37464, Start Num: 64  
Candidate Starts for Aubs\_53:  
(Start: 61 @37216 has 3 MA's), (Start: 64 @37222 has 182 MA's), (Start: 105 @37333 has 2 MA's),

Gene: Audrey\_51 Start: 45410, Stop: 45141, Start Num: 62  
Candidate Starts for Audrey\_51:  
(Start: 62 @45410 has 49 MA's), (Start: 81 @45356 has 1 MA's), (Start: 105 @45308 has 2 MA's),

Gene: Azula\_77 Start: 48141, Stop: 48380, Start Num: 71  
Candidate Starts for Azula\_77:  
(1, 47394), (2, 47400), (3, 47406), (4, 47451), (8, 47889), (9, 47916), (15, 47979), (22, 48003), (55, 48078), (59, 48087), (Start: 71 @48141 has 4 MA's), (85, 48168), (121, 48306), (123, 48327), (128, 48375),

Gene: BAKA\_91 Start: 56921, Stop: 57199, Start Num: 43  
Candidate Starts for BAKA\_91:  
(40, 56915), (Start: 43 @56921 has 39 MA's), (Start: 105 @57032 has 2 MA's),

Gene: BAKA\_145 Start: 76447, Stop: 76692, Start Num: 64  
Candidate Starts for BAKA\_145:  
(12, 76312), (35, 76387), (Start: 41 @76402 has 1 MA's), (Start: 64 @76447 has 182 MA's), (94, 76519), (99, 76522),

Gene: BaconJack\_70 Start: 45368, Stop: 45123, Start Num: 64  
Candidate Starts for BaconJack\_70:  
(Start: 64 @45368 has 182 MA's), (75, 45326), (86, 45314), (88, 45311), (Start: 105 @45272 has 2 MA's), (107, 45254),

Gene: Bagrid\_146 Start: 77142, Stop: 77387, Start Num: 64  
Candidate Starts for Bagrid\_146:  
(12, 77007), (35, 77082), (Start: 41 @77097 has 1 MA's), (Start: 64 @77142 has 182 MA's), (94, 77214), (99, 77217),

Gene: Bagrid\_89 Start: 55770, Stop: 56066, Start Num: 43  
Candidate Starts for Bagrid\_89:  
(Start: 43 @55770 has 39 MA's), (76, 55848), (Start: 95 @55875 has 1 MA's), (Start: 105 @55899 has 2 MA's),

Gene: Baloo\_51 Start: 45413, Stop: 45144, Start Num: 62  
Candidate Starts for Baloo\_51:  
(Start: 62 @45413 has 49 MA's), (Start: 81 @45359 has 1 MA's), (Start: 105 @45311 has 2 MA's),

Gene: Banjo\_52 Start: 47062, Stop: 46769, Start Num: 64  
Candidate Starts for Banjo\_52:  
(11, 47221), (20, 47164), (28, 47137), (37, 47116), (39, 47110), (Start: 64 @47062 has 182 MA's), (66, 47038), (91, 46990), (Start: 95 @46984 has 1 MA's), (Start: 105 @46960 has 2 MA's),

Gene: Batiatus\_50 Start: 37046, Stop: 37276, Start Num: 64

Candidate Starts for Batiatus\_50:

(Start: 49 @37016 has 1 MA's), (Start: 64 @37046 has 182 MA's), (Start: 69 @37082 has 3 MA's), (104, 37142), (Start: 105 @37145 has 2 MA's),

Gene: Beelzebub\_8 Start: 2535, Stop: 2807, Start Num: 43

Candidate Starts for Beelzebub\_8:

(Start: 43 @2535 has 39 MA's), (77, 2598), (Start: 105 @2640 has 2 MA's),

Gene: Beem\_90 Start: 56631, Stop: 56927, Start Num: 43

Candidate Starts for Beem\_90:

(Start: 43 @56631 has 39 MA's), (76, 56709), (Start: 95 @56736 has 1 MA's), (Start: 105 @56760 has 2 MA's),

Gene: Beem\_147 Start: 78045, Stop: 78290, Start Num: 64

Candidate Starts for Beem\_147:

(12, 77910), (Start: 41 @78000 has 1 MA's), (Start: 64 @78045 has 182 MA's), (94, 78117), (99, 78120),

Gene: Ben11\_51 Start: 45695, Stop: 45426, Start Num: 62

Candidate Starts for Ben11\_51:

(Start: 62 @45695 has 49 MA's), (Start: 81 @45641 has 1 MA's), (Start: 105 @45593 has 2 MA's), (128, 45437),

Gene: Bethlehem\_66 Start: 44024, Stop: 43779, Start Num: 64

Candidate Starts for Bethlehem\_66:

(Start: 64 @44024 has 182 MA's), (104, 43916),

Gene: Bigfoot\_58 Start: 41545, Stop: 41276, Start Num: 62

Candidate Starts for Bigfoot\_58:

(Start: 62 @41545 has 49 MA's), (Start: 81 @41491 has 1 MA's), (Start: 105 @41443 has 2 MA's),

Gene: Bipolar\_49 Start: 36854, Stop: 37099, Start Num: 64

Candidate Starts for Bipolar\_49:

(26, 36770), (31, 36788), (52, 36830), (Start: 64 @36854 has 182 MA's), (Start: 105 @36965 has 2 MA's),

Gene: Blue\_65 Start: 43245, Stop: 42976, Start Num: 62

Candidate Starts for Blue\_65:

(Start: 62 @43245 has 49 MA's), (Start: 81 @43191 has 1 MA's), (Start: 105 @43143 has 2 MA's),

Gene: Blueberry\_76 Start: 48141, Stop: 48380, Start Num: 71

Candidate Starts for Blueberry\_76:

(1, 47394), (2, 47400), (3, 47406), (4, 47451), (8, 47889), (9, 47916), (15, 47979), (22, 48003), (55, 48078), (59, 48087), (Start: 71 @48141 has 4 MA's), (85, 48168), (121, 48306), (123, 48327), (128, 48375),

Gene: Bobi\_55 Start: 38256, Stop: 38450, Start Num: 69

Candidate Starts for Bobi\_55:

(Start: 49 @38190 has 1 MA's), (Start: 64 @38220 has 182 MA's), (Start: 69 @38256 has 3 MA's), (104, 38316), (Start: 105 @38319 has 2 MA's),

Gene: Bombitas\_78 Start: 53794, Stop: 54090, Start Num: 43

Candidate Starts for Bombitas\_78:

(Start: 43 @53794 has 39 MA's), (76, 53872), (Start: 95 @53899 has 1 MA's), (Start: 105 @53923 has 2 MA's),

Gene: Bombitas\_133 Start: 75456, Stop: 75701, Start Num: 64

Candidate Starts for Bombitas\_133:

(12, 75321), (Start: 41 @75411 has 1 MA's), (Start: 64 @75456 has 182 MA's), (94, 75528), (99, 75531),

Gene: BoogieWoogie\_54 Start: 47559, Stop: 47368, Start Num: 95

Candidate Starts for BoogieWoogie\_54:

(11, 47796), (20, 47739), (37, 47691), (39, 47685), (Start: 64 @47637 has 182 MA's), (66, 47613), (91, 47565), (Start: 95 @47559 has 1 MA's), (Start: 105 @47535 has 2 MA's), (128, 47379),

Gene: Boomer\_57 Start: 38978, Stop: 39235, Start Num: 64

Candidate Starts for Boomer\_57:

(16, 38864), (19, 38876), (30, 38912), (57, 38963), (Start: 64 @38978 has 182 MA's), (Start: 105 @39089 has 2 MA's), (110, 39119),

Gene: Brilliant\_55 Start: 47604, Stop: 47335, Start Num: 64

Candidate Starts for Brilliant\_55:

(11, 47763), (20, 47706), (28, 47679), (37, 47658), (39, 47652), (Start: 64 @47604 has 182 MA's), (66, 47580), (91, 47532), (Start: 95 @47526 has 1 MA's), (Start: 105 @47502 has 2 MA's), (128, 47346),

Gene: Byougenkin\_50 Start: 36870, Stop: 37133, Start Num: 49

Candidate Starts for Byougenkin\_50:

(Start: 49 @36870 has 1 MA's), (Start: 64 @36900 has 182 MA's), (66, 36924), (89, 36966), (101, 36981), (104, 36999), (Start: 105 @37002 has 2 MA's),

Gene: CactusRose\_66 Start: 42565, Stop: 42296, Start Num: 62

Candidate Starts for CactusRose\_66:

(Start: 62 @42565 has 49 MA's), (Start: 81 @42511 has 1 MA's), (Start: 105 @42463 has 2 MA's),

Gene: CamL\_53 Start: 47369, Stop: 47076, Start Num: 64

Candidate Starts for CamL\_53:

(11, 47528), (20, 47471), (28, 47444), (37, 47423), (39, 47417), (Start: 64 @47369 has 182 MA's), (66, 47345), (91, 47297), (Start: 95 @47291 has 1 MA's), (Start: 105 @47267 has 2 MA's),

Gene: Cannibal\_53 Start: 47352, Stop: 47059, Start Num: 64

Candidate Starts for Cannibal\_53:

(11, 47511), (20, 47454), (28, 47427), (37, 47406), (39, 47400), (Start: 64 @47352 has 182 MA's), (66, 47328), (91, 47280), (Start: 95 @47274 has 1 MA's), (Start: 105 @47250 has 2 MA's),

Gene: CaptainTrips\_49 Start: 36066, Stop: 36296, Start Num: 64

Candidate Starts for CaptainTrips\_49:

(Start: 49 @36036 has 1 MA's), (Start: 64 @36066 has 182 MA's), (Start: 69 @36102 has 3 MA's), (104, 36162), (Start: 105 @36165 has 2 MA's),

Gene: Carlyle\_66 Start: 41351, Stop: 41082, Start Num: 62

Candidate Starts for Carlyle\_66:

(Start: 62 @41351 has 49 MA's), (Start: 81 @41297 has 1 MA's), (Start: 105 @41249 has 2 MA's),

Gene: Casbah\_51 Start: 45725, Stop: 45456, Start Num: 62

Candidate Starts for Casbah\_51:

(Start: 62 @45725 has 49 MA's), (Start: 81 @45671 has 1 MA's), (Start: 105 @45623 has 2 MA's), (128, 45467),

Gene: ChaChing\_51 Start: 45427, Stop: 45158, Start Num: 62

Candidate Starts for ChaChing\_51:

(Start: 62 @45427 has 49 MA's), (Start: 81 @45373 has 1 MA's), (Start: 105 @45325 has 2 MA's),

Gene: Chandler\_51 Start: 46194, Stop: 45925, Start Num: 62

Candidate Starts for Chandler\_51:

(Start: 62 @46194 has 49 MA's), (Start: 81 @46140 has 1 MA's), (Start: 105 @46092 has 2 MA's),

Gene: Che8\_55 Start: 38308, Stop: 38550, Start Num: 64

Candidate Starts for Che8\_55:

(Start: 49 @38278 has 1 MA's), (Start: 64 @38308 has 182 MA's), (Start: 105 @38419 has 2 MA's),

Gene: Chentzyk\_52 Start: 46237, Stop: 45968, Start Num: 62

Candidate Starts for Chentzyk\_52:

(Start: 62 @46237 has 49 MA's), (Start: 81 @46183 has 1 MA's), (Start: 105 @46135 has 2 MA's), (128, 45979),

Gene: Chevrolet\_59 Start: 38442, Stop: 38684, Start Num: 64

Candidate Starts for Chevrolet\_59:

(Start: 49 @38412 has 1 MA's), (Start: 64 @38442 has 182 MA's), (Start: 105 @38553 has 2 MA's),

Gene: Childish\_53 Start: 47631, Stop: 47362, Start Num: 64

Candidate Starts for Childish\_53:

(11, 47790), (20, 47733), (28, 47706), (37, 47685), (39, 47679), (Start: 64 @47631 has 182 MA's), (66, 47607), (91, 47559), (Start: 95 @47553 has 1 MA's), (Start: 105 @47529 has 2 MA's), (128, 47373),

Gene: Chorkpop\_53 Start: 47108, Stop: 46815, Start Num: 64

Candidate Starts for Chorkpop\_53:

