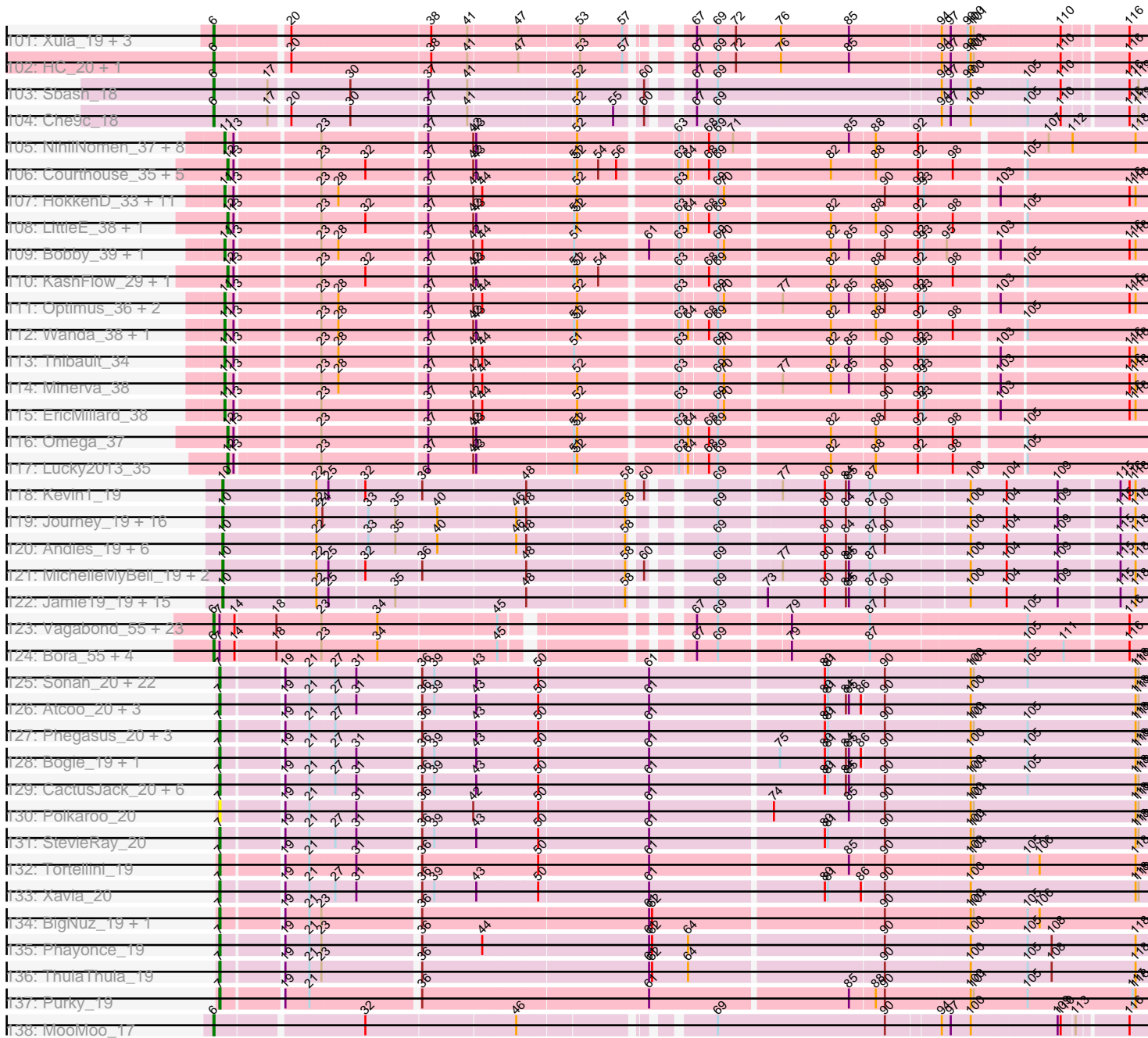






Pham 195317



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 195317 Report

This analysis was run 12/09/24 on database version 580.

Pham number 195317 has 406 members, 20 are drafts.

Phages represented in each track:

- Track 1 : MulchSalad\_17
- Track 2 : ShiLan\_17, NormanBulbieJr\_17
- Track 3 : Whatsapiecost\_17, Drago\_18, Shauna1\_17, Dante\_17, Mutaforma13\_17, MilleniumForce\_18, Batiatus\_17, Ardmore\_17
- Track 4 : Clifton\_17, Taj\_17, Wee\_18, Boomer\_18, Emma\_17, Ovechkin\_17, Kimberlium\_19, QuickMath\_18, Brocalys\_17, Tweety\_17, Fruitloop\_17, Koella\_17
- Track 5 : Sabbb\_18
- Track 6 : Rockne\_17, PMC\_17
- Track 7 : Aubs\_17
- Track 8 : JalFarm20\_19, LastJedi\_17, Firehouse51\_18, Pippy\_17, Alexphander\_19, Crumble\_17, Minnie\_18, Fancypants\_17, Leozinho\_18, DLane\_17, Maravista\_17, KristaRAM\_18, Ms6\_17, Hamulus\_17, Seagreen\_18, Melissauren88\_17, DeadP\_17, Juice456\_19, Galactic\_17, MulchExplorer\_20
- Track 9 : Flathead\_18, Mova\_18, SassyB\_17, PopTart\_17
- Track 10 : RitaG\_17
- Track 11 : DocMcStuffins\_18, ChickenDinner\_18, Piper2020\_18
- Track 12 : SG4\_17
- Track 13 : BlueCrab\_17, Pacc40\_17, Empress\_18, Dorothy\_17, JoeyJr\_17
- Track 14 : Totinger\_18, LittleShirley\_18, Mantra\_17
- Track 15 : IMpilo\_17, StAnnes\_17
- Track 16 : Zerg\_17
- Track 17 : Madiba\_18
- Track 18 : Girr\_17, MisterCuddles\_17, Veteran\_17
- Track 19 : Cerasum\_18, Sarma624\_18
- Track 20 : VRedHorse\_17
- Track 21 : Job42\_20
- Track 22 : MilanaBonita\_18, UncleRicky\_18, Lorde\_18, Phatniss\_18, Phanphagia\_17, Coco12\_19, XFactor\_17, Plumbus\_18, Enby\_18, DirtMcgirt\_18, Kingsley\_18, Akhila\_18
- Track 23 : Doug\_18
- Track 24 : TootsiePop\_18, Misha28\_18
- Track 25 : Tootsieroll\_18, Radiance\_17
- Track 26 : Girafales\_18, Quico\_18, Florinda\_17
- Track 27 : OfUltron\_17, Jinglebell\_16, Modragons\_17, AlpineSix\_17, Seabastian\_17
- Track 28 : Polka14\_18, Daenerys\_17, SimranZ1\_18, PHappiness\_17, OldBen\_17, IbOuu\_17, DaddyRickover\_17
- Track 29 : KingMidas\_18, Scottish\_18

- Track 30 : Gandalph\_17, Priscilla\_17, Bubbles123\_18, FreddyB\_17, Cabrinians\_17
- Track 31 : Llij\_17
- Track 32 : Hades\_17, BigPhil\_18, Velveteen\_18
- Track 33 : Eradicator\_17
- Track 34 : RedBird\_17
- Track 35 : Mattes\_17
- Track 36 : Karhdo\_17, SiSi\_17
- Track 37 : Strokeseat\_17, Hlubikazi\_17, Mandlovu\_17
- Track 38 : Harley\_17
- Track 39 : OwlsT2W\_19
- Track 40 : Kersh\_18
- Track 41 : lbhubesi\_17
- Track 42 : DRBy19\_17, BobaPhett\_17, SwagPigglett\_17, Philus\_17, TDanisky\_17, GigiOuiOui\_17, BuzzLyseyear\_19, WillSterrel\_18, Sparkdehlily\_17, LilMoolah\_17, IrishSherpFalk\_18
- Track 43 : Moonbeam\_18, Bobi\_19
- Track 44 : GUmbie\_17, Phasih\_18, Ruby\_17
- Track 45 : Mozy\_18
- Track 46 : Llama\_17, Ochi17\_17
- Track 47 : SuperGrey\_18
- Track 48 : DotProduct\_17
- Track 49 : MinionDave\_18
- Track 50 : Nitzel\_18
- Track 51 : Nivrat\_17, Burwell21\_17, ShowerHandel\_17, Yorick\_17, Jarcob\_17, Martik\_17, Zizzle\_17, Lizziana\_17
- Track 52 : PhesterPhotato\_17
- Track 53 : ByChance\_17, OlympiaSaint\_17, Spoonbill\_17
- Track 54 : Chuckly\_17
- Track 55 : Ramsey\_18, Nimbo\_17, Blexus\_17, Stap\_18, Inventum\_17, Poenanya\_17, Deb65\_17, Sassafra\_17
- Track 56 : EleanorGeorge\_17
- Track 57 : Rialto\_19, Starcevich\_18
- Track 58 : Che8\_17
- Track 59 : DaWorst\_19
- Track 60 : Spartacus\_18, LunaBlu\_18
- Track 61 : Whouxphf\_17, Spikelee\_18, ShroomBoi\_17
- Track 62 : Donkeykong\_17
- Track 63 : Geralt\_17
- Track 64 : Gorge\_17, James\_17, Saal\_17, BodEinwohner17\_17
- Track 65 : Krakatau\_18, Latretium\_18
- Track 66 : Byougenkin\_17
- Track 67 : Hegedechwinu\_18
- Track 68 : Pollywog\_20
- Track 69 : DosHalletts\_18
- Track 70 : Royals2015\_17
- Track 71 : Wachhund\_17
- Track 72 : ArcusAngelus\_17, Chevrolet\_17
- Track 73 : Oksu\_18
- Track 74 : Phalconet\_17
- Track 75 : Guppsters\_18
- Track 76 : Mahavrat\_17
- Track 77 : Eish\_17, DillTech15\_17
- Track 78 : Awesomesauce\_18

- Track 79 : Sandalphon\_18
- Track 80 : RockyHorror\_18
- Track 81 : Cornucopia\_18, Marker\_18
- Track 82 : Leperchaun\_17
- Track 83 : Juniper1\_17
- Track 84 : Bipolar\_17
- Track 85 : Beakin\_18
- Track 86 : MadMen\_18
- Track 87 : Ogopogo\_20
- Track 88 : Fastidio\_17
- Track 89 : Doomphist\_17
- Track 90 : Estave1\_17
- Track 91 : CaptainTrips\_18
- Track 92 : Frankie\_18
- Track 93 : Rita\_17
- Track 94 : Filuzino\_17
- Track 95 : Kenuha5\_17
- Track 96 : Squirty\_18
- Track 97 : LunaStella\_19, TChen\_18
- Track 98 : Renaud18\_19
- Track 99 : Cornie\_19, ThetaBob\_19
- Track 100 : Toron\_19
- Track 101 : Xula\_19, Brujita\_20, QueenHazel\_20, Island3\_20
- Track 102 : HC\_20, Babsiella\_20
- Track 103 : Sbash\_18
- Track 104 : Che9c\_18
- Track 105 : NihilNomen\_37, Yeet\_36, Odette\_37, Ejimix\_38, Bombitas\_34, Dove\_35, Schatzie\_35, Pound\_39, Hughesyang\_36
- Track 106 : Courthouse\_35, MiaZeal\_35, Squint\_34, Ariel\_35, Porcelain\_34, Superphikiman\_35
- Track 107 : HokkenD\_33, Zelink\_39, Bagrid\_37, Kalah2\_38, Klein\_38, Dallas\_39, ThreeRngTarjay\_36, Halley\_38, Phoebus\_37, JuicyJay\_40, Redno2\_36, Beem\_38
- Track 108 : LittleE\_38, Gonephishing\_33
- Track 109 : Bobby\_39, Constella\_32
- Track 110 : KashFlow\_29, Hannaconda\_32
- Track 111 : Optimus\_36, Duke13\_35, DmpstrDiver\_36
- Track 112 : Wanda\_38, BAKA\_35
- Track 113 : Thibault\_34
- Track 114 : Minerva\_38
- Track 115 : EricMillard\_38
- Track 116 : Omega\_37
- Track 117 : Lucky2013\_35
- Track 118 : Kevin1\_19
- Track 119 : Journey\_19, Smurph\_19, Schnauzer\_19, Gex\_19, Carcharodon\_19, Melville\_19, Silvy\_19, Charlie\_19, Parmesanjohn\_19, Duplicity\_19, Silvafighter\_19, Xerxes\_19, Philonius\_19, Phloss\_19, Pipsqueaks\_19, Aggie\_19, Chewbacca\_19
- Track 120 : Andies\_19, Bosection6\_19, Fulbright\_19, Scitech\_19, Magsby\_19, Xeno\_19, Tapioca\_19
- Track 121 : MichelleMyBell\_19, Butters\_19, Rubeelu\_19
- Track 122 : Jamie19\_19, Panchino\_19, PhancyPhin\_19, Rebel\_19, Shweta\_19, ShrimpFriedEgg\_19, Redi\_19, Snekmaggedon\_19, Phrann\_19, Raymond7\_19, Nenae\_19, Purgamenstris\_19, Hanako\_19, SkinnyPete\_19, SpongeBob\_19, BabeRuth\_19

- Track 123 : Vagabond\_55, Krili\_56, YungJamal\_62, Schuy\_58, Mori\_57, Blessica\_58, Wildflower\_57, Corndog\_60, Dylan\_57, NiebruSaylor\_56, Murai\_58, Familton\_58, Winget\_58, MadKillah\_58, TelAviv\_54, Catdawg\_57, Idergollasper\_57, SchoolBus\_57, Firecracker\_58, JangDynasty\_57, Ashwin\_59, Zakhe101\_57, FoulBall\_57, Vorpps\_57
- Track 124 : Bora\_55, Shida\_57, Ryadel\_61, Alkhayr\_55, Smooch\_60
- Track 125 : Sonah\_20, Jung\_20, Fishburne\_20, Techage\_20, Willsammy\_20, Jebeks\_20, Zilizebeth\_20, Kari\_20, Juniormint\_20, Bartholomew\_20, Dynamo\_20, Donovan\_20, Necropolis\_20, HUHilltop\_20, Vidya\_20, FirstPlacePfu\_20, Camster\_20, Phineas\_20, Langerak\_20, GreaseLightnin\_20, Bunnies\_20, Ksquared\_20, Pygmy\_19
- Track 126 : Atcoo\_20, Brusacoram\_20, Venti\_20, Thespis\_20
- Track 127 : Phegasus\_20, Mangethe\_20, Majeke\_20, Arib1\_20
- Track 128 : Bogie\_19, Shipwreck\_19
- Track 129 : CactusJack\_20, StressBall\_20, Glaske\_20, Megiddo\_20, KilKor\_20, Phalm\_20, Malithi\_20
- Track 130 : Polkaroo\_20
- Track 131 : StevieRay\_20
- Track 132 : Tortellini\_19
- Track 133 : Xavia\_20
- Track 134 : BigNuz\_19, Nazo\_19
- Track 135 : Phayonce\_19
- Track 136 : ThulaThula\_19
- Track 137 : Purky\_19
- Track 138 : MooMoo\_17

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

The start number called the most often in the published annotations is 10, it was called in 195 of the 386 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aggie\_19, Akhila\_18, Alexphander\_19, AlpineSix\_17, Andies\_19, ArcusAngelus\_17, Aubs\_17, Awesomesauce\_18, BabeRuth\_19, Beakin\_18, Blexus\_17, BobaPhett\_17, Bosection6\_19, Bubbles123\_18, Burwell21\_17, Butters\_19, BuzzLyseyear\_19, Byougenkin\_17, Cabrinians\_17, Carcharodon\_19, Cerasum\_18, Charlie\_19, Che8\_17, Chevrolet\_17, Chewbacca\_19, ChickenDinner\_18, Chuckly\_17, Coco12\_19, Cornucopia\_18, Crumble\_17, DLane\_17, DRBy19\_17, DaWorst\_19, DaddyRickover\_17, Daenerys\_17, DeadP\_17, Deb65\_17, DillTech15\_17, DirtMcgirt\_18, DocMcStuffins\_18, Donkeykong\_17, Doug\_18, Duplicity\_19, Eish\_17, Enby\_18, Eradicator\_17, Estave1\_17, Fancypants\_17, Fastidio\_17, Filuzino\_17, Firehouse51\_18, Flathead\_18, Florinda\_17, FreddyB\_17, Fulbright\_19, Galactic\_17, Gandolph\_17, Geralt\_17, Gex\_19, GigiOuiOui\_17, Girafales\_18, Girr\_17, Guppsters\_18, Hamulus\_17, Hanako\_19, Harley\_17, Hegedechwinu\_18, Hlubikazi\_17, IMpilo\_17, IbOuu\_17, Inventum\_17, IrishSherpFalk\_18, JalFarm20\_19, Jamie19\_19, Jarcob\_17, Jinglebell\_16, Journey\_19, Juice456\_19, Juniper1\_17, Karhdo\_17, Kenuha5\_17, Kevin1\_19, KingMidas\_18, Kingsley\_18, Krakatau\_18, KristaRAM\_18, LastJedi\_17, Latretium\_18, Leozinho\_18, Leperchaun\_17, LilMoolah\_17, LittleShirley\_18, Lizziana\_17, Lorde\_18, LunaBlu\_18, LunaStella\_19, MadMen\_18, Madiba\_18, Magsby\_19, Mahavrat\_17, Mandlovu\_17, Mantra\_17,

Maravista\_17, Marker\_18, Martik\_17, Melissauren88\_17, Melville\_19, MichelleMyBell\_19, MilanaBonita\_18, MinionDave\_18, Minnie\_18, MisterCuddles\_17, Modragons\_17, Mova\_18, Ms6\_17, MulchExplorer\_20, MulchSalad\_17, Nenae\_19, Nimbo\_17, Nitzel\_18, Nivrat\_17, OfUltron\_17, OldBen\_17, PHappiness\_17, PMC\_17, Panchino\_19, Parmesanjohn\_19, Phalconet\_17, PhancyPhin\_19, Phanphagia\_17, Phatniss\_18, PhesterPhotato\_17, Philonius\_19, Philus\_17, Phloss\_19, Phrann\_19, Piper2020\_18, Pippy\_17, Pipsqueaks\_19, Plumbus\_18, Poenanya\_17, Polka14\_18, Pollywog\_20, PopTart\_17, Priscilla\_17, Purgamenstris\_19, Quico\_18, Radiance\_17, Ramsey\_18, Raymond7\_19, Rebel\_19, RedBird\_17, Redi\_19, Rita\_17, Rockne\_17, RockyHorror\_18, Royals2015\_17, Rubeelu\_19, Sabbb\_18, Sandalphon\_18, Sarma624\_18, Sassafras\_17, SassyB\_17, Schnauzer\_19, Scitech\_19, Scottish\_18, Sebastian\_17, Seagreen\_18, ShowerHandel\_17, ShrimpFriedEgg\_19, ShroomBoi\_17, Shweta\_19, SiSi\_17, Silvafighter\_19, Silvy\_19, SimranZ1\_18, SkinnyPete\_19, Smurph\_19, Snekmaggon\_19, Sparkdehlily\_17, Spartacus\_18, Spikelee\_18, SpongeBob\_19, Squirty\_18, StAnnes\_17, Stap\_18, Strokeseat\_17, SwagPiggett\_17, TChen\_18, TDanisky\_17, Tapioca\_19, Tootsieroll\_18, Totinger\_18, UncleRicky\_18, Veteran\_17, Wachhund\_17, Whouxphf\_17, WillSterrel\_18, XFactor\_17, Xeno\_19, Xerxes\_19, Yorick\_17, Zerg\_17, Zizzle\_17,

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

- Ardmore\_17, Batiatus\_17, BigPhil\_18, Bipolar\_17, BlueCrab\_17, Bobi\_19, BodEinwohner17\_17, Boomer\_18, Brocalys\_17, ByChance\_17, CaptainTrips\_18, Clifton\_17, Dante\_17, Doomphist\_17, Dorothy\_17, DosHalletts\_18, DotProduct\_17, Drago\_18, EleanorGeorge\_17, Emma\_17, Empress\_18, Frankie\_18, Fruitloop\_17, GUmbie\_17, Gorge\_17, Hades\_17, Ibhuesi\_17, James\_17, Job42\_20, JoeyJr\_17, Kersh\_18, Kimberlium\_19, Koella\_17, Llama\_17, Llij\_17, Mattes\_17, MilleniumForce\_18, Misha28\_18, Moonbeam\_18, Mozy\_18, Mutaforma13\_17, NormanBulbieJr\_17, Ochi17\_17, Ogopogo\_20, OlympiaSaint\_17, Ovechkin\_17, OwlsT2W\_19, Pacc40\_17, Phasih\_18, QuickMath\_18, Rialto\_19, RitaG\_17, Ruby\_17, SG4\_17, Saal\_17, Shauna1\_17, ShiLan\_17, Spoonbill\_17, Starceвич\_18, SuperGrey\_18, Taj\_17, TootsiePop\_18, Tweety\_17, VRedHorse\_17, Velveteen\_18, Wee\_18, Whatsapiecost\_17,

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

- Alkhayr\_55, Arib1\_20, Ariel\_35, Ashwin\_59, Atcoo\_20, BAKA\_35, Babsiella\_20, Bagrid\_37, Bartholomew\_20, Beem\_38, BigNuz\_19, Blessica\_58, Bobby\_39, Bogie\_19, Bombitas\_34, Bora\_55, Brujita\_20, Brusacoram\_20, Bunnies\_20, CactusJack\_20, Camster\_20, Catdawg\_57, Che9c\_18, Constella\_32, Corndog\_60, Cornie\_19, Courthouse\_35, Dallas\_39, DmpstrDiver\_36, Donovan\_20, Dove\_35, Duke13\_35, Dylan\_57, Dynamo\_20, Ejimix\_38, EricMillard\_38, Familton\_58, Firecracker\_58, FirstPlacePfu\_20, Fishburne\_20, FoulBall\_57, Glaske\_20, Gonephishing\_33, GreaseLightnin\_20, HC\_20, HUHilltop\_20, Halley\_38, Hannaconda\_32, HokkenD\_33, Hughesyang\_36, Idergollasper\_57, Island3\_20, JangDynasty\_57, Jebeks\_20, JuicyJay\_40, Jung\_20, Juniormint\_20, Kalah2\_38, Kari\_20, KashFlow\_29, KilKor\_20, Klein\_38, Krili\_56, Ksquared\_20, Langerak\_20, LittleE\_38, Lucky2013\_35, MadKillah\_58, Majeke\_20, Malithi\_20, Mangethe\_20, Megiddo\_20, MiaZeal\_35, Minerva\_38, MooMoo\_17, Mori\_57, Murai\_58, Nazo\_19, Necropolis\_20, NiebruSaylor\_56, NihilNomen\_37, Odette\_37, Oksu\_18, Omega\_37, Optimus\_36, Phalm\_20, Phayonce\_19, Phegasus\_20, Phineas\_20, Phoebus\_37, Polkaroo\_20, Porcelain\_34, Pound\_39, Purky\_19, Pygmy\_19, QueenHazel\_20, Redno2\_36, Renaud18\_19, Ryadel\_61, Sbash\_18, Schatzie\_35, SchoolBus\_57, Schuy\_58, Shida\_57, Shipwreck\_19, Smooch\_60, Sonah\_20, Squint\_34, StevieRay\_20, StressBall\_20, Superphikiman\_35, Techage\_20, TelAviv\_54,



Thespis\_20, ThetaBob\_19, Thibault\_34, ThreeRngTarjay\_36, ThulaThula\_19, Toron\_19, Tortellini\_19, Vagabond\_55, Venti\_20, Vidya\_20, Vorrps\_57, Wanda\_38, Wildflower\_57, Willsammy\_20, Winget\_58, Xavia\_20, Xula\_19, Yeet\_36, YungJamal\_62, Zakhe101\_57, Zelink\_39, Zilizebeth\_20,

### Summary by start number:

#### Start 4:

- Found in 117 of 406 ( 28.8% ) of genes in pham
- Manual Annotations of this start: 38 of 386
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ardmore\_17 (F1), Batiatus\_17 (F1), BigPhil\_18 (F1), Bipolar\_17 (F1), Bobi\_19 (F1), Boomer\_18 (F1), Brocalys\_17 (F1), ByChance\_17 (F1), CaptainTrips\_18 (F1), Clifton\_17 (F1), Dante\_17 (F1), DosHalletts\_18 (F1), DotProduct\_17 (F1), Drago\_18 (F1), EleanorGeorge\_17 (F1), Emma\_17 (F1), Frankie\_18 (F1), Fruitloop\_17 (F1), Hades\_17 (F1), Job42\_20 (F1), Kimberlium\_19 (F1), Koella\_17 (F1), MilleniumForce\_18 (F1), Moonbeam\_18 (F1), Mutaforma13\_17 (F1), OlympiaSaint\_17 (F1), Ovechkin\_17 (F1), OwlsT2W\_19 (F1), QuickMath\_18 (F1), RitaG\_17 (F1), SG4\_17 (F1), Shauna1\_17 (F1), Spoonbill\_17 (F1), SuperGrey\_18 (F1), Taj\_17 (F1), Tweety\_17 (F1), Velveteen\_18 (F1), Wee\_18 (F1), Whatsapiecost\_17 (F1),

#### Start 5:

- Found in 109 of 406 ( 26.8% ) of genes in pham
- Manual Annotations of this start: 27 of 386
- Called 24.8% of time when present
- Phage (with cluster) where this start called: BlueCrab\_17 (F1), BodEinwohner17\_17 (F1), Doomphist\_17 (F1), Dorothy\_17 (F1), Empress\_18 (F1), GUmble\_17 (F1), Gorge\_17 (F1), Ibhubesi\_17 (F1), James\_17 (F1), JoeyJr\_17 (F1), Kersh\_18 (F1), Llama\_17 (F1), Llij\_17 (F1), Misha28\_18 (F1), Mozy\_18 (F1), NormanBulbieJr\_17 (F1), Ochi17\_17 (F1), Ogotogo\_20 (F1), Pacc40\_17 (F1), Phasih\_18 (F1), Rialto\_19 (F1), Ruby\_17 (F1), Saal\_17 (F1), ShiLan\_17 (F1), Starceвич\_18 (F1), TootsiePop\_18 (F1), VRedHorse\_17 (F1),

#### Start 6:

- Found in 38 of 406 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 36 of 386
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alkhayr\_55 (O), Ashwin\_59 (O), Babsiella\_20 (I1), Blessica\_58 (O), Bora\_55 (O), Brujita\_20 (I1), Catdawg\_57 (O), Che9c\_18 (I2), Corndog\_60 (O), Dylan\_57 (O), Familton\_58 (O), Firecracker\_58 (O), FoulBall\_57 (O), HC\_20 (I1), Idergollasper\_57 (O), Island3\_20 (I1), JangDynasty\_57 (O), Krili\_56 (O), MadKillah\_58 (O), MooMoo\_17 (singleton), Mori\_57 (O), Murai\_58 (O), NiebruSaylor\_56 (O), QueenHazel\_20 (I1), Ryadel\_61 (O), Sbash\_18 (I2), SchoolBus\_57 (O), Schuy\_58 (O), Shida\_57 (O), Smooch\_60 (O), TelAviv\_54 (O), Vagabond\_55 (O), Vorrps\_57 (O), Wildflower\_57 (O), Winget\_58 (O), Xula\_19 (I1), YungJamal\_62 (O), Zakhe101\_57 (O),

#### Start 7:

- Found in 78 of 406 ( 19.2% ) of genes in pham
- Manual Annotations of this start: 46 of 386
- Called 62.8% of time when present

- Phage (with cluster) where this start called: Arib1\_20 (P1), Atcoo\_20 (P1), Bartholomew\_20 (P1), BigNuz\_19 (P4), Bogie\_19 (P1), Brusacoram\_20 (P1), Bunnies\_20 (P1), CactusJack\_20 (P1), Camster\_20 (P1), Donovan\_20 (P1), Dynamo\_20 (P1), FirstPlacePfu\_20 (P1), Fishburne\_20 (P1), Glaske\_20 (P1), GreaseLightnin\_20 (P1), HUHilltop\_20 (P1), Jebeks\_20 (P1), Jung\_20 (P1), Juniormint\_20 (P1), Kari\_20 (P1), KilKor\_20 (P1), Ksquared\_20 (P1), Langerak\_20 (P1), Majeke\_20 (P1), Malithi\_20 (P1), Mangethe\_20 (P1), Megiddo\_20 (P1), Nazo\_19 (P4), Necropolis\_20 (P1), Phalm\_20 (P1), Phayonce\_19 (P5), Phegasus\_20 (P1), Phineas\_20 (P1), Polkaroo\_20 (P1), Purky\_19 (P6), Pygmy\_19 (P1), Shipwreck\_19 (P1), Sonah\_20 (P1), StevieRay\_20 (P1), StressBall\_20 (P1), Techage\_20 (P1), Thespis\_20 (P1), ThulaThula\_19 (P5), Tortellini\_19 (P2), Venti\_20 (P1), Vidya\_20 (P1), Willsammy\_20 (P1), Xavia\_20 (P3), Zilizebeth\_20 (P1),

#### Start 8:

- Found in 4 of 406 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 3 of 386
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie\_19 (F5), Renaud18\_19 (F4), ThetaBob\_19 (F4), Toron\_19 (F6),

#### Start 9:

- Found in 1 of 406 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Oksu\_18 (F1),

#### Start 10:

- Found in 271 of 406 ( 66.7% ) of genes in pham
- Manual Annotations of this start: 195 of 386
- Called 75.3% of time when present
- Phage (with cluster) where this start called: Aggie\_19 (N), Akhila\_18 (F1), Alexphander\_19 (F1), AlpineSix\_17 (F1), Andies\_19 (N), ArcusAngelus\_17 (F1), Aubs\_17 (F1), Awesomesauce\_18 (F1), BabeRuth\_19 (N), Beakin\_18 (F1), Blexus\_17 (F1), BobaPhett\_17 (F1), Bosection6\_19 (N), Bubbles123\_18 (F1), Burwell21\_17 (F1), Butters\_19 (N), BuzzLyseyear\_19 (F1), Byougenkin\_17 (F1), Cabrinians\_17 (F1), Carcharodon\_19 (N), Cerasum\_18 (F1), Charlie\_19 (N), Che8\_17 (F1), Chevrolet\_17 (F1), Chewbacca\_19 (N), ChickenDinner\_18 (F1), Chuckly\_17 (F1), Coco12\_19 (F1), Cornucopia\_18 (F1), Crumble\_17 (F1), DLane\_17 (F1), DRBy19\_17 (F1), DaWorst\_19 (F1), DaddyRickover\_17 (F1), Daenerys\_17 (F1), DeadP\_17 (F1), Deb65\_17 (F1), DillTech15\_17 (F1), DirtMcgirt\_18 (F1), DocMcStuffins\_18 (F1), Donkeykong\_17 (F1), Doug\_18 (F1), Duplicity\_19 (N), Eish\_17 (F1), Enby\_18 (F1), Eradicator\_17 (F1), Estave1\_17 (F1), Fancypants\_17 (F1), Fastidio\_17 (F1), Filuzino\_17 (F1), Firehouse51\_18 (F1), Flathead\_18 (F1), Florinda\_17 (F1), FreddyB\_17 (F1), Fulbright\_19 (N), Galactic\_17 (F1), Gandolph\_17 (F1), Geralt\_17 (F1), Gex\_19 (N), GigiOuiOui\_17 (F1), Girafales\_18 (F1), Girr\_17 (F1), Guppsters\_18 (F1), Hamulus\_17 (F1), Hanako\_19 (N), Harley\_17 (F1), Hegedechwinu\_18 (F1), Hlubikazi\_17 (F1), IMpilo\_17 (F1), IbOuu\_17 (F1), Inventum\_17 (F1), IrishSherpFalk\_18 (F1), JalFarm20\_19 (F1), Jamie19\_19 (N), Jarcob\_17 (F1), Jinglebell\_16 (F1), Journey\_19 (N), Juice456\_19 (F1), Juniper1\_17 (F1), Karhdo\_17 (F1), Kenuha5\_17 (F1), Kevin1\_19 (N), KingMidas\_18 (F1), Kingsley\_18 (F1), Krakatau\_18 (F1), KristaRAM\_18 (F1), LastJedi\_17 (F1), Latretium\_18 (F1), Leozinho\_18 (F1), Leperchaun\_17 (F1), LilMoolah\_17 (F1), LittleShirley\_18 (F1), Lizziana\_17 (F1), Lorde\_18 (F1), LunaBlu\_18 (F1),

