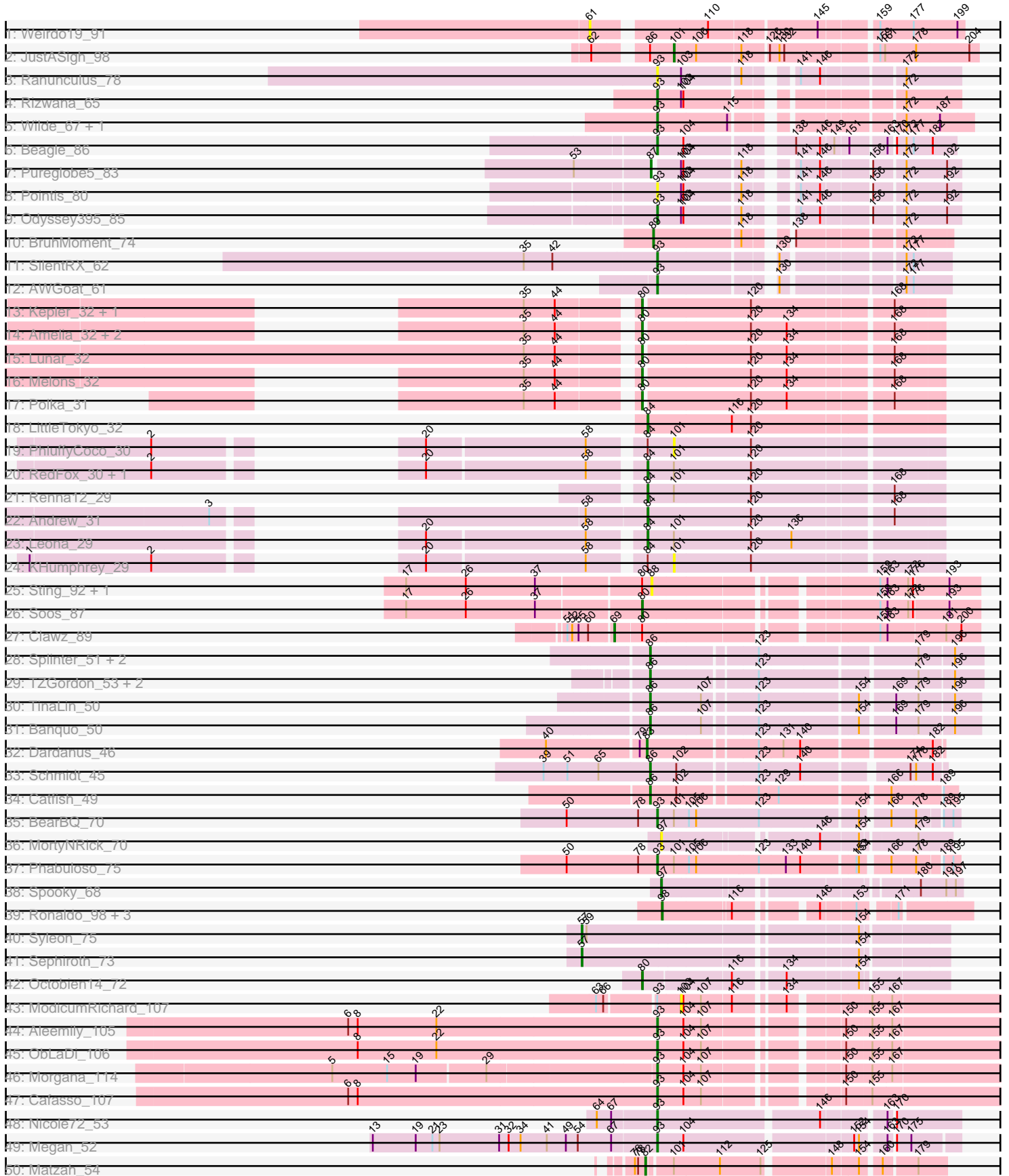
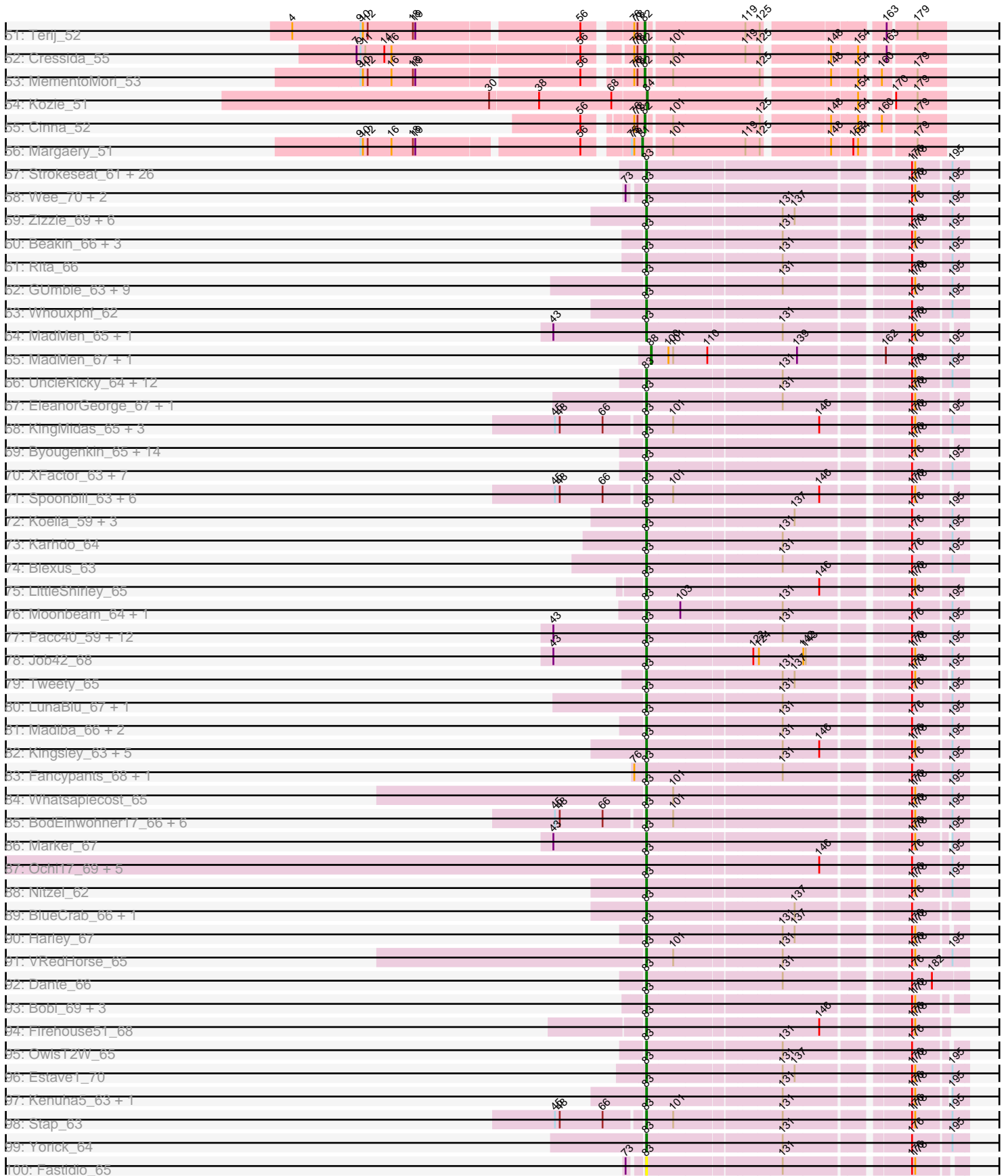


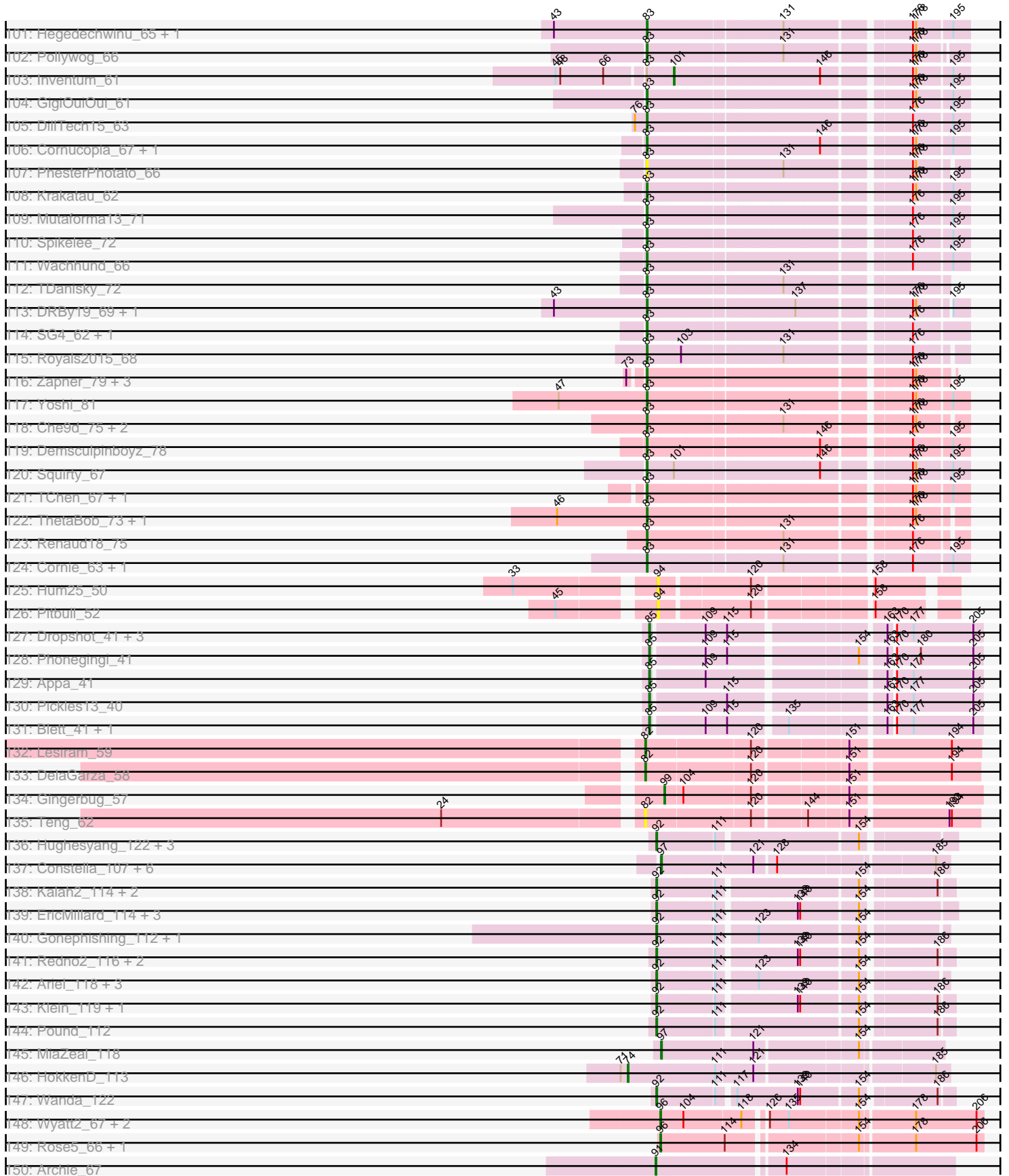
Pham 171133



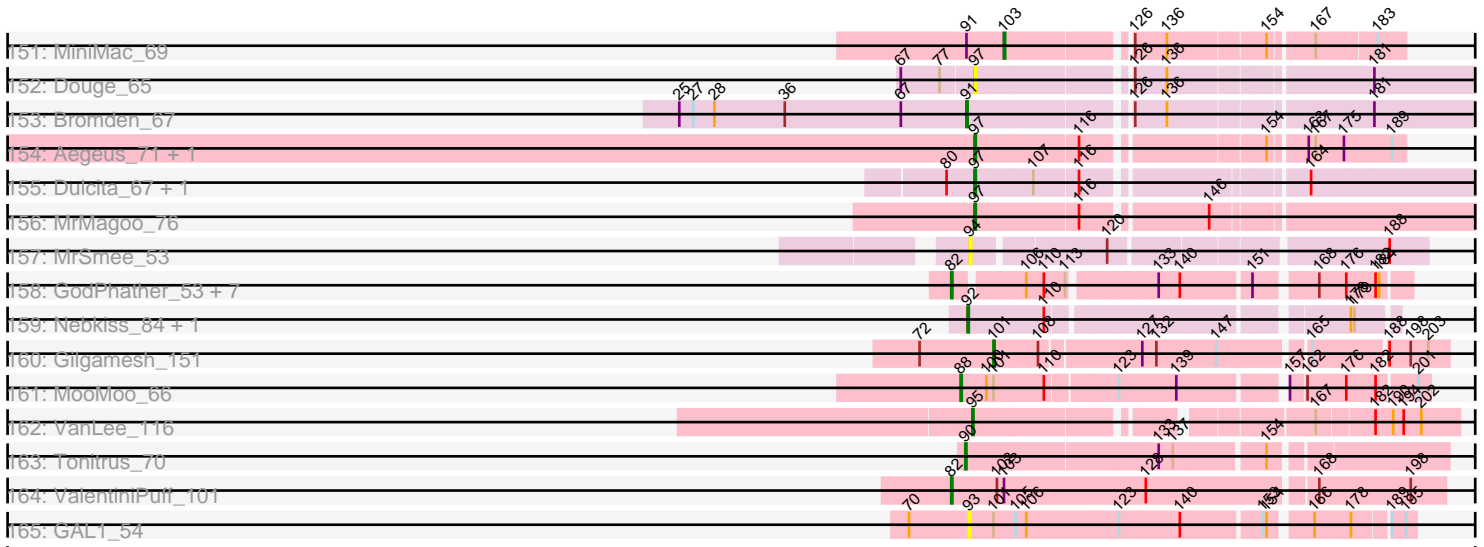
# Pham 171133



# Pham 171133



Pham 171133



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 171133 Report

This analysis was run 07/09/24 on database version 566.

Pham number 171133 has 360 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Weirido19\_91
- Track 2 : JustASigh\_98
- Track 3 : Ranunculus\_78
- Track 4 : Rizwana\_65
- Track 5 : Wilde\_67, Tank\_65
- Track 6 : Beagle\_86
- Track 7 : Pureglobe5\_83
- Track 8 : Pointis\_80
- Track 9 : Odyssey395\_85
- Track 10 : BruhMoment\_74
- Track 11 : SilentRX\_62
- Track 12 : AWGoat\_61
- Track 13 : Kepler\_32, Daob\_33
- Track 14 : Amelia\_32, Cote\_33, Coral\_31
- Track 15 : Lunar\_32
- Track 16 : Melons\_32
- Track 17 : Polka\_31
- Track 18 : LittleTokyo\_32
- Track 19 : PhluffyCoco\_30
- Track 20 : RedFox\_30, Juno112\_29
- Track 21 : Renna12\_29
- Track 22 : Andrew\_31
- Track 23 : Leona\_29
- Track 24 : KHumphrey\_29
- Track 25 : Sting\_92, DonTron\_90
- Track 26 : Soos\_87
- Track 27 : Clawz\_89
- Track 28 : Splinter\_51, Vendetta\_51, Goib\_52
- Track 29 : TZGordon\_53, DinoDaryn\_52, Huffy\_52
- Track 30 : TinaLin\_50
- Track 31 : Banquo\_50
- Track 32 : Dardanus\_46
- Track 33 : Schmidt\_45
- Track 34 : Catfish\_49
- Track 35 : BearBQ\_70
- Track 36 : MortyNRick\_70
- Track 37 : Phabuloso\_75

