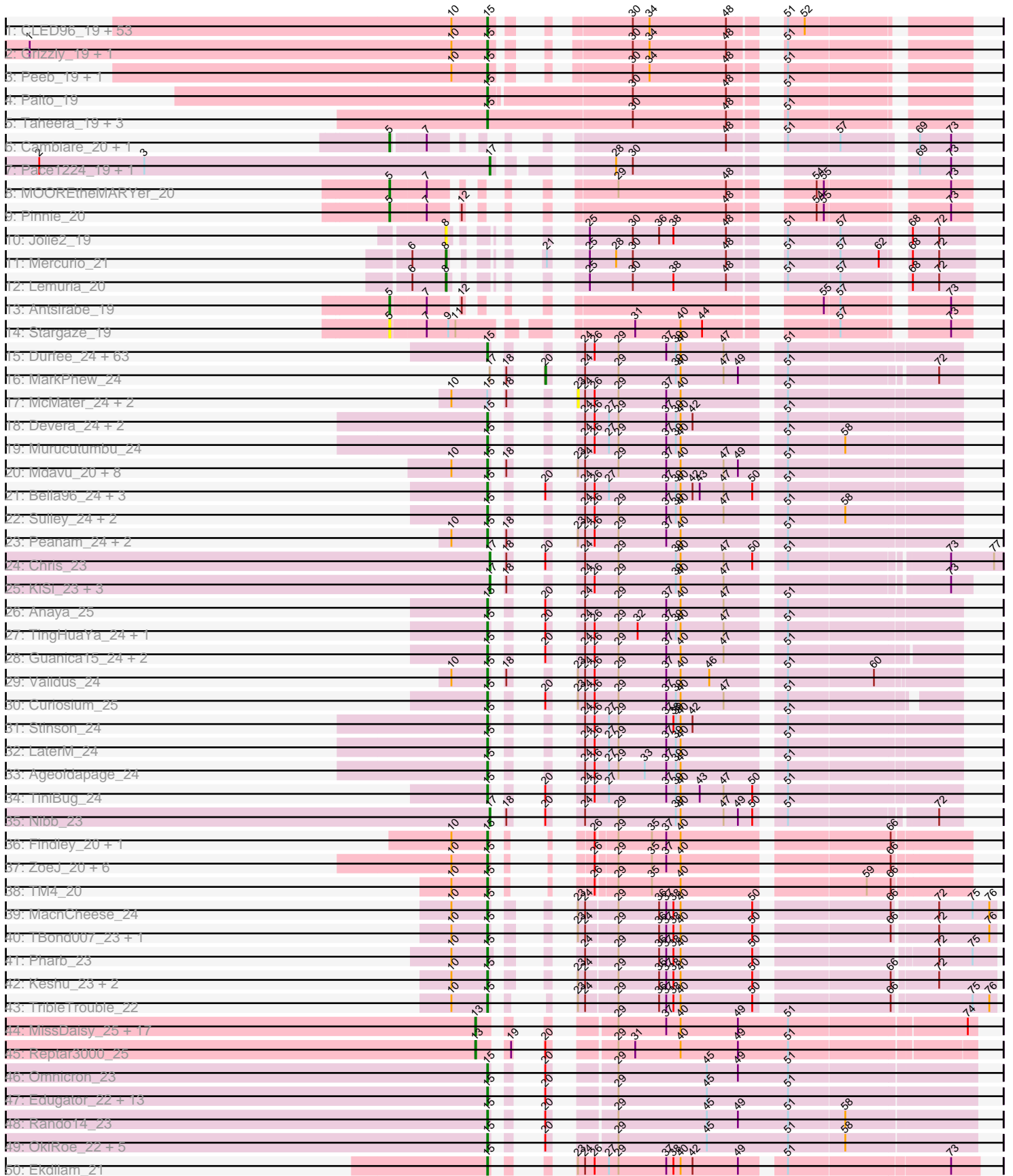
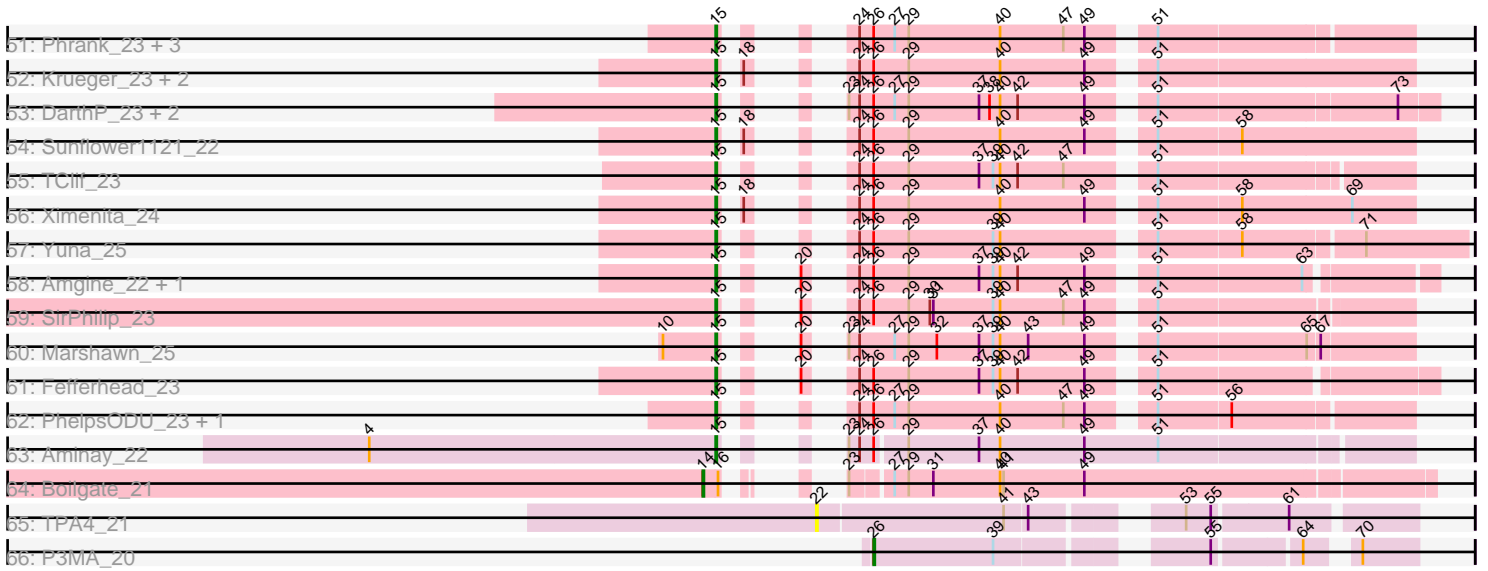


Pham 192282



Pham 192282



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 192282 Report

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

Pham number 192282 has 268 members, 13 are drafts.

Phages represented in each track:

- Track 1 : CLED96\_19, Darionha\_19, Crespo\_19, PinkYoshi\_19, Frosty24\_19, Gomashi\_19, LouisV14\_19, Jolene\_19, Jane\_19, BQuat\_19, Remy19\_19, Angel\_19, CassieYates\_19, Coleslaw\_19, Sweets\_19, Kasen3\_19, ECartman\_19, OctaviousRex\_19, Halo\_19, Wendigo\_19, DNAIII\_0019, Cherrybomb426\_19, ZoMa\_19, Maliketh\_19, TomBrady\_19, Jonghyun\_19, Avrafan\_19, Gideon\_19, Schiebel\_19, Sizemore\_19, Plagueis\_19, Aroostook\_19, Zombie\_19, Hope\_19, Phish\_19, Hotshotbaby7\_19, DMoney\_19, Kareem\_19, Mowgli\_19, Olga\_19, Chance64\_19, ShaboiShabazz\_19, BruceB\_19, Periodt\_19, Marmie\_19, Cedasite\_19, Camri\_19, GoldenAsh\_19, JorRay\_19, Renaissance\_19, Annihilator\_19, Phreak\_19, BPs\_19, AzulaCat\_19
- Track 2 : Grizzly\_19, Barkley26\_19
- Track 3 : Peeb\_19, Liefie\_19
- Track 4 : Paito\_19
- Track 5 : Taheera\_19, Rabbs\_19, Sneeze\_19, Terror\_19
- Track 6 : Cambiare\_20, Avocado\_19
- Track 7 : Pace1224\_19, FlagStaff\_19
- Track 8 : MOOREtheMARYer\_20
- Track 9 : Pinnie\_20
- Track 10 : Jolie2\_19
- Track 11 : Mercurio\_21
- Track 12 : Lemuria\_20
- Track 13 : Antsirabe\_19
- Track 14 : Stargaze\_19
- Track 15 : Durfee\_24, Piatt\_24, BaghaKamala\_24, Apocalypse\_24, Slimphazie\_24, CrimD\_24, Joy99\_24, YoureAdopted\_23, Belladonna\_24, TaiwanKao\_25, CheetoDust\_24, Boiiii\_24, Peel\_24, Blizzard\_24, Adonis\_24, BarrelRoll\_24, Padfoot\_24, Zavala\_24, Jayhawk\_24, HedwigODU\_24, Dalmuri\_24, Mynx\_24, Inky\_24, JAWS\_24, TreyKay\_24, Asayake\_24, BGIlluviae\_24, Capricorn\_24, Atiba\_24, Geraldini\_24, CREW\_24, Ganymede\_25, Beezoo\_24, MeaningOfLife\_24, ActinUp\_24, Veliki\_24, Tachez\_24, Rosmarinus\_24, Jeckyll\_24, LindNT\_24, Padpat\_24, Twitch\_24, Emerson\_24, CaseJules\_24, Ramen\_24, Rapunzel97\_24, BEEST\_24, Zabiza\_24, Tiri\_24, Pokerus\_23, Topper\_24, Hyperbowlee\_24, AlishaPH\_24, Adephegia\_24, Jarvi\_24, Homura\_24, TruffulaTree\_24, Spock\_24, QuincyRose\_23, ShiaSurprise\_24, Megsy\_24, Lunahalos\_24, Prithvi\_24, Llorens\_24
- Track 16 : MarkPhew\_24
- Track 17 : McMater\_24, Dartin\_24, Richo\_24
- Track 18 : Devera\_24, Dole\_24, Illumine\_24

- Track 19 : Murucutumbu\_24
- Track 20 : Mdavu\_20, Binglebops\_20, Enkosi\_20, Nikao\_20, Amelie\_20, Nutello\_20, SgtBeansprout\_20, LilPharaoh\_20, Torres\_20
- Track 21 : Bella96\_24, DrHayes\_24, Urkel\_24, SamuelLPlaqson\_24
- Track 22 : Sulley\_24, Angelica\_24, Deby\_24
- Track 23 : Peanam\_24, Shaobing\_24, Niklas\_24
- Track 24 : Chris\_23
- Track 25 : KiSi\_23, Oscar\_23, LeMond\_23, Scarlett\_23
- Track 26 : Anaya\_25
- Track 27 : TingHuaYa\_24, LastHope\_24
- Track 28 : Guanica15\_24, Yunkel11\_24, Efra2\_24
- Track 29 : Validus\_24
- Track 30 : Curiosium\_25
- Track 31 : Stinson\_24
- Track 32 : LaterM\_24
- Track 33 : Ageofdapage\_24
- Track 34 : TiniBug\_24
- Track 35 : Nibb\_23
- Track 36 : Findley\_20, Strobilo\_20
- Track 37 : ZoeJ\_20, Milly\_20, DismalStressor\_20, BoostSeason\_20, DismalFunk\_20, Mufasa\_20, Marcoliusprime\_20
- Track 38 : TM4\_20
- Track 39 : MacnCheese\_24
- Track 40 : TBond007\_23, Pixie\_23
- Track 41 : Pharb\_23
- Track 42 : Keshu\_23, Hurricane\_23, ShedlockHolmes\_23
- Track 43 : TribbleTrouble\_22
- Track 44 : MissDaisy\_25, Wintermute\_25, Mitti\_25, Juliette\_25, Fionnbharth\_25, Chancellor\_25, JF1\_25, Y2\_25, Cheetobro\_25, Patt\_25, SamScheppers\_23, Ruthiejr\_24, Eponine\_25, Slarp\_25, Malthus\_26, OmniCritical\_25, Taquito\_23, Y10\_25
- Track 45 : Reptar3000\_25
- Track 46 : Omnicron\_23
- Track 47 : Edugator\_22, Larva\_23, SoSeph\_22, Leston\_22, Feyre\_22, Heftyboy\_22, Thyatira\_22, Psycho\_23, Guillsminger\_22, Gengar\_22, Waterfoul\_22, Dadosky\_23, AlleyCat\_23, Paola\_22
- Track 48 : Rando14\_23
- Track 49 : OkiRoe\_22, Agent47\_22, Collard\_22, Kratio\_21, Miryou\_22, InvictusManeo\_22
- Track 50 : Ekdilam\_21
- Track 51 : Phrank\_23, Tierra\_23, Bryler\_23, Cain\_23
- Track 52 : Krueger\_23, Syra333\_23, Shadow1\_22
- Track 53 : DARTH\_P\_23, Hammy\_23, Amohnition\_23
- Track 54 : Sunflower1121\_22
- Track 55 : TClif\_23
- Track 56 : Ximenita\_24
- Track 57 : Yuna\_25
- Track 58 : Amgine\_22, Ellie\_21
- Track 59 : SirPhilip\_23
- Track 60 : Marshawn\_25
- Track 61 : Fefferhead\_23
- Track 62 : PhelpsODU\_23, Unicorn\_23
- Track 63 : Aminay\_22