LunaStella\_19 (F4), MadMen\_18 (F1), Madiba\_18 (F1), Magsby\_19 (N), Mahavrat\_17 (F1), Mandlovu\_17 (F1), Mantra\_17 (F1), Maravista\_17 (F1), Marker\_18 (F1), Martik\_17 (F1), Melissauren88\_17 (F1), Melville\_19 (N), MichelleMyBell\_19 (N), MilanaBonita\_18 (F1), MinionDave\_18 (F1), Minnie\_18 (F1), MisterCuddles\_17 (F1), Modragons\_17 (F1), Mova\_18 (F1), Ms6\_17 (F1), MulchExplorer\_20 (F1), MulchSalad\_17 (F), Nенаe\_19 (N), Nimbo\_17 (F1), Nitzel\_18 (F1), Nivrat\_17 (F1), OfUltron\_17 (F1), OldBen\_17 (F1), PHappiness\_17 (F1), PMC\_17 (F1), Panchino\_19 (N), Parmesanjohn\_19 (N), Phalconet\_17 (F1), PhancyPhin\_19 (N), Phanphagia\_17 (F1), Phatniss\_18 (F1), PhesterPhotato\_17 (F1), Philonius\_19 (N), Philus\_17 (F1), Phloss\_19 (N), Phrann\_19 (N), Piper2020\_18 (F1), Pippy\_17 (F1), Pipsqueaks\_19 (N), Plumbus\_18 (F1), Poenanya\_17 (F1), Polka14\_18 (F1), Pollywog\_20 (F1), PopTart\_17 (F1), Priscilla\_17 (F1), Purgamenstris\_19 (N), Quico\_18 (F1), Radiance\_17 (F1), Ramsey\_18 (F1), Raymond7\_19 (N), Rebel\_19 (N), RedBird\_17 (F1), Redi\_19 (N), Rita\_17 (F1), Rockne\_17 (F1), RockyHorror\_18 (F1), Royals2015\_17 (F1), Rubeelu\_19 (N), Sabb\_18 (F1), Sandalphon\_18 (F1), Sarma624\_18 (F1), Sassafras\_17 (F1), SassyB\_17 (F1), Schnauzer\_19 (N), Scitech\_19 (N), Scottish\_18 (F1), Seabastian\_17 (F1), Seagreen\_18 (F1), ShowerHandel\_17 (F1), ShrimpFriedEgg\_19 (N), ShroomBoi\_17 (F1), Shweta\_19 (N), SiSi\_17 (F1), Silvafighter\_19 (N), Silvy\_19 (N), SimranZ1\_18 (F1), SkinnyPete\_19 (N), Smurph\_19 (N), Snekmaggedon\_19 (N), Sparkdehlily\_17 (F1), Spartacus\_18 (F1), Spikelee\_18 (F1), SpongeBob\_19 (N), Squirty\_18 (F3), StAnnes\_17 (F1), Stap\_18 (F1), Strokeseat\_17 (F1), SwagPiggett\_17 (F1), TChen\_18 (F4), TDanisky\_17 (F1), Tapioca\_19 (N), Tootsieroll\_18 (F1), Totinger\_18 (F1), UncleRicky\_18 (F1), Veteran\_17 (F1), Wachhund\_17 (F1), Whouxphf\_17 (F1), WillSterrel\_18 (F1), XFactor\_17 (F1), Xeno\_19 (N), Xerxes\_19 (N), Yorick\_17 (F1), Zerg\_17 (F1), Zizzle\_17 (F1),

#### Start 11:

- Found in 31 of 406 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 29 of 386
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAKA\_35 (J), Bagrid\_37 (J), Beem\_38 (J), Bobby\_39 (J), Bombitas\_34 (J), Constella\_32 (J), Dallas\_39 (J), DmpstrDiver\_36 (J), Dove\_35 (J), Duke13\_35 (J), Ejimix\_38 (J), EricMillard\_38 (J), Halley\_38 (J), HokkenD\_33 (J), Hughesyang\_36 (J), JuicyJay\_40 (J), Kalah2\_38 (J), Klein\_38 (J), Minerva\_38 (J), NihilNomen\_37 (J), Odette\_37 (J), Optimus\_36 (J), Phoebus\_37 (J), Pound\_39 (J), Redno2\_36 (J), Schatzie\_35 (J), Thibault\_34 (J), ThreeRngTarjay\_36 (J), Wanda\_38 (J), Yeet\_36 (J), Zelink\_39 (J),

#### Start 12:

- Found in 12 of 406 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 11 of 386
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel\_35 (J), Courthouse\_35 (J), Gonephishing\_33 (J), Hannaconda\_32 (J), KashFlow\_29 (J), LittleE\_38 (J), Lucky2013\_35 (J), MiaZeal\_35 (J), Omega\_37 (J), Porcelain\_34 (J), Squint\_34 (J), Superphikiman\_35 (J),

#### Start 19:

- Found in 275 of 406 ( 67.7% ) of genes in pham
- Manual Annotations of this start: 1 of 386
- Called 0.4% of time when present
- Phage (with cluster) where this start called: Mattes\_17 (F1),

## Summary by clusters:

There are 18 clusters represented in this pham: P2, F1, F, P1, P6, P4, F6, P5, I1, P3, J, singleton, O, N, F3, F4, I2, F5,

Info for manual annotations of cluster F1:

- Start number 4 was manually annotated 38 times for cluster F1.
- Start number 5 was manually annotated 27 times for cluster F1.
- Start number 10 was manually annotated 150 times for cluster F1.
- Start number 19 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F3:

- Start number 10 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 8 was manually annotated 2 times for cluster F4.
- Start number 10 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster F5:

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

Info for manual annotations of cluster I1:

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

Info for manual annotations of cluster I2:

- Start number 6 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster J:

- Start number 11 was manually annotated 29 times for cluster J.
- Start number 12 was manually annotated 11 times for cluster J.

Info for manual annotations of cluster N:

- Start number 10 was manually annotated 42 times for cluster N.

Info for manual annotations of cluster O:

- Start number 6 was manually annotated 27 times for cluster O.

Info for manual annotations of cluster P1:

- Start number 7 was manually annotated 39 times for cluster P1.

Info for manual annotations of cluster P2:

- Start number 7 was manually annotated 1 time for cluster P2.

Info for manual annotations of cluster P3:

- Start number 7 was manually annotated 1 time for cluster P3.

Info for manual annotations of cluster P4:

- Start number 7 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 7 was manually annotated 2 times for cluster P5.

Info for manual annotations of cluster P6:

- Start number 7 was manually annotated 1 time for cluster P6.

### **Gene Information:**

Gene: Aggie\_19 Start: 16715, Stop: 17557, Start Num: 10

Candidate Starts for Aggie\_19:

(Start: 10 @16715 has 195 MA's), (22, 16802), (24, 16808), (33, 16850), (35, 16877), (40, 16916), (46, 16991), (48, 17000), (58, 17093), (69, 17153), (80, 17249), (84, 17270), (87, 17294), (90, 17309), (100, 17384), (104, 17420), (109, 17471), (115, 17528), (118, 17543),

Gene: Akhila\_18 Start: 17240, Stop: 18070, Start Num: 10

Candidate Starts for Akhila\_18:

(Start: 4 @17222 has 38 MA's), (Start: 10 @17240 has 195 MA's), (15, 17252), (16, 17276), (Start: 19 @17291 has 1 MA's), (26, 17336), (32, 17366), (35, 17396), (36, 17420), (46, 17510), (48, 17519), (53, 17567), (58, 17612), (59, 17618), (60, 17621), (65, 17645), (68, 17663), (77, 17726), (79, 17735), (82, 17774), (84, 17789), (89, 17825), (90, 17828), (91, 17837), (92, 17861), (96, 17882), (105, 17951), (114, 18008), (115, 18038),

Gene: Alexphander\_19 Start: 17096, Stop: 17926, Start Num: 10

Candidate Starts for Alexphander\_19:

(Start: 4 @17078 has 38 MA's), (Start: 10 @17096 has 195 MA's), (15, 17108), (16, 17132), (Start: 19 @17147 has 1 MA's), (26, 17192), (32, 17222), (35, 17252), (36, 17276), (46, 17366), (48, 17375), (53, 17423), (58, 17468), (59, 17474), (60, 17477), (65, 17501), (66, 17504), (68, 17519), (77, 17582), (79, 17591), (82, 17630), (84, 17645), (89, 17681), (90, 17684), (91, 17693), (92, 17717), (96, 17738), (105, 17807), (114, 17864), (115, 17894),

Gene: Alkhayr\_55 Start: 34965, Stop: 35813, Start Num: 6

Candidate Starts for Alkhayr\_55:

(Start: 6 @34965 has 36 MA's), (Start: 7 @34971 has 46 MA's), (14, 34986), (18, 35025), (23, 35070), (34, 35124), (45, 35238), (67, 35382), (69, 35403), (79, 35466), (87, 35544), (105, 35694), (111, 35730), (116, 35790),

Gene: AlpineSix\_17 Start: 16807, Stop: 17637, Start Num: 10

Candidate Starts for AlpineSix\_17:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: Andies\_19 Start: 16711, Stop: 17553, Start Num: 10

Candidate Starts for Andies\_19:

(Start: 10 @16711 has 195 MA's), (22, 16798), (33, 16846), (35, 16873), (40, 16912), (46, 16987), (48, 16996), (58, 17089), (69, 17149), (80, 17245), (84, 17266), (87, 17290), (90, 17305), (100, 17380), (104, 17416), (109, 17467), (115, 17524), (118, 17539),

Gene: ArcusAngelus\_17 Start: 16611, Stop: 17441, Start Num: 10

Candidate Starts for ArcusAngelus\_17:

(Start: 5 @16596 has 27 MA's), (Start: 10 @16611 has 195 MA's), (15, 16623), (16, 16647), (Start: 19 @16662 has 1 MA's), (26, 16707), (36, 16791), (37, 16797), (46, 16881), (48, 16890), (53, 16938), (58, 16983), (59, 16989), (60, 16992), (65, 17016), (66, 17019), (79, 17106), (82, 17145), (84, 17160), (85, 17163), (89, 17196), (90, 17199), (91, 17208), (92, 17232), (96, 17253), (105, 17322), (114, 17379), (115, 17409),

Gene: Ardmore\_17 Start: 16602, Stop: 17450, Start Num: 4

Candidate Starts for Ardmore\_17:

(Start: 4 @16602 has 38 MA's), (Start: 10 @16620 has 195 MA's), (15, 16632), (16, 16656), (Start: 19 @16671 has 1 MA's), (26, 16716), (32, 16746), (35, 16776), (36, 16800), (46, 16890), (48, 16899), (53, 16947), (58, 16992), (59, 16998), (60, 17001), (65, 17025), (68, 17043), (77, 17106), (79, 17115), (82, 17154), (84, 17169), (89, 17205), (90, 17208), (91, 17217), (92, 17241), (96, 17262), (105, 17331), (114, 17388), (115, 17418),

Gene: Arib1\_20 Start: 18150, Stop: 19043, Start Num: 7

Candidate Starts for Arib1\_20:

(Start: 7 @18150 has 46 MA's), (Start: 19 @18204 has 1 MA's), (21, 18228), (27, 18252), (36, 18330), (43, 18384), (50, 18444), (61, 18552), (80, 18720), (81, 18723), (90, 18777), (100, 18861), (101, 18864), (105, 18918), (118, 19026), (119, 19029),

Gene: Ariel\_35 Start: 26490, Stop: 27341, Start Num: 12

Candidate Starts for Ariel\_35:

(Start: 12 @26490 has 11 MA's), (13, 26496), (23, 26571), (32, 26613), (37, 26670), (42, 26715), (43, 26718), (51, 26811), (52, 26814), (54, 26835), (56, 26853), (63, 26904), (64, 26910), (68, 26928), (69, 26937), (82, 27042), (88, 27084), (92, 27126), (98, 27156), (105, 27216),

Gene: Ashwin\_59 Start: 35735, Stop: 36583, Start Num: 6

Candidate Starts for Ashwin\_59:

(Start: 6 @35735 has 36 MA's), (Start: 7 @35741 has 46 MA's), (14, 35756), (18, 35795), (23, 35840), (34, 35894), (45, 36008), (67, 36152), (69, 36173), (79, 36236), (87, 36314), (105, 36464), (116, 36560),

Gene: Atcoo\_20 Start: 18019, Stop: 18912, Start Num: 7

Candidate Starts for Atcoo\_20:

(Start: 7 @18019 has 46 MA's), (Start: 19 @18073 has 1 MA's), (21, 18097), (27, 18121), (31, 18142), (36, 18199), (39, 18211), (43, 18253), (50, 18313), (61, 18421), (80, 18589), (81, 18592), (84, 18610), (85, 18613), (86, 18625), (90, 18646), (100, 18730), (118, 18895), (119, 18898),

Gene: Aubs\_17 Start: 16730, Stop: 17560, Start Num: 10

Candidate Starts for Aubs\_17:

(Start: 4 @16712 has 38 MA's), (Start: 10 @16730 has 195 MA's), (15, 16742), (16, 16766), (Start: 19 @16781 has 1 MA's), (26, 16826), (32, 16856), (35, 16886), (36, 16910), (46, 17000), (48, 17009), (53, 17057), (58, 17102), (59, 17108), (60, 17111), (65, 17135), (66, 17138), (68, 17153), (79, 17225), (82, 17264), (90, 17318), (91, 17327), (92, 17351), (96, 17372), (105, 17441), (114, 17498), (115, 17528), (119, 17546),

Gene: Awesomesauce\_18 Start: 16438, Stop: 17271, Start Num: 10

Candidate Starts for Awesomesauce\_18:

(Start: 5 @16423 has 27 MA's), (Start: 10 @16438 has 195 MA's), (15, 16450), (16, 16474), (Start: 19 @16489 has 1 MA's), (26, 16534), (32, 16564), (46, 16711), (49, 16729), (53, 16768), (58, 16813), (59, 16819), (60, 16822), (65, 16846), (68, 16864), (77, 16927), (79, 16936), (82, 16975), (84, 16990), (89, 17026), (90, 17029), (91, 17038), (92, 17062), (96, 17083), (102, 17110), (105, 17152), (114, 17209), (115, 17239),

Gene: BAKA\_35 Start: 29044, Stop: 29895, Start Num: 11

Candidate Starts for BAKA\_35:

(Start: 11 @29044 has 29 MA's), (13, 29050), (23, 29125), (28, 29140), (37, 29224), (42, 29269), (43, 29272), (51, 29365), (52, 29368), (63, 29458), (64, 29464), (68, 29482), (69, 29491), (82, 29596), (88, 29638), (92, 29680), (98, 29710), (105, 29770),

Gene: BabeRuth\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for BabeRuth\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Babsiella\_20 Start: 18177, Stop: 19028, Start Num: 6

Candidate Starts for Babsiella\_20:

(Start: 6 @18177 has 36 MA's), (20, 18243), (38, 18378), (41, 18414), (47, 18462), (53, 18516), (57, 18558), (67, 18597), (69, 18618), (72, 18636), (76, 18681), (85, 18747), (94, 18834), (97, 18843), (99, 18858), (100, 18861), (101, 18864), (110, 18948), (116, 19005),

Gene: Bagrid\_37 Start: 28812, Stop: 29663, Start Num: 11

Candidate Starts for Bagrid\_37:

(Start: 11 @28812 has 29 MA's), (13, 28818), (23, 28893), (28, 28908), (37, 28992), (42, 29037), (44, 29046), (52, 29136), (63, 29226), (69, 29259), (70, 29265), (90, 29415), (92, 29448), (93, 29451), (103, 29517), (116, 29640), (118, 29646),

Gene: Bartholomew\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Bartholomew\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Batiatus\_17 Start: 16603, Stop: 17451, Start Num: 4

Candidate Starts for Batiatus\_17:

(Start: 4 @16603 has 38 MA's), (Start: 10 @16621 has 195 MA's), (15, 16633), (16, 16657), (Start: 19 @16672 has 1 MA's), (26, 16717), (32, 16747), (35, 16777), (36, 16801), (46, 16891), (48, 16900), (53, 16948), (58, 16993), (59, 16999), (60, 17002), (65, 17026), (68, 17044), (77, 17107), (79, 17116), (82, 17155), (84, 17170), (89, 17206), (90, 17209), (91, 17218), (92, 17242), (96, 17263), (105, 17332), (114, 17389), (115, 17419),

Gene: Beakin\_18 Start: 16428, Stop: 17258, Start Num: 10

Candidate Starts for Beakin\_18:

(Start: 5 @16413 has 27 MA's), (Start: 10 @16428 has 195 MA's), (15, 16440), (16, 16464), (Start: 19 @16479 has 1 MA's), (26, 16524), (32, 16554), (35, 16584), (36, 16608), (46, 16698), (48, 16707), (53, 16755), (58, 16800), (59, 16806), (60, 16809), (65, 16833), (66, 16836), (68, 16851), (77, 16914), (79, 16923), (82, 16962), (84, 16977), (89, 17013), (90, 17016), (91, 17025), (92, 17049), (96, 17070), (105, 17139), (114, 17196), (115, 17226),

Gene: Beem\_38 Start: 29378, Stop: 30229, Start Num: 11

Candidate Starts for Beem\_38:

(Start: 11 @29378 has 29 MA's), (13, 29384), (23, 29459), (28, 29474), (37, 29558), (42, 29603), (44, 29612), (52, 29702), (63, 29792), (69, 29825), (70, 29831), (90, 29981), (92, 30014), (93, 30017), (103, 30083), (116, 30206), (118, 30212),

Gene: BigNuz\_19 Start: 17888, Stop: 18781, Start Num: 7

Candidate Starts for BigNuz\_19:

(Start: 7 @17888 has 46 MA's), (Start: 19 @17942 has 1 MA's), (21, 17966), (23, 17978), (36, 18068), (61, 18290), (62, 18293), (90, 18515), (100, 18599), (101, 18602), (105, 18656), (106, 18668),

Gene: BigPhil\_18 Start: 16381, Stop: 17229, Start Num: 4

Candidate Starts for BigPhil\_18:

(Start: 4 @16381 has 38 MA's), (Start: 10 @16399 has 195 MA's), (15, 16411), (16, 16435), (Start: 19 @16450 has 1 MA's), (26, 16495), (32, 16525), (35, 16555), (36, 16579), (46, 16669), (48, 16678), (53, 16726), (58, 16771), (59, 16777), (60, 16780), (65, 16804), (68, 16822), (77, 16885), (79, 16894), (82, 16933), (84, 16948), (89, 16984), (90, 16987), (91, 16996), (92, 17020), (96, 17041), (105, 17110), (114, 17167), (115, 17197), (119, 17215),

Gene: Bipolar\_17 Start: 16553, Stop: 17401, Start Num: 4

Candidate Starts for Bipolar\_17:

(Start: 4 @16553 has 38 MA's), (Start: 10 @16571 has 195 MA's), (15, 16583), (16, 16607), (Start: 19 @16622 has 1 MA's), (26, 16667), (32, 16697), (35, 16727), (36, 16751), (46, 16841), (48, 16850), (53, 16898), (58, 16943), (59, 16949), (60, 16952), (65, 16976), (66, 16979), (68, 16994), (77, 17057), (79, 17066), (82, 17105), (84, 17120), (89, 17156), (90, 17159), (91, 17168), (92, 17192), (96, 17213), (100, 17234), (105, 17282), (114, 17339), (115, 17369),

Gene: Blessica\_58 Start: 35564, Stop: 36412, Start Num: 6

Candidate Starts for Blessica\_58:

(Start: 6 @35564 has 36 MA's), (Start: 7 @35570 has 46 MA's), (14, 35585), (18, 35624), (23, 35669), (34, 35723), (45, 35837), (67, 35981), (69, 36002), (79, 36065), (87, 36143), (105, 36293), (116, 36389),

Gene: Blexus\_17 Start: 16759, Stop: 17589, Start Num: 10

Candidate Starts for Blexus\_17:

(Start: 5 @16744 has 27 MA's), (Start: 10 @16759 has 195 MA's), (15, 16771), (16, 16795), (Start: 19 @16810 has 1 MA's), (26, 16855), (32, 16885), (35, 16915), (36, 16939), (46, 17029), (48, 17038), (50, 17050), (53, 17086), (59, 17137), (60, 17140), (65, 17164), (68, 17182), (77, 17245), (79, 17254), (84, 17308), (87, 17332), (90, 17347), (91, 17356), (92, 17380), (96, 17401), (102, 17428), (105, 17470), (114, 17527), (115, 17557),

Gene: BlueCrab\_17 Start: 16726, Stop: 17571, Start Num: 5

Candidate Starts for BlueCrab\_17:

(Start: 5 @16726 has 27 MA's), (Start: 10 @16741 has 195 MA's), (15, 16753), (16, 16777), (Start: 19 @16792 has 1 MA's), (26, 16837), (32, 16867), (35, 16897), (36, 16921), (46, 17011), (48, 17020), (53, 17068), (54, 17086), (58, 17113), (59, 17119), (60, 17122), (65, 17146), (66, 17149), (77, 17227), (79, 17236), (82, 17275), (84, 17290), (89, 17326), (90, 17329), (91, 17338), (92, 17362), (96, 17383), (101, 17407), (102, 17410), (105, 17452), (114, 17509), (115, 17539),

Gene: BobaPhett\_17 Start: 16570, Stop: 17400, Start Num: 10

Candidate Starts for BobaPhett\_17:

(Start: 5 @16555 has 27 MA's), (Start: 10 @16570 has 195 MA's), (15, 16582), (16, 16606), (Start: 19 @16621 has 1 MA's), (26, 16666), (32, 16696), (36, 16750), (46, 16840), (48, 16849), (53, 16897), (54, 16915), (58, 16942), (59, 16948), (60, 16951), (65, 16975), (66, 16978), (68, 16993), (79, 17065), (82, 17104), (90, 17158), (91, 17167), (92, 17191), (96, 17212), (102, 17239), (105, 17281), (114, 17338), (115, 17368),

Gene: Bobby\_39 Start: 30219, Stop: 31070, Start Num: 11

Candidate Starts for Bobby\_39:



(Start: 11 @30219 has 29 MA's), (13, 30225), (23, 30300), (28, 30315), (37, 30399), (42, 30444), (44, 30453), (51, 30540), (61, 30606), (63, 30633), (69, 30666), (70, 30672), (82, 30771), (85, 30789), (90, 30822), (92, 30855), (93, 30858), (95, 30879), (103, 30924), (116, 31047), (118, 31053),

Gene: Bobi\_19 Start: 17142, Stop: 17990, Start Num: 4

Candidate Starts for Bobi\_19:

(Start: 4 @17142 has 38 MA's), (Start: 10 @17160 has 195 MA's), (15, 17172), (16, 17196), (Start: 19 @17211 has 1 MA's), (26, 17256), (32, 17286), (35, 17316), (36, 17340), (46, 17430), (48, 17439), (50, 17451), (53, 17487), (58, 17532), (59, 17538), (60, 17541), (65, 17565), (66, 17568), (68, 17583), (77, 17646), (79, 17655), (82, 17694), (84, 17709), (89, 17745), (90, 17748), (91, 17757), (92, 17781), (96, 17802), (105, 17871), (114, 17928), (115, 17958),

Gene: BodEinwohner17\_17 Start: 16727, Stop: 17572, Start Num: 5

Candidate Starts for BodEinwohner17\_17:

(Start: 5 @16727 has 27 MA's), (Start: 10 @16742 has 195 MA's), (15, 16754), (16, 16778), (Start: 19 @16793 has 1 MA's), (26, 16838), (32, 16868), (36, 16922), (46, 17012), (48, 17021), (53, 17069), (54, 17087), (58, 17114), (59, 17120), (60, 17123), (65, 17147), (66, 17150), (68, 17165), (79, 17237), (82, 17276), (90, 17330), (91, 17339), (92, 17363), (96, 17384), (102, 17411), (105, 17453), (114, 17510), (115, 17540),

Gene: Bogie\_19 Start: 17867, Stop: 18760, Start Num: 7

Candidate Starts for Bogie\_19:

(Start: 7 @17867 has 46 MA's), (Start: 19 @17921 has 1 MA's), (21, 17945), (27, 17969), (31, 17990), (36, 18047), (39, 18059), (43, 18101), (50, 18161), (61, 18269), (75, 18392), (80, 18437), (81, 18440), (84, 18458), (85, 18461), (86, 18473), (90, 18494), (100, 18578), (105, 18635), (118, 18743), (119, 18746),

Gene: Bombitas\_34 Start: 28402, Stop: 29253, Start Num: 11

Candidate Starts for Bombitas\_34:

(Start: 11 @28402 has 29 MA's), (13, 28408), (23, 28483), (37, 28582), (42, 28627), (43, 28630), (52, 28726), (63, 28816), (68, 28840), (69, 28849), (71, 28864), (85, 28972), (88, 28996), (92, 29038), (107, 29149), (112, 29173), (118, 29236),

Gene: Boomer\_18 Start: 16367, Stop: 17215, Start Num: 4

Candidate Starts for Boomer\_18:

(Start: 4 @16367 has 38 MA's), (Start: 10 @16385 has 195 MA's), (15, 16397), (16, 16421), (Start: 19 @16436 has 1 MA's), (26, 16481), (32, 16511), (35, 16541), (36, 16565), (46, 16655), (48, 16664), (53, 16712), (58, 16757), (59, 16763), (60, 16766), (65, 16790), (66, 16793), (68, 16808), (77, 16871), (79, 16880), (82, 16919), (84, 16934), (89, 16970), (90, 16973), (91, 16982), (92, 17006), (96, 17027), (105, 17096), (114, 17153), (115, 17183),

Gene: Bora\_55 Start: 34921, Stop: 35769, Start Num: 6

Candidate Starts for Bora\_55:

(Start: 6 @34921 has 36 MA's), (Start: 7 @34927 has 46 MA's), (14, 34942), (18, 34981), (23, 35026), (34, 35080), (45, 35194), (67, 35338), (69, 35359), (79, 35422), (87, 35500), (105, 35650), (111, 35686), (116, 35746),

Gene: Bosection6\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Bosection6\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Brocalys\_17 Start: 16538, Stop: 17386, Start Num: 4

Candidate Starts for Brocalys\_17:

(Start: 4 @16538 has 38 MA's), (Start: 10 @16556 has 195 MA's), (15, 16568), (16, 16592), (Start: 19 @16607 has 1 MA's), (26, 16652), (32, 16682), (35, 16712), (36, 16736), (46, 16826), (48, 16835), (53, 16883), (58, 16928), (59, 16934), (60, 16937), (65, 16961), (66, 16964), (68, 16979), (77, 17042), (79, 17051), (82, 17090), (84, 17105), (89, 17141), (90, 17144), (91, 17153), (92, 17177), (96, 17198), (105, 17267), (114, 17324), (115, 17354),

Gene: Brujita\_20 Start: 18241, Stop: 19092, Start Num: 6

Candidate Starts for Brujita\_20:

(Start: 6 @18241 has 36 MA's), (20, 18307), (38, 18442), (41, 18478), (47, 18526), (53, 18580), (57, 18622), (67, 18661), (69, 18682), (72, 18700), (76, 18745), (85, 18811), (94, 18898), (97, 18907), (99, 18922), (100, 18925), (101, 18928), (110, 19012), (116, 19069),

Gene: Brusacoram\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Brusacoram\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (84, 18735), (85, 18738), (86, 18750), (90, 18771), (100, 18855), (118, 19020), (119, 19023),

Gene: Bubbles123\_18 Start: 17285, Stop: 18115, Start Num: 10

Candidate Starts for Bubbles123\_18:

(Start: 4 @17267 has 38 MA's), (Start: 10 @17285 has 195 MA's), (15, 17297), (16, 17321), (Start: 19 @17336 has 1 MA's), (26, 17381), (32, 17411), (35, 17441), (36, 17465), (37, 17471), (46, 17555), (48, 17564), (53, 17612), (58, 17657), (59, 17663), (60, 17666), (65, 17690), (66, 17693), (68, 17708), (77, 17771), (79, 17780), (82, 17819), (84, 17834), (89, 17870), (90, 17873), (91, 17882), (92, 17906), (96, 17927), (105, 17996), (114, 18053), (115, 18083), (119, 18101),

Gene: Bunnies\_20 Start: 18166, Stop: 19059, Start Num: 7

Candidate Starts for Bunnies\_20:

(Start: 7 @18166 has 46 MA's), (Start: 19 @18220 has 1 MA's), (21, 18244), (27, 18268), (31, 18289), (36, 18346), (39, 18358), (43, 18400), (50, 18460), (61, 18568), (80, 18736), (81, 18739), (90, 18793), (100, 18877), (101, 18880), (105, 18934), (118, 19042), (119, 19045),

Gene: Burwell21\_17 Start: 16577, Stop: 17407, Start Num: 10

Candidate Starts for Burwell21\_17:

(Start: 5 @16562 has 27 MA's), (Start: 10 @16577 has 195 MA's), (15, 16589), (16, 16613), (Start: 19 @16628 has 1 MA's), (26, 16673), (32, 16703), (36, 16757), (46, 16847), (48, 16856), (53, 16904), (54, 16922), (58, 16949), (59, 16955), (60, 16958), (65, 16982), (66, 16985), (68, 17000), (79, 17072), (82, 17111), (89, 17162), (90, 17165), (91, 17174), (92, 17198), (96, 17219), (105, 17288), (114, 17345), (115, 17375),

Gene: Butters\_19 Start: 16681, Stop: 17523, Start Num: 10

Candidate Starts for Butters\_19:

(Start: 10 @16681 has 195 MA's), (22, 16768), (25, 16780), (32, 16813), (36, 16867), (48, 16966), (58, 17059), (60, 17068), (69, 17119), (77, 17173), (80, 17215), (84, 17236), (85, 17239), (87, 17260), (100, 17350), (104, 17386), (109, 17437), (115, 17494), (118, 17509),

Gene: BuzzLyseyear\_19 Start: 16964, Stop: 17794, Start Num: 10

Candidate Starts for BuzzLyseyear\_19:

(Start: 5 @16949 has 27 MA's), (Start: 10 @16964 has 195 MA's), (15, 16976), (16, 17000), (Start: 19 @17015 has 1 MA's), (26, 17060), (32, 17090), (36, 17144), (46, 17234), (48, 17243), (53, 17291), (54, 17309), (58, 17336), (59, 17342), (60, 17345), (65, 17369), (66, 17372), (68, 17387), (79, 17459),

(82, 17498), (90, 17552), (91, 17561), (92, 17585), (96, 17606), (102, 17633), (105, 17675), (114, 17732), (115, 17762),

Gene: ByChance\_17 Start: 16563, Stop: 17411, Start Num: 4

Candidate Starts for ByChance\_17:

(Start: 4 @16563 has 38 MA's), (Start: 10 @16581 has 195 MA's), (15, 16593), (16, 16617), (Start: 19 @16632 has 1 MA's), (26, 16677), (32, 16707), (35, 16737), (36, 16761), (37, 16767), (46, 16851), (48, 16860), (53, 16908), (58, 16953), (59, 16959), (60, 16962), (65, 16986), (66, 16989), (68, 17004), (77, 17067), (79, 17076), (82, 17115), (84, 17130), (89, 17166), (90, 17169), (91, 17178), (92, 17202), (96, 17223), (105, 17292), (114, 17349), (115, 17379), (119, 17397),

Gene: Byougenkin\_17 Start: 16591, Stop: 17421, Start Num: 10

Candidate Starts for Byougenkin\_17:

(1, 16408), (2, 16438), (3, 16495), (Start: 4 @16573 has 38 MA's), (Start: 10 @16591 has 195 MA's), (15, 16603), (16, 16627), (Start: 19 @16642 has 1 MA's), (26, 16687), (32, 16717), (35, 16747), (36, 16771), (46, 16861), (48, 16870), (53, 16918), (58, 16963), (59, 16969), (60, 16972), (65, 16996), (66, 16999), (68, 17014), (77, 17077), (79, 17086), (82, 17125), (84, 17140), (89, 17176), (90, 17179), (91, 17188), (92, 17212), (96, 17233), (105, 17302), (114, 17359), (115, 17389), (119, 17407),

Gene: Cabrinians\_17 Start: 16571, Stop: 17401, Start Num: 10

Candidate Starts for Cabrinians\_17:

(Start: 4 @16553 has 38 MA's), (Start: 10 @16571 has 195 MA's), (15, 16583), (16, 16607), (Start: 19 @16622 has 1 MA's), (26, 16667), (32, 16697), (35, 16727), (36, 16751), (37, 16757), (46, 16841), (48, 16850), (53, 16898), (58, 16943), (59, 16949), (60, 16952), (65, 16976), (66, 16979), (68, 16994), (77, 17057), (79, 17066), (82, 17105), (84, 17120), (89, 17156), (90, 17159), (91, 17168), (92, 17192), (96, 17213), (105, 17282), (114, 17339), (115, 17369), (119, 17387),

Gene: CactusJack\_20 Start: 18032, Stop: 18925, Start Num: 7

Candidate Starts for CactusJack\_20:

(Start: 7 @18032 has 46 MA's), (Start: 19 @18086 has 1 MA's), (21, 18110), (27, 18134), (31, 18155), (36, 18212), (39, 18224), (43, 18266), (50, 18326), (61, 18434), (80, 18602), (81, 18605), (84, 18623), (85, 18626), (90, 18659), (100, 18743), (101, 18746), (105, 18800), (118, 18908), (119, 18911),

Gene: Camster\_20 Start: 18145, Stop: 19038, Start Num: 7

Candidate Starts for Camster\_20:

(Start: 7 @18145 has 46 MA's), (Start: 19 @18199 has 1 MA's), (21, 18223), (27, 18247), (31, 18268), (36, 18325), (39, 18337), (43, 18379), (50, 18439), (61, 18547), (80, 18715), (81, 18718), (90, 18772), (100, 18856), (101, 18859), (105, 18913), (118, 19021), (119, 19024),

Gene: CaptainTrips\_18 Start: 17247, Stop: 18095, Start Num: 4

Candidate Starts for CaptainTrips\_18:

(Start: 4 @17247 has 38 MA's), (Start: 10 @17265 has 195 MA's), (15, 17277), (16, 17301), (Start: 19 @17316 has 1 MA's), (26, 17361), (32, 17391), (35, 17421), (36, 17445), (46, 17535), (48, 17544), (50, 17556), (53, 17592), (58, 17637), (59, 17643), (60, 17646), (65, 17670), (66, 17673), (68, 17688), (77, 17751), (79, 17760), (82, 17799), (84, 17814), (87, 17838), (90, 17853), (91, 17862), (92, 17886), (96, 17907), (100, 17928), (101, 17931), (105, 17976), (114, 18033), (115, 18063), (119, 18081),

Gene: Carcharodon\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Carcharodon\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Catdawg\_57 Start: 35300, Stop: 36148, Start Num: 6

Candidate Starts for Catdawg\_57:

(Start: 6 @35300 has 36 MA's), (Start: 7 @35306 has 46 MA's), (14, 35321), (18, 35360), (23, 35405), (34, 35459), (45, 35573), (67, 35717), (69, 35738), (79, 35801), (87, 35879), (105, 36029), (116, 36125),

Gene: Cerasum\_18 Start: 16399, Stop: 17229, Start Num: 10

Candidate Starts for Cerasum\_18:

(Start: 4 @16381 has 38 MA's), (Start: 10 @16399 has 195 MA's), (15, 16411), (16, 16435), (Start: 19 @16450 has 1 MA's), (26, 16495), (32, 16525), (35, 16555), (36, 16579), (46, 16669), (48, 16678), (53, 16726), (58, 16771), (59, 16777), (60, 16780), (65, 16804), (68, 16822), (77, 16885), (79, 16894), (82, 16933), (84, 16948), (89, 16984), (90, 16987), (91, 16996), (92, 17020), (96, 17041), (105, 17110), (114, 17167), (115, 17197), (119, 17215),

Gene: Charlie\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Charlie\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Che8\_17 Start: 16599, Stop: 17429, Start Num: 10

Candidate Starts for Che8\_17:

(Start: 5 @16584 has 27 MA's), (Start: 10 @16599 has 195 MA's), (15, 16611), (16, 16635), (Start: 19 @16650 has 1 MA's), (26, 16695), (32, 16725), (36, 16779), (37, 16785), (46, 16869), (48, 16878), (53, 16926), (54, 16944), (58, 16971), (59, 16977), (60, 16980), (65, 17004), (66, 17007), (79, 17094), (82, 17133), (90, 17187), (91, 17196), (92, 17220), (96, 17241), (102, 17268), (105, 17310), (114, 17367), (115, 17397),

Gene: Che9c\_18 Start: 17626, Stop: 18480, Start Num: 6

Candidate Starts for Che9c\_18:

(Start: 6 @17626 has 36 MA's), (17, 17677), (20, 17692), (30, 17749), (37, 17824), (41, 17863), (52, 17962), (55, 17998), (60, 18019), (67, 18049), (69, 18070), (94, 18286), (97, 18295), (100, 18313), (105, 18367), (110, 18400), (116, 18457), (119, 18466),

Gene: Chevrolet\_17 Start: 16611, Stop: 17441, Start Num: 10

Candidate Starts for Chevrolet\_17:

(Start: 5 @16596 has 27 MA's), (Start: 10 @16611 has 195 MA's), (15, 16623), (16, 16647), (Start: 19 @16662 has 1 MA's), (26, 16707), (36, 16791), (37, 16797), (46, 16881), (48, 16890), (53, 16938), (58, 16983), (59, 16989), (60, 16992), (65, 17016), (66, 17019), (79, 17106), (82, 17145), (84, 17160), (85, 17163), (89, 17196), (90, 17199), (91, 17208), (92, 17232), (96, 17253), (105, 17322), (114, 17379), (115, 17409),

Gene: Chewbacca\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Chewbacca\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: ChickenDinner\_18 Start: 16444, Stop: 17274, Start Num: 10

Candidate Starts for ChickenDinner\_18:

(Start: 5 @16429 has 27 MA's), (Start: 10 @16444 has 195 MA's), (15, 16456), (16, 16480), (Start: 19 @16495 has 1 MA's), (26, 16540), (32, 16570), (35, 16600), (36, 16624), (37, 16630), (46, 16714), (48, 16723), (53, 16771), (58, 16816), (59, 16822), (60, 16825), (65, 16849), (68, 16867), (77, 16930),

(79, 16939), (82, 16978), (84, 16993), (89, 17029), (90, 17032), (91, 17041), (92, 17065), (96, 17086), (102, 17113), (105, 17155), (114, 17212), (115, 17242),

Gene: Chuckly\_17 Start: 16742, Stop: 17572, Start Num: 10

Candidate Starts for Chuckly\_17:

(Start: 4 @16724 has 38 MA's), (Start: 10 @16742 has 195 MA's), (15, 16754), (16, 16778), (Start: 19 @16793 has 1 MA's), (26, 16838), (32, 16868), (35, 16898), (36, 16922), (46, 17012), (48, 17021), (50, 17033), (53, 17069), (58, 17114), (59, 17120), (60, 17123), (65, 17147), (66, 17150), (68, 17165), (77, 17228), (79, 17237), (82, 17276), (84, 17291), (87, 17315), (89, 17327), (90, 17330), (91, 17339), (92, 17363), (96, 17384), (105, 17453), (114, 17510), (115, 17540),

Gene: Clifton\_17 Start: 16508, Stop: 17356, Start Num: 4

Candidate Starts for Clifton\_17:

(Start: 4 @16508 has 38 MA's), (Start: 10 @16526 has 195 MA's), (15, 16538), (16, 16562), (Start: 19 @16577 has 1 MA's), (26, 16622), (32, 16652), (35, 16682), (36, 16706), (46, 16796), (48, 16805), (53, 16853), (58, 16898), (59, 16904), (60, 16907), (65, 16931), (66, 16934), (68, 16949), (77, 17012), (79, 17021), (82, 17060), (84, 17075), (89, 17111), (90, 17114), (91, 17123), (92, 17147), (96, 17168), (105, 17237), (114, 17294), (115, 17324),

Gene: Coco12\_19 Start: 16968, Stop: 17798, Start Num: 10

Candidate Starts for Coco12\_19:

(Start: 4 @16950 has 38 MA's), (Start: 10 @16968 has 195 MA's), (15, 16980), (16, 17004), (Start: 19 @17019 has 1 MA's), (26, 17064), (32, 17094), (35, 17124), (36, 17148), (46, 17238), (48, 17247), (53, 17295), (58, 17340), (59, 17346), (60, 17349), (65, 17373), (68, 17391), (77, 17454), (79, 17463), (82, 17502), (84, 17517), (89, 17553), (90, 17556), (91, 17565), (92, 17589), (96, 17610), (105, 17679), (114, 17736), (115, 17766),

Gene: Constella\_32 Start: 28165, Stop: 29016, Start Num: 11

Candidate Starts for Constella\_32:

(Start: 11 @28165 has 29 MA's), (13, 28171), (23, 28246), (28, 28261), (37, 28345), (42, 28390), (44, 28399), (51, 28486), (61, 28552), (63, 28579), (69, 28612), (70, 28618), (82, 28717), (85, 28735), (90, 28768), (92, 28801), (93, 28804), (95, 28825), (103, 28870), (116, 28993), (118, 28999),

Gene: Corndog\_60 Start: 36294, Stop: 37142, Start Num: 6

Candidate Starts for Corndog\_60:

(Start: 6 @36294 has 36 MA's), (Start: 7 @36300 has 46 MA's), (14, 36315), (18, 36354), (23, 36399), (34, 36453), (45, 36567), (67, 36711), (69, 36732), (79, 36795), (87, 36873), (105, 37023), (116, 37119),

Gene: Cornie\_19 Start: 17437, Stop: 18264, Start Num: 8

Candidate Starts for Cornie\_19:

(Start: 8 @17437 has 3 MA's), (29, 17551), (50, 17728), (53, 17764), (69, 17869), (87, 18010), (93, 18061), (107, 18169), (118, 18250),

Gene: Cornucopia\_18 Start: 16608, Stop: 17438, Start Num: 10

Candidate Starts for Cornucopia\_18:

(Start: 4 @16590 has 38 MA's), (Start: 10 @16608 has 195 MA's), (15, 16620), (16, 16644), (Start: 19 @16659 has 1 MA's), (26, 16704), (32, 16734), (35, 16764), (36, 16788), (46, 16878), (48, 16887), (53, 16935), (54, 16953), (58, 16980), (59, 16986), (60, 16989), (66, 17016), (68, 17031), (79, 17103), (82, 17142), (90, 17196), (91, 17205), (92, 17229), (96, 17250), (105, 17319), (114, 17376), (115, 17406),

Gene: Courthouse\_35 Start: 26894, Stop: 27745, Start Num: 12

Candidate Starts for Courthouse\_35:

(Start: 12 @26894 has 11 MA's), (13, 26900), (23, 26975), (32, 27017), (37, 27074), (42, 27119), (43, 27122), (51, 27215), (52, 27218), (54, 27239), (56, 27257), (63, 27308), (64, 27314), (68, 27332), (69, 27341), (82, 27446), (88, 27488), (92, 27530), (98, 27560), (105, 27620),

Gene: Crumble\_17 Start: 16573, Stop: 17403, Start Num: 10

Candidate Starts for Crumble\_17:

(Start: 4 @16555 has 38 MA's), (Start: 10 @16573 has 195 MA's), (15, 16585), (16, 16609), (Start: 19 @16624 has 1 MA's), (26, 16669), (32, 16699), (35, 16729), (36, 16753), (46, 16843), (48, 16852), (53, 16900), (58, 16945), (59, 16951), (60, 16954), (65, 16978), (66, 16981), (68, 16996), (77, 17059), (79, 17068), (82, 17107), (84, 17122), (89, 17158), (90, 17161), (91, 17170), (92, 17194), (96, 17215), (105, 17284), (114, 17341), (115, 17371),

Gene: DLane\_17 Start: 16559, Stop: 17389, Start Num: 10

Candidate Starts for DLane\_17:

(Start: 4 @16541 has 38 MA's), (Start: 10 @16559 has 195 MA's), (15, 16571), (16, 16595), (Start: 19 @16610 has 1 MA's), (26, 16655), (32, 16685), (35, 16715), (36, 16739), (46, 16829), (48, 16838), (53, 16886), (58, 16931), (59, 16937), (60, 16940), (65, 16964), (66, 16967), (68, 16982), (77, 17045), (79, 17054), (82, 17093), (84, 17108), (89, 17144), (90, 17147), (91, 17156), (92, 17180), (96, 17201), (105, 17270), (114, 17327), (115, 17357),

Gene: DRBy19\_17 Start: 16602, Stop: 17432, Start Num: 10

Candidate Starts for DRBy19\_17:

(Start: 5 @16587 has 27 MA's), (Start: 10 @16602 has 195 MA's), (15, 16614), (16, 16638), (Start: 19 @16653 has 1 MA's), (26, 16698), (32, 16728), (36, 16782), (46, 16872), (48, 16881), (53, 16929), (54, 16947), (58, 16974), (59, 16980), (60, 16983), (65, 17007), (66, 17010), (68, 17025), (79, 17097), (82, 17136), (90, 17190), (91, 17199), (92, 17223), (96, 17244), (102, 17271), (105, 17313), (114, 17370), (115, 17400),

Gene: DaWorst\_19 Start: 17103, Stop: 17933, Start Num: 10

Candidate Starts for DaWorst\_19:

(Start: 5 @17088 has 27 MA's), (Start: 10 @17103 has 195 MA's), (15, 17115), (16, 17139), (Start: 19 @17154 has 1 MA's), (26, 17199), (32, 17229), (36, 17283), (46, 17373), (48, 17382), (53, 17430), (54, 17448), (58, 17475), (59, 17481), (60, 17484), (65, 17508), (66, 17511), (68, 17526), (77, 17589), (79, 17598), (82, 17637), (84, 17652), (89, 17688), (90, 17691), (91, 17700), (92, 17724), (96, 17745), (105, 17814), (114, 17871), (115, 17901),

Gene: DaddyRickover\_17 Start: 16741, Stop: 17571, Start Num: 10

Candidate Starts for DaddyRickover\_17:

(Start: 5 @16726 has 27 MA's), (Start: 10 @16741 has 195 MA's), (15, 16753), (16, 16777), (Start: 19 @16792 has 1 MA's), (26, 16837), (32, 16867), (35, 16897), (36, 16921), (46, 17011), (48, 17020), (53, 17068), (54, 17086), (58, 17113), (59, 17119), (60, 17122), (65, 17146), (66, 17149), (77, 17227), (79, 17236), (82, 17275), (84, 17290), (89, 17326), (90, 17329), (91, 17338), (92, 17362), (96, 17383), (101, 17407), (102, 17410), (105, 17452), (114, 17509), (115, 17539),

Gene: Daenerys\_17 Start: 16573, Stop: 17403, Start Num: 10

Candidate Starts for Daenerys\_17:

(Start: 5 @16558 has 27 MA's), (Start: 10 @16573 has 195 MA's), (15, 16585), (16, 16609), (Start: 19 @16624 has 1 MA's), (26, 16669), (32, 16699), (35, 16729), (36, 16753), (46, 16843), (48, 16852), (53, 16900), (54, 16918), (58, 16945), (59, 16951), (60, 16954), (65, 16978), (66, 16981), (77, 17059), (79, 17068), (82, 17107), (84, 17122), (89, 17158), (90, 17161), (91, 17170), (92, 17194), (96, 17215), (101, 17239), (102, 17242), (105, 17284), (114, 17341), (115, 17371),

Gene: Dallas\_39 Start: 28903, Stop: 29754, Start Num: 11

Candidate Starts for Dallas\_39:

(Start: 11 @28903 has 29 MA's), (13, 28909), (23, 28984), (28, 28999), (37, 29083), (42, 29128), (44, 29137), (52, 29227), (63, 29317), (69, 29350), (70, 29356), (90, 29506), (92, 29539), (93, 29542), (103, 29608), (116, 29731), (118, 29737),

Gene: Dante\_17 Start: 16571, Stop: 17419, Start Num: 4

Candidate Starts for Dante\_17:

(Start: 4 @16571 has 38 MA's), (Start: 10 @16589 has 195 MA's), (15, 16601), (16, 16625), (Start: 19 @16640 has 1 MA's), (26, 16685), (32, 16715), (35, 16745), (36, 16769), (46, 16859), (48, 16868), (53, 16916), (58, 16961), (59, 16967), (60, 16970), (65, 16994), (68, 17012), (77, 17075), (79, 17084), (82, 17123), (84, 17138), (89, 17174), (90, 17177), (91, 17186), (92, 17210), (96, 17231), (105, 17300), (114, 17357), (115, 17387),

Gene: DeadP\_17 Start: 16603, Stop: 17433, Start Num: 10

Candidate Starts for DeadP\_17:

(Start: 4 @16585 has 38 MA's), (Start: 10 @16603 has 195 MA's), (15, 16615), (16, 16639), (Start: 19 @16654 has 1 MA's), (26, 16699), (32, 16729), (35, 16759), (36, 16783), (46, 16873), (48, 16882), (53, 16930), (58, 16975), (59, 16981), (60, 16984), (65, 17008), (66, 17011), (68, 17026), (77, 17089), (79, 17098), (82, 17137), (84, 17152), (89, 17188), (90, 17191), (91, 17200), (92, 17224), (96, 17245), (105, 17314), (114, 17371), (115, 17401),

Gene: Deb65\_17 Start: 16570, Stop: 17400, Start Num: 10

Candidate Starts for Deb65\_17:

(Start: 5 @16555 has 27 MA's), (Start: 10 @16570 has 195 MA's), (15, 16582), (16, 16606), (Start: 19 @16621 has 1 MA's), (26, 16666), (32, 16696), (35, 16726), (36, 16750), (46, 16840), (48, 16849), (50, 16861), (53, 16897), (59, 16948), (60, 16951), (65, 16975), (68, 16993), (77, 17056), (79, 17065), (84, 17119), (87, 17143), (90, 17158), (91, 17167), (92, 17191), (96, 17212), (102, 17239), (105, 17281), (114, 17338), (115, 17368),

Gene: DillTech15\_17 Start: 16607, Stop: 17437, Start Num: 10

Candidate Starts for DillTech15\_17:

(Start: 5 @16592 has 27 MA's), (Start: 10 @16607 has 195 MA's), (15, 16619), (16, 16643), (Start: 19 @16658 has 1 MA's), (26, 16703), (32, 16733), (36, 16787), (46, 16877), (48, 16886), (53, 16934), (54, 16952), (58, 16979), (59, 16985), (60, 16988), (65, 17012), (66, 17015), (79, 17102), (82, 17141), (90, 17195), (91, 17204), (92, 17228), (96, 17249), (102, 17276), (105, 17318), (114, 17375), (115, 17405),

Gene: DirtMcgirt\_18 Start: 16394, Stop: 17224, Start Num: 10

Candidate Starts for DirtMcgirt\_18:

(Start: 4 @16376 has 38 MA's), (Start: 10 @16394 has 195 MA's), (15, 16406), (16, 16430), (Start: 19 @16445 has 1 MA's), (26, 16490), (32, 16520), (35, 16550), (36, 16574), (46, 16664), (48, 16673), (53, 16721), (58, 16766), (59, 16772), (60, 16775), (65, 16799), (68, 16817), (77, 16880), (79, 16889), (82, 16928), (84, 16943), (89, 16979), (90, 16982), (91, 16991), (92, 17015), (96, 17036), (105, 17105), (114, 17162), (115, 17192),

Gene: DmpstrDiver\_36 Start: 29535, Stop: 30386, Start Num: 11

Candidate Starts for DmpstrDiver\_36:

(Start: 11 @29535 has 29 MA's), (13, 29541), (23, 29616), (28, 29631), (37, 29715), (42, 29760), (44, 29769), (52, 29859), (63, 29949), (69, 29982), (70, 29988), (77, 30039), (82, 30087), (85, 30105), (88, 30129), (90, 30138), (92, 30171), (93, 30174), (103, 30240), (116, 30363), (118, 30369),

Gene: DocMcStuffins\_18 Start: 16444, Stop: 17274, Start Num: 10

Candidate Starts for DocMcStuffins\_18:

(Start: 5 @16429 has 27 MA's), (Start: 10 @16444 has 195 MA's), (15, 16456), (16, 16480), (Start: 19 @16495 has 1 MA's), (26, 16540), (32, 16570), (35, 16600), (36, 16624), (37, 16630), (46, 16714), (48, 16723), (53, 16771), (58, 16816), (59, 16822), (60, 16825), (65, 16849), (68, 16867), (77, 16930), (79, 16939), (82, 16978), (84, 16993), (89, 17029), (90, 17032), (91, 17041), (92, 17065), (96, 17086), (102, 17113), (105, 17155), (114, 17212), (115, 17242),

Gene: Donkeykong\_17 Start: 16747, Stop: 17577, Start Num: 10

Candidate Starts for Donkeykong\_17:

(2, 16594), (3, 16651), (Start: 4 @16729 has 38 MA's), (Start: 10 @16747 has 195 MA's), (15, 16759), (16, 16783), (Start: 19 @16798 has 1 MA's), (26, 16843), (32, 16873), (36, 16927), (46, 17017), (48, 17026), (53, 17074), (54, 17092), (58, 17119), (59, 17125), (60, 17128), (65, 17152), (66, 17155), (68, 17170), (79, 17242), (82, 17281), (90, 17335), (91, 17344), (92, 17368), (96, 17389), (102, 17416), (105, 17458), (114, 17515), (115, 17545),

Gene: Donovan\_20 Start: 18133, Stop: 19026, Start Num: 7

Candidate Starts for Donovan\_20:

(Start: 7 @18133 has 46 MA's), (Start: 19 @18187 has 1 MA's), (21, 18211), (27, 18235), (31, 18256), (36, 18313), (39, 18325), (43, 18367), (50, 18427), (61, 18535), (80, 18703), (81, 18706), (90, 18760), (100, 18844), (101, 18847), (105, 18901), (118, 19009), (119, 19012),

Gene: Doomphist\_17 Start: 16692, Stop: 17537, Start Num: 5

Candidate Starts for Doomphist\_17:

(Start: 5 @16692 has 27 MA's), (Start: 10 @16707 has 195 MA's), (15, 16719), (16, 16743), (Start: 19 @16758 has 1 MA's), (26, 16803), (32, 16833), (35, 16863), (36, 16887), (46, 16977), (48, 16986), (50, 16998), (53, 17034), (59, 17085), (60, 17088), (65, 17112), (68, 17130), (77, 17193), (79, 17202), (84, 17256), (87, 17280), (90, 17295), (91, 17304), (92, 17328), (96, 17349), (102, 17376), (105, 17418), (114, 17475), (115, 17505),

Gene: Dorothy\_17 Start: 16516, Stop: 17361, Start Num: 5

Candidate Starts for Dorothy\_17:

(Start: 5 @16516 has 27 MA's), (Start: 10 @16531 has 195 MA's), (15, 16543), (16, 16567), (Start: 19 @16582 has 1 MA's), (26, 16627), (32, 16657), (35, 16687), (36, 16711), (46, 16801), (48, 16810), (53, 16858), (54, 16876), (58, 16903), (59, 16909), (60, 16912), (65, 16936), (66, 16939), (77, 17017), (79, 17026), (82, 17065), (84, 17080), (89, 17116), (90, 17119), (91, 17128), (92, 17152), (96, 17173), (101, 17197), (102, 17200), (105, 17242), (114, 17299), (115, 17329),

Gene: DosHalletts\_18 Start: 16482, Stop: 17330, Start Num: 4

Candidate Starts for DosHalletts\_18:

(1, 16323), (2, 16353), (3, 16410), (Start: 4 @16482 has 38 MA's), (Start: 10 @16500 has 195 MA's), (15, 16512), (16, 16536), (Start: 19 @16551 has 1 MA's), (26, 16596), (35, 16656), (36, 16680), (46, 16770), (48, 16779), (50, 16791), (53, 16827), (59, 16878), (60, 16881), (65, 16905), (66, 16908), (68, 16923), (77, 16986), (79, 16995), (84, 17049), (87, 17073), (90, 17088), (91, 17097), (92, 17121), (96, 17142), (100, 17163), (101, 17166), (105, 17211), (114, 17268), (115, 17298), (119, 17316),

Gene: DotProduct\_17 Start: 16563, Stop: 17411, Start Num: 4

Candidate Starts for DotProduct\_17:

(1, 16398), (2, 16428), (3, 16485), (Start: 4 @16563 has 38 MA's), (Start: 10 @16581 has 195 MA's), (15, 16593), (16, 16617), (Start: 19 @16632 has 1 MA's), (26, 16677), (32, 16707), (35, 16737), (36, 16761), (46, 16851), (48, 16860), (53, 16908), (58, 16953), (59, 16959), (60, 16962), (65, 16986), (68, 17004), (77, 17067), (79, 17076), (82, 17115), (84, 17130), (89, 17166), (90, 17169), (91, 17178), (92, 17202), (96, 17223), (105, 17292), (114, 17349), (115, 17379),



Gene: Doug\_18 Start: 17123, Stop: 17953, Start Num: 10

Candidate Starts for Doug\_18:

(Start: 5 @17108 has 27 MA's), (Start: 10 @17123 has 195 MA's), (15, 17135), (16, 17159), (Start: 19 @17174 has 1 MA's), (26, 17219), (36, 17303), (37, 17309), (46, 17393), (48, 17402), (53, 17450), (58, 17495), (59, 17501), (60, 17504), (65, 17528), (68, 17546), (77, 17609), (79, 17618), (82, 17657), (84, 17672), (90, 17711), (91, 17720), (92, 17744), (96, 17765), (105, 17834), (114, 17891), (115, 17921),

Gene: Dove\_35 Start: 28401, Stop: 29252, Start Num: 11

Candidate Starts for Dove\_35:

(Start: 11 @28401 has 29 MA's), (13, 28407), (23, 28482), (37, 28581), (42, 28626), (43, 28629), (52, 28725), (63, 28815), (68, 28839), (69, 28848), (71, 28863), (85, 28971), (88, 28995), (92, 29037), (107, 29148), (112, 29172), (118, 29235),

Gene: Drago\_18 Start: 16374, Stop: 17222, Start Num: 4

Candidate Starts for Drago\_18:

(Start: 4 @16374 has 38 MA's), (Start: 10 @16392 has 195 MA's), (15, 16404), (16, 16428), (Start: 19 @16443 has 1 MA's), (26, 16488), (32, 16518), (35, 16548), (36, 16572), (46, 16662), (48, 16671), (53, 16719), (58, 16764), (59, 16770), (60, 16773), (65, 16797), (68, 16815), (77, 16878), (79, 16887), (82, 16926), (84, 16941), (89, 16977), (90, 16980), (91, 16989), (92, 17013), (96, 17034), (105, 17103), (114, 17160), (115, 17190),

Gene: Duke13\_35 Start: 28933, Stop: 29784, Start Num: 11

Candidate Starts for Duke13\_35:

(Start: 11 @28933 has 29 MA's), (13, 28939), (23, 29014), (28, 29029), (37, 29113), (42, 29158), (44, 29167), (52, 29257), (63, 29347), (69, 29380), (70, 29386), (77, 29437), (82, 29485), (85, 29503), (88, 29527), (90, 29536), (92, 29569), (93, 29572), (103, 29638), (116, 29761), (118, 29767),

Gene: Duplicity\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Duplicity\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Dylan\_57 Start: 35345, Stop: 36193, Start Num: 6

Candidate Starts for Dylan\_57:

(Start: 6 @35345 has 36 MA's), (Start: 7 @35351 has 46 MA's), (14, 35366), (18, 35405), (23, 35450), (34, 35504), (45, 35618), (67, 35762), (69, 35783), (79, 35846), (87, 35924), (105, 36074), (116, 36170),

Gene: Dynamo\_20 Start: 18153, Stop: 19046, Start Num: 7

Candidate Starts for Dynamo\_20:

(Start: 7 @18153 has 46 MA's), (Start: 19 @18207 has 1 MA's), (21, 18231), (27, 18255), (31, 18276), (36, 18333), (39, 18345), (43, 18387), (50, 18447), (61, 18555), (80, 18723), (81, 18726), (90, 18780), (100, 18864), (101, 18867), (105, 18921), (118, 19029), (119, 19032),

Gene: Eish\_17 Start: 16713, Stop: 17543, Start Num: 10

Candidate Starts for Eish\_17:

(Start: 5 @16698 has 27 MA's), (Start: 10 @16713 has 195 MA's), (15, 16725), (16, 16749), (Start: 19 @16764 has 1 MA's), (26, 16809), (32, 16839), (36, 16893), (46, 16983), (48, 16992), (53, 17040), (54, 17058), (58, 17085), (59, 17091), (60, 17094), (65, 17118), (66, 17121), (79, 17208), (82, 17247), (90, 17301), (91, 17310), (92, 17334), (96, 17355), (102, 17382), (105, 17424), (114, 17481), (115, 17511),

Gene: Ejimix\_38 Start: 30131, Stop: 30982, Start Num: 11

Candidate Starts for Ejimix\_38:

(Start: 11 @30131 has 29 MA's), (13, 30137), (23, 30212), (37, 30311), (42, 30356), (43, 30359), (52, 30455), (63, 30545), (68, 30569), (69, 30578), (71, 30593), (85, 30701), (88, 30725), (92, 30767), (107, 30878), (112, 30902), (118, 30965),

Gene: EleanorGeorge\_17 Start: 16720, Stop: 17571, Start Num: 4

Candidate Starts for EleanorGeorge\_17:

(Start: 4 @16720 has 38 MA's), (Start: 10 @16738 has 195 MA's), (15, 16750), (16, 16774), (Start: 19 @16789 has 1 MA's), (26, 16834), (32, 16864), (46, 17011), (49, 17029), (53, 17068), (58, 17113), (59, 17119), (60, 17122), (65, 17146), (66, 17149), (68, 17164), (77, 17227), (79, 17236), (82, 17275), (84, 17290), (89, 17326), (90, 17329), (91, 17338), (92, 17362), (96, 17383), (105, 17452), (114, 17509), (115, 17539),

Gene: Emma\_17 Start: 16603, Stop: 17451, Start Num: 4

Candidate Starts for Emma\_17:

(Start: 4 @16603 has 38 MA's), (Start: 10 @16621 has 195 MA's), (15, 16633), (16, 16657), (Start: 19 @16672 has 1 MA's), (26, 16717), (32, 16747), (35, 16777), (36, 16801), (46, 16891), (48, 16900), (53, 16948), (58, 16993), (59, 16999), (60, 17002), (65, 17026), (66, 17029), (68, 17044), (77, 17107), (79, 17116), (82, 17155), (84, 17170), (89, 17206), (90, 17209), (91, 17218), (92, 17242), (96, 17263), (105, 17332), (114, 17389), (115, 17419),

Gene: Empress\_18 Start: 17907, Stop: 18752, Start Num: 5

Candidate Starts for Empress\_18:

(Start: 5 @17907 has 27 MA's), (Start: 10 @17922 has 195 MA's), (15, 17934), (16, 17958), (Start: 19 @17973 has 1 MA's), (26, 18018), (32, 18048), (35, 18078), (36, 18102), (46, 18192), (48, 18201), (53, 18249), (54, 18267), (58, 18294), (59, 18300), (60, 18303), (65, 18327), (66, 18330), (77, 18408), (79, 18417), (82, 18456), (84, 18471), (89, 18507), (90, 18510), (91, 18519), (92, 18543), (96, 18564), (101, 18588), (102, 18591), (105, 18633), (114, 18690), (115, 18720),

Gene: Enby\_18 Start: 16392, Stop: 17222, Start Num: 10

Candidate Starts for Enby\_18:

(Start: 4 @16374 has 38 MA's), (Start: 10 @16392 has 195 MA's), (15, 16404), (16, 16428), (Start: 19 @16443 has 1 MA's), (26, 16488), (32, 16518), (35, 16548), (36, 16572), (46, 16662), (48, 16671), (53, 16719), (58, 16764), (59, 16770), (60, 16773), (65, 16797), (68, 16815), (77, 16878), (79, 16887), (82, 16926), (84, 16941), (89, 16977), (90, 16980), (91, 16989), (92, 17013), (96, 17034), (105, 17103), (114, 17160), (115, 17190),

Gene: Eradicator\_17 Start: 16536, Stop: 17366, Start Num: 10

Candidate Starts for Eradicator\_17:

(Start: 5 @16521 has 27 MA's), (Start: 10 @16536 has 195 MA's), (15, 16548), (16, 16572), (Start: 19 @16587 has 1 MA's), (26, 16632), (32, 16662), (36, 16716), (46, 16806), (48, 16815), (53, 16863), (58, 16908), (59, 16914), (60, 16917), (65, 16941), (66, 16944), (68, 16959), (77, 17022), (79, 17031), (82, 17070), (84, 17085), (89, 17121), (90, 17124), (91, 17133), (92, 17157), (96, 17178), (100, 17199), (105, 17247), (114, 17304), (115, 17334),

Gene: EricMillard\_38 Start: 29664, Stop: 30515, Start Num: 11

Candidate Starts for EricMillard\_38:

(Start: 11 @29664 has 29 MA's), (13, 29670), (23, 29745), (37, 29844), (42, 29889), (44, 29898), (52, 29988), (63, 30078), (69, 30111), (70, 30117), (90, 30267), (92, 30300), (93, 30303), (103, 30369), (116, 30492), (118, 30498),

Gene: Estave1\_17 Start: 16690, Stop: 17520, Start Num: 10

Candidate Starts for Estave1\_17:

(Start: 5 @16675 has 27 MA's), (Start: 10 @16690 has 195 MA's), (16, 16726), (Start: 19 @16741 has 1 MA's), (26, 16786), (32, 16816), (36, 16870), (46, 16960), (48, 16969), (53, 17017), (54, 17035), (58, 17062), (59, 17068), (60, 17071), (65, 17095), (66, 17098), (79, 17185), (82, 17224), (87, 17263), (90, 17278), (92, 17311), (96, 17332), (102, 17359), (105, 17401), (114, 17458), (115, 17488),

Gene: Familton\_58 Start: 35257, Stop: 36105, Start Num: 6

Candidate Starts for Familton\_58:

(Start: 6 @35257 has 36 MA's), (Start: 7 @35263 has 46 MA's), (14, 35278), (18, 35317), (23, 35362), (34, 35416), (45, 35530), (67, 35674), (69, 35695), (79, 35758), (87, 35836), (105, 35986), (116, 36082),

Gene: Fancypants\_17 Start: 16581, Stop: 17411, Start Num: 10

Candidate Starts for Fancypants\_17:

(Start: 4 @16563 has 38 MA's), (Start: 10 @16581 has 195 MA's), (15, 16593), (16, 16617), (Start: 19 @16632 has 1 MA's), (26, 16677), (32, 16707), (35, 16737), (36, 16761), (46, 16851), (48, 16860), (53, 16908), (58, 16953), (59, 16959), (60, 16962), (65, 16986), (66, 16989), (68, 17004), (77, 17067), (79, 17076), (82, 17115), (84, 17130), (89, 17166), (90, 17169), (91, 17178), (92, 17202), (96, 17223), (105, 17292), (114, 17349), (115, 17379),

