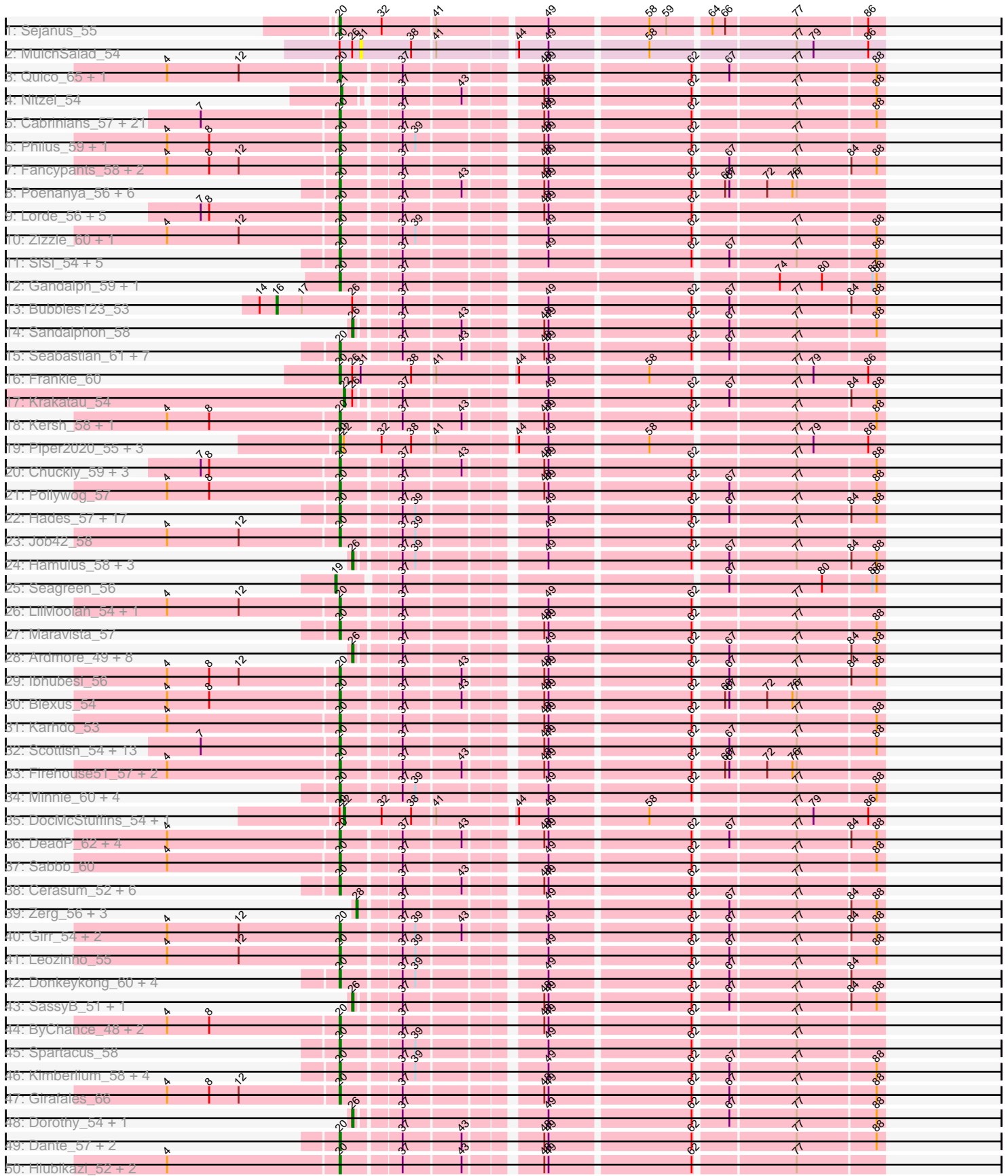
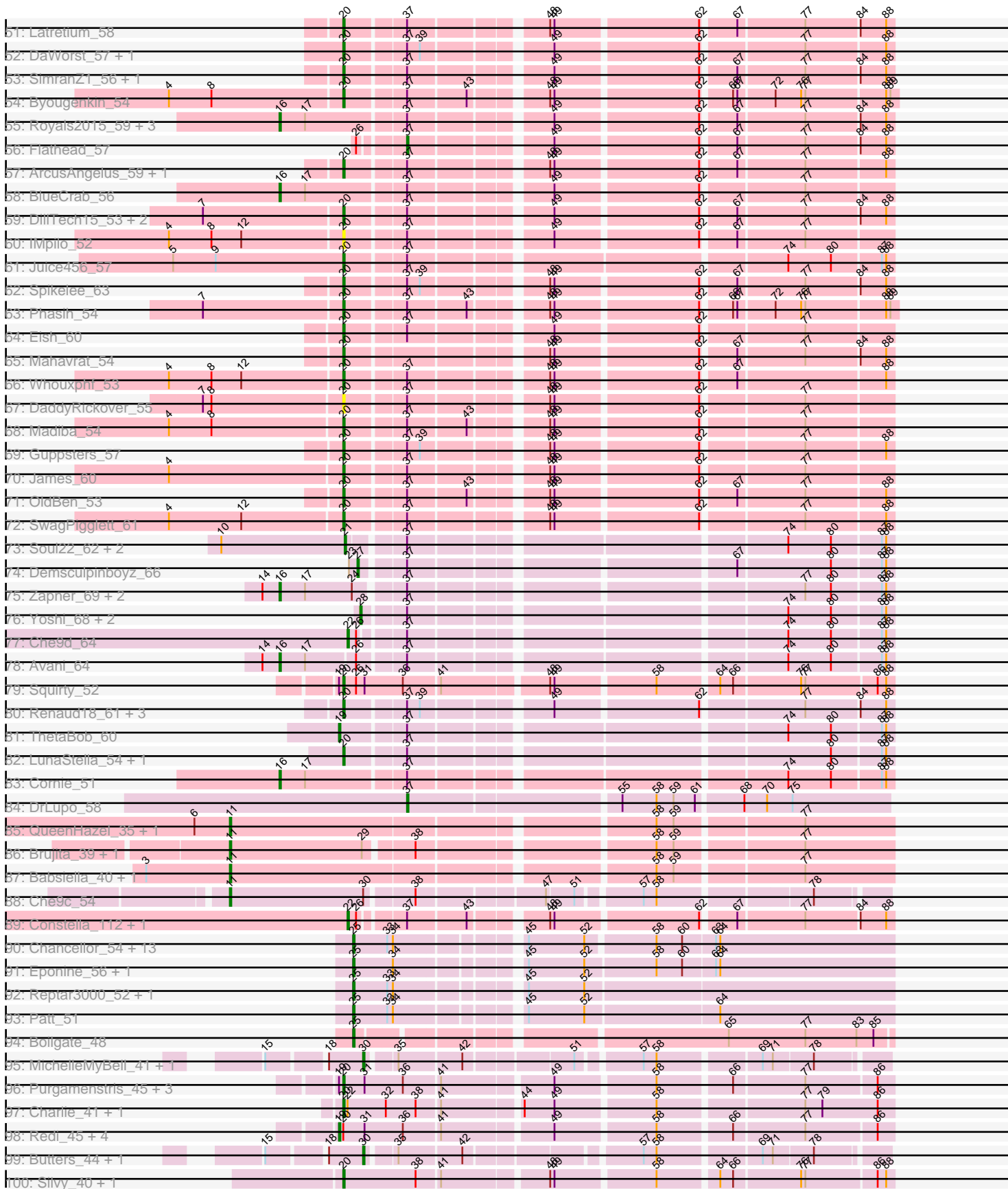


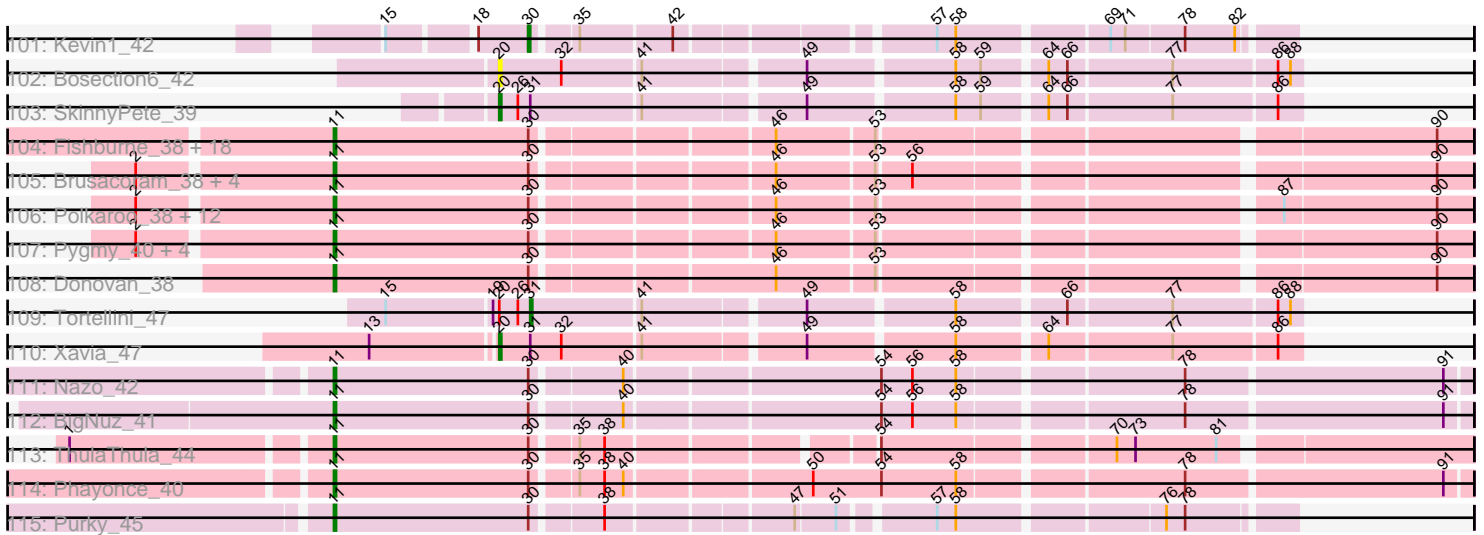
Pham 193662



Pham 193662



Pham 193662



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 193662 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193662 has 338 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Sejanus\_55
- Track 2 : MulchSalad\_54
- Track 3 : Quico\_65, Florinda\_68
- Track 4 : Nitzel\_54
- Track 5 : Cabrinians\_57, OlympiaSaint\_58, Jarcob\_56, Estave1\_59, Brocalys\_51, Burwell21\_54, ShowerHandel\_59, Lizziana\_62, Starcevich\_55, Koella\_50, LastJedi\_50, NormanBulbieJr\_56, Priscilla\_56, ShiLan\_55, Gorge\_60, Saal\_58, Pippy\_54, FreddyB\_57, Martik\_56, Clifton\_51, Yorick\_55, Crumble\_51
- Track 6 : Philus\_59, DRBy19\_59
- Track 7 : Fancypants\_58, LunaBlu\_58, Galactic\_55
- Track 8 : Poenanya\_56, Spoonbill\_53, Doomphist\_56, Stap\_54, BodEinwohner17\_56, Polka14\_54, Empress\_54
- Track 9 : Lorde\_56, Phatniss\_54, Llij\_52, Drago\_54, UncleRicky\_55, DirtMcgirt\_55
- Track 10 : Zizzle\_60, Mattes\_60
- Track 11 : SiSi\_54, Mozy\_65, SuperGrey\_60, Alexphander\_60, Mantra\_52, Plumbus\_58
- Track 12 : Gandalph\_59, Cornucopia\_58
- Track 13 : Bubbles123\_53
- Track 14 : Sandalphon\_58
- Track 15 : Seabastian\_61, Jinglebell\_61, OfUltron\_61, Ochi17\_59, Llama\_61, AlpineSix\_61, Modragons\_60, Oksu\_60
- Track 16 : Frankie\_60
- Track 17 : Krakatau\_54
- Track 18 : Kersh\_58, ShroomBoi\_58
- Track 19 : Piper2020\_55, ChickenDinner\_56, TootsiePop\_53, Misha28\_53
- Track 20 : Chuckly\_59, Rita\_57, MadMen\_54, BobaPhett\_60
- Track 21 : Pollywog\_57
- Track 22 : Hades\_57, Eradicator\_49, Sassafras\_54, SG4\_53, Veteran\_53, GUmbe\_54, Enby\_57, Juniper1\_54, Bipolar\_55, OwlsT2W\_56, Wachhund\_58, CaptainTrips\_53, MinionDave\_55, TDanisky\_64, Sparkdehlily\_64, Inventum\_51, PhesterPhotato\_57, BuzzLyseyear\_62
- Track 23 : Job42\_58
- Track 24 : Hamulus\_58, XFactor\_55, Batiatus\_55, Ms6\_52
- Track 25 : Seagreen\_56
- Track 26 : LilMoolah\_54, Nivrat\_52
- Track 27 : Maravista\_57

- Track 28 : Ardmore\_49, DLane\_52, Moonbeam\_55, Melissauren88\_55, Bobi\_62, Filuzino\_55, Fruitloop\_54, Emma\_58, Phalconet\_55
- Track 29 : lbhubesi\_56
- Track 30 : Blexus\_54
- Track 31 : Karhdo\_53
- Track 32 : Scottish\_54, Deb65\_51, PHappiness\_51, Leperchaun\_48, Daenerys\_50, JoeyJr\_51, Boomer\_61, Geralt\_51, RitaG\_51, PMC\_53, Pacc40\_50, Nimbo\_50, KingMidas\_55, Rockne\_57
- Track 33 : Firehouse51\_57, DotProduct\_51, Mutaforma13\_60
- Track 34 : Minnie\_60, Mova\_57, MilleniumForce\_60, Whatsapiecost\_57, Squirty\_59
- Track 35 : DocMcStuffins\_54, Awesomesauce\_55
- Track 36 : DeadP\_62, Taj\_60, Tweety\_56, Wee\_59, KristaRAM\_59
- Track 37 : Sabbb\_60
- Track 38 : Cerasum\_52, BigPhil\_52, Kingsley\_53, Coco12\_55, Sarma624\_54, Tootsieroll\_57, Velveteen\_51
- Track 39 : Zerg\_56, Ogopogo\_62, Kenuha5\_54, RockyHorror\_57
- Track 40 : Girr\_54, Ruby\_52, MisterCuddles\_54
- Track 41 : Leozinho\_55
- Track 42 : Donkeykong\_60, MilanaBonita\_47, Phanphagia\_54, Akhila\_48, Shauna1\_55
- Track 43 : SassyB\_51, PopTart\_51
- Track 44 : ByChance\_48, LittleShirley\_55, Totinger\_55
- Track 45 : Spartacus\_58
- Track 46 : Kimberlium\_58, QuickMath\_57, MulchExplorer\_62, DosHalletts\_58, GigiOuiOui\_52
- Track 47 : Girafales\_66
- Track 48 : Dorothy\_54, RedBird\_54
- Track 49 : Dante\_57, Ramsey\_56, Ovechkin\_55
- Track 50 : Hlubikazi\_52, Mandlovu\_52, Strokeseat\_52
- Track 51 : Latretium\_58
- Track 52 : DaWorst\_57, Doug\_58
- Track 53 : SimranZ1\_56, StAnnes\_55
- Track 54 : Byougenkin\_54
- Track 55 : Royals2015\_59, Beakin\_58, VRedHorse\_56, Rialto\_62
- Track 56 : Flathead\_57
- Track 57 : ArcusAngelus\_59, Chevrolet\_62
- Track 58 : BlueCrab\_56
- Track 59 : DillTech15\_53, Aubs\_57, Fastidio\_56
- Track 60 : IMpilo\_52
- Track 61 : Juice456\_57
- Track 62 : Spikelee\_63
- Track 63 : Phasih\_54
- Track 64 : Eish\_60
- Track 65 : Mahavrat\_54
- Track 66 : Whouxphf\_53
- Track 67 : DaddyRickover\_55
- Track 68 : Madiba\_54
- Track 69 : Guppsters\_57
- Track 70 : James\_60
- Track 71 : OldBen\_53
- Track 72 : SwagPigglett\_61
- Track 73 : Soul22\_62, Che8\_61, EleanorGeorge\_57
- Track 74 : Demsculpinboyz\_66

- Track 75 : Zapner\_69, Blarby\_68, Jabbawokkie\_70
- Track 76 : Yoshi\_68, JalFarm20\_69, Harley\_59
- Track 77 : Che9d\_64
- Track 78 : Avani\_64
- Track 79 : Squirty\_52
- Track 80 : Renaud18\_61, Radiance\_55, Hegedechwinu\_56, IbOuu\_57
- Track 81 : ThetaBob\_60
- Track 82 : LunaStella\_54, TChen\_56
- Track 83 : Cornie\_51
- Track 84 : DrLupo\_58
- Track 85 : QueenHazel\_35, Xula\_34
- Track 86 : Brujita\_39, Island3\_39
- Track 87 : Babsiella\_40, HC\_38
- Track 88 : Che9c\_54
- Track 89 : Constella\_112, Marker\_58
- Track 90 : Chancellor\_54, SamScheppers\_52, Fionnbharth\_54, Juliette\_56, OmniCritical\_53, Cheetobro\_54, Taquito\_54, Slarp\_54, JF1\_54, Malthus\_55, Y10\_53, Y2\_53, Mitti\_54, Wintermute\_54
- Track 91 : Eponine\_56, Ruthiejr\_55
- Track 92 : Reptar3000\_52, MissDaisy\_52
- Track 93 : Patt\_51
- Track 94 : Boilgate\_48
- Track 95 : MichelleMyBell\_41, Philonius\_41
- Track 96 : Purgamenstris\_45, BabeRuth\_46, Raymond7\_39, Rebel\_37
- Track 97 : Charlie\_41, Journey\_40
- Track 98 : Redi\_45, Hanako\_46, PhancyPhin\_45, Nenae\_45, ShrimpFriedEgg\_45
- Track 99 : Butters\_44, Rubeelu\_44
- Track 100 : Silvy\_40, Aggie\_40
- Track 101 : Kevin1\_42
- Track 102 : Bosection6\_42
- Track 103 : SkinnyPete\_39
- Track 104 : Fishburne\_38, Bartholomew\_37, Venti\_38, Dynamo\_38, Mangethe\_38, Phineas\_38, Majeke\_38, Arib1\_38, HUHilltop\_38, Vidya\_38, Necropolis\_38, FirstPlacePfu\_38, Kari\_38, Jebeks\_39, Techage\_38, Sonah\_38, Zilizebeth\_38, Phegasus\_38, Langerak\_38
- Track 105 : Brusacoram\_38, Xeno\_40, GreaseLightnin\_38, Thespis\_38, Atcoo\_38
- Track 106 : Polkaroo\_38, StevieRay\_38, KilKor\_38, Phalm\_38, Willsammy\_37, Megiddo\_38, CactusJack\_38, Bunnies\_38, Juniormint\_38, Ksqared\_38, Jung\_37, StressBall\_38, Glaske\_38
- Track 107 : Pygmy\_40, Bogie\_40, Shipwreck\_40, Camster\_38, Malithi\_38
- Track 108 : Donovan\_38
- Track 109 : Tortellini\_47
- Track 110 : Xavia\_47
- Track 111 : Nazo\_42
- Track 112 : BigNuz\_41
- Track 113 : ThulaThula\_44
- Track 114 : Phayonce\_40
- Track 115 : Purky\_45