- Track 64 : Boilgate\_21
- Track 65 : TPA4\_21
- Track 66 : P3MA\_20

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

The start number called the most often in the published annotations is 15, it was called in 219 of the 255 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp\_24, Adephegia\_24, Adonis\_24, Agent47\_22, Ageofdapage\_24, AlishaPH\_24, AlleyCat\_23, Amelie\_20, Amgine\_22, Aminay\_22, Amohnition\_23, Anaya\_25, Angel\_19, Angelica\_24, Annihilator\_19, Apocalypse\_24, Aroostook\_19, Asayake\_24, Atiba\_24, Avrafan\_19, AzulaCat\_19, BEEST\_24, BGIlluviae\_24, BPs\_19, BQuat\_19, BaghaKamala\_24, Barkley26\_19, BarrelRoll\_24, Beezoo\_24, Bella96\_24, Belladonna\_24, Binglebops\_20, Blizzard\_24, Boiiii\_24, BoostSeason\_20, BruceB\_19, Bryler\_23, CLED96\_19, CREW\_24, Cain\_23, Camri\_19, Capricorn\_24, CaseJules\_24, CassieYates\_19, Cedasite\_19, Chance64\_19, CheetoDust\_24, Cherrybomb426\_19, Coleslaw\_19, Collard\_22, Crespo\_19, CrimD\_24, Curiosium\_25, DMoney\_19, DNAIII\_0019, Dadosky\_23, Dalmuri\_24, Darionha\_19, DarthP\_23, Deby\_24, Devera\_24, DismalFunk\_20, DismalStressor\_20, Dole\_24, DrHayes\_24, Durfee\_24, ECartman\_19, Edugator\_22, Efra2\_24, Ekdilam\_21, Ellie\_21, Emerson\_24, Enkosi\_20, Fefferhead\_23, Feyre\_22, Findley\_20, Frosty24\_19, Ganymede\_25, Gengar\_22, Geraldini\_24, Gideon\_19, GoldenAsh\_19, Gomashi\_19, Grizzly\_19, Guanica15\_24, Guillsminger\_22, Halo\_19, Hammy\_23, HedwigODU\_24, Heftyboy\_22, Homura\_24, Hope\_19, Hotshotbaby7\_19, Hurricane\_23, Hyperbowlee\_24, Illumine\_24, Inky\_24, InvictusManeo\_22, JAWS\_24, Jane\_19, Jarvi\_24, Jayhawk\_24, Jeckyll\_24, Jolene\_19, Jonghyun\_19, JorRay\_19, Joy99\_24, Kareem\_19, Kasen3\_19, Keshu\_23, Kratio\_21, Krueger\_23, Larva\_23, LastHope\_24, LaterM\_24, Leston\_22, Liefie\_19, LilPharaoh\_20, LindNT\_24, Llorens\_24, LouisV14\_19, Lunahalos\_24, MacnCheese\_24, Maliketh\_19, Marcoliusprime\_20, Marmie\_19, Marshawn\_25, Mdavu\_20, MeaningOfLife\_24, Megsy\_24, Milly\_20, Miryou\_22, Mowgli\_19, Mufasa\_20, Murucutumbu\_24, Mynx\_24, Nikao\_20, Niklas\_24, Nutello\_20, OctaviousRex\_19, OkiRoe\_22, Olga\_19, Omnicron\_23, Padfoot\_24, Padpat\_24, Paito\_19, Paola\_22, Peanam\_24, Peeb\_19, Peel\_24, Periodt\_19, Pharb\_23, PhelpsODU\_23, Phish\_19, Phrank\_23, Phreak\_19, Piatt\_24, PinkYoshi\_19, Pixie\_23, Plagueis\_19, Pokerus\_23, Prithvi\_24, Psycho\_23, QuincyRose\_23, Rabbs\_19, Ramen\_24, Rando14\_23, Rapunzel97\_24, Remy19\_19, Renaissance\_19, Rosmarinus\_24, SamuelLPlaqson\_24, Schiebel\_19, SgtBeansprout\_20, ShaboiShabazz\_19, Shadow1\_22, Shaobing\_24, ShedlockHolmes\_23, ShiaSurprise\_24, SirPhilip\_23, Sizemore\_19, Slimphazie\_24, Sneeze\_19, SoSeph\_22, Spock\_24, Stinson\_24, Strobilo\_20, Sulley\_24, Sunflower1121\_22, Sweets\_19, Syra333\_23, TBond007\_23, TClif\_23, TM4\_20, Tachez\_24, Taheera\_19, TaiwanKao\_25, Terror\_19, Thyatira\_22, Tierra\_23, TingHuaYa\_24, TiniBug\_24, Tiri\_24, TomBrady\_19, Topper\_24, Torres\_20, TreyKay\_24, TripleTrouble\_22, TruffulaTree\_24, Twitch\_24, Unicorn\_23, Urkel\_24, Validus\_24, Veliki\_24, Waterfoul\_22, Wendigo\_19, Ximenita\_24, YoureAdopted\_23, Yuna\_25, Yunkel11\_24, Zabiza\_24, Zavala\_24, ZoMa\_19, ZoeJ\_20, Zombie\_19,

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

- Dartin\_24, McMater\_24, Richo\_24,

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

- Antsirabe\_19, Avocado\_19, Boilgate\_21, Cambiare\_20, Chancellor\_25, Cheetobro\_25, Chris\_23, Eponine\_25, Fionnbharth\_25, FlagStaff\_19, JF1\_25, Jolie2\_19, Juliette\_25, KiSi\_23, LeMond\_23, Lemuria\_20, MOOREtheMARYer\_20, Malthus\_26, MarkPhew\_24, Mercurio\_21, MissDaisy\_25, Mitti\_25, Nibb\_23, OmniCritical\_25, Oscar\_23, P3MA\_20, Pace1224\_19, Patt\_25, Pinnie\_20, Reptar3000\_25, Ruthiejr\_24, SamScheppers\_23, Scarlett\_23, Slarp\_25, Stargaze\_19, TPA4\_21, Taquito\_23, Wintermute\_25, Y10\_25, Y2\_25,

### Summary by start number:

Start 5:

- Found in 6 of 268 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 5 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antsirabe\_19 (G5), Avocado\_19 (G2), Cambiare\_20 (G2), MOOREtheMARYer\_20 (G3), Pinnie\_20 (G3), Stargaze\_19 (G5),

Start 8:

- Found in 3 of 268 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jolie2\_19 (G4), Lemuria\_20 (G4), Mercurio\_21 (G4),

Start 13:

- Found in 19 of 268 ( 7.1% ) of genes in pham
- Manual Annotations of this start: 19 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chancellor\_25 (K4), Cheetobro\_25 (K4), Eponine\_25 (K4), Fionnbharth\_25 (K4), JF1\_25 (K4), Juliette\_25 (K4), Malthus\_26 (K4), MissDaisy\_25 (K4), Mitti\_25 (K4), OmniCritical\_25 (K4), Patt\_25 (K4), Reptar3000\_25 (K4), Ruthiejr\_24 (K4), SamScheppers\_23 (K4), Slarp\_25 (K4), Taquito\_23 (K4), Wintermute\_25 (K4), Y10\_25 (K4), Y2\_25 (K4),

Start 14:

- Found in 1 of 268 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Boilgate\_21 (K8),

Start 15:

- Found in 228 of 268 ( 85.1% ) of genes in pham
- Manual Annotations of this start: 219 of 255
- Called 98.7% of time when present
- Phage (with cluster) where this start called: ActinUp\_24 (K1), Adephegia\_24 (K1), Adonis\_24 (K1), Agent47\_22 (K5), Ageofdapage\_24 (K1), AlishaPH\_24 (K1), AlleyCat\_23 (K5), Amelie\_20 (K1), Amgine\_22 (K6), Aminay\_22 (K7), Amohnton\_23 (K6), Anaya\_25 (K1), Angel\_19 (G1), Angelica\_24 (K1), Annihilator\_19 (G1), Apocalypse\_24 (K1), Aroostook\_19 (G1), Asayake\_24 (K1), Atiba\_24 (K1), Avrafan\_19 (G1), AzulaCat\_19 (G1), BEEST\_24 (K1), BGlluvia\_24 (K1), BPs\_19