(11, 47267), (20, 47210), (28, 47183), (37, 47162), (39, 47156), (Start: 64 @47108 has 182 MA's), (66, 47084), (91, 47036), (Start: 95 @47030 has 1 MA's), (Start: 105 @47006 has 2 MA's),

Gene: Chuckly\_55 Start: 37799, Stop: 38041, Start Num: 64

Candidate Starts for Chuckly\_55:

(Start: 61 @37793 has 3 MA's), (Start: 64 @37799 has 182 MA's), (Start: 105 @37910 has 2 MA's),

Gene: Chuni\_54 Start: 48106, Stop: 47915, Start Num: 95

Candidate Starts for Chuni\_54:

(11, 48343), (20, 48286), (28, 48259), (37, 48238), (39, 48232), (Start: 64 @48184 has 182 MA's), (66, 48160), (91, 48112), (Start: 95 @48106 has 1 MA's), (Start: 105 @48082 has 2 MA's), (128, 47926),

Gene: Clank\_57 Start: 38129, Stop: 38371, Start Num: 64

Candidate Starts for Clank\_57:

(Start: 61 @38123 has 3 MA's), (Start: 64 @38129 has 182 MA's), (Start: 105 @38240 has 2 MA's),

Gene: Clarkson\_7 Start: 2311, Stop: 2583, Start Num: 43

Candidate Starts for Clarkson\_7:

(Start: 43 @2311 has 39 MA's), (77, 2374), (Start: 105 @2416 has 2 MA's),

Gene: Colossa\_75 Start: 44073, Stop: 44345, Start Num: 64

Candidate Starts for Colossa\_75:



(Start: 64 @44073 has 182 MA's), (103, 44178), (115, 44232),

Gene: Constella\_75 Start: 50768, Stop: 51064, Start Num: 43

Candidate Starts for Constella\_75:

(Start: 43 @50768 has 39 MA's), (76, 50846), (Start: 95 @50873 has 1 MA's), (Start: 105 @50897 has 2 MA's),

Gene: Constella\_139 Start: 76698, Stop: 76943, Start Num: 64

Candidate Starts for Constella\_139:

(12, 76563), (35, 76638), (Start: 41 @76653 has 1 MA's), (Start: 64 @76698 has 182 MA's), (94, 76770), (99, 76773),

Gene: Cornucopia\_55 Start: 38144, Stop: 38386, Start Num: 64

Candidate Starts for Cornucopia\_55:

(Start: 49 @38114 has 1 MA's), (Start: 64 @38144 has 182 MA's), (104, 38252),

Gene: Corofin\_51 Start: 45437, Stop: 45168, Start Num: 62

Candidate Starts for Corofin\_51:

(Start: 62 @45437 has 49 MA's), (Start: 81 @45383 has 1 MA's), (Start: 105 @45335 has 2 MA's),

Gene: Cosmolli16\_54 Start: 47811, Stop: 47542, Start Num: 64

Candidate Starts for Cosmolli16\_54:

(11, 47970), (20, 47913), (28, 47886), (37, 47865), (39, 47859), (Start: 64 @47811 has 182 MA's), (66, 47787), (91, 47739), (Start: 95 @47733 has 1 MA's), (Start: 105 @47709 has 2 MA's),

Gene: Courthouse\_78 Start: 48853, Stop: 48584, Start Num: 62

Candidate Starts for Courthouse\_78:

(Start: 62 @48853 has 49 MA's), (Start: 81 @48799 has 1 MA's), (Start: 105 @48751 has 2 MA's),

Gene: Craff\_56 Start: 48056, Stop: 47787, Start Num: 64

Candidate Starts for Craff\_56:

(11, 48215), (20, 48158), (28, 48131), (37, 48110), (39, 48104), (Start: 64 @48056 has 182 MA's), (66, 48032), (91, 47984), (Start: 95 @47978 has 1 MA's), (Start: 105 @47954 has 2 MA's), (128, 47798),

Gene: DLane\_48 Start: 36148, Stop: 36381, Start Num: 64

Candidate Starts for DLane\_48:

(Start: 49 @36118 has 1 MA's), (Start: 64 @36148 has 182 MA's), (Start: 69 @36184 has 3 MA's), (104, 36244), (Start: 105 @36247 has 2 MA's),

Gene: DTDevon\_6 Start: 1888, Stop: 2115, Start Num: 64

Candidate Starts for DTDevon\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: DaWorst\_54 Start: 38043, Stop: 38276, Start Num: 64

Candidate Starts for DaWorst\_54:

(Start: 49 @38013 has 1 MA's), (Start: 64 @38043 has 182 MA's), (66, 38067), (89, 38109), (101, 38124), (104, 38142), (Start: 105 @38145 has 2 MA's),

Gene: DaddyDaniels\_55 Start: 47588, Stop: 47319, Start Num: 64

Candidate Starts for DaddyDaniels\_55:

(11, 47747), (20, 47690), (28, 47663), (37, 47642), (39, 47636), (Start: 64 @47588 has 182 MA's), (66, 47564), (91, 47516), (Start: 95 @47510 has 1 MA's), (Start: 105 @47486 has 2 MA's), (128, 47330),

Gene: DaddyRickover\_52 Start: 37670, Stop: 37903, Start Num: 64

Candidate Starts for DaddyRickover\_52:

(Start: 49 @37640 has 1 MA's), (Start: 64 @37670 has 182 MA's), (66, 37694), (89, 37736), (101, 37751), (104, 37769), (Start: 105 @37772 has 2 MA's),

Gene: Daffy\_53 Start: 47094, Stop: 46801, Start Num: 64

Candidate Starts for Daffy\_53:

(11, 47253), (20, 47196), (28, 47169), (37, 47148), (39, 47142), (Start: 64 @47094 has 182 MA's), (66, 47070), (91, 47022), (Start: 95 @47016 has 1 MA's), (Start: 105 @46992 has 2 MA's),

Gene: Daisy\_51 Start: 45439, Stop: 45170, Start Num: 62

Candidate Starts for Daisy\_51:

(Start: 62 @45439 has 49 MA's), (Start: 81 @45385 has 1 MA's), (Start: 105 @45337 has 2 MA's),

Gene: Dallas\_89 Start: 55552, Stop: 55848, Start Num: 43

Candidate Starts for Dallas\_89:

(Start: 43 @55552 has 39 MA's), (76, 55630), (Start: 95 @55657 has 1 MA's), (Start: 105 @55681 has 2 MA's),

Gene: Dallas\_146 Start: 77512, Stop: 77757, Start Num: 64

Candidate Starts for Dallas\_146:

(12, 77377), (35, 77452), (Start: 41 @77467 has 1 MA's), (Start: 64 @77512 has 182 MA's), (94, 77584), (99, 77587),

Gene: Dandelion\_5 Start: 1888, Stop: 2115, Start Num: 64

Candidate Starts for Dandelion\_5:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Dante\_53 Start: 37036, Stop: 37266, Start Num: 64

Candidate Starts for Dante\_53:

(Start: 49 @37006 has 1 MA's), (Start: 64 @37036 has 182 MA's), (66, 37060), (89, 37099), (101, 37114), (104, 37132), (Start: 105 @37135 has 2 MA's),

Gene: DeadP\_58 Start: 38932, Stop: 39159, Start Num: 64

Candidate Starts for DeadP\_58:

(Start: 49 @38902 has 1 MA's), (Start: 64 @38932 has 182 MA's), (Start: 69 @38965 has 3 MA's), (86, 38989), (104, 39022),

Gene: Demsculpinboyz\_62 Start: 36874, Stop: 37140, Start Num: 63

Candidate Starts for Demsculpinboyz\_62:

(47, 36844), (Start: 63 @36874 has 3 MA's), (66, 36898), (89, 36940), (101, 36955), (104, 36973), (Start: 105 @36976 has 2 MA's),

Gene: DmpstrDiver\_90 Start: 55966, Stop: 56262, Start Num: 43

Candidate Starts for DmpstrDiver\_90:

(Start: 43 @55966 has 39 MA's), (76, 56044), (Start: 95 @56071 has 1 MA's), (Start: 105 @56095 has 2 MA's),

Gene: DmpstrDiver\_146 Start: 77431, Stop: 77676, Start Num: 64

Candidate Starts for DmpstrDiver\_146:

(12, 77296), (35, 77371), (Start: 41 @77386 has 1 MA's), (Start: 64 @77431 has 182 MA's), (94, 77503), (99, 77506),

Gene: DoRead\_54 Start: 36172, Stop: 36447, Start Num: 43  
Candidate Starts for DoRead\_54:  
(Start: 43 @36172 has 39 MA's), (Start: 105 @36283 has 2 MA's),

Gene: DobbysSock\_53 Start: 39107, Stop: 39373, Start Num: 61  
Candidate Starts for DobbysSock\_53:  
(Start: 61 @39107 has 3 MA's), (82, 39173), (84, 39176),

Gene: DolOn\_57 Start: 48236, Stop: 48045, Start Num: 95  
Candidate Starts for DolOn\_57:  
(11, 48473), (20, 48416), (28, 48389), (37, 48368), (39, 48362), (Start: 64 @48314 has 182 MA's), (66, 48290), (91, 48242), (Start: 95 @48236 has 1 MA's), (Start: 105 @48212 has 2 MA's),

Gene: Donkeykong\_53 Start: 39067, Stop: 39345, Start Num: 43  
Candidate Starts for Donkeykong\_53:  
(25, 39022), (32, 39043), (Start: 43 @39067 has 39 MA's), (Start: 105 @39178 has 2 MA's),

Gene: Doomphist\_52 Start: 38179, Stop: 38421, Start Num: 64  
Candidate Starts for Doomphist\_52:  
(Start: 49 @38149 has 1 MA's), (Start: 64 @38179 has 182 MA's), (104, 38287),

Gene: DotProduct\_48 Start: 36209, Stop: 36451, Start Num: 64  
Candidate Starts for DotProduct\_48:  
(Start: 49 @36179 has 1 MA's), (Start: 64 @36209 has 182 MA's), (104, 36317),

Gene: Doug\_55 Start: 38300, Stop: 38542, Start Num: 64  
Candidate Starts for Doug\_55:  
(Start: 49 @38270 has 1 MA's), (Start: 64 @38300 has 182 MA's), (Start: 105 @38411 has 2 MA's),

Gene: Dove\_131 Start: 73030, Stop: 73275, Start Num: 64  
Candidate Starts for Dove\_131:  
(12, 72895), (Start: 41 @72985 has 1 MA's), (Start: 64 @73030 has 182 MA's), (94, 73102), (99, 73105),

Gene: Dove\_75 Start: 52060, Stop: 52356, Start Num: 43  
Candidate Starts for Dove\_75:  
(Start: 43 @52060 has 39 MA's), (76, 52138), (Start: 95 @52165 has 1 MA's), (Start: 105 @52189 has 2 MA's),

Gene: Drazdys\_6 Start: 1888, Stop: 2115, Start Num: 64  
Candidate Starts for Drazdys\_6:  
(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Dreamboat\_67 Start: 41780, Stop: 41553, Start Num: 64  
Candidate Starts for Dreamboat\_67:  
(Start: 64 @41780 has 182 MA's), (Start: 105 @41720 has 2 MA's),

Gene: Duke13\_141 Start: 74732, Stop: 74977, Start Num: 64  
Candidate Starts for Duke13\_141:

(12, 74597), (35, 74672), (Start: 41 @74687 has 1 MA's), (Start: 64 @74732 has 182 MA's), (94, 74804), (99, 74807),

Gene: Eish\_57 Start: 38353, Stop: 38628, Start Num: 43  
Candidate Starts for Eish\_57:  
(Start: 43 @38353 has 39 MA's), (Start: 105 @38464 has 2 MA's),

Gene: Ejimix\_138 Start: 77580, Stop: 77825, Start Num: 64  
Candidate Starts for Ejimix\_138:  
(12, 77445), (35, 77520), (Start: 41 @77535 has 1 MA's), (Start: 64 @77580 has 182 MA's), (94, 77652), (99, 77655),

Gene: Emma\_52 Start: 36405, Stop: 36638, Start Num: 64  
Candidate Starts for Emma\_52:  
(Start: 49 @36375 has 1 MA's), (Start: 64 @36405 has 182 MA's), (Start: 69 @36441 has 3 MA's), (104, 36501), (Start: 105 @36504 has 2 MA's),