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

The start number called the most often in the published annotations is 20, it was called in 193 of the 323 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aggie\_40, Akhila\_48, Alexphander\_60, AlpineSix\_61, ArcusAngelus\_59, Aubs\_57, BabeRuth\_46, BigPhil\_52, Bipolar\_55, Blexus\_54, BobaPhett\_60, BodEinwohner17\_56, Boomer\_61, Bosection6\_42, Brocalys\_51, Burwell21\_54, BuzzLyseyear\_62, ByChance\_48, Byougenkin\_54, Cabrinians\_57, CaptainTrips\_53, Cerasum\_52, Charlie\_41, Chevrolet\_62, ChickenDinner\_56, Chuckly\_59, Clifton\_51, Coco12\_55, Cornucopia\_58, Crumble\_51, DRBy19\_59, DaWorst\_57, DaddyRickover\_55, Daenerys\_50, Dante\_57, DeadP\_62, Deb65\_51, DillTech15\_53, DirtMcgirt\_55, Donkeykong\_60, Doomphist\_56, DosHalletts\_58, DotProduct\_51, Doug\_58, Drago\_54, Eish\_60, Empress\_54, Enby\_57, Eradicator\_49, Estave1\_59, Fancypants\_58, Fastidio\_56, Firehouse51\_57, Florinda\_68, Frankie\_60, FreddyB\_57, GUmbie\_54, Galactic\_55, Gandalph\_59, Geralt\_51, GigiOuiOui\_52, Girafales\_66, Girr\_54, Gorge\_60, Guppsters\_57, Hades\_57, Hegedechwinu\_56, Hlubikazi\_52, IMpilo\_52, IbOuu\_57, lbhubesi\_56, Inventum\_51, James\_60, Jarcob\_56, Jinglebell\_61, Job42\_58, JoeyJr\_51, Journey\_40, Juice456\_57, Juniper1\_54, Karhdo\_53, Kersh\_58, Kimberlium\_58, KingMidas\_55, Kingsley\_53, Koella\_50, KristaRAM\_59, LastJedi\_50, Latretium\_58, Leozinho\_55, Leperchaun\_48, LilMoolah\_54, LittleShirley\_55, Lizziana\_62, Llama\_61, Llij\_52, Lorde\_56, LunaBlu\_58, LunaStella\_54, MadMen\_54, Madiba\_54, Mahavrat\_54, Mandlovu\_52, Mantra\_52, Maravista\_57, Martik\_56, Mattes\_60, MilanaBonita\_47, MilleniumForce\_60, MinionDave\_55, Minnie\_60, Misha28\_53, MisterCuddles\_54, Modragons\_60, Mova\_57, Mozy\_65, MulchExplorer\_62, Mutaforma13\_60, Nimbo\_50, Nivrat\_52, NormanBulbieJr\_56, Ochi17\_59, OfUltron\_61, Oksu\_60, OldBen\_53, OlympiaSaint\_58, Ovechkin\_55, OwlsT2W\_56, PHappiness\_51, PMC\_53, Pacc40\_50, Phanphagia\_54, Phasih\_54, Phatniss\_54, PhesterPhotato\_57, Philus\_59, Piper2020\_55, Pippy\_54, Plumbus\_58, Poenanya\_56, Polka14\_54, Pollywog\_57, Priscilla\_56, Purgamenstris\_45, QuickMath\_57, Quico\_65, Radiance\_55, Ramsey\_56, Raymond7\_39, Rebel\_37, Renaud18\_61, RitaG\_51, Rita\_57, Rockne\_57, Ruby\_52, SG4\_53, Saal\_58, Sabbb\_60, Sarma624\_54, Sassafras\_54, Scottish\_54, Seabastian\_61, Sejanus\_55, Shauna1\_55, ShiLan\_55, ShowerHandel\_59, ShroomBoi\_58, SiSi\_54, Silvy\_40, SimranZ1\_56, SkinnyPete\_39, Sparkdehlily\_64, Spartacus\_58, Spikelee\_63, Spoonbill\_53, Squirty\_52, Squirty\_59, StAnnes\_55, Stap\_54, Starcevich\_55, Strokeseat\_52, SuperGrey\_60, SwagPigglett\_61, TChen\_56, TDanisky\_64, Taj\_60, TootsiePop\_53, Tootsieroll\_57, Totinger\_55, Tweety\_56, UncleRicky\_55, Velveteen\_51, Veteran\_53, Wachhund\_58, Wee\_59, Whatsapiecost\_57, Whouxphf\_53, Xavia\_47, Yorick\_55, Zizzle\_60,

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

- Awesomesauce\_55, DocMcStuffins\_54, Hanako\_46, MulchSalad\_54, Nenae\_45, PhancyPhin\_45, Redi\_45, ShrimpFriedEgg\_45, Tortellini\_47,

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

- Ardmore\_49, Arib1\_38, Atcoo\_38, Avani\_64, Babsiella\_40, Bartholomew\_37, Batiatus\_55, Beakin\_58, BigNuz\_41, Blarby\_68, BlueCrab\_56, Bobi\_62, Bogie\_40, Boilgate\_48, Brujita\_39, Brusacoram\_38, Bubbles123\_53, Bunnies\_38, Butters\_44, CactusJack\_38, Camster\_38, Chancellor\_54, Che8\_61, Che9c\_54, Che9d\_64, Cheetobro\_54, Constella\_112, Cornie\_51, DLane\_52, Demsculpinboyz\_66, Donovan\_38, Dorothy\_54, DrLupo\_58, Dynamo\_38, EleanorGeorge\_57, Emma\_58, Eponine\_56, Filuzino\_55, Fionnbharth\_54, FirstPlacePfu\_38, Fishburne\_38,

Flathead\_57, Fruitloop\_54, Glaske\_38, GreaseLightnin\_38, HC\_38, HUHilltop\_38, Hamulus\_58, Harley\_59, Island3\_39, JF1\_54, Jabbawokkie\_70, JalFarm20\_69, Jebeks\_39, Juliette\_56, Jung\_37, Juniormint\_38, Kari\_38, Kenuha5\_54, Kevin1\_42, KilKor\_38, Krakatau\_54, Ksquared\_38, Langerak\_38, Majeke\_38, Malithi\_38, Malthus\_55, Mangethe\_38, Marker\_58, Megiddo\_38, Melissauren88\_55, MichelleMyBell\_41, MissDaisy\_52, Mitti\_54, Moonbeam\_55, Ms6\_52, Nazo\_42, Necropolis\_38, Nitzel\_54, Ogotogo\_62, OmniCritical\_53, Patt\_51, Phalconet\_55, Phalm\_38, Phayonce\_40, Phegasus\_38, Philonius\_41, Phineas\_38, Polkaroo\_38, PopTart\_51, Purky\_45, Pygmy\_40, QueenHazel\_35, RedBird\_54, Reptar3000\_52, Rialto\_62, RockyHorror\_57, Royals2015\_59, Rubeelu\_44, Ruthiejr\_55, SamScheppers\_52, Sandalphon\_58, SassyB\_51, Seagreen\_56, Shipwreck\_40, Slarp\_54, Sonah\_38, Soul22\_62, StevieRay\_38, StressBall\_38, Taquito\_54, Techage\_38, Thespis\_38, ThetaBob\_60, ThulaThula\_44, VRedHorse\_56, Venti\_38, Vidya\_38, Willsammy\_37, Wintermute\_54, XFactor\_55, Xeno\_40, Xula\_34, Y10\_53, Y2\_53, Yoshi\_68, Zapner\_69, Zerg\_56, Zilizebeth\_38,

### Summary by start number:

#### Start 11:

- Found in 55 of 338 ( 16.3% ) of genes in pham
- Manual Annotations of this start: 52 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arib1\_38 (P1), Atcoo\_38 (P1), Babsiella\_40 (I1), Bartholomew\_37 (P1), BigNuz\_41 (P4), Bogie\_40 (P1), Brujita\_39 (I1), Brusacoram\_38 (P1), Bunnies\_38 (P1), CactusJack\_38 (P1), Camster\_38 (P1), Che9c\_54 (I2), Donovan\_38 (P1), Dynamo\_38 (P1), FirstPlacePfu\_38 (P1), Fishburne\_38 (P1), Glaske\_38 (P1), GreaseLightnin\_38 (P1), HC\_38 (I1), HUHilltop\_38 (P1), Island3\_39 (I1), Jebeks\_39 (P1), Jung\_37 (P1), Juniormint\_38 (P1), Kari\_38 (P1), KilKor\_38 (P1), Ksquared\_38 (P1), Langerak\_38 (P1), Majeke\_38 (P1), Malithi\_38 (P1), Mangethe\_38 (P1), Megiddo\_38 (P1), Nazo\_42 (P4), Necropolis\_38 (P1), Phalm\_38 (P1), Phayonce\_40 (P5), Phegasus\_38 (P1), Phineas\_38 (P1), Polkaroo\_38 (P1), Purky\_45 (P6), Pygmy\_40 (P1), QueenHazel\_35 (I1), Shipwreck\_40 (P1), Sonah\_38 (P1), StevieRay\_38 (P1), StressBall\_38 (P1), Techage\_38 (P1), Thespis\_38 (P1), ThulaThula\_44 (P5), Venti\_38 (P1), Vidya\_38 (P1), Willsammy\_37 (P1), Xeno\_40 (N), Xula\_34 (I1), Zilizebeth\_38 (P1),

#### Start 16:

- Found in 11 of 338 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 10 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Avani\_64 (F2), Beakin\_58 (F1), Blarby\_68 (F), BlueCrab\_56 (F1), Bubbles123\_53 (F1), Cornie\_51 (F5), Jabbawokkie\_70 (F2), Rialto\_62 (F1), Royals2015\_59 (F1), VRedHorse\_56 (F1), Zapner\_69 (F2),

#### Start 19:

- Found in 13 of 338 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 6 of 323
- Called 53.8% of time when present
- Phage (with cluster) where this start called: Hanako\_46 (N), Nenae\_45 (N), PhancyPhin\_45 (N), Redi\_45 (N), Seagreen\_56 (F1), ShrimpFriedEgg\_45 (N), ThetaBob\_60 (F4),



Start 20:

- Found in 209 of 338 ( 61.8% ) of genes in pham
- Manual Annotations of this start: 193 of 323
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Aggie\_40 (N), Akhila\_48 (F1), Alexphander\_60 (F1), AlpineSix\_61 (F1), ArcusAngelus\_59 (F1), Aubs\_57 (F1), BabeRuth\_46 (N), BigPhil\_52 (F1), Bipolar\_55 (F1), Blexus\_54 (F1), BobaPhett\_60 (F1), BodEinwohner17\_56 (F1), Boomer\_61 (F1), Bosection6\_42 (N), Brocalys\_51 (F1), Burwell21\_54 (F1), BuzzLyseyear\_62 (F1), ByChance\_48 (F1), Byougenkin\_54 (F1), Cabrinians\_57 (F1), CaptainTrips\_53 (F1), Cerasum\_52 (F1), Charlie\_41 (N), Chevrolet\_62 (F1), ChickenDinner\_56 (F1), Chuckly\_59 (F1), Clifton\_51 (F1), Coco12\_55 (F1), Cornucopia\_58 (F1), Crumble\_51 (F1), DRBy19\_59 (F1), DaWorst\_57 (F1), DaddyRickover\_55 (F1), Daenerys\_50 (F1), Dante\_57 (F1), DeadP\_62 (F1), Deb65\_51 (F1), DillTech15\_53 (F1), DirtMcgirt\_55 (F1), Donkeykong\_60 (F1), Doomphist\_56 (F1), DosHalletts\_58 (F1), DotProduct\_51 (F1), Doug\_58 (F1), Drago\_54 (F1), Eish\_60 (F1), Empress\_54 (F1), Enby\_57 (F1), Eradicator\_49 (F1), Estave1\_59 (F1), Fancypants\_58 (F1), Fastidio\_56 (F1), Firehouse51\_57 (F1), Florinda\_68 (F1), Frankie\_60 (F1), FreddyB\_57 (F1), GUmbe\_54 (F1), Galactic\_55 (F1), Gandolph\_59 (F1), Geralt\_51 (F1), GigiOuiOui\_52 (F1), Girafales\_66 (F1), Girr\_54 (F1), Gorge\_60 (F1), Guppsters\_57 (F1), Hades\_57 (F1), Hegedechwinu\_56 (F1), Hlubikazi\_52 (F1), IMpilo\_52 (F1), IbOuu\_57 (F1), Ibhubesi\_56 (F1), Inventum\_51 (F1), James\_60 (F1), Jarcob\_56 (F1), Jinglebell\_61 (F1), Job42\_58 (F1), JoeyJr\_51 (F1), Journey\_40 (N), Juice456\_57 (F1), Juniper1\_54 (F1), Karhdo\_53 (F1), Kersh\_58 (F1), Kimberlium\_58 (F1), KingMidas\_55 (F1), Kingsley\_53 (F1), Koella\_50 (F1), KristaRAM\_59 (F1), LastJedi\_50 (F1), Latretium\_58 (F1), Leozinho\_55 (F1), Leperchaun\_48 (F1), LilMoolah\_54 (F1), LittleShirley\_55 (F1), Lizziana\_62 (F1), Llama\_61 (F1), Llij\_52 (F1), Lorde\_56 (F1), LunaBlu\_58 (F1), LunaStella\_54 (F4), MadMen\_54 (F1), Madiba\_54 (F1), Mahavrat\_54 (F1), Mandlovu\_52 (F1), Mantra\_52 (F1), Maravista\_57 (F1), Martik\_56 (F1), Mattes\_60 (F1), MilanaBonita\_47 (F1), MilleniumForce\_60 (F1), MinionDave\_55 (F1), Minnie\_60 (F1), Misha28\_53 (F1), MisterCuddles\_54 (F1), Modragons\_60 (F1), Mova\_57 (F1), Mozy\_65 (F1), MulchExplorer\_62 (F1), Mutaforma13\_60 (F1), Nimbo\_50 (F1), Nivrat\_52 (F1), NormanBulbieJr\_56 (F1), Ochi17\_59 (F1), OfUltron\_61 (F1), Oksu\_60 (F1), OldBen\_53 (F1), OlympiaSaint\_58 (F1), Ovechkin\_55 (F1), OwlsT2W\_56 (F1), PHappiness\_51 (F1), PMC\_53 (F1), Pacc40\_50 (F1), Phanphagia\_54 (F1), Phasih\_54 (F1), Phatniss\_54 (F1), PhesterPotato\_57 (F1), Philus\_59 (F1), Piper2020\_55 (F1), Pippy\_54 (F1), Plumbus\_58 (F1), Poenanya\_56 (F1), Polka14\_54 (F1), Pollywog\_57 (F1), Priscilla\_56 (F1), Purgamenstris\_45 (N), QuickMath\_57 (F1), Quico\_65 (F1), Radiance\_55 (F1), Ramsey\_56 (F1), Raymond7\_39 (N), Rebel\_37 (N), Renaud18\_61 (F4), RitaG\_51 (F1), Rita\_57 (F1), Rockne\_57 (F1), Ruby\_52 (F1), SG4\_53 (F1), Saal\_58 (F1), Sabbb\_60 (F1), Sarma624\_54 (F1), Sassafra\_54 (F1), Scottish\_54 (F1), Seabastian\_61 (F1), Sejanus\_55 (AD), Shauna1\_55 (F1), ShiLan\_55 (F1), ShowerHandel\_59 (F1), ShroomBoi\_58 (F1), SiSi\_54 (F1), Silvy\_40 (N), SimranZ1\_56 (F1), SkinnyPete\_39 (N), Sparkdehlily\_64 (F1), Spartacus\_58 (F1), Spikelee\_63 (F1), Spoonbill\_53 (F1), Squirty\_52 (F3), Squirty\_59 (F3), StAnnes\_55 (F1), Stap\_54 (F1), Starcevich\_55 (F1), Strokeseat\_52 (F1), SuperGrey\_60 (F1), SwagPigglett\_61 (F1), TChen\_56 (F4), TDanisky\_64 (F1), Taj\_60 (F1), TootsiePop\_53 (F1), Tootsieroll\_57 (F1), Totinger\_55 (F1), Tweety\_56 (F1), UncleRicky\_55 (F1), Velveteen\_51 (F1), Veteran\_53 (F1), Wachhund\_58 (F1), Wee\_59 (F1), Whatsapiecost\_57 (F1), Whouxphf\_53 (F1), Xavia\_47 (P3), Yorick\_55 (F1), Zizzle\_60 (F1),

Start 21:

- Found in 4 of 338 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 4 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che8\_61 (F1), EleanorGeorge\_57 (F1), Nitzel\_54 (F1), Soul22\_62 (F2),

Start 22:

- Found in 12 of 338 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 6 of 323
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Awesomesauce\_55 (F1), Che9d\_64 (F2), Constella\_112 (J), DocMcStuffins\_54 (F1), Krakatau\_54 (F1), Marker\_58 (F1),

Start 25:

- Found in 20 of 338 ( 5.9% ) of genes in pham
- Manual Annotations of this start: 20 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_48 (K8), Chancellor\_54 (K4), Cheetobro\_54 (K4), Eponine\_56 (K4), Fionnbharth\_54 (K4), JF1\_54 (K4), Juliette\_56 (K4), Malthus\_55 (K4), MissDaisy\_52 (K4), Mitti\_54 (K4), OmniCritical\_53 (K4), Patt\_51 (K4), Reptar3000\_52 (K4), Ruthiejr\_55 (K4), SamScheppers\_52 (K4), Slarp\_54 (K4), Taquito\_54 (K4), Wintermute\_54 (K4), Y10\_53 (K4), Y2\_53 (K4),

Start 26:

- Found in 30 of 338 ( 8.9% ) of genes in pham
- Manual Annotations of this start: 16 of 323
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Ardmore\_49 (F1), Batiatus\_55 (F1), Bobi\_62 (F1), DLane\_52 (F1), Dorothy\_54 (F1), Emma\_58 (F1), Filuzino\_55 (F1), Fruitloop\_54 (F1), Hamulus\_58 (F1), Melissauren88\_55 (F1), Moonbeam\_55 (F1), Ms6\_52 (F1), Phalconet\_55 (F1), PopTart\_51 (F1), RedBird\_54 (F1), Sandalphon\_58 (F1), SassyB\_51 (F1), XFactor\_55 (F1),

Start 27:

- Found in 1 of 338 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Demsculpinboyz\_66 (F2),

Start 28:

- Found in 7 of 338 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 7 of 323
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Harley\_59 (F1), JalFarm20\_69 (F1), Kenuha5\_54 (F1), Ogopogo\_62 (F1), RockyHorror\_57 (F1), Yoshi\_68 (F2), Zerg\_56 (F1),

Start 30:

- Found in 54 of 338 ( 16.0% ) of genes in pham
- Manual Annotations of this start: 5 of 323
- Called 9.3% of time when present

- Phage (with cluster) where this start called: Butters\_44 (N), Kevin1\_42 (N), MichelleMyBell\_41 (N), Philonius\_41 (N), Rubeelu\_44 (N),

Start 31:

- Found in 15 of 338 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 1 of 323
- Called 13.3% of time when present
- Phage (with cluster) where this start called: MulchSalad\_54 (F), Tortellini\_47 (P2),

Start 37:

- Found in 230 of 338 ( 68.0% ) of genes in pham
- Manual Annotations of this start: 2 of 323
- Called 0.9% of time when present
- Phage (with cluster) where this start called: DrLupo\_58 (H2), Flathead\_57 (F1),

### **Summary by clusters:**

There are 20 clusters represented in this pham: P2, F1, F2, P1, P6, F5, P4, P5, I1, P3, J, N, H2, F3, F, K4, F4, K8, I2, AD,

Info for manual annotations of cluster AD:

- Start number 20 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster F1:

- Start number 16 was manually annotated 6 times for cluster F1.
- Start number 19 was manually annotated 1 time for cluster F1.
- Start number 20 was manually annotated 177 times for cluster F1.
- Start number 21 was manually annotated 3 times for cluster F1.
- Start number 22 was manually annotated 4 times for cluster F1.
- Start number 26 was manually annotated 16 times for cluster F1.
- Start number 28 was manually annotated 6 times for cluster F1.
- Start number 37 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 16 was manually annotated 3 times for cluster F2.
- Start number 21 was manually annotated 1 time for cluster F2.
- Start number 22 was manually annotated 1 time for cluster F2.
- Start number 27 was manually annotated 1 time for cluster F2.
- Start number 28 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F3:

- Start number 20 was manually annotated 2 times for cluster F3.