(G1), BQuat\_19 (G1), BaghaKamala\_24 (K1), Barkley26\_19 (G1), BarrelRoll\_24 (K1), Beezoo\_24 (K1), Bella96\_24 (K1), Belladonna\_24 (K1), Biglebops\_20 (K1), Blizzard\_24 (K1), Boiiii\_24 (K1), BoostSeason\_20 (K2), BruceB\_19 (G1), Bryler\_23 (K6), CLED96\_19 (G1), CREW\_24 (K1), Cain\_23 (K6), Camri\_19 (G1), Capricorn\_24 (K1), CaseJules\_24 (K1), CassieYates\_19 (G1), Cedasite\_19 (G1), Chance64\_19 (G1), CheetoDust\_24 (K1), Cherrybomb426\_19 (G1), Coleslaw\_19 (G1), Collard\_22 (K5), Crespo\_19 (G1), CrimD\_24 (K1), Curiosium\_25 (K1), DMoney\_19 (G1), DNAllI\_0019 (G1), Dadosky\_23 (K5), Dalmuri\_24 (K1), Darionha\_19 (G1), DarthP\_23 (K6), Deby\_24 (K1), Devera\_24 (K1), DismalFunk\_20 (K2), DismalStressor\_20 (K2), Dole\_24 (K1), DrHayes\_24 (K1), Durfee\_24 (K1), ECartman\_19 (G1), Edugator\_22 (K5), Efra2\_24 (K1), Ekdilam\_21 (K6), Ellie\_21 (K6), Emerson\_24 (K1), Enkosi\_20 (K1), Fefferhead\_23 (K6), Feyre\_22 (K5), Findley\_20 (K2), Frosty24\_19 (G1), Ganymede\_25 (K1), Gengar\_22 (K5), Geraldini\_24 (K1), Gideon\_19 (G1), GoldenAsh\_19 (G1), Gomashi\_19 (G1), Grizzly\_19 (G1), Guanica15\_24 (K1), Guillsminger\_22 (K5), Halo\_19 (G1), Hammy\_23 (K6), HedwigODU\_24 (K1), Heftyboy\_22 (K5), Homura\_24 (K1), Hope\_19 (G1), Hotshotbaby7\_19 (G1), Hurricane\_23 (K3), Hyperbowlee\_24 (K1), Illumine\_24 (K1), Inky\_24 (K1), InvictusManeo\_22 (K5), JAWS\_24 (K1), Jane\_19 (G1), Jarvi\_24 (K1), Jayhawk\_24 (K1), Jeckyll\_24 (K1), Jolene\_19 (G1), Jonghyun\_19 (G1), JorRay\_19 (G1), Joy99\_24 (K1), Kareem\_19 (G1), Kasen3\_19 (G1), Keshu\_23 (K3), Kratio\_21 (K5), Krueger\_23 (K6), Larva\_23 (K5), LastHope\_24 (K1), LaterM\_24 (K1), Leston\_22 (K5), Liefie\_19 (G1), LilPharaoh\_20 (K1), LindNT\_24 (K1), Llorens\_24 (K1), LouisV14\_19 (G1), Lunahalos\_24 (K1), MacnCheese\_24 (K3), Maliketh\_19 (G1), Marcoliusprime\_20 (K2), Marmie\_19 (G1), Marshawn\_25 (K6), Mdavu\_20 (K1), MeaningOfLife\_24 (K1), Megsy\_24 (K1), Milly\_20 (K2), Miryou\_22 (K5), Mowgli\_19 (G1), Mufasa\_20 (K2), Murucutumbu\_24 (K1), Mynx\_24 (K1), Nikao\_20 (K1), Niklas\_24 (K1), Nutello\_20 (K1), OctaviousRex\_19 (G1), OkiRoe\_22 (K5), Olga\_19 (G1), Omnicron\_23 (K5), Padfoot\_24 (K1), Padpat\_24 (K1), Paito\_19 (G1), Paola\_22 (K5), Peanam\_24 (K1), Peeb\_19 (G1), Peel\_24 (K1), Periodt\_19 (G1), Pharb\_23 (K3), PhelpsODU\_23 (K6), Phish\_19 (G1), Phrank\_23 (K6), Phreak\_19 (G1), Piatt\_24 (K1), PinkYoshi\_19 (G1), Pixie\_23 (K3), Plagueis\_19 (G1), Pokerus\_23 (K1), Prithvi\_24 (K1), Psycho\_23 (K5), QuincyRose\_23 (K1), Rabbs\_19 (G1), Ramen\_24 (K1), Rando14\_23 (K5), Rapunzel97\_24 (K1), Remy19\_19 (G1), Renaissance\_19 (G1), Rosmarinus\_24 (K1), SamuelLPlaqson\_24 (K1), Schiebel\_19 (G1), SgtBeansprout\_20 (K1), ShaboiShabazz\_19 (G1), Shadow1\_22 (K6), Shaobing\_24 (K1), ShedlockHolmes\_23 (K3), ShiaSurprise\_24 (K1), SirPhilip\_23 (K6), Sizemore\_19 (G1), Slimphazie\_24 (K1), Sneeze\_19 (G1), SoSeph\_22 (K5), Spock\_24 (K1), Stinson\_24 (K1), Strobilo\_20 (K2), Sulley\_24 (K1), Sunflower1121\_22 (K6), Sweets\_19 (G1), Syra333\_23 (K6), TBond007\_23 (K3), TClif\_23 (K6), TM4\_20 (K2), Tachez\_24 (K1), Taheera\_19 (G1), TaiwanKao\_25 (K1), Terror\_19 (G1), Thyatira\_22 (K5), Tierra\_23 (K6), TingHuaYa\_24 (K1), TiniBug\_24 (K1), Tiri\_24 (K1), TomBrady\_19 (G1), Topper\_24 (K1), Torres\_20 (K1), TreyKay\_24 (K1), TripleTrouble\_22 (K3), TruffulaTree\_24 (K1), Twitch\_24 (K1), Unicorn\_23 (K6), Urkel\_24 (K1), Validus\_24 (K1), Veliki\_24 (K1), Waterfoul\_22 (K5), Wendigo\_19 (G1), Ximenita\_24 (K6), YoureAdopted\_23 (K1), Yuna\_25 (K6), Yunkel11\_24 (K1), Zabiza\_24 (K1), Zavala\_24 (K1), ZoMa\_19 (G1), ZoeJ\_20 (K2), Zombie\_19 (G1),

Start 17:

- Found in 9 of 268 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 7 of 255
- Called 88.9% of time when present

- Phage (with cluster) where this start called: Chris\_23 (K1), FlagStaff\_19 (G2), KiSi\_23 (K1), LeMond\_23 (K1), Nibb\_23 (K1), Oscar\_23 (K1), Pace1224\_19 (G2), Scarlett\_23 (K1),

Start 20:

- Found in 43 of 268 ( 16.0% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 2.3% of time when present
- Phage (with cluster) where this start called: MarkPhew\_24 (K1),

Start 22:

- Found in 1 of 268 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TPA4\_21 (singleton),

Start 23:

- Found in 31 of 268 ( 11.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 9.7% of time when present
- Phage (with cluster) where this start called: Dartin\_24 (K1), McMater\_24 (K1), Richo\_24 (K1),

Start 26:

- Found in 129 of 268 ( 48.1% ) of genes in pham
- Manual Annotations of this start: 1 of 255
- Called 0.8% of time when present
- Phage (with cluster) where this start called: P3MA\_20 (singleton),

**Summary by clusters:**

There are 14 clusters represented in this pham: singleton, G4, G3, G2, G1, G5, K3, K2, K1, K7, K6, K5, K4, K8,

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 5 was manually annotated 2 times for cluster G2.
- Start number 17 was manually annotated 1 time for cluster G2.

Info for manual annotations of cluster G3:

- Start number 5 was manually annotated 2 times for cluster G3.

Info for manual annotations of cluster G4:

- Start number 8 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 5 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster K1:

- Start number 15 was manually annotated 96 times for cluster K1.
- Start number 17 was manually annotated 6 times for cluster K1.



- Start number 20 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K2:

- Start number 15 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 15 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K4:

- Start number 13 was manually annotated 19 times for cluster K4.

Info for manual annotations of cluster K5:

- Start number 15 was manually annotated 22 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 15 was manually annotated 22 times for cluster K6.

Info for manual annotations of cluster K7:

- Start number 15 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster K8:

- Start number 14 was manually annotated 1 time for cluster K8.

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

Gene: ActinUp\_24 Start: 18923, Stop: 19399, Start Num: 15

Candidate Starts for ActinUp\_24:

(Start: 15 @18923 has 219 MA's), (24, 18956), (Start: 26 @18968 has 1 MA's), (29, 18998), (37, 19058), (39, 19070), (40, 19076), (47, 19130), (51, 19190),

Gene: Adephagia\_24 Start: 18920, Stop: 19396, Start Num: 15

Candidate Starts for Adephagia\_24:

(Start: 15 @18920 has 219 MA's), (24, 18953), (Start: 26 @18965 has 1 MA's), (29, 18995), (37, 19055), (39, 19067), (40, 19073), (47, 19127), (51, 19187),

Gene: Adonis\_24 Start: 18926, Stop: 19402, Start Num: 15

Candidate Starts for Adonis\_24:

(Start: 15 @18926 has 219 MA's), (24, 18959), (Start: 26 @18971 has 1 MA's), (29, 19001), (37, 19061), (39, 19073), (40, 19079), (47, 19133), (51, 19193),

Gene: Agent47\_22 Start: 19364, Stop: 19873, Start Num: 15

Candidate Starts for Agent47\_22:

(Start: 15 @19364 has 219 MA's), (Start: 20 @19379 has 1 MA's), (29, 19433), (45, 19544), (51, 19646), (58, 19715),

Gene: Ageofdapage\_24 Start: 18854, Stop: 19330, Start Num: 15

Candidate Starts for Ageofdapage\_24:

(Start: 15 @18854 has 219 MA's), (24, 18887), (Start: 26 @18899 has 1 MA's), (27, 18917), (29, 18929), (33, 18962), (37, 18989), (39, 19001), (40, 19007), (51, 19121),

Gene: AlishaPH\_24 Start: 18913, Stop: 19389, Start Num: 15

Candidate Starts for AlishaPH\_24:

(Start: 15 @18913 has 219 MA's), (24, 18946), (Start: 26 @18958 has 1 MA's), (29, 18988), (37, 19048), (39, 19060), (40, 19066), (47, 19120), (51, 19180),

Gene: AlleyCat\_23 Start: 19301, Stop: 19810, Start Num: 15

Candidate Starts for AlleyCat\_23:

(Start: 15 @19301 has 219 MA's), (Start: 20 @19316 has 1 MA's), (29, 19370), (45, 19481), (51, 19583),

Gene: Amelie\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for Amelie\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: Amgine\_22 Start: 19009, Stop: 19494, Start Num: 15

Candidate Starts for Amgine\_22:

(Start: 15 @19009 has 219 MA's), (Start: 20 @19024 has 1 MA's), (24, 19042), (Start: 26 @19054 has 1 MA's), (29, 19084), (37, 19144), (39, 19156), (40, 19162), (42, 19177), (49, 19234), (51, 19276), (63, 19396),

Gene: Aminay\_22 Start: 19210, Stop: 19692, Start Num: 15

Candidate Starts for Aminay\_22:

(4, 18916), (Start: 15 @19210 has 219 MA's), (23, 19234), (24, 19243), (Start: 26 @19255 has 1 MA's), (29, 19279), (37, 19339), (40, 19357), (49, 19429), (51, 19492),

Gene: Amohndition\_23 Start: 19395, Stop: 19892, Start Num: 15

Candidate Starts for Amohndition\_23:

(Start: 15 @19395 has 219 MA's), (23, 19419), (24, 19428), (Start: 26 @19440 has 1 MA's), (27, 19458), (29, 19470), (37, 19530), (38, 19539), (40, 19548), (42, 19563), (49, 19620), (51, 19662), (73, 19857),

Gene: Anaya\_25 Start: 18939, Stop: 19415, Start Num: 15

Candidate Starts for Anaya\_25:

(Start: 15 @18939 has 219 MA's), (Start: 20 @18954 has 1 MA's), (24, 18972), (29, 19014), (37, 19074), (40, 19092), (47, 19146), (51, 19206),

Gene: Angel\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Angel\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Angelica\_24 Start: 18888, Stop: 19364, Start Num: 15

Candidate Starts for Angelica\_24:

(Start: 15 @18888 has 219 MA's), (24, 18921), (Start: 26 @18933 has 1 MA's), (29, 18963), (37, 19023), (39, 19035), (40, 19041), (47, 19095), (51, 19155), (58, 19224),

Gene: Annihilator\_19 Start: 18394, Stop: 18855, Start Num: 15

Candidate Starts for Annihilator\_19:

(10, 18349), (Start: 15 @18394 has 219 MA's), (30, 18496), (34, 18517), (48, 18613), (51, 18652), (52, 18673),

Gene: Antsirabe\_19 Start: 18709, Stop: 19239, Start Num: 5

Candidate Starts for Antsirabe\_19:

(Start: 5 @18709 has 5 MA's), (7, 18751), (12, 18781), (55, 19081), (57, 19099), (73, 19213),

Gene: Apocalypse\_24 Start: 18891, Stop: 19367, Start Num: 15

Candidate Starts for Apocalypse\_24:

(Start: 15 @18891 has 219 MA's), (24, 18924), (Start: 26 @18936 has 1 MA's), (29, 18966), (37, 19026), (39, 19038), (40, 19044), (47, 19098), (51, 19158),

Gene: Aroostook\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Aroostook\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Asayake\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Asayake\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Atiba\_24 Start: 18883, Stop: 19359, Start Num: 15

Candidate Starts for Atiba\_24:

(Start: 15 @18883 has 219 MA's), (24, 18916), (Start: 26 @18928 has 1 MA's), (29, 18958), (37, 19018), (39, 19030), (40, 19036), (47, 19090), (51, 19150),

Gene: Avocado\_19 Start: 18653, Stop: 19183, Start Num: 5

Candidate Starts for Avocado\_19:

(Start: 5 @18653 has 5 MA's), (7, 18692), (48, 18938), (51, 18977), (57, 19040), (69, 19118), (73, 19157),

Gene: Avrafan\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Avrafan\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: AzulaCat\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for AzulaCat\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: BEEST\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for BEEST\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: BGlluviae\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for BGlluviae\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: BPs\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for BPs\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: BQuat\_19 Start: 18394, Stop: 18855, Start Num: 15

Candidate Starts for BQuat\_19:

(10, 18349), (Start: 15 @18394 has 219 MA's), (30, 18496), (34, 18517), (48, 18613), (51, 18652), (52, 18673),

Gene: BaghaKamala\_24 Start: 18883, Stop: 19359, Start Num: 15

Candidate Starts for BaghaKamala\_24:

(Start: 15 @18883 has 219 MA's), (24, 18916), (Start: 26 @18928 has 1 MA's), (29, 18958), (37, 19018), (39, 19030), (40, 19036), (47, 19090), (51, 19150),