Gene: Enby\_53 Start: 35552, Stop: 35782, Start Num: 64  
Candidate Starts for Enby\_53:  
(46, 35519), (Start: 49 @35522 has 1 MA's), (Start: 64 @35552 has 182 MA's), (Start: 69 @35588 has 3 MA's), (104, 35648), (Start: 105 @35651 has 2 MA's),

Gene: EricMillard\_83 Start: 55716, Stop: 55994, Start Num: 43  
Candidate Starts for EricMillard\_83:  
(40, 55710), (Start: 43 @55716 has 39 MA's), (Start: 105 @55827 has 2 MA's),

Gene: EricMillard\_137 Start: 76084, Stop: 76329, Start Num: 64  
Candidate Starts for EricMillard\_137:  
(12, 75949), (35, 76024), (Start: 41 @76039 has 1 MA's), (Start: 64 @76084 has 182 MA's), (94, 76156), (99, 76159),

Gene: Estave1\_55 Start: 37717, Stop: 37980, Start Num: 43  
Candidate Starts for Estave1\_55:  
(Start: 43 @37717 has 39 MA's), (Start: 105 @37828 has 2 MA's),

Gene: Fascinus\_60 Start: 42059, Stop: 41790, Start Num: 62  
Candidate Starts for Fascinus\_60:  
(Start: 62 @42059 has 49 MA's), (Start: 81 @42005 has 1 MA's), (Start: 105 @41957 has 2 MA's),

Gene: FeliMaine\_7 Start: 2312, Stop: 2584, Start Num: 43  
Candidate Starts for FeliMaine\_7:  
(Start: 43 @2312 has 39 MA's), (77, 2375), (Start: 105 @2417 has 2 MA's),

Gene: Firehouse51\_53 Start: 39958, Stop: 40203, Start Num: 64  
Candidate Starts for Firehouse51\_53:  
(Start: 49 @39928 has 1 MA's), (Start: 64 @39958 has 182 MA's), (Start: 105 @40069 has 2 MA's),

Gene: Fozzie\_52 Start: 47398, Stop: 47105, Start Num: 64  
Candidate Starts for Fozzie\_52:  
(11, 47557), (20, 47500), (28, 47473), (37, 47452), (39, 47446), (Start: 64 @47398 has 182 MA's), (66, 47374), (91, 47326), (Start: 95 @47320 has 1 MA's), (Start: 105 @47296 has 2 MA's),

Gene: FrayBell\_6 Start: 1888, Stop: 2115, Start Num: 64

Candidate Starts for FrayBell\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Fringe\_57 Start: 48533, Stop: 48264, Start Num: 64

Candidate Starts for Fringe\_57:

(11, 48692), (20, 48635), (37, 48587), (39, 48581), (Start: 64 @48533 has 182 MA's), (66, 48509), (91, 48461), (Start: 95 @48455 has 1 MA's), (Start: 105 @48431 has 2 MA's), (128, 48275),

Gene: GAL1\_58 Start: 39448, Stop: 39708, Start Num: 61

Candidate Starts for GAL1\_58:

(Start: 61 @39448 has 3 MA's), (109, 39592),

Gene: GMA1\_52 Start: 32897, Stop: 33145, Start Num: 61

Candidate Starts for GMA1\_52:

(24, 32816), (28, 32828), (39, 32855), (54, 32882), (Start: 61 @32897 has 3 MA's),

Gene: GMA2\_107 Start: 94211, Stop: 93939, Start Num: 61

Candidate Starts for GMA2\_107:

(Start: 61 @94211 has 3 MA's), (117, 94031),

Gene: Gambino\_79 Start: 48141, Stop: 48380, Start Num: 71

Candidate Starts for Gambino\_79:

(1, 47394), (2, 47400), (3, 47406), (4, 47451), (8, 47889), (9, 47916), (15, 47979), (22, 48003), (55, 48078), (59, 48087), (Start: 71 @48141 has 4 MA's), (85, 48168), (121, 48306), (123, 48327), (128, 48375),

Gene: Gandolph\_55 Start: 37415, Stop: 37660, Start Num: 64

Candidate Starts for Gandolph\_55:

(Start: 64 @37415 has 182 MA's), (104, 37523),

Gene: Gervas\_52 Start: 45854, Stop: 45585, Start Num: 62

Candidate Starts for Gervas\_52:

(Start: 62 @45854 has 49 MA's), (Start: 81 @45800 has 1 MA's), (Start: 105 @45752 has 2 MA's), (128, 45596),

Gene: GigiOuiOui\_49 Start: 36354, Stop: 36596, Start Num: 64

Candidate Starts for GigiOuiOui\_49:

(Start: 49 @36324 has 1 MA's), (Start: 64 @36354 has 182 MA's), (104, 36462),

Gene: Giraffe\_54 Start: 47592, Stop: 47323, Start Num: 64

Candidate Starts for Giraffe\_54:

(11, 47751), (20, 47694), (37, 47646), (39, 47640), (Start: 64 @47592 has 182 MA's), (66, 47568), (91, 47520), (Start: 95 @47514 has 1 MA's), (Start: 105 @47490 has 2 MA's),

Gene: GlenHope\_52 Start: 45405, Stop: 45136, Start Num: 62

Candidate Starts for GlenHope\_52:

(Start: 62 @45405 has 49 MA's), (Start: 81 @45351 has 1 MA's), (Start: 105 @45303 has 2 MA's),

Gene: Glubnar\_52 Start: 45405, Stop: 45136, Start Num: 62

Candidate Starts for Glubnar\_52:

(Start: 62 @45405 has 49 MA's), (Start: 81 @45351 has 1 MA's), (Start: 105 @45303 has 2 MA's),

Gene: Graduation\_70 Start: 43891, Stop: 43622, Start Num: 62  
Candidate Starts for Graduation\_70:  
(Start: 62 @43891 has 49 MA's), (Start: 81 @43837 has 1 MA's), (Start: 105 @43789 has 2 MA's),

Gene: Grand2040\_53 Start: 47586, Stop: 47317, Start Num: 64  
Candidate Starts for Grand2040\_53:  
(11, 47745), (20, 47688), (37, 47640), (39, 47634), (Start: 64 @47586 has 182 MA's), (66, 47562), (91, 47514), (Start: 95 @47508 has 1 MA's), (Start: 105 @47484 has 2 MA's),

Gene: Gumball\_84 Start: 60133, Stop: 60360, Start Num: 64  
Candidate Starts for Gumball\_84:  
(13, 60010), (Start: 64 @60133 has 182 MA's), (Start: 72 @60169 has 1 MA's), (77, 60178), (Start: 105 @60232 has 2 MA's),

Gene: Gwilliam\_54 Start: 47871, Stop: 47680, Start Num: 95  
Candidate Starts for Gwilliam\_54:  
(11, 48108), (20, 48051), (28, 48024), (37, 48003), (39, 47997), (Start: 64 @47949 has 182 MA's), (66, 47925), (91, 47877), (Start: 95 @47871 has 1 MA's), (Start: 105 @47847 has 2 MA's),

Gene: Haleema\_52 Start: 47090, Stop: 46797, Start Num: 64  
Candidate Starts for Haleema\_52:  
(11, 47249), (20, 47192), (28, 47165), (37, 47144), (39, 47138), (Start: 64 @47090 has 182 MA's), (66, 47066), (91, 47018), (Start: 95 @47012 has 1 MA's), (Start: 105 @46988 has 2 MA's),

Gene: Halfpint\_50 Start: 45230, Stop: 44961, Start Num: 62  
Candidate Starts for Halfpint\_50:  
(Start: 62 @45230 has 49 MA's), (Start: 81 @45176 has 1 MA's), (Start: 105 @45128 has 2 MA's),

Gene: Halley\_147 Start: 77896, Stop: 78141, Start Num: 64  
Candidate Starts for Halley\_147:  
(12, 77761), (35, 77836), (Start: 41 @77851 has 1 MA's), (Start: 64 @77896 has 182 MA's), (94, 77968), (99, 77971),

Gene: Halley\_91 Start: 56631, Stop: 56927, Start Num: 43  
Candidate Starts for Halley\_91:  
(Start: 43 @56631 has 39 MA's), (76, 56709), (Start: 95 @56736 has 1 MA's), (Start: 105 @56760 has 2 MA's),

Gene: Hamulus\_53 Start: 37796, Stop: 38026, Start Num: 64  
Candidate Starts for Hamulus\_53:  
(Start: 49 @37766 has 1 MA's), (Start: 64 @37796 has 182 MA's), (Start: 69 @37832 has 3 MA's), (104, 37892), (Start: 105 @37895 has 2 MA's),

Gene: Harley\_54 Start: 37188, Stop: 37382, Start Num: 69  
Candidate Starts for Harley\_54:  
(Start: 49 @37122 has 1 MA's), (Start: 64 @37152 has 182 MA's), (Start: 69 @37188 has 3 MA's), (104, 37248), (Start: 105 @37251 has 2 MA's),

Gene: Hawkeye\_97 Start: 61659, Stop: 61895, Start Num: 64  
Candidate Starts for Hawkeye\_97:  
(18, 61557), (45, 61620), (46, 61626), (Start: 64 @61659 has 182 MA's), (91, 61728), (Start: 105 @61758 has 2 MA's), (119, 61809), (124, 61830), (129, 61872),

Gene: Heathcliff\_51 Start: 45274, Stop: 45107, Start Num: 105  
Candidate Starts for Heathcliff\_51:  
(Start: 62 @45376 has 49 MA's), (Start: 81 @45322 has 1 MA's), (Start: 105 @45274 has 2 MA's),

Gene: Held\_53 Start: 47095, Stop: 46802, Start Num: 64  
Candidate Starts for Held\_53:  
(11, 47254), (20, 47197), (28, 47170), (37, 47149), (39, 47143), (Start: 64 @47095 has 182 MA's), (66, 47071), (91, 47023), (Start: 95 @47017 has 1 MA's), (Start: 105 @46993 has 2 MA's),

Gene: HenryJackson\_53 Start: 47620, Stop: 47351, Start Num: 64  
Candidate Starts for HenryJackson\_53:  
(11, 47779), (20, 47722), (28, 47695), (37, 47674), (39, 47668), (Start: 64 @47620 has 182 MA's), (66, 47596), (91, 47548), (Start: 95 @47542 has 1 MA's), (Start: 105 @47518 has 2 MA's), (128, 47362),

Gene: Hertubise\_53 Start: 47387, Stop: 47094, Start Num: 64  
Candidate Starts for Hertubise\_53:  
(11, 47546), (20, 47489), (28, 47462), (37, 47441), (39, 47435), (Start: 64 @47387 has 182 MA's), (66, 47363), (91, 47315), (Start: 95 @47309 has 1 MA's), (Start: 105 @47285 has 2 MA's),

Gene: HighStump\_55 Start: 48156, Stop: 47887, Start Num: 64  
Candidate Starts for HighStump\_55:  
(11, 48315), (20, 48258), (28, 48231), (37, 48210), (39, 48204), (Start: 64 @48156 has 182 MA's), (66, 48132), (91, 48084), (Start: 95 @48078 has 1 MA's), (Start: 105 @48054 has 2 MA's), (128, 47898),

Gene: HokkenD\_138 Start: 77055, Stop: 77300, Start Num: 64  
Candidate Starts for HokkenD\_138:  
(12, 76920), (Start: 41 @77010 has 1 MA's), (Start: 64 @77055 has 182 MA's), (94, 77127), (99, 77130),

Gene: HokkenD\_79 Start: 54900, Stop: 55196, Start Num: 43  
Candidate Starts for HokkenD\_79:  
(Start: 43 @54900 has 39 MA's), (76, 54978), (Start: 95 @55005 has 1 MA's), (Start: 105 @55029 has 2 MA's),

Gene: Hughesyang\_90 Start: 56589, Stop: 56885, Start Num: 43  
Candidate Starts for Hughesyang\_90:  
(Start: 43 @56589 has 39 MA's), (76, 56667), (Start: 95 @56694 has 1 MA's), (Start: 105 @56718 has 2 MA's),

Gene: Hughesyang\_144 Start: 77666, Stop: 77911, Start Num: 64  
Candidate Starts for Hughesyang\_144:  
(12, 77531), (35, 77606), (Start: 41 @77621 has 1 MA's), (Start: 64 @77666 has 182 MA's), (94, 77738), (99, 77741),

