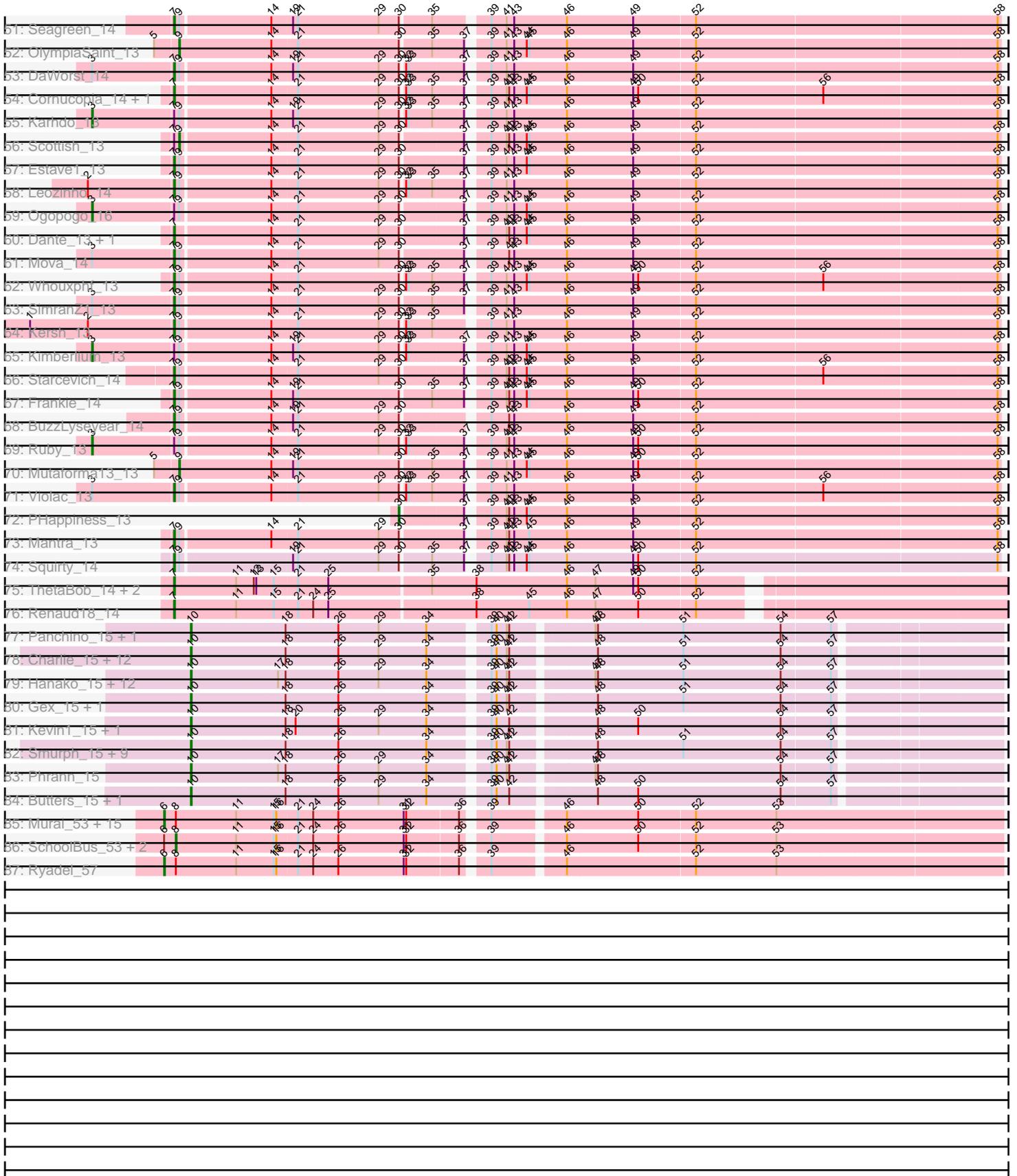




Pham 289018



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 289018 Report

This analysis was run 03/28/26 on database version 641.

Pham number 289018 has 293 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Hlubikazi\_13, Brocalys\_13, JalFarm20\_14, Clifton\_13, Rockne\_13, OwlsT2W\_14, Eradicator\_13, BlueCrab\_13, Saal\_13, Gandolph\_13, Cheesepuff\_13, Cerasum\_14, Inventum\_13, BodEinwohner17\_13, Mandlovu\_13, Deb65\_13, Dorothy\_13, Brookers\_14, Radiance\_13, Nimbo\_13, Nitzel\_14, Velveteen\_14, Daenerys\_13, Phatniss\_13, Pollywog\_14, Pippy\_12, Blexus\_13, Sarma624\_14, Sassafras\_13, VRedHorse\_13, Leperchaun\_13, Strokeseat\_13, BigPhil\_14, Pacc40\_13, JoeyJr\_13, Kingsley\_14, OldBen\_13, Geralt\_13, Gorge\_13, Latretium\_13, Koella\_13
- Track 2 : DosHalletts\_14, Totinger\_14, Slim\_14, Awesomesauce\_14, PhilipPhlop\_13, LittleShirley\_14, Piper2020\_14, Emmaloid\_14
- Track 3 : Emma\_13, Galactic\_13, Batiatus\_13, Job42\_14, MilleniumForce\_14, SiSi\_13, KingJulian\_13, DLane\_12
- Track 4 : Bubbles123\_13, Donkeykong\_12, Cabrinians\_13, James\_13, FreddyB\_13, BobaPhett\_13, Yorick\_13, Martik\_13, Burwell21\_13, Jarcob\_13, Mattes\_13, SwagPiggett\_13, Lizziana\_13, Maravista\_13, Nivrat\_13, Philus\_13, ShowerHandel\_13, Priscilla\_13, Zizzle\_13
- Track 5 : WillSterrel\_13, Guppsters\_13, IrishSherpFalk\_13, Spartacus\_13
- Track 6 : Stap\_14, Tootsieroll\_14, Ramsey\_14, RockyHorror\_14
- Track 7 : Modragons\_13, Sebastian\_13, OfUltron\_13, Fancypants\_13, Llama\_13, Ochi17\_13
- Track 8 : Krakatau\_14, Bobi\_14, Phanphagia\_13, Shauna1\_12
- Track 9 : GUmbie\_12, DeadP\_13, SG4\_13, Tweety\_12, KristaRAM\_14, Ovechkin\_13, Royals2015\_13, Chuckly\_13, Taj\_13, Byougenkin\_13, SassyB\_13, CaptainTrips\_14, Whatsapiecost\_13, Veteran\_13, Fruitloop\_13, Wee\_12, Melissauren88\_13, QuickMath\_13, PopTart\_13, Firehouse51\_13
- Track 10 : Wachhund\_13
- Track 11 : Aubs\_13
- Track 12 : MilanaBonita\_14, NewHope4\_13, DotProduct\_13, Phalconet\_13, Madiba\_14, DillTech15\_13, Hamulus\_13, XFactor\_13, Filuzino\_13, Ardmore\_12, EleanorGeorge\_13, Phasih\_13, ShroomBoi\_13, Bipolar\_13, Akhila\_14
- Track 13 : Sabbb\_13, Doomphist\_13, Poenanya\_13
- Track 14 : ArcusAngelus\_13, Mozy\_13, Chevrolet\_13
- Track 15 : RitaG\_13
- Track 16 : Vivum\_13
- Track 17 : Flathead\_14, Brushbloom\_14
- Track 18 : Quico\_14, Girafales\_14
- Track 19 : Moonbeam\_13, Rialto\_14

- Track 20 : Coco12\_14
- Track 21 : MisterCuddles\_13, Girr\_13
- Track 22 : Juice456\_14, Plumbus\_14
- Track 23 : Zerg\_13
- Track 24 : StAnnes\_13
- Track 25 : ShiLan\_13, ByChance\_13
- Track 26 : GigiOuiOui\_13
- Track 27 : UncleRicky\_14, Enby\_14, Lorde\_14, Drago\_14
- Track 28 : Eish\_13, Spoonbill\_13
- Track 29 : Aloeri\_14, Misha28\_14, ChickenDinner\_14, TootsiePop\_14, DocMcStuffins\_14
- Track 30 : Doug\_13
- Track 31 : DoRead\_13, SuperGrey\_13, Rita\_13, Kenuha5\_13
- Track 32 : Spikelee\_14
- Track 33 : MinionDave\_14
- Track 34 : IbOuu\_13, KingMidas\_13
- Track 35 : PhesterPhotato\_13
- Track 36 : Hegedechwinu\_14, LunaBlu\_13
- Track 37 : LastJedi\_13
- Track 38 : Sparkdehlily\_13, DRBy19\_13, TDanisky\_13, MadMen\_13
- Track 39 : Fastidio\_13
- Track 40 : Alexphander\_14
- Track 41 : Hades\_13
- Track 42 : Crumble\_13, NormanBulbieJr\_13
- Track 43 : Mahavrat\_13, Juniper1\_13
- Track 44 : Florinda\_13
- Track 45 : Harley\_13, Ibhubesi\_12
- Track 46 : Sandalphon\_13
- Track 47 : Beakin\_14
- Track 48 : LilMoolah\_12
- Track 49 : Polka14\_13
- Track 50 : DirtMcgirt\_14
- Track 51 : Seagreen\_14
- Track 52 : OlympiaSaint\_13
- Track 53 : DaWorst\_14
- Track 54 : Cornucopia\_14, Marker\_14
- Track 55 : Karhdo\_13
- Track 56 : Scottish\_13
- Track 57 : Estave1\_13
- Track 58 : Leozinho\_14
- Track 59 : Ogopogo\_16
- Track 60 : Dante\_13, Che8\_13
- Track 61 : Mova\_14
- Track 62 : Whouxphf\_13
- Track 63 : SimranZ1\_13
- Track 64 : Kersh\_13
- Track 65 : Kimberlium\_13
- Track 66 : Starcevich\_14
- Track 67 : Frankie\_14
- Track 68 : BuzzLyseyear\_14
- Track 69 : Ruby\_13
- Track 70 : Mutaforma13\_13
- Track 71 : Violac\_13

- Track 72 : PHappiness\_13
- Track 73 : Mantra\_13
- Track 74 : Squirty\_14
- Track 75 : ThetaBob\_14, TChen\_14, LunaStella\_14
- Track 76 : Renaud18\_14
- Track 77 : Panchino\_15, SkinnyPete\_15
- Track 78 : Charlie\_15, Andies\_15, Aggie\_15, Bosection6\_15, Magsby\_15, Chewbacca\_15, Philonius\_15, Silvy\_15, Melville\_15, Xeno\_15, Journey\_15, Tapioca\_15, Fulbright\_15
- Track 79 : Hanako\_15, PhancyPhin\_15, Raymond7\_15, Snekmaggedon\_15, BabeRuth\_15, SpongeBob\_15, ShrimpFriedEgg\_15, Shweta\_15, Spinach\_15, Nenae\_15, Jamie19\_15, Rebel\_15, Redi\_15
- Track 80 : Gex\_15, EGUnicorn\_15
- Track 81 : Kevin1\_15, MichelleMyBell\_15
- Track 82 : Smurph\_15, Parmesanjohn\_15, Duplicity\_15, Xerxes\_15, Pipsqueaks\_15, Carcharodon\_15, Silvafighter\_15, Tortoise12\_15, Schnauzer\_15, Phloss\_15
- Track 83 : Phrann\_15
- Track 84 : Butters\_15, Rubeelu\_15
- Track 85 : Murai\_53, Vagabond\_53, Familton\_54, Zebo\_53, Krili\_52, Winget\_54, NiebruSaylor\_52, Shida\_53, TelAviv\_50, YungJamal\_56, Catdawg\_53, Alkhayr\_53, Zakhe101\_53, Blessica\_54, Vorrrps\_51, Mori\_52
- Track 86 : SchoolBus\_53, Smooch\_55, JangDynasty\_53
- Track 87 : Ryadel\_57

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

The start number called the most often in the published annotations is 7, it was called in 149 of the 292 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_14, Aloeri\_14, Awesomesauce\_14, Beakin\_14, BigPhil\_14, Blexus\_13, BlueCrab\_13, BobaPhett\_13, BodEinwohner17\_13, Brocalys\_13, Brookers\_14, Bubbles123\_13, Burwell21\_13, BuzzLyseyear\_14, Cabrinians\_13, Cerasum\_14, Che8\_13, CheesePuff\_13, ChickenDinner\_14, Clifton\_13, Coco12\_14, Cornucopia\_14, Crumble\_13, DRBy19\_13, DaWorst\_14, Daenerys\_13, Dante\_13, Deb65\_13, DirtMcGirt\_14, DocMcStuffins\_14, Donkeykong\_12, Doomphist\_13, Dorothy\_13, DosHalletts\_14, Doug\_13, Drago\_14, Eish\_13, Emmaloid\_14, Enby\_14, Eradicator\_13, Estave1\_13, Fancypants\_13, Fastidio\_13, Florinda\_13, Frankie\_14, FreddyB\_13, Gandolph\_13, Geralt\_13, GigiOuiOui\_13, Girr\_13, Gorge\_13, Hades\_13, Harley\_13, Hlubikazi\_13, IbOuu\_13, Ibhubesi\_12, Inventum\_13, JalFarm20\_14, James\_13, Jarcob\_13, JoeyJr\_13, Juice456\_14, Juniper1\_13, Kersh\_13, KingMidas\_13, Kingsley\_14, Koella\_13, LastJedi\_13, Latretium\_13, Leozinho\_14, Leperchaun\_13, LittleShirley\_14, Lizziana\_13, Llama\_13, Lorde\_14, LunaStella\_14, MadMen\_13, Mahavrat\_13, Mandlovu\_13, Mantra\_13, Maravista\_13, Marker\_14, Martik\_13, Mattes\_13, Misha28\_14, MisterCuddles\_13, Modragons\_13, Moonbeam\_13, Mova\_14, Nimbo\_13, Nitzel\_14, Nivrat\_13, NormanBulbieJr\_13, Ochi17\_13, OfUltron\_13, OldBen\_13, OwlsT2W\_14, Pacc40\_13, Phatniss\_13, Philus\_13, PhlipPhlop\_13, Piper2020\_14, Pippy\_12, Plumbus\_14, Poenanya\_13, Polka14\_13, Pollywog\_14, Priscilla\_13, Radiance\_13, Ramsey\_14, Renaud18\_14,

Rialto\_14, RitaG\_13, Rockne\_13, RockyHorror\_14, Saal\_13, Sabbb\_13, Sandalphon\_13, Sarma624\_14, Sassafras\_13, Seabastian\_13, Seagreen\_14, ShowerHandel\_13, SimranZ1\_13, Slim\_14, Sparkdehlily\_13, Spikelee\_14, Spoonbill\_13, Squirty\_14, Stap\_14, Starceвич\_14, Strokeseat\_13, SwagPiggett\_13, TChen\_14, TDanisky\_13, ThetaBob\_14, TootsiePop\_14, Tootsieroll\_14, Totinger\_14, UncleRicky\_14, VRedHorse\_13, Velveteen\_14, Violac\_13, Vivum\_13, Wachhund\_13, Whouxphf\_13, Yorick\_13, Zerg\_13, Zizzle\_13,

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

- ByChance\_13, Karhdo\_13, Kimberlium\_13, Ogotopogo\_16, Ruby\_13, Scottish\_13, ShiLan\_13,

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

- Aggie\_15, Akhila\_14, Alkhayr\_53, Andies\_15, ArcusAngelus\_13, Ardmore\_12, Aubs\_13, BabeRuth\_15, Batiatus\_13, Bipolar\_13, Blessica\_54, Bobi\_14, Bosection6\_15, Brushbloom\_14, Butters\_15, Byougenkin\_13, CaptainTrips\_14, Carcharodon\_15, Catdawg\_53, Charlie\_15, Chevrolet\_13, Chewbacca\_15, Chuckly\_13, DLane\_12, DeadP\_13, DillTech15\_13, DoRead\_13, DotProduct\_13, Duplicity\_15, EGUnicorn\_15, EleanorGeorge\_13, Emma\_13, Familton\_54, Filuzino\_13, Firehouse51\_13, Flathead\_14, Fruitloop\_13, Fulbright\_15, GUmbie\_12, Galactic\_13, Gex\_15, Girafales\_14, Guppsters\_13, Hamulus\_13, Hanako\_15, Hegedechwinu\_14, IrishSherpFalk\_13, Jamie19\_15, JangDynasty\_53, Job42\_14, Journey\_15, Kenuha5\_13, Kevin1\_15, KingJulian\_13, Krakatau\_14, Krili\_52, KristaRAM\_14, LilMoolah\_12, LunaBlu\_13, Madiba\_14, Magsby\_15, Melissauren88\_13, Melville\_15, MichelleMyBell\_15, MilanaBonita\_14, MilleniumForce\_14, MinionDave\_14, Mori\_52, Mozy\_13, Murai\_53, Mutaforma13\_13, Nenae\_15, NewHope4\_13, NiebruSaylor\_52, OlympiaSaint\_13, Ovechkin\_13, PHappiness\_13, Panchino\_15, Parmesanjohn\_15, Phalconet\_13, PhancyPhin\_15, Phanphagia\_13, Phasih\_13, PhesterPotato\_13, Philonius\_15, Phloss\_15, Phrann\_15, Pipsqueaks\_15, PopTart\_13, QuickMath\_13, Quico\_14, Raymond7\_15, Rebel\_15, Redi\_15, Rita\_13, Royals2015\_13, Rubeelu\_15, Ryadel\_57, SG4\_13, SassyB\_13, Schnauzer\_15, SchoolBus\_53, Shauna1\_12, Shida\_53, ShrimpFriedEgg\_15, ShroomBoi\_13, Shweta\_15, SiSi\_13, Silvafighter\_15, Silvy\_15, SkinnyPete\_15, Smooch\_55, Smurph\_15, Snekmaggon\_15, Spartacus\_13, Spinach\_15, SpongeBob\_15, StAnnes\_13, SuperGrey\_13, Taj\_13, Tapioca\_15, TelAviv\_50, Tortoise12\_15, Tweety\_12, Vagabond\_53, Veteran\_13, Vorrrps\_51, Wee\_12, Whatsapiecost\_13, WillSterrel\_13, Winget\_54, XFactor\_13, Xeno\_15, Xerxes\_15, YungJamal\_56, Zakhe101\_53, Zebo\_53,

