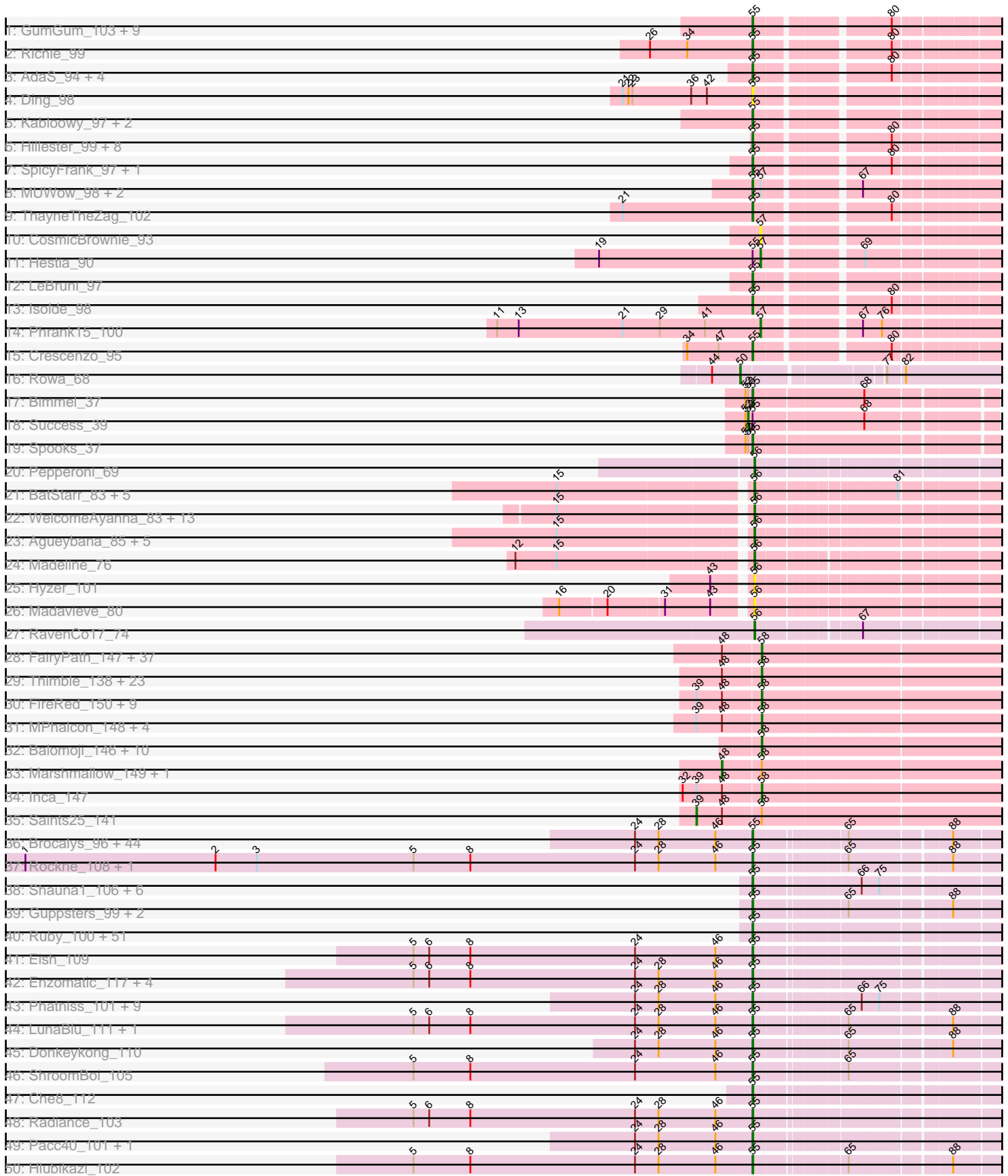
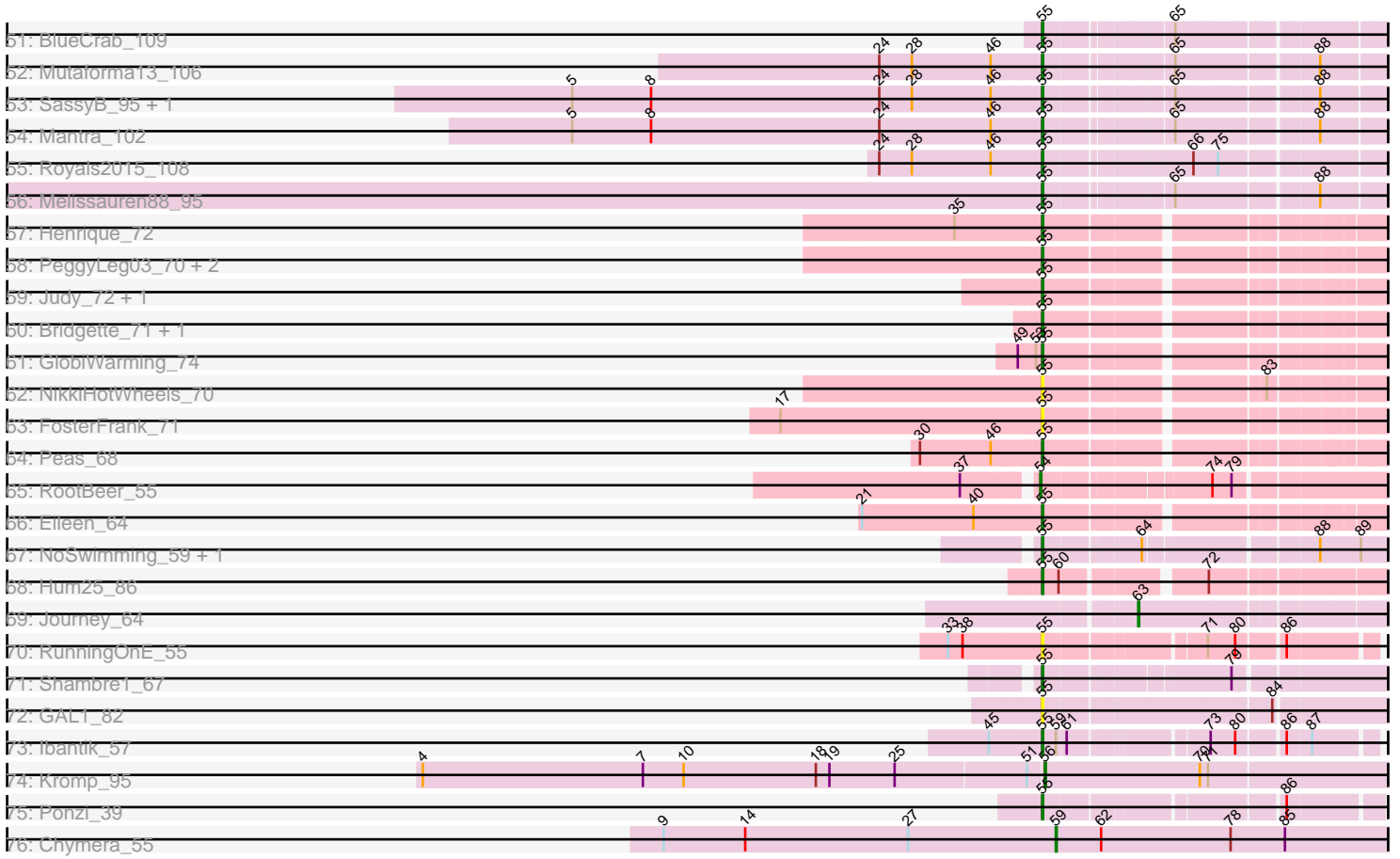


Pham 303015



Pham 303015



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 303015 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303015 has 334 members, 21 are drafts.

Phages represented in each track:

- Track 1 : GumGum\_103, Globfish\_96, BlueShadow\_92, Sashimi\_96, Lasker\_98, BasketStar\_96, Lawnathon\_100, SonDevVon\_104, CookieBear\_95, Faja\_96
- Track 2 : Richie\_99
- Track 3 : AdaS\_94, JellyBread\_95, Windest\_101, Raphaella\_96, YoungHarleezy\_97
- Track 4 : Ding\_98
- Track 5 : Kabloowy\_97, DarwinJr\_98, MidnightRain\_102
- Track 6 : Hillester\_99, Auxilium\_93, MaterMagnus\_96, BillyTP\_96, Tiff81\_90, EvePickles\_96, BenchScraper\_96, RadFad\_100, MurphyJoseph\_92
- Track 7 : SpicyFrank\_97, Seahorse\_101
- Track 8 : MUWow\_98, Mapleville\_87, Anekin\_95
- Track 9 : ThayneTheZag\_102
- Track 10 : CosmicBrownie\_93
- Track 11 : Hestia\_90
- Track 12 : LeBruni\_97
- Track 13 : Isolde\_98
- Track 14 : Phrank15\_100
- Track 15 : Crescenzo\_95
- Track 16 : Rowa\_68
- Track 17 : Bimmel\_37
- Track 18 : Success\_39
- Track 19 : Spooks\_37
- Track 20 : Pepperoni\_69
- Track 21 : BatStarr\_83, Nymphadora\_84, Bosnia\_82, Herod\_84, TimTam\_84, Eviarto\_84
- Track 22 : WelcomeAyanna\_83, Trumpet\_79, Zameen\_79, Maridalia\_83, Bunnybear\_78, Eudoria\_79, Antonio\_78, Manasvini\_81, Kita\_80, Suscepit\_79, Polly\_76, Neobush\_81, ThankyouJordi\_83, Tayonia\_79
- Track 23 : Agueybana\_85, Zirinka\_79, AlumE\_82, BoyNamedSue\_82, Bialota\_79, SushiChef\_82
- Track 24 : Madeline\_76
- Track 25 : Hyzer\_101
- Track 26 : Madavieve\_80
- Track 27 : RavenCo17\_74
- Track 28 : FairyPath\_147, Icee\_146, Brewer\_142, Cactus\_154, Sotrice96\_151, BadStone\_145, SophKB\_144, Gemini\_151, Rimmer\_145, Elite2014\_146, Goldilocks\_152, Youngblood\_150, Phaux\_147, Tuco\_150, AmericanBeauty\_149, HuffyPuff\_148, IHOP\_151, ABCat\_145, Willez\_144, Kanye\_142, Easy2Say\_148,

Kimchi\_151, Holt\_152, Bench\_149, Lilpickle\_146, RiverMonster\_146, Dumbo\_149, StolenFromERC\_148, Adnama\_150, Gage\_137, ChosenOne\_147, Stank\_150, Maxxinista\_148, GoldenSpark\_150, Quallification\_146, Wiggin\_149, Argent26\_150, Contagion\_142

- Track 29 : Thimble\_138, BigBubba\_149, Myrale\_146, ShereKhan\_145, Murphy\_148, OrionPax\_144, Miniwave\_140, DoctorDiddles\_145, Teaspoon\_130, MadamMonkfish\_148, NoSleep\_145, NonchalantPear\_146, Cookies\_148, JeTaime\_144, Stark\_143, Emmina\_148, TBrady12\_151, Paperbeatsrock\_144, ShamWow\_145, Phaja\_151, Tarkin\_144, Nimrod\_145, Phrux\_143, Buck\_148
- Track 30 : FireRed\_150, Thresher\_148, Palpatine\_143, Highbury\_141, Manda\_149, Nala\_149, PhatBacter\_150, Command613\_149, BaboJay\_146, Ukulele\_143
- Track 31 : MPhalcon\_148, MISSy\_147, Hopey\_144, Murica\_149, Policronamos\_145
- Track 32 : Balomoji\_146, Glexan\_150, Harella\_153, Amao\_151, Budgie\_149, Traaww1\_144, Pat3\_147, Hoonter\_148, Barbarian\_146, Asriel\_144, Flypotenuse\_142

- Track 33 : Marshmallow\_149, Czyszczonek\_146

- Track 34 : Inca\_147

- Track 35 : Saints25\_141

- Track 36 : Brocalys\_96, CaptainTrips\_107, PhesterPotato\_109, MinionDave\_103, Medindi\_110, Veteran\_94, Gorge\_103, James\_108, SuperGrey\_103, Fastidio\_108, Gandolph\_104, MilanaBonita\_98, DillTech15\_111, Filuzino\_105, Cabrinians\_101, Ms6\_107, Ardmore\_88, Rita\_104, Philus\_108, StAnnes\_110, DLane\_105, Pippy\_103, Akhila\_99, KingMidas\_105, Florinda\_117, Hamulus\_105, IbOuu\_96, EleanorGeorge\_108, SiSi\_99, FreddyB\_113, Tweety\_109, Whouxphf\_108, ShowerHandel\_107, Phalconet\_106, Krakatau\_97, Batiatus\_105, GUmble\_104, NormanBulbieJr\_102, Wee\_109, Bipolar\_106, Emma\_109, Moonbeam\_107, Kenuha5\_96, Taj\_110, Scottish\_105

- Track 37 : Rockne\_108, PMC\_104

- Track 38 : Shauna1\_106, WillSterrel\_103, Mahavrat\_98, Maravista\_102, Juniper1\_98, Phanphagia\_109, IrishSherpFalk\_105

- Track 39 : Guppsters\_99, DoRead\_108, Zizzle\_108

- Track 40 : Ruby\_100, Estave1\_112, Karhdo\_100, Mattes\_105, Clifton\_96, BodEinwohner17\_116, Llama\_111, BobaPhett\_108, Byougenkin\_101, Wachhund\_101, ByChance\_95, Ochi17\_110, DaddyRickover\_106, Jinglebell\_111, Seabastian\_111, MisterCuddles\_104, Crumble\_99, ShiLan\_107, Nimbo\_96, OldBen\_101, Sassafras\_106, Leperchaun\_106, JoeyJr\_107, KristaRAM\_113, PHappiness\_104, VRedHorse\_105, Geralt\_97, Inventum\_102, MadMen\_109, Lizziana\_105, Deb65\_97, DRBy19\_104, Jarcob\_107, Kersh\_107, OfUltron\_111, Girr\_103, Polka14\_108, RitaG\_103, SwagPigglett\_106, Ibhubesi\_103, Daenerys\_102, Priscilla\_105, Phasih\_100, Eradicator\_95, RedBird\_105, Sparkdehlily\_111, TDanisky\_112, Hades\_102, AlpineSix\_102, Spoonbill\_104, Modragons\_107, Martik\_103

