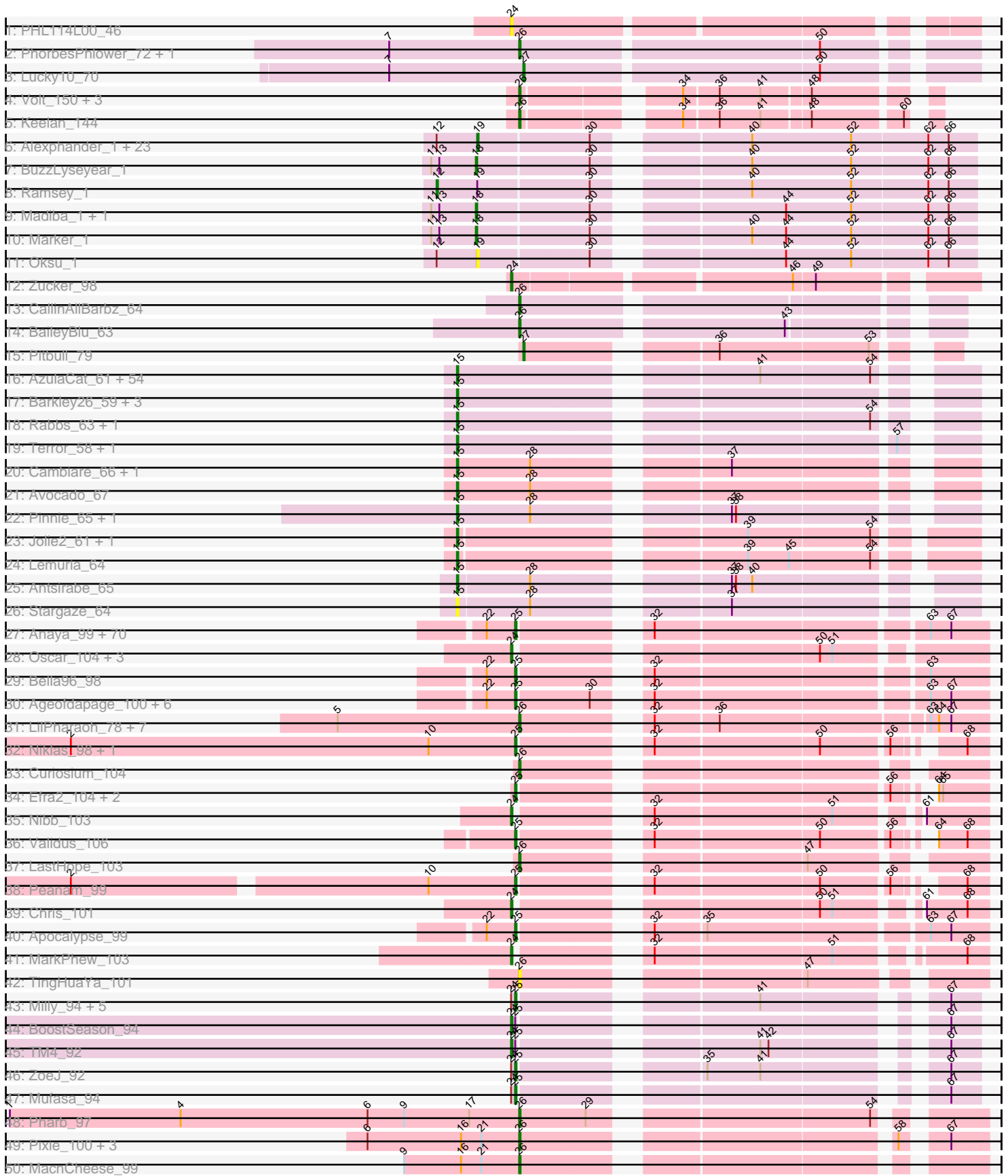
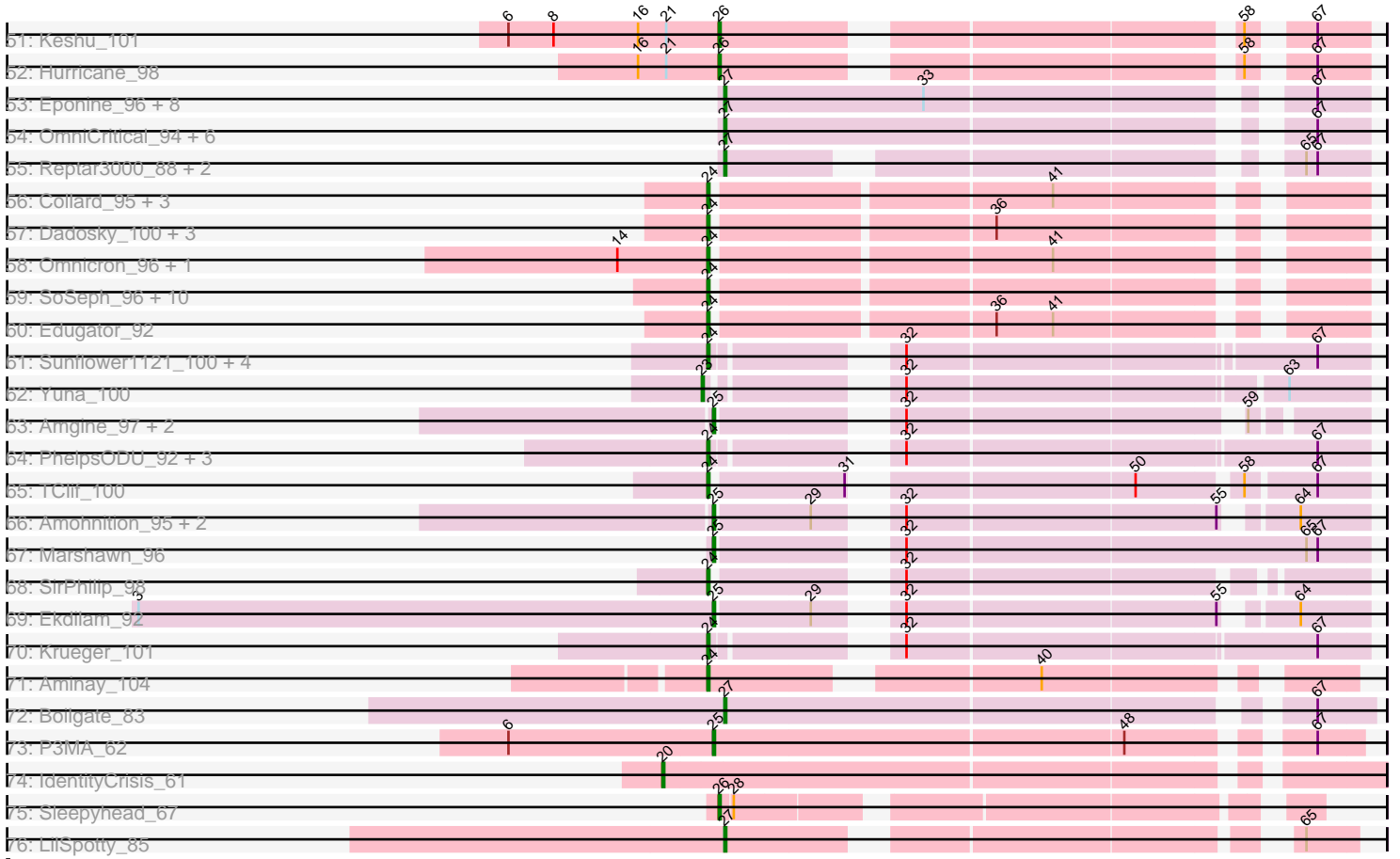


Pham 193678



Pham 193678



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 193678 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193678 has 307 members, 9 are drafts.

Phages represented in each track:

- Track 1 : PHL114L00\_46
- Track 2 : PhorbesPhlower\_72, Morkie\_74
- Track 3 : Lucky10\_70
- Track 4 : Volt\_150, Guey18\_149, Ronaldo\_147, Fryberger\_144
- Track 5 : Keelan\_144
- Track 6 : Alexphander\_1, Coco12\_1, BigPhil\_1, OwlsT2W\_1, Leozinho\_1, Bobi\_1, Kingsley\_1, RockyHorror\_1, Lorde\_1, Boomer\_1, Spikelee\_1, JalFarm20\_1, Enby\_1, DirtMcgirt\_1, Stap\_1, Cerasum\_1, Sarma624\_1, Drago\_1, DosHalletts\_1, UncleRicky\_1, DaWorst\_1, Beakin\_1, Velveteen\_1, Tootsieroll\_1
- Track 7 : BuzzLyseyear\_1
- Track 8 : Ramsey\_1
- Track 9 : Madiba\_1, Pollywog\_1
- Track 10 : Marker\_1
- Track 11 : Oksu\_1
- Track 12 : Zucker\_98
- Track 13 : CallinAllBarbz\_64
- Track 14 : BaileyBlu\_63
- Track 15 : Pitbull\_79
- Track 16 : AzulaCat\_61, Camri\_62, Gideon\_62, Aroostook\_62, ShaboiShabazz\_61, LouisV14\_64, Jonghyun\_60, Marmie\_62, Kasen3\_63, Sizemore\_63, PinkYoshi\_62, ECartman\_60, Gomashi\_61, Grizzly\_61, JorRay\_63, Halo\_63, Frosty24\_62, GoldenAsh\_60, Phreak\_62, Hotshotbaby7\_62, Mowgli\_62, Chance64\_62, CassieYates\_62, Remy19\_62, BQuat\_61, Coleslaw\_61, Avrafan\_61, ZoMa\_61, Wendigo\_61, Schiebel\_60, Jolene\_62, CLED96\_61, Kareem\_63, Crespo\_61, Darionha\_62, BruceB\_62, Cedasite\_62, Angel\_60, Sweets\_62, BPs\_62, Olga\_63, Plagueis\_62, Renaissance\_61, Jane\_63, Cherrybomb426\_61, Peeb\_61, Maliketh\_61, Zombie\_62, Annihilator\_61, Hope\_62, DNAllI\_0059, Phish\_61, TomBrady\_62, DMoney\_61, OctaviousRex\_61
- Track 17 : Barkley26\_59, Periodt\_62, Liefie\_59, Paito\_63
- Track 18 : Rabbs\_63, Sneeze\_62
- Track 19 : Terror\_58, Taheera\_58
- Track 20 : Cambiare\_66, FlagStaff\_64
- Track 21 : Avocado\_67
- Track 22 : Pinnie\_65, MOOREtheMARYer\_66
- Track 23 : Jolie2\_61, Mercurio\_63
- Track 24 : Lemuria\_64
- Track 25 : Antsirabe\_65