### Summary by start number:

Start 3:

- Found in 59 of 293 ( 20.1% ) of genes in pham
- Manual Annotations of this start: 6 of 292
- Called 10.2% of time when present
- Phage (with cluster) where this start called: ByChance\_13 (F1), Karhdo\_13 (F1), Kimberlium\_13 (F1), Ogotopogo\_16 (F1), Ruby\_13 (F1), ShiLan\_13 (F1),

Start 6:

- Found in 20 of 293 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 17 of 292
- Called 85.0% of time when present

- Phage (with cluster) where this start called: Alkhayr\_53 (O), Blessica\_54 (O), Catdawg\_53 (O), Familton\_54 (O), Krili\_52 (O), Mori\_52 (O), Murai\_53 (O), NiebruSaylor\_52 (O), Ryadel\_57 (O), Shida\_53 (O), TelAviv\_50 (O), Vagabond\_53 (O), Vorrrps\_51 (O), Winget\_54 (O), YungJamal\_56 (O), Zakhe101\_53 (O), Zebo\_53 (O),

#### Start 7:

- Found in 156 of 293 ( 53.2% ) of genes in pham
- Manual Annotations of this start: 149 of 292
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Alexphander\_14 (F1), Aloeri\_14 (F1), Awesomesauce\_14 (F1), Beakin\_14 (F1), BigPhil\_14 (F1), Blexus\_13 (F1), BlueCrab\_13 (F1), BobaPhett\_13 (F1), BodEinwohner17\_13 (F1), Brocalys\_13 (F1), Brookers\_14 (F1), Bubbles123\_13 (F1), Burwell21\_13 (F1), BuzzLyseyear\_14 (F1), Cabrinians\_13 (F1), Cerasum\_14 (F1), Che8\_13 (F1), CheesePuff\_13 (F1), ChickenDinner\_14 (F1), Clifton\_13 (F1), Coco12\_14 (F1), Cornucopia\_14 (F1), Crumble\_13 (F1), DRBy19\_13 (F1), DaWorst\_14 (F1), Daenerys\_13 (F1), Dante\_13 (F1), Deb65\_13 (F1), DirtMcGirt\_14 (F1), DocMcStuffins\_14 (F1), Donkeykong\_12 (F1), Doomphist\_13 (F1), Dorothy\_13 (F1), DosHalletts\_14 (F1), Doug\_13 (F1), Drago\_14 (F1), Eish\_13 (F1), Emmaloid\_14 (F1), Enby\_14 (F1), Eradicator\_13 (F1), Estave1\_13 (F1), Fancypants\_13 (F1), Fastidio\_13 (F1), Florinda\_13 (F1), Frankie\_14 (F1), FreddyB\_13 (F1), Gandolph\_13 (F1), Geralt\_13 (F1), GigiOuiOui\_13 (F1), Girr\_13 (F1), Gorge\_13 (F1), Hades\_13 (F1), Harley\_13 (F1), Hlubikazi\_13 (F1), IbOuu\_13 (F1), Ibhubesi\_12 (F1), Inventum\_13 (F1), JalFarm20\_14 (F1), James\_13 (F1), Jarcob\_13 (F1), JoeyJr\_13 (F1), Juice456\_14 (F1), Juniper1\_13 (F1), Kersh\_13 (F1), KingMidas\_13 (F1), Kingsley\_14 (F1), Koella\_13 (F1), LastJedi\_13 (F1), Latretium\_13 (F1), Leozinho\_14 (F1), Leperchaun\_13 (F1), LittleShirley\_14 (F1), Lizziana\_13 (F1), Llama\_13 (F1), Lorde\_14 (F1), LunaStella\_14 (F4), MadMen\_13 (F1), Mahavrat\_13 (F1), Mandlovu\_13 (F1), Mantra\_13 (F1), Maravista\_13 (F1), Marker\_14 (F1), Martik\_13 (F1), Mattes\_13 (F1), Misha28\_14 (F1), MisterCuddles\_13 (F1), Modragons\_13 (F1), Moonbeam\_13 (F1), Mova\_14 (F1), Nimbo\_13 (F1), Nitzel\_14 (F1), Nivrat\_13 (F1), NormanBulbieJr\_13 (F1), Ochi17\_13 (F1), OfUltron\_13 (F1), OldBen\_13 (F1), OwlsT2W\_14 (F1), Pacc40\_13 (F1), Phatniss\_13 (F1), Philus\_13 (F1), PhilipPhlop\_13 (F1), Piper2020\_14 (F1), Pippy\_12 (F1), Plumbus\_14 (F1), Poenanya\_13 (F1), Polka14\_13 (F1), Pollywog\_14 (F1), Priscilla\_13 (F1), Radiance\_13 (F1), Ramsey\_14 (F1), Renaud18\_14 (F4), Rialto\_14 (F1), RitaG\_13 (F1), Rockne\_13 (F1), RockyHorror\_14 (F1), Saal\_13 (F1), Sabbb\_13 (F1), Sandalphon\_13 (F1), Sarma624\_14 (F1), Sassafras\_13 (F1), Seabastian\_13 (F1), Seagreen\_14 (F1), ShowerHandel\_13 (F1), SimranZ1\_13 (F1), Slim\_14 (F1), Sparkdehlily\_13 (F1), Spikelee\_14 (F1), Spoonbill\_13 (F1), Squirty\_14 (F3), Stap\_14 (F1), Starcevich\_14 (F1), Strokeseat\_13 (F1), SwagPiggett\_13 (F1), TChen\_14 (F4), TDanisky\_13 (F1), ThetaBob\_14 (F4), TootsiePop\_14 (F1), Tootsieroll\_14 (F1), Totinger\_14 (F1), UncleRicky\_14 (F1), VRedHorse\_13 (F1), Velveteen\_14 (F1), Violac\_13 (F1), Vivum\_13 (F1), Wachhund\_13 (F1), Whouxphf\_13 (F1), Yorick\_13 (F1), Zerg\_13 (F1), Zizzle\_13 (F1),

#### Start 8:

- Found in 20 of 293 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 3 of 292
- Called 15.0% of time when present
- Phage (with cluster) where this start called: JangDynasty\_53 (O), SchoolBus\_53 (O), Smooch\_55 (O),

#### Start 9:

- Found in 218 of 293 ( 74.4% ) of genes in pham
- Manual Annotations of this start: 70 of 292
- Called 32.6% of time when present
- Phage (with cluster) where this start called: Akhila\_14 (F1), ArcusAngelus\_13 (F1), Ardmore\_12 (F1), Aubs\_13 (F1), Batiatus\_13 (F1), Bipolar\_13 (F1), Bobi\_14 (F1), Brushbloom\_14 (F1), Byougenkin\_13 (F1), CaptainTrips\_14 (F1), Chevrolet\_13 (F1), Chuckly\_13 (F1), DLane\_12 (F1), DeadP\_13 (F1), DillTech15\_13 (F1), DoRead\_13 (F1), DotProduct\_13 (F1), EleanorGeorge\_13 (F1), Emma\_13 (F1), Filuzino\_13 (F1), Firehouse51\_13 (F1), Flathead\_14 (F1), Fruitloop\_13 (F1), GUmbie\_12 (F1), Galactic\_13 (F1), Girafales\_14 (F1), Guppsters\_13 (F1), Hamulus\_13 (F1), Hegedechwinu\_14 (F1), IrishSherpFalk\_13 (F1), Job42\_14 (F1), Kenuha5\_13 (F1), KingJulian\_13 (F1), Krakatau\_14 (F1), KristaRAM\_14 (F1), LunaBlu\_13 (F1), Madiba\_14 (F1), Melissauren88\_13 (F1), MilanaBonita\_14 (F1), MilleniumForce\_14 (F1), MinionDave\_14 (F1), Mozy\_13 (F1), Mutaforma13\_13 (F1), NewHope4\_13 (F1), OlympiaSaint\_13 (F1), Ovechkin\_13 (F1), Phalconet\_13 (F1), Phanphagia\_13 (F1), Phasih\_13 (F1), PhesterPhotato\_13 (F1), PopTart\_13 (F1), QuickMath\_13 (F1), Quico\_14 (F1), Rita\_13 (F1), Royals2015\_13 (F1), SG4\_13 (F1), SassyB\_13 (F1), Scottish\_13 (F1), Shauna1\_12 (F1), ShroomBoi\_13 (F1), SiSi\_13 (F1), Spartacus\_13 (F1), StAnnes\_13 (F1), SuperGrey\_13 (F1), Taj\_13 (F1), Tweety\_12 (F1), Veteran\_13 (F1), Wee\_12 (F1), Whatsapiecost\_13 (F1), WillSterrel\_13 (F1), XFactor\_13 (F1),

#### Start 10:

- Found in 45 of 293 ( 15.4% ) of genes in pham
- Manual Annotations of this start: 45 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aggie\_15 (N), Andies\_15 (N), BabeRuth\_15 (N), Bosection6\_15 (N), Butters\_15 (N), Carcharodon\_15 (N), Charlie\_15 (N), Chewbacca\_15 (N), Duplicity\_15 (N), EGUnicorn\_15 (N), Fulbright\_15 (N), Gex\_15 (N), Hanako\_15 (N), Jamie19\_15 (N), Journey\_15 (N), Kevin1\_15 (N), Magsby\_15 (N), Melville\_15 (N), MichelleMyBell\_15 (N), Nenae\_15 (N), Panchino\_15 (N), Parmesanjohn\_15 (N), PhancyPhin\_15 (N), Philonius\_15 (N), Phloss\_15 (N), Phrann\_15 (N), Pipsqueaks\_15 (N), Raymond7\_15 (N), Rebel\_15 (N), Redi\_15 (N), Rubeelu\_15 (N), Schnauzer\_15 (N), ShrimpFriedEgg\_15 (N), Shweta\_15 (N), Silvafighter\_15 (N), Silvy\_15 (N), SkinnyPete\_15 (N), Smurph\_15 (N), Snekmaggedon\_15 (N), Spinach\_15 (N), SpongeBob\_15 (N), Tapioca\_15 (N), Tortoise12\_15 (N), Xeno\_15 (N), Xerxes\_15 (N),

#### Start 22:

- Found in 1 of 293 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 292
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilMoolah\_12 (F1),

#### Start 30:

- Found in 224 of 293 ( 76.5% ) of genes in pham
- Manual Annotations of this start: 1 of 292
- Called 0.4% of time when present
- Phage (with cluster) where this start called: PHappiness\_13 (F1),

#### Summary by clusters:

There are 5 clusters represented in this pham: F1, F3, F4, O, N,

Info for manual annotations of cluster F1:

- Start number 3 was manually annotated 6 times for cluster F1.
- Start number 7 was manually annotated 144 times for cluster F1.
- Start number 9 was manually annotated 70 times for cluster F1.
- Start number 22 was manually annotated 1 time for cluster F1.
- Start number 30 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F3:

- Start number 7 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 7 was manually annotated 4 times for cluster F4.

Info for manual annotations of cluster N:

- Start number 10 was manually annotated 45 times for cluster N.

Info for manual annotations of cluster O:

- Start number 6 was manually annotated 17 times for cluster O.
- Start number 8 was manually annotated 3 times for cluster O.

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

Gene: Aggie\_15 Start: 9037, Stop: 9943, Start Num: 10

Candidate Starts for Aggie\_15:

(Start: 10 @9037 has 45 MA's), (18, 9145), (26, 9208), (29, 9256), (34, 9313), (39, 9376), (40, 9382), (41, 9394), (42, 9397), (48, 9487), (51, 9589), (54, 9703), (57, 9760),

Gene: Akhila\_14 Start: 9227, Stop: 10163, Start Num: 9

Candidate Starts for Akhila\_14:

(5, 9200), (Start: 9 @9227 has 70 MA's), (14, 9335), (21, 9365), (Start: 30 @9485 has 1 MA's), (35, 9518), (37, 9554), (39, 9572), (41, 9590), (43, 9599), (44, 9614), (45, 9617), (46, 9662), (49, 9740), (50, 9746), (52, 9812), (56, 9959), (58, 10160),

Gene: Alexphander\_14 Start: 8386, Stop: 9322, Start Num: 7

Candidate Starts for Alexphander\_14:

(Start: 7 @8386 has 149 MA's), (Start: 9 @8392 has 70 MA's), (14, 8494), (21, 8524), (29, 8620), (Start: 30 @8644 has 1 MA's), (32, 8647), (33, 8650), (37, 8713), (39, 8731), (41, 8749), (43, 8758), (46, 8821), (49, 8899), (52, 8971), (58, 9319),

Gene: Alkhayr\_53 Start: 25659, Stop: 26610, Start Num: 6

Candidate Starts for Alkhayr\_53:

(Start: 6 @25659 has 17 MA's), (Start: 8 @25671 has 3 MA's), (11, 25743), (15, 25788), (16, 25791), (21, 25815), (24, 25833), (26, 25863), (31, 25941), (32, 25944), (36, 26001), (39, 26025), (46, 26100), (50, 26184), (52, 26250), (53, 26346),

Gene: Aloeri\_14 Start: 8399, Stop: 9335, Start Num: 7

Candidate Starts for Aloeri\_14:

(Start: 7 @8399 has 149 MA's), (Start: 9 @8405 has 70 MA's), (14, 8507), (19, 8531), (21, 8537), (Start: 30 @8657 has 1 MA's), (35, 8690), (37, 8726), (39, 8744), (41, 8762), (42, 8765), (43, 8771),

(44, 8786), (45, 8789), (46, 8834), (49, 8912), (52, 8984), (56, 9131), (58, 9332),

Gene: Andies\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Andies\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: ArcusAngelus\_13 Start: 8567, Stop: 9503, Start Num: 9

Candidate Starts for ArcusAngelus\_13:

(5, 8540), (Start: 9 @8567 has 70 MA's), (14, 8675), (21, 8705), (28, 8780), (Start: 30 @8825 has 1 MA's), (32, 8828), (33, 8831), (35, 8858), (37, 8894), (41, 8930), (42, 8933), (43, 8939), (44, 8954), (45, 8957), (46, 9002), (49, 9080), (50, 9086), (52, 9152), (58, 9500),

Gene: Ardmore\_12 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Ardmore\_12:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Aubs\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for Aubs\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (28, 8789), (Start: 30 @8834 has 1 MA's), (32, 8837), (33, 8840), (35, 8867), (37, 8903), (41, 8939), (42, 8942), (43, 8948), (46, 9011), (49, 9089), (52, 9161), (58, 9509),

Gene: Awesomesauce\_14 Start: 8400, Stop: 9336, Start Num: 7

Candidate Starts for Awesomesauce\_14:

(Start: 7 @8400 has 149 MA's), (Start: 9 @8406 has 70 MA's), (14, 8508), (21, 8538), (29, 8634), (Start: 30 @8658 has 1 MA's), (37, 8727), (39, 8745), (41, 8763), (42, 8766), (43, 8772), (44, 8787), (45, 8790), (46, 8835), (49, 8913), (52, 8985), (56, 9132), (58, 9333),

Gene: BabeRuth\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for BabeRuth\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Batiatus\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for Batiatus\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (32, 8837), (33, 8840), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (42, 8942), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: Beakin\_14 Start: 8392, Stop: 9328, Start Num: 7

Candidate Starts for Beakin\_14:

(Start: 7 @8392 has 149 MA's), (Start: 9 @8398 has 70 MA's), (14, 8500), (21, 8530), (29, 8626), (Start: 30 @8650 has 1 MA's), (32, 8653), (33, 8656), (37, 8719), (39, 8737), (41, 8755), (43, 8764), (44, 8779), (45, 8782), (46, 8827), (49, 8905), (52, 8977), (58, 9325),

Gene: BigPhil\_14 Start: 8383, Stop: 9319, Start Num: 7

Candidate Starts for BigPhil\_14:

(Start: 7 @8383 has 149 MA's), (Start: 9 @8389 has 70 MA's), (14, 8491), (21, 8521), (29, 8617), (Start: 30 @8641 has 1 MA's), (37, 8710), (39, 8728), (41, 8746), (42, 8749), (43, 8755), (44, 8770), (45, 8773), (46, 8818), (49, 8896), (52, 8968), (58, 9316),