Info for manual annotations of cluster F4:

- Start number 19 was manually annotated 1 time for cluster F4.
- Start number 20 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 16 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster H2:

- Start number 37 was manually annotated 1 time for cluster H2.

Info for manual annotations of cluster I1:

- Start number 11 was manually annotated 6 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 11 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster J:

- Start number 22 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K4:

- Start number 25 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K8:

- Start number 25 was manually annotated 1 time for cluster K8.

Info for manual annotations of cluster N:

- Start number 11 was manually annotated 1 time for cluster N.
- Start number 19 was manually annotated 4 times for cluster N.
- Start number 20 was manually annotated 9 times for cluster N.
- Start number 30 was manually annotated 5 times for cluster N.

Info for manual annotations of cluster P1:

- Start number 11 was manually annotated 39 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 31 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 20 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 11 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 11 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:

- Start number 11 was manually annotated 1 time for cluster P6.

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

Gene: Aggie\_40 Start: 29489, Stop: 29848, Start Num: 20

Candidate Starts for Aggie\_40:

(Start: 20 @29489 has 193 MA's), (38, 29540), (41, 29555), (48, 29624), (49, 29627), (58, 29693), (64, 29732), (66, 29741), (76, 29786), (77, 29789), (86, 29837), (88, 29843),

Gene: Akhila\_48 Start: 35145, Stop: 35492, Start Num: 20

Candidate Starts for Akhila\_48:

(Start: 20 @35145 has 193 MA's), (Start: 37 @35184 has 2 MA's), (39, 35193), (49, 35271), (62, 35367), (67, 35388), (77, 35433), (84, 35469),

Gene: Alexphander\_60 Start: 39102, Stop: 39449, Start Num: 20  
Candidate Starts for Alexphander\_60:  
(Start: 20 @39102 has 193 MA's), (Start: 37 @39141 has 2 MA's), (49, 39228), (62, 39324), (67, 39345), (77, 39390), (88, 39444),

Gene: AlpineSix\_61 Start: 41221, Stop: 41568, Start Num: 20  
Candidate Starts for AlpineSix\_61:  
(Start: 20 @41221 has 193 MA's), (Start: 37 @41260 has 2 MA's), (43, 41299), (48, 41344), (49, 41347), (62, 41443), (67, 41464), (77, 41509),

Gene: ArcusAngelus\_59 Start: 39698, Stop: 40045, Start Num: 20  
Candidate Starts for ArcusAngelus\_59:  
(Start: 20 @39698 has 193 MA's), (Start: 37 @39737 has 2 MA's), (48, 39821), (49, 39824), (62, 39920), (67, 39941), (77, 39986), (88, 40040),

Gene: Ardmore\_49 Start: 37243, Stop: 37578, Start Num: 26  
Candidate Starts for Ardmore\_49:  
(Start: 26 @37243 has 16 MA's), (Start: 37 @37270 has 2 MA's), (49, 37357), (62, 37453), (67, 37474), (77, 37519), (84, 37555), (88, 37573),

Gene: Arib1\_38 Start: 29810, Stop: 30316, Start Num: 11  
Candidate Starts for Arib1\_38:  
(Start: 11 @29810 has 52 MA's), (Start: 30 @29903 has 5 MA's), (46, 30008), (53, 30053), (90, 30299),

Gene: Atcoo\_38 Start: 30284, Stop: 30787, Start Num: 11  
Candidate Starts for Atcoo\_38:  
(2, 30197), (Start: 11 @30284 has 52 MA's), (Start: 30 @30377 has 5 MA's), (46, 30479), (53, 30524), (56, 30539), (90, 30770),

Gene: Aubs\_57 Start: 39395, Stop: 39742, Start Num: 20  
Candidate Starts for Aubs\_57:  
(7, 39299), (Start: 20 @39395 has 193 MA's), (Start: 37 @39434 has 2 MA's), (49, 39521), (62, 39617), (67, 39638), (77, 39683), (84, 39719), (88, 39737),

Gene: Avani\_64 Start: 39374, Stop: 39766, Start Num: 16  
Candidate Starts for Avani\_64:  
(14, 39362), (Start: 16 @39374 has 10 MA's), (17, 39392), (Start: 26 @39425 has 16 MA's), (Start: 37 @39455 has 2 MA's), (74, 39695), (80, 39725), (87, 39758), (88, 39761),

Gene: Awesomesauce\_55 Start: 37254, Stop: 37613, Start Num: 22  
Candidate Starts for Awesomesauce\_55:  
(Start: 20 @37251 has 193 MA's), (Start: 22 @37254 has 6 MA's), (32, 37281), (38, 37302), (41, 37317), (44, 37368), (49, 37389), (58, 37455), (77, 37551), (79, 37563), (86, 37602),

Gene: BabeRuth\_46 Start: 31707, Stop: 32066, Start Num: 20  
Candidate Starts for BabeRuth\_46:  
(Start: 19 @31704 has 6 MA's), (Start: 20 @31707 has 193 MA's), (Start: 31 @31722 has 1 MA's), (36, 31749), (41, 31773), (49, 31845), (58, 31911), (66, 31959), (77, 32007), (86, 32055),

Gene: Babsiella\_40 Start: 30786, Stop: 31223, Start Num: 11  
Candidate Starts for Babsiella\_40:

(3, 30729), (Start: 11 @30786 has 52 MA's), (58, 31065), (59, 31077), (77, 31161),

Gene: Bartholomew\_37 Start: 29807, Stop: 30310, Start Num: 11

Candidate Starts for Bartholomew\_37:

(Start: 11 @29807 has 52 MA's), (Start: 30 @29900 has 5 MA's), (46, 30002), (53, 30047), (90, 30293),

Gene: Batiatus\_55 Start: 39111, Stop: 39446, Start Num: 26

Candidate Starts for Batiatus\_55:

(Start: 26 @39111 has 16 MA's), (Start: 37 @39138 has 2 MA's), (39, 39147), (49, 39225), (62, 39321), (67, 39342), (77, 39387), (84, 39423), (88, 39441),

Gene: Beakin\_58 Start: 38189, Stop: 38581, Start Num: 16

Candidate Starts for Beakin\_58:

(Start: 16 @38189 has 10 MA's), (17, 38207), (Start: 37 @38273 has 2 MA's), (49, 38360), (62, 38456), (67, 38477), (77, 38522), (84, 38558), (88, 38576),

Gene: BigNuz\_41 Start: 31916, Stop: 32428, Start Num: 11

Candidate Starts for BigNuz\_41:

(Start: 11 @31916 has 52 MA's), (Start: 30 @32009 has 5 MA's), (40, 32048), (54, 32162), (56, 32177), (58, 32198), (78, 32297), (91, 32417),

Gene: BigPhil\_52 Start: 34814, Stop: 35161, Start Num: 20

Candidate Starts for BigPhil\_52:

(Start: 20 @34814 has 193 MA's), (Start: 37 @34853 has 2 MA's), (43, 34892), (48, 34937), (49, 34940), (62, 35036), (77, 35102),

Gene: Bipolar\_55 Start: 38855, Stop: 39202, Start Num: 20

Candidate Starts for Bipolar\_55:

(Start: 20 @38855 has 193 MA's), (Start: 37 @38894 has 2 MA's), (39, 38903), (49, 38981), (62, 39077), (67, 39098), (77, 39143), (84, 39179), (88, 39197),

Gene: Blarby\_68 Start: 40472, Stop: 40861, Start Num: 16

Candidate Starts for Blarby\_68:

(14, 40460), (Start: 16 @40472 has 10 MA's), (17, 40490), (24, 40523), (Start: 37 @40553 has 2 MA's), (77, 40802), (80, 40820), (87, 40853), (88, 40856),

Gene: Blexus\_54 Start: 39072, Stop: 39419, Start Num: 20

Candidate Starts for Blexus\_54:

(4, 38952), (8, 38982), (Start: 20 @39072 has 193 MA's), (Start: 37 @39111 has 2 MA's), (43, 39150), (48, 39195), (49, 39198), (62, 39294), (66, 39312), (67, 39315), (72, 39339), (76, 39357), (77, 39360),

Gene: BlueCrab\_56 Start: 39335, Stop: 39727, Start Num: 16

Candidate Starts for BlueCrab\_56:

(Start: 16 @39335 has 10 MA's), (17, 39353), (Start: 37 @39419 has 2 MA's), (49, 39506), (62, 39602), (77, 39668),

Gene: BobaPhett\_60 Start: 41331, Stop: 41678, Start Num: 20

Candidate Starts for BobaPhett\_60:

(7, 41235), (8, 41241), (Start: 20 @41331 has 193 MA's), (Start: 37 @41370 has 2 MA's), (43, 41409), (48, 41454), (49, 41457), (62, 41553), (77, 41619), (88, 41673),

Gene: Bobi\_62 Start: 40720, Stop: 41055, Start Num: 26

Candidate Starts for Bobi\_62:

(Start: 26 @40720 has 16 MA's), (Start: 37 @40747 has 2 MA's), (49, 40834), (62, 40930), (67, 40951), (77, 40996), (84, 41032), (88, 41050),

Gene: BodEinwohner17\_56 Start: 38142, Stop: 38489, Start Num: 20

Candidate Starts for BodEinwohner17\_56:

(Start: 20 @38142 has 193 MA's), (Start: 37 @38181 has 2 MA's), (43, 38220), (48, 38265), (49, 38268), (62, 38364), (66, 38382), (67, 38385), (72, 38409), (76, 38427), (77, 38430),

Gene: Bogie\_40 Start: 31583, Stop: 32086, Start Num: 11

Candidate Starts for Bogie\_40:

(2, 31496), (Start: 11 @31583 has 52 MA's), (Start: 30 @31676 has 5 MA's), (46, 31778), (53, 31823), (90, 32069),

Gene: Boilgate\_48 Start: 37518, Stop: 37862, Start Num: 25

Candidate Starts for Boilgate\_48:

(Start: 25 @37518 has 20 MA's), (65, 37749), (77, 37803), (83, 37839), (85, 37851),

Gene: Boomer\_61 Start: 41006, Stop: 41353, Start Num: 20

Candidate Starts for Boomer\_61:

(7, 40910), (Start: 20 @41006 has 193 MA's), (Start: 37 @41045 has 2 MA's), (48, 41129), (49, 41132), (62, 41228), (67, 41249), (77, 41294), (88, 41348),

Gene: Bosection6\_42 Start: 29385, Stop: 29744, Start Num: 20

Candidate Starts for Bosection6\_42:

(Start: 20 @29385 has 193 MA's), (32, 29415), (41, 29451), (49, 29523), (58, 29589), (59, 29601), (64, 29628), (66, 29637), (77, 29685), (86, 29733), (88, 29739),

Gene: Brocalys\_51 Start: 35516, Stop: 35863, Start Num: 20

Candidate Starts for Brocalys\_51:

(7, 35420), (Start: 20 @35516 has 193 MA's), (Start: 37 @35555 has 2 MA's), (48, 35639), (49, 35642), (62, 35738), (77, 35804), (88, 35858),

Gene: Brujita\_39 Start: 31520, Stop: 31951, Start Num: 11

Candidate Starts for Brujita\_39:

(Start: 11 @31520 has 52 MA's), (29, 31613), (38, 31643), (58, 31793), (59, 31805), (77, 31889),

Gene: Brusacoram\_38 Start: 29790, Stop: 30293, Start Num: 11

Candidate Starts for Brusacoram\_38:

(2, 29703), (Start: 11 @29790 has 52 MA's), (Start: 30 @29883 has 5 MA's), (46, 29985), (53, 30030), (56, 30045), (90, 30276),

Gene: Bubbles123\_53 Start: 38975, Stop: 39367, Start Num: 16

Candidate Starts for Bubbles123\_53:

(14, 38963), (Start: 16 @38975 has 10 MA's), (17, 38993), (Start: 26 @39029 has 16 MA's), (Start: 37 @39059 has 2 MA's), (49, 39146), (62, 39242), (67, 39263), (77, 39308), (84, 39344), (88, 39362),

Gene: Bunnies\_38 Start: 29814, Stop: 30317, Start Num: 11

Candidate Starts for Bunnies\_38:

(2, 29727), (Start: 11 @29814 has 52 MA's), (Start: 30 @29907 has 5 MA's), (46, 30009), (53, 30054), (87, 30228), (90, 30300),

Gene: Burwell21\_54 Start: 38614, Stop: 38961, Start Num: 20

Candidate Starts for Burwell21\_54:

(7, 38518), (Start: 20 @38614 has 193 MA's), (Start: 37 @38653 has 2 MA's), (48, 38737), (49, 38740), (62, 38836), (77, 38902), (88, 38956),

Gene: Butters\_44 Start: 31386, Stop: 31709, Start Num: 30

Candidate Starts for Butters\_44:

(15, 31326), (18, 31362), (Start: 30 @31386 has 5 MA's), (35, 31404), (42, 31446), (57, 31554), (58, 31563), (69, 31629), (71, 31635), (78, 31662),

Gene: BuzzLyseyear\_62 Start: 40038, Stop: 40385, Start Num: 20

Candidate Starts for BuzzLyseyear\_62:

(Start: 20 @40038 has 193 MA's), (Start: 37 @40077 has 2 MA's), (39, 40086), (49, 40164), (62, 40260), (67, 40281), (77, 40326), (84, 40362), (88, 40380),

Gene: ByChance\_48 Start: 34305, Stop: 34652, Start Num: 20

Candidate Starts for ByChance\_48:

(4, 34185), (8, 34215), (Start: 20 @34305 has 193 MA's), (Start: 37 @34344 has 2 MA's), (48, 34428), (49, 34431), (62, 34527), (77, 34593),

Gene: Byougenkin\_54 Start: 38377, Stop: 38727, Start Num: 20

Candidate Starts for Byougenkin\_54:

(4, 38257), (8, 38287), (Start: 20 @38377 has 193 MA's), (Start: 37 @38416 has 2 MA's), (43, 38455), (48, 38500), (49, 38503), (62, 38599), (66, 38617), (67, 38620), (72, 38644), (76, 38662), (77, 38665), (88, 38719), (89, 38722),

Gene: Cabrinians\_57 Start: 38692, Stop: 39039, Start Num: 20

Candidate Starts for Cabrinians\_57:

(7, 38596), (Start: 20 @38692 has 193 MA's), (Start: 37 @38731 has 2 MA's), (48, 38815), (49, 38818), (62, 38914), (77, 38980), (88, 39034),

Gene: CactusJack\_38 Start: 30054, Stop: 30557, Start Num: 11

Candidate Starts for CactusJack\_38:

(2, 29967), (Start: 11 @30054 has 52 MA's), (Start: 30 @30147 has 5 MA's), (46, 30249), (53, 30294), (87, 30468), (90, 30540),

Gene: Camster\_38 Start: 29830, Stop: 30333, Start Num: 11

Candidate Starts for Camster\_38:

(2, 29743), (Start: 11 @29830 has 52 MA's), (Start: 30 @29923 has 5 MA's), (46, 30025), (53, 30070), (90, 30316),

Gene: CaptainTrips\_53 Start: 38188, Stop: 38535, Start Num: 20

Candidate Starts for CaptainTrips\_53:

(Start: 20 @38188 has 193 MA's), (Start: 37 @38227 has 2 MA's), (39, 38236), (49, 38314), (62, 38410), (67, 38431), (77, 38476), (84, 38512), (88, 38530),

Gene: Cerasum\_52 Start: 34832, Stop: 35179, Start Num: 20

Candidate Starts for Cerasum\_52:

(Start: 20 @34832 has 193 MA's), (Start: 37 @34871 has 2 MA's), (43, 34910), (48, 34955), (49, 34958), (62, 35054), (77, 35120),

Gene: Chancellor\_54 Start: 37618, Stop: 37968, Start Num: 25

Candidate Starts for Chancellor\_54:



(Start: 25 @37618 has 20 MA's), (33, 37642), (34, 37645), (45, 37720), (52, 37759), (58, 37804), (60, 37822), (63, 37843), (64, 37846),

Gene: Charlie\_41 Start: 29383, Stop: 29745, Start Num: 20

Candidate Starts for Charlie\_41:

(Start: 20 @29383 has 193 MA's), (Start: 22 @29386 has 6 MA's), (32, 29413), (38, 29434), (41, 29449), (44, 29500), (49, 29521), (58, 29587), (77, 29683), (79, 29695), (86, 29734),

Gene: Che8\_61 Start: 41323, Stop: 41667, Start Num: 21

Candidate Starts for Che8\_61:

(10, 41236), (Start: 21 @41323 has 4 MA's), (Start: 37 @41356 has 2 MA's), (74, 41596), (80, 41626), (87, 41659), (88, 41662),

Gene: Che9c\_54 Start: 41194, Stop: 41610, Start Num: 11

Candidate Starts for Che9c\_54:

(Start: 11 @41194 has 52 MA's), (Start: 30 @41287 has 5 MA's), (38, 41317), (47, 41398), (51, 41416), (57, 41455), (58, 41464), (78, 41563),

Gene: Che9d\_64 Start: 38405, Stop: 38749, Start Num: 22

Candidate Starts for Che9d\_64:

(Start: 22 @38405 has 6 MA's), (Start: 26 @38411 has 16 MA's), (Start: 37 @38438 has 2 MA's), (74, 38678), (80, 38708), (87, 38741), (88, 38744),

Gene: Cheetobro\_54 Start: 37615, Stop: 37965, Start Num: 25

Candidate Starts for Cheetobro\_54:

(Start: 25 @37615 has 20 MA's), (33, 37639), (34, 37642), (45, 37717), (52, 37756), (58, 37801), (60, 37819), (63, 37840), (64, 37843),