- Track 26 : Stargaze\_64
- Track 27 : Anaya\_99, SamuelLPlaqson\_98, Blizzard\_97, Belladonna\_97, Homura\_95, Emerson\_101, Adonis\_96, TreyKay\_98, Veliki\_97, Capricorn\_97, CheetoDust\_96, YoureAdopted\_95, HedwigODU\_96, Ganymede\_96, Mynx\_97, Topper\_96, Beezoo\_100, Adephagia\_95, CrimD\_96, Twitch\_97, MeaningOfLife\_98, Spock\_96, Durfee\_97, DrHayes\_98, Urkel\_98, Deby\_96, Rosmarinus\_97, JAWS\_95, Ramen\_97, Geraldini\_97, CaseJules\_100, Inky\_96, Piatt\_95, Jayhawk\_100, BarrelRoll\_96, BEEST\_96, AlishaPH\_89, BGIlluviae\_96, Padpat\_101, QuincyRose\_94, Padfoot\_96, TruffulaTree\_98, Peel\_96, Llorens\_96, Megsy\_102, TiniBug\_95, Prithvi\_98, CREW\_95, Dalmuri\_97, Tachez\_97, Atiba\_97, Angelica\_95, Jarvi\_96, Asayake\_97, Zabiza\_92, Lunahalos\_96, Hyperbowlee\_95, Rapunzel97\_99, ActinUp\_97, Pokerus\_96, Boiiii\_97, BaghaKamala\_96, Joy99\_98, Zavala\_98, ShiaSurprise\_99, Slimphazie\_99, Tiri\_97, Sulley\_95, LindNT\_94, Jeckyll\_97, TaiwanKao\_98
- Track 28 : Oscar\_104, Scarlett\_103, LeMond\_103, KiSi\_104
- Track 29 : Bella96\_98
- Track 30 : Ageofdapage\_100, Dole\_99, Stinson\_97, Devera\_103, Illumine\_100, LaterM\_96, Murucutumbu\_96
- Track 31 : LilPharaoh\_78, Nutello\_77, Mdavu\_78, Enkosi\_79, Amelie\_77, SgtBeansprout\_78, Binglebops\_77, Nikao\_80
- Track 32 : Niklas\_98, Shaobing\_96
- Track 33 : Curiosium\_104
- Track 34 : Efra2\_104, Yunkel11\_101, Guanica15\_103
- Track 35 : Nibb\_103
- Track 36 : Validus\_106
- Track 37 : LastHope\_103
- Track 38 : Peanam\_99
- Track 39 : Chris\_101
- Track 40 : Apocalypse\_99
- Track 41 : MarkPhew\_103
- Track 42 : TingHuaYa\_101
- Track 43 : Milly\_94, Strobilo\_95, Marcoliusprime\_92, DismalFunk\_94, Findley\_94, DismalStressor\_94
- Track 44 : BoostSeason\_94
- Track 45 : TM4\_92
- Track 46 : ZoeJ\_92
- Track 47 : Mufasa\_94
- Track 48 : Pharb\_97
- Track 49 : Pixie\_100, TBond007\_97, ShedlockHolmes\_100, TribbleTrouble\_97
- Track 50 : MacnCheese\_99
- Track 51 : Keshu\_101
- Track 52 : Hurricane\_98
- Track 53 : Eponine\_96, Wintermute\_94, Juliette\_96, JF1\_94, Ruthiejr\_96, Malthus\_95, Y10\_90, Fionnbharth\_94, Y2\_90
- Track 54 : OmniCritical\_94, Taquito\_94, SamScheppers\_93, Mitti\_94, Chancellor\_94, Cheetobro\_92, Slarp\_92
- Track 55 : Reptar3000\_88, MissDaisy\_88, Patt\_87
- Track 56 : Collard\_95, InvictusManeo\_97, Kratio\_100, Agent47\_97
- Track 57 : Dadosky\_100, AlleyCat\_100, Larva\_98, Psycho\_98
- Track 58 : Omnicron\_96, Rando14\_92
- Track 59 : SoSeph\_96, Feyre\_98, Miryou\_98, OkiRoe\_97, Leston\_95, Waterfoul\_95, Gengar\_96, Guillsminger\_96, Heftyboy\_96, Paola\_93, Thyatira\_97
- Track 60 : Edugator\_92

- Track 61 : Sunflower1121\_100, Bryler\_94, Cain\_102, Shadow1\_100, Phrank\_103
- Track 62 : Yuna\_100
- Track 63 : Amgine\_97, Fefferhead\_98, Ellie\_96
- Track 64 : PhelpsODU\_92, Tierra\_102, Ximenita\_103, Syra333\_99
- Track 65 : TClif\_100
- Track 66 : Amohnition\_95, DarthP\_95, Hammy\_95
- Track 67 : Marshawn\_96
- Track 68 : SirPhilip\_98
- Track 69 : Ekdilam\_92
- Track 70 : Krueger\_101
- Track 71 : Aminay\_104
- Track 72 : Boilgate\_83
- Track 73 : P3MA\_62
- Track 74 : IdentityCrisis\_61
- Track 75 : Sleepyhead\_67
- Track 76 : LilSpotty\_85

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

The start number called the most often in the published annotations is 25, it was called in 103 of the 298 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_97, Adephegia\_95, Adonis\_96, Ageofdapage\_100, AlishaPH\_89, Amgine\_97, Amohnition\_95, Anaya\_99, Angelica\_95, Apocalypse\_99, Asayake\_97, Atiba\_97, BEEST\_96, BGlluviae\_96, BaghaKamala\_96, BarrelRoll\_96, Beezoo\_100, Bella96\_98, Belladonna\_97, Blizzard\_97, Boiiii\_97, CREW\_95, Capricorn\_97, CaseJules\_100, CheetoDust\_96, CrimD\_96, Dalmuri\_97, DarthP\_95, Deby\_96, Devera\_103, DismalFunk\_94, DismalStressor\_94, Dole\_99, DrHayes\_98, Durfee\_97, Efra2\_104, Ekdilam\_92, Ellie\_96, Emerson\_101, Fefferhead\_98, Findley\_94, Ganymede\_96, Geraldini\_97, Guanica15\_103, Hammy\_95, HedwigODU\_96, Homura\_95, Hyperbowlee\_95, Illumine\_100, Inky\_96, JAWS\_95, Jarvi\_96, Jayhawk\_100, Jeckyll\_97, Joy99\_98, LaterM\_96, LindNT\_94, Llorens\_96, Lunahalos\_96, Marcoliusprime\_92, Marshawn\_96, MeaningOfLife\_98, Megsy\_102, Milly\_94, Mufasa\_94, Murucutumbu\_96, Mynx\_97, Niklas\_98, P3MA\_62, Padfoot\_96, Padpat\_101, Peanam\_99, Peel\_96, Piatt\_95, Pokerus\_96, Prithvi\_98, QuincyRose\_94, Ramen\_97, Rapunzel97\_99, Rosmarinus\_97, SamuelLPlaqson\_98, Shaobing\_96, ShiaSurprise\_99, Slimphazie\_99, Spock\_96, Stinson\_97, Strobilo\_95, Sulley\_95, Tachez\_97, TaiwanKao\_98, TiniBug\_95, Tiri\_97, Topper\_96, TreyKay\_98, TruffulaTree\_98, Twitch\_97, Urkel\_98, Validus\_106, Veliki\_97, YoureAdopted\_95, Yunkel11\_101, Zabiza\_92, Zavala\_98, ZoeJ\_92,

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

- BoostSeason\_94, TM4\_92,

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

- Agent47\_97, Alexphander\_1, AlleyCat\_100, Amelie\_77, Aminay\_104, Angel\_60, Annihilator\_61, Antsirabe\_65, Aroostook\_62, Avocado\_67, Avrafan\_61, AzulaCat\_61, BPs\_62, BQuat\_61, BaileyBlu\_63, Barkley26\_59, Beakin\_1, BigPhil\_1, Binglebops\_77, Bobi\_1, Boilgate\_83, Boomer\_1, BruceB\_62, Bryler\_94,

BuzzLyseyear\_1, CLED96\_61, Cain\_102, CallinAllBarbz\_64, Cambiare\_66, Camri\_62, CassieYates\_62, Cedasite\_62, Cerasum\_1, Chance64\_62, Chancellor\_94, Cheetobro\_92, Cherrybomb426\_61, Chris\_101, Coco12\_1, Coleslaw\_61, Collard\_95, Crespo\_61, Curiosium\_104, DMoney\_61, DNAllI\_0059, DaWorst\_1, Dadosky\_100, Darionha\_62, DirtMcgirt\_1, DosHalletts\_1, Drago\_1, ECartman\_60, Edugator\_92, Enby\_1, Enkosi\_79, Eponine\_96, Feyre\_98, Fionnbharth\_94, FlagStaff\_64, Frosty24\_62, Fryberger\_144, Gengar\_96, Gideon\_62, GoldenAsh\_60, Gomashi\_61, Grizzly\_61, Guey18\_149, Guillsminger\_96, Halo\_63, Heftyboy\_96, Hope\_62, Hotshotbaby7\_62, Hurricane\_98, IdentityCrisis\_61, InvictusManeo\_97, JF1\_94, JalFarm20\_1, Jane\_63, Jolene\_62, Jolie2\_61, Jonghyun\_60, JorRay\_63, Juliette\_96, Kareem\_63, Kasen3\_63, Keelan\_144, Keshu\_101, KiSi\_104, Kingsley\_1, Kratio\_100, Krueger\_101, Larva\_98, LastHope\_103, LeMond\_103, Lemuria\_64, Leozinho\_1, Leston\_95, Liefie\_59, LilPharaoh\_78, LilSpotty\_85, Lorde\_1, LouisV14\_64, Lucky10\_70, MOOREtheMARYer\_66, MacnCheese\_99, Madiba\_1, Maliketh\_61, Malthus\_95, MarkPhew\_103, Marker\_1, Marmie\_62, Mdavu\_78, Mercurio\_63, Miryou\_98, MissDaisy\_88, Mitti\_94, Morkie\_74, Mowgli\_62, Nibb\_103, Nikao\_80, Nutello\_77, OctaviousRex\_61, ŌkiRoe\_97, Oksu\_1, Olga\_63, OmniCritical\_94, Omnicron\_96, Oscar\_104, OwlsT2W\_1, PHL114L00\_46, Paito\_63, Paola\_93, Patt\_87, Peeb\_61, Periodt\_62, Pharb\_97, PhelpsODU\_92, Phish\_61, PhorbPhlower\_72, Phrank\_103, Phreak\_62, PinkYoshi\_62, Pinnie\_65, Pitbull\_79, Pixie\_100, Plagueis\_62, Pollywog\_1, Psycho\_98, Rabbs\_63, Ramsey\_1, Rando14\_92, Remy19\_62, Renaissance\_61, Reptar3000\_88, RockyHorror\_1, Ronaldo\_147, Ruthiejr\_96, SamScheppers\_93, Sarma624\_1, Scarlett\_103, Schiebel\_60, SgtBeansprout\_78, ShaboiShabazz\_61, Shadow1\_100, ShedlockHolmes\_100, SirPhilip\_98, Sizemore\_63, Slarp\_92, Sleepyhead\_67, Sneeze\_62, SoSeph\_96, Spikelee\_1, Stap\_1, Stargaze\_64, Sunflower1121\_100, Sweets\_62, Syra333\_99, TBond007\_97, TClif\_100, Taheera\_58, Taquito\_94, Terror\_58, Thyatira\_97, Tierra\_102, TingHuaYa\_101, TomBrady\_62, Tootsieroll\_1, TripleTrouble\_97, UncleRicky\_1, Velveteen\_1, Volt\_150, Waterfoul\_95, Wendigo\_61, Wintermute\_94, Ximenita\_103, Y10\_90, Y2\_90, Yuna\_100, ZoMa\_61, Zombie\_62, Zucker\_98,

### Summary by start number:

#### Start 12:

- Found in 26 of 307 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 1 of 298
- Called 3.8% of time when present
- Phage (with cluster) where this start called: Ramsey\_1 (F1),

#### Start 15:

- Found in 73 of 307 ( 23.8% ) of genes in pham
- Manual Annotations of this start: 68 of 298
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angel\_60 (G1), Annihilator\_61 (G1), Antsirabe\_65 (G5), Aroostook\_62 (G1), Avocado\_67 (G2), Avrafan\_61 (G1), AzulaCat\_61 (G1), BPs\_62 (G1), BQuat\_61 (G1), Barkley26\_59 (G1), BruceB\_62 (G1), CLED96\_61 (G1), Cambiare\_66 (G2), Camri\_62 (G1), CassieYates\_62 (G1), Cedasite\_62 (G1), Chance64\_62 (G1), Cherrybomb426\_61 (G1), Coleslaw\_61 (G1), Crespo\_61 (G1), DMoney\_61 (G1), DNAllI\_0059 (G1), Darionha\_62 (G1), ECartman\_60 (G1), FlagStaff\_64 (G2), Frosty24\_62 (G1), Gideon\_62 (G1), GoldenAsh\_60 (G1), Gomashi\_61 (G1), Grizzly\_61 (G1), Halo\_63 (G1), Hope\_62 (G1), Hotshotbaby7\_62 (G1), Jane\_63 (G1), Jolene\_62 (G1), Jolie2\_61 (G4),