Gene: Bipolar\_13 Start: 8545, Stop: 9481, Start Num: 9

Candidate Starts for Bipolar\_13:

(5, 8518), (Start: 9 @8545 has 70 MA's), (14, 8653), (21, 8683), (Start: 30 @8803 has 1 MA's), (35, 8836), (37, 8872), (39, 8890), (41, 8908), (43, 8917), (44, 8932), (45, 8935), (46, 8980), (49, 9058), (50, 9064), (52, 9130), (56, 9277), (58, 9478),

Gene: Blessica\_54 Start: 26060, Stop: 27011, Start Num: 6

Candidate Starts for Blessica\_54:

(Start: 6 @26060 has 17 MA's), (Start: 8 @26072 has 3 MA's), (11, 26144), (15, 26189), (16, 26192), (21, 26216), (24, 26234), (26, 26264), (31, 26342), (32, 26345), (36, 26402), (39, 26426), (46, 26501), (50, 26585), (52, 26651), (53, 26747),

Gene: Blexus\_13 Start: 8548, Stop: 9484, Start Num: 7

Candidate Starts for Blexus\_13:

(Start: 7 @8548 has 149 MA's), (Start: 9 @8554 has 70 MA's), (14, 8656), (21, 8686), (29, 8782), (Start: 30 @8806 has 1 MA's), (37, 8875), (39, 8893), (41, 8911), (42, 8914), (43, 8920), (44, 8935), (45, 8938), (46, 8983), (49, 9061), (52, 9133), (58, 9481),

Gene: BlueCrab\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for BlueCrab\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: BobaPhett\_13 Start: 8529, Stop: 9465, Start Num: 7

Candidate Starts for BobaPhett\_13:

(Start: 3 @8436 has 6 MA's), (Start: 7 @8529 has 149 MA's), (Start: 9 @8535 has 70 MA's), (14, 8637), (21, 8667), (29, 8763), (Start: 30 @8787 has 1 MA's), (32, 8790), (33, 8793), (37, 8856), (39, 8874), (41, 8892), (43, 8901), (46, 8964), (49, 9042), (52, 9114), (58, 9462),

Gene: Bobi\_14 Start: 8406, Stop: 9342, Start Num: 9

Candidate Starts for Bobi\_14:

(5, 8379), (Start: 9 @8406 has 70 MA's), (14, 8514), (21, 8544), (Start: 30 @8664 has 1 MA's), (32, 8667), (33, 8670), (35, 8697), (37, 8733), (39, 8751), (41, 8769), (43, 8778), (44, 8793), (45, 8796), (46, 8841), (49, 8919), (50, 8925), (52, 8991), (56, 9138), (58, 9339),

Gene: BodEinwohner17\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for BodEinwohner17\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Bosection6\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Bosection6\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Brocalys\_13 Start: 8521, Stop: 9457, Start Num: 7

Candidate Starts for Brocalys\_13:

(Start: 7 @8521 has 149 MA's), (Start: 9 @8527 has 70 MA's), (14, 8629), (21, 8659), (29, 8755), (Start: 30 @8779 has 1 MA's), (37, 8848), (39, 8866), (41, 8884), (42, 8887), (43, 8893), (44, 8908), (45, 8911), (46, 8956), (49, 9034), (52, 9106), (58, 9454),

Gene: Brookers\_14 Start: 8383, Stop: 9319, Start Num: 7

Candidate Starts for Brookers\_14:

(Start: 7 @8383 has 149 MA's), (Start: 9 @8389 has 70 MA's), (14, 8491), (21, 8521), (29, 8617), (Start: 30 @8641 has 1 MA's), (37, 8710), (39, 8728), (41, 8746), (42, 8749), (43, 8755), (44, 8770), (45, 8773), (46, 8818), (49, 8896), (52, 8968), (58, 9316),

Gene: Brushbloom\_14 Start: 8409, Stop: 9345, Start Num: 9

Candidate Starts for Brushbloom\_14:

(5, 8382), (Start: 9 @8409 has 70 MA's), (14, 8517), (19, 8541), (21, 8547), (Start: 30 @8667 has 1 MA's), (35, 8700), (37, 8736), (39, 8754), (41, 8772), (42, 8775), (43, 8781), (44, 8796), (45, 8799), (46, 8844), (49, 8922), (50, 8928), (52, 8994), (56, 9141), (58, 9342),

Gene: Bubbles123\_13 Start: 8557, Stop: 9493, Start Num: 7

Candidate Starts for Bubbles123\_13:

(Start: 3 @8464 has 6 MA's), (Start: 7 @8557 has 149 MA's), (Start: 9 @8563 has 70 MA's), (14, 8665), (21, 8695), (29, 8791), (Start: 30 @8815 has 1 MA's), (32, 8818), (33, 8821), (37, 8884), (39, 8902), (41, 8920), (43, 8929), (46, 8992), (49, 9070), (52, 9142), (58, 9490),

Gene: Burwell21\_13 Start: 8536, Stop: 9472, Start Num: 7

Candidate Starts for Burwell21\_13:

(Start: 3 @8443 has 6 MA's), (Start: 7 @8536 has 149 MA's), (Start: 9 @8542 has 70 MA's), (14, 8644), (21, 8674), (29, 8770), (Start: 30 @8794 has 1 MA's), (32, 8797), (33, 8800), (37, 8863), (39, 8881), (41, 8899), (43, 8908), (46, 8971), (49, 9049), (52, 9121), (58, 9469),

Gene: Butters\_15 Start: 9056, Stop: 9962, Start Num: 10

Candidate Starts for Butters\_15:

(Start: 10 @9056 has 45 MA's), (18, 9164), (26, 9227), (29, 9275), (34, 9332), (39, 9395), (40, 9401), (42, 9416), (48, 9506), (50, 9554), (54, 9722), (57, 9779),

Gene: BuzzLyseyear\_14 Start: 8386, Stop: 9322, Start Num: 7

Candidate Starts for BuzzLyseyear\_14:

(Start: 7 @8386 has 149 MA's), (Start: 9 @8392 has 70 MA's), (14, 8494), (19, 8518), (21, 8524), (29, 8620), (Start: 30 @8644 has 1 MA's), (39, 8731), (42, 8752), (43, 8758), (46, 8821), (49, 8899), (52, 8971), (58, 9319),

Gene: ByChance\_13 Start: 8446, Stop: 9475, Start Num: 3

Candidate Starts for ByChance\_13:

(Start: 3 @8446 has 6 MA's), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (37, 8866), (39, 8884), (41, 8902), (43, 8911), (46, 8974), (49, 9052), (52, 9124), (58, 9472),

Gene: Byougenkin\_13 Start: 8548, Stop: 9484, Start Num: 9

Candidate Starts for Byougenkin\_13:

(5, 8521), (Start: 9 @8548 has 70 MA's), (14, 8656), (21, 8686), (Start: 30 @8806 has 1 MA's), (35, 8839), (37, 8875), (39, 8893), (41, 8911), (42, 8914), (43, 8920), (44, 8935), (45, 8938), (46, 8983), (49, 9061), (50, 9067), (52, 9133), (56, 9280), (58, 9481),

Gene: Cabrinians\_13 Start: 8529, Stop: 9465, Start Num: 7

Candidate Starts for Cabrinians\_13:

(Start: 3 @8436 has 6 MA's), (Start: 7 @8529 has 149 MA's), (Start: 9 @8535 has 70 MA's), (14, 8637), (21, 8667), (29, 8763), (Start: 30 @8787 has 1 MA's), (32, 8790), (33, 8793), (37, 8856), (39, 8874), (41, 8892), (43, 8901), (46, 8964), (49, 9042), (52, 9114), (58, 9462),

Gene: CaptainTrips\_14 Start: 9225, Stop: 10161, Start Num: 9

Candidate Starts for CaptainTrips\_14:

(5, 9198), (Start: 9 @9225 has 70 MA's), (14, 9333), (21, 9363), (Start: 30 @9483 has 1 MA's), (35, 9516), (37, 9552), (39, 9570), (41, 9588), (42, 9591), (43, 9597), (44, 9612), (45, 9615), (46, 9660), (49, 9738), (50, 9744), (52, 9810), (56, 9957), (58, 10158),

Gene: Carcharodon\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Carcharodon\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Catdawg\_53 Start: 25749, Stop: 26700, Start Num: 6

Candidate Starts for Catdawg\_53:

(Start: 6 @25749 has 17 MA's), (Start: 8 @25761 has 3 MA's), (11, 25833), (15, 25878), (16, 25881), (21, 25905), (24, 25923), (26, 25953), (31, 26031), (32, 26034), (36, 26091), (39, 26115), (46, 26190), (50, 26274), (52, 26340), (53, 26436),

Gene: Cerasum\_14 Start: 8383, Stop: 9319, Start Num: 7

Candidate Starts for Cerasum\_14:

(Start: 7 @8383 has 149 MA's), (Start: 9 @8389 has 70 MA's), (14, 8491), (21, 8521), (29, 8617), (Start: 30 @8641 has 1 MA's), (37, 8710), (39, 8728), (41, 8746), (42, 8749), (43, 8755), (44, 8770), (45, 8773), (46, 8818), (49, 8896), (52, 8968), (58, 9316),

Gene: Charlie\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Charlie\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Che8\_13 Start: 8536, Stop: 9472, Start Num: 7

Candidate Starts for Che8\_13:

(Start: 7 @8536 has 149 MA's), (14, 8644), (21, 8674), (29, 8770), (Start: 30 @8794 has 1 MA's), (37, 8863), (39, 8881), (41, 8899), (42, 8902), (43, 8908), (44, 8923), (45, 8926), (46, 8971), (49, 9049), (52, 9121), (58, 9469),

Gene: Cheesepuff\_13 Start: 8548, Stop: 9484, Start Num: 7

Candidate Starts for Cheesepuff\_13:

(Start: 7 @8548 has 149 MA's), (Start: 9 @8554 has 70 MA's), (14, 8656), (21, 8686), (29, 8782), (Start: 30 @8806 has 1 MA's), (37, 8875), (39, 8893), (41, 8911), (42, 8914), (43, 8920), (44, 8935), (45, 8938), (46, 8983), (49, 9061), (52, 9133), (58, 9481),

Gene: Chevrolet\_13 Start: 8567, Stop: 9503, Start Num: 9

Candidate Starts for Chevrolet\_13:

(5, 8540), (Start: 9 @8567 has 70 MA's), (14, 8675), (21, 8705), (28, 8780), (Start: 30 @8825 has 1 MA's), (32, 8828), (33, 8831), (35, 8858), (37, 8894), (41, 8930), (42, 8933), (43, 8939), (44, 8954), (45, 8957), (46, 9002), (49, 9080), (50, 9086), (52, 9152), (58, 9500),

Gene: Chewbacca\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Chewbacca\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: ChickenDinner\_14 Start: 8399, Stop: 9335, Start Num: 7

Candidate Starts for ChickenDinner\_14:

(Start: 7 @8399 has 149 MA's), (Start: 9 @8405 has 70 MA's), (14, 8507), (19, 8531), (21, 8537), (Start: 30 @8657 has 1 MA's), (35, 8690), (37, 8726), (39, 8744), (41, 8762), (42, 8765), (43, 8771), (44, 8786), (45, 8789), (46, 8834), (49, 8912), (52, 8984), (56, 9131), (58, 9332),

Gene: Chuckly\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for Chuckly\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (42, 8944), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Clifton\_13 Start: 8520, Stop: 9456, Start Num: 7

Candidate Starts for Clifton\_13:

(Start: 7 @8520 has 149 MA's), (Start: 9 @8526 has 70 MA's), (14, 8628), (21, 8658), (29, 8754), (Start: 30 @8778 has 1 MA's), (37, 8847), (39, 8865), (41, 8883), (42, 8886), (43, 8892), (44, 8907), (45, 8910), (46, 8955), (49, 9033), (52, 9105), (58, 9453),

Gene: Coco12\_14 Start: 8385, Stop: 9321, Start Num: 7

Candidate Starts for Coco12\_14:

(Start: 7 @8385 has 149 MA's), (Start: 9 @8391 has 70 MA's), (14, 8493), (21, 8523), (29, 8619), (Start: 30 @8643 has 1 MA's), (37, 8712), (39, 8730), (41, 8748), (42, 8751), (43, 8757), (46, 8820), (49, 8898), (52, 8970), (55, 9096), (56, 9117), (58, 9318),

Gene: Cornucopia\_14 Start: 8418, Stop: 9354, Start Num: 7

Candidate Starts for Cornucopia\_14:

(Start: 7 @8418 has 149 MA's), (14, 8526), (21, 8556), (29, 8652), (Start: 30 @8676 has 1 MA's), (32, 8679), (33, 8682), (35, 8709), (37, 8745), (39, 8763), (41, 8781), (42, 8784), (43, 8790), (44, 8805), (45, 8808), (46, 8853), (49, 8931), (50, 8937), (52, 9003), (56, 9150), (58, 9351),

Gene: Crumble\_13 Start: 8537, Stop: 9473, Start Num: 7

Candidate Starts for Crumble\_13:

(1, 8372), (2, 8441), (Start: 7 @8537 has 149 MA's), (Start: 9 @8543 has 70 MA's), (14, 8645), (21, 8675), (29, 8771), (Start: 30 @8795 has 1 MA's), (39, 8882), (41, 8900), (43, 8909), (46, 8972), (49, 9050), (52, 9122), (58, 9470),

Gene: DLane\_12 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for DLane\_12:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (32, 8837), (33, 8840), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (42, 8942), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: DRBy19\_13 Start: 8561, Stop: 9497, Start Num: 7

Candidate Starts for DRBy19\_13:

(Start: 7 @8561 has 149 MA's), (Start: 9 @8567 has 70 MA's), (14, 8669), (21, 8699), (Start: 30 @8819 has 1 MA's), (37, 8888), (39, 8906), (41, 8924), (43, 8933), (44, 8948), (45, 8951), (46, 8996), (49, 9074), (52, 9146), (58, 9494),

Gene: DaWorst\_14 Start: 8391, Stop: 9327, Start Num: 7

Candidate Starts for DaWorst\_14:

(Start: 3 @8298 has 6 MA's), (Start: 7 @8391 has 149 MA's), (Start: 9 @8397 has 70 MA's), (14, 8499), (19, 8523), (21, 8529), (29, 8625), (Start: 30 @8649 has 1 MA's), (32, 8652), (33, 8655), (37, 8718), (39, 8736), (41, 8754), (43, 8763), (46, 8826), (49, 8904), (52, 8976), (58, 9324),

Gene: Daenerys\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Daenerys\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Dante\_13 Start: 8563, Stop: 9499, Start Num: 7

Candidate Starts for Dante\_13:

(Start: 7 @8563 has 149 MA's), (14, 8671), (21, 8701), (29, 8797), (Start: 30 @8821 has 1 MA's), (37, 8890), (39, 8908), (41, 8926), (42, 8929), (43, 8935), (44, 8950), (45, 8953), (46, 8998), (49, 9076), (52, 9148), (58, 9496),

Gene: DeadP\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for DeadP\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Deb65\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Deb65\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: DillTech15\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for DillTech15\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: DirtMcgirt\_14 Start: 8392, Stop: 9328, Start Num: 7

Candidate Starts for DirtMcgirt\_14:

(Start: 3 @8299 has 6 MA's), (Start: 7 @8392 has 149 MA's), (Start: 9 @8398 has 70 MA's), (14, 8500), (21, 8530), (29, 8626), (Start: 30 @8650 has 1 MA's), (37, 8719), (39, 8737), (41, 8755), (42, 8758), (43, 8764), (44, 8779), (45, 8782), (46, 8827), (49, 8905), (50, 8911), (52, 8977), (58, 9325),

Gene: DoRead\_13 Start: 8534, Stop: 9470, Start Num: 9

Candidate Starts for DoRead\_13:

(5, 8507), (Start: 9 @8534 has 70 MA's), (14, 8642), (19, 8666), (21, 8672), (Start: 30 @8792 has 1 MA's), (35, 8825), (37, 8861), (39, 8879), (41, 8897), (43, 8906), (44, 8921), (45, 8924), (46, 8969), (49, 9047), (50, 9053), (52, 9119), (56, 9266), (58, 9467),

Gene: DocMcStuffins\_14 Start: 8399, Stop: 9335, Start Num: 7

Candidate Starts for DocMcStuffins\_14:

(Start: 7 @8399 has 149 MA's), (Start: 9 @8405 has 70 MA's), (14, 8507), (19, 8531), (21, 8537), (Start: 30 @8657 has 1 MA's), (35, 8690), (37, 8726), (39, 8744), (41, 8762), (42, 8765), (43, 8771), (44, 8786), (45, 8789), (46, 8834), (49, 8912), (52, 8984), (56, 9131), (58, 9332),

Gene: Donkeykong\_12 Start: 8555, Stop: 9491, Start Num: 7

Candidate Starts for Donkeykong\_12:

(Start: 3 @8462 has 6 MA's), (Start: 7 @8555 has 149 MA's), (Start: 9 @8561 has 70 MA's), (14, 8663), (21, 8693), (29, 8789), (Start: 30 @8813 has 1 MA's), (32, 8816), (33, 8819), (37, 8882), (39, 8900), (41, 8918), (43, 8927), (46, 8990), (49, 9068), (52, 9140), (58, 9488),

Gene: Doomphist\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Doomphist\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (19, 8664), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (35, 8823), (39, 8877), (41, 8895), (43, 8904), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Dorothy\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Dorothy\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: DosHalletts\_14 Start: 8385, Stop: 9321, Start Num: 7

Candidate Starts for DosHalletts\_14:

(Start: 7 @8385 has 149 MA's), (Start: 9 @8391 has 70 MA's), (14, 8493), (21, 8523), (29, 8619), (Start: 30 @8643 has 1 MA's), (37, 8712), (39, 8730), (41, 8748), (42, 8751), (43, 8757), (44, 8772), (45, 8775), (46, 8820), (49, 8898), (52, 8970), (56, 9117), (58, 9318),

Gene: DotProduct\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for DotProduct\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Doug\_13 Start: 8539, Stop: 9475, Start Num: 7

Candidate Starts for Doug\_13:

(Start: 3 @8446 has 6 MA's), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (35, 8830), (37, 8866), (39, 8884), (41, 8902), (43, 8911), (44, 8926), (45, 8929), (46, 8974), (49, 9052), (50, 9058), (52, 9124), (58, 9472),

Gene: Drago\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for Drago\_14:

(Start: 3 @8297 has 6 MA's), (Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (14, 8498), (21, 8528), (Start: 30 @8648 has 1 MA's), (37, 8717), (39, 8735), (41, 8753), (43, 8762), (46, 8825), (49, 8903), (50, 8909), (52, 8975), (58, 9323),

Gene: Duplicity\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Duplicity\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: EGUunicorn\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for EGUunicorn\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Eish\_13 Start: 8528, Stop: 9464, Start Num: 7

Candidate Starts for Eish\_13:

(Start: 3 @8435 has 6 MA's), (Start: 7 @8528 has 149 MA's), (Start: 9 @8534 has 70 MA's), (14, 8636), (21, 8666), (29, 8762), (Start: 30 @8786 has 1 MA's), (32, 8789), (33, 8792), (37, 8855), (39, 8873), (41, 8891), (42, 8894), (43, 8900), (46, 8963), (49, 9041), (52, 9113), (58, 9461),

Gene: EleanorGeorge\_13 Start: 8579, Stop: 9515, Start Num: 9

Candidate Starts for EleanorGeorge\_13:

(5, 8552), (Start: 9 @8579 has 70 MA's), (14, 8687), (21, 8717), (Start: 30 @8837 has 1 MA's), (35, 8870), (37, 8906), (39, 8924), (41, 8942), (43, 8951), (44, 8966), (45, 8969), (46, 9014), (49, 9092), (50, 9098), (52, 9164), (56, 9311), (58, 9512),

Gene: Emma\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for Emma\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (32, 8837), (33, 8840), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (42, 8942), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: Emmaloid\_14 Start: 8386, Stop: 9322, Start Num: 7

Candidate Starts for Emmaloid\_14:

(Start: 7 @8386 has 149 MA's), (Start: 9 @8392 has 70 MA's), (14, 8494), (21, 8524), (29, 8620), (Start: 30 @8644 has 1 MA's), (37, 8713), (39, 8731), (41, 8749), (42, 8752), (43, 8758), (44, 8773), (45, 8776), (46, 8821), (49, 8899), (52, 8971), (56, 9118), (58, 9319),

Gene: Enby\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for Enby\_14:

(Start: 3 @8297 has 6 MA's), (Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (14, 8498), (21, 8528), (Start: 30 @8648 has 1 MA's), (37, 8717), (39, 8735), (41, 8753), (43, 8762), (46, 8825), (49, 8903), (50, 8909), (52, 8975), (58, 9323),

Gene: Eradicator\_13 Start: 8533, Stop: 9469, Start Num: 7

Candidate Starts for Eradicator\_13:

(Start: 7 @8533 has 149 MA's), (Start: 9 @8539 has 70 MA's), (14, 8641), (21, 8671), (29, 8767), (Start: 30 @8791 has 1 MA's), (37, 8860), (39, 8878), (41, 8896), (42, 8899), (43, 8905), (44, 8920), (45, 8923), (46, 8968), (49, 9046), (52, 9118), (58, 9466),

Gene: Estave1\_13 Start: 8548, Stop: 9484, Start Num: 7

Candidate Starts for Estave1\_13:

(Start: 7 @8548 has 149 MA's), (Start: 9 @8554 has 70 MA's), (14, 8656), (21, 8686), (29, 8782), (Start: 30 @8806 has 1 MA's), (37, 8875), (39, 8893), (41, 8911), (43, 8920), (44, 8935), (45, 8938), (46, 8983), (49, 9061), (52, 9133), (58, 9481),

Gene: Familton\_54 Start: 25753, Stop: 26704, Start Num: 6

Candidate Starts for Familton\_54:

(Start: 6 @25753 has 17 MA's), (Start: 8 @25765 has 3 MA's), (11, 25837), (15, 25882), (16, 25885), (21, 25909), (24, 25927), (26, 25957), (31, 26035), (32, 26038), (36, 26095), (39, 26119), (46, 26194), (50, 26278), (52, 26344), (53, 26440),

Gene: Fancypants\_13 Start: 8539, Stop: 9475, Start Num: 7

Candidate Starts for Fancypants\_13:

(Start: 3 @8446 has 6 MA's), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (35, 8830), (37, 8866), (39, 8884), (41, 8902), (43, 8911), (46, 8974), (49, 9052), (52, 9124), (58, 9472),

Gene: Fastidio\_13 Start: 8546, Stop: 9482, Start Num: 7

Candidate Starts for Fastidio\_13:

(Start: 7 @8546 has 149 MA's), (Start: 9 @8552 has 70 MA's), (14, 8654), (21, 8684), (Start: 30 @8804 has 1 MA's), (35, 8837), (37, 8873), (39, 8891), (41, 8909), (43, 8918), (44, 8933), (45, 8936), (46,

8981), (49, 9059), (50, 9065), (52, 9131), (56, 9278), (58, 9479),

Gene: Filuzino\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for Filuzino\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Firehouse51\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Firehouse51\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Flathead\_14 Start: 8409, Stop: 9345, Start Num: 9

Candidate Starts for Flathead\_14:

(5, 8382), (Start: 9 @8409 has 70 MA's), (14, 8517), (19, 8541), (21, 8547), (Start: 30 @8667 has 1 MA's), (35, 8700), (37, 8736), (39, 8754), (41, 8772), (42, 8775), (43, 8781), (44, 8796), (45, 8799), (46, 8844), (49, 8922), (50, 8928), (52, 8994), (56, 9141), (58, 9342),

Gene: Florinda\_13 Start: 8559, Stop: 9495, Start Num: 7

Candidate Starts for Florinda\_13:

(Start: 3 @8466 has 6 MA's), (Start: 7 @8559 has 149 MA's), (Start: 9 @8565 has 70 MA's), (14, 8667), (19, 8691), (21, 8697), (29, 8793), (Start: 30 @8817 has 1 MA's), (32, 8820), (33, 8823), (35, 8850), (37, 8886), (39, 8904), (41, 8922), (43, 8931), (46, 8994), (49, 9072), (52, 9144), (56, 9291), (58, 9492),

Gene: Frankie\_14 Start: 8588, Stop: 9524, Start Num: 7

Candidate Starts for Frankie\_14:

(Start: 7 @8588 has 149 MA's), (Start: 9 @8594 has 70 MA's), (14, 8696), (19, 8720), (21, 8726), (Start: 30 @8846 has 1 MA's), (35, 8879), (37, 8915), (39, 8933), (41, 8951), (42, 8954), (43, 8960), (44, 8975), (45, 8978), (46, 9023), (49, 9101), (50, 9107), (52, 9173), (58, 9521),

Gene: FreddyB\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for FreddyB\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: Fruitloop\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for Fruitloop\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (42, 8944), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Fulbright\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Fulbright\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: GUmbie\_12 Start: 8572, Stop: 9508, Start Num: 9

Candidate Starts for GUmbie\_12:

(5, 8545), (Start: 9 @8572 has 70 MA's), (14, 8680), (21, 8710), (Start: 30 @8830 has 1 MA's), (35, 8863), (37, 8899), (39, 8917), (41, 8935), (42, 8938), (43, 8944), (44, 8959), (45, 8962), (46, 9007), (49, 9085), (50, 9091), (52, 9157), (56, 9304), (58, 9505),

Gene: Galactic\_13 Start: 8552, Stop: 9488, Start Num: 9

Candidate Starts for Galactic\_13:

(5, 8525), (Start: 9 @8552 has 70 MA's), (14, 8660), (21, 8690), (Start: 30 @8810 has 1 MA's), (32, 8813), (33, 8816), (35, 8843), (37, 8879), (39, 8897), (41, 8915), (42, 8918), (43, 8924), (44, 8939), (45, 8942), (46, 8987), (49, 9065), (50, 9071), (52, 9137), (56, 9284), (58, 9485),

Gene: Gandolph\_13 Start: 8550, Stop: 9486, Start Num: 7

Candidate Starts for Gandolph\_13:

(Start: 7 @8550 has 149 MA's), (Start: 9 @8556 has 70 MA's), (14, 8658), (21, 8688), (29, 8784), (Start: 30 @8808 has 1 MA's), (37, 8877), (39, 8895), (41, 8913), (42, 8916), (43, 8922), (44, 8937), (45, 8940), (46, 8985), (49, 9063), (52, 9135), (58, 9483),

Gene: Geralt\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Geralt\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Gex\_15 Start: 9035, Stop: 9941, Start Num: 10

Candidate Starts for Gex\_15:

(Start: 10 @9035 has 45 MA's), (18, 9143), (26, 9206), (34, 9311), (39, 9374), (40, 9380), (41, 9392), (42, 9395), (48, 9485), (51, 9587), (54, 9701), (57, 9758),

Gene: GigiOuiOui\_13 Start: 8549, Stop: 9485, Start Num: 7

Candidate Starts for GigiOuiOui\_13:

(Start: 7 @8549 has 149 MA's), (Start: 9 @8555 has 70 MA's), (14, 8657), (21, 8687), (29, 8783), (Start: 30 @8807 has 1 MA's), (37, 8876), (39, 8894), (41, 8912), (42, 8915), (43, 8921), (44, 8936), (45, 8939), (46, 8984), (49, 9062), (50, 9068), (52, 9134), (56, 9281), (58, 9482),

Gene: Girafales\_14 Start: 8403, Stop: 9339, Start Num: 9

Candidate Starts for Girafales\_14:

(5, 8376), (Start: 9 @8403 has 70 MA's), (14, 8511), (21, 8541), (Start: 30 @8661 has 1 MA's), (32, 8664), (33, 8667), (35, 8694), (37, 8730), (41, 8766), (42, 8769), (43, 8775), (44, 8790), (45, 8793), (46, 8838), (49, 8916), (50, 8922), (52, 8988), (56, 9135), (58, 9336),

Gene: Girr\_13 Start: 8542, Stop: 9478, Start Num: 7

Candidate Starts for Girr\_13:

(Start: 3 @8449 has 6 MA's), (Start: 7 @8542 has 149 MA's), (Start: 9 @8548 has 70 MA's), (14, 8650), (21, 8680), (29, 8776), (Start: 30 @8800 has 1 MA's), (32, 8803), (33, 8806), (37, 8869), (39, 8887), (41, 8905), (42, 8908), (43, 8914), (46, 8977), (49, 9055), (50, 9061), (52, 9127), (58, 9475),

Gene: Gorge\_13 Start: 8521, Stop: 9457, Start Num: 7

Candidate Starts for Gorge\_13:

(Start: 7 @8521 has 149 MA's), (Start: 9 @8527 has 70 MA's), (14, 8629), (21, 8659), (29, 8755), (Start: 30 @8779 has 1 MA's), (37, 8848), (39, 8866), (41, 8884), (42, 8887), (43, 8893), (44, 8908), (45, 8911), (46, 8956), (49, 9034), (52, 9106), (58, 9454),

Gene: Guppsters\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Guppsters\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (43, 8949), (46, 9012), (49, 9090), (52, 9162), (58, 9510),

Gene: Hades\_13 Start: 8539, Stop: 9475, Start Num: 7

Candidate Starts for Hades\_13:

(Start: 3 @8446 has 6 MA's), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (37, 8866), (39, 8884), (41, 8902), (43, 8911), (46, 8974), (49, 9052), (50, 9058), (52, 9124), (58, 9472),

Gene: Hamulus\_13 Start: 8583, Stop: 9519, Start Num: 9

Candidate Starts for Hamulus\_13:

(5, 8556), (Start: 9 @8583 has 70 MA's), (14, 8691), (21, 8721), (Start: 30 @8841 has 1 MA's), (35, 8874), (37, 8910), (39, 8928), (41, 8946), (43, 8955), (44, 8970), (45, 8973), (46, 9018), (49, 9096), (50, 9102), (52, 9168), (56, 9315), (58, 9516),

Gene: Hanako\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Hanako\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Harley\_13 Start: 8528, Stop: 9464, Start Num: 7

Candidate Starts for Harley\_13:

(Start: 3 @8435 has 6 MA's), (Start: 7 @8528 has 149 MA's), (Start: 9 @8534 has 70 MA's), (14, 8636), (21, 8666), (29, 8762), (Start: 30 @8786 has 1 MA's), (35, 8819), (39, 8873), (41, 8891), (43, 8900), (46, 8963), (49, 9041), (52, 9113), (58, 9461),

Gene: Hegedechwinu\_14 Start: 8409, Stop: 9345, Start Num: 9

Candidate Starts for Hegedechwinu\_14:

(5, 8382), (Start: 9 @8409 has 70 MA's), (14, 8517), (19, 8541), (21, 8547), (Start: 30 @8667 has 1 MA's), (32, 8670), (33, 8673), (35, 8700), (37, 8736), (39, 8754), (41, 8772), (42, 8775), (43, 8781), (44, 8796), (45, 8799), (46, 8844), (49, 8922), (50, 8928), (52, 8994), (56, 9141), (58, 9342),

Gene: Hlubikazi\_13 Start: 8534, Stop: 9470, Start Num: 7

Candidate Starts for Hlubikazi\_13:

(Start: 7 @8534 has 149 MA's), (Start: 9 @8540 has 70 MA's), (14, 8642), (21, 8672), (29, 8768), (Start: 30 @8792 has 1 MA's), (37, 8861), (39, 8879), (41, 8897), (42, 8900), (43, 8906), (44, 8921), (45, 8924), (46, 8969), (49, 9047), (52, 9119), (58, 9467),

Gene: lbOuu\_13 Start: 8531, Stop: 9467, Start Num: 7

Candidate Starts for lbOuu\_13:

(Start: 7 @8531 has 149 MA's), (Start: 9 @8537 has 70 MA's), (14, 8639), (21, 8669), (29, 8765), (Start: 30 @8789 has 1 MA's), (37, 8858), (39, 8876), (41, 8894), (42, 8897), (43, 8903), (44, 8918), (45, 8921), (46, 8966), (49, 9044), (50, 9050), (52, 9116), (58, 9464),

Gene: lbhubesi\_12 Start: 8528, Stop: 9464, Start Num: 7

Candidate Starts for lbhubesi\_12:

(Start: 3 @8435 has 6 MA's), (Start: 7 @8528 has 149 MA's), (Start: 9 @8534 has 70 MA's), (14, 8636), (21, 8666), (29, 8762), (Start: 30 @8786 has 1 MA's), (35, 8819), (39, 8873), (41, 8891), (43, 8900), (46, 8963), (49, 9041), (52, 9113), (58, 9461),

Gene: Inventum\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Inventum\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766),  
(Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919),  
(45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: IrishSherpFalk\_13 Start: 8563, Stop: 9499, Start Num: 9

Candidate Starts for IrishSherpFalk\_13:

(5, 8536), (Start: 9 @8563 has 70 MA's), (14, 8671), (21, 8701), (Start: 30 @8821 has 1 MA's), (35,  
8854), (37, 8890), (39, 8908), (41, 8926), (43, 8935), (46, 8998), (49, 9076), (52, 9148), (58, 9496),

Gene: JalFarm20\_14 Start: 8385, Stop: 9321, Start Num: 7

Candidate Starts for JalFarm20\_14:

(Start: 7 @8385 has 149 MA's), (Start: 9 @8391 has 70 MA's), (14, 8493), (21, 8523), (29, 8619),  
(Start: 30 @8643 has 1 MA's), (37, 8712), (39, 8730), (41, 8748), (42, 8751), (43, 8757), (44, 8772),  
(45, 8775), (46, 8820), (49, 8898), (52, 8970), (58, 9318),

Gene: James\_13 Start: 8529, Stop: 9465, Start Num: 7

Candidate Starts for James\_13:

(Start: 3 @8436 has 6 MA's), (Start: 7 @8529 has 149 MA's), (Start: 9 @8535 has 70 MA's), (14,  
8637), (21, 8667), (29, 8763), (Start: 30 @8787 has 1 MA's), (32, 8790), (33, 8793), (37, 8856), (39,  
8874), (41, 8892), (43, 8901), (46, 8964), (49, 9042), (52, 9114), (58, 9462),