Gene: Barkley26\_19 Start: 18406, Stop: 18867, Start Num: 15

Candidate Starts for Barkley26\_19:

(1, 17833), (10, 18361), (Start: 15 @18406 has 219 MA's), (30, 18508), (34, 18529), (48, 18625), (51, 18664),

Gene: BarrelRoll\_24 Start: 18906, Stop: 19382, Start Num: 15

Candidate Starts for BarrelRoll\_24:

(Start: 15 @18906 has 219 MA's), (24, 18939), (Start: 26 @18951 has 1 MA's), (29, 18981), (37, 19041), (39, 19053), (40, 19059), (47, 19113), (51, 19173),

Gene: Beezoo\_24 Start: 18930, Stop: 19406, Start Num: 15

Candidate Starts for Beezoo\_24:

(Start: 15 @18930 has 219 MA's), (24, 18963), (Start: 26 @18975 has 1 MA's), (29, 19005), (37, 19065), (39, 19077), (40, 19083), (47, 19137), (51, 19197),

Gene: Bella96\_24 Start: 18850, Stop: 19326, Start Num: 15

Candidate Starts for Bella96\_24:

(Start: 15 @18850 has 219 MA's), (Start: 20 @18865 has 1 MA's), (24, 18883), (Start: 26 @18895 has 1 MA's), (27, 18913), (37, 18985), (39, 18997), (40, 19003), (42, 19018), (43, 19027), (47, 19057), (50, 19093), (51, 19117),

Gene: Belladonna\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Belladonna\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Biglebops\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for Biglebops\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: Blizzard\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Blizzard\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Boiiii\_24 Start: 18956, Stop: 19432, Start Num: 15

Candidate Starts for Boiiii\_24:

(Start: 15 @18956 has 219 MA's), (24, 18989), (Start: 26 @19001 has 1 MA's), (29, 19031), (37, 19091), (39, 19103), (40, 19109), (47, 19163), (51, 19223),

Gene: Boilgate\_21 Start: 19350, Stop: 19856, Start Num: 14

Candidate Starts for Boilgate\_21:

(Start: 14 @19350 has 1 MA's), (16, 19362), (23, 19380), (27, 19410), (29, 19422), (31, 19443), (40, 19500), (41, 19503), (49, 19572),

Gene: BoostSeason\_20 Start: 16808, Stop: 17272, Start Num: 15

Candidate Starts for BoostSeason\_20:

(10, 16763), (Start: 15 @16808 has 219 MA's), (Start: 26 @16841 has 1 MA's), (29, 16862), (35, 16904), (37, 16922), (40, 16940), (66, 17180),

Gene: BruceB\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for BruceB\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Bryler\_23 Start: 18116, Stop: 18589, Start Num: 15

Candidate Starts for Bryler\_23:

(Start: 15 @18116 has 219 MA's), (24, 18149), (Start: 26 @18161 has 1 MA's), (27, 18179), (29, 18191), (40, 18269), (47, 18323), (49, 18341), (51, 18383),

Gene: CLED96\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for CLED96\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: CREW\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for CREW\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Cain\_23 Start: 18104, Stop: 18577, Start Num: 15

Candidate Starts for Cain\_23:

(Start: 15 @18104 has 219 MA's), (24, 18137), (Start: 26 @18149 has 1 MA's), (27, 18167), (29, 18179), (40, 18257), (47, 18311), (49, 18329), (51, 18371),

Gene: Cambiare\_20 Start: 19118, Stop: 19648, Start Num: 5

Candidate Starts for Cambiare\_20:

(Start: 5 @19118 has 5 MA's), (7, 19157), (48, 19403), (51, 19442), (57, 19505), (69, 19583), (73, 19622),

Gene: Camri\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Camri\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Capricorn\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Capricorn\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: CaseJules\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for CaseJules\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: CassieYates\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for CassieYates\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Cedasite\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Cedasite\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Chance64\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Chance64\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Chancellor\_25 Start: 20421, Stop: 20939, Start Num: 13

Candidate Starts for Chancellor\_25:

(Start: 13 @20421 has 19 MA's), (29, 20505), (37, 20565), (40, 20583), (49, 20655), (51, 20718), (74, 20928),

Gene: CheetoDust\_24 Start: 18931, Stop: 19407, Start Num: 15

Candidate Starts for CheetoDust\_24:

(Start: 15 @18931 has 219 MA's), (24, 18964), (Start: 26 @18976 has 1 MA's), (29, 19006), (37, 19066), (39, 19078), (40, 19084), (47, 19138), (51, 19198),

Gene: Cheetobro\_25 Start: 20418, Stop: 20936, Start Num: 13

Candidate Starts for Cheetobro\_25:

(Start: 13 @20418 has 19 MA's), (29, 20502), (37, 20562), (40, 20580), (49, 20652), (51, 20715), (74, 20925),

Gene: Cherrybomb426\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Cherrybomb426\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Chris\_23 Start: 18146, Stop: 18661, Start Num: 17

Candidate Starts for Chris\_23:

(Start: 17 @18146 has 7 MA's), (18, 18149), (Start: 20 @18158 has 1 MA's), (24, 18176), (29, 18218), (39, 18290), (40, 18296), (47, 18350), (50, 18386), (51, 18410), (73, 18596), (77, 18650),

Gene: Coleslaw\_19 Start: 18394, Stop: 18855, Start Num: 15

Candidate Starts for Coleslaw\_19:

(10, 18349), (Start: 15 @18394 has 219 MA's), (30, 18496), (34, 18517), (48, 18613), (51, 18652), (52, 18673),

Gene: Collard\_22 Start: 19325, Stop: 19834, Start Num: 15

Candidate Starts for Collard\_22:

(Start: 15 @19325 has 219 MA's), (Start: 20 @19340 has 1 MA's), (29, 19394), (45, 19505), (51, 19607), (58, 19676),

Gene: Crespo\_19 Start: 18404, Stop: 18865, Start Num: 15

Candidate Starts for Crespo\_19:

(10, 18359), (Start: 15 @18404 has 219 MA's), (30, 18506), (34, 18527), (48, 18623), (51, 18662), (52, 18683),

Gene: CrimD\_24 Start: 18892, Stop: 19368, Start Num: 15

Candidate Starts for CrimD\_24:

(Start: 15 @18892 has 219 MA's), (24, 18925), (Start: 26 @18937 has 1 MA's), (29, 18967), (37, 19027), (39, 19039), (40, 19045), (47, 19099), (51, 19159),

Gene: Curiosium\_25 Start: 18640, Stop: 19101, Start Num: 15

Candidate Starts for Curiosium\_25:

(Start: 15 @18640 has 219 MA's), (Start: 20 @18655 has 1 MA's), (23, 18664), (24, 18673), (Start: 26 @18685 has 1 MA's), (29, 18715), (37, 18775), (39, 18787), (40, 18793), (47, 18847), (51, 18907),

Gene: DMoney\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for DMoney\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: DNAIII\_0019 Start: 18412, Stop: 18873, Start Num: 15

Candidate Starts for DNAIII\_0019:

(10, 18367), (Start: 15 @18412 has 219 MA's), (30, 18514), (34, 18535), (48, 18631), (51, 18670), (52, 18691),

Gene: Dadosky\_23 Start: 19302, Stop: 19811, Start Num: 15

Candidate Starts for Dadosky\_23:

(Start: 15 @19302 has 219 MA's), (Start: 20 @19317 has 1 MA's), (29, 19371), (45, 19482), (51, 19584),

Gene: Dalmuri\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Dalmuri\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Darionha\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Darionha\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: DarthP\_23 Start: 19344, Stop: 19838, Start Num: 15

Candidate Starts for DarthP\_23:

(Start: 15 @19344 has 219 MA's), (23, 19368), (24, 19377), (Start: 26 @19389 has 1 MA's), (27, 19407), (29, 19419), (37, 19479), (38, 19488), (40, 19497), (42, 19512), (49, 19569), (51, 19611), (73, 19806),

Gene: Dartin\_24 Start: 18304, Stop: 18756, Start Num: 23

Candidate Starts for Dartin\_24:

(10, 18235), (Start: 15 @18280 has 219 MA's), (18, 18286), (23, 18304), (24, 18313), (Start: 26 @18325 has 1 MA's), (29, 18355), (37, 18415), (40, 18433), (51, 18547),

Gene: Deby\_24 Start: 18888, Stop: 19364, Start Num: 15

Candidate Starts for Deby\_24:

(Start: 15 @18888 has 219 MA's), (24, 18921), (Start: 26 @18933 has 1 MA's), (29, 18963), (37, 19023), (39, 19035), (40, 19041), (47, 19095), (51, 19155), (58, 19224),

Gene: Devera\_24 Start: 18935, Stop: 19411, Start Num: 15

Candidate Starts for Devera\_24:

(Start: 15 @18935 has 219 MA's), (24, 18968), (Start: 26 @18980 has 1 MA's), (27, 18998), (29, 19010), (37, 19070), (39, 19082), (40, 19088), (42, 19103), (51, 19202),

Gene: DismalFunk\_20 Start: 16782, Stop: 17246, Start Num: 15

Candidate Starts for DismalFunk\_20:

(10, 16737), (Start: 15 @16782 has 219 MA's), (Start: 26 @16815 has 1 MA's), (29, 16836), (35, 16878), (37, 16896), (40, 16914), (66, 17154),

Gene: DismalStressor\_20 Start: 16782, Stop: 17246, Start Num: 15

Candidate Starts for DismalStressor\_20:

(10, 16737), (Start: 15 @16782 has 219 MA's), (Start: 26 @16815 has 1 MA's), (29, 16836), (35, 16878), (37, 16896), (40, 16914), (66, 17154),

Gene: Dole\_24 Start: 18937, Stop: 19413, Start Num: 15

Candidate Starts for Dole\_24:

(Start: 15 @18937 has 219 MA's), (24, 18970), (Start: 26 @18982 has 1 MA's), (27, 19000), (29, 19012), (37, 19072), (39, 19084), (40, 19090), (42, 19105), (51, 19204),

Gene: DrHayes\_24 Start: 18868, Stop: 19344, Start Num: 15

Candidate Starts for DrHayes\_24:

(Start: 15 @18868 has 219 MA's), (Start: 20 @18883 has 1 MA's), (24, 18901), (Start: 26 @18913 has 1 MA's), (27, 18931), (37, 19003), (39, 19015), (40, 19021), (42, 19036), (43, 19045), (47, 19075), (50, 19111), (51, 19135),

Gene: Durfee\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Durfee\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: ECartman\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for ECartman\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Edugator\_22 Start: 19301, Stop: 19810, Start Num: 15

Candidate Starts for Edugator\_22:

(Start: 15 @19301 has 219 MA's), (Start: 20 @19316 has 1 MA's), (29, 19370), (45, 19481), (51, 19583),

Gene: Efra2\_24 Start: 18130, Stop: 18600, Start Num: 15

Candidate Starts for Efra2\_24:

(Start: 15 @18130 has 219 MA's), (Start: 20 @18145 has 1 MA's), (24, 18163), (Start: 26 @18175 has 1 MA's), (29, 18205), (37, 18265), (40, 18283), (47, 18337), (51, 18397),

Gene: Ekdilam\_21 Start: 19106, Stop: 19603, Start Num: 15

Candidate Starts for Ekdilam\_21:

(Start: 15 @19106 has 219 MA's), (23, 19130), (24, 19139), (Start: 26 @19151 has 1 MA's), (27, 19169), (29, 19181), (37, 19241), (38, 19250), (40, 19259), (42, 19274), (49, 19331), (51, 19373), (73, 19568),



Gene: Ellie\_21 Start: 19090, Stop: 19578, Start Num: 15

Candidate Starts for Ellie\_21:

(Start: 15 @19090 has 219 MA's), (Start: 20 @19105 has 1 MA's), (24, 19123), (Start: 26 @19135 has 1 MA's), (29, 19165), (37, 19225), (39, 19237), (40, 19243), (42, 19258), (49, 19315), (51, 19357), (63, 19477),

Gene: Emerson\_24 Start: 18914, Stop: 19390, Start Num: 15

Candidate Starts for Emerson\_24:

(Start: 15 @18914 has 219 MA's), (24, 18947), (Start: 26 @18959 has 1 MA's), (29, 18989), (37, 19049), (39, 19061), (40, 19067), (47, 19121), (51, 19181),