- Track 41 : Eish\_109

- Track 42 : Enzomatic\_117, SeaLumen\_113, Polo2Bam\_116, NewHope4\_112, Galactic\_109

- Track 43 : Phatniss\_101, Chuckly\_102, Bubbles123\_100, Dante\_104, Zerg\_103, Llij\_99, Whatsapiecost\_99, Minnie\_99, Burwell21\_99, Sandalphon\_103

- Track 44 : LunaBlu\_111, GigiOuiOui\_99

- Track 45 : Donkeykong\_110

- Track 46 : ShroomBoi\_105

- Track 47 : Che8\_112

- Track 48 : Radiance\_103

- Track 49 : Pacc40\_101, Sabbb\_107

- Track 50 : Hlubikazi\_102
- Track 51 : BlueCrab\_109
- Track 52 : Mutaforma13\_106
- Track 53 : SassyB\_95, PopTart\_95
- Track 54 : Mantra\_102
- Track 55 : Royals2015\_108
- Track 56 : Melissauren88\_95
- Track 57 : Henrique\_72
- Track 58 : PeggyLeg03\_70, KayMoney\_68, ChuckDuck\_69
- Track 59 : Judy\_72, NidoQ\_64
- Track 60 : Bridgette\_71, Karkharias\_66
- Track 61 : GlobiWarming\_74
- Track 62 : NikkiHotWheels\_70
- Track 63 : FosterFrank\_71
- Track 64 : Peas\_68
- Track 65 : RootBeer\_55
- Track 66 : Eileen\_64
- Track 67 : NoSwimming\_59, Scotia\_58
- Track 68 : Hum25\_86
- Track 69 : Journey\_64
- Track 70 : RunningOnE\_55
- Track 71 : Shambre1\_67
- Track 72 : GAL1\_82
- Track 73 : Ibantik\_57
- Track 74 : Kromp\_95
- Track 75 : Ponzi\_39
- Track 76 : Chymera\_55

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

The start number called the most often in the published annotations is 55, it was called in 185 of the 313 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• AdaS\_94, Akhila\_99, AlpineSix\_102, Anekin\_95, Ardmore\_88, Auxilium\_93, BasketStar\_96, Batiatus\_105, BenchScraper\_96, BillyTP\_96, Bimmel\_37, Bipolar\_106, BlueCrab\_109, BlueShadow\_92, BobaPhett\_108, BodEinwohner17\_116, Bridgette\_71, Brocalys\_96, Bubbles123\_100, Burwell21\_99, ByChance\_95, Byougenkin\_101, Cabrinians\_101, CaptainTrips\_107, Che8\_112, ChuckDuck\_69, Chuckly\_102, Clifton\_96, CookieBear\_95, Crescenzo\_95, Crumble\_99, DLane\_105, DRBy19\_104, DaddyRickover\_106, Daenerys\_102, Dante\_104, DarwinJr\_98, Deb65\_97, DillTech15\_111, Ding\_98, DoRead\_108, Donkeykong\_110, Eileen\_64, Eish\_109, EleanorGeorge\_108, Emma\_109, Enzomatic\_117, Eradicator\_95, Estave1\_112, EvePickles\_96, Faja\_96, Fastidio\_108, Filuzino\_105, Florinda\_117, FosterFrank\_71, FreddyB\_113, GAL1\_82, GUmBie\_104, Galactic\_109, Gandolph\_104, Geralt\_97, GigiOuiOui\_99, Girr\_103, Globfish\_96, GlobiWarming\_74, Gorge\_103, GumGum\_103, Guppsters\_99, Hades\_102, Hamulus\_105, Henrique\_72, Hillester\_99, Hlubikazi\_102, Hum25\_86, IbOuu\_96, Ibantik\_57, Ihubesi\_103, Inventum\_102, IrishSherpFalk\_105, Isolde\_98, James\_108, Jarcob\_107, JellyBread\_95, Jinglebell\_111, JoeyJr\_107, Judy\_72,

Juniper1\_98, Kabloowy\_97, Karhdo\_100, Karkharias\_66, KayMoney\_68, Kenuha5\_96, Kersh\_107, KingMidas\_105, Krakatau\_97, KristaRAM\_113, Lasker\_98, Lawnathon\_100, LeBruni\_97, Leperchaun\_106, Lizziana\_105, Llama\_111, Llij\_99, LunaBlu\_111, MUWow\_98, MadMen\_109, Mahavrat\_98, Mantra\_102, Mapleville\_87, Maravista\_102, Martik\_103, MaterMagnus\_96, Mattes\_105, Medindi\_110, Melissauren88\_95, MidnightRain\_102, MilanaBonita\_98, MinionDave\_103, Minnie\_99, MisterCuddles\_104, Modragons\_107, Moonbeam\_107, Ms6\_107, MurphyJoseph\_92, Mutaforma13\_106, NewHope4\_112, NidoQ\_64, NikkiHotWheels\_70, Nimbo\_96, NoSwimming\_59, NormanBulbieJr\_102, Ochi17\_110, OfUltron\_111, OldBen\_101, PHappiness\_104, PMC\_104, Pacc40\_101, Peas\_68, PeggyLeg03\_70, Phalconet\_106, Phanphagia\_109, Phasih\_100, Phatniss\_101, PhesterPhotato\_109, Philus\_108, Pippy\_103, Polka14\_108, Polo2Bam\_116, Ponzi\_39, PopTart\_95, Priscilla\_105, RadFad\_100, Radiance\_103, Raphaella\_96, RedBird\_105, Richie\_99, RitaG\_103, Rita\_104, Rockne\_108, Royals2015\_108, Ruby\_100, RunningOnE\_55, Sabbb\_107, Sandalphon\_103, Sashimi\_96, Sassafras\_106, SassyB\_95, Scotia\_58, Scottish\_105, SeaLumen\_113, Sebastian\_111, Seahorse\_101, Shambre1\_67, Shauna1\_106, ShiLan\_107, ShowerHandel\_107, ShroomBoi\_105, SiSi\_99, SonDevVon\_104, Sparkdehlily\_111, SpicyFrank\_97, Spooks\_37, Spoonbill\_104, StAnnes\_110, SuperGrey\_103, SwagPiggett\_106, TDanisky\_112, Taj\_110, ThayneTheZag\_102, Tiff81\_90, Tweety\_109, VRedHorse\_105, Veteran\_94, Wachhund\_101, Wee\_109, Whatsapiecost\_99, Whouxphf\_108, WillSterrel\_103, Windest\_101, YoungHarleezy\_97, Zerg\_103, Zizzle\_108,

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

- Hestia\_90, Success\_39,

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

- ABCat\_145, Adnama\_150, Agueybana\_85, AlumE\_82, Amao\_151, AmericanBeauty\_149, Antonio\_78, Argent26\_150, Asriel\_144, BaboJay\_146, BadStone\_145, Balomoji\_146, Barbarian\_146, BatStarr\_83, Bench\_149, Bialota\_79, BigBubba\_149, Bosnia\_82, BoyNamedSue\_82, Brewer\_142, Buck\_148, Budgie\_149, Bunnybear\_78, Cactus\_154, ChosenOne\_147, Chymera\_55, Command613\_149, Contagion\_142, Cookies\_148, CosmicBrownie\_93, Czyszczo1\_146, DoctorDiddles\_145, Dumbo\_149, Easy2Say\_148, Elite2014\_146, Emmina\_148, Eudoria\_79, Eviarto\_84, FairyPath\_147, FireRed\_150, Flypotenuse\_142, Gage\_137, Gemini\_151, Glexan\_150, GoldenSpark\_150, Goldilocks\_152, Harella\_153, Herod\_84, Highbury\_141, Holt\_152, Hoonter\_148, Hopey\_144, HufflyPuff\_148, Hyzer\_101, IHOP\_151, Icee\_146, Inca\_147, JeTaimie\_144, Journey\_64, Kanye\_142, Kimchi\_151, Kita\_80, Kromp\_95, Lilpickle\_146, MISSy\_147, MPhalcon\_148, MadamMonkfish\_148, Madavieve\_80, Madeline\_76, Manasvini\_81, Manda\_149, Maridalia\_83, Marshmallow\_149, Maxxinista\_148, Miniwave\_140, Murica\_149, Murphy\_148, Myrale\_146, Nala\_149, Neobush\_81, Nimrod\_145, NoSleep\_145, NonchalantPear\_146, Nymphadora\_84, OrionPax\_144, Palpatine\_143, Paperbeatsrock\_144, Pat3\_147, Pepperoni\_69, Phaja\_151, PhatBacter\_150, Paux\_147, Phrank15\_100, Phrux\_143, Policronamos\_145, Polly\_76, Quallification\_146, RavenCo17\_74, Rimmer\_145, RiverMonster\_146, RootBeer\_55, Rowa\_68, Saints25\_141, ShamWow\_145, ShereKhan\_145, SophKB\_144, Sotrice96\_151, Stank\_150, Stark\_143, StolenFromERC\_148, Suscepit\_79, SushiChef\_82, TBrady12\_151, Tarkin\_144, Tayonia\_79, Teaspoon\_130, ThankyouJordi\_83, Thimble\_138, Thresher\_148, TimTam\_84, Traaww1\_144, Trumpet\_79, Tuco\_150, Ukulele\_143, WelcomeAyanna\_83, Wiggin\_149, Willez\_144, Youngblood\_150, Zameen\_79, Zirinka\_79,

## Summary by start number:

### Start 39:

- Found in 17 of 334 ( 5.1% ) of genes in pham
- Manual Annotations of this start: 1 of 313
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Saints25\_141 (E),

### Start 48:

- Found in 81 of 334 ( 24.3% ) of genes in pham
- Manual Annotations of this start: 2 of 313
- Called 2.5% of time when present
- Phage (with cluster) where this start called: Czyszczone1\_146 (E), Marshmallow\_149 (E),

### Start 50:

- Found in 1 of 334 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 313
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rowa\_68 (BL),

### Start 53:

- Found in 4 of 334 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 313
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Success\_39 (BT),

### Start 54:

- Found in 1 of 334 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 313
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RootBeer\_55 (FA),

### Start 55:

- Found in 204 of 334 ( 61.1% ) of genes in pham
- Manual Annotations of this start: 185 of 313
- Called 99.0% of time when present
- Phage (with cluster) where this start called: AdaS\_94 (AY), Akhila\_99 (F1), AlpineSix\_102 (F1), Anekin\_95 (AY), Ardmore\_88 (F1), Auxilium\_93 (AY), BasketStar\_96 (AY), Batiatus\_105 (F1), BenchScraper\_96 (AY), BillyTP\_96 (AY), Bimmel\_37 (BT), Bipolar\_106 (F1), BlueCrab\_109 (F1), BlueShadow\_92 (AY), BobaPhett\_108 (F1), BodEinwohner17\_116 (F1), Bridgette\_71 (FA), Brocalys\_96 (F1), Bubbles123\_100 (F1), Burwell21\_99 (F1), ByChance\_95 (F1), Byougenkin\_101 (F1), Cabrinians\_101 (F1), CaptainTrips\_107 (F1), Che8\_112 (F1), ChuckDuck\_69 (FA), Chuckly\_102 (F1), Clifton\_96 (F1), CookieBear\_95 (AY), Crescenzo\_95 (AY), Crumble\_99 (F1), DLane\_105 (F1), DRBy19\_104 (F1), DaddyRickover\_106 (F1), Daenerys\_102 (F1), Dante\_104 (F1), DarwinJr\_98 (AY), Deb65\_97 (F1), DillTech15\_111 (F1), Ding\_98 (AY), DoRead\_108 (F1), Donkeykong\_110 (F1), Eileen\_64 (FA), Eish\_109 (F1), EleanorGeorge\_108 (F1), Emma\_109 (F1), Enzomatic\_117 (F1), Eradicator\_95 (F1), Estave1\_112 (F1), EvePickles\_96 (AY), Faja\_96 (AY), Fastidio\_108 (F1), Filuzino\_105 (F1), Florinda\_117 (F1), FosterFrank\_71 (FA), FreddyB\_113 (F1), GAL1\_82 (singleton), GUmble\_104 (F1),

