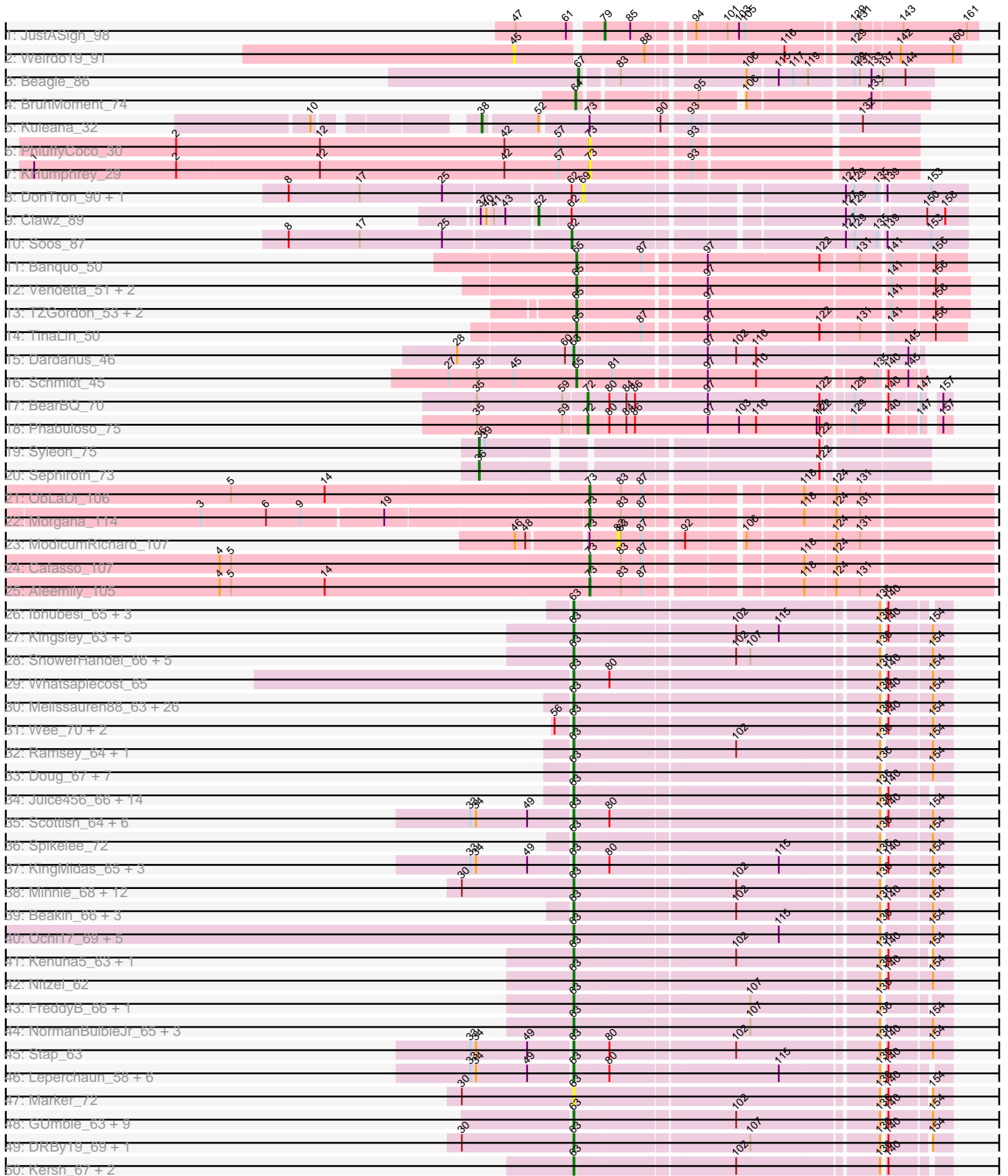
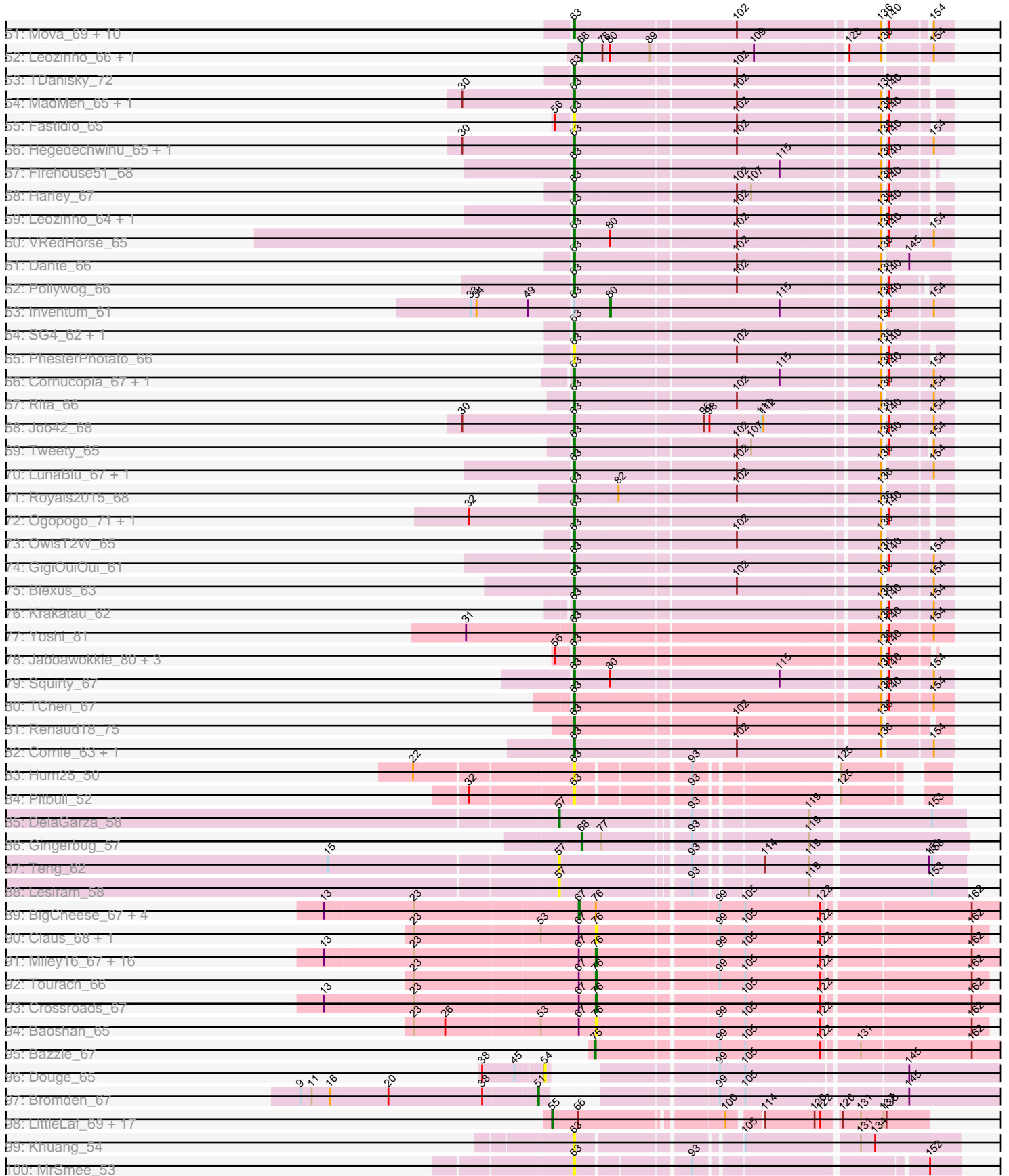


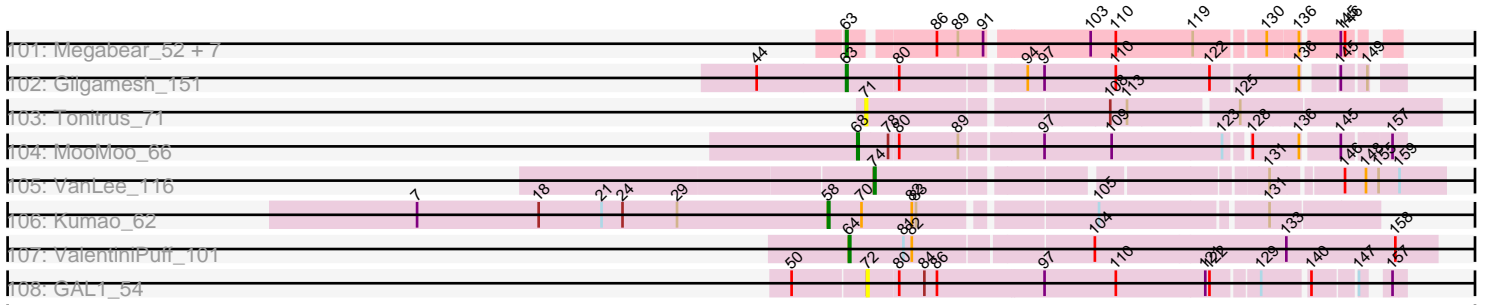
Pham 163297



Pham 163297



Pham 163297



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 163297 Report

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

Pham number 163297 has 295 members, 32 are drafts.

Phages represented in each track:

- Track 1 : JustASigh\_98
- Track 2 : Weirido19\_91
- Track 3 : Beagle\_86
- Track 4 : BruhMoment\_74
- Track 5 : Kuleana\_32
- Track 6 : PhluffyCoco\_30
- Track 7 : KHumphrey\_29
- Track 8 : DonTron\_90, Sting\_92
- Track 9 : Clawz\_89
- Track 10 : Soos\_87
- Track 11 : Banquo\_50
- Track 12 : Vendetta\_51, Splinter\_51, Goib\_52
- Track 13 : TZGordon\_53, Huffy\_52, DinoDaryn\_52
- Track 14 : TinaLin\_50
- Track 15 : Dardanus\_46
- Track 16 : Schmidt\_45
- Track 17 : BearBQ\_70
- Track 18 : Phabuloso\_75
- Track 19 : Syleon\_75
- Track 20 : Sephiroth\_73
- Track 21 : ObLaDi\_106
- Track 22 : Morgana\_114
- Track 23 : ModicumRichard\_107
- Track 24 : Cafasso\_107
- Track 25 : Aleemily\_105
- Track 26 : Ibhubesi\_65, Bobi\_69, Batiatus\_63, MilleniumForce\_68
- Track 27 : Kingsley\_63, Coco12\_65, Cerasum\_62, Sarma624\_64, BigPhil\_62, Velveteen\_61
- Track 28 : ShowerHandel\_66, Zizzle\_69, Pippy\_64, BobaPhett\_69, Maravista\_67, ByChance\_58
- Track 29 : Whatsapiecost\_65
- Track 30 : Melissauren88\_63, Ovechkin\_65, DotProduct\_60, Donkeykong\_68, Strokeseat\_61, SassyB\_59, WillSterrel\_66, Girafales\_73, Florinda\_76, Hlubikazi\_61, Shauna1\_63, Ms6\_62, IrishSherpFalk\_66, Flathead\_66, PopTart\_59, Spartacus\_67, Seagreen\_64, Filuzino\_63, Chevrolet\_73, Phalconet\_63, Plumbus\_68, DLane\_60, StAnnes\_63, Rialto\_70, Quico\_73, Phanphagia\_61, Mandlovu\_61
- Track 31 : Wee\_70, DeadP\_72, Taj\_70

- Track 32 : Ramsey\_64, Madiba\_66
- Track 33 : Doug\_67, Zerg\_65, Girr\_63, RockyHorror\_66, Ruby\_61, Alexphander\_69, MisterCuddles\_63, XFactor\_63
- Track 34 : Juice456\_66, Boomer\_70, Kimberlium\_70, SiSi\_63, QuickMath\_69, Hamulus\_65, JalFarm20\_78, Byougenkin\_65, KristaRAM\_68, Chuckly\_68, Ardmore\_57, PMC\_62, Rockne\_66, Avani\_73, Starcevich\_65
- Track 35 : Scottish\_64, BodEinwohner17\_66, Geralt\_60, Empress\_64, Nimbo\_59, IbOuu\_67, OldBen\_63
- Track 36 : Spikelee\_72
- Track 37 : KingMidas\_65, Sassafras\_64, Dorothy\_64, RedBird\_64
- Track 38 : Minnie\_68, Burwell21\_63, CaptainTrips\_63, LilMoolah\_64, Clifton\_60, Aubs\_65, SwagPiggett\_70, MinionDave\_64, Pacc40\_59, Sandalphon\_66, Brocalys\_60, LastJedi\_59, Nivrat\_62
- Track 39 : Beakin\_66, Soul22\_71, Guppsters\_66, Hades\_66
- Track 40 : Ochi17\_69, Llama\_70, Modragons\_69, AlpineSix\_71, Seabastian\_71, OfUltron\_71
- Track 41 : Kenuha5\_63, SuperGrey\_69
- Track 42 : Nitzel\_62
- Track 43 : FreddyB\_66, BlueCrab\_66
- Track 44 : NormanBulbieJr\_65, Priscilla\_65, Cabrinians\_66, Koella\_59
- Track 45 : Stap\_63
- Track 46 : Leperchaun\_58, JoeyJr\_61, PHappiness\_61, Polka14\_64, Daenerys\_60, Spoonbill\_63, RitaG\_61
- Track 47 : Marker\_72
- Track 48 : GUmbie\_63, Eradicator\_58, BuzzLyseyear\_71, Lizziana\_71, Saal\_67, Che8\_70, Gorge\_69, OlympiaSaint\_67, Mattes\_69, James\_69
- Track 49 : DRBy19\_69, Philus\_69
- Track 50 : Kersh\_67, ShiLan\_64, Che9d\_75
- Track 51 : Mova\_69, Enby\_66, Llij\_61, DirtMcgirt\_64, ArcusAngelus\_67, Radiance\_64, Lorde\_65, Phatniss\_63, Totinger\_68, UncleRicky\_64, Drago\_62
- Track 52 : Leozinho\_66, MadMen\_67
- Track 53 : TDanisky\_72
- Track 54 : MadMen\_65, Martik\_65
- Track 55 : Fastidio\_65
- Track 56 : Hegedechwinu\_65, Gandalph\_68
- Track 57 : Firehouse51\_68
- Track 58 : Harley\_67
- Track 59 : Leozinho\_64, EleanorGeorge\_67
- Track 60 : VRedHorse\_65
- Track 61 : Dante\_66
- Track 62 : Pollywog\_66
- Track 63 : Inventum\_61
- Track 64 : SG4\_62, Mahavrat\_62
- Track 65 : PhesterPhotato\_66
- Track 66 : Cornucopia\_67, Veteran\_62
- Track 67 : Rita\_66
- Track 68 : Job42\_68
- Track 69 : Tweety\_65
- Track 70 : LunaBlu\_67, Galactic\_64
- Track 71 : Royals2015\_68
- Track 72 : Ogopogo\_71, ThetaBob\_73
- Track 73 : OwlsT2W\_65
- Track 74 : GigiOuiOui\_61