Gene: Jamie19\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Jamie19\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420),  
(40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: JangDynasty\_53 Start: 25854, Stop: 26793, Start Num: 8

Candidate Starts for JangDynasty\_53:

(Start: 6 @25842 has 17 MA's), (Start: 8 @25854 has 3 MA's), (11, 25926), (15, 25971), (16, 25974),  
(21, 25998), (24, 26016), (26, 26046), (31, 26124), (32, 26127), (36, 26184), (39, 26208), (46, 26283),  
(50, 26367), (52, 26433), (53, 26529),

Gene: Jacob\_13 Start: 8537, Stop: 9473, Start Num: 7

Candidate Starts for Jacob\_13:

(Start: 3 @8444 has 6 MA's), (Start: 7 @8537 has 149 MA's), (Start: 9 @8543 has 70 MA's), (14,  
8645), (21, 8675), (29, 8771), (Start: 30 @8795 has 1 MA's), (32, 8798), (33, 8801), (37, 8864), (39,  
8882), (41, 8900), (43, 8909), (46, 8972), (49, 9050), (52, 9122), (58, 9470),

Gene: Job42\_14 Start: 8408, Stop: 9344, Start Num: 9

Candidate Starts for Job42\_14:

(5, 8381), (Start: 9 @8408 has 70 MA's), (14, 8516), (21, 8546), (Start: 30 @8666 has 1 MA's), (32,  
8669), (33, 8672), (35, 8699), (37, 8735), (39, 8753), (41, 8771), (42, 8774), (43, 8780), (44, 8795), (45,  
8798), (46, 8843), (49, 8921), (50, 8927), (52, 8993), (56, 9140), (58, 9341),

Gene: JoeyJr\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for JoeyJr\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766),  
(Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919),  
(45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Journey\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Journey\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Juice456\_14 Start: 8391, Stop: 9327, Start Num: 7

Candidate Starts for Juice456\_14:

(Start: 3 @8298 has 6 MA's), (Start: 7 @8391 has 149 MA's), (Start: 9 @8397 has 70 MA's), (14, 8499), (19, 8523), (21, 8529), (29, 8625), (Start: 30 @8649 has 1 MA's), (32, 8652), (33, 8655), (37, 8718), (39, 8736), (41, 8754), (43, 8763), (44, 8778), (45, 8781), (46, 8826), (49, 8904), (52, 8976), (58, 9324),

Gene: Juniper1\_13 Start: 8529, Stop: 9465, Start Num: 7

Candidate Starts for Juniper1\_13:

(Start: 3 @8436 has 6 MA's), (Start: 7 @8529 has 149 MA's), (Start: 9 @8535 has 70 MA's), (14, 8637), (19, 8661), (21, 8667), (29, 8763), (Start: 30 @8787 has 1 MA's), (35, 8820), (39, 8874), (42, 8895), (43, 8901), (46, 8964), (49, 9042), (52, 9114), (58, 9462),

Gene: Karhdo\_13 Start: 8447, Stop: 9476, Start Num: 3

Candidate Starts for Karhdo\_13:

(Start: 3 @8447 has 6 MA's), (Start: 7 @8540 has 149 MA's), (Start: 9 @8546 has 70 MA's), (14, 8648), (19, 8672), (21, 8678), (29, 8774), (Start: 30 @8798 has 1 MA's), (32, 8801), (33, 8804), (35, 8831), (37, 8867), (39, 8885), (41, 8903), (43, 8912), (46, 8975), (49, 9053), (52, 9125), (58, 9473),

Gene: Kenuha5\_13 Start: 8545, Stop: 9481, Start Num: 9

Candidate Starts for Kenuha5\_13:

(5, 8518), (Start: 9 @8545 has 70 MA's), (14, 8653), (19, 8677), (21, 8683), (Start: 30 @8803 has 1 MA's), (35, 8836), (37, 8872), (39, 8890), (41, 8908), (43, 8917), (44, 8932), (45, 8935), (46, 8980), (49, 9058), (50, 9064), (52, 9130), (56, 9277), (58, 9478),

Gene: Kersh\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Kersh\_13:

(1, 8364), (2, 8433), (Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (32, 8793), (33, 8796), (35, 8823), (39, 8877), (41, 8895), (43, 8904), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Kevin1\_15 Start: 9056, Stop: 9962, Start Num: 10

Candidate Starts for Kevin1\_15:

(Start: 10 @9056 has 45 MA's), (18, 9164), (20, 9176), (26, 9227), (29, 9275), (34, 9332), (39, 9395), (40, 9401), (42, 9416), (48, 9506), (50, 9554), (54, 9722), (57, 9779),

Gene: Kimberlium\_13 Start: 8298, Stop: 9327, Start Num: 3

Candidate Starts for Kimberlium\_13:

(Start: 3 @8298 has 6 MA's), (Start: 7 @8391 has 149 MA's), (Start: 9 @8397 has 70 MA's), (14, 8499), (19, 8523), (21, 8529), (29, 8625), (Start: 30 @8649 has 1 MA's), (32, 8652), (33, 8655), (37, 8718), (39, 8736), (41, 8754), (43, 8763), (44, 8778), (45, 8781), (46, 8826), (49, 8904), (52, 8976), (58, 9324),

Gene: KingJulian\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for KingJulian\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (32, 8839), (33, 8842), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (42, 8944), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: KingMidas\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for KingMidas\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766),  
(Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919),  
(45, 8922), (46, 8967), (49, 9045), (50, 9051), (52, 9117), (58, 9465),

Gene: Kingsley\_14 Start: 8383, Stop: 9319, Start Num: 7

Candidate Starts for Kingsley\_14:

(Start: 7 @8383 has 149 MA's), (Start: 9 @8389 has 70 MA's), (14, 8491), (21, 8521), (29, 8617),  
(Start: 30 @8641 has 1 MA's), (37, 8710), (39, 8728), (41, 8746), (42, 8749), (43, 8755), (44, 8770),  
(45, 8773), (46, 8818), (49, 8896), (52, 8968), (58, 9316),

Gene: Koella\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Koella\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766),  
(Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919),  
(45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Krakatau\_14 Start: 9229, Stop: 10165, Start Num: 9

Candidate Starts for Krakatau\_14:

(5, 9202), (Start: 9 @9229 has 70 MA's), (14, 9337), (21, 9367), (Start: 30 @9487 has 1 MA's), (32,  
9490), (33, 9493), (35, 9520), (37, 9556), (39, 9574), (41, 9592), (43, 9601), (44, 9616), (45, 9619), (46,  
9664), (49, 9742), (50, 9748), (52, 9814), (56, 9961), (58, 10162),

Gene: Krili\_52 Start: 25464, Stop: 26415, Start Num: 6

Candidate Starts for Krili\_52:

(Start: 6 @25464 has 17 MA's), (Start: 8 @25476 has 3 MA's), (11, 25548), (15, 25593), (16, 25596),  
(21, 25620), (24, 25638), (26, 25668), (31, 25746), (32, 25749), (36, 25806), (39, 25830), (46, 25905),  
(50, 25989), (52, 26055), (53, 26151),

Gene: KristaRAM\_14 Start: 9226, Stop: 10162, Start Num: 9

Candidate Starts for KristaRAM\_14:

(5, 9199), (Start: 9 @9226 has 70 MA's), (14, 9334), (21, 9364), (Start: 30 @9484 has 1 MA's), (35,  
9517), (37, 9553), (39, 9571), (41, 9589), (42, 9592), (43, 9598), (44, 9613), (45, 9616), (46, 9661), (49,  
9739), (50, 9745), (52, 9811), (56, 9958), (58, 10159),

Gene: LastJedi\_13 Start: 8528, Stop: 9464, Start Num: 7

Candidate Starts for LastJedi\_13:

(Start: 7 @8528 has 149 MA's), (Start: 9 @8534 has 70 MA's), (14, 8636), (21, 8666), (29, 8762),  
(Start: 30 @8786 has 1 MA's), (32, 8789), (33, 8792), (37, 8855), (39, 8873), (41, 8891), (43, 8900),  
(46, 8963), (49, 9041), (52, 9113), (58, 9461),

Gene: Latretium\_13 Start: 8521, Stop: 9457, Start Num: 7

Candidate Starts for Latretium\_13:

(Start: 7 @8521 has 149 MA's), (Start: 9 @8527 has 70 MA's), (14, 8629), (21, 8659), (29, 8755),  
(Start: 30 @8779 has 1 MA's), (37, 8848), (39, 8866), (41, 8884), (42, 8887), (43, 8893), (44, 8908),  
(45, 8911), (46, 8956), (49, 9034), (52, 9106), (58, 9454),

Gene: Leozinho\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for Leozinho\_14:

(2, 8291), (Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (14, 8498), (21, 8528), (29,  
8624), (Start: 30 @8648 has 1 MA's), (32, 8651), (33, 8654), (35, 8681), (37, 8717), (39, 8735), (41,  
8753), (43, 8762), (46, 8825), (49, 8903), (52, 8975), (58, 9323),

Gene: Leperchaun\_13 Start: 8521, Stop: 9457, Start Num: 7

Candidate Starts for Leperchaun\_13:

(Start: 7 @8521 has 149 MA's), (Start: 9 @8527 has 70 MA's), (14, 8629), (21, 8659), (29, 8755), (Start: 30 @8779 has 1 MA's), (37, 8848), (39, 8866), (41, 8884), (42, 8887), (43, 8893), (44, 8908), (45, 8911), (46, 8956), (49, 9034), (52, 9106), (58, 9454),

Gene: LilMoolah\_12 Start: 8675, Stop: 9437, Start Num: 22

Candidate Starts for LilMoolah\_12:

(Start: 22 @8675 has 1 MA's), (23, 8678), (27, 8723), (Start: 30 @8759 has 1 MA's), (37, 8828), (39, 8846), (41, 8864), (42, 8867), (43, 8873), (44, 8888), (45, 8891), (46, 8936), (49, 9014), (52, 9086), (58, 9434),

Gene: LittleShirley\_14 Start: 8386, Stop: 9322, Start Num: 7

Candidate Starts for LittleShirley\_14:

(Start: 7 @8386 has 149 MA's), (Start: 9 @8392 has 70 MA's), (14, 8494), (21, 8524), (29, 8620), (Start: 30 @8644 has 1 MA's), (37, 8713), (39, 8731), (41, 8749), (42, 8752), (43, 8758), (44, 8773), (45, 8776), (46, 8821), (49, 8899), (52, 8971), (56, 9118), (58, 9319),

Gene: Lizziana\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for Lizziana\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: Llama\_13 Start: 8535, Stop: 9471, Start Num: 7

Candidate Starts for Llama\_13:

(Start: 3 @8442 has 6 MA's), (Start: 7 @8535 has 149 MA's), (Start: 9 @8541 has 70 MA's), (14, 8643), (21, 8673), (29, 8769), (Start: 30 @8793 has 1 MA's), (32, 8796), (33, 8799), (35, 8826), (37, 8862), (39, 8880), (41, 8898), (43, 8907), (46, 8970), (49, 9048), (52, 9120), (58, 9468),

Gene: Lorde\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for Lorde\_14:

(Start: 3 @8297 has 6 MA's), (Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (14, 8498), (21, 8528), (Start: 30 @8648 has 1 MA's), (37, 8717), (39, 8735), (41, 8753), (43, 8762), (46, 8825), (49, 8903), (50, 8909), (52, 8975), (58, 9323),

Gene: LunaBlu\_13 Start: 8552, Stop: 9488, Start Num: 9

Candidate Starts for LunaBlu\_13:

(5, 8525), (Start: 9 @8552 has 70 MA's), (14, 8660), (19, 8684), (21, 8690), (Start: 30 @8810 has 1 MA's), (32, 8813), (33, 8816), (35, 8843), (37, 8879), (39, 8897), (41, 8915), (42, 8918), (43, 8924), (44, 8939), (45, 8942), (46, 8987), (49, 9065), (50, 9071), (52, 9137), (56, 9284), (58, 9485),

Gene: LunaStella\_14 Start: 8979, Stop: 9921, Start Num: 7

Candidate Starts for LunaStella\_14:

(Start: 7 @8979 has 149 MA's), (11, 9051), (12, 9072), (13, 9075), (15, 9096), (21, 9123), (25, 9159), (35, 9276), (38, 9327), (46, 9435), (47, 9468), (49, 9513), (50, 9519), (52, 9585),

Gene: MadMen\_13 Start: 8561, Stop: 9497, Start Num: 7

Candidate Starts for MadMen\_13:

(Start: 7 @8561 has 149 MA's), (Start: 9 @8567 has 70 MA's), (14, 8669), (21, 8699), (Start: 30 @8819 has 1 MA's), (37, 8888), (39, 8906), (41, 8924), (43, 8933), (44, 8948), (45, 8951), (46, 8996), (49, 9074), (52, 9146), (58, 9494),

Gene: Madiba\_14 Start: 8404, Stop: 9340, Start Num: 9

Candidate Starts for Madiba\_14:

(5, 8377), (Start: 9 @8404 has 70 MA's), (14, 8512), (21, 8542), (Start: 30 @8662 has 1 MA's), (35, 8695), (37, 8731), (39, 8749), (41, 8767), (43, 8776), (44, 8791), (45, 8794), (46, 8839), (49, 8917), (50, 8923), (52, 8989), (56, 9136), (58, 9337),

Gene: Magsby\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Magsby\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Mahavrat\_13 Start: 8526, Stop: 9462, Start Num: 7

Candidate Starts for Mahavrat\_13:

(Start: 3 @8433 has 6 MA's), (Start: 7 @8526 has 149 MA's), (Start: 9 @8532 has 70 MA's), (14, 8634), (19, 8658), (21, 8664), (29, 8760), (Start: 30 @8784 has 1 MA's), (35, 8817), (39, 8871), (42, 8892), (43, 8898), (46, 8961), (49, 9039), (52, 9111), (58, 9459),

Gene: Mandlovu\_13 Start: 8534, Stop: 9470, Start Num: 7

Candidate Starts for Mandlovu\_13:

(Start: 7 @8534 has 149 MA's), (Start: 9 @8540 has 70 MA's), (14, 8642), (21, 8672), (29, 8768), (Start: 30 @8792 has 1 MA's), (37, 8861), (39, 8879), (41, 8897), (42, 8900), (43, 8906), (44, 8921), (45, 8924), (46, 8969), (49, 9047), (52, 9119), (58, 9467),

Gene: Mantra\_13 Start: 8549, Stop: 9485, Start Num: 7

Candidate Starts for Mantra\_13:

(Start: 7 @8549 has 149 MA's), (Start: 9 @8555 has 70 MA's), (14, 8657), (21, 8687), (29, 8783), (Start: 30 @8807 has 1 MA's), (37, 8876), (39, 8894), (41, 8912), (42, 8915), (43, 8921), (45, 8939), (46, 8984), (49, 9062), (52, 9134), (58, 9482),

Gene: Maravista\_13 Start: 8526, Stop: 9462, Start Num: 7

Candidate Starts for Maravista\_13:

(Start: 3 @8433 has 6 MA's), (Start: 7 @8526 has 149 MA's), (Start: 9 @8532 has 70 MA's), (14, 8634), (21, 8664), (29, 8760), (Start: 30 @8784 has 1 MA's), (32, 8787), (33, 8790), (37, 8853), (39, 8871), (41, 8889), (43, 8898), (46, 8961), (49, 9039), (52, 9111), (58, 9459),

Gene: Marker\_14 Start: 8397, Stop: 9333, Start Num: 7

Candidate Starts for Marker\_14:

(Start: 7 @8397 has 149 MA's), (14, 8505), (21, 8535), (29, 8631), (Start: 30 @8655 has 1 MA's), (32, 8658), (33, 8661), (35, 8688), (37, 8724), (39, 8742), (41, 8760), (42, 8763), (43, 8769), (44, 8784), (45, 8787), (46, 8832), (49, 8910), (50, 8916), (52, 8982), (56, 9129), (58, 9330),

Gene: Martik\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for Martik\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: Mattes\_13 Start: 8529, Stop: 9465, Start Num: 7

Candidate Starts for Mattes\_13:

(Start: 3 @8436 has 6 MA's), (Start: 7 @8529 has 149 MA's), (Start: 9 @8535 has 70 MA's), (14, 8637), (21, 8667), (29, 8763), (Start: 30 @8787 has 1 MA's), (32, 8790), (33, 8793), (37, 8856), (39, 8874), (41, 8892), (43, 8901), (46, 8964), (49, 9042), (52, 9114), (58, 9462),

Gene: Melissau88\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Melissau88\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Melville\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Melville\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: MichelleMyBell\_15 Start: 9075, Stop: 9981, Start Num: 10

Candidate Starts for MichelleMyBell\_15:

(Start: 10 @9075 has 45 MA's), (18, 9183), (20, 9195), (26, 9246), (29, 9294), (34, 9351), (39, 9414), (40, 9420), (42, 9435), (48, 9525), (50, 9573), (54, 9741), (57, 9798),

Gene: MilanaBonita\_14 Start: 9227, Stop: 10163, Start Num: 9

Candidate Starts for MilanaBonita\_14:

(5, 9200), (Start: 9 @9227 has 70 MA's), (14, 9335), (21, 9365), (Start: 30 @9485 has 1 MA's), (35, 9518), (37, 9554), (39, 9572), (41, 9590), (43, 9599), (44, 9614), (45, 9617), (46, 9662), (49, 9740), (50, 9746), (52, 9812), (56, 9959), (58, 10160),

Gene: MilleniumForce\_14 Start: 9223, Stop: 10159, Start Num: 9

Candidate Starts for MilleniumForce\_14:

(5, 9196), (Start: 9 @9223 has 70 MA's), (14, 9331), (21, 9361), (Start: 30 @9481 has 1 MA's), (32, 9484), (33, 9487), (35, 9514), (37, 9550), (39, 9568), (41, 9586), (42, 9589), (43, 9595), (44, 9610), (45, 9613), (46, 9658), (49, 9736), (50, 9742), (52, 9808), (56, 9955), (58, 10156),

Gene: MinionDave\_14 Start: 9227, Stop: 10163, Start Num: 9

Candidate Starts for MinionDave\_14:

(5, 9200), (Start: 9 @9227 has 70 MA's), (14, 9335), (21, 9365), (Start: 30 @9485 has 1 MA's), (37, 9554), (39, 9572), (41, 9590), (43, 9599), (46, 9662), (49, 9740), (50, 9746), (52, 9812), (56, 9959), (58, 10160),

Gene: Misha28\_14 Start: 8399, Stop: 9335, Start Num: 7

Candidate Starts for Misha28\_14:

(Start: 7 @8399 has 149 MA's), (Start: 9 @8405 has 70 MA's), (14, 8507), (19, 8531), (21, 8537), (Start: 30 @8657 has 1 MA's), (35, 8690), (37, 8726), (39, 8744), (41, 8762), (42, 8765), (43, 8771), (44, 8786), (45, 8789), (46, 8834), (49, 8912), (52, 8984), (56, 9131), (58, 9332),

Gene: MisterCuddles\_13 Start: 8542, Stop: 9478, Start Num: 7

Candidate Starts for MisterCuddles\_13:

(Start: 3 @8449 has 6 MA's), (Start: 7 @8542 has 149 MA's), (Start: 9 @8548 has 70 MA's), (14, 8650), (21, 8680), (29, 8776), (Start: 30 @8800 has 1 MA's), (32, 8803), (33, 8806), (37, 8869), (39, 8887), (41, 8905), (42, 8908), (43, 8914), (46, 8977), (49, 9055), (50, 9061), (52, 9127), (58, 9475),

Gene: Modragons\_13 Start: 8535, Stop: 9471, Start Num: 7

Candidate Starts for Modragons\_13:

(Start: 3 @8442 has 6 MA's), (Start: 7 @8535 has 149 MA's), (Start: 9 @8541 has 70 MA's), (14, 8643), (21, 8673), (29, 8769), (Start: 30 @8793 has 1 MA's), (32, 8796), (33, 8799), (35, 8826), (37, 8862), (39, 8880), (41, 8898), (43, 8907), (46, 8970), (49, 9048), (52, 9120), (58, 9468),

Gene: Moonbeam\_13 Start: 8539, Stop: 9475, Start Num: 7

Candidate Starts for Moonbeam\_13:

(Start: 3 @8446 has 6 MA's), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (19, 8671), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (35, 8830), (37, 8866), (39, 8884), (41, 8902), (43, 8911), (46, 8974), (49, 9052), (50, 9058), (52, 9124), (56, 9271), (58, 9472),

Gene: Mori\_52 Start: 25335, Stop: 26286, Start Num: 6

Candidate Starts for Mori\_52:

(Start: 6 @25335 has 17 MA's), (Start: 8 @25347 has 3 MA's), (11, 25419), (15, 25464), (16, 25467), (21, 25491), (24, 25509), (26, 25539), (31, 25617), (32, 25620), (36, 25677), (39, 25701), (46, 25776), (50, 25860), (52, 25926), (53, 26022),

Gene: Mova\_14 Start: 8392, Stop: 9328, Start Num: 7

Candidate Starts for Mova\_14:

(Start: 3 @8299 has 6 MA's), (Start: 7 @8392 has 149 MA's), (Start: 9 @8398 has 70 MA's), (14, 8500), (21, 8530), (29, 8626), (Start: 30 @8650 has 1 MA's), (37, 8719), (39, 8737), (42, 8758), (43, 8764), (46, 8827), (49, 8905), (52, 8977), (58, 9325),

Gene: Mozy\_13 Start: 8425, Stop: 9361, Start Num: 9

Candidate Starts for Mozy\_13:

(5, 8398), (Start: 9 @8425 has 70 MA's), (14, 8533), (21, 8563), (28, 8638), (Start: 30 @8683 has 1 MA's), (32, 8686), (33, 8689), (35, 8716), (37, 8752), (41, 8788), (42, 8791), (43, 8797), (44, 8812), (45, 8815), (46, 8860), (49, 8938), (50, 8944), (52, 9010), (58, 9358),

Gene: Murai\_53 Start: 25525, Stop: 26476, Start Num: 6

Candidate Starts for Murai\_53:

(Start: 6 @25525 has 17 MA's), (Start: 8 @25537 has 3 MA's), (11, 25609), (15, 25654), (16, 25657), (21, 25681), (24, 25699), (26, 25729), (31, 25807), (32, 25810), (36, 25867), (39, 25891), (46, 25966), (50, 26050), (52, 26116), (53, 26212),

Gene: Mutaforma13\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for Mutaforma13\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (19, 8708), (21, 8714), (Start: 30 @8834 has 1 MA's), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (58, 9509),

Gene: Nenae\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Nenae\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: NewHope4\_13 Start: 8552, Stop: 9488, Start Num: 9

Candidate Starts for NewHope4\_13:

(5, 8525), (Start: 9 @8552 has 70 MA's), (14, 8660), (21, 8690), (Start: 30 @8810 has 1 MA's), (35, 8843), (37, 8879), (39, 8897), (41, 8915), (43, 8924), (44, 8939), (45, 8942), (46, 8987), (49, 9065), (50, 9071), (52, 9137), (56, 9284), (58, 9485),

Gene: NiebruSaylor\_52 Start: 25336, Stop: 26287, Start Num: 6

Candidate Starts for NiebruSaylor\_52:

(Start: 6 @25336 has 17 MA's), (Start: 8 @25348 has 3 MA's), (11, 25420), (15, 25465), (16, 25468), (21, 25492), (24, 25510), (26, 25540), (31, 25618), (32, 25621), (36, 25678), (39, 25702), (46, 25777), (50, 25861), (52, 25927), (53, 26023),

Gene: Nimbo\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Nimbo\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Nitzel\_14 Start: 9198, Stop: 10134, Start Num: 7

Candidate Starts for Nitzel\_14:

(Start: 7 @9198 has 149 MA's), (Start: 9 @9204 has 70 MA's), (14, 9306), (21, 9336), (29, 9432), (Start: 30 @9456 has 1 MA's), (37, 9525), (39, 9543), (41, 9561), (42, 9564), (43, 9570), (44, 9585), (45, 9588), (46, 9633), (49, 9711), (52, 9783), (58, 10131),

Gene: Nivrat\_13 Start: 8537, Stop: 9473, Start Num: 7

Candidate Starts for Nivrat\_13:

(Start: 3 @8444 has 6 MA's), (Start: 7 @8537 has 149 MA's), (Start: 9 @8543 has 70 MA's), (14, 8645), (21, 8675), (29, 8771), (Start: 30 @8795 has 1 MA's), (32, 8798), (33, 8801), (37, 8864), (39, 8882), (41, 8900), (43, 8909), (46, 8972), (49, 9050), (52, 9122), (58, 9470),

Gene: NormanBulbieJr\_13 Start: 8523, Stop: 9459, Start Num: 7

Candidate Starts for NormanBulbieJr\_13:

(1, 8358), (2, 8427), (Start: 7 @8523 has 149 MA's), (Start: 9 @8529 has 70 MA's), (14, 8631), (21, 8661), (29, 8757), (Start: 30 @8781 has 1 MA's), (39, 8868), (41, 8886), (43, 8895), (46, 8958), (49, 9036), (52, 9108), (58, 9456),

Gene: Ochi17\_13 Start: 8535, Stop: 9471, Start Num: 7

Candidate Starts for Ochi17\_13:

(Start: 3 @8442 has 6 MA's), (Start: 7 @8535 has 149 MA's), (Start: 9 @8541 has 70 MA's), (14, 8643), (21, 8673), (29, 8769), (Start: 30 @8793 has 1 MA's), (32, 8796), (33, 8799), (35, 8826), (37, 8862), (39, 8880), (41, 8898), (43, 8907), (46, 8970), (49, 9048), (52, 9120), (58, 9468),

Gene: OfUltron\_13 Start: 8535, Stop: 9471, Start Num: 7

Candidate Starts for OfUltron\_13:

(Start: 3 @8442 has 6 MA's), (Start: 7 @8535 has 149 MA's), (Start: 9 @8541 has 70 MA's), (14, 8643), (21, 8673), (29, 8769), (Start: 30 @8793 has 1 MA's), (32, 8796), (33, 8799), (35, 8826), (37, 8862), (39, 8880), (41, 8898), (43, 8907), (46, 8970), (49, 9048), (52, 9120), (58, 9468),

Gene: Ogopogo\_16 Start: 8698, Stop: 9727, Start Num: 3

Candidate Starts for Ogopogo\_16:

(Start: 3 @8698 has 6 MA's), (Start: 7 @8791 has 149 MA's), (Start: 9 @8797 has 70 MA's), (14, 8899), (21, 8929), (29, 9025), (Start: 30 @9049 has 1 MA's), (37, 9118), (39, 9136), (41, 9154), (43, 9163), (44, 9178), (45, 9181), (46, 9226), (49, 9304), (52, 9376), (58, 9724),

Gene: OldBen\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for OldBen\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: OlympiaSaint\_13 Start: 8556, Stop: 9492, Start Num: 9

Candidate Starts for OlympiaSaint\_13:

(5, 8529), (Start: 9 @8556 has 70 MA's), (14, 8664), (21, 8694), (Start: 30 @8814 has 1 MA's), (35, 8847), (37, 8883), (39, 8901), (41, 8919), (43, 8928), (44, 8943), (45, 8946), (46, 8991), (49, 9069), (52, 9141), (58, 9489),

Gene: Ovechkin\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Ovechkin\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: OwlsT2W\_14 Start: 8398, Stop: 9334, Start Num: 7

Candidate Starts for OwlsT2W\_14:

(Start: 7 @8398 has 149 MA's), (Start: 9 @8404 has 70 MA's), (14, 8506), (21, 8536), (29, 8632), (Start: 30 @8656 has 1 MA's), (37, 8725), (39, 8743), (41, 8761), (42, 8764), (43, 8770), (44, 8785), (45, 8788), (46, 8833), (49, 8911), (52, 8983), (58, 9331),

Gene: PHappiness\_13 Start: 8768, Stop: 9446, Start Num: 30

Candidate Starts for PHappiness\_13:

(Start: 30 @8768 has 1 MA's), (37, 8837), (39, 8855), (41, 8873), (42, 8876), (43, 8882), (44, 8897), (45, 8900), (46, 8945), (49, 9023), (52, 9095), (58, 9443),

Gene: Pacc40\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Pacc40\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Panchino\_15 Start: 9057, Stop: 9963, Start Num: 10

Candidate Starts for Panchino\_15:

(Start: 10 @9057 has 45 MA's), (18, 9165), (26, 9228), (29, 9276), (34, 9333), (39, 9396), (40, 9402), (41, 9414), (42, 9417), (47, 9504), (48, 9507), (51, 9609), (54, 9723), (57, 9780),

Gene: Parmesanjohn\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Parmesanjohn\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Phalconet\_13 Start: 8579, Stop: 9515, Start Num: 9

Candidate Starts for Phalconet\_13:

(5, 8552), (Start: 9 @8579 has 70 MA's), (14, 8687), (21, 8717), (Start: 30 @8837 has 1 MA's), (35, 8870), (37, 8906), (39, 8924), (41, 8942), (43, 8951), (44, 8966), (45, 8969), (46, 9014), (49, 9092), (50, 9098), (52, 9164), (56, 9311), (58, 9512),

Gene: PhancyPhin\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for PhancyPhin\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Phanphagia\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for Phanphagia\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (32, 8839), (33, 8842), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Phasih\_13 Start: 8571, Stop: 9507, Start Num: 9

Candidate Starts for Phasih\_13:

(5, 8544), (Start: 9 @8571 has 70 MA's), (14, 8679), (21, 8709), (Start: 30 @8829 has 1 MA's), (35, 8862), (37, 8898), (39, 8916), (41, 8934), (43, 8943), (44, 8958), (45, 8961), (46, 9006), (49, 9084), (50, 9090), (52, 9156), (56, 9303), (58, 9504),

Gene: Phatniss\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Phatniss\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: PhesterPhotato\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for PhesterPhotato\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (35, 8869), (37, 8905), (41, 8941), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Philonius\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Philonius\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Philus\_13 Start: 8537, Stop: 9473, Start Num: 7

Candidate Starts for Philus\_13:

(Start: 3 @8444 has 6 MA's), (Start: 7 @8537 has 149 MA's), (Start: 9 @8543 has 70 MA's), (14, 8645), (21, 8675), (29, 8771), (Start: 30 @8795 has 1 MA's), (32, 8798), (33, 8801), (37, 8864), (39, 8882), (41, 8900), (43, 8909), (46, 8972), (49, 9050), (52, 9122), (58, 9470),

Gene: PhlipPhlop\_13 Start: 8549, Stop: 9485, Start Num: 7

Candidate Starts for PhlipPhlop\_13:

(Start: 7 @8549 has 149 MA's), (Start: 9 @8555 has 70 MA's), (14, 8657), (21, 8687), (29, 8783), (Start: 30 @8807 has 1 MA's), (37, 8876), (39, 8894), (41, 8912), (42, 8915), (43, 8921), (44, 8936), (45, 8939), (46, 8984), (49, 9062), (52, 9134), (56, 9281), (58, 9482),

Gene: Phloss\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Phloss\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Phrann\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Phrann\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (54, 9747), (57, 9804),

Gene: Piper2020\_14 Start: 8399, Stop: 9335, Start Num: 7

Candidate Starts for Piper2020\_14:

(Start: 7 @8399 has 149 MA's), (Start: 9 @8405 has 70 MA's), (14, 8507), (21, 8537), (29, 8633), (Start: 30 @8657 has 1 MA's), (37, 8726), (39, 8744), (41, 8762), (42, 8765), (43, 8771), (44, 8786), (45, 8789), (46, 8834), (49, 8912), (52, 8984), (56, 9131), (58, 9332),

Gene: Pippy\_12 Start: 8520, Stop: 9456, Start Num: 7

Candidate Starts for Pippy\_12:

(Start: 7 @8520 has 149 MA's), (Start: 9 @8526 has 70 MA's), (14, 8628), (21, 8658), (29, 8754), (Start: 30 @8778 has 1 MA's), (37, 8847), (39, 8865), (41, 8883), (42, 8886), (43, 8892), (44, 8907),

(45, 8910), (46, 8955), (49, 9033), (52, 9105), (58, 9453),

Gene: Pipsqueaks\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Pipsqueaks\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Plumbus\_14 Start: 8391, Stop: 9327, Start Num: 7

Candidate Starts for Plumbus\_14:

(Start: 3 @8298 has 6 MA's), (Start: 7 @8391 has 149 MA's), (Start: 9 @8397 has 70 MA's), (14, 8499), (19, 8523), (21, 8529), (29, 8625), (Start: 30 @8649 has 1 MA's), (32, 8652), (33, 8655), (37, 8718), (39, 8736), (41, 8754), (43, 8763), (44, 8778), (45, 8781), (46, 8826), (49, 8904), (52, 8976), (58, 9324),

Gene: Poenanya\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Poenanya\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (19, 8664), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (35, 8823), (39, 8877), (41, 8895), (43, 8904), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Polka14\_13 Start: 8533, Stop: 9469, Start Num: 7

Candidate Starts for Polka14\_13:

(Start: 7 @8533 has 149 MA's), (Start: 9 @8539 has 70 MA's), (14, 8641), (19, 8665), (21, 8671), (29, 8767), (Start: 30 @8791 has 1 MA's), (35, 8824), (37, 8860), (39, 8878), (41, 8896), (43, 8905), (46, 8968), (49, 9046), (52, 9118), (58, 9466),

Gene: Pollywog\_14 Start: 8385, Stop: 9321, Start Num: 7

Candidate Starts for Pollywog\_14:

(Start: 7 @8385 has 149 MA's), (Start: 9 @8391 has 70 MA's), (14, 8493), (21, 8523), (29, 8619), (Start: 30 @8643 has 1 MA's), (37, 8712), (39, 8730), (41, 8748), (42, 8751), (43, 8757), (44, 8772), (45, 8775), (46, 8820), (49, 8898), (52, 8970), (58, 9318),