Galactic\_109 (F1), Gandalph\_104 (F1), Geralt\_97 (F1), GigiOuiOui\_99 (F1), Girr\_103 (F1), Globfish\_96 (AY), GlobiWarming\_74 (FA), Gorge\_103 (F1), GumGum\_103 (AY), Guppsters\_99 (F1), Hades\_102 (F1), Hamulus\_105 (F1), Henrique\_72 (FA), Hillester\_99 (AY), Hlubikazi\_102 (F1), Hum25\_86 (FQ), IbOuu\_96 (F1), Ibantik\_57 (singleton), Ibhubesi\_103 (F1), Inventum\_102 (F1), IrishSherpFalk\_105 (F1), Isolde\_98 (AY), James\_108 (F1), Jarcob\_107 (F1), JellyBread\_95 (AY), Jinglebell\_111 (F1), JoeyJr\_107 (F1), Judy\_72 (FA), Juniper1\_98 (F1), Kabloowy\_97 (AY), Karhdo\_100 (F1), Karkharias\_66 (FA), KayMoney\_68 (FA), Kenuha5\_96 (F1), Kersh\_107 (F1), KingMidas\_105 (F1), Krakatau\_97 (F1), KristaRAM\_113 (F1), Lasker\_98 (AY), Lawnathon\_100 (AY), LeBruni\_97 (AY), Leperchaun\_106 (F1), Lizziana\_105 (F1), Llama\_111 (F1), Llij\_99 (F1), LunaBlu\_111 (F1), MUWow\_98 (AY), MadMen\_109 (F1), Mahavrat\_98 (F1), Mantra\_102 (F1), Mapleville\_87 (AY), Maravista\_102 (F1), Martik\_103 (F1), MaterMagnus\_96 (AY), Mattes\_105 (F1), Medindi\_110 (F1), Melissauren88\_95 (F1), MidnightRain\_102 (AY), MilanaBonita\_98 (F1), MinionDave\_103 (F1), Minnie\_99 (F1), MisterCuddles\_104 (F1), Modragons\_107 (F1), Moonbeam\_107 (F1), Ms6\_107 (F1), MurphyJoseph\_92 (AY), Mutaforma13\_106 (F1), NewHope4\_112 (F1), NidoQ\_64 (FA), NikkiHotWheels\_70 (FA), Nimbo\_96 (F1), NoSwimming\_59 (FO), NormanBulbieJr\_102 (F1), Ochi17\_110 (F1), OfUltron\_111 (F1), OldBen\_101 (F1), PHappiness\_104 (F1), PMC\_104 (F1), Pacc40\_101 (F1), Peas\_68 (FA), PeggyLeg03\_70 (FA), Phalconet\_106 (F1), Phanphagia\_109 (F1), Phasih\_100 (F1), Phatniss\_101 (F1), PhesterPhotato\_109 (F1), Philus\_108 (F1), Pippy\_103 (F1), Polka14\_108 (F1), Polo2Bam\_116 (F1), Ponzi\_39 (singleton), PopTart\_95 (F1), Priscilla\_105 (F1), RadFad\_100 (AY), Radiance\_103 (F1), Raphaella\_96 (AY), RedBird\_105 (F1), Richie\_99 (AY), RitaG\_103 (F1), Rita\_104 (F1), Rockne\_108 (F1), Royals2015\_108 (F1), Ruby\_100 (F1), RunningOnE\_55 (UNK), Sabbb\_107 (F1), Sandalphon\_103 (F1), Sashimi\_96 (AY), Sassafras\_106 (F1), SassyB\_95 (F1), Scotia\_58 (FO), Scottish\_105 (F1), SeaLumen\_113 (F1), Seabastian\_111 (F1), Seahorse\_101 (AY), Shambre1\_67 (singleton), Shauna1\_106 (F1), ShiLan\_107 (F1), ShowerHandel\_107 (F1), ShroomBoi\_105 (F1), SiSi\_99 (F1), SonDevVon\_104 (AY), Sparkdehlily\_111 (F1), SpicyFrank\_97 (AY), Spooks\_37 (BT), Spoonbill\_104 (F1), StAnnes\_110 (F1), SuperGrey\_103 (F1), SwagPiggett\_106 (F1), TDanisky\_112 (F1), Taj\_110 (F1), ThayneTheZag\_102 (AY), Tiff81\_90 (AY), Tweety\_109 (F1), VRedHorse\_105 (F1), Veteran\_94 (F1), Wachhund\_101 (F1), Wee\_109 (F1), Whatsapiecost\_99 (F1), Whouxphf\_108 (F1), WillSterrel\_103 (F1), Windest\_101 (AY), YoungHarleezy\_97 (AY), Zerg\_103 (F1), Zizzle\_108 (F1),

#### Start 56:

- Found in 32 of 334 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 29 of 313
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agueybana\_85 (CZ1), AlumE\_82 (CZ1), Antonio\_78 (CZ1), BatStarr\_83 (CZ1), Bialota\_79 (CZ1), Bosnia\_82 (CZ1), BoyNamedSue\_82 (CZ1), Bunnybear\_78 (CZ), Eudoria\_79 (CZ1), Eviarto\_84 (CZ1), Herod\_84 (CZ1), Hyzer\_101 (CZ1), Kita\_80 (CZ1), Kromp\_95 (singleton), Madavieve\_80 (CZ1), Madeline\_76 (CZ1), Manasvini\_81 (CZ1), Maridalia\_83 (CZ1), Neobush\_81 (CZ1), Nymphadora\_84 (CZ1), Pepperoni\_69 (CZ), Polly\_76 (CZ1), RavenCo17\_74 (CZ8), Suscepit\_79 (CZ1), SushiChef\_82 (CZ), Tayonia\_79 (CZ1), ThankyouJordi\_83 (CZ1), TimTam\_84 (CZ1), Trumpet\_79 (CZ1), WelcomeAyanna\_83 (CZ1), Zameen\_79 (CZ1), Zirinka\_79 (CZ1),

#### Start 57:

- Found in 6 of 334 ( 1.8% ) of genes in pham

- Manual Annotations of this start: 2 of 313
- Called 50.0% of time when present
- Phage (with cluster) where this start called: CosmicBrownie\_93 (AY), Hestia\_90 (AY), Phrank15\_100 (AY),

Start 58:

- Found in 92 of 334 ( 27.5% ) of genes in pham
- Manual Annotations of this start: 89 of 313
- Called 96.7% of time when present
- Phage (with cluster) where this start called: ABCat\_145 (E), Adnama\_150 (E), Amao\_151 (E), AmericanBeauty\_149 (E), Argent26\_150 (E), Asriel\_144 (E), BaboJay\_146 (E), BadStone\_145 (E), Balomoji\_146 (E), Barbarian\_146 (E), Bench\_149 (E), BigBubba\_149 (E), Brewer\_142 (E), Buck\_148 (E), Budgie\_149 (E), Cactus\_154 (E), ChosenOne\_147 (E), Command613\_149 (E), Contagion\_142 (E), Cookies\_148 (E), DoctorDiddles\_145 (E), Dumbo\_149 (E), Easy2Say\_148 (E), Elite2014\_146 (E), Emmina\_148 (E), FairyPath\_147 (E), FireRed\_150 (E), Flypotenuse\_142 (E), Gage\_137 (E), Gemini\_151 (E), Glexan\_150 (E), GoldenSpark\_150 (E), Goldilocks\_152 (E), Harella\_153 (E), Highbury\_141 (E), Holt\_152 (E), Hoonter\_148 (E), Hopey\_144 (E), HufflyPuff\_148 (E), IHOP\_151 (E), Icee\_146 (E), Inca\_147 (E), JeTaime\_144 (E), Kanye\_142 (E), Kimchi\_151 (E), Lilpickle\_146 (E), MISSy\_147 (E), MPhalcon\_148 (E), MadamMonkfish\_148 (E), Manda\_149 (E), Maxxinista\_148 (E), Miniwave\_140 (E), Murica\_149 (E), Murphy\_148 (E), Myrale\_146 (E), Nala\_149 (E), Nimrod\_145 (E), NoSleep\_145 (E), NonchalantPear\_146 (E), OrionPax\_144 (E), Palpatine\_143 (E), Paperbeatsrock\_144 (E), Pat3\_147 (E), Phaja\_151 (E), PhatBacter\_150 (E), Phaux\_147 (E), Phrux\_143 (E), Policronamos\_145 (E), Qualification\_146 (E), Rimmer\_145 (E), RiverMonster\_146 (E), ShamWow\_145 (E), ShereKhan\_145 (E), SophKB\_144 (E), Sotrice96\_151 (E), Stank\_150 (E), Stark\_143 (E), StolenFromERC\_148 (E), TBrady12\_151 (E), Tarkin\_144 (E), Teaspoon\_130 (E), Thimble\_138 (E), Thresher\_148 (E), Traaww1\_144 (E), Tuco\_150 (E), Ukulele\_143 (E), Wiggin\_149 (E), Willez\_144 (E), Youngblood\_150 (E),

Start 59:

- Found in 2 of 334 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 313
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Chymera\_55 (singleton),

Start 63:

- Found in 1 of 334 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 313
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Journey\_64 (N),

### Summary by clusters:

There are 14 clusters represented in this pham: F1, singleton, E, CZ, BL, CZ1, FQ, CZ8, N, BT, FA, AY, UNK, FO,

Info for manual annotations of cluster AY:

- Start number 55 was manually annotated 31 times for cluster AY.
- Start number 57 was manually annotated 2 times for cluster AY.

Info for manual annotations of cluster BL:

- Start number 50 was manually annotated 1 time for cluster BL.

Info for manual annotations of cluster BT:

- Start number 53 was manually annotated 1 time for cluster BT.
- Start number 55 was manually annotated 2 times for cluster BT.

Info for manual annotations of cluster CZ:

- Start number 56 was manually annotated 2 times for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 56 was manually annotated 25 times for cluster CZ1.

Info for manual annotations of cluster CZ8:

- Start number 56 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster E:

- Start number 39 was manually annotated 1 time for cluster E.
- Start number 48 was manually annotated 2 times for cluster E.
- Start number 58 was manually annotated 89 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 55 was manually annotated 135 times for cluster F1.

Info for manual annotations of cluster FA:

- Start number 54 was manually annotated 1 time for cluster FA.
- Start number 55 was manually annotated 11 times for cluster FA.

Info for manual annotations of cluster FO:

- Start number 55 was manually annotated 2 times for cluster FO.

Info for manual annotations of cluster FQ:

- Start number 55 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster N:

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

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

Gene: ABCat\_145 Start: 75550, Stop: 75897, Start Num: 58

Candidate Starts for ABCat\_145:

(Start: 48 @75493 has 2 MA's), (Start: 58 @75550 has 89 MA's),

Gene: AdaS\_94 Start: 50303, Stop: 50629, Start Num: 55

Candidate Starts for AdaS\_94:

(Start: 55 @50303 has 185 MA's), (80, 50483),

Gene: Adnama\_150 Start: 74627, Stop: 74974, Start Num: 58

Candidate Starts for Adnama\_150:

(Start: 48 @74570 has 2 MA's), (Start: 58 @74627 has 89 MA's),

Gene: Agueybana\_85 Start: 52421, Stop: 52756, Start Num: 56  
Candidate Starts for Agueybana\_85:  
(15, 52148), (Start: 56 @52421 has 29 MA's),

Gene: Akhila\_99 Start: 55783, Stop: 56109, Start Num: 55  
Candidate Starts for Akhila\_99:  
(24, 55609), (28, 55645), (46, 55732), (Start: 55 @55783 has 185 MA's), (65, 55906), (88, 56041),

Gene: AlpineSix\_102 Start: 56250, Stop: 56576, Start Num: 55  
Candidate Starts for AlpineSix\_102:  
(Start: 55 @56250 has 185 MA's),

Gene: AlumE\_82 Start: 52312, Stop: 52647, Start Num: 56  
Candidate Starts for AlumE\_82:  
(15, 52039), (Start: 56 @52312 has 29 MA's),

Gene: Amao\_151 Start: 76132, Stop: 76479, Start Num: 58  
Candidate Starts for Amao\_151:  
(Start: 58 @76132 has 89 MA's),

Gene: AmericanBeauty\_149 Start: 74669, Stop: 75016, Start Num: 58  
Candidate Starts for AmericanBeauty\_149:  
(Start: 48 @74612 has 2 MA's), (Start: 58 @74669 has 89 MA's),

Gene: Anekin\_95 Start: 52237, Stop: 52560, Start Num: 55  
Candidate Starts for Anekin\_95:  
(Start: 55 @52237 has 185 MA's), (Start: 57 @52249 has 2 MA's), (67, 52375),

Gene: Antonio\_78 Start: 49950, Stop: 50285, Start Num: 56  
Candidate Starts for Antonio\_78:  
(15, 49677), (Start: 56 @49950 has 29 MA's),

Gene: Ardmore\_88 Start: 51672, Stop: 51998, Start Num: 55  
Candidate Starts for Ardmore\_88:  
(24, 51498), (28, 51534), (46, 51621), (Start: 55 @51672 has 185 MA's), (65, 51795), (88, 51930),

Gene: Argent26\_150 Start: 74551, Stop: 74898, Start Num: 58  
Candidate Starts for Argent26\_150:  
(Start: 48 @74494 has 2 MA's), (Start: 58 @74551 has 89 MA's),

Gene: Asriel\_144 Start: 74013, Stop: 74360, Start Num: 58  
Candidate Starts for Asriel\_144:  
(Start: 58 @74013 has 89 MA's),

Gene: Auxilium\_93 Start: 49043, Stop: 49363, Start Num: 55  
Candidate Starts for Auxilium\_93:  
(Start: 55 @49043 has 185 MA's), (80, 49223),

Gene: BaboJay\_146 Start: 75796, Stop: 76143, Start Num: 58  
Candidate Starts for BaboJay\_146:  
(Start: 39 @75700 has 1 MA's), (Start: 48 @75739 has 2 MA's), (Start: 58 @75796 has 89 MA's),

Gene: BadStone\_145 Start: 75098, Stop: 75445, Start Num: 58  
Candidate Starts for BadStone\_145:  
(Start: 48 @75041 has 2 MA's), (Start: 58 @75098 has 89 MA's),

Gene: Balomoji\_146 Start: 75838, Stop: 76185, Start Num: 58  
Candidate Starts for Balomoji\_146:  
(Start: 58 @75838 has 89 MA's),

Gene: Barbarian\_146 Start: 74013, Stop: 74360, Start Num: 58  
Candidate Starts for Barbarian\_146:  
(Start: 58 @74013 has 89 MA's),

Gene: BasketStar\_96 Start: 52523, Stop: 52843, Start Num: 55  
Candidate Starts for BasketStar\_96:  
(Start: 55 @52523 has 185 MA's), (80, 52703),

Gene: BatStarr\_83 Start: 53046, Stop: 53381, Start Num: 56  
Candidate Starts for BatStarr\_83:  
(15, 52773), (Start: 56 @53046 has 29 MA's), (81, 53232),

Gene: Batiatus\_105 Start: 57269, Stop: 57595, Start Num: 55  
Candidate Starts for Batiatus\_105:  
(24, 57095), (28, 57131), (46, 57218), (Start: 55 @57269 has 185 MA's), (65, 57392), (88, 57527),

Gene: Bench\_149 Start: 75511, Stop: 75858, Start Num: 58  
Candidate Starts for Bench\_149:  
(Start: 48 @75454 has 2 MA's), (Start: 58 @75511 has 89 MA's),

Gene: BenchScraper\_96 Start: 50794, Stop: 51114, Start Num: 55  
Candidate Starts for BenchScraper\_96:  
(Start: 55 @50794 has 185 MA's), (80, 50974),

Gene: Bialota\_79 Start: 51706, Stop: 52038, Start Num: 56  
Candidate Starts for Bialota\_79:  
(15, 51433), (Start: 56 @51706 has 29 MA's),

Gene: BigBubba\_149 Start: 74425, Stop: 74772, Start Num: 58  
Candidate Starts for BigBubba\_149:  
(Start: 48 @74368 has 2 MA's), (Start: 58 @74425 has 89 MA's),