Gene: InterFolia\_6 Start: 1924, Stop: 2115, Start Num: 72  
Candidate Starts for InterFolia\_6:  
(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Inventum\_47 Start: 36162, Stop: 36395, Start Num: 64  
Candidate Starts for Inventum\_47:  
(Start: 49 @36132 has 1 MA's), (Start: 64 @36162 has 182 MA's), (66, 36186), (89, 36228), (101, 36243), (104, 36261), (Start: 105 @36264 has 2 MA's),

Gene: Iridessa\_54 Start: 47600, Stop: 47331, Start Num: 64

Candidate Starts for Iridessa\_54:

(11, 47759), (20, 47702), (28, 47675), (37, 47654), (39, 47648), (Start: 64 @47600 has 182 MA's), (66, 47576), (91, 47528), (Start: 95 @47522 has 1 MA's), (Start: 105 @47498 has 2 MA's), (128, 47342),

Gene: JalFarm20\_60 Start: 39595, Stop: 39840, Start Num: 64

Candidate Starts for JalFarm20\_60:

(52, 39571), (Start: 64 @39595 has 182 MA's), (Start: 105 @39706 has 2 MA's),

Gene: Jant\_56 Start: 38892, Stop: 39086, Start Num: 69

Candidate Starts for Jant\_56:

(Start: 49 @38826 has 1 MA's), (Start: 64 @38856 has 182 MA's), (Start: 69 @38892 has 3 MA's), (104, 38952), (Start: 105 @38955 has 2 MA's),

Gene: Jasper\_66 Start: 41666, Stop: 41439, Start Num: 64

Candidate Starts for Jasper\_66:

(Start: 64 @41666 has 182 MA's), (Start: 105 @41606 has 2 MA's),

Gene: JayJay\_6 Start: 1730, Stop: 1996, Start Num: 60

Candidate Starts for JayJay\_6:

(Start: 60 @1730 has 3 MA's), (Start: 64 @1739 has 182 MA's), (66, 1763), (90, 1805), (101, 1820), (104, 1838), (Start: 105 @1841 has 2 MA's), (123, 1937),

Gene: JigglyPuff\_5 Start: 1776, Stop: 1985, Start Num: 78

Candidate Starts for JigglyPuff\_5:

(Start: 60 @1722 has 3 MA's), (Start: 64 @1731 has 182 MA's), (Start: 72 @1767 has 1 MA's), (Start: 78 @1776 has 3 MA's), (104, 1827), (Start: 105 @1830 has 2 MA's), (123, 1926),

Gene: Job42\_55 Start: 39394, Stop: 39636, Start Num: 64

Candidate Starts for Job42\_55:

(16, 39280), (19, 39292), (30, 39328), (57, 39379), (Start: 64 @39394 has 182 MA's), (Start: 105 @39505 has 2 MA's),

Gene: Jorgensen\_69 Start: 42799, Stop: 42503, Start Num: 41

Candidate Starts for Jorgensen\_69:

(Start: 41 @42799 has 1 MA's), (76, 42721), (Start: 95 @42694 has 1 MA's), (104, 42673), (Start: 105 @42670 has 2 MA's),

Gene: JuicyJay\_87 Start: 57765, Stop: 58061, Start Num: 43

Candidate Starts for JuicyJay\_87:

(Start: 43 @57765 has 39 MA's), (76, 57843), (Start: 95 @57870 has 1 MA's), (Start: 105 @57894 has 2 MA's),

Gene: JuicyJay\_141 Start: 79181, Stop: 79426, Start Num: 64

Candidate Starts for JuicyJay\_141:

(12, 79046), (Start: 41 @79136 has 1 MA's), (Start: 64 @79181 has 182 MA's), (94, 79253), (99, 79256),

Gene: Juniper1\_50 Start: 36588, Stop: 36851, Start Num: 43

Candidate Starts for Juniper1\_50:

(29, 36558), (Start: 43 @36588 has 39 MA's), (Start: 105 @36699 has 2 MA's), (125, 36819),



Gene: Kahve\_53 Start: 47617, Stop: 47348, Start Num: 64

Candidate Starts for Kahve\_53:

(11, 47776), (20, 47719), (28, 47692), (37, 47671), (39, 47665), (Start: 64 @47617 has 182 MA's), (66, 47593), (91, 47545), (Start: 95 @47539 has 1 MA's), (Start: 105 @47515 has 2 MA's), (128, 47359),

Gene: Kalah2\_136 Start: 76787, Stop: 77032, Start Num: 64

Candidate Starts for Kalah2\_136:

(12, 76652), (Start: 41 @76742 has 1 MA's), (Start: 64 @76787 has 182 MA's), (94, 76859), (99, 76862),

Gene: Kalah2\_84 Start: 55924, Stop: 56220, Start Num: 43

Candidate Starts for Kalah2\_84:

(Start: 43 @55924 has 39 MA's), (76, 56002), (Start: 95 @56029 has 1 MA's), (Start: 105 @56053 has 2 MA's),

Gene: Kamiyu\_51 Start: 45383, Stop: 45114, Start Num: 62

Candidate Starts for Kamiyu\_51:

(Start: 62 @45383 has 49 MA's), (Start: 81 @45329 has 1 MA's), (Start: 105 @45281 has 2 MA's),

Gene: KashFlow\_144 Start: 76087, Stop: 76332, Start Num: 64

Candidate Starts for KashFlow\_144:

(12, 75952), (Start: 41 @76042 has 1 MA's), (Start: 64 @76087 has 182 MA's), (94, 76159), (99, 76162),

Gene: Kenuha5\_50 Start: 36123, Stop: 36365, Start Num: 64

Candidate Starts for Kenuha5\_50:

(26, 36039), (31, 36057), (52, 36099), (Start: 64 @36123 has 182 MA's), (Start: 105 @36234 has 2 MA's),

Gene: Khan1\_54 Start: 47495, Stop: 47304, Start Num: 95

Candidate Starts for Khan1\_54:

(11, 47732), (20, 47675), (28, 47648), (37, 47627), (39, 47621), (Start: 64 @47573 has 182 MA's), (66, 47549), (91, 47501), (Start: 95 @47495 has 1 MA's), (Start: 105 @47471 has 2 MA's),

Gene: Klein\_143 Start: 75389, Stop: 75634, Start Num: 64

Candidate Starts for Klein\_143:

(12, 75254), (Start: 41 @75344 has 1 MA's), (Start: 64 @75389 has 182 MA's), (94, 75461), (99, 75464),

Gene: Klein\_90 Start: 55600, Stop: 55896, Start Num: 43

Candidate Starts for Klein\_90:

(40, 55594), (Start: 43 @55600 has 39 MA's), (76, 55678), (Start: 95 @55705 has 1 MA's), (Start: 105 @55729 has 2 MA's),

Gene: Krakatau\_50 Start: 36883, Stop: 37077, Start Num: 69

Candidate Starts for Krakatau\_50:

(Start: 49 @36817 has 1 MA's), (Start: 64 @36847 has 182 MA's), (Start: 69 @36883 has 3 MA's), (104, 36943), (Start: 105 @36946 has 2 MA's),

Gene: KristaRAM\_51 Start: 38223, Stop: 38468, Start Num: 64

Candidate Starts for KristaRAM\_51:

(26, 38139), (31, 38157), (52, 38199), (Start: 64 @38223 has 182 MA's), (Start: 105 @38334 has 2 MA's),

Gene: Kronus\_51 Start: 46457, Stop: 46188, Start Num: 62  
Candidate Starts for Kronus\_51:  
(Start: 62 @46457 has 49 MA's), (Start: 81 @46403 has 1 MA's), (Start: 105 @46355 has 2 MA's),  
(128, 46199),

Gene: Kwadwo\_52 Start: 47069, Stop: 46776, Start Num: 64  
Candidate Starts for Kwadwo\_52:  
(11, 47228), (20, 47171), (28, 47144), (37, 47123), (39, 47117), (Start: 64 @47069 has 182 MA's), (66,  
47045), (91, 46997), (Start: 95 @46991 has 1 MA's), (Start: 105 @46967 has 2 MA's),

Gene: Lasso\_53 Start: 47344, Stop: 47051, Start Num: 64  
Candidate Starts for Lasso\_53:  
(11, 47503), (20, 47446), (28, 47419), (37, 47398), (39, 47392), (Start: 64 @47344 has 182 MA's), (66,  
47320), (91, 47272), (Start: 95 @47266 has 1 MA's), (Start: 105 @47242 has 2 MA's),

Gene: Latretium\_77 Start: 46947, Stop: 47177, Start Num: 74  
Candidate Starts for Latretium\_77:  
(34, 46854), (Start: 63 @46911 has 3 MA's), (Start: 74 @46947 has 4 MA's), (104, 47007), (Start: 105  
@47010 has 2 MA's),

Gene: LeeLot\_53 Start: 47396, Stop: 47103, Start Num: 64  
Candidate Starts for LeeLot\_53:  
(11, 47555), (20, 47498), (28, 47471), (37, 47450), (39, 47444), (Start: 64 @47396 has 182 MA's), (66,  
47372), (91, 47324), (Start: 95 @47318 has 1 MA's), (Start: 105 @47294 has 2 MA's),

Gene: Legolas\_55 Start: 48053, Stop: 47784, Start Num: 64  
Candidate Starts for Legolas\_55:  
(11, 48212), (20, 48155), (28, 48128), (37, 48107), (39, 48101), (Start: 64 @48053 has 182 MA's), (66,  
48029), (91, 47981), (Start: 95 @47975 has 1 MA's), (Start: 105 @47951 has 2 MA's), (128, 47795),

Gene: LeiMonet\_55 Start: 47572, Stop: 47303, Start Num: 64  
Candidate Starts for LeiMonet\_55:  
(11, 47731), (20, 47674), (37, 47626), (39, 47620), (Start: 64 @47572 has 182 MA's), (66, 47548), (91,  
47500), (Start: 95 @47494 has 1 MA's), (Start: 105 @47470 has 2 MA's),

Gene: Lilbit\_7 Start: 2312, Stop: 2584, Start Num: 43  
Candidate Starts for Lilbit\_7:  
(Start: 43 @2312 has 39 MA's), (77, 2375), (Start: 105 @2417 has 2 MA's),

Gene: LinStu\_6 Start: 2738, Stop: 2995, Start Num: 64  
Candidate Starts for LinStu\_6:  
(Start: 60 @2729 has 3 MA's), (Start: 64 @2738 has 182 MA's), (66, 2762), (90, 2804), (101, 2819),  
(104, 2837), (Start: 105 @2840 has 2 MA's), (123, 2936),

Gene: LolaVinca\_6 Start: 1879, Stop: 2115, Start Num: 60  
Candidate Starts for LolaVinca\_6:  
(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start:  
78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Longacauda\_54 Start: 48016, Stop: 47747, Start Num: 64  
Candidate Starts for Longacauda\_54:

(11, 48175), (20, 48118), (28, 48091), (37, 48070), (39, 48064), (Start: 64 @48016 has 182 MA's), (66, 47992), (91, 47944), (Start: 95 @47938 has 1 MA's), (Start: 105 @47914 has 2 MA's), (128, 47758),

Gene: LordLeafolot\_6 Start: 1888, Stop: 2115, Start Num: 64

Candidate Starts for LordLeafolot\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Lorde\_53 Start: 35527, Stop: 35757, Start Num: 64

Candidate Starts for Lorde\_53:

(46, 35494), (Start: 49 @35497 has 1 MA's), (Start: 64 @35527 has 182 MA's), (Start: 69 @35563 has 3 MA's), (104, 35623), (Start: 105 @35626 has 2 MA's),

Gene: Lucky2013\_80 Start: 49269, Stop: 49000, Start Num: 62

Candidate Starts for Lucky2013\_80:

(Start: 62 @49269 has 49 MA's), (Start: 81 @49215 has 1 MA's), (Start: 105 @49167 has 2 MA's),

Gene: Lucky2013\_137 Start: 73141, Stop: 73386, Start Num: 64

Candidate Starts for Lucky2013\_137:

(12, 73006), (35, 73081), (Start: 41 @73096 has 1 MA's), (Start: 64 @73141 has 182 MA's), (94, 73213), (99, 73216), (101, 73219),

Gene: Lumine\_54 Start: 47804, Stop: 47535, Start Num: 64

Candidate Starts for Lumine\_54:

(11, 47963), (20, 47906), (37, 47858), (39, 47852), (Start: 64 @47804 has 182 MA's), (66, 47780), (91, 47732), (Start: 95 @47726 has 1 MA's), (Start: 105 @47702 has 2 MA's),

Gene: MadKillah\_103 Start: 62045, Stop: 61815, Start Num: 68

Candidate Starts for MadKillah\_103:

(51, 62096), (Start: 68 @62045 has 1 MA's), (76, 62033), (104, 61985), (Start: 105 @61982 has 2 MA's),

Gene: MadMen\_62 Start: 41080, Stop: 41310, Start Num: 74

Candidate Starts for MadMen\_62:

(Start: 63 @41044 has 3 MA's), (Start: 74 @41080 has 4 MA's), (104, 41140), (Start: 105 @41143 has 2 MA's),

Gene: MadMen\_50 Start: 36869, Stop: 37144, Start Num: 43

Candidate Starts for MadMen\_50:

(40, 36863), (Start: 43 @36869 has 39 MA's), (Start: 105 @36980 has 2 MA's),

Gene: Madiba\_63 Start: 40537, Stop: 40815, Start Num: 43

Candidate Starts for Madiba\_63:

(40, 40531), (Start: 43 @40537 has 39 MA's), (Start: 105 @40648 has 2 MA's),

Gene: Madiba\_50 Start: 35664, Stop: 35894, Start Num: 64

Candidate Starts for Madiba\_50:

(Start: 49 @35634 has 1 MA's), (Start: 64 @35664 has 182 MA's), (Start: 69 @35700 has 3 MA's), (104, 35760), (Start: 105 @35763 has 2 MA's),

Gene: Makemake\_71 Start: 44586, Stop: 44317, Start Num: 62

Candidate Starts for Makemake\_71:

(Start: 62 @44586 has 49 MA's), (Start: 81 @44532 has 1 MA's), (Start: 105 @44484 has 2 MA's),

Gene: Mana\_52 Start: 47084, Stop: 46791, Start Num: 64

Candidate Starts for Mana\_52:

(11, 47243), (20, 47186), (28, 47159), (37, 47138), (39, 47132), (Start: 64 @47084 has 182 MA's), (66, 47060), (91, 47012), (Start: 95 @47006 has 1 MA's), (Start: 105 @46982 has 2 MA's),

Gene: Maravista\_54 Start: 38807, Stop: 39082, Start Num: 43

Candidate Starts for Maravista\_54:

(29, 38777), (Start: 43 @38807 has 39 MA's), (Start: 105 @38918 has 2 MA's),

Gene: Marlia\_52 Start: 45756, Stop: 45589, Start Num: 105

Candidate Starts for Marlia\_52:

(Start: 62 @45858 has 49 MA's), (Start: 81 @45804 has 1 MA's), (Start: 105 @45756 has 2 MA's), (128, 45600),

Gene: Maroc7\_64 Start: 43049, Stop: 42780, Start Num: 62

Candidate Starts for Maroc7\_64:

(Start: 62 @43049 has 49 MA's), (Start: 81 @42995 has 1 MA's), (Start: 105 @42947 has 2 MA's),

Gene: Marsha\_65 Start: 43596, Stop: 43360, Start Num: 64

Candidate Starts for Marsha\_65:

(Start: 64 @43596 has 182 MA's), (87, 43536),

Gene: Maru\_53 Start: 47523, Stop: 47254, Start Num: 64

Candidate Starts for Maru\_53:

(11, 47682), (20, 47625), (28, 47598), (37, 47577), (39, 47571), (Start: 64 @47523 has 182 MA's), (66, 47499), (91, 47451), (Start: 95 @47445 has 1 MA's), (Start: 105 @47421 has 2 MA's),

Gene: Melissauren88\_50 Start: 36304, Stop: 36534, Start Num: 64

Candidate Starts for Melissauren88\_50:

(Start: 49 @36274 has 1 MA's), (Start: 64 @36304 has 182 MA's), (Start: 69 @36340 has 3 MA's), (104, 36400), (Start: 105 @36403 has 2 MA's),

Gene: Mesh1\_54 Start: 47616, Stop: 47323, Start Num: 64

Candidate Starts for Mesh1\_54:

(11, 47775), (20, 47718), (37, 47670), (39, 47664), (Start: 64 @47616 has 182 MA's), (66, 47592), (91, 47544), (Start: 95 @47538 has 1 MA's), (Start: 105 @47514 has 2 MA's),

Gene: MiaZeal\_144 Start: 74280, Stop: 74525, Start Num: 64

Candidate Starts for MiaZeal\_144:

(12, 74145), (35, 74220), (Start: 41 @74235 has 1 MA's), (Start: 64 @74280 has 182 MA's), (94, 74352), (99, 74355), (101, 74358),

Gene: MiaZeal\_83 Start: 49925, Stop: 49656, Start Num: 62

Candidate Starts for MiaZeal\_83:

(Start: 62 @49925 has 49 MA's), (Start: 81 @49871 has 1 MA's), (Start: 105 @49823 has 2 MA's),

Gene: MilleniumForce\_52 Start: 38325, Stop: 38558, Start Num: 64

Candidate Starts for MilleniumForce\_52:

(Start: 49 @38295 has 1 MA's), (Start: 64 @38325 has 182 MA's), (Start: 69 @38361 has 3 MA's), (104, 38421), (Start: 105 @38424 has 2 MA's),

Gene: Minerva\_89 Start: 56566, Stop: 56844, Start Num: 43

Candidate Starts for Minerva\_89:

(40, 56560), (Start: 43 @56566 has 39 MA's), (Start: 105 @56677 has 2 MA's),

Gene: MinionDave\_51 Start: 36841, Stop: 37071, Start Num: 64

Candidate Starts for MinionDave\_51:

(Start: 49 @36811 has 1 MA's), (Start: 64 @36841 has 182 MA's), (Start: 69 @36877 has 3 MA's), (104, 36937), (Start: 105 @36940 has 2 MA's),

Gene: MissRona\_77 Start: 48142, Stop: 48381, Start Num: 71

Candidate Starts for MissRona\_77:

(1, 47395), (2, 47401), (3, 47407), (4, 47452), (8, 47890), (9, 47917), (15, 47980), (22, 48004), (55, 48079), (59, 48088), (Start: 71 @48142 has 4 MA's), (85, 48169), (121, 48307), (123, 48328), (128, 48376),

Gene: MitKao\_53 Start: 47094, Stop: 46801, Start Num: 64

Candidate Starts for MitKao\_53:

(11, 47253), (20, 47196), (28, 47169), (37, 47148), (39, 47142), (Start: 64 @47094 has 182 MA's), (66, 47070), (91, 47022), (Start: 95 @47016 has 1 MA's), (Start: 105 @46992 has 2 MA's),

Gene: MmasiCarm\_52 Start: 45904, Stop: 45635, Start Num: 62

Candidate Starts for MmasiCarm\_52:

(Start: 62 @45904 has 49 MA's), (Start: 81 @45850 has 1 MA's), (Start: 105 @45802 has 2 MA's), (128, 45646),

Gene: Moonbeam\_48 Start: 36361, Stop: 36591, Start Num: 64

Candidate Starts for Moonbeam\_48:

(Start: 49 @36331 has 1 MA's), (Start: 64 @36361 has 182 MA's), (Start: 69 @36397 has 3 MA's), (104, 36457), (Start: 105 @36460 has 2 MA's),

Gene: Moosehead\_58 Start: 34673, Stop: 34924, Start Num: 62

Candidate Starts for Moosehead\_58:

(36, 34622), (38, 34631), (42, 34637), (44, 34640), (56, 34661), (58, 34664), (Start: 62 @34673 has 49 MA's), (107, 34805), (111, 34823),

Gene: Morgushi\_53 Start: 47083, Stop: 46790, Start Num: 64

Candidate Starts for Morgushi\_53:

(11, 47242), (20, 47185), (28, 47158), (37, 47137), (39, 47131), (Start: 64 @47083 has 182 MA's), (66, 47059), (91, 47011), (Start: 95 @47005 has 1 MA's), (Start: 105 @46981 has 2 MA's),

Gene: Mortcellus\_51 Start: 46511, Stop: 46242, Start Num: 62

Candidate Starts for Mortcellus\_51:

(Start: 62 @46511 has 49 MA's), (Start: 81 @46457 has 1 MA's), (Start: 105 @46409 has 2 MA's), (128, 46253),

Gene: Mosaic\_52 Start: 47088, Stop: 46795, Start Num: 64

Candidate Starts for Mosaic\_52:

(11, 47247), (20, 47190), (28, 47163), (37, 47142), (39, 47136), (Start: 64 @47088 has 182 MA's), (66, 47064), (91, 47016), (Start: 95 @47010 has 1 MA's), (Start: 105 @46986 has 2 MA's),

Gene: Mova\_66 Start: 41041, Stop: 41319, Start Num: 43

Candidate Starts for Mova\_66:

(40, 41035), (Start: 43 @41041 has 39 MA's), (Start: 105 @41152 has 2 MA's),

Gene: Mova\_53 Start: 36684, Stop: 36917, Start Num: 64

Candidate Starts for Mova\_53:

(Start: 49 @36654 has 1 MA's), (Start: 64 @36684 has 182 MA's), (Start: 69 @36720 has 3 MA's), (104, 36780), (Start: 105 @36783 has 2 MA's),

Gene: Mozy\_62 Start: 39946, Stop: 40173, Start Num: 64

Candidate Starts for Mozy\_62:

(Start: 49 @39916 has 1 MA's), (Start: 64 @39946 has 182 MA's), (66, 39970), (89, 40012), (101, 40027), (104, 40045), (Start: 105 @40048 has 2 MA's), (115, 40078),

Gene: MrPhizzler\_55 Start: 47550, Stop: 47281, Start Num: 64

Candidate Starts for MrPhizzler\_55:

(11, 47709), (20, 47652), (28, 47625), (37, 47604), (39, 47598), (Start: 64 @47550 has 182 MA's), (66, 47526), (91, 47478), (Start: 95 @47472 has 1 MA's), (Start: 105 @47448 has 2 MA's),

Gene: Mulaychimus\_52 Start: 45738, Stop: 45571, Start Num: 105

Candidate Starts for Mulaychimus\_52:

(Start: 62 @45840 has 49 MA's), (Start: 81 @45786 has 1 MA's), (Start: 105 @45738 has 2 MA's), (128, 45582),

Gene: Mule\_62 Start: 41651, Stop: 41406, Start Num: 64

Candidate Starts for Mule\_62:

(Start: 64 @41651 has 182 MA's), (75, 41609), (86, 41597), (88, 41594), (Start: 105 @41555 has 2 MA's), (107, 41537),

Gene: Mwanjiwa\_58 Start: 37785, Stop: 38027, Start Num: 64

Candidate Starts for Mwanjiwa\_58:

(Start: 49 @37755 has 1 MA's), (Start: 64 @37785 has 182 MA's), (Start: 105 @37896 has 2 MA's),

Gene: Nappy\_5 Start: 1734, Stop: 1961, Start Num: 64

Candidate Starts for Nappy\_5:

(Start: 60 @1725 has 3 MA's), (Start: 64 @1734 has 182 MA's), (Start: 72 @1770 has 1 MA's), (Start: 78 @1779 has 3 MA's), (Start: 105 @1833 has 2 MA's), (116, 1872),

Gene: Neos5\_51 Start: 46209, Stop: 45940, Start Num: 62

Candidate Starts for Neos5\_51:

(Start: 62 @46209 has 49 MA's), (Start: 81 @46155 has 1 MA's), (Start: 105 @46107 has 2 MA's),

Gene: Nicole21\_54 Start: 47889, Stop: 47620, Start Num: 64

Candidate Starts for Nicole21\_54:

(11, 48048), (20, 47991), (28, 47964), (37, 47943), (39, 47937), (Start: 64 @47889 has 182 MA's), (66, 47865), (91, 47817), (Start: 95 @47811 has 1 MA's), (Start: 105 @47787 has 2 MA's), (128, 47631),

Gene: NihilNomen\_147 Start: 77126, Stop: 77371, Start Num: 64

Candidate Starts for NihilNomen\_147:

(12, 76991), (Start: 41 @77081 has 1 MA's), (Start: 64 @77126 has 182 MA's), (94, 77198), (99, 77201),

