

Pham 174533



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 174533 Report

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

Pham number 174533 has 229 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Nergal\_73
- Track 2 : Powerball\_29
- Track 3 : MortyNRick\_36
- Track 4 : SamuelLPlaqson\_93, Mynx\_93, Blizzard\_92, Belladonna\_92, CheetoDust\_92, Adonis\_92, Veliki\_93, Capricorn\_92, HedwigODU\_92, Emerson\_96, Ganymede\_92, Beezoo\_95, ShiaSurprise\_94, Lunahalos\_92, Homura\_91, BEEST\_92, Adephagia\_91, Tachez\_92, JAWS\_91, Padpat\_97, MeaningOfLife\_94, Twitch\_92, Boiiii\_92, DrHayes\_93, Spock\_92, Durfee\_92, Anaya\_95, Deby\_92, Rosmarinus\_92, Ramen\_93, Geraldini\_93, CaseJules\_95, Devera\_98, Jayhawk\_94, BarrelRoll\_92, Rapunzel97\_94, QuincyRose\_90, BGlluviae\_91, Bella96\_93, AlishaPH\_85, Illumine\_96, Piatt\_91, Padfoot\_92, Llorens\_92, TruffulaTree\_94, Peel\_92, CREW\_91, TiniBug\_91, Dalmuri\_92, ActinUp\_93, Dole\_95, Tiri\_93, Apocalypse\_95, Jarvi\_92, Asayake\_92, Atiba\_93, Inky\_92, Stinson\_93, Hyperbowlee\_91, Topper\_92, Zabiza\_88, YoureAdopted\_91, Pokerus\_92, BaghaKamala\_91, Joy99\_93, Urkel\_93, Zavala\_94, Slimphazie\_94, Jeckyll\_92
- Track 5 : TingHuaYa\_96, Yunkel11\_97, LastHope\_98, Guanica15\_98, Efra2\_99
- Track 6 : SgtBeansprout\_74, Torres\_75, LilPharaoh\_74, Nutello\_73, Nikao\_76, Enkosi\_75, Mdavu\_74, Binglebops\_73, Amelie\_73
- Track 7 : Scarlett\_96, Oscar\_97
- Track 8 : Dartin\_94, Shaobing\_93, McMater\_94, Richo\_94, Niklas\_94, Peanam\_94
- Track 9 : TreyKay\_94, TaiwanKao\_93, CrimD\_92, Prithvi\_94, LindNT\_90
- Track 10 : Ageofdapage\_96, Murucutumbu\_92, Megsy\_96
- Track 11 : Nibb\_96
- Track 12 : Angelica\_89
- Track 13 : KiSi\_97, LeMond\_96
- Track 14 : Curiosium\_102
- Track 15 : MarkPhew\_96
- Track 16 : LaterM\_92
- Track 17 : Sulley\_89
- Track 18 : Chris\_94
- Track 19 : Validus\_99
- Track 20 : Marcoliusprime\_64, DismalFunk\_64, Findley\_64, DismalStressor\_64, Strobilo\_65
- Track 21 : Mufasa\_64, BoostSeason\_64
- Track 22 : Milly\_64
- Track 23 : TM4\_61
- Track 24 : ZoeJ\_63

- Track 25 : Eponine\_61, Fionnbharth\_59
- Track 26 : SamScheppers\_57, Juliette\_61, Slarp\_59, JF1\_59, Wintermute\_59, Cheetobro\_59, OmniCritical\_58, Ruthiejr\_60, Malthus\_60, Y2\_58, Mitti\_59, Y10\_58, Chancellor\_59
- Track 27 : Patt\_56, Reptar3000\_57, MissDaisy\_57
- Track 28 : Taquito\_58
- Track 29 : SirPhilip\_93
- Track 30 : Appletree2\_82, Rose5\_84, Zaria\_84, AvadaKedavra\_83, Wyatt2\_84, Silverleaf\_83, DirkDirk\_80, Enceladus\_80, CicholasNage\_80, Acquire49\_83, Halena\_81, MAckerman\_82, Calm\_85, JoeDirt\_84, Wamburgrxpress\_83, OhShagHennessy\_80, Tyson\_84
- Track 31 : LeBron\_82, UPIE\_82
- Track 32 : Gardann\_86, Nicholasp3\_86, Loadrie\_84, BobsGarage\_86, Finemlucis\_86, Faith1\_86, DrSeegs\_86, BigCheese\_86, Miley16\_86, Winky\_86, Rumpelstiltskin\_83, Bazzle\_84, Vetrix\_85, Itos\_86, Lewan\_87, Kahlid\_86, LilDestine\_85, Crossroads\_86, Soap141\_86, Sarshaun\_87, Wilder\_87, Zakai\_87, Netyap\_87, MkaliMitinis3\_87, Gabriela\_86, Wigglewiggles\_85, Breezona\_86
- Track 33 : DHan\_90, Hafay\_87
- Track 34 : Archie\_83, Baoshan\_84, Claus\_86, ZhongYanYuan\_84
- Track 35 : DanBing\_86
- Track 36 : GuuelaD\_84
- Track 37 : Tourach\_85
- Track 38 : MsGreen\_85, Snenia\_84, Jubie\_84, DuncansLeg\_85, BourbonZero\_86, MiniMac\_88, Finnry\_84, Bellis\_83, LiyuLake\_84, Nicholas\_82, Moostard\_82, Jobypre\_86, Samty\_83, Lumos\_85, Kingsolomon\_82, Clautastrophe\_83, MiniLon\_88
- Track 39 : KirDoubleO7\_83, Ellson\_84, Lolly9\_83
- Track 40 : Whirlwind\_85, Krypton555\_85
- Track 41 : BrainDrainer\_84, Douge\_85, Quby\_84
- Track 42 : Bromden\_85
- Track 43 : FarmResident\_85
- Track 44 : Douzhi\_84
- Track 45 : Chaser\_83
- Track 46 : Sheng711\_85
- Track 47 : DyoEdafos\_88
- Track 48 : PYPDinur\_83

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

The start number called the most often in the published annotations is 28, it was called in 106 of the 202 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_93, Adephegia\_91, Adonis\_92, Ageofdapage\_96, AlishaPH\_85, Amelie\_73, Anaya\_95, Angelica\_89, Apocalypse\_95, Asayake\_92, Atiba\_93, BEEST\_92, BGlluviae\_91, BaghaKamala\_91, BarrelRoll\_92, Beezoo\_95, Bella96\_93, Belladonna\_92, Binglebops\_73, Blizzard\_92, Boiiii\_92, CREW\_91, Capricorn\_92, CaseJules\_95, CheetoDust\_92, Chris\_94, CrimD\_92, Curiosium\_102, Dalmuri\_92, Dartin\_94, Deby\_92, Devera\_98, Dole\_95, DrHayes\_93, Durfee\_92, Efra2\_99, Emerson\_96, Enkosi\_75, Ganymede\_92, Geraldini\_93, Guanica15\_98, HedwigODU\_92, Homura\_91, Hyperbowlee\_91, Illumine\_96, Inky\_92, JAWS\_91,

Jarvi\_92, Jayhawk\_94, Jeckyll\_92, Joy99\_93, KiSi\_97, LastHope\_98, LaterM\_92, LeMond\_96, LilPharaoh\_74, LindNT\_90, Llorens\_92, Lunahalos\_92, MarkPhew\_96, McMater\_94, Mdavu\_74, MeaningOfLife\_94, Megsy\_96, MortyNRick\_36, Murucutumbu\_92, Mynx\_93, Nergal\_73, Nibb\_96, Nikao\_76, Niklas\_94, Nutello\_73, Oscar\_97, Padfoot\_92, Padpat\_97, Peanam\_94, Peel\_92, Piatt\_91, Pokerus\_92, Powerball\_29, Prithvi\_94, QuincyRose\_90, Ramen\_93, Rapunzel97\_94, Richo\_94, Rosmarinus\_92, SamuelLPlaqson\_93, Scarlett\_96, SgtBeansprout\_74, Shaobing\_93, ShiaSurprise\_94, SirPhilip\_93, Slimphazie\_94, Spock\_92, Stinson\_93, Sulley\_89, Tachez\_92, TaiwanKao\_93, TingHuaYa\_96, TiniBug\_91, Tiri\_93, Topper\_92, Torres\_75, TreyKay\_94, TruffulaTree\_94, Twitch\_92, Urkel\_93, Validus\_99, Veliki\_93, YoureAdopted\_91, Yunkel11\_97, Zabiza\_88, Zavala\_94,

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

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

- Acquire49\_83, Appletree2\_82, Archie\_83, AvadaKedavra\_83, Baoshan\_84, Bazzle\_84, Bellis\_83, BigCheese\_86, BobsGarage\_86, BoostSeason\_64, BourbonZero\_86, BrainDrainer\_84, Breezona\_86, Bromden\_85, Calm\_85, Chancellor\_59, Chaser\_83, Cheetobro\_59, CicholasNage\_80, Claus\_86, Clautastrophe\_83, Crossroads\_86, DHan\_90, DanBing\_86, DirkDirk\_80, DismalFunk\_64, DismalStressor\_64, Douge\_85, Douzhi\_84, DrSeegs\_86, DuncansLeg\_85, DyoEdafos\_88, Ellson\_84, Enceladus\_80, Eponine\_61, Faith1\_86, FarmResident\_85, Findley\_64, Finemlucis\_86, Finnry\_84, Fionnbharth\_59, Gabriela\_86, Gardann\_86, GuuelaD\_84, Hafay\_87, Halena\_81, Itos\_86, JF1\_59, Jobypre\_86, JoeDirt\_84, Jubie\_84, Juliette\_61, Kahlid\_86, Kingsolomon\_82, KirDoubleO7\_83, Krypton555\_85, LeBron\_82, Lewan\_87, LilDestine\_85, LiyuLake\_84, Loadrie\_84, Lolly9\_83, Lumos\_85, MAckerman\_82, Malthus\_60, Marcoliusprime\_64, Miley16\_86, Milly\_64, MiniLon\_88, MiniMac\_88, MissDaisy\_57, Mitti\_59, MkaliMitinis3\_87, Moostard\_82, MsGreen\_85, Mufasa\_64, Netyap\_87, Nicholas\_82, Nicholasp3\_86, OhShagHennessy\_80, OmniCritical\_58, PYPDinur\_83, Patt\_56, Quby\_84, Reptar3000\_57, Rose5\_84, Rumpelstiltskin\_83, Ruthiejr\_60, SamScheppers\_57, Samty\_83, Sarshaun\_87, Sheng711\_85, Silverleaf\_83, Slarp\_59, Snenia\_84, Soap141\_86, Strobilo\_65, TM4\_61, Taquito\_58, Tourach\_85, Tyson\_84, UPIE\_82, Vetrix\_85, Wamburggrxpress\_83, Whirlwind\_85, Wigglewiggles\_85, Wilder\_87, Winky\_86, Wintermute\_59, Wyatt2\_84, Y10\_58, Y2\_58, Zakai\_87, Zaria\_84, ZhongYanYuan\_84, ZoeJ\_63,