Gene: Enkosi\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for Enkosi\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: Eponine\_25 Start: 20311, Stop: 20829, Start Num: 13

Candidate Starts for Eponine\_25:

(Start: 13 @20311 has 19 MA's), (29, 20395), (37, 20455), (40, 20473), (49, 20545), (51, 20608), (74, 20818),

Gene: Fefferhead\_23 Start: 19257, Stop: 19745, Start Num: 15

Candidate Starts for Fefferhead\_23:

(Start: 15 @19257 has 219 MA's), (Start: 20 @19272 has 1 MA's), (24, 19290), (Start: 26 @19302 has 1 MA's), (29, 19332), (37, 19392), (39, 19404), (40, 19410), (42, 19425), (49, 19482), (51, 19524),

Gene: Feyre\_22 Start: 19186, Stop: 19695, Start Num: 15

Candidate Starts for Feyre\_22:

(Start: 15 @19186 has 219 MA's), (Start: 20 @19201 has 1 MA's), (29, 19255), (45, 19366), (51, 19468),

Gene: Findley\_20 Start: 16785, Stop: 17249, Start Num: 15

Candidate Starts for Findley\_20:

(10, 16740), (Start: 15 @16785 has 219 MA's), (Start: 26 @16818 has 1 MA's), (29, 16839), (35, 16881), (37, 16899), (40, 16917), (66, 17157),

Gene: Fionnbharth\_25 Start: 20411, Stop: 20929, Start Num: 13

Candidate Starts for Fionnbharth\_25:

(Start: 13 @20411 has 19 MA's), (29, 20495), (37, 20555), (40, 20573), (49, 20645), (51, 20708), (74, 20918),

Gene: FlagStaff\_19 Start: 18575, Stop: 19054, Start Num: 17

Candidate Starts for FlagStaff\_19:

(2, 18014), (3, 18146), (Start: 17 @18575 has 7 MA's), (28, 18671), (30, 18692), (69, 18989), (73, 19028),

Gene: Frosty24\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Frosty24\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Ganymede\_25 Start: 18934, Stop: 19410, Start Num: 15

Candidate Starts for Ganymede\_25:

(Start: 15 @18934 has 219 MA's), (24, 18967), (Start: 26 @18979 has 1 MA's), (29, 19009), (37, 19069), (39, 19081), (40, 19087), (47, 19141), (51, 19201),

Gene: Gengar\_22 Start: 19293, Stop: 19802, Start Num: 15

Candidate Starts for Gengar\_22:

(Start: 15 @19293 has 219 MA's), (Start: 20 @19308 has 1 MA's), (29, 19362), (45, 19473), (51, 19575),

Gene: Geraldini\_24 Start: 18930, Stop: 19406, Start Num: 15

Candidate Starts for Geraldini\_24:

(Start: 15 @18930 has 219 MA's), (24, 18963), (Start: 26 @18975 has 1 MA's), (29, 19005), (37, 19065), (39, 19077), (40, 19083), (47, 19137), (51, 19197),

Gene: Gideon\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Gideon\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: GoldenAsh\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for GoldenAsh\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Gomashi\_19 Start: 18404, Stop: 18865, Start Num: 15

Candidate Starts for Gomashi\_19:

(10, 18359), (Start: 15 @18404 has 219 MA's), (30, 18506), (34, 18527), (48, 18623), (51, 18662), (52, 18683),

Gene: Grizzly\_19 Start: 18406, Stop: 18867, Start Num: 15

Candidate Starts for Grizzly\_19:

(1, 17833), (10, 18361), (Start: 15 @18406 has 219 MA's), (30, 18508), (34, 18529), (48, 18625), (51, 18664),

Gene: Guanica15\_24 Start: 18146, Stop: 18616, Start Num: 15

Candidate Starts for Guanica15\_24:

(Start: 15 @18146 has 219 MA's), (Start: 20 @18161 has 1 MA's), (24, 18179), (Start: 26 @18191 has 1 MA's), (29, 18221), (37, 18281), (40, 18299), (47, 18353), (51, 18413),

Gene: Guillsminger\_22 Start: 19268, Stop: 19777, Start Num: 15

Candidate Starts for Guillsminger\_22:

(Start: 15 @19268 has 219 MA's), (Start: 20 @19283 has 1 MA's), (29, 19337), (45, 19448), (51, 19550),

Gene: Halo\_19 Start: 18398, Stop: 18859, Start Num: 15

Candidate Starts for Halo\_19:

(10, 18353), (Start: 15 @18398 has 219 MA's), (30, 18500), (34, 18521), (48, 18617), (51, 18656), (52, 18677),

Gene: Hammy\_23 Start: 19338, Stop: 19835, Start Num: 15

Candidate Starts for Hammy\_23:

(Start: 15 @19338 has 219 MA's), (23, 19362), (24, 19371), (Start: 26 @19383 has 1 MA's), (27, 19401), (29, 19413), (37, 19473), (38, 19482), (40, 19491), (42, 19506), (49, 19563), (51, 19605), (73, 19800),

Gene: HedwigODU\_24 Start: 18923, Stop: 19399, Start Num: 15

Candidate Starts for HedwigODU\_24:

(Start: 15 @18923 has 219 MA's), (24, 18956), (Start: 26 @18968 has 1 MA's), (29, 18998), (37, 19058), (39, 19070), (40, 19076), (47, 19130), (51, 19190),

Gene: Heftyboy\_22 Start: 19416, Stop: 19925, Start Num: 15

Candidate Starts for Heftyboy\_22:

(Start: 15 @19416 has 219 MA's), (Start: 20 @19431 has 1 MA's), (29, 19485), (45, 19596), (51, 19698),

Gene: Homura\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Homura\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Hope\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Hope\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Hotshotbaby7\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Hotshotbaby7\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Hurricane\_23 Start: 19350, Stop: 19862, Start Num: 15

Candidate Starts for Hurricane\_23:

(10, 19305), (Start: 15 @19350 has 219 MA's), (23, 19377), (24, 19386), (29, 19422), (36, 19473), (37, 19482), (38, 19491), (40, 19500), (50, 19590), (66, 19740), (72, 19791),

Gene: Hyperbowlee\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Hyperbowlee\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Illumine\_24 Start: 18937, Stop: 19413, Start Num: 15

Candidate Starts for Illumine\_24:

(Start: 15 @18937 has 219 MA's), (24, 18970), (Start: 26 @18982 has 1 MA's), (27, 19000), (29, 19012), (37, 19072), (39, 19084), (40, 19090), (42, 19105), (51, 19204),

Gene: Inky\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Inky\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: InvictusManeo\_22 Start: 19368, Stop: 19877, Start Num: 15

Candidate Starts for InvictusManeo\_22:

(Start: 15 @19368 has 219 MA's), (Start: 20 @19383 has 1 MA's), (29, 19437), (45, 19548), (51, 19650), (58, 19719),

Gene: JAWS\_24 Start: 18908, Stop: 19384, Start Num: 15

Candidate Starts for JAWS\_24:

(Start: 15 @18908 has 219 MA's), (24, 18941), (Start: 26 @18953 has 1 MA's), (29, 18983), (37, 19043), (39, 19055), (40, 19061), (47, 19115), (51, 19175),

Gene: JF1\_25 Start: 20410, Stop: 20928, Start Num: 13

Candidate Starts for JF1\_25:

(Start: 13 @20410 has 19 MA's), (29, 20494), (37, 20554), (40, 20572), (49, 20644), (51, 20707), (74, 20917),

Gene: Jane\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Jane\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Jarvi\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Jarvi\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Jayhawk\_24 Start: 18921, Stop: 19397, Start Num: 15

Candidate Starts for Jayhawk\_24:

(Start: 15 @18921 has 219 MA's), (24, 18954), (Start: 26 @18966 has 1 MA's), (29, 18996), (37, 19056), (39, 19068), (40, 19074), (47, 19128), (51, 19188),

Gene: Jeckyll\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Jeckyll\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Jolene\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Jolene\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Jolie2\_19 Start: 17715, Stop: 18197, Start Num: 8

Candidate Starts for Jolie2\_19:

(Start: 8 @17715 has 2 MA's), (25, 17781), (30, 17835), (36, 17868), (38, 17886), (48, 17952), (51, 17991), (57, 18054), (68, 18120), (72, 18153),

Gene: Jonghyun\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Jonghyun\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: JorRay\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for JorRay\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Joy99\_24 Start: 18883, Stop: 19359, Start Num: 15

Candidate Starts for Joy99\_24:

(Start: 15 @18883 has 219 MA's), (24, 18916), (Start: 26 @18928 has 1 MA's), (29, 18958), (37, 19018), (39, 19030), (40, 19036), (47, 19090), (51, 19150),

Gene: Juliette\_25 Start: 20311, Stop: 20829, Start Num: 13

Candidate Starts for Juliette\_25:

(Start: 13 @20311 has 19 MA's), (29, 20395), (37, 20455), (40, 20473), (49, 20545), (51, 20608), (74, 20818),

Gene: Kareem\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Kareem\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Kasen3\_19 Start: 18404, Stop: 18865, Start Num: 15

Candidate Starts for Kasen3\_19:

(10, 18359), (Start: 15 @18404 has 219 MA's), (30, 18506), (34, 18527), (48, 18623), (51, 18662), (52, 18683),

Gene: Keshu\_23 Start: 19342, Stop: 19854, Start Num: 15

Candidate Starts for Keshu\_23:

(10, 19297), (Start: 15 @19342 has 219 MA's), (23, 19369), (24, 19378), (29, 19414), (36, 19465), (37, 19474), (38, 19483), (40, 19492), (50, 19582), (66, 19732), (72, 19783),

Gene: KiSi\_23 Start: 18086, Stop: 18562, Start Num: 17

Candidate Starts for KiSi\_23:

(Start: 17 @18086 has 7 MA's), (18, 18089), (24, 18116), (Start: 26 @18128 has 1 MA's), (29, 18158), (39, 18230), (40, 18236), (47, 18290), (73, 18536),

Gene: Kratio\_21 Start: 18999, Stop: 19508, Start Num: 15

Candidate Starts for Kratio\_21:

(Start: 15 @18999 has 219 MA's), (Start: 20 @19014 has 1 MA's), (29, 19068), (45, 19179), (51, 19281), (58, 19350),

Gene: Krueger\_23 Start: 18075, Stop: 18557, Start Num: 15

Candidate Starts for Krueger\_23:

(Start: 15 @18075 has 219 MA's), (18, 18081), (24, 18108), (Start: 26 @18120 has 1 MA's), (29, 18150), (40, 18228), (49, 18300), (51, 18342),

Gene: Larva\_23 Start: 19169, Stop: 19678, Start Num: 15

Candidate Starts for Larva\_23:

(Start: 15 @19169 has 219 MA's), (Start: 20 @19184 has 1 MA's), (29, 19238), (45, 19349), (51, 19451),

Gene: LastHope\_24 Start: 18217, Stop: 18693, Start Num: 15

Candidate Starts for LastHope\_24:

(Start: 15 @18217 has 219 MA's), (Start: 20 @18232 has 1 MA's), (24, 18250), (Start: 26 @18262 has 1 MA's), (29, 18292), (32, 18316), (37, 18352), (39, 18364), (40, 18370), (47, 18424), (51, 18484),

Gene: LaterM\_24 Start: 18882, Stop: 19358, Start Num: 15

Candidate Starts for LaterM\_24:

(Start: 15 @18882 has 219 MA's), (24, 18915), (Start: 26 @18927 has 1 MA's), (27, 18945), (29, 18957), (37, 19017), (39, 19029), (40, 19035), (51, 19149),

Gene: LeMond\_23 Start: 18157, Stop: 18633, Start Num: 17

Candidate Starts for LeMond\_23:

(Start: 17 @18157 has 7 MA's), (18, 18160), (24, 18187), (Start: 26 @18199 has 1 MA's), (29, 18229), (39, 18301), (40, 18307), (47, 18361), (73, 18607),

Gene: Lemuria\_20 Start: 18526, Stop: 19005, Start Num: 8

Candidate Starts for Lemuria\_20:

(6, 18484), (Start: 8 @18526 has 2 MA's), (25, 18589), (30, 18643), (38, 18694), (48, 18760), (51, 18799), (57, 18862), (68, 18928), (72, 18961),

