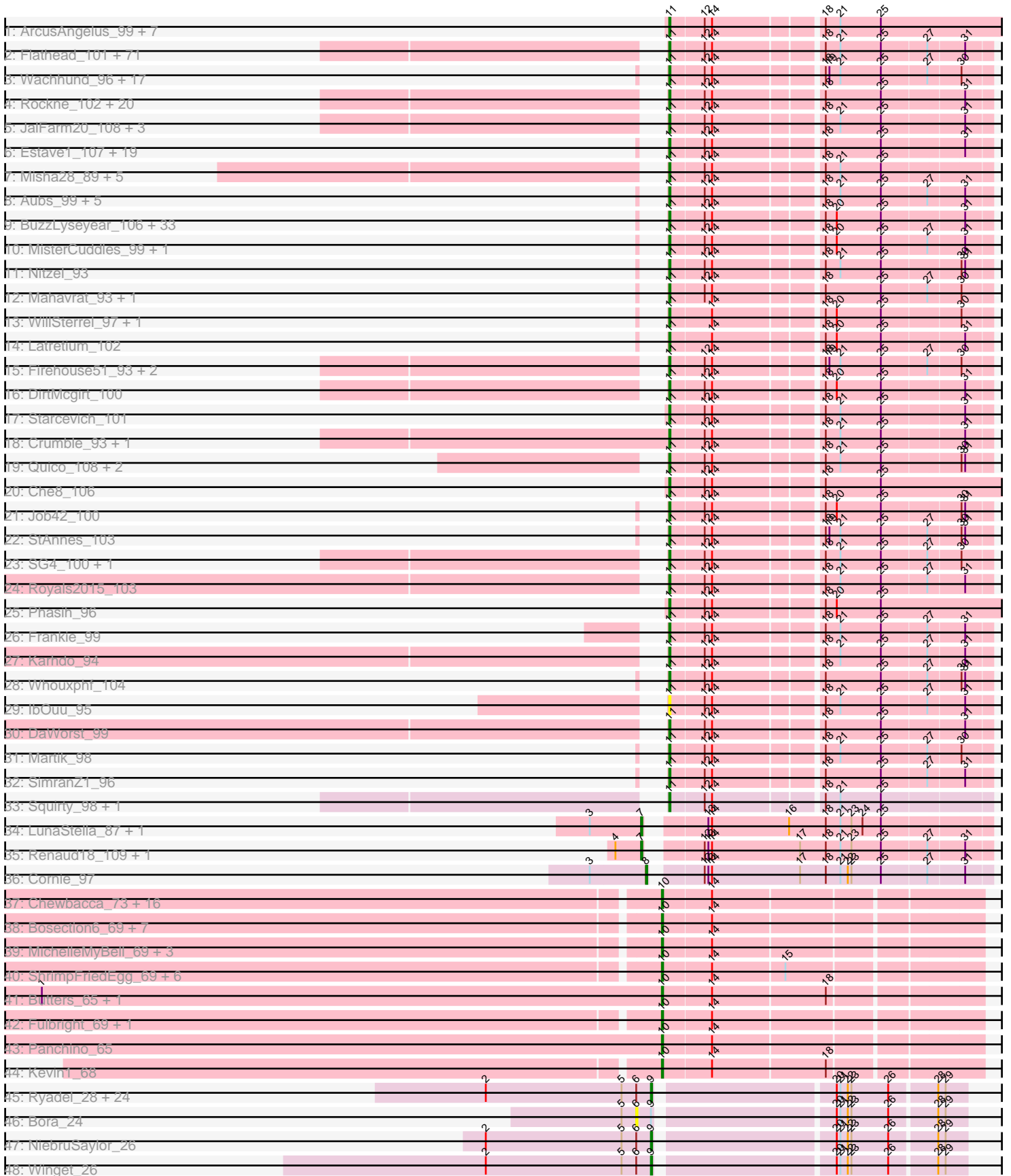


Pham 161528



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 161528 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161528 has 298 members, 32 are drafts.

Phages represented in each track:

- Track 1 : ArcusAngelus\_99, Galactic\_103, QuickMath\_100, EleanorGeorge\_103, MadMen\_104, Hades\_96, MinionDave\_97, Chevrolet\_106
- Track 2 : Flathead\_101, CaptainTrips\_101, Brocalys\_91, DeadP\_99, DotProduct\_93, Ruby\_96, PhesterPhotato\_102, Clifton\_91, Eish\_104, Mandlovu\_97, Tootsieroll\_93, Kenuha5\_91, Akhila\_93, Zerg\_97, Bubbles123\_93, Burwell21\_93, Hamulus\_99, Sarma624\_101, BobaPhett\_101, Ardmore\_83, Ms6\_101, Coco12\_100, Philus\_103, Mozy\_103, Seagreen\_100, Chuckly\_96, LastJedi\_90, Jinglebell\_106, Pippy\_97, ShowerHandel\_97, LittleShirley\_106, Hlubikazi\_97, Kingsley\_108, Phalconet\_100, Maravista\_96, MilanaBonita\_92, Bobi\_101, James\_103, Cabrinians\_96, Phatniss\_97, Lizziana\_100, DLane\_99, Priscilla\_100, Whatsapiecost\_93, Hegedechwinu\_107, Strokeseat\_97, XFactor\_90, Taj\_105, Fruitloop\_97, Tweety\_100, MilleniumForce\_99, NormanBulbieJr\_97, Filuzino\_99, SwagPiggett\_101, Melissauren88\_89, Mova\_101, Cerasum\_98, Velveteen\_96, BigPhil\_96, FreddyB\_109, Wee\_102, Bipolar\_101, Phanphagia\_104, Rita\_99, Batiatus\_99, Koella\_92, OwlsT2W\_97, Emma\_104, SuperGrey\_99, Zizzle\_102, Dante\_97, Shauna1\_101
- Track 3 : Wachhund\_96, AlpineSix\_97, Ovechkin\_102, LunaBlu\_106, Sebastian\_106, Ochi17\_105, Llama\_106, Ramsey\_104, SiSi\_95, OfUltron\_106, Oksu\_103, Ibhuesi\_96, Kersh\_102, Mutaforma13\_100, Modragons\_103, Harley\_101, Byougenkin\_96, Veteran\_90
- Track 4 : Rockne\_102, Enby\_103, Lorde\_102, Gorge\_98, Saal\_97, RockyHorror\_103, LilMoolah\_102, Spikelee\_100, UncleRicky\_99, Minnie\_94, Nivrat\_99, Spoonbill\_99, Jarcob\_102, Sandalphon\_99, Mattes\_100, GUMBIE\_98, ShiLan\_102, Drago\_98, PMC\_98, Boomer\_101, Mantra\_97
- Track 5 : JalFarm20\_108, Sabbb\_102, Beakin\_91, Stap\_94
- Track 6 : Estave1\_107, Spartacus\_106, Kimberlium\_101, Madiba\_98, Donkeykong\_105, Ogopogo\_103, Juice456\_98, GigiOuiOui\_94, ByChance\_90, Fancypants\_106, DillTech15\_105, Yorick\_95, Llij\_94, DRBy19\_99, Leozinho\_96, Krakatau\_92, TDanisky\_107, Plumbus\_98, ShroomBoi\_97, Sparkdehlily\_106
- Track 7 : Misha28\_89, TootsiePop\_89, Awesomesauce\_90, Piper2020\_94, ChickenDinner\_93, DocMcStuffins\_86
- Track 8 : Aubs\_99, KristaRAM\_107, Guppsters\_93, VRedHorse\_100, Cornucopia\_99, DosHalletts\_99
- Track 9 : BuzzLyseyear\_106, Polka14\_103, BodEinwohner17\_109, RitaG\_98, Dorothy\_100, Pacc40\_97, Inventum\_97, Sassafra\_101, Doug\_96, RedBird\_100, Alexphander\_100, BlueCrab\_102, Empress\_99, KingMidas\_99, JoeyJr\_102, Leperchaun\_101, DaddyRickover\_101, Geralt\_92, Deb65\_91, Radiance\_97,

Totinger\_102, Poenanya\_103, Scottish\_99, Gandalph\_99, OldBen\_96, Doomphist\_104, Eradicator\_91, Pollywog\_101, Daenerys\_97, PHappiness\_99, Marker\_113, Nimbo\_91, Rialto\_104, Moonbeam\_102

- Track 10 : MisterCuddles\_99, Girr\_98
- Track 11 : Nitzel\_93
- Track 12 : Mahavrat\_93, Juniper1\_94
- Track 13 : WillSterrel\_97, IrishSherpFalk\_99
- Track 14 : Latretium\_102
- Track 15 : Firehouse51\_93, SassyB\_90, PopTart\_90
- Track 16 : DirtMcgirt\_100
- Track 17 : Starcevich\_101
- Track 18 : Crumble\_93, OlympiaSaint\_103
- Track 19 : Quico\_108, Florinda\_111, Girafales\_108
- Track 20 : Che8\_106
- Track 21 : Job42\_100
- Track 22 : StAnnes\_103
- Track 23 : SG4\_100, Blexus\_96
- Track 24 : Royals2015\_103
- Track 25 : Phasih\_96
- Track 26 : Frankie\_99
- Track 27 : Karhdo\_94
- Track 28 : Whouxphf\_104
- Track 29 : IbOuu\_95
- Track 30 : DaWorst\_99
- Track 31 : Martik\_98
- Track 32 : SimranZ1\_96
- Track 33 : Squirty\_98, MulchSalad\_101
- Track 34 : LunaStella\_87, TChen\_97
- Track 35 : Renaud18\_109, ThetaBob\_102
- Track 36 : Cornie\_97
- Track 37 : Chewbacca\_73, Silvy\_72, Schnauzer\_73, Aggie\_66, Pipsqueaks\_72, Scitech\_66, Carcharodon\_70, Xerxes\_71, Duplicity\_69, Tapioca\_69, Parmesanjohn\_71, Phloss\_69, Silvafighter\_73, Andies\_64, Magsby\_70, Melville\_76, Smurph\_71
- Track 38 : Bosection6\_69, SkinnyPete\_67, Xeno\_68, Philonius\_71, Phrann\_66, PhancyPhin\_68, Charlie\_67, Journey\_66
- Track 39 : MichelleMyBell\_69, SpongeBob\_64, Jamie19\_64, Snekmaggedon\_63
- Track 40 : ShrimpFriedEgg\_69, Rebel\_65, BabeRuth\_69, Redi\_68, Purgamenstris\_69, Nenae\_69, Raymond7\_62
- Track 41 : Butters\_65, Rubeelu\_65
- Track 42 : Fulbright\_69, Shweta\_65
- Track 43 : Panchino\_65
- Track 44 : Kevin1\_68
- Track 45 : Ryadel\_28, Vorrps\_26, Familton\_26, Ashwin\_26, Murai\_26, JangDynasty\_25, Wildflower\_25, MadKillah\_27, Dylan\_25, Idergollasper\_25, Zakhe101\_26, FoulBall\_23, SchoolBus\_25, Shida\_26, Firecracker\_26, YungJamal\_28, Schuy\_24, Smooch\_29, Alkhayr\_24, TelAviv\_23, Mori\_26, Corndog\_28, Catdawg\_25, Krili\_26, Blessica\_26
- Track 46 : Bora\_24
- Track 47 : NiebruSaylor\_26
- Track 48 : Winget\_26

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

The start number called the most often in the published annotations is 11, it was called in 203 of the 266 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akhila\_93, Alexphander\_100, AlpineSix\_97, ArcusAngelus\_99, Ardmore\_83, Aubs\_99, Awesomesauce\_90, Batiatus\_99, Beakin\_91, BigPhil\_96, Bipolar\_101, Blexus\_96, BlueCrab\_102, BobaPhett\_101, Bobi\_101, BodEinwohner17\_109, Boomer\_101, Brocalys\_91, Bubbles123\_93, Burwell21\_93, BuzzLyseyear\_106, ByChance\_90, Byougenkin\_96, Cabrinians\_96, CaptainTrips\_101, Cerasum\_98, Che8\_106, Chevrolet\_106, ChickenDinner\_93, Chuckly\_96, Clifton\_91, Coco12\_100, Cornucopia\_99, Crumble\_93, DLane\_99, DRBy19\_99, DaWorst\_99, DaddyRickover\_101, Daenerys\_97, Dante\_97, DeadP\_99, Deb65\_91, DillTech15\_105, DirtMcgirt\_100, DocMcStuffins\_86, Donkeykong\_105, Doomphist\_104, Dorothy\_100, DosHalletts\_99, DotProduct\_93, Doug\_96, Drago\_98, Eish\_104, EleanorGeorge\_103, Emma\_104, Empress\_99, Enby\_103, Eradicator\_91, Estave1\_107, Fancypants\_106, Filuzino\_99, Firehouse51\_93, Flathead\_101, Florinda\_111, Frankie\_99, FreddyB\_109, Fruitloop\_97, GUmble\_98, Galactic\_103, Gandolph\_99, Geralt\_92, GigiOuiOui\_94, Girafales\_108, Girr\_98, Gorge\_98, Guppsters\_93, Hades\_96, Hamulus\_99, Harley\_101, Hegedechwinu\_107, Hlubikazi\_97, lbOuu\_95, lbhubesi\_96, Inventum\_97, IrishSherpFalk\_99, JalFarm20\_108, James\_103, Jarcob\_102, Jinglebell\_106, Job42\_100, JoeyJr\_102, Juice456\_98, Juniper1\_94, Karhdo\_94, Kenuha5\_91, Kersh\_102, Kimberlium\_101, KingMidas\_99, Kingsley\_108, Koella\_92, Krakatau\_92, KristaRAM\_107, LastJedi\_90, Latretium\_102, Leozinho\_96, Leperchaun\_101, LilMoolah\_102, LittleShirley\_106, Lizziana\_100, Llama\_106, Llij\_94, Lorde\_102, LunaBlu\_106, MadMen\_104, Madiba\_98, Mahavrat\_93, Mandlovu\_97, Mantra\_97, Maravista\_96, Marker\_113, Martik\_98, Mattes\_100, Melissauren88\_89, MilanaBonita\_92, MilleniumForce\_99, MinionDave\_97, Minnie\_94, Misha28\_89, MisterCuddles\_99, Modragons\_103, Moonbeam\_102, Mova\_101, Mozy\_103, Ms6\_101, MulchSalad\_101, Mutaforma13\_100, Nimbo\_91, Nitzel\_93, Nivrat\_99, NormanBulbieJr\_97, Ochi17\_105, OfUltron\_106, Ogopogo\_103, Oksu\_103, OldBen\_96, OlympiaSaint\_103, Ovechkin\_102, OwlsT2W\_97, PHappiness\_99, PMC\_98, Pacc40\_97, Phalconet\_100, Phanphagia\_104, Phasih\_96, Phatniss\_97, PhesterPhotato\_102, Philus\_103, Piper2020\_94, Pippy\_97, Plumbus\_98, Poenanya\_103, Polka14\_103, Pollywog\_101, PopTart\_90, Priscilla\_100, QuickMath\_100, Quico\_108, Radiance\_97, Ramsey\_104, RedBird\_100, Rialto\_104, RitaG\_98, Rita\_99, Rockne\_102, RockyHorror\_103, Royals2015\_103, Ruby\_96, SG4\_100, Saal\_97, Sabbb\_102, Sandalphon\_99, Sarma624\_101, Sassafras\_101, SassyB\_90, Scottish\_99, Seabastian\_106, Seagreen\_100, Shauna1\_101, ShiLan\_102, ShowerHandel\_97, ShroomBoi\_97, SiSi\_95, SimranZ1\_96, Sparkdehlily\_106, Spartacus\_106, Spikelee\_100, Spoonbill\_99, Squirty\_98, StAnnes\_103, Stap\_94, Starcevich\_101, Strokeseat\_97, SuperGrey\_99, SwagPiggett\_101, TDanisky\_107, Taj\_105, TootsiePop\_89, Tootsieroll\_93, Totinger\_102, Tweety\_100, UncleRicky\_99, VRedHorse\_100, Velveteen\_96, Veteran\_90, Wachhund\_96, Wee\_102, Whatsapiecost\_93, Whouxphf\_104, WillSterrel\_97, XFactor\_90, Yorick\_95, Zerg\_97, Zizzle\_102,