Gene: BillyTP\_96 Start: 52593, Stop: 52919, Start Num: 55  
Candidate Starts for BillyTP\_96:  
(Start: 55 @52593 has 185 MA's), (80, 52773),

Gene: Bimmel\_37 Start: 23518, Stop: 23859, Start Num: 55  
Candidate Starts for Bimmel\_37:  
(52, 23509), (Start: 53 @23512 has 1 MA's), (Start: 55 @23518 has 185 MA's), (68, 23677),

Gene: Bipolar\_106 Start: 58515, Stop: 58841, Start Num: 55  
Candidate Starts for Bipolar\_106:  
(24, 58341), (28, 58377), (46, 58464), (Start: 55 @58515 has 185 MA's), (65, 58638), (88, 58773),

Gene: BlueCrab\_109 Start: 58669, Stop: 58995, Start Num: 55

Candidate Starts for BlueCrab\_109:  
(Start: 55 @58669 has 185 MA's), (65, 58792),

Gene: BlueShadow\_92 Start: 52029, Stop: 52349, Start Num: 55  
Candidate Starts for BlueShadow\_92:  
(Start: 55 @52029 has 185 MA's), (80, 52209),

Gene: BobaPhett\_108 Start: 59318, Stop: 59644, Start Num: 55  
Candidate Starts for BobaPhett\_108:  
(Start: 55 @59318 has 185 MA's),

Gene: BodEinwohner17\_116 Start: 59725, Stop: 60051, Start Num: 55  
Candidate Starts for BodEinwohner17\_116:  
(Start: 55 @59725 has 185 MA's),

Gene: Bosnia\_82 Start: 54160, Stop: 54495, Start Num: 56  
Candidate Starts for Bosnia\_82:  
(15, 53887), (Start: 56 @54160 has 29 MA's), (81, 54346),

Gene: BoyNamedSue\_82 Start: 52312, Stop: 52647, Start Num: 56  
Candidate Starts for BoyNamedSue\_82:  
(15, 52039), (Start: 56 @52312 has 29 MA's),

Gene: Brewer\_142 Start: 73364, Stop: 73711, Start Num: 58  
Candidate Starts for Brewer\_142:  
(Start: 48 @73307 has 2 MA's), (Start: 58 @73364 has 89 MA's),

Gene: Bridgette\_71 Start: 42699, Stop: 43043, Start Num: 55  
Candidate Starts for Bridgette\_71:  
(Start: 55 @42699 has 185 MA's),

Gene: Brocalys\_96 Start: 54283, Stop: 54609, Start Num: 55  
Candidate Starts for Brocalys\_96:  
(24, 54109), (28, 54145), (46, 54232), (Start: 55 @54283 has 185 MA's), (65, 54406), (88, 54541),

Gene: Bubbles123\_100 Start: 56967, Stop: 57311, Start Num: 55  
Candidate Starts for Bubbles123\_100:  
(24, 56793), (28, 56829), (46, 56916), (Start: 55 @56967 has 185 MA's), (66, 57111), (75, 57135),

Gene: Buck\_148 Start: 76107, Stop: 76454, Start Num: 58  
Candidate Starts for Buck\_148:  
(Start: 48 @76050 has 2 MA's), (Start: 58 @76107 has 89 MA's),

Gene: Budgie\_149 Start: 75438, Stop: 75785, Start Num: 58  
Candidate Starts for Budgie\_149:  
(Start: 58 @75438 has 89 MA's),

Gene: Bunnybear\_78 Start: 50882, Stop: 51217, Start Num: 56  
Candidate Starts for Bunnybear\_78:  
(15, 50609), (Start: 56 @50882 has 29 MA's),

Gene: Burwell21\_99 Start: 56858, Stop: 57202, Start Num: 55  
Candidate Starts for Burwell21\_99:

(24, 56684), (28, 56720), (46, 56807), (Start: 55 @56858 has 185 MA's), (66, 57002), (75, 57026),

Gene: ByChance\_95 Start: 52655, Stop: 52981, Start Num: 55

Candidate Starts for ByChance\_95:

(Start: 55 @52655 has 185 MA's),

Gene: Byougenkin\_101 Start: 54217, Stop: 54543, Start Num: 55

Candidate Starts for Byougenkin\_101:

(Start: 55 @54217 has 185 MA's),

Gene: Cabrinians\_101 Start: 56202, Stop: 56528, Start Num: 55

Candidate Starts for Cabrinians\_101:

(24, 56028), (28, 56064), (46, 56151), (Start: 55 @56202 has 185 MA's), (65, 56325), (88, 56460),

Gene: Cactus\_154 Start: 75022, Stop: 75369, Start Num: 58

Candidate Starts for Cactus\_154:

(Start: 48 @74965 has 2 MA's), (Start: 58 @75022 has 89 MA's),

Gene: CaptainTrips\_107 Start: 56860, Stop: 57186, Start Num: 55

Candidate Starts for CaptainTrips\_107:

(24, 56686), (28, 56722), (46, 56809), (Start: 55 @56860 has 185 MA's), (65, 56983), (88, 57118),

Gene: Che8\_112 Start: 58974, Stop: 59300, Start Num: 55

Candidate Starts for Che8\_112:

(Start: 55 @58974 has 185 MA's),

Gene: ChosenOne\_147 Start: 74389, Stop: 74736, Start Num: 58

Candidate Starts for ChosenOne\_147:

(Start: 48 @74332 has 2 MA's), (Start: 58 @74389 has 89 MA's),

Gene: ChuckDuck\_69 Start: 42418, Stop: 42762, Start Num: 55

Candidate Starts for ChuckDuck\_69:

(Start: 55 @42418 has 185 MA's),

Gene: Chuckly\_102 Start: 53949, Stop: 54293, Start Num: 55

Candidate Starts for Chuckly\_102:

(24, 53775), (28, 53811), (46, 53898), (Start: 55 @53949 has 185 MA's), (66, 54093), (75, 54117),

Gene: Chymera\_55 Start: 34305, Stop: 34673, Start Num: 59

Candidate Starts for Chymera\_55:

(9, 33873), (14, 33963), (27, 34143), (Start: 59 @34305 has 1 MA's), (62, 34353), (78, 34488), (85, 34548),

Gene: Clifton\_96 Start: 55258, Stop: 55584, Start Num: 55

Candidate Starts for Clifton\_96:

(Start: 55 @55258 has 185 MA's),

Gene: Command613\_149 Start: 75444, Stop: 75791, Start Num: 58

Candidate Starts for Command613\_149:

(Start: 39 @75348 has 1 MA's), (Start: 48 @75387 has 2 MA's), (Start: 58 @75444 has 89 MA's),

Gene: Contagion\_142 Start: 73952, Stop: 74299, Start Num: 58

Candidate Starts for Contagion\_142:

(Start: 48 @73895 has 2 MA's), (Start: 58 @73952 has 89 MA's),

Gene: CookieBear\_95 Start: 51777, Stop: 52097, Start Num: 55

Candidate Starts for CookieBear\_95:

(Start: 55 @51777 has 185 MA's), (80, 51957),

Gene: Cookies\_148 Start: 75759, Stop: 76106, Start Num: 58

Candidate Starts for Cookies\_148:

(Start: 48 @75702 has 2 MA's), (Start: 58 @75759 has 89 MA's),

Gene: CosmicBrownie\_93 Start: 50511, Stop: 50822, Start Num: 57

Candidate Starts for CosmicBrownie\_93:

(Start: 57 @50511 has 2 MA's),

Gene: Crescenzo\_95 Start: 52946, Stop: 53266, Start Num: 55

Candidate Starts for Crescenzo\_95:

(34, 52847), (47, 52895), (Start: 55 @52946 has 185 MA's), (80, 53126),

Gene: Crumble\_99 Start: 52956, Stop: 53282, Start Num: 55

Candidate Starts for Crumble\_99:

(Start: 55 @52956 has 185 MA's),

Gene: Czyszczonek\_146 Start: 74437, Stop: 74841, Start Num: 48

Candidate Starts for Czyszczonek\_146:

(Start: 48 @74437 has 2 MA's), (Start: 58 @74494 has 89 MA's),

Gene: DLane\_105 Start: 58431, Stop: 58757, Start Num: 55

Candidate Starts for DLane\_105:

(24, 58257), (28, 58293), (46, 58380), (Start: 55 @58431 has 185 MA's), (65, 58554), (88, 58689),

Gene: DRBy19\_104 Start: 57899, Stop: 58225, Start Num: 55

Candidate Starts for DRBy19\_104:

(Start: 55 @57899 has 185 MA's),

Gene: DaddyRickover\_106 Start: 57378, Stop: 57704, Start Num: 55

Candidate Starts for DaddyRickover\_106:

(Start: 55 @57378 has 185 MA's),

Gene: Daenerys\_102 Start: 57545, Stop: 57871, Start Num: 55

Candidate Starts for Daenerys\_102:

(Start: 55 @57545 has 185 MA's),

Gene: Dante\_104 Start: 58406, Stop: 58750, Start Num: 55

Candidate Starts for Dante\_104:

(24, 58232), (28, 58268), (46, 58355), (Start: 55 @58406 has 185 MA's), (66, 58550), (75, 58574),

Gene: DarwinJr\_98 Start: 53274, Stop: 53627, Start Num: 55

Candidate Starts for DarwinJr\_98:

(Start: 55 @53274 has 185 MA's),

Gene: Deb65\_97 Start: 55269, Stop: 55595, Start Num: 55

Candidate Starts for Deb65\_97:

(Start: 55 @55269 has 185 MA's),

Gene: DillTech15\_111 Start: 57330, Stop: 57656, Start Num: 55  
Candidate Starts for DillTech15\_111:  
(24, 57156), (28, 57192), (46, 57279), (Start: 55 @57330 has 185 MA's), (65, 57453), (88, 57588),

Gene: Ding\_98 Start: 52235, Stop: 52555, Start Num: 55  
Candidate Starts for Ding\_98:  
(21, 52037), (22, 52046), (23, 52052), (36, 52142), (42, 52166), (Start: 55 @52235 has 185 MA's),

Gene: DoRead\_108 Start: 55713, Stop: 56039, Start Num: 55  
Candidate Starts for DoRead\_108:  
(Start: 55 @55713 has 185 MA's), (65, 55836), (88, 55971),

Gene: DoctorDiddles\_145 Start: 74489, Stop: 74836, Start Num: 58  
Candidate Starts for DoctorDiddles\_145:  
(Start: 48 @74432 has 2 MA's), (Start: 58 @74489 has 89 MA's),

Gene: Donkeykong\_110 Start: 59010, Stop: 59336, Start Num: 55  
Candidate Starts for Donkeykong\_110:  
(24, 58836), (28, 58872), (46, 58959), (Start: 55 @59010 has 185 MA's), (65, 59133), (88, 59268),

Gene: Dumbo\_149 Start: 75155, Stop: 75502, Start Num: 58  
Candidate Starts for Dumbo\_149:  
(Start: 48 @75098 has 2 MA's), (Start: 58 @75155 has 89 MA's),

Gene: Easy2Say\_148 Start: 75017, Stop: 75364, Start Num: 58  
Candidate Starts for Easy2Say\_148:  
(Start: 48 @74960 has 2 MA's), (Start: 58 @75017 has 89 MA's),

Gene: Eileen\_64 Start: 40750, Stop: 41094, Start Num: 55  
Candidate Starts for Eileen\_64:  
(21, 40555), (40, 40678), (Start: 55 @40750 has 185 MA's),

Gene: Eish\_109 Start: 57682, Stop: 58008, Start Num: 55  
Candidate Starts for Eish\_109:  
(5, 57169), (6, 57193), (8, 57256), (24, 57508), (46, 57631), (Start: 55 @57682 has 185 MA's),

Gene: EleanorGeorge\_108 Start: 59015, Stop: 59341, Start Num: 55  
Candidate Starts for EleanorGeorge\_108:  
(24, 58841), (28, 58877), (46, 58964), (Start: 55 @59015 has 185 MA's), (65, 59138), (88, 59273),

Gene: Elite2014\_146 Start: 74388, Stop: 74735, Start Num: 58  
Candidate Starts for Elite2014\_146:  
(Start: 48 @74331 has 2 MA's), (Start: 58 @74388 has 89 MA's),

Gene: Emma\_109 Start: 55950, Stop: 56276, Start Num: 55  
Candidate Starts for Emma\_109:  
(24, 55776), (28, 55812), (46, 55899), (Start: 55 @55950 has 185 MA's), (65, 56073), (88, 56208),

Gene: Emmina\_148 Start: 74714, Stop: 75061, Start Num: 58  
Candidate Starts for Emmina\_148:  
(Start: 48 @74657 has 2 MA's), (Start: 58 @74714 has 89 MA's),

Gene: Enzomatic\_117 Start: 56795, Stop: 57121, Start Num: 55  
Candidate Starts for Enzomatic\_117:  
(5, 56282), (6, 56306), (8, 56369), (24, 56621), (28, 56657), (46, 56744), (Start: 55 @56795 has 185 MA's),

Gene: Eradicator\_95 Start: 55231, Stop: 55557, Start Num: 55  
Candidate Starts for Eradicator\_95:  
(Start: 55 @55231 has 185 MA's),

Gene: Estave1\_112 Start: 60259, Stop: 60585, Start Num: 55  
Candidate Starts for Estave1\_112:  
(Start: 55 @60259 has 185 MA's),

Gene: Eudoria\_79 Start: 49950, Stop: 50285, Start Num: 56  
Candidate Starts for Eudoria\_79:  
(15, 49677), (Start: 56 @49950 has 29 MA's),

Gene: EvePickles\_96 Start: 52994, Stop: 53314, Start Num: 55  
Candidate Starts for EvePickles\_96:  
(Start: 55 @52994 has 185 MA's), (80, 53174),

Gene: Eviarto\_84 Start: 53021, Stop: 53356, Start Num: 56  
Candidate Starts for Eviarto\_84:  
(15, 52748), (Start: 56 @53021 has 29 MA's), (81, 53207),