### Summary by start number:

Start 27:

- Found in 87 of 229 ( 38.0% ) of genes in pham
- Manual Annotations of this start: 63 of 202
- Called 88.5% of time when present
- Phage (with cluster) where this start called: Acquire49\_83 (L1), Appletree2\_82 (L1), Archie\_83 (L2), AvadaKedavra\_83 (L1), Baoshan\_84 (L2), Bazzle\_84 (L2), Bellis\_83 (L3), BigCheese\_86 (L2), BobsGarage\_86 (L2), BourbonZero\_86 (L3), BrainDrainer\_84 (L4), Breezona\_86 (L2), Bromden\_85 (L4), Calm\_85 (L1), Chaser\_83 (L4), CicholasNage\_80 (L1), Claus\_86 (L2), Clautastrophe\_83 (L3), Crossroads\_86 (L2), DanBing\_86 (L2), DirkDirk\_80 (L1), Douge\_85 (L4), Douzhi\_84 (L4), DrSeegs\_86 (L2), DuncansLeg\_85 (L3), Enceladus\_80 (L1), Faith1\_86 (L2), FarmResident\_85 (L4), Finemlucis\_86 (L2), Finnry\_84 (L3), Gabriela\_86 (L2), Gardann\_86 (L2), GuuelaD\_84 (L2), Halena\_81 (L1), Itos\_86 (L2), Jobypre\_86 (L3),

JoeDirt\_84 (L1), Jubie\_84 (L3), Kahlid\_86 (L2), Kingsolomon\_82 (L3), Krypton555\_85 (L3), Lewan\_87 (L2), LilDestine\_85 (L2), LiyuLake\_84 (L3), Loadrie\_84 (L2), Lumos\_85 (L3), MAckerman\_82 (L1), Miley16\_86 (L2), MiniLon\_88 (L3), MiniMac\_88 (L3), MkaliMitinis3\_87 (L2), Moostard\_82 (L3), MsGreen\_85 (L3), Netyap\_87 (L2), Nicholas\_82 (L3), Nicholasp3\_86 (L2), OhShagHennessy\_80 (L1), Quby\_84 (L4), Rose5\_84 (L1), Rumpelstiltskin\_83 (L2), Samty\_83 (L3), Sarshaun\_87 (L2), Silverleaf\_83 (L1), Snenia\_84 (L3), Soap141\_86 (L2), Tourach\_85 (L2), Tyson\_84 (L1), Vetrix\_85 (L2), Wamburggrxpress\_83 (L1), Whirlwind\_85 (L3), Wigglewiggles\_85 (L2), Wilder\_87 (L2), Winky\_86 (L2), Wyatt2\_84 (L1), Zakai\_87 (L2), Zaria\_84 (L1), ZhongYanYuan\_84 (L2),

#### Start 28:

- Found in 113 of 229 ( 49.3% ) of genes in pham
- Manual Annotations of this start: 106 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_93 (K1), Adephagia\_91 (K1), Adonis\_92 (K1), Ageofdapage\_96 (K1), AlishaPH\_85 (K1), Amelie\_73 (K1), Anaya\_95 (K1), Angelica\_89 (K1), Apocalypse\_95 (K1), Asayake\_92 (K1), Atiba\_93 (K1), BEEST\_92 (K1), BGlluviae\_91 (K1), BaghaKamala\_91 (K1), BarrelRoll\_92 (K1), Beezoo\_95 (K1), Bella96\_93 (K1), Belladonna\_92 (K1), Binglebops\_73 (K1), Blizzard\_92 (K1), Boiiii\_92 (K1), CREW\_91 (K1), Capricorn\_92 (K1), CaseJules\_95 (K1), CheetoDust\_92 (K1), Chris\_94 (K1), CrimD\_92 (K1), Curiosium\_102 (K1), Dalmuri\_92 (K1), Dartin\_94 (K1), Deby\_92 (K1), Devera\_98 (K1), Dole\_95 (K1), DrHayes\_93 (K1), Durfee\_92 (K1), Efra2\_99 (K1), Emerson\_96 (K1), Enkosi\_75 (K1), Ganymede\_92 (K1), Geraldini\_93 (K1), Guanica15\_98 (K1), HedwigODU\_92 (K1), Homura\_91 (K1), Hyperbowlee\_91 (K1), Illumine\_96 (K1), Inky\_92 (K1), JAWS\_91 (K1), Jarvi\_92 (K1), Jayhawk\_94 (K1), Jeckyll\_92 (K1), Joy99\_93 (K1), KiSi\_97 (K1), LastHope\_98 (K1), LaterM\_92 (K1), LeMond\_96 (K1), LilPharaoh\_74 (K1), LindNT\_90 (K1), Llorens\_92 (K1), Lunahalos\_92 (K1), MarkPheW\_96 (K1), McMater\_94 (K1), Mdavu\_74 (K1), MeaningOfLife\_94 (K1), Megsy\_96 (K1), MortyNRick\_36 (DN), Murucutumbu\_92 (K1), Mynx\_93 (K1), Nergal\_73 (AG), Nibb\_96 (K1), Nikao\_76 (K1), Niklas\_94 (K1), Nutello\_73 (K1), Oscar\_97 (K1), Padfoot\_92 (K1), Padpat\_97 (K1), Peanam\_94 (K1), Peel\_92 (K1), Piatt\_91 (K1), Pokerus\_92 (K1), Powerball\_29 (CZ4), Prithvi\_94 (K1), QuincyRose\_90 (K1), Ramen\_93 (K1), Rapunzel97\_94 (K1), Richo\_94 (K1), Rosmarinus\_92 (K1), SamuelLPlaqson\_93 (K1), Scarlett\_96 (K1), SgtBeansprout\_74 (K1), Shaobing\_93 (K1), ShiaSurprise\_94 (K1), SirPhilip\_93 (K6), Slimphazie\_94 (K1), Spock\_92 (K1), Stinson\_93 (K1), Sulley\_89 (K1), Tachez\_92 (K1), TaiwanKao\_93 (K1), TingHuaYa\_96 (K1), TiniBug\_91 (K1), Tiri\_93 (K1), Topper\_92 (K1), Torres\_75 (K1), TreyKay\_94 (K1), TruffulaTree\_94 (K1), Twitch\_92 (K1), Urkel\_93 (K1), Validus\_99 (K1), Veliki\_93 (K1), YoureAdopted\_91 (K1), Yunkel11\_97 (K1), Zabiza\_88 (K1), Zavala\_94 (K1),

#### Start 29:

- Found in 19 of 229 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 19 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chancellor\_59 (K4), Cheetobro\_59 (K4), Eponine\_61 (K4), Fionnbharth\_59 (K4), JF1\_59 (K4), Juliette\_61 (K4), Malthus\_60 (K4), MissDaisy\_57 (K4), Mitti\_59 (K4), OmniCritical\_58 (K4), Patt\_56 (K4), Reptar3000\_57 (K4), Ruthiejr\_60 (K4), SamScheppers\_57 (K4), Slarp\_59 (K4), Taquito\_58 (K4), Wintermute\_59 (K4), Y10\_58 (K4), Y2\_58 (K4),

Start 30:

- Found in 10 of 229 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 10 of 202
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BoostSeason\_64 (K2), DismalFunk\_64 (K2), DismalStressor\_64 (K2), Findley\_64 (K2), Marcoliusprime\_64 (K2), Milly\_64 (K2), Mufasa\_64 (K2), Strobilo\_65 (K2), TM4\_61 (K2), ZoeJ\_63 (K2),

Start 31:

- Found in 10 of 229 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 30.0% of time when present
- Phage (with cluster) where this start called: DyoEdafos\_88 (L4), PYPDinur\_83 (L4), Sheng711\_85 (L4),

Start 32:

- Found in 77 of 229 ( 33.6% ) of genes in pham
- Manual Annotations of this start: 2 of 202
- Called 5.2% of time when present
- Phage (with cluster) where this start called: DHan\_90 (L2), Hafay\_87 (L2), LeBron\_82 (L1), UPIE\_82 (L1),

Start 35:

- Found in 46 of 229 ( 20.1% ) of genes in pham
- Manual Annotations of this start: 1 of 202
- Called 6.5% of time when present
- Phage (with cluster) where this start called: Ellson\_84 (L3), KirDoubleO7\_83 (L3), Lolly9\_83 (L3),

**Summary by clusters:**

There are 11 clusters represented in this pham: DN, AG, L1, K1, CZ4, K2, L4, L2, L3, K4, K6,

Info for manual annotations of cluster AG:

- Start number 28 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster CZ4:

- Start number 28 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster K1:

- Start number 28 was manually annotated 103 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 30 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K4:

- Start number 29 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K6:

- Start number 28 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster L1:

- Start number 27 was manually annotated 17 times for cluster L1.
- Start number 32 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 27 was manually annotated 28 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 27 was manually annotated 15 times for cluster L3.
- Start number 35 was manually annotated 1 time for cluster L3.