Gene: Fastidio\_17 Start: 16535, Stop: 17368, Start Num: 10

Candidate Starts for Fastidio\_17:

(Start: 4 @16517 has 38 MA's), (Start: 10 @16535 has 195 MA's), (15, 16547), (16, 16571), (Start: 19 @16586 has 1 MA's), (26, 16631), (32, 16661), (46, 16808), (49, 16826), (53, 16865), (58, 16910), (59, 16916), (60, 16919), (65, 16943), (66, 16946), (68, 16961), (77, 17024), (79, 17033), (82, 17072), (84, 17087), (89, 17123), (90, 17126), (91, 17135), (92, 17159), (96, 17180), (105, 17249), (114, 17306), (115, 17336),

Gene: Filuzino\_17 Start: 16563, Stop: 17393, Start Num: 10

Candidate Starts for Filuzino\_17:

(Start: 4 @16545 has 38 MA's), (Start: 10 @16563 has 195 MA's), (15, 16575), (16, 16599), (Start: 19 @16614 has 1 MA's), (26, 16659), (32, 16689), (35, 16719), (36, 16743), (46, 16833), (48, 16842), (53, 16890), (59, 16941), (60, 16944), (65, 16968), (68, 16986), (77, 17049), (79, 17058), (82, 17097), (84, 17112), (89, 17148), (90, 17151), (91, 17160), (92, 17184), (96, 17205), (105, 17274), (114, 17331), (115, 17361),

Gene: Firecracker\_58 Start: 35447, Stop: 36295, Start Num: 6

Candidate Starts for Firecracker\_58:

(Start: 6 @35447 has 36 MA's), (Start: 7 @35453 has 46 MA's), (14, 35468), (18, 35507), (23, 35552), (34, 35606), (45, 35720), (67, 35864), (69, 35885), (79, 35948), (87, 36026), (105, 36176), (116, 36272),

Gene: Firehouse51\_18 Start: 17130, Stop: 17960, Start Num: 10

Candidate Starts for Firehouse51\_18:

(Start: 4 @17112 has 38 MA's), (Start: 10 @17130 has 195 MA's), (15, 17142), (16, 17166), (Start: 19 @17181 has 1 MA's), (26, 17226), (32, 17256), (35, 17286), (36, 17310), (46, 17400), (48, 17409), (53, 17457), (58, 17502), (59, 17508), (60, 17511), (65, 17535), (66, 17538), (68, 17553), (77, 17616), (79, 17625), (82, 17664), (84, 17679), (89, 17715), (90, 17718), (91, 17727), (92, 17751), (96, 17772), (105, 17841), (114, 17898), (115, 17928),

Gene: FirstPlacePfu\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for FirstPlacePfu\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Fishburne\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Fishburne\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Flathead\_18 Start: 16438, Stop: 17268, Start Num: 10

Candidate Starts for Flathead\_18:

(Start: 4 @16420 has 38 MA's), (Start: 10 @16438 has 195 MA's), (15, 16450), (16, 16474), (Start: 19 @16489 has 1 MA's), (26, 16534), (32, 16564), (35, 16594), (36, 16618), (46, 16708), (48, 16717), (50, 16729), (53, 16765), (58, 16810), (59, 16816), (60, 16819), (65, 16843), (66, 16846), (68, 16861), (77, 16924), (79, 16933), (82, 16972), (84, 16987), (89, 17023), (90, 17026), (91, 17035), (92, 17059), (96, 17080), (105, 17149), (114, 17206), (115, 17236),

Gene: Florinda\_17 Start: 16592, Stop: 17422, Start Num: 10

Candidate Starts for Florinda\_17:

(Start: 4 @16574 has 38 MA's), (Start: 10 @16592 has 195 MA's), (15, 16604), (16, 16628), (Start: 19 @16643 has 1 MA's), (26, 16688), (32, 16718), (35, 16748), (36, 16772), (46, 16862), (48, 16871), (50, 16883), (53, 16919), (59, 16970), (60, 16973), (65, 16997), (68, 17015), (77, 17078), (79, 17087), (82, 17126), (84, 17141), (90, 17180), (91, 17189), (92, 17213), (96, 17234), (105, 17303), (114, 17360), (115, 17390),

Gene: FoulBall\_57 Start: 35251, Stop: 36099, Start Num: 6

Candidate Starts for FoulBall\_57:

(Start: 6 @35251 has 36 MA's), (Start: 7 @35257 has 46 MA's), (14, 35272), (18, 35311), (23, 35356), (34, 35410), (45, 35524), (67, 35668), (69, 35689), (79, 35752), (87, 35830), (105, 35980), (116, 36076),

Gene: Frankie\_18 Start: 16658, Stop: 17506, Start Num: 4

Candidate Starts for Frankie\_18:

(Start: 4 @16658 has 38 MA's), (Start: 10 @16676 has 195 MA's), (15, 16688), (16, 16712), (Start: 19 @16727 has 1 MA's), (26, 16772), (35, 16832), (36, 16856), (46, 16946), (48, 16955), (53, 17003), (58, 17048), (59, 17054), (60, 17057), (65, 17081), (66, 17084), (68, 17099), (77, 17162), (79, 17171), (82, 17210), (84, 17225), (89, 17261), (90, 17264), (91, 17273), (92, 17297), (96, 17318), (102, 17345), (105, 17387), (114, 17444), (115, 17474),

Gene: FreddyB\_17 Start: 16580, Stop: 17410, Start Num: 10

Candidate Starts for FreddyB\_17:

(Start: 4 @16562 has 38 MA's), (Start: 10 @16580 has 195 MA's), (15, 16592), (16, 16616), (Start: 19 @16631 has 1 MA's), (26, 16676), (32, 16706), (35, 16736), (36, 16760), (37, 16766), (46, 16850), (48, 16859), (53, 16907), (58, 16952), (59, 16958), (60, 16961), (65, 16985), (66, 16988), (68, 17003), (77, 17066), (79, 17075), (82, 17114), (84, 17129), (89, 17165), (90, 17168), (91, 17177), (92, 17201), (96, 17222), (105, 17291), (114, 17348), (115, 17378), (119, 17396),

Gene: Fruitloop\_17 Start: 16584, Stop: 17432, Start Num: 4

Candidate Starts for Fruitloop\_17:

(Start: 4 @16584 has 38 MA's), (Start: 10 @16602 has 195 MA's), (15, 16614), (16, 16638), (Start: 19 @16653 has 1 MA's), (26, 16698), (32, 16728), (35, 16758), (36, 16782), (46, 16872), (48, 16881), (53, 16929), (58, 16974), (59, 16980), (60, 16983), (65, 17007), (66, 17010), (68, 17025), (77, 17088),

(79, 17097), (82, 17136), (84, 17151), (89, 17187), (90, 17190), (91, 17199), (92, 17223), (96, 17244), (105, 17313), (114, 17370), (115, 17400),

Gene: Fulbright\_19 Start: 16711, Stop: 17553, Start Num: 10

Candidate Starts for Fulbright\_19:

(Start: 10 @16711 has 195 MA's), (22, 16798), (33, 16846), (35, 16873), (40, 16912), (46, 16987), (48, 16996), (58, 17089), (69, 17149), (80, 17245), (84, 17266), (87, 17290), (90, 17305), (100, 17380), (104, 17416), (109, 17467), (115, 17524), (118, 17539),

Gene: GUmbie\_17 Start: 16557, Stop: 17405, Start Num: 5

Candidate Starts for GUmbie\_17:

(Start: 5 @16557 has 27 MA's), (Start: 10 @16572 has 195 MA's), (15, 16584), (16, 16608), (Start: 19 @16623 has 1 MA's), (26, 16668), (32, 16698), (46, 16845), (49, 16863), (53, 16902), (65, 16980), (66, 16983), (79, 17070), (82, 17109), (90, 17163), (91, 17172), (92, 17196), (96, 17217), (102, 17244), (105, 17286), (114, 17343), (115, 17373),

Gene: Galactic\_17 Start: 16567, Stop: 17397, Start Num: 10

Candidate Starts for Galactic\_17:

(Start: 4 @16549 has 38 MA's), (Start: 10 @16567 has 195 MA's), (15, 16579), (16, 16603), (Start: 19 @16618 has 1 MA's), (26, 16663), (32, 16693), (35, 16723), (36, 16747), (46, 16837), (48, 16846), (53, 16894), (58, 16939), (59, 16945), (60, 16948), (65, 16972), (66, 16975), (68, 16990), (77, 17053), (79, 17062), (82, 17101), (84, 17116), (89, 17152), (90, 17155), (91, 17164), (92, 17188), (96, 17209), (105, 17278), (114, 17335), (115, 17365),

Gene: Gandalph\_17 Start: 16586, Stop: 17416, Start Num: 10

Candidate Starts for Gandalph\_17:

(Start: 4 @16568 has 38 MA's), (Start: 10 @16586 has 195 MA's), (15, 16598), (16, 16622), (Start: 19 @16637 has 1 MA's), (26, 16682), (32, 16712), (35, 16742), (36, 16766), (37, 16772), (46, 16856), (48, 16865), (53, 16913), (58, 16958), (59, 16964), (60, 16967), (65, 16991), (66, 16994), (68, 17009), (77, 17072), (79, 17081), (82, 17120), (84, 17135), (89, 17171), (90, 17174), (91, 17183), (92, 17207), (96, 17228), (105, 17297), (114, 17354), (115, 17384), (119, 17402),

Gene: Geralt\_17 Start: 16569, Stop: 17399, Start Num: 10

Candidate Starts for Geralt\_17:

(Start: 4 @16551 has 38 MA's), (Start: 10 @16569 has 195 MA's), (15, 16581), (16, 16605), (Start: 19 @16620 has 1 MA's), (26, 16665), (32, 16695), (35, 16725), (36, 16749), (46, 16839), (48, 16848), (50, 16860), (53, 16896), (58, 16941), (59, 16947), (60, 16950), (65, 16974), (66, 16977), (68, 16992), (77, 17055), (79, 17064), (84, 17118), (87, 17142), (90, 17157), (91, 17166), (92, 17190), (96, 17211), (102, 17238), (105, 17280), (114, 17337), (115, 17367),

Gene: Gex\_19 Start: 16710, Stop: 17552, Start Num: 10

Candidate Starts for Gex\_19:

(Start: 10 @16710 has 195 MA's), (22, 16797), (24, 16803), (33, 16845), (35, 16872), (40, 16911), (46, 16986), (48, 16995), (58, 17088), (69, 17148), (80, 17244), (84, 17265), (87, 17289), (90, 17304), (100, 17379), (104, 17415), (109, 17466), (115, 17523), (118, 17538),

Gene: GigiOuiOui\_17 Start: 16700, Stop: 17530, Start Num: 10

Candidate Starts for GigiOuiOui\_17:

(Start: 5 @16685 has 27 MA's), (Start: 10 @16700 has 195 MA's), (15, 16712), (16, 16736), (Start: 19 @16751 has 1 MA's), (26, 16796), (32, 16826), (36, 16880), (46, 16970), (48, 16979), (53, 17027), (54, 17045), (58, 17072), (59, 17078), (60, 17081), (65, 17105), (66, 17108), (68, 17123), (79, 17195), (82, 17234), (90, 17288), (91, 17297), (92, 17321), (96, 17342), (102, 17369), (105, 17411), (114, 17468), (115, 17498),

Gene: Girafales\_18 Start: 16400, Stop: 17230, Start Num: 10

Candidate Starts for Girafales\_18:

(Start: 4 @16382 has 38 MA's), (Start: 10 @16400 has 195 MA's), (15, 16412), (16, 16436), (Start: 19 @16451 has 1 MA's), (26, 16496), (32, 16526), (35, 16556), (36, 16580), (46, 16670), (48, 16679), (50, 16691), (53, 16727), (59, 16778), (60, 16781), (65, 16805), (68, 16823), (77, 16886), (79, 16895), (82, 16934), (84, 16949), (90, 16988), (91, 16997), (92, 17021), (96, 17042), (105, 17111), (114, 17168), (115, 17198),

Gene: Girr\_17 Start: 16541, Stop: 17374, Start Num: 10

Candidate Starts for Girr\_17:

(Start: 5 @16526 has 27 MA's), (Start: 10 @16541 has 195 MA's), (15, 16553), (16, 16577), (Start: 19 @16592 has 1 MA's), (26, 16637), (32, 16667), (46, 16814), (49, 16832), (53, 16871), (65, 16949), (66, 16952), (79, 17039), (82, 17078), (90, 17132), (91, 17141), (92, 17165), (96, 17186), (102, 17213), (105, 17255), (114, 17312), (115, 17342),

Gene: Glaske\_20 Start: 18032, Stop: 18925, Start Num: 7

Candidate Starts for Glaske\_20:

(Start: 7 @18032 has 46 MA's), (Start: 19 @18086 has 1 MA's), (21, 18110), (27, 18134), (31, 18155), (36, 18212), (39, 18224), (43, 18266), (50, 18326), (61, 18434), (80, 18602), (81, 18605), (84, 18623), (85, 18626), (90, 18659), (100, 18743), (101, 18746), (105, 18800), (118, 18908), (119, 18911),

Gene: Gonephishing\_33 Start: 27045, Stop: 27896, Start Num: 12

Candidate Starts for Gonephishing\_33:

(Start: 12 @27045 has 11 MA's), (13, 27051), (23, 27126), (32, 27168), (37, 27225), (42, 27270), (43, 27273), (51, 27366), (52, 27369), (63, 27459), (64, 27465), (68, 27483), (69, 27492), (82, 27597), (88, 27639), (92, 27681), (98, 27711), (105, 27771),

Gene: Gorge\_17 Start: 16541, Stop: 17386, Start Num: 5

Candidate Starts for Gorge\_17:

(Start: 5 @16541 has 27 MA's), (Start: 10 @16556 has 195 MA's), (15, 16568), (16, 16592), (Start: 19 @16607 has 1 MA's), (26, 16652), (32, 16682), (36, 16736), (46, 16826), (48, 16835), (53, 16883), (54, 16901), (58, 16928), (59, 16934), (60, 16937), (65, 16961), (66, 16964), (68, 16979), (79, 17051), (82, 17090), (90, 17144), (91, 17153), (92, 17177), (96, 17198), (102, 17225), (105, 17267), (114, 17324), (115, 17354),

Gene: GreaseLightnin\_20 Start: 18150, Stop: 19043, Start Num: 7

Candidate Starts for GreaseLightnin\_20:

(Start: 7 @18150 has 46 MA's), (Start: 19 @18204 has 1 MA's), (21, 18228), (27, 18252), (31, 18273), (36, 18330), (39, 18342), (43, 18384), (50, 18444), (61, 18552), (80, 18720), (81, 18723), (90, 18777), (100, 18861), (101, 18864), (105, 18918), (118, 19026), (119, 19029),

Gene: Guppsters\_18 Start: 16754, Stop: 17587, Start Num: 10

Candidate Starts for Guppsters\_18:

(Start: 4 @16736 has 38 MA's), (Start: 10 @16754 has 195 MA's), (15, 16766), (16, 16790), (Start: 19 @16805 has 1 MA's), (26, 16850), (32, 16880), (46, 17027), (49, 17045), (53, 17084), (58, 17129), (59, 17135), (60, 17138), (65, 17162), (66, 17165), (68, 17180), (77, 17243), (79, 17252), (82, 17291), (84, 17306), (87, 17330), (89, 17342), (90, 17345), (91, 17354), (92, 17378), (96, 17399), (100, 17420), (101, 17423), (105, 17468), (114, 17525), (115, 17555), (119, 17573),

Gene: HC\_20 Start: 18233, Stop: 19084, Start Num: 6

Candidate Starts for HC\_20:

(Start: 6 @18233 has 36 MA's), (20, 18299), (38, 18434), (41, 18470), (47, 18518), (53, 18572), (57, 18614), (67, 18653), (69, 18674), (72, 18692), (76, 18737), (85, 18803), (94, 18890), (97, 18899), (99, 18914), (100, 18917), (101, 18920), (110, 19004), (116, 19061),

Gene: HUHilltop\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for HUHilltop\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Hades\_17 Start: 16561, Stop: 17409, Start Num: 4

Candidate Starts for Hades\_17:

(Start: 4 @16561 has 38 MA's), (Start: 10 @16579 has 195 MA's), (15, 16591), (16, 16615), (Start: 19 @16630 has 1 MA's), (26, 16675), (32, 16705), (35, 16735), (36, 16759), (46, 16849), (48, 16858), (53, 16906), (58, 16951), (59, 16957), (60, 16960), (65, 16984), (68, 17002), (77, 17065), (79, 17074), (82, 17113), (84, 17128), (89, 17164), (90, 17167), (91, 17176), (92, 17200), (96, 17221), (105, 17290), (114, 17347), (115, 17377), (119, 17395),

Gene: Halley\_38 Start: 29377, Stop: 30228, Start Num: 11

Candidate Starts for Halley\_38:

(Start: 11 @29377 has 29 MA's), (13, 29383), (23, 29458), (28, 29473), (37, 29557), (42, 29602), (44, 29611), (52, 29701), (63, 29791), (69, 29824), (70, 29830), (90, 29980), (92, 30013), (93, 30016), (103, 30082), (116, 30205), (118, 30211),

Gene: Hamulus\_17 Start: 16576, Stop: 17406, Start Num: 10

Candidate Starts for Hamulus\_17:

(Start: 4 @16558 has 38 MA's), (Start: 10 @16576 has 195 MA's), (15, 16588), (16, 16612), (Start: 19 @16627 has 1 MA's), (26, 16672), (32, 16702), (35, 16732), (36, 16756), (46, 16846), (48, 16855), (53, 16903), (58, 16948), (59, 16954), (60, 16957), (65, 16981), (66, 16984), (68, 16999), (77, 17062), (79, 17071), (82, 17110), (84, 17125), (89, 17161), (90, 17164), (91, 17173), (92, 17197), (96, 17218), (105, 17287), (114, 17344), (115, 17374),

Gene: Hanako\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Hanako\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Hannaconda\_32 Start: 25530, Stop: 26381, Start Num: 12

Candidate Starts for Hannaconda\_32:

(Start: 12 @25530 has 11 MA's), (13, 25536), (23, 25611), (32, 25653), (37, 25710), (42, 25755), (43, 25758), (51, 25851), (52, 25854), (54, 25875), (63, 25944), (68, 25968), (69, 25977), (82, 26082), (88, 26124), (92, 26166), (98, 26196), (105, 26256),

Gene: Harley\_17 Start: 16566, Stop: 17396, Start Num: 10

Candidate Starts for Harley\_17:

(Start: 5 @16551 has 27 MA's), (Start: 10 @16566 has 195 MA's), (15, 16578), (16, 16602), (Start: 19 @16617 has 1 MA's), (26, 16662), (32, 16692), (35, 16722), (36, 16746), (46, 16836), (48, 16845), (53, 16893), (58, 16938), (59, 16944), (60, 16947), (65, 16971), (66, 16974), (77, 17052), (79, 17061), (82, 17100), (84, 17115), (89, 17151), (90, 17154), (91, 17163), (92, 17187), (96, 17208), (101, 17232), (102, 17235), (105, 17277), (114, 17334), (115, 17364),

Gene: Hegedechwinu\_18 Start: 16424, Stop: 17257, Start Num: 10

Candidate Starts for Hegedechwinu\_18:

(Start: 5 @16409 has 27 MA's), (Start: 10 @16424 has 195 MA's), (15, 16436), (16, 16460), (Start: 19 @16475 has 1 MA's), (26, 16520), (32, 16550), (46, 16697), (49, 16715), (53, 16754), (58, 16799), (59, 16805), (60, 16808), (65, 16832), (66, 16835), (68, 16850), (77, 16913), (79, 16922), (82, 16961), (84, 16976), (89, 17012), (90, 17015), (91, 17024), (92, 17048), (96, 17069), (105, 17138), (114, 17195), (115, 17225),

Gene: Hlubikazi\_17 Start: 16668, Stop: 17498, Start Num: 10

Candidate Starts for Hlubikazi\_17:

(Start: 4 @16650 has 38 MA's), (Start: 10 @16668 has 195 MA's), (15, 16680), (16, 16704), (Start: 19 @16719 has 1 MA's), (26, 16764), (32, 16794), (36, 16848), (46, 16938), (48, 16947), (53, 16995), (54, 17013), (58, 17040), (59, 17046), (60, 17049), (65, 17073), (66, 17076), (79, 17163), (82, 17202), (90, 17256), (91, 17265), (92, 17289), (96, 17310), (102, 17337), (105, 17379), (114, 17436), (115, 17466),

Gene: HokkenD\_33 Start: 28926, Stop: 29777, Start Num: 11

Candidate Starts for HokkenD\_33:

(Start: 11 @28926 has 29 MA's), (13, 28932), (23, 29007), (28, 29022), (37, 29106), (42, 29151), (44, 29160), (52, 29250), (63, 29340), (69, 29373), (70, 29379), (90, 29529), (92, 29562), (93, 29565), (103, 29631), (116, 29754), (118, 29760),

Gene: Hughesyang\_36 Start: 29274, Stop: 30125, Start Num: 11

Candidate Starts for Hughesyang\_36:

(Start: 11 @29274 has 29 MA's), (13, 29280), (23, 29355), (37, 29454), (42, 29499), (43, 29502), (52, 29598), (63, 29688), (68, 29712), (69, 29721), (71, 29736), (85, 29844), (88, 29868), (92, 29910), (107, 30021), (112, 30045), (118, 30108),

Gene: IMpilo\_17 Start: 16603, Stop: 17433, Start Num: 10

Candidate Starts for IMpilo\_17:

(Start: 4 @16585 has 38 MA's), (Start: 10 @16603 has 195 MA's), (15, 16615), (16, 16639), (Start: 19 @16654 has 1 MA's), (26, 16699), (32, 16729), (35, 16759), (36, 16783), (46, 16873), (48, 16882), (53, 16930), (58, 16975), (59, 16981), (60, 16984), (65, 17008), (66, 17011), (68, 17026), (77, 17089), (79, 17098), (82, 17137), (84, 17152), (89, 17188), (90, 17191), (91, 17200), (92, 17224), (96, 17245), (105, 17314), (114, 17371), (115, 17401),

Gene: IbOuu\_17 Start: 16570, Stop: 17400, Start Num: 10

Candidate Starts for IbOuu\_17:

(Start: 5 @16555 has 27 MA's), (Start: 10 @16570 has 195 MA's), (15, 16582), (16, 16606), (Start: 19 @16621 has 1 MA's), (26, 16666), (32, 16696), (35, 16726), (36, 16750), (46, 16840), (48, 16849), (53, 16897), (54, 16915), (58, 16942), (59, 16948), (60, 16951), (65, 16975), (66, 16978), (77, 17056), (79, 17065), (82, 17104), (84, 17119), (89, 17155), (90, 17158), (91, 17167), (92, 17191), (96, 17212), (101, 17236), (102, 17239), (105, 17281), (114, 17338), (115, 17368),

Gene: Ibhubesi\_17 Start: 16551, Stop: 17396, Start Num: 5

Candidate Starts for Ibhubesi\_17:

(Start: 5 @16551 has 27 MA's), (Start: 10 @16566 has 195 MA's), (15, 16578), (16, 16602), (Start: 19 @16617 has 1 MA's), (26, 16662), (32, 16692), (35, 16722), (36, 16746), (46, 16836), (48, 16845), (53, 16893), (58, 16938), (59, 16944), (60, 16947), (65, 16971), (66, 16974), (77, 17052), (79, 17061), (82, 17100), (84, 17115), (89, 17151), (90, 17154), (91, 17163), (92, 17187), (96, 17208), (101, 17232), (102, 17235), (105, 17277), (114, 17334), (115, 17364),

Gene: Idergollasper\_57 Start: 35251, Stop: 36099, Start Num: 6

Candidate Starts for Idergollasper\_57:



(Start: 6 @35251 has 36 MA's), (Start: 7 @35257 has 46 MA's), (14, 35272), (18, 35311), (23, 35356), (34, 35410), (45, 35524), (67, 35668), (69, 35689), (79, 35752), (87, 35830), (105, 35980), (116, 36076),

Gene: Inventum\_17 Start: 16705, Stop: 17535, Start Num: 10

Candidate Starts for Inventum\_17:

(Start: 5 @16690 has 27 MA's), (Start: 10 @16705 has 195 MA's), (15, 16717), (16, 16741), (Start: 19 @16756 has 1 MA's), (26, 16801), (32, 16831), (35, 16861), (36, 16885), (46, 16975), (48, 16984), (50, 16996), (53, 17032), (59, 17083), (60, 17086), (65, 17110), (68, 17128), (77, 17191), (79, 17200), (84, 17254), (87, 17278), (90, 17293), (91, 17302), (92, 17326), (96, 17347), (102, 17374), (105, 17416), (114, 17473), (115, 17503),

Gene: IrishSherpFalk\_18 Start: 17930, Stop: 18760, Start Num: 10

Candidate Starts for IrishSherpFalk\_18:

(Start: 5 @17915 has 27 MA's), (Start: 10 @17930 has 195 MA's), (15, 17942), (16, 17966), (Start: 19 @17981 has 1 MA's), (26, 18026), (32, 18056), (36, 18110), (46, 18200), (48, 18209), (53, 18257), (54, 18275), (58, 18302), (59, 18308), (60, 18311), (65, 18335), (66, 18338), (68, 18353), (79, 18425), (82, 18464), (90, 18518), (91, 18527), (92, 18551), (96, 18572), (102, 18599), (105, 18641), (114, 18698), (115, 18728),

Gene: Island3\_20 Start: 18241, Stop: 19092, Start Num: 6

Candidate Starts for Island3\_20:

(Start: 6 @18241 has 36 MA's), (20, 18307), (38, 18442), (41, 18478), (47, 18526), (53, 18580), (57, 18622), (67, 18661), (69, 18682), (72, 18700), (76, 18745), (85, 18811), (94, 18898), (97, 18907), (99, 18922), (100, 18925), (101, 18928), (110, 19012), (116, 19069),

Gene: JalFarm20\_19 Start: 16940, Stop: 17770, Start Num: 10

Candidate Starts for JalFarm20\_19:

(Start: 4 @16922 has 38 MA's), (Start: 10 @16940 has 195 MA's), (15, 16952), (16, 16976), (Start: 19 @16991 has 1 MA's), (26, 17036), (32, 17066), (35, 17096), (36, 17120), (46, 17210), (48, 17219), (53, 17267), (58, 17312), (59, 17318), (60, 17321), (65, 17345), (66, 17348), (68, 17363), (77, 17426), (79, 17435), (82, 17474), (84, 17489), (89, 17525), (90, 17528), (91, 17537), (92, 17561), (96, 17582), (105, 17651), (114, 17708), (115, 17738),

Gene: James\_17 Start: 16555, Stop: 17400, Start Num: 5

Candidate Starts for James\_17:

(Start: 5 @16555 has 27 MA's), (Start: 10 @16570 has 195 MA's), (15, 16582), (16, 16606), (Start: 19 @16621 has 1 MA's), (26, 16666), (32, 16696), (36, 16750), (46, 16840), (48, 16849), (53, 16897), (54, 16915), (58, 16942), (59, 16948), (60, 16951), (65, 16975), (66, 16978), (68, 16993), (79, 17065), (82, 17104), (90, 17158), (91, 17167), (92, 17191), (96, 17212), (102, 17239), (105, 17281), (114, 17338), (115, 17368),

Gene: Jamie19\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Jamie19\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: JangDynasty\_57 Start: 35337, Stop: 36185, Start Num: 6

Candidate Starts for JangDynasty\_57:

(Start: 6 @35337 has 36 MA's), (Start: 7 @35343 has 46 MA's), (14, 35358), (18, 35397), (23, 35442), (34, 35496), (45, 35610), (67, 35754), (69, 35775), (79, 35838), (87, 35916), (105, 36066), (116, 36162),

Gene: Jarcob\_17 Start: 16578, Stop: 17408, Start Num: 10

Candidate Starts for Jarcob\_17:

(Start: 5 @16563 has 27 MA's), (Start: 10 @16578 has 195 MA's), (15, 16590), (16, 16614), (Start: 19 @16629 has 1 MA's), (26, 16674), (32, 16704), (36, 16758), (46, 16848), (48, 16857), (53, 16905), (54, 16923), (58, 16950), (59, 16956), (60, 16959), (65, 16983), (66, 16986), (68, 17001), (79, 17073), (82, 17112), (89, 17163), (90, 17166), (91, 17175), (92, 17199), (96, 17220), (105, 17289), (114, 17346), (115, 17376),

Gene: Jebeks\_20 Start: 18129, Stop: 19022, Start Num: 7

Candidate Starts for Jebeks\_20:

(Start: 7 @18129 has 46 MA's), (Start: 19 @18183 has 1 MA's), (21, 18207), (27, 18231), (31, 18252), (36, 18309), (39, 18321), (43, 18363), (50, 18423), (61, 18531), (80, 18699), (81, 18702), (90, 18756), (100, 18840), (101, 18843), (105, 18897), (118, 19005), (119, 19008),

Gene: Jinglebell\_16 Start: 16807, Stop: 17637, Start Num: 10

Candidate Starts for Jinglebell\_16:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: Job42\_20 Start: 18234, Stop: 19085, Start Num: 4

Candidate Starts for Job42\_20:

(Start: 4 @18234 has 38 MA's), (Start: 10 @18252 has 195 MA's), (15, 18264), (16, 18288), (Start: 19 @18303 has 1 MA's), (26, 18348), (32, 18378), (46, 18525), (49, 18543), (53, 18582), (58, 18627), (59, 18633), (60, 18636), (65, 18660), (68, 18678), (77, 18741), (79, 18750), (82, 18789), (84, 18804), (89, 18840), (90, 18843), (91, 18852), (92, 18876), (96, 18897), (100, 18918), (101, 18921), (105, 18966), (114, 19023), (115, 19053), (119, 19071),

Gene: JoeyJr\_17 Start: 16726, Stop: 17571, Start Num: 5

Candidate Starts for JoeyJr\_17:

(Start: 5 @16726 has 27 MA's), (Start: 10 @16741 has 195 MA's), (15, 16753), (16, 16777), (Start: 19 @16792 has 1 MA's), (26, 16837), (32, 16867), (35, 16897), (36, 16921), (46, 17011), (48, 17020), (53, 17068), (54, 17086), (58, 17113), (59, 17119), (60, 17122), (65, 17146), (66, 17149), (77, 17227), (79, 17236), (82, 17275), (84, 17290), (89, 17326), (90, 17329), (91, 17338), (92, 17362), (96, 17383), (101, 17407), (102, 17410), (105, 17452), (114, 17509), (115, 17539),

Gene: Journey\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Journey\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Juice456\_19 Start: 17692, Stop: 18522, Start Num: 10

Candidate Starts for Juice456\_19:

(Start: 4 @17674 has 38 MA's), (Start: 10 @17692 has 195 MA's), (15, 17704), (16, 17728), (Start: 19 @17743 has 1 MA's), (26, 17788), (32, 17818), (35, 17848), (36, 17872), (46, 17962), (48, 17971), (53, 18019), (58, 18064), (59, 18070), (60, 18073), (65, 18097), (66, 18100), (68, 18115), (77, 18178), (79, 18187), (82, 18226), (84, 18241), (89, 18277), (90, 18280), (91, 18289), (92, 18313), (96, 18334), (105, 18403), (114, 18460), (115, 18490),

Gene: JuicyJay\_40 Start: 31127, Stop: 31978, Start Num: 11

Candidate Starts for JuicyJay\_40:

(Start: 11 @31127 has 29 MA's), (13, 31133), (23, 31208), (28, 31223), (37, 31307), (42, 31352), (44, 31361), (52, 31451), (63, 31541), (69, 31574), (70, 31580), (90, 31730), (92, 31763), (93, 31766), (103, 31832), (116, 31955), (118, 31961),

Gene: Jung\_20 Start: 18070, Stop: 18963, Start Num: 7

Candidate Starts for Jung\_20:

(Start: 7 @18070 has 46 MA's), (Start: 19 @18124 has 1 MA's), (21, 18148), (27, 18172), (31, 18193), (36, 18250), (39, 18262), (43, 18304), (50, 18364), (61, 18472), (80, 18640), (81, 18643), (90, 18697), (100, 18781), (101, 18784), (105, 18838), (118, 18946), (119, 18949),

Gene: Juniormint\_20 Start: 18170, Stop: 19063, Start Num: 7

Candidate Starts for Juniormint\_20:

(Start: 7 @18170 has 46 MA's), (Start: 19 @18224 has 1 MA's), (21, 18248), (27, 18272), (31, 18293), (36, 18350), (39, 18362), (43, 18404), (50, 18464), (61, 18572), (80, 18740), (81, 18743), (90, 18797), (100, 18881), (101, 18884), (105, 18938), (118, 19046), (119, 19049),

Gene: Juniper1\_17 Start: 16567, Stop: 17397, Start Num: 10

Candidate Starts for Juniper1\_17:

(Start: 5 @16552 has 27 MA's), (Start: 10 @16567 has 195 MA's), (15, 16579), (16, 16603), (Start: 19 @16618 has 1 MA's), (26, 16663), (32, 16693), (36, 16747), (37, 16753), (46, 16837), (48, 16846), (53, 16894), (58, 16939), (59, 16945), (60, 16948), (65, 16972), (66, 16975), (68, 16990), (77, 17053), (79, 17062), (82, 17101), (84, 17116), (89, 17152), (90, 17155), (91, 17164), (92, 17188), (96, 17209), (102, 17236), (105, 17278), (114, 17335), (115, 17365),