Gene: FairyPath\_147 Start: 75177, Stop: 75524, Start Num: 58  
Candidate Starts for FairyPath\_147:  
(Start: 48 @75120 has 2 MA's), (Start: 58 @75177 has 89 MA's),

Gene: Faja\_96 Start: 52066, Stop: 52386, Start Num: 55  
Candidate Starts for Faja\_96:  
(Start: 55 @52066 has 185 MA's), (80, 52246),

Gene: Fastidio\_108 Start: 55371, Stop: 55697, Start Num: 55  
Candidate Starts for Fastidio\_108:  
(24, 55197), (28, 55233), (46, 55320), (Start: 55 @55371 has 185 MA's), (65, 55494), (88, 55629),

Gene: Filuzino\_105 Start: 58837, Stop: 59163, Start Num: 55  
Candidate Starts for Filuzino\_105:  
(24, 58663), (28, 58699), (46, 58786), (Start: 55 @58837 has 185 MA's), (65, 58960), (88, 59095),

Gene: FireRed\_150 Start: 75636, Stop: 75983, Start Num: 58  
Candidate Starts for FireRed\_150:  
(Start: 39 @75540 has 1 MA's), (Start: 48 @75579 has 2 MA's), (Start: 58 @75636 has 89 MA's),

Gene: Florinda\_117 Start: 58948, Stop: 59274, Start Num: 55  
Candidate Starts for Florinda\_117:  
(24, 58774), (28, 58810), (46, 58897), (Start: 55 @58948 has 185 MA's), (65, 59071), (88, 59206),

Gene: Flypotenuse\_142 Start: 74667, Stop: 75014, Start Num: 58  
Candidate Starts for Flypotenuse\_142:  
(Start: 58 @74667 has 89 MA's),

Gene: FosterFrank\_71 Start: 42119, Stop: 42463, Start Num: 55  
Candidate Starts for FosterFrank\_71:  
(17, 41831), (Start: 55 @42119 has 185 MA's),

Gene: FreddyB\_113 Start: 57850, Stop: 58176, Start Num: 55  
Candidate Starts for FreddyB\_113:  
(24, 57676), (28, 57712), (46, 57799), (Start: 55 @57850 has 185 MA's), (65, 57973), (88, 58108),

Gene: GAL1\_82 Start: 49576, Stop: 49935, Start Num: 55  
Candidate Starts for GAL1\_82:  
(Start: 55 @49576 has 185 MA's), (84, 49810),

Gene: GUmbie\_104 Start: 56919, Stop: 57245, Start Num: 55  
Candidate Starts for GUmbie\_104:  
(24, 56745), (28, 56781), (46, 56868), (Start: 55 @56919 has 185 MA's), (65, 57042), (88, 57177),

Gene: Gage\_137 Start: 71069, Stop: 71416, Start Num: 58  
Candidate Starts for Gage\_137:  
(Start: 48 @71012 has 2 MA's), (Start: 58 @71069 has 89 MA's),

Gene: Galactic\_109 Start: 57393, Stop: 57719, Start Num: 55  
Candidate Starts for Galactic\_109:  
(5, 56880), (6, 56904), (8, 56967), (24, 57219), (28, 57255), (46, 57342), (Start: 55 @57393 has 185 MA's),

Gene: Gandalph\_104 Start: 54506, Stop: 54832, Start Num: 55  
Candidate Starts for Gandalph\_104:  
(24, 54332), (28, 54368), (46, 54455), (Start: 55 @54506 has 185 MA's), (65, 54629), (88, 54764),

Gene: Gemini\_151 Start: 75068, Stop: 75415, Start Num: 58  
Candidate Starts for Gemini\_151:  
(Start: 48 @75011 has 2 MA's), (Start: 58 @75068 has 89 MA's),

Gene: Geralt\_97 Start: 55267, Stop: 55593, Start Num: 55  
Candidate Starts for Geralt\_97:  
(Start: 55 @55267 has 185 MA's),

Gene: GigiOuiOui\_99 Start: 55921, Stop: 56247, Start Num: 55  
Candidate Starts for GigiOuiOui\_99:  
(5, 55408), (6, 55432), (8, 55495), (24, 55747), (28, 55783), (46, 55870), (Start: 55 @55921 has 185 MA's), (65, 56044), (88, 56179),

Gene: Girr\_103 Start: 57256, Stop: 57582, Start Num: 55  
Candidate Starts for Girr\_103:  
(Start: 55 @57256 has 185 MA's),

Gene: Glexan\_150 Start: 75917, Stop: 76264, Start Num: 58  
Candidate Starts for Glexan\_150:  
(Start: 58 @75917 has 89 MA's),

Gene: Globfish\_96 Start: 50972, Stop: 51292, Start Num: 55  
Candidate Starts for Globfish\_96:  
(Start: 55 @50972 has 185 MA's), (80, 51152),

Gene: GlobiWarming\_74 Start: 42547, Stop: 42891, Start Num: 55  
Candidate Starts for GlobiWarming\_74:  
(49, 42526), (Start: 53 @42541 has 1 MA's), (Start: 55 @42547 has 185 MA's),

Gene: GoldenSpark\_150 Start: 74551, Stop: 74898, Start Num: 58  
Candidate Starts for GoldenSpark\_150:  
(Start: 48 @74494 has 2 MA's), (Start: 58 @74551 has 89 MA's),

Gene: Goldilocks\_152 Start: 75147, Stop: 75494, Start Num: 58  
Candidate Starts for Goldilocks\_152:  
(Start: 48 @75090 has 2 MA's), (Start: 58 @75147 has 89 MA's),

Gene: Gorge\_103 Start: 57487, Stop: 57813, Start Num: 55  
Candidate Starts for Gorge\_103:  
(24, 57313), (28, 57349), (46, 57436), (Start: 55 @57487 has 185 MA's), (65, 57610), (88, 57745),

Gene: GumGum\_103 Start: 53268, Stop: 53588, Start Num: 55  
Candidate Starts for GumGum\_103:  
(Start: 55 @53268 has 185 MA's), (80, 53448),

Gene: Guppsters\_99 Start: 54367, Stop: 54693, Start Num: 55  
Candidate Starts for Guppsters\_99:  
(Start: 55 @54367 has 185 MA's), (65, 54490), (88, 54625),

Gene: Hades\_102 Start: 54518, Stop: 54844, Start Num: 55  
Candidate Starts for Hades\_102:  
(Start: 55 @54518 has 185 MA's),

Gene: Hamulus\_105 Start: 56687, Stop: 57013, Start Num: 55  
Candidate Starts for Hamulus\_105:  
(24, 56513), (28, 56549), (46, 56636), (Start: 55 @56687 has 185 MA's), (65, 56810), (88, 56945),

Gene: Harella\_153 Start: 76278, Stop: 76625, Start Num: 58  
Candidate Starts for Harella\_153:  
(Start: 58 @76278 has 89 MA's),

Gene: Henrique\_72 Start: 42189, Stop: 42533, Start Num: 55  
Candidate Starts for Henrique\_72:  
(35, 42093), (Start: 55 @42189 has 185 MA's),

Gene: Herod\_84 Start: 53440, Stop: 53775, Start Num: 56  
Candidate Starts for Herod\_84:  
(15, 53167), (Start: 56 @53440 has 29 MA's), (81, 53626),

Gene: Hestia\_90 Start: 50238, Stop: 50558, Start Num: 57  
Candidate Starts for Hestia\_90:  
(19, 49992), (Start: 55 @50226 has 185 MA's), (Start: 57 @50238 has 2 MA's), (69, 50367),

Gene: Highbury\_141 Start: 72834, Stop: 73181, Start Num: 58  
Candidate Starts for Highbury\_141:  
(Start: 39 @72738 has 1 MA's), (Start: 48 @72777 has 2 MA's), (Start: 58 @72834 has 89 MA's),

Gene: Hillester\_99 Start: 52313, Stop: 52633, Start Num: 55

Candidate Starts for Hillester\_99:

(Start: 55 @52313 has 185 MA's), (80, 52493),

Gene: Hlubikazi\_102 Start: 55002, Stop: 55328, Start Num: 55

Candidate Starts for Hlubikazi\_102:

(5, 54489), (8, 54576), (24, 54828), (28, 54864), (46, 54951), (Start: 55 @55002 has 185 MA's), (65, 55125), (88, 55260),

Gene: Holt\_152 Start: 75334, Stop: 75681, Start Num: 58

Candidate Starts for Holt\_152:

(Start: 48 @75277 has 2 MA's), (Start: 58 @75334 has 89 MA's),

Gene: Hoonter\_148 Start: 74686, Stop: 75033, Start Num: 58

Candidate Starts for Hoonter\_148:

(Start: 58 @74686 has 89 MA's),

Gene: Hokey\_144 Start: 75005, Stop: 75352, Start Num: 58

Candidate Starts for Hokey\_144:

(Start: 39 @74909 has 1 MA's), (Start: 48 @74948 has 2 MA's), (Start: 58 @75005 has 89 MA's),

Gene: HufflyPuff\_148 Start: 75742, Stop: 76089, Start Num: 58

Candidate Starts for HufflyPuff\_148:

(Start: 48 @75685 has 2 MA's), (Start: 58 @75742 has 89 MA's),

Gene: Hum25\_86 Start: 42285, Stop: 42626, Start Num: 55

Candidate Starts for Hum25\_86:

(Start: 55 @42285 has 185 MA's), (60, 42303), (72, 42438),

Gene: Hyzer\_101 Start: 60183, Stop: 60518, Start Num: 56

Candidate Starts for Hyzer\_101:

(43, 60138), (Start: 56 @60183 has 29 MA's),

Gene: IHOP\_151 Start: 75087, Stop: 75434, Start Num: 58

Candidate Starts for IHOP\_151:

(Start: 48 @75030 has 2 MA's), (Start: 58 @75087 has 89 MA's),

Gene: lbOuu\_96 Start: 54829, Stop: 55155, Start Num: 55

Candidate Starts for lbOuu\_96:

(24, 54655), (28, 54691), (46, 54778), (Start: 55 @54829 has 185 MA's), (65, 54952), (88, 55087),

Gene: lbantik\_57 Start: 25161, Stop: 25478, Start Num: 55

Candidate Starts for lbantik\_57:

(45, 25107), (Start: 55 @25161 has 185 MA's), (Start: 59 @25176 has 1 MA's), (61, 25185), (73, 25320), (80, 25347), (86, 25392), (87, 25416),

Gene: lbhubesi\_103 Start: 55132, Stop: 55458, Start Num: 55

Candidate Starts for lbhubesi\_103:

(Start: 55 @55132 has 185 MA's),

Gene: lcee\_146 Start: 73588, Stop: 73935, Start Num: 58

Candidate Starts for lcee\_146:

(Start: 48 @73531 has 2 MA's), (Start: 58 @73588 has 89 MA's),

Gene: Inca\_147 Start: 73489, Stop: 73836, Start Num: 58

Candidate Starts for Inca\_147:

(32, 73372), (Start: 39 @73393 has 1 MA's), (Start: 48 @73432 has 2 MA's), (Start: 58 @73489 has 89 MA's),

Gene: Inventum\_102 Start: 56555, Stop: 56881, Start Num: 55

Candidate Starts for Inventum\_102:

(Start: 55 @56555 has 185 MA's),

Gene: IrishSherpFalk\_105 Start: 57329, Stop: 57673, Start Num: 55

Candidate Starts for IrishSherpFalk\_105:

(Start: 55 @57329 has 185 MA's), (66, 57473), (75, 57497),

Gene: Isolde\_98 Start: 52809, Stop: 53129, Start Num: 55

Candidate Starts for Isolde\_98:

(Start: 55 @52809 has 185 MA's), (80, 52989),

Gene: James\_108 Start: 59148, Stop: 59474, Start Num: 55

Candidate Starts for James\_108:

(24, 58974), (28, 59010), (46, 59097), (Start: 55 @59148 has 185 MA's), (65, 59271), (88, 59406),

Gene: Jacob\_107 Start: 58468, Stop: 58794, Start Num: 55

Candidate Starts for Jacob\_107:

(Start: 55 @58468 has 185 MA's),

Gene: JeTaime\_144 Start: 74518, Stop: 74865, Start Num: 58

Candidate Starts for JeTaime\_144:

(Start: 48 @74461 has 2 MA's), (Start: 58 @74518 has 89 MA's),

Gene: JellyBread\_95 Start: 53015, Stop: 53341, Start Num: 55

Candidate Starts for JellyBread\_95:

(Start: 55 @53015 has 185 MA's), (80, 53195),

Gene: Jinglebell\_111 Start: 58360, Stop: 58686, Start Num: 55

Candidate Starts for Jinglebell\_111:

(Start: 55 @58360 has 185 MA's),

Gene: JoeyJr\_107 Start: 58463, Stop: 58789, Start Num: 55

Candidate Starts for JoeyJr\_107:

(Start: 55 @58463 has 185 MA's),

Gene: Journey\_64 Start: 41500, Stop: 41799, Start Num: 63

Candidate Starts for Journey\_64:

(Start: 63 @41500 has 1 MA's),

Gene: Judy\_72 Start: 43025, Stop: 43369, Start Num: 55

Candidate Starts for Judy\_72:

(Start: 55 @43025 has 185 MA's),

Gene: Juniper1\_98 Start: 56030, Stop: 56374, Start Num: 55

Candidate Starts for Juniper1\_98:

(Start: 55 @56030 has 185 MA's), (66, 56174), (75, 56198),

Gene: Kabloowy\_97 Start: 52731, Stop: 53084, Start Num: 55

Candidate Starts for Kabloowy\_97:

(Start: 55 @52731 has 185 MA's),

Gene: Kanye\_142 Start: 74872, Stop: 75219, Start Num: 58

Candidate Starts for Kanye\_142:

(Start: 48 @74815 has 2 MA's), (Start: 58 @74872 has 89 MA's),

Gene: Karhdo\_100 Start: 54911, Stop: 55237, Start Num: 55

Candidate Starts for Karhdo\_100:

(Start: 55 @54911 has 185 MA's),

Gene: Karkharias\_66 Start: 42195, Stop: 42539, Start Num: 55

Candidate Starts for Karkharias\_66:

(Start: 55 @42195 has 185 MA's),

Gene: KayMoney\_68 Start: 42631, Stop: 42975, Start Num: 55

Candidate Starts for KayMoney\_68:

(Start: 55 @42631 has 185 MA's),

Gene: Kenuha5\_96 Start: 56035, Stop: 56361, Start Num: 55

Candidate Starts for Kenuha5\_96:

(24, 55861), (28, 55897), (46, 55984), (Start: 55 @56035 has 185 MA's), (65, 56158), (88, 56293),

Gene: Kersh\_107 Start: 59723, Stop: 60049, Start Num: 55

Candidate Starts for Kersh\_107:

(Start: 55 @59723 has 185 MA's),

Gene: Kimchi\_151 Start: 75248, Stop: 75595, Start Num: 58

Candidate Starts for Kimchi\_151:

(Start: 48 @75191 has 2 MA's), (Start: 58 @75248 has 89 MA's),

Gene: KingMidas\_105 Start: 56917, Stop: 57243, Start Num: 55

Candidate Starts for KingMidas\_105:

(24, 56743), (28, 56779), (46, 56866), (Start: 55 @56917 has 185 MA's), (65, 57040), (88, 57175),

Gene: Kita\_80 Start: 49959, Stop: 50294, Start Num: 56

Candidate Starts for Kita\_80:

(15, 49686), (Start: 56 @49959 has 29 MA's),

Gene: Krakatau\_97 Start: 52590, Stop: 52916, Start Num: 55

Candidate Starts for Krakatau\_97:

(24, 52416), (28, 52452), (46, 52539), (Start: 55 @52590 has 185 MA's), (65, 52713), (88, 52848),

Gene: KristaRAM\_113 Start: 58232, Stop: 58558, Start Num: 55

Candidate Starts for KristaRAM\_113:

(Start: 55 @58232 has 185 MA's),

Gene: Kromp\_95 Start: 57607, Stop: 57981, Start Num: 56

Candidate Starts for Kromp\_95:

(4, 56935), (7, 57178), (10, 57223), (18, 57367), (19, 57382), (25, 57454), (51, 57592), (Start: 56 @57607 has 29 MA's), (70, 57775), (71, 57784),

Gene: Lasker\_98 Start: 53398, Stop: 53718, Start Num: 55

Candidate Starts for Lasker\_98:

(Start: 55 @53398 has 185 MA's), (80, 53578),

Gene: Lawnathon\_100 Start: 52639, Stop: 52959, Start Num: 55

Candidate Starts for Lawnathon\_100:

(Start: 55 @52639 has 185 MA's), (80, 52819),

Gene: LeBruni\_97 Start: 51926, Stop: 52246, Start Num: 55

Candidate Starts for LeBruni\_97:

(Start: 55 @51926 has 185 MA's),

Gene: Leperchaun\_106 Start: 57697, Stop: 58023, Start Num: 55

Candidate Starts for Leperchaun\_106:

(Start: 55 @57697 has 185 MA's),

Gene: Lilpickle\_146 Start: 74388, Stop: 74735, Start Num: 58

Candidate Starts for Lilpickle\_146:

(Start: 48 @74331 has 2 MA's), (Start: 58 @74388 has 89 MA's),

Gene: Lizziana\_105 Start: 57926, Stop: 58252, Start Num: 55

Candidate Starts for Lizziana\_105:

(Start: 55 @57926 has 185 MA's),

Gene: Llama\_111 Start: 58003, Stop: 58329, Start Num: 55

Candidate Starts for Llama\_111:

(Start: 55 @58003 has 185 MA's),

Gene: Llij\_99 Start: 55622, Stop: 55966, Start Num: 55

Candidate Starts for Llij\_99:

(24, 55448), (28, 55484), (46, 55571), (Start: 55 @55622 has 185 MA's), (66, 55766), (75, 55790),

Gene: LunaBlu\_111 Start: 58815, Stop: 59141, Start Num: 55

Candidate Starts for LunaBlu\_111:

(5, 58302), (6, 58326), (8, 58389), (24, 58641), (28, 58677), (46, 58764), (Start: 55 @58815 has 185 MA's), (65, 58938), (88, 59073),

Gene: MISSy\_147 Start: 75227, Stop: 75574, Start Num: 58

Candidate Starts for MISSy\_147:

(Start: 39 @75131 has 1 MA's), (Start: 48 @75170 has 2 MA's), (Start: 58 @75227 has 89 MA's),

Gene: MPhalcon\_148 Start: 75024, Stop: 75371, Start Num: 58

Candidate Starts for MPhalcon\_148:

(Start: 39 @74928 has 1 MA's), (Start: 48 @74967 has 2 MA's), (Start: 58 @75024 has 89 MA's),

Gene: MUWow\_98 Start: 53802, Stop: 54125, Start Num: 55

Candidate Starts for MUWow\_98:

(Start: 55 @53802 has 185 MA's), (Start: 57 @53814 has 2 MA's), (67, 53940),

Gene: MadMen\_109 Start: 57291, Stop: 57617, Start Num: 55

Candidate Starts for MadMen\_109:

(Start: 55 @57291 has 185 MA's),

Gene: MadamMonkfish\_148 Start: 74973, Stop: 75320, Start Num: 58  
Candidate Starts for MadamMonkfish\_148:  
(Start: 48 @74916 has 2 MA's), (Start: 58 @74973 has 89 MA's),

Gene: Madavieve\_80 Start: 51628, Stop: 51963, Start Num: 56  
Candidate Starts for Madavieve\_80:  
(16, 51364), (20, 51433), (31, 51514), (43, 51583), (Start: 56 @51628 has 29 MA's),

Gene: Madeline\_76 Start: 51284, Stop: 51616, Start Num: 56  
Candidate Starts for Madeline\_76:  
(12, 50948), (15, 51011), (Start: 56 @51284 has 29 MA's),

Gene: Mahavrat\_98 Start: 54698, Stop: 55042, Start Num: 55  
Candidate Starts for Mahavrat\_98:  
(Start: 55 @54698 has 185 MA's), (66, 54842), (75, 54866),

Gene: Manasvini\_81 Start: 49974, Stop: 50309, Start Num: 56  
Candidate Starts for Manasvini\_81:  
(15, 49701), (Start: 56 @49974 has 29 MA's),

Gene: Manda\_149 Start: 75442, Stop: 75789, Start Num: 58  
Candidate Starts for Manda\_149:  
(Start: 39 @75346 has 1 MA's), (Start: 48 @75385 has 2 MA's), (Start: 58 @75442 has 89 MA's),

Gene: Mantra\_102 Start: 56533, Stop: 56859, Start Num: 55  
Candidate Starts for Mantra\_102:  
(5, 56020), (8, 56107), (24, 56359), (46, 56482), (Start: 55 @56533 has 185 MA's), (65, 56656), (88, 56791),

Gene: Mapleville\_87 Start: 50199, Stop: 50522, Start Num: 55  
Candidate Starts for Mapleville\_87:  
(Start: 55 @50199 has 185 MA's), (Start: 57 @50211 has 2 MA's), (67, 50337),

Gene: Maravista\_102 Start: 58887, Stop: 59231, Start Num: 55  
Candidate Starts for Maravista\_102:  
(Start: 55 @58887 has 185 MA's), (66, 59031), (75, 59055),

Gene: Maridalia\_83 Start: 51242, Stop: 51577, Start Num: 56  
Candidate Starts for Maridalia\_83:  
(15, 50969), (Start: 56 @51242 has 29 MA's),

Gene: Marshmallow\_149 Start: 76102, Stop: 76506, Start Num: 48  
Candidate Starts for Marshmallow\_149:  
(Start: 48 @76102 has 2 MA's), (Start: 58 @76159 has 89 MA's),

Gene: Martik\_103 Start: 58387, Stop: 58713, Start Num: 55  
Candidate Starts for Martik\_103:  
(Start: 55 @58387 has 185 MA's),

Gene: MaterMagnus\_96 Start: 52654, Stop: 52974, Start Num: 55  
Candidate Starts for MaterMagnus\_96:  
(Start: 55 @52654 has 185 MA's), (80, 52834),

Gene: Mattes\_105 Start: 57605, Stop: 57931, Start Num: 55

Candidate Starts for Mattes\_105:

(Start: 55 @57605 has 185 MA's),

Gene: Maxxinista\_148 Start: 74634, Stop: 74981, Start Num: 58

Candidate Starts for Maxxinista\_148:

(Start: 48 @74577 has 2 MA's), (Start: 58 @74634 has 89 MA's),

Gene: Medindi\_110 Start: 58213, Stop: 58539, Start Num: 55

Candidate Starts for Medindi\_110:

(24, 58039), (28, 58075), (46, 58162), (Start: 55 @58213 has 185 MA's), (65, 58336), (88, 58471),

Gene: Melissauren88\_95 Start: 53888, Stop: 54214, Start Num: 55

Candidate Starts for Melissauren88\_95:

(Start: 55 @53888 has 185 MA's), (65, 54011), (88, 54146),

Gene: MidnightRain\_102 Start: 53249, Stop: 53569, Start Num: 55

Candidate Starts for MidnightRain\_102:

(Start: 55 @53249 has 185 MA's),

Gene: MilanaBonita\_98 Start: 55783, Stop: 56109, Start Num: 55

Candidate Starts for MilanaBonita\_98:

(24, 55609), (28, 55645), (46, 55732), (Start: 55 @55783 has 185 MA's), (65, 55906), (88, 56041),

Gene: MinionDave\_103 Start: 57559, Stop: 57885, Start Num: 55

Candidate Starts for MinionDave\_103:

(24, 57385), (28, 57421), (46, 57508), (Start: 55 @57559 has 185 MA's), (65, 57682), (88, 57817),

Gene: Miniwave\_140 Start: 74380, Stop: 74727, Start Num: 58

Candidate Starts for Miniwave\_140:

(Start: 48 @74323 has 2 MA's), (Start: 58 @74380 has 89 MA's),

Gene: Minnie\_99 Start: 58017, Stop: 58361, Start Num: 55

Candidate Starts for Minnie\_99:

(24, 57843), (28, 57879), (46, 57966), (Start: 55 @58017 has 185 MA's), (66, 58161), (75, 58185),

Gene: MisterCuddles\_104 Start: 57256, Stop: 57582, Start Num: 55

Candidate Starts for MisterCuddles\_104:

(Start: 55 @57256 has 185 MA's),

Gene: Modragons\_107 Start: 57991, Stop: 58317, Start Num: 55

Candidate Starts for Modragons\_107:

(Start: 55 @57991 has 185 MA's),

Gene: Moonbeam\_107 Start: 57515, Stop: 57841, Start Num: 55

Candidate Starts for Moonbeam\_107:

(24, 57341), (28, 57377), (46, 57464), (Start: 55 @57515 has 185 MA's), (65, 57638), (88, 57773),

Gene: Ms6\_107 Start: 53778, Stop: 54104, Start Num: 55

Candidate Starts for Ms6\_107:

(24, 53604), (28, 53640), (46, 53727), (Start: 55 @53778 has 185 MA's), (65, 53901), (88, 54036),

Gene: Murica\_149 Start: 76472, Stop: 76819, Start Num: 58  
Candidate Starts for Murica\_149:  
(Start: 39 @76376 has 1 MA's), (Start: 48 @76415 has 2 MA's), (Start: 58 @76472 has 89 MA's),

Gene: Murphy\_148 Start: 75598, Stop: 75945, Start Num: 58  
Candidate Starts for Murphy\_148:  
(Start: 48 @75541 has 2 MA's), (Start: 58 @75598 has 89 MA's),

Gene: MurphyJoseph\_92 Start: 50348, Stop: 50668, Start Num: 55  
Candidate Starts for MurphyJoseph\_92:  
(Start: 55 @50348 has 185 MA's), (80, 50528),

Gene: Mutaforma13\_106 Start: 57233, Stop: 57559, Start Num: 55  
Candidate Starts for Mutaforma13\_106:  
(24, 57059), (28, 57095), (46, 57182), (Start: 55 @57233 has 185 MA's), (65, 57356), (88, 57491),

Gene: Myrale\_146 Start: 75838, Stop: 76185, Start Num: 58  
Candidate Starts for Myrale\_146:  
(Start: 48 @75781 has 2 MA's), (Start: 58 @75838 has 89 MA's),

Gene: Nala\_149 Start: 75313, Stop: 75660, Start Num: 58  
Candidate Starts for Nala\_149:  
(Start: 39 @75217 has 1 MA's), (Start: 48 @75256 has 2 MA's), (Start: 58 @75313 has 89 MA's),

Gene: Neobush\_81 Start: 50518, Stop: 50853, Start Num: 56  
Candidate Starts for Neobush\_81:  
(15, 50245), (Start: 56 @50518 has 29 MA's),

Gene: NewHope4\_112 Start: 56941, Stop: 57267, Start Num: 55  
Candidate Starts for NewHope4\_112:  
(5, 56428), (6, 56452), (8, 56515), (24, 56767), (28, 56803), (46, 56890), (Start: 55 @56941 has 185 MA's),

Gene: NidoQ\_64 Start: 42149, Stop: 42493, Start Num: 55  
Candidate Starts for NidoQ\_64:  
(Start: 55 @42149 has 185 MA's),

Gene: NikkiHotWheels\_70 Start: 41859, Stop: 42203, Start Num: 55  
Candidate Starts for NikkiHotWheels\_70:  
(Start: 55 @41859 has 185 MA's), (83, 42075),

Gene: Nimbo\_96 Start: 55269, Stop: 55595, Start Num: 55  
Candidate Starts for Nimbo\_96:  
(Start: 55 @55269 has 185 MA's),

Gene: Nimrod\_145 Start: 75854, Stop: 76201, Start Num: 58  
Candidate Starts for Nimrod\_145:  
(Start: 48 @75797 has 2 MA's), (Start: 58 @75854 has 89 MA's),

Gene: NoSleep\_145 Start: 74074, Stop: 74421, Start Num: 58  
Candidate Starts for NoSleep\_145:  
(Start: 48 @74017 has 2 MA's), (Start: 58 @74074 has 89 MA's),

Gene: NoSwimming\_59 Start: 40976, Stop: 41329, Start Num: 55  
Candidate Starts for NoSwimming\_59:  
(Start: 55 @40976 has 185 MA's), (64, 41072), (88, 41240), (89, 41285),