- Track 75 : Blexus\_63
- Track 76 : Krakatau\_62
- Track 77 : Yoshi\_81
- Track 78 : Jabbawokkie\_80, Blarby\_78, Mantra\_62, Zapner\_79
- Track 79 : Squirty\_67
- Track 80 : TChen\_67
- Track 81 : Renaud18\_75
- Track 82 : Cornie\_63, Bipolar\_65
- Track 83 : Hum25\_50
- Track 84 : Pitbull\_52
- Track 85 : DelaGarza\_58
- Track 86 : Gingerbug\_57
- Track 87 : Teng\_62
- Track 88 : Lesiram\_58
- Track 89 : BigCheese\_67, BobsGarage\_67, Nicholasp3\_67, Lewan\_68, Vetrix\_67
- Track 90 : Claus\_68, ZhongYanYuan\_66
- Track 91 : Miley16\_67, Wigglewiggles\_67, Gabriela\_64, Loadrie\_66, Zakai\_68, Finemlucis\_67, GuuelaD\_66, MkaliMitinis3\_68, Breezona\_67, Gardann\_68, Itos\_66, LilDestine\_67, Rumpelstiltskin\_66, Kahlid\_67, Wilder\_68, Hafay\_69, Winky\_67
- Track 92 : Tourach\_66
- Track 93 : Crossroads\_67
- Track 94 : Baoshan\_65
- Track 95 : Bazzle\_67
- Track 96 : Douge\_65
- Track 97 : Bromden\_67
- Track 98 : LittleLaf\_69, Pringar\_68, JoieB\_70, Lilbit\_69, Corazon\_67, Marvin\_65, Beelzebub\_73, MosMoris\_66, Caprice\_64, Blackbeetle\_69, VasuNzinga\_68, Clarkson\_70, Huphlepuuff\_71, Poise\_69, Gattaca\_67, Raela\_69, Tesla\_66, RedRaider77\_68
- Track 99 : Khuang\_54
- Track 100 : MrSmeem\_53
- Track 101 : Megabear\_52, GodPhather\_53, Jeon\_52, Cepens\_52, D12\_51, PR\_52, Argie\_53, Taptic\_52
- Track 102 : Gilgamesh\_151
- Track 103 : Tonitrus\_71
- Track 104 : MooMoo\_66
- Track 105 : VanLee\_116
- Track 106 : Kumao\_62
- Track 107 : ValentiniPuff\_101
- Track 108 : GAL1\_54

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

The start number called the most often in the published annotations is 63, it was called in 190 of the 263 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_69, AlpineSix\_71, ArcusAngelus\_67, Ardmore\_57, Argie\_53, Aubs\_65, Avani\_73, Batiatus\_63, Beakin\_66, BigPhil\_62, Bipolar\_65, Blarby\_78, Blexus\_63, BlueCrab\_66, BobaPhett\_69, Bobi\_69, BodEinwohner17\_66,

Boomer\_70, Brocalys\_60, Burwell21\_63, BuzzLyseyear\_71, ByChance\_58, Byougenkin\_65, Cabrinians\_66, CaptainTrips\_63, Cepens\_52, Cerasum\_62, Che8\_70, Che9d\_75, Chevrolet\_73, Chuckly\_68, Clifton\_60, Coco12\_65, Cornie\_63, Cornucopia\_67, D12\_51, DLane\_60, DRBy19\_69, Daenerys\_60, Dante\_66, Dardanus\_46, DeadP\_72, DirtMcgirt\_64, Donkeykong\_68, Dorothy\_64, DotProduct\_60, Doug\_67, Drago\_62, EleanorGeorge\_67, Empress\_64, Enby\_66, Eradicator\_58, Fastidio\_65, Filuzino\_63, Firehouse51\_68, Flathead\_66, Florinda\_76, FreddyB\_66, GUmbie\_63, Galactic\_64, Gandolph\_68, Geralt\_60, GigiOuiOui\_61, Gilgamesh\_151, Girafales\_73, Girr\_63, GodPhather\_53, Gorge\_69, Guppsters\_66, Hades\_66, Hamulus\_65, Harley\_67, Hegedechwinu\_65, Hlubikazi\_61, Hum25\_50, IbOuu\_67, Ibhubesi\_65, IrishSherpFalk\_66, Jabbawokkie\_80, JalFarm20\_78, James\_69, Jeon\_52, Job42\_68, JoeyJr\_61, Juice456\_66, Kenuha5\_63, Kersh\_67, Khuang\_54, Kimberlium\_70, KingMidas\_65, Kingsley\_63, Koella\_59, Krakatau\_62, KristaRAM\_68, LastJedi\_59, Leozinho\_64, Leperchaun\_58, LilMoolah\_64, Lizziana\_71, Llama\_70, Llij\_61, Lorde\_65, LunaBlu\_67, MadMen\_65, Madiba\_66, Mahavrat\_62, Mandlovu\_61, Mantra\_62, Maravista\_67, Marker\_72, Martik\_65, Mattes\_69, Megabear\_52, Melissauren88\_63, MilleniumForce\_68, MinionDave\_64, Minnie\_68, MisterCuddles\_63, Modragons\_69, Mova\_69, MrSmee\_53, Ms6\_62, Nimbo\_59, Nitzel\_62, Nivrat\_62, NormanBulbieJr\_65, Ochi17\_69, OfUltron\_71, OgoPogo\_71, OldBen\_63, OlympiaSaint\_67, Ovechkin\_65, OwlsT2W\_65, PHappiness\_61, PMC\_62, PR\_52, Pacc40\_59, Phalconet\_63, Phanphagia\_61, Phatniss\_63, PhesterPhotato\_66, Philus\_69, Pippy\_64, Pitbull\_52, Plumbus\_68, Polka14\_64, Pollywog\_66, PopTart\_59, Priscilla\_65, QuickMath\_69, Quico\_73, Radiance\_64, Ramsey\_64, RedBird\_64, Renaud18\_75, Rialto\_70, RitaG\_61, Rita\_66, Rockne\_66, RockyHorror\_66, Royals2015\_68, Ruby\_61, SG4\_62, Saal\_67, Sandalphon\_66, Sarma624\_64, Sassafras\_64, SassyB\_59, Scottish\_64, Seabastian\_71, Seagreen\_64, Shauna1\_63, ShiLan\_64, ShowerHandel\_66, SiSi\_63, Soul22\_71, Spartacus\_67, Spikelee\_72, Spoonbill\_63, Squirty\_67, StAnnes\_63, Stap\_63, Starcevich\_65, Strokeseat\_61, SuperGrey\_69, SwagPigglett\_70, TChen\_67, TDanisky\_72, Taj\_70, Taptic\_52, ThetaBob\_73, Totinger\_68, Tweety\_65, UncleRicky\_64, VRedHorse\_65, Velveteen\_61, Veteran\_62, Wee\_70, Whatsapiecost\_65, WillSterrel\_66, XFactor\_63, Yoshi\_81, Zapner\_79, Zerg\_65, Zizzle\_69,

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

- Inventum\_61,

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

- Aleemily\_105, Banquo\_50, Baoshan\_65, Bazzle\_67, Beagle\_86, BearBQ\_70, Beelzebub\_73, BigCheese\_67, Blackbeetle\_69, BobsGarage\_67, Breezona\_67, Bromden\_67, BruhMoment\_74, Cafasso\_107, Caprice\_64, Clarkson\_70, Claus\_68, Clawz\_89, Corazon\_67, Crossroads\_67, DelaGarza\_58, DinoDaryn\_52, DonTron\_90, Douge\_65, Finemlucis\_67, GAL1\_54, Gabriela\_64, Gardann\_68, Gattaca\_67, Gingerbug\_57, Goib\_52, GuuelaD\_66, Hafay\_69, Huffy\_52, Huphlepuuff\_71, Itos\_66, JoieB\_70, JustASigh\_98, KHumphrey\_29, Kahlid\_67, Kuleana\_32, Kumao\_62, Leozinho\_66, Lesiram\_58, Lewan\_68, LilDestine\_67, Lilbit\_69, LittleLaf\_69, Loadrie\_66, MadMen\_67, Marvin\_65, Miley16\_67, MkaliMitinis3\_68, ModicumRichard\_107, MooMoo\_66, Morgana\_114, MosMoris\_66, Nicholasp3\_67, ObLaDi\_106, Phabuloso\_75, PhluffyCoco\_30, Poise\_69, Pringar\_68, Raela\_69, RedRaider77\_68, Rumpelstiltskin\_66, Schmidt\_45, Sephiroth\_73, Soos\_87, Splinter\_51, Sting\_92, Syleon\_75, TZGordon\_53, Teng\_62, Tesla\_66, TinaLin\_50, Tonitrus\_71, Tourach\_66, ValentiniPuff\_101, VanLee\_116, VasuNzinga\_68, Vendetta\_51, Vetrix\_67, Weirdo19\_91, Wigglewiggles\_67,

Wilder\_68, Winky\_67, Zakai\_68, ZhongYanYuan\_66,

### Summary by start number:

#### Start 36:

- Found in 2 of 295 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sephiroth\_73 (DU1), Syleon\_75 (DU1),

#### Start 38:

- Found in 3 of 295 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Kuleana\_32 (AS2),

#### Start 45:

- Found in 3 of 295 ( 1.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Weirido19\_91 (AH),

#### Start 51:

- Found in 1 of 295 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bromden\_67 (L4),

#### Start 52:

- Found in 2 of 295 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Clawz\_89 (CP),

#### Start 54:

- Found in 1 of 295 ( 0.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Douge\_65 (L4),

#### Start 55:

- Found in 18 of 295 ( 6.1% ) of genes in pham
- Manual Annotations of this start: 16 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub\_73 (S), Blackbeetle\_69 (S), Caprice\_64 (S), Clarkson\_70 (S), Corazon\_67 (S), Gattaca\_67 (S), Huphlepuuff\_71 (S), JoieB\_70 (S), Lilbit\_69 (S), LittleLaf\_69 (S), Marvin\_65 (S), MosMoris\_66 (S), Poise\_69 (S), Pringar\_68 (S), Raela\_69 (S), RedRaider77\_68 (S), Tesla\_66 (S), VasuNzinga\_68 (S),

#### Start 57:

- Found in 5 of 295 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 1 of 263



- Called 60.0% of time when present
- Phage (with cluster) where this start called: DelaGarza\_58 (GF), Lesiram\_58 (GF), Teng\_62 (GF),

#### Start 58:

- Found in 1 of 295 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumao\_62 (singleton),

#### Start 62:

- Found in 4 of 295 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Soos\_87 (CP),

#### Start 63:

- Found in 206 of 295 ( 69.8% ) of genes in pham
- Manual Annotations of this start: 190 of 263
- Called 99.5% of time when present
- Phage (with cluster) where this start called: Alexphander\_69 (F1), AlpineSix\_71 (F1), ArcusAngelus\_67 (F1), Ardmore\_57 (F1), Argie\_53 (W), Aubs\_65 (F1), Avani\_73 (F2), Batiatus\_63 (F1), Beakin\_66 (F1), BigPhil\_62 (F1), Bipolar\_65 (F1), Blarby\_78 (F), Blexus\_63 (F1), BlueCrab\_66 (F1), BobaPhett\_69 (F1), Bobi\_69 (F1), BodEinwohner17\_66 (F1), Boomer\_70 (F1), Brocalys\_60 (F1), Burwell21\_63 (F1), BuzzLyseyear\_71 (F1), ByChance\_58 (F1), Byougenkin\_65 (F1), Cabrinians\_66 (F1), CaptainTrips\_63 (F1), Cepens\_52 (W), Cerasum\_62 (F1), Che8\_70 (F1), Che9d\_75 (F2), Chevrolet\_73 (F1), Chuckly\_68 (F1), Clifton\_60 (F1), Coco12\_65 (F1), Cornie\_63 (F5), Cornucopia\_67 (F1), D12\_51 (W), DLane\_60 (F1), DRBy19\_69 (F1), Daenerys\_60 (F1), Dante\_66 (F1), Dardanus\_46 (CU3), DeadP\_72 (F1), DirtMcgirt\_64 (F1), Donkeykong\_68 (F1), Dorothy\_64 (F1), DotProduct\_60 (F1), Doug\_67 (F1), Drago\_62 (F1), EleanorGeorge\_67 (F1), Empress\_64 (F1), Enby\_66 (F1), Eradicator\_58 (F1), Fastidio\_65 (F1), Filuzino\_63 (F1), Firehouse51\_68 (F1), Flathead\_66 (F1), Florinda\_76 (F1), FreddyB\_66 (F1), GUmbie\_63 (F1), Galactic\_64 (F1), Gandolph\_68 (F1), Geralt\_60 (F1), GigiOuiOui\_61 (F1), Gilgamesh\_151 (singleton), Girafales\_73 (F1), Girr\_63 (F1), GodPhather\_53 (W), Gorge\_69 (F1), Guppsters\_66 (F1), Hades\_66 (F1), Hamulus\_65 (F1), Harley\_67 (F1), Hegedechwinu\_65 (F1), Hlubikazi\_61 (F1), Hum25\_50 (FQ), IbOuu\_67 (F1), Ibhuesi\_65 (F1), IrishSherpFalk\_66 (F1), Jabbawokkie\_80 (F2), JalFarm20\_78 (F1), James\_69 (F1), Jeon\_52 (W), Job42\_68 (F1), JoeyJr\_61 (F1), Juice456\_66 (F1), Kenuha5\_63 (F1), Kersh\_67 (F1), Khuang\_54 (UNK), Kimberlium\_70 (F1), KingMidas\_65 (F1), Kingsley\_63 (F1), Koella\_59 (F1), Krakatau\_62 (F1), KristaRAM\_68 (F1), LastJedi\_59 (F1), Leozinho\_64 (F1), Leperchaun\_58 (F1), LilMoolah\_64 (F1), Lizziana\_71 (F1), Llama\_70 (F1), Llij\_61 (F1), Lorde\_65 (F1), LunaBlu\_67 (F1), MadMen\_65 (F1), Madiba\_66 (F1), Mahavrat\_62 (F1), Mandlovu\_61 (F1), Mantra\_62 (F1), Maravista\_67 (F1), Marker\_72 (F1), Martik\_65 (F1), Mattes\_69 (F1), Megabear\_52 (W), Melissauren88\_63 (F1), MilleniumForce\_68 (F1), MinionDave\_64 (F1), Minnie\_68 (F1), MisterCuddles\_63 (F1), Modragons\_69 (F1), Mova\_69 (F1), MrSme\_53 (UNK), Ms6\_62 (F1), Nimbo\_59 (F1), Nitzel\_62 (F1), Nivrat\_62 (F1), NormanBulbieJr\_65 (F1), Ochi17\_69 (F1), OfUltron\_71 (F1), Ogopogo\_71 (F1), OldBen\_63 (F1), OlympiaSaint\_67 (F1), Ovechkin\_65 (F1), OwlsT2W\_65 (F1), PHappiness\_61 (F1), PMC\_62 (F1), PR\_52 (W), Pacc40\_59 (F1), Phalconet\_63 (F1), Phanphagia\_61 (F1), Phatniss\_63 (F1), PhesterPhotato\_66 (F1),