Gene: Chevrolet\_62 Start: 39699, Stop: 40046, Start Num: 20

Candidate Starts for Chevrolet\_62:

(Start: 20 @39699 has 193 MA's), (Start: 37 @39738 has 2 MA's), (48, 39822), (49, 39825), (62, 39921), (67, 39942), (77, 39987), (88, 40041),

Gene: ChickenDinner\_56 Start: 37989, Stop: 38351, Start Num: 20

Candidate Starts for ChickenDinner\_56:

(Start: 20 @37989 has 193 MA's), (Start: 22 @37992 has 6 MA's), (32, 38019), (38, 38040), (41, 38055), (44, 38106), (49, 38127), (58, 38193), (77, 38289), (79, 38301), (86, 38340),

Gene: Chuckly\_59 Start: 39334, Stop: 39681, Start Num: 20

Candidate Starts for Chuckly\_59:

(7, 39238), (8, 39244), (Start: 20 @39334 has 193 MA's), (Start: 37 @39373 has 2 MA's), (43, 39412), (48, 39457), (49, 39460), (62, 39556), (77, 39622), (88, 39676),

Gene: Clifton\_51 Start: 35867, Stop: 36214, Start Num: 20

Candidate Starts for Clifton\_51:

(7, 35771), (Start: 20 @35867 has 193 MA's), (Start: 37 @35906 has 2 MA's), (48, 35990), (49, 35993), (62, 36089), (77, 36155), (88, 36209),

Gene: Coco12\_55 Start: 38889, Stop: 39236, Start Num: 20

Candidate Starts for Coco12\_55:

(Start: 20 @38889 has 193 MA's), (Start: 37 @38928 has 2 MA's), (43, 38967), (48, 39012), (49, 39015), (62, 39111), (77, 39177),

Gene: Constella\_112 Start: 64955, Stop: 65296, Start Num: 22

Candidate Starts for Constella\_112:

(Start: 22 @64955 has 6 MA's), (Start: 26 @64961 has 16 MA's), (Start: 37 @64988 has 2 MA's), (43, 65027), (48, 65072), (49, 65075), (62, 65171), (67, 65192), (77, 65237), (84, 65273), (88, 65291),

Gene: Cornie\_51 Start: 36858, Stop: 37253, Start Num: 16

Candidate Starts for Cornie\_51:

(Start: 16 @36858 has 10 MA's), (17, 36876), (Start: 37 @36942 has 2 MA's), (74, 37182), (80, 37212), (87, 37245), (88, 37248),

Gene: Cornucopia\_58 Start: 39344, Stop: 39694, Start Num: 20

Candidate Starts for Cornucopia\_58:

(Start: 20 @39344 has 193 MA's), (Start: 37 @39383 has 2 MA's), (74, 39623), (80, 39653), (87, 39686), (88, 39689),

Gene: Crumble\_51 Start: 34628, Stop: 34975, Start Num: 20

Candidate Starts for Crumble\_51:

(7, 34532), (Start: 20 @34628 has 193 MA's), (Start: 37 @34667 has 2 MA's), (48, 34751), (49, 34754), (62, 34850), (77, 34916), (88, 34970),

Gene: DLane\_52 Start: 37767, Stop: 38102, Start Num: 26

Candidate Starts for DLane\_52:

(Start: 26 @37767 has 16 MA's), (Start: 37 @37794 has 2 MA's), (49, 37881), (62, 37977), (67, 37998), (77, 38043), (84, 38079), (88, 38097),

Gene: DRBy19\_59 Start: 39792, Stop: 40139, Start Num: 20

Candidate Starts for DRBy19\_59:

(4, 39672), (8, 39702), (Start: 20 @39792 has 193 MA's), (Start: 37 @39831 has 2 MA's), (39, 39840), (48, 39915), (49, 39918), (62, 40014), (77, 40080),

Gene: DaWorst\_57 Start: 39093, Stop: 39440, Start Num: 20

Candidate Starts for DaWorst\_57:

(Start: 20 @39093 has 193 MA's), (Start: 37 @39132 has 2 MA's), (39, 39141), (49, 39219), (62, 39315), (77, 39381), (88, 39435),

Gene: DaddyRickover\_55 Start: 38831, Stop: 39178, Start Num: 20

Candidate Starts for DaddyRickover\_55:

(7, 38735), (8, 38741), (Start: 20 @38831 has 193 MA's), (Start: 37 @38870 has 2 MA's), (48, 38954), (49, 38957), (62, 39053), (77, 39119),

Gene: Daenerys\_50 Start: 36947, Stop: 37294, Start Num: 20

Candidate Starts for Daenerys\_50:

(7, 36851), (Start: 20 @36947 has 193 MA's), (Start: 37 @36986 has 2 MA's), (48, 37070), (49, 37073), (62, 37169), (67, 37190), (77, 37235), (88, 37289),

Gene: Dante\_57 Start: 38616, Stop: 38963, Start Num: 20

Candidate Starts for Dante\_57:

(Start: 20 @38616 has 193 MA's), (Start: 37 @38655 has 2 MA's), (43, 38694), (48, 38739), (49, 38742), (62, 38838), (77, 38904), (88, 38958),

Gene: DeadP\_62 Start: 41268, Stop: 41615, Start Num: 20

Candidate Starts for DeadP\_62:

(4, 41148), (Start: 20 @41268 has 193 MA's), (Start: 37 @41307 has 2 MA's), (43, 41346), (48, 41391), (49, 41394), (62, 41490), (67, 41511), (77, 41556), (84, 41592), (88, 41610),

Gene: Deb65\_51 Start: 36916, Stop: 37263, Start Num: 20

Candidate Starts for Deb65\_51:

(7, 36820), (Start: 20 @36916 has 193 MA's), (Start: 37 @36955 has 2 MA's), (48, 37039), (49, 37042), (62, 37138), (67, 37159), (77, 37204), (88, 37258),

Gene: Demsculpinboyz\_66 Start: 38415, Stop: 38750, Start Num: 27

Candidate Starts for Demsculpinboyz\_66:

(23, 38409), (Start: 27 @38415 has 1 MA's), (Start: 37 @38442 has 2 MA's), (67, 38646), (80, 38709), (87, 38742), (88, 38745),

Gene: DillTech15\_53 Start: 37281, Stop: 37628, Start Num: 20

Candidate Starts for DillTech15\_53:

(7, 37185), (Start: 20 @37281 has 193 MA's), (Start: 37 @37320 has 2 MA's), (49, 37407), (62, 37503), (67, 37524), (77, 37569), (84, 37605), (88, 37623),

Gene: DirtMcgirt\_55 Start: 37356, Stop: 37703, Start Num: 20

Candidate Starts for DirtMcgirt\_55:

(7, 37260), (8, 37266), (Start: 20 @37356 has 193 MA's), (Start: 37 @37395 has 2 MA's), (48, 37479), (49, 37482), (62, 37578),

Gene: DocMcStuffins\_54 Start: 37992, Stop: 38351, Start Num: 22

Candidate Starts for DocMcStuffins\_54:

(Start: 20 @37989 has 193 MA's), (Start: 22 @37992 has 6 MA's), (32, 38019), (38, 38040), (41, 38055), (44, 38106), (49, 38127), (58, 38193), (77, 38289), (79, 38301), (86, 38340),

Gene: Donkeykong\_60 Start: 41650, Stop: 41997, Start Num: 20

Candidate Starts for Donkeykong\_60:

(Start: 20 @41650 has 193 MA's), (Start: 37 @41689 has 2 MA's), (39, 41698), (49, 41776), (62, 41872), (67, 41893), (77, 41938), (84, 41974),

Gene: Donovan\_38 Start: 29827, Stop: 30333, Start Num: 11

Candidate Starts for Donovan\_38:

(Start: 11 @29827 has 52 MA's), (Start: 30 @29920 has 5 MA's), (46, 30025), (53, 30070), (90, 30316),

Gene: Doomphist\_56 Start: 39792, Stop: 40139, Start Num: 20

Candidate Starts for Doomphist\_56:

(Start: 20 @39792 has 193 MA's), (Start: 37 @39831 has 2 MA's), (43, 39870), (48, 39915), (49, 39918), (62, 40014), (66, 40032), (67, 40035), (72, 40059), (76, 40077), (77, 40080),

Gene: Dorothy\_54 Start: 38023, Stop: 38358, Start Num: 26

Candidate Starts for Dorothy\_54:

(Start: 26 @38023 has 16 MA's), (Start: 37 @38050 has 2 MA's), (49, 38137), (62, 38233), (67, 38254), (77, 38299), (88, 38353),

Gene: DosHalletts\_58 Start: 40147, Stop: 40494, Start Num: 20

Candidate Starts for DosHalletts\_58:

(Start: 20 @40147 has 193 MA's), (Start: 37 @40186 has 2 MA's), (39, 40195), (49, 40273), (62, 40369), (67, 40390), (77, 40435), (88, 40489),

Gene: DotProduct\_51 Start: 37410, Stop: 37757, Start Num: 20

Candidate Starts for DotProduct\_51:

(4, 37290), (Start: 20 @37410 has 193 MA's), (Start: 37 @37449 has 2 MA's), (43, 37488), (48, 37533), (49, 37536), (62, 37632), (66, 37650), (67, 37653), (72, 37677), (76, 37695), (77, 37698),

Gene: Doug\_58 Start: 39359, Stop: 39706, Start Num: 20

Candidate Starts for Doug\_58:

(Start: 20 @39359 has 193 MA's), (Start: 37 @39398 has 2 MA's), (39, 39407), (49, 39485), (62, 39581), (77, 39647), (88, 39701),

Gene: DrLupo\_58 Start: 42483, Stop: 42806, Start Num: 37

Candidate Starts for DrLupo\_58:

(Start: 37 @42483 has 2 MA's), (55, 42624), (58, 42648), (59, 42660), (61, 42675), (68, 42705), (70, 42720), (75, 42738),

Gene: Drago\_54 Start: 37359, Stop: 37706, Start Num: 20

Candidate Starts for Drago\_54:

(7, 37263), (8, 37269), (Start: 20 @37359 has 193 MA's), (Start: 37 @37398 has 2 MA's), (48, 37482), (49, 37485), (62, 37581),

Gene: Dynamo\_38 Start: 30215, Stop: 30718, Start Num: 11

Candidate Starts for Dynamo\_38:

(Start: 11 @30215 has 52 MA's), (Start: 30 @30308 has 5 MA's), (46, 30410), (53, 30455), (90, 30701),

Gene: Eish\_60 Start: 39608, Stop: 39955, Start Num: 20

Candidate Starts for Eish\_60:

(Start: 20 @39608 has 193 MA's), (Start: 37 @39647 has 2 MA's), (49, 39734), (62, 39830), (77, 39896),

Gene: EleanorGeorge\_57 Start: 39477, Stop: 39821, Start Num: 21

Candidate Starts for EleanorGeorge\_57:

(10, 39390), (Start: 21 @39477 has 4 MA's), (Start: 37 @39510 has 2 MA's), (74, 39750), (80, 39780), (87, 39813), (88, 39816),

Gene: Emma\_58 Start: 38779, Stop: 39114, Start Num: 26

Candidate Starts for Emma\_58:

(Start: 26 @38779 has 16 MA's), (Start: 37 @38806 has 2 MA's), (49, 38893), (62, 38989), (67, 39010), (77, 39055), (84, 39091), (88, 39109),

Gene: Empress\_54 Start: 38361, Stop: 38708, Start Num: 20

Candidate Starts for Empress\_54:

(Start: 20 @38361 has 193 MA's), (Start: 37 @38400 has 2 MA's), (43, 38439), (48, 38484), (49, 38487), (62, 38583), (66, 38601), (67, 38604), (72, 38628), (76, 38646), (77, 38649),

Gene: Enby\_57 Start: 37635, Stop: 37982, Start Num: 20

Candidate Starts for Enby\_57:

(Start: 20 @37635 has 193 MA's), (Start: 37 @37674 has 2 MA's), (39, 37683), (49, 37761), (62, 37857), (67, 37878), (77, 37923), (84, 37959), (88, 37977),

Gene: Eponine\_56 Start: 38452, Stop: 38805, Start Num: 25

Candidate Starts for Eponine\_56:

(Start: 25 @38452 has 20 MA's), (34, 38479), (45, 38554), (52, 38593), (58, 38641), (60, 38659), (63, 38680), (64, 38683),

Gene: Eradicator\_49 Start: 36888, Stop: 37235, Start Num: 20

Candidate Starts for Eradicator\_49:

(Start: 20 @36888 has 193 MA's), (Start: 37 @36927 has 2 MA's), (39, 36936), (49, 37014), (62, 37110), (67, 37131), (77, 37176), (84, 37212), (88, 37230),

Gene: Estave1\_59 Start: 39812, Stop: 40159, Start Num: 20

Candidate Starts for Estave1\_59:

(7, 39716), (Start: 20 @39812 has 193 MA's), (Start: 37 @39851 has 2 MA's), (48, 39935), (49, 39938), (62, 40034), (77, 40100), (88, 40154),

Gene: Fancypants\_58 Start: 39326, Stop: 39673, Start Num: 20

Candidate Starts for Fancypants\_58:

(4, 39206), (8, 39236), (12, 39257), (Start: 20 @39326 has 193 MA's), (Start: 37 @39365 has 2 MA's), (48, 39449), (49, 39452), (62, 39548), (67, 39569), (77, 39614), (84, 39650), (88, 39668),

Gene: Fastidio\_56 Start: 37428, Stop: 37775, Start Num: 20

Candidate Starts for Fastidio\_56:

(7, 37332), (Start: 20 @37428 has 193 MA's), (Start: 37 @37467 has 2 MA's), (49, 37554), (62, 37650), (67, 37671), (77, 37716), (84, 37752), (88, 37770),

Gene: Filuzino\_55 Start: 38069, Stop: 38404, Start Num: 26

Candidate Starts for Filuzino\_55:

(Start: 26 @38069 has 16 MA's), (Start: 37 @38096 has 2 MA's), (49, 38183), (62, 38279), (67, 38300), (77, 38345), (84, 38381), (88, 38399),

Gene: Fionnbharth\_54 Start: 37850, Stop: 38203, Start Num: 25

Candidate Starts for Fionnbharth\_54:

(Start: 25 @37850 has 20 MA's), (33, 37874), (34, 37877), (45, 37952), (52, 37991), (58, 38039), (60, 38057), (63, 38078), (64, 38081),

Gene: Firehouse51\_57 Start: 42210, Stop: 42557, Start Num: 20

Candidate Starts for Firehouse51\_57:

(4, 42090), (Start: 20 @42210 has 193 MA's), (Start: 37 @42249 has 2 MA's), (43, 42288), (48, 42333), (49, 42336), (62, 42432), (66, 42450), (67, 42453), (72, 42477), (76, 42495), (77, 42498),

Gene: FirstPlacePfu\_38 Start: 29839, Stop: 30342, Start Num: 11

Candidate Starts for FirstPlacePfu\_38:

(Start: 11 @29839 has 52 MA's), (Start: 30 @29932 has 5 MA's), (46, 30034), (53, 30079), (90, 30325),

Gene: Fishburne\_38 Start: 29807, Stop: 30310, Start Num: 11

Candidate Starts for Fishburne\_38:

(Start: 11 @29807 has 52 MA's), (Start: 30 @29900 has 5 MA's), (46, 30002), (53, 30047), (90, 30293),

Gene: Flathead\_57 Start: 39563, Stop: 39871, Start Num: 37

Candidate Starts for Flathead\_57:

(Start: 26 @39536 has 16 MA's), (Start: 37 @39563 has 2 MA's), (49, 39650), (62, 39746), (67, 39767), (77, 39812), (84, 39848), (88, 39866),

Gene: Florinda\_68 Start: 41148, Stop: 41495, Start Num: 20

Candidate Starts for Florinda\_68:

(4, 41028), (12, 41079), (Start: 20 @41148 has 193 MA's), (Start: 37 @41187 has 2 MA's), (48, 41271), (49, 41274), (62, 41370), (67, 41391), (77, 41436), (88, 41490),

Gene: Frankie\_60 Start: 40470, Stop: 40832, Start Num: 20

Candidate Starts for Frankie\_60:

(Start: 20 @40470 has 193 MA's), (Start: 26 @40479 has 16 MA's), (Start: 31 @40485 has 1 MA's), (38, 40521), (41, 40536), (44, 40587), (49, 40608), (58, 40674), (77, 40770), (79, 40782), (86, 40821),

Gene: FreddyB\_57 Start: 37540, Stop: 37887, Start Num: 20

Candidate Starts for FreddyB\_57:

(7, 37444), (Start: 20 @37540 has 193 MA's), (Start: 37 @37579 has 2 MA's), (48, 37663), (49, 37666), (62, 37762), (77, 37828), (88, 37882),

Gene: Fruitloop\_54 Start: 39383, Stop: 39718, Start Num: 26

Candidate Starts for Fruitloop\_54:

(Start: 26 @39383 has 16 MA's), (Start: 37 @39410 has 2 MA's), (49, 39497), (62, 39593), (67, 39614), (77, 39659), (84, 39695), (88, 39713),

Gene: GUmbie\_54 Start: 38115, Stop: 38462, Start Num: 20

Candidate Starts for GUmbie\_54:

(Start: 20 @38115 has 193 MA's), (Start: 37 @38154 has 2 MA's), (39, 38163), (49, 38241), (62, 38337), (67, 38358), (77, 38403), (84, 38439), (88, 38457),

Gene: Galactic\_55 Start: 38581, Stop: 38928, Start Num: 20

Candidate Starts for Galactic\_55:

(4, 38461), (8, 38491), (12, 38512), (Start: 20 @38581 has 193 MA's), (Start: 37 @38620 has 2 MA's), (48, 38704), (49, 38707), (62, 38803), (67, 38824), (77, 38869), (84, 38905), (88, 38923),

Gene: Gandalph\_59 Start: 38933, Stop: 39283, Start Num: 20

Candidate Starts for Gandalph\_59:

(Start: 20 @38933 has 193 MA's), (Start: 37 @38972 has 2 MA's), (74, 39212), (80, 39242), (87, 39275), (88, 39278),

Gene: Geralt\_51 Start: 36915, Stop: 37262, Start Num: 20

Candidate Starts for Geralt\_51:

(7, 36819), (Start: 20 @36915 has 193 MA's), (Start: 37 @36954 has 2 MA's), (48, 37038), (49, 37041), (62, 37137), (67, 37158), (77, 37203), (88, 37257),

Gene: GigiOuiOui\_52 Start: 37555, Stop: 37902, Start Num: 20

Candidate Starts for GigiOuiOui\_52:

(Start: 20 @37555 has 193 MA's), (Start: 37 @37594 has 2 MA's), (39, 37603), (49, 37681), (62, 37777), (67, 37798), (77, 37843), (88, 37897),

Gene: Girafales\_66 Start: 40939, Stop: 41286, Start Num: 20

Candidate Starts for Girafales\_66:

(4, 40819), (8, 40849), (12, 40870), (Start: 20 @40939 has 193 MA's), (Start: 37 @40978 has 2 MA's), (48, 41062), (49, 41065), (62, 41161), (67, 41182), (77, 41227), (88, 41281),