Gene: NonchalantPear\_146 Start: 73641, Stop: 73988, Start Num: 58  
Candidate Starts for NonchalantPear\_146:  
(Start: 48 @73584 has 2 MA's), (Start: 58 @73641 has 89 MA's),

Gene: NormanBulbieJr\_102 Start: 57635, Stop: 57961, Start Num: 55  
Candidate Starts for NormanBulbieJr\_102:  
(24, 57461), (28, 57497), (46, 57584), (Start: 55 @57635 has 185 MA's), (65, 57758), (88, 57893),

Gene: Nymphadora\_84 Start: 53045, Stop: 53380, Start Num: 56  
Candidate Starts for Nymphadora\_84:  
(15, 52772), (Start: 56 @53045 has 29 MA's), (81, 53231),

Gene: Ochi17\_110 Start: 57598, Stop: 57924, Start Num: 55  
Candidate Starts for Ochi17\_110:  
(Start: 55 @57598 has 185 MA's),

Gene: OfUltron\_111 Start: 58147, Stop: 58473, Start Num: 55  
Candidate Starts for OfUltron\_111:  
(Start: 55 @58147 has 185 MA's),

Gene: OldBen\_101 Start: 56661, Stop: 56987, Start Num: 55  
Candidate Starts for OldBen\_101:  
(Start: 55 @56661 has 185 MA's),

Gene: OrionPax\_144 Start: 74532, Stop: 74879, Start Num: 58  
Candidate Starts for OrionPax\_144:  
(Start: 48 @74475 has 2 MA's), (Start: 58 @74532 has 89 MA's),

Gene: PHappiness\_104 Start: 57490, Stop: 57816, Start Num: 55  
Candidate Starts for PHappiness\_104:  
(Start: 55 @57490 has 185 MA's),

Gene: PMC\_104 Start: 56224, Stop: 56550, Start Num: 55  
Candidate Starts for PMC\_104:  
(1, 55117), (2, 55408), (3, 55471), (5, 55711), (8, 55798), (24, 56050), (28, 56086), (46, 56173), (Start: 55 @56224 has 185 MA's), (65, 56347), (88, 56482),

Gene: Pacc40\_101 Start: 58086, Stop: 58412, Start Num: 55  
Candidate Starts for Pacc40\_101:  
(24, 57912), (28, 57948), (46, 58035), (Start: 55 @58086 has 185 MA's),

Gene: Palpatine\_143 Start: 75228, Stop: 75575, Start Num: 58  
Candidate Starts for Palpatine\_143:  
(Start: 39 @75132 has 1 MA's), (Start: 48 @75171 has 2 MA's), (Start: 58 @75228 has 89 MA's),

Gene: Paperbeatsrock\_144 Start: 75058, Stop: 75405, Start Num: 58  
Candidate Starts for Paperbeatsrock\_144:  
(Start: 48 @75001 has 2 MA's), (Start: 58 @75058 has 89 MA's),

Gene: Pat3\_147 Start: 75094, Stop: 75441, Start Num: 58  
Candidate Starts for Pat3\_147:  
(Start: 58 @75094 has 89 MA's),

Gene: Peas\_68 Start: 43688, Stop: 44032, Start Num: 55  
Candidate Starts for Peas\_68:  
(30, 43556), (46, 43634), (Start: 55 @43688 has 185 MA's),

Gene: PeggyLeg03\_70 Start: 42854, Stop: 43198, Start Num: 55  
Candidate Starts for PeggyLeg03\_70:  
(Start: 55 @42854 has 185 MA's),

Gene: Pepperoni\_69 Start: 41030, Stop: 41365, Start Num: 56  
Candidate Starts for Pepperoni\_69:  
(Start: 56 @41030 has 29 MA's),

Gene: Phaja\_151 Start: 75104, Stop: 75451, Start Num: 58  
Candidate Starts for Phaja\_151:  
(Start: 48 @75047 has 2 MA's), (Start: 58 @75104 has 89 MA's),

Gene: Phalconet\_106 Start: 57180, Stop: 57506, Start Num: 55  
Candidate Starts for Phalconet\_106:  
(24, 57006), (28, 57042), (46, 57129), (Start: 55 @57180 has 185 MA's), (65, 57303), (88, 57438),

Gene: Phanphagia\_109 Start: 58459, Stop: 58803, Start Num: 55  
Candidate Starts for Phanphagia\_109:  
(Start: 55 @58459 has 185 MA's), (66, 58603), (75, 58627),

Gene: Phasih\_100 Start: 55657, Stop: 55983, Start Num: 55  
Candidate Starts for Phasih\_100:  
(Start: 55 @55657 has 185 MA's),

Gene: PhatBacter\_150 Start: 75636, Stop: 75983, Start Num: 58  
Candidate Starts for PhatBacter\_150:  
(Start: 39 @75540 has 1 MA's), (Start: 48 @75579 has 2 MA's), (Start: 58 @75636 has 89 MA's),

Gene: Phatniss\_101 Start: 56036, Stop: 56380, Start Num: 55  
Candidate Starts for Phatniss\_101:  
(24, 55862), (28, 55898), (46, 55985), (Start: 55 @56036 has 185 MA's), (66, 56180), (75, 56204),

Gene: Phaux\_147 Start: 75898, Stop: 76245, Start Num: 58  
Candidate Starts for Phaux\_147:  
(Start: 48 @75841 has 2 MA's), (Start: 58 @75898 has 89 MA's),

Gene: PhesterPhotato\_109 Start: 57154, Stop: 57480, Start Num: 55  
Candidate Starts for PhesterPhotato\_109:  
(24, 56980), (28, 57016), (46, 57103), (Start: 55 @57154 has 185 MA's), (65, 57277), (88, 57412),

Gene: Philus\_108 Start: 58766, Stop: 59092, Start Num: 55  
Candidate Starts for Philus\_108:  
(24, 58592), (28, 58628), (46, 58715), (Start: 55 @58766 has 185 MA's), (65, 58889), (88, 59024),

Gene: Phrank15\_100 Start: 52150, Stop: 52461, Start Num: 57

Candidate Starts for Phrank15\_100:  
(11, 51760), (13, 51793), (21, 51952), (29, 52009), (41, 52078), (Start: 57 @52150 has 2 MA's), (67, 52276), (76, 52303),

Gene: Phrux\_143 Start: 74130, Stop: 74477, Start Num: 58  
Candidate Starts for Phrux\_143:  
(Start: 48 @74073 has 2 MA's), (Start: 58 @74130 has 89 MA's),

Gene: Pippy\_103 Start: 56195, Stop: 56521, Start Num: 55  
Candidate Starts for Pippy\_103:  
(24, 56021), (28, 56057), (46, 56144), (Start: 55 @56195 has 185 MA's), (65, 56318), (88, 56453),

Gene: Policronamos\_145 Start: 75313, Stop: 75660, Start Num: 58  
Candidate Starts for Policronamos\_145:  
(Start: 39 @75217 has 1 MA's), (Start: 48 @75256 has 2 MA's), (Start: 58 @75313 has 89 MA's),

Gene: Polka14\_108 Start: 58259, Stop: 58585, Start Num: 55  
Candidate Starts for Polka14\_108:  
(Start: 55 @58259 has 185 MA's),

Gene: Polly\_76 Start: 49393, Stop: 49728, Start Num: 56  
Candidate Starts for Polly\_76:  
(15, 49120), (Start: 56 @49393 has 29 MA's),

Gene: Polo2Bam\_116 Start: 56795, Stop: 57121, Start Num: 55  
Candidate Starts for Polo2Bam\_116:  
(5, 56282), (6, 56306), (8, 56369), (24, 56621), (28, 56657), (46, 56744), (Start: 55 @56795 has 185 MA's),

Gene: Ponzi\_39 Start: 21753, Stop: 22079, Start Num: 55  
Candidate Starts for Ponzi\_39:  
(Start: 55 @21753 has 185 MA's), (86, 21984),

Gene: PopTart\_95 Start: 54627, Stop: 54953, Start Num: 55  
Candidate Starts for PopTart\_95:  
(5, 54114), (8, 54201), (24, 54453), (28, 54489), (46, 54576), (Start: 55 @54627 has 185 MA's), (65, 54750), (88, 54885),

Gene: Priscilla\_105 Start: 57733, Stop: 58059, Start Num: 55  
Candidate Starts for Priscilla\_105:  
(Start: 55 @57733 has 185 MA's),

Gene: Quallification\_146 Start: 75327, Stop: 75674, Start Num: 58  
Candidate Starts for Quallification\_146:  
(Start: 48 @75270 has 2 MA's), (Start: 58 @75327 has 89 MA's),

Gene: RadFad\_100 Start: 52313, Stop: 52633, Start Num: 55  
Candidate Starts for RadFad\_100:  
(Start: 55 @52313 has 185 MA's), (80, 52493),

Gene: Radiance\_103 Start: 56827, Stop: 57153, Start Num: 55  
Candidate Starts for Radiance\_103:

(5, 56314), (6, 56338), (8, 56401), (24, 56653), (28, 56689), (46, 56776), (Start: 55 @56827 has 185 MA's),

Gene: Raphaella\_96 Start: 51282, Stop: 51608, Start Num: 55  
Candidate Starts for Raphaella\_96:  
(Start: 55 @51282 has 185 MA's), (80, 51462),

Gene: RavenCo17\_74 Start: 49279, Stop: 49611, Start Num: 56  
Candidate Starts for RavenCo17\_74:  
(Start: 56 @49279 has 29 MA's), (67, 49411),

Gene: RedBird\_105 Start: 58237, Stop: 58563, Start Num: 55  
Candidate Starts for RedBird\_105:  
(Start: 55 @58237 has 185 MA's),

Gene: Richie\_99 Start: 53442, Stop: 53762, Start Num: 55  
Candidate Starts for Richie\_99:  
(26, 53286), (34, 53343), (Start: 55 @53442 has 185 MA's), (80, 53622),

Gene: Rimmer\_145 Start: 75079, Stop: 75426, Start Num: 58  
Candidate Starts for Rimmer\_145:  
(Start: 48 @75022 has 2 MA's), (Start: 58 @75079 has 89 MA's),

Gene: Rita\_104 Start: 58303, Stop: 58629, Start Num: 55  
Candidate Starts for Rita\_104:  
(24, 58129), (28, 58165), (46, 58252), (Start: 55 @58303 has 185 MA's), (65, 58426), (88, 58561),

Gene: RitaG\_103 Start: 57292, Stop: 57618, Start Num: 55  
Candidate Starts for RitaG\_103:  
(Start: 55 @57292 has 185 MA's),

Gene: RiverMonster\_146 Start: 74984, Stop: 75331, Start Num: 58  
Candidate Starts for RiverMonster\_146:  
(Start: 48 @74927 has 2 MA's), (Start: 58 @74984 has 89 MA's),

Gene: Rockne\_108 Start: 56236, Stop: 56562, Start Num: 55  
Candidate Starts for Rockne\_108:  
(1, 55129), (2, 55420), (3, 55483), (5, 55723), (8, 55810), (24, 56062), (28, 56098), (46, 56185), (Start: 55 @56236 has 185 MA's), (65, 56359), (88, 56494),

Gene: RootBeer\_55 Start: 38956, Stop: 39309, Start Num: 54  
Candidate Starts for RootBeer\_55:  
(37, 38890), (Start: 54 @38956 has 1 MA's), (74, 39118), (79, 39139),

Gene: Rowa\_68 Start: 42116, Stop: 42472, Start Num: 50  
Candidate Starts for Rowa\_68:  
(44, 42074), (Start: 50 @42116 has 1 MA's), (77, 42302), (82, 42326),

Gene: Royals2015\_108 Start: 56107, Stop: 56451, Start Num: 55  
Candidate Starts for Royals2015\_108:  
(24, 55933), (28, 55969), (46, 56056), (Start: 55 @56107 has 185 MA's), (66, 56251), (75, 56275),

Gene: Ruby\_100 Start: 57258, Stop: 57584, Start Num: 55

Candidate Starts for Ruby\_100:  
(Start: 55 @57258 has 185 MA's),

Gene: RunningOnE\_55 Start: 25257, Stop: 25574, Start Num: 55  
Candidate Starts for RunningOnE\_55:  
(33, 25158), (38, 25173), (Start: 55 @25257 has 185 MA's), (71, 25413), (80, 25443), (86, 25488),

Gene: Sabbb\_107 Start: 55263, Stop: 55589, Start Num: 55  
Candidate Starts for Sabbb\_107:  
(24, 55089), (28, 55125), (46, 55212), (Start: 55 @55263 has 185 MA's),

Gene: Saints25\_141 Start: 72738, Stop: 73181, Start Num: 39  
Candidate Starts for Saints25\_141:  
(Start: 39 @72738 has 1 MA's), (Start: 48 @72777 has 2 MA's), (Start: 58 @72834 has 89 MA's),

Gene: Sandalphon\_103 Start: 58290, Stop: 58634, Start Num: 55  
Candidate Starts for Sandalphon\_103:  
(24, 58116), (28, 58152), (46, 58239), (Start: 55 @58290 has 185 MA's), (66, 58434), (75, 58458),

Gene: Sashimi\_96 Start: 51797, Stop: 52117, Start Num: 55  
Candidate Starts for Sashimi\_96:  
(Start: 55 @51797 has 185 MA's), (80, 51977),

Gene: Sassafras\_106 Start: 56554, Stop: 56880, Start Num: 55  
Candidate Starts for Sassafras\_106:  
(Start: 55 @56554 has 185 MA's),

Gene: SassyB\_95 Start: 54627, Stop: 54953, Start Num: 55  
Candidate Starts for SassyB\_95:  
(5, 54114), (8, 54201), (24, 54453), (28, 54489), (46, 54576), (Start: 55 @54627 has 185 MA's), (65, 54750), (88, 54885),

Gene: Scotia\_58 Start: 39984, Stop: 40337, Start Num: 55  
Candidate Starts for Scotia\_58:  
(Start: 55 @39984 has 185 MA's), (64, 40080), (88, 40248), (89, 40293),