Gene: PopTart\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for PopTart\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Priscilla\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for Priscilla\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: QuickMath\_13 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for QuickMath\_13:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (42, 8944), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: Quico\_14 Start: 8403, Stop: 9339, Start Num: 9

Candidate Starts for Quico\_14:

(5, 8376), (Start: 9 @8403 has 70 MA's), (14, 8511), (21, 8541), (Start: 30 @8661 has 1 MA's), (32, 8664), (33, 8667), (35, 8694), (37, 8730), (41, 8766), (42, 8769), (43, 8775), (44, 8790), (45, 8793), (46, 8838), (49, 8916), (50, 8922), (52, 8988), (56, 9135), (58, 9336),

Gene: Radiance\_13 Start: 8531, Stop: 9467, Start Num: 7

Candidate Starts for Radiance\_13:

(Start: 7 @8531 has 149 MA's), (Start: 9 @8537 has 70 MA's), (14, 8639), (21, 8669), (29, 8765), (Start: 30 @8789 has 1 MA's), (37, 8858), (39, 8876), (41, 8894), (42, 8897), (43, 8903), (44, 8918), (45, 8921), (46, 8966), (49, 9044), (52, 9116), (58, 9464),

Gene: Ramsey\_14 Start: 8388, Stop: 9324, Start Num: 7

Candidate Starts for Ramsey\_14:

(Start: 3 @8295 has 6 MA's), (Start: 7 @8388 has 149 MA's), (Start: 9 @8394 has 70 MA's), (14, 8496), (19, 8520), (21, 8526), (29, 8622), (Start: 30 @8646 has 1 MA's), (32, 8649), (33, 8652), (35, 8679), (37, 8715), (39, 8733), (41, 8751), (43, 8760), (46, 8823), (49, 8901), (52, 8973), (58, 9321),

Gene: Raymond7\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Raymond7\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Rebel\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Rebel\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Redi\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Redi\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Renaud18\_14 Start: 8852, Stop: 9794, Start Num: 7

Candidate Starts for Renaud18\_14:

(Start: 7 @8852 has 149 MA's), (11, 8924), (15, 8969), (21, 8996), (24, 9014), (25, 9032), (38, 9200), (45, 9263), (46, 9308), (47, 9341), (50, 9392), (52, 9458),

Gene: Rialto\_14 Start: 8391, Stop: 9327, Start Num: 7

Candidate Starts for Rialto\_14:

(Start: 3 @8298 has 6 MA's), (Start: 7 @8391 has 149 MA's), (Start: 9 @8397 has 70 MA's), (14, 8499), (19, 8523), (21, 8529), (29, 8625), (Start: 30 @8649 has 1 MA's), (32, 8652), (33, 8655), (35, 8682), (37, 8718), (39, 8736), (41, 8754), (43, 8763), (46, 8826), (49, 8904), (50, 8910), (52, 8976), (56, 9123), (58, 9324),

Gene: Rita\_13 Start: 8546, Stop: 9482, Start Num: 9

Candidate Starts for Rita\_13:

(5, 8519), (Start: 9 @8546 has 70 MA's), (14, 8654), (19, 8678), (21, 8684), (Start: 30 @8804 has 1 MA's), (35, 8837), (37, 8873), (39, 8891), (41, 8909), (43, 8918), (44, 8933), (45, 8936), (46, 8981), (49, 9059), (50, 9065), (52, 9131), (56, 9278), (58, 9479),

Gene: RitaG\_13 Start: 8532, Stop: 9441, Start Num: 7

Candidate Starts for RitaG\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (Start: 30 @8763 has 1 MA's), (37, 8832), (39, 8850), (41, 8868), (42, 8871), (43, 8877), (44, 8892), (45, 8895), (46,

8940), (49, 9018), (52, 9090), (58, 9438),

Gene: Rockne\_13 Start: 8549, Stop: 9485, Start Num: 7

Candidate Starts for Rockne\_13:

(Start: 7 @8549 has 149 MA's), (Start: 9 @8555 has 70 MA's), (14, 8657), (21, 8687), (29, 8783), (Start: 30 @8807 has 1 MA's), (37, 8876), (39, 8894), (41, 8912), (42, 8915), (43, 8921), (44, 8936), (45, 8939), (46, 8984), (49, 9062), (52, 9134), (58, 9482),

Gene: RockyHorror\_14 Start: 8389, Stop: 9325, Start Num: 7

Candidate Starts for RockyHorror\_14:

(Start: 3 @8296 has 6 MA's), (Start: 7 @8389 has 149 MA's), (Start: 9 @8395 has 70 MA's), (14, 8497), (19, 8521), (21, 8527), (29, 8623), (Start: 30 @8647 has 1 MA's), (32, 8650), (33, 8653), (35, 8680), (37, 8716), (39, 8734), (41, 8752), (43, 8761), (46, 8824), (49, 8902), (52, 8974), (58, 9322),

Gene: Royals2015\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for Royals2015\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (42, 8942), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: Rubeelu\_15 Start: 9056, Stop: 9962, Start Num: 10

Candidate Starts for Rubeelu\_15:

(Start: 10 @9056 has 45 MA's), (18, 9164), (26, 9227), (29, 9275), (34, 9332), (39, 9395), (40, 9401), (42, 9416), (48, 9506), (50, 9554), (54, 9722), (57, 9779),

Gene: Ruby\_13 Start: 8449, Stop: 9478, Start Num: 3

Candidate Starts for Ruby\_13:

(Start: 3 @8449 has 6 MA's), (Start: 7 @8542 has 149 MA's), (Start: 9 @8548 has 70 MA's), (14, 8650), (21, 8680), (29, 8776), (Start: 30 @8800 has 1 MA's), (32, 8803), (33, 8806), (37, 8869), (39, 8887), (41, 8905), (42, 8908), (43, 8914), (46, 8977), (49, 9055), (50, 9061), (52, 9127), (58, 9475),

Gene: Ryadel\_57 Start: 26800, Stop: 27751, Start Num: 6

Candidate Starts for Ryadel\_57:

(Start: 6 @26800 has 17 MA's), (Start: 8 @26812 has 3 MA's), (11, 26884), (15, 26929), (16, 26932), (21, 26956), (24, 26974), (26, 27004), (31, 27082), (32, 27085), (36, 27142), (39, 27166), (46, 27241), (52, 27391), (53, 27487),

Gene: SG4\_13 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for SG4\_13:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (42, 8942), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: Saal\_13 Start: 8521, Stop: 9457, Start Num: 7

Candidate Starts for Saal\_13:

(Start: 7 @8521 has 149 MA's), (Start: 9 @8527 has 70 MA's), (14, 8629), (21, 8659), (29, 8755), (Start: 30 @8779 has 1 MA's), (37, 8848), (39, 8866), (41, 8884), (42, 8887), (43, 8893), (44, 8908), (45, 8911), (46, 8956), (49, 9034), (52, 9106), (58, 9454),

Gene: Sabbb\_13 Start: 8550, Stop: 9486, Start Num: 7

Candidate Starts for Sabbb\_13:

(Start: 7 @8550 has 149 MA's), (Start: 9 @8556 has 70 MA's), (14, 8658), (19, 8682), (21, 8688), (29, 8784), (Start: 30 @8808 has 1 MA's), (35, 8841), (39, 8895), (41, 8913), (43, 8922), (46, 8985), (49,

9063), (52, 9135), (58, 9483),

Gene: Sandalphon\_13 Start: 8549, Stop: 9485, Start Num: 7

Candidate Starts for Sandalphon\_13:

(Start: 7 @8549 has 149 MA's), (Start: 9 @8555 has 70 MA's), (14, 8657), (19, 8681), (21, 8687), (29, 8783), (Start: 30 @8807 has 1 MA's), (32, 8810), (33, 8813), (39, 8894), (42, 8915), (43, 8921), (46, 8984), (49, 9062), (52, 9134), (58, 9482),

Gene: Sarma624\_14 Start: 8383, Stop: 9319, Start Num: 7

Candidate Starts for Sarma624\_14:

(Start: 7 @8383 has 149 MA's), (Start: 9 @8389 has 70 MA's), (14, 8491), (21, 8521), (29, 8617), (Start: 30 @8641 has 1 MA's), (37, 8710), (39, 8728), (41, 8746), (42, 8749), (43, 8755), (44, 8770), (45, 8773), (46, 8818), (49, 8896), (52, 8968), (58, 9316),

Gene: Sassafras\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Sassafras\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: SassyB\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for SassyB\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Schnauzer\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Schnauzer\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: SchoolBus\_53 Start: 25762, Stop: 26701, Start Num: 8

Candidate Starts for SchoolBus\_53:

(Start: 6 @25750 has 17 MA's), (Start: 8 @25762 has 3 MA's), (11, 25834), (15, 25879), (16, 25882), (21, 25906), (24, 25924), (26, 25954), (31, 26032), (32, 26035), (36, 26092), (39, 26116), (46, 26191), (50, 26275), (52, 26341), (53, 26437),

Gene: Scottish\_13 Start: 8538, Stop: 9468, Start Num: 9

Candidate Starts for Scottish\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (29, 8766), (Start: 30 @8790 has 1 MA's), (37, 8859), (39, 8877), (41, 8895), (42, 8898), (43, 8904), (44, 8919), (45, 8922), (46, 8967), (49, 9045), (52, 9117), (58, 9465),

Gene: Seabastian\_13 Start: 8535, Stop: 9471, Start Num: 7

Candidate Starts for Seabastian\_13:

(Start: 3 @8442 has 6 MA's), (Start: 7 @8535 has 149 MA's), (Start: 9 @8541 has 70 MA's), (14, 8643), (21, 8673), (29, 8769), (Start: 30 @8793 has 1 MA's), (32, 8796), (33, 8799), (35, 8826), (37, 8862), (39, 8880), (41, 8898), (43, 8907), (46, 8970), (49, 9048), (52, 9120), (58, 9468),

Gene: Seagreen\_14 Start: 8392, Stop: 9328, Start Num: 7

Candidate Starts for Seagreen\_14:

(Start: 7 @8392 has 149 MA's), (Start: 9 @8398 has 70 MA's), (14, 8500), (19, 8524), (21, 8530), (29, 8626), (Start: 30 @8650 has 1 MA's), (35, 8683), (39, 8737), (41, 8755), (43, 8764), (46, 8827), (49,

8905), (52, 8977), (58, 9325),

Gene: Shauna1\_12 Start: 8578, Stop: 9514, Start Num: 9

Candidate Starts for Shauna1\_12:

(5, 8551), (Start: 9 @8578 has 70 MA's), (14, 8686), (21, 8716), (Start: 30 @8836 has 1 MA's), (32, 8839), (33, 8842), (35, 8869), (37, 8905), (39, 8923), (41, 8941), (43, 8950), (44, 8965), (45, 8968), (46, 9013), (49, 9091), (50, 9097), (52, 9163), (56, 9310), (58, 9511),

Gene: ShiLan\_13 Start: 8444, Stop: 9473, Start Num: 3

Candidate Starts for ShiLan\_13:

(Start: 3 @8444 has 6 MA's), (Start: 7 @8537 has 149 MA's), (Start: 9 @8543 has 70 MA's), (14, 8645), (21, 8675), (29, 8771), (Start: 30 @8795 has 1 MA's), (32, 8798), (33, 8801), (37, 8864), (39, 8882), (41, 8900), (43, 8909), (46, 8972), (49, 9050), (52, 9122), (58, 9470),

Gene: Shida\_53 Start: 25590, Stop: 26541, Start Num: 6

Candidate Starts for Shida\_53:

(Start: 6 @25590 has 17 MA's), (Start: 8 @25602 has 3 MA's), (11, 25674), (15, 25719), (16, 25722), (21, 25746), (24, 25764), (26, 25794), (31, 25872), (32, 25875), (36, 25932), (39, 25956), (46, 26031), (50, 26115), (52, 26181), (53, 26277),

Gene: ShowerHandel\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for ShowerHandel\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: ShrimpFriedEgg\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for ShrimpFriedEgg\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: ShroomBoi\_13 Start: 8579, Stop: 9515, Start Num: 9

Candidate Starts for ShroomBoi\_13:

(5, 8552), (Start: 9 @8579 has 70 MA's), (14, 8687), (21, 8717), (Start: 30 @8837 has 1 MA's), (35, 8870), (37, 8906), (39, 8924), (41, 8942), (43, 8951), (44, 8966), (45, 8969), (46, 9014), (49, 9092), (50, 9098), (52, 9164), (56, 9311), (58, 9512),

Gene: Shweta\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Shweta\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: SiSi\_13 Start: 8565, Stop: 9501, Start Num: 9

Candidate Starts for SiSi\_13:

(5, 8538), (Start: 9 @8565 has 70 MA's), (14, 8673), (21, 8703), (Start: 30 @8823 has 1 MA's), (32, 8826), (33, 8829), (35, 8856), (37, 8892), (39, 8910), (41, 8928), (42, 8931), (43, 8937), (44, 8952), (45, 8955), (46, 9000), (49, 9078), (50, 9084), (52, 9150), (56, 9297), (58, 9498),

Gene: Silvafighter\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Silvafighter\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Silvy\_15 Start: 9037, Stop: 9943, Start Num: 10

Candidate Starts for Silvy\_15:

(Start: 10 @9037 has 45 MA's), (18, 9145), (26, 9208), (29, 9256), (34, 9313), (39, 9376), (40, 9382), (41, 9394), (42, 9397), (48, 9487), (51, 9589), (54, 9703), (57, 9760),

Gene: SimranZ1\_13 Start: 8388, Stop: 9324, Start Num: 7

Candidate Starts for SimranZ1\_13:

(Start: 3 @8295 has 6 MA's), (Start: 7 @8388 has 149 MA's), (Start: 9 @8394 has 70 MA's), (14, 8496), (21, 8526), (29, 8622), (Start: 30 @8646 has 1 MA's), (35, 8679), (37, 8715), (39, 8733), (41, 8751), (43, 8760), (46, 8823), (49, 8901), (52, 8973), (58, 9321),

Gene: SkinnyPete\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for SkinnyPete\_15:

(Start: 10 @9081 has 45 MA's), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Slim\_14 Start: 8386, Stop: 9322, Start Num: 7

Candidate Starts for Slim\_14:

(Start: 7 @8386 has 149 MA's), (Start: 9 @8392 has 70 MA's), (14, 8494), (21, 8524), (29, 8620), (Start: 30 @8644 has 1 MA's), (37, 8713), (39, 8731), (41, 8749), (42, 8752), (43, 8758), (44, 8773), (45, 8776), (46, 8821), (49, 8899), (52, 8971), (56, 9118), (58, 9319),

Gene: Smooch\_55 Start: 26890, Stop: 27829, Start Num: 8

Candidate Starts for Smooch\_55:

(Start: 6 @26878 has 17 MA's), (Start: 8 @26890 has 3 MA's), (11, 26962), (15, 27007), (16, 27010), (21, 27034), (24, 27052), (26, 27082), (31, 27160), (32, 27163), (36, 27220), (39, 27244), (46, 27319), (50, 27403), (52, 27469), (53, 27565),

Gene: Smurph\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Smurph\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Snekmaggedon\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Snekmaggedon\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Sparkdehlily\_13 Start: 8561, Stop: 9497, Start Num: 7

Candidate Starts for Sparkdehlily\_13:

(Start: 7 @8561 has 149 MA's), (Start: 9 @8567 has 70 MA's), (14, 8669), (21, 8699), (Start: 30 @8819 has 1 MA's), (37, 8888), (39, 8906), (41, 8924), (43, 8933), (44, 8948), (45, 8951), (46, 8996), (49, 9074), (52, 9146), (58, 9494),

Gene: Spartacus\_13 Start: 8563, Stop: 9499, Start Num: 9

Candidate Starts for Spartacus\_13:

(5, 8536), (Start: 9 @8563 has 70 MA's), (14, 8671), (21, 8701), (Start: 30 @8821 has 1 MA's), (35, 8854), (37, 8890), (39, 8908), (41, 8926), (43, 8935), (46, 8998), (49, 9076), (52, 9148), (58, 9496),

Gene: Spikelee\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for Spikelee\_14:

(2, 8291), (Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (14, 8498), (21, 8528), (Start: 30 @8648 has 1 MA's), (32, 8651), (33, 8654), (35, 8681), (37, 8717), (39, 8735), (41, 8753), (43,

8762), (46, 8825), (49, 8903), (52, 8975), (58, 9323),

Gene: Spinach\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for Spinach\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: SpongeBob\_15 Start: 9081, Stop: 9987, Start Num: 10

Candidate Starts for SpongeBob\_15:

(Start: 10 @9081 has 45 MA's), (17, 9180), (18, 9189), (26, 9252), (29, 9300), (34, 9357), (39, 9420), (40, 9426), (41, 9438), (42, 9441), (47, 9528), (48, 9531), (51, 9633), (54, 9747), (57, 9804),

Gene: Spoonbill\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for Spoonbill\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (42, 8904), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: Squirty\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for Squirty\_14:

(Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (19, 8522), (21, 8528), (29, 8624), (Start: 30 @8648 has 1 MA's), (35, 8681), (37, 8717), (39, 8735), (41, 8753), (42, 8756), (43, 8762), (44, 8777), (45, 8780), (46, 8825), (49, 8903), (50, 8909), (52, 8975), (58, 9323),