Gene: Girr\_54 Start: 38422, Stop: 38769, Start Num: 20

Candidate Starts for Girr\_54:

(4, 38299), (12, 38350), (Start: 20 @38422 has 193 MA's), (Start: 37 @38461 has 2 MA's), (39, 38470), (43, 38500), (49, 38548), (62, 38644), (67, 38665), (77, 38710), (84, 38746), (88, 38764),

Gene: Glaske\_38 Start: 30054, Stop: 30557, Start Num: 11

Candidate Starts for Glaske\_38:

(2, 29967), (Start: 11 @30054 has 52 MA's), (Start: 30 @30147 has 5 MA's), (46, 30249), (53, 30294), (87, 30468), (90, 30540),

Gene: Gorge\_60 Start: 40057, Stop: 40404, Start Num: 20

Candidate Starts for Gorge\_60:

(7, 39961), (Start: 20 @40057 has 193 MA's), (Start: 37 @40096 has 2 MA's), (48, 40180), (49, 40183), (62, 40279), (77, 40345), (88, 40399),

Gene: GreaseLightnin\_38 Start: 30043, Stop: 30546, Start Num: 11

Candidate Starts for GreaseLightnin\_38:

(2, 29956), (Start: 11 @30043 has 52 MA's), (Start: 30 @30136 has 5 MA's), (46, 30238), (53, 30283), (56, 30298), (90, 30529),

Gene: Guppsters\_57 Start: 38245, Stop: 38592, Start Num: 20

Candidate Starts for Guppsters\_57:

(Start: 20 @38245 has 193 MA's), (Start: 37 @38284 has 2 MA's), (39, 38293), (48, 38368), (49, 38371), (62, 38467), (77, 38533), (88, 38587),

Gene: HC\_38 Start: 29567, Stop: 30004, Start Num: 11

Candidate Starts for HC\_38:

(3, 29510), (Start: 11 @29567 has 52 MA's), (58, 29846), (59, 29858), (77, 29942),

Gene: HUHilltop\_38 Start: 29837, Stop: 30343, Start Num: 11

Candidate Starts for HUHilltop\_38:

(Start: 11 @29837 has 52 MA's), (Start: 30 @29930 has 5 MA's), (46, 30035), (53, 30080), (90, 30326),

Gene: Hades\_57 Start: 39513, Stop: 39860, Start Num: 20

Candidate Starts for Hades\_57:

(Start: 20 @39513 has 193 MA's), (Start: 37 @39552 has 2 MA's), (39, 39561), (49, 39639), (62, 39735), (67, 39756), (77, 39801), (84, 39837), (88, 39855),

Gene: Hamulus\_58 Start: 39523, Stop: 39858, Start Num: 26

Candidate Starts for Hamulus\_58:

(Start: 26 @39523 has 16 MA's), (Start: 37 @39550 has 2 MA's), (39, 39559), (49, 39637), (62, 39733), (67, 39754), (77, 39799), (84, 39835), (88, 39853),

Gene: Hanako\_46 Start: 31703, Stop: 32065, Start Num: 19

Candidate Starts for Hanako\_46:

(Start: 19 @31703 has 6 MA's), (Start: 20 @31706 has 193 MA's), (Start: 31 @31721 has 1 MA's), (36, 31748), (41, 31772), (49, 31844), (58, 31910), (66, 31958), (77, 32006), (86, 32054),

Gene: Harley\_59 Start: 39484, Stop: 39822, Start Num: 28

Candidate Starts for Harley\_59:

(Start: 28 @39484 has 7 MA's), (Start: 37 @39511 has 2 MA's), (74, 39751), (80, 39781), (87, 39814), (88, 39817),

Gene: Hegedechwinu\_56 Start: 37727, Stop: 38074, Start Num: 20

Candidate Starts for Hegedechwinu\_56:

(Start: 20 @37727 has 193 MA's), (Start: 37 @37766 has 2 MA's), (39, 37775), (49, 37853), (62, 37949), (77, 38015), (84, 38051), (88, 38069),

Gene: Hlubikazi\_52 Start: 36733, Stop: 37080, Start Num: 20

Candidate Starts for Hlubikazi\_52:

(4, 36613), (Start: 20 @36733 has 193 MA's), (Start: 37 @36772 has 2 MA's), (43, 36811), (48, 36856), (49, 36859), (62, 36955), (77, 37021),

Gene: IMpilo\_52 Start: 36571, Stop: 36918, Start Num: 20

Candidate Starts for IMpilo\_52:

(4, 36451), (8, 36481), (12, 36502), (Start: 20 @36571 has 193 MA's), (Start: 37 @36610 has 2 MA's), (49, 36697), (62, 36793), (67, 36814), (77, 36859),

Gene: IbOuu\_57 Start: 39092, Stop: 39439, Start Num: 20

Candidate Starts for IbOuu\_57:

(Start: 20 @39092 has 193 MA's), (Start: 37 @39131 has 2 MA's), (39, 39140), (49, 39218), (62, 39314), (77, 39380), (84, 39416), (88, 39434),

Gene: Ibhubesi\_56 Start: 38705, Stop: 39052, Start Num: 20

Candidate Starts for Ibhubesi\_56:

(4, 38585), (8, 38615), (12, 38636), (Start: 20 @38705 has 193 MA's), (Start: 37 @38744 has 2 MA's), (43, 38783), (48, 38828), (49, 38831), (62, 38927), (67, 38948), (77, 38993), (84, 39029), (88, 39047),

Gene: Inventum\_51 Start: 38209, Stop: 38556, Start Num: 20

Candidate Starts for Inventum\_51:

(Start: 20 @38209 has 193 MA's), (Start: 37 @38248 has 2 MA's), (39, 38257), (49, 38335), (62, 38431), (67, 38452), (77, 38497), (84, 38533), (88, 38551),

Gene: Island3\_39 Start: 31520, Stop: 31951, Start Num: 11

Candidate Starts for Island3\_39:

(Start: 11 @31520 has 52 MA's), (29, 31613), (38, 31643), (58, 31793), (59, 31805), (77, 31889),

Gene: JF1\_54 Start: 37767, Stop: 38120, Start Num: 25

Candidate Starts for JF1\_54:

(Start: 25 @37767 has 20 MA's), (33, 37791), (34, 37794), (45, 37869), (52, 37908), (58, 37956), (60, 37974), (63, 37995), (64, 37998),

Gene: Jabbawokkie\_70 Start: 40392, Stop: 40781, Start Num: 16

Candidate Starts for Jabbawokkie\_70:

(14, 40380), (Start: 16 @40392 has 10 MA's), (17, 40410), (24, 40443), (Start: 37 @40473 has 2 MA's), (77, 40722), (80, 40740), (87, 40773), (88, 40776),

Gene: JalFarm20\_69 Start: 42632, Stop: 42970, Start Num: 28

Candidate Starts for JalFarm20\_69:

(Start: 28 @42632 has 7 MA's), (Start: 37 @42659 has 2 MA's), (74, 42899), (80, 42929), (87, 42962), (88, 42965),

Gene: James\_60 Start: 40182, Stop: 40529, Start Num: 20

Candidate Starts for James\_60:

(4, 40062), (Start: 20 @40182 has 193 MA's), (Start: 37 @40221 has 2 MA's), (48, 40305), (49, 40308), (62, 40404), (77, 40470),



Gene: Jarcob\_56 Start: 38660, Stop: 39007, Start Num: 20

Candidate Starts for Jarcob\_56:

(7, 38564), (Start: 20 @38660 has 193 MA's), (Start: 37 @38699 has 2 MA's), (48, 38783), (49, 38786), (62, 38882), (77, 38948), (88, 39002),

Gene: Jebeks\_39 Start: 29792, Stop: 30295, Start Num: 11

Candidate Starts for Jebeks\_39:

(Start: 11 @29792 has 52 MA's), (Start: 30 @29885 has 5 MA's), (46, 29987), (53, 30032), (90, 30278),

Gene: Jinglebell\_61 Start: 41220, Stop: 41567, Start Num: 20

Candidate Starts for Jinglebell\_61:

(Start: 20 @41220 has 193 MA's), (Start: 37 @41259 has 2 MA's), (43, 41298), (48, 41343), (49, 41346), (62, 41442), (67, 41463), (77, 41508),

Gene: Job42\_58 Start: 40600, Stop: 40947, Start Num: 20

Candidate Starts for Job42\_58:

(4, 40480), (12, 40531), (Start: 20 @40600 has 193 MA's), (Start: 37 @40639 has 2 MA's), (39, 40648), (49, 40726), (62, 40822), (77, 40888),

Gene: JoeyJr\_51 Start: 37115, Stop: 37462, Start Num: 20

Candidate Starts for JoeyJr\_51:

(7, 37019), (Start: 20 @37115 has 193 MA's), (Start: 37 @37154 has 2 MA's), (48, 37238), (49, 37241), (62, 37337), (67, 37358), (77, 37403), (88, 37457),

Gene: Journey\_40 Start: 29383, Stop: 29745, Start Num: 20

Candidate Starts for Journey\_40:

(Start: 20 @29383 has 193 MA's), (Start: 22 @29386 has 6 MA's), (32, 29413), (38, 29434), (41, 29449), (44, 29500), (49, 29521), (58, 29587), (77, 29683), (79, 29695), (86, 29734),

Gene: Juice456\_57 Start: 40576, Stop: 40926, Start Num: 20

Candidate Starts for Juice456\_57:

(5, 40456), (9, 40486), (Start: 20 @40576 has 193 MA's), (Start: 37 @40615 has 2 MA's), (74, 40855), (80, 40885), (87, 40918), (88, 40921),

Gene: Juliette\_56 Start: 37923, Stop: 38273, Start Num: 25

Candidate Starts for Juliette\_56:

(Start: 25 @37923 has 20 MA's), (33, 37947), (34, 37950), (45, 38025), (52, 38064), (58, 38109), (60, 38127), (63, 38148), (64, 38151),

Gene: Jung\_37 Start: 29761, Stop: 30264, Start Num: 11

Candidate Starts for Jung\_37:

(2, 29674), (Start: 11 @29761 has 52 MA's), (Start: 30 @29854 has 5 MA's), (46, 29956), (53, 30001), (87, 30175), (90, 30247),

Gene: Juniormint\_38 Start: 29836, Stop: 30339, Start Num: 11

Candidate Starts for Juniormint\_38:

(2, 29749), (Start: 11 @29836 has 52 MA's), (Start: 30 @29929 has 5 MA's), (46, 30031), (53, 30076), (87, 30250), (90, 30322),

Gene: Juniper1\_54 Start: 38516, Stop: 38863, Start Num: 20

Candidate Starts for Juniper1\_54:

(Start: 20 @38516 has 193 MA's), (Start: 37 @38555 has 2 MA's), (39, 38564), (49, 38642), (62, 38738), (67, 38759), (77, 38804), (84, 38840), (88, 38858),

Gene: Karhdo\_53 Start: 38205, Stop: 38552, Start Num: 20

Candidate Starts for Karhdo\_53:

(4, 38085), (Start: 20 @38205 has 193 MA's), (Start: 37 @38244 has 2 MA's), (48, 38328), (49, 38331), (62, 38427), (77, 38493), (88, 38547),

Gene: Kari\_38 Start: 29804, Stop: 30307, Start Num: 11

Candidate Starts for Kari\_38:

(Start: 11 @29804 has 52 MA's), (Start: 30 @29897 has 5 MA's), (46, 29999), (53, 30044), (90, 30290),

Gene: Kenuha5\_54 Start: 37650, Stop: 37985, Start Num: 28

Candidate Starts for Kenuha5\_54:

(Start: 28 @37650 has 7 MA's), (Start: 37 @37677 has 2 MA's), (49, 37764), (62, 37860), (67, 37881), (77, 37926), (84, 37962), (88, 37980),

Gene: Kersh\_58 Start: 40958, Stop: 41305, Start Num: 20

Candidate Starts for Kersh\_58:

(4, 40838), (8, 40868), (Start: 20 @40958 has 193 MA's), (Start: 37 @40997 has 2 MA's), (43, 41036), (48, 41081), (49, 41084), (62, 41180), (77, 41246), (88, 41300),

Gene: Kevin1\_42 Start: 30562, Stop: 30885, Start Num: 30

Candidate Starts for Kevin1\_42:

(15, 30502), (18, 30538), (Start: 30 @30562 has 5 MA's), (35, 30580), (42, 30622), (57, 30730), (58, 30739), (69, 30805), (71, 30811), (78, 30838), (82, 30862),

Gene: KilKor\_38 Start: 30054, Stop: 30557, Start Num: 11

Candidate Starts for KilKor\_38:

(2, 29967), (Start: 11 @30054 has 52 MA's), (Start: 30 @30147 has 5 MA's), (46, 30249), (53, 30294), (87, 30468), (90, 30540),

Gene: Kimberlium\_58 Start: 40279, Stop: 40626, Start Num: 20

Candidate Starts for Kimberlium\_58:

(Start: 20 @40279 has 193 MA's), (Start: 37 @40318 has 2 MA's), (39, 40327), (49, 40405), (62, 40501), (67, 40522), (77, 40567), (88, 40621),

Gene: KingMidas\_55 Start: 38777, Stop: 39124, Start Num: 20

Candidate Starts for KingMidas\_55:

(7, 38681), (Start: 20 @38777 has 193 MA's), (Start: 37 @38816 has 2 MA's), (48, 38900), (49, 38903), (62, 38999), (67, 39020), (77, 39065), (88, 39119),

Gene: Kingsley\_53 Start: 37622, Stop: 37969, Start Num: 20

Candidate Starts for Kingsley\_53:

(Start: 20 @37622 has 193 MA's), (Start: 37 @37661 has 2 MA's), (43, 37700), (48, 37745), (49, 37748), (62, 37844), (77, 37910),

Gene: Koella\_50 Start: 34590, Stop: 34937, Start Num: 20

Candidate Starts for Koella\_50:

(7, 34494), (Start: 20 @34590 has 193 MA's), (Start: 37 @34629 has 2 MA's), (48, 34713), (49, 34716), (62, 34812), (77, 34878), (88, 34932),

Gene: Krakatau\_54 Start: 38333, Stop: 38674, Start Num: 22

Candidate Starts for Krakatau\_54:

(Start: 22 @38333 has 6 MA's), (Start: 26 @38339 has 16 MA's), (Start: 37 @38366 has 2 MA's), (49, 38453), (62, 38549), (67, 38570), (77, 38615), (84, 38651), (88, 38669),

Gene: KristaRAM\_59 Start: 41162, Stop: 41509, Start Num: 20

Candidate Starts for KristaRAM\_59:

(4, 41042), (Start: 20 @41162 has 193 MA's), (Start: 37 @41201 has 2 MA's), (43, 41240), (48, 41285), (49, 41288), (62, 41384), (67, 41405), (77, 41450), (84, 41486), (88, 41504),

Gene: Ksquared\_38 Start: 29814, Stop: 30317, Start Num: 11

Candidate Starts for Ksquared\_38:

(2, 29727), (Start: 11 @29814 has 52 MA's), (Start: 30 @29907 has 5 MA's), (46, 30009), (53, 30054), (87, 30228), (90, 30300),

Gene: Langerak\_38 Start: 29820, Stop: 30326, Start Num: 11

Candidate Starts for Langerak\_38:

(Start: 11 @29820 has 52 MA's), (Start: 30 @29913 has 5 MA's), (46, 30018), (53, 30063), (90, 30309),

Gene: LastJedi\_50 Start: 35910, Stop: 36257, Start Num: 20

Candidate Starts for LastJedi\_50:

(7, 35814), (Start: 20 @35910 has 193 MA's), (Start: 37 @35949 has 2 MA's), (48, 36033), (49, 36036), (62, 36132), (77, 36198), (88, 36252),

Gene: Latretium\_58 Start: 39236, Stop: 39583, Start Num: 20

Candidate Starts for Latretium\_58:

(Start: 20 @39236 has 193 MA's), (Start: 37 @39275 has 2 MA's), (48, 39359), (49, 39362), (62, 39458), (67, 39479), (77, 39524), (84, 39560), (88, 39578),

Gene: Leozinho\_55 Start: 37995, Stop: 38342, Start Num: 20

Candidate Starts for Leozinho\_55:

(4, 37872), (12, 37923), (Start: 20 @37995 has 193 MA's), (Start: 37 @38034 has 2 MA's), (39, 38043), (49, 38121), (62, 38217), (67, 38238), (77, 38283), (88, 38337),

Gene: Leperchaun\_48 Start: 36345, Stop: 36692, Start Num: 20

Candidate Starts for Leperchaun\_48:

(7, 36249), (Start: 20 @36345 has 193 MA's), (Start: 37 @36384 has 2 MA's), (48, 36468), (49, 36471), (62, 36567), (67, 36588), (77, 36633), (88, 36687),

Gene: LilMoolah\_54 Start: 38105, Stop: 38452, Start Num: 20

Candidate Starts for LilMoolah\_54:

(4, 37985), (12, 38036), (Start: 20 @38105 has 193 MA's), (Start: 37 @38144 has 2 MA's), (49, 38231), (62, 38327), (77, 38393),

Gene: LittleShirley\_55 Start: 39149, Stop: 39496, Start Num: 20

Candidate Starts for LittleShirley\_55:

(4, 39029), (8, 39059), (Start: 20 @39149 has 193 MA's), (Start: 37 @39188 has 2 MA's), (48, 39272), (49, 39275), (62, 39371), (77, 39437),

Gene: Lizziana\_62 Start: 39663, Stop: 40010, Start Num: 20

Candidate Starts for Lizziana\_62:

(7, 39567), (Start: 20 @39663 has 193 MA's), (Start: 37 @39702 has 2 MA's), (48, 39786), (49, 39789), (62, 39885), (77, 39951), (88, 40005),

Gene: Llama\_61 Start: 41074, Stop: 41421, Start Num: 20

Candidate Starts for Llama\_61:

(Start: 20 @41074 has 193 MA's), (Start: 37 @41113 has 2 MA's), (43, 41152), (48, 41197), (49, 41200), (62, 41296), (67, 41317), (77, 41362),

Gene: Llij\_52 Start: 37513, Stop: 37860, Start Num: 20

Candidate Starts for Llij\_52:

(7, 37417), (8, 37423), (Start: 20 @37513 has 193 MA's), (Start: 37 @37552 has 2 MA's), (48, 37636), (49, 37639), (62, 37735),

Gene: Lorde\_56 Start: 36800, Stop: 37147, Start Num: 20

Candidate Starts for Lorde\_56:

(7, 36704), (8, 36710), (Start: 20 @36800 has 193 MA's), (Start: 37 @36839 has 2 MA's), (48, 36923), (49, 36926), (62, 37022),

Gene: LunaBlu\_58 Start: 39240, Stop: 39587, Start Num: 20

Candidate Starts for LunaBlu\_58:

(4, 39120), (8, 39150), (12, 39171), (Start: 20 @39240 has 193 MA's), (Start: 37 @39279 has 2 MA's), (48, 39363), (49, 39366), (62, 39462), (67, 39483), (77, 39528), (84, 39564), (88, 39582),

Gene: LunaStella\_54 Start: 37871, Stop: 38221, Start Num: 20

Candidate Starts for LunaStella\_54:

(Start: 20 @37871 has 193 MA's), (Start: 37 @37910 has 2 MA's), (80, 38180), (87, 38213), (88, 38216),

Gene: MadMen\_54 Start: 38437, Stop: 38784, Start Num: 20

Candidate Starts for MadMen\_54:

(7, 38341), (8, 38347), (Start: 20 @38437 has 193 MA's), (Start: 37 @38476 has 2 MA's), (43, 38515), (48, 38560), (49, 38563), (62, 38659), (77, 38725), (88, 38779),

Gene: Madiba\_54 Start: 37686, Stop: 38033, Start Num: 20

Candidate Starts for Madiba\_54:

(4, 37566), (8, 37596), (Start: 20 @37686 has 193 MA's), (Start: 37 @37725 has 2 MA's), (43, 37764), (48, 37809), (49, 37812), (62, 37908), (77, 37974),

Gene: Mahavrat\_54 Start: 38065, Stop: 38412, Start Num: 20

Candidate Starts for Mahavrat\_54:

(Start: 20 @38065 has 193 MA's), (48, 38188), (49, 38191), (62, 38287), (67, 38308), (77, 38353), (84, 38389), (88, 38407),

Gene: Majeke\_38 Start: 29845, Stop: 30351, Start Num: 11

Candidate Starts for Majeke\_38:

(Start: 11 @29845 has 52 MA's), (Start: 30 @29938 has 5 MA's), (46, 30043), (53, 30088), (90, 30334),

Gene: Malithi\_38 Start: 29723, Stop: 30226, Start Num: 11

Candidate Starts for Malithi\_38:

(2, 29636), (Start: 11 @29723 has 52 MA's), (Start: 30 @29816 has 5 MA's), (46, 29918), (53, 29963), (90, 30209),

Gene: Malthus\_55 Start: 37611, Stop: 37961, Start Num: 25

Candidate Starts for Malthus\_55:

(Start: 25 @37611 has 20 MA's), (33, 37635), (34, 37638), (45, 37713), (52, 37752), (58, 37797), (60, 37815), (63, 37836), (64, 37839),

Gene: Mandlovu\_52 Start: 36675, Stop: 37022, Start Num: 20

Candidate Starts for Mandlovu\_52:

(4, 36555), (Start: 20 @36675 has 193 MA's), (Start: 37 @36714 has 2 MA's), (43, 36753), (48, 36798), (49, 36801), (62, 36897), (77, 36963),

Gene: Mangethe\_38 Start: 29845, Stop: 30351, Start Num: 11

Candidate Starts for Mangethe\_38:

(Start: 11 @29845 has 52 MA's), (Start: 30 @29938 has 5 MA's), (46, 30043), (53, 30088), (90, 30334),

Gene: Mantra\_52 Start: 37558, Stop: 37905, Start Num: 20

Candidate Starts for Mantra\_52:

(Start: 20 @37558 has 193 MA's), (Start: 37 @37597 has 2 MA's), (49, 37684), (62, 37780), (67, 37801), (77, 37846), (88, 37900),

Gene: Maravista\_57 Start: 40112, Stop: 40459, Start Num: 20

Candidate Starts for Maravista\_57:

(Start: 20 @40112 has 193 MA's), (Start: 37 @40151 has 2 MA's), (48, 40235), (49, 40238), (62, 40334), (77, 40400), (88, 40454),

Gene: Marker\_58 Start: 38786, Stop: 39127, Start Num: 22

Candidate Starts for Marker\_58:

(Start: 22 @38786 has 6 MA's), (Start: 26 @38792 has 16 MA's), (Start: 37 @38819 has 2 MA's), (43, 38858), (48, 38903), (49, 38906), (62, 39002), (67, 39023), (77, 39068), (84, 39104), (88, 39122),

Gene: Martik\_56 Start: 38616, Stop: 38963, Start Num: 20

Candidate Starts for Martik\_56:

(7, 38520), (Start: 20 @38616 has 193 MA's), (Start: 37 @38655 has 2 MA's), (48, 38739), (49, 38742), (62, 38838), (77, 38904), (88, 38958),

Gene: Mattes\_60 Start: 40182, Stop: 40529, Start Num: 20

Candidate Starts for Mattes\_60:

(4, 40062), (12, 40113), (Start: 20 @40182 has 193 MA's), (Start: 37 @40221 has 2 MA's), (39, 40230), (49, 40308), (62, 40404), (77, 40470), (88, 40524),

Gene: Megiddo\_38 Start: 30054, Stop: 30557, Start Num: 11

Candidate Starts for Megiddo\_38:

(2, 29967), (Start: 11 @30054 has 52 MA's), (Start: 30 @30147 has 5 MA's), (46, 30249), (53, 30294), (87, 30468), (90, 30540),

Gene: Melissauren88\_55 Start: 38564, Stop: 38899, Start Num: 26

Candidate Starts for Melissauren88\_55:

(Start: 26 @38564 has 16 MA's), (Start: 37 @38591 has 2 MA's), (49, 38678), (62, 38774), (67, 38795), (77, 38840), (84, 38876), (88, 38894),

Gene: MichelleMyBell\_41 Start: 29657, Stop: 29980, Start Num: 30

Candidate Starts for MichelleMyBell\_41:

(15, 29597), (18, 29633), (Start: 30 @29657 has 5 MA's), (35, 29675), (42, 29717), (51, 29786), (57, 29825), (58, 29834), (69, 29900), (71, 29906), (78, 29933),

Gene: MilanaBonita\_47 Start: 35145, Stop: 35492, Start Num: 20

Candidate Starts for MilanaBonita\_47:

(Start: 20 @35145 has 193 MA's), (Start: 37 @35184 has 2 MA's), (39, 35193), (49, 35271), (62, 35367), (67, 35388), (77, 35433), (84, 35469),

Gene: MilleniumForce\_60 Start: 41234, Stop: 41581, Start Num: 20

Candidate Starts for MilleniumForce\_60:

(Start: 20 @41234 has 193 MA's), (Start: 37 @41273 has 2 MA's), (39, 41282), (49, 41360), (62, 41456), (77, 41522), (88, 41576),

Gene: MinionDave\_55 Start: 38963, Stop: 39310, Start Num: 20

Candidate Starts for MinionDave\_55:

(Start: 20 @38963 has 193 MA's), (Start: 37 @39002 has 2 MA's), (39, 39011), (49, 39089), (62, 39185), (67, 39206), (77, 39251), (84, 39287), (88, 39305),

Gene: Minnie\_60 Start: 40536, Stop: 40883, Start Num: 20

Candidate Starts for Minnie\_60:

(Start: 20 @40536 has 193 MA's), (Start: 37 @40575 has 2 MA's), (39, 40584), (49, 40662), (62, 40758), (77, 40824), (88, 40878),

Gene: Misha28\_53 Start: 37256, Stop: 37618, Start Num: 20

Candidate Starts for Misha28\_53:

(Start: 20 @37256 has 193 MA's), (Start: 22 @37259 has 6 MA's), (32, 37286), (38, 37307), (41, 37322), (44, 37373), (49, 37394), (58, 37460), (77, 37556), (79, 37568), (86, 37607),

Gene: MissDaisy\_52 Start: 37140, Stop: 37493, Start Num: 25

Candidate Starts for MissDaisy\_52:

(Start: 25 @37140 has 20 MA's), (33, 37164), (34, 37167), (45, 37242), (52, 37281),

Gene: MisterCuddles\_54 Start: 38422, Stop: 38769, Start Num: 20

Candidate Starts for MisterCuddles\_54:

(4, 38299), (12, 38350), (Start: 20 @38422 has 193 MA's), (Start: 37 @38461 has 2 MA's), (39, 38470), (43, 38500), (49, 38548), (62, 38644), (67, 38665), (77, 38710), (84, 38746), (88, 38764),

Gene: Mitti\_54 Start: 37787, Stop: 38140, Start Num: 25

Candidate Starts for Mitti\_54:

(Start: 25 @37787 has 20 MA's), (33, 37811), (34, 37814), (45, 37889), (52, 37928), (58, 37976), (60, 37994), (63, 38015), (64, 38018),

Gene: Modragons\_60 Start: 41064, Stop: 41411, Start Num: 20

Candidate Starts for Modragons\_60:

(Start: 20 @41064 has 193 MA's), (Start: 37 @41103 has 2 MA's), (43, 41142), (48, 41187), (49, 41190), (62, 41286), (67, 41307), (77, 41352),

Gene: Moonbeam\_55 Start: 38708, Stop: 39043, Start Num: 26

Candidate Starts for Moonbeam\_55:

(Start: 26 @38708 has 16 MA's), (Start: 37 @38735 has 2 MA's), (49, 38822), (62, 38918), (67, 38939), (77, 38984), (84, 39020), (88, 39038),

Gene: Mova\_57 Start: 38190, Stop: 38537, Start Num: 20

Candidate Starts for Mova\_57:

(Start: 20 @38190 has 193 MA's), (Start: 37 @38229 has 2 MA's), (39, 38238), (49, 38316), (62, 38412), (77, 38478), (88, 38532),

Gene: Mozy\_65 Start: 41197, Stop: 41544, Start Num: 20

Candidate Starts for Mozy\_65:

(Start: 20 @41197 has 193 MA's), (Start: 37 @41236 has 2 MA's), (49, 41323), (62, 41419), (67, 41440), (77, 41485), (88, 41539),

Gene: Ms6\_52 Start: 34295, Stop: 34630, Start Num: 26

Candidate Starts for Ms6\_52:

(Start: 26 @34295 has 16 MA's), (Start: 37 @34322 has 2 MA's), (39, 34331), (49, 34409), (62, 34505), (67, 34526), (77, 34571), (84, 34607), (88, 34625),

Gene: MulchExplorer\_62 Start: 40278, Stop: 40625, Start Num: 20

Candidate Starts for MulchExplorer\_62:

(Start: 20 @40278 has 193 MA's), (Start: 37 @40317 has 2 MA's), (39, 40326), (49, 40404), (62, 40500), (67, 40521), (77, 40566), (88, 40620),

Gene: MulchSalad\_54 Start: 36454, Stop: 36801, Start Num: 31

Candidate Starts for MulchSalad\_54:

(Start: 20 @36439 has 193 MA's), (Start: 26 @36448 has 16 MA's), (Start: 31 @36454 has 1 MA's), (38, 36490), (41, 36505), (44, 36556), (49, 36577), (58, 36643), (77, 36739), (79, 36751), (86, 36790),

Gene: Mutaforma13\_60 Start: 41520, Stop: 41867, Start Num: 20

Candidate Starts for Mutaforma13\_60:

(4, 41400), (Start: 20 @41520 has 193 MA's), (Start: 37 @41559 has 2 MA's), (43, 41598), (48, 41643), (49, 41646), (62, 41742), (66, 41760), (67, 41763), (72, 41787), (76, 41805), (77, 41808),

Gene: Nazo\_42 Start: 32113, Stop: 32625, Start Num: 11

Candidate Starts for Nazo\_42:

(Start: 11 @32113 has 52 MA's), (Start: 30 @32206 has 5 MA's), (40, 32245), (54, 32359), (56, 32374), (58, 32395), (78, 32494), (91, 32614),

Gene: Necropolis\_38 Start: 29804, Stop: 30307, Start Num: 11

Candidate Starts for Necropolis\_38:

(Start: 11 @29804 has 52 MA's), (Start: 30 @29897 has 5 MA's), (46, 29999), (53, 30044), (90, 30290),

Gene: Nenae\_45 Start: 31706, Stop: 32068, Start Num: 19

Candidate Starts for Nenae\_45:

(Start: 19 @31706 has 6 MA's), (Start: 20 @31709 has 193 MA's), (Start: 31 @31724 has 1 MA's), (36, 31751), (41, 31775), (49, 31847), (58, 31913), (66, 31961), (77, 32009), (86, 32057),

Gene: Nimbo\_50 Start: 36918, Stop: 37265, Start Num: 20

Candidate Starts for Nimbo\_50:

(7, 36822), (Start: 20 @36918 has 193 MA's), (Start: 37 @36957 has 2 MA's), (48, 37041), (49, 37044), (62, 37140), (67, 37161), (77, 37206), (88, 37260),

Gene: Nitzel\_54 Start: 37977, Stop: 38318, Start Num: 21

Candidate Starts for Nitzel\_54:

(Start: 21 @37977 has 4 MA's), (Start: 37 @38010 has 2 MA's), (43, 38049), (48, 38094), (49, 38097), (62, 38193), (77, 38259), (88, 38313),

Gene: Nivrat\_52 Start: 37978, Stop: 38325, Start Num: 20

Candidate Starts for Nivrat\_52:

(4, 37858), (12, 37909), (Start: 20 @37978 has 193 MA's), (Start: 37 @38017 has 2 MA's), (49, 38104), (62, 38200), (77, 38266),

Gene: NormanBulbieJr\_56 Start: 38603, Stop: 38950, Start Num: 20

Candidate Starts for NormanBulbieJr\_56:

(7, 38507), (Start: 20 @38603 has 193 MA's), (Start: 37 @38642 has 2 MA's), (48, 38726), (49, 38729), (62, 38825), (77, 38891), (88, 38945),

Gene: Ochi17\_59 Start: 40671, Stop: 41018, Start Num: 20

Candidate Starts for Ochi17\_59:

(Start: 20 @40671 has 193 MA's), (Start: 37 @40710 has 2 MA's), (43, 40749), (48, 40794), (49, 40797), (62, 40893), (67, 40914), (77, 40959),

Gene: OfUltron\_61 Start: 41220, Stop: 41567, Start Num: 20

Candidate Starts for OfUltron\_61:

(Start: 20 @41220 has 193 MA's), (Start: 37 @41259 has 2 MA's), (43, 41298), (48, 41343), (49, 41346), (62, 41442), (67, 41463), (77, 41508),

Gene: Ogopogo\_62 Start: 39554, Stop: 39889, Start Num: 28

Candidate Starts for Ogopogo\_62:

(Start: 28 @39554 has 7 MA's), (Start: 37 @39581 has 2 MA's), (49, 39668), (62, 39764), (67, 39785), (77, 39830), (84, 39866), (88, 39884),

Gene: Oksu\_60 Start: 41483, Stop: 41830, Start Num: 20

Candidate Starts for Oksu\_60:

(Start: 20 @41483 has 193 MA's), (Start: 37 @41522 has 2 MA's), (43, 41561), (48, 41606), (49, 41609), (62, 41705), (67, 41726), (77, 41771),

Gene: OldBen\_53 Start: 38528, Stop: 38875, Start Num: 20

Candidate Starts for OldBen\_53:

(Start: 20 @38528 has 193 MA's), (Start: 37 @38567 has 2 MA's), (43, 38606), (48, 38651), (49, 38654), (62, 38750), (67, 38771), (77, 38816), (88, 38870),

Gene: OlympiaSaint\_58 Start: 39124, Stop: 39471, Start Num: 20

Candidate Starts for OlympiaSaint\_58:

(7, 39028), (Start: 20 @39124 has 193 MA's), (Start: 37 @39163 has 2 MA's), (48, 39247), (49, 39250), (62, 39346), (77, 39412), (88, 39466),

Gene: OmniCritical\_53 Start: 37596, Stop: 37949, Start Num: 25

Candidate Starts for OmniCritical\_53:

(Start: 25 @37596 has 20 MA's), (33, 37620), (34, 37623), (45, 37698), (52, 37737), (58, 37785), (60, 37803), (63, 37824), (64, 37827),

Gene: Ovechkin\_55 Start: 39124, Stop: 39471, Start Num: 20

Candidate Starts for Ovechkin\_55:

(Start: 20 @39124 has 193 MA's), (Start: 37 @39163 has 2 MA's), (43, 39202), (48, 39247), (49, 39250), (62, 39346), (77, 39412), (88, 39466),

Gene: OwlsT2W\_56 Start: 38846, Stop: 39193, Start Num: 20

Candidate Starts for OwlsT2W\_56:



(Start: 20 @38846 has 193 MA's), (Start: 37 @38885 has 2 MA's), (39, 38894), (49, 38972), (62, 39068), (67, 39089), (77, 39134), (84, 39170), (88, 39188),

Gene: PHappiness\_51 Start: 36891, Stop: 37238, Start Num: 20

Candidate Starts for PHappiness\_51:

(7, 36795), (Start: 20 @36891 has 193 MA's), (Start: 37 @36930 has 2 MA's), (48, 37014), (49, 37017), (62, 37113), (67, 37134), (77, 37179), (88, 37233),

Gene: PMC\_53 Start: 39230, Stop: 39577, Start Num: 20

Candidate Starts for PMC\_53:

(7, 39134), (Start: 20 @39230 has 193 MA's), (Start: 37 @39269 has 2 MA's), (48, 39353), (49, 39356), (62, 39452), (67, 39473), (77, 39518), (88, 39572),

Gene: Pacc40\_50 Start: 36965, Stop: 37312, Start Num: 20

Candidate Starts for Pacc40\_50:

(7, 36869), (Start: 20 @36965 has 193 MA's), (Start: 37 @37004 has 2 MA's), (48, 37088), (49, 37091), (62, 37187), (67, 37208), (77, 37253), (88, 37307),

Gene: Patt\_51 Start: 36864, Stop: 37217, Start Num: 25

Candidate Starts for Patt\_51:

(Start: 25 @36864 has 20 MA's), (33, 36888), (34, 36891), (45, 36966), (52, 37005), (64, 37095),

Gene: Phalconet\_55 Start: 37835, Stop: 38170, Start Num: 26

Candidate Starts for Phalconet\_55:

(Start: 26 @37835 has 16 MA's), (Start: 37 @37862 has 2 MA's), (49, 37949), (62, 38045), (67, 38066), (77, 38111), (84, 38147), (88, 38165),

Gene: Phalm\_38 Start: 30054, Stop: 30557, Start Num: 11

Candidate Starts for Phalm\_38:

(2, 29967), (Start: 11 @30054 has 52 MA's), (Start: 30 @30147 has 5 MA's), (46, 30249), (53, 30294), (87, 30468), (90, 30540),

Gene: PhancyPhin\_45 Start: 31700, Stop: 32062, Start Num: 19

Candidate Starts for PhancyPhin\_45:

(Start: 19 @31700 has 6 MA's), (Start: 20 @31703 has 193 MA's), (Start: 31 @31718 has 1 MA's), (36, 31745), (41, 31769), (49, 31841), (58, 31907), (66, 31955), (77, 32003), (86, 32051),

Gene: Phanphagia\_54 Start: 39414, Stop: 39761, Start Num: 20

Candidate Starts for Phanphagia\_54:

(Start: 20 @39414 has 193 MA's), (Start: 37 @39453 has 2 MA's), (39, 39462), (49, 39540), (62, 39636), (67, 39657), (77, 39702), (84, 39738),

Gene: Phasih\_54 Start: 39031, Stop: 39381, Start Num: 20

Candidate Starts for Phasih\_54:

(7, 38935), (Start: 20 @39031 has 193 MA's), (Start: 37 @39070 has 2 MA's), (43, 39109), (48, 39154), (49, 39157), (62, 39253), (66, 39271), (67, 39274), (72, 39298), (76, 39316), (77, 39319), (88, 39373), (89, 39376),