Gene: Leston\_22 Start: 19398, Stop: 19907, Start Num: 15

Candidate Starts for Leston\_22:

(Start: 15 @19398 has 219 MA's), (Start: 20 @19413 has 1 MA's), (29, 19467), (45, 19578), (51, 19680),

Gene: Liefie\_19 Start: 18402, Stop: 18863, Start Num: 15

Candidate Starts for Liefie\_19:

(10, 18357), (Start: 15 @18402 has 219 MA's), (30, 18504), (34, 18525), (48, 18621), (51, 18660),

Gene: LilPharaoh\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for LilPharaoh\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: LindNT\_24 Start: 18888, Stop: 19364, Start Num: 15

Candidate Starts for LindNT\_24:

(Start: 15 @18888 has 219 MA's), (24, 18921), (Start: 26 @18933 has 1 MA's), (29, 18963), (37, 19023), (39, 19035), (40, 19041), (47, 19095), (51, 19155),

Gene: Llorens\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Llorens\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: LouisV14\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for LouisV14\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Lunahalos\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Lunahalos\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: MOOREtheMARYer\_20 Start: 18675, Stop: 19208, Start Num: 5

Candidate Starts for MOOREtheMARYer\_20:

(Start: 5 @18675 has 5 MA's), (7, 18720), (29, 18831), (48, 18966), (54, 19041), (55, 19050), (73, 19182),

Gene: MacnCheese\_24 Start: 19584, Stop: 20096, Start Num: 15

Candidate Starts for MacnCheese\_24:

(10, 19539), (Start: 15 @19584 has 219 MA's), (23, 19611), (24, 19620), (29, 19656), (36, 19707), (37, 19716), (38, 19725), (40, 19734), (50, 19824), (66, 19974), (72, 20025), (75, 20067), (76, 20088),

Gene: Maliketh\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Maliketh\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Malthus\_26 Start: 20334, Stop: 20852, Start Num: 13

Candidate Starts for Malthus\_26:

(Start: 13 @20334 has 19 MA's), (29, 20418), (37, 20478), (40, 20496), (49, 20568), (51, 20631), (74, 20841),

Gene: Marcoliusprime\_20 Start: 16782, Stop: 17246, Start Num: 15

Candidate Starts for Marcoliusprime\_20:

(10, 16737), (Start: 15 @16782 has 219 MA's), (Start: 26 @16815 has 1 MA's), (29, 16836), (35, 16878), (37, 16896), (40, 16914), (66, 17154),

Gene: MarkPhew\_24 Start: 18066, Stop: 18518, Start Num: 20

Candidate Starts for MarkPhew\_24:

(Start: 17 @18054 has 7 MA's), (18, 18057), (Start: 20 @18066 has 1 MA's), (24, 18084), (29, 18126), (39, 18198), (40, 18204), (47, 18258), (49, 18276), (51, 18318), (72, 18489),

Gene: Marmie\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Marmie\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Marshawn\_25 Start: 18671, Stop: 19147, Start Num: 15

Candidate Starts for Marshawn\_25:

(10, 18626), (Start: 15 @18671 has 219 MA's), (Start: 20 @18686 has 1 MA's), (23, 18695), (24, 18704), (27, 18734), (29, 18746), (32, 18770), (37, 18806), (39, 18818), (40, 18824), (43, 18848), (49, 18896), (51, 18938), (65, 19061), (67, 19070),

Gene: McMater\_24 Start: 18304, Stop: 18756, Start Num: 23

Candidate Starts for McMater\_24:

(10, 18235), (Start: 15 @18280 has 219 MA's), (18, 18286), (23, 18304), (24, 18313), (Start: 26 @18325 has 1 MA's), (29, 18355), (37, 18415), (40, 18433), (51, 18547),

Gene: Mdavu\_20 Start: 18451, Stop: 18927, Start Num: 15

Candidate Starts for Mdavu\_20:

(10, 18406), (Start: 15 @18451 has 219 MA's), (18, 18457), (23, 18475), (24, 18484), (29, 18526), (37, 18586), (40, 18604), (47, 18658), (49, 18676), (51, 18718),

Gene: MeaningOfLife\_24 Start: 18890, Stop: 19366, Start Num: 15

Candidate Starts for MeaningOfLife\_24:

(Start: 15 @18890 has 219 MA's), (24, 18923), (Start: 26 @18935 has 1 MA's), (29, 18965), (37, 19025), (39, 19037), (40, 19043), (47, 19097), (51, 19157),

Gene: Megsy\_24 Start: 18891, Stop: 19367, Start Num: 15

Candidate Starts for Megsy\_24:

(Start: 15 @18891 has 219 MA's), (24, 18924), (Start: 26 @18936 has 1 MA's), (29, 18966), (37, 19026), (39, 19038), (40, 19044), (47, 19098), (51, 19158),

Gene: Mercurio\_21 Start: 19148, Stop: 19627, Start Num: 8

Candidate Starts for Mercurio\_21:

(6, 19106), (Start: 8 @19148 has 2 MA's), (21, 19187), (25, 19211), (28, 19244), (30, 19265), (48, 19382), (51, 19421), (57, 19484), (62, 19532), (68, 19550), (72, 19583),

Gene: Milly\_20 Start: 16782, Stop: 17246, Start Num: 15

Candidate Starts for Milly\_20:

(10, 16737), (Start: 15 @16782 has 219 MA's), (Start: 26 @16815 has 1 MA's), (29, 16836), (35, 16878), (37, 16896), (40, 16914), (66, 17154),

Gene: Miryou\_22 Start: 19253, Stop: 19762, Start Num: 15

Candidate Starts for Miryou\_22:

(Start: 15 @19253 has 219 MA's), (Start: 20 @19268 has 1 MA's), (29, 19322), (45, 19433), (51, 19535), (58, 19604),

Gene: MissDaisy\_25 Start: 20173, Stop: 20691, Start Num: 13

Candidate Starts for MissDaisy\_25:

(Start: 13 @20173 has 19 MA's), (29, 20257), (37, 20317), (40, 20335), (49, 20407), (51, 20470), (74, 20680),

Gene: Mitti\_25 Start: 20334, Stop: 20852, Start Num: 13

Candidate Starts for Mitti\_25:

(Start: 13 @20334 has 19 MA's), (29, 20418), (37, 20478), (40, 20496), (49, 20568), (51, 20631), (74, 20841),

Gene: Mowgli\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Mowgli\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Mufasa\_20 Start: 16802, Stop: 17266, Start Num: 15

Candidate Starts for Mufasa\_20:

(10, 16757), (Start: 15 @16802 has 219 MA's), (Start: 26 @16835 has 1 MA's), (29, 16856), (35, 16898), (37, 16916), (40, 16934), (66, 17174),

Gene: Murucutumbu\_24 Start: 18872, Stop: 19348, Start Num: 15

Candidate Starts for Murucutumbu\_24:

(Start: 15 @18872 has 219 MA's), (24, 18905), (Start: 26 @18917 has 1 MA's), (27, 18935), (29, 18947), (37, 19007), (39, 19019), (40, 19025), (51, 19139), (58, 19208),

Gene: Mynx\_24 Start: 18937, Stop: 19413, Start Num: 15

Candidate Starts for Mynx\_24:

(Start: 15 @18937 has 219 MA's), (24, 18970), (Start: 26 @18982 has 1 MA's), (29, 19012), (37, 19072), (39, 19084), (40, 19090), (47, 19144), (51, 19204),

Gene: Nibb\_23 Start: 18198, Stop: 18662, Start Num: 17

Candidate Starts for Nibb\_23:

(Start: 17 @18198 has 7 MA's), (18, 18201), (Start: 20 @18210 has 1 MA's), (24, 18228), (29, 18270), (39, 18342), (40, 18348), (47, 18402), (49, 18420), (50, 18438), (51, 18462), (72, 18633),

Gene: Nikao\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for Nikao\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),



Gene: Niklas\_24 Start: 18283, Stop: 18759, Start Num: 15

Candidate Starts for Niklas\_24:

(10, 18238), (Start: 15 @18283 has 219 MA's), (18, 18289), (23, 18307), (24, 18316), (Start: 26 @18328 has 1 MA's), (29, 18358), (37, 18418), (40, 18436), (51, 18550),

Gene: Nutello\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for Nutello\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: OctaviousRex\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for OctaviousRex\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: OkiRoe\_22 Start: 19269, Stop: 19778, Start Num: 15

Candidate Starts for OkiRoe\_22:

(Start: 15 @19269 has 219 MA's), (Start: 20 @19284 has 1 MA's), (29, 19338), (45, 19449), (51, 19551), (58, 19620),

Gene: Olga\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Olga\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: OmniCritical\_25 Start: 20319, Stop: 20837, Start Num: 13

Candidate Starts for OmniCritical\_25:

(Start: 13 @20319 has 19 MA's), (29, 20403), (37, 20463), (40, 20481), (49, 20553), (51, 20616), (74, 20826),

Gene: Omnicron\_23 Start: 18088, Stop: 18597, Start Num: 15

Candidate Starts for Omnicron\_23:

(Start: 15 @18088 has 219 MA's), (Start: 20 @18103 has 1 MA's), (29, 18157), (45, 18268), (49, 18307), (51, 18370),

Gene: Oscar\_23 Start: 18158, Stop: 18634, Start Num: 17

Candidate Starts for Oscar\_23:

(Start: 17 @18158 has 7 MA's), (18, 18161), (24, 18188), (Start: 26 @18200 has 1 MA's), (29, 18230), (39, 18302), (40, 18308), (47, 18362), (73, 18608),

Gene: P3MA\_20 Start: 16338, Stop: 16727, Start Num: 26

Candidate Starts for P3MA\_20:

(Start: 26 @16338 has 1 MA's), (39, 16440), (55, 16584), (64, 16650), (70, 16680),

Gene: Pace1224\_19 Start: 18575, Stop: 19054, Start Num: 17

Candidate Starts for Pace1224\_19:

(2, 18014), (3, 18146), (Start: 17 @18575 has 7 MA's), (28, 18671), (30, 18692), (69, 18989), (73, 19028),

Gene: Padfoot\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Padfoot\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Padpat\_24 Start: 18914, Stop: 19390, Start Num: 15

Candidate Starts for Padpat\_24:

(Start: 15 @18914 has 219 MA's), (24, 18947), (Start: 26 @18959 has 1 MA's), (29, 18989), (37, 19049), (39, 19061), (40, 19067), (47, 19121), (51, 19181),

Gene: Paito\_19 Start: 18536, Stop: 19066, Start Num: 15

Candidate Starts for Paito\_19:

(Start: 15 @18536 has 219 MA's), (30, 18707), (48, 18824), (51, 18863),

Gene: Paola\_22 Start: 19268, Stop: 19777, Start Num: 15

Candidate Starts for Paola\_22:

(Start: 15 @19268 has 219 MA's), (Start: 20 @19283 has 1 MA's), (29, 19337), (45, 19448), (51, 19550),

Gene: Patt\_25 Start: 20152, Stop: 20670, Start Num: 13

Candidate Starts for Patt\_25:

(Start: 13 @20152 has 19 MA's), (29, 20236), (37, 20296), (40, 20314), (49, 20386), (51, 20449), (74, 20659),

Gene: Peanam\_24 Start: 18280, Stop: 18756, Start Num: 15

Candidate Starts for Peanam\_24:

(10, 18235), (Start: 15 @18280 has 219 MA's), (18, 18286), (23, 18304), (24, 18313), (Start: 26 @18325 has 1 MA's), (29, 18355), (37, 18415), (40, 18433), (51, 18547),

Gene: Peeb\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Peeb\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661),

Gene: Peel\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Peel\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Periodt\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Periodt\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Pharb\_23 Start: 19190, Stop: 19702, Start Num: 15

Candidate Starts for Pharb\_23:

(10, 19145), (Start: 15 @19190 has 219 MA's), (24, 19229), (29, 19265), (36, 19316), (37, 19325), (38, 19334), (40, 19343), (50, 19433), (72, 19631), (75, 19673),

Gene: PhelpsODU\_23 Start: 18138, Stop: 18611, Start Num: 15

Candidate Starts for PhelpsODU\_23:

(Start: 15 @18138 has 219 MA's), (24, 18171), (Start: 26 @18183 has 1 MA's), (27, 18201), (29, 18213), (40, 18291), (47, 18345), (49, 18363), (51, 18405), (56, 18465),