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

-

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

- Aggie\_66, Alkhayr\_24, Andies\_64, Ashwin\_26, BabeRuth\_69, Blessica\_26, Bora\_24, Bosection6\_69, Butters\_65, Carcharodon\_70, Catdawg\_25, Charlie\_67, Chewbacca\_73, Corndog\_28, Cornie\_97, Duplicity\_69, Dylan\_25, Familton\_26, Firecracker\_26, FoulBall\_23, Fulbright\_69, Idergollasper\_25, Jamie19\_64, JangDynasty\_25, Journey\_66, Kevin1\_68, Krili\_26, LunaStella\_87, MadKillah\_27, Magsby\_70, Melville\_76, MichelleMyBell\_69, Mori\_26, Murai\_26, Nenae\_69, NiebruSaylor\_26, Panchino\_65, Parmesanjohn\_71, PhancyPhin\_68, Philonius\_71, Phloss\_69, Phrann\_66, Pipsqueaks\_72, Purgamenstris\_69, Raymond7\_62, Rebel\_65, Redi\_68, Renaud18\_109, Rubeelu\_65, Ryadel\_28, Schnauzer\_73, SchoolBus\_25, Schuy\_24, Scitech\_66, Shida\_26, ShrimpFriedEgg\_69, Shweta\_65, Silvafighter\_73, Silvy\_72, SkinnyPete\_67, Smooch\_29, Smurph\_71, Snekmaggedon\_63, SpongeBob\_64, TChen\_97, Tapioca\_69, TelAviv\_23, ThetaBob\_102, Vorrrps\_26, Wildflower\_25, Winget\_26, Xeno\_68, Xerxes\_71, YungJamal\_28, Zakhe101\_26,

### Summary by start number:

Start 6:

- Found in 28 of 298 ( 9.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 3.6% of time when present
- Phage (with cluster) where this start called: Bora\_24 (O),

Start 7:

- Found in 4 of 298 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 3 of 266
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LunaStella\_87 (F4), Renaud18\_109 (F4), TChen\_97 (F4), ThetaBob\_102 (F4),

Start 8:

- Found in 1 of 298 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 266
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie\_97 (F5),

Start 9:

- Found in 28 of 298 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 22 of 266
- Called 96.4% of time when present
- Phage (with cluster) where this start called: Alkhayr\_24 (O), Ashwin\_26 (O), Blessica\_26 (O), Catdawg\_25 (O), Corndog\_28 (O), Dylan\_25 (O), Familton\_26 (O), Firecracker\_26 (O), FoulBall\_23 (O), Idergollasper\_25 (O), JangDynasty\_25 (O), Krili\_26 (O), MadKillah\_27 (O), Mori\_26 (O), Murai\_26 (O), NiebruSaylor\_26 (O), Ryadel\_28 (O), SchoolBus\_25 (O), Schuy\_24 (O), Shida\_26 (O), Smooch\_29 (O), TelAviv\_23 (O), Vorrrps\_26 (O), Wildflower\_25 (O), Winget\_26 (O), YungJamal\_28 (O), Zakhe101\_26 (O),

Start 10:

- Found in 42 of 298 ( 14.1% ) of genes in pham
- Manual Annotations of this start: 37 of 266
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aggie\_66 (N), Andies\_64 (N), BabeRuth\_69 (N), Bosection6\_69 (N), Butters\_65 (N), Carcharodon\_70 (N), Charlie\_67 (N), Chewbacca\_73 (N), Duplicity\_69 (N), Fulbright\_69 (N), Jamie19\_64 (N), Journey\_66 (N), Kevin1\_68 (N), Magsby\_70 (N), Melville\_76 (N), MichelleMyBell\_69 (N), Nenae\_69 (N), Panchino\_65 (N), Parmesanjohn\_71 (N), PhancyPhin\_68 (N), Philonius\_71 (N), Phloss\_69 (N), Phrann\_66 (N), Pipsqueaks\_72 (N), Purgamenstris\_69 (N), Raymond7\_62 (N), Rebel\_65 (N), Redi\_68 (N), Rubeelu\_65 (N), Schnauzer\_73 (N), Scitech\_66 (N), ShrimpFriedEgg\_69 (N), Shweta\_65 (N), Silvafighter\_73 (N), Silvy\_72 (N), SkinnyPete\_67 (N), Smurph\_71 (N), Snekmaggedon\_63 (N), SpongeBob\_64 (N), Tapioca\_69 (N), Xeno\_68 (N), Xerxes\_71 (N),

Start 11:

- Found in 223 of 298 ( 74.8% ) of genes in pham
- Manual Annotations of this start: 203 of 266
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Akhila\_93 (F1), Alexphander\_100 (F1), AlpineSix\_97 (F1), ArcusAngelus\_99 (F1), Ardmore\_83 (F1), Aubs\_99 (F1), Awesomesauce\_90 (F1), Batiatus\_99 (F1), Beakin\_91 (F1), BigPhil\_96 (F1), Bipolar\_101 (F1), Blexus\_96 (F1), BlueCrab\_102 (F1), BobaPhett\_101 (F1), Bobi\_101 (F1), BodEinwohner17\_109 (F1), Boomer\_101 (F1), Brocalys\_91 (F1), Bubbles123\_93 (F1), Burwell21\_93 (F1), BuzzLyseyear\_106 (F1), ByChance\_90 (F1), Byougenkin\_96 (F1), Cabrinians\_96 (F1), CaptainTrips\_101 (F1), Cerasum\_98 (F1), Che8\_106 (F1), Chevrolet\_106 (F1), ChickenDinner\_93 (F1), Chuckly\_96 (F1), Clifton\_91 (F1), Coco12\_100 (F1), Cornucopia\_99 (F1), Crumble\_93 (F1), DLane\_99 (F1), DRBy19\_99 (F1), DaWorst\_99 (F1), DaddyRickover\_101 (F1), Daenerys\_97 (F1), Dante\_97 (F1), DeadP\_99 (F1), Deb65\_91 (F1), DillTech15\_105 (F1), DirtMcgirt\_100 (F1), DocMcStuffins\_86 (F1), Donkeykong\_105 (F1), Doomphist\_104 (F1), Dorothy\_100 (F1), DosHalletts\_99 (F1), DotProduct\_93 (F1), Doug\_96 (F1), Drago\_98 (F1), Eish\_104 (F1), EleanorGeorge\_103 (F1), Emma\_104 (F1), Empress\_99 (F1), Enby\_103 (F1), Eradicator\_91 (F1), Estave1\_107 (F1), Fancypants\_106 (F1), Filuzino\_99 (F1), Firehouse51\_93 (F1), Flathead\_101 (F1), Florinda\_111 (F1), Frankie\_99 (F1), FreddyB\_109 (F1), Fruitloop\_97 (F1), GUMbie\_98 (F1), Galactic\_103 (F1), Gandalph\_99 (F1), Geralt\_92 (F1), GigiOuiOui\_94 (F1), Girafales\_108 (F1), Girr\_98 (F1), Gorge\_98 (F1), Guppsters\_93 (F1), Hades\_96 (F1), Hamulus\_99 (F1), Harley\_101 (F1), Hegedechwinu\_107 (F1), Hlubikazi\_97 (F1), IbOuu\_95 (F1), Ihubesi\_96 (F1), Inventum\_97 (F1), IrishSherpFalk\_99 (F1), JalFarm20\_108 (F1), James\_103 (F1), Jarcob\_102 (F1), Jinglebell\_106 (F1), Job42\_100 (F1), JoeyJr\_102 (F1), Juice456\_98 (F1), Juniper1\_94 (F1), Karhdo\_94 (F1), Kenuha5\_91 (F1), Kersh\_102 (F1), Kimberlium\_101 (F1), KingMidas\_99 (F1), Kingsley\_108 (F1), Koella\_92 (F1), Krakatau\_92 (F1), KristaRAM\_107 (F1), LastJedi\_90 (F1), Latretium\_102 (F1), Leozinho\_96 (F1), Leperchaun\_101 (F1), LilMoolah\_102 (F1), LittleShirley\_106 (F1), Lizziana\_100 (F1), Llama\_106 (F1), Llij\_94 (F1), Lorde\_102 (F1), LunaBlu\_106 (F1), MadMen\_104 (F1), Madiba\_98 (F1), Mahavrat\_93 (F1), Mandlovu\_97 (F1), Mantra\_97 (F1), Maravista\_96 (F1), Marker\_113 (F1), Martik\_98 (F1), Mattes\_100 (F1), Melissauren88\_89 (F1), MilanaBonita\_92 (F1), MilleniumForce\_99 (F1), MinionDave\_97 (F1), Minnie\_94 (F1), Misha28\_89 (F1), MisterCuddles\_99 (F1), Modragons\_103 (F1), Moonbeam\_102 (F1), Mova\_101 (F1), Mozy\_103 (F1), Ms6\_101 (F1), MulchSalad\_101 (F1), Mutaforma13\_100 (F1), Nimbo\_91 (F1), Nitzel\_93 (F1), Nivrat\_99 (F1), NormanBulbieJr\_97 (F1), Ochi17\_105 (F1), OfUltron\_106 (F1), Ogopogo\_103 (F1), Oksu\_103 (F1), OldBen\_96 (F1), OlympiaSaint\_103 (F1), Ovechkin\_102 (F1), OwlsT2W\_97 (F1), PHappiness\_99

(F1), PMC\_98 (F1), Pacc40\_97 (F1), Phalconet\_100 (F1), Phanphagia\_104 (F1), Phasih\_96 (F1), Phatniss\_97 (F1), PhesterPhotato\_102 (F1), Philus\_103 (F1), Piper2020\_94 (F1), Pippy\_97 (F1), Plumbus\_98 (F1), Poenanya\_103 (F1), Polka14\_103 (F1), Pollywog\_101 (F1), PopTart\_90 (F1), Priscilla\_100 (F1), QuickMath\_100 (F1), Quico\_108 (F1), Radiance\_97 (F1), Ramsey\_104 (F1), RedBird\_100 (F1), Rialto\_104 (F1), RitaG\_98 (F1), Rita\_99 (F1), Rockne\_102 (F1), RockyHorror\_103 (F1), Royals2015\_103 (F1), Ruby\_96 (F1), SG4\_100 (F1), Saal\_97 (F1), Sabbb\_102 (F1), Sandalphon\_99 (F1), Sarma624\_101 (F1), Sassafras\_101 (F1), SassyB\_90 (F1), Scottish\_99 (F1), Sebastian\_106 (F1), Seagreen\_100 (F1), Shauna1\_101 (F1), ShiLan\_102 (F1), ShowerHandel\_97 (F1), ShroomBoi\_97 (F1), SiSi\_95 (F1), SimranZ1\_96 (F1), Sparkdehlily\_106 (F1), Spartacus\_106 (F1), Spikelee\_100 (F1), Spoonbill\_99 (F1), Squirty\_98 (F3), StAnnes\_103 (F1), Stap\_94 (F1), Starcevich\_101 (F1), Strokeseat\_97 (F1), SuperGrey\_99 (F1), SwagPiggett\_101 (F1), TDanisky\_107 (F1), Taj\_105 (F1), TootsiePop\_89 (F1), Tootsieroll\_93 (F1), Totinger\_102 (F1), Tweety\_100 (F1), UncleRicky\_99 (F1), VRedHorse\_100 (F1), Velveteen\_96 (F1), Veteran\_90 (F1), Wachhund\_96 (F1), Wee\_102 (F1), Whatsapiecost\_93 (F1), Whouxphf\_104 (F1), WillSterrel\_97 (F1), XFactor\_90 (F1), Yorick\_95 (F1), Zerg\_97 (F1), Zizzle\_102 (F1),

### **Summary by clusters:**

There are 7 clusters represented in this pham: F1, F3, F4, F5, F, O, N,

Info for manual annotations of cluster F1:

- Start number 11 was manually annotated 202 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 11 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 7 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 8 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster N:

- Start number 10 was manually annotated 37 times for cluster N.

Info for manual annotations of cluster O:

- Start number 9 was manually annotated 22 times for cluster O.