Gene: Phatniss\_54 Start: 38608, Stop: 38955, Start Num: 20

Candidate Starts for Phatniss\_54:

(7, 38512), (8, 38518), (Start: 20 @38608 has 193 MA's), (Start: 37 @38647 has 2 MA's), (48, 38731), (49, 38734), (62, 38830),

Gene: Phayonce\_40 Start: 32024, Stop: 32536, Start Num: 11

Candidate Starts for Phayonce\_40:

(Start: 11 @32024 has 52 MA's), (Start: 30 @32117 has 5 MA's), (35, 32135), (38, 32147), (40, 32156), (50, 32237), (54, 32270), (58, 32306), (78, 32405), (91, 32525),

Gene: Phegasus\_38 Start: 29812, Stop: 30318, Start Num: 11

Candidate Starts for Phegasus\_38:

(Start: 11 @29812 has 52 MA's), (Start: 30 @29905 has 5 MA's), (46, 30010), (53, 30055), (90, 30301),

Gene: PhesterPhotato\_57 Start: 38640, Stop: 38987, Start Num: 20

Candidate Starts for PhesterPhotato\_57:

(Start: 20 @38640 has 193 MA's), (Start: 37 @38679 has 2 MA's), (39, 38688), (49, 38766), (62, 38862), (67, 38883), (77, 38928), (84, 38964), (88, 38982),

Gene: Philonius\_41 Start: 29325, Stop: 29648, Start Num: 30

Candidate Starts for Philonius\_41:

(15, 29265), (18, 29301), (Start: 30 @29325 has 5 MA's), (35, 29343), (42, 29385), (51, 29454), (57, 29493), (58, 29502), (69, 29568), (71, 29574), (78, 29601),

Gene: Philus\_59 Start: 39768, Stop: 40115, Start Num: 20

Candidate Starts for Philus\_59:

(4, 39648), (8, 39678), (Start: 20 @39768 has 193 MA's), (Start: 37 @39807 has 2 MA's), (39, 39816), (48, 39891), (49, 39894), (62, 39990), (77, 40056),

Gene: Phineas\_38 Start: 30175, Stop: 30678, Start Num: 11

Candidate Starts for Phineas\_38:

(Start: 11 @30175 has 52 MA's), (Start: 30 @30268 has 5 MA's), (46, 30370), (53, 30415), (90, 30661),

Gene: Piper2020\_55 Start: 37972, Stop: 38334, Start Num: 20

Candidate Starts for Piper2020\_55:

(Start: 20 @37972 has 193 MA's), (Start: 22 @37975 has 6 MA's), (32, 38002), (38, 38023), (41, 38038), (44, 38089), (49, 38110), (58, 38176), (77, 38272), (79, 38284), (86, 38323),

Gene: Pippy\_54 Start: 37474, Stop: 37821, Start Num: 20

Candidate Starts for Pippy\_54:

(7, 37378), (Start: 20 @37474 has 193 MA's), (Start: 37 @37513 has 2 MA's), (48, 37597), (49, 37600), (62, 37696), (77, 37762), (88, 37816),

Gene: Plumbus\_58 Start: 38935, Stop: 39282, Start Num: 20

Candidate Starts for Plumbus\_58:

(Start: 20 @38935 has 193 MA's), (Start: 37 @38974 has 2 MA's), (49, 39061), (62, 39157), (67, 39178), (77, 39223), (88, 39277),

Gene: Poenanya\_56 Start: 39792, Stop: 40139, Start Num: 20

Candidate Starts for Poenanya\_56:

(Start: 20 @39792 has 193 MA's), (Start: 37 @39831 has 2 MA's), (43, 39870), (48, 39915), (49, 39918), (62, 40014), (66, 40032), (67, 40035), (72, 40059), (76, 40077), (77, 40080),

Gene: Polka14\_54 Start: 37988, Stop: 38335, Start Num: 20

Candidate Starts for Polka14\_54:

(Start: 20 @37988 has 193 MA's), (Start: 37 @38027 has 2 MA's), (43, 38066), (48, 38111), (49, 38114), (62, 38210), (66, 38228), (67, 38231), (72, 38255), (76, 38273), (77, 38276),

Gene: Polkaroo\_38 Start: 29811, Stop: 30314, Start Num: 11

Candidate Starts for Polkaroo\_38:

(2, 29724), (Start: 11 @29811 has 52 MA's), (Start: 30 @29904 has 5 MA's), (46, 30006), (53, 30051), (87, 30225), (90, 30297),

Gene: Pollywog\_57 Start: 39439, Stop: 39786, Start Num: 20

Candidate Starts for Pollywog\_57:

(4, 39319), (8, 39349), (Start: 20 @39439 has 193 MA's), (Start: 37 @39478 has 2 MA's), (48, 39562), (49, 39565), (62, 39661), (67, 39682), (77, 39727), (88, 39781),

Gene: PopTart\_51 Start: 37460, Stop: 37795, Start Num: 26

Candidate Starts for PopTart\_51:

(Start: 26 @37460 has 16 MA's), (Start: 37 @37487 has 2 MA's), (48, 37571), (49, 37574), (62, 37670), (67, 37691), (77, 37736), (84, 37772), (88, 37790),

Gene: Priscilla\_56 Start: 38702, Stop: 39049, Start Num: 20

Candidate Starts for Priscilla\_56:

(7, 38606), (Start: 20 @38702 has 193 MA's), (Start: 37 @38741 has 2 MA's), (48, 38825), (49, 38828), (62, 38924), (77, 38990), (88, 39044),

Gene: Purgamenstris\_45 Start: 31707, Stop: 32066, Start Num: 20

Candidate Starts for Purgamenstris\_45:

(Start: 19 @31704 has 6 MA's), (Start: 20 @31707 has 193 MA's), (Start: 31 @31722 has 1 MA's), (36, 31749), (41, 31773), (49, 31845), (58, 31911), (66, 31959), (77, 32007), (86, 32055),

Gene: Purky\_45 Start: 32598, Stop: 33014, Start Num: 11

Candidate Starts for Purky\_45:

(Start: 11 @32598 has 52 MA's), (Start: 30 @32691 has 5 MA's), (38, 32721), (47, 32802), (51, 32820), (57, 32859), (58, 32868), (76, 32958), (78, 32967),

Gene: Pygmy\_40 Start: 31639, Stop: 32142, Start Num: 11

Candidate Starts for Pygmy\_40:

(2, 31552), (Start: 11 @31639 has 52 MA's), (Start: 30 @31732 has 5 MA's), (46, 31834), (53, 31879), (90, 32125),

Gene: QueenHazel\_35 Start: 29560, Stop: 29997, Start Num: 11

Candidate Starts for QueenHazel\_35:

(6, 29536), (Start: 11 @29560 has 52 MA's), (58, 29839), (59, 29851), (77, 29935),

Gene: QuickMath\_57 Start: 40502, Stop: 40849, Start Num: 20

Candidate Starts for QuickMath\_57:

(Start: 20 @40502 has 193 MA's), (Start: 37 @40541 has 2 MA's), (39, 40550), (49, 40628), (62, 40724), (67, 40745), (77, 40790), (88, 40844),

Gene: Quico\_65 Start: 40968, Stop: 41315, Start Num: 20

Candidate Starts for Quico\_65:

(4, 40848), (12, 40899), (Start: 20 @40968 has 193 MA's), (Start: 37 @41007 has 2 MA's), (48, 41091), (49, 41094), (62, 41190), (67, 41211), (77, 41256), (88, 41310),

Gene: Radiance\_55 Start: 38727, Stop: 39074, Start Num: 20

Candidate Starts for Radiance\_55:

(Start: 20 @38727 has 193 MA's), (Start: 37 @38766 has 2 MA's), (39, 38775), (49, 38853), (62, 38949), (77, 39015), (84, 39051), (88, 39069),

Gene: Ramsey\_56 Start: 39390, Stop: 39737, Start Num: 20

Candidate Starts for Ramsey\_56:

(Start: 20 @39390 has 193 MA's), (Start: 37 @39429 has 2 MA's), (43, 39468), (48, 39513), (49, 39516), (62, 39612), (77, 39678), (88, 39732),

Gene: Raymond7\_39 Start: 31495, Stop: 31854, Start Num: 20

Candidate Starts for Raymond7\_39:

(Start: 19 @31492 has 6 MA's), (Start: 20 @31495 has 193 MA's), (Start: 31 @31510 has 1 MA's), (36, 31537), (41, 31561), (49, 31633), (58, 31699), (66, 31747), (77, 31795), (86, 31843),

Gene: Rebel\_37 Start: 27837, Stop: 28196, Start Num: 20

Candidate Starts for Rebel\_37:

(Start: 19 @27834 has 6 MA's), (Start: 20 @27837 has 193 MA's), (Start: 31 @27852 has 1 MA's), (36, 27879), (41, 27903), (49, 27975), (58, 28041), (66, 28089), (77, 28137), (86, 28185),

Gene: RedBird\_54 Start: 38035, Stop: 38370, Start Num: 26

Candidate Starts for RedBird\_54:

(Start: 26 @38035 has 16 MA's), (Start: 37 @38062 has 2 MA's), (49, 38149), (62, 38245), (67, 38266), (77, 38311), (88, 38365),

Gene: Redi\_45 Start: 31703, Stop: 32065, Start Num: 19

Candidate Starts for Redi\_45:

(Start: 19 @31703 has 6 MA's), (Start: 20 @31706 has 193 MA's), (Start: 31 @31721 has 1 MA's), (36, 31748), (41, 31772), (49, 31844), (58, 31910), (66, 31958), (77, 32006), (86, 32054),

Gene: Renaud18\_61 Start: 39280, Stop: 39627, Start Num: 20

Candidate Starts for Renaud18\_61:

(Start: 20 @39280 has 193 MA's), (Start: 37 @39319 has 2 MA's), (39, 39328), (49, 39406), (62, 39502), (77, 39568), (84, 39604), (88, 39622),

Gene: Reptar3000\_52 Start: 36852, Stop: 37205, Start Num: 25

Candidate Starts for Reptar3000\_52:

(Start: 25 @36852 has 20 MA's), (33, 36876), (34, 36879), (45, 36954), (52, 36993),

Gene: Rialto\_62 Start: 41461, Stop: 41853, Start Num: 16

Candidate Starts for Rialto\_62:

(Start: 16 @41461 has 10 MA's), (17, 41479), (Start: 37 @41545 has 2 MA's), (49, 41632), (62, 41728), (67, 41749), (77, 41794), (84, 41830), (88, 41848),

Gene: Rita\_57 Start: 37333, Stop: 37680, Start Num: 20

Candidate Starts for Rita\_57:

(7, 37237), (8, 37243), (Start: 20 @37333 has 193 MA's), (Start: 37 @37372 has 2 MA's), (43, 37411), (48, 37456), (49, 37459), (62, 37555), (77, 37621), (88, 37675),

Gene: RitaG\_51 Start: 37236, Stop: 37583, Start Num: 20

Candidate Starts for RitaG\_51:

(7, 37140), (Start: 20 @37236 has 193 MA's), (Start: 37 @37275 has 2 MA's), (48, 37359), (49, 37362), (62, 37458), (67, 37479), (77, 37524), (88, 37578),

Gene: Rockne\_57 Start: 39242, Stop: 39589, Start Num: 20

Candidate Starts for Rockne\_57:

(7, 39146), (Start: 20 @39242 has 193 MA's), (Start: 37 @39281 has 2 MA's), (48, 39365), (49, 39368), (62, 39464), (67, 39485), (77, 39530), (88, 39584),

Gene: RockyHorror\_57 Start: 38303, Stop: 38638, Start Num: 28

Candidate Starts for RockyHorror\_57:

(Start: 28 @38303 has 7 MA's), (Start: 37 @38330 has 2 MA's), (49, 38417), (62, 38513), (67, 38534), (77, 38579), (84, 38615), (88, 38633),

Gene: Royals2015\_59 Start: 38599, Stop: 38991, Start Num: 16

Candidate Starts for Royals2015\_59:

(Start: 16 @38599 has 10 MA's), (17, 38617), (Start: 37 @38683 has 2 MA's), (49, 38770), (62, 38866), (67, 38887), (77, 38932), (84, 38968), (88, 38986),

Gene: Rubeelu\_44 Start: 31386, Stop: 31709, Start Num: 30

Candidate Starts for Rubeelu\_44:

(15, 31326), (18, 31362), (Start: 30 @31386 has 5 MA's), (35, 31404), (42, 31446), (57, 31554), (58, 31563), (69, 31629), (71, 31635), (78, 31662),

Gene: Ruby\_52 Start: 38423, Stop: 38770, Start Num: 20

Candidate Starts for Ruby\_52:

(4, 38300), (12, 38351), (Start: 20 @38423 has 193 MA's), (Start: 37 @38462 has 2 MA's), (39, 38471), (43, 38501), (49, 38549), (62, 38645), (67, 38666), (77, 38711), (84, 38747), (88, 38765),

Gene: Ruthiejr\_55 Start: 37661, Stop: 38011, Start Num: 25

Candidate Starts for Ruthiejr\_55:

(Start: 25 @37661 has 20 MA's), (34, 37688), (45, 37763), (52, 37802), (58, 37847), (60, 37865), (63, 37886), (64, 37889),

Gene: SG4\_53 Start: 38120, Stop: 38467, Start Num: 20

Candidate Starts for SG4\_53:

(Start: 20 @38120 has 193 MA's), (Start: 37 @38159 has 2 MA's), (39, 38168), (49, 38246), (62, 38342), (67, 38363), (77, 38408), (84, 38444), (88, 38462),

Gene: Saal\_58 Start: 39876, Stop: 40223, Start Num: 20

Candidate Starts for Saal\_58:

(7, 39780), (Start: 20 @39876 has 193 MA's), (Start: 37 @39915 has 2 MA's), (48, 39999), (49, 40002), (62, 40098), (77, 40164), (88, 40218),

Gene: Sabbb\_60 Start: 39564, Stop: 39911, Start Num: 20

Candidate Starts for Sabbb\_60:

(4, 39444), (Start: 20 @39564 has 193 MA's), (Start: 37 @39603 has 2 MA's), (49, 39690), (62, 39786), (77, 39852), (88, 39906),

Gene: SamScheppers\_52 Start: 38090, Stop: 38440, Start Num: 25

Candidate Starts for SamScheppers\_52:

(Start: 25 @38090 has 20 MA's), (33, 38114), (34, 38117), (45, 38192), (52, 38231), (58, 38276), (60, 38294), (63, 38315), (64, 38318),

Gene: Sandalphon\_58 Start: 39526, Stop: 39861, Start Num: 26

Candidate Starts for Sandalphon\_58:

(Start: 26 @39526 has 16 MA's), (Start: 37 @39553 has 2 MA's), (43, 39592), (48, 39637), (49, 39640), (62, 39736), (67, 39757), (77, 39802), (88, 39856),

Gene: Sarma624\_54 Start: 34814, Stop: 35161, Start Num: 20

Candidate Starts for Sarma624\_54:

(Start: 20 @34814 has 193 MA's), (Start: 37 @34853 has 2 MA's), (43, 34892), (48, 34937), (49, 34940), (62, 35036), (77, 35102),

Gene: Sassafras\_54 Start: 38208, Stop: 38555, Start Num: 20

Candidate Starts for Sassafras\_54:

(Start: 20 @38208 has 193 MA's), (Start: 37 @38247 has 2 MA's), (39, 38256), (49, 38334), (62, 38430), (67, 38451), (77, 38496), (84, 38532), (88, 38550),

Gene: SassyB\_51 Start: 37460, Stop: 37795, Start Num: 26

Candidate Starts for SassyB\_51:

(Start: 26 @37460 has 16 MA's), (Start: 37 @37487 has 2 MA's), (48, 37571), (49, 37574), (62, 37670), (67, 37691), (77, 37736), (84, 37772), (88, 37790),

Gene: Scottish\_54 Start: 38248, Stop: 38595, Start Num: 20

Candidate Starts for Scottish\_54:

(7, 38152), (Start: 20 @38248 has 193 MA's), (Start: 37 @38287 has 2 MA's), (48, 38371), (49, 38374), (62, 38470), (67, 38491), (77, 38536), (88, 38590),

Gene: Seabastian\_61 Start: 41221, Stop: 41568, Start Num: 20

Candidate Starts for Seabastian\_61:

(Start: 20 @41221 has 193 MA's), (Start: 37 @41260 has 2 MA's), (43, 41299), (48, 41344), (49, 41347), (62, 41443), (67, 41464), (77, 41509),

Gene: Seagreen\_56 Start: 38212, Stop: 38559, Start Num: 19

Candidate Starts for Seagreen\_56:

(Start: 19 @38212 has 6 MA's), (Start: 37 @38251 has 2 MA's), (67, 38455), (80, 38518), (87, 38551), (88, 38554),

Gene: Sejanus\_55 Start: 46982, Stop: 47341, Start Num: 20

Candidate Starts for Sejanus\_55:

(Start: 20 @46982 has 193 MA's), (32, 47012), (41, 47048), (49, 47120), (58, 47186), (59, 47198), (64, 47225), (66, 47234), (77, 47282), (86, 47330),

Gene: Shauna1\_55 Start: 39323, Stop: 39670, Start Num: 20

Candidate Starts for Shauna1\_55:

(Start: 20 @39323 has 193 MA's), (Start: 37 @39362 has 2 MA's), (39, 39371), (49, 39449), (62, 39545), (67, 39566), (77, 39611), (84, 39647),

Gene: ShiLan\_55 Start: 38649, Stop: 38996, Start Num: 20

Candidate Starts for ShiLan\_55:

(7, 38553), (Start: 20 @38649 has 193 MA's), (Start: 37 @38688 has 2 MA's), (48, 38772), (49, 38775), (62, 38871), (77, 38937), (88, 38991),

Gene: Shipwreck\_40 Start: 31614, Stop: 32117, Start Num: 11

Candidate Starts for Shipwreck\_40:

(2, 31527), (Start: 11 @31614 has 52 MA's), (Start: 30 @31707 has 5 MA's), (46, 31809), (53, 31854), (90, 32100),

Gene: ShowerHandel\_59 Start: 38616, Stop: 38963, Start Num: 20

Candidate Starts for ShowerHandel\_59:

(7, 38520), (Start: 20 @38616 has 193 MA's), (Start: 37 @38655 has 2 MA's), (48, 38739), (49, 38742), (62, 38838), (77, 38904), (88, 38958),

Gene: ShrimpFriedEgg\_45 Start: 31703, Stop: 32065, Start Num: 19

Candidate Starts for ShrimpFriedEgg\_45:

(Start: 19 @31703 has 6 MA's), (Start: 20 @31706 has 193 MA's), (Start: 31 @31721 has 1 MA's), (36, 31748), (41, 31772), (49, 31844), (58, 31910), (66, 31958), (77, 32006), (86, 32054),

Gene: ShroomBoi\_58 Start: 39576, Stop: 39923, Start Num: 20

Candidate Starts for ShroomBoi\_58:

(4, 39456), (8, 39486), (Start: 20 @39576 has 193 MA's), (Start: 37 @39615 has 2 MA's), (43, 39654), (48, 39699), (49, 39702), (62, 39798), (77, 39864), (88, 39918),