- Track 38 : Spooky\_68
- Track 39 : Ronaldo\_98, Guey18\_100, Volt\_99, Fryberger\_95
- Track 40 : Syleon\_75
- Track 41 : Sephiroth\_73
- Track 42 : Octobien14\_72
- Track 43 : ModicumRichard\_107
- Track 44 : Aleemily\_105
- Track 45 : ObLaDi\_106
- Track 46 : Morgana\_114
- Track 47 : Cafasso\_107
- Track 48 : Nicole72\_53
- Track 49 : Megan\_52
- Track 50 : Matzah\_54
- Track 51 : Terij\_52
- Track 52 : Cressida\_55
- Track 53 : MementoMori\_53
- Track 54 : Kozie\_51
- Track 55 : Cinna\_52
- Track 56 : Margaery\_51
- Track 57 : Strokeseat\_61, Plumbus\_68, Chevrolet\_73, Shauna1\_63, StAnnes\_63, Hlubikazi\_61, Ovechkin\_65, DotProduct\_60, Donkeykong\_68, Girafales\_73, Florinda\_76, Filuzino\_63, DLane\_60, IrishSherpFalk\_66, PopTart\_59, Ms6\_62, Rialto\_70, Phanphagia\_61, Melissauren88\_63, Seagreen\_64, SassyB\_59, WillSterrel\_66, Phalconet\_63, Spartacus\_67, Flathead\_66, Quico\_73, Mandlovu\_61
- Track 58 : Wee\_70, DeadP\_72, Taj\_70
- Track 59 : Zizzle\_69, Maravista\_67, ByChance\_58, Pippy\_64, ShowerHandel\_68, Crumble\_60, BobaPhett\_69
- Track 60 : Beakin\_66, Guppsters\_66, Hades\_66, Soul22\_71
- Track 61 : Rita\_66
- Track 62 : GUmbie\_63, James\_69, BuzzLyseyear\_71, Mattes\_69, Lizziana\_71, Saal\_67, Che8\_70, OlympiaSaint\_67, Eradicator\_58, Gorge\_69
- Track 63 : Whouxphf\_62
- Track 64 : MadMen\_65, Martik\_65
- Track 65 : MadMen\_67, Leozinho\_66
- Track 66 : UncleRicky\_64, Eish\_68, ArcusAngelus\_67, Lorde\_65, Phatniss\_63, Drago\_62, Totinger\_68, DosHalletts\_67, DirtMcgirt\_64, Mova\_69, Lij\_61, Radiance\_64, Enby\_66
- Track 67 : EleanorGeorge\_67, Leozinho\_64
- Track 68 : KingMidas\_65, Sassafras\_64, RedBird\_64, Dorothy\_64
- Track 69 : Byougenkin\_65, Rockne\_66, Kimberlium\_70, QuickMath\_69, Hamulus\_65, Chuckly\_68, Starcevich\_65, Juice456\_66, JalFarm20\_78, PMC\_62, Boomer\_70, SiSi\_63, Ardmore\_57, KristaRAM\_68, Avani\_73
- Track 70 : XFactor\_63, Zerg\_65, MisterCuddles\_63, Alexphander\_69, Doug\_67, Girr\_63, RockyHorror\_66, Ruby\_61
- Track 71 : Spoonbill\_63, Polka14\_64, JoeyJr\_61, PHappiness\_61, Leperchaun\_58, RitaG\_61, Daenerys\_60
- Track 72 : Koella\_59, Priscilla\_65, NormanBulbieJr\_65, Cabrinians\_66
- Track 73 : Karhdo\_64
- Track 74 : Blexus\_63
- Track 75 : LittleShirley\_65
- Track 76 : Moonbeam\_64, Emma\_67
- Track 77 : Pacc40\_59, LastJedi\_59, CaptainTrips\_63, MinionDave\_64, Nivrat\_62, Minnie\_68, LilMoolah\_64, Clifton\_60, Aubs\_65, Brocalys\_60, Burwell21\_63,

SwagPigglett\_70, Sandalphon\_66

- Track 78 : Job42\_68
- Track 79 : Tweety\_65
- Track 80 : LunaBlu\_67, Galactic\_64
- Track 81 : Madiba\_66, Ramsey\_64, DaWorst\_65
- Track 82 : Kingsley\_63, Coco12\_65, Sarma624\_64, Cerasum\_62, Velveteen\_61, BigPhil\_62
- Track 83 : Fancypants\_68, Mozy\_75
- Track 84 : Whatsapiecost\_65
- Track 85 : BodEinwohner17\_66, Geralt\_60, Empress\_64, Nimbo\_59, IbOuu\_67, Scottish\_64, OldBen\_63
- Track 86 : Marker\_67
- Track 87 : Ochi17\_69, Modragons\_69, OfUltron\_71, Llama\_70, AlpineSix\_71, Seabastian\_71
- Track 88 : Nitzel\_62
- Track 89 : BlueCrab\_66, FreddyB\_66
- Track 90 : Harley\_67
- Track 91 : VRedHorse\_65
- Track 92 : Dante\_66
- Track 93 : Bobi\_69, Batiatus\_63, MilleniumForce\_68, Ibhubesi\_65
- Track 94 : Firehouse51\_68
- Track 95 : OwlsT2W\_65
- Track 96 : Estave1\_70
- Track 97 : Kenuha5\_63, SuperGrey\_69
- Track 98 : Stap\_63
- Track 99 : Yorick\_64
- Track 100 : Fastidio\_65
- Track 101 : Hegedechwinu\_65, Gandalph\_68
- Track 102 : Pollywog\_66
- Track 103 : Inventum\_61
- Track 104 : GigiOuiOui\_61
- Track 105 : DillTech15\_63
- Track 106 : Cornucopia\_67, Veteran\_62
- Track 107 : PhesterPhotato\_66
- Track 108 : Krakatau\_62
- Track 109 : Mutaforma13\_71
- Track 110 : Spikelee\_72
- Track 111 : Wachhund\_66
- Track 112 : TDanisky\_72
- Track 113 : DRBy19\_69, Philus\_69
- Track 114 : SG4\_62, Mahavrat\_62
- Track 115 : Royals2015\_68
- Track 116 : Zapner\_79, Jabbawokkie\_80, Blarby\_78, Mantra\_62
- Track 117 : Yoshi\_81
- Track 118 : Che9d\_75, ShiLan\_64, Kersh\_67
- Track 119 : Demsculpinboyz\_78
- Track 120 : Squirty\_67
- Track 121 : TChen\_67, LunaStella\_65
- Track 122 : ThetaBob\_73, Ogopogo\_71
- Track 123 : Renaud18\_75
- Track 124 : Cornie\_63, Bipolar\_65
- Track 125 : Hum25\_50
- Track 126 : Pitbull\_52

- Track 127 : Dropshot\_41, Warren\_41, Antuna\_42, MenE\_45
- Track 128 : Phonegingi\_41
- Track 129 : Appa\_41
- Track 130 : Pickles13\_40
- Track 131 : Blett\_41, Bush\_42
- Track 132 : Lesiram\_59
- Track 133 : DelaGarza\_58
- Track 134 : Gingerbug\_57
- Track 135 : Teng\_62
- Track 136 : Hughesyang\_122, Zelink\_117, Minerva\_120, ThreeRngTarjay\_118
- Track 137 : Constella\_107, JuicyJay\_120, Phoebus\_124, Thibault\_106, Dallas\_124, Beem\_125, NihilNomen\_125
- Track 138 : Kalah2\_114, Bagrid\_123, DmpstrDiver\_123
- Track 139 : EricMillard\_114, Duke13\_117, Optimus\_113, BAKA\_122
- Track 140 : Gonephishing\_112, LittleE\_122
- Track 141 : Redno2\_116, Halley\_125, Ejimix\_117
- Track 142 : Ariel\_118, Squint\_116, Courthouse\_113, Superphikiman\_115
- Track 143 : Klein\_119, Bobby\_115
- Track 144 : Pound\_112
- Track 145 : MiaZeal\_118
- Track 146 : HokkenD\_113
- Track 147 : Wanda\_122
- Track 148 : Wyatt2\_67, AvadaKedavra\_66, Tyson\_67
- Track 149 : Rose5\_66, Wamburgxpress\_66
- Track 150 : Archie\_67
- Track 151 : MiniMac\_69
- Track 152 : Douge\_65
- Track 153 : Bromden\_67
- Track 154 : Aegeus\_71, Baudelaire\_71
- Track 155 : Dulcita\_67, Glaske16\_67
- Track 156 : MrMagoo\_76
- Track 157 : MrSmee\_53
- Track 158 : GodPhather\_53, PR\_52, Megabear\_52, Jeon\_52, Cepens\_52, D12\_51, Argie\_53, Taptic\_52
- Track 159 : Nebkiss\_84, Gaia\_85
- Track 160 : Gilgamesh\_151
- Track 161 : MooMoo\_66
- Track 162 : VanLee\_116
- Track 163 : Tonitrus\_70
- Track 164 : ValentiniPuff\_101
- Track 165 : 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 83, it was called in 202 of the 333 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_69, AlpineSix\_71, ArcusAngelus\_67, Ardmore\_57, 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, Cerasum\_62, Che8\_70, Che9d\_75, Chevrolet\_73, Chuckly\_68, Clifton\_60, Coco12\_65, Cornie\_63, Cornucopia\_67, Crumble\_60, DLane\_60, DRBy19\_69, DaWorst\_65, Daenerys\_60, Dante\_66, Dardanus\_46, DeadP\_72, Demsculpinboyz\_78, DillTech15\_63, DirtMcgirt\_64, Donkeykong\_68, Dorothy\_64, DosHalletts\_67, DotProduct\_60, Doug\_67, Drago\_62, Eish\_68, EleanorGeorge\_67, Emma\_67, Empress\_64, Enby\_66, Eradicator\_58, Estave1\_70, Fancypants\_68, Fastidio\_65, Filuzino\_63, Firehouse51\_68, Flathead\_66, Florinda\_76, FreddyB\_66, GUmbie\_63, Galactic\_64, Gandalph\_68, Geralt\_60, GigiOuiOui\_61, Girafales\_73, Girr\_63, Gorge\_69, Guppsters\_66, Hades\_66, Hamulus\_65, Harley\_67, Hegedechwinu\_65, Hlubikazi\_61, IbOuu\_67, Ibhubesi\_65, IrishSherpFalk\_66, Jabbawokkie\_80, JalFarm20\_78, James\_69, Job42\_68, JoeyJr\_61, Juice456\_66, Karhdo\_64, Kenuha5\_63, Kersh\_67, Kimberlium\_70, KingMidas\_65, Kingsley\_63, Koella\_59, Krakatau\_62, KristaRAM\_68, LastJedi\_59, Leozinho\_64, Leperchaun\_58, LilMoolah\_64, LittleShirley\_65, Lizziana\_71, Llama\_70, Llij\_61, Lorde\_65, LunaBlu\_67, LunaStella\_65, MadMen\_65, Madiba\_66, Mahavrat\_62, Mandlovu\_61, Mantra\_62, Maravista\_67, Marker\_67, Martik\_65, Mattes\_69, Melissauren88\_63, MilleniumForce\_68, MinionDave\_64, Minnie\_68, MisterCuddles\_63, Modragons\_69, Moonbeam\_64, Mova\_69, Mozy\_75, Ms6\_62, Mutaforma13\_71, 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, Pacc40\_59, Phalconet\_63, Phanphagia\_61, Phatniss\_63, PhesterPhotato\_66, Philus\_69, Pippy\_64, 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, Sebastian\_71, Seagreen\_64, Shauna1\_63, ShiLan\_64, ShowerHandel\_68, SiSi\_63, Soul22\_71, Spartacus\_67, Spikelee\_72, Spoonbill\_63, Squirty\_67, StAnnes\_63, Stap\_63, Starcevic\_65, Strokeseat\_61, SuperGrey\_69, SwagPiggett\_70, TChen\_67, TDanisky\_72, Taj\_70, ThetaBob\_73, Totinger\_68, Tweety\_65, UncleRicky\_64, VRedHorse\_65, Velveteen\_61, Veteran\_62, Wachhund\_66, Wee\_70, Whatsapiecost\_65, Whouxphf\_62, WillSterrel\_66, XFactor\_63, Yorick\_64, 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:

- AWGoat\_61, Aegeus\_71, Aleemily\_105, Amelia\_32, Andrew\_31, Antuna\_42, Appa\_41, Archie\_67, Argie\_53, Ariel\_118, AvadaKedavra\_66, BAKA\_122, Bagrid\_123, Banquo\_50, Baudelaire\_71, Beagle\_86, BearBQ\_70, Beem\_125, Blett\_41, Bobby\_115, Bromden\_67, BruhMoment\_74, Bush\_42, Cafasso\_107, Catfish\_49, Cepens\_52, Cinna\_52, Clawz\_89, Constella\_107, Coral\_31, Cote\_33, Courthouse\_113, Cressida\_55, D12\_51, Dallas\_124, Daob\_33, DelaGarza\_58, DinoDaryn\_52, DmpstrDiver\_123, DonTron\_90, Douge\_65, Dropshot\_41, Duke13\_117, Dulcita\_67, Ejimix\_117, EricMillard\_114, Fryberger\_95, GAL1\_54, Gaia\_85, Gilgamesh\_151, Gingerbug\_57, Glaske16\_67, GodPhather\_53, Goib\_52, Gonephishing\_112, Guey18\_100, Halley\_125, HokkenD\_113, Huffy\_52, Hughesyang\_122, Hum25\_50, Jeon\_52, JuicyJay\_120, Juno112\_29, JustASigh\_98, KHumphrey\_29, Kalah2\_114, Kepler\_32, Klein\_119, Kozie\_51, Leona\_29, Leozinho\_66, Lesiram\_59, LittleE\_122, LittleTokyo\_32, Lunar\_32, MadMen\_67,

Margaery\_51, Matzah\_54, Megabear\_52, Megan\_52, Melons\_32, MementoMori\_53, MenE\_45, MiaZeal\_118, Minerva\_120, MiniMac\_69, ModicumRichard\_107, MooMoo\_66, Morgana\_114, MortyNRick\_70, MrMagoo\_76, MrSmee\_53, Nebkiss\_84, Nicole72\_53, NihilNomen\_125, ObLaDi\_106, Octobien14\_72, Odyssey395\_85, Optimus\_113, PR\_52, Phabuloso\_75, PhluffyCoco\_30, Phoebus\_124, Phonegingi\_41, Pickles13\_40, Pitbull\_52, Pointis\_80, Polka\_31, Pound\_112, Pureglobe5\_83, Ranunculus\_78, RedFox\_30, Redno2\_116, Renna12\_29, Rizwana\_65, Ronaldo\_98, Rose5\_66, Schmidt\_45, Sephiroth\_73, SilentRX\_62, Soos\_87, Splinter\_51, Spooky\_68, Squint\_116, Sting\_92, Superphikiman\_115, Syleon\_75, TZGordon\_53, Tank\_65, Taptic\_52, Teng\_62, Terij\_52, Thibault\_106, ThreeRngTarjay\_118, TinaLin\_50, Tonitrus\_70, Tyson\_67, ValentiniPuff\_101, VanLee\_116, Vendetta\_51, Volt\_99, Wamburggrxpress\_66, Wanda\_122, Warren\_41, Weirido19\_91, Wilde\_67, Wyatt2\_67, Zelink\_117,

### Summary by start number:

#### Start 57:

- Found in 2 of 360 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 2 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sephiroth\_73 (DU1), Syleon\_75 (DU1),

#### Start 61:

- Found in 1 of 360 ( 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: Weirido19\_91 (AH),

#### Start 69:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clawz\_89 (CP),

#### Start 74:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HokkenD\_113 (J),

#### Start 80:

- Found in 15 of 360 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 10 of 333
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Amelia\_32 (AS2), Coral\_31 (AS2), Cote\_33 (AS2), Daob\_33 (AS2), Kepler\_32 (AS2), Lunar\_32 (AS2), Melons\_32 (AS2), Octobien14\_72 (DU1), Polka\_31 (AS2), Soos\_87 (CP),

#### Start 81:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Margaery\_51 (EI),

Start 82:

- Found in 17 of 360 ( 4.7% ) of genes in pham
- Manual Annotations of this start: 16 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argie\_53 (W), Cepens\_52 (W), Cinna\_52 (EI), Cressida\_55 (EI), D12\_51 (W), DelaGarza\_58 (GF), GodPhather\_53 (W), Jeon\_52 (W), Lesiram\_59 (GF), Matzah\_54 (EI), Megabear\_52 (W), MementoMori\_53 (EI), PR\_52 (W), Taptic\_52 (W), Teng\_62 (GF), Terij\_52 (EI), ValentiniPuff\_101 (singleton),

Start 83:

- Found in 211 of 360 ( 58.6% ) of genes in pham
- Manual Annotations of this start: 202 of 333
- 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), 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), 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), Crumble\_60 (F1), DLane\_60 (F1), DRBy19\_69 (F1), DaWorst\_65 (F1), Daenerys\_60 (F1), Dante\_66 (F1), Dardanus\_46 (CU3), DeadP\_72 (F1), Demsculpinboyz\_78 (F2), DillTech15\_63 (F1), DirtMcgirt\_64 (F1), Donkeykong\_68 (F1), Dorothy\_64 (F1), DosHalletts\_67 (F1), DotProduct\_60 (F1), Doug\_67 (F1), Drago\_62 (F1), Eish\_68 (F1), EleanorGeorge\_67 (F1), Emma\_67 (F1), Empress\_64 (F1), Enby\_66 (F1), Eradicator\_58 (F1), Estave1\_70 (F1), Fancypants\_68 (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), Girafales\_73 (F1), Girr\_63 (F1), Gorge\_69 (F1), Guppsters\_66 (F1), Hades\_66 (F1), Hamulus\_65 (F1), Harley\_67 (F1), Hegedechwinu\_65 (F1), Hlubikazi\_61 (F1), IbOuu\_67 (F1), Ibhuesi\_65 (F1), IrishSherpFalk\_66 (F1), Jabbawokkie\_80 (F2), JalFarm20\_78 (F1), James\_69 (F1), Job42\_68 (F1), JoeyJr\_61 (F1), Juice456\_66 (F1), Karhdo\_64 (F1), Kenuha5\_63 (F1), Kersh\_67 (F1), 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), LittleShirley\_65 (F1), Lizziana\_71 (F1), Llama\_70 (F1), Llij\_61 (F1), Lorde\_65 (F1), LunaBlu\_67 (F1), LunaStella\_65 (F4), MadMen\_65 (F1), Madiba\_66 (F1), Mahavrat\_62 (F1), Mandlovu\_61 (F1), Mantra\_62 (F1), Maravista\_67 (F1), Marker\_67 (F1), Martik\_65 (F1), Mattes\_69 (F1), Melissauren88\_63 (F1), MilleniumForce\_68 (F1), MinionDave\_64 (F1), Minnie\_68 (F1), MisterCuddles\_63 (F1), Modragons\_69 (F1), Moonbeam\_64 (F1), Mova\_69 (F1), Mozy\_75 (F1), Ms6\_62 (F1), Mutaforma13\_71 (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), Pacc40\_59 (F1), Phalconet\_63 (F1), Phanphagia\_61 (F1), Phatniss\_63 (F1), PhesterPotato\_66 (F1), Philus\_69 (F1), Pippy\_64 (F1), 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), Sebastian\_71 (F1), Seagreen\_64 (F1), Shauna1\_63 (F1), ShiLan\_64 (F1), ShowerHandel\_68 (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), Starcevich\_65 (F1), Strokeseat\_61 (F1), SuperGrey\_69 (F1), SwagPigglett\_70 (F1), TChen\_67 (F4), TDanisky\_72 (F1), Taj\_70 (F1), ThetaBob\_73 (F4), Totinger\_68 (F1), Tweety\_65 (F1), UncleRicky\_64 (F1), VRedHorse\_65 (F1), Velveteen\_61 (F1), Veteran\_62 (F1), Wachhund\_66 (F1), Wee\_70 (F1), Whatsapiecost\_65 (F1), Whouxphf\_62 (F1), WillSterrel\_66 (F1), XFactor\_63 (F1), Yorick\_64 (F1), Yoshi\_81 (F2), Zapner\_79 (F2), Zerg\_65 (F1), Zizzle\_69 (F1),