Info for manual annotations of cluster L4:

- Start number 27 was manually annotated 3 times for cluster L4.
- Start number 31 was manually annotated 1 time for cluster L4.

**Gene Information:**

Gene: Acquire49\_83 Start: 53976, Stop: 54194, Start Num: 27

Candidate Starts for Acquire49\_83:

(Start: 27 @53976 has 63 MA's), (Start: 32 @54000 has 2 MA's), (40, 54087), (42, 54099), (43, 54102), (50, 54156),

Gene: ActinUp\_93 Start: 57970, Stop: 58185, Start Num: 28

Candidate Starts for ActinUp\_93:

(Start: 28 @57970 has 106 MA's), (42, 58087), (45, 58114),

Gene: Adephagia\_91 Start: 57814, Stop: 58029, Start Num: 28

Candidate Starts for Adephagia\_91:

(Start: 28 @57814 has 106 MA's), (42, 57931), (45, 57958),

Gene: Adonis\_92 Start: 58199, Stop: 58414, Start Num: 28

Candidate Starts for Adonis\_92:

(Start: 28 @58199 has 106 MA's), (42, 58316), (45, 58343),

Gene: Ageofdapage\_96 Start: 58816, Stop: 59031, Start Num: 28

Candidate Starts for Ageofdapage\_96:

(Start: 28 @58816 has 106 MA's), (42, 58933), (44, 58957), (47, 58975),

Gene: AlishaPH\_85 Start: 55202, Stop: 55417, Start Num: 28

Candidate Starts for AlishaPH\_85:

(Start: 28 @55202 has 106 MA's), (42, 55319), (45, 55346),

Gene: Amelie\_73 Start: 53785, Stop: 54000, Start Num: 28

Candidate Starts for Amelie\_73:

(Start: 28 @53785 has 106 MA's), (38, 53857), (48, 53947),

Gene: Anaya\_95 Start: 59049, Stop: 59264, Start Num: 28

Candidate Starts for Anaya\_95:

(Start: 28 @59049 has 106 MA's), (42, 59166), (45, 59193),

Gene: Angelica\_89 Start: 57421, Stop: 57636, Start Num: 28

Candidate Starts for Angelica\_89:  
(21, 57358), (25, 57373), (Start: 28 @57421 has 106 MA's), (42, 57538), (45, 57565),

Gene: Apocalypse\_95 Start: 58179, Stop: 58394, Start Num: 28  
Candidate Starts for Apocalypse\_95:  
(Start: 28 @58179 has 106 MA's), (42, 58296), (45, 58323),

Gene: Appletree2\_82 Start: 53587, Stop: 53805, Start Num: 27  
Candidate Starts for Appletree2\_82:  
(Start: 27 @53587 has 63 MA's), (Start: 32 @53611 has 2 MA's), (40, 53698), (42, 53710), (43, 53713), (50, 53767),

Gene: Archie\_83 Start: 55510, Stop: 55728, Start Num: 27  
Candidate Starts for Archie\_83:  
(Start: 27 @55510 has 63 MA's), (Start: 32 @55534 has 2 MA's), (34, 55564), (42, 55633), (50, 55690),

Gene: Asayake\_92 Start: 58132, Stop: 58347, Start Num: 28  
Candidate Starts for Asayake\_92:  
(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: Atiba\_93 Start: 57783, Stop: 57998, Start Num: 28  
Candidate Starts for Atiba\_93:  
(Start: 28 @57783 has 106 MA's), (42, 57900), (45, 57927),

Gene: AvadaKedavra\_83 Start: 54055, Stop: 54273, Start Num: 27  
Candidate Starts for AvadaKedavra\_83:  
(Start: 27 @54055 has 63 MA's), (Start: 32 @54079 has 2 MA's), (40, 54166), (42, 54178), (43, 54181), (50, 54235),

Gene: BEEST\_92 Start: 58133, Stop: 58348, Start Num: 28  
Candidate Starts for BEEST\_92:  
(Start: 28 @58133 has 106 MA's), (42, 58250), (45, 58277),

Gene: BGlluviae\_91 Start: 57523, Stop: 57738, Start Num: 28  
Candidate Starts for BGlluviae\_91:  
(Start: 28 @57523 has 106 MA's), (42, 57640), (45, 57667),

Gene: BaghaKamala\_91 Start: 57359, Stop: 57574, Start Num: 28  
Candidate Starts for BaghaKamala\_91:  
(Start: 28 @57359 has 106 MA's), (42, 57476), (45, 57503),

Gene: Baoshan\_84 Start: 56170, Stop: 56388, Start Num: 27  
Candidate Starts for Baoshan\_84:  
(Start: 27 @56170 has 63 MA's), (Start: 32 @56194 has 2 MA's), (34, 56224), (42, 56293), (50, 56350),

Gene: BarrelRoll\_92 Start: 57899, Stop: 58114, Start Num: 28  
Candidate Starts for BarrelRoll\_92:  
(Start: 28 @57899 has 106 MA's), (42, 58016), (45, 58043),

Gene: Bazzle\_84 Start: 56066, Stop: 56284, Start Num: 27  
Candidate Starts for Bazzle\_84:



(Start: 27 @56066 has 63 MA's), (Start: 32 @56090 has 2 MA's), (34, 56120), (40, 56177), (42, 56189), (50, 56246),

Gene: Beezoo\_95 Start: 58720, Stop: 58935, Start Num: 28  
Candidate Starts for Beezoo\_95:  
(Start: 28 @58720 has 106 MA's), (42, 58837), (45, 58864),

Gene: Bella96\_93 Start: 58574, Stop: 58789, Start Num: 28  
Candidate Starts for Bella96\_93:  
(Start: 28 @58574 has 106 MA's), (42, 58691), (45, 58718),

Gene: Belladonna\_92 Start: 57935, Stop: 58150, Start Num: 28  
Candidate Starts for Belladonna\_92:  
(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Bellis\_83 Start: 55816, Stop: 56034, Start Num: 27  
Candidate Starts for Bellis\_83:  
(Start: 27 @55816 has 63 MA's), (Start: 35 @55879 has 1 MA's), (42, 55939), (50, 55996),

Gene: BigCheese\_86 Start: 55920, Stop: 56138, Start Num: 27  
Candidate Starts for BigCheese\_86:  
(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42, 56043), (50, 56100),

Gene: Biglebops\_73 Start: 53800, Stop: 54015, Start Num: 28  
Candidate Starts for Biglebops\_73:  
(Start: 28 @53800 has 106 MA's), (38, 53872), (48, 53962),

Gene: Blizzard\_92 Start: 58132, Stop: 58347, Start Num: 28  
Candidate Starts for Blizzard\_92:  
(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: BobsGarage\_86 Start: 55920, Stop: 56138, Start Num: 27  
Candidate Starts for BobsGarage\_86:  
(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42, 56043), (50, 56100),

Gene: Boiiii\_92 Start: 58134, Stop: 58349, Start Num: 28  
Candidate Starts for Boiiii\_92:  
(Start: 28 @58134 has 106 MA's), (42, 58251), (45, 58278),

Gene: BoostSeason\_64 Start: 43984, Stop: 44202, Start Num: 30  
Candidate Starts for BoostSeason\_64:  
(2, 43537), (3, 43558), (4, 43561), (Start: 30 @43984 has 10 MA's), (Start: 35 @44038 has 1 MA's), (42, 44098), (43, 44101),

Gene: BourbonZero\_86 Start: 55845, Stop: 56063, Start Num: 27  
Candidate Starts for BourbonZero\_86:  
(Start: 27 @55845 has 63 MA's), (Start: 35 @55908 has 1 MA's), (42, 55968), (50, 56025),

Gene: BrainDrainer\_84 Start: 54679, Stop: 54897, Start Num: 27  
Candidate Starts for BrainDrainer\_84:

(11, 54523), (12, 54529), (14, 54568), (16, 54580), (17, 54595), (18, 54604), (Start: 27 @54679 has 63 MA's), (Start: 31 @54700 has 1 MA's), (Start: 35 @54742 has 1 MA's), (42, 54802), (43, 54805), (46, 54829), (50, 54859), (51, 54871),

Gene: Breezona\_86 Start: 55920, Stop: 56138, Start Num: 27

Candidate Starts for Breezona\_86:

(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42, 56043), (50, 56100),

Gene: Bromden\_85 Start: 55676, Stop: 55894, Start Num: 27

Candidate Starts for Bromden\_85:

(11, 55517), (12, 55523), (14, 55562), (15, 55568), (17, 55586), (23, 55616), (Start: 27 @55676 has 63 MA's), (Start: 31 @55697 has 1 MA's), (33, 55703), (Start: 35 @55739 has 1 MA's), (42, 55799), (43, 55802), (46, 55826), (51, 55868),

Gene: CREW\_91 Start: 57935, Stop: 58150, Start Num: 28

Candidate Starts for CREW\_91:

(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Calm\_85 Start: 54298, Stop: 54516, Start Num: 27

Candidate Starts for Calm\_85:

(Start: 27 @54298 has 63 MA's), (Start: 32 @54322 has 2 MA's), (40, 54409), (42, 54421), (43, 54424), (50, 54478),

Gene: Capricorn\_92 Start: 57935, Stop: 58150, Start Num: 28

Candidate Starts for Capricorn\_92:

(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: CaseJules\_95 Start: 58132, Stop: 58347, Start Num: 28

Candidate Starts for CaseJules\_95:

(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: Chancellor\_59 Start: 39492, Stop: 39713, Start Num: 29

Candidate Starts for Chancellor\_59:

(6, 39237), (7, 39246), (Start: 29 @39492 has 19 MA's), (Start: 32 @39507 has 2 MA's), (43, 39609), (47, 39654),