Jonghyun\_60 (G1), JorRay\_63 (G1), Kareem\_63 (G1), Kasen3\_63 (G1), Lemuria\_64 (G4), Liefie\_59 (G1), LouisV14\_64 (G1), MOOREtheMARYer\_66 (G3), Maliketh\_61 (G1), Marmie\_62 (G1), Mercurio\_63 (G4), Mowgli\_62 (G1), OctaviousRex\_61 (G1), Olga\_63 (G1), Paito\_63 (G1), Peeb\_61 (G1), Periodt\_62 (G1), Phish\_61 (G1), Phreak\_62 (G1), PinkYoshi\_62 (G1), Pinnie\_65 (G3), Plagueis\_62 (G1), Rabbs\_63 (G1), Remy19\_62 (G1), Renaissance\_61 (G1), Schiebel\_60 (G1), ShaboiShabazz\_61 (G1), Sizemore\_63 (G1), Sneeze\_62 (G1), Stargaze\_64 (G5), Sweets\_62 (G1), Taheera\_58 (G1), Terror\_58 (G1), TomBrady\_62 (G1), Wendigo\_61 (G1), ZoMa\_61 (G1), Zombie\_62 (G1),

Start 18:

- Found in 4 of 307 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 298
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BuzzLyseyear\_1 (F1), Madiba\_1 (F1), Marker\_1 (F1), Pollywog\_1 (F1),

Start 19:

- Found in 26 of 307 ( 8.5% ) of genes in pham
- Manual Annotations of this start: 24 of 298
- Called 96.2% of time when present
- Phage (with cluster) where this start called: Alexphander\_1 (F1), Beakin\_1 (F1), BigPhil\_1 (F1), Bobi\_1 (F1), Boomer\_1 (F1), Cerasum\_1 (F1), Coco12\_1 (F1), DaWorst\_1 (F1), DirtMcgirt\_1 (F1), DosHalletts\_1 (F1), Drago\_1 (F1), Enby\_1 (F1), JalFarm20\_1 (F1), Kingsley\_1 (F1), Leozinho\_1 (F1), Lorde\_1 (F1), Oksu\_1 (F1), OwlsT2W\_1 (F1), RockyHorror\_1 (F1), Sarma624\_1 (F1), Spikelee\_1 (F1), Stap\_1 (F1), Tootsieroll\_1 (F1), UncleRicky\_1 (F1), Velveteen\_1 (F1),

Start 20:

- Found in 1 of 307 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 298
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IdentityCrisis\_61 (singleton),

Start 23:

- Found in 1 of 307 ( 0.3% ) of genes in pham
- Manual Annotations of this start: 1 of 298
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yuna\_100 (K6),

Start 24:

- Found in 54 of 307 ( 17.6% ) of genes in pham
- Manual Annotations of this start: 45 of 298
- Called 85.2% of time when present
- Phage (with cluster) where this start called: Agent47\_97 (K5), AlleyCat\_100 (K5), Aminay\_104 (K7), BoostSeason\_94 (K2), Bryler\_94 (K6), Cain\_102 (K6), Chris\_101 (K1), Collard\_95 (K5), Dadosky\_100 (K5), Edugator\_92 (K5), Feyre\_98 (K5), Gengar\_96 (K5), Guillsminger\_96 (K5), Heftyboy\_96 (K5), InvictusManeo\_97 (K5), KiSi\_104 (K1), Kratio\_100 (K5), Krueger\_101 (K6), Larva\_98 (K5), LeMond\_103 (K1), Leston\_95 (K5), MarkPhew\_103 (K1), Miryou\_98 (K5), Nibb\_103 (K1), OkiRoe\_97 (K5), Omnicron\_96 (K5), Oscar\_104 (K1), PHL114L00\_46 (BU), Paola\_93 (K5), PhelpsODU\_92 (K6), Phrank\_103 (K6), Psycho\_98 (K5), Rando14\_92 (K5), Scarlett\_103 (K1), Shadow1\_100 (K6), SirPhilip\_98 (K6), SoSeph\_96 (K5),

Sunflower1121\_100 (K6), Syra333\_99 (K6), TClif\_100 (K6), TM4\_92 (K2), Thyatira\_97 (K5), Tierra\_102 (K6), Waterfoul\_95 (K5), Ximenita\_103 (K6), Zucker\_98 (FN),

#### Start 25:

- Found in 106 of 307 ( 34.5% ) of genes in pham
- Manual Annotations of this start: 103 of 298
- Called 98.1% of time when present
- Phage (with cluster) where this start called: ActinUp\_97 (K1), Adephagia\_95 (K1), Adonis\_96 (K1), Ageofdapage\_100 (K1), AlishaPH\_89 (K1), Amgine\_97 (K6), Amohntion\_95 (K6), Anaya\_99 (K1), Angelica\_95 (K1), Apocalypse\_99 (K1), Asayake\_97 (K1), Atiba\_97 (K1), BEEEST\_96 (K1), BGIluviae\_96 (K1), BaghaKamala\_96 (K1), BarrelRoll\_96 (K1), Beezoo\_100 (K1), Bella96\_98 (K1), Belladonna\_97 (K1), Blizzard\_97 (K1), Boiii\_97 (K1), CREW\_95 (K1), Capricorn\_97 (K1), CaseJules\_100 (K1), CheetoDust\_96 (K1), CrimD\_96 (K1), Dalmuri\_97 (K1), DARTH\_95 (K6), Deby\_96 (K1), Devera\_103 (K1), DismalFunk\_94 (K2), DismalStressor\_94 (K2), Dole\_99 (K1), DrHayes\_98 (K1), Durfee\_97 (K1), Efra2\_104 (K1), Ekdilam\_92 (K6), Ellie\_96 (K6), Emerson\_101 (K1), Fefferhead\_98 (K6), Findley\_94 (K2), Ganymede\_96 (K1), Geraldini\_97 (K1), Guanica15\_103 (K1), Hammy\_95 (K6), HedwigODU\_96 (K1), Homura\_95 (K1), Hyperbowlee\_95 (K1), Illumine\_100 (K1), Inky\_96 (K1), JAWS\_95 (K1), Jarvi\_96 (K1), Jayhawk\_100 (K1), Jeckyll\_97 (K1), Joy99\_98 (K1), LaterM\_96 (K1), LindNT\_94 (K1), Llorens\_96 (K1), Lunahalos\_96 (K1), Marcoliusprime\_92 (K2), Marshawn\_96 (K6), MeaningOfLife\_98 (K1), Megsy\_102 (K1), Milly\_94 (K2), Mufasa\_94 (K2), Murucutumbu\_96 (K1), Mynx\_97 (K1), Niklas\_98 (K1), P3MA\_62 (singleton), Padfoot\_96 (K1), Padpat\_101 (K1), Peanam\_99 (K1), Peel\_96 (K1), Piatt\_95 (K1), Pokerus\_96 (K1), Prithvi\_98 (K1), QuincyRose\_94 (K1), Ramen\_97 (K1), Rapunzel97\_99 (K1), Rosmarinus\_97 (K1), SamuelLPlaqson\_98 (K1), Shaobing\_96 (K1), ShiaSurprise\_99 (K1), Slimphazie\_99 (K1), Spock\_96 (K1), Stinson\_97 (K1), Strobilo\_95 (K2), Sulley\_95 (K1), Tachez\_97 (K1), TaiwanKao\_98 (K1), TiniBug\_95 (K1), Tiri\_97 (K1), Topper\_96 (K1), TreyKay\_98 (K1), TruffulaTree\_98 (K1), Twitch\_97 (K1), Urkel\_98 (K1), Validus\_106 (K1), Veliki\_97 (K1), YoureAdopted\_95 (K1), Yunkel11\_101 (K1), Zabiza\_92 (K1), Zavala\_98 (K1), ZoeJ\_92 (K2),

#### Start 26:

- Found in 29 of 307 ( 9.4% ) of genes in pham
- Manual Annotations of this start: 28 of 298
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelie\_77 (K1), BaileyBlu\_63 (FP), Binglebops\_77 (K1), CallinAllBarbz\_64 (FP), Curiosium\_104 (K1), Enkosi\_79 (K1), Fryberger\_144 (DP), Guey18\_149 (DP), Hurricane\_98 (K3), Keelan\_144 (DP), Keshu\_101 (K3), LastHope\_103 (K1), LilPharaoh\_78 (K1), MacnCheese\_99 (K3), Mdavu\_78 (K1), Morkie\_74 (DH), Nikao\_80 (K1), Nutello\_77 (K1), Pharb\_97 (K3), PhorbesPhlower\_72 (DH), Pixie\_100 (K3), Ronaldo\_147 (DP), SgtBeansprout\_78 (K1), ShedlockHolmes\_100 (K3), Sleepyhead\_67 (singleton), TBond007\_97 (K3), TingHuaYa\_101 (K1), TripleTrouble\_97 (K3), Volt\_150 (DP),

#### Start 27:

- Found in 23 of 307 ( 7.5% ) of genes in pham
- Manual Annotations of this start: 23 of 298
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_83 (K8), Chancellor\_94 (K4), Cheetobro\_92 (K4), Eponine\_96 (K4), Fionnbharth\_94 (K4), JF1\_94 (K4), Juliette\_96



(K4), LilSpotty\_85 (singleton), Lucky10\_70 (DH), Malthus\_95 (K4), MissDaisy\_88 (K4), Mitti\_94 (K4), OmniCritical\_94 (K4), Patt\_87 (K4), Pitbull\_79 (FQ), Reptar3000\_88 (K4), Ruthiejr\_96 (K4), SamScheppers\_93 (K4), Slarp\_92 (K4), Taquito\_94 (K4), Wintermute\_94 (K4), Y10\_90 (K4), Y2\_90 (K4),

### **Summary by clusters:**

There are 21 clusters represented in this pham: FP, F1, singleton, G4, G3, G2, G1, K2, FQ, G5, K3, DP, K1, K7, K6, K5, K4, DH, BU, K8, FN,

Info for manual annotations of cluster DH:

- Start number 26 was manually annotated 2 times for cluster DH.
- Start number 27 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DP:

- Start number 26 was manually annotated 5 times for cluster DP.

Info for manual annotations of cluster F1:

- Start number 12 was manually annotated 1 time for cluster F1.
- Start number 18 was manually annotated 4 times for cluster F1.
- Start number 19 was manually annotated 24 times for cluster F1.

Info for manual annotations of cluster FN:

- Start number 24 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster FP:

- Start number 26 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster FQ:

- Start number 27 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster G1:

- Start number 15 was manually annotated 60 times for cluster G1.

Info for manual annotations of cluster G2:

- Start number 15 was manually annotated 3 times for cluster G2.

Info for manual annotations of cluster G3:

- Start number 15 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 15 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 15 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster K1:

- Start number 24 was manually annotated 7 times for cluster K1.
- Start number 25 was manually annotated 86 times for cluster K1.
- Start number 26 was manually annotated 10 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 24 was manually annotated 2 times for cluster K2.
- Start number 25 was manually annotated 8 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 26 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 27 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 24 was manually annotated 22 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 23 was manually annotated 1 time for cluster K6.
- Start number 24 was manually annotated 12 times for cluster K6.
- Start number 25 was manually annotated 8 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 24 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 27 was manually annotated 1 time for cluster K8.