#### Start 84:

- Found in 9 of 360 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 6 of 333
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Andrew\_31 (AS3), Juno112\_29 (AS3), Kozie\_51 (EI), Leona\_29 (AS3), LittleTokyo\_32 (AS2), RedFox\_30 (AS3), Renn12\_29 (AS3),

#### Start 85:

- Found in 9 of 360 ( 2.5% ) of genes in pham
- Manual Annotations of this start: 8 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antuna\_42 (GA), Appa\_41 (GA), Blett\_41 (GA), Bush\_42 (GA), Dropshot\_41 (GA), MenE\_45 (GA), Phonegingi\_41 (GA), Pickles13\_40 (GA), Warren\_41 (GA),

#### Start 86:

- Found in 11 of 360 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 10 of 333
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Banquo\_50 (CU1), Catfish\_49 (CU5), 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 87:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pureglobe5\_83 (AP2),

#### Start 88:

- Found in 5 of 360 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 3 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonTron\_90 (CP), Leozinho\_66 (F1), MadMen\_67 (F1), MooMoo\_66 (singleton), Sting\_92 (CP),

#### Start 89:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333

- Called 100.0% of time when present
- Phage (with cluster) where this start called: BruhMoment\_74 (AP3),

Start 90:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonitrus\_70 (singleton),

Start 91:

- Found in 3 of 360 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 2 of 333
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Archie\_67 (L2), Bromden\_67 (L4),

Start 92:

- Found in 26 of 360 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 24 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel\_118 (J), BAKA\_122 (J), Bagrid\_123 (J), Bobby\_115 (J), Courthouse\_113 (J), DmpstrDiver\_123 (J), Duke13\_117 (J), Ejimix\_117 (J), EricMillard\_114 (J), Gaia\_85 (X), Gonephishing\_112 (J), Halley\_125 (J), Hughesyang\_122 (J), Kalah2\_114 (J), Klein\_119 (J), LittleE\_122 (J), Minerva\_120 (J), Nebkiss\_84 (X), Optimus\_113 (J), Pound\_112 (J), Redno2\_116 (J), Squint\_116 (J), Superphikiman\_115 (J), ThreeRngTarjay\_118 (J), Wanda\_122 (J), Zelink\_117 (J),

Start 93:

- Found in 19 of 360 ( 5.3% ) of genes in pham
- Manual Annotations of this start: 15 of 333
- Called 94.7% of time when present
- Phage (with cluster) where this start called: AWGoat\_61 (AP4), Aleemily\_105 (DZ), Beagle\_86 (AP2), BearBQ\_70 (DN), Cafasso\_107 (DZ), GAL1\_54 (singleton), Megan\_52 (EC), Morgana\_114 (DZ), Nicole72\_53 (EC), ObLaDi\_106 (DZ), Odyssey395\_85 (AP2), Phabuloso\_75 (DN1), Pointis\_80 (AP2), Ranunculus\_78 (AP), Rizwana\_65 (AP1), SilentRX\_62 (AP4), Tank\_65 (AP1), Wilde\_67 (AP1),

Start 94:

- Found in 3 of 360 ( 0.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hum25\_50 (FQ), MrSmee\_53 (UNK), Pitbull\_52 (FQ),

Start 95:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: VanLee\_116 (singleton),

Start 96:

- Found in 5 of 360 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 5 of 333

- Called 100.0% of time when present
- Phage (with cluster) where this start called: AvadaKedavra\_66 (L1), Rose5\_66 (L1), Tyson\_67 (L1), Wamburgxpress\_66 (L1), Wyatt2\_67 (L1),

#### Start 97:

- Found in 16 of 360 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 14 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_71 (L5), Baudelaire\_71 (L5), Beem\_125 (J), Constella\_107 (J), Dallas\_124 (J), Douge\_65 (L4), Dulcita\_67 (M1), Glaske16\_67 (M1), JuicyJay\_120 (J), MiaZeal\_118 (J), MortyNRick\_70 (DN), MrMagoo\_76 (M2), NihilNomen\_125 (J), Phoebus\_124 (J), Spooky\_68 (DN2), Thibault\_106 (J),

#### Start 98:

- Found in 4 of 360 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 4 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_95 (DP), Guey18\_100 (DP), Ronaldo\_98 (DP), Volt\_99 (DP),

#### Start 99:

- Found in 1 of 360 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gingerbug\_57 (GF),

#### Start 101:

- Found in 42 of 360 ( 11.7% ) of genes in pham
- Manual Annotations of this start: 3 of 333
- Called 11.9% of time when present
- Phage (with cluster) where this start called: Gilgamesh\_151 (singleton), Inventum\_61 (F1), JustASigh\_98 (AH), KHumphrey\_29 (AS3), PhluffyCoco\_30 (AS3),

#### Start 103:

- Found in 11 of 360 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 1 of 333
- Called 18.2% of time when present
- Phage (with cluster) where this start called: MiniMac\_69 (L3), ModicumRichard\_107 (DZ),

### Summary by clusters:

There are 42 clusters represented in this pham: DN, FQ, singleton, GA, AP2, AP3, AP1, AP4, M1, M2, CU4, DP, CU5, UNK, CU3, CU1, DN1, DN2, DU1, AS3, AS2, EI, F, AH, J, EC, GF, L4, L5, L2, L3, W, L1, X, CP, F1, F2, F3, F4, F5, AP, DZ,

#### Info for manual annotations of cluster AH:

- Start number 101 was manually annotated 1 time for cluster AH.

#### Info for manual annotations of cluster AP1:

- Start number 93 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 87 was manually annotated 1 time for cluster AP2.
- Start number 93 was manually annotated 2 times for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 89 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 93 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster AS2:

- Start number 80 was manually annotated 8 times for cluster AS2.
- Start number 84 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 84 was manually annotated 4 times for cluster AS3.

Info for manual annotations of cluster CP:

- Start number 69 was manually annotated 1 time for cluster CP.
- Start number 80 was manually annotated 1 time for cluster CP.

Info for manual annotations of cluster CU1:

- Start number 86 was manually annotated 8 times for cluster CU1.

Info for manual annotations of cluster CU3:

- Start number 83 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:

- Start number 86 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:

- Start number 86 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DN:

- Start number 93 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 93 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 97 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DP:

- Start number 98 was manually annotated 4 times for cluster DP.

Info for manual annotations of cluster DU1:

- Start number 57 was manually annotated 2 times for cluster DU1.
- Start number 80 was manually annotated 1 time for cluster DU1.

Info for manual annotations of cluster DZ:

- Start number 93 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster EC:

- Start number 93 was manually annotated 2 times for cluster EC.

Info for manual annotations of cluster EI:

- Start number 81 was manually annotated 1 time for cluster EI.
- Start number 82 was manually annotated 5 times for cluster EI.
- Start number 84 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster F1:

- Start number 83 was manually annotated 188 times for cluster F1.
- Start number 88 was manually annotated 2 times for cluster F1.
- Start number 101 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 83 was manually annotated 7 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 83 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 83 was manually annotated 4 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 83 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster GA:

- Start number 85 was manually annotated 8 times for cluster GA.

Info for manual annotations of cluster GF:

- Start number 82 was manually annotated 2 times for cluster GF.
- Start number 99 was manually annotated 1 time for cluster GF.

Info for manual annotations of cluster J:

- Start number 74 was manually annotated 1 time for cluster J.
- Start number 92 was manually annotated 22 times for cluster J.
- Start number 97 was manually annotated 8 times for cluster J.

Info for manual annotations of cluster L1:

- Start number 96 was manually annotated 5 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 91 was manually annotated 1 time for cluster L2.

Info for manual annotations of cluster L3:

- Start number 103 was manually annotated 1 time for cluster L3.

Info for manual annotations of cluster L4:

- Start number 91 was manually annotated 1 time for cluster L4.

Info for manual annotations of cluster L5:



- Start number 97 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M1:

- Start number 97 was manually annotated 2 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 97 was manually annotated 1 time for cluster M2.

Info for manual annotations of cluster W:

- Start number 82 was manually annotated 8 times for cluster W.

Info for manual annotations of cluster X:

- Start number 92 was manually annotated 2 times for cluster X.

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

Gene: AWGoat\_61 Start: 44482, Stop: 44168, Start Num: 93

Candidate Starts for AWGoat\_61:

(Start: 93 @44482 has 15 MA's), (130, 44356), (172, 44224), (177, 44215),

Gene: Aegeus\_71 Start: 46495, Stop: 46824, Start Num: 97

Candidate Starts for Aegeus\_71:

(Start: 97 @46495 has 14 MA's), (116, 46579), (154, 46717), (163, 46744), (167, 46750), (175, 46774), (189, 46813),

Gene: Aleemily\_105 Start: 59933, Stop: 60322, Start Num: 93

Candidate Starts for Aleemily\_105:

(6, 59546), (8, 59558), (22, 59657), (Start: 93 @59933 has 15 MA's), (104, 59966), (107, 59987), (150, 60134), (155, 60164), (167, 60188),

Gene: Alexphander\_69 Start: 42282, Stop: 42644, Start Num: 83

Candidate Starts for Alexphander\_69:

(Start: 83 @42282 has 202 MA's), (176, 42582), (195, 42627),

Gene: AlpineSix\_71 Start: 45319, Stop: 45681, Start Num: 83

Candidate Starts for AlpineSix\_71:

(Start: 83 @45319 has 202 MA's), (146, 45523), (176, 45619), (195, 45664),

Gene: Amelia\_32 Start: 21518, Stop: 21165, Start Num: 80

Candidate Starts for Amelia\_32:

(35, 21644), (44, 21605), (Start: 80 @21518 has 10 MA's), (120, 21389), (134, 21344), (168, 21224),

Gene: Andrew\_31 Start: 20815, Stop: 20462, Start Num: 84

Candidate Starts for Andrew\_31:

(3, 21166), (58, 20890), (Start: 84 @20815 has 6 MA's), (120, 20686), (168, 20521),

Gene: Antuna\_42 Start: 25698, Stop: 26075, Start Num: 85

Candidate Starts for Antuna\_42:

(Start: 85 @25698 has 8 MA's), (109, 25761), (115, 25788), (163, 25962), (170, 25968), (177, 25989), (205, 26064),

Gene: Appa\_41 Start: 25620, Stop: 25997, Start Num: 85  
Candidate Starts for Appa\_41:  
(Start: 85 @25620 has 8 MA's), (109, 25683), (163, 25884), (170, 25890), (177, 25911), (205, 25986),

Gene: Archie\_67 Start: 46551, Stop: 46892, Start Num: 91  
Candidate Starts for Archie\_67:  
(Start: 91 @46551 has 2 MA's), (134, 46698),

Gene: ArcusAngelus\_67 Start: 42632, Stop: 42994, Start Num: 83  
Candidate Starts for ArcusAngelus\_67:  
(Start: 83 @42632 has 202 MA's), (131, 42791), (176, 42932), (178, 42935), (195, 42977),

Gene: Ardmore\_57 Start: 40049, Stop: 40405, Start Num: 83  
Candidate Starts for Ardmore\_57:  
(Start: 83 @40049 has 202 MA's), (176, 40349), (178, 40352),

Gene: Argie\_53 Start: 44207, Stop: 44548, Start Num: 82  
Candidate Starts for Argie\_53:  
(Start: 82 @44207 has 16 MA's), (106, 44261), (110, 44276), (113, 44294), (133, 44360), (140, 44378), (151, 44432), (168, 44477), (176, 44498), (182, 44522), (184, 44525),

Gene: Ariel\_118 Start: 64179, Stop: 64499, Start Num: 92  
Candidate Starts for Ariel\_118:  
(Start: 92 @64179 has 24 MA's), (111, 64248), (123, 64290), (154, 64407),

Gene: Aubs\_65 Start: 42690, Stop: 43052, Start Num: 83  
Candidate Starts for Aubs\_65:  
(43, 42573), (Start: 83 @42690 has 202 MA's), (131, 42849), (176, 42990), (195, 43035),

Gene: AvadaKedavra\_66 Start: 45153, Stop: 45521, Start Num: 96  
Candidate Starts for AvadaKedavra\_66:  
(Start: 96 @45153 has 5 MA's), (104, 45180), (118, 45249), (126, 45270), (135, 45294), (154, 45375), (178, 45438), (206, 45513),

Gene: Avani\_73 Start: 42666, Stop: 43022, Start Num: 83  
Candidate Starts for Avani\_73:  
(Start: 83 @42666 has 202 MA's), (176, 42966), (178, 42969),

Gene: BAKA\_122 Start: 67774, Stop: 68106, Start Num: 92  
Candidate Starts for BAKA\_122:  
(Start: 92 @67774 has 24 MA's), (111, 67843), (139, 67933), (140, 67936), (154, 68002),

Gene: Bagrid\_123 Start: 67735, Stop: 68064, Start Num: 92  
Candidate Starts for Bagrid\_123:  
(Start: 92 @67735 has 24 MA's), (111, 67804), (154, 67963), (186, 68047),

Gene: Banquo\_50 Start: 32516, Stop: 32896, Start Num: 86  
Candidate Starts for Banquo\_50:  
(Start: 86 @32516 has 10 MA's), (107, 32579), (123, 32639), (154, 32756), (169, 32795), (179, 32822), (196, 32864),

Gene: Batiatus\_63 Start: 41925, Stop: 42281, Start Num: 83

Candidate Starts for Batiatus\_63:  
(Start: 83 @41925 has 202 MA's), (176, 42225), (178, 42228),

Gene: Baudelaire\_71 Start: 46495, Stop: 46824, Start Num: 97  
Candidate Starts for Baudelaire\_71:  
(Start: 97 @46495 has 14 MA's), (116, 46579), (154, 46717), (163, 46744), (167, 46750), (175, 46774), (189, 46813),

Gene: Beagle\_86 Start: 50592, Stop: 50260, Start Num: 93  
Candidate Starts for Beagle\_86:  
(Start: 93 @50592 has 15 MA's), (104, 50559), (138, 50442), (146, 50412), (149, 50397), (151, 50382), (163, 50340), (170, 50334), (172, 50322), (177, 50313), (182, 50289),

Gene: Beakin\_66 Start: 41229, Stop: 41591, Start Num: 83  
Candidate Starts for Beakin\_66:  
(Start: 83 @41229 has 202 MA's), (131, 41388), (176, 41529), (178, 41532), (195, 41574),

Gene: BearBQ\_70 Start: 44365, Stop: 44712, Start Num: 93  
Candidate Starts for BearBQ\_70:  
(50, 44251), (78, 44341), (Start: 93 @44365 has 15 MA's), (Start: 101 @44386 has 3 MA's), (105, 44404), (106, 44413), (123, 44488), (154, 44605), (166, 44635), (178, 44665), (189, 44692), (195, 44704),

Gene: Beem\_125 Start: 69590, Stop: 69922, Start Num: 97  
Candidate Starts for Beem\_125:  
(Start: 97 @69590 has 14 MA's), (121, 69701), (128, 69725), (185, 69905),

Gene: BigPhil\_62 Start: 39148, Stop: 39510, Start Num: 83  
Candidate Starts for BigPhil\_62:  
(Start: 83 @39148 has 202 MA's), (131, 39307), (146, 39352), (176, 39448), (178, 39451), (195, 39493),

Gene: Bipolar\_65 Start: 42690, Stop: 43052, Start Num: 83  
Candidate Starts for Bipolar\_65:  
(Start: 83 @42690 has 202 MA's), (131, 42849), (176, 42990), (195, 43035),

Gene: Blarby\_78 Start: 44162, Stop: 44503, Start Num: 83  
Candidate Starts for Blarby\_78:  
(73, 44147), (Start: 83 @44162 has 202 MA's), (176, 44462), (178, 44465),

Gene: Blett\_41 Start: 25800, Stop: 26177, Start Num: 85  
Candidate Starts for Blett\_41:  
(Start: 85 @25800 has 8 MA's), (109, 25863), (115, 25890), (135, 25956), (163, 26064), (170, 26070), (177, 26091), (205, 26166),