Gene: NihilNomen\_91 Start: 56718, Stop: 57014, Start Num: 43

Candidate Starts for NihilNomen\_91:

(Start: 43 @56718 has 39 MA's), (76, 56796), (Start: 95 @56823 has 1 MA's), (Start: 105 @56847 has 2 MA's),

Gene: Nozo\_51 Start: 46173, Stop: 45904, Start Num: 62  
Candidate Starts for Nozo\_51:  
(Start: 62 @46173 has 49 MA's), (Start: 81 @46119 has 1 MA's), (Start: 105 @46071 has 2 MA's),

Gene: NuevoMundo\_6 Start: 1876, Stop: 2112, Start Num: 60  
Candidate Starts for NuevoMundo\_6:  
(Start: 60 @1876 has 3 MA's), (Start: 64 @1885 has 182 MA's), (Start: 72 @1921 has 1 MA's), (Start: 78 @1930 has 3 MA's), (Start: 105 @1984 has 2 MA's), (116, 2023),

Gene: ODay\_82 Start: 46976, Stop: 47251, Start Num: 62  
Candidate Starts for ODay\_82:  
(23, 46892), (27, 46904), (33, 46916), (53, 46958), (58, 46967), (Start: 62 @46976 has 49 MA's), (70, 47021), (79, 47036), (92, 47057), (107, 47099), (109, 47111),

Gene: Obutu\_52 Start: 45859, Stop: 45590, Start Num: 62  
Candidate Starts for Obutu\_52:  
(Start: 62 @45859 has 49 MA's), (Start: 81 @45805 has 1 MA's), (Start: 105 @45757 has 2 MA's), (128, 45601),

Gene: Odette\_88 Start: 55760, Stop: 56056, Start Num: 43  
Candidate Starts for Odette\_88:  
(Start: 43 @55760 has 39 MA's), (76, 55838), (Start: 95 @55865 has 1 MA's), (Start: 105 @55889 has 2 MA's),

Gene: Odette\_149 Start: 79269, Stop: 79514, Start Num: 64  
Candidate Starts for Odette\_149:  
(12, 79134), (Start: 41 @79224 has 1 MA's), (Start: 64 @79269 has 182 MA's), (94, 79341), (99, 79344),

Gene: Ogopogo\_57 Start: 37928, Stop: 38170, Start Num: 64  
Candidate Starts for Ogopogo\_57:  
(Start: 61 @37922 has 3 MA's), (Start: 64 @37928 has 182 MA's), (Start: 105 @38039 has 2 MA's),

Gene: Okabe\_47 Start: 33316, Stop: 33510, Start Num: 69  
Candidate Starts for Okabe\_47:  
(Start: 49 @33250 has 1 MA's), (Start: 64 @33280 has 182 MA's), (Start: 69 @33316 has 3 MA's), (104, 33376), (Start: 105 @33379 has 2 MA's),

Gene: Olivio\_51 Start: 45617, Stop: 45459, Start Num: 105  
Candidate Starts for Olivio\_51:  
(Start: 62 @45719 has 49 MA's), (Start: 81 @45665 has 1 MA's), (Start: 105 @45617 has 2 MA's),

Gene: Oosterbaan\_53 Start: 47374, Stop: 47081, Start Num: 64  
Candidate Starts for Oosterbaan\_53:  
(11, 47533), (20, 47476), (28, 47449), (37, 47428), (39, 47422), (Start: 64 @47374 has 182 MA's), (66, 47350), (91, 47302), (Start: 95 @47296 has 1 MA's), (Start: 105 @47272 has 2 MA's),

Gene: Optimus\_84 Start: 55270, Stop: 55548, Start Num: 43  
Candidate Starts for Optimus\_84:  
(40, 55264), (Start: 43 @55270 has 39 MA's), (Start: 105 @55381 has 2 MA's),

Gene: Optimus\_136 Start: 74406, Stop: 74651, Start Num: 64  
Candidate Starts for Optimus\_136:

(12, 74271), (35, 74346), (Start: 41 @74361 has 1 MA's), (Start: 64 @74406 has 182 MA's), (94, 74478), (99, 74481),

Gene: OrangeOswald\_51 Start: 45414, Stop: 45145, Start Num: 62

Candidate Starts for OrangeOswald\_51:

(Start: 62 @45414 has 49 MA's), (Start: 81 @45360 has 1 MA's), (Start: 105 @45312 has 2 MA's),

Gene: Orwigg\_53 Start: 47574, Stop: 47305, Start Num: 64

Candidate Starts for Orwigg\_53:

(11, 47733), (20, 47676), (28, 47649), (37, 47628), (39, 47622), (Start: 64 @47574 has 182 MA's), (66, 47550), (91, 47502), (Start: 95 @47496 has 1 MA's), (Start: 105 @47472 has 2 MA's), (128, 47316),

Gene: OwlsT2W\_53 Start: 37646, Stop: 37888, Start Num: 64

Candidate Starts for OwlsT2W\_53:

(Start: 49 @37616 has 1 MA's), (Start: 64 @37646 has 182 MA's), (104, 37754),

Gene: PMC\_49 Start: 37214, Stop: 37471, Start Num: 64

Candidate Starts for PMC\_49:

(16, 37100), (19, 37112), (30, 37148), (57, 37199), (Start: 64 @37214 has 182 MA's), (Start: 105 @37325 has 2 MA's), (110, 37355),

Gene: Paraselene\_66 Start: 43378, Stop: 43109, Start Num: 62

Candidate Starts for Paraselene\_66:

(Start: 62 @43378 has 49 MA's), (Start: 81 @43324 has 1 MA's), (Start: 105 @43276 has 2 MA's),

Gene: Periwinkle\_85 Start: 46796, Stop: 47035, Start Num: 78

Candidate Starts for Periwinkle\_85:

(21, 46643), (44, 46700), (53, 46718), (73, 46787), (Start: 78 @46796 has 3 MA's), (102, 46853), (106, 46880), (108, 46892),

Gene: Periwinkle\_62 Start: 38089, Stop: 38367, Start Num: 64

Candidate Starts for Periwinkle\_62:

(Start: 64 @38089 has 182 MA's), (Start: 105 @38185 has 2 MA's), (118, 38251), (127, 38329),

Gene: Phalconet\_51 Start: 36608, Stop: 36838, Start Num: 64

Candidate Starts for Phalconet\_51:

(Start: 49 @36578 has 1 MA's), (Start: 64 @36608 has 182 MA's), (Start: 69 @36644 has 3 MA's), (104, 36704), (Start: 105 @36707 has 2 MA's),

Gene: Phanphagia\_47 Start: 36555, Stop: 36800, Start Num: 64

Candidate Starts for Phanphagia\_47:

(Start: 41 @36510 has 1 MA's), (52, 36531), (Start: 64 @36555 has 182 MA's), (Start: 105 @36666 has 2 MA's),

Gene: PharkleMinkus\_6 Start: 1924, Stop: 2115, Start Num: 72

Candidate Starts for PharkleMinkus\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Phasih\_51 Start: 37693, Stop: 37935, Start Num: 64

Candidate Starts for Phasih\_51:

(Start: 61 @37687 has 3 MA's), (Start: 64 @37693 has 182 MA's), (Start: 105 @37804 has 2 MA's),



Gene: Phayeta\_53 Start: 45741, Stop: 45472, Start Num: 62  
Candidate Starts for Phayeta\_53:  
(Start: 62 @45741 has 49 MA's), (Start: 81 @45687 has 1 MA's), (Start: 105 @45639 has 2 MA's),  
(128, 45483),

Gene: Phayonce\_59 Start: 40788, Stop: 41024, Start Num: 64  
Candidate Starts for Phayonce\_59:  
(10, 40608), (Start: 64 @40788 has 182 MA's), (104, 40881), (112, 40929), (122, 40959), (126, 40989),  
(129, 41010),

Gene: PherrisBueller\_66 Start: 41317, Stop: 41090, Start Num: 64  
Candidate Starts for PherrisBueller\_66:  
(Start: 64 @41317 has 182 MA's), (Start: 105 @41257 has 2 MA's),

Gene: PhesterPhotato\_54 Start: 37593, Stop: 37826, Start Num: 64  
Candidate Starts for PhesterPhotato\_54:  
(Start: 49 @37563 has 1 MA's), (Start: 64 @37593 has 182 MA's), (Start: 69 @37629 has 3 MA's),  
(104, 37689), (Start: 105 @37692 has 2 MA's),

Gene: Philly\_50 Start: 45265, Stop: 44996, Start Num: 62  
Candidate Starts for Philly\_50:  
(Start: 62 @45265 has 49 MA's), (Start: 81 @45211 has 1 MA's), (Start: 105 @45163 has 2 MA's),

Gene: Phlyer\_51 Start: 46154, Stop: 45885, Start Num: 62  
Candidate Starts for Phlyer\_51:  
(Start: 62 @46154 has 49 MA's), (Start: 81 @46100 has 1 MA's), (Start: 105 @46052 has 2 MA's),

Gene: Phoebus\_92 Start: 57900, Stop: 58196, Start Num: 43  
Candidate Starts for Phoebus\_92:  
(Start: 43 @57900 has 39 MA's), (76, 57978), (Start: 95 @58005 has 1 MA's), (Start: 105 @58029 has  
2 MA's),

Gene: Phoebus\_145 Start: 79020, Stop: 79265, Start Num: 64  
Candidate Starts for Phoebus\_145:  
(12, 78885), (35, 78960), (Start: 41 @78975 has 1 MA's), (Start: 64 @79020 has 182 MA's), (94,  
79092), (99, 79095),

Gene: PhrostyMug\_65 Start: 43825, Stop: 43580, Start Num: 64  
Candidate Starts for PhrostyMug\_65:  
(Start: 64 @43825 has 182 MA's), (75, 43783), (86, 43771), (88, 43768), (Start: 105 @43729 has 2  
MA's), (107, 43711),

Gene: Pier\_6 Start: 1888, Stop: 2115, Start Num: 64  
Candidate Starts for Pier\_6:  
(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start:  
78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Poenanya\_52 Start: 38179, Stop: 38421, Start Num: 64  
Candidate Starts for Poenanya\_52:  
(Start: 49 @38149 has 1 MA's), (Start: 64 @38179 has 182 MA's), (104, 38287),

Gene: Polka14\_51 Start: 36782, Stop: 37027, Start Num: 64  
Candidate Starts for Polka14\_51:

(Start: 64 @36782 has 182 MA's), (104, 36890),

Gene: Porcelain\_82 Start: 49925, Stop: 49656, Start Num: 62

Candidate Starts for Porcelain\_82:

(Start: 62 @49925 has 49 MA's), (Start: 81 @49871 has 1 MA's), (Start: 105 @49823 has 2 MA's),

Gene: Porcelain\_141 Start: 74087, Stop: 74332, Start Num: 64

Candidate Starts for Porcelain\_141:

(12, 73952), (35, 74027), (Start: 41 @74042 has 1 MA's), (Start: 64 @74087 has 182 MA's), (94, 74159), (99, 74162), (101, 74165),

Gene: Potter\_52 Start: 47105, Stop: 46812, Start Num: 64

Candidate Starts for Potter\_52:

(11, 47264), (20, 47207), (28, 47180), (37, 47159), (39, 47153), (Start: 64 @47105 has 182 MA's), (66, 47081), (91, 47033), (Start: 95 @47027 has 1 MA's), (Start: 105 @47003 has 2 MA's),

Gene: Pound\_137 Start: 76839, Stop: 77084, Start Num: 64

Candidate Starts for Pound\_137:

(12, 76704), (35, 76779), (Start: 41 @76794 has 1 MA's), (Start: 64 @76839 has 182 MA's), (94, 76911), (99, 76914),

Gene: Pringar\_6 Start: 1866, Stop: 2138, Start Num: 43

Candidate Starts for Pringar\_6:

(Start: 43 @1866 has 39 MA's), (77, 1929), (Start: 105 @1971 has 2 MA's),

Gene: Puhltonio\_53 Start: 47379, Stop: 47086, Start Num: 64

Candidate Starts for Puhltonio\_53:

(11, 47538), (20, 47481), (28, 47454), (37, 47433), (39, 47427), (Start: 64 @47379 has 182 MA's), (66, 47355), (91, 47307), (Start: 95 @47301 has 1 MA's), (Start: 105 @47277 has 2 MA's),