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

Gene: ActinUp\_97 Start: 59451, Stop: 59753, Start Num: 25

Candidate Starts for ActinUp\_97:

(22, 59430), (Start: 25 @59451 has 103 MA's), (32, 59526), (63, 59712), (67, 59727),

Gene: Adephagia\_95 Start: 59285, Stop: 59587, Start Num: 25

Candidate Starts for Adephagia\_95:

(22, 59264), (Start: 25 @59285 has 103 MA's), (32, 59360), (63, 59546), (67, 59561),

Gene: Adonis\_96 Start: 59670, Stop: 59972, Start Num: 25

Candidate Starts for Adonis\_96:

(22, 59649), (Start: 25 @59670 has 103 MA's), (32, 59745), (63, 59931), (67, 59946),

Gene: Agent47\_97 Start: 60723, Stop: 61028, Start Num: 24

Candidate Starts for Agent47\_97:

(Start: 24 @60723 has 45 MA's), (41, 60891),

Gene: Ageofdapage\_100 Start: 60254, Stop: 60556, Start Num: 25

Candidate Starts for Ageofdapage\_100:

(22, 60233), (Start: 25 @60254 has 103 MA's), (30, 60305), (32, 60329), (63, 60515), (67, 60530),

Gene: Alexphander\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Alexphander\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: AlishaPH\_89 Start: 56673, Stop: 56975, Start Num: 25

Candidate Starts for AlishaPH\_89:

(22, 56652), (Start: 25 @56673 has 103 MA's), (32, 56748), (63, 56934), (67, 56949),

Gene: AlleyCat\_100 Start: 61692, Stop: 61997, Start Num: 24

Candidate Starts for AlleyCat\_100:

(Start: 24 @61692 has 45 MA's), (36, 61830),

Gene: Amelie\_77 Start: 56074, Stop: 56379, Start Num: 26

Candidate Starts for Amelie\_77:

(5, 55942), (Start: 26 @56074 has 28 MA's), (32, 56149), (36, 56194), (63, 56338), (64, 56344), (67, 56353),

Gene: Amgine\_97 Start: 61886, Stop: 62176, Start Num: 25

Candidate Starts for Amgine\_97:

(Start: 25 @61886 has 103 MA's), (32, 61961), (59, 62123),

Gene: Aminay\_104 Start: 59192, Stop: 59479, Start Num: 24

Candidate Starts for Aminay\_104:

(Start: 24 @59192 has 45 MA's), (40, 59342),

Gene: Amohnition\_95 Start: 61401, Stop: 61697, Start Num: 25

Candidate Starts for Amohnition\_95:

(Start: 25 @61401 has 103 MA's), (29, 61449), (32, 61476), (55, 61635), (64, 61662),

Gene: Anaya\_99 Start: 60473, Stop: 60775, Start Num: 25

Candidate Starts for Anaya\_99:

(22, 60452), (Start: 25 @60473 has 103 MA's), (32, 60548), (63, 60734), (67, 60749),

Gene: Angel\_60 Start: 40665, Stop: 40991, Start Num: 15

Candidate Starts for Angel\_60:

(Start: 15 @40665 has 68 MA's), (41, 40860), (54, 40938),

Gene: Angelica\_95 Start: 59237, Stop: 59539, Start Num: 25

Candidate Starts for Angelica\_95:

(22, 59216), (Start: 25 @59237 has 103 MA's), (32, 59312), (63, 59498), (67, 59513),

Gene: Annihilator\_61 Start: 41117, Stop: 41443, Start Num: 15

Candidate Starts for Annihilator\_61:

(Start: 15 @41117 has 68 MA's), (41, 41312), (54, 41390),

Gene: Antsirabe\_65 Start: 44050, Stop: 44373, Start Num: 15

Candidate Starts for Antsirabe\_65:

(Start: 15 @44050 has 68 MA's), (28, 44101), (37, 44221), (38, 44224), (40, 44236),

Gene: Apocalypse\_99 Start: 59588, Stop: 59890, Start Num: 25

Candidate Starts for Apocalypse\_99:

(22, 59567), (Start: 25 @59588 has 103 MA's), (32, 59663), (35, 59699), (63, 59849), (67, 59864),

Gene: Aroostook\_62 Start: 41127, Stop: 41453, Start Num: 15

Candidate Starts for Aroostook\_62:

(Start: 15 @41127 has 68 MA's), (41, 41322), (54, 41400),

Gene: Asayake\_97 Start: 59544, Stop: 59846, Start Num: 25

Candidate Starts for Asayake\_97:

(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: Atiba\_97 Start: 59195, Stop: 59497, Start Num: 25

Candidate Starts for Atiba\_97:

(22, 59174), (Start: 25 @59195 has 103 MA's), (32, 59270), (63, 59456), (67, 59471),

Gene: Avocado\_67 Start: 44700, Stop: 45026, Start Num: 15

Candidate Starts for Avocado\_67:

(Start: 15 @44700 has 68 MA's), (28, 44754),

Gene: Avrafan\_61 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Avrafan\_61:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: AzulaCat\_61 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for AzulaCat\_61:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: BEEST\_96 Start: 59545, Stop: 59847, Start Num: 25

Candidate Starts for BEEST\_96:

(22, 59524), (Start: 25 @59545 has 103 MA's), (32, 59620), (63, 59806), (67, 59821),

Gene: BGlluviae\_96 Start: 58947, Stop: 59249, Start Num: 25

Candidate Starts for BGlluviae\_96:

(22, 58926), (Start: 25 @58947 has 103 MA's), (32, 59022), (63, 59208), (67, 59223),

Gene: BPs\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for BPs\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: BQuat\_61 Start: 41117, Stop: 41443, Start Num: 15

Candidate Starts for BQuat\_61:

(Start: 15 @41117 has 68 MA's), (41, 41312), (54, 41390),

Gene: BaghaKamala\_96 Start: 58771, Stop: 59073, Start Num: 25

Candidate Starts for BaghaKamala\_96:

(22, 58750), (Start: 25 @58771 has 103 MA's), (32, 58846), (63, 59032), (67, 59047),

Gene: BaileyBlu\_63 Start: 40002, Stop: 40289, Start Num: 26

Candidate Starts for BaileyBlu\_63:

(Start: 26 @40002 has 28 MA's), (43, 40182),

Gene: Barkley26\_59 Start: 40570, Stop: 40896, Start Num: 15

Candidate Starts for Barkley26\_59:

(Start: 15 @40570 has 68 MA's),

Gene: BarrelRoll\_96 Start: 59311, Stop: 59613, Start Num: 25

Candidate Starts for BarrelRoll\_96:

(22, 59290), (Start: 25 @59311 has 103 MA's), (32, 59386), (63, 59572), (67, 59587),

Gene: Beakin\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Beakin\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Beezoo\_100 Start: 60133, Stop: 60435, Start Num: 25

Candidate Starts for Beezoo\_100:

(22, 60112), (Start: 25 @60133 has 103 MA's), (32, 60208), (63, 60394), (67, 60409),

Gene: Bella96\_98 Start: 60366, Stop: 60668, Start Num: 25

Candidate Starts for Bella96\_98:

(22, 60345), (Start: 25 @60366 has 103 MA's), (32, 60441), (63, 60627),

Gene: Belladonna\_97 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Belladonna\_97:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: BigPhil\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for BigPhil\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Biglebops\_77 Start: 56089, Stop: 56394, Start Num: 26

Candidate Starts for Biglebops\_77:

(5, 55957), (Start: 26 @56089 has 28 MA's), (32, 56164), (36, 56209), (63, 56353), (64, 56359), (67, 56368),

Gene: Blizzard\_97 Start: 59544, Stop: 59846, Start Num: 25

Candidate Starts for Blizzard\_97:

(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: Bobi\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Bobi\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Boiiii\_97 Start: 59546, Stop: 59848, Start Num: 25

Candidate Starts for Boiiii\_97:

(22, 59525), (Start: 25 @59546 has 103 MA's), (32, 59621), (63, 59807), (67, 59822),

Gene: Boilgate\_83 Start: 56925, Stop: 57236, Start Num: 27

Candidate Starts for Boilgate\_83:

(Start: 27 @56925 has 23 MA's), (67, 57207),

Gene: Boomer\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Boomer\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: BoostSeason\_94 Start: 57637, Stop: 57918, Start Num: 24

Candidate Starts for BoostSeason\_94:

(Start: 24 @57637 has 45 MA's), (Start: 25 @57640 has 103 MA's), (67, 57898),

Gene: BruceB\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for BruceB\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Bryler\_94 Start: 57308, Stop: 57616, Start Num: 24

Candidate Starts for Bryler\_94:

(Start: 24 @57308 has 45 MA's), (32, 57383), (67, 57590),

Gene: BuzzLyseyear\_1 Start: 40, Stop: 372, Start Num: 18

Candidate Starts for BuzzLyseyear\_1:

(11, 7), (13, 13), (Start: 18 @40 has 4 MA's), (30, 118), (40, 211), (52, 283), (62, 337), (66, 352),

Gene: CLED96\_61 Start: 40680, Stop: 41006, Start Num: 15

Candidate Starts for CLED96\_61:

(Start: 15 @40680 has 68 MA's), (41, 40875), (54, 40953),

Gene: CREW\_95 Start: 59346, Stop: 59648, Start Num: 25

Candidate Starts for CREW\_95:

(22, 59325), (Start: 25 @59346 has 103 MA's), (32, 59421), (63, 59607), (67, 59622),

Gene: Cain\_102 Start: 60455, Stop: 60763, Start Num: 24

Candidate Starts for Cain\_102:

(Start: 24 @60455 has 45 MA's), (32, 60530), (67, 60737),

Gene: CallinAllBarbz\_64 Start: 40753, Stop: 41040, Start Num: 26

Candidate Starts for CallinAllBarbz\_64:

(Start: 26 @40753 has 28 MA's),

Gene: Cambiare\_66 Start: 44472, Stop: 44798, Start Num: 15

Candidate Starts for Cambiare\_66:

(Start: 15 @44472 has 68 MA's), (28, 44526), (37, 44646),

Gene: Camri\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Camri\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Capricorn\_97 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Capricorn\_97:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: CaseJules\_100 Start: 59544, Stop: 59846, Start Num: 25

Candidate Starts for CaseJules\_100:

(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: CassieYates\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for CassieYates\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Cedasite\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Cedasite\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Cerasum\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Cerasum\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Chance64\_62 Start: 41127, Stop: 41453, Start Num: 15  
Candidate Starts for Chance64\_62:  
(Start: 15 @41127 has 68 MA's), (41, 41322), (54, 41400),

Gene: Chancellor\_94 Start: 56785, Stop: 57090, Start Num: 27  
Candidate Starts for Chancellor\_94:  
(Start: 27 @56785 has 23 MA's), (67, 57064),

Gene: CheetoDust\_96 Start: 58941, Stop: 59243, Start Num: 25  
Candidate Starts for CheetoDust\_96:  
(22, 58920), (Start: 25 @58941 has 103 MA's), (32, 59016), (63, 59202), (67, 59217),

Gene: Cheetobro\_92 Start: 56341, Stop: 56646, Start Num: 27  
Candidate Starts for Cheetobro\_92:  
(Start: 27 @56341 has 23 MA's), (67, 56620),

Gene: Cherrybomb426\_61 Start: 40680, Stop: 41006, Start Num: 15  
Candidate Starts for Cherrybomb426\_61:  
(Start: 15 @40680 has 68 MA's), (41, 40875), (54, 40953),

Gene: Chris\_101 Start: 61722, Stop: 62015, Start Num: 24  
Candidate Starts for Chris\_101:  
(Start: 24 @61722 has 45 MA's), (50, 61914), (51, 61923), (61, 61971), (68, 62001),

Gene: Coco12\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Coco12\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Coleslaw\_61 Start: 41117, Stop: 41443, Start Num: 15  
Candidate Starts for Coleslaw\_61:  
(Start: 15 @41117 has 68 MA's), (41, 41312), (54, 41390),

Gene: Collard\_95 Start: 60975, Stop: 61280, Start Num: 24  
Candidate Starts for Collard\_95:  
(Start: 24 @60975 has 45 MA's), (41, 61143),

Gene: Crespo\_61 Start: 41126, Stop: 41452, Start Num: 15  
Candidate Starts for Crespo\_61:  
(Start: 15 @41126 has 68 MA's), (41, 41321), (54, 41399),

Gene: CrimD\_96 Start: 59439, Stop: 59741, Start Num: 25  
Candidate Starts for CrimD\_96:  
(22, 59418), (Start: 25 @59439 has 103 MA's), (32, 59514), (63, 59700), (67, 59715),

Gene: Curiosium\_104 Start: 60864, Stop: 61154, Start Num: 26  
Candidate Starts for Curiosium\_104:  
(Start: 26 @60864 has 28 MA's),

Gene: DMoney\_61 Start: 41104, Stop: 41430, Start Num: 15

Candidate Starts for DMoney\_61:  
(Start: 15 @41104 has 68 MA's), (41, 41299), (54, 41377),