Gene: Blexus\_63 Start: 42819, Stop: 43181, Start Num: 83  
Candidate Starts for Blexus\_63:  
(Start: 83 @42819 has 202 MA's), (131, 42978), (176, 43119), (195, 43164),

Gene: BlueCrab\_66 Start: 43528, Stop: 43884, Start Num: 83  
Candidate Starts for BlueCrab\_66:  
(Start: 83 @43528 has 202 MA's), (137, 43702), (176, 43828),

Gene: BobaPhett\_69 Start: 45114, Stop: 45476, Start Num: 83

Candidate Starts for BobaPhett\_69:

(Start: 83 @45114 has 202 MA's), (131, 45273), (137, 45288), (176, 45414), (195, 45459),

Gene: Bobby\_115 Start: 69193, Stop: 69522, Start Num: 92

Candidate Starts for Bobby\_115:

(Start: 92 @69193 has 24 MA's), (111, 69262), (139, 69352), (140, 69355), (154, 69421), (186, 69505),

Gene: Bobi\_69 Start: 43528, Stop: 43884, Start Num: 83

Candidate Starts for Bobi\_69:

(Start: 83 @43528 has 202 MA's), (176, 43828), (178, 43831),

Gene: BodEinwohner17\_66 Start: 42524, Stop: 42886, Start Num: 83

Candidate Starts for BodEinwohner17\_66:

(45, 42419), (48, 42425), (66, 42479), (Start: 83 @42524 has 202 MA's), (Start: 101 @42557 has 3 MA's), (176, 42824), (178, 42827), (195, 42869),

Gene: Boomer\_70 Start: 44186, Stop: 44542, Start Num: 83

Candidate Starts for Boomer\_70:

(Start: 83 @44186 has 202 MA's), (176, 44486), (178, 44489),

Gene: Brocalys\_60 Start: 39296, Stop: 39658, Start Num: 83

Candidate Starts for Brocalys\_60:

(43, 39179), (Start: 83 @39296 has 202 MA's), (131, 39455), (176, 39596), (195, 39641),

Gene: Bromden\_67 Start: 46292, Stop: 46696, Start Num: 91

Candidate Starts for Bromden\_67:

(25, 46049), (27, 46061), (28, 46079), (36, 46139), (67, 46238), (Start: 91 @46292 has 2 MA's), (126, 46415), (136, 46442), (181, 46601),

Gene: BruhMoment\_74 Start: 49610, Stop: 49293, Start Num: 89

Candidate Starts for BruhMoment\_74:

(Start: 89 @49610 has 1 MA's), (118, 49508), (138, 49469), (172, 49349),

Gene: Burwell21\_63 Start: 42397, Stop: 42759, Start Num: 83

Candidate Starts for Burwell21\_63:

(43, 42280), (Start: 83 @42397 has 202 MA's), (131, 42556), (176, 42697), (195, 42742),

Gene: Bush\_42 Start: 25748, Stop: 26125, Start Num: 85

Candidate Starts for Bush\_42:

(Start: 85 @25748 has 8 MA's), (109, 25811), (115, 25838), (135, 25904), (163, 26012), (170, 26018), (177, 26039), (205, 26114),

Gene: BuzzLyseyear\_71 Start: 43599, Stop: 43961, Start Num: 83

Candidate Starts for BuzzLyseyear\_71:

(Start: 83 @43599 has 202 MA's), (131, 43758), (176, 43899), (178, 43902), (195, 43944),

Gene: ByChance\_58 Start: 38456, Stop: 38818, Start Num: 83

Candidate Starts for ByChance\_58:

(Start: 83 @38456 has 202 MA's), (131, 38615), (137, 38630), (176, 38756), (195, 38801),

Gene: Byougenkin\_65 Start: 42188, Stop: 42544, Start Num: 83

Candidate Starts for Byougenkin\_65:  
(Start: 83 @42188 has 202 MA's), (176, 42488), (178, 42491),

Gene: Cabrinians\_66 Start: 42475, Stop: 42837, Start Num: 83  
Candidate Starts for Cabrinians\_66:  
(Start: 83 @42475 has 202 MA's), (137, 42649), (176, 42775), (195, 42820),

Gene: Cafasso\_107 Start: 60484, Stop: 60873, Start Num: 93  
Candidate Starts for Cafasso\_107:  
(6, 60097), (8, 60109), (Start: 93 @60484 has 15 MA's), (104, 60517), (107, 60538), (150, 60685),  
(155, 60715),

Gene: CaptainTrips\_63 Start: 42210, Stop: 42572, Start Num: 83  
Candidate Starts for CaptainTrips\_63:  
(43, 42093), (Start: 83 @42210 has 202 MA's), (131, 42369), (176, 42510), (195, 42555),

Gene: Catfish\_49 Start: 34051, Stop: 34401, Start Num: 86  
Candidate Starts for Catfish\_49:  
(Start: 86 @34051 has 10 MA's), (102, 34084), (123, 34174), (129, 34198), (166, 34324), (189,  
34384),

Gene: Cepens\_52 Start: 43922, Stop: 44263, Start Num: 82  
Candidate Starts for Cepens\_52:  
(Start: 82 @43922 has 16 MA's), (106, 43976), (110, 43991), (113, 44009), (133, 44075), (140,  
44093), (151, 44147), (168, 44192), (176, 44213), (182, 44237), (184, 44240),

Gene: Cerasum\_62 Start: 39166, Stop: 39528, Start Num: 83  
Candidate Starts for Cerasum\_62:  
(Start: 83 @39166 has 202 MA's), (131, 39325), (146, 39370), (176, 39466), (178, 39469), (195,  
39511),

Gene: Che8\_70 Start: 45095, Stop: 45457, Start Num: 83  
Candidate Starts for Che8\_70:  
(Start: 83 @45095 has 202 MA's), (131, 45254), (176, 45395), (178, 45398), (195, 45440),

Gene: Che9d\_75 Start: 42864, Stop: 43220, Start Num: 83  
Candidate Starts for Che9d\_75:  
(Start: 83 @42864 has 202 MA's), (131, 43023), (176, 43164), (178, 43167),

Gene: Chevrolet\_73 Start: 42633, Stop: 42995, Start Num: 83  
Candidate Starts for Chevrolet\_73:  
(Start: 83 @42633 has 202 MA's), (176, 42933), (178, 42936), (195, 42978),

Gene: Chuckly\_68 Start: 42655, Stop: 43011, Start Num: 83  
Candidate Starts for Chuckly\_68:  
(Start: 83 @42655 has 202 MA's), (176, 42955), (178, 42958),

Gene: Cinna\_52 Start: 36948, Stop: 37283, Start Num: 82  
Candidate Starts for Cinna\_52:  
(56, 36891), (76, 36936), (78, 36939), (Start: 82 @36948 has 16 MA's), (Start: 101 @36975 has 3  
MA's), (125, 37083), (148, 37158), (154, 37188), (160, 37209), (179, 37248),

Gene: Clawz\_89 Start: 57153, Stop: 57563, Start Num: 69

Candidate Starts for Clawz\_89:

(51, 57102), (52, 57108), (55, 57114), (60, 57126), (Start: 69 @57153 has 1 MA's), (Start: 80 @57183 has 10 MA's), (159, 57444), (163, 57453), (191, 57522), (200, 57540),

Gene: Clifton\_60 Start: 39647, Stop: 40009, Start Num: 83

Candidate Starts for Clifton\_60:

(43, 39530), (Start: 83 @39647 has 202 MA's), (131, 39806), (176, 39947), (195, 39992),

Gene: Coco12\_65 Start: 43223, Stop: 43585, Start Num: 83

Candidate Starts for Coco12\_65:

(Start: 83 @43223 has 202 MA's), (131, 43382), (146, 43427), (176, 43523), (178, 43526), (195, 43568),

Gene: Constella\_107 Start: 63055, Stop: 63387, Start Num: 97

Candidate Starts for Constella\_107:

(Start: 97 @63055 has 14 MA's), (121, 63166), (128, 63190), (185, 63370),

Gene: Coral\_31 Start: 21357, Stop: 21004, Start Num: 80

Candidate Starts for Coral\_31:

(35, 21483), (44, 21444), (Start: 80 @21357 has 10 MA's), (120, 21228), (134, 21183), (168, 21063),

Gene: Cornie\_63 Start: 40942, Stop: 41304, Start Num: 83

Candidate Starts for Cornie\_63:

(Start: 83 @40942 has 202 MA's), (131, 41101), (176, 41242), (195, 41287),

Gene: Cornucopia\_67 Start: 42579, Stop: 42941, Start Num: 83

Candidate Starts for Cornucopia\_67:

(Start: 83 @42579 has 202 MA's), (146, 42783), (176, 42879), (178, 42882), (195, 42924),

Gene: Cote\_33 Start: 21834, Stop: 21481, Start Num: 80

Candidate Starts for Cote\_33:

(35, 21960), (44, 21921), (Start: 80 @21834 has 10 MA's), (120, 21705), (134, 21660), (168, 21540),

Gene: Courthouse\_113 Start: 63779, Stop: 64099, Start Num: 92

Candidate Starts for Courthouse\_113:

(Start: 92 @63779 has 24 MA's), (111, 63848), (123, 63890), (154, 64007),

Gene: Cressida\_55 Start: 36599, Stop: 36934, Start Num: 82

Candidate Starts for Cressida\_55:

(7, 36272), (9, 36275), (11, 36281), (14, 36305), (16, 36314), (56, 36542), (76, 36587), (78, 36590), (Start: 82 @36599 has 16 MA's), (Start: 101 @36626 has 3 MA's), (119, 36716), (125, 36734), (148, 36809), (154, 36839), (163, 36866),

Gene: Crumble\_60 Start: 38411, Stop: 38773, Start Num: 83

Candidate Starts for Crumble\_60:

(Start: 83 @38411 has 202 MA's), (131, 38570), (137, 38585), (176, 38711), (195, 38756),

Gene: D12\_51 Start: 44470, Stop: 44811, Start Num: 82

Candidate Starts for D12\_51:

(Start: 82 @44470 has 16 MA's), (106, 44524), (110, 44539), (113, 44557), (133, 44623), (140, 44641), (151, 44695), (168, 44740), (176, 44761), (182, 44785), (184, 44788),

Gene: DLane\_60 Start: 40555, Stop: 40917, Start Num: 83

Candidate Starts for DLane\_60:

(Start: 83 @40555 has 202 MA's), (176, 40855), (178, 40858), (195, 40900),

Gene: DRBy19\_69 Start: 43907, Stop: 44263, Start Num: 83

Candidate Starts for DRBy19\_69:

(43, 43790), (Start: 83 @43907 has 202 MA's), (137, 44081), (176, 44207), (178, 44210), (195, 44246),

Gene: DaWorst\_65 Start: 42022, Stop: 42384, Start Num: 83

Candidate Starts for DaWorst\_65:

(Start: 83 @42022 has 202 MA's), (131, 42181), (176, 42322), (195, 42367),

Gene: Daenerys\_60 Start: 41329, Stop: 41685, Start Num: 83

Candidate Starts for Daenerys\_60:

(45, 41224), (48, 41230), (66, 41284), (Start: 83 @41329 has 202 MA's), (Start: 101 @41362 has 3 MA's), (146, 41533), (176, 41629), (178, 41632),

Gene: Dallas\_124 Start: 69105, Stop: 69437, Start Num: 97

Candidate Starts for Dallas\_124:

(Start: 97 @69105 has 14 MA's), (121, 69216), (128, 69240), (185, 69420),

Gene: Dante\_66 Start: 41796, Stop: 42161, Start Num: 83

Candidate Starts for Dante\_66:

(Start: 83 @41796 has 202 MA's), (131, 41955), (176, 42096), (182, 42120),

Gene: Daob\_33 Start: 21852, Stop: 21499, Start Num: 80

Candidate Starts for Daob\_33:

(35, 21978), (44, 21939), (Start: 80 @21852 has 10 MA's), (120, 21723), (168, 21558),

Gene: Dardanus\_46 Start: 31283, Stop: 31621, Start Num: 83

Candidate Starts for Dardanus\_46:

(40, 31163), (79, 31274), (Start: 83 @31283 has 202 MA's), (123, 31409), (131, 31439), (140, 31460), (182, 31610),

Gene: DeadP\_72 Start: 44907, Stop: 45269, Start Num: 83

Candidate Starts for DeadP\_72:

(73, 44892), (Start: 83 @44907 has 202 MA's), (176, 45207), (178, 45210), (195, 45252),

Gene: DelaGarza\_58 Start: 33298, Stop: 33687, Start Num: 82

Candidate Starts for DelaGarza\_58:

(Start: 82 @33298 has 16 MA's), (120, 33424), (151, 33532), (194, 33652),

Gene: Demsculpinboyz\_78 Start: 42611, Stop: 42973, Start Num: 83

Candidate Starts for Demsculpinboyz\_78:

(Start: 83 @42611 has 202 MA's), (146, 42815), (176, 42911), (195, 42956),

Gene: DillTech15\_63 Start: 40922, Stop: 41284, Start Num: 83

Candidate Starts for DillTech15\_63:

(76, 40907), (Start: 83 @40922 has 202 MA's), (176, 41222), (195, 41267),

Gene: DinoDaryn\_52 Start: 33048, Stop: 33431, Start Num: 86

Candidate Starts for DinoDaryn\_52:

(Start: 86 @33048 has 10 MA's), (123, 33171), (179, 33354), (196, 33396),

Gene: DirtMcgirt\_64 Start: 40554, Stop: 40916, Start Num: 83

Candidate Starts for DirtMcgirt\_64:

(Start: 83 @40554 has 202 MA's), (131, 40713), (176, 40854), (178, 40857), (195, 40899),

Gene: DmpstrDiver\_123 Start: 68024, Stop: 68353, Start Num: 92

Candidate Starts for DmpstrDiver\_123:

(Start: 92 @68024 has 24 MA's), (111, 68093), (154, 68252), (186, 68336),

Gene: DonTron\_90 Start: 57720, Stop: 58088, Start Num: 88

Candidate Starts for DonTron\_90:

(17, 57420), (26, 57495), (37, 57582), (Start: 80 @57708 has 10 MA's), (Start: 88 @57720 has 3 MA's), (159, 57969), (163, 57978), (173, 58002), (176, 58008), (193, 58050),

Gene: Donkeykong\_68 Start: 44468, Stop: 44830, Start Num: 83

Candidate Starts for Donkeykong\_68:

(Start: 83 @44468 has 202 MA's), (176, 44768), (178, 44771), (195, 44813),

Gene: Dorothy\_64 Start: 42261, Stop: 42623, Start Num: 83

Candidate Starts for Dorothy\_64:

(45, 42156), (48, 42162), (66, 42216), (Start: 83 @42261 has 202 MA's), (Start: 101 @42294 has 3 MA's), (146, 42465), (176, 42561), (178, 42564), (195, 42606),

Gene: DosHalletts\_67 Start: 43303, Stop: 43665, Start Num: 83

Candidate Starts for DosHalletts\_67:

(Start: 83 @43303 has 202 MA's), (131, 43462), (176, 43603), (178, 43606), (195, 43648),

Gene: DotProduct\_60 Start: 40802, Stop: 41164, Start Num: 83

Candidate Starts for DotProduct\_60:

(Start: 83 @40802 has 202 MA's), (176, 41102), (178, 41105), (195, 41147),

Gene: Doug\_67 Start: 42635, Stop: 42997, Start Num: 83

Candidate Starts for Doug\_67:

(Start: 83 @42635 has 202 MA's), (176, 42935), (195, 42980),

Gene: Douge\_65 Start: 45034, Stop: 45432, Start Num: 97

Candidate Starts for Douge\_65:

(67, 44974), (77, 45007), (Start: 97 @45034 has 14 MA's), (126, 45151), (136, 45178), (181, 45337),

Gene: Drago\_62 Start: 40557, Stop: 40919, Start Num: 83

Candidate Starts for Drago\_62:

(Start: 83 @40557 has 202 MA's), (131, 40716), (176, 40857), (178, 40860), (195, 40902),

Gene: Dropshot\_41 Start: 25455, Stop: 25832, Start Num: 85

Candidate Starts for Dropshot\_41:

(Start: 85 @25455 has 8 MA's), (109, 25518), (115, 25545), (163, 25719), (170, 25725), (177, 25746), (205, 25821),

Gene: Duke13\_117 Start: 65442, Stop: 65774, Start Num: 92

Candidate Starts for Duke13\_117:

(Start: 92 @65442 has 24 MA's), (111, 65511), (139, 65601), (140, 65604), (154, 65670),

Gene: Dulcita\_67 Start: 43444, Stop: 43842, Start Num: 97



Candidate Starts for Dulcita\_67:

(Start: 80 @43423 has 10 MA's), (Start: 97 @43444 has 14 MA's), (107, 43492), (116, 43528), (164, 43693),

Gene: Eish\_68 Start: 42537, Stop: 42899, Start Num: 83

Candidate Starts for Eish\_68:

(Start: 83 @42537 has 202 MA's), (131, 42696), (176, 42837), (178, 42840), (195, 42882),

Gene: Ejimix\_117 Start: 69176, Stop: 69505, Start Num: 92

Candidate Starts for Ejimix\_117:

(Start: 92 @69176 has 24 MA's), (111, 69245), (139, 69335), (140, 69338), (154, 69404), (186, 69488),