### **Gene Information:**

Gene: Aggie\_66 Start: 43624, Stop: 43869, Start Num: 10

Candidate Starts for Aggie\_66:

(Start: 10 @43624 has 37 MA's), (14, 43663),

Gene: Akhila\_93 Start: 52629, Stop: 52871, Start Num: 11

Candidate Starts for Akhila\_93:

(Start: 11 @52629 has 203 MA's), (12, 52656), (14, 52662), (18, 52743), (21, 52755), (25, 52788), (27, 52824), (31, 52851),

Gene: Alexphander\_100 Start: 54963, Stop: 55205, Start Num: 11

Candidate Starts for Alexphander\_100:

(Start: 11 @54963 has 203 MA's), (12, 54990), (14, 54996), (18, 55077), (20, 55086), (25, 55122), (31, 55185),

Gene: Alkhayr\_24 Start: 11847, Stop: 12083, Start Num: 9

Candidate Starts for Alkhayr\_24:

(2, 11712), (5, 11823), (6, 11835), (Start: 9 @11847 has 22 MA's), (20, 11982), (21, 11985), (22, 11991), (23, 11994), (26, 12024), (28, 12060), (29, 12066),

Gene: AlpineSix\_97 Start: 53347, Stop: 53589, Start Num: 11

Candidate Starts for AlpineSix\_97:

(Start: 11 @53347 has 203 MA's), (12, 53374), (14, 53380), (18, 53461), (19, 53464), (21, 53473), (25, 53506), (27, 53542), (30, 53566),

Gene: Andies\_64 Start: 43070, Stop: 43315, Start Num: 10

Candidate Starts for Andies\_64:

(Start: 10 @43070 has 37 MA's), (14, 43109),

Gene: ArcusAngelus\_99 Start: 54880, Stop: 55146, Start Num: 11

Candidate Starts for ArcusAngelus\_99:

(Start: 11 @54880 has 203 MA's), (12, 54907), (14, 54913), (18, 54994), (21, 55006), (25, 55039),

Gene: Ardmore\_83 Start: 48518, Stop: 48760, Start Num: 11

Candidate Starts for Ardmore\_83:

(Start: 11 @48518 has 203 MA's), (12, 48545), (14, 48551), (18, 48632), (21, 48644), (25, 48677), (27, 48713), (31, 48740),

Gene: Ashwin\_26 Start: 12067, Stop: 12303, Start Num: 9

Candidate Starts for Ashwin\_26:

(2, 11932), (5, 12043), (6, 12055), (Start: 9 @12067 has 22 MA's), (20, 12202), (21, 12205), (22, 12211), (23, 12214), (26, 12244), (28, 12280), (29, 12286),

Gene: Aubs\_99 Start: 55520, Stop: 55762, Start Num: 11

Candidate Starts for Aubs\_99:

(Start: 11 @55520 has 203 MA's), (12, 55547), (14, 55553), (18, 55634), (21, 55646), (25, 55679), (27, 55715), (31, 55742),

Gene: Awesomesauce\_90 Start: 54003, Stop: 54245, Start Num: 11

Candidate Starts for Awesomesauce\_90:

(Start: 11 @54003 has 203 MA's), (12, 54030), (14, 54036), (18, 54117), (21, 54129), (25, 54162),

Gene: BabeRuth\_69 Start: 41878, Stop: 42123, Start Num: 10

Candidate Starts for BabeRuth\_69:

(Start: 10 @41878 has 37 MA's), (14, 41917), (15, 41974),

Gene: Batiatus\_99 Start: 54068, Stop: 54310, Start Num: 11

Candidate Starts for Batiatus\_99:

(Start: 11 @54068 has 203 MA's), (12, 54095), (14, 54101), (18, 54182), (21, 54194), (25, 54227), (27, 54263), (31, 54290),



Gene: Beakin\_91 Start: 51041, Stop: 51283, Start Num: 11  
Candidate Starts for Beakin\_91:  
(Start: 11 @51041 has 203 MA's), (12, 51068), (14, 51074), (18, 51155), (21, 51167), (25, 51200), (31, 51263),

Gene: BigPhil\_96 Start: 50860, Stop: 51102, Start Num: 11  
Candidate Starts for BigPhil\_96:  
(Start: 11 @50860 has 203 MA's), (12, 50887), (14, 50893), (18, 50974), (21, 50986), (25, 51019), (27, 51055), (31, 51082),

Gene: Bipolar\_101 Start: 55837, Stop: 56079, Start Num: 11  
Candidate Starts for Bipolar\_101:  
(Start: 11 @55837 has 203 MA's), (12, 55864), (14, 55870), (18, 55951), (21, 55963), (25, 55996), (27, 56032), (31, 56059),

Gene: Blessica\_26 Start: 11870, Stop: 12106, Start Num: 9  
Candidate Starts for Blessica\_26:  
(2, 11735), (5, 11846), (6, 11858), (Start: 9 @11870 has 22 MA's), (20, 12005), (21, 12008), (22, 12014), (23, 12017), (26, 12047), (28, 12083), (29, 12089),

Gene: Blexus\_96 Start: 54444, Stop: 54689, Start Num: 11  
Candidate Starts for Blexus\_96:  
(Start: 11 @54444 has 203 MA's), (12, 54471), (14, 54477), (18, 54561), (21, 54573), (25, 54606), (27, 54642), (30, 54666),

Gene: BlueCrab\_102 Start: 55440, Stop: 55682, Start Num: 11  
Candidate Starts for BlueCrab\_102:  
(Start: 11 @55440 has 203 MA's), (12, 55467), (14, 55473), (18, 55554), (20, 55563), (25, 55599), (31, 55662),

Gene: BobaPhett\_101 Start: 56126, Stop: 56368, Start Num: 11  
Candidate Starts for BobaPhett\_101:  
(Start: 11 @56126 has 203 MA's), (12, 56153), (14, 56159), (18, 56240), (21, 56252), (25, 56285), (27, 56321), (31, 56348),

Gene: Bobi\_101 Start: 55542, Stop: 55784, Start Num: 11  
Candidate Starts for Bobi\_101:  
(Start: 11 @55542 has 203 MA's), (12, 55569), (14, 55575), (18, 55656), (21, 55668), (25, 55701), (27, 55737), (31, 55764),

Gene: BodEinwohner17\_109 Start: 56496, Stop: 56738, Start Num: 11  
Candidate Starts for BodEinwohner17\_109:  
(Start: 11 @56496 has 203 MA's), (12, 56523), (14, 56529), (18, 56610), (20, 56619), (25, 56655), (31, 56718),

Gene: Boomer\_101 Start: 54793, Stop: 55035, Start Num: 11  
Candidate Starts for Boomer\_101:  
(Start: 11 @54793 has 203 MA's), (12, 54820), (14, 54826), (18, 54907), (25, 54952), (31, 55015),

Gene: Bora\_24 Start: 11508, Stop: 11756, Start Num: 6  
Candidate Starts for Bora\_24:

(5, 11496), (6, 11508), (Start: 9 @11520 has 22 MA's), (20, 11655), (21, 11658), (22, 11664), (23, 11667), (26, 11697), (28, 11733), (29, 11739),

Gene: Bosection6\_69 Start: 42694, Stop: 42939, Start Num: 10  
Candidate Starts for Bosection6\_69:  
(Start: 10 @42694 has 37 MA's), (14, 42733),

Gene: Brocalys\_91 Start: 51605, Stop: 51847, Start Num: 11  
Candidate Starts for Brocalys\_91:  
(Start: 11 @51605 has 203 MA's), (12, 51632), (14, 51638), (18, 51719), (21, 51731), (25, 51764), (27, 51800), (31, 51827),

Gene: Bubbles123\_93 Start: 53880, Stop: 54122, Start Num: 11  
Candidate Starts for Bubbles123\_93:  
(Start: 11 @53880 has 203 MA's), (12, 53907), (14, 53913), (18, 53994), (21, 54006), (25, 54039), (27, 54075), (31, 54102),

Gene: Burwell21\_93 Start: 53891, Stop: 54133, Start Num: 11  
Candidate Starts for Burwell21\_93:  
(Start: 11 @53891 has 203 MA's), (12, 53918), (14, 53924), (18, 54005), (21, 54017), (25, 54050), (27, 54086), (31, 54113),

Gene: Butters\_65 Start: 40786, Stop: 41031, Start Num: 10  
Candidate Starts for Butters\_65:  
(1, 40279), (Start: 10 @40786 has 37 MA's), (14, 40825), (18, 40915),

Gene: BuzzLyseyear\_106 Start: 56651, Stop: 56893, Start Num: 11  
Candidate Starts for BuzzLyseyear\_106:  
(Start: 11 @56651 has 203 MA's), (12, 56678), (14, 56684), (18, 56765), (20, 56774), (25, 56810), (31, 56873),

Gene: ByChance\_90 Start: 49963, Stop: 50205, Start Num: 11  
Candidate Starts for ByChance\_90:  
(Start: 11 @49963 has 203 MA's), (12, 49990), (14, 49996), (18, 50077), (25, 50122), (31, 50185),

Gene: Byougenkin\_96 Start: 50927, Stop: 51169, Start Num: 11  
Candidate Starts for Byougenkin\_96:  
(Start: 11 @50927 has 203 MA's), (12, 50954), (14, 50960), (18, 51041), (19, 51044), (21, 51053), (25, 51086), (27, 51122), (30, 51146),

Gene: Cabrinians\_96 Start: 53526, Stop: 53768, Start Num: 11  
Candidate Starts for Cabrinians\_96:  
(Start: 11 @53526 has 203 MA's), (12, 53553), (14, 53559), (18, 53640), (21, 53652), (25, 53685), (27, 53721), (31, 53748),

Gene: CaptainTrips\_101 Start: 53706, Stop: 53948, Start Num: 11  
Candidate Starts for CaptainTrips\_101:  
(Start: 11 @53706 has 203 MA's), (12, 53733), (14, 53739), (18, 53820), (21, 53832), (25, 53865), (27, 53901), (31, 53928),

Gene: Carcharodon\_70 Start: 42971, Stop: 43216, Start Num: 10  
Candidate Starts for Carcharodon\_70:  
(Start: 10 @42971 has 37 MA's), (14, 43010),

Gene: Catdawg\_25 Start: 11476, Stop: 11712, Start Num: 9

Candidate Starts for Catdawg\_25:

(2, 11341), (5, 11452), (6, 11464), (Start: 9 @11476 has 22 MA's), (20, 11611), (21, 11614), (22, 11620), (23, 11623), (26, 11653), (28, 11689), (29, 11695),

Gene: Cerasum\_98 Start: 50878, Stop: 51120, Start Num: 11

Candidate Starts for Cerasum\_98:

(Start: 11 @50878 has 203 MA's), (12, 50905), (14, 50911), (18, 50992), (21, 51004), (25, 51037), (27, 51073), (31, 51100),

Gene: Charlie\_67 Start: 42318, Stop: 42563, Start Num: 10

Candidate Starts for Charlie\_67:

(Start: 10 @42318 has 37 MA's), (14, 42357),

Gene: Che8\_106 Start: 55705, Stop: 55971, Start Num: 11

Candidate Starts for Che8\_106:

(Start: 11 @55705 has 203 MA's), (12, 55732), (14, 55738), (18, 55819), (25, 55864),

Gene: Chevrolet\_106 Start: 54881, Stop: 55147, Start Num: 11

Candidate Starts for Chevrolet\_106:

(Start: 11 @54881 has 203 MA's), (12, 54908), (14, 54914), (18, 54995), (21, 55007), (25, 55040),

Gene: Chewbacca\_73 Start: 42866, Stop: 43111, Start Num: 10

Candidate Starts for Chewbacca\_73:

(Start: 10 @42866 has 37 MA's), (14, 42905),

Gene: ChickenDinner\_93 Start: 53767, Stop: 54009, Start Num: 11

Candidate Starts for ChickenDinner\_93:

(Start: 11 @53767 has 203 MA's), (12, 53794), (14, 53800), (18, 53881), (21, 53893), (25, 53926),

Gene: Chuckly\_96 Start: 50748, Stop: 50990, Start Num: 11

Candidate Starts for Chuckly\_96:

(Start: 11 @50748 has 203 MA's), (12, 50775), (14, 50781), (18, 50862), (21, 50874), (25, 50907), (27, 50943), (31, 50970),

Gene: Clifton\_91 Start: 52580, Stop: 52822, Start Num: 11

Candidate Starts for Clifton\_91:

(Start: 11 @52580 has 203 MA's), (12, 52607), (14, 52613), (18, 52694), (21, 52706), (25, 52739), (27, 52775), (31, 52802),

Gene: Coco12\_100 Start: 54935, Stop: 55177, Start Num: 11

Candidate Starts for Coco12\_100:

(Start: 11 @54935 has 203 MA's), (12, 54962), (14, 54968), (18, 55049), (21, 55061), (25, 55094), (27, 55130), (31, 55157),

Gene: Corndog\_28 Start: 12146, Stop: 12382, Start Num: 9

Candidate Starts for Corndog\_28:

(2, 12011), (5, 12122), (6, 12134), (Start: 9 @12146 has 22 MA's), (20, 12281), (21, 12284), (22, 12290), (23, 12293), (26, 12323), (28, 12359), (29, 12365),

Gene: Cornie\_97 Start: 53611, Stop: 53871, Start Num: 8

Candidate Starts for Cornie\_97:

(3, 53566), (Start: 8 @53611 has 1 MA's), (12, 53644), (13, 53647), (14, 53650), (17, 53722), (18, 53743), (21, 53755), (22, 53761), (23, 53764), (25, 53788), (27, 53824), (31, 53851),

Gene: Cornucopia\_99 Start: 52006, Stop: 52248, Start Num: 11

Candidate Starts for Cornucopia\_99:

(Start: 11 @52006 has 203 MA's), (12, 52033), (14, 52039), (18, 52120), (21, 52132), (25, 52165), (27, 52201), (31, 52228),

Gene: Crumble\_93 Start: 50274, Stop: 50516, Start Num: 11

Candidate Starts for Crumble\_93:

(Start: 11 @50274 has 203 MA's), (12, 50301), (14, 50307), (18, 50388), (21, 50400), (25, 50433), (31, 50496),