Gene: Pupusa\_6 Start: 1924, Stop: 2115, Start Num: 72

Candidate Starts for Pupusa\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Purky\_63 Start: 41280, Stop: 41552, Start Num: 64

Candidate Starts for Purky\_63:

(Start: 64 @41280 has 182 MA's), (65, 41295), (93, 41364), (104, 41388), (109, 41421), (113, 41439), (126, 41517), (129, 41538),

Gene: QueenBeane\_53 Start: 47369, Stop: 47076, Start Num: 64

Candidate Starts for QueenBeane\_53:

(11, 47528), (20, 47471), (28, 47444), (37, 47423), (39, 47417), (Start: 64 @47369 has 182 MA's), (66, 47345), (91, 47297), (Start: 95 @47291 has 1 MA's), (Start: 105 @47267 has 2 MA's),

Gene: Raid\_64 Start: 42642, Stop: 42373, Start Num: 62

Candidate Starts for Raid\_64:

(Start: 62 @42642 has 49 MA's), (Start: 81 @42588 has 1 MA's), (Start: 105 @42540 has 2 MA's),

Gene: RedRaider77\_9 Start: 2886, Stop: 3152, Start Num: 63

Candidate Starts for RedRaider77\_9:

(34, 2829), (Start: 63 @2886 has 3 MA's), (Start: 74 @2922 has 4 MA's), (104, 2982), (Start: 105 @2985 has 2 MA's), (128, 3141),

Gene: Redno2\_140 Start: 75128, Stop: 75373, Start Num: 64

Candidate Starts for Redno2\_140:

(12, 74993), (Start: 41 @75083 has 1 MA's), (Start: 64 @75128 has 182 MA's), (94, 75200), (99, 75203),

Gene: Renaud18\_58 Start: 38221, Stop: 38445, Start Num: 64

Candidate Starts for Renaud18\_58:

(Start: 49 @38191 has 1 MA's), (Start: 64 @38221 has 182 MA's), (Start: 69 @38254 has 3 MA's), (86, 38278), (104, 38311),

Gene: Renaud18\_70 Start: 41973, Stop: 42221, Start Num: 64

Candidate Starts for Renaud18\_70:

(50, 41946), (Start: 64 @41973 has 182 MA's), (98, 42069), (104, 42093), (114, 42126),

Gene: Renaud18\_71 Start: 42261, Stop: 42503, Start Num: 64

Candidate Starts for Renaud18\_71:

(Start: 64 @42261 has 182 MA's), (65, 42276), (Start: 105 @42354 has 2 MA's), (117, 42414),

Gene: Rimu\_54 Start: 47570, Stop: 47301, Start Num: 64

Candidate Starts for Rimu\_54:

(11, 47729), (20, 47672), (28, 47645), (37, 47624), (39, 47618), (Start: 64 @47570 has 182 MA's), (66, 47546), (91, 47498), (Start: 95 @47492 has 1 MA's), (Start: 105 @47468 has 2 MA's),

Gene: Rita1961\_52 Start: 45860, Stop: 45591, Start Num: 62

Candidate Starts for Rita1961\_52:

(Start: 62 @45860 has 49 MA's), (Start: 81 @45806 has 1 MA's), (Start: 105 @45758 has 2 MA's), (128, 45602),

Gene: Rockne\_53 Start: 37214, Stop: 37471, Start Num: 64

Candidate Starts for Rockne\_53:

(16, 37100), (19, 37112), (30, 37148), (57, 37199), (Start: 64 @37214 has 182 MA's), (Start: 105 @37325 has 2 MA's), (110, 37355),

Gene: RockyHorror\_53 Start: 37057, Stop: 37299, Start Num: 64

Candidate Starts for RockyHorror\_53:

(Start: 49 @37027 has 1 MA's), (Start: 64 @37057 has 182 MA's), (Start: 105 @37168 has 2 MA's),

Gene: Royals2015\_55 Start: 37315, Stop: 37545, Start Num: 64

Candidate Starts for Royals2015\_55:

(Start: 49 @37285 has 1 MA's), (Start: 64 @37315 has 182 MA's), (Start: 69 @37351 has 3 MA's), (104, 37411), (Start: 105 @37414 has 2 MA's),

Gene: Ryadel\_103 Start: 62455, Stop: 62225, Start Num: 74

Candidate Starts for Ryadel\_103:

(Start: 63 @62491 has 3 MA's), (Start: 74 @62455 has 4 MA's), (104, 62395), (Start: 105 @62392 has 2 MA's),

Gene: SG4\_49 Start: 36037, Stop: 36267, Start Num: 64

Candidate Starts for SG4\_49:

(46, 36004), (Start: 49 @36007 has 1 MA's), (Start: 64 @36037 has 182 MA's), (Start: 69 @36073 has 3 MA's), (104, 36133), (Start: 105 @36136 has 2 MA's),

Gene: Samaymay\_53 Start: 47369, Stop: 47076, Start Num: 64  
Candidate Starts for Samaymay\_53:  
(11, 47528), (20, 47471), (28, 47444), (37, 47423), (39, 47417), (Start: 64 @47369 has 182 MA's), (66, 47345), (91, 47297), (Start: 95 @47291 has 1 MA's), (Start: 105 @47267 has 2 MA's),

Gene: Sassafras\_50 Start: 36161, Stop: 36394, Start Num: 64  
Candidate Starts for Sassafras\_50:  
(Start: 49 @36131 has 1 MA's), (Start: 64 @36161 has 182 MA's), (66, 36185), (89, 36227), (101, 36242), (104, 36260), (Start: 105 @36263 has 2 MA's),

Gene: SassyCat97\_52 Start: 47096, Stop: 46803, Start Num: 64  
Candidate Starts for SassyCat97\_52:  
(11, 47255), (20, 47198), (28, 47171), (37, 47150), (39, 47144), (Start: 64 @47096 has 182 MA's), (66, 47072), (91, 47024), (Start: 95 @47018 has 1 MA's), (Start: 105 @46994 has 2 MA's),

Gene: Schatzie\_141 Start: 77688, Stop: 77933, Start Num: 64  
Candidate Starts for Schatzie\_141:  
(12, 77553), (35, 77628), (Start: 41 @77643 has 1 MA's), (Start: 64 @77688 has 182 MA's), (94, 77760), (99, 77763),

Gene: Schatzie\_85 Start: 55507, Stop: 55803, Start Num: 43  
Candidate Starts for Schatzie\_85:  
(Start: 43 @55507 has 39 MA's), (76, 55585), (Start: 95 @55612 has 1 MA's), (Start: 105 @55636 has 2 MA's),

Gene: Sebata\_6 Start: 2738, Stop: 2995, Start Num: 64  
Candidate Starts for Sebata\_6:  
(Start: 60 @2729 has 3 MA's), (Start: 64 @2738 has 182 MA's), (66, 2762), (90, 2804), (101, 2819), (104, 2837), (Start: 105 @2840 has 2 MA's), (123, 2936),

Gene: Serendipity\_53 Start: 47393, Stop: 47100, Start Num: 64  
Candidate Starts for Serendipity\_53:  
(11, 47552), (20, 47495), (28, 47468), (37, 47447), (39, 47441), (Start: 64 @47393 has 182 MA's), (66, 47369), (91, 47321), (Start: 95 @47315 has 1 MA's), (Start: 105 @47291 has 2 MA's),

Gene: Shauna1\_47 Start: 36503, Stop: 36781, Start Num: 43  
Candidate Starts for Shauna1\_47:  
(14, 36419), (17, 36437), (32, 36479), (Start: 43 @36503 has 39 MA's), (Start: 105 @36614 has 2 MA's),

Gene: ShroomBoi\_52 Start: 36993, Stop: 37238, Start Num: 64  
Candidate Starts for ShroomBoi\_52:  
(26, 36909), (31, 36927), (52, 36969), (Start: 64 @36993 has 182 MA's), (Start: 105 @37104 has 2 MA's),

Gene: SirHarley\_86 Start: 60117, Stop: 60344, Start Num: 64  
Candidate Starts for SirHarley\_86:  
(13, 59994), (Start: 64 @60117 has 182 MA's), (Start: 72 @60153 has 1 MA's), (77, 60162), (Start: 105 @60216 has 2 MA's),

Gene: SlippinJimmy\_53 Start: 46540, Stop: 46373, Start Num: 105  
Candidate Starts for SlippinJimmy\_53:

(Start: 62 @46642 has 49 MA's), (Start: 81 @46588 has 1 MA's), (Start: 105 @46540 has 2 MA's), (128, 46384),

Gene: Smairt\_67 Start: 44819, Stop: 44574, Start Num: 64

Candidate Starts for Smairt\_67:

(Start: 64 @44819 has 182 MA's), (75, 44777), (86, 44765), (88, 44762), (Start: 105 @44723 has 2 MA's), (107, 44705),

Gene: Smooch\_99 Start: 62468, Stop: 62202, Start Num: 63

Candidate Starts for Smooch\_99:

(Start: 63 @62468 has 3 MA's), (Start: 74 @62432 has 4 MA's), (104, 62372), (Start: 105 @62369 has 2 MA's),

Gene: Soile\_54 Start: 47617, Stop: 47348, Start Num: 64

Candidate Starts for Soile\_54:

(11, 47776), (20, 47719), (28, 47692), (37, 47671), (39, 47665), (Start: 64 @47617 has 182 MA's), (66, 47593), (91, 47545), (Start: 95 @47539 has 1 MA's), (Start: 105 @47515 has 2 MA's), (128, 47359),

Gene: Solosis\_52 Start: 47090, Stop: 46797, Start Num: 64

Candidate Starts for Solosis\_52:

(11, 47249), (20, 47192), (28, 47165), (37, 47144), (39, 47138), (Start: 64 @47090 has 182 MA's), (66, 47066), (91, 47018), (Start: 95 @47012 has 1 MA's), (Start: 105 @46988 has 2 MA's),

Gene: Sophia\_52 Start: 47084, Stop: 46791, Start Num: 64

Candidate Starts for Sophia\_52:

(11, 47243), (20, 47186), (28, 47159), (37, 47138), (39, 47132), (Start: 64 @47084 has 182 MA's), (66, 47060), (91, 47012), (Start: 95 @47006 has 1 MA's), (Start: 105 @46982 has 2 MA's),

Gene: Sparkdehlily\_60 Start: 38797, Stop: 39039, Start Num: 64

Candidate Starts for Sparkdehlily\_60:

(Start: 61 @38791 has 3 MA's), (Start: 64 @38797 has 182 MA's), (Start: 105 @38908 has 2 MA's),

Gene: Specks\_6 Start: 1888, Stop: 2115, Start Num: 64

Candidate Starts for Specks\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Spooky\_78 Start: 45719, Stop: 45976, Start Num: 61

Candidate Starts for Spooky\_78:

(Start: 61 @45719 has 3 MA's), (67, 45749), (Start: 69 @45758 has 3 MA's), (80, 45782),

Gene: Squid\_53 Start: 47096, Stop: 46803, Start Num: 64

Candidate Starts for Squid\_53:

(11, 47255), (20, 47198), (28, 47171), (37, 47150), (39, 47144), (Start: 64 @47096 has 182 MA's), (66, 47072), (91, 47024), (Start: 95 @47018 has 1 MA's), (Start: 105 @46994 has 2 MA's),

Gene: Squint\_83 Start: 50044, Stop: 49775, Start Num: 62

Candidate Starts for Squint\_83:

(Start: 62 @50044 has 49 MA's), (Start: 81 @49990 has 1 MA's), (Start: 105 @49942 has 2 MA's),

Gene: Stellammi\_140 Start: 62378, Stop: 62599, Start Num: 64

Candidate Starts for Stellammi\_140:

(Start: 64 @62378 has 182 MA's), (Start: 105 @62471 has 2 MA's),

Gene: StephanieG\_6 Start: 1933, Stop: 2115, Start Num: 78  
Candidate Starts for StephanieG\_6:  
(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Sunshine924\_70 Start: 43095, Stop: 42850, Start Num: 64  
Candidate Starts for Sunshine924\_70:  
(Start: 64 @43095 has 182 MA's), (75, 43053), (86, 43041), (88, 43038), (Start: 105 @42999 has 2 MA's), (107, 42981),