Gene: Chaser\_83 Start: 54300, Stop: 54518, Start Num: 27

Candidate Starts for Chaser\_83:

(Start: 27 @54300 has 63 MA's), (Start: 31 @54321 has 1 MA's), (Start: 32 @54324 has 2 MA's), (Start: 35 @54363 has 1 MA's), (40, 54411), (42, 54423), (46, 54450), (50, 54480), (51, 54492),

Gene: CheetoDust\_92 Start: 57529, Stop: 57744, Start Num: 28

Candidate Starts for CheetoDust\_92:

(Start: 28 @57529 has 106 MA's), (42, 57646), (45, 57673),

Gene: Cheetobro\_59 Start: 39489, Stop: 39710, Start Num: 29

Candidate Starts for Cheetobro\_59:

(6, 39234), (7, 39243), (Start: 29 @39489 has 19 MA's), (Start: 32 @39504 has 2 MA's), (43, 39606), (47, 39651),

Gene: Chris\_94 Start: 58483, Stop: 58698, Start Num: 28

Candidate Starts for Chris\_94:

(Start: 28 @58483 has 106 MA's), (39, 58579), (42, 58600), (45, 58627),

Gene: CicholasNage\_80 Start: 53640, Stop: 53858, Start Num: 27

Candidate Starts for CicholasNage\_80:

(Start: 27 @53640 has 63 MA's), (Start: 32 @53664 has 2 MA's), (40, 53751), (42, 53763), (43, 53766), (50, 53820),

Gene: Claus\_86 Start: 55854, Stop: 56072, Start Num: 27

Candidate Starts for Claus\_86:

(Start: 27 @55854 has 63 MA's), (Start: 32 @55878 has 2 MA's), (34, 55908), (42, 55977), (50, 56034),

Gene: Clautastrophe\_83 Start: 55814, Stop: 56032, Start Num: 27

Candidate Starts for Clautastrophe\_83:

(Start: 27 @55814 has 63 MA's), (Start: 35 @55877 has 1 MA's), (42, 55937), (50, 55994),

Gene: CrimD\_92 Start: 57978, Stop: 58193, Start Num: 28

Candidate Starts for CrimD\_92:

(Start: 28 @57978 has 106 MA's), (42, 58095), (43, 58098), (44, 58119), (47, 58137),

Gene: Crossroads\_86 Start: 55995, Stop: 56213, Start Num: 27

Candidate Starts for Crossroads\_86:

(Start: 27 @55995 has 63 MA's), (Start: 32 @56019 has 2 MA's), (34, 56049), (40, 56106), (42, 56118), (50, 56175),

Gene: Curiosium\_102 Start: 60027, Stop: 60242, Start Num: 28

Candidate Starts for Curiosium\_102:

(Start: 28 @60027 has 106 MA's), (36, 60090), (41, 60141), (42, 60144),

Gene: DHan\_90 Start: 56257, Stop: 56451, Start Num: 32

Candidate Starts for DHan\_90:

(Start: 27 @56233 has 63 MA's), (Start: 32 @56257 has 2 MA's), (34, 56287), (42, 56356), (50, 56413),

Gene: Dalmuri\_92 Start: 57935, Stop: 58150, Start Num: 28

Candidate Starts for Dalmuri\_92:

(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: DanBing\_86 Start: 55731, Stop: 55949, Start Num: 27

Candidate Starts for DanBing\_86:

(Start: 27 @55731 has 63 MA's), (Start: 32 @55755 has 2 MA's), (34, 55785), (42, 55854), (50, 55911),

Gene: Dartin\_94 Start: 59417, Stop: 59632, Start Num: 28

Candidate Starts for Dartin\_94:

(Start: 28 @59417 has 106 MA's), (45, 59561),

Gene: Deby\_92 Start: 58690, Stop: 58905, Start Num: 28

Candidate Starts for Deby\_92:

(Start: 28 @58690 has 106 MA's), (42, 58807), (45, 58834),

Gene: Devera\_98 Start: 58812, Stop: 59027, Start Num: 28

Candidate Starts for Devera\_98:

(Start: 28 @58812 has 106 MA's), (42, 58929), (45, 58956),

Gene: DirkDirk\_80 Start: 53167, Stop: 53385, Start Num: 27

Candidate Starts for DirkDirk\_80:

(Start: 27 @53167 has 63 MA's), (Start: 32 @53191 has 2 MA's), (40, 53278), (42, 53290), (43, 53293), (50, 53347),

Gene: DismalFunk\_64 Start: 44409, Stop: 44627, Start Num: 30

Candidate Starts for DismalFunk\_64:

(2, 43959), (3, 43980), (4, 43983), (Start: 30 @44409 has 10 MA's), (Start: 35 @44463 has 1 MA's), (42, 44523), (43, 44526), (48, 44574),

Gene: DismalStressor\_64 Start: 44409, Stop: 44627, Start Num: 30

Candidate Starts for DismalStressor\_64:

(2, 43959), (3, 43980), (4, 43983), (Start: 30 @44409 has 10 MA's), (Start: 35 @44463 has 1 MA's), (42, 44523), (43, 44526), (48, 44574),

Gene: Dole\_95 Start: 58815, Stop: 59030, Start Num: 28

Candidate Starts for Dole\_95:

(Start: 28 @58815 has 106 MA's), (42, 58932), (45, 58959),

Gene: Douge\_85 Start: 54625, Stop: 54843, Start Num: 27

Candidate Starts for Douge\_85:

(11, 54469), (12, 54475), (14, 54514), (16, 54526), (17, 54541), (18, 54550), (Start: 27 @54625 has 63 MA's), (Start: 31 @54646 has 1 MA's), (Start: 35 @54688 has 1 MA's), (42, 54748), (43, 54751), (46, 54775), (50, 54805), (51, 54817),

Gene: Douzhi\_84 Start: 54496, Stop: 54714, Start Num: 27

Candidate Starts for Douzhi\_84:

(11, 54340), (12, 54346), (14, 54385), (16, 54397), (17, 54412), (18, 54421), (24, 54445), (Start: 27 @54496 has 63 MA's), (Start: 31 @54517 has 1 MA's), (Start: 35 @54559 has 1 MA's), (42, 54619), (43, 54622), (46, 54646), (50, 54676),

Gene: DrHayes\_93 Start: 58379, Stop: 58594, Start Num: 28

Candidate Starts for DrHayes\_93:

(Start: 28 @58379 has 106 MA's), (42, 58496), (45, 58523),

Gene: DrSeegs\_86 Start: 55920, Stop: 56138, Start Num: 27

Candidate Starts for DrSeegs\_86:

(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42, 56043), (50, 56100),

Gene: DuncansLeg\_85 Start: 55833, Stop: 56051, Start Num: 27

Candidate Starts for DuncansLeg\_85:

(Start: 27 @55833 has 63 MA's), (Start: 35 @55896 has 1 MA's), (42, 55956), (50, 56013),

Gene: Durfee\_92 Start: 58132, Stop: 58347, Start Num: 28

Candidate Starts for Durfee\_92:

(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: DyoEdafos\_88 Start: 55189, Stop: 55389, Start Num: 31

Candidate Starts for DyoEdafos\_88:

(Start: 27 @55168 has 63 MA's), (Start: 31 @55189 has 1 MA's), (Start: 32 @55192 has 2 MA's),  
(Start: 35 @55231 has 1 MA's), (42, 55291), (43, 55294), (46, 55318), (50, 55348),

Gene: Efra2\_99 Start: 59201, Stop: 59416, Start Num: 28  
Candidate Starts for Efra2\_99:  
(Start: 28 @59201 has 106 MA's), (43, 59321), (45, 59345),

Gene: Ellson\_84 Start: 56211, Stop: 56366, Start Num: 35  
Candidate Starts for Ellson\_84:  
(Start: 27 @56148 has 63 MA's), (Start: 35 @56211 has 1 MA's), (42, 56271), (50, 56328),

Gene: Emerson\_96 Start: 58537, Stop: 58752, Start Num: 28  
Candidate Starts for Emerson\_96:  
(Start: 28 @58537 has 106 MA's), (42, 58654), (45, 58681),

Gene: Enceladus\_80 Start: 53944, Stop: 54162, Start Num: 27  
Candidate Starts for Enceladus\_80:  
(Start: 27 @53944 has 63 MA's), (Start: 32 @53968 has 2 MA's), (40, 54055), (42, 54067), (43,  
54070), (50, 54124),

Gene: Enkosi\_75 Start: 56398, Stop: 56613, Start Num: 28  
Candidate Starts for Enkosi\_75:  
(Start: 28 @56398 has 106 MA's), (38, 56470), (48, 56560),

Gene: Eponine\_61 Start: 40335, Stop: 40556, Start Num: 29  
Candidate Starts for Eponine\_61:  
(6, 40080), (Start: 29 @40335 has 19 MA's), (Start: 32 @40350 has 2 MA's), (43, 40452), (47, 40497),

Gene: Faith1\_86 Start: 55920, Stop: 56138, Start Num: 27  
Candidate Starts for Faith1\_86:  
(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42,  
56043), (50, 56100),

Gene: FarmResident\_85 Start: 54235, Stop: 54453, Start Num: 27  
Candidate Starts for FarmResident\_85:  
(11, 54079), (12, 54085), (14, 54124), (16, 54136), (17, 54151), (18, 54160), (Start: 27 @54235 has 63  
MA's), (Start: 31 @54256 has 1 MA's), (Start: 35 @54298 has 1 MA's), (42, 54358), (43, 54361), (50,  
54415),

Gene: Findley\_64 Start: 44402, Stop: 44620, Start Num: 30  
Candidate Starts for Findley\_64:  
(2, 43952), (3, 43973), (4, 43976), (Start: 30 @44402 has 10 MA's), (Start: 35 @44456 has 1 MA's),  
(42, 44516), (43, 44519), (48, 44567),