Gene: Scottish\_105 Start: 56356, Stop: 56682, Start Num: 55  
Candidate Starts for Scottish\_105:  
(24, 56182), (28, 56218), (46, 56305), (Start: 55 @56356 has 185 MA's), (65, 56479), (88, 56614),

Gene: SeaLumen\_113 Start: 56795, Stop: 57121, Start Num: 55  
Candidate Starts for SeaLumen\_113:  
(5, 56282), (6, 56306), (8, 56369), (24, 56621), (28, 56657), (46, 56744), (Start: 55 @56795 has 185 MA's),

Gene: Seabastian\_111 Start: 58148, Stop: 58474, Start Num: 55  
Candidate Starts for Seabastian\_111:  
(Start: 55 @58148 has 185 MA's),

Gene: Seahorse\_101 Start: 56066, Stop: 56386, Start Num: 55  
Candidate Starts for Seahorse\_101:  
(Start: 55 @56066 has 185 MA's), (80, 56246),

Gene: ShamWow\_145 Start: 75352, Stop: 75699, Start Num: 58  
Candidate Starts for ShamWow\_145:  
(Start: 48 @75295 has 2 MA's), (Start: 58 @75352 has 89 MA's),

Gene: Shambre1\_67 Start: 41812, Stop: 42165, Start Num: 55  
Candidate Starts for Shambre1\_67:  
(Start: 55 @41812 has 185 MA's), (79, 41995),

Gene: Shauna1\_106 Start: 58075, Stop: 58419, Start Num: 55  
Candidate Starts for Shauna1\_106:  
(Start: 55 @58075 has 185 MA's), (66, 58219), (75, 58243),

Gene: ShereKhan\_145 Start: 75552, Stop: 75899, Start Num: 58  
Candidate Starts for ShereKhan\_145:  
(Start: 48 @75495 has 2 MA's), (Start: 58 @75552 has 89 MA's),

Gene: ShiLan\_107 Start: 59324, Stop: 59650, Start Num: 55  
Candidate Starts for ShiLan\_107:  
(Start: 55 @59324 has 185 MA's),

Gene: ShowerHandel\_107 Start: 57093, Stop: 57419, Start Num: 55  
Candidate Starts for ShowerHandel\_107:  
(24, 56919), (28, 56955), (46, 57042), (Start: 55 @57093 has 185 MA's), (65, 57216), (88, 57351),

Gene: ShroomBoi\_105 Start: 57753, Stop: 58079, Start Num: 55  
Candidate Starts for ShroomBoi\_105:  
(5, 57240), (8, 57327), (24, 57579), (46, 57702), (Start: 55 @57753 has 185 MA's), (65, 57876),

Gene: SiSi\_99 Start: 55811, Stop: 56137, Start Num: 55  
Candidate Starts for SiSi\_99:  
(24, 55637), (28, 55673), (46, 55760), (Start: 55 @55811 has 185 MA's), (65, 55934), (88, 56069),

Gene: SonDevVon\_104 Start: 52766, Stop: 53086, Start Num: 55  
Candidate Starts for SonDevVon\_104:  
(Start: 55 @52766 has 185 MA's), (80, 52946),

Gene: SophKB\_144 Start: 75004, Stop: 75351, Start Num: 58  
Candidate Starts for SophKB\_144:  
(Start: 48 @74947 has 2 MA's), (Start: 58 @75004 has 89 MA's),

Gene: Sotrice96\_151 Start: 75718, Stop: 76065, Start Num: 58  
Candidate Starts for Sotrice96\_151:  
(Start: 48 @75661 has 2 MA's), (Start: 58 @75718 has 89 MA's),

Gene: Sparkdehlily\_111 Start: 55806, Stop: 56132, Start Num: 55  
Candidate Starts for Sparkdehlily\_111:  
(Start: 55 @55806 has 185 MA's),

Gene: SpicyFrank\_97 Start: 51851, Stop: 52171, Start Num: 55  
Candidate Starts for SpicyFrank\_97:  
(Start: 55 @51851 has 185 MA's), (80, 52031),

Gene: Spooks\_37 Start: 24524, Stop: 24868, Start Num: 55

Candidate Starts for Spooks\_37:  
(52, 24515), (Start: 53 @24518 has 1 MA's), (Start: 55 @24524 has 185 MA's),

Gene: Spoonbill\_104 Start: 55237, Stop: 55563, Start Num: 55  
Candidate Starts for Spoonbill\_104:  
(Start: 55 @55237 has 185 MA's),

Gene: StAnnes\_110 Start: 58889, Stop: 59215, Start Num: 55  
Candidate Starts for StAnnes\_110:  
(24, 58715), (28, 58751), (46, 58838), (Start: 55 @58889 has 185 MA's), (65, 59012), (88, 59147),

Gene: Stank\_150 Start: 75344, Stop: 75691, Start Num: 58  
Candidate Starts for Stank\_150:  
(Start: 48 @75287 has 2 MA's), (Start: 58 @75344 has 89 MA's),

Gene: Stark\_143 Start: 74150, Stop: 74497, Start Num: 58  
Candidate Starts for Stark\_143:  
(Start: 48 @74093 has 2 MA's), (Start: 58 @74150 has 89 MA's),

Gene: StolenFromERC\_148 Start: 74689, Stop: 75036, Start Num: 58  
Candidate Starts for StolenFromERC\_148:  
(Start: 48 @74632 has 2 MA's), (Start: 58 @74689 has 89 MA's),

Gene: Success\_39 Start: 23746, Stop: 24093, Start Num: 53  
Candidate Starts for Success\_39:  
(52, 23743), (Start: 53 @23746 has 1 MA's), (Start: 55 @23752 has 185 MA's), (68, 23911),

Gene: SuperGrey\_103 Start: 58875, Stop: 59201, Start Num: 55  
Candidate Starts for SuperGrey\_103:  
(24, 58701), (28, 58737), (46, 58824), (Start: 55 @58875 has 185 MA's), (65, 58998), (88, 59133),

Gene: Suscepit\_79 Start: 49951, Stop: 50286, Start Num: 56  
Candidate Starts for Suscepit\_79:  
(15, 49678), (Start: 56 @49951 has 29 MA's),

Gene: SushiChef\_82 Start: 52422, Stop: 52757, Start Num: 56  
Candidate Starts for SushiChef\_82:  
(15, 52149), (Start: 56 @52422 has 29 MA's),

Gene: SwagPiggett\_106 Start: 58433, Stop: 58759, Start Num: 55  
Candidate Starts for SwagPiggett\_106:  
(Start: 55 @58433 has 185 MA's),

Gene: TBrady12\_151 Start: 74778, Stop: 75125, Start Num: 58  
Candidate Starts for TBrady12\_151:  
(Start: 48 @74721 has 2 MA's), (Start: 58 @74778 has 89 MA's),

Gene: TDanisky\_112 Start: 55806, Stop: 56132, Start Num: 55  
Candidate Starts for TDanisky\_112:  
(Start: 55 @55806 has 185 MA's),

Gene: Taj\_110 Start: 58080, Stop: 58430, Start Num: 55  
Candidate Starts for Taj\_110:

(24, 57906), (28, 57942), (46, 58029), (Start: 55 @58080 has 185 MA's), (65, 58203), (88, 58338),

Gene: Tarkin\_144 Start: 75417, Stop: 75764, Start Num: 58

Candidate Starts for Tarkin\_144:

(Start: 48 @75360 has 2 MA's), (Start: 58 @75417 has 89 MA's),

Gene: Tayonia\_79 Start: 49950, Stop: 50285, Start Num: 56

Candidate Starts for Tayonia\_79:

(15, 49677), (Start: 56 @49950 has 29 MA's),

Gene: Teaspoon\_130 Start: 70361, Stop: 70708, Start Num: 58

Candidate Starts for Teaspoon\_130:

(Start: 48 @70304 has 2 MA's), (Start: 58 @70361 has 89 MA's),

Gene: ThankyouJordi\_83 Start: 53067, Stop: 53414, Start Num: 56

Candidate Starts for ThankyouJordi\_83:

(15, 52794), (Start: 56 @53067 has 29 MA's),

Gene: ThayneTheZag\_102 Start: 53366, Stop: 53686, Start Num: 55

Candidate Starts for ThayneTheZag\_102:

(21, 53168), (Start: 55 @53366 has 185 MA's), (80, 53546),

Gene: Thimble\_138 Start: 70885, Stop: 71232, Start Num: 58

Candidate Starts for Thimble\_138:

(Start: 48 @70828 has 2 MA's), (Start: 58 @70885 has 89 MA's),

Gene: Thresher\_148 Start: 75611, Stop: 75958, Start Num: 58

Candidate Starts for Thresher\_148:

(Start: 39 @75515 has 1 MA's), (Start: 48 @75554 has 2 MA's), (Start: 58 @75611 has 89 MA's),

Gene: Tiff81\_90 Start: 50115, Stop: 50435, Start Num: 55

Candidate Starts for Tiff81\_90:

(Start: 55 @50115 has 185 MA's), (80, 50295),

Gene: TimTam\_84 Start: 53045, Stop: 53380, Start Num: 56

Candidate Starts for TimTam\_84:

(15, 52772), (Start: 56 @53045 has 29 MA's), (81, 53231),

Gene: Traaww1\_144 Start: 74842, Stop: 75189, Start Num: 58

Candidate Starts for Traaww1\_144:

(Start: 58 @74842 has 89 MA's),

Gene: Trumpet\_79 Start: 49951, Stop: 50286, Start Num: 56

Candidate Starts for Trumpet\_79:

(15, 49678), (Start: 56 @49951 has 29 MA's),

Gene: Tuco\_150 Start: 76363, Stop: 76710, Start Num: 58

Candidate Starts for Tuco\_150:

(Start: 48 @76306 has 2 MA's), (Start: 58 @76363 has 89 MA's),

Gene: Tweety\_109 Start: 58225, Stop: 58551, Start Num: 55

Candidate Starts for Tweety\_109:

(24, 58051), (28, 58087), (46, 58174), (Start: 55 @58225 has 185 MA's), (65, 58348), (88, 58483),

Gene: Ukulele\_143 Start: 74533, Stop: 74880, Start Num: 58  
Candidate Starts for Ukulele\_143:  
(Start: 39 @74437 has 1 MA's), (Start: 48 @74476 has 2 MA's), (Start: 58 @74533 has 89 MA's),

Gene: VRedHorse\_105 Start: 54331, Stop: 54657, Start Num: 55  
Candidate Starts for VRedHorse\_105:  
(Start: 55 @54331 has 185 MA's),

Gene: Veteran\_94 Start: 55679, Stop: 56005, Start Num: 55  
Candidate Starts for Veteran\_94:  
(24, 55505), (28, 55541), (46, 55628), (Start: 55 @55679 has 185 MA's), (65, 55802), (88, 55937),

Gene: Wachhund\_101 Start: 54046, Stop: 54372, Start Num: 55  
Candidate Starts for Wachhund\_101:  
(Start: 55 @54046 has 185 MA's),

Gene: Wee\_109 Start: 58763, Stop: 59089, Start Num: 55  
Candidate Starts for Wee\_109:  
(24, 58589), (28, 58625), (46, 58712), (Start: 55 @58763 has 185 MA's), (65, 58886), (88, 59021),

Gene: WelcomeAyanna\_83 Start: 53214, Stop: 53561, Start Num: 56  
Candidate Starts for WelcomeAyanna\_83:  
(15, 52941), (Start: 56 @53214 has 29 MA's),

Gene: Whatsapiecost\_99 Start: 52358, Stop: 52702, Start Num: 55  
Candidate Starts for Whatsapiecost\_99:  
(24, 52184), (28, 52220), (46, 52307), (Start: 55 @52358 has 185 MA's), (66, 52502), (75, 52526),

Gene: Whouxphf\_108 Start: 58625, Stop: 58951, Start Num: 55  
Candidate Starts for Whouxphf\_108:  
(24, 58451), (28, 58487), (46, 58574), (Start: 55 @58625 has 185 MA's), (65, 58748), (88, 58883),

Gene: Wiggin\_149 Start: 74322, Stop: 74669, Start Num: 58  
Candidate Starts for Wiggin\_149:  
(Start: 48 @74265 has 2 MA's), (Start: 58 @74322 has 89 MA's),

Gene: WillSterrel\_103 Start: 57362, Stop: 57706, Start Num: 55  
Candidate Starts for WillSterrel\_103:  
(Start: 55 @57362 has 185 MA's), (66, 57506), (75, 57530),

Gene: Willez\_144 Start: 73995, Stop: 74342, Start Num: 58  
Candidate Starts for Willez\_144:  
(Start: 48 @73938 has 2 MA's), (Start: 58 @73995 has 89 MA's),

Gene: Windest\_101 Start: 51370, Stop: 51690, Start Num: 55  
Candidate Starts for Windest\_101:  
(Start: 55 @51370 has 185 MA's), (80, 51550),

Gene: YoungHarleezy\_97 Start: 52603, Stop: 52923, Start Num: 55  
Candidate Starts for YoungHarleezy\_97:  
(Start: 55 @52603 has 185 MA's), (80, 52783),

Gene: Youngblood\_150 Start: 75315, Stop: 75662, Start Num: 58  
Candidate Starts for Youngblood\_150:  
(Start: 48 @75258 has 2 MA's), (Start: 58 @75315 has 89 MA's),

Gene: Zameen\_79 Start: 49950, Stop: 50285, Start Num: 56  
Candidate Starts for Zameen\_79:  
(15, 49677), (Start: 56 @49950 has 29 MA's),

Gene: Zerg\_103 Start: 56837, Stop: 57181, Start Num: 55  
Candidate Starts for Zerg\_103:  
(24, 56663), (28, 56699), (46, 56786), (Start: 55 @56837 has 185 MA's), (66, 56981), (75, 57005),

Gene: Zirinka\_79 Start: 51694, Stop: 52026, Start Num: 56  
Candidate Starts for Zirinka\_79:  
(15, 51421), (Start: 56 @51694 has 29 MA's),

Gene: Zizzle\_108 Start: 58913, Stop: 59239, Start Num: 55  
Candidate Starts for Zizzle\_108:  
(Start: 55 @58913 has 185 MA's), (65, 59036), (88, 59171),