Gene: SuperGrey\_52 Start: 37962, Stop: 38207, Start Num: 64  
Candidate Starts for SuperGrey\_52:  
(26, 37878), (31, 37896), (52, 37938), (Start: 64 @37962 has 182 MA's), (Start: 105 @38073 has 2 MA's),

Gene: Superphikiman\_80 Start: 49081, Stop: 48866, Start Num: 81  
Candidate Starts for Superphikiman\_80:  
(Start: 62 @49135 has 49 MA's), (Start: 81 @49081 has 1 MA's), (Start: 105 @49033 has 2 MA's),

Gene: Surely\_53 Start: 47386, Stop: 47093, Start Num: 64  
Candidate Starts for Surely\_53:  
(11, 47545), (20, 47488), (28, 47461), (37, 47440), (39, 47434), (Start: 64 @47386 has 182 MA's), (66, 47362), (91, 47314), (Start: 95 @47308 has 1 MA's), (Start: 105 @47284 has 2 MA's),

Gene: SwainyDoc\_52 Start: 45872, Stop: 45603, Start Num: 62  
Candidate Starts for SwainyDoc\_52:  
(Start: 62 @45872 has 49 MA's), (Start: 81 @45818 has 1 MA's), (Start: 105 @45770 has 2 MA's), (128, 45614),

Gene: SynergyX\_51 Start: 45415, Stop: 45146, Start Num: 62  
Candidate Starts for SynergyX\_51:  
(Start: 62 @45415 has 49 MA's), (Start: 81 @45361 has 1 MA's), (Start: 105 @45313 has 2 MA's),

Gene: TDanisky\_60 Start: 38797, Stop: 39039, Start Num: 64  
Candidate Starts for TDanisky\_60:  
(Start: 61 @38791 has 3 MA's), (Start: 64 @38797 has 182 MA's), (Start: 105 @38908 has 2 MA's),

Gene: Tainan\_6 Start: 1924, Stop: 2115, Start Num: 72  
Candidate Starts for Tainan\_6:  
(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: Taj\_56 Start: 38142, Stop: 38369, Start Num: 64  
Candidate Starts for Taj\_56:  
(Start: 49 @38112 has 1 MA's), (Start: 64 @38142 has 182 MA's), (Start: 69 @38175 has 3 MA's), (86, 38199), (104, 38232),

Gene: TallGrassMM\_53 Start: 47000, Stop: 46707, Start Num: 64  
Candidate Starts for TallGrassMM\_53:  
(11, 47159), (20, 47102), (28, 47075), (37, 47054), (39, 47048), (Start: 64 @47000 has 182 MA's), (66, 46976), (91, 46928), (Start: 95 @46922 has 1 MA's), (Start: 105 @46898 has 2 MA's),

Gene: Target\_68 Start: 42412, Stop: 42245, Start Num: 105  
Candidate Starts for Target\_68:  
(Start: 62 @42514 has 49 MA's), (Start: 81 @42460 has 1 MA's), (Start: 105 @42412 has 2 MA's),

Gene: Thora\_53 Start: 47382, Stop: 47089, Start Num: 64  
Candidate Starts for Thora\_53:  
(11, 47541), (20, 47484), (28, 47457), (37, 47436), (39, 47430), (Start: 64 @47382 has 182 MA's), (66, 47358), (91, 47310), (Start: 95 @47304 has 1 MA's), (Start: 105 @47280 has 2 MA's),

Gene: ThreeRngTarjay\_140 Start: 77611, Stop: 77856, Start Num: 64  
Candidate Starts for ThreeRngTarjay\_140:  
(12, 77476), (35, 77551), (Start: 41 @77566 has 1 MA's), (Start: 64 @77611 has 182 MA's), (94, 77683), (99, 77686),

Gene: ThreeRngTarjay\_87 Start: 56792, Stop: 57088, Start Num: 43  
Candidate Starts for ThreeRngTarjay\_87:  
(Start: 43 @56792 has 39 MA's), (76, 56870), (Start: 95 @56897 has 1 MA's), (Start: 105 @56921 has 2 MA's),

Gene: Timmi\_52 Start: 47085, Stop: 46792, Start Num: 64  
Candidate Starts for Timmi\_52:  
(11, 47244), (20, 47187), (28, 47160), (37, 47139), (39, 47133), (Start: 64 @47085 has 182 MA's), (66, 47061), (91, 47013), (Start: 95 @47007 has 1 MA's), (Start: 105 @46983 has 2 MA's),

Gene: TinyDot\_48 Start: 31963, Stop: 32163, Start Num: 78  
Candidate Starts for TinyDot\_48:  
(Start: 78 @31963 has 3 MA's), (120, 32071), (121, 32074),

Gene: TinyTerror\_52 Start: 45907, Stop: 45638, Start Num: 62  
Candidate Starts for TinyTerror\_52:  
(Start: 62 @45907 has 49 MA's), (Start: 81 @45853 has 1 MA's), (Start: 105 @45805 has 2 MA's), (128, 45649),

Gene: TomBombadil\_53 Start: 47370, Stop: 47077, Start Num: 64  
Candidate Starts for TomBombadil\_53:  
(11, 47529), (20, 47472), (28, 47445), (37, 47424), (39, 47418), (Start: 64 @47370 has 182 MA's), (66, 47346), (91, 47298), (Start: 95 @47292 has 1 MA's), (Start: 105 @47268 has 2 MA's),

Gene: Topiatin\_58 Start: 38825, Stop: 39058, Start Num: 64  
Candidate Starts for Topiatin\_58:  
(Start: 49 @38795 has 1 MA's), (Start: 64 @38825 has 182 MA's), (83, 38879), (Start: 105 @38927 has 2 MA's),

Gene: Trine\_55 Start: 39935, Stop: 39684, Start Num: 64  
Candidate Starts for Trine\_55:  
(Start: 64 @39935 has 182 MA's), (97, 39860), (116, 39788),

Gene: Tweety\_52 Start: 37774, Stop: 38004, Start Num: 64  
Candidate Starts for Tweety\_52:  
(Start: 49 @37744 has 1 MA's), (Start: 64 @37774 has 182 MA's), (Start: 69 @37810 has 3 MA's), (104, 37870), (Start: 105 @37873 has 2 MA's),

Gene: Tyke\_6 Start: 1888, Stop: 2115, Start Num: 64

Candidate Starts for Tyke\_6:

(Start: 60 @1879 has 3 MA's), (Start: 64 @1888 has 182 MA's), (Start: 72 @1924 has 1 MA's), (Start: 78 @1933 has 3 MA's), (Start: 105 @1987 has 2 MA's), (116, 2026),

Gene: VRedHorse\_52 Start: 36525, Stop: 36758, Start Num: 64

Candidate Starts for VRedHorse\_52:

(Start: 49 @36495 has 1 MA's), (Start: 64 @36525 has 182 MA's), (Start: 69 @36561 has 3 MA's), (104, 36621), (Start: 105 @36624 has 2 MA's),

Gene: VanLee\_73 Start: 43882, Stop: 44154, Start Num: 64

Candidate Starts for VanLee\_73:

(Start: 64 @43882 has 182 MA's), (100, 43969), (103, 43987), (115, 44041),

Gene: VanLee\_59 Start: 39559, Stop: 39819, Start Num: 61

Candidate Starts for VanLee\_59:

(Start: 61 @39559 has 3 MA's),

Gene: VasuNzinga\_8 Start: 2535, Stop: 2807, Start Num: 43

Candidate Starts for VasuNzinga\_8:

(Start: 43 @2535 has 39 MA's), (77, 2598), (Start: 105 @2640 has 2 MA's),

Gene: Vortex\_53 Start: 47080, Stop: 46787, Start Num: 64

Candidate Starts for Vortex\_53:

(11, 47239), (20, 47182), (28, 47155), (37, 47134), (39, 47128), (Start: 64 @47080 has 182 MA's), (66, 47056), (91, 47008), (Start: 95 @47002 has 1 MA's), (Start: 105 @46978 has 2 MA's),

Gene: Wanda\_94 Start: 55909, Stop: 56205, Start Num: 43

Candidate Starts for Wanda\_94:

(40, 55903), (Start: 43 @55909 has 39 MA's), (76, 55987), (Start: 95 @56014 has 1 MA's), (Start: 105 @56038 has 2 MA's),

Gene: Wee\_55 Start: 38414, Stop: 38641, Start Num: 64

Candidate Starts for Wee\_55:

(Start: 49 @38384 has 1 MA's), (Start: 64 @38414 has 182 MA's), (Start: 69 @38447 has 3 MA's), (86, 38471), (104, 38504),

Gene: Whatsapiecost\_53 Start: 36689, Stop: 36931, Start Num: 64

Candidate Starts for Whatsapiecost\_53:

(Start: 64 @36689 has 182 MA's), (Start: 105 @36800 has 2 MA's),

Gene: William\_80 Start: 49369, Stop: 49632, Start Num: 64

Candidate Starts for William\_80:

(5, 49048), (6, 49063), (7, 49099), (Start: 64 @49369 has 182 MA's), (Start: 69 @49405 has 3 MA's), (96, 49456),

Gene: WilliamBoone\_96 Start: 57383, Stop: 57652, Start Num: 64

Candidate Starts for WilliamBoone\_96:

(Start: 64 @57383 has 182 MA's), (103, 57488), (118, 57554),

Gene: XFactor\_50 Start: 36012, Stop: 36242, Start Num: 64

Candidate Starts for XFactor\_50:

(Start: 49 @35982 has 1 MA's), (Start: 64 @36012 has 182 MA's), (Start: 69 @36048 has 3 MA's), (104, 36108), (Start: 105 @36111 has 2 MA's),



Gene: Xavier\_52 Start: 47087, Stop: 46794, Start Num: 64

Candidate Starts for Xavier\_52:

(11, 47246), (20, 47189), (28, 47162), (37, 47141), (39, 47135), (Start: 64 @47087 has 182 MA's), (66, 47063), (91, 47015), (Start: 95 @47009 has 1 MA's), (Start: 105 @46985 has 2 MA's),

Gene: Xiaokay\_79 Start: 52707, Stop: 52925, Start Num: 76

Candidate Starts for Xiaokay\_79:

(Start: 43 @52629 has 39 MA's), (76, 52707), (Start: 95 @52734 has 1 MA's), (Start: 105 @52758 has 2 MA's),

Gene: Yeet\_83 Start: 55009, Stop: 55305, Start Num: 43

Candidate Starts for Yeet\_83:

(Start: 43 @55009 has 39 MA's), (76, 55087), (Start: 95 @55114 has 1 MA's), (Start: 105 @55138 has 2 MA's),

Gene: Yeet\_139 Start: 77084, Stop: 77329, Start Num: 64

Candidate Starts for Yeet\_139:

(12, 76949), (Start: 41 @77039 has 1 MA's), (Start: 64 @77084 has 182 MA's), (94, 77156), (99, 77159),

Gene: Yoshi\_64 Start: 38747, Stop: 38995, Start Num: 64

Candidate Starts for Yoshi\_64:

(48, 38717), (Start: 64 @38747 has 182 MA's), (98, 38843), (104, 38867), (114, 38900),

Gene: YungJamal\_99 Start: 61508, Stop: 61278, Start Num: 74

Candidate Starts for YungJamal\_99:

(Start: 63 @61544 has 3 MA's), (Start: 74 @61508 has 4 MA's), (104, 61448), (Start: 105 @61445 has 2 MA's),

Gene: Zelda\_53 Start: 47424, Stop: 47131, Start Num: 64

Candidate Starts for Zelda\_53:

(11, 47583), (20, 47526), (28, 47499), (37, 47478), (39, 47472), (Start: 64 @47424 has 182 MA's), (66, 47400), (91, 47352), (Start: 95 @47346 has 1 MA's), (Start: 105 @47322 has 2 MA's),

Gene: Zelink\_87 Start: 57104, Stop: 57400, Start Num: 43

Candidate Starts for Zelink\_87:

(Start: 43 @57104 has 39 MA's), (76, 57182), (Start: 95 @57209 has 1 MA's), (Start: 105 @57233 has 2 MA's),

Gene: Zerg\_52 Start: 37166, Stop: 37408, Start Num: 64

Candidate Starts for Zerg\_52:

(Start: 49 @37136 has 1 MA's), (Start: 64 @37166 has 182 MA's), (Start: 105 @37277 has 2 MA's),