Gene: DLane\_99 Start: 54988, Stop: 55230, Start Num: 11

Candidate Starts for DLane\_99:

(Start: 11 @54988 has 203 MA's), (12, 55015), (14, 55021), (18, 55102), (21, 55114), (25, 55147), (27, 55183), (31, 55210),

Gene: DRBy19\_99 Start: 55207, Stop: 55449, Start Num: 11

Candidate Starts for DRBy19\_99:

(Start: 11 @55207 has 203 MA's), (12, 55234), (14, 55240), (18, 55321), (25, 55366), (31, 55429),

Gene: DaWorst\_99 Start: 53822, Stop: 54064, Start Num: 11

Candidate Starts for DaWorst\_99:

(Start: 11 @53822 has 203 MA's), (12, 53849), (14, 53855), (18, 53936), (25, 53981), (31, 54044),

Gene: DaddyRickover\_101 Start: 54690, Stop: 54932, Start Num: 11

Candidate Starts for DaddyRickover\_101:

(Start: 11 @54690 has 203 MA's), (12, 54717), (14, 54723), (18, 54804), (20, 54813), (25, 54849), (31, 54912),

Gene: Daenerys\_97 Start: 54857, Stop: 55099, Start Num: 11

Candidate Starts for Daenerys\_97:

(Start: 11 @54857 has 203 MA's), (12, 54884), (14, 54890), (18, 54971), (20, 54980), (25, 55016), (31, 55079),

Gene: Dante\_97 Start: 55338, Stop: 55580, Start Num: 11

Candidate Starts for Dante\_97:

(Start: 11 @55338 has 203 MA's), (12, 55365), (14, 55371), (18, 55452), (21, 55464), (25, 55497), (27, 55533), (31, 55560),

Gene: DeadP\_99 Start: 52566, Stop: 52808, Start Num: 11

Candidate Starts for DeadP\_99:

(Start: 11 @52566 has 203 MA's), (12, 52593), (14, 52599), (18, 52680), (21, 52692), (25, 52725), (27, 52761), (31, 52788),

Gene: Deb65\_91 Start: 52581, Stop: 52823, Start Num: 11

Candidate Starts for Deb65\_91:

(Start: 11 @52581 has 203 MA's), (12, 52608), (14, 52614), (18, 52695), (20, 52704), (25, 52740), (31, 52803),

Gene: DillTech15\_105 Start: 54163, Stop: 54405, Start Num: 11

Candidate Starts for DillTech15\_105:

(Start: 11 @54163 has 203 MA's), (12, 54190), (14, 54196), (18, 54277), (25, 54322), (31, 54385),

Gene: DirtMcgirt\_100 Start: 51403, Stop: 51645, Start Num: 11

Candidate Starts for DirtMcgirt\_100:

(Start: 11 @51403 has 203 MA's), (12, 51430), (14, 51436), (18, 51517), (20, 51526), (25, 51562), (31, 51625),

Gene: DocMcStuffins\_86 Start: 55397, Stop: 55639, Start Num: 11

Candidate Starts for DocMcStuffins\_86:

(Start: 11 @55397 has 203 MA's), (12, 55424), (14, 55430), (18, 55511), (21, 55523), (25, 55556),

Gene: Donkeykong\_105 Start: 56323, Stop: 56565, Start Num: 11

Candidate Starts for Donkeykong\_105:

(Start: 11 @56323 has 203 MA's), (12, 56350), (14, 56356), (18, 56437), (25, 56482), (31, 56545),

Gene: Doomphist\_104 Start: 55510, Stop: 55752, Start Num: 11

Candidate Starts for Doomphist\_104:

(Start: 11 @55510 has 203 MA's), (12, 55537), (14, 55543), (18, 55624), (20, 55633), (25, 55669), (31, 55732),

Gene: Dorothy\_100 Start: 55679, Stop: 55921, Start Num: 11

Candidate Starts for Dorothy\_100:

(Start: 11 @55679 has 203 MA's), (12, 55706), (14, 55712), (18, 55793), (20, 55802), (25, 55838), (31, 55901),

Gene: DosHalletts\_99 Start: 54328, Stop: 54570, Start Num: 11

Candidate Starts for DosHalletts\_99:

(Start: 11 @54328 has 203 MA's), (12, 54355), (14, 54361), (18, 54442), (21, 54454), (25, 54487), (27, 54523), (31, 54550),

Gene: DotProduct\_93 Start: 51695, Stop: 51937, Start Num: 11

Candidate Starts for DotProduct\_93:

(Start: 11 @51695 has 203 MA's), (12, 51722), (14, 51728), (18, 51809), (21, 51821), (25, 51854), (27, 51890), (31, 51917),

Gene: Doug\_96 Start: 55242, Stop: 55484, Start Num: 11

Candidate Starts for Doug\_96:

(Start: 11 @55242 has 203 MA's), (12, 55269), (14, 55275), (18, 55356), (20, 55365), (25, 55401), (31, 55464),

Gene: Drago\_98 Start: 51406, Stop: 51648, Start Num: 11

Candidate Starts for Drago\_98:

(Start: 11 @51406 has 203 MA's), (12, 51433), (14, 51439), (18, 51520), (25, 51565), (31, 51628),

Gene: Duplicity\_69 Start: 42228, Stop: 42473, Start Num: 10

Candidate Starts for Duplicity\_69:

(Start: 10 @42228 has 37 MA's), (14, 42267),

Gene: Dylan\_25 Start: 11872, Stop: 12108, Start Num: 9

Candidate Starts for Dylan\_25:

(2, 11737), (5, 11848), (6, 11860), (Start: 9 @11872 has 22 MA's), (20, 12007), (21, 12010), (22, 12016), (23, 12019), (26, 12049), (28, 12085), (29, 12091),

Gene: Eish\_104 Start: 55004, Stop: 55246, Start Num: 11  
Candidate Starts for Eish\_104:  
(Start: 11 @55004 has 203 MA's), (12, 55031), (14, 55037), (18, 55118), (21, 55130), (25, 55163), (27, 55199), (31, 55226),

Gene: EleanorGeorge\_103 Start: 56271, Stop: 56537, Start Num: 11  
Candidate Starts for EleanorGeorge\_103:  
(Start: 11 @56271 has 203 MA's), (12, 56298), (14, 56304), (18, 56385), (21, 56397), (25, 56430),

Gene: Emma\_104 Start: 53272, Stop: 53514, Start Num: 11  
Candidate Starts for Emma\_104:  
(Start: 11 @53272 has 203 MA's), (12, 53299), (14, 53305), (18, 53386), (21, 53398), (25, 53431), (27, 53467), (31, 53494),

Gene: Empress\_99 Start: 53773, Stop: 54015, Start Num: 11  
Candidate Starts for Empress\_99:  
(Start: 11 @53773 has 203 MA's), (12, 53800), (14, 53806), (18, 53887), (20, 53896), (25, 53932), (31, 53995),

Gene: Enby\_103 Start: 51682, Stop: 51924, Start Num: 11  
Candidate Starts for Enby\_103:  
(Start: 11 @51682 has 203 MA's), (12, 51709), (14, 51715), (18, 51796), (25, 51841), (31, 51904),

Gene: Eradicator\_91 Start: 52543, Stop: 52785, Start Num: 11  
Candidate Starts for Eradicator\_91:  
(Start: 11 @52543 has 203 MA's), (12, 52570), (14, 52576), (18, 52657), (20, 52666), (25, 52702), (31, 52765),

Gene: Estave1\_107 Start: 57566, Stop: 57808, Start Num: 11  
Candidate Starts for Estave1\_107:  
(Start: 11 @57566 has 203 MA's), (12, 57593), (14, 57599), (18, 57680), (25, 57725), (31, 57788),

Gene: Familton\_26 Start: 11477, Stop: 11713, Start Num: 9  
Candidate Starts for Familton\_26:  
(2, 11342), (5, 11453), (6, 11465), (Start: 9 @11477 has 22 MA's), (20, 11612), (21, 11615), (22, 11621), (23, 11624), (26, 11654), (28, 11690), (29, 11696),

Gene: Fancypants\_106 Start: 57072, Stop: 57314, Start Num: 11  
Candidate Starts for Fancypants\_106:  
(Start: 11 @57072 has 203 MA's), (12, 57099), (14, 57105), (18, 57186), (25, 57231), (31, 57294),

Gene: Filuzino\_99 Start: 55683, Stop: 55925, Start Num: 11  
Candidate Starts for Filuzino\_99:  
(Start: 11 @55683 has 203 MA's), (12, 55710), (14, 55716), (18, 55797), (21, 55809), (25, 55842), (27, 55878), (31, 55905),

Gene: Firecracker\_26 Start: 11770, Stop: 12006, Start Num: 9  
Candidate Starts for Firecracker\_26:  
(2, 11635), (5, 11746), (6, 11758), (Start: 9 @11770 has 22 MA's), (20, 11905), (21, 11908), (22, 11914), (23, 11917), (26, 11947), (28, 11983), (29, 11989),

Gene: Firehouse51\_93 Start: 54500, Stop: 54742, Start Num: 11  
Candidate Starts for Firehouse51\_93:

(Start: 11 @54500 has 203 MA's), (12, 54527), (14, 54533), (18, 54614), (19, 54617), (21, 54626), (25, 54659), (27, 54695), (30, 54719),

Gene: Flathead\_101 Start: 54004, Stop: 54246, Start Num: 11

Candidate Starts for Flathead\_101:

(Start: 11 @54004 has 203 MA's), (12, 54031), (14, 54037), (18, 54118), (21, 54130), (25, 54163), (27, 54199), (31, 54226),

Gene: Florinda\_111 Start: 56089, Stop: 56331, Start Num: 11

Candidate Starts for Florinda\_111:

(Start: 11 @56089 has 203 MA's), (12, 56116), (14, 56122), (18, 56203), (21, 56215), (25, 56248), (30, 56308), (31, 56311),

Gene: FoulBall\_23 Start: 11477, Stop: 11713, Start Num: 9

Candidate Starts for FoulBall\_23:

(2, 11342), (5, 11453), (6, 11465), (Start: 9 @11477 has 22 MA's), (20, 11612), (21, 11615), (22, 11621), (23, 11624), (26, 11654), (28, 11690), (29, 11696),

Gene: Frankie\_99 Start: 53912, Stop: 54154, Start Num: 11

Candidate Starts for Frankie\_99:

(Start: 11 @53912 has 203 MA's), (12, 53939), (14, 53945), (18, 54026), (21, 54038), (25, 54071), (27, 54107), (31, 54134),

Gene: FreddyB\_109 Start: 55172, Stop: 55414, Start Num: 11

Candidate Starts for FreddyB\_109:

(Start: 11 @55172 has 203 MA's), (12, 55199), (14, 55205), (18, 55286), (21, 55298), (25, 55331), (27, 55367), (31, 55394),

Gene: Fruitloop\_97 Start: 54848, Stop: 55090, Start Num: 11

Candidate Starts for Fruitloop\_97:

(Start: 11 @54848 has 203 MA's), (12, 54875), (14, 54881), (18, 54962), (21, 54974), (25, 55007), (27, 55043), (31, 55070),

Gene: Fulbright\_69 Start: 41687, Stop: 41932, Start Num: 10

Candidate Starts for Fulbright\_69:

(Start: 10 @41687 has 37 MA's), (14, 41726),

Gene: GUmbie\_98 Start: 53709, Stop: 53951, Start Num: 11

Candidate Starts for GUmbie\_98:

(Start: 11 @53709 has 203 MA's), (12, 53736), (14, 53742), (18, 53823), (25, 53868), (31, 53931),

Gene: Galactic\_103 Start: 54132, Stop: 54398, Start Num: 11

Candidate Starts for Galactic\_103:

(Start: 11 @54132 has 203 MA's), (12, 54159), (14, 54165), (18, 54246), (21, 54258), (25, 54291),

Gene: Gandalph\_99 Start: 51815, Stop: 52057, Start Num: 11

Candidate Starts for Gandalph\_99:

(Start: 11 @51815 has 203 MA's), (12, 51842), (14, 51848), (18, 51929), (20, 51938), (25, 51974), (31, 52037),

Gene: Geralt\_92 Start: 52579, Stop: 52821, Start Num: 11

Candidate Starts for Geralt\_92:

(Start: 11 @52579 has 203 MA's), (12, 52606), (14, 52612), (18, 52693), (20, 52702), (25, 52738), (31, 52801),

Gene: GigiOuiOui\_94 Start: 52712, Stop: 52954, Start Num: 11

Candidate Starts for GigiOuiOui\_94:

(Start: 11 @52712 has 203 MA's), (12, 52739), (14, 52745), (18, 52826), (25, 52871), (31, 52934),

Gene: Girafales\_108 Start: 55694, Stop: 55936, Start Num: 11

Candidate Starts for Girafales\_108:

(Start: 11 @55694 has 203 MA's), (12, 55721), (14, 55727), (18, 55808), (21, 55820), (25, 55853), (30, 55913), (31, 55916),

Gene: Girr\_98 Start: 54578, Stop: 54820, Start Num: 11

Candidate Starts for Girr\_98:

(Start: 11 @54578 has 203 MA's), (12, 54605), (14, 54611), (18, 54692), (20, 54701), (25, 54737), (27, 54773), (31, 54800),

Gene: Gorge\_98 Start: 54799, Stop: 55041, Start Num: 11

Candidate Starts for Gorge\_98:

(Start: 11 @54799 has 203 MA's), (12, 54826), (14, 54832), (18, 54913), (25, 54958), (31, 55021),

Gene: Guppsters\_93 Start: 51689, Stop: 51931, Start Num: 11

Candidate Starts for Guppsters\_93:

(Start: 11 @51689 has 203 MA's), (12, 51716), (14, 51722), (18, 51803), (21, 51815), (25, 51848), (27, 51884), (31, 51911),

Gene: Hades\_96 Start: 51298, Stop: 51564, Start Num: 11

Candidate Starts for Hades\_96:

(Start: 11 @51298 has 203 MA's), (12, 51325), (14, 51331), (18, 51412), (21, 51424), (25, 51457),

Gene: Hamulus\_99 Start: 53533, Stop: 53775, Start Num: 11

Candidate Starts for Hamulus\_99:

(Start: 11 @53533 has 203 MA's), (12, 53560), (14, 53566), (18, 53647), (21, 53659), (25, 53692), (27, 53728), (31, 53755),

Gene: Harley\_101 Start: 54705, Stop: 54947, Start Num: 11

Candidate Starts for Harley\_101:

(Start: 11 @54705 has 203 MA's), (12, 54732), (14, 54738), (18, 54819), (19, 54822), (21, 54831), (25, 54864), (27, 54900), (30, 54924),

Gene: Hegedechwinu\_107 Start: 54069, Stop: 54311, Start Num: 11

Candidate Starts for Hegedechwinu\_107:

(Start: 11 @54069 has 203 MA's), (12, 54096), (14, 54102), (18, 54183), (21, 54195), (25, 54228), (27, 54264), (31, 54291),

Gene: Hlubikazi\_97 Start: 52312, Stop: 52554, Start Num: 11

Candidate Starts for Hlubikazi\_97:

(Start: 11 @52312 has 203 MA's), (12, 52339), (14, 52345), (18, 52426), (21, 52438), (25, 52471), (27, 52507), (31, 52534),

Gene: lbOuu\_95 Start: 51675, Stop: 51917, Start Num: 11

Candidate Starts for lbOuu\_95:



(Start: 11 @51675 has 203 MA's), (12, 51702), (14, 51708), (18, 51789), (21, 51801), (25, 51834), (27, 51870), (31, 51897),

Gene: lbhubesi\_96 Start: 51574, Stop: 51816, Start Num: 11

Candidate Starts for lbhubesi\_96:

(Start: 11 @51574 has 203 MA's), (12, 51601), (14, 51607), (18, 51688), (19, 51691), (21, 51700), (25, 51733), (27, 51769), (30, 51793),

Gene: ldergollasper\_25 Start: 11477, Stop: 11713, Start Num: 9

Candidate Starts for ldergollasper\_25:

(2, 11342), (5, 11453), (6, 11465), (Start: 9 @11477 has 22 MA's), (20, 11612), (21, 11615), (22, 11621), (23, 11624), (26, 11654), (28, 11690), (29, 11696),

Gene: Inventum\_97 Start: 53867, Stop: 54109, Start Num: 11

Candidate Starts for Inventum\_97:

(Start: 11 @53867 has 203 MA's), (12, 53894), (14, 53900), (18, 53981), (20, 53990), (25, 54026), (31, 54089),

Gene: IrishSherpFalk\_99 Start: 54202, Stop: 54444, Start Num: 11

Candidate Starts for IrishSherpFalk\_99:

(Start: 11 @54202 has 203 MA's), (14, 54235), (18, 54316), (20, 54325), (25, 54361), (30, 54421),

Gene: JalFarm20\_108 Start: 56010, Stop: 56252, Start Num: 11

Candidate Starts for JalFarm20\_108:

(Start: 11 @56010 has 203 MA's), (12, 56037), (14, 56043), (18, 56124), (21, 56136), (25, 56169), (31, 56232),

Gene: James\_103 Start: 56181, Stop: 56423, Start Num: 11

Candidate Starts for James\_103:

(Start: 11 @56181 has 203 MA's), (12, 56208), (14, 56214), (18, 56295), (21, 56307), (25, 56340), (27, 56376), (31, 56403),

Gene: Jamie19\_64 Start: 40560, Stop: 40805, Start Num: 10

Candidate Starts for Jamie19\_64:

(Start: 10 @40560 has 37 MA's), (14, 40599),

Gene: JangDynasty\_25 Start: 11566, Stop: 11802, Start Num: 9

Candidate Starts for JangDynasty\_25:

(2, 11431), (5, 11542), (6, 11554), (Start: 9 @11566 has 22 MA's), (20, 11701), (21, 11704), (22, 11710), (23, 11713), (26, 11743), (28, 11779), (29, 11785),

Gene: Jacob\_102 Start: 55780, Stop: 56022, Start Num: 11

Candidate Starts for Jacob\_102:

(Start: 11 @55780 has 203 MA's), (12, 55807), (14, 55813), (18, 55894), (25, 55939), (31, 56002),

Gene: Jinglebell\_106 Start: 55457, Stop: 55699, Start Num: 11

Candidate Starts for Jinglebell\_106:

(Start: 11 @55457 has 203 MA's), (12, 55484), (14, 55490), (18, 55571), (21, 55583), (25, 55616), (27, 55652), (31, 55679),

Gene: Job42\_100 Start: 56355, Stop: 56597, Start Num: 11

Candidate Starts for Job42\_100:

(Start: 11 @56355 has 203 MA's), (12, 56382), (14, 56388), (18, 56469), (20, 56478), (25, 56514), (30, 56574), (31, 56577),

Gene: JoeyJr\_102 Start: 55775, Stop: 56017, Start Num: 11

Candidate Starts for JoeyJr\_102:

(Start: 11 @55775 has 203 MA's), (12, 55802), (14, 55808), (18, 55889), (20, 55898), (25, 55934), (31, 55997),

Gene: Journey\_66 Start: 41277, Stop: 41522, Start Num: 10

Candidate Starts for Journey\_66:

(Start: 10 @41277 has 37 MA's), (14, 41316),

Gene: Juice456\_98 Start: 53485, Stop: 53727, Start Num: 11

Candidate Starts for Juice456\_98:

(Start: 11 @53485 has 203 MA's), (12, 53512), (14, 53518), (18, 53599), (25, 53644), (31, 53707),

Gene: Juniper1\_94 Start: 52472, Stop: 52714, Start Num: 11

Candidate Starts for Juniper1\_94:

(Start: 11 @52472 has 203 MA's), (12, 52499), (14, 52505), (18, 52586), (25, 52631), (27, 52667), (30, 52691),

Gene: Karhdo\_94 Start: 51944, Stop: 52186, Start Num: 11

Candidate Starts for Karhdo\_94:

(Start: 11 @51944 has 203 MA's), (12, 51971), (14, 51977), (18, 52058), (21, 52070), (25, 52103), (27, 52139), (31, 52166),

Gene: Kenuha5\_91 Start: 53357, Stop: 53599, Start Num: 11

Candidate Starts for Kenuha5\_91:

(Start: 11 @53357 has 203 MA's), (12, 53384), (14, 53390), (18, 53471), (21, 53483), (25, 53516), (27, 53552), (31, 53579),

Gene: Kersh\_102 Start: 56526, Stop: 56768, Start Num: 11

Candidate Starts for Kersh\_102:

(Start: 11 @56526 has 203 MA's), (12, 56553), (14, 56559), (18, 56640), (19, 56643), (21, 56652), (25, 56685), (27, 56721), (30, 56745),

Gene: Kevin1\_68 Start: 41283, Stop: 41528, Start Num: 10

Candidate Starts for Kevin1\_68:

(Start: 10 @41283 has 37 MA's), (14, 41322), (18, 41412),

Gene: Kimberlium\_101 Start: 53585, Stop: 53827, Start Num: 11

Candidate Starts for Kimberlium\_101:

(Start: 11 @53585 has 203 MA's), (12, 53612), (14, 53618), (18, 53699), (25, 53744), (31, 53807),

Gene: KingMidas\_99 Start: 54004, Stop: 54246, Start Num: 11

Candidate Starts for KingMidas\_99:

(Start: 11 @54004 has 203 MA's), (12, 54031), (14, 54037), (18, 54118), (20, 54127), (25, 54163), (31, 54226),

Gene: Kingsley\_108 Start: 57542, Stop: 57784, Start Num: 11

Candidate Starts for Kingsley\_108:

(Start: 11 @57542 has 203 MA's), (12, 57569), (14, 57575), (18, 57656), (21, 57668), (25, 57701), (27, 57737), (31, 57764),

Gene: Koella\_92 Start: 50943, Stop: 51185, Start Num: 11

Candidate Starts for Koella\_92:

(Start: 11 @50943 has 203 MA's), (12, 50970), (14, 50976), (18, 51057), (21, 51069), (25, 51102), (27, 51138), (31, 51165),

Gene: Krakatau\_92 Start: 49902, Stop: 50144, Start Num: 11

Candidate Starts for Krakatau\_92:

(Start: 11 @49902 has 203 MA's), (12, 49929), (14, 49935), (18, 50016), (25, 50061), (31, 50124),

Gene: Krili\_26 Start: 11836, Stop: 12072, Start Num: 9

Candidate Starts for Krili\_26:

(2, 11701), (5, 11812), (6, 11824), (Start: 9 @11836 has 22 MA's), (20, 11971), (21, 11974), (22, 11980), (23, 11983), (26, 12013), (28, 12049), (29, 12055),

Gene: KristaRAM\_107 Start: 55265, Stop: 55507, Start Num: 11

Candidate Starts for KristaRAM\_107:

(Start: 11 @55265 has 203 MA's), (12, 55292), (14, 55298), (18, 55379), (21, 55391), (25, 55424), (27, 55460), (31, 55487),

Gene: LastJedi\_90 Start: 52000, Stop: 52242, Start Num: 11

Candidate Starts for LastJedi\_90:

(Start: 11 @52000 has 203 MA's), (12, 52027), (14, 52033), (18, 52114), (21, 52126), (25, 52159), (27, 52195), (31, 52222),

Gene: Latretium\_102 Start: 55046, Stop: 55288, Start Num: 11

Candidate Starts for Latretium\_102:

(Start: 11 @55046 has 203 MA's), (14, 55079), (18, 55160), (20, 55169), (25, 55205), (31, 55268),

Gene: Leozinho\_96 Start: 51523, Stop: 51765, Start Num: 11

Candidate Starts for Leozinho\_96:

(Start: 11 @51523 has 203 MA's), (12, 51550), (14, 51556), (18, 51637), (25, 51682), (31, 51745),

Gene: Leperchaun\_101 Start: 55009, Stop: 55251, Start Num: 11

Candidate Starts for Leperchaun\_101:

(Start: 11 @55009 has 203 MA's), (12, 55036), (14, 55042), (18, 55123), (20, 55132), (25, 55168), (31, 55231),

Gene: LilMoolah\_102 Start: 54980, Stop: 55222, Start Num: 11

Candidate Starts for LilMoolah\_102:

(Start: 11 @54980 has 203 MA's), (12, 55007), (14, 55013), (18, 55094), (25, 55139), (31, 55202),

Gene: LittleShirley\_106 Start: 55377, Stop: 55619, Start Num: 11

Candidate Starts for LittleShirley\_106:

(Start: 11 @55377 has 203 MA's), (12, 55404), (14, 55410), (18, 55491), (21, 55503), (25, 55536), (27, 55572), (31, 55599),

Gene: Lizziana\_100 Start: 55248, Stop: 55490, Start Num: 11

Candidate Starts for Lizziana\_100:

(Start: 11 @55248 has 203 MA's), (12, 55275), (14, 55281), (18, 55362), (21, 55374), (25, 55407), (27, 55443), (31, 55470),

Gene: Llama\_106 Start: 55100, Stop: 55342, Start Num: 11

Candidate Starts for Llama\_106:

(Start: 11 @55100 has 203 MA's), (12, 55127), (14, 55133), (18, 55214), (19, 55217), (21, 55226), (25, 55259), (27, 55295), (30, 55319),

Gene: Llij\_94 Start: 52931, Stop: 53173, Start Num: 11

Candidate Starts for Llij\_94:

(Start: 11 @52931 has 203 MA's), (12, 52958), (14, 52964), (18, 53045), (25, 53090), (31, 53153),

Gene: Lorde\_102 Start: 50847, Stop: 51089, Start Num: 11

Candidate Starts for Lorde\_102:

(Start: 11 @50847 has 203 MA's), (12, 50874), (14, 50880), (18, 50961), (25, 51006), (31, 51069),

Gene: LunaBlu\_106 Start: 55618, Stop: 55860, Start Num: 11

Candidate Starts for LunaBlu\_106:

(Start: 11 @55618 has 203 MA's), (12, 55645), (14, 55651), (18, 55732), (19, 55735), (21, 55744), (25, 55777), (27, 55813), (30, 55837),

Gene: LunaStella\_87 Start: 52426, Stop: 52686, Start Num: 7

Candidate Starts for LunaStella\_87:

(3, 52384), (Start: 7 @52426 has 3 MA's), (13, 52462), (14, 52465), (16, 52528), (18, 52558), (21, 52570), (23, 52579), (24, 52588), (25, 52603),

Gene: MadKillah\_27 Start: 11869, Stop: 12105, Start Num: 9

Candidate Starts for MadKillah\_27:

(2, 11734), (5, 11845), (6, 11857), (Start: 9 @11869 has 22 MA's), (20, 12004), (21, 12007), (22, 12013), (23, 12016), (26, 12046), (28, 12082), (29, 12088),

Gene: MadMen\_104 Start: 54546, Stop: 54812, Start Num: 11

Candidate Starts for MadMen\_104:

(Start: 11 @54546 has 203 MA's), (12, 54573), (14, 54579), (18, 54660), (21, 54672), (25, 54705),

Gene: Madiba\_98 Start: 53288, Stop: 53530, Start Num: 11

Candidate Starts for Madiba\_98:

(Start: 11 @53288 has 203 MA's), (12, 53315), (14, 53321), (18, 53402), (25, 53447), (31, 53510),

Gene: Magsby\_70 Start: 42933, Stop: 43178, Start Num: 10

Candidate Starts for Magsby\_70:

(Start: 10 @42933 has 37 MA's), (14, 42972),

Gene: Mahavrat\_93 Start: 51501, Stop: 51743, Start Num: 11

Candidate Starts for Mahavrat\_93:

(Start: 11 @51501 has 203 MA's), (12, 51528), (14, 51534), (18, 51615), (25, 51660), (27, 51696), (30, 51720),

Gene: Mandlovu\_97 Start: 52254, Stop: 52496, Start Num: 11

Candidate Starts for Mandlovu\_97:

(Start: 11 @52254 has 203 MA's), (12, 52281), (14, 52287), (18, 52368), (21, 52380), (25, 52413), (27, 52449), (31, 52476),

Gene: Mantra\_97 Start: 53608, Stop: 53850, Start Num: 11

Candidate Starts for Mantra\_97:

(Start: 11 @53608 has 203 MA's), (12, 53635), (14, 53641), (18, 53722), (25, 53767), (31, 53830),

Gene: Maravista\_96 Start: 55908, Stop: 56150, Start Num: 11

Candidate Starts for Maravista\_96:

(Start: 11 @55908 has 203 MA's), (12, 55935), (14, 55941), (18, 56022), (21, 56034), (25, 56067), (27, 56103), (31, 56130),

Gene: Marker\_113 Start: 55391, Stop: 55633, Start Num: 11

Candidate Starts for Marker\_113:

(Start: 11 @55391 has 203 MA's), (12, 55418), (14, 55424), (18, 55505), (20, 55514), (25, 55550), (31, 55613),

Gene: Martik\_98 Start: 55711, Stop: 55953, Start Num: 11

Candidate Starts for Martik\_98:

(Start: 11 @55711 has 203 MA's), (12, 55738), (14, 55744), (18, 55825), (21, 55837), (25, 55870), (27, 55906), (30, 55930),

Gene: Mattes\_100 Start: 54917, Stop: 55159, Start Num: 11

Candidate Starts for Mattes\_100:

(Start: 11 @54917 has 203 MA's), (12, 54944), (14, 54950), (18, 55031), (25, 55076), (31, 55139),

Gene: Melissauren88\_89 Start: 50733, Stop: 50975, Start Num: 11

Candidate Starts for Melissauren88\_89:

(Start: 11 @50733 has 203 MA's), (12, 50760), (14, 50766), (18, 50847), (21, 50859), (25, 50892), (27, 50928), (31, 50955),

Gene: Melville\_76 Start: 42542, Stop: 42787, Start Num: 10

Candidate Starts for Melville\_76:

(Start: 10 @42542 has 37 MA's), (14, 42581),

Gene: MichelleMyBell\_69 Start: 41523, Stop: 41768, Start Num: 10

Candidate Starts for MichelleMyBell\_69:

(Start: 10 @41523 has 37 MA's), (14, 41562),

Gene: MilanaBonita\_92 Start: 52629, Stop: 52871, Start Num: 11

Candidate Starts for MilanaBonita\_92:

(Start: 11 @52629 has 203 MA's), (12, 52656), (14, 52662), (18, 52743), (21, 52755), (25, 52788), (27, 52824), (31, 52851),

Gene: MilleniumForce\_99 Start: 54436, Stop: 54678, Start Num: 11

Candidate Starts for MilleniumForce\_99:

(Start: 11 @54436 has 203 MA's), (12, 54463), (14, 54469), (18, 54550), (21, 54562), (25, 54595), (27, 54631), (31, 54658),

Gene: MinionDave\_97 Start: 54338, Stop: 54604, Start Num: 11

Candidate Starts for MinionDave\_97:

(Start: 11 @54338 has 203 MA's), (12, 54365), (14, 54371), (18, 54452), (21, 54464), (25, 54497),

Gene: Minnie\_94 Start: 55329, Stop: 55571, Start Num: 11

Candidate Starts for Minnie\_94:

(Start: 11 @55329 has 203 MA's), (12, 55356), (14, 55362), (18, 55443), (25, 55488), (31, 55551),

Gene: Misha28\_89 Start: 54702, Stop: 54944, Start Num: 11

Candidate Starts for Misha28\_89:

(Start: 11 @54702 has 203 MA's), (12, 54729), (14, 54735), (18, 54816), (21, 54828), (25, 54861),

Gene: MisterCuddles\_99 Start: 54578, Stop: 54820, Start Num: 11

Candidate Starts for MisterCuddles\_99:

(Start: 11 @54578 has 203 MA's), (12, 54605), (14, 54611), (18, 54692), (20, 54701), (25, 54737), (27, 54773), (31, 54800),

Gene: Modragons\_103 Start: 55088, Stop: 55330, Start Num: 11

Candidate Starts for Modragons\_103:

(Start: 11 @55088 has 203 MA's), (12, 55115), (14, 55121), (18, 55202), (19, 55205), (21, 55214), (25, 55247), (27, 55283), (30, 55307),

Gene: Moonbeam\_102 Start: 54824, Stop: 55066, Start Num: 11

Candidate Starts for Moonbeam\_102:

(Start: 11 @54824 has 203 MA's), (12, 54851), (14, 54857), (18, 54938), (20, 54947), (25, 54983), (31, 55046),

Gene: Mori\_26 Start: 11707, Stop: 11943, Start Num: 9

Candidate Starts for Mori\_26:

(2, 11572), (5, 11683), (6, 11695), (Start: 9 @11707 has 22 MA's), (20, 11842), (21, 11845), (22, 11851), (23, 11854), (26, 11884), (28, 11920), (29, 11926),

Gene: Mova\_101 Start: 54366, Stop: 54608, Start Num: 11

Candidate Starts for Mova\_101:

(Start: 11 @54366 has 203 MA's), (12, 54393), (14, 54399), (18, 54480), (21, 54492), (25, 54525), (27, 54561), (31, 54588),

Gene: Mozy\_103 Start: 54001, Stop: 54243, Start Num: 11

Candidate Starts for Mozy\_103:

(Start: 11 @54001 has 203 MA's), (12, 54028), (14, 54034), (18, 54115), (21, 54127), (25, 54160), (27, 54196), (31, 54223),

Gene: Ms6\_101 Start: 50624, Stop: 50866, Start Num: 11

Candidate Starts for Ms6\_101:

(Start: 11 @50624 has 203 MA's), (12, 50651), (14, 50657), (18, 50738), (21, 50750), (25, 50783), (27, 50819), (31, 50846),

Gene: MulchSalad\_101 Start: 55257, Stop: 55499, Start Num: 11

Candidate Starts for MulchSalad\_101:

(Start: 11 @55257 has 203 MA's), (12, 55284), (14, 55290), (18, 55371), (21, 55383), (25, 55416),

Gene: Murai\_26 Start: 11708, Stop: 11944, Start Num: 9

Candidate Starts for Murai\_26:

(2, 11573), (5, 11684), (6, 11696), (Start: 9 @11708 has 22 MA's), (20, 11843), (21, 11846), (22, 11852), (23, 11855), (26, 11885), (28, 11921), (29, 11927),

Gene: Mutaforma13\_100 Start: 54035, Stop: 54277, Start Num: 11

Candidate Starts for Mutaforma13\_100:

(Start: 11 @54035 has 203 MA's), (12, 54062), (14, 54068), (18, 54149), (19, 54152), (21, 54161), (25, 54194), (27, 54230), (30, 54254),

Gene: Nenae\_69 Start: 41880, Stop: 42125, Start Num: 10

Candidate Starts for Nenae\_69:

(Start: 10 @41880 has 37 MA's), (14, 41919), (15, 41976),

Gene: NiebruSaylor\_26 Start: 11708, Stop: 11944, Start Num: 9

Candidate Starts for NiebruSaylor\_26:

(2, 11573), (5, 11684), (6, 11696), (Start: 9 @11708 has 22 MA's), (20, 11843), (21, 11846), (22, 11852), (23, 11855), (26, 11885), (28, 11921), (29, 11927),

Gene: Nimbo\_91 Start: 52581, Stop: 52823, Start Num: 11

Candidate Starts for Nimbo\_91:

(Start: 11 @52581 has 203 MA's), (12, 52608), (14, 52614), (18, 52695), (20, 52704), (25, 52740), (31, 52803),

Gene: Nitzel\_93 Start: 51194, Stop: 51436, Start Num: 11

Candidate Starts for Nitzel\_93:

(Start: 11 @51194 has 203 MA's), (12, 51221), (14, 51227), (18, 51308), (21, 51320), (25, 51353), (30, 51413), (31, 51416),

Gene: Nivrat\_99 Start: 54853, Stop: 55095, Start Num: 11

Candidate Starts for Nivrat\_99:

(Start: 11 @54853 has 203 MA's), (12, 54880), (14, 54886), (18, 54967), (25, 55012), (31, 55075),

Gene: NormanBulbieJr\_97 Start: 54957, Stop: 55199, Start Num: 11

Candidate Starts for NormanBulbieJr\_97:

(Start: 11 @54957 has 203 MA's), (12, 54984), (14, 54990), (18, 55071), (21, 55083), (25, 55116), (27, 55152), (31, 55179),

Gene: Ochi17\_105 Start: 54695, Stop: 54937, Start Num: 11

Candidate Starts for Ochi17\_105:

(Start: 11 @54695 has 203 MA's), (12, 54722), (14, 54728), (18, 54809), (19, 54812), (21, 54821), (25, 54854), (27, 54890), (30, 54914),

Gene: OfUltron\_106 Start: 55244, Stop: 55486, Start Num: 11

Candidate Starts for OfUltron\_106:

(Start: 11 @55244 has 203 MA's), (12, 55271), (14, 55277), (18, 55358), (19, 55361), (21, 55370), (25, 55403), (27, 55439), (30, 55463),

Gene: Ogopogo\_103 Start: 53186, Stop: 53428, Start Num: 11

Candidate Starts for Ogopogo\_103:

(Start: 11 @53186 has 203 MA's), (12, 53213), (14, 53219), (18, 53300), (25, 53345), (31, 53408),

Gene: Oksu\_103 Start: 56334, Stop: 56576, Start Num: 11

Candidate Starts for Oksu\_103:

(Start: 11 @56334 has 203 MA's), (12, 56361), (14, 56367), (18, 56448), (19, 56451), (21, 56460), (25, 56493), (27, 56529), (30, 56553),

Gene: OldBen\_96 Start: 53973, Stop: 54215, Start Num: 11

Candidate Starts for OldBen\_96:

(Start: 11 @53973 has 203 MA's), (12, 54000), (14, 54006), (18, 54087), (20, 54096), (25, 54132), (31, 54195),

Gene: OlympiaSaint\_103 Start: 55147, Stop: 55389, Start Num: 11

Candidate Starts for OlympiaSaint\_103:

(Start: 11 @55147 has 203 MA's), (12, 55174), (14, 55180), (18, 55261), (21, 55273), (25, 55306), (31, 55369),

Gene: Ovechkin\_102 Start: 54673, Stop: 54915, Start Num: 11

Candidate Starts for Ovechkin\_102:

(Start: 11 @54673 has 203 MA's), (12, 54700), (14, 54706), (18, 54787), (19, 54790), (21, 54799), (25, 54832), (27, 54868), (30, 54892),

Gene: OwlsT2W\_97 Start: 52877, Stop: 53119, Start Num: 11

Candidate Starts for OwlsT2W\_97:

(Start: 11 @52877 has 203 MA's), (12, 52904), (14, 52910), (18, 52991), (21, 53003), (25, 53036), (27, 53072), (31, 53099),

Gene: PHappiness\_99 Start: 54802, Stop: 55044, Start Num: 11

Candidate Starts for PHappiness\_99:

(Start: 11 @54802 has 203 MA's), (12, 54829), (14, 54835), (18, 54916), (20, 54925), (25, 54961), (31, 55024),

Gene: PMC\_98 Start: 53017, Stop: 53259, Start Num: 11

Candidate Starts for PMC\_98:

(Start: 11 @53017 has 203 MA's), (12, 53044), (14, 53050), (18, 53131), (25, 53176), (31, 53239),

Gene: Pacc40\_97 Start: 55396, Stop: 55638, Start Num: 11

Candidate Starts for Pacc40\_97:

(Start: 11 @55396 has 203 MA's), (12, 55423), (14, 55429), (18, 55510), (20, 55519), (25, 55555), (31, 55618),

Gene: Panchino\_65 Start: 42798, Stop: 43043, Start Num: 10

Candidate Starts for Panchino\_65:

(Start: 10 @42798 has 37 MA's), (14, 42837),

Gene: Parmesanjohn\_71 Start: 42991, Stop: 43236, Start Num: 10

Candidate Starts for Parmesanjohn\_71:

(Start: 10 @42991 has 37 MA's), (14, 43030),

Gene: Phalconet\_100 Start: 54026, Stop: 54268, Start Num: 11

Candidate Starts for Phalconet\_100:

(Start: 11 @54026 has 203 MA's), (12, 54053), (14, 54059), (18, 54140), (21, 54152), (25, 54185), (27, 54221), (31, 54248),

Gene: PhancyPhin\_68 Start: 41737, Stop: 41982, Start Num: 10

Candidate Starts for PhancyPhin\_68:

(Start: 10 @41737 has 37 MA's), (14, 41776),

Gene: Phanphagia\_104 Start: 55781, Stop: 56023, Start Num: 11

Candidate Starts for Phanphagia\_104:

(Start: 11 @55781 has 203 MA's), (12, 55808), (14, 55814), (18, 55895), (21, 55907), (25, 55940), (27, 55976), (31, 56003),

Gene: Phasih\_96 Start: 52914, Stop: 53180, Start Num: 11

Candidate Starts for Phasih\_96:

(Start: 11 @52914 has 203 MA's), (12, 52941), (14, 52947), (18, 53028), (20, 53037), (25, 53073),

Gene: Phatniss\_97 Start: 53358, Stop: 53600, Start Num: 11

Candidate Starts for Phatniss\_97:



(Start: 11 @53358 has 203 MA's), (12, 53385), (14, 53391), (18, 53472), (21, 53484), (25, 53517), (27, 53553), (31, 53580),

Gene: PhesterPhotato\_102 Start: 54000, Stop: 54242, Start Num: 11

Candidate Starts for PhesterPhotato\_102:

(Start: 11 @54000 has 203 MA's), (12, 54027), (14, 54033), (18, 54114), (21, 54126), (25, 54159), (27, 54195), (31, 54222),

Gene: Philonius\_71 Start: 43177, Stop: 43422, Start Num: 10

Candidate Starts for Philonius\_71:

(Start: 10 @43177 has 37 MA's), (14, 43216),

Gene: Philus\_103 Start: 56088, Stop: 56330, Start Num: 11

Candidate Starts for Philus\_103:

(Start: 11 @56088 has 203 MA's), (12, 56115), (14, 56121), (18, 56202), (21, 56214), (25, 56247), (27, 56283), (31, 56310),

Gene: Phloss\_69 Start: 42398, Stop: 42643, Start Num: 10

Candidate Starts for Phloss\_69:

(Start: 10 @42398 has 37 MA's), (14, 42437),

Gene: Phrann\_66 Start: 44154, Stop: 44399, Start Num: 10

Candidate Starts for Phrann\_66:

(Start: 10 @44154 has 37 MA's), (14, 44193),

Gene: Piper2020\_94 Start: 54950, Stop: 55192, Start Num: 11

Candidate Starts for Piper2020\_94:

(Start: 11 @54950 has 203 MA's), (12, 54977), (14, 54983), (18, 55064), (21, 55076), (25, 55109),

Gene: Pippy\_97 Start: 53228, Stop: 53470, Start Num: 11

Candidate Starts for Pippy\_97:

(Start: 11 @53228 has 203 MA's), (12, 53255), (14, 53261), (18, 53342), (21, 53354), (25, 53387), (27, 53423), (31, 53450),

Gene: Pipsqueaks\_72 Start: 42969, Stop: 43214, Start Num: 10

Candidate Starts for Pipsqueaks\_72:

(Start: 10 @42969 has 37 MA's), (14, 43008),

Gene: Plumbus\_98 Start: 51698, Stop: 51940, Start Num: 11

Candidate Starts for Plumbus\_98:

(Start: 11 @51698 has 203 MA's), (12, 51725), (14, 51731), (18, 51812), (25, 51857), (31, 51920),

Gene: Poenanya\_103 Start: 55510, Stop: 55752, Start Num: 11

Candidate Starts for Poenanya\_103:

(Start: 11 @55510 has 203 MA's), (12, 55537), (14, 55543), (18, 55624), (20, 55633), (25, 55669), (31, 55732),

Gene: Polka14\_103 Start: 55571, Stop: 55813, Start Num: 11

Candidate Starts for Polka14\_103:

(Start: 11 @55571 has 203 MA's), (12, 55598), (14, 55604), (18, 55685), (20, 55694), (25, 55730), (31, 55793),

Gene: Pollywog\_101 Start: 55629, Stop: 55871, Start Num: 11

Candidate Starts for Pollywog\_101:

(Start: 11 @55629 has 203 MA's), (12, 55656), (14, 55662), (18, 55743), (20, 55752), (25, 55788), (31, 55851),

Gene: PopTart\_90 Start: 51430, Stop: 51672, Start Num: 11

Candidate Starts for PopTart\_90:

(Start: 11 @51430 has 203 MA's), (12, 51457), (14, 51463), (18, 51544), (19, 51547), (21, 51556), (25, 51589), (27, 51625), (30, 51649),

Gene: Priscilla\_100 Start: 55055, Stop: 55297, Start Num: 11

Candidate Starts for Priscilla\_100:

(Start: 11 @55055 has 203 MA's), (12, 55082), (14, 55088), (18, 55169), (21, 55181), (25, 55214), (27, 55250), (31, 55277),

Gene: Purgamenstris\_69 Start: 41878, Stop: 42123, Start Num: 10

Candidate Starts for Purgamenstris\_69:

(Start: 10 @41878 has 37 MA's), (14, 41917), (15, 41974),

Gene: QuickMath\_100 Start: 53837, Stop: 54103, Start Num: 11

Candidate Starts for QuickMath\_100:

(Start: 11 @53837 has 203 MA's), (12, 53864), (14, 53870), (18, 53951), (21, 53963), (25, 53996),

Gene: Quico\_108 Start: 55909, Stop: 56151, Start Num: 11

Candidate Starts for Quico\_108:

(Start: 11 @55909 has 203 MA's), (12, 55936), (14, 55942), (18, 56023), (21, 56035), (25, 56068), (30, 56128), (31, 56131),

Gene: Radiance\_97 Start: 53914, Stop: 54156, Start Num: 11

Candidate Starts for Radiance\_97:

(Start: 11 @53914 has 203 MA's), (12, 53941), (14, 53947), (18, 54028), (20, 54037), (25, 54073), (31, 54136),

Gene: Ramsey\_104 Start: 55810, Stop: 56052, Start Num: 11

Candidate Starts for Ramsey\_104:

(Start: 11 @55810 has 203 MA's), (12, 55837), (14, 55843), (18, 55924), (19, 55927), (21, 55936), (25, 55969), (27, 56005), (30, 56029),

Gene: Raymond7\_62 Start: 41666, Stop: 41911, Start Num: 10

Candidate Starts for Raymond7\_62:

(Start: 10 @41666 has 37 MA's), (14, 41705), (15, 41762),

Gene: Rebel\_65 Start: 39862, Stop: 40107, Start Num: 10

Candidate Starts for Rebel\_65:

(Start: 10 @39862 has 37 MA's), (14, 39901), (15, 39958),

Gene: RedBird\_100 Start: 55549, Stop: 55791, Start Num: 11

Candidate Starts for RedBird\_100:

(Start: 11 @55549 has 203 MA's), (12, 55576), (14, 55582), (18, 55663), (20, 55672), (25, 55708), (31, 55771),

Gene: Redi\_68 Start: 41877, Stop: 42122, Start Num: 10

Candidate Starts for Redi\_68:

(Start: 10 @41877 has 37 MA's), (14, 41916), (15, 41973),

Gene: Renaud18\_109 Start: 55181, Stop: 55441, Start Num: 7

Candidate Starts for Renaud18\_109:

(4, 55160), (Start: 7 @55181 has 3 MA's), (12, 55214), (13, 55217), (14, 55220), (17, 55292), (18, 55313), (21, 55325), (23, 55334), (25, 55358), (27, 55394), (31, 55421),

Gene: Rialto\_104 Start: 55165, Stop: 55407, Start Num: 11

Candidate Starts for Rialto\_104:

(Start: 11 @55165 has 203 MA's), (12, 55192), (14, 55198), (18, 55279), (20, 55288), (25, 55324), (31, 55387),

Gene: Rita\_99 Start: 55625, Stop: 55867, Start Num: 11

Candidate Starts for Rita\_99:

(Start: 11 @55625 has 203 MA's), (12, 55652), (14, 55658), (18, 55739), (21, 55751), (25, 55784), (27, 55820), (31, 55847),

Gene: RitaG\_98 Start: 54604, Stop: 54846, Start Num: 11

Candidate Starts for RitaG\_98:

(Start: 11 @54604 has 203 MA's), (12, 54631), (14, 54637), (18, 54718), (20, 54727), (25, 54763), (31, 54826),

Gene: Rockne\_102 Start: 53029, Stop: 53271, Start Num: 11

Candidate Starts for Rockne\_102:

(Start: 11 @53029 has 203 MA's), (12, 53056), (14, 53062), (18, 53143), (25, 53188), (31, 53251),

Gene: RockyHorror\_103 Start: 53714, Stop: 53956, Start Num: 11

Candidate Starts for RockyHorror\_103:

(Start: 11 @53714 has 203 MA's), (12, 53741), (14, 53747), (18, 53828), (25, 53873), (31, 53936),

Gene: Royals2015\_103 Start: 53160, Stop: 53402, Start Num: 11

Candidate Starts for Royals2015\_103:

(Start: 11 @53160 has 203 MA's), (12, 53187), (14, 53193), (18, 53274), (21, 53286), (25, 53319), (27, 53355), (31, 53382),

Gene: Rubeelu\_65 Start: 40786, Stop: 41031, Start Num: 10

Candidate Starts for Rubeelu\_65:

(1, 40279), (Start: 10 @40786 has 37 MA's), (14, 40825), (18, 40915),

Gene: Ruby\_96 Start: 54580, Stop: 54822, Start Num: 11

Candidate Starts for Ruby\_96:

(Start: 11 @54580 has 203 MA's), (12, 54607), (14, 54613), (18, 54694), (21, 54706), (25, 54739), (27, 54775), (31, 54802),

Gene: Ryadel\_28 Start: 12290, Stop: 12526, Start Num: 9

Candidate Starts for Ryadel\_28:

(2, 12155), (5, 12266), (6, 12278), (Start: 9 @12290 has 22 MA's), (20, 12425), (21, 12428), (22, 12434), (23, 12437), (26, 12467), (28, 12503), (29, 12509),

Gene: SG4\_100 Start: 55394, Stop: 55636, Start Num: 11

Candidate Starts for SG4\_100:

(Start: 11 @55394 has 203 MA's), (12, 55421), (14, 55427), (18, 55508), (21, 55520), (25, 55553), (27, 55589), (30, 55613),

Gene: Saal\_97 Start: 54619, Stop: 54861, Start Num: 11  
Candidate Starts for Saal\_97:  
(Start: 11 @54619 has 203 MA's), (12, 54646), (14, 54652), (18, 54733), (25, 54778), (31, 54841),

Gene: Sabbb\_102 Start: 52585, Stop: 52827, Start Num: 11  
Candidate Starts for Sabbb\_102:  
(Start: 11 @52585 has 203 MA's), (12, 52612), (14, 52618), (18, 52699), (21, 52711), (25, 52744), (31, 52807),

Gene: Sandalphon\_99 Start: 55612, Stop: 55854, Start Num: 11  
Candidate Starts for Sandalphon\_99:  
(Start: 11 @55612 has 203 MA's), (12, 55639), (14, 55645), (18, 55726), (25, 55771), (31, 55834),

Gene: Sarma624\_101 Start: 51554, Stop: 51796, Start Num: 11  
Candidate Starts for Sarma624\_101:  
(Start: 11 @51554 has 203 MA's), (12, 51581), (14, 51587), (18, 51668), (21, 51680), (25, 51713), (27, 51749), (31, 51776),

Gene: Sassafras\_101 Start: 53866, Stop: 54108, Start Num: 11  
Candidate Starts for Sassafras\_101:  
(Start: 11 @53866 has 203 MA's), (12, 53893), (14, 53899), (18, 53980), (20, 53989), (25, 54025), (31, 54088),

Gene: SassyB\_90 Start: 51430, Stop: 51672, Start Num: 11  
Candidate Starts for SassyB\_90:  
(Start: 11 @51430 has 203 MA's), (12, 51457), (14, 51463), (18, 51544), (19, 51547), (21, 51556), (25, 51589), (27, 51625), (30, 51649),

Gene: Schnauzer\_73 Start: 42991, Stop: 43236, Start Num: 10  
Candidate Starts for Schnauzer\_73:  
(Start: 10 @42991 has 37 MA's), (14, 43030),

Gene: SchoolBus\_25 Start: 11477, Stop: 11713, Start Num: 9  
Candidate Starts for SchoolBus\_25:  
(2, 11342), (5, 11453), (6, 11465), (Start: 9 @11477 has 22 MA's), (20, 11612), (21, 11615), (22, 11621), (23, 11624), (26, 11654), (28, 11690), (29, 11696),

Gene: Schuy\_24 Start: 11869, Stop: 12105, Start Num: 9  
Candidate Starts for Schuy\_24:  
(2, 11734), (5, 11845), (6, 11857), (Start: 9 @11869 has 22 MA's), (20, 12004), (21, 12007), (22, 12013), (23, 12016), (26, 12046), (28, 12082), (29, 12088),

Gene: Scitech\_66 Start: 42394, Stop: 42639, Start Num: 10  
Candidate Starts for Scitech\_66:  
(Start: 10 @42394 has 37 MA's), (14, 42433),

Gene: Scottish\_99 Start: 53443, Stop: 53685, Start Num: 11  
Candidate Starts for Scottish\_99:  
(Start: 11 @53443 has 203 MA's), (12, 53470), (14, 53476), (18, 53557), (20, 53566), (25, 53602), (31, 53665),

Gene: Seabastian\_106 Start: 55245, Stop: 55487, Start Num: 11  
Candidate Starts for Seabastian\_106:

(Start: 11 @55245 has 203 MA's), (12, 55272), (14, 55278), (18, 55359), (19, 55362), (21, 55371), (25, 55404), (27, 55440), (30, 55464),

Gene: Seagreen\_100 Start: 54532, Stop: 54774, Start Num: 11

Candidate Starts for Seagreen\_100:

(Start: 11 @54532 has 203 MA's), (12, 54559), (14, 54565), (18, 54646), (21, 54658), (25, 54691), (27, 54727), (31, 54754),

Gene: Shauna1\_101 Start: 55397, Stop: 55639, Start Num: 11

Candidate Starts for Shauna1\_101:

(Start: 11 @55397 has 203 MA's), (12, 55424), (14, 55430), (18, 55511), (21, 55523), (25, 55556), (27, 55592), (31, 55619),

Gene: ShiLan\_102 Start: 56636, Stop: 56878, Start Num: 11

Candidate Starts for ShiLan\_102:

(Start: 11 @56636 has 203 MA's), (12, 56663), (14, 56669), (18, 56750), (25, 56795), (31, 56858),

Gene: Shida\_26 Start: 11774, Stop: 12010, Start Num: 9

Candidate Starts for Shida\_26:

(2, 11639), (5, 11750), (6, 11762), (Start: 9 @11774 has 22 MA's), (20, 11909), (21, 11912), (22, 11918), (23, 11921), (26, 11951), (28, 11987), (29, 11993),

Gene: ShowerHandel\_97 Start: 53901, Stop: 54143, Start Num: 11

Candidate Starts for ShowerHandel\_97:

(Start: 11 @53901 has 203 MA's), (12, 53928), (14, 53934), (18, 54015), (21, 54027), (25, 54060), (27, 54096), (31, 54123),

Gene: ShrimpFriedEgg\_69 Start: 41877, Stop: 42122, Start Num: 10

Candidate Starts for ShrimpFriedEgg\_69:

(Start: 10 @41877 has 37 MA's), (14, 41916), (15, 41973),

Gene: ShroomBoi\_97 Start: 53949, Stop: 54191, Start Num: 11

Candidate Starts for ShroomBoi\_97:

(Start: 11 @53949 has 203 MA's), (12, 53976), (14, 53982), (18, 54063), (25, 54108), (31, 54171),

Gene: Shweta\_65 Start: 41973, Stop: 42218, Start Num: 10

Candidate Starts for Shweta\_65:

(Start: 10 @41973 has 37 MA's), (14, 42012),

Gene: SiSi\_95 Start: 53133, Stop: 53375, Start Num: 11

Candidate Starts for SiSi\_95:

(Start: 11 @53133 has 203 MA's), (12, 53160), (14, 53166), (18, 53247), (19, 53250), (21, 53259), (25, 53292), (27, 53328), (30, 53352),

Gene: Silvafighter\_73 Start: 42534, Stop: 42779, Start Num: 10

Candidate Starts for Silvafighter\_73:

(Start: 10 @42534 has 37 MA's), (14, 42573),

Gene: Silvy\_72 Start: 43624, Stop: 43869, Start Num: 10

Candidate Starts for Silvy\_72:

(Start: 10 @43624 has 37 MA's), (14, 43663),

Gene: SimranZ1\_96 Start: 52496, Stop: 52738, Start Num: 11

Candidate Starts for SimranZ1\_96:

(Start: 11 @52496 has 203 MA's), (12, 52523), (14, 52529), (18, 52610), (25, 52655), (27, 52691), (31, 52718),

Gene: SkinnyPete\_67 Start: 42760, Stop: 43005, Start Num: 10

Candidate Starts for SkinnyPete\_67:

(Start: 10 @42760 has 37 MA's), (14, 42799),

Gene: Smooch\_29 Start: 13223, Stop: 13459, Start Num: 9

Candidate Starts for Smooch\_29:

(2, 13088), (5, 13199), (6, 13211), (Start: 9 @13223 has 22 MA's), (20, 13358), (21, 13361), (22, 13367), (23, 13370), (26, 13400), (28, 13436), (29, 13442),

Gene: Smurph\_71 Start: 42991, Stop: 43236, Start Num: 10

Candidate Starts for Smurph\_71:

(Start: 10 @42991 has 37 MA's), (14, 43030),

Gene: Snekmaggedon\_63 Start: 40560, Stop: 40805, Start Num: 10

Candidate Starts for Snekmaggedon\_63:

(Start: 10 @40560 has 37 MA's), (14, 40599),

Gene: Sparkdehlily\_106 Start: 53114, Stop: 53356, Start Num: 11

Candidate Starts for Sparkdehlily\_106:

(Start: 11 @53114 has 203 MA's), (12, 53141), (14, 53147), (18, 53228), (25, 53273), (31, 53336),

Gene: Spartacus\_106 Start: 57228, Stop: 57470, Start Num: 11

Candidate Starts for Spartacus\_106:

(Start: 11 @57228 has 203 MA's), (12, 57255), (14, 57261), (18, 57342), (25, 57387), (31, 57450),

Gene: Spikelee\_100 Start: 55608, Stop: 55850, Start Num: 11

Candidate Starts for Spikelee\_100:

(Start: 11 @55608 has 203 MA's), (12, 55635), (14, 55641), (18, 55722), (25, 55767), (31, 55830),

Gene: SpongeBob\_64 Start: 40560, Stop: 40805, Start Num: 10

Candidate Starts for SpongeBob\_64:

(Start: 10 @40560 has 37 MA's), (14, 40599),

Gene: Spoonbill\_99 Start: 52549, Stop: 52791, Start Num: 11

Candidate Starts for Spoonbill\_99:

(Start: 11 @52549 has 203 MA's), (12, 52576), (14, 52582), (18, 52663), (25, 52708), (31, 52771),

Gene: Squirty\_98 Start: 57518, Stop: 57760, Start Num: 11

Candidate Starts for Squirty\_98:

(Start: 11 @57518 has 203 MA's), (12, 57545), (14, 57551), (18, 57632), (21, 57644), (25, 57677),

Gene: StAnnes\_103 Start: 55445, Stop: 55687, Start Num: 11

Candidate Starts for StAnnes\_103:

(Start: 11 @55445 has 203 MA's), (12, 55472), (14, 55478), (18, 55559), (19, 55562), (21, 55571), (25, 55604), (27, 55640), (30, 55664), (31, 55667),

Gene: Stap\_94 Start: 51161, Stop: 51403, Start Num: 11

Candidate Starts for Stap\_94:

(Start: 11 @51161 has 203 MA's), (12, 51188), (14, 51194), (18, 51275), (21, 51287), (25, 51320), (31, 51383),

Gene: Starcevich\_101 Start: 55278, Stop: 55520, Start Num: 11

Candidate Starts for Starcevich\_101:

(Start: 11 @55278 has 203 MA's), (12, 55305), (14, 55311), (18, 55392), (21, 55404), (25, 55437), (31, 55500),

Gene: Strokeseat\_97 Start: 52311, Stop: 52553, Start Num: 11

Candidate Starts for Strokeseat\_97:

(Start: 11 @52311 has 203 MA's), (12, 52338), (14, 52344), (18, 52425), (21, 52437), (25, 52470), (27, 52506), (31, 52533),

Gene: SuperGrey\_99 Start: 56197, Stop: 56439, Start Num: 11

Candidate Starts for SuperGrey\_99:

(Start: 11 @56197 has 203 MA's), (12, 56224), (14, 56230), (18, 56311), (21, 56323), (25, 56356), (27, 56392), (31, 56419),

Gene: SwagPigglett\_101 Start: 55755, Stop: 55997, Start Num: 11

Candidate Starts for SwagPigglett\_101:

(Start: 11 @55755 has 203 MA's), (12, 55782), (14, 55788), (18, 55869), (21, 55881), (25, 55914), (27, 55950), (31, 55977),

Gene: TChen\_97 Start: 54377, Stop: 54637, Start Num: 7

Candidate Starts for TChen\_97:

(3, 54335), (Start: 7 @54377 has 3 MA's), (13, 54413), (14, 54416), (16, 54479), (18, 54509), (21, 54521), (23, 54530), (24, 54539), (25, 54554),

Gene: TDanisky\_107 Start: 53114, Stop: 53356, Start Num: 11

Candidate Starts for TDanisky\_107:

(Start: 11 @53114 has 203 MA's), (12, 53141), (14, 53147), (18, 53228), (25, 53273), (31, 53336),

Gene: Taj\_105 Start: 55403, Stop: 55645, Start Num: 11

Candidate Starts for Taj\_105:

(Start: 11 @55403 has 203 MA's), (12, 55430), (14, 55436), (18, 55517), (21, 55529), (25, 55562), (27, 55598), (31, 55625),

Gene: Tapioca\_69 Start: 43496, Stop: 43741, Start Num: 10

Candidate Starts for Tapioca\_69:

(Start: 10 @43496 has 37 MA's), (14, 43535),

Gene: TelAviv\_23 Start: 11474, Stop: 11710, Start Num: 9

Candidate Starts for TelAviv\_23:

(2, 11339), (5, 11450), (6, 11462), (Start: 9 @11474 has 22 MA's), (20, 11609), (21, 11612), (22, 11618), (23, 11621), (26, 11651), (28, 11687), (29, 11693),

Gene: ThetaBob\_102 Start: 53402, Stop: 53662, Start Num: 7

Candidate Starts for ThetaBob\_102:

(4, 53381), (Start: 7 @53402 has 3 MA's), (12, 53435), (13, 53438), (14, 53441), (17, 53513), (18, 53534), (21, 53546), (23, 53555), (25, 53579), (27, 53615), (31, 53642),

Gene: TootsiePop\_89 Start: 54702, Stop: 54944, Start Num: 11

Candidate Starts for TootsiePop\_89:

(Start: 11 @54702 has 203 MA's), (12, 54729), (14, 54735), (18, 54816), (21, 54828), (25, 54861),

Gene: Tootsieroll\_93 Start: 54547, Stop: 54789, Start Num: 11

Candidate Starts for Tootsieroll\_93:

(Start: 11 @54547 has 203 MA's), (12, 54574), (14, 54580), (18, 54661), (21, 54673), (25, 54706), (27, 54742), (31, 54769),

Gene: Totinger\_102 Start: 54678, Stop: 54920, Start Num: 11

Candidate Starts for Totinger\_102:

(Start: 11 @54678 has 203 MA's), (12, 54705), (14, 54711), (18, 54792), (20, 54801), (25, 54837), (31, 54900),

Gene: Tweety\_100 Start: 54797, Stop: 55039, Start Num: 11

Candidate Starts for Tweety\_100:

(Start: 11 @54797 has 203 MA's), (12, 54824), (14, 54830), (18, 54911), (21, 54923), (25, 54956), (27, 54992), (31, 55019),

Gene: UncleRicky\_99 Start: 52903, Stop: 53145, Start Num: 11

Candidate Starts for UncleRicky\_99:

(Start: 11 @52903 has 203 MA's), (12, 52930), (14, 52936), (18, 53017), (25, 53062), (31, 53125),

Gene: VRedHorse\_100 Start: 51653, Stop: 51895, Start Num: 11

Candidate Starts for VRedHorse\_100:

(Start: 11 @51653 has 203 MA's), (12, 51680), (14, 51686), (18, 51767), (21, 51779), (25, 51812), (27, 51848), (31, 51875),

Gene: Velveteen\_96 Start: 51554, Stop: 51796, Start Num: 11

Candidate Starts for Velveteen\_96:

(Start: 11 @51554 has 203 MA's), (12, 51581), (14, 51587), (18, 51668), (21, 51680), (25, 51713), (27, 51749), (31, 51776),

Gene: Veteran\_90 Start: 53001, Stop: 53243, Start Num: 11

Candidate Starts for Veteran\_90:

(Start: 11 @53001 has 203 MA's), (12, 53028), (14, 53034), (18, 53115), (19, 53118), (21, 53127), (25, 53160), (27, 53196), (30, 53220),

Gene: Vorrps\_26 Start: 11708, Stop: 11944, Start Num: 9

Candidate Starts for Vorrps\_26:

(2, 11573), (5, 11684), (6, 11696), (Start: 9 @11708 has 22 MA's), (20, 11843), (21, 11846), (22, 11852), (23, 11855), (26, 11885), (28, 11921), (29, 11927),

Gene: Wachhund\_96 Start: 50849, Stop: 51091, Start Num: 11

Candidate Starts for Wachhund\_96:

(Start: 11 @50849 has 203 MA's), (12, 50876), (14, 50882), (18, 50963), (19, 50966), (21, 50975), (25, 51008), (27, 51044), (30, 51068),

Gene: Wee\_102 Start: 55479, Stop: 55721, Start Num: 11

Candidate Starts for Wee\_102:

(Start: 11 @55479 has 203 MA's), (12, 55506), (14, 55512), (18, 55593), (21, 55605), (25, 55638), (27, 55674), (31, 55701),

Gene: Whatsapiecost\_93 Start: 49204, Stop: 49446, Start Num: 11

Candidate Starts for Whatsapiecost\_93:



(Start: 11 @49204 has 203 MA's), (12, 49231), (14, 49237), (18, 49318), (21, 49330), (25, 49363), (27, 49399), (31, 49426),

Gene: Whouxphf\_104 Start: 55947, Stop: 56189, Start Num: 11

Candidate Starts for Whouxphf\_104:

(Start: 11 @55947 has 203 MA's), (12, 55974), (14, 55980), (18, 56061), (25, 56106), (27, 56142), (30, 56166), (31, 56169),

Gene: Wildflower\_25 Start: 11731, Stop: 11967, Start Num: 9

Candidate Starts for Wildflower\_25:

(2, 11596), (5, 11707), (6, 11719), (Start: 9 @11731 has 22 MA's), (20, 11866), (21, 11869), (22, 11875), (23, 11878), (26, 11908), (28, 11944), (29, 11950),

Gene: WillSterrel\_97 Start: 54235, Stop: 54477, Start Num: 11

Candidate Starts for WillSterrel\_97:

(Start: 11 @54235 has 203 MA's), (14, 54268), (18, 54349), (20, 54358), (25, 54394), (30, 54454),

Gene: Winget\_26 Start: 11750, Stop: 11986, Start Num: 9

Candidate Starts for Winget\_26:

(2, 11615), (5, 11726), (6, 11738), (Start: 9 @11750 has 22 MA's), (20, 11885), (21, 11888), (22, 11894), (23, 11897), (26, 11927), (28, 11963), (29, 11969),

Gene: XFactor\_90 Start: 51995, Stop: 52237, Start Num: 11

Candidate Starts for XFactor\_90:

(Start: 11 @51995 has 203 MA's), (12, 52022), (14, 52028), (18, 52109), (21, 52121), (25, 52154), (27, 52190), (31, 52217),

Gene: Xeno\_68 Start: 41677, Stop: 41922, Start Num: 10

Candidate Starts for Xeno\_68:

(Start: 10 @41677 has 37 MA's), (14, 41716),

Gene: Xerxes\_71 Start: 42988, Stop: 43233, Start Num: 10

Candidate Starts for Xerxes\_71:

(Start: 10 @42988 has 37 MA's), (14, 43027),

Gene: Yorick\_95 Start: 55296, Stop: 55538, Start Num: 11

Candidate Starts for Yorick\_95:

(Start: 11 @55296 has 203 MA's), (12, 55323), (14, 55329), (18, 55410), (25, 55455), (31, 55518),

Gene: YungJamal\_28 Start: 12026, Stop: 12262, Start Num: 9

Candidate Starts for YungJamal\_28:

(2, 11891), (5, 12002), (6, 12014), (Start: 9 @12026 has 22 MA's), (20, 12161), (21, 12164), (22, 12170), (23, 12173), (26, 12203), (28, 12239), (29, 12245),

Gene: Zakhe101\_26 Start: 11876, Stop: 12112, Start Num: 9

Candidate Starts for Zakhe101\_26:

(2, 11741), (5, 11852), (6, 11864), (Start: 9 @11876 has 22 MA's), (20, 12011), (21, 12014), (22, 12020), (23, 12023), (26, 12053), (28, 12089), (29, 12095),

Gene: Zerg\_97 Start: 53870, Stop: 54112, Start Num: 11

Candidate Starts for Zerg\_97:

(Start: 11 @53870 has 203 MA's), (12, 53897), (14, 53903), (18, 53984), (21, 53996), (25, 54029), (27, 54065), (31, 54092),

Gene: Zizzle\_102 Start: 55946, Stop: 56188, Start Num: 11

Candidate Starts for Zizzle\_102:

(Start: 11 @55946 has 203 MA's), (12, 55973), (14, 55979), (18, 56060), (21, 56072), (25, 56105), (27, 56141), (31, 56168),