Gene: DNAIII\_0059 Start: 38754, Stop: 39080, Start Num: 15  
Candidate Starts for DNAIII\_0059:  
(Start: 15 @38754 has 68 MA's), (41, 38949), (54, 39027),

Gene: DaWorst\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for DaWorst\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Dadosky\_100 Start: 61693, Stop: 61998, Start Num: 24  
Candidate Starts for Dadosky\_100:  
(Start: 24 @61693 has 45 MA's), (36, 61831),

Gene: Dalmuri\_97 Start: 59347, Stop: 59649, Start Num: 25  
Candidate Starts for Dalmuri\_97:  
(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: Darionha\_62 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for Darionha\_62:  
(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: DarthP\_95 Start: 61234, Stop: 61530, Start Num: 25  
Candidate Starts for DarthP\_95:  
(Start: 25 @61234 has 103 MA's), (29, 61282), (32, 61309), (55, 61468), (64, 61495),

Gene: Deby\_96 Start: 60102, Stop: 60404, Start Num: 25  
Candidate Starts for Deby\_96:  
(22, 60081), (Start: 25 @60102 has 103 MA's), (32, 60177), (63, 60363), (67, 60378),

Gene: Devera\_103 Start: 60259, Stop: 60561, Start Num: 25  
Candidate Starts for Devera\_103:  
(22, 60238), (Start: 25 @60259 has 103 MA's), (30, 60310), (32, 60334), (63, 60520), (67, 60535),

Gene: DirtMcgirt\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for DirtMcgirt\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: DismalFunk\_94 Start: 57690, Stop: 57968, Start Num: 25  
Candidate Starts for DismalFunk\_94:  
(Start: 24 @57687 has 45 MA's), (Start: 25 @57690 has 103 MA's), (41, 57840), (67, 57948),

Gene: DismalStressor\_94 Start: 57690, Stop: 57968, Start Num: 25  
Candidate Starts for DismalStressor\_94:  
(Start: 24 @57687 has 45 MA's), (Start: 25 @57690 has 103 MA's), (41, 57840), (67, 57948),

Gene: Dole\_99 Start: 60262, Stop: 60564, Start Num: 25  
Candidate Starts for Dole\_99:  
(22, 60241), (Start: 25 @60262 has 103 MA's), (30, 60313), (32, 60337), (63, 60523), (67, 60538),



Gene: DosHalletts\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for DosHalletts\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: DrHayes\_98 Start: 60168, Stop: 60470, Start Num: 25  
Candidate Starts for DrHayes\_98:  
(22, 60147), (Start: 25 @60168 has 103 MA's), (32, 60243), (63, 60429), (67, 60444),

Gene: Drago\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Drago\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Durfee\_97 Start: 59544, Stop: 59846, Start Num: 25  
Candidate Starts for Durfee\_97:  
(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: ECartman\_60 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for ECartman\_60:  
(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Edugator\_92 Start: 62924, Stop: 63229, Start Num: 24  
Candidate Starts for Edugator\_92:  
(Start: 24 @62924 has 45 MA's), (36, 63062), (41, 63092),

Gene: Efra2\_104 Start: 60929, Stop: 61216, Start Num: 25  
Candidate Starts for Efra2\_104:  
(Start: 25 @60929 has 103 MA's), (56, 61166), (64, 61181), (65, 61184),

Gene: Ekdilam\_92 Start: 61413, Stop: 61709, Start Num: 25  
Candidate Starts for Ekdilam\_92:  
(3, 61107), (Start: 25 @61413 has 103 MA's), (29, 61461), (32, 61488), (55, 61647), (64, 61674),

Gene: Ellie\_96 Start: 61595, Stop: 61885, Start Num: 25  
Candidate Starts for Ellie\_96:  
(Start: 25 @61595 has 103 MA's), (32, 61670), (59, 61832),

Gene: Emerson\_101 Start: 59949, Stop: 60251, Start Num: 25  
Candidate Starts for Emerson\_101:  
(22, 59928), (Start: 25 @59949 has 103 MA's), (32, 60024), (63, 60210), (67, 60225),

Gene: Enby\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Enby\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Enkosi\_79 Start: 58687, Stop: 58992, Start Num: 26  
Candidate Starts for Enkosi\_79:  
(5, 58555), (Start: 26 @58687 has 28 MA's), (32, 58762), (36, 58807), (63, 58951), (64, 58957), (67,  
58966),

Gene: Eponine\_96 Start: 57765, Stop: 58070, Start Num: 27

Candidate Starts for Eponine\_96:  
(Start: 27 @57765 has 23 MA's), (33, 57870), (67, 58044),

Gene: Fefferhead\_98 Start: 61016, Stop: 61306, Start Num: 25  
Candidate Starts for Fefferhead\_98:  
(Start: 25 @61016 has 103 MA's), (32, 61091), (59, 61253),

Gene: Feyre\_98 Start: 63125, Stop: 63430, Start Num: 24  
Candidate Starts for Feyre\_98:  
(Start: 24 @63125 has 45 MA's),

Gene: Findley\_94 Start: 57711, Stop: 57989, Start Num: 25  
Candidate Starts for Findley\_94:  
(Start: 24 @57708 has 45 MA's), (Start: 25 @57711 has 103 MA's), (41, 57861), (67, 57969),

Gene: Fionnbharth\_94 Start: 57163, Stop: 57468, Start Num: 27  
Candidate Starts for Fionnbharth\_94:  
(Start: 27 @57163 has 23 MA's), (33, 57268), (67, 57442),

Gene: FlagStaff\_64 Start: 43887, Stop: 44213, Start Num: 15  
Candidate Starts for FlagStaff\_64:  
(Start: 15 @43887 has 68 MA's), (28, 43941), (37, 44061),

Gene: Frosty24\_62 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for Frosty24\_62:  
(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Fryberger\_144 Start: 66223, Stop: 66480, Start Num: 26  
Candidate Starts for Fryberger\_144:  
(Start: 26 @66223 has 28 MA's), (34, 66319), (36, 66343), (41, 66373), (48, 66406),

Gene: Ganymede\_96 Start: 59358, Stop: 59660, Start Num: 25  
Candidate Starts for Ganymede\_96:  
(22, 59337), (Start: 25 @59358 has 103 MA's), (32, 59433), (63, 59619), (67, 59634),

Gene: Gengar\_96 Start: 61193, Stop: 61498, Start Num: 24  
Candidate Starts for Gengar\_96:  
(Start: 24 @61193 has 45 MA's),

Gene: Geraldini\_97 Start: 59457, Stop: 59759, Start Num: 25  
Candidate Starts for Geraldini\_97:  
(22, 59436), (Start: 25 @59457 has 103 MA's), (32, 59532), (63, 59718), (67, 59733),

Gene: Gideon\_62 Start: 41127, Stop: 41453, Start Num: 15  
Candidate Starts for Gideon\_62:  
(Start: 15 @41127 has 68 MA's), (41, 41322), (54, 41400),

Gene: GoldenAsh\_60 Start: 40665, Stop: 40991, Start Num: 15  
Candidate Starts for GoldenAsh\_60:  
(Start: 15 @40665 has 68 MA's), (41, 40860), (54, 40938),

Gene: Gomashi\_61 Start: 41127, Stop: 41453, Start Num: 15  
Candidate Starts for Gomashi\_61:

(Start: 15 @41127 has 68 MA's), (41, 41322), (54, 41400),

Gene: Grizzly\_61 Start: 40976, Stop: 41302, Start Num: 15

Candidate Starts for Grizzly\_61:

(Start: 15 @40976 has 68 MA's), (41, 41171), (54, 41249),

Gene: Guanica15\_103 Start: 60618, Stop: 60905, Start Num: 25

Candidate Starts for Guanica15\_103:

(Start: 25 @60618 has 103 MA's), (56, 60855), (64, 60870), (65, 60873),

Gene: Guey18\_149 Start: 67884, Stop: 68141, Start Num: 26

Candidate Starts for Guey18\_149:

(Start: 26 @67884 has 28 MA's), (34, 67980), (36, 68004), (41, 68034), (48, 68067),

Gene: Guillsminger\_96 Start: 62720, Stop: 63025, Start Num: 24

Candidate Starts for Guillsminger\_96:

(Start: 24 @62720 has 45 MA's),

Gene: Halo\_63 Start: 41673, Stop: 41999, Start Num: 15

Candidate Starts for Halo\_63:

(Start: 15 @41673 has 68 MA's), (41, 41868), (54, 41946),

Gene: Hammy\_95 Start: 61452, Stop: 61748, Start Num: 25

Candidate Starts for Hammy\_95:

(Start: 25 @61452 has 103 MA's), (29, 61500), (32, 61527), (55, 61686), (64, 61713),

Gene: HedwigODU\_96 Start: 59451, Stop: 59753, Start Num: 25

Candidate Starts for HedwigODU\_96:

(22, 59430), (Start: 25 @59451 has 103 MA's), (32, 59526), (63, 59712), (67, 59727),

Gene: Heftyboy\_96 Start: 61535, Stop: 61840, Start Num: 24

Candidate Starts for Heftyboy\_96:

(Start: 24 @61535 has 45 MA's),

Gene: Homura\_95 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Homura\_95:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: Hope\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Hope\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Hotshotbaby7\_62 Start: 41127, Stop: 41453, Start Num: 15

Candidate Starts for Hotshotbaby7\_62:

(Start: 15 @41127 has 68 MA's), (41, 41322), (54, 41400),

Gene: Hurricane\_98 Start: 60965, Stop: 61252, Start Num: 26

Candidate Starts for Hurricane\_98:

(16, 60923), (21, 60938), (Start: 26 @60965 has 28 MA's), (58, 61202), (67, 61226),

Gene: Hyperbowlee\_95 Start: 59544, Stop: 59846, Start Num: 25

Candidate Starts for Hyperbowlee\_95:

(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: IdentityCrisis\_61 Start: 37798, Stop: 38148, Start Num: 20

Candidate Starts for IdentityCrisis\_61:

(Start: 20 @37798 has 1 MA's),

Gene: Illumine\_100 Start: 60261, Stop: 60563, Start Num: 25

Candidate Starts for Illumine\_100:

(22, 60240), (Start: 25 @60261 has 103 MA's), (30, 60312), (32, 60336), (63, 60522), (67, 60537),

Gene: Inky\_96 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Inky\_96:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: InvictusManeo\_97 Start: 60727, Stop: 61032, Start Num: 24

Candidate Starts for InvictusManeo\_97:

(Start: 24 @60727 has 45 MA's), (41, 60895),

Gene: JAWS\_95 Start: 59388, Stop: 59690, Start Num: 25

Candidate Starts for JAWS\_95:

(22, 59367), (Start: 25 @59388 has 103 MA's), (32, 59463), (63, 59649), (67, 59664),

Gene: JF1\_94 Start: 57078, Stop: 57383, Start Num: 27

Candidate Starts for JF1\_94:

(Start: 27 @57078 has 23 MA's), (33, 57183), (67, 57357),

Gene: JalFarm20\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for JalFarm20\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Jane\_63 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Jane\_63:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Jarvi\_96 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Jarvi\_96:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: Jayhawk\_100 Start: 59371, Stop: 59673, Start Num: 25

Candidate Starts for Jayhawk\_100:

(22, 59350), (Start: 25 @59371 has 103 MA's), (32, 59446), (63, 59632), (67, 59647),

Gene: Jeckyll\_97 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Jeckyll\_97:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: Jolene\_62 Start: 41529, Stop: 41855, Start Num: 15

Candidate Starts for Jolene\_62:

(Start: 15 @41529 has 68 MA's), (41, 41724), (54, 41802),

Gene: Jolie2\_61 Start: 43385, Stop: 43714, Start Num: 15

Candidate Starts for Jolie2\_61:

(Start: 15 @43385 has 68 MA's), (39, 43568), (54, 43655),

Gene: Jonghyun\_60 Start: 41128, Stop: 41454, Start Num: 15  
Candidate Starts for Jonghyun\_60:

(Start: 15 @41128 has 68 MA's), (41, 41323), (54, 41401),

Gene: JorRay\_63 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for JorRay\_63:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Joy99\_98 Start: 59476, Stop: 59778, Start Num: 25  
Candidate Starts for Joy99\_98:

(22, 59455), (Start: 25 @59476 has 103 MA's), (32, 59551), (63, 59737), (67, 59752),

Gene: Juliette\_96 Start: 57159, Stop: 57464, Start Num: 27  
Candidate Starts for Juliette\_96:

(Start: 27 @57159 has 23 MA's), (33, 57264), (67, 57438),

Gene: Kareem\_63 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for Kareem\_63:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Kasen3\_63 Start: 41114, Stop: 41440, Start Num: 15  
Candidate Starts for Kasen3\_63:

(Start: 15 @41114 has 68 MA's), (41, 41309), (54, 41387),

Gene: Keelan\_144 Start: 66560, Stop: 66817, Start Num: 26  
Candidate Starts for Keelan\_144:

(Start: 26 @66560 has 28 MA's), (34, 66656), (36, 66680), (41, 66710), (48, 66743), (60, 66803),

Gene: Keshu\_101 Start: 60898, Stop: 61185, Start Num: 26  
Candidate Starts for Keshu\_101:

(6, 60787), (8, 60811), (16, 60856), (21, 60871), (Start: 26 @60898 has 28 MA's), (58, 61135), (67, 61159),

Gene: KiSi\_104 Start: 62208, Stop: 62504, Start Num: 24  
Candidate Starts for KiSi\_104:

(Start: 24 @62208 has 45 MA's), (50, 62400), (51, 62409),

Gene: Kingsley\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Kingsley\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Kratio\_100 Start: 62318, Stop: 62623, Start Num: 24  
Candidate Starts for Kratio\_100:

(Start: 24 @62318 has 45 MA's), (41, 62486),

Gene: Krueger\_101 Start: 59962, Stop: 60270, Start Num: 24  
Candidate Starts for Krueger\_101:

(Start: 24 @59962 has 45 MA's), (32, 60037), (67, 60244),

Gene: Larva\_98 Start: 62571, Stop: 62876, Start Num: 24  
Candidate Starts for Larva\_98:

(Start: 24 @62571 has 45 MA's), (36, 62709),

Gene: LastHope\_103 Start: 60575, Stop: 60865, Start Num: 26

Candidate Starts for LastHope\_103:

(Start: 26 @60575 has 28 MA's), (47, 60758),

Gene: LaterM\_96 Start: 59784, Stop: 60086, Start Num: 25

Candidate Starts for LaterM\_96:

(22, 59763), (Start: 25 @59784 has 103 MA's), (30, 59835), (32, 59859), (63, 60045), (67, 60060),

Gene: LeMond\_103 Start: 62165, Stop: 62461, Start Num: 24

Candidate Starts for LeMond\_103:

(Start: 24 @62165 has 45 MA's), (50, 62357), (51, 62366),

Gene: Lemuria\_64 Start: 44074, Stop: 44403, Start Num: 15

Candidate Starts for Lemuria\_64:

(Start: 15 @44074 has 68 MA's), (39, 44257), (45, 44287), (54, 44344),

Gene: Leozinho\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Leozinho\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Leston\_95 Start: 61375, Stop: 61680, Start Num: 24

Candidate Starts for Leston\_95:

(Start: 24 @61375 has 45 MA's),

Gene: Liefie\_59 Start: 40764, Stop: 41090, Start Num: 15

Candidate Starts for Liefie\_59:

(Start: 15 @40764 has 68 MA's),

Gene: LilPharaoh\_78 Start: 55802, Stop: 56107, Start Num: 26

Candidate Starts for LilPharaoh\_78:

(5, 55670), (Start: 26 @55802 has 28 MA's), (32, 55877), (36, 55922), (63, 56066), (64, 56072), (67, 56081),

Gene: LilSpotty\_85 Start: 49411, Stop: 49689, Start Num: 27

Candidate Starts for LilSpotty\_85:

(Start: 27 @49411 has 23 MA's), (65, 49663),

Gene: LindNT\_94 Start: 59694, Stop: 59996, Start Num: 25

Candidate Starts for LindNT\_94:

(22, 59673), (Start: 25 @59694 has 103 MA's), (32, 59769), (63, 59955), (67, 59970),

Gene: Llorens\_96 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Llorens\_96:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: Lorde\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Lorde\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: LouisV14\_64 Start: 43369, Stop: 43695, Start Num: 15

Candidate Starts for LouisV14\_64:

(Start: 15 @43369 has 68 MA's), (41, 43564), (54, 43642),

Gene: Lucky10\_70 Start: 42595, Stop: 42897, Start Num: 27

Candidate Starts for Lucky10\_70:

(7, 42496), (Start: 27 @42595 has 23 MA's), (50, 42802),

Gene: Lunahalos\_96 Start: 59347, Stop: 59649, Start Num: 25

Candidate Starts for Lunahalos\_96:

(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: MOOREtheMARYer\_66 Start: 43647, Stop: 43973, Start Num: 15

Candidate Starts for MOOREtheMARYer\_66:

(Start: 15 @43647 has 68 MA's), (28, 43701), (37, 43821), (38, 43824),

Gene: MacnCheese\_99 Start: 61214, Stop: 61501, Start Num: 26

Candidate Starts for MacnCheese\_99:

(9, 61130), (16, 61172), (21, 61187), (Start: 26 @61214 has 28 MA's),

Gene: Madiba\_1 Start: 40, Stop: 372, Start Num: 18

Candidate Starts for Madiba\_1:

(11, 7), (13, 13), (Start: 18 @40 has 4 MA's), (30, 118), (44, 235), (52, 283), (62, 337), (66, 352),

Gene: Maliketh\_61 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Maliketh\_61:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Malthus\_95 Start: 56888, Stop: 57193, Start Num: 27

Candidate Starts for Malthus\_95:

(Start: 27 @56888 has 23 MA's), (33, 56993), (67, 57167),

Gene: Marcoliusprime\_92 Start: 57690, Stop: 57968, Start Num: 25

Candidate Starts for Marcoliusprime\_92:

(Start: 24 @57687 has 45 MA's), (Start: 25 @57690 has 103 MA's), (41, 57840), (67, 57948),

Gene: MarkPhew\_103 Start: 61805, Stop: 62098, Start Num: 24

Candidate Starts for MarkPhew\_103:

(Start: 24 @61805 has 45 MA's), (32, 61880), (51, 62006), (68, 62084),

Gene: Marker\_1 Start: 40, Stop: 372, Start Num: 18

Candidate Starts for Marker\_1:

(11, 7), (13, 13), (Start: 18 @40 has 4 MA's), (30, 118), (40, 211), (44, 235), (52, 283), (62, 337), (66, 352),

Gene: Marmie\_62 Start: 41126, Stop: 41452, Start Num: 15

Candidate Starts for Marmie\_62:

(Start: 15 @41126 has 68 MA's), (41, 41321), (54, 41399),

Gene: Marshawn\_96 Start: 61097, Stop: 61411, Start Num: 25

Candidate Starts for Marshawn\_96:

(Start: 25 @61097 has 103 MA's), (32, 61172), (65, 61379), (67, 61385),

Gene: Mdavu\_78 Start: 56078, Stop: 56383, Start Num: 26  
Candidate Starts for Mdavu\_78:  
(5, 55946), (Start: 26 @56078 has 28 MA's), (32, 56153), (36, 56198), (63, 56342), (64, 56348), (67, 56357),

Gene: MeaningOfLife\_98 Start: 60071, Stop: 60373, Start Num: 25  
Candidate Starts for MeaningOfLife\_98:  
(22, 60050), (Start: 25 @60071 has 103 MA's), (32, 60146), (63, 60332), (67, 60347),

Gene: Megsy\_102 Start: 59832, Stop: 60134, Start Num: 25  
Candidate Starts for Megsy\_102:  
(22, 59811), (Start: 25 @59832 has 103 MA's), (32, 59907), (63, 60093), (67, 60108),

Gene: Mercurio\_63 Start: 43953, Stop: 44282, Start Num: 15  
Candidate Starts for Mercurio\_63:  
(Start: 15 @43953 has 68 MA's), (39, 44136), (54, 44223),

Gene: Milly\_94 Start: 57772, Stop: 58050, Start Num: 25  
Candidate Starts for Milly\_94:  
(Start: 24 @57769 has 45 MA's), (Start: 25 @57772 has 103 MA's), (41, 57922), (67, 58030),

Gene: Miryou\_98 Start: 62747, Stop: 63052, Start Num: 24  
Candidate Starts for Miryou\_98:  
(Start: 24 @62747 has 45 MA's),

Gene: MissDaisy\_88 Start: 53576, Stop: 53857, Start Num: 27  
Candidate Starts for MissDaisy\_88:  
(Start: 27 @53576 has 23 MA's), (65, 53825), (67, 53831),

Gene: Mitti\_94 Start: 56983, Stop: 57288, Start Num: 27  
Candidate Starts for Mitti\_94:  
(Start: 27 @56983 has 23 MA's), (67, 57262),

Gene: Morkie\_74 Start: 41703, Stop: 42008, Start Num: 26  
Candidate Starts for Morkie\_74:  
(7, 41607), (Start: 26 @41703 has 28 MA's), (50, 41913),

Gene: Mowgli\_62 Start: 41126, Stop: 41452, Start Num: 15  
Candidate Starts for Mowgli\_62:  
(Start: 15 @41126 has 68 MA's), (41, 41321), (54, 41399),

Gene: Mufasa\_94 Start: 57627, Stop: 57905, Start Num: 25  
Candidate Starts for Mufasa\_94:  
(Start: 24 @57624 has 45 MA's), (Start: 25 @57627 has 103 MA's), (67, 57885),

Gene: Murucutumbu\_96 Start: 60249, Stop: 60551, Start Num: 25  
Candidate Starts for Murucutumbu\_96:  
(22, 60228), (Start: 25 @60249 has 103 MA's), (30, 60300), (32, 60324), (63, 60510), (67, 60525),

Gene: Mynx\_97 Start: 59694, Stop: 59996, Start Num: 25  
Candidate Starts for Mynx\_97:  
(22, 59673), (Start: 25 @59694 has 103 MA's), (32, 59769), (63, 59955), (67, 59970),



Gene: Nibb\_103 Start: 61945, Stop: 62238, Start Num: 24  
Candidate Starts for Nibb\_103:  
(Start: 24 @61945 has 45 MA's), (32, 62020), (51, 62146), (61, 62194),

Gene: Nikao\_80 Start: 58687, Stop: 58992, Start Num: 26  
Candidate Starts for Nikao\_80:  
(5, 58555), (Start: 26 @58687 has 28 MA's), (32, 58762), (36, 58807), (63, 58951), (64, 58957), (67, 58966),

Gene: Niklas\_98 Start: 60655, Stop: 60942, Start Num: 25  
Candidate Starts for Niklas\_98:  
(2, 60328), (10, 60592), (Start: 25 @60655 has 103 MA's), (32, 60730), (50, 60847), (56, 60892), (68, 60928),

Gene: Nutello\_77 Start: 56074, Stop: 56379, Start Num: 26  
Candidate Starts for Nutello\_77:  
(5, 55942), (Start: 26 @56074 has 28 MA's), (32, 56149), (36, 56194), (63, 56338), (64, 56344), (67, 56353),

Gene: OctaviousRex\_61 Start: 41104, Stop: 41430, Start Num: 15  
Candidate Starts for OctaviousRex\_61:  
(Start: 15 @41104 has 68 MA's), (41, 41299), (54, 41377),

Gene: OkiRoe\_97 Start: 62228, Stop: 62533, Start Num: 24  
Candidate Starts for OkiRoe\_97:  
(Start: 24 @62228 has 45 MA's),

Gene: Oksu\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Oksu\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (44, 236), (52, 284), (62, 338), (66, 353),

Gene: Olga\_63 Start: 41126, Stop: 41452, Start Num: 15  
Candidate Starts for Olga\_63:  
(Start: 15 @41126 has 68 MA's), (41, 41321), (54, 41399),