Gene: Finemlucis\_86 Start: 56607, Stop: 56825, Start Num: 27  
Candidate Starts for Finemlucis\_86:  
(Start: 27 @56607 has 63 MA's), (Start: 32 @56631 has 2 MA's), (34, 56661), (40, 56718), (42,  
56730), (50, 56787),

Gene: Finnry\_84 Start: 55835, Stop: 56053, Start Num: 27  
Candidate Starts for Finnry\_84:  
(Start: 27 @55835 has 63 MA's), (Start: 35 @55898 has 1 MA's), (42, 55958), (50, 56015),

Gene: Fionnbharth\_59 Start: 39733, Stop: 39954, Start Num: 29  
Candidate Starts for Fionnbharth\_59:  
(6, 39478), (Start: 29 @39733 has 19 MA's), (Start: 32 @39748 has 2 MA's), (43, 39850), (47, 39895),

Gene: Gabriela\_86 Start: 55266, Stop: 55484, Start Num: 27  
Candidate Starts for Gabriela\_86:  
(Start: 27 @55266 has 63 MA's), (Start: 32 @55290 has 2 MA's), (34, 55320), (40, 55377), (42, 55389), (50, 55446),

Gene: Ganymede\_92 Start: 57946, Stop: 58161, Start Num: 28  
Candidate Starts for Ganymede\_92:  
(Start: 28 @57946 has 106 MA's), (42, 58063), (45, 58090),

Gene: Gardann\_86 Start: 55755, Stop: 55973, Start Num: 27  
Candidate Starts for Gardann\_86:  
(Start: 27 @55755 has 63 MA's), (Start: 32 @55779 has 2 MA's), (34, 55809), (40, 55866), (42, 55878), (50, 55935),

Gene: Geraldini\_93 Start: 58045, Stop: 58260, Start Num: 28  
Candidate Starts for Geraldini\_93:  
(Start: 28 @58045 has 106 MA's), (42, 58162), (45, 58189),

Gene: Guanica15\_98 Start: 58890, Stop: 59105, Start Num: 28  
Candidate Starts for Guanica15\_98:  
(Start: 28 @58890 has 106 MA's), (43, 59010), (45, 59034),

Gene: GuuelaD\_84 Start: 55897, Stop: 56115, Start Num: 27  
Candidate Starts for GuuelaD\_84:  
(Start: 27 @55897 has 63 MA's), (Start: 32 @55921 has 2 MA's), (34, 55951), (40, 56008), (41, 56017), (42, 56020), (50, 56077),

Gene: Hafay\_87 Start: 55873, Stop: 56067, Start Num: 32  
Candidate Starts for Hafay\_87:  
(Start: 27 @55849 has 63 MA's), (Start: 32 @55873 has 2 MA's), (34, 55903), (42, 55972), (50, 56029),

Gene: Halena\_81 Start: 53214, Stop: 53432, Start Num: 27  
Candidate Starts for Halena\_81:  
(Start: 27 @53214 has 63 MA's), (Start: 32 @53238 has 2 MA's), (40, 53325), (42, 53337), (43, 53340), (50, 53394),

Gene: HedwigODU\_92 Start: 57970, Stop: 58185, Start Num: 28  
Candidate Starts for HedwigODU\_92:  
(Start: 28 @57970 has 106 MA's), (42, 58087), (45, 58114),

Gene: Homura\_91 Start: 57935, Stop: 58150, Start Num: 28  
Candidate Starts for Homura\_91:  
(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Hyperbowlee\_91 Start: 58132, Stop: 58347, Start Num: 28  
Candidate Starts for Hyperbowlee\_91:  
(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: Illumine\_96 Start: 58814, Stop: 59029, Start Num: 28  
Candidate Starts for Illumine\_96:  
(Start: 28 @58814 has 106 MA's), (42, 58931), (45, 58958),

Gene: Inky\_92 Start: 57935, Stop: 58150, Start Num: 28  
Candidate Starts for Inky\_92:  
(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Itos\_86 Start: 54826, Stop: 55044, Start Num: 27  
Candidate Starts for Itos\_86:  
(Start: 27 @54826 has 63 MA's), (Start: 32 @54850 has 2 MA's), (34, 54880), (40, 54937), (42, 54949), (50, 55006),

Gene: JAWS\_91 Start: 57917, Stop: 58132, Start Num: 28  
Candidate Starts for JAWS\_91:  
(Start: 28 @57917 has 106 MA's), (42, 58034), (45, 58061),

Gene: JF1\_59 Start: 39650, Stop: 39871, Start Num: 29  
Candidate Starts for JF1\_59:  
(6, 39395), (7, 39404), (Start: 29 @39650 has 19 MA's), (Start: 32 @39665 has 2 MA's), (43, 39767), (47, 39812),

Gene: Jarvi\_92 Start: 57935, Stop: 58150, Start Num: 28  
Candidate Starts for Jarvi\_92:  
(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Jayhawk\_94 Start: 57959, Stop: 58174, Start Num: 28  
Candidate Starts for Jayhawk\_94:  
(Start: 28 @57959 has 106 MA's), (42, 58076), (45, 58103),

Gene: Jeckyll\_92 Start: 57935, Stop: 58150, Start Num: 28  
Candidate Starts for Jeckyll\_92:  
(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Jobypre\_86 Start: 55814, Stop: 56032, Start Num: 27  
Candidate Starts for Jobypre\_86:  
(Start: 27 @55814 has 63 MA's), (Start: 35 @55877 has 1 MA's), (42, 55937), (50, 55994),

Gene: JoeDirt\_84 Start: 54542, Stop: 54760, Start Num: 27  
Candidate Starts for JoeDirt\_84:  
(Start: 27 @54542 has 63 MA's), (Start: 32 @54566 has 2 MA's), (40, 54653), (42, 54665), (43, 54668), (50, 54722),

Gene: Joy99\_93 Start: 58064, Stop: 58279, Start Num: 28  
Candidate Starts for Joy99\_93:  
(Start: 28 @58064 has 106 MA's), (42, 58181), (45, 58208),

Gene: Jubie\_84 Start: 55949, Stop: 56167, Start Num: 27  
Candidate Starts for Jubie\_84:  
(Start: 27 @55949 has 63 MA's), (Start: 35 @56012 has 1 MA's), (42, 56072), (50, 56129),

Gene: Juliette\_61 Start: 39797, Stop: 40018, Start Num: 29  
Candidate Starts for Juliette\_61:

(6, 39542), (7, 39551), (Start: 29 @39797 has 19 MA's), (Start: 32 @39812 has 2 MA's), (43, 39914), (47, 39959),

Gene: Kahlid\_86 Start: 55706, Stop: 55924, Start Num: 27

Candidate Starts for Kahlid\_86:

(Start: 27 @55706 has 63 MA's), (Start: 32 @55730 has 2 MA's), (34, 55760), (40, 55817), (42, 55829), (50, 55886),

Gene: KiSi\_97 Start: 58913, Stop: 59128, Start Num: 28

Candidate Starts for KiSi\_97:

(19, 58841), (20, 58844), (26, 58874), (Start: 28 @58913 has 106 MA's), (Start: 35 @58970 has 1 MA's), (42, 59030), (43, 59033),

Gene: Kingsolomon\_82 Start: 55591, Stop: 55809, Start Num: 27

Candidate Starts for Kingsolomon\_82:

(Start: 27 @55591 has 63 MA's), (Start: 35 @55654 has 1 MA's), (42, 55714), (50, 55771),

Gene: KirDoubleO7\_83 Start: 55898, Stop: 56053, Start Num: 35

Candidate Starts for KirDoubleO7\_83:

(Start: 27 @55835 has 63 MA's), (Start: 35 @55898 has 1 MA's), (42, 55958), (50, 56015),

Gene: Krypton555\_85 Start: 55859, Stop: 56077, Start Num: 27

Candidate Starts for Krypton555\_85:

(Start: 27 @55859 has 63 MA's), (Start: 35 @55922 has 1 MA's), (42, 55982), (50, 56039),

Gene: LastHope\_98 Start: 58834, Stop: 59049, Start Num: 28

Candidate Starts for LastHope\_98:

(Start: 28 @58834 has 106 MA's), (43, 58954), (45, 58978),

Gene: LaterM\_92 Start: 58345, Stop: 58560, Start Num: 28

Candidate Starts for LaterM\_92:

(Start: 28 @58345 has 106 MA's), (41, 58459), (42, 58462), (44, 58486), (47, 58504),

Gene: LeBron\_82 Start: 53237, Stop: 53431, Start Num: 32

Candidate Starts for LeBron\_82:

(Start: 27 @53213 has 63 MA's), (Start: 32 @53237 has 2 MA's), (40, 53324), (42, 53336), (43, 53339), (50, 53393),

Gene: LeMond\_96 Start: 58870, Stop: 59085, Start Num: 28

Candidate Starts for LeMond\_96:

(19, 58798), (20, 58801), (26, 58831), (Start: 28 @58870 has 106 MA's), (Start: 35 @58927 has 1 MA's), (42, 58987), (43, 58990),

Gene: Lewan\_87 Start: 55761, Stop: 55979, Start Num: 27

Candidate Starts for Lewan\_87:

(Start: 27 @55761 has 63 MA's), (Start: 32 @55785 has 2 MA's), (34, 55815), (40, 55872), (42, 55884), (50, 55941),

Gene: LilDestine\_85 Start: 55610, Stop: 55828, Start Num: 27

Candidate Starts for LilDestine\_85:

(Start: 27 @55610 has 63 MA's), (Start: 32 @55634 has 2 MA's), (34, 55664), (40, 55721), (42, 55733), (50, 55790),



Gene: LilPharaoh\_74 Start: 53513, Stop: 53728, Start Num: 28

Candidate Starts for LilPharaoh\_74:

(Start: 28 @53513 has 106 MA's), (38, 53585), (48, 53675),

Gene: LindNT\_90 Start: 58232, Stop: 58447, Start Num: 28

Candidate Starts for LindNT\_90:

(Start: 28 @58232 has 106 MA's), (42, 58349), (43, 58352), (44, 58373), (47, 58391),

Gene: LiyuLake\_84 Start: 55908, Stop: 56126, Start Num: 27

Candidate Starts for LiyuLake\_84:

(Start: 27 @55908 has 63 MA's), (Start: 35 @55971 has 1 MA's), (42, 56031), (50, 56088),

Gene: Llorens\_92 Start: 57935, Stop: 58150, Start Num: 28

Candidate Starts for Llorens\_92:

(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Loadrie\_84 Start: 55785, Stop: 56000, Start Num: 27

Candidate Starts for Loadrie\_84:

(Start: 27 @55785 has 63 MA's), (Start: 32 @55809 has 2 MA's), (34, 55839), (40, 55896), (42, 55908), (50, 55965),

Gene: Lolly9\_83 Start: 55730, Stop: 55885, Start Num: 35

Candidate Starts for Lolly9\_83:

(Start: 27 @55667 has 63 MA's), (Start: 35 @55730 has 1 MA's), (42, 55790), (50, 55847),

Gene: Lumos\_85 Start: 55811, Stop: 56029, Start Num: 27

Candidate Starts for Lumos\_85:

(Start: 27 @55811 has 63 MA's), (Start: 35 @55874 has 1 MA's), (42, 55934), (50, 55991),

Gene: Lunahalos\_92 Start: 57935, Stop: 58150, Start Num: 28

Candidate Starts for Lunahalos\_92:

(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: MAckerman\_82 Start: 53207, Stop: 53425, Start Num: 27

Candidate Starts for MAckerman\_82:

(Start: 27 @53207 has 63 MA's), (Start: 32 @53231 has 2 MA's), (40, 53318), (42, 53330), (43, 53333), (50, 53387),

Gene: Malthus\_60 Start: 39485, Stop: 39706, Start Num: 29

Candidate Starts for Malthus\_60:

(6, 39230), (7, 39239), (Start: 29 @39485 has 19 MA's), (Start: 32 @39500 has 2 MA's), (43, 39602), (47, 39647),

Gene: Marcoliusprime\_64 Start: 44409, Stop: 44627, Start Num: 30

Candidate Starts for Marcoliusprime\_64:

(2, 43959), (3, 43980), (4, 43983), (Start: 30 @44409 has 10 MA's), (Start: 35 @44463 has 1 MA's), (42, 44523), (43, 44526), (48, 44574),

Gene: MarkPhew\_96 Start: 58534, Stop: 58749, Start Num: 28

Candidate Starts for MarkPhew\_96:

(19, 58462), (20, 58465), (26, 58495), (Start: 28 @58534 has 106 MA's), (37, 58600), (39, 58630), (42, 58651), (43, 58654),

Gene: McMater\_94 Start: 59417, Stop: 59632, Start Num: 28  
Candidate Starts for McMater\_94:  
(Start: 28 @59417 has 106 MA's), (45, 59561),

Gene: Mdavu\_74 Start: 53789, Stop: 54004, Start Num: 28  
Candidate Starts for Mdavu\_74:  
(Start: 28 @53789 has 106 MA's), (38, 53861), (48, 53951),

Gene: MeaningOfLife\_94 Start: 58610, Stop: 58825, Start Num: 28  
Candidate Starts for MeaningOfLife\_94:  
(Start: 28 @58610 has 106 MA's), (42, 58727), (45, 58754),

Gene: Megsy\_96 Start: 58270, Stop: 58485, Start Num: 28  
Candidate Starts for Megsy\_96:  
(Start: 28 @58270 has 106 MA's), (42, 58387), (44, 58411), (47, 58429),

Gene: Miley16\_86 Start: 55920, Stop: 56138, Start Num: 27  
Candidate Starts for Miley16\_86:  
(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42, 56043), (50, 56100),

Gene: Milly\_64 Start: 44382, Stop: 44600, Start Num: 30  
Candidate Starts for Milly\_64:  
(2, 43932), (3, 43953), (4, 43956), (5, 44046), (Start: 30 @44382 has 10 MA's), (Start: 35 @44436 has 1 MA's), (42, 44496), (43, 44499), (48, 44547),

Gene: MiniLon\_88 Start: 55668, Stop: 55886, Start Num: 27  
Candidate Starts for MiniLon\_88:  
(Start: 27 @55668 has 63 MA's), (Start: 35 @55731 has 1 MA's), (42, 55791), (50, 55848),

Gene: MiniMac\_88 Start: 55663, Stop: 55881, Start Num: 27  
Candidate Starts for MiniMac\_88:  
(Start: 27 @55663 has 63 MA's), (Start: 35 @55726 has 1 MA's), (42, 55786), (50, 55843),

Gene: MissDaisy\_57 Start: 39011, Stop: 39229, Start Num: 29  
Candidate Starts for MissDaisy\_57:  
(6, 38762), (7, 38771), (Start: 29 @39011 has 19 MA's), (Start: 32 @39026 has 2 MA's), (43, 39128), (47, 39173),

Gene: Mitti\_59 Start: 39664, Stop: 39885, Start Num: 29  
Candidate Starts for Mitti\_59:  
(6, 39409), (7, 39418), (Start: 29 @39664 has 19 MA's), (Start: 32 @39679 has 2 MA's), (43, 39781), (47, 39826),

Gene: MkaliMitinis3\_87 Start: 55769, Stop: 55987, Start Num: 27  
Candidate Starts for MkaliMitinis3\_87:  
(Start: 27 @55769 has 63 MA's), (Start: 32 @55793 has 2 MA's), (34, 55823), (40, 55880), (42, 55892), (50, 55949),

Gene: Moostard\_82 Start: 55586, Stop: 55804, Start Num: 27  
Candidate Starts for Moostard\_82:  
(Start: 27 @55586 has 63 MA's), (Start: 35 @55649 has 1 MA's), (42, 55709), (50, 55766),

Gene: MortyNRick\_36 Start: 29129, Stop: 28914, Start Num: 28

Candidate Starts for MortyNRick\_36:

(Start: 28 @29129 has 106 MA's), (49, 28964),

Gene: MsGreen\_85 Start: 55813, Stop: 56031, Start Num: 27

Candidate Starts for MsGreen\_85:

(Start: 27 @55813 has 63 MA's), (Start: 35 @55876 has 1 MA's), (42, 55936), (50, 55993),

Gene: Mufasa\_64 Start: 43969, Stop: 44187, Start Num: 30

Candidate Starts for Mufasa\_64:

(2, 43522), (3, 43543), (4, 43546), (Start: 30 @43969 has 10 MA's), (Start: 35 @44023 has 1 MA's), (42, 44083), (43, 44086),

Gene: Murucutumbu\_92 Start: 58828, Stop: 59043, Start Num: 28

Candidate Starts for Murucutumbu\_92:

(Start: 28 @58828 has 106 MA's), (42, 58945), (44, 58969), (47, 58987),

Gene: Mynx\_93 Start: 58233, Stop: 58448, Start Num: 28

Candidate Starts for Mynx\_93:

(Start: 28 @58233 has 106 MA's), (42, 58350), (45, 58377),

Gene: Nergal\_73 Start: 49582, Stop: 49794, Start Num: 28

Candidate Starts for Nergal\_73:

(Start: 28 @49582 has 106 MA's), (38, 49654), (42, 49699), (43, 49702),

Gene: Netyap\_87 Start: 55921, Stop: 56139, Start Num: 27

Candidate Starts for Netyap\_87:

(Start: 27 @55921 has 63 MA's), (Start: 32 @55945 has 2 MA's), (34, 55975), (40, 56032), (42, 56044), (50, 56101),

Gene: Nibb\_96 Start: 58278, Stop: 58493, Start Num: 28

Candidate Starts for Nibb\_96:

(Start: 28 @58278 has 106 MA's), (37, 58344), (39, 58374), (42, 58395),

Gene: Nicholas\_82 Start: 55591, Stop: 55809, Start Num: 27

Candidate Starts for Nicholas\_82:

(Start: 27 @55591 has 63 MA's), (Start: 35 @55654 has 1 MA's), (42, 55714), (50, 55771),

Gene: Nicholasp3\_86 Start: 55755, Stop: 55973, Start Num: 27

Candidate Starts for Nicholasp3\_86:

(Start: 27 @55755 has 63 MA's), (Start: 32 @55779 has 2 MA's), (34, 55809), (40, 55866), (42, 55878), (50, 55935),

Gene: Nikao\_76 Start: 56398, Stop: 56613, Start Num: 28

Candidate Starts for Nikao\_76:

(Start: 28 @56398 has 106 MA's), (38, 56470), (48, 56560),

Gene: Niklas\_94 Start: 59018, Stop: 59233, Start Num: 28

Candidate Starts for Niklas\_94:

(Start: 28 @59018 has 106 MA's), (45, 59162),

Gene: Nutello\_73 Start: 53785, Stop: 54000, Start Num: 28

Candidate Starts for Nutello\_73:

(Start: 28 @53785 has 106 MA's), (38, 53857), (48, 53947),

Gene: OhShagHennessy\_80 Start: 53467, Stop: 53685, Start Num: 27

Candidate Starts for OhShagHennessy\_80:

(Start: 27 @53467 has 63 MA's), (Start: 32 @53491 has 2 MA's), (40, 53578), (42, 53590), (43, 53593), (50, 53647),

Gene: OmniCritical\_58 Start: 39473, Stop: 39694, Start Num: 29

Candidate Starts for OmniCritical\_58:

(6, 39218), (7, 39227), (Start: 29 @39473 has 19 MA's), (Start: 32 @39488 has 2 MA's), (43, 39590), (47, 39635),

Gene: Oscar\_97 Start: 58792, Stop: 59007, Start Num: 28

Candidate Starts for Oscar\_97:

(Start: 28 @58792 has 106 MA's), (Start: 35 @58849 has 1 MA's), (42, 58909), (43, 58912),