Philus\_69 (F1), Pippy\_64 (F1), Pitbull\_52 (FQ), Plumbus\_68 (F1), Polka14\_64 (F1), Pollywog\_66 (F1), PopTart\_59 (F1), Priscilla\_65 (F1), QuickMath\_69 (F1), Quico\_73 (F1), Radiance\_64 (F1), Ramsey\_64 (F1), RedBird\_64 (F1), Renaud18\_75 (F4), Rialto\_70 (F1), RitaG\_61 (F1), Rita\_66 (F1), Rockne\_66 (F1), RockyHorror\_66 (F1), Royals2015\_68 (F1), Ruby\_61 (F1), SG4\_62 (F1), Saal\_67 (F1), Sandalphon\_66 (F1), Sarma624\_64 (F1), Sassafras\_64 (F1), SassyB\_59 (F1), Scottish\_64 (F1), Seabastian\_71 (F1), Seagreen\_64 (F1), Shauna1\_63 (F1), ShiLan\_64 (F1), ShowerHandel\_66 (F1), SiSi\_63 (F1), Soul22\_71 (F2), Spartacus\_67 (F1), Spikelee\_72 (F1), Spoonbill\_63 (F1), Squirty\_67 (F3), StAnnes\_63 (F1), Stap\_63 (F1), Starceвич\_65 (F1), Strokeseat\_61 (F1), SuperGrey\_69 (F1), SwagPigglett\_70 (F1), TChen\_67 (F4), TDanisky\_72 (F1), Taj\_70 (F1), Taptic\_52 (W), ThetaBob\_73 (F4), Totinger\_68 (F1), Tweety\_65 (F1), UncleRicky\_64 (F1), VRedHorse\_65 (F1), Velveteen\_61 (F1), Veteran\_62 (F1), Wee\_70 (F1), Whatsapiecost\_65 (F1), WillSterrel\_66 (F1), XFactor\_63 (F1), Yoshi\_81 (F2), Zapner\_79 (F2), Zerg\_65 (F1), Zizzle\_69 (F1),

#### Start 64:

- Found in 2 of 295 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BruhMoment\_74 (AP3), ValentiniPuff\_101 (singleton),

#### Start 65:

- Found in 9 of 295 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 9 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Banquo\_50 (CU1), DinoDaryn\_52 (CU1), Goib\_52 (CU1), Huffy\_52 (CU1), Schmidt\_45 (CU4), Splinter\_51 (CU1), TZGordon\_53 (CU1), TinaLin\_50 (CU1), Vendetta\_51 (CU1),

#### Start 67:

- Found in 28 of 295 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 6 of 263
- Called 21.4% of time when present
- Phage (with cluster) where this start called: Beagle\_86 (AP2), BigCheese\_67 (L2), BobsGarage\_67 (L2), Lewan\_68 (L2), Nicholasp3\_67 (L2), Vetrrix\_67 (L2),

#### Start 68:

- Found in 4 of 295 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 4 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gingerbug\_57 (GF), Leozinho\_66 (F1), MadMen\_67 (F1), MooMoo\_66 (singleton),

#### Start 69:

- Found in 2 of 295 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonTron\_90 (CP), Sting\_92 (CP),

#### Start 71:

- Found in 1 of 295 ( 0.3% ) of genes in pham

- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonitrus\_71 (singleton),

#### Start 72:

- Found in 3 of 295 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ\_70 (DN), GAL1\_54 (singleton), Phabuloso\_75 (DN1),

#### Start 73:

- Found in 8 of 295 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 4 of 263
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Aleemily\_105 (DZ), Cafasso\_107 (DZ), KHumphrey\_29 (AS3), Morgana\_114 (DZ), ObLaDi\_106 (DZ), PhluffyCoco\_30 (AS3),

#### Start 74:

- Found in 1 of 295 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: VanLee\_116 (singleton),

#### Start 75:

- Found in 1 of 295 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bazzle\_67 (L2),

#### Start 76:

- Found in 27 of 295 ( 9.2% ) of genes in pham
- Manual Annotations of this start: 18 of 263
- Called 81.5% of time when present
- Phage (with cluster) where this start called: Baoshan\_65 (L2), Breezona\_67 (L2), Claus\_68 (L2), Crossroads\_67 (L2), Finemlucis\_67 (L2), Gabriela\_64 (L2), Gardann\_68 (L2), GuuelaD\_66 (L2), Hafay\_69 (L2), Itos\_66 (L2), Kahlid\_67 (L2), LilDestine\_67 (L2), Loadrie\_66 (L2), Miley16\_67 (L2), MkaliMitinis3\_68 (L2), Rumpelstiltskin\_66 (L2), Tourach\_66 (L2), Wigglewiggle\_67 (L2), Wilder\_68 (L2), Winky\_67 (L2), Zakai\_68 (L2), ZhongYanYuan\_66 (L2),

#### Start 79:

- Found in 1 of 295 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh\_98 (AH),

#### Start 80:

- Found in 30 of 295 ( 10.2% ) of genes in pham
- Manual Annotations of this start: 1 of 263
- Called 3.3% of time when present
- Phage (with cluster) where this start called: Inventum\_61 (F1),

Start 82:

- Found in 4 of 295 ( 1.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: ModicumRichard\_107 (DZ),

### **Summary by clusters:**

There are 27 clusters represented in this pham: DN, FQ, singleton, AP2, AP3, DZ, CP, CU3, CU1, DN1, DU1, AS3, AS2, F, AH, GF, L4, CU4, L2, W, UNK, F1, F2, F3, F4, F5, S,

Info for manual annotations of cluster AH:

- Start number 79 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster AP2:

- Start number 67 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 64 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AS2:

- Start number 38 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster CP:

- Start number 52 was manually annotated 1 time for cluster CP.
- Start number 62 was manually annotated 1 time for cluster CP.

Info for manual annotations of cluster CU1:

- Start number 65 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 63 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 65 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster DN:

- Start number 72 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 72 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DU1:

- Start number 36 was manually annotated 2 times for cluster DU1.

Info for manual annotations of cluster DZ:

- Start number 73 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster F1:

- Start number 63 was manually annotated 169 times for cluster F1.

- Start number 68 was manually annotated 2 times for cluster F1.
- Start number 80 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 63 was manually annotated 6 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 63 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 63 was manually annotated 3 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 63 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster GF:

- Start number 57 was manually annotated 1 time for cluster GF.
- Start number 68 was manually annotated 1 time for cluster GF.

Info for manual annotations of cluster L2:

- Start number 67 was manually annotated 5 times for cluster L2.
- Start number 75 was manually annotated 1 time for cluster L2.
- Start number 76 was manually annotated 18 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 51 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster S:

- Start number 55 was manually annotated 16 times for cluster S.

Info for manual annotations of cluster W:

- Start number 63 was manually annotated 8 times for cluster W.

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

Gene: Aleemily\_105 Start: 59933, Stop: 60322, Start Num: 73

Candidate Starts for Aleemily\_105:

(4, 59546), (5, 59558), (14, 59657), (Start: 73 @59933 has 4 MA's), (83, 59966), (87, 59987), (118, 60134), (124, 60164), (131, 60188),

Gene: Alexphander\_69 Start: 42282, Stop: 42644, Start Num: 63

Candidate Starts for Alexphander\_69:

(Start: 63 @42282 has 190 MA's), (136, 42582), (154, 42627),

Gene: AlpineSix\_71 Start: 45319, Stop: 45681, Start Num: 63

Candidate Starts for AlpineSix\_71:

(Start: 63 @45319 has 190 MA's), (115, 45523), (136, 45619), (154, 45664),

Gene: ArcusAngelus\_67 Start: 42632, Stop: 42994, Start Num: 63

Candidate Starts for ArcusAngelus\_67:

(Start: 63 @42632 has 190 MA's), (102, 42791), (136, 42932), (140, 42935), (154, 42977),

Gene: Ardmore\_57 Start: 40049, Stop: 40405, Start Num: 63

Candidate Starts for Ardmore\_57:

(Start: 63 @40049 has 190 MA's), (136, 40349), (140, 40352),

Gene: Argie\_53 Start: 44207, Stop: 44548, Start Num: 63

Candidate Starts for Argie\_53:

(Start: 63 @44207 has 190 MA's), (86, 44261), (89, 44276), (91, 44294), (103, 44360), (110, 44378), (119, 44432), (130, 44477), (136, 44498), (145, 44522), (146, 44525),

Gene: Aubs\_65 Start: 42690, Stop: 43052, Start Num: 63

Candidate Starts for Aubs\_65:

(30, 42573), (Start: 63 @42690 has 190 MA's), (102, 42849), (136, 42990), (154, 43035),

Gene: Avani\_73 Start: 42666, Stop: 43022, Start Num: 63

Candidate Starts for Avani\_73:

(Start: 63 @42666 has 190 MA's), (136, 42966), (140, 42969),

Gene: Banquo\_50 Start: 32516, Stop: 32896, Start Num: 65

Candidate Starts for Banquo\_50:

(Start: 65 @32516 has 9 MA's), (87, 32579), (97, 32639), (122, 32756), (131, 32795), (141, 32822), (156, 32864),

Gene: Baoshan\_65 Start: 46306, Stop: 46692, Start Num: 76

Candidate Starts for Baoshan\_65:

(23, 46120), (26, 46153), (53, 46249), (Start: 67 @46288 has 6 MA's), (Start: 76 @46306 has 18 MA's), (99, 46423), (105, 46450), (122, 46528), (162, 46675),

Gene: Batiatus\_63 Start: 41925, Stop: 42281, Start Num: 63

Candidate Starts for Batiatus\_63:

(Start: 63 @41925 has 190 MA's), (136, 42225), (140, 42228),

Gene: Bazzle\_67 Start: 46701, Stop: 47099, Start Num: 75

Candidate Starts for Bazzle\_67:

(Start: 75 @46701 has 1 MA's), (99, 46818), (105, 46845), (122, 46923), (131, 46956), (162, 47070),

Gene: Beagle\_86 Start: 50592, Stop: 50260, Start Num: 67

Candidate Starts for Beagle\_86:

(Start: 67 @50592 has 6 MA's), (83, 50559), (106, 50442), (115, 50412), (117, 50397), (119, 50382), (129, 50340), (131, 50334), (133, 50322), (137, 50313), (144, 50289),

Gene: Beakin\_66 Start: 41229, Stop: 41591, Start Num: 63

Candidate Starts for Beakin\_66:

(Start: 63 @41229 has 190 MA's), (102, 41388), (136, 41529), (140, 41532), (154, 41574),

Gene: BearBQ\_70 Start: 44365, Stop: 44712, Start Num: 72

Candidate Starts for BearBQ\_70:

(35, 44251), (59, 44341), (Start: 72 @44365 has 2 MA's), (Start: 80 @44386 has 1 MA's), (84, 44404), (86, 44413), (97, 44488), (122, 44605), (129, 44635), (140, 44665), (147, 44692), (157, 44704),

Gene: Beelzebub\_73 Start: 40109, Stop: 40462, Start Num: 55

Candidate Starts for Beelzebub\_73:

(Start: 55 @40109 has 16 MA's), (66, 40136), (100, 40271), (114, 40301), (120, 40352), (122, 40358), (126, 40373), (131, 40391), (137, 40415), (138, 40418),

Gene: BigCheese\_67 Start: 46345, Stop: 46764, Start Num: 67

Candidate Starts for BigCheese\_67:

(13, 46084), (23, 46177), (Start: 67 @46345 has 6 MA's), (Start: 76 @46363 has 18 MA's), (99, 46480), (105, 46507), (122, 46585), (162, 46732),

Gene: BigPhil\_62 Start: 39148, Stop: 39510, Start Num: 63

Candidate Starts for BigPhil\_62:

(Start: 63 @39148 has 190 MA's), (102, 39307), (115, 39352), (136, 39448), (140, 39451), (154, 39493),

Gene: Bipolar\_65 Start: 42690, Stop: 43052, Start Num: 63

Candidate Starts for Bipolar\_65:

(Start: 63 @42690 has 190 MA's), (102, 42849), (136, 42990), (154, 43035),

Gene: Blackbeetle\_69 Start: 39121, Stop: 39474, Start Num: 55

Candidate Starts for Blackbeetle\_69:

(Start: 55 @39121 has 16 MA's), (66, 39148), (100, 39283), (114, 39313), (120, 39364), (122, 39370), (126, 39385), (131, 39403), (137, 39427), (138, 39430),

Gene: Blarby\_78 Start: 44162, Stop: 44503, Start Num: 63

Candidate Starts for Blarby\_78:

(56, 44147), (Start: 63 @44162 has 190 MA's), (136, 44462), (140, 44465),

Gene: Blexus\_63 Start: 42819, Stop: 43181, Start Num: 63

Candidate Starts for Blexus\_63:

(Start: 63 @42819 has 190 MA's), (102, 42978), (136, 43119), (154, 43164),

Gene: BlueCrab\_66 Start: 43528, Stop: 43884, Start Num: 63

Candidate Starts for BlueCrab\_66:

(Start: 63 @43528 has 190 MA's), (107, 43702), (136, 43828),

Gene: BobaPhett\_69 Start: 45114, Stop: 45476, Start Num: 63

Candidate Starts for BobaPhett\_69:

(Start: 63 @45114 has 190 MA's), (102, 45273), (107, 45288), (136, 45414), (154, 45459),

Gene: Bobi\_69 Start: 43528, Stop: 43884, Start Num: 63

Candidate Starts for Bobi\_69:

(Start: 63 @43528 has 190 MA's), (136, 43828), (140, 43831),

Gene: BobsGarage\_67 Start: 46345, Stop: 46764, Start Num: 67

Candidate Starts for BobsGarage\_67:

(13, 46084), (23, 46177), (Start: 67 @46345 has 6 MA's), (Start: 76 @46363 has 18 MA's), (99, 46480), (105, 46507), (122, 46585), (162, 46732),

Gene: BodEinwohner17\_66 Start: 42524, Stop: 42886, Start Num: 63

Candidate Starts for BodEinwohner17\_66:

(33, 42419), (34, 42425), (49, 42479), (Start: 63 @42524 has 190 MA's), (Start: 80 @42557 has 1 MA's), (136, 42824), (140, 42827), (154, 42869),

Gene: Boomer\_70 Start: 44186, Stop: 44542, Start Num: 63  
Candidate Starts for Boomer\_70:  
(Start: 63 @44186 has 190 MA's), (136, 44486), (140, 44489),

Gene: Breezona\_67 Start: 46363, Stop: 46764, Start Num: 76  
Candidate Starts for Breezona\_67:  
(13, 46084), (23, 46177), (Start: 67 @46345 has 6 MA's), (Start: 76 @46363 has 18 MA's), (99, 46480), (105, 46507), (122, 46585), (162, 46732),

Gene: Brocalys\_60 Start: 39296, Stop: 39658, Start Num: 63  
Candidate Starts for Brocalys\_60:  
(30, 39179), (Start: 63 @39296 has 190 MA's), (102, 39455), (136, 39596), (154, 39641),

Gene: Bromden\_67 Start: 46292, Stop: 46696, Start Num: 51  
Candidate Starts for Bromden\_67:  
(9, 46049), (11, 46061), (16, 46079), (20, 46139), (Start: 38 @46238 has 1 MA's), (Start: 51 @46292 has 1 MA's), (99, 46415), (105, 46442), (145, 46601),

Gene: BruhMoment\_74 Start: 49610, Stop: 49293, Start Num: 64  
Candidate Starts for BruhMoment\_74:  
(Start: 64 @49610 has 2 MA's), (95, 49508), (106, 49469), (133, 49349),

Gene: Burwell21\_63 Start: 42397, Stop: 42759, Start Num: 63  
Candidate Starts for Burwell21\_63:  
(30, 42280), (Start: 63 @42397 has 190 MA's), (102, 42556), (136, 42697), (154, 42742),

Gene: BuzzLyseyear\_71 Start: 43599, Stop: 43961, Start Num: 63  
Candidate Starts for BuzzLyseyear\_71:  
(Start: 63 @43599 has 190 MA's), (102, 43758), (136, 43899), (140, 43902), (154, 43944),

Gene: ByChance\_58 Start: 38456, Stop: 38818, Start Num: 63  
Candidate Starts for ByChance\_58:  
(Start: 63 @38456 has 190 MA's), (102, 38615), (107, 38630), (136, 38756), (154, 38801),

Gene: Byougenkin\_65 Start: 42188, Stop: 42544, Start Num: 63  
Candidate Starts for Byougenkin\_65:  
(Start: 63 @42188 has 190 MA's), (136, 42488), (140, 42491),

Gene: Cabrinians\_66 Start: 42475, Stop: 42837, Start Num: 63  
Candidate Starts for Cabrinians\_66:  
(Start: 63 @42475 has 190 MA's), (107, 42649), (136, 42775), (154, 42820),

Gene: Cafasso\_107 Start: 60484, Stop: 60873, Start Num: 73  
Candidate Starts for Cafasso\_107:  
(4, 60097), (5, 60109), (Start: 73 @60484 has 4 MA's), (83, 60517), (87, 60538), (118, 60685), (124, 60715),

Gene: Caprice\_64 Start: 39435, Stop: 39788, Start Num: 55  
Candidate Starts for Caprice\_64:  
(Start: 55 @39435 has 16 MA's), (66, 39462), (100, 39597), (114, 39627), (120, 39678), (122, 39684), (126, 39699), (131, 39717), (137, 39741), (138, 39744),

Gene: CaptainTrips\_63 Start: 42210, Stop: 42572, Start Num: 63



Candidate Starts for CaptainTrips\_63:

(30, 42093), (Start: 63 @42210 has 190 MA's), (102, 42369), (136, 42510), (154, 42555),

Gene: Cepens\_52 Start: 43922, Stop: 44263, Start Num: 63

Candidate Starts for Cepens\_52:

(Start: 63 @43922 has 190 MA's), (86, 43976), (89, 43991), (91, 44009), (103, 44075), (110, 44093), (119, 44147), (130, 44192), (136, 44213), (145, 44237), (146, 44240),

Gene: Cerasum\_62 Start: 39166, Stop: 39528, Start Num: 63

Candidate Starts for Cerasum\_62:

(Start: 63 @39166 has 190 MA's), (102, 39325), (115, 39370), (136, 39466), (140, 39469), (154, 39511),

Gene: Che8\_70 Start: 45095, Stop: 45457, Start Num: 63

Candidate Starts for Che8\_70:

(Start: 63 @45095 has 190 MA's), (102, 45254), (136, 45395), (140, 45398), (154, 45440),

Gene: Che9d\_75 Start: 42864, Stop: 43220, Start Num: 63

Candidate Starts for Che9d\_75:

(Start: 63 @42864 has 190 MA's), (102, 43023), (136, 43164), (140, 43167),

Gene: Chevrolet\_73 Start: 42633, Stop: 42995, Start Num: 63

Candidate Starts for Chevrolet\_73:

(Start: 63 @42633 has 190 MA's), (136, 42933), (140, 42936), (154, 42978),

Gene: Chuckly\_68 Start: 42655, Stop: 43011, Start Num: 63

Candidate Starts for Chuckly\_68:

(Start: 63 @42655 has 190 MA's), (136, 42955), (140, 42958),

Gene: Clarkson\_70 Start: 39837, Stop: 40190, Start Num: 55

Candidate Starts for Clarkson\_70:

(Start: 55 @39837 has 16 MA's), (66, 39864), (100, 39999), (114, 40029), (120, 40080), (122, 40086), (126, 40101), (131, 40119), (137, 40143), (138, 40146),

Gene: Claus\_68 Start: 46444, Stop: 46830, Start Num: 76

Candidate Starts for Claus\_68:

(23, 46258), (53, 46387), (Start: 67 @46426 has 6 MA's), (Start: 76 @46444 has 18 MA's), (99, 46561), (105, 46588), (122, 46666), (162, 46813),

Gene: Clawz\_89 Start: 57153, Stop: 57563, Start Num: 52

Candidate Starts for Clawz\_89:

(37, 57102), (40, 57108), (41, 57114), (43, 57126), (Start: 52 @57153 has 1 MA's), (Start: 62 @57183 has 1 MA's), (127, 57444), (129, 57453), (150, 57522), (158, 57540),

Gene: Clifton\_60 Start: 39647, Stop: 40009, Start Num: 63

Candidate Starts for Clifton\_60:

(30, 39530), (Start: 63 @39647 has 190 MA's), (102, 39806), (136, 39947), (154, 39992),

Gene: Coco12\_65 Start: 43223, Stop: 43585, Start Num: 63

Candidate Starts for Coco12\_65:

(Start: 63 @43223 has 190 MA's), (102, 43382), (115, 43427), (136, 43523), (140, 43526), (154, 43568),

Gene: Corazon\_67 Start: 40031, Stop: 40384, Start Num: 55

Candidate Starts for Corazon\_67:

(Start: 55 @40031 has 16 MA's), (66, 40058), (100, 40193), (114, 40223), (120, 40274), (122, 40280), (126, 40295), (131, 40313), (137, 40337), (138, 40340),

Gene: Cornie\_63 Start: 40942, Stop: 41304, Start Num: 63

Candidate Starts for Cornie\_63:

(Start: 63 @40942 has 190 MA's), (102, 41101), (136, 41242), (154, 41287),

Gene: Cornucopia\_67 Start: 42579, Stop: 42941, Start Num: 63

Candidate Starts for Cornucopia\_67:

(Start: 63 @42579 has 190 MA's), (115, 42783), (136, 42879), (140, 42882), (154, 42924),

Gene: Crossroads\_67 Start: 46441, Stop: 46839, Start Num: 76

Candidate Starts for Crossroads\_67:

(13, 46162), (23, 46255), (Start: 67 @46423 has 6 MA's), (Start: 76 @46441 has 18 MA's), (105, 46585), (122, 46663), (162, 46810),

Gene: D12\_51 Start: 44470, Stop: 44811, Start Num: 63

Candidate Starts for D12\_51:

(Start: 63 @44470 has 190 MA's), (86, 44524), (89, 44539), (91, 44557), (103, 44623), (110, 44641), (119, 44695), (130, 44740), (136, 44761), (145, 44785), (146, 44788),

Gene: DLane\_60 Start: 40555, Stop: 40917, Start Num: 63

Candidate Starts for DLane\_60:

(Start: 63 @40555 has 190 MA's), (136, 40855), (140, 40858), (154, 40900),

Gene: DRBy19\_69 Start: 43907, Stop: 44263, Start Num: 63

Candidate Starts for DRBy19\_69:

(30, 43790), (Start: 63 @43907 has 190 MA's), (107, 44081), (136, 44207), (140, 44210), (154, 44246),

Gene: Daenerys\_60 Start: 41329, Stop: 41685, Start Num: 63

Candidate Starts for Daenerys\_60:

(33, 41224), (34, 41230), (49, 41284), (Start: 63 @41329 has 190 MA's), (Start: 80 @41362 has 1 MA's), (115, 41533), (136, 41629), (140, 41632),

Gene: Dante\_66 Start: 41796, Stop: 42161, Start Num: 63

Candidate Starts for Dante\_66:

(Start: 63 @41796 has 190 MA's), (102, 41955), (136, 42096), (145, 42120),

Gene: Dardanus\_46 Start: 31283, Stop: 31621, Start Num: 63

Candidate Starts for Dardanus\_46:

(28, 31163), (60, 31274), (Start: 63 @31283 has 190 MA's), (97, 31409), (102, 31439), (110, 31460), (145, 31610),

Gene: DeadP\_72 Start: 44907, Stop: 45269, Start Num: 63

Candidate Starts for DeadP\_72:

(56, 44892), (Start: 63 @44907 has 190 MA's), (136, 45207), (140, 45210), (154, 45252),

Gene: DelaGarza\_58 Start: 33298, Stop: 33687, Start Num: 57

Candidate Starts for DelaGarza\_58:

(Start: 57 @33298 has 1 MA's), (93, 33424), (119, 33532), (153, 33652),

Gene: DinoDaryn\_52 Start: 33048, Stop: 33431, Start Num: 65  
Candidate Starts for DinoDaryn\_52:  
(Start: 65 @33048 has 9 MA's), (97, 33171), (141, 33354), (156, 33396),

Gene: DirtMcgirt\_64 Start: 40554, Stop: 40916, Start Num: 63  
Candidate Starts for DirtMcgirt\_64:  
(Start: 63 @40554 has 190 MA's), (102, 40713), (136, 40854), (140, 40857), (154, 40899),

Gene: DonTron\_90 Start: 57720, Stop: 58088, Start Num: 69  
Candidate Starts for DonTron\_90:  
(8, 57420), (17, 57495), (25, 57582), (Start: 62 @57708 has 1 MA's), (69, 57720), (127, 57969), (129, 57978), (135, 58002), (139, 58008), (153, 58050),

Gene: Donkeykong\_68 Start: 44468, Stop: 44830, Start Num: 63  
Candidate Starts for Donkeykong\_68:  
(Start: 63 @44468 has 190 MA's), (136, 44768), (140, 44771), (154, 44813),

Gene: Dorothy\_64 Start: 42261, Stop: 42623, Start Num: 63  
Candidate Starts for Dorothy\_64:  
(33, 42156), (34, 42162), (49, 42216), (Start: 63 @42261 has 190 MA's), (Start: 80 @42294 has 1 MA's), (115, 42465), (136, 42561), (140, 42564), (154, 42606),

Gene: DotProduct\_60 Start: 40802, Stop: 41164, Start Num: 63  
Candidate Starts for DotProduct\_60:  
(Start: 63 @40802 has 190 MA's), (136, 41102), (140, 41105), (154, 41147),

Gene: Doug\_67 Start: 42635, Stop: 42997, Start Num: 63  
Candidate Starts for Doug\_67:  
(Start: 63 @42635 has 190 MA's), (136, 42935), (154, 42980),

Gene: Douge\_65 Start: 45034, Stop: 45432, Start Num: 54  
Candidate Starts for Douge\_65:  
(Start: 38 @44974 has 1 MA's), (45, 45007), (54, 45034), (99, 45151), (105, 45178), (145, 45337),

Gene: Drago\_62 Start: 40557, Stop: 40919, Start Num: 63  
Candidate Starts for Drago\_62:  
(Start: 63 @40557 has 190 MA's), (102, 40716), (136, 40857), (140, 40860), (154, 40902),

Gene: EleanorGeorge\_67 Start: 43317, Stop: 43673, Start Num: 63  
Candidate Starts for EleanorGeorge\_67:  
(Start: 63 @43317 has 190 MA's), (102, 43476), (136, 43617), (140, 43620),

Gene: Empress\_64 Start: 42743, Stop: 43105, Start Num: 63  
Candidate Starts for Empress\_64:  
(33, 42638), (34, 42644), (49, 42698), (Start: 63 @42743 has 190 MA's), (Start: 80 @42776 has 1 MA's), (136, 43043), (140, 43046), (154, 43088),

Gene: Enby\_66 Start: 40833, Stop: 41195, Start Num: 63  
Candidate Starts for Enby\_66:  
(Start: 63 @40833 has 190 MA's), (102, 40992), (136, 41133), (140, 41136), (154, 41178),

Gene: Eradicator\_58 Start: 40449, Stop: 40811, Start Num: 63

Candidate Starts for Eradicator\_58:

(Start: 63 @40449 has 190 MA's), (102, 40608), (136, 40749), (140, 40752), (154, 40794),

Gene: Fastidio\_65 Start: 41072, Stop: 41428, Start Num: 63

Candidate Starts for Fastidio\_65:

(56, 41057), (Start: 63 @41072 has 190 MA's), (102, 41231), (136, 41372), (140, 41375),

Gene: Filuzino\_63 Start: 40860, Stop: 41222, Start Num: 63

Candidate Starts for Filuzino\_63:

(Start: 63 @40860 has 190 MA's), (136, 41160), (140, 41163), (154, 41205),

Gene: Finemlucis\_67 Start: 46684, Stop: 47085, Start Num: 76

Candidate Starts for Finemlucis\_67:

(13, 46405), (23, 46498), (Start: 67 @46666 has 6 MA's), (Start: 76 @46684 has 18 MA's), (99, 46801), (105, 46828), (122, 46906), (162, 47053),