Gene: OmniCritical\_94 Start: 57061, Stop: 57366, Start Num: 27  
Candidate Starts for OmniCritical\_94:  
(Start: 27 @57061 has 23 MA's), (67, 57340),

Gene: Omnicron\_96 Start: 61077, Stop: 61382, Start Num: 24  
Candidate Starts for Omnicron\_96:  
(14, 61029), (Start: 24 @61077 has 45 MA's), (41, 61245),

Gene: Oscar\_104 Start: 62087, Stop: 62383, Start Num: 24  
Candidate Starts for Oscar\_104:  
(Start: 24 @62087 has 45 MA's), (50, 62279), (51, 62288),

Gene: OwlsT2W\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for OwlsT2W\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: P3MA\_62 Start: 40580, Stop: 40894, Start Num: 25  
Candidate Starts for P3MA\_62:  
(6, 40472), (Start: 25 @40580 has 103 MA's), (48, 40793), (67, 40871),

Gene: PHL114L00\_46 Start: 29111, Stop: 29413, Start Num: 24  
Candidate Starts for PHL114L00\_46:  
(Start: 24 @29111 has 45 MA's),

Gene: Padfoot\_96 Start: 59544, Stop: 59846, Start Num: 25  
Candidate Starts for Padfoot\_96:  
(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: Padpat\_101 Start: 59949, Stop: 60251, Start Num: 25  
Candidate Starts for Padpat\_101:  
(22, 59928), (Start: 25 @59949 has 103 MA's), (32, 60024), (63, 60210), (67, 60225),

Gene: Paito\_63 Start: 40764, Stop: 41090, Start Num: 15  
Candidate Starts for Paito\_63:  
(Start: 15 @40764 has 68 MA's),

Gene: Paola\_93 Start: 61102, Stop: 61407, Start Num: 24  
Candidate Starts for Paola\_93:  
(Start: 24 @61102 has 45 MA's),

Gene: Patt\_87 Start: 53723, Stop: 54004, Start Num: 27  
Candidate Starts for Patt\_87:  
(Start: 27 @53723 has 23 MA's), (65, 53972), (67, 53978),

Gene: Peanam\_99 Start: 60707, Stop: 60994, Start Num: 25  
Candidate Starts for Peanam\_99:  
(2, 60395), (10, 60644), (Start: 25 @60707 has 103 MA's), (32, 60782), (50, 60899), (56, 60944), (68, 60980),

Gene: Peeb\_61 Start: 41100, Stop: 41426, Start Num: 15  
Candidate Starts for Peeb\_61:  
(Start: 15 @41100 has 68 MA's), (41, 41295), (54, 41373),

Gene: Peel\_96 Start: 59350, Stop: 59652, Start Num: 25  
Candidate Starts for Peel\_96:  
(22, 59329), (Start: 25 @59350 has 103 MA's), (32, 59425), (63, 59611), (67, 59626),

Gene: Periodt\_62 Start: 41518, Stop: 41844, Start Num: 15  
Candidate Starts for Periodt\_62:  
(Start: 15 @41518 has 68 MA's),

Gene: Pharb\_97 Start: 60473, Stop: 60760, Start Num: 26  
Candidate Starts for Pharb\_97:  
(1, 60098), (4, 60224), (6, 60362), (9, 60389), (17, 60437), (Start: 26 @60473 has 28 MA's), (29, 60521), (54, 60701),

Gene: PhelpsODU\_92 Start: 56221, Stop: 56529, Start Num: 24  
Candidate Starts for PhelpsODU\_92:  
(Start: 24 @56221 has 45 MA's), (32, 56296), (67, 56503),

Gene: Phish\_61 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for Phish\_61:  
(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: PhorbesPhlower\_72 Start: 41098, Stop: 41403, Start Num: 26  
Candidate Starts for PhorbesPhlower\_72:  
(7, 41002), (Start: 26 @41098 has 28 MA's), (50, 41308),

Gene: Phrank\_103 Start: 60753, Stop: 61058, Start Num: 24  
Candidate Starts for Phrank\_103:  
(Start: 24 @60753 has 45 MA's), (32, 60828), (67, 61032),

Gene: Phreak\_62 Start: 41125, Stop: 41451, Start Num: 15  
Candidate Starts for Phreak\_62:  
(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Piatt\_95 Start: 59544, Stop: 59846, Start Num: 25  
Candidate Starts for Piatt\_95:  
(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: PinkYoshi\_62 Start: 41117, Stop: 41443, Start Num: 15  
Candidate Starts for PinkYoshi\_62:  
(Start: 15 @41117 has 68 MA's), (41, 41312), (54, 41390),

Gene: Pinnie\_65 Start: 44002, Stop: 44328, Start Num: 15  
Candidate Starts for Pinnie\_65:  
(Start: 15 @44002 has 68 MA's), (28, 44056), (37, 44176), (38, 44179),

Gene: Pitbull\_79 Start: 41146, Stop: 41412, Start Num: 27  
Candidate Starts for Pitbull\_79:  
(Start: 27 @41146 has 23 MA's), (36, 41263), (53, 41371),

Gene: Pixie\_100 Start: 60794, Stop: 61081, Start Num: 26  
Candidate Starts for Pixie\_100:  
(6, 60683), (16, 60752), (21, 60767), (Start: 26 @60794 has 28 MA's), (58, 61031), (67, 61055),

Gene: Plagueis\_62 Start: 40946, Stop: 41272, Start Num: 15  
Candidate Starts for Plagueis\_62:  
(Start: 15 @40946 has 68 MA's), (41, 41141), (54, 41219),

Gene: Pokerus\_96 Start: 59414, Stop: 59716, Start Num: 25  
Candidate Starts for Pokerus\_96:  
(22, 59393), (Start: 25 @59414 has 103 MA's), (32, 59489), (63, 59675), (67, 59690),

Gene: Pollywog\_1 Start: 40, Stop: 372, Start Num: 18  
Candidate Starts for Pollywog\_1:  
(11, 7), (13, 13), (Start: 18 @40 has 4 MA's), (30, 118), (44, 235), (52, 283), (62, 337), (66, 352),

Gene: Prithvi\_98 Start: 59952, Stop: 60254, Start Num: 25  
Candidate Starts for Prithvi\_98:  
(22, 59931), (Start: 25 @59952 has 103 MA's), (32, 60027), (63, 60213), (67, 60228),

Gene: Psycho\_98 Start: 61690, Stop: 61995, Start Num: 24

Candidate Starts for Psycho\_98:

(Start: 24 @61690 has 45 MA's), (36, 61828),

Gene: QuincyRose\_94 Start: 59358, Stop: 59660, Start Num: 25

Candidate Starts for QuincyRose\_94:

(22, 59337), (Start: 25 @59358 has 103 MA's), (32, 59433), (63, 59619), (67, 59634),

Gene: Rabbs\_63 Start: 41200, Stop: 41526, Start Num: 15

Candidate Starts for Rabbs\_63:

(Start: 15 @41200 has 68 MA's), (54, 41473),

Gene: Ramen\_97 Start: 59101, Stop: 59403, Start Num: 25

Candidate Starts for Ramen\_97:

(22, 59080), (Start: 25 @59101 has 103 MA's), (32, 59176), (63, 59362), (67, 59377),

Gene: Ramsey\_1 Start: 11, Stop: 373, Start Num: 12

Candidate Starts for Ramsey\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Rando14\_92 Start: 59491, Stop: 59796, Start Num: 24

Candidate Starts for Rando14\_92:

(14, 59443), (Start: 24 @59491 has 45 MA's), (41, 59659),

Gene: Rapunzel97\_99 Start: 59326, Stop: 59628, Start Num: 25

Candidate Starts for Rapunzel97\_99:

(22, 59305), (Start: 25 @59326 has 103 MA's), (32, 59401), (63, 59587), (67, 59602),

Gene: Remy19\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Remy19\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Renaissance\_61 Start: 41103, Stop: 41429, Start Num: 15

Candidate Starts for Renaissance\_61:

(Start: 15 @41103 has 68 MA's), (41, 41298), (54, 41376),

Gene: Reptar3000\_88 Start: 53713, Stop: 53994, Start Num: 27

Candidate Starts for Reptar3000\_88:

(Start: 27 @53713 has 23 MA's), (65, 53962), (67, 53968),

Gene: RockyHorror\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for RockyHorror\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Ronaldo\_147 Start: 67378, Stop: 67635, Start Num: 26

Candidate Starts for Ronaldo\_147:

(Start: 26 @67378 has 28 MA's), (34, 67474), (36, 67498), (41, 67528), (48, 67561),

Gene: Rosmarinus\_97 Start: 59335, Stop: 59637, Start Num: 25

Candidate Starts for Rosmarinus\_97:

(22, 59314), (Start: 25 @59335 has 103 MA's), (32, 59410), (63, 59596), (67, 59611),

Gene: Ruthiejr\_96 Start: 56946, Stop: 57251, Start Num: 27

Candidate Starts for Ruthiejr\_96:

(Start: 27 @56946 has 23 MA's), (33, 57051), (67, 57225),

Gene: SamScheppers\_93 Start: 57439, Stop: 57744, Start Num: 27

Candidate Starts for SamScheppers\_93:

(Start: 27 @57439 has 23 MA's), (67, 57718),

Gene: SamuelLPlaqson\_98 Start: 60168, Stop: 60470, Start Num: 25

Candidate Starts for SamuelLPlaqson\_98:

(22, 60147), (Start: 25 @60168 has 103 MA's), (32, 60243), (63, 60429), (67, 60444),

Gene: Sarma624\_1 Start: 41, Stop: 373, Start Num: 19

Candidate Starts for Sarma624\_1:

(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338), (66, 353),

Gene: Scarlett\_103 Start: 61956, Stop: 62252, Start Num: 24

Candidate Starts for Scarlett\_103:

(Start: 24 @61956 has 45 MA's), (50, 62148), (51, 62157),

Gene: Schiebel\_60 Start: 40665, Stop: 40991, Start Num: 15

Candidate Starts for Schiebel\_60:

(Start: 15 @40665 has 68 MA's), (41, 40860), (54, 40938),

Gene: SgtBeansprout\_78 Start: 56074, Stop: 56379, Start Num: 26

Candidate Starts for SgtBeansprout\_78:

(5, 55942), (Start: 26 @56074 has 28 MA's), (32, 56149), (36, 56194), (63, 56338), (64, 56344), (67, 56353),

Gene: ShaboiShabazz\_61 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for ShaboiShabazz\_61:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Shadow1\_100 Start: 60099, Stop: 60404, Start Num: 24

Candidate Starts for Shadow1\_100:

(Start: 24 @60099 has 45 MA's), (32, 60174), (67, 60378),

Gene: Shaobing\_96 Start: 60696, Stop: 60983, Start Num: 25

Candidate Starts for Shaobing\_96:

(2, 60369), (10, 60633), (Start: 25 @60696 has 103 MA's), (32, 60771), (50, 60888), (56, 60933), (68, 60969),

Gene: ShedlockHolmes\_100 Start: 60729, Stop: 61016, Start Num: 26

Candidate Starts for ShedlockHolmes\_100:

(6, 60618), (16, 60687), (21, 60702), (Start: 26 @60729 has 28 MA's), (58, 60966), (67, 60990),

Gene: ShiaSurprise\_99 Start: 59544, Stop: 59846, Start Num: 25

Candidate Starts for ShiaSurprise\_99:

(22, 59523), (Start: 25 @59544 has 103 MA's), (32, 59619), (63, 59805), (67, 59820),

Gene: SirPhilip\_98 Start: 61540, Stop: 61833, Start Num: 24

Candidate Starts for SirPhilip\_98:  
(Start: 24 @61540 has 45 MA's), (32, 61615),

Gene: Sizemore\_63 Start: 41114, Stop: 41440, Start Num: 15  
Candidate Starts for Sizemore\_63:  
(Start: 15 @41114 has 68 MA's), (41, 41309), (54, 41387),

Gene: Slarp\_92 Start: 56344, Stop: 56649, Start Num: 27  
Candidate Starts for Slarp\_92:  
(Start: 27 @56344 has 23 MA's), (67, 56623),