Gene: Phish\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Phish\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Phrank\_23 Start: 18092, Stop: 18565, Start Num: 15

Candidate Starts for Phrank\_23:

(Start: 15 @18092 has 219 MA's), (24, 18125), (Start: 26 @18137 has 1 MA's), (27, 18155), (29, 18167), (40, 18245), (47, 18299), (49, 18317), (51, 18359),

Gene: Phreak\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Phreak\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Piatt\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Piatt\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: PinkYoshi\_19 Start: 18394, Stop: 18855, Start Num: 15

Candidate Starts for PinkYoshi\_19:

(10, 18349), (Start: 15 @18394 has 219 MA's), (30, 18496), (34, 18517), (48, 18613), (51, 18652), (52, 18673),

Gene: Pinnie\_20 Start: 19082, Stop: 19615, Start Num: 5

Candidate Starts for Pinnie\_20:

(Start: 5 @19082 has 5 MA's), (7, 19127), (12, 19157), (48, 19373), (54, 19448), (55, 19457), (73, 19589),

Gene: Pixie\_23 Start: 19121, Stop: 19633, Start Num: 15

Candidate Starts for Pixie\_23:

(10, 19076), (Start: 15 @19121 has 219 MA's), (23, 19148), (24, 19157), (29, 19193), (36, 19244), (37, 19253), (38, 19262), (40, 19271), (50, 19361), (66, 19511), (72, 19562), (76, 19625),

Gene: Plagueis\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Plagueis\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Pokerus\_23 Start: 18871, Stop: 19347, Start Num: 15

Candidate Starts for Pokerus\_23:

(Start: 15 @18871 has 219 MA's), (24, 18904), (Start: 26 @18916 has 1 MA's), (29, 18946), (37, 19006), (39, 19018), (40, 19024), (47, 19078), (51, 19138),

Gene: Prithvi\_24 Start: 18888, Stop: 19364, Start Num: 15

Candidate Starts for Prithvi\_24:

(Start: 15 @18888 has 219 MA's), (24, 18921), (Start: 26 @18933 has 1 MA's), (29, 18963), (37, 19023), (39, 19035), (40, 19041), (47, 19095), (51, 19155),

Gene: Psycho\_23 Start: 19299, Stop: 19808, Start Num: 15

Candidate Starts for Psycho\_23:

(Start: 15 @19299 has 219 MA's), (Start: 20 @19314 has 1 MA's), (29, 19368), (45, 19479), (51, 19581),

Gene: QuincyRose\_23 Start: 18934, Stop: 19410, Start Num: 15

Candidate Starts for QuincyRose\_23:

(Start: 15 @18934 has 219 MA's), (24, 18967), (Start: 26 @18979 has 1 MA's), (29, 19009), (37, 19069), (39, 19081), (40, 19087), (47, 19141), (51, 19201),

Gene: Rabbs\_19 Start: 18411, Stop: 18950, Start Num: 15

Candidate Starts for Rabbs\_19:

(Start: 15 @18411 has 219 MA's), (30, 18591), (48, 18708), (51, 18747),

Gene: Ramen\_24 Start: 18920, Stop: 19396, Start Num: 15

Candidate Starts for Ramen\_24:

(Start: 15 @18920 has 219 MA's), (24, 18953), (Start: 26 @18965 has 1 MA's), (29, 18995), (37, 19055), (39, 19067), (40, 19073), (47, 19127), (51, 19187),

Gene: Rando14\_23 Start: 17987, Stop: 18496, Start Num: 15

Candidate Starts for Rando14\_23:

(Start: 15 @17987 has 219 MA's), (Start: 20 @18002 has 1 MA's), (29, 18056), (45, 18167), (49, 18206), (51, 18269), (58, 18338),

Gene: Rapunzel97\_24 Start: 18921, Stop: 19397, Start Num: 15

Candidate Starts for Rapunzel97\_24:

(Start: 15 @18921 has 219 MA's), (24, 18954), (Start: 26 @18966 has 1 MA's), (29, 18996), (37, 19056), (39, 19068), (40, 19074), (47, 19128), (51, 19188),

Gene: Remy19\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Remy19\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Renaissance\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Renaissance\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Reptar3000\_25 Start: 20151, Stop: 20666, Start Num: 13

Candidate Starts for Reptar3000\_25:

(Start: 13 @20151 has 19 MA's), (19, 20178), (Start: 20 @20181 has 1 MA's), (29, 20235), (31, 20256), (40, 20313), (49, 20385), (51, 20448),

Gene: Richo\_24 Start: 18304, Stop: 18756, Start Num: 23

Candidate Starts for Richo\_24:

(10, 18235), (Start: 15 @18280 has 219 MA's), (18, 18286), (23, 18304), (24, 18313), (Start: 26 @18325 has 1 MA's), (29, 18355), (37, 18415), (40, 18433), (51, 18547),

Gene: Rosmarinus\_24 Start: 18942, Stop: 19418, Start Num: 15

Candidate Starts for Rosmarinus\_24:

(Start: 15 @18942 has 219 MA's), (24, 18975), (Start: 26 @18987 has 1 MA's), (29, 19017), (37, 19077), (39, 19089), (40, 19095), (47, 19149), (51, 19209),

Gene: Ruthiejr\_24 Start: 20042, Stop: 20560, Start Num: 13

Candidate Starts for Ruthiejr\_24:

(Start: 13 @20042 has 19 MA's), (29, 20126), (37, 20186), (40, 20204), (49, 20276), (51, 20339), (74, 20549),

Gene: SamScheppers\_23 Start: 19949, Stop: 20467, Start Num: 13

Candidate Starts for SamScheppers\_23:

(Start: 13 @19949 has 19 MA's), (29, 20033), (37, 20093), (40, 20111), (49, 20183), (51, 20246), (74, 20456),

Gene: SamuelLPlaqson\_24 Start: 18868, Stop: 19344, Start Num: 15

Candidate Starts for SamuelLPlaqson\_24:

(Start: 15 @18868 has 219 MA's), (Start: 20 @18883 has 1 MA's), (24, 18901), (Start: 26 @18913 has 1 MA's), (27, 18931), (37, 19003), (39, 19015), (40, 19021), (42, 19036), (43, 19045), (47, 19075), (50, 19111), (51, 19135),

Gene: Scarlett\_23 Start: 18160, Stop: 18636, Start Num: 17

Candidate Starts for Scarlett\_23:

(Start: 17 @18160 has 7 MA's), (18, 18163), (24, 18190), (Start: 26 @18202 has 1 MA's), (29, 18232), (39, 18304), (40, 18310), (47, 18364), (73, 18610),

Gene: Schiebel\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Schiebel\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: SgtBeansprout\_20 Start: 18463, Stop: 18939, Start Num: 15

Candidate Starts for SgtBeansprout\_20:

(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: ShaboiShabazz\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for ShaboiShabazz\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Shadow1\_22 Start: 17980, Stop: 18462, Start Num: 15

Candidate Starts for Shadow1\_22:

(Start: 15 @17980 has 219 MA's), (18, 17986), (24, 18013), (Start: 26 @18025 has 1 MA's), (29, 18055), (40, 18133), (49, 18205), (51, 18247),

Gene: Shaobing\_24 Start: 18280, Stop: 18756, Start Num: 15

Candidate Starts for Shaobing\_24:

(10, 18235), (Start: 15 @18280 has 219 MA's), (18, 18286), (23, 18304), (24, 18313), (Start: 26 @18325 has 1 MA's), (29, 18355), (37, 18415), (40, 18433), (51, 18547),

Gene: ShedlockHolmes\_23 Start: 19339, Stop: 19842, Start Num: 15

Candidate Starts for ShedlockHolmes\_23:

(10, 19294), (Start: 15 @19339 has 219 MA's), (23, 19357), (24, 19366), (29, 19402), (36, 19453), (37, 19462), (38, 19471), (40, 19480), (50, 19570), (66, 19720), (72, 19771),

Gene: ShiaSurprise\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for ShiaSurprise\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: SirPhilip\_23 Start: 17768, Stop: 18241, Start Num: 15

Candidate Starts for SirPhilip\_23:

(Start: 15 @17768 has 219 MA's), (Start: 20 @17783 has 1 MA's), (24, 17801), (Start: 26 @17813 has 1 MA's), (29, 17843), (30, 17861), (31, 17864), (39, 17915), (40, 17921), (47, 17975), (49, 17993), (51, 18035),

Gene: Sizemore\_19 Start: 18404, Stop: 18865, Start Num: 15

Candidate Starts for Sizemore\_19:

(10, 18359), (Start: 15 @18404 has 219 MA's), (30, 18506), (34, 18527), (48, 18623), (51, 18662), (52, 18683),

Gene: Slarp\_25 Start: 20421, Stop: 20939, Start Num: 13

Candidate Starts for Slarp\_25:

(Start: 13 @20421 has 19 MA's), (29, 20505), (37, 20565), (40, 20583), (49, 20655), (51, 20718), (74, 20928),

Gene: Slimphazie\_24 Start: 18921, Stop: 19397, Start Num: 15

Candidate Starts for Slimphazie\_24:

(Start: 15 @18921 has 219 MA's), (24, 18954), (Start: 26 @18966 has 1 MA's), (29, 18996), (37, 19056), (39, 19068), (40, 19074), (47, 19128), (51, 19188),

Gene: Sneeze\_19 Start: 18410, Stop: 18949, Start Num: 15

Candidate Starts for Sneeze\_19:

(Start: 15 @18410 has 219 MA's), (30, 18590), (48, 18707), (51, 18746),

Gene: SoSeph\_22 Start: 19416, Stop: 19925, Start Num: 15

Candidate Starts for SoSeph\_22:

(Start: 15 @19416 has 219 MA's), (Start: 20 @19431 has 1 MA's), (29, 19485), (45, 19596), (51, 19698),

Gene: Spock\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Spock\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Stargaze\_19 Start: 18702, Stop: 19301, Start Num: 5

Candidate Starts for Stargaze\_19:

(Start: 5 @18702 has 5 MA's), (7, 18744), (9, 18771), (11, 18780), (31, 18945), (40, 19002), (44, 19029), (57, 19161), (73, 19275),

Gene: Stinson\_24 Start: 18887, Stop: 19363, Start Num: 15

Candidate Starts for Stinson\_24:

(Start: 15 @18887 has 219 MA's), (24, 18920), (Start: 26 @18932 has 1 MA's), (27, 18950), (29, 18962), (37, 19022), (38, 19031), (39, 19034), (40, 19040), (42, 19055), (51, 19154),

Gene: Strobilo\_20 Start: 16785, Stop: 17249, Start Num: 15

Candidate Starts for Strobilo\_20:

(10, 16740), (Start: 15 @16785 has 219 MA's), (Start: 26 @16818 has 1 MA's), (29, 16839), (35, 16881), (37, 16899), (40, 16917), (66, 17157),

Gene: Sulley\_24 Start: 18887, Stop: 19363, Start Num: 15

Candidate Starts for Sulley\_24:

(Start: 15 @18887 has 219 MA's), (24, 18920), (Start: 26 @18932 has 1 MA's), (29, 18962), (37, 19022), (39, 19034), (40, 19040), (47, 19094), (51, 19154), (58, 19223),

Gene: Sunflower1121\_22 Start: 17992, Stop: 18474, Start Num: 15

Candidate Starts for Sunflower1121\_22:

(Start: 15 @17992 has 219 MA's), (18, 17998), (24, 18025), (Start: 26 @18037 has 1 MA's), (29, 18067), (40, 18145), (49, 18217), (51, 18259), (58, 18328),

Gene: Sweets\_19 Start: 18398, Stop: 18859, Start Num: 15

Candidate Starts for Sweets\_19:

(10, 18353), (Start: 15 @18398 has 219 MA's), (30, 18500), (34, 18521), (48, 18617), (51, 18656), (52, 18677),

Gene: Syra333\_23 Start: 18087, Stop: 18569, Start Num: 15

Candidate Starts for Syra333\_23:

(Start: 15 @18087 has 219 MA's), (18, 18093), (24, 18120), (Start: 26 @18132 has 1 MA's), (29, 18162), (40, 18240), (49, 18312), (51, 18354),