Gene: Firehouse51\_68 Start: 46363, Stop: 46704, Start Num: 63

Candidate Starts for Firehouse51\_68:

(Start: 63 @46363 has 190 MA's), (115, 46567), (136, 46663), (140, 46666),

Gene: Flathead\_66 Start: 42514, Stop: 42876, Start Num: 63

Candidate Starts for Flathead\_66:

(Start: 63 @42514 has 190 MA's), (136, 42814), (140, 42817), (154, 42859),

Gene: Florinda\_76 Start: 43974, Stop: 44336, Start Num: 63

Candidate Starts for Florinda\_76:

(Start: 63 @43974 has 190 MA's), (136, 44274), (140, 44277), (154, 44319),

Gene: FreddyB\_66 Start: 41323, Stop: 41679, Start Num: 63

Candidate Starts for FreddyB\_66:

(Start: 63 @41323 has 190 MA's), (107, 41497), (136, 41623),

Gene: GAL1\_54 Start: 37553, Stop: 37900, Start Num: 72

Candidate Starts for GAL1\_54:

(50, 37502), (Start: 72 @37553 has 2 MA's), (Start: 80 @37574 has 1 MA's), (84, 37592), (86, 37601), (97, 37676), (110, 37727), (121, 37790), (122, 37793), (129, 37823), (140, 37853), (147, 37880), (157, 37892),

Gene: GUmbie\_63 Start: 41676, Stop: 42038, Start Num: 63

Candidate Starts for GUmbie\_63:

(Start: 63 @41676 has 190 MA's), (102, 41835), (136, 41976), (140, 41979), (154, 42021),

Gene: Gabriela\_64 Start: 44813, Stop: 45211, Start Num: 76

Candidate Starts for Gabriela\_64:

(13, 44534), (23, 44627), (Start: 67 @44795 has 6 MA's), (Start: 76 @44813 has 18 MA's), (99, 44930), (105, 44957), (122, 45035), (162, 45182),

Gene: Galactic\_64 Start: 41833, Stop: 42195, Start Num: 63

Candidate Starts for Galactic\_64:

(Start: 63 @41833 has 190 MA's), (102, 41992), (136, 42133), (154, 42178),

Gene: Gandalph\_68 Start: 42720, Stop: 43082, Start Num: 63

Candidate Starts for Gandalph\_68:

(30, 42603), (Start: 63 @42720 has 190 MA's), (102, 42879), (136, 43020), (140, 43023), (154, 43065),

Gene: Gardann\_68 Start: 46399, Stop: 46797, Start Num: 76

Candidate Starts for Gardann\_68:

(13, 46120), (23, 46213), (Start: 67 @46381 has 6 MA's), (Start: 76 @46399 has 18 MA's), (99, 46516), (105, 46543), (122, 46621), (162, 46768),

Gene: Gattaca\_67 Start: 39225, Stop: 39578, Start Num: 55

Candidate Starts for Gattaca\_67:

(Start: 55 @39225 has 16 MA's), (66, 39252), (100, 39387), (114, 39417), (120, 39468), (122, 39474), (126, 39489), (131, 39507), (137, 39531), (138, 39534),

Gene: Geralt\_60 Start: 41298, Stop: 41660, Start Num: 63

Candidate Starts for Geralt\_60:

(33, 41193), (34, 41199), (49, 41253), (Start: 63 @41298 has 190 MA's), (Start: 80 @41331 has 1 MA's), (136, 41598), (140, 41601), (154, 41643),

Gene: GigiOuiOui\_61 Start: 40822, Stop: 41184, Start Num: 63

Candidate Starts for GigiOuiOui\_61:

(Start: 63 @40822 has 190 MA's), (136, 41122), (140, 41125), (154, 41167),

Gene: Gilgamesh\_151 Start: 125936, Stop: 126292, Start Num: 63

Candidate Starts for Gilgamesh\_151:

(44, 125873), (Start: 63 @125936 has 190 MA's), (Start: 80 @125972 has 1 MA's), (94, 126053), (97, 126065), (110, 126116), (122, 126182), (136, 126242), (145, 126260), (149, 126275),

Gene: Gingerbug\_57 Start: 33770, Stop: 34138, Start Num: 68

Candidate Starts for Gingerbug\_57:

(Start: 68 @33770 has 4 MA's), (77, 33791), (93, 33872), (119, 33980),

Gene: Girafales\_73 Start: 43765, Stop: 44127, Start Num: 63

Candidate Starts for Girafales\_73:

(Start: 63 @43765 has 190 MA's), (136, 44065), (140, 44068), (154, 44110),

Gene: Girr\_63 Start: 41692, Stop: 42054, Start Num: 63

Candidate Starts for Girr\_63:

(Start: 63 @41692 has 190 MA's), (136, 41992), (154, 42037),

Gene: GodPhather\_53 Start: 44710, Stop: 45051, Start Num: 63

Candidate Starts for GodPhather\_53:

(Start: 63 @44710 has 190 MA's), (86, 44764), (89, 44779), (91, 44797), (103, 44863), (110, 44881), (119, 44935), (130, 44980), (136, 45001), (145, 45025), (146, 45028),

Gene: Goib\_52 Start: 33585, Stop: 33968, Start Num: 65

Candidate Starts for Goib\_52:

(Start: 65 @33585 has 9 MA's), (97, 33708), (141, 33891), (156, 33933),

Gene: Gorge\_69 Start: 43618, Stop: 43980, Start Num: 63

Candidate Starts for Gorge\_69:

(Start: 63 @43618 has 190 MA's), (102, 43777), (136, 43918), (140, 43921), (154, 43963),

Gene: Guppsters\_66 Start: 41977, Stop: 42339, Start Num: 63

Candidate Starts for Guppsters\_66:

(Start: 63 @41977 has 190 MA's), (102, 42136), (136, 42277), (140, 42280), (154, 42322),

Gene: GuuelaD\_66 Start: 46478, Stop: 46879, Start Num: 76

Candidate Starts for GuuelaD\_66:

(13, 46199), (23, 46292), (Start: 67 @46460 has 6 MA's), (Start: 76 @46478 has 18 MA's), (99, 46595), (105, 46622), (122, 46700), (162, 46847),

Gene: Hades\_66 Start: 42692, Stop: 43054, Start Num: 63

Candidate Starts for Hades\_66:

(Start: 63 @42692 has 190 MA's), (102, 42851), (136, 42992), (140, 42995), (154, 43037),

Gene: Hafay\_69 Start: 46467, Stop: 46868, Start Num: 76

Candidate Starts for Hafay\_69:

(13, 46188), (23, 46281), (Start: 67 @46449 has 6 MA's), (Start: 76 @46467 has 18 MA's), (99, 46584), (105, 46611), (122, 46689), (162, 46836),

Gene: Hamulus\_65 Start: 42334, Stop: 42690, Start Num: 63

Candidate Starts for Hamulus\_65:

(Start: 63 @42334 has 190 MA's), (136, 42634), (140, 42637),

Gene: Harley\_67 Start: 42941, Stop: 43297, Start Num: 63

Candidate Starts for Harley\_67:

(Start: 63 @42941 has 190 MA's), (102, 43100), (107, 43115), (136, 43241), (140, 43244),

Gene: Hegedechwinu\_65 Start: 41510, Stop: 41872, Start Num: 63

Candidate Starts for Hegedechwinu\_65:

(30, 41393), (Start: 63 @41510 has 190 MA's), (102, 41669), (136, 41810), (140, 41813), (154, 41855),

Gene: Hlubikazi\_61 Start: 39912, Stop: 40274, Start Num: 63

Candidate Starts for Hlubikazi\_61:

(Start: 63 @39912 has 190 MA's), (136, 40212), (140, 40215), (154, 40257),

Gene: Huffy\_52 Start: 33048, Stop: 33431, Start Num: 65

Candidate Starts for Huffy\_52:

(Start: 65 @33048 has 9 MA's), (97, 33171), (141, 33354), (156, 33396),

Gene: Hum25\_50 Start: 30658, Stop: 30984, Start Num: 63

Candidate Starts for Hum25\_50:

(22, 30499), (Start: 63 @30658 has 190 MA's), (93, 30763), (125, 30895),

Gene: Huphlebuff\_71 Start: 39642, Stop: 39995, Start Num: 55

Candidate Starts for Huphlebuff\_71:

(Start: 55 @39642 has 16 MA's), (66, 39669), (100, 39804), (114, 39834), (120, 39885), (122, 39891), (126, 39906), (131, 39924), (137, 39948), (138, 39951),

Gene: lbOuu\_67 Start: 43348, Stop: 43710, Start Num: 63

Candidate Starts for lbOuu\_67:

(33, 43243), (34, 43249), (49, 43303), (Start: 63 @43348 has 190 MA's), (Start: 80 @43381 has 1 MA's), (136, 43648), (140, 43651), (154, 43693),

Gene: lbhubesi\_65 Start: 41957, Stop: 42313, Start Num: 63

Candidate Starts for Ibhubesi\_65:

(Start: 63 @41957 has 190 MA's), (136, 42257), (140, 42260),

Gene: Inventum\_61 Start: 42492, Stop: 42821, Start Num: 80

Candidate Starts for Inventum\_61:

(33, 42354), (34, 42360), (49, 42414), (Start: 63 @42459 has 190 MA's), (Start: 80 @42492 has 1 MA's), (115, 42663), (136, 42759), (140, 42762), (154, 42804),

Gene: IrishSherpFalk\_66 Start: 43547, Stop: 43909, Start Num: 63

Candidate Starts for IrishSherpFalk\_66:

(Start: 63 @43547 has 190 MA's), (136, 43847), (140, 43850), (154, 43892),

Gene: Itos\_66 Start: 45269, Stop: 45670, Start Num: 76

Candidate Starts for Itos\_66:

(13, 44990), (23, 45083), (Start: 67 @45251 has 6 MA's), (Start: 76 @45269 has 18 MA's), (99, 45386), (105, 45413), (122, 45491), (162, 45638),

Gene: Jabbawokkie\_80 Start: 44082, Stop: 44423, Start Num: 63

Candidate Starts for Jabbawokkie\_80:

(56, 44067), (Start: 63 @44082 has 190 MA's), (136, 44382), (140, 44385),

Gene: JalFarm20\_78 Start: 46016, Stop: 46372, Start Num: 63

Candidate Starts for JalFarm20\_78:

(Start: 63 @46016 has 190 MA's), (136, 46316), (140, 46319),

Gene: James\_69 Start: 43743, Stop: 44105, Start Num: 63

Candidate Starts for James\_69:

(Start: 63 @43743 has 190 MA's), (102, 43902), (136, 44043), (140, 44046), (154, 44088),

Gene: Jeon\_52 Start: 44452, Stop: 44793, Start Num: 63

Candidate Starts for Jeon\_52:

(Start: 63 @44452 has 190 MA's), (86, 44506), (89, 44521), (91, 44539), (103, 44605), (110, 44623), (119, 44677), (130, 44722), (136, 44743), (145, 44767), (146, 44770),

Gene: Job42\_68 Start: 44715, Stop: 45080, Start Num: 63

Candidate Starts for Job42\_68:

(30, 44598), (Start: 63 @44715 has 190 MA's), (96, 44841), (98, 44847), (111, 44901), (112, 44904), (136, 45018), (140, 45021), (154, 45063),

Gene: JoeyJr\_61 Start: 41497, Stop: 41853, Start Num: 63

Candidate Starts for JoeyJr\_61:

(33, 41392), (34, 41398), (49, 41452), (Start: 63 @41497 has 190 MA's), (Start: 80 @41530 has 1 MA's), (115, 41701), (136, 41797), (140, 41800),

Gene: JoieB\_70 Start: 40075, Stop: 40428, Start Num: 55

Candidate Starts for JoieB\_70:

(Start: 55 @40075 has 16 MA's), (66, 40102), (100, 40237), (114, 40267), (120, 40318), (122, 40324), (126, 40339), (131, 40357), (137, 40381), (138, 40384),

Gene: Juice456\_66 Start: 43972, Stop: 44328, Start Num: 63

Candidate Starts for Juice456\_66:

(Start: 63 @43972 has 190 MA's), (136, 44272), (140, 44275),

Gene: JustASigh\_98 Start: 55410, Stop: 55766, Start Num: 79

Candidate Starts for JustASigh\_98:

(47, 55332), (61, 55383), (Start: 79 @55410 has 1 MA's), (85, 55437), (94, 55491), (101, 55521), (103, 55533), (105, 55539), (129, 55644), (131, 55650), (143, 55689), (161, 55755),

Gene: KHumphrey\_29 Start: 20837, Stop: 20517, Start Num: 73

Candidate Starts for KHumphrey\_29:

(1, 21422), (2, 21272), (12, 21122), (42, 20927), (Start: 57 @20870 has 1 MA's), (Start: 73 @20837 has 4 MA's), (93, 20741),

Gene: Kahlid\_67 Start: 46369, Stop: 46770, Start Num: 76

Candidate Starts for Kahlid\_67:

(13, 46090), (23, 46183), (Start: 67 @46351 has 6 MA's), (Start: 76 @46369 has 18 MA's), (99, 46486), (105, 46513), (122, 46591), (162, 46738),

Gene: Kenuha5\_63 Start: 41295, Stop: 41651, Start Num: 63

Candidate Starts for Kenuha5\_63:

(Start: 63 @41295 has 190 MA's), (102, 41454), (136, 41595), (140, 41598), (154, 41634),

Gene: Kersh\_67 Start: 44741, Stop: 45097, Start Num: 63

Candidate Starts for Kersh\_67:

(Start: 63 @44741 has 190 MA's), (102, 44900), (136, 45041), (140, 45044),

Gene: Khuang\_54 Start: 31611, Stop: 31976, Start Num: 63

Candidate Starts for Khuang\_54:

(Start: 63 @31611 has 190 MA's), (105, 31761), (131, 31872), (134, 31887),

Gene: Kimberlium\_70 Start: 44253, Stop: 44594, Start Num: 63

Candidate Starts for Kimberlium\_70:

(Start: 63 @44253 has 190 MA's), (136, 44553), (140, 44556),

Gene: KingMidas\_65 Start: 43159, Stop: 43521, Start Num: 63

Candidate Starts for KingMidas\_65:

(33, 43054), (34, 43060), (49, 43114), (Start: 63 @43159 has 190 MA's), (Start: 80 @43192 has 1 MA's), (115, 43363), (136, 43459), (140, 43462), (154, 43504),

Gene: Kingsley\_63 Start: 41956, Stop: 42318, Start Num: 63

Candidate Starts for Kingsley\_63:

(Start: 63 @41956 has 190 MA's), (102, 42115), (115, 42160), (136, 42256), (140, 42259), (154, 42301),