Gene: Kalah2\_38 Start: 29714, Stop: 30565, Start Num: 11

Candidate Starts for Kalah2\_38:

(Start: 11 @29714 has 29 MA's), (13, 29720), (23, 29795), (28, 29810), (37, 29894), (42, 29939), (44, 29948), (52, 30038), (63, 30128), (69, 30161), (70, 30167), (90, 30317), (92, 30350), (93, 30353), (103, 30419), (116, 30542), (118, 30548),

Gene: Karhdo\_17 Start: 16701, Stop: 17531, Start Num: 10

Candidate Starts for Karhdo\_17:

(Start: 5 @16686 has 27 MA's), (Start: 10 @16701 has 195 MA's), (15, 16713), (16, 16737), (Start: 19 @16752 has 1 MA's), (26, 16797), (32, 16827), (35, 16857), (36, 16881), (37, 16887), (46, 16971), (48, 16980), (53, 17028), (58, 17073), (59, 17079), (60, 17082), (65, 17106), (68, 17124), (77, 17187), (79, 17196), (82, 17235), (84, 17250), (89, 17286), (90, 17289), (91, 17298), (92, 17322), (96, 17343), (105, 17412), (114, 17469), (115, 17499),

Gene: Kari\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Kari\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: KashFlow\_29 Start: 25160, Stop: 26011, Start Num: 12

Candidate Starts for KashFlow\_29:

(Start: 12 @25160 has 11 MA's), (13, 25166), (23, 25241), (32, 25283), (37, 25340), (42, 25385), (43, 25388), (51, 25481), (52, 25484), (54, 25505), (63, 25574), (68, 25598), (69, 25607), (82, 25712), (88, 25754), (92, 25796), (98, 25826), (105, 25886),

Gene: Kenuha5\_17 Start: 16693, Stop: 17526, Start Num: 10

Candidate Starts for Kenuha5\_17:

(Start: 4 @16675 has 38 MA's), (Start: 10 @16693 has 195 MA's), (15, 16705), (16, 16729), (Start: 19 @16744 has 1 MA's), (26, 16789), (32, 16819), (46, 16966), (49, 16984), (53, 17023), (58, 17068), (59, 17074), (60, 17077), (65, 17101), (66, 17104), (68, 17119), (77, 17182), (79, 17191), (82, 17230), (84, 17245), (87, 17269), (90, 17284), (91, 17293), (92, 17317), (96, 17338), (105, 17407), (114, 17464), (115, 17494),

Gene: Kersh\_18 Start: 16726, Stop: 17571, Start Num: 5

Candidate Starts for Kersh\_18:

(Start: 5 @16726 has 27 MA's), (Start: 10 @16741 has 195 MA's), (15, 16753), (16, 16777), (Start: 19 @16792 has 1 MA's), (26, 16837), (36, 16921), (37, 16927), (46, 17011), (48, 17020), (53, 17068), (58, 17113), (59, 17119), (60, 17122), (65, 17146), (66, 17149), (68, 17164), (77, 17227), (79, 17236), (82, 17275), (84, 17290), (89, 17326), (90, 17329), (91, 17338), (92, 17362), (96, 17383), (101, 17407), (102, 17410), (105, 17452), (114, 17509), (115, 17539), (119, 17557),

Gene: Kevin1\_19 Start: 16682, Stop: 17524, Start Num: 10

Candidate Starts for Kevin1\_19:

(Start: 10 @16682 has 195 MA's), (22, 16769), (25, 16781), (32, 16814), (36, 16868), (48, 16967), (58, 17060), (60, 17069), (69, 17120), (77, 17174), (80, 17216), (84, 17237), (85, 17240), (87, 17261), (100, 17351), (104, 17387), (109, 17438), (115, 17495), (116, 17504), (118, 17510),

Gene: KilKor\_20 Start: 18032, Stop: 18925, Start Num: 7

Candidate Starts for KilKor\_20:

(Start: 7 @18032 has 46 MA's), (Start: 19 @18086 has 1 MA's), (21, 18110), (27, 18134), (31, 18155), (36, 18212), (39, 18224), (43, 18266), (50, 18326), (61, 18434), (80, 18602), (81, 18605), (84, 18623), (85, 18626), (90, 18659), (100, 18743), (101, 18746), (105, 18800), (118, 18908), (119, 18911),

Gene: Kimberlium\_19 Start: 17674, Stop: 18522, Start Num: 4

Candidate Starts for Kimberlium\_19:

(Start: 4 @17674 has 38 MA's), (Start: 10 @17692 has 195 MA's), (15, 17704), (16, 17728), (Start: 19 @17743 has 1 MA's), (26, 17788), (32, 17818), (35, 17848), (36, 17872), (46, 17962), (48, 17971), (53, 18019), (58, 18064), (59, 18070), (60, 18073), (65, 18097), (66, 18100), (68, 18115), (77, 18178), (79, 18187), (82, 18226), (84, 18241), (89, 18277), (90, 18280), (91, 18289), (92, 18313), (96, 18334), (105, 18403), (114, 18460), (115, 18490),

Gene: KingMidas\_18 Start: 17874, Stop: 18704, Start Num: 10

Candidate Starts for KingMidas\_18:

(Start: 5 @17859 has 27 MA's), (Start: 10 @17874 has 195 MA's), (15, 17886), (16, 17910), (Start: 19 @17925 has 1 MA's), (26, 17970), (32, 18000), (35, 18030), (36, 18054), (46, 18144), (48, 18153), (53, 18201), (58, 18246), (59, 18252), (60, 18255), (65, 18279), (66, 18282), (68, 18297), (77, 18360), (79, 18369), (82, 18408), (84, 18423), (89, 18459), (90, 18462), (91, 18471), (92, 18495), (96, 18516), (101, 18540), (102, 18543), (105, 18585), (114, 18642), (115, 18672),

Gene: Kingsley\_18 Start: 16426, Stop: 17256, Start Num: 10

Candidate Starts for Kingsley\_18:

(Start: 4 @16408 has 38 MA's), (Start: 10 @16426 has 195 MA's), (15, 16438), (16, 16462), (Start: 19 @16477 has 1 MA's), (26, 16522), (32, 16552), (35, 16582), (36, 16606), (46, 16696), (48, 16705), (53, 16753), (58, 16798), (59, 16804), (60, 16807), (65, 16831), (68, 16849), (77, 16912), (79, 16921), (82, 16960), (84, 16975), (89, 17011), (90, 17014), (91, 17023), (92, 17047), (96, 17068), (105, 17137), (114, 17194), (115, 17224),

Gene: Klein\_38 Start: 28938, Stop: 29789, Start Num: 11

Candidate Starts for Klein\_38:

(Start: 11 @28938 has 29 MA's), (13, 28944), (23, 29019), (28, 29034), (37, 29118), (42, 29163), (44, 29172), (52, 29262), (63, 29352), (69, 29385), (70, 29391), (90, 29541), (92, 29574), (93, 29577), (103, 29643), (116, 29766), (118, 29772),

Gene: Koella\_17 Start: 16520, Stop: 17368, Start Num: 4

Candidate Starts for Koella\_17:

(Start: 4 @16520 has 38 MA's), (Start: 10 @16538 has 195 MA's), (15, 16550), (16, 16574), (Start: 19 @16589 has 1 MA's), (26, 16634), (32, 16664), (35, 16694), (36, 16718), (46, 16808), (48, 16817), (53, 16865), (58, 16910), (59, 16916), (60, 16919), (65, 16943), (66, 16946), (68, 16961), (77, 17024), (79, 17033), (82, 17072), (84, 17087), (89, 17123), (90, 17126), (91, 17135), (92, 17159), (96, 17180), (105, 17249), (114, 17306), (115, 17336),

Gene: Krakatau\_18 Start: 17268, Stop: 18098, Start Num: 10

Candidate Starts for Krakatau\_18:

(Start: 4 @17250 has 38 MA's), (Start: 10 @17268 has 195 MA's), (15, 17280), (16, 17304), (Start: 19 @17319 has 1 MA's), (26, 17364), (32, 17394), (35, 17424), (36, 17448), (46, 17538), (48, 17547), (50, 17559), (53, 17595), (58, 17640), (59, 17646), (60, 17649), (65, 17673), (68, 17691), (77, 17754), (79, 17763), (82, 17802), (84, 17817), (89, 17853), (90, 17856), (91, 17865), (92, 17889), (96, 17910), (105, 17979), (114, 18036), (115, 18066),

Gene: Krili\_56 Start: 34761, Stop: 35609, Start Num: 6

Candidate Starts for Krili\_56:

(Start: 6 @34761 has 36 MA's), (Start: 7 @34767 has 46 MA's), (14, 34782), (18, 34821), (23, 34866), (34, 34920), (45, 35034), (67, 35178), (69, 35199), (79, 35262), (87, 35340), (105, 35490), (116, 35586),

Gene: KristaRAM\_18 Start: 17243, Stop: 18073, Start Num: 10

Candidate Starts for KristaRAM\_18:

(Start: 4 @17225 has 38 MA's), (Start: 10 @17243 has 195 MA's), (15, 17255), (16, 17279), (Start: 19 @17294 has 1 MA's), (26, 17339), (32, 17369), (35, 17399), (36, 17423), (46, 17513), (48, 17522), (53, 17570), (58, 17615), (59, 17621), (60, 17624), (65, 17648), (66, 17651), (68, 17666), (77, 17729), (79, 17738), (82, 17777), (84, 17792), (89, 17828), (90, 17831), (91, 17840), (92, 17864), (96, 17885), (105, 17954), (114, 18011), (115, 18041),

Gene: Ksquared\_20 Start: 18166, Stop: 19059, Start Num: 7

Candidate Starts for Ksquared\_20:

(Start: 7 @18166 has 46 MA's), (Start: 19 @18220 has 1 MA's), (21, 18244), (27, 18268), (31, 18289), (36, 18346), (39, 18358), (43, 18400), (50, 18460), (61, 18568), (80, 18736), (81, 18739), (90, 18793), (100, 18877), (101, 18880), (105, 18934), (118, 19042), (119, 19045),

Gene: Langerak\_20 Start: 18128, Stop: 19021, Start Num: 7

Candidate Starts for Langerak\_20:

(Start: 7 @18128 has 46 MA's), (Start: 19 @18182 has 1 MA's), (21, 18206), (27, 18230), (31, 18251), (36, 18308), (39, 18320), (43, 18362), (50, 18422), (61, 18530), (80, 18698), (81, 18701), (90, 18755), (100, 18839), (101, 18842), (105, 18896), (118, 19004), (119, 19007),

Gene: LastJedi\_17 Start: 16569, Stop: 17399, Start Num: 10

Candidate Starts for LastJedi\_17:

(Start: 4 @16551 has 38 MA's), (Start: 10 @16569 has 195 MA's), (15, 16581), (16, 16605), (Start: 19 @16620 has 1 MA's), (26, 16665), (32, 16695), (35, 16725), (36, 16749), (46, 16839), (48, 16848), (53, 16896), (58, 16941), (59, 16947), (60, 16950), (65, 16974), (66, 16977), (68, 16992), (77, 17055), (79, 17064), (82, 17103), (84, 17118), (89, 17154), (90, 17157), (91, 17166), (92, 17190), (96, 17211), (105, 17280), (114, 17337), (115, 17367),

Gene: Latretium\_18 Start: 17250, Stop: 18080, Start Num: 10

Candidate Starts for Latretium\_18:

(Start: 4 @17232 has 38 MA's), (Start: 10 @17250 has 195 MA's), (15, 17262), (16, 17286), (Start: 19 @17301 has 1 MA's), (26, 17346), (32, 17376), (35, 17406), (36, 17430), (46, 17520), (48, 17529), (50, 17541), (53, 17577), (58, 17622), (59, 17628), (60, 17631), (65, 17655), (68, 17673), (77, 17736), (79, 17745), (82, 17784), (84, 17799), (89, 17835), (90, 17838), (91, 17847), (92, 17871), (96, 17892), (105, 17961), (114, 18018), (115, 18048),

Gene: Leozinho\_18 Start: 16416, Stop: 17246, Start Num: 10

Candidate Starts for Leozinho\_18:

(Start: 4 @16398 has 38 MA's), (Start: 10 @16416 has 195 MA's), (15, 16428), (16, 16452), (Start: 19 @16467 has 1 MA's), (26, 16512), (32, 16542), (35, 16572), (36, 16596), (46, 16686), (48, 16695), (53, 16743), (58, 16788), (59, 16794), (60, 16797), (65, 16821), (66, 16824), (68, 16839), (77, 16902), (79, 16911), (82, 16950), (84, 16965), (89, 17001), (90, 17004), (91, 17013), (92, 17037), (96, 17058), (105, 17127), (114, 17184), (115, 17214),

Gene: Leperchaun\_17 Start: 16560, Stop: 17390, Start Num: 10

Candidate Starts for Leperchaun\_17:

(Start: 4 @16542 has 38 MA's), (Start: 10 @16560 has 195 MA's), (15, 16572), (16, 16596), (Start: 19 @16611 has 1 MA's), (26, 16656), (32, 16686), (36, 16740), (46, 16830), (48, 16839), (53, 16887), (54, 16905), (58, 16932), (59, 16938), (60, 16941), (65, 16965), (66, 16968), (68, 16983), (79, 17055), (82, 17094), (90, 17148), (91, 17157), (92, 17181), (96, 17202), (102, 17229), (105, 17271), (114, 17328), (115, 17358),

Gene: LilMoolah\_17 Start: 16704, Stop: 17534, Start Num: 10

Candidate Starts for LilMoolah\_17:

(Start: 5 @16689 has 27 MA's), (Start: 10 @16704 has 195 MA's), (15, 16716), (16, 16740), (Start: 19 @16755 has 1 MA's), (26, 16800), (32, 16830), (36, 16884), (46, 16974), (48, 16983), (53, 17031), (54, 17049), (58, 17076), (59, 17082), (60, 17085), (65, 17109), (66, 17112), (68, 17127), (79, 17199), (82, 17238), (90, 17292), (91, 17301), (92, 17325), (96, 17346), (102, 17373), (105, 17415), (114, 17472), (115, 17502),

Gene: LittleE\_38 Start: 30124, Stop: 30975, Start Num: 12

Candidate Starts for LittleE\_38:

(Start: 12 @30124 has 11 MA's), (13, 30130), (23, 30205), (32, 30247), (37, 30304), (42, 30349), (43, 30352), (51, 30445), (52, 30448), (63, 30538), (64, 30544), (68, 30562), (69, 30571), (82, 30676), (88, 30718), (92, 30760), (98, 30790), (105, 30850),

Gene: LittleShirley\_18 Start: 16391, Stop: 17221, Start Num: 10

Candidate Starts for LittleShirley\_18:

(Start: 5 @16376 has 27 MA's), (Start: 10 @16391 has 195 MA's), (15, 16403), (16, 16427), (Start: 19 @16442 has 1 MA's), (26, 16487), (32, 16517), (35, 16547), (36, 16571), (46, 16661), (48, 16670), (53, 16718), (54, 16736), (58, 16763), (59, 16769), (60, 16772), (65, 16796), (66, 16799), (68, 16814), (79, 16886), (82, 16925), (90, 16979), (91, 16988), (92, 17012), (96, 17033), (102, 17060), (105, 17102), (114, 17159), (115, 17189),

Gene: Lizziana\_17 Start: 16579, Stop: 17409, Start Num: 10

Candidate Starts for Lizziana\_17:

(Start: 5 @16564 has 27 MA's), (Start: 10 @16579 has 195 MA's), (15, 16591), (16, 16615), (Start: 19 @16630 has 1 MA's), (26, 16675), (32, 16705), (36, 16759), (46, 16849), (48, 16858), (53, 16906), (54, 16924), (58, 16951), (59, 16957), (60, 16960), (65, 16984), (66, 16987), (68, 17002), (79, 17074), (82, 17113), (89, 17164), (90, 17167), (91, 17176), (92, 17200), (96, 17221), (105, 17290), (114,

17347), (115, 17377),

Gene: Llama\_17 Start: 16792, Stop: 17637, Start Num: 5

Candidate Starts for Llama\_17:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: Llij\_17 Start: 16541, Stop: 17386, Start Num: 5

Candidate Starts for Llij\_17:

(Start: 5 @16541 has 27 MA's), (Start: 10 @16556 has 195 MA's), (15, 16568), (16, 16592), (Start: 19 @16607 has 1 MA's), (26, 16652), (32, 16682), (36, 16736), (46, 16826), (48, 16835), (53, 16883), (54, 16901), (58, 16928), (59, 16934), (60, 16937), (65, 16961), (66, 16964), (68, 16979), (77, 17042), (79, 17051), (82, 17090), (84, 17105), (87, 17129), (89, 17141), (90, 17144), (91, 17153), (92, 17177), (96, 17198), (100, 17219), (101, 17222), (105, 17267), (114, 17324), (115, 17354), (119, 17372),

Gene: Lorde\_18 Start: 16392, Stop: 17222, Start Num: 10

Candidate Starts for Lorde\_18:

(Start: 4 @16374 has 38 MA's), (Start: 10 @16392 has 195 MA's), (15, 16404), (16, 16428), (Start: 19 @16443 has 1 MA's), (26, 16488), (32, 16518), (35, 16548), (36, 16572), (46, 16662), (48, 16671), (53, 16719), (58, 16764), (59, 16770), (60, 16773), (65, 16797), (68, 16815), (77, 16878), (79, 16887), (82, 16926), (84, 16941), (89, 16977), (90, 16980), (91, 16989), (92, 17013), (96, 17034), (105, 17103), (114, 17160), (115, 17190),

Gene: Lucky2013\_35 Start: 27021, Stop: 27872, Start Num: 12

Candidate Starts for Lucky2013\_35:

(Start: 12 @27021 has 11 MA's), (13, 27027), (23, 27102), (37, 27201), (42, 27246), (43, 27249), (51, 27342), (52, 27345), (63, 27435), (64, 27441), (68, 27459), (69, 27468), (82, 27573), (88, 27615), (92, 27657), (98, 27687), (105, 27747),

Gene: LunaBlu\_18 Start: 16650, Stop: 17480, Start Num: 10

Candidate Starts for LunaBlu\_18:

(Start: 5 @16635 has 27 MA's), (Start: 10 @16650 has 195 MA's), (15, 16662), (16, 16686), (Start: 19 @16701 has 1 MA's), (26, 16746), (32, 16776), (35, 16806), (36, 16830), (37, 16836), (46, 16920), (48, 16929), (53, 16977), (58, 17022), (59, 17028), (60, 17031), (65, 17055), (66, 17058), (68, 17073), (77, 17136), (79, 17145), (82, 17184), (84, 17199), (90, 17238), (91, 17247), (92, 17271), (96, 17292), (100, 17313), (101, 17316), (105, 17361), (114, 17418), (115, 17448), (119, 17466),

Gene: LunaStella\_19 Start: 17110, Stop: 17940, Start Num: 10

Candidate Starts for LunaStella\_19:

(Start: 10 @17110 has 195 MA's), (29, 17224), (46, 17383), (49, 17401), (53, 17440), (54, 17458), (69, 17545), (78, 17605), (79, 17608), (83, 17650), (87, 17686),

Gene: MadKillah\_58 Start: 35030, Stop: 35878, Start Num: 6

Candidate Starts for MadKillah\_58:

(Start: 6 @35030 has 36 MA's), (Start: 7 @35036 has 46 MA's), (14, 35051), (18, 35090), (23, 35135), (34, 35189), (45, 35303), (67, 35447), (69, 35468), (79, 35531), (87, 35609), (105, 35759), (116, 35855),

Gene: MadMen\_18 Start: 16810, Stop: 17640, Start Num: 10

Candidate Starts for MadMen\_18:

(Start: 5 @16795 has 27 MA's), (Start: 10 @16810 has 195 MA's), (15, 16822), (16, 16846), (Start: 19 @16861 has 1 MA's), (26, 16906), (32, 16936), (35, 16966), (36, 16990), (37, 16996), (46, 17080), (48, 17089), (53, 17137), (58, 17182), (59, 17188), (60, 17191), (65, 17215), (66, 17218), (68, 17233), (77, 17296), (79, 17305), (82, 17344), (84, 17359), (89, 17395), (90, 17398), (91, 17407), (92, 17431), (96, 17452), (101, 17476), (102, 17479), (105, 17521), (114, 17578), (115, 17608), (119, 17626),

Gene: Madiba\_18 Start: 16446, Stop: 17276, Start Num: 10

Candidate Starts for Madiba\_18:

(Start: 5 @16431 has 27 MA's), (Start: 10 @16446 has 195 MA's), (15, 16458), (16, 16482), (Start: 19 @16497 has 1 MA's), (26, 16542), (32, 16572), (36, 16626), (37, 16632), (46, 16716), (48, 16725), (53, 16773), (58, 16818), (59, 16824), (60, 16827), (65, 16851), (66, 16854), (79, 16941), (82, 16980), (84, 16995), (90, 17034), (91, 17043), (92, 17067), (96, 17088), (102, 17115), (105, 17157), (114, 17214), (115, 17244),

Gene: Magsby\_19 Start: 16711, Stop: 17553, Start Num: 10

Candidate Starts for Magsby\_19:

(Start: 10 @16711 has 195 MA's), (22, 16798), (33, 16846), (35, 16873), (40, 16912), (46, 16987), (48, 16996), (58, 17089), (69, 17149), (80, 17245), (84, 17266), (87, 17290), (90, 17305), (100, 17380), (104, 17416), (109, 17467), (115, 17524), (118, 17539),

Gene: Mahavrat\_17 Start: 16567, Stop: 17397, Start Num: 10

Candidate Starts for Mahavrat\_17:

(Start: 5 @16552 has 27 MA's), (Start: 10 @16567 has 195 MA's), (15, 16579), (16, 16603), (Start: 19 @16618 has 1 MA's), (26, 16663), (32, 16693), (36, 16747), (46, 16837), (48, 16846), (53, 16894), (54, 16912), (58, 16939), (59, 16945), (60, 16948), (65, 16972), (66, 16975), (68, 16990), (79, 17062), (82, 17101), (84, 17116), (90, 17155), (91, 17164), (92, 17188), (96, 17209), (102, 17236), (105, 17278), (114, 17335), (115, 17365),

Gene: Majeke\_20 Start: 18150, Stop: 19043, Start Num: 7

Candidate Starts for Majeke\_20:

(Start: 7 @18150 has 46 MA's), (Start: 19 @18204 has 1 MA's), (21, 18228), (27, 18252), (36, 18330), (43, 18384), (50, 18444), (61, 18552), (80, 18720), (81, 18723), (90, 18777), (100, 18861), (101, 18864), (105, 18918), (118, 19026), (119, 19029),

Gene: Malithi\_20 Start: 18069, Stop: 18962, Start Num: 7

Candidate Starts for Malithi\_20:

(Start: 7 @18069 has 46 MA's), (Start: 19 @18123 has 1 MA's), (21, 18147), (27, 18171), (31, 18192), (36, 18249), (39, 18261), (43, 18303), (50, 18363), (61, 18471), (80, 18639), (81, 18642), (84, 18660), (85, 18663), (90, 18696), (100, 18780), (101, 18783), (105, 18837), (118, 18945), (119, 18948),

Gene: Mandlovu\_17 Start: 16668, Stop: 17498, Start Num: 10

Candidate Starts for Mandlovu\_17:

(Start: 4 @16650 has 38 MA's), (Start: 10 @16668 has 195 MA's), (15, 16680), (16, 16704), (Start: 19 @16719 has 1 MA's), (26, 16764), (32, 16794), (36, 16848), (46, 16938), (48, 16947), (53, 16995), (54, 17013), (58, 17040), (59, 17046), (60, 17049), (65, 17073), (66, 17076), (79, 17163), (82, 17202), (90, 17256), (91, 17265), (92, 17289), (96, 17310), (102, 17337), (105, 17379), (114, 17436), (115, 17466),

Gene: Mangethe\_20 Start: 18150, Stop: 19043, Start Num: 7

Candidate Starts for Mangethe\_20:

(Start: 7 @18150 has 46 MA's), (Start: 19 @18204 has 1 MA's), (21, 18228), (27, 18252), (36, 18330), (43, 18384), (50, 18444), (61, 18552), (80, 18720), (81, 18723), (90, 18777), (100, 18861), (101, 18864), (105, 18918), (118, 19026), (119, 19029),



Gene: Mantra\_17 Start: 16669, Stop: 17499, Start Num: 10

Candidate Starts for Mantra\_17:

(Start: 5 @16654 has 27 MA's), (Start: 10 @16669 has 195 MA's), (15, 16681), (16, 16705), (Start: 19 @16720 has 1 MA's), (26, 16765), (32, 16795), (35, 16825), (36, 16849), (46, 16939), (48, 16948), (53, 16996), (54, 17014), (58, 17041), (59, 17047), (60, 17050), (65, 17074), (66, 17077), (68, 17092), (79, 17164), (82, 17203), (90, 17257), (91, 17266), (92, 17290), (96, 17311), (102, 17338), (105, 17380), (114, 17437), (115, 17467),

Gene: Maravista\_17 Start: 16516, Stop: 17346, Start Num: 10

Candidate Starts for Maravista\_17:

(Start: 4 @16498 has 38 MA's), (Start: 10 @16516 has 195 MA's), (15, 16528), (16, 16552), (Start: 19 @16567 has 1 MA's), (26, 16612), (32, 16642), (35, 16672), (36, 16696), (46, 16786), (48, 16795), (53, 16843), (58, 16888), (59, 16894), (60, 16897), (65, 16921), (66, 16924), (68, 16939), (77, 17002), (79, 17011), (82, 17050), (84, 17065), (89, 17101), (90, 17104), (91, 17113), (92, 17137), (96, 17158), (105, 17227), (114, 17284), (115, 17314),

Gene: Marker\_18 Start: 16419, Stop: 17249, Start Num: 10

Candidate Starts for Marker\_18:

(Start: 4 @16401 has 38 MA's), (Start: 10 @16419 has 195 MA's), (15, 16431), (16, 16455), (Start: 19 @16470 has 1 MA's), (26, 16515), (32, 16545), (35, 16575), (36, 16599), (46, 16689), (48, 16698), (53, 16746), (54, 16764), (58, 16791), (59, 16797), (60, 16800), (66, 16827), (68, 16842), (79, 16914), (82, 16953), (90, 17007), (91, 17016), (92, 17040), (96, 17061), (105, 17130), (114, 17187), (115, 17217),

Gene: Martik\_17 Start: 16579, Stop: 17409, Start Num: 10

Candidate Starts for Martik\_17:

(Start: 5 @16564 has 27 MA's), (Start: 10 @16579 has 195 MA's), (15, 16591), (16, 16615), (Start: 19 @16630 has 1 MA's), (26, 16675), (32, 16705), (36, 16759), (46, 16849), (48, 16858), (53, 16906), (54, 16924), (58, 16951), (59, 16957), (60, 16960), (65, 16984), (66, 16987), (68, 17002), (79, 17074), (82, 17113), (89, 17164), (90, 17167), (91, 17176), (92, 17200), (96, 17221), (105, 17290), (114, 17347), (115, 17377),

Gene: Mattes\_17 Start: 16621, Stop: 17400, Start Num: 19

Candidate Starts for Mattes\_17:

(Start: 5 @16555 has 27 MA's), (Start: 10 @16570 has 195 MA's), (15, 16582), (16, 16606), (Start: 19 @16621 has 1 MA's), (26, 16666), (32, 16696), (36, 16750), (46, 16840), (48, 16849), (53, 16897), (54, 16915), (58, 16942), (59, 16948), (60, 16951), (65, 16975), (66, 16978), (68, 16993), (79, 17065), (82, 17104), (90, 17158), (91, 17167), (92, 17191), (96, 17212), (102, 17239), (105, 17281), (114, 17338), (115, 17368),

Gene: Megiddo\_20 Start: 18032, Stop: 18925, Start Num: 7

Candidate Starts for Megiddo\_20:

(Start: 7 @18032 has 46 MA's), (Start: 19 @18086 has 1 MA's), (21, 18110), (27, 18134), (31, 18155), (36, 18212), (39, 18224), (43, 18266), (50, 18326), (61, 18434), (80, 18602), (81, 18605), (84, 18623), (85, 18626), (90, 18659), (100, 18743), (101, 18746), (105, 18800), (118, 18908), (119, 18911),

Gene: Melissauren88\_17 Start: 16601, Stop: 17431, Start Num: 10

Candidate Starts for Melissauren88\_17:

(Start: 4 @16583 has 38 MA's), (Start: 10 @16601 has 195 MA's), (15, 16613), (16, 16637), (Start: 19 @16652 has 1 MA's), (26, 16697), (32, 16727), (35, 16757), (36, 16781), (46, 16871), (48, 16880), (53, 16928), (58, 16973), (59, 16979), (60, 16982), (65, 17006), (66, 17009), (68, 17024), (77, 17087), (79, 17096), (82, 17135), (84, 17150), (89, 17186), (90, 17189), (91, 17198), (92, 17222), (96, 17243),

(105, 17312), (114, 17369), (115, 17399),

Gene: Melville\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Melville\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: MiaZeal\_35 Start: 26706, Stop: 27557, Start Num: 12

Candidate Starts for MiaZeal\_35:

(Start: 12 @26706 has 11 MA's), (13, 26712), (23, 26787), (32, 26829), (37, 26886), (42, 26931), (43, 26934), (51, 27027), (52, 27030), (54, 27051), (56, 27069), (63, 27120), (64, 27126), (68, 27144), (69, 27153), (82, 27258), (88, 27300), (92, 27342), (98, 27372), (105, 27432),

Gene: MichelleMyBell\_19 Start: 16712, Stop: 17554, Start Num: 10

Candidate Starts for MichelleMyBell\_19:

(Start: 10 @16712 has 195 MA's), (22, 16799), (25, 16811), (32, 16844), (36, 16898), (48, 16997), (58, 17090), (60, 17099), (69, 17150), (77, 17204), (80, 17246), (84, 17267), (85, 17270), (87, 17291), (100, 17381), (104, 17417), (109, 17468), (115, 17525), (118, 17540),

Gene: MilanaBonita\_18 Start: 17240, Stop: 18070, Start Num: 10

Candidate Starts for MilanaBonita\_18:

(Start: 4 @17222 has 38 MA's), (Start: 10 @17240 has 195 MA's), (15, 17252), (16, 17276), (Start: 19 @17291 has 1 MA's), (26, 17336), (32, 17366), (35, 17396), (36, 17420), (46, 17510), (48, 17519), (53, 17567), (58, 17612), (59, 17618), (60, 17621), (65, 17645), (68, 17663), (77, 17726), (79, 17735), (82, 17774), (84, 17789), (89, 17825), (90, 17828), (91, 17837), (92, 17861), (96, 17882), (105, 17951), (114, 18008), (115, 18038),

Gene: MilleniumForce\_18 Start: 17366, Stop: 18214, Start Num: 4

Candidate Starts for MilleniumForce\_18:

(Start: 4 @17366 has 38 MA's), (Start: 10 @17384 has 195 MA's), (15, 17396), (16, 17420), (Start: 19 @17435 has 1 MA's), (26, 17480), (32, 17510), (35, 17540), (36, 17564), (46, 17654), (48, 17663), (53, 17711), (58, 17756), (59, 17762), (60, 17765), (65, 17789), (68, 17807), (77, 17870), (79, 17879), (82, 17918), (84, 17933), (89, 17969), (90, 17972), (91, 17981), (92, 18005), (96, 18026), (105, 18095), (114, 18152), (115, 18182),

Gene: Minerva\_38 Start: 30373, Stop: 31224, Start Num: 11

Candidate Starts for Minerva\_38:

(Start: 11 @30373 has 29 MA's), (13, 30379), (23, 30454), (28, 30469), (37, 30553), (42, 30598), (44, 30607), (52, 30697), (63, 30787), (69, 30820), (70, 30826), (77, 30877), (82, 30925), (85, 30943), (90, 30976), (92, 31009), (93, 31012), (103, 31078), (116, 31201), (118, 31207),

Gene: MinionDave\_18 Start: 17253, Stop: 18083, Start Num: 10

Candidate Starts for MinionDave\_18:

(Start: 4 @17235 has 38 MA's), (Start: 10 @17253 has 195 MA's), (15, 17265), (16, 17289), (Start: 19 @17304 has 1 MA's), (26, 17349), (32, 17379), (35, 17409), (36, 17433), (46, 17523), (48, 17532), (50, 17544), (53, 17580), (58, 17625), (59, 17631), (60, 17634), (65, 17658), (68, 17676), (77, 17739), (79, 17748), (84, 17802), (87, 17826), (90, 17841), (91, 17850), (92, 17874), (96, 17895), (100, 17916), (101, 17919), (105, 17964), (114, 18021), (115, 18051), (119, 18069),

Gene: Minnie\_18 Start: 17113, Stop: 17943, Start Num: 10

Candidate Starts for Minnie\_18:

(Start: 4 @17095 has 38 MA's), (Start: 10 @17113 has 195 MA's), (15, 17125), (16, 17149), (Start: 19 @17164 has 1 MA's), (26, 17209), (32, 17239), (35, 17269), (36, 17293), (46, 17383), (48, 17392), (53, 17440), (58, 17485), (59, 17491), (60, 17494), (65, 17518), (66, 17521), (68, 17536), (77, 17599), (79, 17608), (82, 17647), (84, 17662), (89, 17698), (90, 17701), (91, 17710), (92, 17734), (96, 17755), (105, 17824), (114, 17881), (115, 17911),

Gene: Misha28\_18 Start: 16428, Stop: 17276, Start Num: 5

Candidate Starts for Misha28\_18:

(Start: 5 @16428 has 27 MA's), (Start: 10 @16443 has 195 MA's), (15, 16455), (16, 16479), (Start: 19 @16494 has 1 MA's), (26, 16539), (32, 16569), (46, 16716), (49, 16734), (53, 16773), (58, 16818), (59, 16824), (60, 16827), (65, 16851), (68, 16869), (77, 16932), (79, 16941), (82, 16980), (84, 16995), (89, 17031), (90, 17034), (91, 17043), (92, 17067), (96, 17088), (102, 17115), (105, 17157), (114, 17214), (115, 17244),

Gene: MisterCuddles\_17 Start: 16541, Stop: 17374, Start Num: 10

Candidate Starts for MisterCuddles\_17:

(Start: 5 @16526 has 27 MA's), (Start: 10 @16541 has 195 MA's), (15, 16553), (16, 16577), (Start: 19 @16592 has 1 MA's), (26, 16637), (32, 16667), (46, 16814), (49, 16832), (53, 16871), (65, 16949), (66, 16952), (79, 17039), (82, 17078), (90, 17132), (91, 17141), (92, 17165), (96, 17186), (102, 17213), (105, 17255), (114, 17312), (115, 17342),

Gene: Modragons\_17 Start: 16807, Stop: 17637, Start Num: 10

Candidate Starts for Modragons\_17:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: MooMoo\_17 Start: 16287, Stop: 17138, Start Num: 6

Candidate Starts for MooMoo\_17:

(Start: 6 @16287 has 36 MA's), (32, 16425), (46, 16569), (69, 16728), (90, 16893), (94, 16944), (97, 16953), (100, 16971), (109, 17055), (110, 17058), (113, 17070), (116, 17115),

Gene: Moonbeam\_18 Start: 17044, Stop: 17892, Start Num: 4

Candidate Starts for Moonbeam\_18:

(Start: 4 @17044 has 38 MA's), (Start: 10 @17062 has 195 MA's), (15, 17074), (16, 17098), (Start: 19 @17113 has 1 MA's), (26, 17158), (32, 17188), (35, 17218), (36, 17242), (46, 17332), (48, 17341), (50, 17353), (53, 17389), (58, 17434), (59, 17440), (60, 17443), (65, 17467), (66, 17470), (68, 17485), (77, 17548), (79, 17557), (82, 17596), (84, 17611), (89, 17647), (90, 17650), (91, 17659), (92, 17683), (96, 17704), (105, 17773), (114, 17830), (115, 17860),

Gene: Mori\_57 Start: 35292, Stop: 36140, Start Num: 6

Candidate Starts for Mori\_57:

(Start: 6 @35292 has 36 MA's), (Start: 7 @35298 has 46 MA's), (14, 35313), (18, 35352), (23, 35397), (34, 35451), (45, 35565), (67, 35709), (69, 35730), (79, 35793), (87, 35871), (105, 36021), (116, 36117),

Gene: Mova\_18 Start: 16421, Stop: 17251, Start Num: 10

Candidate Starts for Mova\_18:

(Start: 4 @16403 has 38 MA's), (Start: 10 @16421 has 195 MA's), (15, 16433), (16, 16457), (Start: 19 @16472 has 1 MA's), (26, 16517), (32, 16547), (35, 16577), (36, 16601), (46, 16691), (48, 16700), (50, 16712), (53, 16748), (58, 16793), (59, 16799), (60, 16802), (65, 16826), (66, 16829), (68, 16844),

(77, 16907), (79, 16916), (82, 16955), (84, 16970), (89, 17006), (90, 17009), (91, 17018), (92, 17042), (96, 17063), (105, 17132), (114, 17189), (115, 17219),

Gene: Mozy\_18 Start: 16456, Stop: 17301, Start Num: 5

Candidate Starts for Mozy\_18:

(Start: 5 @16456 has 27 MA's), (Start: 10 @16471 has 195 MA's), (15, 16483), (16, 16507), (Start: 19 @16522 has 1 MA's), (26, 16567), (36, 16651), (37, 16657), (46, 16741), (48, 16750), (53, 16798), (58, 16843), (59, 16849), (65, 16876), (66, 16879), (77, 16957), (79, 16966), (82, 17005), (84, 17020), (89, 17056), (90, 17059), (91, 17068), (92, 17092), (96, 17113), (101, 17137), (102, 17140), (105, 17182), (114, 17239), (115, 17269), (119, 17287),

Gene: Ms6\_17 Start: 16580, Stop: 17410, Start Num: 10

Candidate Starts for Ms6\_17:

(Start: 4 @16562 has 38 MA's), (Start: 10 @16580 has 195 MA's), (15, 16592), (16, 16616), (Start: 19 @16631 has 1 MA's), (26, 16676), (32, 16706), (35, 16736), (36, 16760), (46, 16850), (48, 16859), (53, 16907), (58, 16952), (59, 16958), (60, 16961), (65, 16985), (66, 16988), (68, 17003), (77, 17066), (79, 17075), (82, 17114), (84, 17129), (89, 17165), (90, 17168), (91, 17177), (92, 17201), (96, 17222), (105, 17291), (114, 17348), (115, 17378),

Gene: MulchExplorer\_20 Start: 17692, Stop: 18522, Start Num: 10

Candidate Starts for MulchExplorer\_20:

(Start: 4 @17674 has 38 MA's), (Start: 10 @17692 has 195 MA's), (15, 17704), (16, 17728), (Start: 19 @17743 has 1 MA's), (26, 17788), (32, 17818), (35, 17848), (36, 17872), (46, 17962), (48, 17971), (53, 18019), (58, 18064), (59, 18070), (60, 18073), (65, 18097), (66, 18100), (68, 18115), (77, 18178), (79, 18187), (82, 18226), (84, 18241), (89, 18277), (90, 18280), (91, 18289), (92, 18313), (96, 18334), (105, 18403), (114, 18460), (115, 18490),

Gene: MulchSalad\_17 Start: 16492, Stop: 17322, Start Num: 10

Candidate Starts for MulchSalad\_17:

(Start: 5 @16477 has 27 MA's), (Start: 10 @16492 has 195 MA's), (15, 16504), (16, 16528), (Start: 19 @16543 has 1 MA's), (26, 16588), (32, 16618), (35, 16648), (36, 16672), (46, 16762), (48, 16771), (50, 16783), (53, 16819), (58, 16864), (59, 16870), (60, 16873), (65, 16897), (66, 16900), (68, 16915), (77, 16978), (79, 16987), (82, 17026), (84, 17041), (89, 17077), (90, 17080), (91, 17089), (92, 17113), (96, 17134), (105, 17203), (114, 17260), (115, 17290),

Gene: Murai\_58 Start: 35473, Stop: 36321, Start Num: 6

Candidate Starts for Murai\_58:

(Start: 6 @35473 has 36 MA's), (Start: 7 @35479 has 46 MA's), (14, 35494), (18, 35533), (23, 35578), (34, 35632), (45, 35746), (67, 35890), (69, 35911), (79, 35974), (87, 36052), (105, 36202), (116, 36298),

Gene: Mutaforma13\_17 Start: 16599, Stop: 17447, Start Num: 4

Candidate Starts for Mutaforma13\_17:

(Start: 4 @16599 has 38 MA's), (Start: 10 @16617 has 195 MA's), (15, 16629), (16, 16653), (Start: 19 @16668 has 1 MA's), (26, 16713), (32, 16743), (35, 16773), (36, 16797), (46, 16887), (48, 16896), (53, 16944), (58, 16989), (59, 16995), (60, 16998), (65, 17022), (68, 17040), (77, 17103), (79, 17112), (82, 17151), (84, 17166), (89, 17202), (90, 17205), (91, 17214), (92, 17238), (96, 17259), (105, 17328), (114, 17385), (115, 17415),

Gene: Nazo\_19 Start: 17888, Stop: 18781, Start Num: 7

Candidate Starts for Nazo\_19:

(Start: 7 @17888 has 46 MA's), (Start: 19 @17942 has 1 MA's), (21, 17966), (23, 17978), (36, 18068), (61, 18290), (62, 18293), (90, 18515), (100, 18599), (101, 18602), (105, 18656), (106, 18668),

Gene: Necropolis\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Necropolis\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Nенаe\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Nенаe\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: NiebruSaylor\_56 Start: 34680, Stop: 35528, Start Num: 6

Candidate Starts for NiebruSaylor\_56:

(Start: 6 @34680 has 36 MA's), (Start: 7 @34686 has 46 MA's), (14, 34701), (18, 34740), (23, 34785), (34, 34839), (45, 34953), (67, 35097), (69, 35118), (79, 35181), (87, 35259), (105, 35409), (116, 35505),

Gene: NihilNomen\_37 Start: 29422, Stop: 30273, Start Num: 11

Candidate Starts for NihilNomen\_37:

(Start: 11 @29422 has 29 MA's), (13, 29428), (23, 29503), (37, 29602), (42, 29647), (43, 29650), (52, 29746), (63, 29836), (68, 29860), (69, 29869), (71, 29884), (85, 29992), (88, 30016), (92, 30058), (107, 30169), (112, 30193), (118, 30256),

Gene: Nimbo\_17 Start: 16573, Stop: 17403, Start Num: 10

Candidate Starts for Nimbo\_17:

(Start: 5 @16558 has 27 MA's), (Start: 10 @16573 has 195 MA's), (15, 16585), (16, 16609), (Start: 19 @16624 has 1 MA's), (26, 16669), (32, 16699), (35, 16729), (36, 16753), (46, 16843), (48, 16852), (50, 16864), (53, 16900), (59, 16951), (60, 16954), (65, 16978), (68, 16996), (77, 17059), (79, 17068), (84, 17122), (87, 17146), (90, 17161), (91, 17170), (92, 17194), (96, 17215), (102, 17242), (105, 17284), (114, 17341), (115, 17371),

Gene: Nitzel\_18 Start: 17309, Stop: 18139, Start Num: 10

Candidate Starts for Nitzel\_18:

(1, 17132), (2, 17162), (3, 17219), (Start: 4 @17291 has 38 MA's), (Start: 10 @17309 has 195 MA's), (15, 17321), (16, 17345), (Start: 19 @17360 has 1 MA's), (35, 17465), (36, 17489), (46, 17579), (48, 17588), (50, 17600), (53, 17636), (59, 17687), (60, 17690), (65, 17714), (68, 17732), (77, 17795), (79, 17804), (84, 17858), (87, 17882), (90, 17897), (91, 17906), (92, 17930), (96, 17951), (102, 17978), (105, 18020), (114, 18077), (115, 18107),

Gene: Nivrat\_17 Start: 16578, Stop: 17408, Start Num: 10

Candidate Starts for Nivrat\_17:

(Start: 5 @16563 has 27 MA's), (Start: 10 @16578 has 195 MA's), (15, 16590), (16, 16614), (Start: 19 @16629 has 1 MA's), (26, 16674), (32, 16704), (36, 16758), (46, 16848), (48, 16857), (53, 16905), (54, 16923), (58, 16950), (59, 16956), (60, 16959), (65, 16983), (66, 16986), (68, 17001), (79, 17073), (82, 17112), (89, 17163), (90, 17166), (91, 17175), (92, 17199), (96, 17220), (105, 17289), (114, 17346), (115, 17376),

Gene: NormanBulbieJr\_17 Start: 16551, Stop: 17396, Start Num: 5

Candidate Starts for NormanBulbieJr\_17:

(Start: 5 @16551 has 27 MA's), (Start: 10 @16566 has 195 MA's), (15, 16578), (16, 16602), (Start: 19 @16617 has 1 MA's), (26, 16662), (32, 16692), (36, 16746), (46, 16836), (48, 16845), (53, 16893),

(54, 16911), (58, 16938), (59, 16944), (60, 16947), (65, 16971), (66, 16974), (68, 16989), (79, 17061), (82, 17100), (89, 17151), (90, 17154), (91, 17163), (92, 17187), (96, 17208), (105, 17277), (114, 17334), (115, 17364),

Gene: Ochi17\_17 Start: 16792, Stop: 17637, Start Num: 5

Candidate Starts for Ochi17\_17:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: Odette\_37 Start: 28655, Stop: 29506, Start Num: 11

Candidate Starts for Odette\_37:

(Start: 11 @28655 has 29 MA's), (13, 28661), (23, 28736), (37, 28835), (42, 28880), (43, 28883), (52, 28979), (63, 29069), (68, 29093), (69, 29102), (71, 29117), (85, 29225), (88, 29249), (92, 29291), (107, 29402), (112, 29426), (118, 29489),

Gene: OfUltron\_17 Start: 16807, Stop: 17637, Start Num: 10

Candidate Starts for OfUltron\_17:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: Ogotogo\_20 Start: 16818, Stop: 17663, Start Num: 5

Candidate Starts for Ogotogo\_20:

(Start: 5 @16818 has 27 MA's), (Start: 10 @16833 has 195 MA's), (15, 16845), (16, 16869), (Start: 19 @16884 has 1 MA's), (26, 16929), (32, 16959), (36, 17013), (46, 17103), (48, 17112), (54, 17178), (58, 17205), (59, 17211), (60, 17214), (65, 17238), (66, 17241), (79, 17328), (82, 17367), (90, 17421), (91, 17430), (92, 17454), (96, 17475), (102, 17502), (105, 17544), (114, 17601), (115, 17631),

Gene: Oksu\_18 Start: 16649, Stop: 17482, Start Num: 9

Candidate Starts for Oksu\_18:

(Start: 4 @16631 has 38 MA's), (9, 16649), (15, 16661), (16, 16685), (Start: 19 @16700 has 1 MA's), (26, 16745), (46, 16922), (49, 16940), (53, 16979), (58, 17024), (59, 17030), (60, 17033), (65, 17057), (66, 17060), (79, 17147), (82, 17186), (89, 17237), (90, 17240), (91, 17249), (92, 17273), (96, 17294), (102, 17321), (105, 17363), (114, 17420), (115, 17450),

Gene: OldBen\_17 Start: 16543, Stop: 17373, Start Num: 10

Candidate Starts for OldBen\_17:

(Start: 5 @16528 has 27 MA's), (Start: 10 @16543 has 195 MA's), (15, 16555), (16, 16579), (Start: 19 @16594 has 1 MA's), (26, 16639), (32, 16669), (35, 16699), (36, 16723), (46, 16813), (48, 16822), (53, 16870), (54, 16888), (58, 16915), (59, 16921), (60, 16924), (65, 16948), (66, 16951), (77, 17029), (79, 17038), (82, 17077), (84, 17092), (89, 17128), (90, 17131), (91, 17140), (92, 17164), (96, 17185), (101, 17209), (102, 17212), (105, 17254), (114, 17311), (115, 17341),

Gene: OlympiaSaint\_17 Start: 16748, Stop: 17596, Start Num: 4

Candidate Starts for OlympiaSaint\_17:

(Start: 4 @16748 has 38 MA's), (Start: 10 @16766 has 195 MA's), (15, 16778), (16, 16802), (Start: 19 @16817 has 1 MA's), (26, 16862), (32, 16892), (35, 16922), (36, 16946), (37, 16952), (46, 17036), (48, 17045), (53, 17093), (58, 17138), (59, 17144), (60, 17147), (65, 17171), (66, 17174), (68, 17189),

(77, 17252), (79, 17261), (82, 17300), (84, 17315), (89, 17351), (90, 17354), (91, 17363), (92, 17387), (96, 17408), (105, 17477), (114, 17534), (115, 17564), (119, 17582),

Gene: Omega\_37 Start: 30583, Stop: 31434, Start Num: 12

Candidate Starts for Omega\_37:

(Start: 12 @30583 has 11 MA's), (13, 30589), (23, 30664), (37, 30763), (42, 30808), (43, 30811), (51, 30904), (52, 30907), (63, 30997), (64, 31003), (68, 31021), (69, 31030), (82, 31135), (88, 31177), (92, 31219), (98, 31249), (105, 31309),

Gene: Optimus\_36 Start: 29927, Stop: 30778, Start Num: 11

Candidate Starts for Optimus\_36:

(Start: 11 @29927 has 29 MA's), (13, 29933), (23, 30008), (28, 30023), (37, 30107), (42, 30152), (44, 30161), (52, 30251), (63, 30341), (69, 30374), (70, 30380), (77, 30431), (82, 30479), (85, 30497), (88, 30521), (90, 30530), (92, 30563), (93, 30566), (103, 30632), (116, 30755), (118, 30761),

Gene: Ovechkin\_17 Start: 16582, Stop: 17430, Start Num: 4

Candidate Starts for Ovechkin\_17:

(Start: 4 @16582 has 38 MA's), (Start: 10 @16600 has 195 MA's), (15, 16612), (16, 16636), (Start: 19 @16651 has 1 MA's), (26, 16696), (32, 16726), (35, 16756), (36, 16780), (46, 16870), (48, 16879), (53, 16927), (58, 16972), (59, 16978), (60, 16981), (65, 17005), (66, 17008), (68, 17023), (77, 17086), (79, 17095), (82, 17134), (84, 17149), (89, 17185), (90, 17188), (91, 17197), (92, 17221), (96, 17242), (105, 17311), (114, 17368), (115, 17398),

Gene: OwlsT2W\_19 Start: 16920, Stop: 17768, Start Num: 4

Candidate Starts for OwlsT2W\_19:

(Start: 4 @16920 has 38 MA's), (Start: 10 @16938 has 195 MA's), (15, 16950), (16, 16974), (Start: 19 @16989 has 1 MA's), (26, 17034), (32, 17064), (35, 17094), (36, 17118), (46, 17208), (48, 17217), (50, 17229), (53, 17265), (58, 17310), (59, 17316), (60, 17319), (65, 17343), (68, 17361), (77, 17424), (79, 17433), (82, 17472), (84, 17487), (89, 17523), (90, 17526), (91, 17535), (92, 17559), (96, 17580), (105, 17649), (114, 17706), (115, 17736), (119, 17754),

Gene: PHappiness\_17 Start: 16551, Stop: 17381, Start Num: 10

Candidate Starts for PHappiness\_17:

(Start: 5 @16536 has 27 MA's), (Start: 10 @16551 has 195 MA's), (15, 16563), (16, 16587), (Start: 19 @16602 has 1 MA's), (26, 16647), (32, 16677), (35, 16707), (36, 16731), (46, 16821), (48, 16830), (53, 16878), (54, 16896), (58, 16923), (59, 16929), (60, 16932), (65, 16956), (66, 16959), (77, 17037), (79, 17046), (82, 17085), (84, 17100), (89, 17136), (90, 17139), (91, 17148), (92, 17172), (96, 17193), (101, 17217), (102, 17220), (105, 17262), (114, 17319), (115, 17349),

Gene: PMC\_17 Start: 16556, Stop: 17386, Start Num: 10

Candidate Starts for PMC\_17:

(Start: 5 @16541 has 27 MA's), (Start: 10 @16556 has 195 MA's), (15, 16568), (16, 16592), (Start: 19 @16607 has 1 MA's), (26, 16652), (32, 16682), (36, 16736), (46, 16826), (48, 16835), (53, 16883), (54, 16901), (58, 16928), (59, 16934), (60, 16937), (65, 16961), (66, 16964), (68, 16979), (77, 17042), (79, 17051), (82, 17090), (84, 17105), (87, 17129), (89, 17141), (90, 17144), (91, 17153), (92, 17177), (96, 17198), (100, 17219), (101, 17222), (105, 17267), (114, 17324), (115, 17354), (119, 17372),

Gene: Pacc40\_17 Start: 16726, Stop: 17571, Start Num: 5

Candidate Starts for Pacc40\_17:

(Start: 5 @16726 has 27 MA's), (Start: 10 @16741 has 195 MA's), (15, 16753), (16, 16777), (Start: 19 @16792 has 1 MA's), (26, 16837), (32, 16867), (35, 16897), (36, 16921), (46, 17011), (48, 17020), (53, 17068), (54, 17086), (58, 17113), (59, 17119), (60, 17122), (65, 17146), (66, 17149), (77, 17227), (79, 17236), (82, 17275), (84, 17290), (89, 17326), (90, 17329), (91, 17338), (92, 17362), (96, 17383),

(101, 17407), (102, 17410), (105, 17452), (114, 17509), (115, 17539),

Gene: Panchino\_19 Start: 16691, Stop: 17533, Start Num: 10

Candidate Starts for Panchino\_19:

(Start: 10 @16691 has 195 MA's), (22, 16778), (25, 16790), (35, 16853), (48, 16976), (58, 17069), (69, 17129), (73, 17171), (80, 17225), (84, 17246), (85, 17249), (87, 17270), (90, 17285), (100, 17360), (104, 17396), (109, 17447), (115, 17504), (118, 17519),

Gene: Parmesanjohn\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Parmesanjohn\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Phalconet\_17 Start: 16621, Stop: 17451, Start Num: 10

Candidate Starts for Phalconet\_17:

(Start: 4 @16603 has 38 MA's), (Start: 10 @16621 has 195 MA's), (15, 16633), (16, 16657), (Start: 19 @16672 has 1 MA's), (26, 16717), (32, 16747), (35, 16777), (36, 16801), (46, 16891), (48, 16900), (53, 16948), (58, 16993), (59, 16999), (60, 17002), (65, 17026), (68, 17044), (77, 17107), (79, 17116), (82, 17155), (84, 17170), (89, 17206), (90, 17209), (91, 17218), (92, 17242), (96, 17263), (105, 17332), (107, 17353), (114, 17389), (115, 17419),

Gene: Phalm\_20 Start: 18032, Stop: 18925, Start Num: 7

Candidate Starts for Phalm\_20:

(Start: 7 @18032 has 46 MA's), (Start: 19 @18086 has 1 MA's), (21, 18110), (27, 18134), (31, 18155), (36, 18212), (39, 18224), (43, 18266), (50, 18326), (61, 18434), (80, 18602), (81, 18605), (84, 18623), (85, 18626), (90, 18659), (100, 18743), (101, 18746), (105, 18800), (118, 18908), (119, 18911),

Gene: PhancyPhin\_19 Start: 16715, Stop: 17557, Start Num: 10

Candidate Starts for PhancyPhin\_19:

(Start: 10 @16715 has 195 MA's), (22, 16802), (25, 16814), (35, 16877), (48, 17000), (58, 17093), (69, 17153), (73, 17195), (80, 17249), (84, 17270), (85, 17273), (87, 17294), (90, 17309), (100, 17384), (104, 17420), (109, 17471), (115, 17528), (118, 17543),

Gene: Phanphagia\_17 Start: 16623, Stop: 17453, Start Num: 10

Candidate Starts for Phanphagia\_17:

(Start: 4 @16605 has 38 MA's), (Start: 10 @16623 has 195 MA's), (15, 16635), (16, 16659), (Start: 19 @16674 has 1 MA's), (26, 16719), (32, 16749), (35, 16779), (36, 16803), (46, 16893), (48, 16902), (53, 16950), (58, 16995), (59, 17001), (60, 17004), (65, 17028), (68, 17046), (77, 17109), (79, 17118), (82, 17157), (84, 17172), (89, 17208), (90, 17211), (91, 17220), (92, 17244), (96, 17265), (105, 17334), (114, 17391), (115, 17421),

Gene: Phasih\_18 Start: 17094, Stop: 17942, Start Num: 5

Candidate Starts for Phasih\_18:

(Start: 5 @17094 has 27 MA's), (Start: 10 @17109 has 195 MA's), (15, 17121), (16, 17145), (Start: 19 @17160 has 1 MA's), (26, 17205), (32, 17235), (46, 17382), (49, 17400), (53, 17439), (65, 17517), (66, 17520), (79, 17607), (82, 17646), (90, 17700), (91, 17709), (92, 17733), (96, 17754), (102, 17781), (105, 17823), (114, 17880), (115, 17910),

Gene: Phatniss\_18 Start: 17074, Stop: 17904, Start Num: 10

Candidate Starts for Phatniss\_18:

(Start: 4 @17056 has 38 MA's), (Start: 10 @17074 has 195 MA's), (15, 17086), (16, 17110), (Start: 19 @17125 has 1 MA's), (26, 17170), (32, 17200), (35, 17230), (36, 17254), (46, 17344), (48, 17353),



(53, 17401), (58, 17446), (59, 17452), (60, 17455), (65, 17479), (68, 17497), (77, 17560), (79, 17569), (82, 17608), (84, 17623), (89, 17659), (90, 17662), (91, 17671), (92, 17695), (96, 17716), (105, 17785), (114, 17842), (115, 17872),

Gene: Phayonce\_19 Start: 17840, Stop: 18733, Start Num: 7

Candidate Starts for Phayonce\_19:

(Start: 7 @17840 has 46 MA's), (Start: 19 @17894 has 1 MA's), (21, 17918), (23, 17930), (36, 18020), (44, 18080), (61, 18242), (62, 18245), (64, 18281), (90, 18467), (100, 18551), (105, 18608), (108, 18632), (118, 18716),

Gene: Phegasus\_20 Start: 18150, Stop: 19043, Start Num: 7

Candidate Starts for Phegasus\_20:

(Start: 7 @18150 has 46 MA's), (Start: 19 @18204 has 1 MA's), (21, 18228), (27, 18252), (36, 18330), (43, 18384), (50, 18444), (61, 18552), (80, 18720), (81, 18723), (90, 18777), (100, 18861), (101, 18864), (105, 18918), (118, 19026), (119, 19029),

Gene: PhesterPhotato\_17 Start: 16592, Stop: 17422, Start Num: 10

Candidate Starts for PhesterPhotato\_17:

(2, 16439), (3, 16496), (Start: 4 @16574 has 38 MA's), (Start: 10 @16592 has 195 MA's), (15, 16604), (16, 16628), (Start: 19 @16643 has 1 MA's), (26, 16688), (32, 16718), (35, 16748), (36, 16772), (46, 16862), (48, 16871), (53, 16919), (58, 16964), (59, 16970), (60, 16973), (65, 16997), (68, 17015), (77, 17078), (79, 17087), (82, 17126), (84, 17141), (89, 17177), (90, 17180), (91, 17189), (92, 17213), (96, 17234), (105, 17303), (114, 17360), (115, 17390),

Gene: Philonius\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Philonius\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Philus\_17 Start: 16578, Stop: 17408, Start Num: 10

Candidate Starts for Philus\_17:

(Start: 5 @16563 has 27 MA's), (Start: 10 @16578 has 195 MA's), (15, 16590), (16, 16614), (Start: 19 @16629 has 1 MA's), (26, 16674), (32, 16704), (36, 16758), (46, 16848), (48, 16857), (53, 16905), (54, 16923), (58, 16950), (59, 16956), (60, 16959), (65, 16983), (66, 16986), (68, 17001), (79, 17073), (82, 17112), (90, 17166), (91, 17175), (92, 17199), (96, 17220), (102, 17247), (105, 17289), (114, 17346), (115, 17376),

Gene: Phineas\_20 Start: 18141, Stop: 19034, Start Num: 7

Candidate Starts for Phineas\_20:

(Start: 7 @18141 has 46 MA's), (Start: 19 @18195 has 1 MA's), (21, 18219), (27, 18243), (31, 18264), (36, 18321), (39, 18333), (43, 18375), (50, 18435), (61, 18543), (80, 18711), (81, 18714), (90, 18768), (100, 18852), (101, 18855), (105, 18909), (118, 19017), (119, 19020),

Gene: Phloss\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Phloss\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Phoebus\_37 Start: 29664, Stop: 30515, Start Num: 11

Candidate Starts for Phoebus\_37:

(Start: 11 @29664 has 29 MA's), (13, 29670), (23, 29745), (28, 29760), (37, 29844), (42, 29889), (44, 29898), (52, 29988), (63, 30078), (69, 30111), (70, 30117), (90, 30267), (92, 30300), (93, 30303), (103, 30369), (116, 30492), (118, 30498),

Gene: Phrann\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Phrann\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Piper2020\_18 Start: 16443, Stop: 17273, Start Num: 10

Candidate Starts for Piper2020\_18:

(Start: 5 @16428 has 27 MA's), (Start: 10 @16443 has 195 MA's), (15, 16455), (16, 16479), (Start: 19 @16494 has 1 MA's), (26, 16539), (32, 16569), (35, 16599), (36, 16623), (37, 16629), (46, 16713), (48, 16722), (53, 16770), (58, 16815), (59, 16821), (60, 16824), (65, 16848), (68, 16866), (77, 16929), (79, 16938), (82, 16977), (84, 16992), (89, 17028), (90, 17031), (91, 17040), (92, 17064), (96, 17085), (102, 17112), (105, 17154), (114, 17211), (115, 17241),

Gene: Pippy\_17 Start: 16562, Stop: 17392, Start Num: 10

Candidate Starts for Pippy\_17:

(Start: 4 @16544 has 38 MA's), (Start: 10 @16562 has 195 MA's), (15, 16574), (16, 16598), (Start: 19 @16613 has 1 MA's), (26, 16658), (32, 16688), (35, 16718), (36, 16742), (46, 16832), (48, 16841), (53, 16889), (58, 16934), (59, 16940), (60, 16943), (65, 16967), (66, 16970), (68, 16985), (77, 17048), (79, 17057), (82, 17096), (84, 17111), (89, 17147), (90, 17150), (91, 17159), (92, 17183), (96, 17204), (105, 17273), (114, 17330), (115, 17360),

Gene: Pipsqueaks\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Pipsqueaks\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Plumbus\_18 Start: 16399, Stop: 17229, Start Num: 10

Candidate Starts for Plumbus\_18:

(Start: 4 @16381 has 38 MA's), (Start: 10 @16399 has 195 MA's), (15, 16411), (16, 16435), (Start: 19 @16450 has 1 MA's), (26, 16495), (32, 16525), (35, 16555), (36, 16579), (46, 16669), (48, 16678), (53, 16726), (58, 16771), (59, 16777), (60, 16780), (65, 16804), (68, 16822), (77, 16885), (79, 16894), (82, 16933), (84, 16948), (89, 16984), (90, 16987), (91, 16996), (92, 17020), (96, 17041), (105, 17110), (114, 17167), (115, 17197),

Gene: Poenanya\_17 Start: 16707, Stop: 17537, Start Num: 10

Candidate Starts for Poenanya\_17:

(Start: 5 @16692 has 27 MA's), (Start: 10 @16707 has 195 MA's), (15, 16719), (16, 16743), (Start: 19 @16758 has 1 MA's), (26, 16803), (32, 16833), (35, 16863), (36, 16887), (46, 16977), (48, 16986), (50, 16998), (53, 17034), (59, 17085), (60, 17088), (65, 17112), (68, 17130), (77, 17193), (79, 17202), (84, 17256), (87, 17280), (90, 17295), (91, 17304), (92, 17328), (96, 17349), (102, 17376), (105, 17418), (114, 17475), (115, 17505),

Gene: Polka14\_18 Start: 17113, Stop: 17943, Start Num: 10

Candidate Starts for Polka14\_18:

(Start: 5 @17098 has 27 MA's), (Start: 10 @17113 has 195 MA's), (15, 17125), (16, 17149), (Start: 19 @17164 has 1 MA's), (26, 17209), (32, 17239), (35, 17269), (36, 17293), (46, 17383), (48, 17392), (53, 17440), (54, 17458), (58, 17485), (59, 17491), (60, 17494), (65, 17518), (66, 17521), (77, 17599),

(79, 17608), (82, 17647), (84, 17662), (89, 17698), (90, 17701), (91, 17710), (92, 17734), (96, 17755), (101, 17779), (102, 17782), (105, 17824), (114, 17881), (115, 17911),

Gene: Polkaroo\_20 Start: 18160, Stop: 19053, Start Num: 7

Candidate Starts for Polkaroo\_20:

(Start: 7 @18160 has 46 MA's), (Start: 19 @18214 has 1 MA's), (21, 18238), (31, 18283), (36, 18340), (42, 18391), (50, 18454), (61, 18562), (74, 18679), (85, 18754), (90, 18787), (100, 18871), (101, 18874), (118, 19036), (119, 19039),

Gene: Pollywog\_20 Start: 17778, Stop: 18608, Start Num: 10

Candidate Starts for Pollywog\_20:

(Start: 5 @17763 has 27 MA's), (Start: 10 @17778 has 195 MA's), (15, 17790), (16, 17814), (Start: 19 @17829 has 1 MA's), (26, 17874), (32, 17904), (36, 17958), (46, 18048), (48, 18057), (53, 18105), (54, 18123), (58, 18150), (59, 18156), (60, 18159), (65, 18183), (66, 18186), (67, 18189), (79, 18273), (82, 18312), (90, 18366), (91, 18375), (92, 18399), (96, 18420), (102, 18447), (105, 18489), (114, 18546), (115, 18576),

Gene: PopTart\_17 Start: 16618, Stop: 17448, Start Num: 10

Candidate Starts for PopTart\_17:

(Start: 4 @16600 has 38 MA's), (Start: 10 @16618 has 195 MA's), (15, 16630), (16, 16654), (Start: 19 @16669 has 1 MA's), (26, 16714), (32, 16744), (35, 16774), (36, 16798), (46, 16888), (48, 16897), (50, 16909), (53, 16945), (58, 16990), (59, 16996), (60, 16999), (65, 17023), (66, 17026), (68, 17041), (77, 17104), (79, 17113), (82, 17152), (84, 17167), (89, 17203), (90, 17206), (91, 17215), (92, 17239), (96, 17260), (105, 17329), (114, 17386), (115, 17416),

Gene: Porcelain\_34 Start: 26706, Stop: 27557, Start Num: 12

Candidate Starts for Porcelain\_34:

(Start: 12 @26706 has 11 MA's), (13, 26712), (23, 26787), (32, 26829), (37, 26886), (42, 26931), (43, 26934), (51, 27027), (52, 27030), (54, 27051), (56, 27069), (63, 27120), (64, 27126), (68, 27144), (69, 27153), (82, 27258), (88, 27300), (92, 27342), (98, 27372), (105, 27432),

Gene: Pound\_39 Start: 30653, Stop: 31504, Start Num: 11

Candidate Starts for Pound\_39:

(Start: 11 @30653 has 29 MA's), (13, 30659), (23, 30734), (37, 30833), (42, 30878), (43, 30881), (52, 30977), (63, 31067), (68, 31091), (69, 31100), (71, 31115), (85, 31223), (88, 31247), (92, 31289), (107, 31400), (112, 31424), (118, 31487),

Gene: Priscilla\_17 Start: 16580, Stop: 17410, Start Num: 10

Candidate Starts for Priscilla\_17:

(Start: 4 @16562 has 38 MA's), (Start: 10 @16580 has 195 MA's), (15, 16592), (16, 16616), (Start: 19 @16631 has 1 MA's), (26, 16676), (32, 16706), (35, 16736), (36, 16760), (37, 16766), (46, 16850), (48, 16859), (53, 16907), (58, 16952), (59, 16958), (60, 16961), (65, 16985), (66, 16988), (68, 17003), (77, 17066), (79, 17075), (82, 17114), (84, 17129), (89, 17165), (90, 17168), (91, 17177), (92, 17201), (96, 17222), (105, 17291), (114, 17348), (115, 17378), (119, 17396),

Gene: Purgamenstris\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Purgamenstris\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Purky\_19 Start: 17730, Stop: 18623, Start Num: 7

Candidate Starts for Purky\_19:

(Start: 7 @17730 has 46 MA's), (Start: 19 @17784 has 1 MA's), (21, 17808), (36, 17910), (61, 18132), (85, 18324), (88, 18348), (90, 18357), (100, 18441), (101, 18444), (105, 18498), (117, 18603), (118, 18606),

Gene: Pygmy\_19 Start: 17867, Stop: 18760, Start Num: 7

Candidate Starts for Pygmy\_19:

(Start: 7 @17867 has 46 MA's), (Start: 19 @17921 has 1 MA's), (21, 17945), (27, 17969), (31, 17990), (36, 18047), (39, 18059), (43, 18101), (50, 18161), (61, 18269), (80, 18437), (81, 18440), (90, 18494), (100, 18578), (101, 18581), (105, 18635), (118, 18743), (119, 18746),

Gene: QueenHazel\_20 Start: 18237, Stop: 19088, Start Num: 6

Candidate Starts for QueenHazel\_20:

(Start: 6 @18237 has 36 MA's), (20, 18303), (38, 18438), (41, 18474), (47, 18522), (53, 18576), (57, 18618), (67, 18657), (69, 18678), (72, 18696), (76, 18741), (85, 18807), (94, 18894), (97, 18903), (99, 18918), (100, 18921), (101, 18924), (110, 19008), (116, 19065),

Gene: QuickMath\_18 Start: 17898, Stop: 18746, Start Num: 4

Candidate Starts for QuickMath\_18:

(Start: 4 @17898 has 38 MA's), (Start: 10 @17916 has 195 MA's), (15, 17928), (16, 17952), (Start: 19 @17967 has 1 MA's), (26, 18012), (32, 18042), (35, 18072), (36, 18096), (46, 18186), (48, 18195), (53, 18243), (58, 18288), (59, 18294), (60, 18297), (65, 18321), (66, 18324), (68, 18339), (77, 18402), (79, 18411), (82, 18450), (84, 18465), (89, 18501), (90, 18504), (91, 18513), (92, 18537), (96, 18558), (105, 18627), (114, 18684), (115, 18714),

Gene: Quico\_18 Start: 16400, Stop: 17230, Start Num: 10

Candidate Starts for Quico\_18:

(Start: 4 @16382 has 38 MA's), (Start: 10 @16400 has 195 MA's), (15, 16412), (16, 16436), (Start: 19 @16451 has 1 MA's), (26, 16496), (32, 16526), (35, 16556), (36, 16580), (46, 16670), (48, 16679), (50, 16691), (53, 16727), (59, 16778), (60, 16781), (65, 16805), (68, 16823), (77, 16886), (79, 16895), (82, 16934), (84, 16949), (90, 16988), (91, 16997), (92, 17021), (96, 17042), (105, 17111), (114, 17168), (115, 17198),

Gene: Radiance\_17 Start: 16553, Stop: 17383, Start Num: 10

Candidate Starts for Radiance\_17:

(Start: 4 @16535 has 38 MA's), (Start: 10 @16553 has 195 MA's), (15, 16565), (16, 16589), (Start: 19 @16604 has 1 MA's), (26, 16649), (32, 16679), (35, 16709), (36, 16733), (46, 16823), (48, 16832), (53, 16880), (58, 16925), (59, 16931), (60, 16934), (65, 16958), (66, 16961), (77, 17039), (79, 17048), (82, 17087), (84, 17102), (89, 17138), (90, 17141), (91, 17150), (92, 17174), (96, 17195), (105, 17264), (114, 17321), (115, 17351),

Gene: Ramsey\_18 Start: 16602, Stop: 17432, Start Num: 10

Candidate Starts for Ramsey\_18:

(Start: 5 @16587 has 27 MA's), (Start: 10 @16602 has 195 MA's), (15, 16614), (16, 16638), (Start: 19 @16653 has 1 MA's), (26, 16698), (32, 16728), (35, 16758), (36, 16782), (46, 16872), (48, 16881), (50, 16893), (53, 16929), (59, 16980), (60, 16983), (65, 17007), (68, 17025), (77, 17088), (79, 17097), (84, 17151), (87, 17175), (90, 17190), (91, 17199), (92, 17223), (96, 17244), (102, 17271), (105, 17313), (114, 17370), (115, 17400),

Gene: Raymond7\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Raymond7\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Rebel\_19 Start: 16715, Stop: 17557, Start Num: 10

Candidate Starts for Rebel\_19:

(Start: 10 @16715 has 195 MA's), (22, 16802), (25, 16814), (35, 16877), (48, 17000), (58, 17093), (69, 17153), (73, 17195), (80, 17249), (84, 17270), (85, 17273), (87, 17294), (90, 17309), (100, 17384), (104, 17420), (109, 17471), (115, 17528), (118, 17543),

Gene: RedBird\_17 Start: 16530, Stop: 17360, Start Num: 10

Candidate Starts for RedBird\_17:

(Start: 4 @16512 has 38 MA's), (Start: 10 @16530 has 195 MA's), (15, 16542), (16, 16566), (Start: 19 @16581 has 1 MA's), (26, 16626), (32, 16656), (35, 16686), (36, 16710), (46, 16800), (48, 16809), (53, 16857), (54, 16875), (58, 16902), (59, 16908), (60, 16911), (65, 16935), (66, 16938), (68, 16953), (79, 17025), (82, 17064), (90, 17118), (91, 17127), (92, 17151), (96, 17172), (102, 17199), (105, 17241), (114, 17298), (115, 17328),

Gene: Redi\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Redi\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Redno2\_36 Start: 29127, Stop: 29978, Start Num: 11

Candidate Starts for Redno2\_36:

(Start: 11 @29127 has 29 MA's), (13, 29133), (23, 29208), (28, 29223), (37, 29307), (42, 29352), (44, 29361), (52, 29451), (63, 29541), (69, 29574), (70, 29580), (90, 29730), (92, 29763), (93, 29766), (103, 29832), (116, 29955), (118, 29961),

Gene: Renaud18\_19 Start: 17006, Stop: 17833, Start Num: 8

Candidate Starts for Renaud18\_19:

(Start: 8 @17006 has 3 MA's), (24, 17093), (26, 17102), (29, 17120), (50, 17297), (53, 17333), (69, 17438), (79, 17501), (87, 17579), (93, 17630), (107, 17738), (118, 17819),

Gene: Rialto\_19 Start: 17067, Stop: 17912, Start Num: 5

Candidate Starts for Rialto\_19:

(Start: 5 @17067 has 27 MA's), (Start: 10 @17082 has 195 MA's), (15, 17094), (16, 17118), (Start: 19 @17133 has 1 MA's), (26, 17178), (32, 17208), (35, 17238), (36, 17262), (46, 17352), (48, 17361), (53, 17409), (54, 17427), (58, 17454), (59, 17460), (60, 17463), (65, 17487), (66, 17490), (68, 17505), (79, 17577), (82, 17616), (90, 17670), (91, 17679), (92, 17703), (96, 17724), (102, 17751), (105, 17793), (114, 17850), (115, 17880),

Gene: Rita\_17 Start: 16583, Stop: 17413, Start Num: 10

Candidate Starts for Rita\_17:

(Start: 4 @16565 has 38 MA's), (Start: 10 @16583 has 195 MA's), (15, 16595), (16, 16619), (Start: 19 @16634 has 1 MA's), (26, 16679), (32, 16709), (35, 16739), (36, 16763), (46, 16853), (48, 16862), (53, 16910), (58, 16955), (59, 16961), (60, 16964), (65, 16988), (68, 17006), (77, 17069), (79, 17078), (82, 17117), (84, 17132), (89, 17168), (90, 17171), (91, 17180), (92, 17204), (96, 17225), (100, 17246), (101, 17249), (105, 17294), (114, 17351), (115, 17381), (119, 17399),

Gene: RitaG\_17 Start: 16694, Stop: 17542, Start Num: 4

Candidate Starts for RitaG\_17:

(Start: 4 @16694 has 38 MA's), (Start: 10 @16712 has 195 MA's), (15, 16724), (16, 16748), (Start: 19 @16763 has 1 MA's), (26, 16808), (32, 16838), (36, 16892), (46, 16982), (48, 16991), (53, 17039), (54, 17057), (58, 17084), (59, 17090), (60, 17093), (65, 17117), (66, 17120), (68, 17135), (79, 17207),

(82, 17246), (90, 17300), (91, 17309), (92, 17333), (96, 17354), (102, 17381), (105, 17423), (114, 17480), (115, 17510),

Gene: Rockne\_17 Start: 16556, Stop: 17386, Start Num: 10

Candidate Starts for Rockne\_17:

(Start: 5 @16541 has 27 MA's), (Start: 10 @16556 has 195 MA's), (15, 16568), (16, 16592), (Start: 19 @16607 has 1 MA's), (26, 16652), (32, 16682), (36, 16736), (46, 16826), (48, 16835), (53, 16883), (54, 16901), (58, 16928), (59, 16934), (60, 16937), (65, 16961), (66, 16964), (68, 16979), (77, 17042), (79, 17051), (82, 17090), (84, 17105), (87, 17129), (89, 17141), (90, 17144), (91, 17153), (92, 17177), (96, 17198), (100, 17219), (101, 17222), (105, 17267), (114, 17324), (115, 17354), (119, 17372),

Gene: RockyHorror\_18 Start: 16431, Stop: 17261, Start Num: 10

Candidate Starts for RockyHorror\_18:

(Start: 4 @16413 has 38 MA's), (Start: 10 @16431 has 195 MA's), (15, 16443), (16, 16467), (Start: 19 @16482 has 1 MA's), (26, 16527), (32, 16557), (35, 16587), (36, 16611), (46, 16701), (48, 16710), (53, 16758), (58, 16803), (59, 16809), (60, 16812), (65, 16836), (66, 16839), (68, 16854), (77, 16917), (79, 16926), (82, 16965), (84, 16980), (87, 17004), (89, 17016), (90, 17019), (91, 17028), (92, 17052), (96, 17073), (100, 17094), (101, 17097), (105, 17142), (114, 17199), (115, 17229),

Gene: Royals2015\_17 Start: 16590, Stop: 17420, Start Num: 10

Candidate Starts for Royals2015\_17:

(Start: 4 @16572 has 38 MA's), (Start: 10 @16590 has 195 MA's), (15, 16602), (16, 16626), (Start: 19 @16641 has 1 MA's), (26, 16686), (32, 16716), (35, 16746), (36, 16770), (46, 16860), (48, 16869), (53, 16917), (58, 16962), (59, 16968), (60, 16971), (65, 16995), (66, 16998), (68, 17013), (77, 17076), (79, 17085), (82, 17124), (84, 17139), (89, 17175), (90, 17178), (91, 17187), (92, 17211), (96, 17232), (105, 17301), (114, 17358), (115, 17388), (119, 17406),

Gene: Rubeelu\_19 Start: 16681, Stop: 17523, Start Num: 10

Candidate Starts for Rubeelu\_19:

(Start: 10 @16681 has 195 MA's), (22, 16768), (25, 16780), (32, 16813), (36, 16867), (48, 16966), (58, 17059), (60, 17068), (69, 17119), (77, 17173), (80, 17215), (84, 17236), (85, 17239), (87, 17260), (100, 17350), (104, 17386), (109, 17437), (115, 17494), (118, 17509),

Gene: Ruby\_17 Start: 16526, Stop: 17374, Start Num: 5

Candidate Starts for Ruby\_17:

(Start: 5 @16526 has 27 MA's), (Start: 10 @16541 has 195 MA's), (15, 16553), (16, 16577), (Start: 19 @16592 has 1 MA's), (26, 16637), (32, 16667), (46, 16814), (49, 16832), (53, 16871), (65, 16949), (66, 16952), (79, 17039), (82, 17078), (90, 17132), (91, 17141), (92, 17165), (96, 17186), (102, 17213), (105, 17255), (114, 17312), (115, 17342),

Gene: Ryadel\_61 Start: 36061, Stop: 36909, Start Num: 6

Candidate Starts for Ryadel\_61:

(Start: 6 @36061 has 36 MA's), (Start: 7 @36067 has 46 MA's), (14, 36082), (18, 36121), (23, 36166), (34, 36220), (45, 36334), (67, 36478), (69, 36499), (79, 36562), (87, 36640), (105, 36790), (111, 36826), (116, 36886),

Gene: SG4\_17 Start: 16703, Stop: 17551, Start Num: 4

Candidate Starts for SG4\_17:

(Start: 4 @16703 has 38 MA's), (Start: 10 @16721 has 195 MA's), (15, 16733), (16, 16757), (Start: 19 @16772 has 1 MA's), (26, 16817), (32, 16847), (35, 16877), (36, 16901), (46, 16991), (48, 17000), (53, 17048), (58, 17093), (59, 17099), (60, 17102), (65, 17126), (66, 17129), (68, 17144), (79, 17216), (82, 17255), (84, 17270), (89, 17306), (90, 17309), (91, 17318), (92, 17342), (96, 17363), (100, 17384), (105, 17432), (114, 17489), (115, 17519), (119, 17537),

Gene: Saal\_17 Start: 16541, Stop: 17386, Start Num: 5

Candidate Starts for Saal\_17:

(Start: 5 @16541 has 27 MA's), (Start: 10 @16556 has 195 MA's), (15, 16568), (16, 16592), (Start: 19 @16607 has 1 MA's), (26, 16652), (32, 16682), (36, 16736), (46, 16826), (48, 16835), (53, 16883), (54, 16901), (58, 16928), (59, 16934), (60, 16937), (65, 16961), (66, 16964), (68, 16979), (79, 17051), (82, 17090), (90, 17144), (91, 17153), (92, 17177), (96, 17198), (102, 17225), (105, 17267), (114, 17324), (115, 17354),

Gene: Sabbb\_18 Start: 16798, Stop: 17628, Start Num: 10

Candidate Starts for Sabbb\_18:

(Start: 5 @16783 has 27 MA's), (Start: 10 @16798 has 195 MA's), (15, 16810), (16, 16834), (Start: 19 @16849 has 1 MA's), (26, 16894), (32, 16924), (36, 16978), (46, 17068), (48, 17077), (54, 17143), (58, 17170), (59, 17176), (60, 17179), (65, 17203), (66, 17206), (79, 17293), (82, 17332), (90, 17386), (91, 17395), (92, 17419), (96, 17440), (102, 17467), (105, 17509), (114, 17566), (115, 17596),

Gene: Sandalphon\_18 Start: 17127, Stop: 17957, Start Num: 10

Candidate Starts for Sandalphon\_18:

(Start: 5 @17112 has 27 MA's), (Start: 10 @17127 has 195 MA's), (15, 17139), (16, 17163), (Start: 19 @17178 has 1 MA's), (26, 17223), (32, 17253), (36, 17307), (46, 17397), (48, 17406), (53, 17454), (58, 17499), (59, 17505), (60, 17508), (65, 17532), (66, 17535), (68, 17550), (77, 17613), (79, 17622), (84, 17676), (87, 17700), (89, 17712), (90, 17715), (91, 17724), (92, 17748), (96, 17769), (99, 17787), (105, 17838), (114, 17895), (115, 17925),

Gene: Sarma624\_18 Start: 16399, Stop: 17229, Start Num: 10

Candidate Starts for Sarma624\_18:

(Start: 4 @16381 has 38 MA's), (Start: 10 @16399 has 195 MA's), (15, 16411), (16, 16435), (Start: 19 @16450 has 1 MA's), (26, 16495), (32, 16525), (35, 16555), (36, 16579), (46, 16669), (48, 16678), (53, 16726), (58, 16771), (59, 16777), (60, 16780), (65, 16804), (68, 16822), (77, 16885), (79, 16894), (82, 16933), (84, 16948), (89, 16984), (90, 16987), (91, 16996), (92, 17020), (96, 17041), (105, 17110), (114, 17167), (115, 17197), (119, 17215),

Gene: Sassafras\_17 Start: 16705, Stop: 17535, Start Num: 10

Candidate Starts for Sassafras\_17:

(Start: 5 @16690 has 27 MA's), (Start: 10 @16705 has 195 MA's), (15, 16717), (16, 16741), (Start: 19 @16756 has 1 MA's), (26, 16801), (32, 16831), (35, 16861), (36, 16885), (46, 16975), (48, 16984), (50, 16996), (53, 17032), (59, 17083), (60, 17086), (65, 17110), (68, 17128), (77, 17191), (79, 17200), (84, 17254), (87, 17278), (90, 17293), (91, 17302), (92, 17326), (96, 17347), (102, 17374), (105, 17416), (114, 17473), (115, 17503),

Gene: SassyB\_17 Start: 16618, Stop: 17448, Start Num: 10

Candidate Starts for SassyB\_17:

(Start: 4 @16600 has 38 MA's), (Start: 10 @16618 has 195 MA's), (15, 16630), (16, 16654), (Start: 19 @16669 has 1 MA's), (26, 16714), (32, 16744), (35, 16774), (36, 16798), (46, 16888), (48, 16897), (50, 16909), (53, 16945), (58, 16990), (59, 16996), (60, 16999), (65, 17023), (66, 17026), (68, 17041), (77, 17104), (79, 17113), (82, 17152), (84, 17167), (89, 17203), (90, 17206), (91, 17215), (92, 17239), (96, 17260), (105, 17329), (114, 17386), (115, 17416),

Gene: Sbash\_18 Start: 17456, Stop: 18310, Start Num: 6

Candidate Starts for Sbash\_18:

(Start: 6 @17456 has 36 MA's), (17, 17507), (30, 17579), (37, 17654), (41, 17693), (52, 17792), (60, 17849), (67, 17879), (69, 17900), (94, 18116), (97, 18125), (99, 18140), (100, 18143), (105, 18197), (110, 18230), (116, 18287), (119, 18296),

Gene: Schatzie\_35 Start: 28403, Stop: 29254, Start Num: 11

Candidate Starts for Schatzie\_35:

(Start: 11 @28403 has 29 MA's), (13, 28409), (23, 28484), (37, 28583), (42, 28628), (43, 28631), (52, 28727), (63, 28817), (68, 28841), (69, 28850), (71, 28865), (85, 28973), (88, 28997), (92, 29039), (107, 29150), (112, 29174), (118, 29237),

Gene: Schnauzer\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Schnauzer\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: SchoolBus\_57 Start: 35245, Stop: 36093, Start Num: 6

Candidate Starts for SchoolBus\_57:

(Start: 6 @35245 has 36 MA's), (Start: 7 @35251 has 46 MA's), (14, 35266), (18, 35305), (23, 35350), (34, 35404), (45, 35518), (67, 35662), (69, 35683), (79, 35746), (87, 35824), (105, 35974), (116, 36070),

Gene: Schuy\_58 Start: 35036, Stop: 35884, Start Num: 6

Candidate Starts for Schuy\_58:

(Start: 6 @35036 has 36 MA's), (Start: 7 @35042 has 46 MA's), (14, 35057), (18, 35096), (23, 35141), (34, 35195), (45, 35309), (67, 35453), (69, 35474), (79, 35537), (87, 35615), (105, 35765), (116, 35861),

Gene: Scitech\_19 Start: 16711, Stop: 17553, Start Num: 10

Candidate Starts for Scitech\_19:

(Start: 10 @16711 has 195 MA's), (22, 16798), (33, 16846), (35, 16873), (40, 16912), (46, 16987), (48, 16996), (58, 17089), (69, 17149), (80, 17245), (84, 17266), (87, 17290), (90, 17305), (100, 17380), (104, 17416), (109, 17467), (115, 17524), (118, 17539),

Gene: Scottish\_18 Start: 17874, Stop: 18704, Start Num: 10

Candidate Starts for Scottish\_18:

(Start: 5 @17859 has 27 MA's), (Start: 10 @17874 has 195 MA's), (15, 17886), (16, 17910), (Start: 19 @17925 has 1 MA's), (26, 17970), (32, 18000), (35, 18030), (36, 18054), (46, 18144), (48, 18153), (53, 18201), (58, 18246), (59, 18252), (60, 18255), (65, 18279), (66, 18282), (68, 18297), (77, 18360), (79, 18369), (82, 18408), (84, 18423), (89, 18459), (90, 18462), (91, 18471), (92, 18495), (96, 18516), (101, 18540), (102, 18543), (105, 18585), (114, 18642), (115, 18672),

Gene: Seabastian\_17 Start: 16807, Stop: 17637, Start Num: 10

Candidate Starts for Seabastian\_17:

(Start: 5 @16792 has 27 MA's), (Start: 10 @16807 has 195 MA's), (15, 16819), (16, 16843), (Start: 19 @16858 has 1 MA's), (26, 16903), (32, 16933), (36, 16987), (37, 16993), (46, 17077), (48, 17086), (53, 17134), (54, 17152), (58, 17179), (59, 17185), (60, 17188), (65, 17212), (66, 17215), (79, 17302), (82, 17341), (89, 17392), (90, 17395), (91, 17404), (92, 17428), (96, 17449), (102, 17476), (105, 17518), (114, 17575), (115, 17605),

Gene: Seagreen\_18 Start: 16414, Stop: 17244, Start Num: 10

Candidate Starts for Seagreen\_18:

(Start: 4 @16396 has 38 MA's), (Start: 10 @16414 has 195 MA's), (15, 16426), (16, 16450), (Start: 19 @16465 has 1 MA's), (26, 16510), (32, 16540), (35, 16570), (36, 16594), (46, 16684), (48, 16693), (53, 16741), (58, 16786), (59, 16792), (60, 16795), (65, 16819), (66, 16822), (68, 16837), (77, 16900), (79, 16909), (82, 16948), (84, 16963), (89, 16999), (90, 17002), (91, 17011), (92, 17035), (96, 17056),



(105, 17125), (114, 17182), (115, 17212),

Gene: Shauna1\_17 Start: 16605, Stop: 17453, Start Num: 4

Candidate Starts for Shauna1\_17:

(Start: 4 @16605 has 38 MA's), (Start: 10 @16623 has 195 MA's), (15, 16635), (16, 16659), (Start: 19 @16674 has 1 MA's), (26, 16719), (32, 16749), (35, 16779), (36, 16803), (46, 16893), (48, 16902), (53, 16950), (58, 16995), (59, 17001), (60, 17004), (65, 17028), (68, 17046), (77, 17109), (79, 17118), (82, 17157), (84, 17172), (89, 17208), (90, 17211), (91, 17220), (92, 17244), (96, 17265), (105, 17334), (114, 17391), (115, 17421),

Gene: ShiLan\_17 Start: 16563, Stop: 17408, Start Num: 5

Candidate Starts for ShiLan\_17:

(Start: 5 @16563 has 27 MA's), (Start: 10 @16578 has 195 MA's), (15, 16590), (16, 16614), (Start: 19 @16629 has 1 MA's), (26, 16674), (32, 16704), (36, 16758), (46, 16848), (48, 16857), (53, 16905), (54, 16923), (58, 16950), (59, 16956), (60, 16959), (65, 16983), (66, 16986), (68, 17001), (79, 17073), (82, 17112), (89, 17163), (90, 17166), (91, 17175), (92, 17199), (96, 17220), (105, 17289), (114, 17346), (115, 17376),

Gene: Shida\_57 Start: 34943, Stop: 35791, Start Num: 6

Candidate Starts for Shida\_57:

(Start: 6 @34943 has 36 MA's), (Start: 7 @34949 has 46 MA's), (14, 34964), (18, 35003), (23, 35048), (34, 35102), (45, 35216), (67, 35360), (69, 35381), (79, 35444), (87, 35522), (105, 35672), (111, 35708), (116, 35768),

Gene: Shipwreck\_19 Start: 17845, Stop: 18738, Start Num: 7

Candidate Starts for Shipwreck\_19:

(Start: 7 @17845 has 46 MA's), (Start: 19 @17899 has 1 MA's), (21, 17923), (27, 17947), (31, 17968), (36, 18025), (39, 18037), (43, 18079), (50, 18139), (61, 18247), (75, 18370), (80, 18415), (81, 18418), (84, 18436), (85, 18439), (86, 18451), (90, 18472), (100, 18556), (105, 18613), (118, 18721), (119, 18724),

Gene: ShowerHandel\_17 Start: 16579, Stop: 17409, Start Num: 10

Candidate Starts for ShowerHandel\_17:

(Start: 5 @16564 has 27 MA's), (Start: 10 @16579 has 195 MA's), (15, 16591), (16, 16615), (Start: 19 @16630 has 1 MA's), (26, 16675), (32, 16705), (36, 16759), (46, 16849), (48, 16858), (53, 16906), (54, 16924), (58, 16951), (59, 16957), (60, 16960), (65, 16984), (66, 16987), (68, 17002), (79, 17074), (82, 17113), (89, 17164), (90, 17167), (91, 17176), (92, 17200), (96, 17221), (105, 17290), (114, 17347), (115, 17377),

Gene: ShrimpFriedEgg\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for ShrimpFriedEgg\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: ShroomBoi\_17 Start: 16608, Stop: 17438, Start Num: 10

Candidate Starts for ShroomBoi\_17:

(Start: 5 @16593 has 27 MA's), (Start: 10 @16608 has 195 MA's), (15, 16620), (16, 16644), (Start: 19 @16659 has 1 MA's), (26, 16704), (32, 16734), (36, 16788), (37, 16794), (46, 16878), (48, 16887), (53, 16935), (54, 16953), (58, 16980), (59, 16986), (60, 16989), (65, 17013), (66, 17016), (68, 17031), (79, 17103), (82, 17142), (90, 17196), (91, 17205), (92, 17229), (96, 17250), (102, 17277), (105, 17319), (114, 17376), (115, 17406),

Gene: Shweta\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Shweta\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: SiSi\_17 Start: 16562, Stop: 17392, Start Num: 10

Candidate Starts for SiSi\_17:

(Start: 5 @16547 has 27 MA's), (Start: 10 @16562 has 195 MA's), (15, 16574), (16, 16598), (Start: 19 @16613 has 1 MA's), (26, 16658), (32, 16688), (35, 16718), (36, 16742), (37, 16748), (46, 16832), (48, 16841), (53, 16889), (58, 16934), (59, 16940), (60, 16943), (65, 16967), (68, 16985), (77, 17048), (79, 17057), (82, 17096), (84, 17111), (89, 17147), (90, 17150), (91, 17159), (92, 17183), (96, 17204), (105, 17273), (114, 17330), (115, 17360),

Gene: Silvafighter\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Silvafighter\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Silvy\_19 Start: 16715, Stop: 17557, Start Num: 10

Candidate Starts for Silvy\_19:

(Start: 10 @16715 has 195 MA's), (22, 16802), (24, 16808), (33, 16850), (35, 16877), (40, 16916), (46, 16991), (48, 17000), (58, 17093), (69, 17153), (80, 17249), (84, 17270), (87, 17294), (90, 17309), (100, 17384), (104, 17420), (109, 17471), (115, 17528), (118, 17543),

Gene: SimranZ1\_18 Start: 16430, Stop: 17260, Start Num: 10

Candidate Starts for SimranZ1\_18:

(Start: 5 @16415 has 27 MA's), (Start: 10 @16430 has 195 MA's), (15, 16442), (16, 16466), (Start: 19 @16481 has 1 MA's), (26, 16526), (32, 16556), (35, 16586), (36, 16610), (46, 16700), (48, 16709), (53, 16757), (54, 16775), (58, 16802), (59, 16808), (60, 16811), (65, 16835), (66, 16838), (77, 16916), (79, 16925), (82, 16964), (84, 16979), (89, 17015), (90, 17018), (91, 17027), (92, 17051), (96, 17072), (101, 17096), (102, 17099), (105, 17141), (114, 17198), (115, 17228),

Gene: SkinnyPete\_19 Start: 16715, Stop: 17557, Start Num: 10

Candidate Starts for SkinnyPete\_19:

(Start: 10 @16715 has 195 MA's), (22, 16802), (25, 16814), (35, 16877), (48, 17000), (58, 17093), (69, 17153), (73, 17195), (80, 17249), (84, 17270), (85, 17273), (87, 17294), (90, 17309), (100, 17384), (104, 17420), (109, 17471), (115, 17528), (118, 17543),

Gene: Smooch\_60 Start: 36965, Stop: 37813, Start Num: 6

Candidate Starts for Smooch\_60:

(Start: 6 @36965 has 36 MA's), (Start: 7 @36971 has 46 MA's), (14, 36986), (18, 37025), (23, 37070), (34, 37124), (45, 37238), (67, 37382), (69, 37403), (79, 37466), (87, 37544), (105, 37694), (111, 37730), (116, 37790),

Gene: Smurph\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Smurph\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (24, 16807), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Snekmaggedon\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for Snekmaggedon\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Sonah\_20 Start: 18134, Stop: 19027, Start Num: 7

Candidate Starts for Sonah\_20:

(Start: 7 @18134 has 46 MA's), (Start: 19 @18188 has 1 MA's), (21, 18212), (27, 18236), (31, 18257), (36, 18314), (39, 18326), (43, 18368), (50, 18428), (61, 18536), (80, 18704), (81, 18707), (90, 18761), (100, 18845), (101, 18848), (105, 18902), (118, 19010), (119, 19013),

Gene: Sparkdehlily\_17 Start: 16602, Stop: 17432, Start Num: 10

Candidate Starts for Sparkdehlily\_17:

(Start: 5 @16587 has 27 MA's), (Start: 10 @16602 has 195 MA's), (15, 16614), (16, 16638), (Start: 19 @16653 has 1 MA's), (26, 16698), (32, 16728), (36, 16782), (46, 16872), (48, 16881), (53, 16929), (54, 16947), (58, 16974), (59, 16980), (60, 16983), (65, 17007), (66, 17010), (68, 17025), (79, 17097), (82, 17136), (90, 17190), (91, 17199), (92, 17223), (96, 17244), (102, 17271), (105, 17313), (114, 17370), (115, 17400),

Gene: Spartacus\_18 Start: 16654, Stop: 17484, Start Num: 10

Candidate Starts for Spartacus\_18:

(Start: 5 @16639 has 27 MA's), (Start: 10 @16654 has 195 MA's), (15, 16666), (16, 16690), (Start: 19 @16705 has 1 MA's), (26, 16750), (32, 16780), (35, 16810), (36, 16834), (37, 16840), (46, 16924), (48, 16933), (53, 16981), (58, 17026), (59, 17032), (60, 17035), (65, 17059), (66, 17062), (68, 17077), (77, 17140), (79, 17149), (82, 17188), (84, 17203), (90, 17242), (91, 17251), (92, 17275), (96, 17296), (100, 17317), (101, 17320), (105, 17365), (114, 17422), (115, 17452), (119, 17470),

Gene: Spikelee\_18 Start: 16396, Stop: 17226, Start Num: 10

Candidate Starts for Spikelee\_18:

(Start: 5 @16381 has 27 MA's), (Start: 10 @16396 has 195 MA's), (15, 16408), (16, 16432), (Start: 19 @16447 has 1 MA's), (26, 16492), (32, 16522), (36, 16576), (37, 16582), (46, 16666), (48, 16675), (53, 16723), (54, 16741), (58, 16768), (59, 16774), (60, 16777), (65, 16801), (66, 16804), (68, 16819), (79, 16891), (82, 16930), (90, 16984), (91, 16993), (92, 17017), (96, 17038), (102, 17065), (105, 17107), (114, 17164), (115, 17194),

Gene: SpongeBob\_19 Start: 16718, Stop: 17560, Start Num: 10

Candidate Starts for SpongeBob\_19:

(Start: 10 @16718 has 195 MA's), (22, 16805), (25, 16817), (35, 16880), (48, 17003), (58, 17096), (69, 17156), (73, 17198), (80, 17252), (84, 17273), (85, 17276), (87, 17297), (90, 17312), (100, 17387), (104, 17423), (109, 17474), (115, 17531), (118, 17546),

Gene: Spoonbill\_17 Start: 16559, Stop: 17407, Start Num: 4

Candidate Starts for Spoonbill\_17:

(Start: 4 @16559 has 38 MA's), (Start: 10 @16577 has 195 MA's), (15, 16589), (16, 16613), (Start: 19 @16628 has 1 MA's), (26, 16673), (32, 16703), (35, 16733), (36, 16757), (37, 16763), (46, 16847), (48, 16856), (53, 16904), (58, 16949), (59, 16955), (60, 16958), (65, 16982), (66, 16985), (68, 17000), (77, 17063), (79, 17072), (82, 17111), (84, 17126), (89, 17162), (90, 17165), (91, 17174), (92, 17198), (96, 17219), (105, 17288), (114, 17345), (115, 17375), (119, 17393),

Gene: Squint\_34 Start: 26823, Stop: 27674, Start Num: 12

Candidate Starts for Squint\_34:

(Start: 12 @26823 has 11 MA's), (13, 26829), (23, 26904), (32, 26946), (37, 27003), (42, 27048), (43, 27051), (51, 27144), (52, 27147), (54, 27168), (56, 27186), (63, 27237), (64, 27243), (68, 27261), (69,

27270), (82, 27375), (88, 27417), (92, 27459), (98, 27489), (105, 27549),

Gene: Squirty\_18 Start: 16478, Stop: 17308, Start Num: 10

Candidate Starts for Squirty\_18:

(Start: 5 @16463 has 27 MA's), (Start: 10 @16478 has 195 MA's), (15, 16490), (16, 16514), (Start: 19 @16529 has 1 MA's), (26, 16574), (32, 16604), (36, 16658), (37, 16664), (46, 16748), (48, 16757), (53, 16805), (58, 16850), (59, 16856), (60, 16859), (65, 16883), (66, 16886), (68, 16901), (77, 16964), (79, 16973), (82, 17012), (84, 17027), (85, 17030), (89, 17063), (90, 17066), (91, 17075), (92, 17099), (96, 17120), (102, 17147), (105, 17189), (114, 17246), (115, 17276), (119, 17294),

Gene: StAnnes\_17 Start: 16620, Stop: 17450, Start Num: 10

Candidate Starts for StAnnes\_17:

(Start: 4 @16602 has 38 MA's), (Start: 10 @16620 has 195 MA's), (15, 16632), (16, 16656), (Start: 19 @16671 has 1 MA's), (26, 16716), (32, 16746), (35, 16776), (36, 16800), (46, 16890), (48, 16899), (53, 16947), (58, 16992), (59, 16998), (60, 17001), (65, 17025), (66, 17028), (68, 17043), (77, 17106), (79, 17115), (82, 17154), (84, 17169), (89, 17205), (90, 17208), (91, 17217), (92, 17241), (96, 17262), (105, 17331), (114, 17388), (115, 17418),

Gene: Stap\_18 Start: 16603, Stop: 17433, Start Num: 10

Candidate Starts for Stap\_18:

(Start: 5 @16588 has 27 MA's), (Start: 10 @16603 has 195 MA's), (15, 16615), (16, 16639), (Start: 19 @16654 has 1 MA's), (26, 16699), (32, 16729), (35, 16759), (36, 16783), (46, 16873), (48, 16882), (50, 16894), (53, 16930), (59, 16981), (60, 16984), (65, 17008), (68, 17026), (77, 17089), (79, 17098), (84, 17152), (87, 17176), (90, 17191), (91, 17200), (92, 17224), (96, 17245), (102, 17272), (105, 17314), (114, 17371), (115, 17401),

Gene: Starcevich\_18 Start: 16349, Stop: 17194, Start Num: 5

Candidate Starts for Starcevich\_18:

(Start: 5 @16349 has 27 MA's), (Start: 10 @16364 has 195 MA's), (15, 16376), (16, 16400), (Start: 19 @16415 has 1 MA's), (26, 16460), (32, 16490), (35, 16520), (36, 16544), (46, 16634), (48, 16643), (53, 16691), (54, 16709), (58, 16736), (59, 16742), (60, 16745), (65, 16769), (66, 16772), (68, 16787), (79, 16859), (82, 16898), (90, 16952), (91, 16961), (92, 16985), (96, 17006), (102, 17033), (105, 17075), (114, 17132), (115, 17162),

Gene: StevieRay\_20 Start: 18135, Stop: 19028, Start Num: 7

Candidate Starts for StevieRay\_20:

(Start: 7 @18135 has 46 MA's), (Start: 19 @18189 has 1 MA's), (21, 18213), (27, 18237), (31, 18258), (36, 18315), (39, 18327), (43, 18369), (50, 18429), (61, 18537), (80, 18705), (81, 18708), (90, 18762), (100, 18846), (101, 18849), (118, 19011), (119, 19014),

Gene: StressBall\_20 Start: 18032, Stop: 18925, Start Num: 7

Candidate Starts for StressBall\_20:

(Start: 7 @18032 has 46 MA's), (Start: 19 @18086 has 1 MA's), (21, 18110), (27, 18134), (31, 18155), (36, 18212), (39, 18224), (43, 18266), (50, 18326), (61, 18434), (80, 18602), (81, 18605), (84, 18623), (85, 18626), (90, 18659), (100, 18743), (101, 18746), (105, 18800), (118, 18908), (119, 18911),

Gene: Strokeseat\_17 Start: 16668, Stop: 17498, Start Num: 10

Candidate Starts for Strokeseat\_17:

(Start: 4 @16650 has 38 MA's), (Start: 10 @16668 has 195 MA's), (15, 16680), (16, 16704), (Start: 19 @16719 has 1 MA's), (26, 16764), (32, 16794), (36, 16848), (46, 16938), (48, 16947), (53, 16995), (54, 17013), (58, 17040), (59, 17046), (60, 17049), (65, 17073), (66, 17076), (79, 17163), (82, 17202), (90, 17256), (91, 17265), (92, 17289), (96, 17310), (102, 17337), (105, 17379), (114, 17436), (115, 17466),

Gene: SuperGrey\_18 Start: 17226, Stop: 18077, Start Num: 4

Candidate Starts for SuperGrey\_18:

(Start: 4 @17226 has 38 MA's), (Start: 10 @17244 has 195 MA's), (15, 17256), (16, 17280), (Start: 19 @17295 has 1 MA's), (26, 17340), (32, 17370), (46, 17517), (49, 17535), (53, 17574), (58, 17619), (59, 17625), (60, 17628), (65, 17652), (66, 17655), (68, 17670), (77, 17733), (79, 17742), (82, 17781), (84, 17796), (87, 17820), (90, 17835), (91, 17844), (92, 17868), (96, 17889), (101, 17913), (102, 17916), (105, 17958), (114, 18015), (115, 18045),

Gene: Superphikiman\_35 Start: 26888, Stop: 27739, Start Num: 12

Candidate Starts for Superphikiman\_35:

(Start: 12 @26888 has 11 MA's), (13, 26894), (23, 26969), (32, 27011), (37, 27068), (42, 27113), (43, 27116), (51, 27209), (52, 27212), (54, 27233), (56, 27251), (63, 27302), (64, 27308), (68, 27326), (69, 27335), (82, 27440), (88, 27482), (92, 27524), (98, 27554), (105, 27614),

Gene: SwagPiggett\_17 Start: 16579, Stop: 17409, Start Num: 10

Candidate Starts for SwagPiggett\_17:

(Start: 5 @16564 has 27 MA's), (Start: 10 @16579 has 195 MA's), (15, 16591), (16, 16615), (Start: 19 @16630 has 1 MA's), (26, 16675), (32, 16705), (36, 16759), (46, 16849), (48, 16858), (53, 16906), (54, 16924), (58, 16951), (59, 16957), (60, 16960), (65, 16984), (66, 16987), (68, 17002), (79, 17074), (82, 17113), (90, 17167), (91, 17176), (92, 17200), (96, 17221), (102, 17248), (105, 17290), (114, 17347), (115, 17377),

Gene: TChen\_18 Start: 17110, Stop: 17940, Start Num: 10

Candidate Starts for TChen\_18:

(Start: 10 @17110 has 195 MA's), (29, 17224), (46, 17383), (49, 17401), (53, 17440), (54, 17458), (69, 17545), (78, 17605), (79, 17608), (83, 17650), (87, 17686),

Gene: TDanisky\_17 Start: 16602, Stop: 17432, Start Num: 10

Candidate Starts for TDanisky\_17:

(Start: 5 @16587 has 27 MA's), (Start: 10 @16602 has 195 MA's), (15, 16614), (16, 16638), (Start: 19 @16653 has 1 MA's), (26, 16698), (32, 16728), (36, 16782), (46, 16872), (48, 16881), (53, 16929), (54, 16947), (58, 16974), (59, 16980), (60, 16983), (65, 17007), (66, 17010), (68, 17025), (79, 17097), (82, 17136), (90, 17190), (91, 17199), (92, 17223), (96, 17244), (102, 17271), (105, 17313), (114, 17370), (115, 17400),

Gene: Taj\_17 Start: 16585, Stop: 17433, Start Num: 4

Candidate Starts for Taj\_17:

(Start: 4 @16585 has 38 MA's), (Start: 10 @16603 has 195 MA's), (15, 16615), (16, 16639), (Start: 19 @16654 has 1 MA's), (26, 16699), (32, 16729), (35, 16759), (36, 16783), (46, 16873), (48, 16882), (53, 16930), (58, 16975), (59, 16981), (60, 16984), (65, 17008), (66, 17011), (68, 17026), (77, 17089), (79, 17098), (82, 17137), (84, 17152), (89, 17188), (90, 17191), (91, 17200), (92, 17224), (96, 17245), (105, 17314), (114, 17371), (115, 17401),

Gene: Tapioca\_19 Start: 16714, Stop: 17556, Start Num: 10

Candidate Starts for Tapioca\_19:

(Start: 10 @16714 has 195 MA's), (22, 16801), (33, 16849), (35, 16876), (40, 16915), (46, 16990), (48, 16999), (58, 17092), (69, 17152), (80, 17248), (84, 17269), (87, 17293), (90, 17308), (100, 17383), (104, 17419), (109, 17470), (115, 17527), (118, 17542),

Gene: Techage\_20 Start: 18135, Stop: 19028, Start Num: 7

Candidate Starts for Techage\_20:

(Start: 7 @18135 has 46 MA's), (Start: 19 @18189 has 1 MA's), (21, 18213), (27, 18237), (31, 18258), (36, 18315), (39, 18327), (43, 18369), (50, 18429), (61, 18537), (80, 18705), (81, 18708), (90, 18762), (100, 18846), (101, 18849), (105, 18903), (118, 19011), (119, 19014),

Gene: TelAviv\_54 Start: 35218, Stop: 36066, Start Num: 6

Candidate Starts for TelAviv\_54:

(Start: 6 @35218 has 36 MA's), (Start: 7 @35224 has 46 MA's), (14, 35239), (18, 35278), (23, 35323), (34, 35377), (45, 35491), (67, 35635), (69, 35656), (79, 35719), (87, 35797), (105, 35947), (116, 36043),

Gene: Thespis\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Thespis\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (84, 18735), (85, 18738), (86, 18750), (90, 18771), (100, 18855), (118, 19020), (119, 19023),

Gene: ThetaBob\_19 Start: 16924, Stop: 17751, Start Num: 8

Candidate Starts for ThetaBob\_19:

(Start: 8 @16924 has 3 MA's), (29, 17038), (50, 17215), (53, 17251), (69, 17356), (87, 17497), (93, 17548), (107, 17656), (118, 17737),

Gene: Thibault\_34 Start: 29524, Stop: 30375, Start Num: 11

Candidate Starts for Thibault\_34:

(Start: 11 @29524 has 29 MA's), (13, 29530), (23, 29605), (28, 29620), (37, 29704), (42, 29749), (44, 29758), (51, 29845), (63, 29938), (69, 29971), (70, 29977), (82, 30076), (85, 30094), (90, 30127), (92, 30160), (93, 30163), (103, 30229), (116, 30352), (118, 30358),

Gene: ThreeRngTarjay\_36 Start: 29514, Stop: 30365, Start Num: 11

Candidate Starts for ThreeRngTarjay\_36:

(Start: 11 @29514 has 29 MA's), (13, 29520), (23, 29595), (28, 29610), (37, 29694), (42, 29739), (44, 29748), (52, 29838), (63, 29928), (69, 29961), (70, 29967), (90, 30117), (92, 30150), (93, 30153), (103, 30219), (116, 30342), (118, 30348),

Gene: ThulaThula\_19 Start: 17846, Stop: 18739, Start Num: 7

Candidate Starts for ThulaThula\_19:

(Start: 7 @17846 has 46 MA's), (Start: 19 @17900 has 1 MA's), (21, 17924), (23, 17936), (36, 18026), (61, 18248), (62, 18251), (64, 18287), (90, 18473), (100, 18557), (105, 18614), (108, 18638), (118, 18722),

Gene: TootsiePop\_18 Start: 16428, Stop: 17276, Start Num: 5

Candidate Starts for TootsiePop\_18:

(Start: 5 @16428 has 27 MA's), (Start: 10 @16443 has 195 MA's), (15, 16455), (16, 16479), (Start: 19 @16494 has 1 MA's), (26, 16539), (32, 16569), (46, 16716), (49, 16734), (53, 16773), (58, 16818), (59, 16824), (60, 16827), (65, 16851), (68, 16869), (77, 16932), (79, 16941), (82, 16980), (84, 16995), (89, 17031), (90, 17034), (91, 17043), (92, 17067), (96, 17088), (102, 17115), (105, 17157), (114, 17214), (115, 17244),

Gene: Tootsieroll\_18 Start: 16412, Stop: 17242, Start Num: 10

Candidate Starts for Tootsieroll\_18:

(Start: 4 @16394 has 38 MA's), (Start: 10 @16412 has 195 MA's), (15, 16424), (16, 16448), (Start: 19 @16463 has 1 MA's), (26, 16508), (32, 16538), (35, 16568), (36, 16592), (46, 16682), (48, 16691), (53, 16739), (58, 16784), (59, 16790), (60, 16793), (65, 16817), (66, 16820), (77, 16898), (79, 16907), (82, 16946), (84, 16961), (89, 16997), (90, 17000), (91, 17009), (92, 17033), (96, 17054), (105,

17123), (114, 17180), (115, 17210),

Gene: Toron\_19 Start: 17045, Stop: 17872, Start Num: 8

Candidate Starts for Toron\_19:

(Start: 8 @17045 has 3 MA's), (26, 17141), (29, 17159), (53, 17372), (54, 17390), (65, 17450), (66, 17453), (69, 17477), (78, 17537), (79, 17540), (83, 17582), (90, 17633), (91, 17642),

Gene: Tortellini\_19 Start: 17747, Stop: 18640, Start Num: 7

Candidate Starts for Tortellini\_19:

(Start: 7 @17747 has 46 MA's), (Start: 19 @17801 has 1 MA's), (21, 17825), (31, 17870), (36, 17927), (50, 18041), (61, 18149), (85, 18341), (90, 18374), (100, 18458), (101, 18461), (105, 18515), (106, 18527), (118, 18623),

Gene: Totinger\_18 Start: 16362, Stop: 17192, Start Num: 10

Candidate Starts for Totinger\_18:

(Start: 5 @16347 has 27 MA's), (Start: 10 @16362 has 195 MA's), (15, 16374), (16, 16398), (Start: 19 @16413 has 1 MA's), (26, 16458), (32, 16488), (35, 16518), (36, 16542), (46, 16632), (48, 16641), (53, 16689), (54, 16707), (58, 16734), (59, 16740), (60, 16743), (65, 16767), (66, 16770), (68, 16785), (79, 16857), (82, 16896), (90, 16950), (91, 16959), (92, 16983), (96, 17004), (102, 17031), (105, 17073), (114, 17130), (115, 17160),

Gene: Tweety\_17 Start: 16606, Stop: 17454, Start Num: 4

Candidate Starts for Tweety\_17:

(Start: 4 @16606 has 38 MA's), (Start: 10 @16624 has 195 MA's), (15, 16636), (16, 16660), (Start: 19 @16675 has 1 MA's), (26, 16720), (32, 16750), (35, 16780), (36, 16804), (46, 16894), (48, 16903), (53, 16951), (58, 16996), (59, 17002), (60, 17005), (65, 17029), (66, 17032), (68, 17047), (77, 17110), (79, 17119), (82, 17158), (84, 17173), (89, 17209), (90, 17212), (91, 17221), (92, 17245), (96, 17266), (105, 17335), (114, 17392), (115, 17422),

Gene: UncleRicky\_18 Start: 16392, Stop: 17222, Start Num: 10

Candidate Starts for UncleRicky\_18:

(Start: 4 @16374 has 38 MA's), (Start: 10 @16392 has 195 MA's), (15, 16404), (16, 16428), (Start: 19 @16443 has 1 MA's), (26, 16488), (32, 16518), (35, 16548), (36, 16572), (46, 16662), (48, 16671), (53, 16719), (58, 16764), (59, 16770), (60, 16773), (65, 16797), (68, 16815), (77, 16878), (79, 16887), (82, 16926), (84, 16941), (89, 16977), (90, 16980), (91, 16989), (92, 17013), (96, 17034), (105, 17103), (114, 17160), (115, 17190),

Gene: VRedHorse\_17 Start: 16722, Stop: 17567, Start Num: 5

Candidate Starts for VRedHorse\_17:

(Start: 5 @16722 has 27 MA's), (Start: 10 @16737 has 195 MA's), (15, 16749), (16, 16773), (Start: 19 @16788 has 1 MA's), (26, 16833), (32, 16863), (36, 16917), (46, 17007), (48, 17016), (53, 17064), (54, 17082), (58, 17109), (59, 17115), (60, 17118), (66, 17145), (68, 17160), (79, 17232), (82, 17271), (90, 17325), (91, 17334), (92, 17358), (96, 17379), (102, 17406), (105, 17448), (114, 17505), (115, 17535),

Gene: Vagabond\_55 Start: 35081, Stop: 35929, Start Num: 6

Candidate Starts for Vagabond\_55:

(Start: 6 @35081 has 36 MA's), (Start: 7 @35087 has 46 MA's), (14, 35102), (18, 35141), (23, 35186), (34, 35240), (45, 35354), (67, 35498), (69, 35519), (79, 35582), (87, 35660), (105, 35810), (116, 35906),

Gene: Velveteen\_18 Start: 16381, Stop: 17229, Start Num: 4

Candidate Starts for Velveteen\_18:

(Start: 4 @16381 has 38 MA's), (Start: 10 @16399 has 195 MA's), (15, 16411), (16, 16435), (Start: 19 @16450 has 1 MA's), (26, 16495), (32, 16525), (35, 16555), (36, 16579), (46, 16669), (48, 16678), (53, 16726), (58, 16771), (59, 16777), (60, 16780), (65, 16804), (68, 16822), (77, 16885), (79, 16894), (82, 16933), (84, 16948), (89, 16984), (90, 16987), (91, 16996), (92, 17020), (96, 17041), (105, 17110), (114, 17167), (115, 17197), (119, 17215),

Gene: Venti\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Venti\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (84, 18735), (85, 18738), (86, 18750), (90, 18771), (100, 18855), (118, 19020), (119, 19023),

Gene: Veteran\_17 Start: 16572, Stop: 17405, Start Num: 10

Candidate Starts for Veteran\_17:

(Start: 5 @16557 has 27 MA's), (Start: 10 @16572 has 195 MA's), (15, 16584), (16, 16608), (Start: 19 @16623 has 1 MA's), (26, 16668), (32, 16698), (46, 16845), (49, 16863), (53, 16902), (65, 16980), (66, 16983), (79, 17070), (82, 17109), (90, 17163), (91, 17172), (92, 17196), (96, 17217), (102, 17244), (105, 17286), (114, 17343), (115, 17373),

Gene: Vidya\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Vidya\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Vorrps\_57 Start: 35293, Stop: 36141, Start Num: 6

Candidate Starts for Vorrps\_57:

(Start: 6 @35293 has 36 MA's), (Start: 7 @35299 has 46 MA's), (14, 35314), (18, 35353), (23, 35398), (34, 35452), (45, 35566), (67, 35710), (69, 35731), (79, 35794), (87, 35872), (105, 36022), (116, 36118),

Gene: Wachhund\_17 Start: 16595, Stop: 17425, Start Num: 10

Candidate Starts for Wachhund\_17:

(Start: 4 @16577 has 38 MA's), (Start: 10 @16595 has 195 MA's), (15, 16607), (16, 16631), (Start: 19 @16646 has 1 MA's), (26, 16691), (32, 16721), (35, 16751), (36, 16775), (46, 16865), (48, 16874), (53, 16922), (58, 16967), (59, 16973), (60, 16976), (65, 17000), (66, 17003), (68, 17018), (77, 17081), (79, 17090), (82, 17129), (84, 17144), (90, 17183), (91, 17192), (92, 17216), (96, 17237), (102, 17264), (105, 17306), (114, 17363), (115, 17393),

Gene: Wanda\_38 Start: 28959, Stop: 29810, Start Num: 11

Candidate Starts for Wanda\_38:

(Start: 11 @28959 has 29 MA's), (13, 28965), (23, 29040), (28, 29055), (37, 29139), (42, 29184), (43, 29187), (51, 29280), (52, 29283), (63, 29373), (64, 29379), (68, 29397), (69, 29406), (82, 29511), (88, 29553), (92, 29595), (98, 29625), (105, 29685),

Gene: Wee\_18 Start: 17126, Stop: 17974, Start Num: 4

Candidate Starts for Wee\_18:

(Start: 4 @17126 has 38 MA's), (Start: 10 @17144 has 195 MA's), (15, 17156), (16, 17180), (Start: 19 @17195 has 1 MA's), (26, 17240), (32, 17270), (35, 17300), (36, 17324), (46, 17414), (48, 17423), (53, 17471), (58, 17516), (59, 17522), (60, 17525), (65, 17549), (66, 17552), (68, 17567), (77, 17630), (79, 17639), (82, 17678), (84, 17693), (89, 17729), (90, 17732), (91, 17741), (92, 17765), (96, 17786), (105, 17855), (114, 17912), (115, 17942),



Gene: Whatsapiecost\_17 Start: 16602, Stop: 17450, Start Num: 4

Candidate Starts for Whatsapiecost\_17:

(Start: 4 @16602 has 38 MA's), (Start: 10 @16620 has 195 MA's), (15, 16632), (16, 16656), (Start: 19 @16671 has 1 MA's), (26, 16716), (32, 16746), (35, 16776), (36, 16800), (46, 16890), (48, 16899), (53, 16947), (58, 16992), (59, 16998), (60, 17001), (65, 17025), (68, 17043), (77, 17106), (79, 17115), (82, 17154), (84, 17169), (89, 17205), (90, 17208), (91, 17217), (92, 17241), (96, 17262), (105, 17331), (114, 17388), (115, 17418),

Gene: Whouxphf\_17 Start: 16677, Stop: 17507, Start Num: 10

Candidate Starts for Whouxphf\_17:

(Start: 5 @16662 has 27 MA's), (Start: 10 @16677 has 195 MA's), (15, 16689), (16, 16713), (Start: 19 @16728 has 1 MA's), (26, 16773), (32, 16803), (36, 16857), (37, 16863), (46, 16947), (48, 16956), (53, 17004), (54, 17022), (58, 17049), (59, 17055), (60, 17058), (65, 17082), (66, 17085), (68, 17100), (79, 17172), (82, 17211), (90, 17265), (91, 17274), (92, 17298), (96, 17319), (102, 17346), (105, 17388), (114, 17445), (115, 17475),

Gene: Wildflower\_57 Start: 34805, Stop: 35653, Start Num: 6

Candidate Starts for Wildflower\_57:

(Start: 6 @34805 has 36 MA's), (Start: 7 @34811 has 46 MA's), (14, 34826), (18, 34865), (23, 34910), (34, 34964), (45, 35078), (67, 35222), (69, 35243), (79, 35306), (87, 35384), (105, 35534), (116, 35630),

Gene: WillSterrel\_18 Start: 17930, Stop: 18760, Start Num: 10

Candidate Starts for WillSterrel\_18:

(Start: 5 @17915 has 27 MA's), (Start: 10 @17930 has 195 MA's), (15, 17942), (16, 17966), (Start: 19 @17981 has 1 MA's), (26, 18026), (32, 18056), (36, 18110), (46, 18200), (48, 18209), (53, 18257), (54, 18275), (58, 18302), (59, 18308), (60, 18311), (65, 18335), (66, 18338), (68, 18353), (79, 18425), (82, 18464), (90, 18518), (91, 18527), (92, 18551), (96, 18572), (102, 18599), (105, 18641), (114, 18698), (115, 18728),

Gene: Willsammy\_20 Start: 18036, Stop: 18929, Start Num: 7

Candidate Starts for Willsammy\_20:

(Start: 7 @18036 has 46 MA's), (Start: 19 @18090 has 1 MA's), (21, 18114), (27, 18138), (31, 18159), (36, 18216), (39, 18228), (43, 18270), (50, 18330), (61, 18438), (80, 18606), (81, 18609), (90, 18663), (100, 18747), (101, 18750), (105, 18804), (118, 18912), (119, 18915),

Gene: Winget\_58 Start: 35511, Stop: 36359, Start Num: 6

Candidate Starts for Winget\_58:

(Start: 6 @35511 has 36 MA's), (Start: 7 @35517 has 46 MA's), (14, 35532), (18, 35571), (23, 35616), (34, 35670), (45, 35784), (67, 35928), (69, 35949), (79, 36012), (87, 36090), (105, 36240), (116, 36336),

Gene: XFactor\_17 Start: 16576, Stop: 17406, Start Num: 10

Candidate Starts for XFactor\_17:

(Start: 4 @16558 has 38 MA's), (Start: 10 @16576 has 195 MA's), (15, 16588), (16, 16612), (Start: 19 @16627 has 1 MA's), (26, 16672), (32, 16702), (35, 16732), (36, 16756), (46, 16846), (48, 16855), (53, 16903), (58, 16948), (59, 16954), (60, 16957), (65, 16981), (68, 16999), (77, 17062), (79, 17071), (82, 17110), (84, 17125), (89, 17161), (90, 17164), (91, 17173), (92, 17197), (96, 17218), (105, 17287), (114, 17344), (115, 17374),

Gene: Xavia\_20 Start: 18148, Stop: 19041, Start Num: 7

Candidate Starts for Xavia\_20:

(Start: 7 @18148 has 46 MA's), (Start: 19 @18202 has 1 MA's), (21, 18226), (27, 18250), (31, 18271), (36, 18328), (39, 18340), (43, 18382), (50, 18442), (61, 18550), (80, 18718), (81, 18721), (86, 18754), (90, 18775), (100, 18859), (118, 19024), (119, 19027),

Gene: Xeno\_19 Start: 16711, Stop: 17553, Start Num: 10

Candidate Starts for Xeno\_19:

(Start: 10 @16711 has 195 MA's), (22, 16798), (33, 16846), (35, 16873), (40, 16912), (46, 16987), (48, 16996), (58, 17089), (69, 17149), (80, 17245), (84, 17266), (87, 17290), (90, 17305), (100, 17380), (104, 17416), (109, 17467), (115, 17524), (118, 17539),

Gene: Xerxes\_19 Start: 16711, Stop: 17553, Start Num: 10

Candidate Starts for Xerxes\_19:

(Start: 10 @16711 has 195 MA's), (22, 16798), (24, 16804), (33, 16846), (35, 16873), (40, 16912), (46, 16987), (48, 16996), (58, 17089), (69, 17149), (80, 17245), (84, 17266), (87, 17290), (90, 17305), (100, 17380), (104, 17416), (109, 17467), (115, 17524), (118, 17539),

Gene: Xula\_19 Start: 17869, Stop: 18720, Start Num: 6

Candidate Starts for Xula\_19:

(Start: 6 @17869 has 36 MA's), (20, 17935), (38, 18070), (41, 18106), (47, 18154), (53, 18208), (57, 18250), (67, 18289), (69, 18310), (72, 18328), (76, 18373), (85, 18439), (94, 18526), (97, 18535), (99, 18550), (100, 18553), (101, 18556), (110, 18640), (116, 18697),

Gene: Yeet\_36 Start: 28648, Stop: 29499, Start Num: 11

Candidate Starts for Yeet\_36:

(Start: 11 @28648 has 29 MA's), (13, 28654), (23, 28729), (37, 28828), (42, 28873), (43, 28876), (52, 28972), (63, 29062), (68, 29086), (69, 29095), (71, 29110), (85, 29218), (88, 29242), (92, 29284), (107, 29395), (112, 29419), (118, 29482),

Gene: Yorick\_17 Start: 16577, Stop: 17407, Start Num: 10

Candidate Starts for Yorick\_17:

(Start: 5 @16562 has 27 MA's), (Start: 10 @16577 has 195 MA's), (15, 16589), (16, 16613), (Start: 19 @16628 has 1 MA's), (26, 16673), (32, 16703), (36, 16757), (46, 16847), (48, 16856), (53, 16904), (54, 16922), (58, 16949), (59, 16955), (60, 16958), (65, 16982), (66, 16985), (68, 17000), (79, 17072), (82, 17111), (89, 17162), (90, 17165), (91, 17174), (92, 17198), (96, 17219), (105, 17288), (114, 17345), (115, 17375),

Gene: YungJamal\_62 Start: 36703, Stop: 37551, Start Num: 6

Candidate Starts for YungJamal\_62:

(Start: 6 @36703 has 36 MA's), (Start: 7 @36709 has 46 MA's), (14, 36724), (18, 36763), (23, 36808), (34, 36862), (45, 36976), (67, 37120), (69, 37141), (79, 37204), (87, 37282), (105, 37432), (116, 37528),

Gene: Zakhe101\_57 Start: 35349, Stop: 36197, Start Num: 6

Candidate Starts for Zakhe101\_57:

(Start: 6 @35349 has 36 MA's), (Start: 7 @35355 has 46 MA's), (14, 35370), (18, 35409), (23, 35454), (34, 35508), (45, 35622), (67, 35766), (69, 35787), (79, 35850), (87, 35928), (105, 36078), (116, 36174),

Gene: Zelink\_39 Start: 30458, Stop: 31309, Start Num: 11

Candidate Starts for Zelink\_39:

(Start: 11 @30458 has 29 MA's), (13, 30464), (23, 30539), (28, 30554), (37, 30638), (42, 30683), (44, 30692), (52, 30782), (63, 30872), (69, 30905), (70, 30911), (90, 31061), (92, 31094), (93, 31097), (103, 31163), (116, 31286), (118, 31292),

Gene: Zerg\_17 Start: 16540, Stop: 17370, Start Num: 10

Candidate Starts for Zerg\_17:

(Start: 4 @16522 has 38 MA's), (Start: 10 @16540 has 195 MA's), (15, 16552), (16, 16576), (Start: 19 @16591 has 1 MA's), (26, 16636), (32, 16666), (35, 16696), (36, 16720), (46, 16810), (48, 16819), (53, 16867), (58, 16912), (59, 16918), (60, 16921), (65, 16945), (66, 16948), (68, 16963), (77, 17026), (79, 17035), (82, 17074), (84, 17089), (89, 17125), (90, 17128), (91, 17137), (92, 17161), (96, 17182), (105, 17251), (114, 17308), (115, 17338), (119, 17356),

Gene: Zilizebeth\_20 Start: 18144, Stop: 19037, Start Num: 7

Candidate Starts for Zilizebeth\_20:

(Start: 7 @18144 has 46 MA's), (Start: 19 @18198 has 1 MA's), (21, 18222), (27, 18246), (31, 18267), (36, 18324), (39, 18336), (43, 18378), (50, 18438), (61, 18546), (80, 18714), (81, 18717), (90, 18771), (100, 18855), (101, 18858), (105, 18912), (118, 19020), (119, 19023),

Gene: Zizzle\_17 Start: 16548, Stop: 17378, Start Num: 10

Candidate Starts for Zizzle\_17:

(Start: 5 @16533 has 27 MA's), (Start: 10 @16548 has 195 MA's), (15, 16560), (16, 16584), (Start: 19 @16599 has 1 MA's), (26, 16644), (32, 16674), (36, 16728), (46, 16818), (48, 16827), (53, 16875), (54, 16893), (58, 16920), (59, 16926), (60, 16929), (65, 16953), (66, 16956), (68, 16971), (79, 17043), (82, 17082), (89, 17133), (90, 17136), (91, 17145), (92, 17169), (96, 17190), (105, 17259), (114, 17316), (115, 17346),