Gene: SiSi\_54 Start: 38022, Stop: 38369, Start Num: 20

Candidate Starts for SiSi\_54:

(Start: 20 @38022 has 193 MA's), (Start: 37 @38061 has 2 MA's), (49, 38148), (62, 38244), (67, 38265), (77, 38310), (88, 38364),

Gene: Silvy\_40 Start: 29489, Stop: 29848, Start Num: 20

Candidate Starts for Silvy\_40:

(Start: 20 @29489 has 193 MA's), (38, 29540), (41, 29555), (48, 29624), (49, 29627), (58, 29693), (64, 29732), (66, 29741), (76, 29786), (77, 29789), (86, 29837), (88, 29843),

Gene: SimranZ1\_56 Start: 38802, Stop: 39149, Start Num: 20

Candidate Starts for SimranZ1\_56:

(Start: 20 @38802 has 193 MA's), (Start: 37 @38841 has 2 MA's), (49, 38928), (62, 39024), (67, 39045), (77, 39090), (84, 39126), (88, 39144),

Gene: SkinnyPete\_39 Start: 29165, Stop: 29524, Start Num: 20

Candidate Starts for SkinnyPete\_39:

(Start: 20 @29165 has 193 MA's), (Start: 26 @29174 has 16 MA's), (Start: 31 @29180 has 1 MA's), (41, 29231), (49, 29303), (58, 29369), (59, 29381), (64, 29408), (66, 29417), (77, 29465), (86, 29513),

Gene: Slarp\_54 Start: 37618, Stop: 37968, Start Num: 25

Candidate Starts for Slarp\_54:

(Start: 25 @37618 has 20 MA's), (33, 37642), (34, 37645), (45, 37720), (52, 37759), (58, 37804), (60, 37822), (63, 37843), (64, 37846),

Gene: Sonah\_38 Start: 29793, Stop: 30296, Start Num: 11

Candidate Starts for Sonah\_38:

(Start: 11 @29793 has 52 MA's), (Start: 30 @29886 has 5 MA's), (46, 29988), (53, 30033), (90, 30279),

Gene: Soul22\_62 Start: 40209, Stop: 40553, Start Num: 21

Candidate Starts for Soul22\_62:

(10, 40122), (Start: 21 @40209 has 4 MA's), (Start: 37 @40242 has 2 MA's), (74, 40482), (80, 40512), (87, 40545), (88, 40548),

Gene: Sparkdehlily\_64 Start: 40334, Stop: 40681, Start Num: 20

Candidate Starts for Sparkdehlily\_64:

(Start: 20 @40334 has 193 MA's), (Start: 37 @40373 has 2 MA's), (39, 40382), (49, 40460), (62, 40556), (67, 40577), (77, 40622), (84, 40658), (88, 40676),

Gene: Spartacus\_58 Start: 39286, Stop: 39633, Start Num: 20

Candidate Starts for Spartacus\_58:

(Start: 20 @39286 has 193 MA's), (Start: 37 @39325 has 2 MA's), (39, 39334), (49, 39412), (62, 39508), (77, 39574),

Gene: Spikelee\_63 Start: 40906, Stop: 41253, Start Num: 20

Candidate Starts for Spikelee\_63:

(Start: 20 @40906 has 193 MA's), (Start: 37 @40945 has 2 MA's), (39, 40954), (48, 41029), (49, 41032), (62, 41128), (67, 41149), (77, 41194), (84, 41230), (88, 41248),

Gene: Spoonbill\_53 Start: 37196, Stop: 37543, Start Num: 20

Candidate Starts for Spoonbill\_53:

(Start: 20 @37196 has 193 MA's), (Start: 37 @37235 has 2 MA's), (43, 37274), (48, 37319), (49, 37322), (62, 37418), (66, 37436), (67, 37439), (72, 37463), (76, 37481), (77, 37484),

Gene: Squirty\_52 Start: 37353, Stop: 37712, Start Num: 20

Candidate Starts for Squirty\_52:

(Start: 19 @37350 has 6 MA's), (Start: 20 @37353 has 193 MA's), (Start: 26 @37362 has 16 MA's), (Start: 31 @37368 has 1 MA's), (36, 37395), (41, 37419), (48, 37488), (49, 37491), (58, 37557), (64, 37596), (66, 37605), (76, 37650), (77, 37653), (86, 37701), (88, 37707),

Gene: Squirty\_59 Start: 40095, Stop: 40442, Start Num: 20

Candidate Starts for Squirty\_59:

(Start: 20 @40095 has 193 MA's), (Start: 37 @40134 has 2 MA's), (39, 40143), (49, 40221), (62, 40317), (77, 40383), (88, 40437),

Gene: StAnnes\_55 Start: 39501, Stop: 39848, Start Num: 20

Candidate Starts for StAnnes\_55:

(Start: 20 @39501 has 193 MA's), (Start: 37 @39540 has 2 MA's), (49, 39627), (62, 39723), (67, 39744), (77, 39789), (84, 39825), (88, 39843),

Gene: Stap\_54 Start: 37997, Stop: 38344, Start Num: 20

Candidate Starts for Stap\_54:

(Start: 20 @37997 has 193 MA's), (Start: 37 @38036 has 2 MA's), (43, 38075), (48, 38120), (49, 38123), (62, 38219), (66, 38237), (67, 38240), (72, 38264), (76, 38282), (77, 38285),

Gene: Starcevich\_55 Start: 38573, Stop: 38920, Start Num: 20

Candidate Starts for Starcevich\_55:

(7, 38477), (Start: 20 @38573 has 193 MA's), (Start: 37 @38612 has 2 MA's), (48, 38696), (49, 38699), (62, 38795), (77, 38861), (88, 38915),

Gene: StevieRay\_38 Start: 29756, Stop: 30259, Start Num: 11

Candidate Starts for StevieRay\_38:

(2, 29669), (Start: 11 @29756 has 52 MA's), (Start: 30 @29849 has 5 MA's), (46, 29951), (53, 29996), (87, 30170), (90, 30242),

Gene: StressBall\_38 Start: 30054, Stop: 30557, Start Num: 11

Candidate Starts for StressBall\_38:

(2, 29967), (Start: 11 @30054 has 52 MA's), (Start: 30 @30147 has 5 MA's), (46, 30249), (53, 30294), (87, 30468), (90, 30540),



Gene: Strokeseat\_52 Start: 36732, Stop: 37079, Start Num: 20

Candidate Starts for Strokeseat\_52:

(4, 36612), (Start: 20 @36732 has 193 MA's), (Start: 37 @36771 has 2 MA's), (43, 36810), (48, 36855), (49, 36858), (62, 36954), (77, 37020),

Gene: SuperGrey\_60 Start: 40809, Stop: 41156, Start Num: 20

Candidate Starts for SuperGrey\_60:

(Start: 20 @40809 has 193 MA's), (Start: 37 @40848 has 2 MA's), (49, 40935), (62, 41031), (67, 41052), (77, 41097), (88, 41151),

Gene: SwagPigglett\_61 Start: 40924, Stop: 41271, Start Num: 20

Candidate Starts for SwagPigglett\_61:

(4, 40804), (12, 40855), (Start: 20 @40924 has 193 MA's), (Start: 37 @40963 has 2 MA's), (48, 41047), (49, 41050), (62, 41146), (77, 41212), (88, 41266),

Gene: TChen\_56 Start: 39822, Stop: 40172, Start Num: 20

Candidate Starts for TChen\_56:

(Start: 20 @39822 has 193 MA's), (Start: 37 @39861 has 2 MA's), (80, 40131), (87, 40164), (88, 40167),

Gene: TDanisky\_64 Start: 40334, Stop: 40681, Start Num: 20

Candidate Starts for TDanisky\_64:

(Start: 20 @40334 has 193 MA's), (Start: 37 @40373 has 2 MA's), (39, 40382), (49, 40460), (62, 40556), (67, 40577), (77, 40622), (84, 40658), (88, 40676),

Gene: Taj\_60 Start: 40382, Stop: 40729, Start Num: 20

Candidate Starts for Taj\_60:

(4, 40262), (Start: 20 @40382 has 193 MA's), (Start: 37 @40421 has 2 MA's), (43, 40460), (48, 40505), (49, 40508), (62, 40604), (67, 40625), (77, 40670), (84, 40706), (88, 40724),

Gene: Taquito\_54 Start: 37946, Stop: 38296, Start Num: 25

Candidate Starts for Taquito\_54:

(Start: 25 @37946 has 20 MA's), (33, 37970), (34, 37973), (45, 38048), (52, 38087), (58, 38132), (60, 38150), (63, 38171), (64, 38174),

Gene: Techage\_38 Start: 29830, Stop: 30336, Start Num: 11

Candidate Starts for Techage\_38:

(Start: 11 @29830 has 52 MA's), (Start: 30 @29923 has 5 MA's), (46, 30028), (53, 30073), (90, 30319),

Gene: Thespis\_38 Start: 29790, Stop: 30293, Start Num: 11

Candidate Starts for Thespis\_38:

(2, 29703), (Start: 11 @29790 has 52 MA's), (Start: 30 @29883 has 5 MA's), (46, 29985), (53, 30030), (56, 30045), (90, 30276),

Gene: ThetaBob\_60 Start: 39893, Stop: 40246, Start Num: 19

Candidate Starts for ThetaBob\_60:

(Start: 19 @39893 has 6 MA's), (Start: 37 @39935 has 2 MA's), (74, 40175), (80, 40205), (87, 40238), (88, 40241),

Gene: ThulaThula\_44 Start: 34021, Stop: 34518, Start Num: 11

Candidate Starts for ThulaThula\_44:

(1, 33904), (Start: 11 @34021 has 52 MA's), (Start: 30 @34114 has 5 MA's), (35, 34132), (38, 34144), (54, 34255), (70, 34357), (73, 34366), (81, 34405),

Gene: TootsiePop\_53 Start: 37256, Stop: 37618, Start Num: 20

Candidate Starts for TootsiePop\_53:

(Start: 20 @37256 has 193 MA's), (Start: 22 @37259 has 6 MA's), (32, 37286), (38, 37307), (41, 37322), (44, 37373), (49, 37394), (58, 37460), (77, 37556), (79, 37568), (86, 37607),

Gene: Tootsieroll\_57 Start: 37945, Stop: 38292, Start Num: 20

Candidate Starts for Tootsieroll\_57:

(Start: 20 @37945 has 193 MA's), (Start: 37 @37984 has 2 MA's), (43, 38023), (48, 38068), (49, 38071), (62, 38167), (77, 38233),

Gene: Tortellini\_47 Start: 37188, Stop: 37532, Start Num: 31

Candidate Starts for Tortellini\_47:

(15, 37122), (Start: 19 @37170 has 6 MA's), (Start: 20 @37173 has 193 MA's), (Start: 26 @37182 has 16 MA's), (Start: 31 @37188 has 1 MA's), (41, 37239), (49, 37311), (58, 37377), (66, 37425), (77, 37473), (86, 37521), (88, 37527),

Gene: Totinger\_55 Start: 37875, Stop: 38222, Start Num: 20

Candidate Starts for Totinger\_55:

(4, 37755), (8, 37785), (Start: 20 @37875 has 193 MA's), (Start: 37 @37914 has 2 MA's), (48, 37998), (49, 38001), (62, 38097), (77, 38163),

Gene: Tweety\_56 Start: 40125, Stop: 40472, Start Num: 20

Candidate Starts for Tweety\_56:

(4, 40005), (Start: 20 @40125 has 193 MA's), (Start: 37 @40164 has 2 MA's), (43, 40203), (48, 40248), (49, 40251), (62, 40347), (67, 40368), (77, 40413), (84, 40449), (88, 40467),

Gene: UncleRicky\_55 Start: 38856, Stop: 39203, Start Num: 20

Candidate Starts for UncleRicky\_55:

(7, 38760), (8, 38766), (Start: 20 @38856 has 193 MA's), (Start: 37 @38895 has 2 MA's), (48, 38979), (49, 38982), (62, 39078),

Gene: VRedHorse\_56 Start: 37887, Stop: 38279, Start Num: 16

Candidate Starts for VRedHorse\_56:

(Start: 16 @37887 has 10 MA's), (17, 37905), (Start: 37 @37971 has 2 MA's), (49, 38058), (62, 38154), (67, 38175), (77, 38220), (84, 38256), (88, 38274),

Gene: Velveteen\_51 Start: 34814, Stop: 35161, Start Num: 20

Candidate Starts for Velveteen\_51:

(Start: 20 @34814 has 193 MA's), (Start: 37 @34853 has 2 MA's), (43, 34892), (48, 34937), (49, 34940), (62, 35036), (77, 35102),

Gene: Venti\_38 Start: 29807, Stop: 30310, Start Num: 11

Candidate Starts for Venti\_38:

(Start: 11 @29807 has 52 MA's), (Start: 30 @29900 has 5 MA's), (46, 30002), (53, 30047), (90, 30293),

Gene: Veteran\_53 Start: 37711, Stop: 38058, Start Num: 20

Candidate Starts for Veteran\_53:

(Start: 20 @37711 has 193 MA's), (Start: 37 @37750 has 2 MA's), (39, 37759), (49, 37837), (62, 37933), (67, 37954), (77, 37999), (84, 38035), (88, 38053),

Gene: Vidya\_38 Start: 29840, Stop: 30343, Start Num: 11

Candidate Starts for Vidya\_38:

(Start: 11 @29840 has 52 MA's), (Start: 30 @29933 has 5 MA's), (46, 30035), (53, 30080), (90, 30326),

Gene: Wachhund\_58 Start: 38925, Stop: 39272, Start Num: 20

Candidate Starts for Wachhund\_58:

(Start: 20 @38925 has 193 MA's), (Start: 37 @38964 has 2 MA's), (39, 38973), (49, 39051), (62, 39147), (67, 39168), (77, 39213), (84, 39249), (88, 39267),

Gene: Wee\_59 Start: 40451, Stop: 40798, Start Num: 20

Candidate Starts for Wee\_59:

(4, 40331), (Start: 20 @40451 has 193 MA's), (Start: 37 @40490 has 2 MA's), (43, 40529), (48, 40574), (49, 40577), (62, 40673), (67, 40694), (77, 40739), (84, 40775), (88, 40793),

Gene: Whatsapiecost\_57 Start: 38209, Stop: 38556, Start Num: 20

Candidate Starts for Whatsapiecost\_57:

(Start: 20 @38209 has 193 MA's), (Start: 37 @38248 has 2 MA's), (39, 38257), (49, 38335), (62, 38431), (77, 38497), (88, 38551),

Gene: Whouxphf\_53 Start: 38528, Stop: 38875, Start Num: 20

Candidate Starts for Whouxphf\_53:

(4, 38408), (8, 38438), (12, 38459), (Start: 20 @38528 has 193 MA's), (Start: 37 @38567 has 2 MA's), (48, 38651), (49, 38654), (62, 38750), (67, 38771), (88, 38870),

Gene: Willsammy\_37 Start: 29537, Stop: 30040, Start Num: 11

Candidate Starts for Willsammy\_37:

(2, 29450), (Start: 11 @29537 has 52 MA's), (Start: 30 @29630 has 5 MA's), (46, 29732), (53, 29777), (87, 29951), (90, 30023),

Gene: Wintermute\_54 Start: 37848, Stop: 38198, Start Num: 25

Candidate Starts for Wintermute\_54:

(Start: 25 @37848 has 20 MA's), (33, 37872), (34, 37875), (45, 37950), (52, 37989), (58, 38034), (60, 38052), (63, 38073), (64, 38076),

Gene: XFactor\_55 Start: 38026, Stop: 38361, Start Num: 26

Candidate Starts for XFactor\_55:

(Start: 26 @38026 has 16 MA's), (Start: 37 @38053 has 2 MA's), (39, 38062), (49, 38140), (62, 38236), (67, 38257), (77, 38302), (84, 38338), (88, 38356),

Gene: Xavia\_47 Start: 37009, Stop: 37368, Start Num: 20

Candidate Starts for Xavia\_47:

(13, 36952), (Start: 20 @37009 has 193 MA's), (Start: 31 @37024 has 1 MA's), (32, 37039), (41, 37075), (49, 37147), (58, 37213), (64, 37252), (77, 37309), (86, 37357),

Gene: Xeno\_40 Start: 29132, Stop: 29635, Start Num: 11

Candidate Starts for Xeno\_40:

(2, 29045), (Start: 11 @29132 has 52 MA's), (Start: 30 @29225 has 5 MA's), (46, 29327), (53, 29372), (56, 29387), (90, 29618),

Gene: Xula\_34 Start: 29084, Stop: 29521, Start Num: 11

Candidate Starts for Xula\_34:

(6, 29060), (Start: 11 @29084 has 52 MA's), (58, 29363), (59, 29375), (77, 29459),

Gene: Y10\_53 Start: 37767, Stop: 38120, Start Num: 25

Candidate Starts for Y10\_53:

(Start: 25 @37767 has 20 MA's), (33, 37791), (34, 37794), (45, 37869), (52, 37908), (58, 37956), (60, 37974), (63, 37995), (64, 37998),

Gene: Y2\_53 Start: 37767, Stop: 38120, Start Num: 25

Candidate Starts for Y2\_53:

(Start: 25 @37767 has 20 MA's), (33, 37791), (34, 37794), (45, 37869), (52, 37908), (58, 37956), (60, 37974), (63, 37995), (64, 37998),

Gene: Yorick\_55 Start: 38990, Stop: 39337, Start Num: 20

Candidate Starts for Yorick\_55:

(7, 38894), (Start: 20 @38990 has 193 MA's), (Start: 37 @39029 has 2 MA's), (48, 39113), (49, 39116), (62, 39212), (77, 39278), (88, 39332),

Gene: Yoshi\_68 Start: 40172, Stop: 40510, Start Num: 28

Candidate Starts for Yoshi\_68:

(Start: 28 @40172 has 7 MA's), (Start: 37 @40199 has 2 MA's), (74, 40439), (80, 40469), (87, 40502), (88, 40505),

Gene: Zapner\_69 Start: 40486, Stop: 40875, Start Num: 16

Candidate Starts for Zapner\_69:

(14, 40474), (Start: 16 @40486 has 10 MA's), (17, 40504), (24, 40537), (Start: 37 @40567 has 2 MA's), (77, 40816), (80, 40834), (87, 40867), (88, 40870),

Gene: Zerg\_56 Start: 38412, Stop: 38747, Start Num: 28

Candidate Starts for Zerg\_56:

(Start: 28 @38412 has 7 MA's), (Start: 37 @38439 has 2 MA's), (49, 38526), (62, 38622), (67, 38643), (77, 38688), (84, 38724), (88, 38742),

Gene: Zilizebeth\_38 Start: 29839, Stop: 30342, Start Num: 11

Candidate Starts for Zilizebeth\_38:

(Start: 11 @29839 has 52 MA's), (Start: 30 @29932 has 5 MA's), (46, 30034), (53, 30079), (90, 30325),

Gene: Zizzle\_60 Start: 40243, Stop: 40590, Start Num: 20

Candidate Starts for Zizzle\_60:

(4, 40123), (12, 40174), (Start: 20 @40243 has 193 MA's), (Start: 37 @40282 has 2 MA's), (39, 40291), (49, 40369), (62, 40465), (77, 40531), (88, 40585),