Gene: EleanorGeorge\_67 Start: 43317, Stop: 43673, Start Num: 83

Candidate Starts for EleanorGeorge\_67:

(Start: 83 @43317 has 202 MA's), (131, 43476), (176, 43617), (178, 43620),

Gene: Emma\_67 Start: 42045, Stop: 42407, Start Num: 83

Candidate Starts for Emma\_67:

(Start: 83 @42045 has 202 MA's), (Start: 103 @42087 has 1 MA's), (131, 42204), (176, 42345), (195, 42390),

Gene: Empress\_64 Start: 42743, Stop: 43105, Start Num: 83

Candidate Starts for Empress\_64:

(45, 42638), (48, 42644), (66, 42698), (Start: 83 @42743 has 202 MA's), (Start: 101 @42776 has 3 MA's), (176, 43043), (178, 43046), (195, 43088),

Gene: Enby\_66 Start: 40833, Stop: 41195, Start Num: 83

Candidate Starts for Enby\_66:

(Start: 83 @40833 has 202 MA's), (131, 40992), (176, 41133), (178, 41136), (195, 41178),

Gene: Eradicator\_58 Start: 40449, Stop: 40811, Start Num: 83

Candidate Starts for Eradicator\_58:

(Start: 83 @40449 has 202 MA's), (131, 40608), (176, 40749), (178, 40752), (195, 40794),

Gene: EricMillard\_114 Start: 67411, Stop: 67743, Start Num: 92

Candidate Starts for EricMillard\_114:

(Start: 92 @67411 has 24 MA's), (111, 67480), (139, 67570), (140, 67573), (154, 67639),

Gene: Estave1\_70 Start: 44873, Stop: 45235, Start Num: 83

Candidate Starts for Estave1\_70:

(Start: 83 @44873 has 202 MA's), (131, 45032), (137, 45047), (176, 45173), (178, 45176), (195, 45218),

Gene: Fancypants\_68 Start: 43057, Stop: 43419, Start Num: 83

Candidate Starts for Fancypants\_68:

(76, 43042), (Start: 83 @43057 has 202 MA's), (131, 43216), (176, 43357), (195, 43402),

Gene: Fastidio\_65 Start: 41072, Stop: 41428, Start Num: 83

Candidate Starts for Fastidio\_65:

(73, 41057), (Start: 83 @41072 has 202 MA's), (131, 41231), (176, 41372), (178, 41375),

Gene: Filuzino\_63 Start: 40860, Stop: 41222, Start Num: 83

Candidate Starts for Filuzino\_63:  
(Start: 83 @40860 has 202 MA's), (176, 41160), (178, 41163), (195, 41205),

Gene: Firehouse51\_68 Start: 46363, Stop: 46704, Start Num: 83  
Candidate Starts for Firehouse51\_68:  
(Start: 83 @46363 has 202 MA's), (146, 46567), (176, 46663), (178, 46666),

Gene: Flathead\_66 Start: 42514, Stop: 42876, Start Num: 83  
Candidate Starts for Flathead\_66:  
(Start: 83 @42514 has 202 MA's), (176, 42814), (178, 42817), (195, 42859),

Gene: Florinda\_76 Start: 43974, Stop: 44336, Start Num: 83  
Candidate Starts for Florinda\_76:  
(Start: 83 @43974 has 202 MA's), (176, 44274), (178, 44277), (195, 44319),

Gene: FreddyB\_66 Start: 41323, Stop: 41679, Start Num: 83  
Candidate Starts for FreddyB\_66:  
(Start: 83 @41323 has 202 MA's), (137, 41497), (176, 41623),

Gene: Fryberger\_95 Start: 48138, Stop: 48464, Start Num: 98  
Candidate Starts for Fryberger\_95:  
(Start: 98 @48138 has 4 MA's), (116, 48219), (146, 48303), (153, 48342), (171, 48381),

Gene: GAL1\_54 Start: 37553, Stop: 37900, Start Num: 93  
Candidate Starts for GAL1\_54:  
(70, 37502), (Start: 93 @37553 has 15 MA's), (Start: 101 @37574 has 3 MA's), (105, 37592), (106, 37601), (123, 37676), (140, 37727), (153, 37790), (154, 37793), (166, 37823), (178, 37853), (189, 37880), (195, 37892),

Gene: GUmbie\_63 Start: 41676, Stop: 42038, Start Num: 83  
Candidate Starts for GUmbie\_63:  
(Start: 83 @41676 has 202 MA's), (131, 41835), (176, 41976), (178, 41979), (195, 42021),

Gene: Gaia\_85 Start: 50308, Stop: 50631, Start Num: 92  
Candidate Starts for Gaia\_85:  
(Start: 92 @50308 has 24 MA's), (110, 50371), (178, 50596), (179, 50599),

Gene: Galactic\_64 Start: 41833, Stop: 42195, Start Num: 83  
Candidate Starts for Galactic\_64:  
(Start: 83 @41833 has 202 MA's), (131, 41992), (176, 42133), (195, 42178),

Gene: Gandalph\_68 Start: 42720, Stop: 43082, Start Num: 83  
Candidate Starts for Gandalph\_68:  
(43, 42603), (Start: 83 @42720 has 202 MA's), (131, 42879), (176, 43020), (178, 43023), (195, 43065),

Gene: Geralt\_60 Start: 41298, Stop: 41660, Start Num: 83  
Candidate Starts for Geralt\_60:  
(45, 41193), (48, 41199), (66, 41253), (Start: 83 @41298 has 202 MA's), (Start: 101 @41331 has 3 MA's), (176, 41598), (178, 41601), (195, 41643),

Gene: GigiOuiOui\_61 Start: 40822, Stop: 41184, Start Num: 83  
Candidate Starts for GigiOuiOui\_61:

(Start: 83 @40822 has 202 MA's), (176, 41122), (178, 41125), (195, 41167),

Gene: Gilgamesh\_151 Start: 125936, Stop: 126292, Start Num: 101

Candidate Starts for Gilgamesh\_151:

(72, 125873), (Start: 101 @125936 has 3 MA's), (108, 125972), (127, 126053), (132, 126065), (147, 126116), (165, 126182), (188, 126242), (198, 126260), (203, 126275),

Gene: Gingerbug\_57 Start: 33770, Stop: 34138, Start Num: 99

Candidate Starts for Gingerbug\_57:

(Start: 99 @33770 has 1 MA's), (104, 33791), (120, 33872), (151, 33980),

Gene: Girafales\_73 Start: 43765, Stop: 44127, Start Num: 83

Candidate Starts for Girafales\_73:

(Start: 83 @43765 has 202 MA's), (176, 44065), (178, 44068), (195, 44110),

Gene: Girr\_63 Start: 41692, Stop: 42054, Start Num: 83

Candidate Starts for Girr\_63:

(Start: 83 @41692 has 202 MA's), (176, 41992), (195, 42037),

Gene: Glaske16\_67 Start: 43443, Stop: 43841, Start Num: 97

Candidate Starts for Glaske16\_67:

(Start: 80 @43422 has 10 MA's), (Start: 97 @43443 has 14 MA's), (107, 43491), (116, 43527), (164, 43692),

Gene: GodPhather\_53 Start: 44710, Stop: 45051, Start Num: 82

Candidate Starts for GodPhather\_53:

(Start: 82 @44710 has 16 MA's), (106, 44764), (110, 44779), (113, 44797), (133, 44863), (140, 44881), (151, 44935), (168, 44980), (176, 45001), (182, 45025), (184, 45028),

Gene: Goib\_52 Start: 33585, Stop: 33968, Start Num: 86

Candidate Starts for Goib\_52:

(Start: 86 @33585 has 10 MA's), (123, 33708), (179, 33891), (196, 33933),

Gene: Gonephishing\_112 Start: 63185, Stop: 63505, Start Num: 92

Candidate Starts for Gonephishing\_112:

(Start: 92 @63185 has 24 MA's), (111, 63254), (123, 63296), (154, 63413),

Gene: Gorge\_69 Start: 43618, Stop: 43980, Start Num: 83

Candidate Starts for Gorge\_69:

(Start: 83 @43618 has 202 MA's), (131, 43777), (176, 43918), (178, 43921), (195, 43963),

Gene: Guey18\_100 Start: 49458, Stop: 49784, Start Num: 98

Candidate Starts for Guey18\_100:

(Start: 98 @49458 has 4 MA's), (116, 49539), (146, 49623), (153, 49662), (171, 49701),

Gene: Guppsters\_66 Start: 41977, Stop: 42339, Start Num: 83

Candidate Starts for Guppsters\_66:

(Start: 83 @41977 has 202 MA's), (131, 42136), (176, 42277), (178, 42280), (195, 42322),

Gene: Hades\_66 Start: 42692, Stop: 43054, Start Num: 83

Candidate Starts for Hades\_66:

(Start: 83 @42692 has 202 MA's), (131, 42851), (176, 42992), (178, 42995), (195, 43037),

Gene: Halley\_125 Start: 69492, Stop: 69821, Start Num: 92  
Candidate Starts for Halley\_125:  
(Start: 92 @69492 has 24 MA's), (111, 69561), (139, 69651), (140, 69654), (154, 69720), (186, 69804),

Gene: Hamulus\_65 Start: 42334, Stop: 42690, Start Num: 83  
Candidate Starts for Hamulus\_65:  
(Start: 83 @42334 has 202 MA's), (176, 42634), (178, 42637),

Gene: Harley\_67 Start: 42941, Stop: 43297, Start Num: 83  
Candidate Starts for Harley\_67:  
(Start: 83 @42941 has 202 MA's), (131, 43100), (137, 43115), (176, 43241), (178, 43244),

Gene: Hegedechwinu\_65 Start: 41510, Stop: 41872, Start Num: 83  
Candidate Starts for Hegedechwinu\_65:  
(43, 41393), (Start: 83 @41510 has 202 MA's), (131, 41669), (176, 41810), (178, 41813), (195, 41855),

Gene: Hlubikazi\_61 Start: 39912, Stop: 40274, Start Num: 83  
Candidate Starts for Hlubikazi\_61:  
(Start: 83 @39912 has 202 MA's), (176, 40212), (178, 40215), (195, 40257),

Gene: HokkenD\_113 Start: 67777, Stop: 68151, Start Num: 74  
Candidate Starts for HokkenD\_113:  
(71, 67768), (Start: 74 @67777 has 1 MA's), (111, 67885), (121, 67930), (185, 68134),

Gene: Huffy\_52 Start: 33048, Stop: 33431, Start Num: 86  
Candidate Starts for Huffy\_52:  
(Start: 86 @33048 has 10 MA's), (123, 33171), (179, 33354), (196, 33396),

Gene: Hughesyang\_122 Start: 68948, Stop: 69280, Start Num: 92  
Candidate Starts for Hughesyang\_122:  
(Start: 92 @68948 has 24 MA's), (111, 69017), (154, 69176),

Gene: Hum25\_50 Start: 30658, Stop: 30984, Start Num: 94  
Candidate Starts for Hum25\_50:  
(33, 30499), (94, 30658), (120, 30763), (158, 30895),

Gene: lbOuu\_67 Start: 43348, Stop: 43710, Start Num: 83  
Candidate Starts for lbOuu\_67:  
(45, 43243), (48, 43249), (66, 43303), (Start: 83 @43348 has 202 MA's), (Start: 101 @43381 has 3 MA's), (176, 43648), (178, 43651), (195, 43693),

Gene: lbhubesi\_65 Start: 41957, Stop: 42313, Start Num: 83  
Candidate Starts for lbhubesi\_65:  
(Start: 83 @41957 has 202 MA's), (176, 42257), (178, 42260),

Gene: Inventum\_61 Start: 42492, Stop: 42821, Start Num: 101  
Candidate Starts for Inventum\_61:  
(45, 42354), (48, 42360), (66, 42414), (Start: 83 @42459 has 202 MA's), (Start: 101 @42492 has 3 MA's), (146, 42663), (176, 42759), (178, 42762), (195, 42804),

Gene: IrishSherpFalk\_66 Start: 43547, Stop: 43909, Start Num: 83

Candidate Starts for IrishSherpFalk\_66:  
(Start: 83 @43547 has 202 MA's), (176, 43847), (178, 43850), (195, 43892),

Gene: Jabbawokkie\_80 Start: 44082, Stop: 44423, Start Num: 83  
Candidate Starts for Jabbawokkie\_80:  
(73, 44067), (Start: 83 @44082 has 202 MA's), (176, 44382), (178, 44385),

Gene: JalFarm20\_78 Start: 46016, Stop: 46372, Start Num: 83  
Candidate Starts for JalFarm20\_78:  
(Start: 83 @46016 has 202 MA's), (176, 46316), (178, 46319),

Gene: James\_69 Start: 43743, Stop: 44105, Start Num: 83  
Candidate Starts for James\_69:  
(Start: 83 @43743 has 202 MA's), (131, 43902), (176, 44043), (178, 44046), (195, 44088),

Gene: Jeon\_52 Start: 44452, Stop: 44793, Start Num: 82  
Candidate Starts for Jeon\_52:  
(Start: 82 @44452 has 16 MA's), (106, 44506), (110, 44521), (113, 44539), (133, 44605), (140, 44623), (151, 44677), (168, 44722), (176, 44743), (182, 44767), (184, 44770),

Gene: Job42\_68 Start: 44715, Stop: 45080, Start Num: 83  
Candidate Starts for Job42\_68:  
(43, 44598), (Start: 83 @44715 has 202 MA's), (122, 44841), (124, 44847), (142, 44901), (143, 44904), (176, 45018), (178, 45021), (195, 45063),

Gene: JoeyJr\_61 Start: 41497, Stop: 41853, Start Num: 83  
Candidate Starts for JoeyJr\_61:  
(45, 41392), (48, 41398), (66, 41452), (Start: 83 @41497 has 202 MA's), (Start: 101 @41530 has 3 MA's), (146, 41701), (176, 41797), (178, 41800),

Gene: Juice456\_66 Start: 43972, Stop: 44328, Start Num: 83  
Candidate Starts for Juice456\_66:  
(Start: 83 @43972 has 202 MA's), (176, 44272), (178, 44275),

Gene: JuicyJay\_120 Start: 70726, Stop: 71058, Start Num: 97  
Candidate Starts for JuicyJay\_120:  
(Start: 97 @70726 has 14 MA's), (121, 70837), (128, 70861), (185, 71041),

Gene: Juno112\_29 Start: 20872, Stop: 20519, Start Num: 84  
Candidate Starts for Juno112\_29:  
(2, 21274), (20, 21124), (58, 20929), (Start: 84 @20872 has 6 MA's), (Start: 101 @20839 has 3 MA's), (120, 20743),

Gene: JustASigh\_98 Start: 55410, Stop: 55766, Start Num: 101  
Candidate Starts for JustASigh\_98:  
(62, 55332), (Start: 86 @55383 has 10 MA's), (Start: 101 @55410 has 3 MA's), (106, 55437), (118, 55491), (126, 55521), (130, 55533), (132, 55539), (159, 55644), (161, 55650), (178, 55689), (204, 55755),

Gene: KHumphrey\_29 Start: 20837, Stop: 20517, Start Num: 101  
Candidate Starts for KHumphrey\_29:  
(1, 21422), (2, 21272), (20, 21122), (58, 20927), (Start: 84 @20870 has 6 MA's), (Start: 101 @20837 has 3 MA's), (120, 20741),

Gene: Kalah2\_114 Start: 67637, Stop: 67966, Start Num: 92  
Candidate Starts for Kalah2\_114:  
(Start: 92 @67637 has 24 MA's), (111, 67706), (154, 67865), (186, 67949),

Gene: Karhdo\_64 Start: 43305, Stop: 43667, Start Num: 83  
Candidate Starts for Karhdo\_64:  
(Start: 83 @43305 has 202 MA's), (131, 43464), (176, 43605), (195, 43650),

Gene: Kenuha5\_63 Start: 41295, Stop: 41651, Start Num: 83  
Candidate Starts for Kenuha5\_63:  
(Start: 83 @41295 has 202 MA's), (131, 41454), (176, 41595), (178, 41598), (195, 41634),

Gene: Kepler\_32 Start: 21801, Stop: 21448, Start Num: 80  
Candidate Starts for Kepler\_32:  
(35, 21927), (44, 21888), (Start: 80 @21801 has 10 MA's), (120, 21672), (168, 21507),

Gene: Kersh\_67 Start: 44741, Stop: 45097, Start Num: 83  
Candidate Starts for Kersh\_67:  
(Start: 83 @44741 has 202 MA's), (131, 44900), (176, 45041), (178, 45044),

Gene: Kimberlium\_70 Start: 44253, Stop: 44594, Start Num: 83  
Candidate Starts for Kimberlium\_70:  
(Start: 83 @44253 has 202 MA's), (176, 44553), (178, 44556),

Gene: KingMidas\_65 Start: 43159, Stop: 43521, Start Num: 83  
Candidate Starts for KingMidas\_65:  
(45, 43054), (48, 43060), (66, 43114), (Start: 83 @43159 has 202 MA's), (Start: 101 @43192 has 3 MA's), (146, 43363), (176, 43459), (178, 43462), (195, 43504),

Gene: Kingsley\_63 Start: 41956, Stop: 42318, Start Num: 83  
Candidate Starts for Kingsley\_63:  
(Start: 83 @41956 has 202 MA's), (131, 42115), (146, 42160), (176, 42256), (178, 42259), (195, 42301),