Gene: Sleepyhead\_67 Start: 43516, Stop: 43788, Start Num: 26  
Candidate Starts for Sleepyhead\_67:  
(Start: 26 @43516 has 28 MA's), (28, 43522),

Gene: Slimphazie\_99 Start: 59782, Stop: 60084, Start Num: 25  
Candidate Starts for Slimphazie\_99:  
(22, 59761), (Start: 25 @59782 has 103 MA's), (32, 59857), (63, 60043), (67, 60058),

Gene: Sneeze\_62 Start: 41199, Stop: 41525, Start Num: 15  
Candidate Starts for Sneeze\_62:  
(Start: 15 @41199 has 68 MA's), (54, 41472),

Gene: SoSeph\_96 Start: 61535, Stop: 61840, Start Num: 24  
Candidate Starts for SoSeph\_96:  
(Start: 24 @61535 has 45 MA's),

Gene: Spikelee\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Spikelee\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Spock\_96 Start: 59348, Stop: 59650, Start Num: 25  
Candidate Starts for Spock\_96:  
(22, 59327), (Start: 25 @59348 has 103 MA's), (32, 59423), (63, 59609), (67, 59624),

Gene: Stap\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Stap\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Stargaze\_64 Start: 44492, Stop: 44815, Start Num: 15  
Candidate Starts for Stargaze\_64:  
(Start: 15 @44492 has 68 MA's), (28, 44543), (37, 44663),

Gene: Stinson\_97 Start: 59559, Stop: 59861, Start Num: 25  
Candidate Starts for Stinson\_97:  
(22, 59538), (Start: 25 @59559 has 103 MA's), (30, 59610), (32, 59634), (63, 59820), (67, 59835),

Gene: Strobilo\_95 Start: 57688, Stop: 57966, Start Num: 25  
Candidate Starts for Strobilo\_95:  
(Start: 24 @57685 has 45 MA's), (Start: 25 @57688 has 103 MA's), (41, 57838), (67, 57946),

Gene: Sulley\_95 Start: 59512, Stop: 59814, Start Num: 25  
Candidate Starts for Sulley\_95:  
(22, 59491), (Start: 25 @59512 has 103 MA's), (32, 59587), (63, 59773), (67, 59788),

Gene: Sunflower1121\_100 Start: 59857, Stop: 60162, Start Num: 24  
Candidate Starts for Sunflower1121\_100:  
(Start: 24 @59857 has 45 MA's), (32, 59932), (67, 60136),

Gene: Sweets\_62 Start: 41120, Stop: 41446, Start Num: 15  
Candidate Starts for Sweets\_62:  
(Start: 15 @41120 has 68 MA's), (41, 41315), (54, 41393),

Gene: Syra333\_99 Start: 59939, Stop: 60244, Start Num: 24  
Candidate Starts for Syra333\_99:  
(Start: 24 @59939 has 45 MA's), (32, 60014), (67, 60218),

Gene: TBond007\_97 Start: 60792, Stop: 61079, Start Num: 26  
Candidate Starts for TBond007\_97:  
(6, 60681), (16, 60750), (21, 60765), (Start: 26 @60792 has 28 MA's), (58, 61029), (67, 61053),

Gene: TClif\_100 Start: 61109, Stop: 61408, Start Num: 24  
Candidate Starts for TClif\_100:  
(Start: 24 @61109 has 45 MA's), (31, 61175), (50, 61301), (58, 61349), (67, 61382),

Gene: TM4\_92 Start: 52356, Stop: 52637, Start Num: 24  
Candidate Starts for TM4\_92:  
(Start: 24 @52356 has 45 MA's), (Start: 25 @52359 has 103 MA's), (41, 52509), (42, 52515), (67, 52617),

Gene: Tachez\_97 Start: 59195, Stop: 59497, Start Num: 25  
Candidate Starts for Tachez\_97:  
(22, 59174), (Start: 25 @59195 has 103 MA's), (32, 59270), (63, 59456), (67, 59471),

Gene: Taheera\_58 Start: 40097, Stop: 40423, Start Num: 15  
Candidate Starts for Taheera\_58:  
(Start: 15 @40097 has 68 MA's), (57, 40382),

Gene: TaiwanKao\_98 Start: 59607, Stop: 59909, Start Num: 25  
Candidate Starts for TaiwanKao\_98:  
(22, 59586), (Start: 25 @59607 has 103 MA's), (32, 59682), (63, 59868), (67, 59883),

Gene: Taquito\_94 Start: 57502, Stop: 57783, Start Num: 27  
Candidate Starts for Taquito\_94:  
(Start: 27 @57502 has 23 MA's), (67, 57757),

Gene: Terror\_58 Start: 40097, Stop: 40423, Start Num: 15  
Candidate Starts for Terror\_58:  
(Start: 15 @40097 has 68 MA's), (57, 40382),

Gene: Thyatira\_97 Start: 63441, Stop: 63746, Start Num: 24  
Candidate Starts for Thyatira\_97:  
(Start: 24 @63441 has 45 MA's),

Gene: Tierra\_102 Start: 61060, Stop: 61368, Start Num: 24  
Candidate Starts for Tierra\_102:  
(Start: 24 @61060 has 45 MA's), (32, 61135), (67, 61342),

Gene: TingHuaYa\_101 Start: 60903, Stop: 61193, Start Num: 26  
Candidate Starts for TingHuaYa\_101:  
(Start: 26 @60903 has 28 MA's), (47, 61086),

Gene: TiniBug\_95 Start: 59943, Stop: 60245, Start Num: 25  
Candidate Starts for TiniBug\_95:  
(22, 59922), (Start: 25 @59943 has 103 MA's), (32, 60018), (63, 60204), (67, 60219),

Gene: Tiri\_97 Start: 59088, Stop: 59390, Start Num: 25  
Candidate Starts for Tiri\_97:  
(22, 59067), (Start: 25 @59088 has 103 MA's), (32, 59163), (63, 59349), (67, 59364),

Gene: TomBrady\_62 Start: 41126, Stop: 41452, Start Num: 15  
Candidate Starts for TomBrady\_62:  
(Start: 15 @41126 has 68 MA's), (41, 41321), (54, 41399),

Gene: Tootsieroll\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Tootsieroll\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Topper\_96 Start: 59347, Stop: 59649, Start Num: 25  
Candidate Starts for Topper\_96:  
(22, 59326), (Start: 25 @59347 has 103 MA's), (32, 59422), (63, 59608), (67, 59623),

Gene: TreyKay\_98 Start: 59952, Stop: 60254, Start Num: 25  
Candidate Starts for TreyKay\_98:  
(22, 59931), (Start: 25 @59952 has 103 MA's), (32, 60027), (63, 60213), (67, 60228),

Gene: TribbleTrouble\_97 Start: 61312, Stop: 61599, Start Num: 26  
Candidate Starts for TribbleTrouble\_97:  
(6, 61201), (16, 61270), (21, 61285), (Start: 26 @61312 has 28 MA's), (58, 61549), (67, 61573),

Gene: TruffulaTree\_98 Start: 59748, Stop: 60050, Start Num: 25  
Candidate Starts for TruffulaTree\_98:  
(22, 59727), (Start: 25 @59748 has 103 MA's), (32, 59823), (63, 60009), (67, 60024),

Gene: Twitch\_97 Start: 59350, Stop: 59652, Start Num: 25  
Candidate Starts for Twitch\_97:  
(22, 59329), (Start: 25 @59350 has 103 MA's), (32, 59425), (63, 59611), (67, 59626),

Gene: UncleRicky\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for UncleRicky\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Urkel\_98 Start: 60168, Stop: 60470, Start Num: 25  
Candidate Starts for Urkel\_98:  
(22, 60147), (Start: 25 @60168 has 103 MA's), (32, 60243), (63, 60429), (67, 60444),



Gene: Validus\_106 Start: 62130, Stop: 62417, Start Num: 25  
Candidate Starts for Validus\_106:  
(Start: 25 @62130 has 103 MA's), (32, 62205), (50, 62322), (56, 62367), (64, 62382), (68, 62403),

Gene: Veliki\_97 Start: 59373, Stop: 59675, Start Num: 25  
Candidate Starts for Veliki\_97:  
(22, 59352), (Start: 25 @59373 has 103 MA's), (32, 59448), (63, 59634), (67, 59649),

Gene: Velveteen\_1 Start: 41, Stop: 373, Start Num: 19  
Candidate Starts for Velveteen\_1:  
(Start: 12 @11 has 1 MA's), (Start: 19 @41 has 24 MA's), (30, 119), (40, 212), (52, 284), (62, 338),  
(66, 353),

Gene: Volt\_150 Start: 67542, Stop: 67799, Start Num: 26  
Candidate Starts for Volt\_150:  
(Start: 26 @67542 has 28 MA's), (34, 67638), (36, 67662), (41, 67692), (48, 67725),

Gene: Waterfoul\_95 Start: 60815, Stop: 61120, Start Num: 24  
Candidate Starts for Waterfoul\_95:  
(Start: 24 @60815 has 45 MA's),

Gene: Wendigo\_61 Start: 41104, Stop: 41430, Start Num: 15  
Candidate Starts for Wendigo\_61:  
(Start: 15 @41104 has 68 MA's), (41, 41299), (54, 41377),

Gene: Wintermute\_94 Start: 57134, Stop: 57439, Start Num: 27  
Candidate Starts for Wintermute\_94:  
(Start: 27 @57134 has 23 MA's), (33, 57239), (67, 57413),

Gene: Ximenita\_103 Start: 60672, Stop: 60977, Start Num: 24  
Candidate Starts for Ximenita\_103:  
(Start: 24 @60672 has 45 MA's), (32, 60747), (67, 60951),

Gene: Y10\_90 Start: 57078, Stop: 57383, Start Num: 27  
Candidate Starts for Y10\_90:  
(Start: 27 @57078 has 23 MA's), (33, 57183), (67, 57357),

Gene: Y2\_90 Start: 57078, Stop: 57383, Start Num: 27  
Candidate Starts for Y2\_90:  
(Start: 27 @57078 has 23 MA's), (33, 57183), (67, 57357),

Gene: YoureAdopted\_95 Start: 59143, Stop: 59445, Start Num: 25  
Candidate Starts for YoureAdopted\_95:  
(22, 59122), (Start: 25 @59143 has 103 MA's), (32, 59218), (63, 59404), (67, 59419),

Gene: Yuna\_100 Start: 61837, Stop: 62139, Start Num: 23  
Candidate Starts for Yuna\_100:  
(Start: 23 @61837 has 1 MA's), (32, 61912), (63, 62098),

Gene: Yunkel11\_101 Start: 60401, Stop: 60688, Start Num: 25  
Candidate Starts for Yunkel11\_101:  
(Start: 25 @60401 has 103 MA's), (56, 60638), (64, 60653), (65, 60656),

Gene: Zabiza\_92 Start: 55756, Stop: 56058, Start Num: 25

Candidate Starts for Zabiza\_92:

(22, 55735), (Start: 25 @55756 has 103 MA's), (32, 55831), (63, 56017), (67, 56032),

Gene: Zavala\_98 Start: 59608, Stop: 59910, Start Num: 25

Candidate Starts for Zavala\_98:

(22, 59587), (Start: 25 @59608 has 103 MA's), (32, 59683), (63, 59869), (67, 59884),

Gene: ZoMa\_61 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for ZoMa\_61:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: ZoeJ\_92 Start: 56879, Stop: 57157, Start Num: 25

Candidate Starts for ZoeJ\_92:

(Start: 24 @56876 has 45 MA's), (Start: 25 @56879 has 103 MA's), (35, 56990), (41, 57029), (67, 57137),

Gene: Zombie\_62 Start: 41125, Stop: 41451, Start Num: 15

Candidate Starts for Zombie\_62:

(Start: 15 @41125 has 68 MA's), (41, 41320), (54, 41398),

Gene: Zucker\_98 Start: 53075, Stop: 53380, Start Num: 24

Candidate Starts for Zucker\_98:

(Start: 24 @53075 has 45 MA's), (46, 53264), (49, 53279),