Gene: StAnnes\_13 Start: 8579, Stop: 9515, Start Num: 9

Candidate Starts for StAnnes\_13:

(5, 8552), (Start: 9 @8579 has 70 MA's), (14, 8687), (21, 8717), (Start: 30 @8837 has 1 MA's), (35, 8870), (37, 8906), (39, 8924), (41, 8942), (42, 8945), (43, 8951), (44, 8966), (45, 8969), (46, 9014), (49, 9092), (50, 9098), (52, 9164), (58, 9512),

Gene: Stap\_14 Start: 8389, Stop: 9325, Start Num: 7

Candidate Starts for Stap\_14:

(Start: 3 @8296 has 6 MA's), (Start: 7 @8389 has 149 MA's), (Start: 9 @8395 has 70 MA's), (14, 8497), (19, 8521), (21, 8527), (29, 8623), (Start: 30 @8647 has 1 MA's), (32, 8650), (33, 8653), (35, 8680), (37, 8716), (39, 8734), (41, 8752), (43, 8761), (46, 8824), (49, 8902), (52, 8974), (58, 9322),

Gene: Starcevich\_14 Start: 8388, Stop: 9324, Start Num: 7

Candidate Starts for Starcevich\_14:

(Start: 7 @8388 has 149 MA's), (Start: 9 @8394 has 70 MA's), (14, 8496), (21, 8526), (29, 8622), (Start: 30 @8646 has 1 MA's), (37, 8715), (39, 8733), (41, 8751), (42, 8754), (43, 8760), (44, 8775), (45, 8778), (46, 8823), (49, 8901), (52, 8973), (56, 9120), (58, 9321),

Gene: Strokeseat\_13 Start: 8534, Stop: 9470, Start Num: 7

Candidate Starts for Strokeseat\_13:

(Start: 7 @8534 has 149 MA's), (Start: 9 @8540 has 70 MA's), (14, 8642), (21, 8672), (29, 8768), (Start: 30 @8792 has 1 MA's), (37, 8861), (39, 8879), (41, 8897), (42, 8900), (43, 8906), (44, 8921), (45, 8924), (46, 8969), (49, 9047), (52, 9119), (58, 9467),

Gene: SuperGrey\_13 Start: 8545, Stop: 9481, Start Num: 9

Candidate Starts for SuperGrey\_13:

(5, 8518), (Start: 9 @8545 has 70 MA's), (14, 8653), (19, 8677), (21, 8683), (Start: 30 @8803 has 1 MA's), (35, 8836), (37, 8872), (39, 8890), (41, 8908), (43, 8917), (44, 8932), (45, 8935), (46, 8980), (49, 9058), (50, 9064), (52, 9130), (56, 9277), (58, 9478),

Gene: SwagPiggett\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for SwagPiggett\_13:

(Start: 3 @8445 has 6 MA's), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (32, 8799), (33, 8802), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: TChen\_14 Start: 8979, Stop: 9921, Start Num: 7

Candidate Starts for TChen\_14:

(Start: 7 @8979 has 149 MA's), (11, 9051), (12, 9072), (13, 9075), (15, 9096), (21, 9123), (25, 9159), (35, 9276), (38, 9327), (46, 9435), (47, 9468), (49, 9513), (50, 9519), (52, 9585),

Gene: TDanisky\_13 Start: 8561, Stop: 9497, Start Num: 7

Candidate Starts for TDanisky\_13:

(Start: 7 @8561 has 149 MA's), (Start: 9 @8567 has 70 MA's), (14, 8669), (21, 8699), (Start: 30 @8819 has 1 MA's), (37, 8888), (39, 8906), (41, 8924), (43, 8933), (44, 8948), (45, 8951), (46, 8996), (49, 9074), (52, 9146), (58, 9494),

Gene: Taj\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Taj\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Tapioca\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Tapioca\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: TelAviv\_50 Start: 25744, Stop: 26695, Start Num: 6

Candidate Starts for TelAviv\_50:

(Start: 6 @25744 has 17 MA's), (Start: 8 @25756 has 3 MA's), (11, 25828), (15, 25873), (16, 25876), (21, 25900), (24, 25918), (26, 25948), (31, 26026), (32, 26029), (36, 26086), (39, 26110), (46, 26185), (50, 26269), (52, 26335), (53, 26431),

Gene: ThetaBob\_14 Start: 8862, Stop: 9804, Start Num: 7

Candidate Starts for ThetaBob\_14:

(Start: 7 @8862 has 149 MA's), (11, 8934), (12, 8955), (13, 8958), (15, 8979), (21, 9006), (25, 9042), (35, 9159), (38, 9210), (46, 9318), (47, 9351), (49, 9396), (50, 9402), (52, 9468),

Gene: TootsiePop\_14 Start: 8399, Stop: 9335, Start Num: 7

Candidate Starts for TootsiePop\_14:

(Start: 7 @8399 has 149 MA's), (Start: 9 @8405 has 70 MA's), (14, 8507), (19, 8531), (21, 8537), (Start: 30 @8657 has 1 MA's), (35, 8690), (37, 8726), (39, 8744), (41, 8762), (42, 8765), (43, 8771), (44, 8786), (45, 8789), (46, 8834), (49, 8912), (52, 8984), (56, 9131), (58, 9332),

Gene: Tootsieroll\_14 Start: 8389, Stop: 9325, Start Num: 7

Candidate Starts for Tootsieroll\_14:

(Start: 3 @8296 has 6 MA's), (Start: 7 @8389 has 149 MA's), (Start: 9 @8395 has 70 MA's), (14, 8497), (19, 8521), (21, 8527), (29, 8623), (Start: 30 @8647 has 1 MA's), (32, 8650), (33, 8653), (35, 8680), (37, 8716), (39, 8734), (41, 8752), (43, 8761), (46, 8824), (49, 8902), (52, 8974), (58, 9322),

Gene: Tortoise12\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Tortoise12\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Totinger\_14 Start: 8386, Stop: 9322, Start Num: 7

Candidate Starts for Totinger\_14:

(Start: 7 @8386 has 149 MA's), (Start: 9 @8392 has 70 MA's), (14, 8494), (21, 8524), (29, 8620), (Start: 30 @8644 has 1 MA's), (37, 8713), (39, 8731), (41, 8749), (42, 8752), (43, 8758), (44, 8773), (45, 8776), (46, 8821), (49, 8899), (52, 8971), (56, 9118), (58, 9319),

Gene: Tweety\_12 Start: 8579, Stop: 9515, Start Num: 9

Candidate Starts for Tweety\_12:

(5, 8552), (Start: 9 @8579 has 70 MA's), (14, 8687), (21, 8717), (Start: 30 @8837 has 1 MA's), (35, 8870), (37, 8906), (39, 8924), (41, 8942), (42, 8945), (43, 8951), (44, 8966), (45, 8969), (46, 9014), (49, 9092), (50, 9098), (52, 9164), (56, 9311), (58, 9512),

Gene: UncleRicky\_14 Start: 8390, Stop: 9326, Start Num: 7

Candidate Starts for UncleRicky\_14:

(Start: 3 @8297 has 6 MA's), (Start: 7 @8390 has 149 MA's), (Start: 9 @8396 has 70 MA's), (14, 8498), (21, 8528), (Start: 30 @8648 has 1 MA's), (37, 8717), (39, 8735), (41, 8753), (43, 8762), (46, 8825), (49, 8903), (50, 8909), (52, 8975), (58, 9323),

Gene: VRedHorse\_13 Start: 8534, Stop: 9470, Start Num: 7

Candidate Starts for VRedHorse\_13:

(Start: 7 @8534 has 149 MA's), (Start: 9 @8540 has 70 MA's), (14, 8642), (21, 8672), (29, 8768), (Start: 30 @8792 has 1 MA's), (37, 8861), (39, 8879), (41, 8897), (42, 8900), (43, 8906), (44, 8921), (45, 8924), (46, 8969), (49, 9047), (52, 9119), (58, 9467),

Gene: Vagabond\_53 Start: 25577, Stop: 26528, Start Num: 6

Candidate Starts for Vagabond\_53:

(Start: 6 @25577 has 17 MA's), (Start: 8 @25589 has 3 MA's), (11, 25661), (15, 25706), (16, 25709), (21, 25733), (24, 25751), (26, 25781), (31, 25859), (32, 25862), (36, 25919), (39, 25943), (46, 26018), (50, 26102), (52, 26168), (53, 26264),

Gene: Velveteen\_14 Start: 8383, Stop: 9319, Start Num: 7

Candidate Starts for Velveteen\_14:

(Start: 7 @8383 has 149 MA's), (Start: 9 @8389 has 70 MA's), (14, 8491), (21, 8521), (29, 8617), (Start: 30 @8641 has 1 MA's), (37, 8710), (39, 8728), (41, 8746), (42, 8749), (43, 8755), (44, 8770), (45, 8773), (46, 8818), (49, 8896), (52, 8968), (58, 9316),

Gene: Veteran\_13 Start: 8572, Stop: 9508, Start Num: 9

Candidate Starts for Veteran\_13:

(5, 8545), (Start: 9 @8572 has 70 MA's), (14, 8680), (21, 8710), (Start: 30 @8830 has 1 MA's), (35, 8863), (37, 8899), (39, 8917), (41, 8935), (42, 8938), (43, 8944), (44, 8959), (45, 8962), (46, 9007), (49, 9085), (50, 9091), (52, 9157), (56, 9304), (58, 9505),

Gene: Violac\_13 Start: 8539, Stop: 9475, Start Num: 7

Candidate Starts for Violac\_13:

(Start: 3 @8446 has 6 MA's), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (35, 8830), (37, 8866), (39, 8884), (41, 8902), (43, 8911), (46, 8974), (49, 9052), (52, 9124), (56, 9271), (58, 9472),

Gene: Vivum\_13 Start: 8539, Stop: 9475, Start Num: 7

Candidate Starts for Vivum\_13:

(2, 8440), (Start: 7 @8539 has 149 MA's), (Start: 9 @8545 has 70 MA's), (14, 8647), (21, 8677), (29, 8773), (Start: 30 @8797 has 1 MA's), (32, 8800), (33, 8803), (37, 8866), (39, 8884), (41, 8902), (42, 8905), (43, 8911), (44, 8926), (45, 8929), (46, 8974), (49, 9052), (52, 9124), (58, 9472),

Gene: Vorrps\_51 Start: 25336, Stop: 26287, Start Num: 6

Candidate Starts for Vorrps\_51:

(Start: 6 @25336 has 17 MA's), (Start: 8 @25348 has 3 MA's), (11, 25420), (15, 25465), (16, 25468), (21, 25492), (24, 25510), (26, 25540), (31, 25618), (32, 25621), (36, 25678), (39, 25702), (46, 25777), (50, 25861), (52, 25927), (53, 26023),

Gene: Wachhund\_13 Start: 8532, Stop: 9468, Start Num: 7

Candidate Starts for Wachhund\_13:

(Start: 7 @8532 has 149 MA's), (Start: 9 @8538 has 70 MA's), (14, 8640), (21, 8670), (Start: 30 @8790 has 1 MA's), (35, 8823), (39, 8877), (41, 8895), (43, 8904), (46, 8967), (49, 9045), (50, 9051), (52, 9117), (56, 9264), (58, 9465),

Gene: Wee\_12 Start: 8576, Stop: 9512, Start Num: 9

Candidate Starts for Wee\_12:

(5, 8549), (Start: 9 @8576 has 70 MA's), (14, 8684), (21, 8714), (Start: 30 @8834 has 1 MA's), (35, 8867), (37, 8903), (39, 8921), (41, 8939), (42, 8942), (43, 8948), (44, 8963), (45, 8966), (46, 9011), (49, 9089), (50, 9095), (52, 9161), (56, 9308), (58, 9509),

Gene: Whatsapiecost\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for Whatsapiecost\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (42, 8943), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Whouxphf\_13 Start: 8526, Stop: 9462, Start Num: 7

Candidate Starts for Whouxphf\_13:

(Start: 7 @8526 has 149 MA's), (Start: 9 @8532 has 70 MA's), (14, 8634), (21, 8664), (Start: 30 @8784 has 1 MA's), (32, 8787), (33, 8790), (35, 8817), (37, 8853), (39, 8871), (41, 8889), (43, 8898), (44, 8913), (45, 8916), (46, 8961), (49, 9039), (50, 9045), (52, 9111), (56, 9258), (58, 9459),

Gene: WillSterrel\_13 Start: 8563, Stop: 9499, Start Num: 9

Candidate Starts for WillSterrel\_13:

(5, 8536), (Start: 9 @8563 has 70 MA's), (14, 8671), (21, 8701), (Start: 30 @8821 has 1 MA's), (35, 8854), (37, 8890), (39, 8908), (41, 8926), (43, 8935), (46, 8998), (49, 9076), (52, 9148), (58, 9496),

Gene: Winget\_54 Start: 26016, Stop: 26967, Start Num: 6

Candidate Starts for Winget\_54:

(Start: 6 @26016 has 17 MA's), (Start: 8 @26028 has 3 MA's), (11, 26100), (15, 26145), (16, 26148), (21, 26172), (24, 26190), (26, 26220), (31, 26298), (32, 26301), (36, 26358), (39, 26382), (46, 26457), (50, 26541), (52, 26607), (53, 26703),

Gene: XFactor\_13 Start: 8577, Stop: 9513, Start Num: 9

Candidate Starts for XFactor\_13:

(5, 8550), (Start: 9 @8577 has 70 MA's), (14, 8685), (21, 8715), (Start: 30 @8835 has 1 MA's), (35, 8868), (37, 8904), (39, 8922), (41, 8940), (43, 8949), (44, 8964), (45, 8967), (46, 9012), (49, 9090), (50, 9096), (52, 9162), (56, 9309), (58, 9510),

Gene: Xeno\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Xeno\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (29, 9255), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Xerxes\_15 Start: 9036, Stop: 9942, Start Num: 10

Candidate Starts for Xerxes\_15:

(Start: 10 @9036 has 45 MA's), (18, 9144), (26, 9207), (34, 9312), (39, 9375), (40, 9381), (41, 9393), (42, 9396), (48, 9486), (51, 9588), (54, 9702), (57, 9759),

Gene: Yorick\_13 Start: 8536, Stop: 9472, Start Num: 7

Candidate Starts for Yorick\_13:

(Start: 3 @8443 has 6 MA's), (Start: 7 @8536 has 149 MA's), (Start: 9 @8542 has 70 MA's), (14, 8644), (21, 8674), (29, 8770), (Start: 30 @8794 has 1 MA's), (32, 8797), (33, 8800), (37, 8863), (39, 8881), (41, 8899), (43, 8908), (46, 8971), (49, 9049), (52, 9121), (58, 9469),

Gene: YungJamal\_56 Start: 26055, Stop: 27006, Start Num: 6

Candidate Starts for YungJamal\_56:

(Start: 6 @26055 has 17 MA's), (Start: 8 @26067 has 3 MA's), (11, 26139), (15, 26184), (16, 26187), (21, 26211), (24, 26229), (26, 26259), (31, 26337), (32, 26340), (36, 26397), (39, 26421), (46, 26496), (50, 26580), (52, 26646), (53, 26742),

Gene: Zakhe101\_53 Start: 25875, Stop: 26826, Start Num: 6

Candidate Starts for Zakhe101\_53:

(Start: 6 @25875 has 17 MA's), (Start: 8 @25887 has 3 MA's), (11, 25959), (15, 26004), (16, 26007), (21, 26031), (24, 26049), (26, 26079), (31, 26157), (32, 26160), (36, 26217), (39, 26241), (46, 26316), (50, 26400), (52, 26466), (53, 26562),

Gene: Zebo\_53 Start: 25750, Stop: 26701, Start Num: 6

Candidate Starts for Zebo\_53:

(Start: 6 @25750 has 17 MA's), (Start: 8 @25762 has 3 MA's), (11, 25834), (15, 25879), (16, 25882), (21, 25906), (24, 25924), (26, 25954), (31, 26032), (32, 26035), (36, 26092), (39, 26116), (46, 26191), (50, 26275), (52, 26341), (53, 26437),

Gene: Zerg\_13 Start: 8538, Stop: 9474, Start Num: 7

Candidate Starts for Zerg\_13:

(4, 8451), (Start: 7 @8538 has 149 MA's), (Start: 9 @8544 has 70 MA's), (14, 8646), (19, 8670), (21, 8676), (29, 8772), (Start: 30 @8796 has 1 MA's), (37, 8865), (39, 8883), (41, 8901), (43, 8910), (44, 8925), (45, 8928), (46, 8973), (49, 9051), (52, 9123), (58, 9471),

Gene: Zizzle\_13 Start: 8540, Stop: 9476, Start Num: 7

Candidate Starts for Zizzle\_13:

(Start: 3 @8447 has 6 MA's), (Start: 7 @8540 has 149 MA's), (Start: 9 @8546 has 70 MA's), (14, 8648), (21, 8678), (29, 8774), (Start: 30 @8798 has 1 MA's), (32, 8801), (33, 8804), (37, 8867), (39, 8885), (41, 8903), (43, 8912), (46, 8975), (49, 9053), (52, 9125), (58, 9473),