Gene: Klein\_119 Start: 65994, Stop: 66323, Start Num: 92  
Candidate Starts for Klein\_119:  
(Start: 92 @65994 has 24 MA's), (111, 66063), (139, 66153), (140, 66156), (154, 66222), (186, 66306),

Gene: Koella\_59 Start: 38373, Stop: 38735, Start Num: 83  
Candidate Starts for Koella\_59:  
(Start: 83 @38373 has 202 MA's), (137, 38547), (176, 38673), (195, 38718),

Gene: Kozie\_51 Start: 36191, Stop: 36532, Start Num: 84  
Candidate Starts for Kozie\_51:  
(30, 35999), (38, 36059), (68, 36149), (Start: 84 @36191 has 6 MA's), (154, 36437), (170, 36470), (179, 36497),

Gene: Krakatau\_62 Start: 41145, Stop: 41507, Start Num: 83  
Candidate Starts for Krakatau\_62:  
(Start: 83 @41145 has 202 MA's), (176, 41445), (178, 41448), (195, 41490),

Gene: KristaRAM\_68 Start: 44341, Stop: 44697, Start Num: 83  
Candidate Starts for KristaRAM\_68:  
(Start: 83 @44341 has 202 MA's), (176, 44641), (178, 44644),

Gene: LastJedi\_59 Start: 39690, Stop: 40052, Start Num: 83  
Candidate Starts for LastJedi\_59:  
(43, 39573), (Start: 83 @39690 has 202 MA's), (131, 39849), (176, 39990), (195, 40035),

Gene: Leona\_29 Start: 20943, Stop: 20590, Start Num: 84  
Candidate Starts for Leona\_29:  
(20, 21195), (58, 21000), (Start: 84 @20943 has 6 MA's), (Start: 101 @20910 has 3 MA's), (120, 20814), (136, 20763),

Gene: Leozinho\_64 Start: 41151, Stop: 41507, Start Num: 83  
Candidate Starts for Leozinho\_64:  
(Start: 83 @41151 has 202 MA's), (131, 41310), (176, 41451), (178, 41454),

Gene: Leozinho\_66 Start: 42196, Stop: 42552, Start Num: 88  
Candidate Starts for Leozinho\_66:  
(Start: 88 @42196 has 3 MA's), (100, 42217), (Start: 101 @42223 has 3 MA's), (110, 42265), (139, 42367), (162, 42457), (176, 42490), (195, 42535),

Gene: Leperchaun\_58 Start: 40727, Stop: 41083, Start Num: 83  
Candidate Starts for Leperchaun\_58:  
(45, 40622), (48, 40628), (66, 40682), (Start: 83 @40727 has 202 MA's), (Start: 101 @40760 has 3 MA's), (146, 40931), (176, 41027), (178, 41030),

Gene: Lesiram\_59 Start: 33428, Stop: 33817, Start Num: 82  
Candidate Starts for Lesiram\_59:  
(Start: 82 @33428 has 16 MA's), (120, 33554), (151, 33662), (194, 33782),

Gene: LilMoolah\_64 Start: 42220, Stop: 42582, Start Num: 83  
Candidate Starts for LilMoolah\_64:  
(43, 42103), (Start: 83 @42220 has 202 MA's), (131, 42379), (176, 42520), (195, 42565),

Gene: LittleE\_122 Start: 67384, Stop: 67704, Start Num: 92  
Candidate Starts for LittleE\_122:  
(Start: 92 @67384 has 24 MA's), (111, 67453), (123, 67495), (154, 67612),

Gene: LittleShirley\_65 Start: 42793, Stop: 43149, Start Num: 83  
Candidate Starts for LittleShirley\_65:  
(Start: 83 @42793 has 202 MA's), (146, 42997), (176, 43093), (178, 43096),

Gene: LittleTokyo\_32 Start: 21633, Stop: 21280, Start Num: 84  
Candidate Starts for LittleTokyo\_32:  
(Start: 84 @21633 has 6 MA's), (116, 21528), (120, 21504),

Gene: Lizziana\_71 Start: 43224, Stop: 43586, Start Num: 83  
Candidate Starts for Lizziana\_71:  
(Start: 83 @43224 has 202 MA's), (131, 43383), (176, 43524), (178, 43527), (195, 43569),

Gene: Llama\_70 Start: 45173, Stop: 45535, Start Num: 83  
Candidate Starts for Llama\_70:

(Start: 83 @45173 has 202 MA's), (146, 45377), (176, 45473), (195, 45518),

Gene: Llij\_61 Start: 40711, Stop: 41073, Start Num: 83

Candidate Starts for Llij\_61:

(Start: 83 @40711 has 202 MA's), (131, 40870), (176, 41011), (178, 41014), (195, 41056),

Gene: Lorde\_65 Start: 39998, Stop: 40360, Start Num: 83

Candidate Starts for Lorde\_65:

(Start: 83 @39998 has 202 MA's), (131, 40157), (176, 40298), (178, 40301), (195, 40343),

Gene: LunaBlu\_67 Start: 42492, Stop: 42854, Start Num: 83

Candidate Starts for LunaBlu\_67:

(Start: 83 @42492 has 202 MA's), (131, 42651), (176, 42792), (195, 42837),

Gene: LunaStella\_65 Start: 42568, Stop: 42930, Start Num: 83

Candidate Starts for LunaStella\_65:

(Start: 83 @42568 has 202 MA's), (176, 42868), (178, 42871), (195, 42913),

Gene: Lunar\_32 Start: 21502, Stop: 21149, Start Num: 80

Candidate Starts for Lunar\_32:

(35, 21628), (44, 21589), (Start: 80 @21502 has 10 MA's), (120, 21373), (134, 21328), (168, 21208),

Gene: MadMen\_65 Start: 42619, Stop: 42975, Start Num: 83

Candidate Starts for MadMen\_65:

(43, 42502), (Start: 83 @42619 has 202 MA's), (131, 42778), (176, 42919), (178, 42922),

Gene: MadMen\_67 Start: 43664, Stop: 44020, Start Num: 88

Candidate Starts for MadMen\_67:

(Start: 88 @43664 has 3 MA's), (100, 43685), (Start: 101 @43691 has 3 MA's), (110, 43733), (139, 43835), (162, 43925), (176, 43958), (195, 44003),

Gene: Madiba\_66 Start: 41725, Stop: 42087, Start Num: 83

Candidate Starts for Madiba\_66:

(Start: 83 @41725 has 202 MA's), (131, 41884), (176, 42025), (195, 42070),

Gene: Mahavrat\_62 Start: 41431, Stop: 41787, Start Num: 83

Candidate Starts for Mahavrat\_62:

(Start: 83 @41431 has 202 MA's), (176, 41731),

Gene: Mandlovu\_61 Start: 39854, Stop: 40216, Start Num: 83

Candidate Starts for Mandlovu\_61:

(Start: 83 @39854 has 202 MA's), (176, 40154), (178, 40157), (195, 40199),

Gene: Mantra\_62 Start: 41207, Stop: 41563, Start Num: 83

Candidate Starts for Mantra\_62:

(73, 41192), (Start: 83 @41207 has 202 MA's), (176, 41507), (178, 41510),

Gene: Maravista\_67 Start: 44362, Stop: 44724, Start Num: 83

Candidate Starts for Maravista\_67:

(Start: 83 @44362 has 202 MA's), (131, 44521), (137, 44536), (176, 44662), (195, 44707),

Gene: Margaery\_51 Start: 36177, Stop: 36518, Start Num: 81

Candidate Starts for Margaery\_51:



(9, 35859), (10, 35862), (12, 35868), (16, 35898), (18, 35925), (19, 35928), (56, 36120), (75, 36165), (76, 36168), (Start: 81 @36177 has 1 MA's), (Start: 101 @36210 has 3 MA's), (119, 36300), (125, 36318), (148, 36393), (152, 36417), (154, 36423), (179, 36483),

Gene: Marker\_67 Start: 42458, Stop: 42814, Start Num: 83

Candidate Starts for Marker\_67:

(43, 42341), (Start: 83 @42458 has 202 MA's), (176, 42758), (178, 42761), (195, 42797),

Gene: Martik\_65 Start: 42396, Stop: 42752, Start Num: 83

Candidate Starts for Martik\_65:

(43, 42279), (Start: 83 @42396 has 202 MA's), (131, 42555), (176, 42696), (178, 42699),

Gene: Mattes\_69 Start: 43743, Stop: 44105, Start Num: 83

Candidate Starts for Mattes\_69:

(Start: 83 @43743 has 202 MA's), (131, 43902), (176, 44043), (178, 44046), (195, 44088),

Gene: Matzah\_54 Start: 37029, Stop: 37364, Start Num: 82

Candidate Starts for Matzah\_54:

(76, 37017), (78, 37020), (Start: 82 @37029 has 16 MA's), (Start: 101 @37056 has 3 MA's), (112, 37113), (125, 37164), (148, 37239), (154, 37269), (160, 37290), (179, 37329),

Gene: Megabear\_52 Start: 43843, Stop: 44184, Start Num: 82

Candidate Starts for Megabear\_52:

(Start: 82 @43843 has 16 MA's), (106, 43897), (110, 43912), (113, 43930), (133, 43996), (140, 44014), (151, 44068), (168, 44113), (176, 44134), (182, 44158), (184, 44161),

Gene: Megan\_52 Start: 39265, Stop: 39606, Start Num: 93

Candidate Starts for Megan\_52:

(13, 38917), (19, 38971), (21, 38992), (23, 39001), (31, 39076), (32, 39088), (34, 39103), (41, 39136), (49, 39160), (54, 39175), (67, 39217), (Start: 93 @39265 has 15 MA's), (104, 39298), (152, 39493), (154, 39499), (163, 39526), (170, 39532), (175, 39550),

Gene: Melissauren88\_63 Start: 41372, Stop: 41734, Start Num: 83

Candidate Starts for Melissauren88\_63:

(Start: 83 @41372 has 202 MA's), (176, 41672), (178, 41675), (195, 41717),

Gene: Melons\_32 Start: 21502, Stop: 21149, Start Num: 80

Candidate Starts for Melons\_32:

(35, 21628), (44, 21589), (Start: 80 @21502 has 10 MA's), (120, 21373), (134, 21328), (168, 21208),

Gene: MementoMori\_53 Start: 36606, Stop: 36941, Start Num: 82

Candidate Starts for MementoMori\_53:

(9, 36288), (10, 36291), (12, 36297), (16, 36327), (18, 36354), (19, 36357), (56, 36549), (76, 36594), (78, 36597), (Start: 82 @36606 has 16 MA's), (Start: 101 @36633 has 3 MA's), (125, 36741), (148, 36816), (154, 36846), (160, 36867), (179, 36906),

Gene: MenE\_45 Start: 25720, Stop: 26097, Start Num: 85

Candidate Starts for MenE\_45:

(Start: 85 @25720 has 8 MA's), (109, 25783), (115, 25810), (163, 25984), (170, 25990), (177, 26011), (205, 26086),

Gene: MiaZeal\_118 Start: 64854, Stop: 65177, Start Num: 97

Candidate Starts for MiaZeal\_118:

(Start: 97 @64854 has 14 MA's), (121, 64965), (154, 65085),

Gene: MilleniumForce\_68 Start: 44060, Stop: 44416, Start Num: 83

Candidate Starts for MilleniumForce\_68:

(Start: 83 @44060 has 202 MA's), (176, 44360), (178, 44363),

Gene: Minerva\_120 Start: 67549, Stop: 67881, Start Num: 92

Candidate Starts for Minerva\_120:

(Start: 92 @67549 has 24 MA's), (111, 67618), (154, 67777),

Gene: MiniMac\_69 Start: 46319, Stop: 46621, Start Num: 103

Candidate Starts for MiniMac\_69:

(Start: 91 @46289 has 2 MA's), (Start: 103 @46319 has 1 MA's), (126, 46412), (136, 46439), (154, 46517), (167, 46550), (183, 46598),

Gene: MinionDave\_64 Start: 42746, Stop: 43108, Start Num: 83

Candidate Starts for MinionDave\_64:

(43, 42629), (Start: 83 @42746 has 202 MA's), (131, 42905), (176, 43046), (195, 43091),

Gene: Minnie\_68 Start: 43966, Stop: 44328, Start Num: 83

Candidate Starts for Minnie\_68:

(43, 43849), (Start: 83 @43966 has 202 MA's), (131, 44125), (176, 44266), (195, 44311),

Gene: MisterCuddles\_63 Start: 41692, Stop: 42054, Start Num: 83

Candidate Starts for MisterCuddles\_63:

(Start: 83 @41692 has 202 MA's), (176, 41992), (195, 42037),

Gene: ModicumRichard\_107 Start: 60796, Stop: 61155, Start Num: 103

Candidate Starts for ModicumRichard\_107:

(63, 60703), (66, 60712), (Start: 93 @60769 has 15 MA's), (Start: 103 @60796 has 1 MA's), (104, 60799), (107, 60820), (116, 60856), (134, 60910), (155, 60997), (167, 61021),

Gene: Modragons\_69 Start: 45162, Stop: 45524, Start Num: 83

Candidate Starts for Modragons\_69:

(Start: 83 @45162 has 202 MA's), (146, 45366), (176, 45462), (195, 45507),

Gene: MooMoo\_66 Start: 43589, Stop: 43945, Start Num: 88

Candidate Starts for MooMoo\_66:

(Start: 88 @43589 has 3 MA's), (100, 43610), (Start: 101 @43616 has 3 MA's), (110, 43658), (123, 43712), (139, 43760), (157, 43838), (162, 43850), (176, 43883), (182, 43907), (201, 43937),

Gene: Moonbeam\_64 Start: 41974, Stop: 42336, Start Num: 83

Candidate Starts for Moonbeam\_64:

(Start: 83 @41974 has 202 MA's), (Start: 103 @42016 has 1 MA's), (131, 42133), (176, 42274), (195, 42319),

Gene: Morgana\_114 Start: 62857, Stop: 63246, Start Num: 93

Candidate Starts for Morgana\_114:

(5, 62464), (15, 62533), (19, 62569), (29, 62653), (Start: 93 @62857 has 15 MA's), (104, 62890), (107, 62911), (150, 63058), (155, 63088), (167, 63112),

Gene: MortyNRick\_70 Start: 44625, Stop: 44951, Start Num: 97

Candidate Starts for MortyNRick\_70:

(Start: 97 @44625 has 14 MA's), (146, 44802), (154, 44847), (179, 44910),

Gene: Mova\_69 Start: 42229, Stop: 42585, Start Num: 83

Candidate Starts for Mova\_69:

(Start: 83 @42229 has 202 MA's), (131, 42388), (176, 42529), (178, 42532), (195, 42568),

Gene: Mozy\_75 Start: 44841, Stop: 45203, Start Num: 83

Candidate Starts for Mozy\_75:

(76, 44826), (Start: 83 @44841 has 202 MA's), (131, 45000), (176, 45141), (195, 45186),

Gene: MrMagoo\_76 Start: 46031, Stop: 46429, Start Num: 97

Candidate Starts for MrMagoo\_76:

(Start: 97 @46031 has 14 MA's), (116, 46115), (146, 46211),

Gene: MrSmee\_53 Start: 31291, Stop: 31644, Start Num: 94

Candidate Starts for MrSmee\_53:

(94, 31291), (120, 31396), (188, 31612),

Gene: Ms6\_62 Start: 37737, Stop: 38099, Start Num: 83

Candidate Starts for Ms6\_62:

(Start: 83 @37737 has 202 MA's), (176, 38037), (178, 38040), (195, 38082),

Gene: Mutaforma13\_71 Start: 45673, Stop: 46035, Start Num: 83

Candidate Starts for Mutaforma13\_71:

(Start: 83 @45673 has 202 MA's), (176, 45973), (195, 46018),

Gene: Nebkiss\_84 Start: 48920, Stop: 49243, Start Num: 92

Candidate Starts for Nebkiss\_84:

(Start: 92 @48920 has 24 MA's), (110, 48983), (178, 49208), (179, 49211),

Gene: Nicole72\_53 Start: 39892, Stop: 40239, Start Num: 93

Candidate Starts for Nicole72\_53:

(64, 39826), (67, 39844), (Start: 93 @39892 has 15 MA's), (146, 40084), (163, 40153), (170, 40159),

Gene: NihilNomen\_125 Start: 68678, Stop: 69010, Start Num: 97

Candidate Starts for NihilNomen\_125:

(Start: 97 @68678 has 14 MA's), (121, 68789), (128, 68813), (185, 68993),

Gene: Nimbo\_59 Start: 41301, Stop: 41663, Start Num: 83

Candidate Starts for Nimbo\_59:

(45, 41196), (48, 41202), (66, 41256), (Start: 83 @41301 has 202 MA's), (Start: 101 @41334 has 3 MA's), (176, 41601), (178, 41604), (195, 41646),

Gene: Nitzel\_62 Start: 41489, Stop: 41851, Start Num: 83

Candidate Starts for Nitzel\_62:

(Start: 83 @41489 has 202 MA's), (176, 41789), (178, 41792), (195, 41834),

Gene: Nivrat\_62 Start: 42093, Stop: 42455, Start Num: 83

Candidate Starts for Nivrat\_62:

(43, 41976), (Start: 83 @42093 has 202 MA's), (131, 42252), (176, 42393), (195, 42438),

Gene: NormanBulbieJr\_65 Start: 42386, Stop: 42748, Start Num: 83

Candidate Starts for NormanBulbieJr\_65:

(Start: 83 @42386 has 202 MA's), (137, 42560), (176, 42686), (195, 42731),

Gene: ObLaDi\_106 Start: 60168, Stop: 60557, Start Num: 93

Candidate Starts for ObLaDi\_106:

(8, 59793), (22, 59892), (Start: 93 @60168 has 15 MA's), (104, 60201), (107, 60222), (150, 60369), (155, 60399), (167, 60423),

Gene: Ochi17\_69 Start: 44769, Stop: 45131, Start Num: 83

Candidate Starts for Ochi17\_69:

(Start: 83 @44769 has 202 MA's), (146, 44973), (176, 45069), (195, 45114),

Gene: Octobien14\_72 Start: 45181, Stop: 45522, Start Num: 80

Candidate Starts for Octobien14\_72:

(Start: 80 @45181 has 10 MA's), (116, 45283), (134, 45337), (154, 45421),

Gene: Odyssey395\_85 Start: 50318, Stop: 49992, Start Num: 93

Candidate Starts for Odyssey395\_85:

(Start: 93 @50318 has 15 MA's), (Start: 103 @50288 has 1 MA's), (104, 50285), (118, 50219), (141, 50174), (146, 50150), (156, 50096), (172, 50060), (192, 50009),

Gene: OfUltron\_71 Start: 45318, Stop: 45680, Start Num: 83

Candidate Starts for OfUltron\_71:

(Start: 83 @45318 has 202 MA's), (146, 45522), (176, 45618), (195, 45663),

Gene: Ogopogo\_71 Start: 42797, Stop: 43153, Start Num: 83

Candidate Starts for Ogopogo\_71:

(46, 42686), (Start: 83 @42797 has 202 MA's), (176, 43097), (178, 43100),

Gene: OldBen\_63 Start: 42694, Stop: 43056, Start Num: 83

Candidate Starts for OldBen\_63:

(45, 42589), (48, 42595), (66, 42649), (Start: 83 @42694 has 202 MA's), (Start: 101 @42727 has 3 MA's), (176, 42994), (178, 42997), (195, 43039),

Gene: OlympiaSaint\_67 Start: 42685, Stop: 43047, Start Num: 83

Candidate Starts for OlympiaSaint\_67:

(Start: 83 @42685 has 202 MA's), (131, 42844), (176, 42985), (178, 42988), (195, 43030),

Gene: Optimus\_113 Start: 65945, Stop: 66277, Start Num: 92

Candidate Starts for Optimus\_113:

(Start: 92 @65945 has 24 MA's), (111, 66014), (139, 66104), (140, 66107), (154, 66173),

Gene: Ovechkin\_65 Start: 42688, Stop: 43050, Start Num: 83

Candidate Starts for Ovechkin\_65:

(Start: 83 @42688 has 202 MA's), (176, 42988), (178, 42991), (195, 43033),

Gene: OwlsT2W\_65 Start: 42020, Stop: 42376, Start Num: 83

Candidate Starts for OwlsT2W\_65:

(Start: 83 @42020 has 202 MA's), (131, 42179), (176, 42320),

Gene: PHappiness\_61 Start: 41273, Stop: 41629, Start Num: 83

Candidate Starts for PHappiness\_61:

(45, 41168), (48, 41174), (66, 41228), (Start: 83 @41273 has 202 MA's), (Start: 101 @41306 has 3 MA's), (146, 41477), (176, 41573), (178, 41576),

Gene: PMC\_62 Start: 42410, Stop: 42766, Start Num: 83  
Candidate Starts for PMC\_62:  
(Start: 83 @42410 has 202 MA's), (176, 42710), (178, 42713),

Gene: PR\_52 Start: 44447, Stop: 44788, Start Num: 82  
Candidate Starts for PR\_52:  
(Start: 82 @44447 has 16 MA's), (106, 44501), (110, 44516), (113, 44534), (133, 44600), (140, 44618), (151, 44672), (168, 44717), (176, 44738), (182, 44762), (184, 44765),

Gene: Pacc40\_59 Start: 40742, Stop: 41104, Start Num: 83  
Candidate Starts for Pacc40\_59:  
(43, 40625), (Start: 83 @40742 has 202 MA's), (131, 40901), (176, 41042), (195, 41087),

Gene: Phabuloso\_75 Start: 43819, Stop: 44166, Start Num: 93  
Candidate Starts for Phabuloso\_75:  
(50, 43705), (78, 43795), (Start: 93 @43819 has 15 MA's), (Start: 101 @43840 has 3 MA's), (105, 43858), (106, 43867), (123, 43942), (133, 43975), (140, 43993), (153, 44056), (154, 44059), (166, 44089), (178, 44119), (189, 44146), (195, 44158),

Gene: Phalconet\_63 Start: 40623, Stop: 40985, Start Num: 83  
Candidate Starts for Phalconet\_63:  
(Start: 83 @40623 has 202 MA's), (176, 40923), (178, 40926), (195, 40968),

Gene: Phanphagia\_61 Start: 42234, Stop: 42596, Start Num: 83  
Candidate Starts for Phanphagia\_61:  
(Start: 83 @42234 has 202 MA's), (176, 42534), (178, 42537), (195, 42579),

Gene: Phatniss\_63 Start: 41806, Stop: 42168, Start Num: 83  
Candidate Starts for Phatniss\_63:  
(Start: 83 @41806 has 202 MA's), (131, 41965), (176, 42106), (178, 42109), (195, 42151),

Gene: PhesterPhotato\_66 Start: 41443, Stop: 41799, Start Num: 83  
Candidate Starts for PhesterPhotato\_66:  
(Start: 83 @41443 has 202 MA's), (131, 41602), (176, 41743), (178, 41746),

Gene: Philus\_69 Start: 43883, Stop: 44239, Start Num: 83  
Candidate Starts for Philus\_69:  
(43, 43766), (Start: 83 @43883 has 202 MA's), (137, 44057), (176, 44183), (178, 44186), (195, 44222),

Gene: PhluffyCoco\_30 Start: 20823, Stop: 20503, Start Num: 101  
Candidate Starts for PhluffyCoco\_30:  
(2, 21258), (20, 21108), (58, 20913), (Start: 84 @20856 has 6 MA's), (Start: 101 @20823 has 3 MA's), (120, 20727),

Gene: Phoebus\_124 Start: 70535, Stop: 70867, Start Num: 97  
Candidate Starts for Phoebus\_124:  
(Start: 97 @70535 has 14 MA's), (121, 70646), (128, 70670), (185, 70850),

Gene: Phonegingi\_41 Start: 25666, Stop: 26043, Start Num: 85  
Candidate Starts for Phonegingi\_41:

(Start: 85 @25666 has 8 MA's), (109, 25729), (115, 25756), (154, 25903), (163, 25930), (170, 25936), (180, 25966), (205, 26032),

Gene: Pickles13\_40 Start: 25930, Stop: 26307, Start Num: 85

Candidate Starts for Pickles13\_40:

(Start: 85 @25930 has 8 MA's), (115, 26020), (163, 26194), (170, 26200), (177, 26221), (205, 26296),

Gene: Pippy\_64 Start: 41724, Stop: 42086, Start Num: 83

Candidate Starts for Pippy\_64:

(Start: 83 @41724 has 202 MA's), (131, 41883), (137, 41898), (176, 42024), (195, 42069),

Gene: Pitbull\_52 Start: 29779, Stop: 30105, Start Num: 94

Candidate Starts for Pitbull\_52:

(45, 29674), (94, 29779), (120, 29884), (158, 30016),

Gene: Plumbus\_68 Start: 42573, Stop: 42935, Start Num: 83

Candidate Starts for Plumbus\_68:

(Start: 83 @42573 has 202 MA's), (176, 42873), (178, 42876), (195, 42918),

Gene: Pointis\_80 Start: 49894, Stop: 49568, Start Num: 93

Candidate Starts for Pointis\_80:

(Start: 93 @49894 has 15 MA's), (Start: 103 @49864 has 1 MA's), (104, 49861), (118, 49795), (141, 49750), (146, 49726), (156, 49672), (172, 49636), (192, 49585),

Gene: Polka\_31 Start: 21366, Stop: 21013, Start Num: 80

Candidate Starts for Polka\_31:

(35, 21492), (44, 21453), (Start: 80 @21366 has 10 MA's), (120, 21237), (134, 21192), (168, 21072),

Gene: Polka14\_64 Start: 42337, Stop: 42693, Start Num: 83

Candidate Starts for Polka14\_64:

(45, 42232), (48, 42238), (66, 42292), (Start: 83 @42337 has 202 MA's), (Start: 101 @42370 has 3 MA's), (146, 42541), (176, 42637), (178, 42640),

Gene: Pollywog\_66 Start: 43003, Stop: 43359, Start Num: 83

Candidate Starts for Pollywog\_66:

(Start: 83 @43003 has 202 MA's), (131, 43162), (176, 43303), (178, 43306),

Gene: PopTart\_59 Start: 40248, Stop: 40610, Start Num: 83

Candidate Starts for PopTart\_59:

(Start: 83 @40248 has 202 MA's), (176, 40548), (178, 40551), (195, 40593),

Gene: Pound\_112 Start: 66568, Stop: 66897, Start Num: 92

Candidate Starts for Pound\_112:

(Start: 92 @66568 has 24 MA's), (111, 66637), (154, 66796), (186, 66880),

Gene: Priscilla\_65 Start: 42485, Stop: 42847, Start Num: 83

Candidate Starts for Priscilla\_65:

(Start: 83 @42485 has 202 MA's), (137, 42659), (176, 42785), (195, 42830),

Gene: Pureglobe5\_83 Start: 50341, Stop: 50015, Start Num: 87

Candidate Starts for Pureglobe5\_83:

(53, 50434), (Start: 87 @50341 has 1 MA's), (Start: 103 @50311 has 1 MA's), (104, 50308), (118, 50242), (141, 50197), (146, 50173), (156, 50119), (172, 50083), (192, 50032),

Gene: QuickMath\_69 Start: 44476, Stop: 44817, Start Num: 83

Candidate Starts for QuickMath\_69:

(Start: 83 @44476 has 202 MA's), (176, 44776), (178, 44779),

Gene: Quico\_73 Start: 43794, Stop: 44156, Start Num: 83

Candidate Starts for Quico\_73:

(Start: 83 @43794 has 202 MA's), (176, 44094), (178, 44097), (195, 44139),

Gene: Radiance\_64 Start: 41901, Stop: 42263, Start Num: 83

Candidate Starts for Radiance\_64:

(Start: 83 @41901 has 202 MA's), (131, 42060), (176, 42201), (178, 42204), (195, 42246),

Gene: Ramsey\_64 Start: 42214, Stop: 42576, Start Num: 83

Candidate Starts for Ramsey\_64:

(Start: 83 @42214 has 202 MA's), (131, 42373), (176, 42514), (195, 42559),

Gene: Ranunculus\_78 Start: 52647, Stop: 52321, Start Num: 93

Candidate Starts for Ranunculus\_78:

(Start: 93 @52647 has 15 MA's), (Start: 103 @52617 has 1 MA's), (118, 52548), (141, 52503), (146, 52479), (172, 52389),

Gene: RedBird\_64 Start: 42140, Stop: 42502, Start Num: 83

Candidate Starts for RedBird\_64:

(45, 42035), (48, 42041), (66, 42095), (Start: 83 @42140 has 202 MA's), (Start: 101 @42173 has 3 MA's), (146, 42344), (176, 42440), (178, 42443), (195, 42485),

Gene: RedFox\_30 Start: 20869, Stop: 20516, Start Num: 84

Candidate Starts for RedFox\_30:

(2, 21271), (20, 21121), (58, 20926), (Start: 84 @20869 has 6 MA's), (Start: 101 @20836 has 3 MA's), (120, 20740),

Gene: Redno2\_116 Start: 66004, Stop: 66333, Start Num: 92

Candidate Starts for Redno2\_116:

(Start: 92 @66004 has 24 MA's), (111, 66073), (139, 66163), (140, 66166), (154, 66232), (186, 66316),

Gene: Renaud18\_75 Start: 44207, Stop: 44563, Start Num: 83

Candidate Starts for Renaud18\_75:

(Start: 83 @44207 has 202 MA's), (131, 44366), (176, 44507),

Gene: Renna12\_29 Start: 20890, Stop: 20534, Start Num: 84

Candidate Starts for Renna12\_29:

(Start: 84 @20890 has 6 MA's), (Start: 101 @20857 has 3 MA's), (120, 20761), (168, 20596),

Gene: Rialto\_70 Start: 44435, Stop: 44797, Start Num: 83

Candidate Starts for Rialto\_70:

(Start: 83 @44435 has 202 MA's), (176, 44735), (178, 44738), (195, 44780),

Gene: Rita\_66 Start: 40513, Stop: 40875, Start Num: 83

Candidate Starts for Rita\_66:

(Start: 83 @40513 has 202 MA's), (131, 40672), (176, 40813), (195, 40858),

Gene: RitaG\_61 Start: 41618, Stop: 41974, Start Num: 83  
Candidate Starts for RitaG\_61:  
(45, 41513), (48, 41519), (66, 41573), (Start: 83 @41618 has 202 MA's), (Start: 101 @41651 has 3 MA's), (146, 41822), (176, 41918), (178, 41921),

Gene: Rizwana\_65 Start: 46684, Stop: 46358, Start Num: 93  
Candidate Starts for Rizwana\_65:  
(Start: 93 @46684 has 15 MA's), (Start: 103 @46654 has 1 MA's), (104, 46651), (172, 46426),

Gene: Rockne\_66 Start: 42422, Stop: 42778, Start Num: 83  
Candidate Starts for Rockne\_66:  
(Start: 83 @42422 has 202 MA's), (176, 42722), (178, 42725),

Gene: RockyHorror\_66 Start: 41564, Stop: 41926, Start Num: 83  
Candidate Starts for RockyHorror\_66:  
(Start: 83 @41564 has 202 MA's), (176, 41864), (195, 41909),

Gene: Ronaldo\_98 Start: 49040, Stop: 49366, Start Num: 98  
Candidate Starts for Ronaldo\_98:  
(Start: 98 @49040 has 4 MA's), (116, 49121), (146, 49205), (153, 49244), (171, 49283),

Gene: Rose5\_66 Start: 45488, Stop: 45859, Start Num: 96  
Candidate Starts for Rose5\_66:  
(Start: 96 @45488 has 5 MA's), (114, 45566), (154, 45713), (178, 45776), (206, 45851),

Gene: Royals2015\_68 Start: 42421, Stop: 42777, Start Num: 83  
Candidate Starts for Royals2015\_68:  
(Start: 83 @42421 has 202 MA's), (Start: 103 @42463 has 1 MA's), (131, 42580), (176, 42721),

Gene: Ruby\_61 Start: 41693, Stop: 42055, Start Num: 83  
Candidate Starts for Ruby\_61:  
(Start: 83 @41693 has 202 MA's), (176, 41993), (195, 42038),

Gene: SG4\_62 Start: 41300, Stop: 41665, Start Num: 83  
Candidate Starts for SG4\_62:  
(Start: 83 @41300 has 202 MA's), (176, 41600),

Gene: Saal\_67 Start: 43437, Stop: 43799, Start Num: 83  
Candidate Starts for Saal\_67:  
(Start: 83 @43437 has 202 MA's), (131, 43596), (176, 43737), (178, 43740), (195, 43782),

Gene: Sandalphon\_66 Start: 42944, Stop: 43306, Start Num: 83  
Candidate Starts for Sandalphon\_66:  
(43, 42827), (Start: 83 @42944 has 202 MA's), (131, 43103), (176, 43244), (195, 43289),

Gene: Sarma624\_64 Start: 39148, Stop: 39510, Start Num: 83  
Candidate Starts for Sarma624\_64:  
(Start: 83 @39148 has 202 MA's), (131, 39307), (146, 39352), (176, 39448), (178, 39451), (195, 39493),

Gene: Sassafras\_64 Start: 42458, Stop: 42820, Start Num: 83  
Candidate Starts for Sassafras\_64:



(45, 42353), (48, 42359), (66, 42413), (Start: 83 @42458 has 202 MA's), (Start: 101 @42491 has 3 MA's), (146, 42662), (176, 42758), (178, 42761), (195, 42803),

Gene: SassyB\_59 Start: 40248, Stop: 40610, Start Num: 83  
Candidate Starts for SassyB\_59:  
(Start: 83 @40248 has 202 MA's), (176, 40548), (178, 40551), (195, 40593),

Gene: Schmidt\_45 Start: 30353, Stop: 30685, Start Num: 86  
Candidate Starts for Schmidt\_45:  
(39, 30221), (51, 30251), (65, 30290), (Start: 86 @30353 has 10 MA's), (102, 30386), (123, 30476), (140, 30527), (174, 30644), (178, 30650), (182, 30671),

Gene: Scottish\_64 Start: 42414, Stop: 42776, Start Num: 83  
Candidate Starts for Scottish\_64:  
(45, 42309), (48, 42315), (66, 42369), (Start: 83 @42414 has 202 MA's), (Start: 101 @42447 has 3 MA's), (176, 42714), (178, 42717), (195, 42759),