Gene: Koella\_59 Start: 38373, Stop: 38735, Start Num: 63

Candidate Starts for Koella\_59:

(Start: 63 @38373 has 190 MA's), (107, 38547), (136, 38673), (154, 38718),

Gene: Krakatau\_62 Start: 41145, Stop: 41507, Start Num: 63

Candidate Starts for Krakatau\_62:

(Start: 63 @41145 has 190 MA's), (136, 41445), (140, 41448), (154, 41490),

Gene: KristaRAM\_68 Start: 44341, Stop: 44697, Start Num: 63

Candidate Starts for KristaRAM\_68:

(Start: 63 @44341 has 190 MA's), (136, 44641), (140, 44644),



Gene: Kuleana\_32 Start: 21579, Stop: 21160, Start Num: 38  
Candidate Starts for Kuleana\_32:  
(10, 21714), (Start: 38 @21579 has 1 MA's), (Start: 52 @21528 has 1 MA's), (Start: 73 @21480 has 4 MA's), (90, 21408), (93, 21384), (132, 21219),

Gene: Kumao\_62 Start: 44058, Stop: 44420, Start Num: 58  
Candidate Starts for Kumao\_62:  
(7, 43764), (18, 43851), (21, 43896), (24, 43911), (29, 43950), (Start: 58 @44058 has 1 MA's), (70, 44082), (82, 44118), (83, 44121), (105, 44235), (131, 44346),

Gene: LastJedi\_59 Start: 39690, Stop: 40052, Start Num: 63  
Candidate Starts for LastJedi\_59:  
(30, 39573), (Start: 63 @39690 has 190 MA's), (102, 39849), (136, 39990), (154, 40035),

Gene: Leozinho\_66 Start: 42196, Stop: 42552, Start Num: 68  
Candidate Starts for Leozinho\_66:  
(Start: 68 @42196 has 4 MA's), (78, 42217), (Start: 80 @42223 has 1 MA's), (89, 42265), (109, 42367), (128, 42457), (136, 42490), (154, 42535),

Gene: Leozinho\_64 Start: 41151, Stop: 41507, Start Num: 63  
Candidate Starts for Leozinho\_64:  
(Start: 63 @41151 has 190 MA's), (102, 41310), (136, 41451), (140, 41454),

Gene: Leperchaun\_58 Start: 40727, Stop: 41083, Start Num: 63  
Candidate Starts for Leperchaun\_58:  
(33, 40622), (34, 40628), (49, 40682), (Start: 63 @40727 has 190 MA's), (Start: 80 @40760 has 1 MA's), (115, 40931), (136, 41027), (140, 41030),

Gene: Lesiram\_58 Start: 33428, Stop: 33817, Start Num: 57  
Candidate Starts for Lesiram\_58:  
(Start: 57 @33428 has 1 MA's), (93, 33554), (119, 33662), (153, 33782),

Gene: Lewan\_68 Start: 46405, Stop: 46821, Start Num: 67  
Candidate Starts for Lewan\_68:  
(13, 46144), (23, 46237), (Start: 67 @46405 has 6 MA's), (Start: 76 @46423 has 18 MA's), (99, 46540), (105, 46567), (122, 46645), (162, 46792),

Gene: LilDestine\_67 Start: 46396, Stop: 46797, Start Num: 76  
Candidate Starts for LilDestine\_67:  
(13, 46117), (23, 46210), (Start: 67 @46378 has 6 MA's), (Start: 76 @46396 has 18 MA's), (99, 46513), (105, 46540), (122, 46618), (162, 46765),

Gene: LilMoolah\_64 Start: 42220, Stop: 42582, Start Num: 63  
Candidate Starts for LilMoolah\_64:  
(30, 42103), (Start: 63 @42220 has 190 MA's), (102, 42379), (136, 42520), (154, 42565),

Gene: Lilbit\_69 Start: 39805, Stop: 40158, Start Num: 55  
Candidate Starts for Lilbit\_69:  
(Start: 55 @39805 has 16 MA's), (66, 39832), (100, 39967), (114, 39997), (120, 40048), (122, 40054), (126, 40069), (131, 40087), (137, 40111), (138, 40114),

Gene: LittleLaf\_69 Start: 39534, Stop: 39887, Start Num: 55  
Candidate Starts for LittleLaf\_69:

(Start: 55 @39534 has 16 MA's), (66, 39561), (100, 39696), (114, 39726), (120, 39777), (122, 39783), (126, 39798), (131, 39816), (137, 39840), (138, 39843),

Gene: Lizziana\_71 Start: 43224, Stop: 43586, Start Num: 63

Candidate Starts for Lizziana\_71:

(Start: 63 @43224 has 190 MA's), (102, 43383), (136, 43524), (140, 43527), (154, 43569),

Gene: Llama\_70 Start: 45173, Stop: 45535, Start Num: 63

Candidate Starts for Llama\_70:

(Start: 63 @45173 has 190 MA's), (115, 45377), (136, 45473), (154, 45518),

Gene: Llij\_61 Start: 40711, Stop: 41073, Start Num: 63

Candidate Starts for Llij\_61:

(Start: 63 @40711 has 190 MA's), (102, 40870), (136, 41011), (140, 41014), (154, 41056),

Gene: Loadrie\_66 Start: 46451, Stop: 46849, Start Num: 76

Candidate Starts for Loadrie\_66:

(13, 46172), (23, 46265), (Start: 67 @46433 has 6 MA's), (Start: 76 @46451 has 18 MA's), (99, 46568), (105, 46595), (122, 46673), (162, 46820),

Gene: Lorde\_65 Start: 39998, Stop: 40360, Start Num: 63

Candidate Starts for Lorde\_65:

(Start: 63 @39998 has 190 MA's), (102, 40157), (136, 40298), (140, 40301), (154, 40343),

Gene: LunaBlu\_67 Start: 42492, Stop: 42854, Start Num: 63

Candidate Starts for LunaBlu\_67:

(Start: 63 @42492 has 190 MA's), (102, 42651), (136, 42792), (154, 42837),

Gene: MadMen\_65 Start: 42619, Stop: 42975, Start Num: 63

Candidate Starts for MadMen\_65:

(30, 42502), (Start: 63 @42619 has 190 MA's), (102, 42778), (136, 42919), (140, 42922),

Gene: MadMen\_67 Start: 43664, Stop: 44020, Start Num: 68

Candidate Starts for MadMen\_67:

(Start: 68 @43664 has 4 MA's), (78, 43685), (Start: 80 @43691 has 1 MA's), (89, 43733), (109, 43835), (128, 43925), (136, 43958), (154, 44003),

Gene: Madiba\_66 Start: 41725, Stop: 42087, Start Num: 63

Candidate Starts for Madiba\_66:

(Start: 63 @41725 has 190 MA's), (102, 41884), (136, 42025), (154, 42070),

Gene: Mahavrat\_62 Start: 41431, Stop: 41787, Start Num: 63

Candidate Starts for Mahavrat\_62:

(Start: 63 @41431 has 190 MA's), (136, 41731),

Gene: Mandlovu\_61 Start: 39854, Stop: 40216, Start Num: 63

Candidate Starts for Mandlovu\_61:

(Start: 63 @39854 has 190 MA's), (136, 40154), (140, 40157), (154, 40199),

Gene: Mantra\_62 Start: 41207, Stop: 41563, Start Num: 63

Candidate Starts for Mantra\_62:

(56, 41192), (Start: 63 @41207 has 190 MA's), (136, 41507), (140, 41510),

Gene: Maravista\_67 Start: 44362, Stop: 44724, Start Num: 63  
Candidate Starts for Maravista\_67:  
(Start: 63 @44362 has 190 MA's), (102, 44521), (107, 44536), (136, 44662), (154, 44707),

Gene: Marker\_72 Start: 42458, Stop: 42814, Start Num: 63  
Candidate Starts for Marker\_72:  
(30, 42341), (Start: 63 @42458 has 190 MA's), (136, 42758), (140, 42761), (154, 42797),

Gene: Martik\_65 Start: 42396, Stop: 42752, Start Num: 63  
Candidate Starts for Martik\_65:  
(30, 42279), (Start: 63 @42396 has 190 MA's), (102, 42555), (136, 42696), (140, 42699),

Gene: Marvin\_65 Start: 39295, Stop: 39648, Start Num: 55  
Candidate Starts for Marvin\_65:  
(Start: 55 @39295 has 16 MA's), (66, 39322), (100, 39457), (114, 39487), (120, 39538), (122, 39544),  
(126, 39559), (131, 39577), (137, 39601), (138, 39604),

Gene: Mattes\_69 Start: 43743, Stop: 44105, Start Num: 63  
Candidate Starts for Mattes\_69:  
(Start: 63 @43743 has 190 MA's), (102, 43902), (136, 44043), (140, 44046), (154, 44088),

Gene: Megabear\_52 Start: 43843, Stop: 44184, Start Num: 63  
Candidate Starts for Megabear\_52:  
(Start: 63 @43843 has 190 MA's), (86, 43897), (89, 43912), (91, 43930), (103, 43996), (110, 44014),  
(119, 44068), (130, 44113), (136, 44134), (145, 44158), (146, 44161),

Gene: Melissauren88\_63 Start: 41372, Stop: 41734, Start Num: 63  
Candidate Starts for Melissauren88\_63:  
(Start: 63 @41372 has 190 MA's), (136, 41672), (140, 41675), (154, 41717),

Gene: Miley16\_67 Start: 46363, Stop: 46764, Start Num: 76  
Candidate Starts for Miley16\_67:  
(13, 46084), (23, 46177), (Start: 67 @46345 has 6 MA's), (Start: 76 @46363 has 18 MA's), (99,  
46480), (105, 46507), (122, 46585), (162, 46732),

Gene: MilleniumForce\_68 Start: 44060, Stop: 44416, Start Num: 63  
Candidate Starts for MilleniumForce\_68:  
(Start: 63 @44060 has 190 MA's), (136, 44360), (140, 44363),

Gene: MinionDave\_64 Start: 42746, Stop: 43108, Start Num: 63  
Candidate Starts for MinionDave\_64:  
(30, 42629), (Start: 63 @42746 has 190 MA's), (102, 42905), (136, 43046), (154, 43091),

Gene: Minnie\_68 Start: 43966, Stop: 44328, Start Num: 63  
Candidate Starts for Minnie\_68:  
(30, 43849), (Start: 63 @43966 has 190 MA's), (102, 44125), (136, 44266), (154, 44311),

Gene: MisterCuddles\_63 Start: 41692, Stop: 42054, Start Num: 63  
Candidate Starts for MisterCuddles\_63:  
(Start: 63 @41692 has 190 MA's), (136, 41992), (154, 42037),

Gene: MkaliMitinis3\_68 Start: 46435, Stop: 46833, Start Num: 76  
Candidate Starts for MkaliMitinis3\_68:

(13, 46156), (23, 46249), (Start: 67 @46417 has 6 MA's), (Start: 76 @46435 has 18 MA's), (99, 46552), (105, 46579), (122, 46657), (162, 46804),

Gene: ModicumRichard\_107 Start: 60796, Stop: 61155, Start Num: 82

Candidate Starts for ModicumRichard\_107:

(46, 60703), (48, 60712), (Start: 73 @60769 has 4 MA's), (82, 60796), (83, 60799), (87, 60820), (92, 60856), (106, 60910), (124, 60997), (131, 61021),

Gene: Modragons\_69 Start: 45162, Stop: 45524, Start Num: 63

Candidate Starts for Modragons\_69:

(Start: 63 @45162 has 190 MA's), (115, 45366), (136, 45462), (154, 45507),

Gene: MooMoo\_66 Start: 43589, Stop: 43945, Start Num: 68

Candidate Starts for MooMoo\_66:

(Start: 68 @43589 has 4 MA's), (78, 43610), (Start: 80 @43616 has 1 MA's), (89, 43658), (97, 43712), (109, 43760), (123, 43838), (128, 43850), (136, 43883), (145, 43907), (157, 43937),

Gene: Morgana\_114 Start: 62857, Stop: 63246, Start Num: 73

Candidate Starts for Morgana\_114:

(3, 62464), (6, 62533), (9, 62569), (19, 62653), (Start: 73 @62857 has 4 MA's), (83, 62890), (87, 62911), (118, 63058), (124, 63088), (131, 63112),

Gene: MosMoris\_66 Start: 39225, Stop: 39578, Start Num: 55

Candidate Starts for MosMoris\_66:

(Start: 55 @39225 has 16 MA's), (66, 39252), (100, 39387), (114, 39417), (120, 39468), (122, 39474), (126, 39489), (131, 39507), (137, 39531), (138, 39534),

Gene: Mova\_69 Start: 42229, Stop: 42585, Start Num: 63

Candidate Starts for Mova\_69:

(Start: 63 @42229 has 190 MA's), (102, 42388), (136, 42529), (140, 42532), (154, 42568),

Gene: MrSmee\_53 Start: 31291, Stop: 31644, Start Num: 63

Candidate Starts for MrSmee\_53:

(Start: 63 @31291 has 190 MA's), (93, 31396), (152, 31612),

Gene: Ms6\_62 Start: 37737, Stop: 38099, Start Num: 63

Candidate Starts for Ms6\_62:

(Start: 63 @37737 has 190 MA's), (136, 38037), (140, 38040), (154, 38082),

Gene: Nicholasp3\_67 Start: 46381, Stop: 46797, Start Num: 67

Candidate Starts for Nicholasp3\_67:

(13, 46120), (23, 46213), (Start: 67 @46381 has 6 MA's), (Start: 76 @46399 has 18 MA's), (99, 46516), (105, 46543), (122, 46621), (162, 46768),

Gene: Nimbo\_59 Start: 41301, Stop: 41663, Start Num: 63

Candidate Starts for Nimbo\_59:

(33, 41196), (34, 41202), (49, 41256), (Start: 63 @41301 has 190 MA's), (Start: 80 @41334 has 1 MA's), (136, 41601), (140, 41604), (154, 41646),

Gene: Nitzel\_62 Start: 41489, Stop: 41851, Start Num: 63

Candidate Starts for Nitzel\_62:

(Start: 63 @41489 has 190 MA's), (136, 41789), (140, 41792), (154, 41834),

Gene: Nivrat\_62 Start: 42093, Stop: 42455, Start Num: 63  
Candidate Starts for Nivrat\_62:  
(30, 41976), (Start: 63 @42093 has 190 MA's), (102, 42252), (136, 42393), (154, 42438),

Gene: NormanBulbieJr\_65 Start: 42386, Stop: 42748, Start Num: 63  
Candidate Starts for NormanBulbieJr\_65:  
(Start: 63 @42386 has 190 MA's), (107, 42560), (136, 42686), (154, 42731),