Gene: PYPDinur\_83 Start: 54952, Stop: 55149, Start Num: 31

Candidate Starts for PYPDinur\_83:

(11, 54775), (12, 54781), (14, 54820), (16, 54832), (17, 54847), (18, 54856), (Start: 27 @54931 has 63 MA's), (Start: 31 @54952 has 1 MA's), (Start: 35 @54994 has 1 MA's), (42, 55054), (43, 55057), (46, 55081), (50, 55111), (51, 55123),

Gene: Padfoot\_92 Start: 58132, Stop: 58347, Start Num: 28

Candidate Starts for Padfoot\_92:

(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: Padpat\_97 Start: 58537, Stop: 58752, Start Num: 28

Candidate Starts for Padpat\_97:

(Start: 28 @58537 has 106 MA's), (42, 58654), (45, 58681),

Gene: Patt\_56 Start: 38735, Stop: 38953, Start Num: 29

Candidate Starts for Patt\_56:

(6, 38486), (7, 38495), (Start: 29 @38735 has 19 MA's), (Start: 32 @38750 has 2 MA's), (43, 38852), (47, 38897),

Gene: Peanam\_94 Start: 59085, Stop: 59300, Start Num: 28

Candidate Starts for Peanam\_94:

(Start: 28 @59085 has 106 MA's), (45, 59229),

Gene: Peel\_92 Start: 57938, Stop: 58153, Start Num: 28

Candidate Starts for Peel\_92:

(Start: 28 @57938 has 106 MA's), (42, 58055), (45, 58082),

Gene: Piatt\_91 Start: 58132, Stop: 58347, Start Num: 28

Candidate Starts for Piatt\_91:

(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: Pokerus\_92 Start: 57943, Stop: 58158, Start Num: 28

Candidate Starts for Pokerus\_92:

(Start: 28 @57943 has 106 MA's), (42, 58060), (45, 58087),

Gene: Powerball\_29 Start: 25934, Stop: 25719, Start Num: 28

Candidate Starts for Powerball\_29:

(Start: 28 @25934 has 106 MA's), (33, 25913), (49, 25769),

Gene: Prithvi\_94 Start: 58539, Stop: 58754, Start Num: 28

Candidate Starts for Prithvi\_94:

(Start: 28 @58539 has 106 MA's), (42, 58656), (43, 58659), (44, 58680), (47, 58698),

Gene: Quby\_84 Start: 54259, Stop: 54477, Start Num: 27

Candidate Starts for Quby\_84:

(11, 54103), (12, 54109), (14, 54148), (16, 54160), (17, 54175), (18, 54184), (Start: 27 @54259 has 63 MA's), (Start: 31 @54280 has 1 MA's), (Start: 35 @54322 has 1 MA's), (42, 54382), (43, 54385), (46, 54409), (50, 54439), (51, 54451),

Gene: QuincyRose\_90 Start: 57946, Stop: 58161, Start Num: 28

Candidate Starts for QuincyRose\_90:

(Start: 28 @57946 has 106 MA's), (42, 58063), (45, 58090),

Gene: Ramen\_93 Start: 57689, Stop: 57904, Start Num: 28

Candidate Starts for Ramen\_93:

(Start: 28 @57689 has 106 MA's), (42, 57806), (45, 57833),

Gene: Rapunzel97\_94 Start: 57914, Stop: 58129, Start Num: 28

Candidate Starts for Rapunzel97\_94:

(Start: 28 @57914 has 106 MA's), (42, 58031), (45, 58058),

Gene: Reptar3000\_57 Start: 38723, Stop: 38941, Start Num: 29

Candidate Starts for Reptar3000\_57:

(6, 38474), (7, 38483), (Start: 29 @38723 has 19 MA's), (Start: 32 @38738 has 2 MA's), (43, 38840), (47, 38885),

Gene: Richo\_94 Start: 59417, Stop: 59632, Start Num: 28

Candidate Starts for Richo\_94:

(Start: 28 @59417 has 106 MA's), (45, 59561),

Gene: Rose5\_84 Start: 54387, Stop: 54605, Start Num: 27

Candidate Starts for Rose5\_84:

(Start: 27 @54387 has 63 MA's), (Start: 32 @54411 has 2 MA's), (40, 54498), (42, 54510), (43, 54513), (50, 54567),

Gene: Rosmarinus\_92 Start: 57923, Stop: 58138, Start Num: 28

Candidate Starts for Rosmarinus\_92:

(Start: 28 @57923 has 106 MA's), (42, 58040), (45, 58067),

Gene: Rumpelstiltskin\_83 Start: 55548, Stop: 55766, Start Num: 27

Candidate Starts for Rumpelstiltskin\_83:

(Start: 27 @55548 has 63 MA's), (Start: 32 @55572 has 2 MA's), (34, 55602), (40, 55659), (42, 55671), (50, 55728),

Gene: Ruthiejr\_60 Start: 39535, Stop: 39756, Start Num: 29

Candidate Starts for Ruthiejr\_60:

(6, 39280), (7, 39289), (Start: 29 @39535 has 19 MA's), (Start: 32 @39550 has 2 MA's), (43, 39652), (47, 39697),

Gene: SamScheppers\_57 Start: 39964, Stop: 40185, Start Num: 29

Candidate Starts for SamScheppers\_57:

(6, 39709), (7, 39718), (Start: 29 @39964 has 19 MA's), (Start: 32 @39979 has 2 MA's), (43, 40081), (47, 40126),

Gene: Samty\_83 Start: 55579, Stop: 55797, Start Num: 27

Candidate Starts for Samty\_83:

(Start: 27 @55579 has 63 MA's), (Start: 35 @55642 has 1 MA's), (42, 55702), (50, 55759),

Gene: SamuelLPlaqson\_93 Start: 58379, Stop: 58594, Start Num: 28

Candidate Starts for SamuelLPlaqson\_93:

(Start: 28 @58379 has 106 MA's), (42, 58496), (45, 58523),

Gene: Sarshaun\_87 Start: 56013, Stop: 56231, Start Num: 27

Candidate Starts for Sarshaun\_87:

(Start: 27 @56013 has 63 MA's), (Start: 32 @56037 has 2 MA's), (34, 56067), (40, 56124), (42, 56136), (50, 56193),

Gene: Scarlett\_96 Start: 58661, Stop: 58876, Start Num: 28

Candidate Starts for Scarlett\_96:

(Start: 28 @58661 has 106 MA's), (Start: 35 @58718 has 1 MA's), (42, 58778), (43, 58781),

Gene: SgtBeansprout\_74 Start: 53785, Stop: 54000, Start Num: 28

Candidate Starts for SgtBeansprout\_74:

(Start: 28 @53785 has 106 MA's), (38, 53857), (48, 53947),

Gene: Shaobing\_93 Start: 59059, Stop: 59274, Start Num: 28

Candidate Starts for Shaobing\_93:

(Start: 28 @59059 has 106 MA's), (45, 59203),

Gene: Sheng711\_85 Start: 54586, Stop: 54783, Start Num: 31

Candidate Starts for Sheng711\_85:

(11, 54409), (12, 54415), (14, 54454), (16, 54466), (17, 54481), (18, 54490), (Start: 27 @54565 has 63 MA's), (Start: 31 @54586 has 1 MA's), (Start: 35 @54628 has 1 MA's), (42, 54688), (43, 54691), (46, 54715), (50, 54745),

Gene: ShiaSurprise\_94 Start: 58132, Stop: 58347, Start Num: 28

Candidate Starts for ShiaSurprise\_94:

(Start: 28 @58132 has 106 MA's), (42, 58249), (45, 58276),

Gene: Silverleaf\_83 Start: 53843, Stop: 54061, Start Num: 27

Candidate Starts for Silverleaf\_83:

(Start: 27 @53843 has 63 MA's), (Start: 32 @53867 has 2 MA's), (40, 53954), (42, 53966), (43, 53969), (50, 54023),

Gene: SirPhilip\_93 Start: 58618, Stop: 58833, Start Num: 28

Candidate Starts for SirPhilip\_93:

(22, 58555), (26, 58579), (Start: 28 @58618 has 106 MA's), (41, 58732), (42, 58735),

Gene: Slarp\_59 Start: 39492, Stop: 39713, Start Num: 29

Candidate Starts for Slarp\_59:

(6, 39237), (7, 39246), (Start: 29 @39492 has 19 MA's), (Start: 32 @39507 has 2 MA's), (43, 39609), (47, 39654),

Gene: Slimphazie\_94 Start: 58370, Stop: 58585, Start Num: 28

Candidate Starts for Slimphazie\_94:

(Start: 28 @58370 has 106 MA's), (42, 58487), (45, 58514),

Gene: Snenia\_84 Start: 55815, Stop: 56033, Start Num: 27

Candidate Starts for Snenia\_84:

(Start: 27 @55815 has 63 MA's), (Start: 35 @55878 has 1 MA's), (42, 55938), (50, 55995),

Gene: Soap141\_86 Start: 56013, Stop: 56231, Start Num: 27

Candidate Starts for Soap141\_86:

(Start: 27 @56013 has 63 MA's), (Start: 32 @56037 has 2 MA's), (34, 56067), (40, 56124), (42, 56136), (50, 56193),

Gene: Spock\_92 Start: 57936, Stop: 58151, Start Num: 28

Candidate Starts for Spock\_92:

(Start: 28 @57936 has 106 MA's), (42, 58053), (45, 58080),

Gene: Stinson\_93 Start: 58112, Stop: 58327, Start Num: 28

Candidate Starts for Stinson\_93:

(Start: 28 @58112 has 106 MA's), (42, 58229), (45, 58256),

Gene: Strobilo\_65 Start: 44384, Stop: 44602, Start Num: 30

Candidate Starts for Strobilo\_65:

(2, 43934), (3, 43955), (4, 43958), (Start: 30 @44384 has 10 MA's), (Start: 35 @44438 has 1 MA's), (42, 44498), (43, 44501), (48, 44549),