Gene: Seabastian\_71 Start: 45319, Stop: 45681, Start Num: 83  
Candidate Starts for Seabastian\_71:  
(Start: 83 @45319 has 202 MA's), (146, 45523), (176, 45619), (195, 45664),

Gene: Seagreen\_64 Start: 41603, Stop: 41965, Start Num: 83  
Candidate Starts for Seagreen\_64:  
(Start: 83 @41603 has 202 MA's), (176, 41903), (178, 41906), (195, 41948),

Gene: Sephiroth\_73 Start: 45931, Stop: 46353, Start Num: 57  
Candidate Starts for Sephiroth\_73:  
(Start: 57 @45931 has 2 MA's), (154, 46252),

Gene: Shauna1\_63 Start: 42143, Stop: 42505, Start Num: 83  
Candidate Starts for Shauna1\_63:  
(Start: 83 @42143 has 202 MA's), (176, 42443), (178, 42446), (195, 42488),

Gene: ShiLan\_64 Start: 42432, Stop: 42788, Start Num: 83  
Candidate Starts for ShiLan\_64:  
(Start: 83 @42432 has 202 MA's), (131, 42591), (176, 42732), (178, 42735),

Gene: ShowerHandel\_68 Start: 42396, Stop: 42758, Start Num: 83  
Candidate Starts for ShowerHandel\_68:  
(Start: 83 @42396 has 202 MA's), (131, 42555), (137, 42570), (176, 42696), (195, 42741),

Gene: SiSi\_63 Start: 41202, Stop: 41558, Start Num: 83  
Candidate Starts for SiSi\_63:  
(Start: 83 @41202 has 202 MA's), (176, 41502), (178, 41505),

Gene: SilentRX\_62 Start: 45416, Stop: 45102, Start Num: 93  
Candidate Starts for SilentRX\_62:  
(35, 45581), (42, 45545), (Start: 93 @45416 has 15 MA's), (130, 45290), (172, 45158), (177, 45149),

Gene: Soos\_87 Start: 57034, Stop: 57414, Start Num: 80  
Candidate Starts for Soos\_87:  
(17, 56746), (26, 56821), (37, 56908), (Start: 80 @57034 has 10 MA's), (159, 57295), (163, 57304), (173, 57328), (176, 57334), (193, 57376),

Gene: Soul22\_71 Start: 43477, Stop: 43839, Start Num: 83  
Candidate Starts for Soul22\_71:  
(Start: 83 @43477 has 202 MA's), (131, 43636), (176, 43777), (178, 43780), (195, 43822),

Gene: Spartacus\_67 Start: 42463, Stop: 42825, Start Num: 83  
Candidate Starts for Spartacus\_67:  
(Start: 83 @42463 has 202 MA's), (176, 42763), (178, 42766), (195, 42808),

Gene: Spikelee\_72 Start: 44062, Stop: 44424, Start Num: 83  
Candidate Starts for Spikelee\_72:  
(Start: 83 @44062 has 202 MA's), (176, 44362), (195, 44407),

Gene: Splinter\_51 Start: 33608, Stop: 33991, Start Num: 86  
Candidate Starts for Splinter\_51:  
(Start: 86 @33608 has 10 MA's), (123, 33731), (179, 33914), (196, 33956),

Gene: Spooky\_68 Start: 42098, Stop: 42427, Start Num: 97  
Candidate Starts for Spooky\_68:  
(Start: 97 @42098 has 14 MA's), (180, 42377), (191, 42407), (197, 42419),

Gene: Spoonbill\_63 Start: 41578, Stop: 41934, Start Num: 83  
Candidate Starts for Spoonbill\_63:  
(45, 41473), (48, 41479), (66, 41533), (Start: 83 @41578 has 202 MA's), (Start: 101 @41611 has 3 MA's), (146, 41782), (176, 41878), (178, 41881),

Gene: Squint\_116 Start: 64970, Stop: 65290, Start Num: 92  
Candidate Starts for Squint\_116:  
(Start: 92 @64970 has 24 MA's), (111, 65039), (123, 65081), (154, 65198),

Gene: Squirty\_67 Start: 43396, Stop: 43758, Start Num: 83  
Candidate Starts for Squirty\_67:  
(Start: 83 @43396 has 202 MA's), (Start: 101 @43429 has 3 MA's), (146, 43600), (176, 43696), (178, 43699), (195, 43741),

Gene: StAnnes\_63 Start: 42321, Stop: 42683, Start Num: 83  
Candidate Starts for StAnnes\_63:  
(Start: 83 @42321 has 202 MA's), (176, 42621), (178, 42624), (195, 42666),

Gene: Stap\_63 Start: 42347, Stop: 42709, Start Num: 83  
Candidate Starts for Stap\_63:  
(45, 42242), (48, 42248), (66, 42302), (Start: 83 @42347 has 202 MA's), (Start: 101 @42380 has 3 MA's), (131, 42506), (176, 42647), (178, 42650), (195, 42692),

Gene: Starcevich\_65 Start: 41944, Stop: 42300, Start Num: 83  
Candidate Starts for Starcevich\_65:  
(Start: 83 @41944 has 202 MA's), (176, 42244), (178, 42247),

Gene: Sting\_92 Start: 57485, Stop: 57853, Start Num: 88  
Candidate Starts for Sting\_92:  
(17, 57185), (26, 57260), (37, 57347), (Start: 80 @57473 has 10 MA's), (Start: 88 @57485 has 3 MA's), (159, 57734), (163, 57743), (173, 57767), (176, 57773), (193, 57815),

Gene: Strokeseat\_61 Start: 39911, Stop: 40273, Start Num: 83  
Candidate Starts for Strokeseat\_61:  
(Start: 83 @39911 has 202 MA's), (176, 40211), (178, 40214), (195, 40256),

Gene: SuperGrey\_69 Start: 44472, Stop: 44828, Start Num: 83  
Candidate Starts for SuperGrey\_69:  
(Start: 83 @44472 has 202 MA's), (131, 44631), (176, 44772), (178, 44775), (195, 44811),

Gene: Superphikiman\_115 Start: 64061, Stop: 64381, Start Num: 92  
Candidate Starts for Superphikiman\_115:  
(Start: 92 @64061 has 24 MA's), (111, 64130), (123, 64172), (154, 64289),

Gene: SwagPigglett\_70 Start: 44704, Stop: 45066, Start Num: 83  
Candidate Starts for SwagPigglett\_70:  
(43, 44587), (Start: 83 @44704 has 202 MA's), (131, 44863), (176, 45004), (195, 45049),

Gene: Syleon\_75 Start: 45869, Stop: 46291, Start Num: 57  
Candidate Starts for Syleon\_75:  
(Start: 57 @45869 has 2 MA's), (59, 45875), (154, 46190),

Gene: TChen\_67 Start: 44519, Stop: 44881, Start Num: 83  
Candidate Starts for TChen\_67:  
(Start: 83 @44519 has 202 MA's), (176, 44819), (178, 44822), (195, 44864),

Gene: TDanisky\_72 Start: 43265, Stop: 43606, Start Num: 83  
Candidate Starts for TDanisky\_72:  
(Start: 83 @43265 has 202 MA's), (131, 43424),

Gene: TZGordon\_53 Start: 32954, Stop: 33337, Start Num: 86  
Candidate Starts for TZGordon\_53:  
(Start: 86 @32954 has 10 MA's), (123, 33077), (179, 33260), (196, 33302),

Gene: Taj\_70 Start: 44021, Stop: 44383, Start Num: 83  
Candidate Starts for Taj\_70:  
(73, 44006), (Start: 83 @44021 has 202 MA's), (176, 44321), (178, 44324), (195, 44366),

Gene: Tank\_65 Start: 46679, Stop: 46338, Start Num: 93  
Candidate Starts for Tank\_65:  
(Start: 93 @46679 has 15 MA's), (115, 46592), (172, 46421), (187, 46379),

Gene: Taptic\_52 Start: 43843, Stop: 44184, Start Num: 82  
Candidate Starts for Taptic\_52:  
(Start: 82 @43843 has 16 MA's), (106, 43897), (110, 43912), (113, 43930), (133, 43996), (140, 44014), (151, 44068), (168, 44113), (176, 44134), (182, 44158), (184, 44161),

Gene: Teng\_62 Start: 33271, Stop: 33660, Start Num: 82  
Candidate Starts for Teng\_62:  
(24, 33037), (Start: 82 @33271 has 16 MA's), (120, 33397), (144, 33460), (151, 33505), (193, 33622), (194, 33625),

Gene: Terij\_52 Start: 35668, Stop: 36003, Start Num: 82  
Candidate Starts for Terij\_52:

(4, 35263), (9, 35347), (10, 35350), (12, 35356), (18, 35413), (19, 35416), (56, 35608), (76, 35656), (78, 35659), (Start: 82 @35668 has 16 MA's), (119, 35785), (125, 35803), (163, 35935), (179, 35968),

Gene: ThetaBob\_73 Start: 44248, Stop: 44604, Start Num: 83

Candidate Starts for ThetaBob\_73:

(46, 44137), (Start: 83 @44248 has 202 MA's), (176, 44548), (178, 44551),

Gene: Thibault\_106 Start: 63336, Stop: 63668, Start Num: 97

Candidate Starts for Thibault\_106:

(Start: 97 @63336 has 14 MA's), (121, 63447), (128, 63471), (185, 63651),

Gene: ThreeRngTarjay\_118 Start: 68893, Stop: 69225, Start Num: 92

Candidate Starts for ThreeRngTarjay\_118:

(Start: 92 @68893 has 24 MA's), (111, 68962), (154, 69121),

Gene: TinaLin\_50 Start: 32410, Stop: 32790, Start Num: 86

Candidate Starts for TinaLin\_50:

(Start: 86 @32410 has 10 MA's), (107, 32473), (123, 32533), (154, 32650), (169, 32689), (179, 32716), (196, 32758),

Gene: Tonitrus\_70 Start: 51892, Stop: 52272, Start Num: 90

Candidate Starts for Tonitrus\_70:

(Start: 90 @51892 has 1 MA's), (133, 52051), (137, 52063), (154, 52135),

Gene: Totinger\_68 Start: 41519, Stop: 41875, Start Num: 83

Candidate Starts for Totinger\_68:

(Start: 83 @41519 has 202 MA's), (131, 41678), (176, 41819), (178, 41822), (195, 41858),

Gene: Tweety\_65 Start: 43115, Stop: 43471, Start Num: 83

Candidate Starts for Tweety\_65:

(Start: 83 @43115 has 202 MA's), (131, 43274), (137, 43289), (176, 43415), (178, 43418), (195, 43454),

Gene: Tyson\_67 Start: 45417, Stop: 45785, Start Num: 96

Candidate Starts for Tyson\_67:

(Start: 96 @45417 has 5 MA's), (104, 45444), (118, 45513), (126, 45534), (135, 45558), (154, 45639), (178, 45702), (206, 45777),

Gene: UncleRicky\_64 Start: 42054, Stop: 42416, Start Num: 83

Candidate Starts for UncleRicky\_64:

(Start: 83 @42054 has 202 MA's), (131, 42213), (176, 42354), (178, 42357), (195, 42399),

Gene: VRedHorse\_65 Start: 41397, Stop: 41759, Start Num: 83

Candidate Starts for VRedHorse\_65:

(Start: 83 @41397 has 202 MA's), (Start: 101 @41430 has 3 MA's), (131, 41556), (176, 41697), (178, 41700), (195, 41742),

Gene: ValentiniPuff\_101 Start: 57583, Stop: 57990, Start Num: 82

Candidate Starts for ValentiniPuff\_101:

(Start: 82 @57583 has 16 MA's), (102, 57622), (Start: 103 @57628 has 1 MA's), (128, 57748), (168, 57883), (198, 57961),

Gene: VanLee\_116 Start: 60612, Stop: 60974, Start Num: 95

Candidate Starts for VanLee\_116:

(Start: 95 @60612 has 1 MA's), (167, 60858), (182, 60903), (190, 60918), (194, 60927), (202, 60942),

Gene: Velveteen\_61 Start: 39148, Stop: 39510, Start Num: 83

Candidate Starts for Velveteen\_61:

(Start: 83 @39148 has 202 MA's), (131, 39307), (146, 39352), (176, 39448), (178, 39451), (195, 39493),

Gene: Vendetta\_51 Start: 33608, Stop: 33991, Start Num: 86

Candidate Starts for Vendetta\_51:

(Start: 86 @33608 has 10 MA's), (123, 33731), (179, 33914), (196, 33956),

Gene: Veteran\_62 Start: 40798, Stop: 41154, Start Num: 83

Candidate Starts for Veteran\_62:

(Start: 83 @40798 has 202 MA's), (146, 41002), (176, 41098), (178, 41101), (195, 41137),

Gene: Volt\_99 Start: 49204, Stop: 49530, Start Num: 98

Candidate Starts for Volt\_99:

(Start: 98 @49204 has 4 MA's), (116, 49285), (146, 49369), (153, 49408), (171, 49447),

Gene: Wachhund\_66 Start: 42028, Stop: 42390, Start Num: 83

Candidate Starts for Wachhund\_66:

(Start: 83 @42028 has 202 MA's), (176, 42328), (195, 42373),

Gene: Wamburgexpress\_66 Start: 45044, Stop: 45415, Start Num: 96

Candidate Starts for Wamburgexpress\_66:

(Start: 96 @45044 has 5 MA's), (114, 45122), (154, 45269), (178, 45332), (206, 45407),

Gene: Wanda\_122 Start: 66271, Stop: 66600, Start Num: 92

Candidate Starts for Wanda\_122:

(Start: 92 @66271 has 24 MA's), (111, 66340), (117, 66358), (139, 66430), (140, 66433), (154, 66499), (186, 66583),

Gene: Warren\_41 Start: 25673, Stop: 26050, Start Num: 85

Candidate Starts for Warren\_41:

(Start: 85 @25673 has 8 MA's), (109, 25736), (115, 25763), (163, 25937), (170, 25943), (177, 25964), (205, 26039),

Gene: Wee\_70 Start: 44097, Stop: 44459, Start Num: 83

Candidate Starts for Wee\_70:

(73, 44082), (Start: 83 @44097 has 202 MA's), (176, 44397), (178, 44400), (195, 44442),

Gene: Weirido19\_91 Start: 53190, Stop: 53612, Start Num: 61

Candidate Starts for Weirido19\_91:

(61, 53190), (110, 53316), (145, 53445), (159, 53508), (177, 53550), (199, 53604),

Gene: Whatsapiecost\_65 Start: 41324, Stop: 41686, Start Num: 83

Candidate Starts for Whatsapiecost\_65:

(Start: 83 @41324 has 202 MA's), (Start: 101 @41357 has 3 MA's), (176, 41624), (178, 41627), (195, 41669),

Gene: Whouxphf\_62 Start: 42311, Stop: 42673, Start Num: 83

Candidate Starts for Whouxphf\_62:

(Start: 83 @42311 has 202 MA's), (176, 42611), (195, 42656),

Gene: Wilde\_67 Start: 46978, Stop: 46637, Start Num: 93

Candidate Starts for Wilde\_67:

(Start: 93 @46978 has 15 MA's), (115, 46891), (172, 46720), (187, 46678),

Gene: WillSterrel\_66 Start: 43580, Stop: 43942, Start Num: 83

Candidate Starts for WillSterrel\_66:

(Start: 83 @43580 has 202 MA's), (176, 43880), (178, 43883), (195, 43925),

Gene: Wyatt2\_67 Start: 45415, Stop: 45783, Start Num: 96

Candidate Starts for Wyatt2\_67:

(Start: 96 @45415 has 5 MA's), (104, 45442), (118, 45511), (126, 45532), (135, 45556), (154, 45637),  
(178, 45700), (206, 45775),

Gene: XFactor\_63 Start: 40832, Stop: 41194, Start Num: 83

Candidate Starts for XFactor\_63:

(Start: 83 @40832 has 202 MA's), (176, 41132), (195, 41177),

Gene: Yorick\_64 Start: 42551, Stop: 42913, Start Num: 83

Candidate Starts for Yorick\_64:

(Start: 83 @42551 has 202 MA's), (131, 42710), (176, 42851), (195, 42896),

Gene: Yoshi\_81 Start: 44512, Stop: 44874, Start Num: 83

Candidate Starts for Yoshi\_81:

(47, 44401), (Start: 83 @44512 has 202 MA's), (176, 44812), (178, 44815), (195, 44857),

Gene: Zapner\_79 Start: 44176, Stop: 44517, Start Num: 83

Candidate Starts for Zapner\_79:

(73, 44161), (Start: 83 @44176 has 202 MA's), (176, 44476), (178, 44479),

Gene: Zelink\_117 Start: 68840, Stop: 69172, Start Num: 92

Candidate Starts for Zelink\_117:

(Start: 92 @68840 has 24 MA's), (111, 68909), (154, 69068),

Gene: Zerg\_65 Start: 41676, Stop: 42038, Start Num: 83

Candidate Starts for Zerg\_65:

(Start: 83 @41676 has 202 MA's), (176, 41976), (195, 42021),

Gene: Zizzle\_69 Start: 44029, Stop: 44391, Start Num: 83

Candidate Starts for Zizzle\_69:

(Start: 83 @44029 has 202 MA's), (131, 44188), (137, 44203), (176, 44329), (195, 44374),