Gene: TBond007\_23 Start: 19120, Stop: 19632, Start Num: 15

Candidate Starts for TBond007\_23:

(10, 19075), (Start: 15 @19120 has 219 MA's), (23, 19147), (24, 19156), (29, 19192), (36, 19243), (37, 19252), (38, 19261), (40, 19270), (50, 19360), (66, 19510), (72, 19561), (76, 19624),

Gene: TClif\_23 Start: 18120, Stop: 18590, Start Num: 15

Candidate Starts for TClif\_23:

(Start: 15 @18120 has 219 MA's), (24, 18153), (Start: 26 @18165 has 1 MA's), (29, 18195), (37, 18255), (39, 18267), (40, 18273), (42, 18288), (47, 18327), (51, 18387),

Gene: TM4\_20 Start: 16851, Stop: 17315, Start Num: 15

Candidate Starts for TM4\_20:

(10, 16806), (Start: 15 @16851 has 219 MA's), (Start: 26 @16884 has 1 MA's), (29, 16905), (35, 16947), (40, 16983), (59, 17193), (66, 17223),

Gene: TPA4\_21 Start: 19719, Stop: 20168, Start Num: 22

Candidate Starts for TPA4\_21:

(22, 19719), (41, 19875), (43, 19893), (53, 19989), (55, 20010), (61, 20070),

Gene: Tachez\_24 Start: 18883, Stop: 19359, Start Num: 15

Candidate Starts for Tachez\_24:

(Start: 15 @18883 has 219 MA's), (24, 18916), (Start: 26 @18928 has 1 MA's), (29, 18958), (37, 19018), (39, 19030), (40, 19036), (47, 19090), (51, 19150),

Gene: Taheera\_19 Start: 18420, Stop: 18959, Start Num: 15

Candidate Starts for Taheera\_19:

(Start: 15 @18420 has 219 MA's), (30, 18600), (48, 18717), (51, 18756),

Gene: TaiwanKao\_25 Start: 18894, Stop: 19370, Start Num: 15

Candidate Starts for TaiwanKao\_25:

(Start: 15 @18894 has 219 MA's), (24, 18927), (Start: 26 @18939 has 1 MA's), (29, 18969), (37, 19029), (39, 19041), (40, 19047), (47, 19101), (51, 19161),

Gene: Taquito\_23 Start: 20030, Stop: 20548, Start Num: 13

Candidate Starts for Taquito\_23:

(Start: 13 @20030 has 19 MA's), (29, 20114), (37, 20174), (40, 20192), (49, 20264), (51, 20327), (74, 20537),

Gene: Terror\_19 Start: 18420, Stop: 18959, Start Num: 15  
Candidate Starts for Terror\_19:  
(Start: 15 @18420 has 219 MA's), (30, 18600), (48, 18717), (51, 18756),

Gene: Thyatira\_22 Start: 19268, Stop: 19777, Start Num: 15  
Candidate Starts for Thyatira\_22:  
(Start: 15 @19268 has 219 MA's), (Start: 20 @19283 has 1 MA's), (29, 19337), (45, 19448), (51, 19550),

Gene: Tierra\_23 Start: 18813, Stop: 19286, Start Num: 15  
Candidate Starts for Tierra\_23:  
(Start: 15 @18813 has 219 MA's), (24, 18846), (Start: 26 @18858 has 1 MA's), (27, 18876), (29, 18888), (40, 18966), (47, 19020), (49, 19038), (51, 19080),

Gene: TingHuaYa\_24 Start: 18220, Stop: 18696, Start Num: 15  
Candidate Starts for TingHuaYa\_24:  
(Start: 15 @18220 has 219 MA's), (Start: 20 @18235 has 1 MA's), (24, 18253), (Start: 26 @18265 has 1 MA's), (29, 18295), (32, 18319), (37, 18355), (39, 18367), (40, 18373), (47, 18427), (51, 18487),

Gene: TiniBug\_24 Start: 18865, Stop: 19341, Start Num: 15  
Candidate Starts for TiniBug\_24:  
(Start: 15 @18865 has 219 MA's), (Start: 20 @18880 has 1 MA's), (24, 18898), (Start: 26 @18910 has 1 MA's), (27, 18928), (37, 19000), (39, 19012), (40, 19018), (43, 19042), (47, 19072), (50, 19108), (51, 19132),

Gene: Tiri\_24 Start: 18926, Stop: 19402, Start Num: 15  
Candidate Starts for Tiri\_24:  
(Start: 15 @18926 has 219 MA's), (24, 18959), (Start: 26 @18971 has 1 MA's), (29, 19001), (37, 19061), (39, 19073), (40, 19079), (47, 19133), (51, 19193),

Gene: TomBrady\_19 Start: 18404, Stop: 18865, Start Num: 15  
Candidate Starts for TomBrady\_19:  
(10, 18359), (Start: 15 @18404 has 219 MA's), (30, 18506), (34, 18527), (48, 18623), (51, 18662), (52, 18683),

Gene: Topper\_24 Start: 18954, Stop: 19430, Start Num: 15  
Candidate Starts for Topper\_24:  
(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Torres\_20 Start: 18463, Stop: 18939, Start Num: 15  
Candidate Starts for Torres\_20:  
(10, 18418), (Start: 15 @18463 has 219 MA's), (18, 18469), (23, 18487), (24, 18496), (29, 18538), (37, 18598), (40, 18616), (47, 18670), (49, 18688), (51, 18730),

Gene: TreyKay\_24 Start: 18888, Stop: 19364, Start Num: 15  
Candidate Starts for TreyKay\_24:  
(Start: 15 @18888 has 219 MA's), (24, 18921), (Start: 26 @18933 has 1 MA's), (29, 18963), (37, 19023), (39, 19035), (40, 19041), (47, 19095), (51, 19155),

Gene: TribbleTrouble\_22 Start: 19166, Stop: 19669, Start Num: 15  
Candidate Starts for TribbleTrouble\_22:



(10, 19121), (Start: 15 @19166 has 219 MA's), (23, 19184), (24, 19193), (29, 19229), (36, 19280), (37, 19289), (38, 19298), (40, 19307), (50, 19397), (66, 19547), (75, 19640), (76, 19661),

Gene: TruffulaTree\_24 Start: 18917, Stop: 19393, Start Num: 15

Candidate Starts for TruffulaTree\_24:

(Start: 15 @18917 has 219 MA's), (24, 18950), (Start: 26 @18962 has 1 MA's), (29, 18992), (37, 19052), (39, 19064), (40, 19070), (47, 19124), (51, 19184),

Gene: Twitch\_24 Start: 18954, Stop: 19430, Start Num: 15

Candidate Starts for Twitch\_24:

(Start: 15 @18954 has 219 MA's), (24, 18987), (Start: 26 @18999 has 1 MA's), (29, 19029), (37, 19089), (39, 19101), (40, 19107), (47, 19161), (51, 19221),

Gene: Unicorn\_23 Start: 18138, Stop: 18611, Start Num: 15

Candidate Starts for Unicorn\_23:

(Start: 15 @18138 has 219 MA's), (24, 18171), (Start: 26 @18183 has 1 MA's), (27, 18201), (29, 18213), (40, 18291), (47, 18345), (49, 18363), (51, 18405), (56, 18465),

Gene: Urkel\_24 Start: 18868, Stop: 19344, Start Num: 15

Candidate Starts for Urkel\_24:

(Start: 15 @18868 has 219 MA's), (Start: 20 @18883 has 1 MA's), (24, 18901), (Start: 26 @18913 has 1 MA's), (27, 18931), (37, 19003), (39, 19015), (40, 19021), (42, 19036), (43, 19045), (47, 19075), (50, 19111), (51, 19135),

Gene: Validus\_24 Start: 18214, Stop: 18687, Start Num: 15

Candidate Starts for Validus\_24:

(10, 18169), (Start: 15 @18214 has 219 MA's), (18, 18220), (23, 18238), (24, 18247), (Start: 26 @18259 has 1 MA's), (29, 18289), (37, 18349), (40, 18367), (46, 18403), (51, 18481), (60, 18586),

Gene: Veliki\_24 Start: 18957, Stop: 19433, Start Num: 15

Candidate Starts for Veliki\_24:

(Start: 15 @18957 has 219 MA's), (24, 18990), (Start: 26 @19002 has 1 MA's), (29, 19032), (37, 19092), (39, 19104), (40, 19110), (47, 19164), (51, 19224),

Gene: Waterfoul\_22 Start: 19289, Stop: 19798, Start Num: 15

Candidate Starts for Waterfoul\_22:

(Start: 15 @19289 has 219 MA's), (Start: 20 @19304 has 1 MA's), (29, 19358), (45, 19469), (51, 19571),

Gene: Wendigo\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Wendigo\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: Wintermute\_25 Start: 20410, Stop: 20928, Start Num: 13

Candidate Starts for Wintermute\_25:

(Start: 13 @20410 has 19 MA's), (29, 20494), (37, 20554), (40, 20572), (49, 20644), (51, 20707), (74, 20917),

Gene: Ximenita\_24 Start: 18265, Stop: 18747, Start Num: 15

Candidate Starts for Ximenita\_24:

(Start: 15 @18265 has 219 MA's), (18, 18271), (24, 18298), (Start: 26 @18310 has 1 MA's), (29, 18340), (40, 18418), (49, 18490), (51, 18532), (58, 18601), (69, 18694),

Gene: Y10\_25 Start: 20410, Stop: 20928, Start Num: 13

Candidate Starts for Y10\_25:

(Start: 13 @20410 has 19 MA's), (29, 20494), (37, 20554), (40, 20572), (49, 20644), (51, 20707), (74, 20917),

Gene: Y2\_25 Start: 20410, Stop: 20928, Start Num: 13

Candidate Starts for Y2\_25:

(Start: 13 @20410 has 19 MA's), (29, 20494), (37, 20554), (40, 20572), (49, 20644), (51, 20707), (74, 20917),

Gene: YoureAdopted\_23 Start: 18890, Stop: 19366, Start Num: 15

Candidate Starts for YoureAdopted\_23:

(Start: 15 @18890 has 219 MA's), (24, 18923), (Start: 26 @18935 has 1 MA's), (29, 18965), (37, 19025), (39, 19037), (40, 19043), (47, 19097), (51, 19157),

Gene: Yuna\_25 Start: 18808, Stop: 19326, Start Num: 15

Candidate Starts for Yuna\_25:

(Start: 15 @18808 has 219 MA's), (24, 18841), (Start: 26 @18853 has 1 MA's), (29, 18883), (39, 18955), (40, 18961), (51, 19075), (58, 19144), (71, 19240),

Gene: Yunkel11\_24 Start: 18146, Stop: 18616, Start Num: 15

Candidate Starts for Yunkel11\_24:

(Start: 15 @18146 has 219 MA's), (Start: 20 @18161 has 1 MA's), (24, 18179), (Start: 26 @18191 has 1 MA's), (29, 18221), (37, 18281), (40, 18299), (47, 18353), (51, 18413),

Gene: Zabiza\_24 Start: 18921, Stop: 19397, Start Num: 15

Candidate Starts for Zabiza\_24:

(Start: 15 @18921 has 219 MA's), (24, 18954), (Start: 26 @18966 has 1 MA's), (29, 18996), (37, 19056), (39, 19068), (40, 19074), (47, 19128), (51, 19188),

Gene: Zavala\_24 Start: 18895, Stop: 19371, Start Num: 15

Candidate Starts for Zavala\_24:

(Start: 15 @18895 has 219 MA's), (24, 18928), (Start: 26 @18940 has 1 MA's), (29, 18970), (37, 19030), (39, 19042), (40, 19048), (47, 19102), (51, 19162),

Gene: ZoMa\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for ZoMa\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),

Gene: ZoeJ\_20 Start: 16723, Stop: 17187, Start Num: 15

Candidate Starts for ZoeJ\_20:

(10, 16678), (Start: 15 @16723 has 219 MA's), (Start: 26 @16756 has 1 MA's), (29, 16777), (35, 16819), (37, 16837), (40, 16855), (66, 17095),

Gene: Zombie\_19 Start: 18403, Stop: 18864, Start Num: 15

Candidate Starts for Zombie\_19:

(10, 18358), (Start: 15 @18403 has 219 MA's), (30, 18505), (34, 18526), (48, 18622), (51, 18661), (52, 18682),