Gene: Sulley\_89 Start: 57697, Stop: 57912, Start Num: 28

Candidate Starts for Sulley\_89:

(9, 57529), (10, 57532), (13, 57556), (21, 57634), (25, 57649), (Start: 28 @57697 has 106 MA's), (42, 57814), (45, 57841),

Gene: TM4\_61 Start: 38736, Stop: 38954, Start Num: 30

Candidate Starts for TM4\_61:

(1, 38271), (2, 38289), (3, 38310), (4, 38313), (Start: 30 @38736 has 10 MA's), (Start: 35 @38790 has 1 MA's), (42, 38850), (43, 38853), (48, 38901),

Gene: Tachez\_92 Start: 57783, Stop: 57998, Start Num: 28

Candidate Starts for Tachez\_92:

(Start: 28 @57783 has 106 MA's), (42, 57900), (45, 57927),

Gene: TaiwanKao\_93 Start: 58179, Stop: 58394, Start Num: 28

Candidate Starts for TaiwanKao\_93:

(Start: 28 @58179 has 106 MA's), (42, 58296), (43, 58299), (44, 58320), (47, 58338),

Gene: Taquito\_58 Start: 39727, Stop: 39948, Start Num: 29

Candidate Starts for Taquito\_58:

(Start: 29 @39727 has 19 MA's), (Start: 32 @39742 has 2 MA's), (43, 39844), (47, 39889),

Gene: TingHuaYa\_96 Start: 59163, Stop: 59378, Start Num: 28

Candidate Starts for TingHuaYa\_96:

(Start: 28 @59163 has 106 MA's), (43, 59283), (45, 59307),

Gene: TiniBug\_91 Start: 58494, Stop: 58709, Start Num: 28

Candidate Starts for TiniBug\_91:  
(Start: 28 @58494 has 106 MA's), (42, 58611), (45, 58638),

Gene: Tiri\_93 Start: 57677, Stop: 57892, Start Num: 28  
Candidate Starts for Tiri\_93:  
(Start: 28 @57677 has 106 MA's), (42, 57794), (45, 57821),

Gene: Topper\_92 Start: 57935, Stop: 58150, Start Num: 28  
Candidate Starts for Topper\_92:  
(Start: 28 @57935 has 106 MA's), (42, 58052), (45, 58079),

Gene: Torres\_75 Start: 56399, Stop: 56614, Start Num: 28  
Candidate Starts for Torres\_75:  
(Start: 28 @56399 has 106 MA's), (38, 56471), (48, 56561),

Gene: Tourach\_85 Start: 56040, Stop: 56255, Start Num: 27  
Candidate Starts for Tourach\_85:  
(Start: 27 @56040 has 63 MA's), (Start: 32 @56064 has 2 MA's), (42, 56163), (50, 56220),

Gene: TreyKay\_94 Start: 58539, Stop: 58754, Start Num: 28  
Candidate Starts for TreyKay\_94:  
(Start: 28 @58539 has 106 MA's), (42, 58656), (43, 58659), (44, 58680), (47, 58698),

Gene: TruffulaTree\_94 Start: 58336, Stop: 58551, Start Num: 28  
Candidate Starts for TruffulaTree\_94:  
(Start: 28 @58336 has 106 MA's), (42, 58453), (45, 58480),

Gene: Twitch\_92 Start: 57938, Stop: 58153, Start Num: 28  
Candidate Starts for Twitch\_92:  
(Start: 28 @57938 has 106 MA's), (42, 58055), (45, 58082),

Gene: Tyson\_84 Start: 54313, Stop: 54531, Start Num: 27  
Candidate Starts for Tyson\_84:  
(Start: 27 @54313 has 63 MA's), (Start: 32 @54337 has 2 MA's), (40, 54424), (42, 54436), (43, 54439), (50, 54493),

Gene: UPIE\_82 Start: 53933, Stop: 54127, Start Num: 32  
Candidate Starts for UPIE\_82:  
(Start: 27 @53909 has 63 MA's), (Start: 32 @53933 has 2 MA's), (40, 54020), (42, 54032), (43, 54035), (50, 54089),

Gene: Urkel\_93 Start: 58379, Stop: 58594, Start Num: 28  
Candidate Starts for Urkel\_93:  
(Start: 28 @58379 has 106 MA's), (42, 58496), (45, 58523),

Gene: Validus\_99 Start: 59954, Stop: 60172, Start Num: 28  
Candidate Starts for Validus\_99:  
(Start: 28 @59954 has 106 MA's), (Start: 32 @59972 has 2 MA's), (43, 60074), (45, 60098),

Gene: Veliki\_93 Start: 57902, Stop: 58117, Start Num: 28  
Candidate Starts for Veliki\_93:  
(Start: 28 @57902 has 106 MA's), (42, 58019), (45, 58046),



Gene: Vetric\_85 Start: 55617, Stop: 55835, Start Num: 27  
Candidate Starts for Vetric\_85:  
(Start: 27 @55617 has 63 MA's), (Start: 32 @55641 has 2 MA's), (34, 55671), (40, 55728), (42, 55740), (50, 55797),

Gene: Wamburgexpress\_83 Start: 54348, Stop: 54566, Start Num: 27  
Candidate Starts for Wamburgexpress\_83:  
(Start: 27 @54348 has 63 MA's), (Start: 32 @54372 has 2 MA's), (40, 54459), (42, 54471), (43, 54474), (50, 54528),

Gene: Whirlwind\_85 Start: 55822, Stop: 56040, Start Num: 27  
Candidate Starts for Whirlwind\_85:  
(Start: 27 @55822 has 63 MA's), (Start: 35 @55885 has 1 MA's), (42, 55945), (50, 56002),

Gene: Wigglewigggle\_85 Start: 55562, Stop: 55777, Start Num: 27  
Candidate Starts for Wigglewigggle\_85:  
(Start: 27 @55562 has 63 MA's), (Start: 32 @55586 has 2 MA's), (34, 55616), (40, 55673), (42, 55685), (50, 55742),

Gene: Wilder\_87 Start: 55706, Stop: 55924, Start Num: 27  
Candidate Starts for Wilder\_87:  
(Start: 27 @55706 has 63 MA's), (Start: 32 @55730 has 2 MA's), (34, 55760), (40, 55817), (42, 55829), (50, 55886),

Gene: Winky\_86 Start: 55920, Stop: 56138, Start Num: 27  
Candidate Starts for Winky\_86:  
(Start: 27 @55920 has 63 MA's), (Start: 32 @55944 has 2 MA's), (34, 55974), (40, 56031), (42, 56043), (50, 56100),

Gene: Wintermute\_59 Start: 39722, Stop: 39943, Start Num: 29  
Candidate Starts for Wintermute\_59:  
(6, 39467), (7, 39476), (Start: 29 @39722 has 19 MA's), (Start: 32 @39737 has 2 MA's), (43, 39839), (47, 39884),

Gene: Wyatt2\_84 Start: 54311, Stop: 54529, Start Num: 27  
Candidate Starts for Wyatt2\_84:  
(Start: 27 @54311 has 63 MA's), (Start: 32 @54335 has 2 MA's), (40, 54422), (42, 54434), (43, 54437), (50, 54491),

Gene: Y10\_58 Start: 39650, Stop: 39871, Start Num: 29  
Candidate Starts for Y10\_58:  
(6, 39395), (7, 39404), (Start: 29 @39650 has 19 MA's), (Start: 32 @39665 has 2 MA's), (43, 39767), (47, 39812),

Gene: Y2\_58 Start: 39650, Stop: 39871, Start Num: 29  
Candidate Starts for Y2\_58:  
(6, 39395), (7, 39404), (Start: 29 @39650 has 19 MA's), (Start: 32 @39665 has 2 MA's), (43, 39767), (47, 39812),

Gene: YoureAdopted\_91 Start: 57731, Stop: 57946, Start Num: 28  
Candidate Starts for YoureAdopted\_91:  
(Start: 28 @57731 has 106 MA's), (42, 57848), (45, 57875),

Gene: Yunkel11\_97 Start: 58671, Stop: 58886, Start Num: 28

Candidate Starts for Yunkel11\_97:

(Start: 28 @58671 has 106 MA's), (43, 58791), (45, 58815),

Gene: Zabiza\_88 Start: 54275, Stop: 54490, Start Num: 28

Candidate Starts for Zabiza\_88:

(Start: 28 @54275 has 106 MA's), (42, 54392), (45, 54419),

Gene: Zakai\_87 Start: 56026, Stop: 56241, Start Num: 27

Candidate Starts for Zakai\_87:

(Start: 27 @56026 has 63 MA's), (Start: 32 @56050 has 2 MA's), (34, 56080), (40, 56137), (42, 56149), (50, 56206),

Gene: Zaria\_84 Start: 53763, Stop: 53981, Start Num: 27

Candidate Starts for Zaria\_84:

(Start: 27 @53763 has 63 MA's), (Start: 32 @53787 has 2 MA's), (40, 53874), (42, 53886), (43, 53889), (50, 53943),

Gene: Zavala\_94 Start: 58196, Stop: 58411, Start Num: 28

Candidate Starts for Zavala\_94:

(Start: 28 @58196 has 106 MA's), (42, 58313), (45, 58340),

Gene: ZhongYanYuan\_84 Start: 55753, Stop: 55971, Start Num: 27

Candidate Starts for ZhongYanYuan\_84:

(Start: 27 @55753 has 63 MA's), (Start: 32 @55777 has 2 MA's), (34, 55807), (42, 55876), (50, 55933),

Gene: ZoeJ\_63 Start: 43777, Stop: 43995, Start Num: 30

Candidate Starts for ZoeJ\_63:

(2, 43330), (3, 43351), (4, 43354), (8, 43540), (Start: 30 @43777 has 10 MA's), (Start: 35 @43831 has 1 MA's), (42, 43891), (43, 43894),