Gene: ObLaDi\_106 Start: 60168, Stop: 60557, Start Num: 73  
Candidate Starts for ObLaDi\_106:  
(5, 59793), (14, 59892), (Start: 73 @60168 has 4 MA's), (83, 60201), (87, 60222), (118, 60369), (124, 60399), (131, 60423),

Gene: Ochi17\_69 Start: 44769, Stop: 45131, Start Num: 63  
Candidate Starts for Ochi17\_69:  
(Start: 63 @44769 has 190 MA's), (115, 44973), (136, 45069), (154, 45114),

Gene: OfUltron\_71 Start: 45318, Stop: 45680, Start Num: 63  
Candidate Starts for OfUltron\_71:  
(Start: 63 @45318 has 190 MA's), (115, 45522), (136, 45618), (154, 45663),

Gene: Ogopogo\_71 Start: 42797, Stop: 43153, Start Num: 63  
Candidate Starts for Ogopogo\_71:  
(32, 42686), (Start: 63 @42797 has 190 MA's), (136, 43097), (140, 43100),

Gene: OldBen\_63 Start: 42694, Stop: 43056, Start Num: 63  
Candidate Starts for OldBen\_63:  
(33, 42589), (34, 42595), (49, 42649), (Start: 63 @42694 has 190 MA's), (Start: 80 @42727 has 1 MA's), (136, 42994), (140, 42997), (154, 43039),

Gene: OlympiaSaint\_67 Start: 42685, Stop: 43047, Start Num: 63  
Candidate Starts for OlympiaSaint\_67:  
(Start: 63 @42685 has 190 MA's), (102, 42844), (136, 42985), (140, 42988), (154, 43030),

Gene: Ovechkin\_65 Start: 42688, Stop: 43050, Start Num: 63  
Candidate Starts for Ovechkin\_65:  
(Start: 63 @42688 has 190 MA's), (136, 42988), (140, 42991), (154, 43033),

Gene: OwlsT2W\_65 Start: 42020, Stop: 42376, Start Num: 63  
Candidate Starts for OwlsT2W\_65:  
(Start: 63 @42020 has 190 MA's), (102, 42179), (136, 42320),

Gene: PHappiness\_61 Start: 41273, Stop: 41629, Start Num: 63  
Candidate Starts for PHappiness\_61:  
(33, 41168), (34, 41174), (49, 41228), (Start: 63 @41273 has 190 MA's), (Start: 80 @41306 has 1 MA's), (115, 41477), (136, 41573), (140, 41576),

Gene: PMC\_62 Start: 42410, Stop: 42766, Start Num: 63  
Candidate Starts for PMC\_62:  
(Start: 63 @42410 has 190 MA's), (136, 42710), (140, 42713),

Gene: PR\_52 Start: 44447, Stop: 44788, Start Num: 63  
Candidate Starts for PR\_52:

(Start: 63 @44447 has 190 MA's), (86, 44501), (89, 44516), (91, 44534), (103, 44600), (110, 44618), (119, 44672), (130, 44717), (136, 44738), (145, 44762), (146, 44765),

Gene: Pacc40\_59 Start: 40742, Stop: 41104, Start Num: 63

Candidate Starts for Pacc40\_59:

(30, 40625), (Start: 63 @40742 has 190 MA's), (102, 40901), (136, 41042), (154, 41087),

Gene: Phabuloso\_75 Start: 43819, Stop: 44166, Start Num: 72

Candidate Starts for Phabuloso\_75:

(35, 43705), (59, 43795), (Start: 72 @43819 has 2 MA's), (Start: 80 @43840 has 1 MA's), (84, 43858), (86, 43867), (97, 43942), (103, 43975), (110, 43993), (121, 44056), (122, 44059), (129, 44089), (140, 44119), (147, 44146), (157, 44158),

Gene: Phalconet\_63 Start: 40623, Stop: 40985, Start Num: 63

Candidate Starts for Phalconet\_63:

(Start: 63 @40623 has 190 MA's), (136, 40923), (140, 40926), (154, 40968),

Gene: Phanphagia\_61 Start: 42234, Stop: 42596, Start Num: 63

Candidate Starts for Phanphagia\_61:

(Start: 63 @42234 has 190 MA's), (136, 42534), (140, 42537), (154, 42579),

Gene: Phatniss\_63 Start: 41806, Stop: 42168, Start Num: 63

Candidate Starts for Phatniss\_63:

(Start: 63 @41806 has 190 MA's), (102, 41965), (136, 42106), (140, 42109), (154, 42151),

Gene: PhesterPhotato\_66 Start: 41443, Stop: 41799, Start Num: 63

Candidate Starts for PhesterPhotato\_66:

(Start: 63 @41443 has 190 MA's), (102, 41602), (136, 41743), (140, 41746),

Gene: Philus\_69 Start: 43883, Stop: 44239, Start Num: 63

Candidate Starts for Philus\_69:

(30, 43766), (Start: 63 @43883 has 190 MA's), (107, 44057), (136, 44183), (140, 44186), (154, 44222),

Gene: PhluffyCoco\_30 Start: 20823, Stop: 20503, Start Num: 73

Candidate Starts for PhluffyCoco\_30:

(2, 21258), (12, 21108), (42, 20913), (Start: 57 @20856 has 1 MA's), (Start: 73 @20823 has 4 MA's), (93, 20727),

Gene: Pippy\_64 Start: 41724, Stop: 42086, Start Num: 63

Candidate Starts for Pippy\_64:

(Start: 63 @41724 has 190 MA's), (102, 41883), (107, 41898), (136, 42024), (154, 42069),

Gene: Pitbull\_52 Start: 29779, Stop: 30105, Start Num: 63

Candidate Starts for Pitbull\_52:

(32, 29674), (Start: 63 @29779 has 190 MA's), (93, 29884), (125, 30016),

Gene: Plumbus\_68 Start: 42573, Stop: 42935, Start Num: 63

Candidate Starts for Plumbus\_68:

(Start: 63 @42573 has 190 MA's), (136, 42873), (140, 42876), (154, 42918),

Gene: Poise\_69 Start: 39121, Stop: 39474, Start Num: 55

Candidate Starts for Poise\_69:

(Start: 55 @39121 has 16 MA's), (66, 39148), (100, 39283), (114, 39313), (120, 39364), (122, 39370), (126, 39385), (131, 39403), (137, 39427), (138, 39430),

Gene: Polka14\_64 Start: 42337, Stop: 42693, Start Num: 63

Candidate Starts for Polka14\_64:

(33, 42232), (34, 42238), (49, 42292), (Start: 63 @42337 has 190 MA's), (Start: 80 @42370 has 1 MA's), (115, 42541), (136, 42637), (140, 42640),

Gene: Pollywog\_66 Start: 43003, Stop: 43359, Start Num: 63

Candidate Starts for Pollywog\_66:

(Start: 63 @43003 has 190 MA's), (102, 43162), (136, 43303), (140, 43306),

Gene: PopTart\_59 Start: 40248, Stop: 40610, Start Num: 63

Candidate Starts for PopTart\_59:

(Start: 63 @40248 has 190 MA's), (136, 40548), (140, 40551), (154, 40593),

Gene: Pringar\_68 Start: 39443, Stop: 39796, Start Num: 55

Candidate Starts for Pringar\_68:

(Start: 55 @39443 has 16 MA's), (66, 39470), (100, 39605), (114, 39635), (120, 39686), (122, 39692), (126, 39707), (131, 39725), (137, 39749), (138, 39752),

Gene: Priscilla\_65 Start: 42485, Stop: 42847, Start Num: 63

Candidate Starts for Priscilla\_65:

(Start: 63 @42485 has 190 MA's), (107, 42659), (136, 42785), (154, 42830),

Gene: QuickMath\_69 Start: 44476, Stop: 44817, Start Num: 63

Candidate Starts for QuickMath\_69:

(Start: 63 @44476 has 190 MA's), (136, 44776), (140, 44779),

Gene: Quico\_73 Start: 43794, Stop: 44156, Start Num: 63

Candidate Starts for Quico\_73:

(Start: 63 @43794 has 190 MA's), (136, 44094), (140, 44097), (154, 44139),

Gene: Radiance\_64 Start: 41901, Stop: 42263, Start Num: 63

Candidate Starts for Radiance\_64:

(Start: 63 @41901 has 190 MA's), (102, 42060), (136, 42201), (140, 42204), (154, 42246),

Gene: Raela\_69 Start: 39678, Stop: 40031, Start Num: 55

Candidate Starts for Raela\_69:

(Start: 55 @39678 has 16 MA's), (66, 39705), (100, 39840), (114, 39870), (120, 39921), (122, 39927), (126, 39942), (131, 39960), (137, 39984), (138, 39987),

Gene: Ramsey\_64 Start: 42214, Stop: 42576, Start Num: 63

Candidate Starts for Ramsey\_64:

(Start: 63 @42214 has 190 MA's), (102, 42373), (136, 42514), (154, 42559),

Gene: RedBird\_64 Start: 42140, Stop: 42502, Start Num: 63

Candidate Starts for RedBird\_64:

(33, 42035), (34, 42041), (49, 42095), (Start: 63 @42140 has 190 MA's), (Start: 80 @42173 has 1 MA's), (115, 42344), (136, 42440), (140, 42443), (154, 42485),

Gene: RedRaider77\_68 Start: 39066, Stop: 39419, Start Num: 55

Candidate Starts for RedRaider77\_68:

(Start: 55 @39066 has 16 MA's), (66, 39093), (100, 39228), (114, 39258), (120, 39309), (122, 39315), (126, 39330), (131, 39348), (137, 39372), (138, 39375),

Gene: Renaud18\_75 Start: 44207, Stop: 44563, Start Num: 63

Candidate Starts for Renaud18\_75:

(Start: 63 @44207 has 190 MA's), (102, 44366), (136, 44507),

Gene: Rialto\_70 Start: 44435, Stop: 44797, Start Num: 63

Candidate Starts for Rialto\_70:

(Start: 63 @44435 has 190 MA's), (136, 44735), (140, 44738), (154, 44780),

Gene: Rita\_66 Start: 40513, Stop: 40875, Start Num: 63

Candidate Starts for Rita\_66:

(Start: 63 @40513 has 190 MA's), (102, 40672), (136, 40813), (154, 40858),

Gene: RitaG\_61 Start: 41618, Stop: 41974, Start Num: 63

Candidate Starts for RitaG\_61:

(33, 41513), (34, 41519), (49, 41573), (Start: 63 @41618 has 190 MA's), (Start: 80 @41651 has 1 MA's), (115, 41822), (136, 41918), (140, 41921),

Gene: Rockne\_66 Start: 42422, Stop: 42778, Start Num: 63

Candidate Starts for Rockne\_66:

(Start: 63 @42422 has 190 MA's), (136, 42722), (140, 42725),

Gene: RockyHorror\_66 Start: 41564, Stop: 41926, Start Num: 63

Candidate Starts for RockyHorror\_66:

(Start: 63 @41564 has 190 MA's), (136, 41864), (154, 41909),

Gene: Royals2015\_68 Start: 42421, Stop: 42777, Start Num: 63

Candidate Starts for Royals2015\_68:

(Start: 63 @42421 has 190 MA's), (82, 42463), (102, 42580), (136, 42721),

Gene: Ruby\_61 Start: 41693, Stop: 42055, Start Num: 63

Candidate Starts for Ruby\_61:

(Start: 63 @41693 has 190 MA's), (136, 41993), (154, 42038),

Gene: Rumpelstiltskin\_66 Start: 45792, Stop: 46190, Start Num: 76

Candidate Starts for Rumpelstiltskin\_66:

(13, 45513), (23, 45606), (Start: 67 @45774 has 6 MA's), (Start: 76 @45792 has 18 MA's), (99, 45909), (105, 45936), (122, 46014), (162, 46161),

Gene: SG4\_62 Start: 41300, Stop: 41665, Start Num: 63

Candidate Starts for SG4\_62:

(Start: 63 @41300 has 190 MA's), (136, 41600),

Gene: Saal\_67 Start: 43437, Stop: 43799, Start Num: 63

Candidate Starts for Saal\_67:

(Start: 63 @43437 has 190 MA's), (102, 43596), (136, 43737), (140, 43740), (154, 43782),

Gene: Sandalphon\_66 Start: 42944, Stop: 43306, Start Num: 63

Candidate Starts for Sandalphon\_66:

(30, 42827), (Start: 63 @42944 has 190 MA's), (102, 43103), (136, 43244), (154, 43289),



Gene: Sarma624\_64 Start: 39148, Stop: 39510, Start Num: 63

Candidate Starts for Sarma624\_64:

(Start: 63 @39148 has 190 MA's), (102, 39307), (115, 39352), (136, 39448), (140, 39451), (154, 39493),

Gene: Sassafras\_64 Start: 42458, Stop: 42820, Start Num: 63

Candidate Starts for Sassafras\_64:

(33, 42353), (34, 42359), (49, 42413), (Start: 63 @42458 has 190 MA's), (Start: 80 @42491 has 1 MA's), (115, 42662), (136, 42758), (140, 42761), (154, 42803),

Gene: SassyB\_59 Start: 40248, Stop: 40610, Start Num: 63

Candidate Starts for SassyB\_59:

(Start: 63 @40248 has 190 MA's), (136, 40548), (140, 40551), (154, 40593),

Gene: Schmidt\_45 Start: 30353, Stop: 30685, Start Num: 65

Candidate Starts for Schmidt\_45:

(27, 30221), (35, 30251), (45, 30290), (Start: 65 @30353 has 9 MA's), (81, 30386), (97, 30476), (110, 30527), (135, 30644), (140, 30650), (145, 30671),

Gene: Scottish\_64 Start: 42414, Stop: 42776, Start Num: 63

Candidate Starts for Scottish\_64:

(33, 42309), (34, 42315), (49, 42369), (Start: 63 @42414 has 190 MA's), (Start: 80 @42447 has 1 MA's), (136, 42714), (140, 42717), (154, 42759),

Gene: Seabastian\_71 Start: 45319, Stop: 45681, Start Num: 63

Candidate Starts for Seabastian\_71:

(Start: 63 @45319 has 190 MA's), (115, 45523), (136, 45619), (154, 45664),

Gene: Seagreen\_64 Start: 41603, Stop: 41965, Start Num: 63

Candidate Starts for Seagreen\_64:

(Start: 63 @41603 has 190 MA's), (136, 41903), (140, 41906), (154, 41948),

Gene: Sephiroth\_73 Start: 45931, Stop: 46353, Start Num: 36

Candidate Starts for Sephiroth\_73:

(Start: 36 @45931 has 2 MA's), (122, 46252),

Gene: Shauna1\_63 Start: 42143, Stop: 42505, Start Num: 63

Candidate Starts for Shauna1\_63:

(Start: 63 @42143 has 190 MA's), (136, 42443), (140, 42446), (154, 42488),

Gene: ShiLan\_64 Start: 42432, Stop: 42788, Start Num: 63

Candidate Starts for ShiLan\_64:

(Start: 63 @42432 has 190 MA's), (102, 42591), (136, 42732), (140, 42735),

Gene: ShowerHandel\_66 Start: 42396, Stop: 42758, Start Num: 63

Candidate Starts for ShowerHandel\_66:

(Start: 63 @42396 has 190 MA's), (102, 42555), (107, 42570), (136, 42696), (154, 42741),

Gene: SiSi\_63 Start: 41202, Stop: 41558, Start Num: 63

Candidate Starts for SiSi\_63:

(Start: 63 @41202 has 190 MA's), (136, 41502), (140, 41505),

Gene: Soos\_87 Start: 57034, Stop: 57414, Start Num: 62

Candidate Starts for Soos\_87:

(8, 56746), (17, 56821), (25, 56908), (Start: 62 @57034 has 1 MA's), (127, 57295), (129, 57304), (135, 57328), (139, 57334), (153, 57376),

Gene: Soul22\_71 Start: 43477, Stop: 43839, Start Num: 63

Candidate Starts for Soul22\_71:

(Start: 63 @43477 has 190 MA's), (102, 43636), (136, 43777), (140, 43780), (154, 43822),

Gene: Spartacus\_67 Start: 42463, Stop: 42825, Start Num: 63

Candidate Starts for Spartacus\_67:

(Start: 63 @42463 has 190 MA's), (136, 42763), (140, 42766), (154, 42808),

Gene: Spikelee\_72 Start: 44062, Stop: 44424, Start Num: 63

Candidate Starts for Spikelee\_72:

(Start: 63 @44062 has 190 MA's), (136, 44362), (154, 44407),

Gene: Splinter\_51 Start: 33608, Stop: 33991, Start Num: 65

Candidate Starts for Splinter\_51:

(Start: 65 @33608 has 9 MA's), (97, 33731), (141, 33914), (156, 33956),

Gene: Spoonbill\_63 Start: 41578, Stop: 41934, Start Num: 63

Candidate Starts for Spoonbill\_63:

(33, 41473), (34, 41479), (49, 41533), (Start: 63 @41578 has 190 MA's), (Start: 80 @41611 has 1 MA's), (115, 41782), (136, 41878), (140, 41881),

Gene: Squirty\_67 Start: 43396, Stop: 43758, Start Num: 63

Candidate Starts for Squirty\_67:

(Start: 63 @43396 has 190 MA's), (Start: 80 @43429 has 1 MA's), (115, 43600), (136, 43696), (140, 43699), (154, 43741),

Gene: StAnnes\_63 Start: 42321, Stop: 42683, Start Num: 63

Candidate Starts for StAnnes\_63:

(Start: 63 @42321 has 190 MA's), (136, 42621), (140, 42624), (154, 42666),

Gene: Stap\_63 Start: 42347, Stop: 42709, Start Num: 63

Candidate Starts for Stap\_63:

(33, 42242), (34, 42248), (49, 42302), (Start: 63 @42347 has 190 MA's), (Start: 80 @42380 has 1 MA's), (102, 42506), (136, 42647), (140, 42650), (154, 42692),

Gene: Starcevich\_65 Start: 41944, Stop: 42300, Start Num: 63

Candidate Starts for Starcevich\_65:

(Start: 63 @41944 has 190 MA's), (136, 42244), (140, 42247),

Gene: Sting\_92 Start: 57485, Stop: 57853, Start Num: 69

Candidate Starts for Sting\_92:

(8, 57185), (17, 57260), (25, 57347), (Start: 62 @57473 has 1 MA's), (69, 57485), (127, 57734), (129, 57743), (135, 57767), (139, 57773), (153, 57815),

Gene: Strokeseat\_61 Start: 39911, Stop: 40273, Start Num: 63

Candidate Starts for Strokeseat\_61:

(Start: 63 @39911 has 190 MA's), (136, 40211), (140, 40214), (154, 40256),

Gene: SuperGrey\_69 Start: 44472, Stop: 44828, Start Num: 63

Candidate Starts for SuperGrey\_69:

(Start: 63 @44472 has 190 MA's), (102, 44631), (136, 44772), (140, 44775), (154, 44811),

Gene: SwagPigglett\_70 Start: 44704, Stop: 45066, Start Num: 63

Candidate Starts for SwagPigglett\_70:

(30, 44587), (Start: 63 @44704 has 190 MA's), (102, 44863), (136, 45004), (154, 45049),

Gene: Syleon\_75 Start: 45869, Stop: 46291, Start Num: 36

Candidate Starts for Syleon\_75:

(Start: 36 @45869 has 2 MA's), (39, 45875), (122, 46190),

Gene: TChen\_67 Start: 44519, Stop: 44881, Start Num: 63

Candidate Starts for TChen\_67:

(Start: 63 @44519 has 190 MA's), (136, 44819), (140, 44822), (154, 44864),

Gene: TDanisky\_72 Start: 43265, Stop: 43606, Start Num: 63

Candidate Starts for TDanisky\_72:

(Start: 63 @43265 has 190 MA's), (102, 43424),

Gene: TZGordon\_53 Start: 32954, Stop: 33337, Start Num: 65

Candidate Starts for TZGordon\_53:

(Start: 65 @32954 has 9 MA's), (97, 33077), (141, 33260), (156, 33302),

Gene: Taj\_70 Start: 44021, Stop: 44383, Start Num: 63

Candidate Starts for Taj\_70:

(56, 44006), (Start: 63 @44021 has 190 MA's), (136, 44321), (140, 44324), (154, 44366),

Gene: Taptic\_52 Start: 43843, Stop: 44184, Start Num: 63

Candidate Starts for Taptic\_52:

(Start: 63 @43843 has 190 MA's), (86, 43897), (89, 43912), (91, 43930), (103, 43996), (110, 44014), (119, 44068), (130, 44113), (136, 44134), (145, 44158), (146, 44161),

Gene: Teng\_62 Start: 33271, Stop: 33660, Start Num: 57

Candidate Starts for Teng\_62:

(15, 33037), (Start: 57 @33271 has 1 MA's), (93, 33397), (114, 33460), (119, 33505), (151, 33622), (153, 33625),

Gene: Tesla\_66 Start: 38915, Stop: 39268, Start Num: 55

Candidate Starts for Tesla\_66:

(Start: 55 @38915 has 16 MA's), (66, 38942), (100, 39077), (114, 39107), (120, 39158), (122, 39164), (126, 39179), (131, 39197), (137, 39221), (138, 39224),

Gene: ThetaBob\_73 Start: 44248, Stop: 44604, Start Num: 63

Candidate Starts for ThetaBob\_73:

(32, 44137), (Start: 63 @44248 has 190 MA's), (136, 44548), (140, 44551),

Gene: TinaLin\_50 Start: 32410, Stop: 32790, Start Num: 65

Candidate Starts for TinaLin\_50:

(Start: 65 @32410 has 9 MA's), (87, 32473), (97, 32533), (122, 32650), (131, 32689), (141, 32716), (156, 32758),

Gene: Tonitrus\_71 Start: 51892, Stop: 52272, Start Num: 71

Candidate Starts for Tonitrus\_71:

(71, 51892), (108, 52051), (113, 52063), (125, 52135),

Gene: Totinger\_68 Start: 41519, Stop: 41875, Start Num: 63

Candidate Starts for Totinger\_68:

(Start: 63 @41519 has 190 MA's), (102, 41678), (136, 41819), (140, 41822), (154, 41858),

Gene: Tourach\_66 Start: 46445, Stop: 46831, Start Num: 76

Candidate Starts for Tourach\_66:

(23, 46259), (Start: 67 @46427 has 6 MA's), (Start: 76 @46445 has 18 MA's), (99, 46562), (105, 46589), (122, 46667), (162, 46814),

Gene: Tweety\_65 Start: 43115, Stop: 43471, Start Num: 63

Candidate Starts for Tweety\_65:

(Start: 63 @43115 has 190 MA's), (102, 43274), (107, 43289), (136, 43415), (140, 43418), (154, 43454),

Gene: UncleRicky\_64 Start: 42054, Stop: 42416, Start Num: 63

Candidate Starts for UncleRicky\_64:

(Start: 63 @42054 has 190 MA's), (102, 42213), (136, 42354), (140, 42357), (154, 42399),

Gene: VRedHorse\_65 Start: 41397, Stop: 41759, Start Num: 63

Candidate Starts for VRedHorse\_65:

(Start: 63 @41397 has 190 MA's), (Start: 80 @41430 has 1 MA's), (102, 41556), (136, 41697), (140, 41700), (154, 41742),

Gene: ValentiniPuff\_101 Start: 57583, Stop: 57990, Start Num: 64

Candidate Starts for ValentiniPuff\_101:

(Start: 64 @57583 has 2 MA's), (81, 57622), (82, 57628), (104, 57748), (133, 57883), (158, 57961),

Gene: VanLee\_116 Start: 60612, Stop: 60974, Start Num: 74

Candidate Starts for VanLee\_116:

(Start: 74 @60612 has 1 MA's), (131, 60858), (146, 60903), (148, 60918), (155, 60927), (159, 60942),

Gene: VasuNzinga\_68 Start: 39017, Stop: 39370, Start Num: 55

Candidate Starts for VasuNzinga\_68:

(Start: 55 @39017 has 16 MA's), (66, 39044), (100, 39179), (114, 39209), (120, 39260), (122, 39266), (126, 39281), (131, 39299), (137, 39323), (138, 39326),

Gene: Velveteen\_61 Start: 39148, Stop: 39510, Start Num: 63

Candidate Starts for Velveteen\_61:

(Start: 63 @39148 has 190 MA's), (102, 39307), (115, 39352), (136, 39448), (140, 39451), (154, 39493),

Gene: Vendetta\_51 Start: 33608, Stop: 33991, Start Num: 65

Candidate Starts for Vendetta\_51:

(Start: 65 @33608 has 9 MA's), (97, 33731), (141, 33914), (156, 33956),

Gene: Veteran\_62 Start: 40798, Stop: 41154, Start Num: 63

Candidate Starts for Veteran\_62:

(Start: 63 @40798 has 190 MA's), (115, 41002), (136, 41098), (140, 41101), (154, 41137),

Gene: Vetric\_67 Start: 46385, Stop: 46804, Start Num: 67

Candidate Starts for Vetric\_67:

(13, 46124), (23, 46217), (Start: 67 @46385 has 6 MA's), (Start: 76 @46403 has 18 MA's), (99, 46520), (105, 46547), (122, 46625), (162, 46772),

Gene: Wee\_70 Start: 44097, Stop: 44459, Start Num: 63

Candidate Starts for Wee\_70:

(56, 44082), (Start: 63 @44097 has 190 MA's), (136, 44397), (140, 44400), (154, 44442),

Gene: Weirido19\_91 Start: 53190, Stop: 53612, Start Num: 45

Candidate Starts for Weirido19\_91:

(45, 53190), (88, 53316), (116, 53445), (129, 53508), (142, 53550), (160, 53604),

Gene: Whatsapiecost\_65 Start: 41324, Stop: 41686, Start Num: 63

Candidate Starts for Whatsapiecost\_65:

(Start: 63 @41324 has 190 MA's), (Start: 80 @41357 has 1 MA's), (136, 41624), (140, 41627), (154, 41669),

Gene: Wigglewigggle\_67 Start: 46423, Stop: 46821, Start Num: 76

Candidate Starts for Wigglewigggle\_67:

(13, 46144), (23, 46237), (Start: 67 @46405 has 6 MA's), (Start: 76 @46423 has 18 MA's), (99, 46540), (105, 46567), (122, 46645), (162, 46792),

Gene: Wilder\_68 Start: 46369, Stop: 46770, Start Num: 76

Candidate Starts for Wilder\_68:

(13, 46090), (23, 46183), (Start: 67 @46351 has 6 MA's), (Start: 76 @46369 has 18 MA's), (99, 46486), (105, 46513), (122, 46591), (162, 46738),

Gene: WillSterrel\_66 Start: 43580, Stop: 43942, Start Num: 63

Candidate Starts for WillSterrel\_66:

(Start: 63 @43580 has 190 MA's), (136, 43880), (140, 43883), (154, 43925),

Gene: Winky\_67 Start: 46363, Stop: 46764, Start Num: 76

Candidate Starts for Winky\_67:

(13, 46084), (23, 46177), (Start: 67 @46345 has 6 MA's), (Start: 76 @46363 has 18 MA's), (99, 46480), (105, 46507), (122, 46585), (162, 46732),

Gene: XFactor\_63 Start: 40832, Stop: 41194, Start Num: 63

Candidate Starts for XFactor\_63:

(Start: 63 @40832 has 190 MA's), (136, 41132), (154, 41177),

Gene: Yoshi\_81 Start: 44512, Stop: 44874, Start Num: 63

Candidate Starts for Yoshi\_81:

(31, 44401), (Start: 63 @44512 has 190 MA's), (136, 44812), (140, 44815), (154, 44857),

Gene: Zakai\_68 Start: 46689, Stop: 47090, Start Num: 76

Candidate Starts for Zakai\_68:

(13, 46410), (23, 46503), (Start: 67 @46671 has 6 MA's), (Start: 76 @46689 has 18 MA's), (99, 46806), (105, 46833), (122, 46911), (162, 47058),

Gene: Zapner\_79 Start: 44176, Stop: 44517, Start Num: 63

Candidate Starts for Zapner\_79:

(56, 44161), (Start: 63 @44176 has 190 MA's), (136, 44476), (140, 44479),

Gene: Zerg\_65 Start: 41676, Stop: 42038, Start Num: 63

Candidate Starts for Zerg\_65:

(Start: 63 @41676 has 190 MA's), (136, 41976), (154, 42021),

Gene: ZhongYanYuan\_66 Start: 46258, Stop: 46644, Start Num: 76

Candidate Starts for ZhongYanYuan\_66:

(23, 46072), (53, 46201), (Start: 67 @46240 has 6 MA's), (Start: 76 @46258 has 18 MA's), (99, 46375), (105, 46402), (122, 46480), (162, 46627),

Gene: Zizzle\_69 Start: 44029, Stop: 44391, Start Num: 63

Candidate Starts for Zizzle\_69:

(Start: 63 @44029 has 190 MA's), (102, 44188), (107, 44203), (136, 44329), (154, 44374),